

TECHNICAL CATALOGUE

HITACHI

Cooling & Heating



MULTIZONE

OUTDOOR UNIT
RAM-G42N5HAA

INDOOR
RAK-DJ07QHAA
RAK-DJ(09-24)RHAA
RAK-GJ(07-24)QHAA
RAF-FJ(07-18)QHAA
RAI-GJ(07-24)QHAA
RAD-GJ(07-24)QHAA

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1 SPECIFICATIONS

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1.1. MULTIZONE INDOOR

1.1.1. WALL TYPE (RAK-DJ07QHAA/RAK-DJ09RHAA/RAK-DJ12RHAA)

INDOOR	Unit	RAK-DJ07QHAA	RAK-DJ09RHAA	RAK-DJ12RHAA
Nominal capacity adjustable		no	no	no
Nominal Cooling capacity (min - max)	BTU	7000(3050-9000)	9000(5450~10500)	12000(5500~13200)
Cooling sensible capacity	BTU	-	-	-
Nominal Heating capacity (min - max)	BTU	9000(3050-10900)	10500(4200~11500)	13000(4400~14500)
Noise level cooling (sound pressure)(S/L/M/H/HIHI)	dB(A)	29/36/40/42/44	29/36/40/42/44	29/36/40/44/46
Noise level heating (sound pressure)(S/L/M/H/HIHI)	dB(A)	29/36/40/42/44	29/36/40/42/44	29/36/40/44/46
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	56	56	58
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	110/150/180/250/260	110/150/180/250/260	140/190/230/280/290
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	130/180/210/230/310	110/150/180/250/260	140/170/200/260/280
Fan Motor	W	38	38	38
Dehumidification	l/h	1.0	1.4	1.6
Included drain pump *for RAI/RAD	yes/no	no	no	no
Max. height available for drain pump (RAD/RAI only)	in. (mm)	no	no	no
Drain pump pressure lift *for RAI/RAD	in. (mm)	no	no	no
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no	no
Dimensions (H x W x D)	in. (mm)	30.71x11.02x8.74 (780x280x222)	30.71x11.02x8.74 (780x280x222)	30.71x11.02x8.74 (780x280x222)
Weight *must match with Packing data information	lbs. (kg)	21.5 (9.7)	21.5 (9.7)	21.5 (9.7)
Panel weight *for RAI	lbs. (kg)	-	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-	-
Colour (Munsell Code)				
Condensate Drain	in. (mm)	-	-	-
Panel reference		-	-	-
Color of the panel (RAL)		-	-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"
Drain diameter (ext)	in. (mm)	0.63(16)	0.63(16)	0.63(16)
Remote control (standard/optional) *	Standard	RC-AGU1EA0N	RC-AGU1EA0N	RC-AGU1EA0N
	Optional	-	-	-
Filter				
ACL Filter Standard (Material & Accessory code)		-	-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-	-
ACL Filter Optional (Material - Accessory code)		-	-	-
Pre-filter Standard Material		Stainless pre-filter	Stainless pre-filter	Stainless pre-filter
Pre-filter Optional (Material & Accessory code)		-	-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.2. WALL TYPE (RAK-DJ18RHAA / RAK-DJ24RHAA)

INDOOR	Unit	RAK-DJ18RHAA	RAK-DJ24RHAA
Nominal capacity adjustable		no	no
Nominal Cooling capacity (min - max)	BTU	17600(5700~18600)	24000(8200~25200)
Cooling sensible capacity	BTU	-	-
Nominal Heating capacity (min - max)	BTU	19000(6700~20500)	25000(8300~26500)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	35/38/42/46/48	35/40/45/49/51
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	35/38/42/46/48	35/40/45/49/51
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	62	65
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	240/270/360/390/420	310/350/460/550/580
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	210/270/300/360/380	320/390/490/530/550
Fan Motor	W	30	38
Dehumidification	l/h	2.9	3.4
Included drain pump *for RAI/RAD	yes/no	no	no
Max. height available for drain pump (RAD/RAI only)	in. (mm)	no	no
Drain pump pressure lift *for RAI/RAD	in. (mm)	no	no
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no
Dimensions (H x W x D)	in. (mm)	37.40x11.57x9.06 (950x294x230)	41.34x11.57x10.04 (1050x294x255)
Weight *must match with Packing data information	lbs. (kg)	27.6 (12.5)	30.9 (14.0)
Panel weight *for RAI	lbs. (kg)	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-
Colour (Munsell Code)			
Condensate Drain	in. (mm)	-	-
Panel reference		-	-
Color of the panel (RAL)		-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 1/2"	1/4" / 5/8"
Drain diameter (ext)	in. (mm)	0.63(16)	0.63(16)
Remote control (standard/optional) *	Standard	RC-AGU1EA0N	RC-AGU1EA0N
	Optional	-	-
Filter			
ACL Filter Standard (Material & Accessory code)		-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-
ACL Filter Optional (Material - Accessory code)		-	-
Pre-filter Standard Material		Stainless pre-filter	Stainless pre-filter
Pre-filter Optional (Material & Accessory code)		-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.3. WALL TYPE (RAK-GJ07QHAA / RAK-GJ09QHAA / RAK-GJ12QHAA)

INDOOR	Unit	RAK-GJ07QHAA	RAK-GJ09QHAA	RAK-GJ12QHAA
Nominal capacity adjustable		no	no	no
Nominal Cooling capacity (min - max)	BTU	7000(3050-9000)	9000(5100~10500)	12000(5150~14000)
Cooling sensible capacity	BTU	-	-	-
Nominal Heating capacity (min - max)	BTU	9000(3050-10900)	11000(5450~15000)	14000(5500~18000)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	27/35/39/41/44	27/35/39/41/44	27/35/40/43/46
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	27/35/39/41/43	27/35/39/41/43	27/35/40/43/46
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	57	57	60
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	206/288/335/388/430	206/288/335/388/430	206/288/335/430/470
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	214/303/347/400/441	214/303/347/400/441	214/303/347/444/482
Fan Motor	W	30	30	30
Dehumidification	l/h	1.0	1.0	1.5
Included drain pump *for RAI/RAD	yes/no	no	no	no
Max. height available for drain pump (RAD/RAI only)	in. (mm)	no	no	no
Drain pump pressure lift *for RAI/RAD	in. (mm)	no	no	no
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no	no
Dimensions (H x W x D)	in. (mm)	11-9/16 x 37-13/32 x 9-1/4 (294x950x235)	11-9/16 x 37-13/32 x 9-1/4 (294x950x235)	11-9/16 x 37-13/32 x 9-1/4 (294x950x235)
Weight *must match with Packing data information	lbs. (kg)	24 (11)	24 (11)	24 (11)
Panel weight *for RAI	lbs. (kg)	-	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-	-
Colour (Munsell Code)				
Condensate Drain	in. (mm)	-	-	-
Panel reference		-	-	-
Color of the panel (RAL)		-	-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"
Drain diameter (ext)	in. (mm)	0.63(16)	0.63(16)	0.63(16)
Remote control (standard/optional) *	Standard	RC-AGS1EA0N	RC-AGS1EA0N	RC-AGS1EA0N
	Optional	-	-	-
Filter				
ACL Filter Standard (Material & Accessory code)		-	-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-	-
ACL Filter Optional (Material - Accessory code)		-	-	-
Pre-filter Standard Material		Stainless pre-filter	Stainless pre-filter	Stainless pre-filter
Pre-filter Optional (Material & Accessory code)		-	-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.4. WALL TYPE (RAK-GJ18QHAA / RAK-GJ24QHAA)

INDOOR	Unit	RAK-GJ18QHAA	RAK-GJ24QHAA
Nominal capacity adjustable		no	no
Nominal Cooling capacity (min - max)	BTU	18000(6600~20500)	22000(9700~25000)
Cooling sensible capacity	BTU	-	-
Nominal Heating capacity (min - max)	BTU	21500(7100~26000)	25000(8500~29500)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	35/42/45/47/49	39/45/48/53/58
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	35/42/45/47/49	39/45/48/53/58
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	63	65
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	265/388/471/559/618	265/353/470/588/676
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	276/397/480/568/633	279/279/480/601/689
Fan Motor	W	38	38
Dehumidification	l/h	1.8	2.5
Included drain pump *for RAI/RAD	yes/no	no	no
Max. height available for drain pump (RAD/RAI only)	in. (mm)	no	no
Drain pump pressure lift *for RAI/RAD	in. (mm)	no	no
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no
Dimensions (H x W x D)	in. (mm)	(294 x 1050 x 255)	(300x1100x273)
Weight *must match with Packing data information	lbs. (kg)	30.9 (14.0)	37.5 (17.0)
Panel weight *for RAI	lbs. (kg)	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-
Colour (Munsell Code)			
Condensate Drain	in. (mm)	-	-
Panel reference		-	-
Color of the panel (RAL)		-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 1/2"	1/4" / 5/8"
Drain diameter (ext)	in. (mm)	0.63(16)	0.63(16)
Remote control (standard/optional) *	Standard	RC-AGS1EA0N	RC-AGS1EA0N
	Optional	-	-
Filter			
ACL Filter Standard (Material & Accessory code)		-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-
ACL Filter Optional (Material - Accessory code)		-	-
Pre-filter Standard Material		Stainless pre-filter	Stainless pre-filter
Pre-filter Optional (Material & Accessory code)		-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F
Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m) dB: Dry Bulb; WB: Wet Bulb			

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.5. FLOOR TYPE (RAF-FJ07QHAA / RAF-FJ09QHAA/ RAF-FJ12QHAA / RAF-FJ18QHAA)

INDOOR	Unit	RAF-FJ07QHAA	RAF-FJ09QHAA	RAF-FJ12QHAA	RAF-FJ18QHAA
Nominal capacity adjustable		no	no	no	no
Nominal Cooling capacity (min - max)	BTU	7000(3050-9000)	9000(3050-10600)	12000(3050-13650)	18000(3050-17750)
Cooling sensible capacity	BTU	-	-	-	-
Nominal Heating capacity (min - max)	BTU	9000(3050-10900)	11600(3050-15000)	15350(3050-18000)	20500(3050-27600)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	22/26/31/36/38	22/26/31/36/38	22/26/31/38/39	23/29/36/41/43
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	22/26/31/36/38	22/26/31/36/38	23/26/31/38/41	26/29/36/43/44
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	52	52	53	57
Air flow cooling mode (SL / L / M / H / Rapid)	cfm (m³/h)	160.7/232.1/303.6/345.2/375 (270/390/510/582/630)	160.7/232.1/303.6/345.2/375 (270/390/510/582/630)	160.7/232.1/303.6/345.2/375 (270/390/510/582/630)	178.6/267.9/321.4/386.9/416.7 (300/450/540/648/702)
Air flow heating mode (SL / L / M / H / Rapid)	cfm (m³/h)	178.6/250/321.4/357.1/392.9 (300/420/540/600/660)	178.6/250/321.4/357.1/392.9 (300/420/540/600/660)	178.6/250/321.4/357.1/392.9 (300/420/540/600/660)	196.4/285.7/339.3/404.8/434.5 (330/480/570/678/732)
Fan Motor	W	38	38	38	38
Dehumidification	l/h	1.2	1.4	1.9	2
Included drain pump *for RAI/RAD	yes/no	no	no	no	no
Max. height available for drain pump (RAD/RAI only)	in. (mm)	no	no	no	no
Drain pump pressure lift *for RAI/RAD	in. (mm)	no	no	no	no
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no	no	no
Dimensions (H x W x D)	in. (mm)	29.5×23.2×8.6 (750 × 590 × 219)	29.5×23.2×8.6 (750 × 590 × 219)	29.5×23.2×8.6 (750 × 590 × 219)	29.5×23.2×8.6 (750 × 590 × 219)
Weight *must match with Packing data information	lbs. (kg)	32.4(14.7)	32.4(14.7)	32.4(14.7)	32.4(14.7)
Panel weight *for RAI	lbs. (kg)	-	-	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-	-	-
Colour (Munsell Code)		ShadowWhite (5PB8.7/0.5)	ShadowWhite (5PB8.7/0.5)	ShadowWhite (5PB8.7/0.5)	ShadowWhite (5PB8.7/0.5)
Condensate Drain	in. (mm)	0.63(16)	0.63(16)	0.63(16)	0.63(16)
Panel reference		-	-	-	-
Color of the panel (RAL)		-	-	-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"	1/4" / 1/2"
Drain diameter (ext)	in. (mm)	0.63(16)	0.63(16)	0.63(16)	0.63(16)
Remote control (standard/optional) *	Standard	RC-BGH1FB0N	RC-BGH1FB0N	RC-BGH1FB0N	RC-BGH1FB0N
	Optional	RC-BGH1FD0N	RC-BGH1FD0N	RC-BGH1FD0N	RC-BGH1FD0N
Filter					
ACL Filter Standard (Material & Accessory code)		-	-	-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-	-	-
ACL Filter Optional (Material - Accessory code)		-	-	-	-
Pre-filter Standard Material		Stainless coating	Stainless coating	Stainless coating	Stainless coating
Pre-filter Optional (Material & Accessory code)		-	-	-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.6. CEILING CASSETTE (RAI-GJ07QHAA / RAI-GJ09QHAA / RAI-GJ12QHAA)

INDOOR	Unit	RAI-GJ07QHAA	RAI-GJ09QHAA	RAI-GJ12QHAA
Nominal capacity adjustable		no	no	no
Nominal Cooling capacity (min - max)	BTU	7000(3050-8500)	9000(3050-10200)	12000(3050-10200)
Cooling sensible capacity	BTU	-	-	-
Nominal Heating capacity (min - max)	BTU	9000(3050-10900)	12000(3050-18000)	12000(3050-18000)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	27/33/37/39/40	27/33/37/39/40	27/33/37/39/40
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	28/34/38/40/41	28/34/38/40/41	28/34/38/40/41
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	54	54	54
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	212/297/347/371/388 (360/505/590/630/660)	212/297/347/371/388 (360/505/590/630/660)	212/297/347/371/388 (360/505/590/630/660)
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	261/318/371/400/420 444/540/630/678/720	261/318/371/400/420 444/540/630/678/720	261/318/371/400/420 444/540/630/678/720
Fan Motor	W	20	20	20
Dehumidification	l/h	1.2	1.4	1.4
Included drain pump *for RAI/RAD	yes/no	Yes	Yes	Yes
Max. height available for drain pump (RAD/RAI only)	in. (mm)	33(850)	33(850)	33(850)
Drain pump pressure lift *for RAI/RAD	in. (mm)	4.5(115)	4.5(115)	4.5(115)
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no	no
Dimensions (H x W x D)	in. (mm)	11 x 22 x 22 (285 x 570 x 570)	11 x 22 x 22 (285 x 570 x 570)	11 x 22 x 22 (285 x 570 x 570)
Weight *must match with Packing data information	lbs. (kg)	37 (17)	37 (17)	37 (17)
Panel weight *for RAI	lbs. (kg)	6.17 (2.8)	6.17 (2.8)	6.17 (2.8)
Panel dimensions (H x W x D) *for RAI	in. (mm)	1.2 x 24.4 x 24.4 (30 x 620 x 620)	1.2 x 24.4 x 24.4 (30 x 620 x 620)	1.2 x 24.4 x 24.4 (30 x 620 x 620)
Colour (Munsell Code)		-	-	-
Condensate Drain	in. (mm)	1.26 (32)	1.26 (32)	1.26 (32)
Panel reference		-	-	-
Color of the panel (RAL)		-	-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"
Drain diameter (ext)	in. (mm)	1.26 (32)	1.26 (32)	1.26 (32)
Remote control (standard/optional) *	Standard	RC-AGS1EA0N	RC-AGS1EA0N	RC-AGS1EA0N
	Optional	-	-	-
Filter				
ACL Filter Standard (Material & Accessory code)		-	-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-	-
ACL Filter Optional (Material - Accessory code)		-	-	-
Pre-filter Standard Material		NORMAL	NORMAL	NORMAL
Pre-filter Optional (Material & Accessory code)		-	-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.7. CEILING CASSETTE (RAI-GJ18QHAA / RAI-GJ24QHAA)

INDOOR	Unit	RAI-GJ18QHAA	RAI-GJ24QHAA
Nominal capacity adjustable		no	no
Nominal Cooling capacity (min - max)	BTU	18000	24000
Cooling sensible capacity	BTU	-	-
Nominal Heating capacity (min - max)	BTU	16400(3050-22500)	20500(4100-23200)
Noise level cooling (sound pressure) (S/L/M/H/HIHI)	dB(A)	29/35/39/41/43	29/35/39/41/43
Noise level heating (sound pressure) (S/L/M/H/HIHI)	dB(A)	30/36/40/42/44	30/36/40/42/44
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	56	56
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	229/318/371/406/424 (390/540/630/690/720)	229/318/371/406/424 (390/540/630/690/720)
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	265/353/406/435/459 (450/600/690/738/780)	265/353/406/435/459 (450/600/690/738/780)
Fan Motor	W	57	57
Dehumidification	l/h	1.4	2.8
Included drain pump *for RAI/RAD	yes/no	Yes	Yes
Max. height available for drain pump (RAD/RAI only)	in. (mm)	33(850)	33(850)
Drain pump pressure lift *for RAI/RAD	in. (mm)	4.5(115)	4.5(115)
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	no	no
Dimensions (H x W x D)	in. (mm)	11 x 22 x 22 (285 x 570 x 570)	11 x 22 x 22 (285 x 570 x 570)
Weight *must match with Packing data information	lbs. (kg)	37 (17)	37 (17)
Panel weight *for RAI	lbs. (kg)	6.17 (2.8)	6.17 (2.8)
Panel dimensions (H x W x D) *for RAI	in. (mm)	1.2 x 24.4 x 24.4 (30 x 620 x 620)	1.2 x 24.4 x 24.4 (30 x 620 x 620)
Colour (Munsell Code)		-	-
Condensate Drain	in. (mm)	1.26 (32)	1.26 (32)
Panel reference		-	-
Color of the panel (RAL)		-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection**if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 1/2"
Drain diameter (ext)	in. (mm)	1.26 (32)	1.26 (32)
Remote control (standard/optional) *	Standard	RC-AGS1EA0N	RC-AGS1EA0N
	Optional	-	-
Filter			
ACL Filter Standard (Material & Accessory code)		-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-
ACL Filter Optional (Material - Accessory code)		-	-
Pre-filter Standard Material		Normal Pre-Filter	Normal Pre-Filter
Pre-filter Optional (Material & Accessory code)		-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.8. DUCT TYPE (RAD-GJ07QHAA / RAD-GJ09QHAA/ RAD-GJ12QHAA)

INDOOR	Unit	RAD-GJ07QHAA	RAD-GJ09QHAA	RAD-GJ12QHAA
Nominal capacity adjustable		no	no	no
Nominal Cooling capacity (min - max)	BTU	7000(3050-8500)	9000(3050-10200)	12000(3050-13650)
Cooling sensible capacity	BTU	-	-	-
Nominal Heating capacity (min - max)	BTU	9000(3050-10900)	12000(3050-18000)	16400(3050-22500)
Noise level cooling (sound pressure) (SL/L/M/H/HIHI)	dB(A)	30/33/37/41	30/33/37/41	20/33/37/41
Noise level heating (sound pressure) (SL/L/M/H/HIHI)	dB(A)	30/34/38/42	30/34/38/42	30/34/38/42
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	57	57	57
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	194/229/259/294/300 (330/390/438/498/510)	194/229/259/294/300 (330/390/438/498/510)	194/229/259/294/300 (330/390/438/498/510)
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	200/235/276/303/309 (342/402/468/516/528)	200/235/276/303/309 (342/402/468/516/528)	200/235/276/303/309 (342/402/468/516/528)
Fan Motor	W	20	20	20
Dehumidification	l/h	1.4	1.4	1.6
Included drain pump *for RAI/RAD	yes/no	yes	yes	yes
Max. height available for drain pump (RAD/RAI only)	in. (mm)	33(850)	33(850)	33(850)
Drain pump pressure lift *for RAI/RAD	in. (mm)	4.5(115)	4.5(115)	4.5(115)
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	70	70	70
Dimensions (H x W x D)	in. (mm)	9x29x15 (235x750x400)	9x29x15 (235x750x400)	9x29x15 (235x750x400)
Weight *must match with Packing data information	lbs. (kg)	35 (16)	35 (16)	35 (16)
Panel weight *for RAI	lbs. (kg)	-	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-	-
Colour (Munsell Code)		-	-	-
Condensate Drain	in. (mm)	0.63(16)	0.63(16)	0.63(16)
Panel reference		-	-	-
Color of the panel (RAL)		-	-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4", 3/8"	1/4", 3/8"	1/4", 3/8"
Drain diameter (ext)	in. (mm)	0.63 (16)	0.63 (16)	0.63 (16)
Remote control (standard/optional) *	Standard	RC-AGU1EA0N	RC-AGU1EA0N	RC-AGU1EA0N
	Optional	-	-	-
Filter				
ACL Filter Standard (Material & Accessory code)		-	-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-	-
ACL Filter Optional (Material - Accessory code)		-	-	-
Pre-filter Standard Material		Normal Pre-Filter	Normal Pre-Filter	Normal Pre-Filter
Pre-filter Optional (Material & Accessory code)		-	-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.9. DUCT TYPE (RAD-GJ18QHAA / RAD-GJ24QHAA)

INDOOR	Unit	RAD-GJ18QHAA	RAD-GJ24QHAA
Nominal capacity adjustable		no	no
Nominal Cooling capacity (min - max)	BTU	18000(4100-19800)	24000(4100-25600)
Cooling sensible capacity	BTU	-	-
Nominal Heating capacity (min - max)	BTU	20500(4100-23200)	27300(4100-30690)
Noise level cooling (sound pressure) (SL/L/M/H/HIHI)	dB(A)	29/32/35/39	29/32/35/39
Noise level heating (sound pressure) (SL/L/M/H/HIHI)	dB(A)	29/32/35/40	29/32/35/40
Noise level (sound power) *match with Fiche/ Eurovent/Product Info	dB(A)	53	53
Air flow cooling mode (SL / L / M / H / HIHI)	cfm (m³/h)	206/318.1/471/571/671 (348/540/798/972/1140)	206/318.1/471/571/671 (348/540/798/972/1140)
Air flow heating mode (SL / L / M / H / HIHI)	cfm (m³/h)	212/327/480/683/683 (360/558/816/1158/1158)	212/327/480/683/683 (360/558/816/1158/1158)
Fan Motor	W	180	180
Dehumidification	l/h	2.8	2.8
Included drain pump *for RAI/RAD	yes/no	yes	yes
Max. height available for drain pump (RAD/RAI only)	in. (mm)	33(850)	33(850)
Drain pump pressure lift *for RAI/RAD	in. (mm)	4.5(115)	4.5(115)
Static pressure switch at High(L / M / H) *for RAD	Pa (m3/h)	50/100150	50/100150
Dimensions (H x W x D)	in. (mm)	10x35x28 (270x900x700)	10x35x28 (270x900x700)
Weight *must match with Packing data information	lbs. (kg)	77 (35)	77 (35)
Panel weight *for RAI	lbs. (kg)	-	-
Panel dimensions (H x W x D) *for RAI	in. (mm)	-	-
Colour (Munsell Code)		-	-
Condensate Drain	in. (mm)	1.26 (32)	1.26 (32)
Panel reference		-	-
Color of the panel (RAL)		-	-
Running current (C/H) *for single split indoor&outdoor must be matched	A	-	-
Power supply	V	FROM OUTDOOR	FROM OUTDOOR
Cable section (interconnection/*if power supply is connected to indoor)	mm²	0.8x 3+EARTH/-	0.8x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4", 1/2"	1/4", 1/2"
Drain diameter (ext)	in. (mm)	1.26 (32)	1.26 (32)
Remote control (standard/optional) *	Standard	RC-AGU1EA0N	RC-AGU1EA0N
	Optional	-	-
Filter			
ACL Filter Standard (Material & Accessory code)		-	-
ACL Filter Standard Dimensions (H x W x D)	in. (mm)	-	-
ACL Filter Optional (Material - Accessory code)		-	-
Pre-filter Standard Material		Normal Pre-Filter	Normal Pre-Filter
Pre-filter Optional (Material & Accessory code)		-	-

NOTE:

1. Capacity and seasonal performance data (SEER /HSPF) are based on AHRI 210-240. The nominal heating and cooling capacity is the combined capacity of the HITACHI Split system (Indoor + Outdoor Unit).

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	80 °F	70 °F
	WB	67 °F	
Outdoor Air Inlet Temperature	dB	95 °F	47 °F
	WB		43 °F

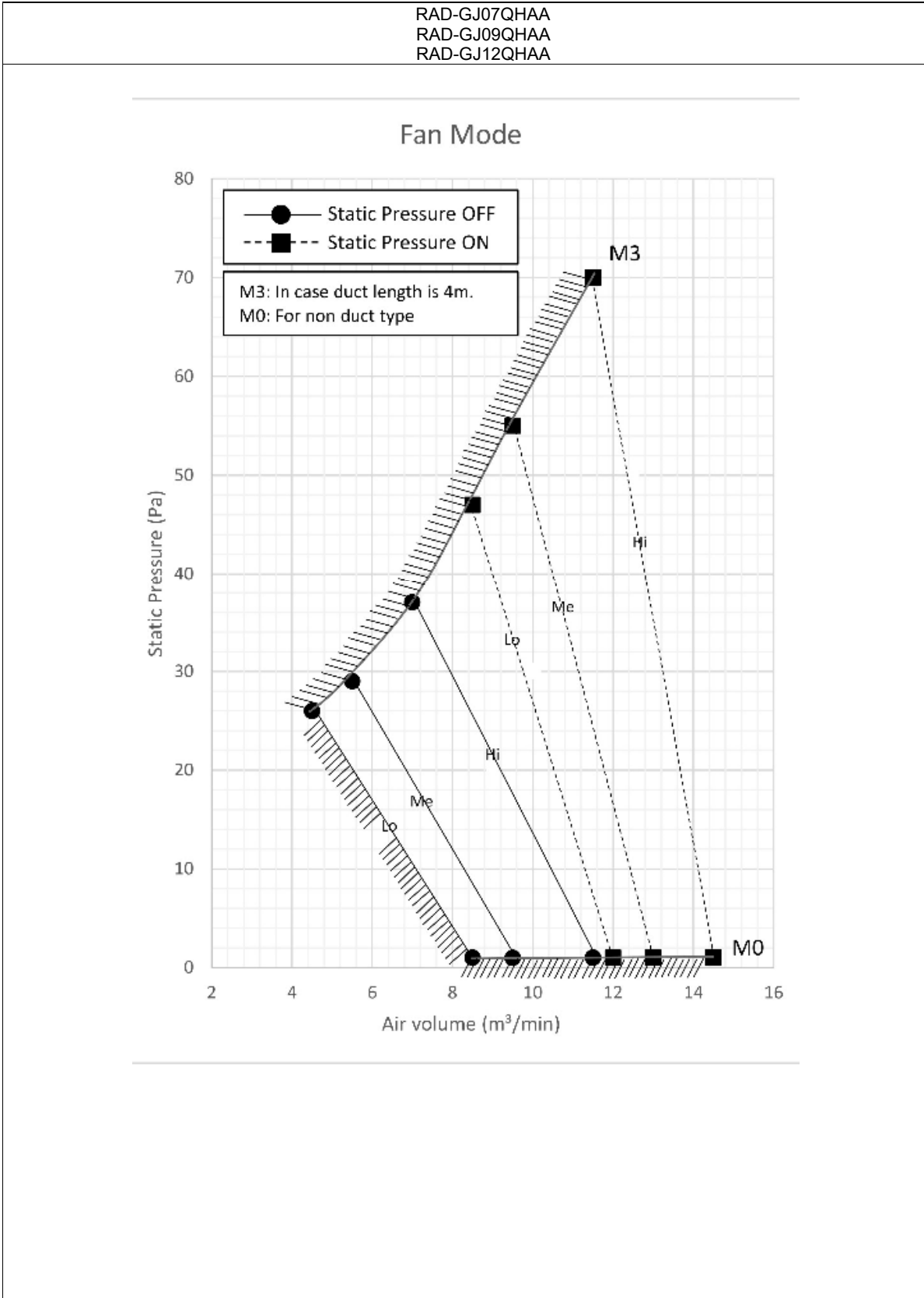
Piping Length: 24-39/64ft (7.5m); Piping Lift: 0ft (0m)
dB: Dry Bulb; WB: Wet Bulb

2. The Sound Pressure Level is based on the following conditions:

- 2-5/8ft (0.8m) beneath indoor height center
- 3-9/32ft (1m) from Discharge grille

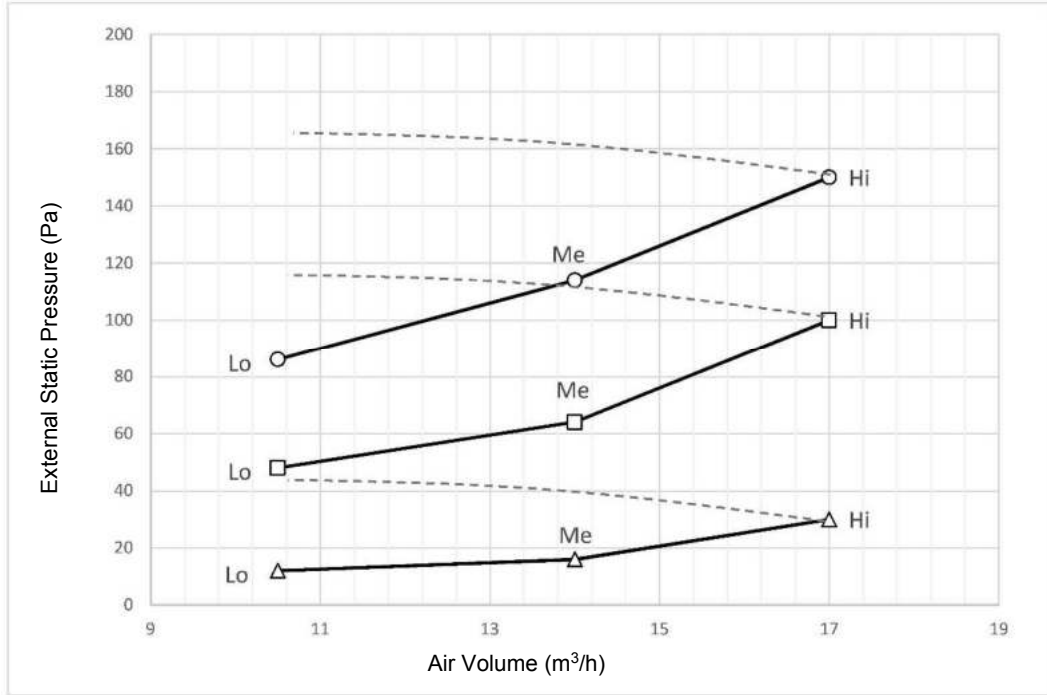
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

1.1.10. DUCT STATIC PRESSURE AND AIR FLOW (RAD-GJ07/09/12QHAA)



1.1.11. DUCT STATIC PRESSURE AND AIR FLOW (RAD-GJ18/24QHAA)

RAD-GJ18QHAA
RAD-GJ24QHAA



- High Static Pressure Mode
- Medium Static Pressure Mode
- △--- Normal Mode

1.2. RAM-G42NAHAA

OUTDOOR	UNIT	RAM-G42NAHAA
Minimum / Maximum indoor units connectable (for MULTI only)		2/5
Minimum / Maximum connected indoor capacity (for MULTI only)	kBTU	14/60
Nominal Cooling capacity (min - max) *for single split indoor&outdoor must be matched	BTU	42000(7000~46000)
Nominal Heating capacity (min - max) *for single split indoor&outdoor must be matched	BTU	45000(9000~51000)
Nominal cooling power input (min - max)	kW	3.36(0.46 - 5.3)
Nominal heating power input (min - max)	kW	3.665(0.46- 5.4)
EER2(EER)	Btu/W	12.5(12.5)
COP (H1 condition)	Btu/W	11.3
SEER2(SEER)		23.0(23.0)
HSPF2(HSPF)		9.2(10.8)
Noise level cooling (sound pressure)	dB(A)	56
Noise level heating (sound pressure)	dB(A)	58
Noise level - ODU (sound power)	dB(A)	70
Air flow (Cooling / Heating)	cfm (m ³ /h)	2471(4200)/2471(4200)
Dimensions (H x W x D)	in. (mm)	37x37x15(945x950x370)
Net weight	lbs. (kg)	216.1(98)
Colour (Munsell Code)		Beige (5Y7/2)
Power supply	V/Ph/Hz	208- 230V / 1Ph / 60Hz
Recommended fuse size	A	40
Starting current(rated current of COOL/HEAT whichever higher for inverter)	A	16.32 / 20.62
Running current (C/H) *for single split indoor&outdoor must be matched	A	14.76 / 18.65
Cable section (power)	mm ²	4.00x 2+EARTH
Interconnection between indoor unit and outdoor unit	mm ²	0.80x 3+EARTH
Piping diameter (Liq / Gas) *for single split indoor&outdoor must be matched	Inch	(1/4,3/8)X3+(1/4,1/2)X2
Minimum piping length	ft. (m)	16(5)
Maximum piping length / height difference	ft. (m)	246(75)/66(20)
Current quantity of refrigerant / Chargeless	lbs. (kg)	7.94(3.6)
Chargeless length / Additional refrigerant charge	m / g/m	35 / 8
Working range (cooling / heating)	°F(°C)	14 to 115 (-10 to +46)
	°F(°C)	-4 to 75 (-20 to +24)
Refrigerant		R32
Condenser Fan		Propeller Fan
Compressor	Type	2 Cylinder Rotary
	Oil Type	ACS-68R or equivalent
	Oil Charge l	1650±20 ml
	Coil resistance	0.502Ω at 20°C
	Quantity	1

NOTE:

- The Sound Pressure Level is based on the following conditions:
 - Half height of the unit
 - 1 meter from Discharge grille

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

2 DIMENSIONAL DATA

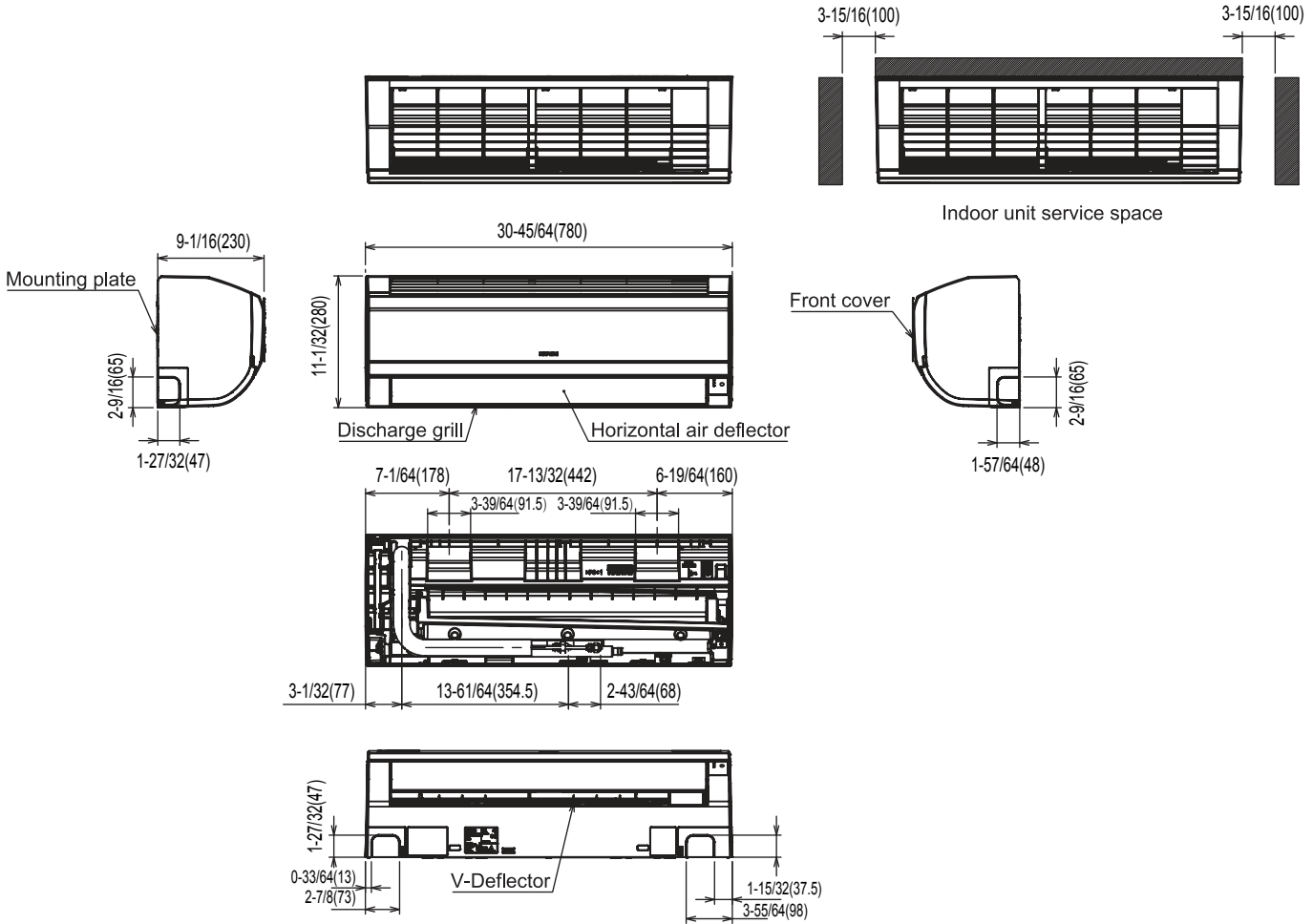
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2.1. MULTIZONE INDOOR UNITS

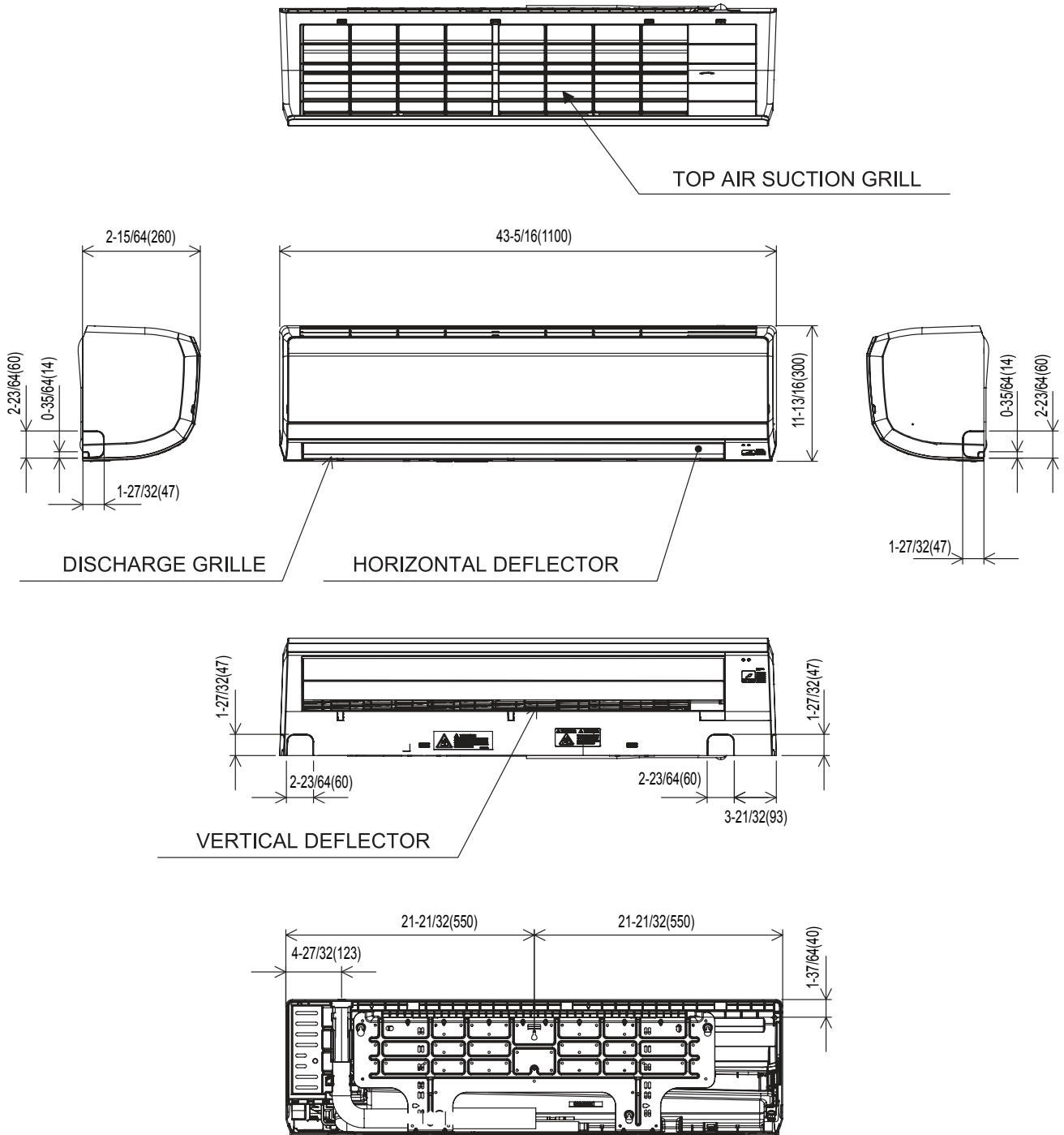
2.1.1. WALL TYPE: RAK-DJ07QHAA / RAK-DJ09RHAA / RAK-DJ12RHAA

Unit:inch(mm)



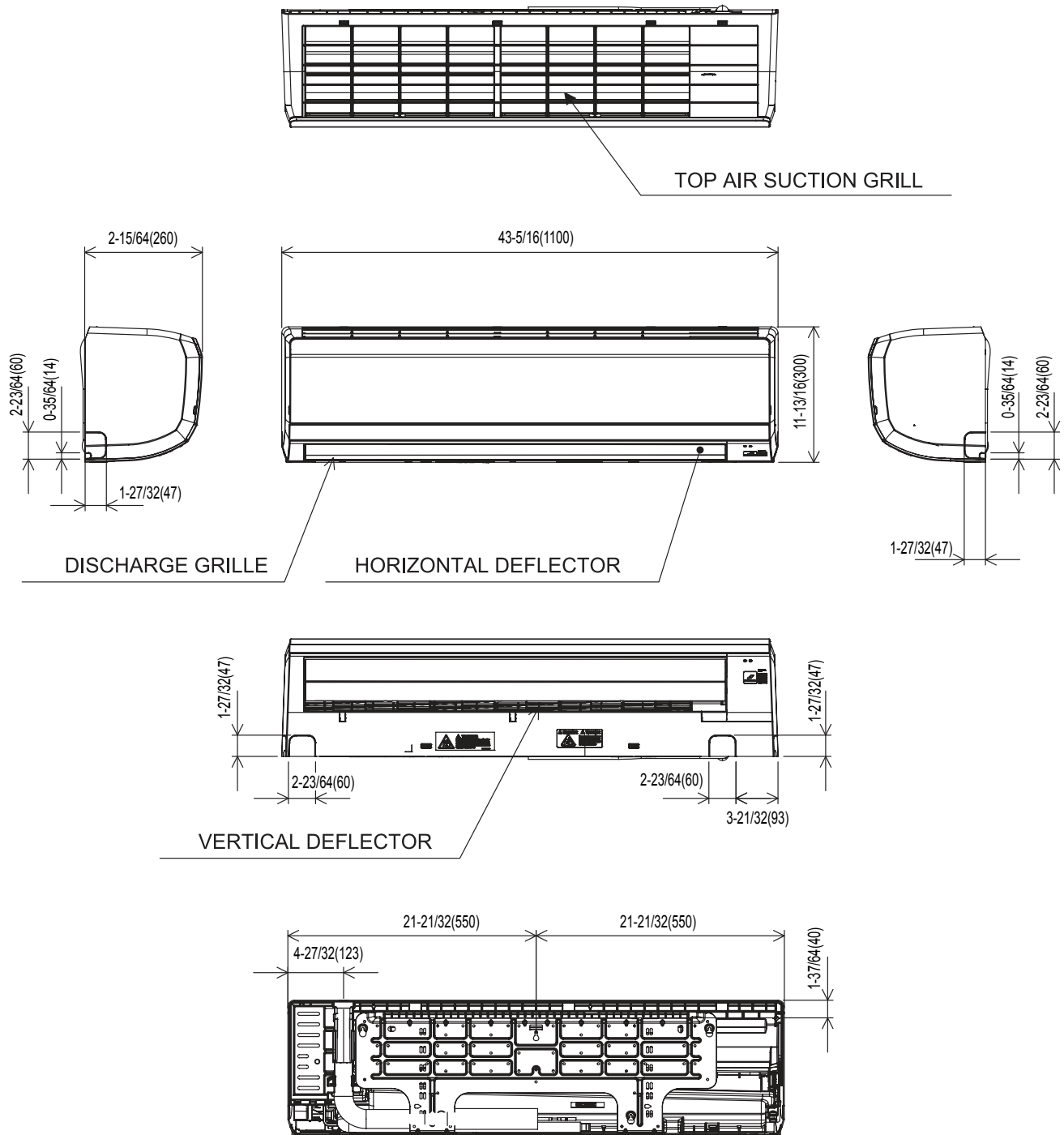
2.1.2. WALL TYPE: RAK-DJ18RHAA

Unit:inch(mm)



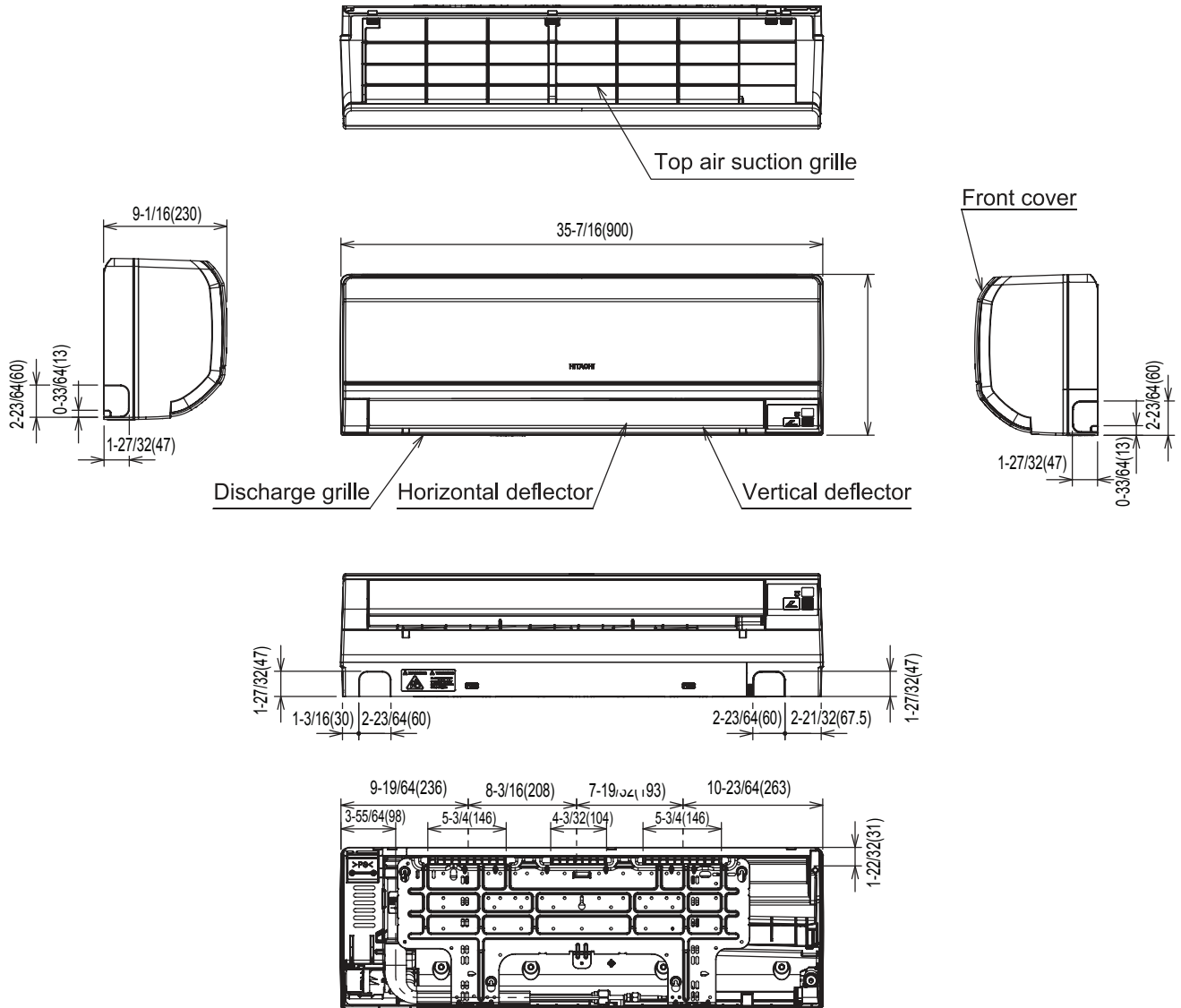
2.1.3. WALL TYPE: RAK-DJ24RHAA

Unit:inch(mm)

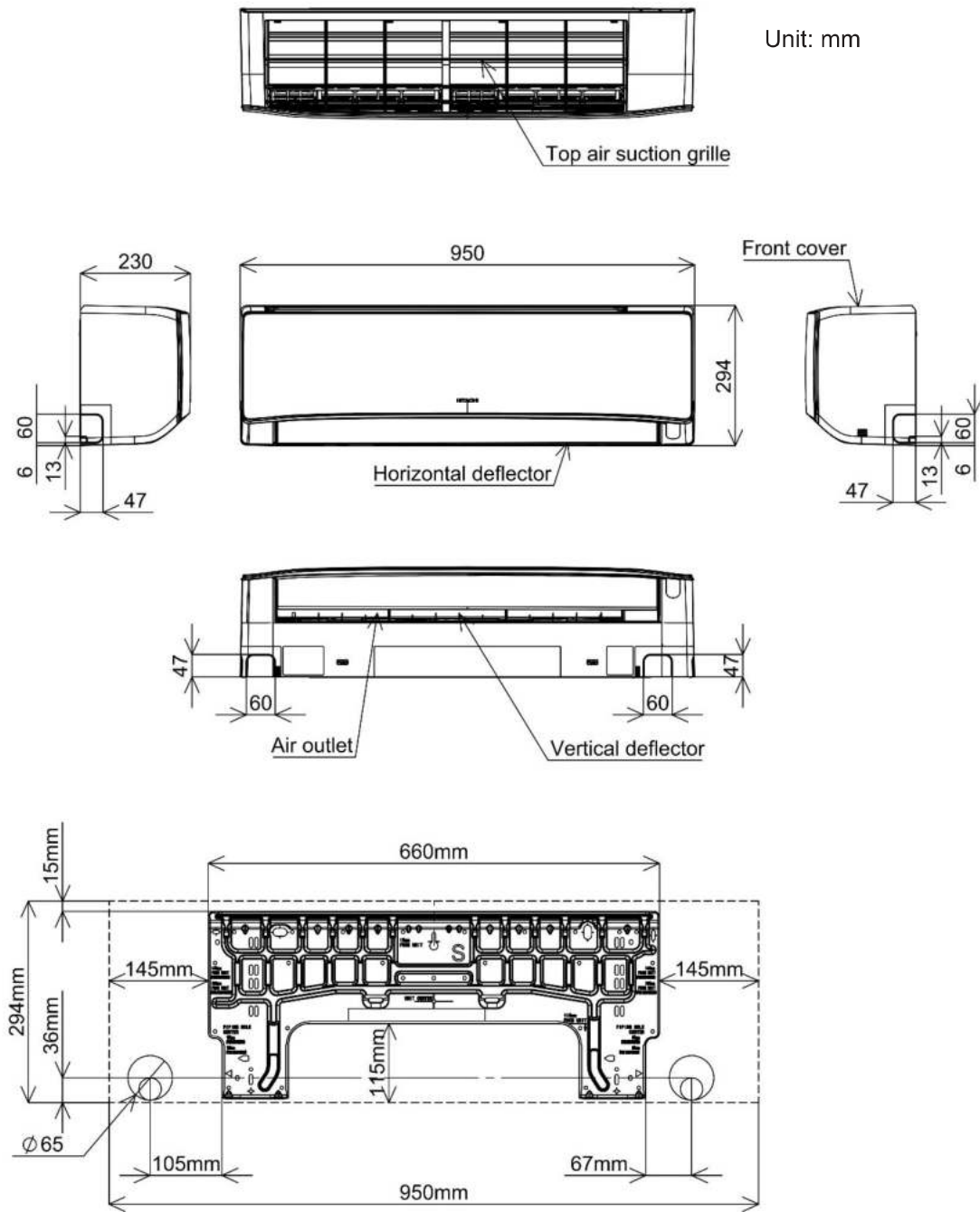


2.1.4. WALL TYPE: RAK-GJ07QHAA / RAK-GJ09QHAA / RAK-GJ12QHAA

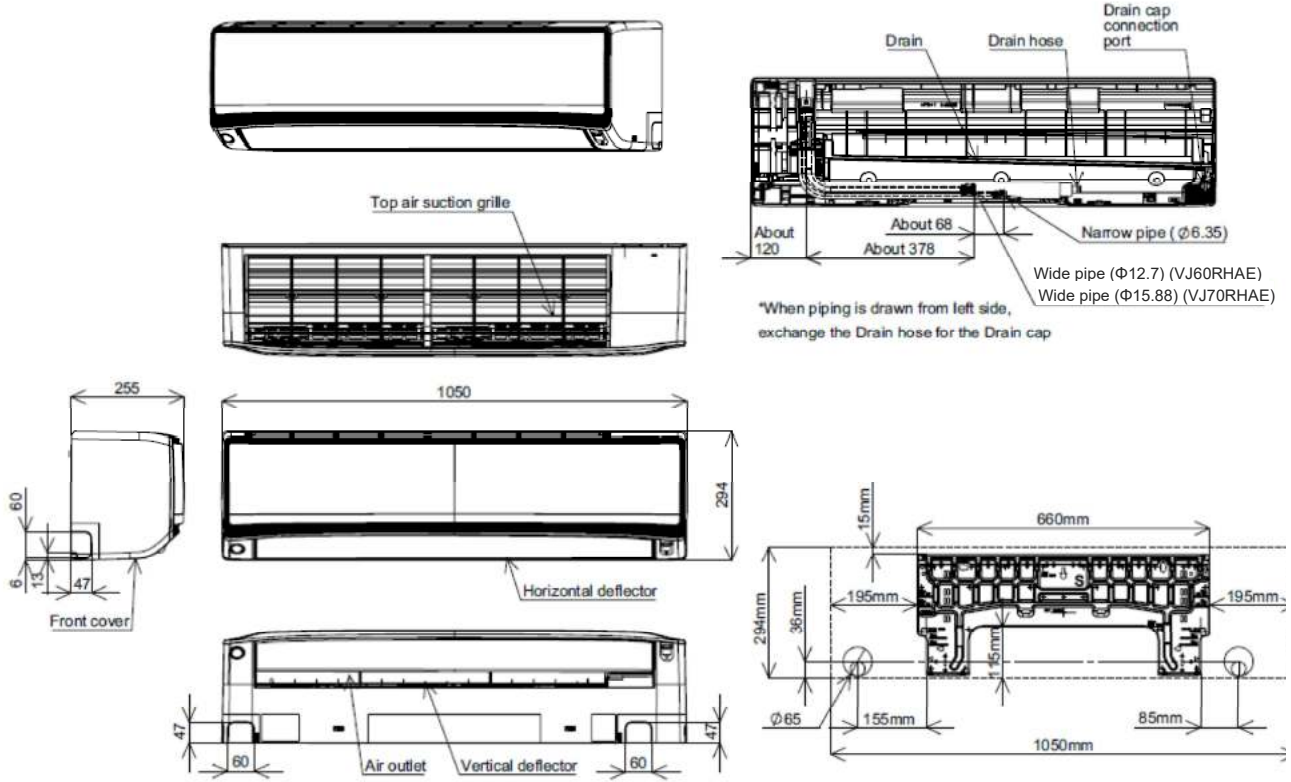
Unit:inch(mm)



2.1.4. WALL TYPE: RAK-GJ18QHAA

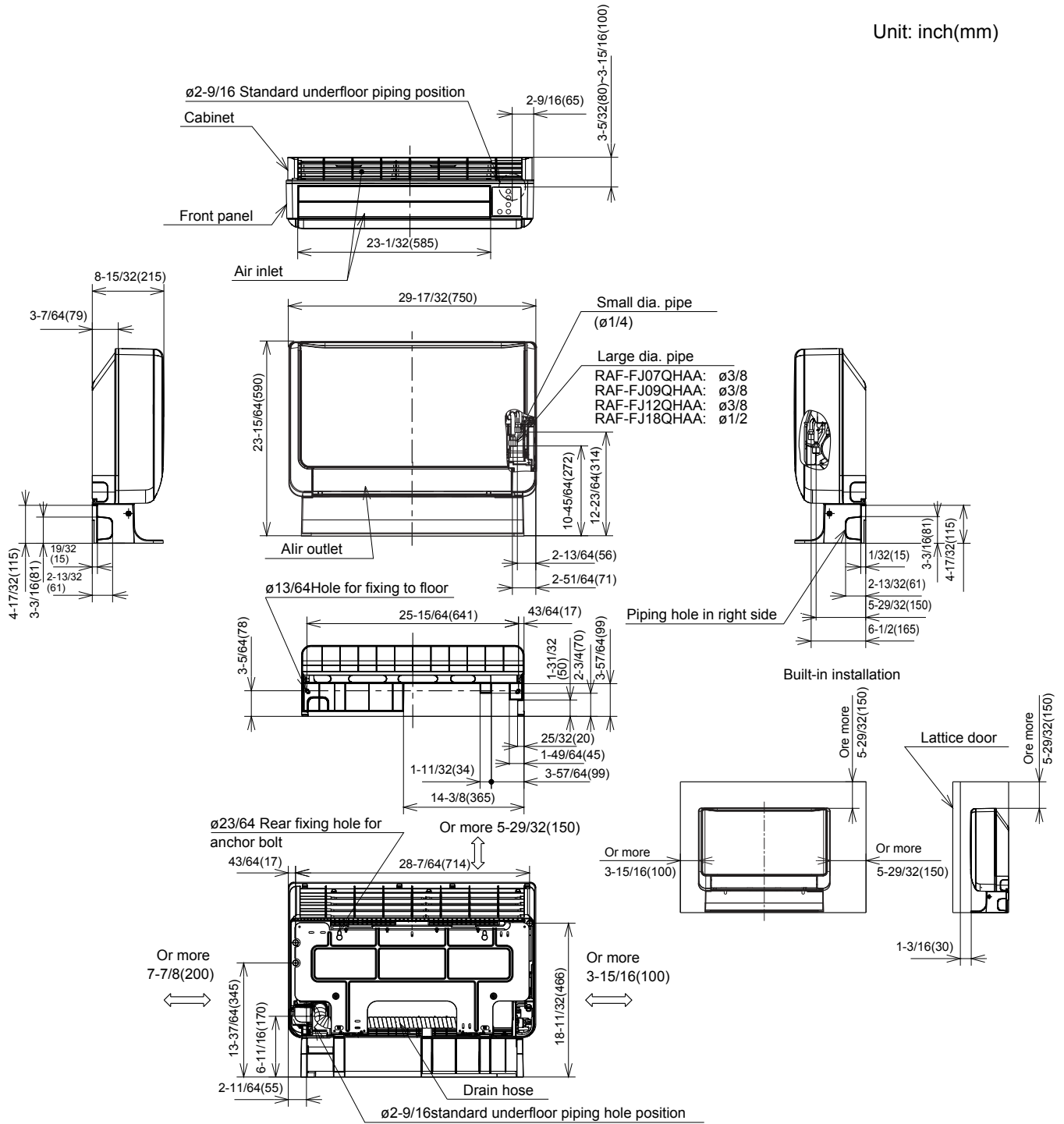


2.1.4. WALL TYPE: RAK-GJ24QHAA



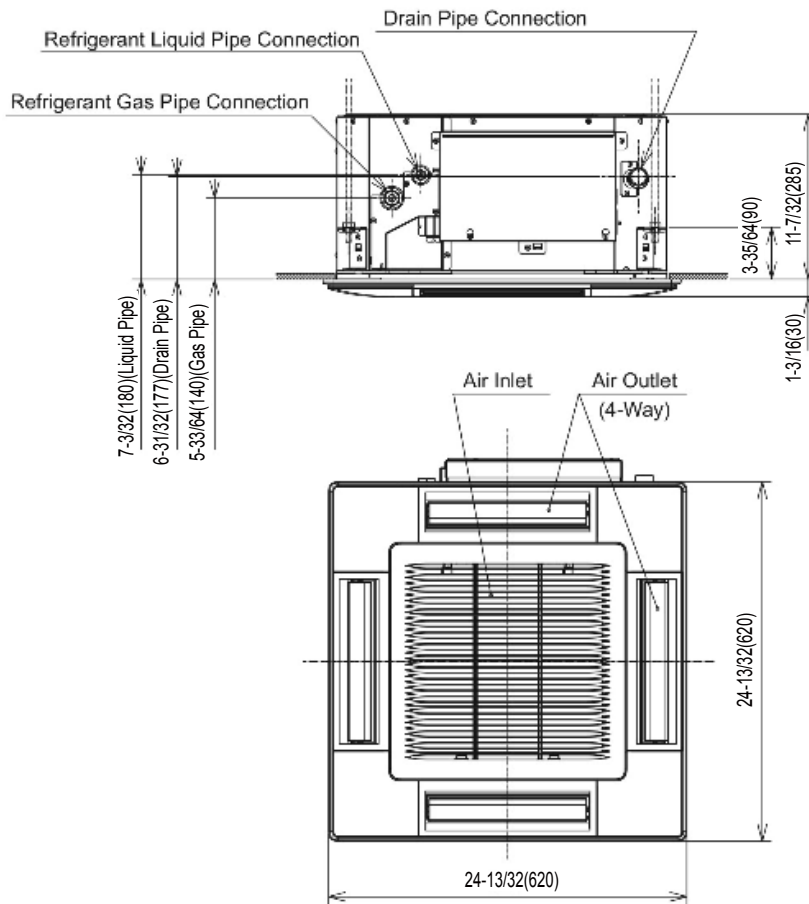
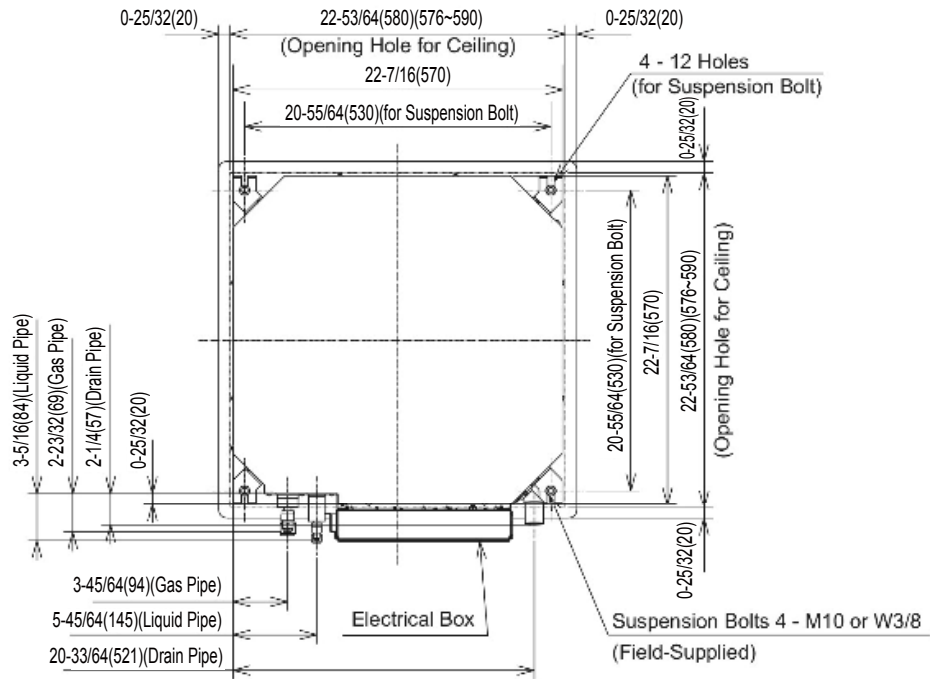
2.1.4. FLOOR TYPE: RAF-FJ07QHAA / FJ09QHAA / FJ12QHAA / FJ18QHAA

Unit: inch(mm)



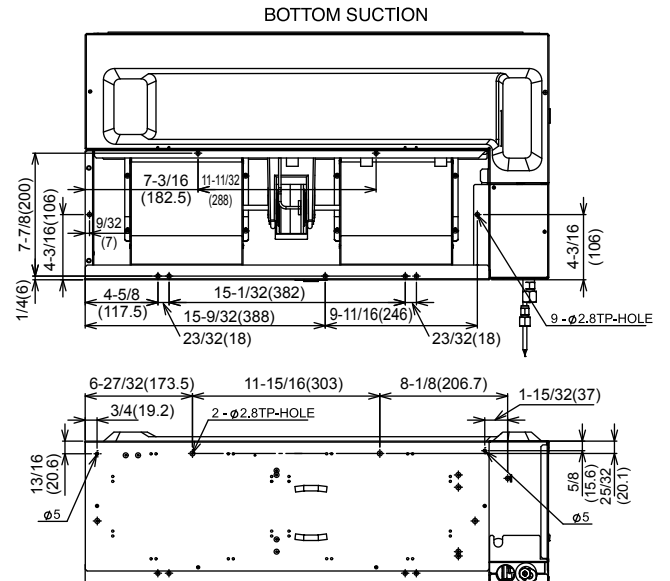
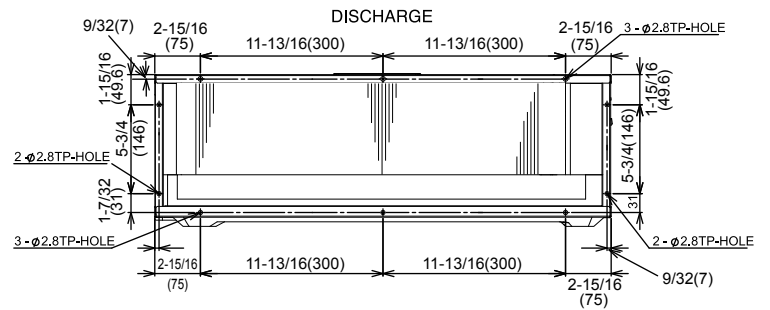
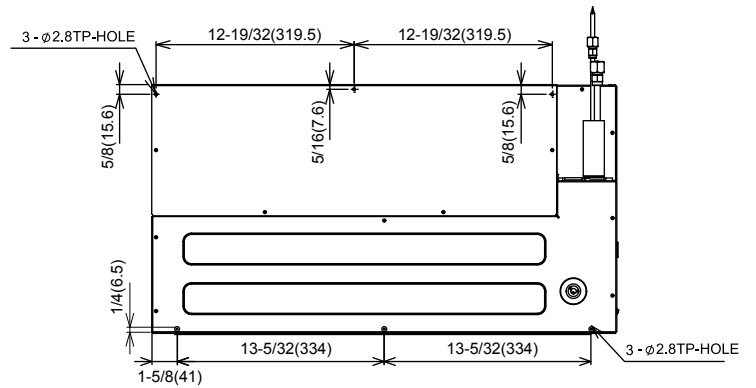
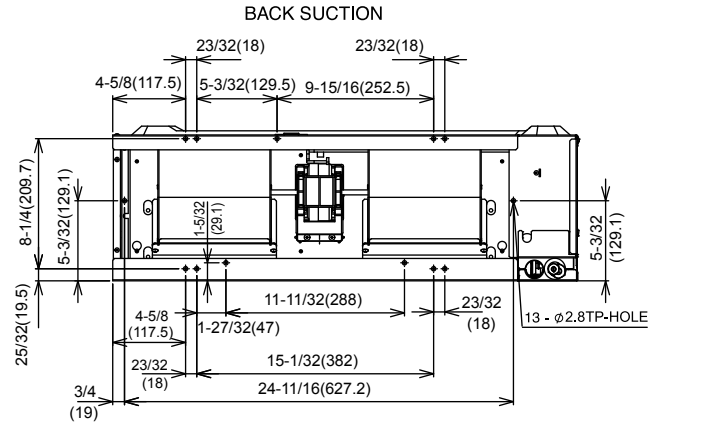
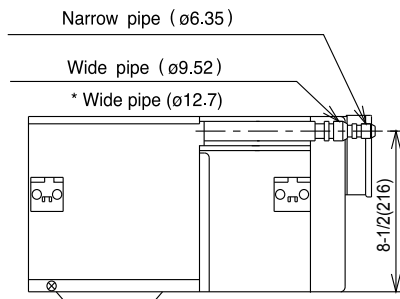
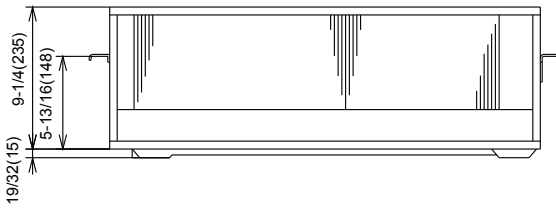
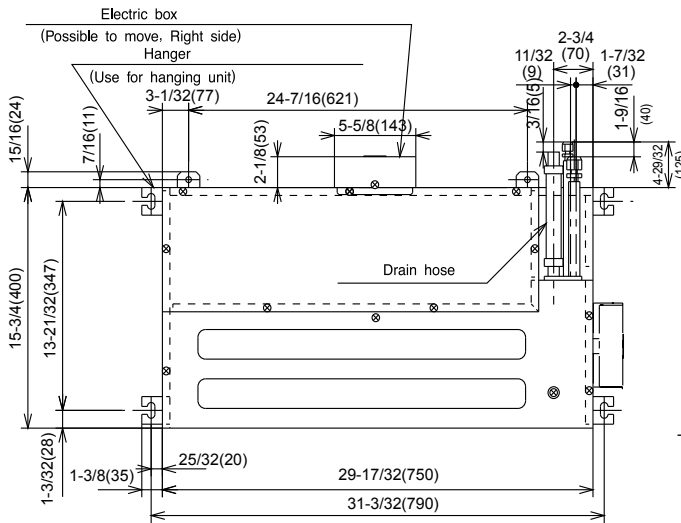
2.1.5. CEILING CASSETTE TYPE: RAI-GJ07QHAA/RAI-GJ09QHAA/RAI-GJ12QHAA/RAI-GJ18QHAA
RAI-GJ24QHAA

Unit:inch(mm)



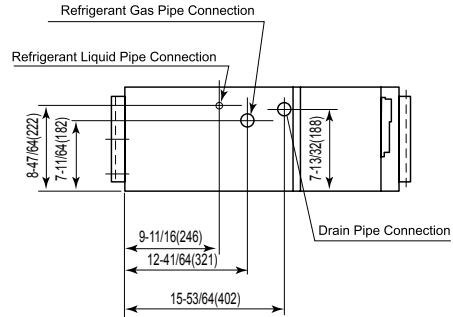
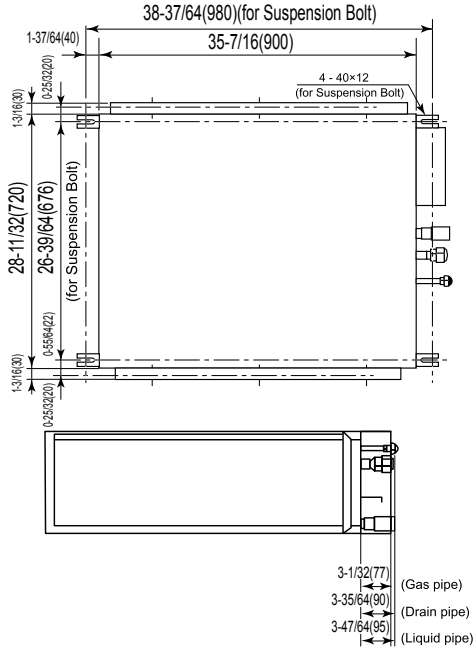
2.1.6. DUCT TYPE: RAD-GJ07QHAA / GJ09QHAA / GJ12QHAA

Unit: inch(mm)

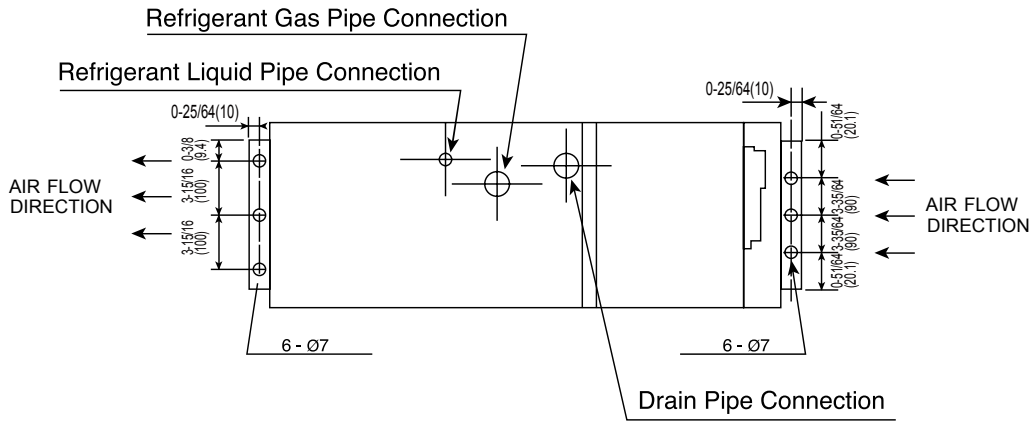


2.1.7. DUCT TYPE: RAD-GJ18QHAA / GJ24QHAA

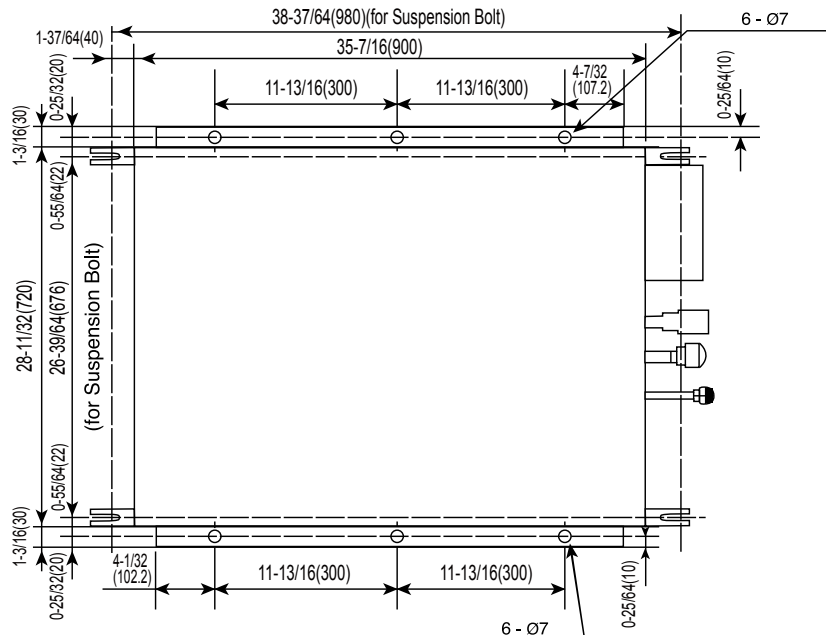
Unit:inch(mm)



SIDE VIEW

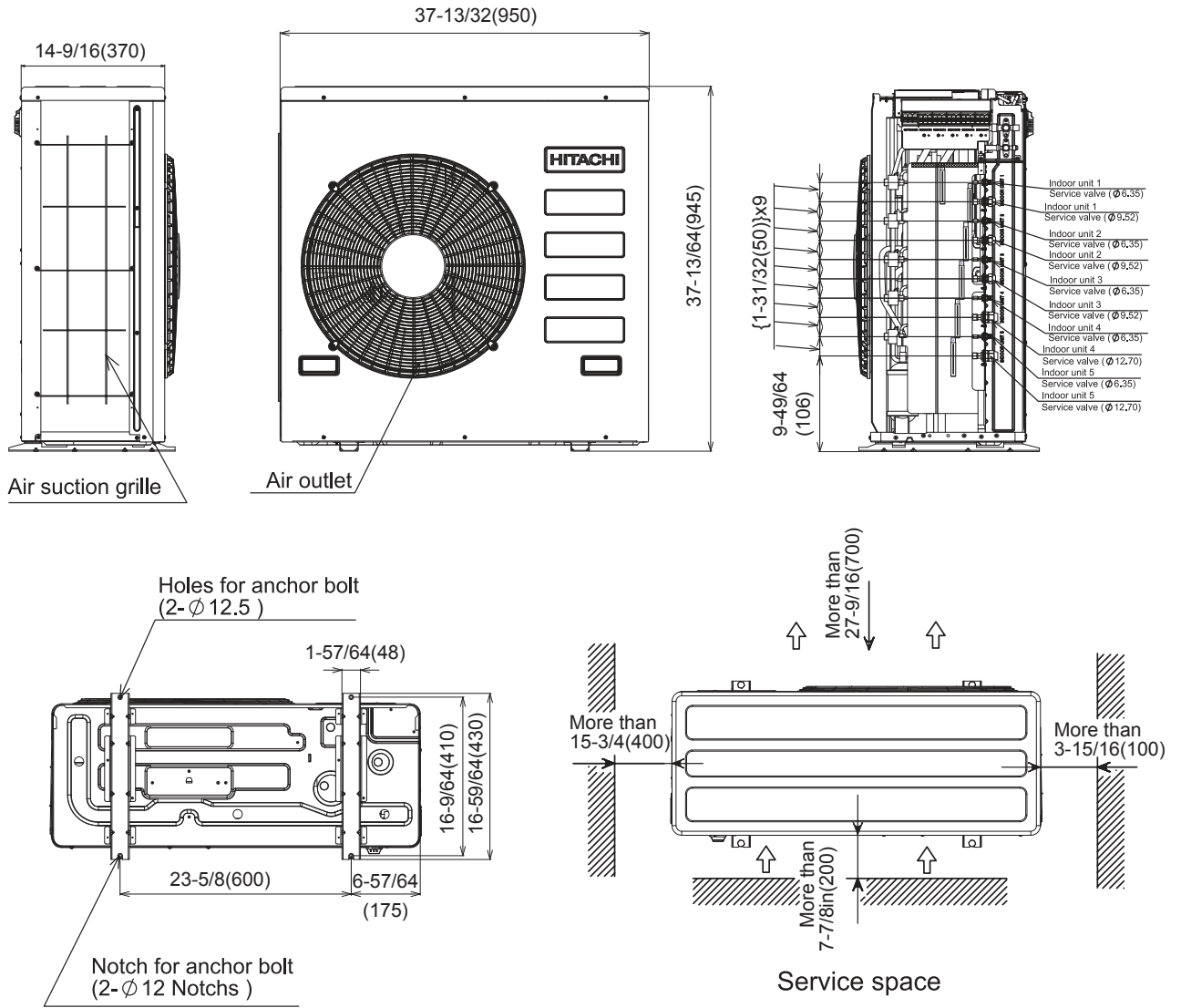


TOP VIEW



2.2.1. 5 ROOMS MULTIZONE: RAM-G42N5HAA

Unit: inch(mm)



3 CAPACITIES AND SELECTION DATA

CONTENTS

3	CAPACITIES AND SELECTION DATA _____	3-1
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3.1. SYSTEM SELECTION PROCEDURE

The following system procedure is giving a sample regarding unit selection system, indicating how to use all parameters showed in this chapter.

3.1.1. SELECTION UNIT FEATURES

Considering the building distribution, the possible indoor unit position and the available air flow distribution, select the unit features that are giving the best efficiency and comfort to each room.

Decide the Outdoor Unit position getting easy service maintenance and easy refrigerant pipe installation.

Therefore, the maximum indoor unit capacity combined with outdoor unit should be carefully considered for correct indoor unit distribution at each building

3.1.2. SELECTION GUIDE

The following guide giving the method for indoor and outdoor unit selection.

*** Step 1: Determine the system requirements**

Calculate the cooling capacity and heating capacity of each indoor unit according to the following conditions:

Total Load for each room

Item		Room					1+2+3+4+5
		1	2	3	4	5	
Estimated Cooling Load	kW	2.46	2.50	2.51	2.53	2.59	12.59
Estimated Heating Load	kW	2.94	2.94	3.17	3.08	2.98	15.11

*Example

Temperature Condition

Cooling	Heating
Outdoor Air Inlet • Dry Bulb: 95°F	Outdoor Air Inlet • Dry Bulb: 47°F • Wet Bulb: 43°F
Indoor Air Inlet • Dry Bulb: 80°F • Wet Bulb: 67°F	Indoor Air Inlet • Dry Bulb: 70°F

*Example

*** Step 2: Select Unit Capacity Performance**

The unit kW is selected following the Cooling capacity and Heating capacity showed in the combination table.

*** Step 3: Read Selected Capacity Performance**

The unit performance should be calculated considering the following correction factors:

1. Cooling and Heating piping length
2. Outdoor unit performance capacity
3. Indoor unit performance capacity for each room cooling load

Kindly refer to the unit selection combination table for correct capacity performance.

Table with columns for capacity ranges (e.g., 9K+24K, 12K+12K) and rows for selection data (e.g., 54, 57, 61, 64, 66, 72, 75, 81, 86, 90). Each cell contains numerical values representing capacities or selection metrics.

Table with multiple columns and rows of numerical data, categorized by configurations like 9K+9K+9K+9K+12K, 9K+9K+9K+9K+18K, etc.

EWB : Evaporator Wet Bulb temperature (°F)
EDB : Evaporator Dry Bulb temperature (°F)
(°FDB) : Outdoor Unit Inlet Air Dry Temperature (°F)

TC : Total Capacity (Btu)
SHC : Sensible Heating Capacity (Btu)
PI : Power Input (W)

3.3. CORRECTION FACTORS ACCORDING TO PIPING LENGTH

Correction Factor for **Cooling Capacity** according to Piping Length

The cooling capacity should be corrected according to the following formula:

$$CCA = CC \times F$$

- CCA: Actual Corrected Cooling Capacity (kcal/h)
- CC: Cooling Capacity in the Performance Table (kcal/h)
- F: Correction Factor Based on the Equivalent Piping Length

Correction Factor for **Heating Capacity** according to Piping Length

The heating capacity should be corrected according to the following formula:

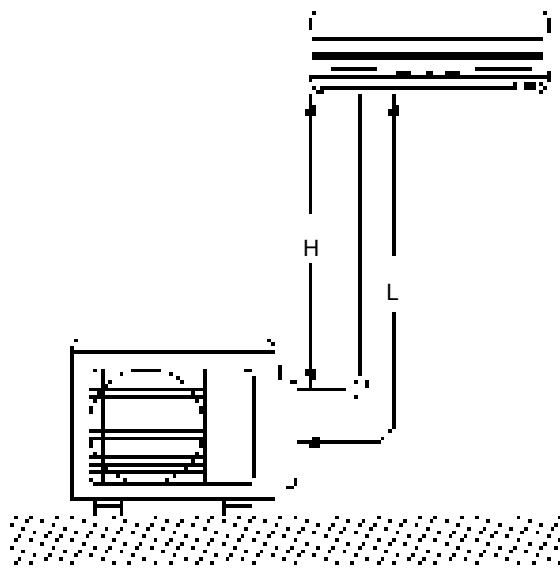
$$HCA = HC \times F$$

- HCA: Actual Corrected Heating Capacity (kcal/h)
- HC: Heating Capacity in the Performance Table (kcal/h)
- F: Correction Factor Based on the Equivalent Piping Length

The correction factors are shown in the following figure.

Equivalent Piping Length for:

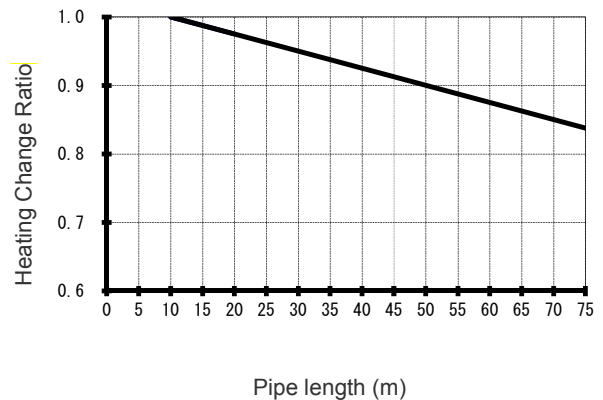
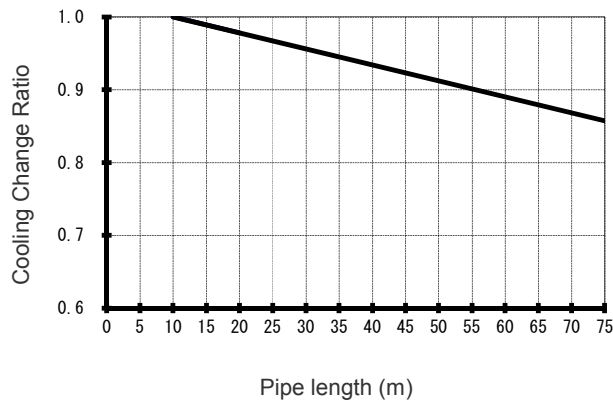
- One 90° Elbow is 0.5m.
- One 180° Curve is 1.5m.



- H: Vertical Distance Between Indoor Unit and Outdoor Units in Meters
- L: Actual One-Way Piping Length Between Indoor Unit and Outdoor Unit in Meters
- EL: Equivalent Total Distance Between Indoor Unit and Outdoor Unit in Meters (Equivalent One-Way Piping Length)

Model Multi Outdoor 42000 BTU/h

RAM-G42N5HAA



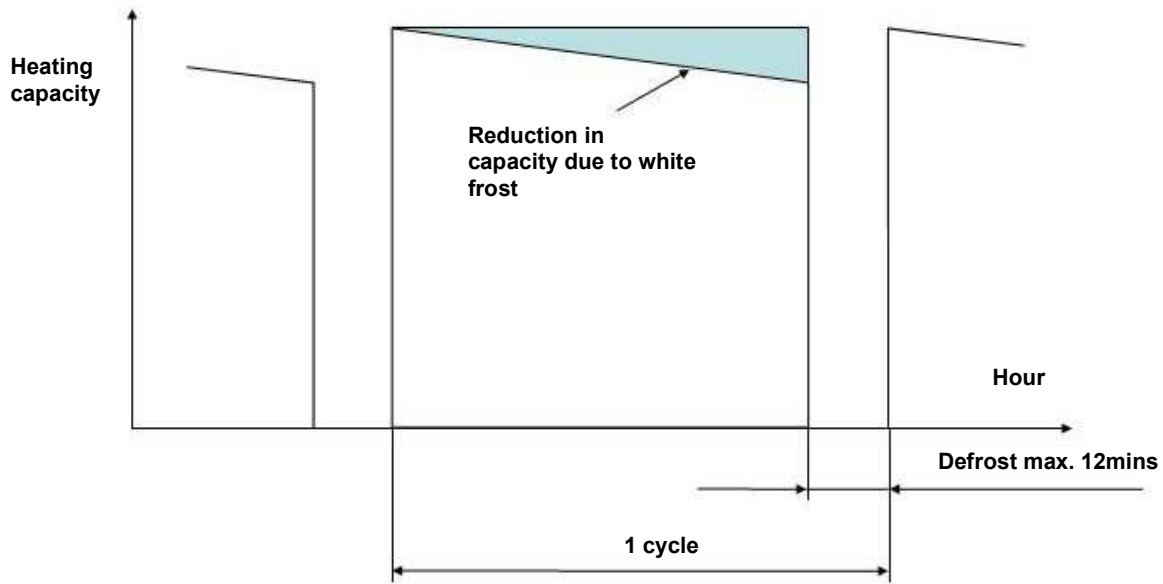
3.4. CORRECTION FACTORS ACCORDING TO DEFROSTING OPERATION

The heating capacity in the preceding paragraph, excludes the condition of the frost or the defrosting operation period. In consideration of the frost or the defrosting operation, the heating capacity is corrected by the equation below.

Corrected heating capacity = Defrost Correction factor x unit capacity

OUTDOOR TEMPERATURE (°CDB)	-15	-10	-7	-5	0	7	10	15
Correction factor (humidity rate85% RH)	0.95	0.95	0.89	0.85	0.81	1.0	1.0	1.0

Correction Factor



NOTE:

The correction factor is not valid for special conditions such as snowfall or operation in a transitional period.

* Total nominal cooling capacity should not be more than 60K Btu.

* Two indoor units should be connected at least and please select the combination from the table below when only two IDUs are connected.

No.	IDU1	IDU2	No.	IDU1	IDU2
1	RAK- GJ24QHAA	RAK- DJ07QHAA	16	RAK- GJ24QHAA	RAI- GJ07QHAA
2	RAK- GJ24QHAA	RAK- DJ09RHAA	17	RAK- GJ24QHAA	RAI- GJ09QHAA
3	RAK- GJ24QHAA	RAK- DJ12RHAA	18	RAK- GJ24QHAA	RAI- GJ12QHAA
4	RAK- GJ24QHAA	RAK- DJ18RHAA	19	RAK- GJ24QHAA	RAI- GJ18QHAA
5	RAK- GJ24QHAA	RAK- DJ24RHAA	20	RAK- GJ24QHAA	RAI- GJ24QHAA
6	RAK- GJ24QHAA	RAK- GJ07QHAA	21	RAK- GJ24QHAA	RAF- FJ07QHAA
7	RAK- GJ24QHAA	RAK- GJ09QHAA	22	RAK- GJ24QHAA	RAF- FJ09QHAA
8	RAK- GJ24QHAA	RAK- GJ12QHAA	23	RAK- GJ24QHAA	RAF- FJ12QHAA
9	RAK- GJ24QHAA	RAK- GJ18QHAA	24	RAK- GJ24QHAA	RAF- FJ18QHAA
10	RAK- GJ24QHAA	RAK- GJ24QHAA	-	-	-
11	RAK- GJ24QHAA	RAD- GJ07QHAA	-	-	-
12	RAK- GJ24QHAA	RAD- GJ09QHAA	-	-	-
13	RAK- GJ24QHAA	RAD- GJ12QHAA	-	-	-
14	RAK- GJ24QHAA	RAD- GJ18QHAA	-	-	-
15	RAK- GJ24QHAA	RAD- GJ24QHAA	-	-	-

<REMARKS>

- * ONE UNIT INDICATED ARE ONLY FOR ONE UNIT OPERATION WHEN TWO OR MORE INDOOR UNITS ARE CONNECTED.
- * TWO UNITS INDICATED ARE ONLY FOR TWO UNITS OPERATION WHEN TWO OR MORE INDOOR UNITS ARE CONNECTED.
- * THREE UNITS INDICATED ARE ONLY FOR THREE UNITS OPERATION WHEN THREE OR MORE INDOOR UNITS ARE CONNECTED.
- * FOUR UNITS INDICATED ARE ONLY FOR FOUR UNITS OPERATION WHEN FOUR OR FIVE INDOOR UNITS ARE CONNECTED.

RATING CONDITON (DRY BLUB / WET BULB)

	INDOOR °F (°C)	OUTDOOR °F (°C)
COOLING	80/67 (26.67/19.44)	95/75 (35/23.89)
HEATING	70/60 (21.11/15.56)	47/43 (8.33/6.11)

NOMINAL CUULING CAPACITY	indoor unit model	CAPACITY(Btu.) at one unit operation		SUITABLE ROOM SIZE(m2) at one unit operation	
		cooling	heating	cooling	heating
7K Btu	RAK-DJ07QHAA	3050-9000	3050-10900	8 ~ 12	9 ~ 11
	RAK-GJ07QHAA	3050-9000	3050-10900		
	RAD-GJ07QHAA	3050-8500	3050-10900		
	RAI-GJ07QHAA	3050-8500	3050-10900		
	RAF-FJ07QHAA	3050-9000	3050-10900		
9K Btu	RAK-DJ09RHAA	5450-10500	4200-11500	11 ~ 17	14 ~ 18
	RAK-GJ09QHAA	5100-10500	5450-15000		
	RAD-GJ09QHAA	3050-10200	3050-18000		
	RAI-GJ09QHAA	3050-10200	3050-18000		
	RAF-FJ09QHAA	3050-10600	3050-15000		
12K Btu	RAK-DJ12RHAA	5500-13200	4400-14500	16 ~ 24	17 ~ 22
	RAK-GJ12QHAA	5150-14000	5500-18000		
	RAD-GJ12QHAA	3050-13650	3050-22500		
	RAI-GJ12QHAA	3050-13650	3050-22500		
	RAF-FJ12QHAA	3050-13650	3050-18000		
18K Btu	RAK-DJ18RHAA	5700-18600	6700-20500	23 ~ 24	23 ~ 29
	RAK-GJ18QHAA	6600-20500	7100-26000		
	RAD-GJ18QHAA	4100-19800	4100-23200		
	RAI-GJ18QHAA	4100-19800	4100-23200		
	RAF-FJ18QHAA	3050-17750	3050-27600		
24K Btu	RAK-DJ24RHAA	8200-25200	8300-26500	23 ~ 24	23 ~ 29
	RAK-GJ24QHAA	9700-25000	8500-29500		
	RAD-GJ24QHAA	4100-25600	4100-30690		
	RAI-GJ24QHAA	4100-25600	4100-30690		

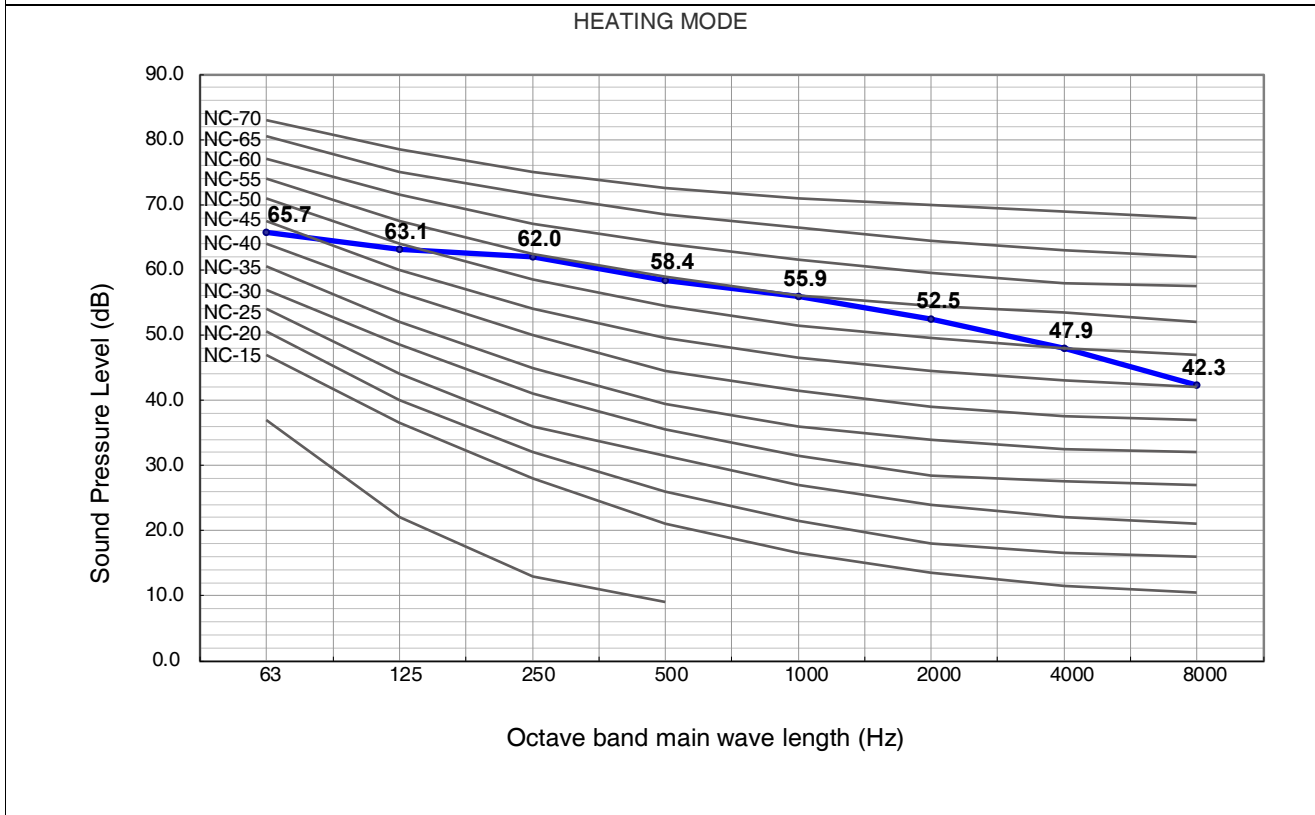
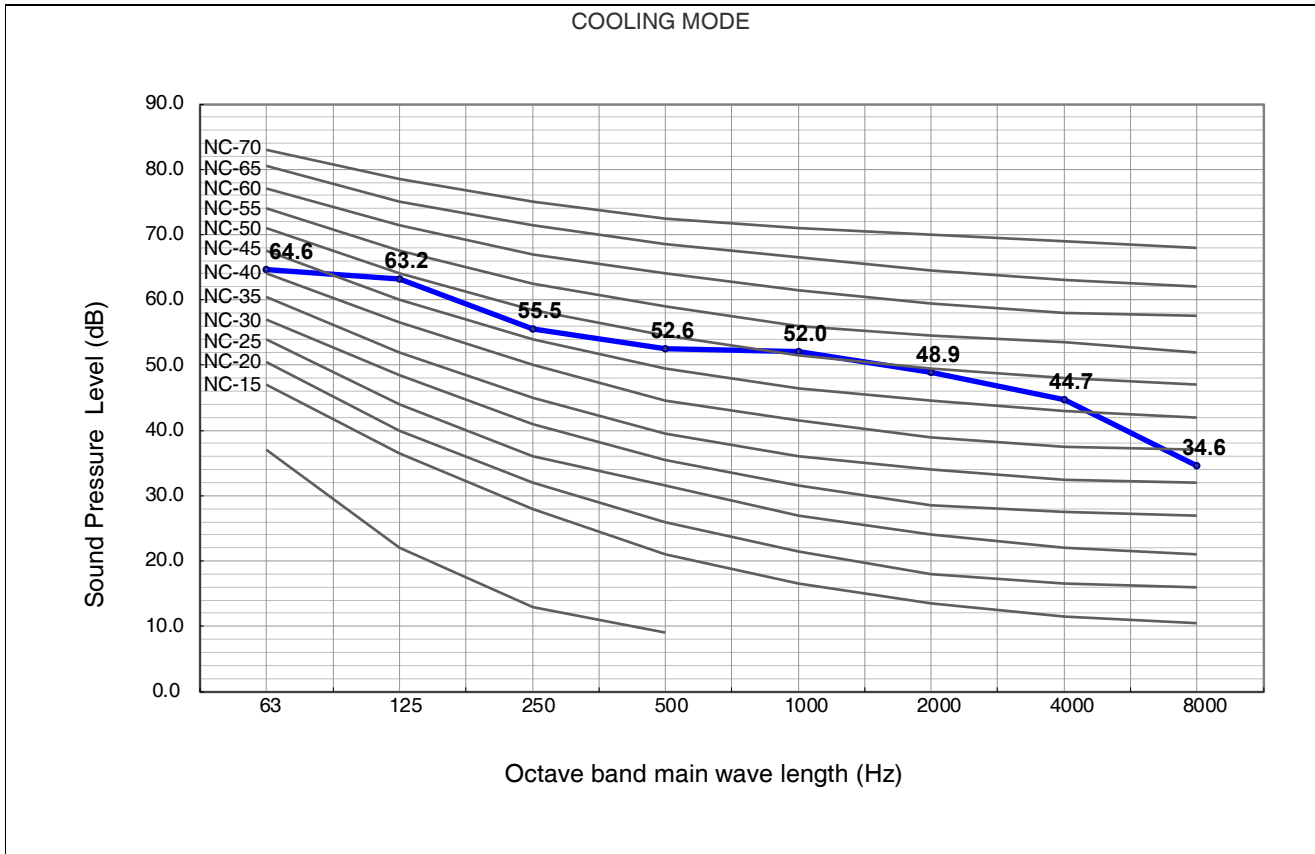
*Two, three, four or five indoor units can be installed with one outdoor unit.
 *One-unit values are for one unit operation with two indoors connected.
 *Total nominal cooling capacity should not be more than 60K Btu.

4 SOUND DATA

CONTENTS

4	SOUND DATA _____	4-1
4.1.	SOUND DATA (RAM-G42N5HAA) _____	4-2

4.1.1. RAM-G42N5HAA



The Sound Pressure Level is based on the following conditions:

1 meter from the unit front surface and 1 meter from floor level

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

5 WORKING RANGE

CONTENTS

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5.2.	WORKING RANGE _____	5-2
5.2.1.	MULTIZONE _____	5-2

5.1. POWER SUPPLY

Working Voltage	198V ~ 264V
Voltage Imbalance	Within a 3% Deviation from Each Voltage at the Main Terminal of Outdoor Unit
Starting Voltage	Higher than 85% of the Rated Voltage

5.2. WORKING RANGE

5.2.1. MULTIZONE

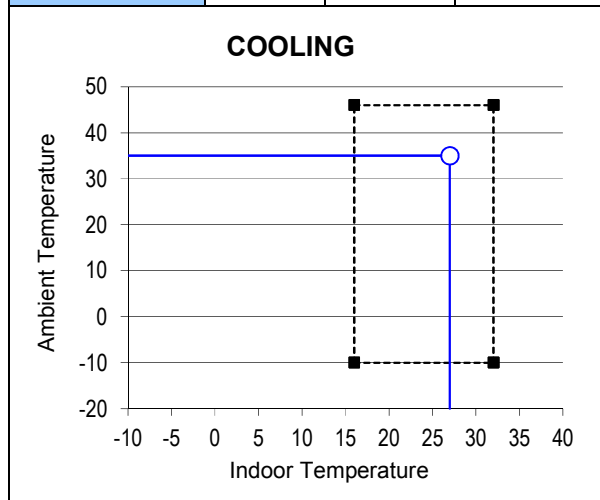
Applicable models:

MULTIZONE
RAM-G42N5HAA

The temperature range is indicated in the following table.

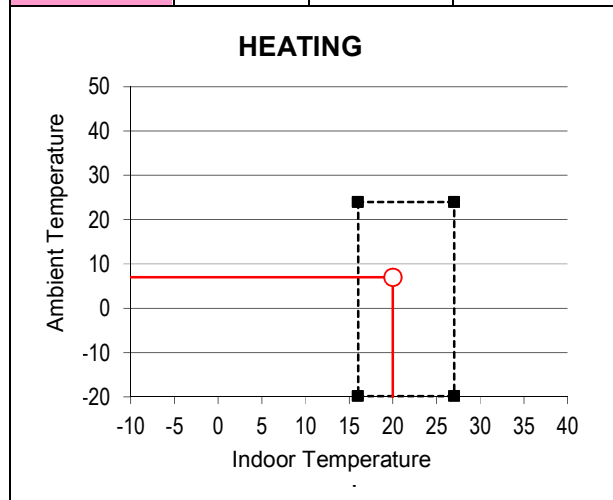
Cooling

working range	min (°C)	max (°C)	rated (°C)
outdoor	-10	46	35
indoor	16	32	26.67



Heating

working range	min (°C)	max (°C)	rated (°C)
outdoor	-20	24	8.33
indoor	16	27	21.11



6 ELECTRICAL DATA

CONTENTS

6	ELECTRICAL DATA	6-1
6.1.	INDOOR UNIT	6-2
6.2.	OUTDOOR UNIT	6-3

6.1. INDOOR UNIT

Model	Unit Main Power	Rated input current of power conversion equipment	Indoor Fan Motor	
	VOL, PH, Hz		RNC	IPT
RAK-DJ07QHAA	208-230, 1, 60	0.45	0.67	38
RAK-DJ09RHAA	208-230, 1, 60	0.45	0.67	38
RAK-DJ12RHAA	208-230, 1, 60	0.45	0.67	38
RAK-DJ18RHAA	208-230, 1, 60	0.45	0.67	38
RAK-DJ24RHAA	208-230, 1, 60	0.56	0.16	45
RAK-GJ07QHAA	208-230, 1, 60	0.62	0.67	30
RAK-GJ09QHAA	208-230, 1, 60	0.62	0.67	30
RAK-GJ12QHAA	208-230, 1, 60	0.62	0.67	30
RAK-GJ18QHAA	208-230, 1, 60	0.64	0.16	45
RAK-GJ24QHAA	208-230, 1, 60	0.64	0.16	45
RAF-FJ07QHAA	208-230, 1, 60	0.25	0.75	38
RAF-FJ09QHAA	208-230, 1, 60	0.25	0.75	38
RAF-FJ12QHAA	208-230, 1, 60	0.25	0.75	38
RAF-FJ18QHAA	208-230, 1, 60	0.25	0.75	38
RAI-GJ07QHAA	208-230, 1, 60	0.80	0.25	57
RAI-GJ09QHAA	208-230, 1, 60	0.80	0.25	57
RAI-GJ12QHAA	208-230, 1, 60	0.80	0.25	57
RAI-GJ18QHAA	208-230, 1, 60	0.80	0.25	57
RAI-GJ24QHAA	208-230, 1, 60	0.80	0.25	57
RAD-GJ07QHAA	208-230, 1, 60	0.45	0.11	20
RAD-GJ09QHAA	208-230, 1, 60	0.45	0.11	20
RAD-GJ12QHAA	208-230, 1, 60	0.45	0.11	20
RAD-GJ18QHAA	208-230, 1, 60	1.2	0.75	180
RAD-GJ24QHAA	208-230, 1, 60	1.2	0.75	180

VOL: Rated Unit Power Supply Voltage (V)
Hz: Frequency (Hz)

RNC: Running Current (A)
PH: Phase (φ)
IPT: Input (W)

6.2. OUTDOOR UNIT

Model	Unit Main Power		Electrical Data			
	VOL, PH, Hz	Rated input current of power conversion equipment (A)	Rated Cooling Current	Rated Heating Current	MCA	MOP
RAM-G42N5HAA	208-230, 1, 60	22	15	16	25A (2 unit) / 30A (3 ~ 5 unit)	40A (2 unit) / 50A (3 ~ 5 unit)

VOL: Rated Unit Power Supply Voltage (V)

HZ: Frequency (Hz)

PH: Phase (ϕ)

MCA: Minimum Circuit Ampacity (A)

MOP: Maximum Overcurrent Protection (A)

- NOTE:**
1. The above compressor data is based on 100% capacity combination of indoor units at the rated operating frequency
 2. This data is based on the same conditions as the nominal heating and cooling capacities.
 3. The compressor started by an inverter, resulting in extremely low starting current.

7 WIRING DIAGRAM

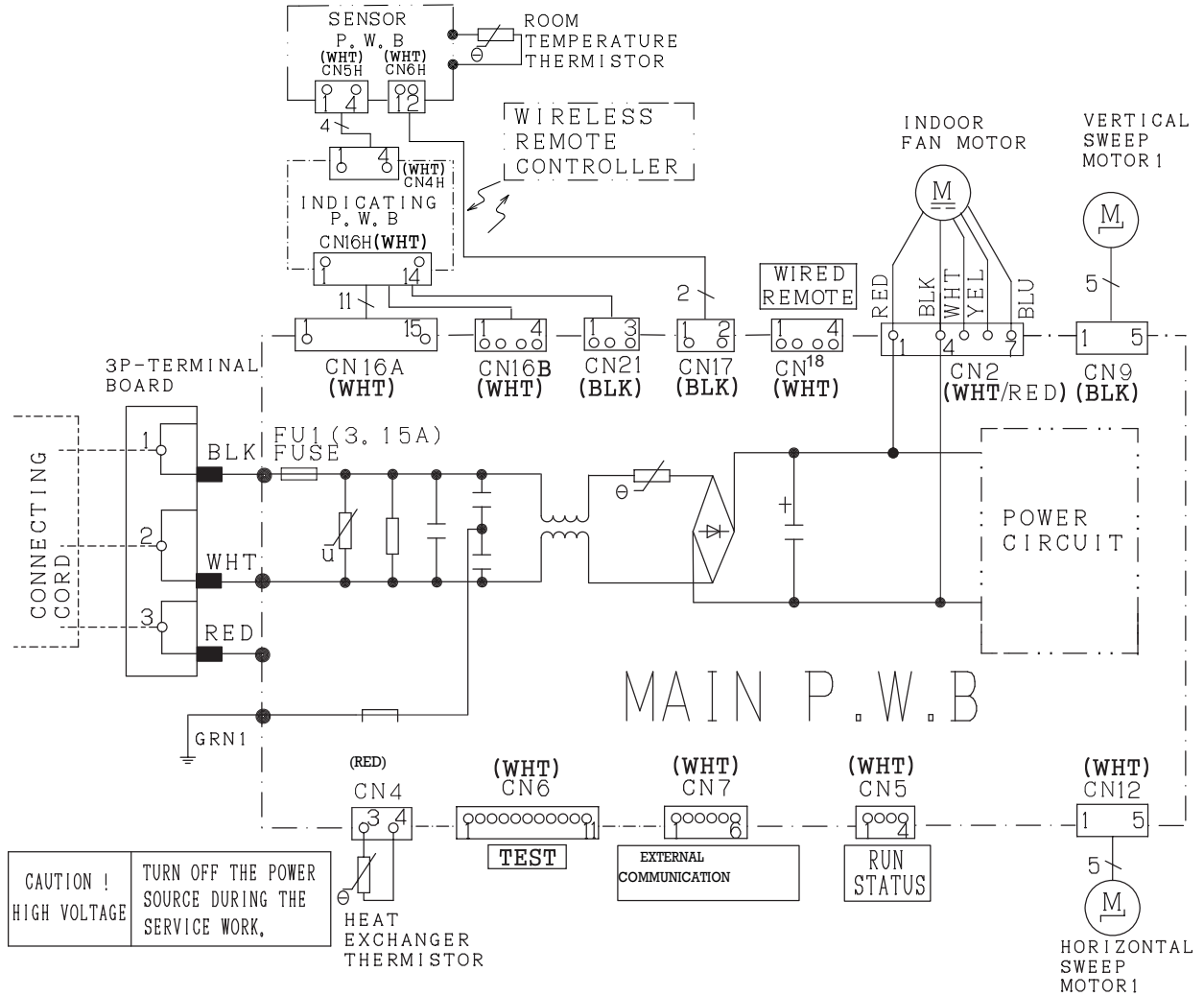
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7.1. MULTIZONE

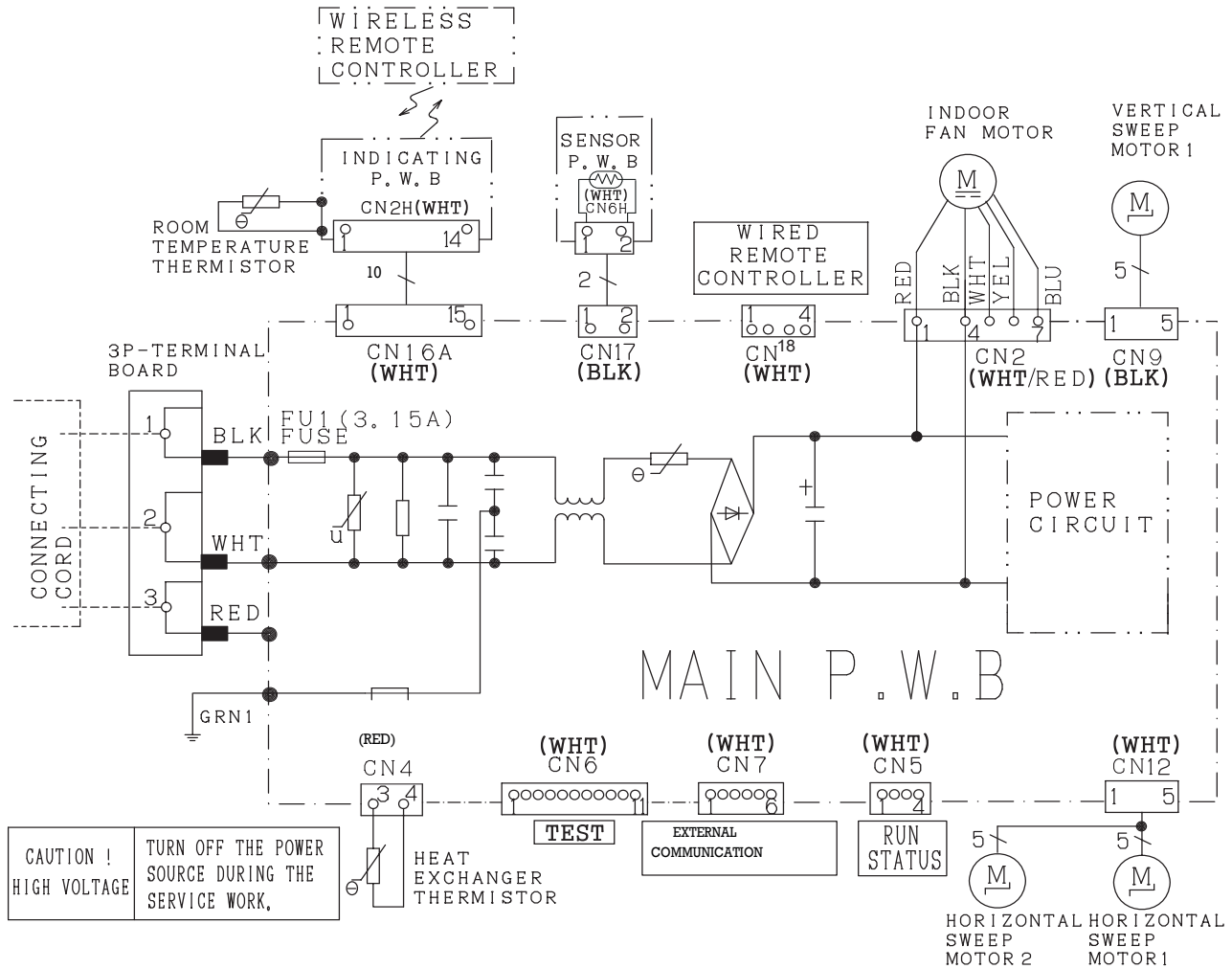
7.1.1. RAK-DJ07QHAA, RAK-DJ09/12/18RHAA

BLU : BLUE	YEL : YELLOW	BRN : BROWN	WHT : WHITE
GRY : GRAY	ORN : ORANGE	GRN : GREEN	RED : RED
BLK : BLACK	PNK : PINK	VIO : VIOLET	IVO : IVORY



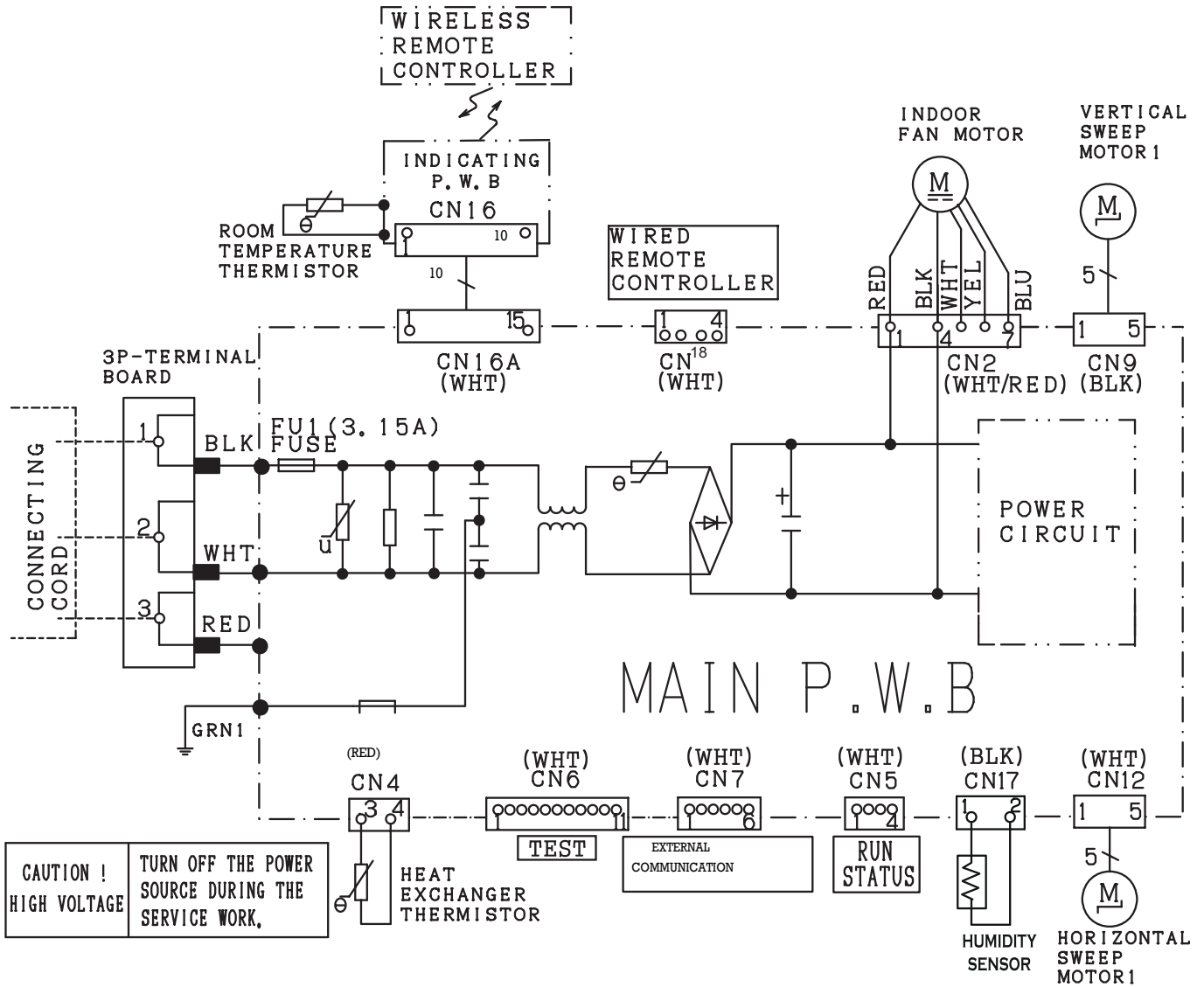
7.1.2. RAK-DJ24RHAA

- | | | | |
|-------------|--------------|--------------|-------------|
| BLU : BLUE | YEL : YELLOW | BRN : BROWN | WHT : WHITE |
| GRY : GRAY | ORN : ORANGE | GRN : GREEN | RED : RED |
| BLK : BLACK | PNK : PINK | VIO : VIOLET | IVO : IVORY |



7.1.3. RAK-GJ07QHAA , RAK-GJ09QHAA , RAK-12QHAA

BLU : BLUE	YEL : YELLOW	BRN : BROWN	WHT : WHITE
GRY : GRAY	ORN : ORANGE	GRN : GREEN	RED : RED
BLK : BLACK	PNK : PINK	VIO : VIOLET	IVO : IVORY



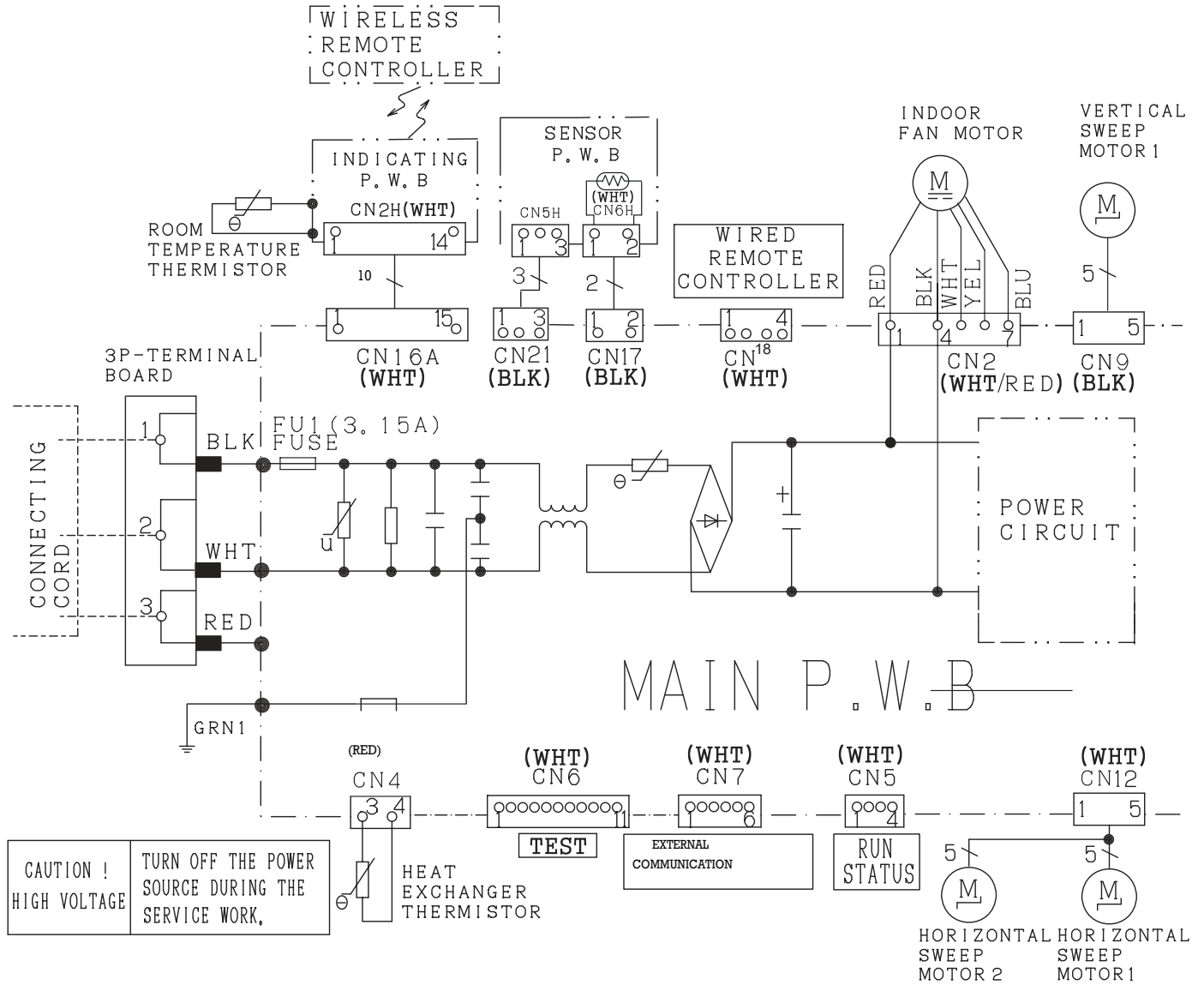
7.1.4. RAK-GJ18QHAA , RAK-GJ24QHAA

BLU : BLUE
 GRY : GRAY
 BLK : BLACK

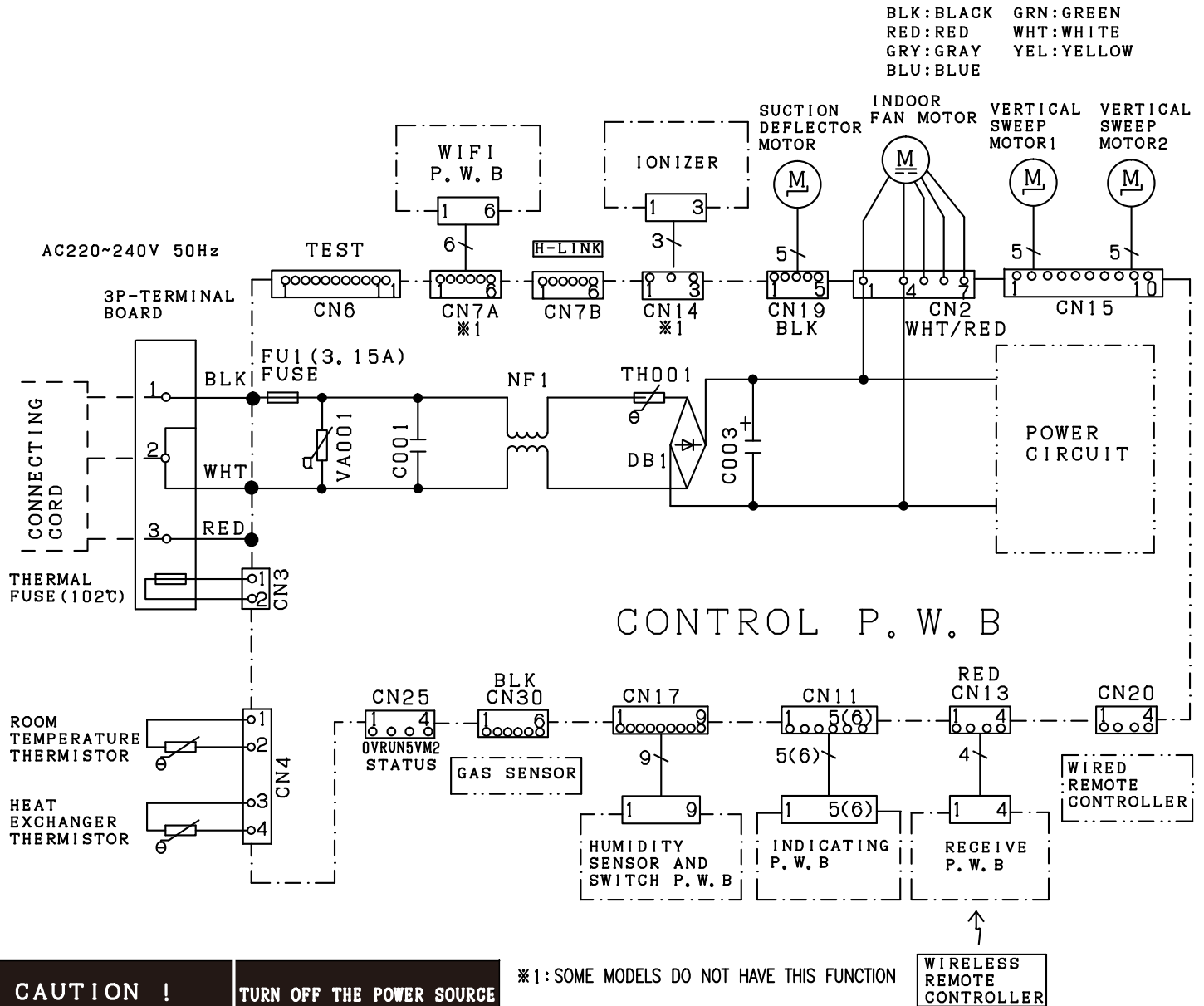
YEL : YELLOW
 ORN : ORANGE
 PNK : PINK

BRN : BROWN
 GRN : GREEN
 VIO : VIOLET

WHT : WHITE
 RED : RED
 IVO : IVORY

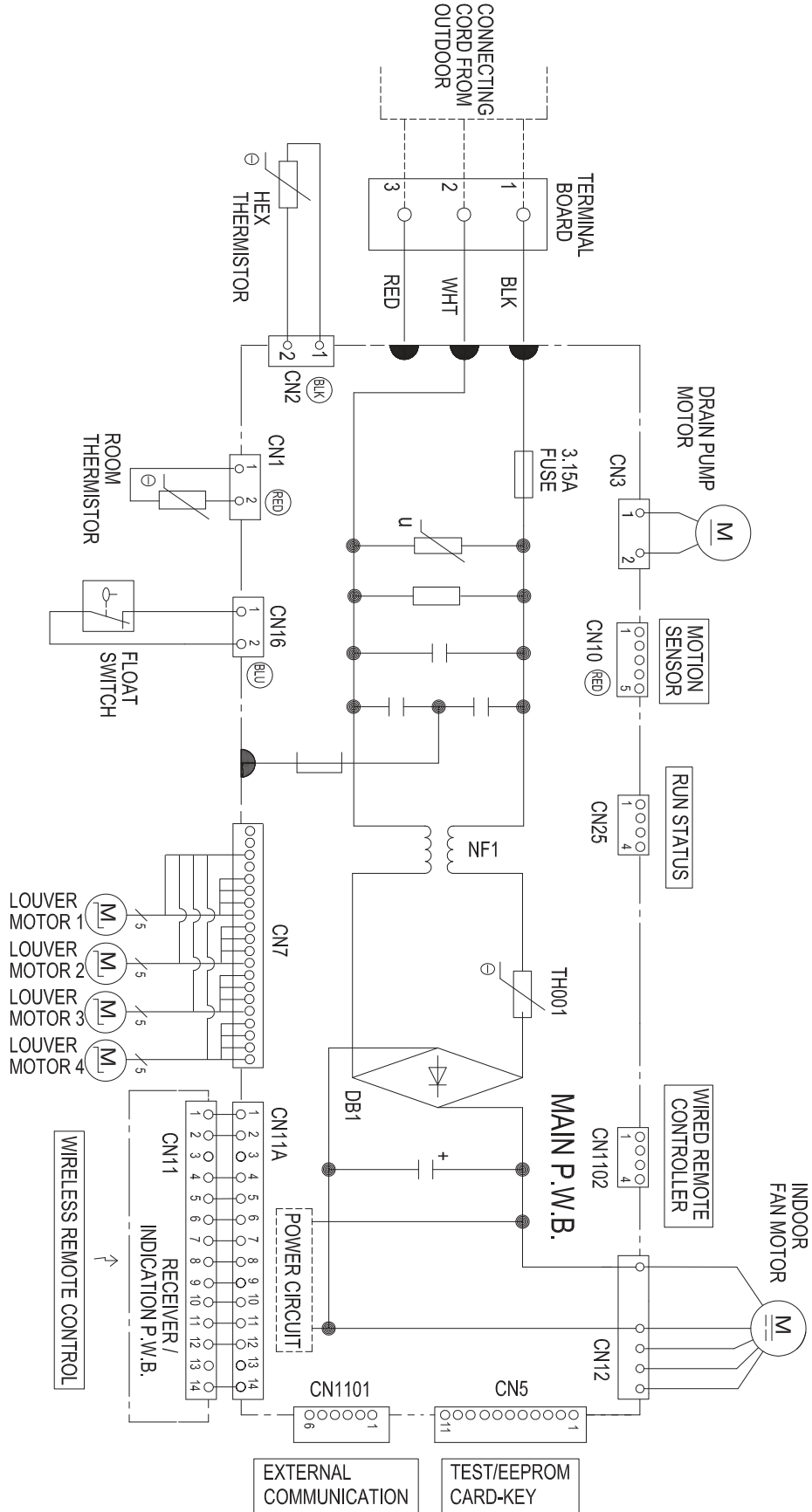


7.1.5. RAF-FJ07QHAA, RAF-FJ09QHAA, RAF-FJ12QHAA, RAF-FJ18QHAA

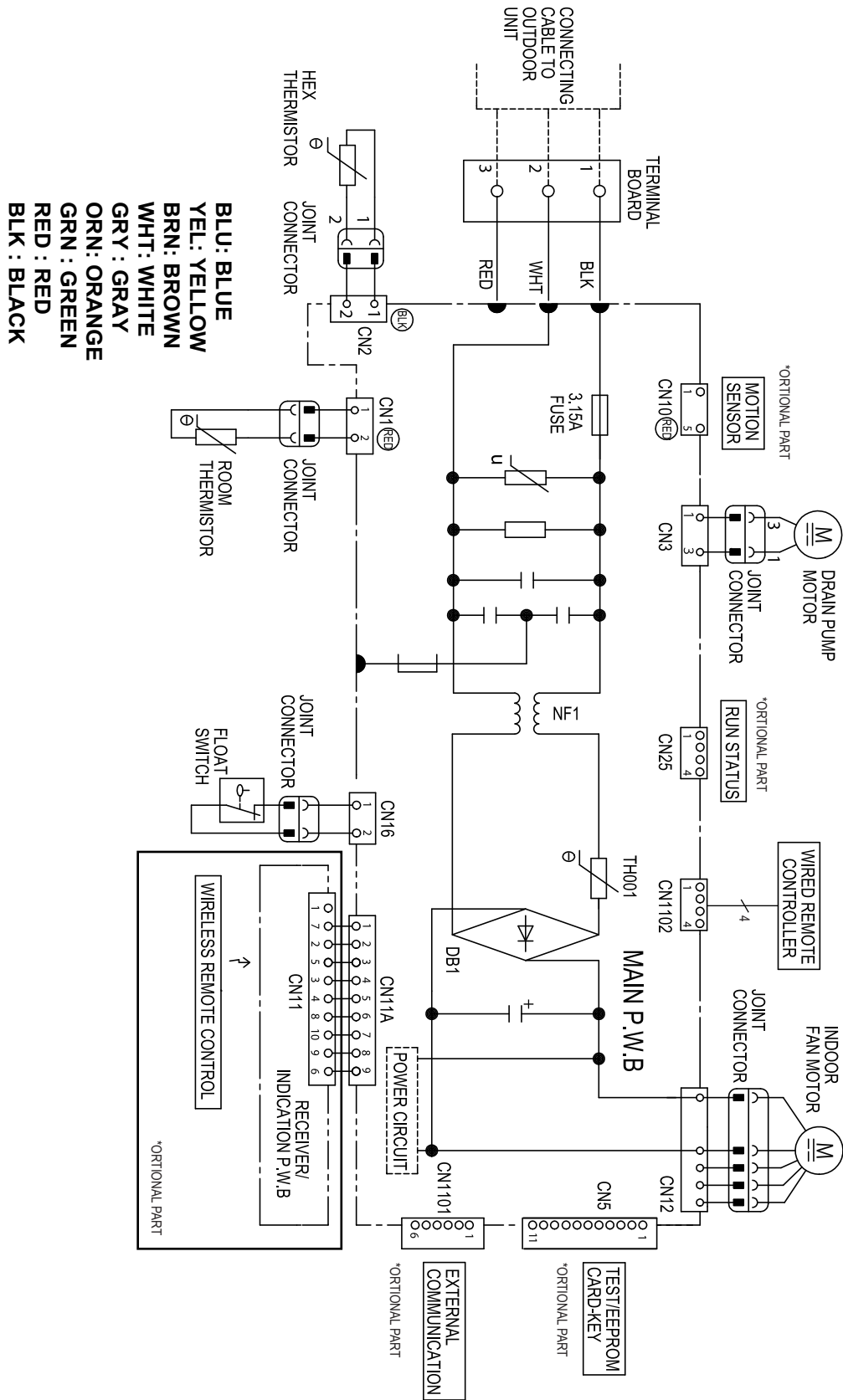


CAUTION ! TURN OFF THE POWER SOURCE DURING THE SERVICE WORK.
HIGH VOLTAGE

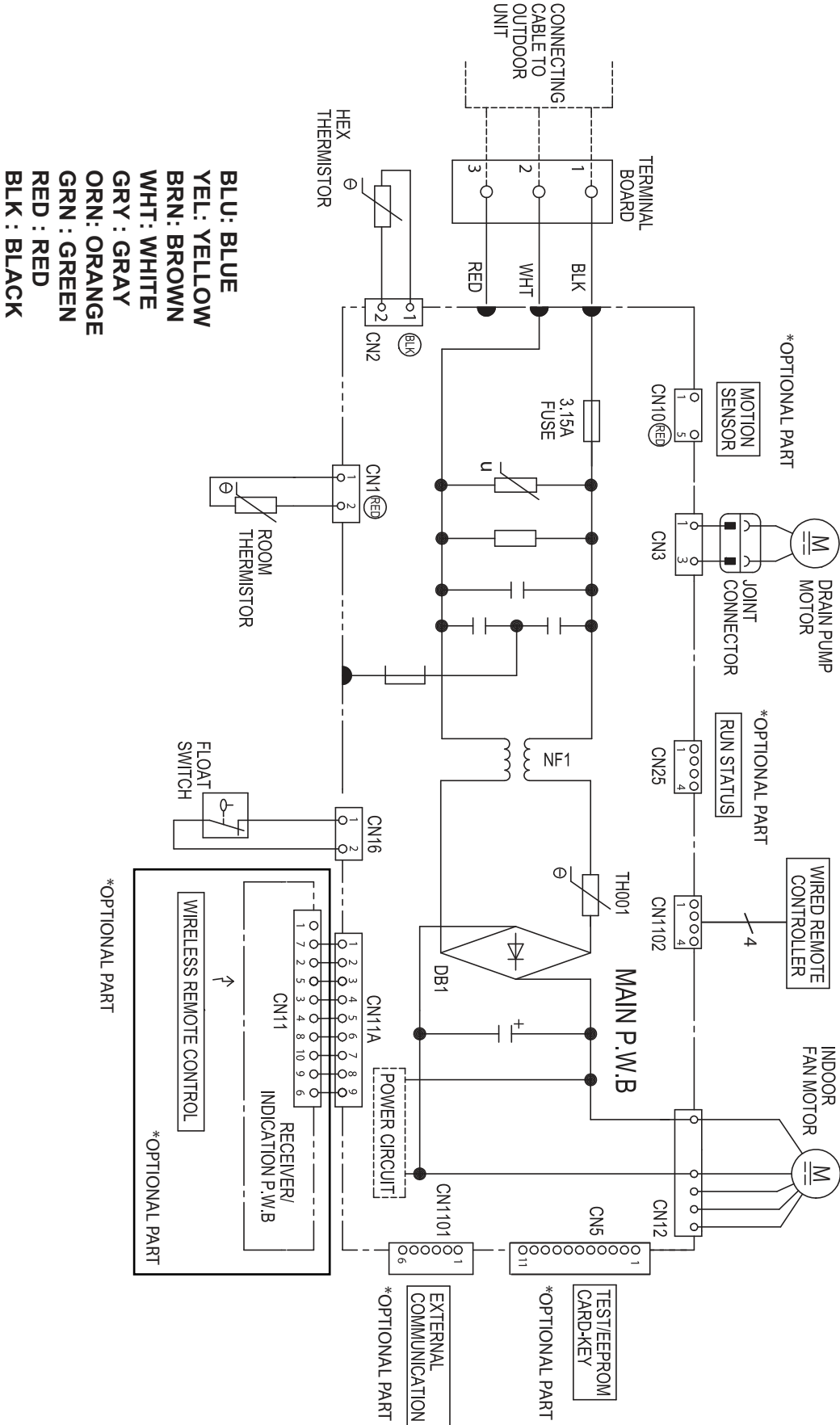
7.1.6. RAI-GJ07/09/12/18/24QHAA



7.1.7. RAD-GJ07QHAA, RAD-GJ09QHAA, RAD-GJ12QHAA

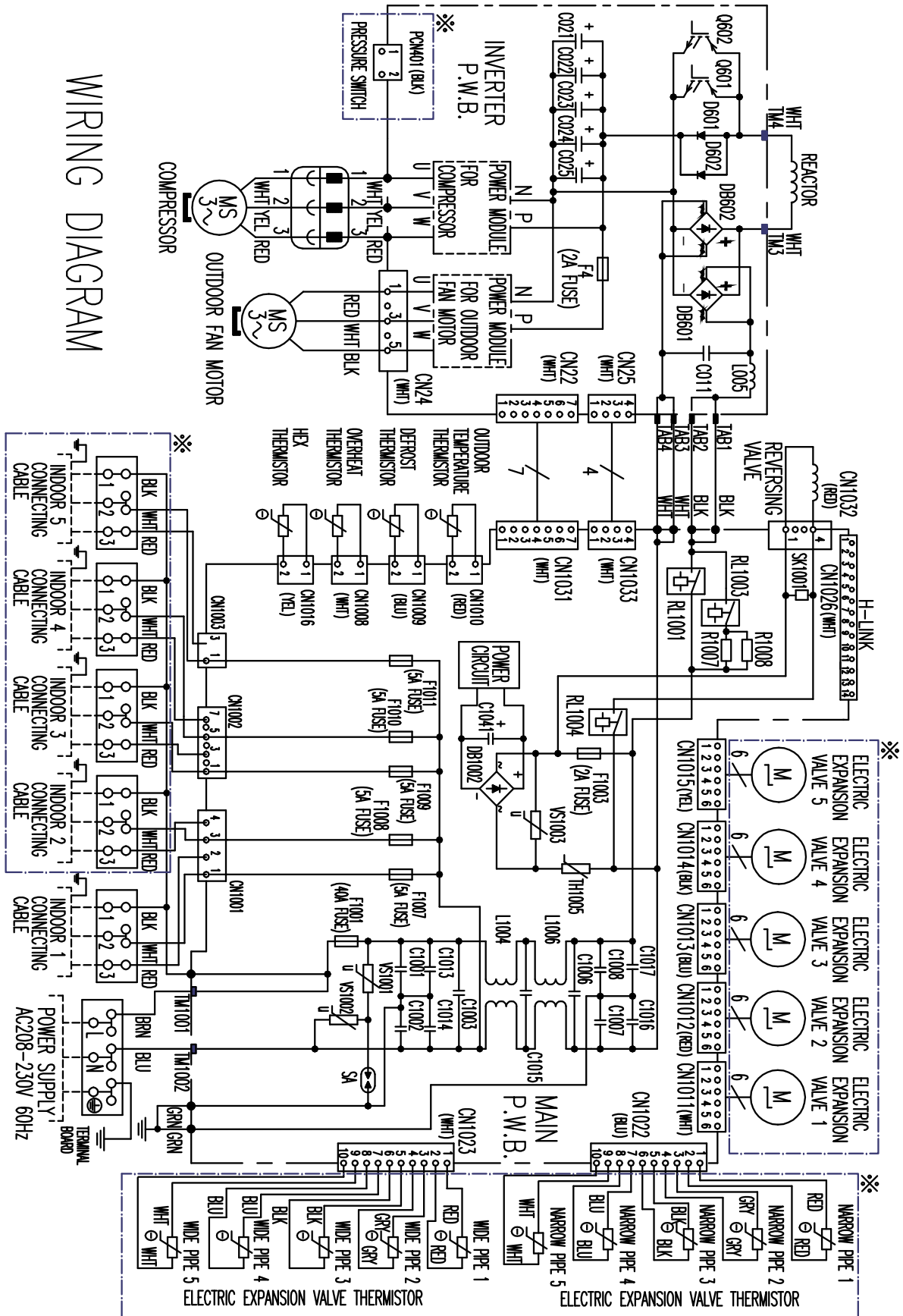


7.1.8. RAD-GJ18QHAA , RAD-GJ24QHAA



7.2 RAM-G42N5HAA

WIRING DIAGRAM



8 REFRIGERANT CYCLE

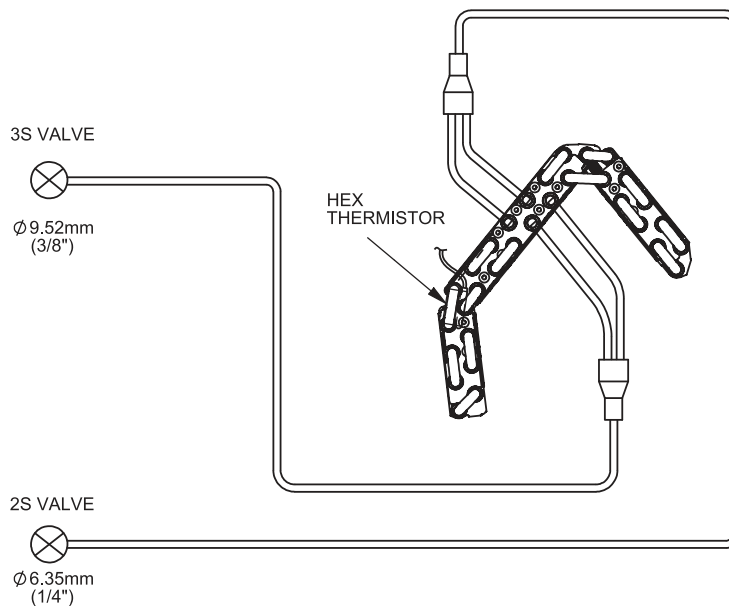
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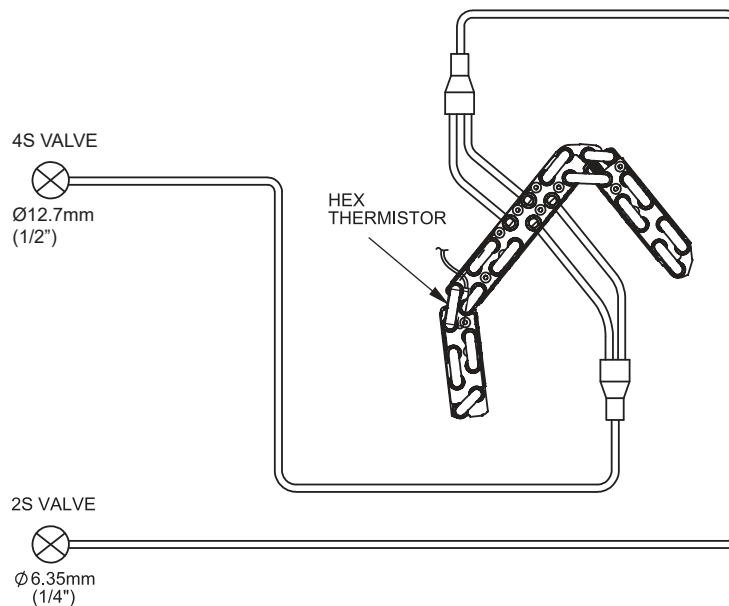
8.1. MULTIZONE INDOOR UNITS

8.1.1. WALL TYPE: RAK-DJ07QHAA,RAK-DJ09/12/18RHAA

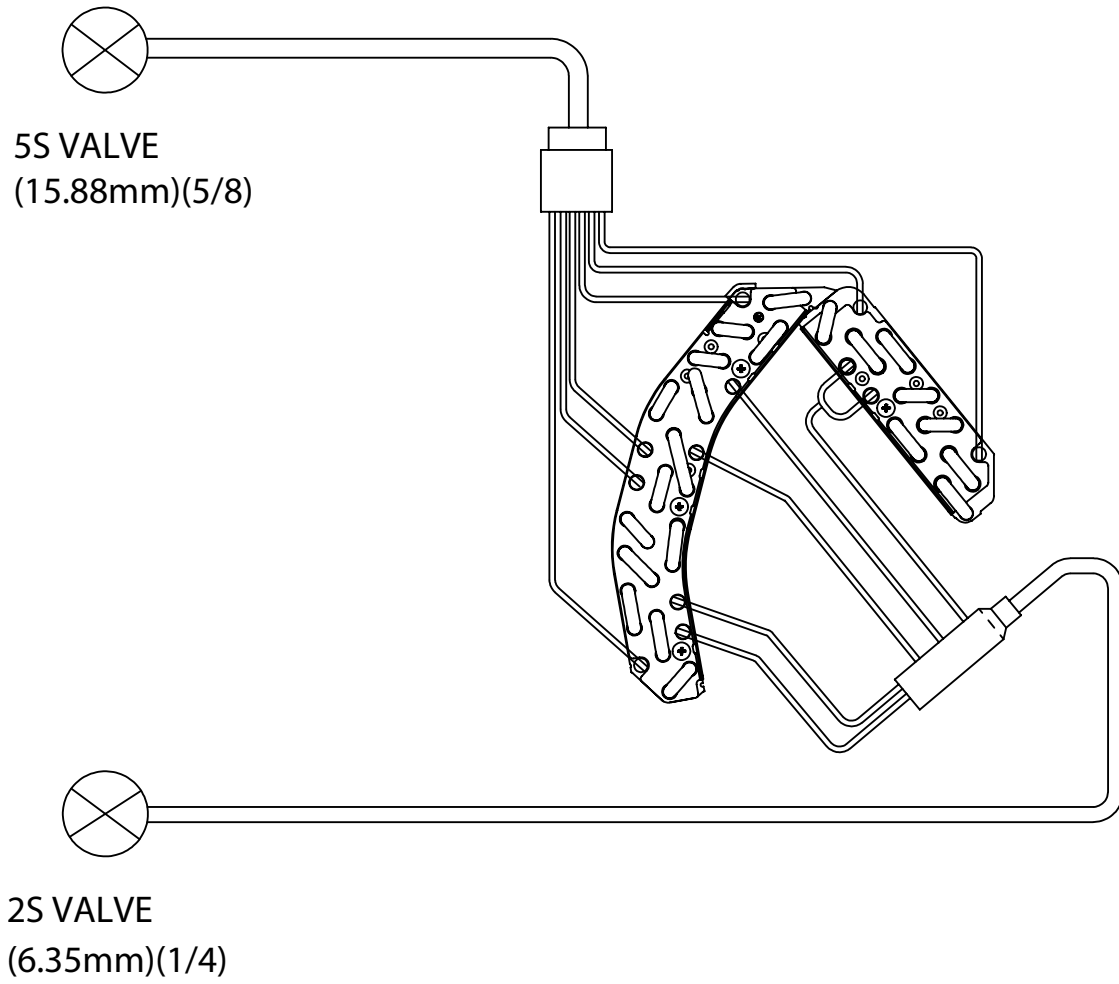
MODEL : RAK-DJ07QHAA
RAK-DJ09RHAA
RAK-DJ12RHAA



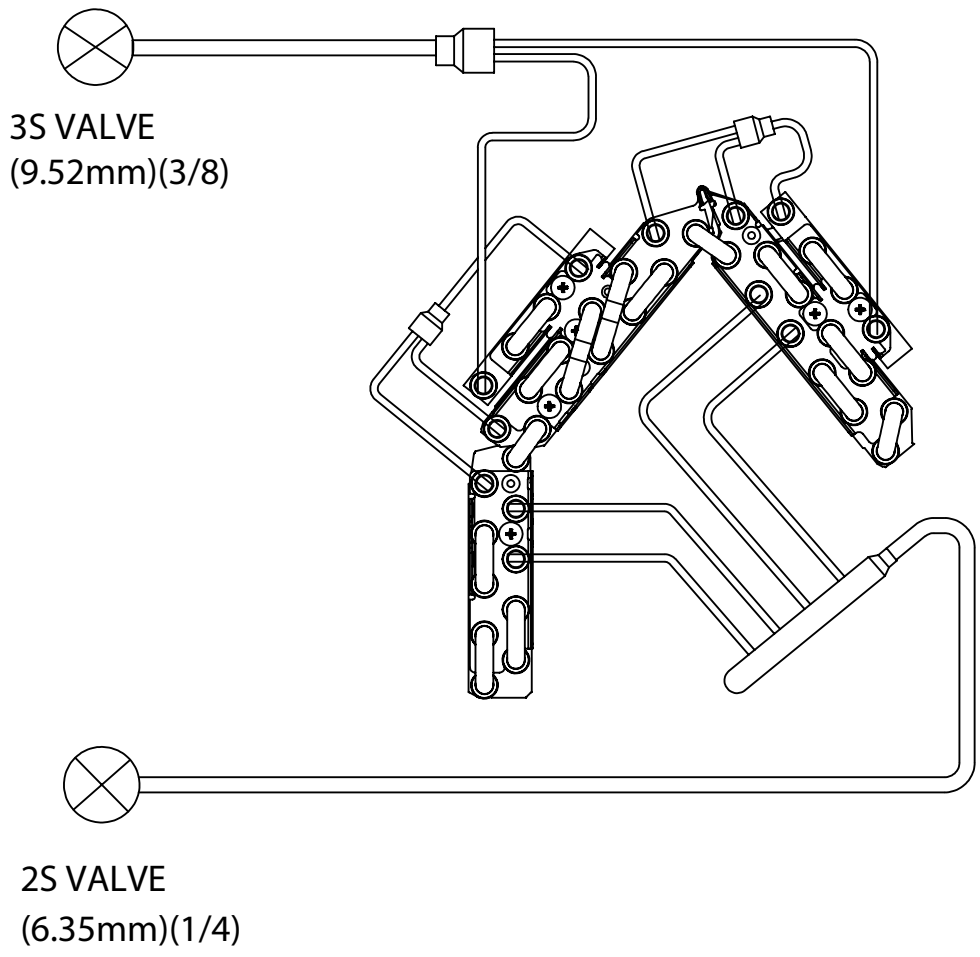
MODEL : RAK-DJ18RHAA



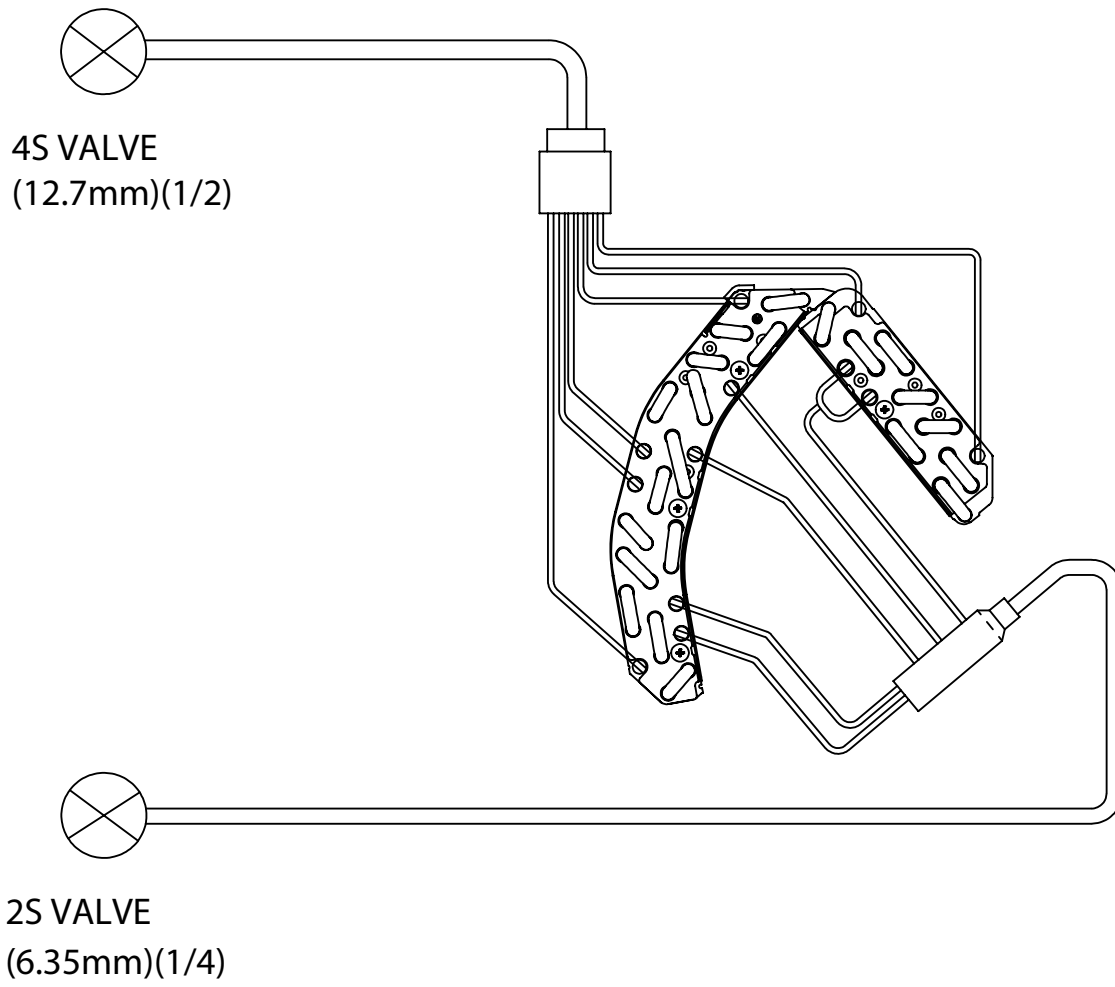
8.1.2. WALL TYPE: RAK-DJ24RHAA ,RAK-GJ24QHAA



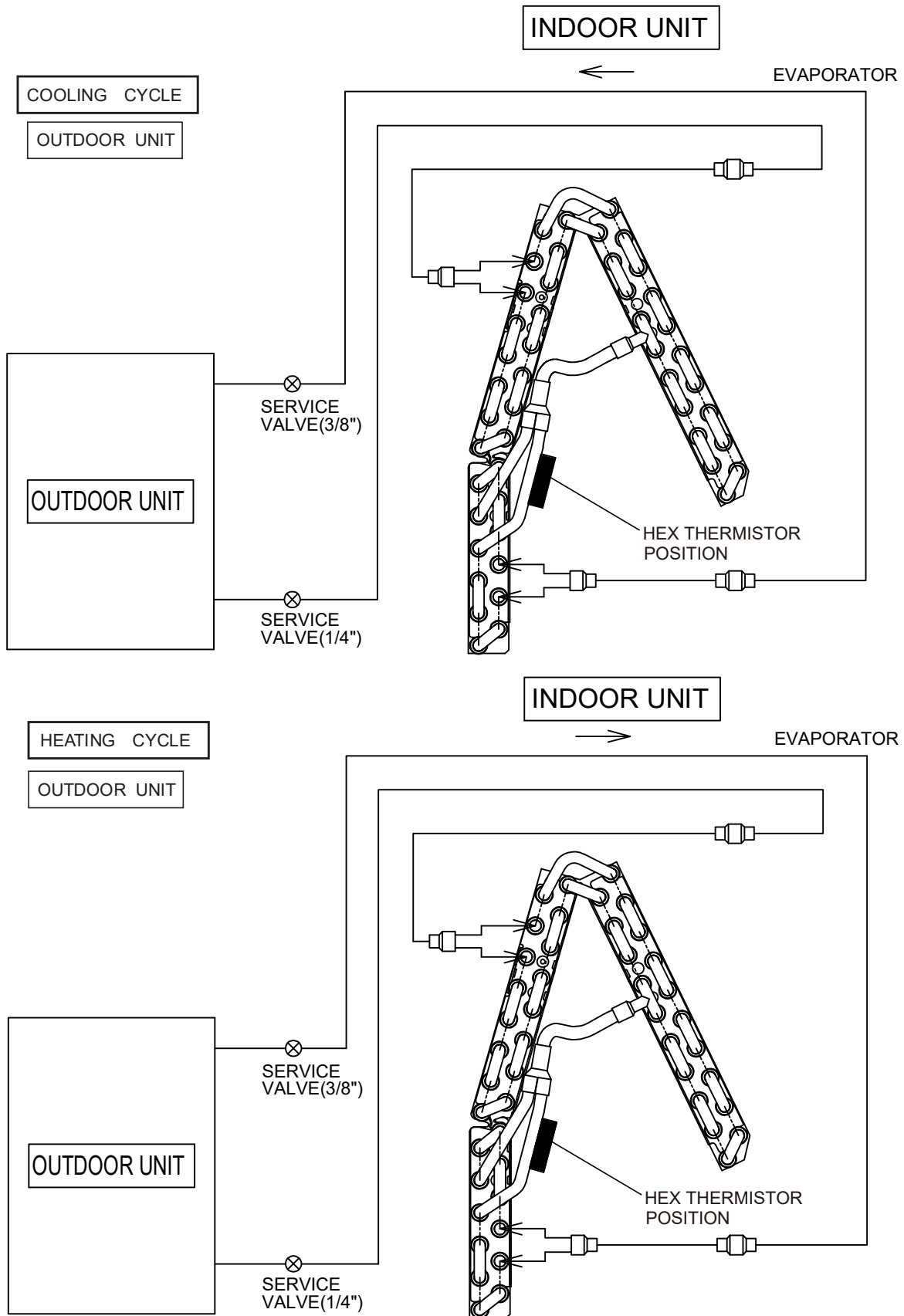
8.1.3. WALL TYPE: RAK-GJ07QHAA , RAK-GJ09/12QHAA



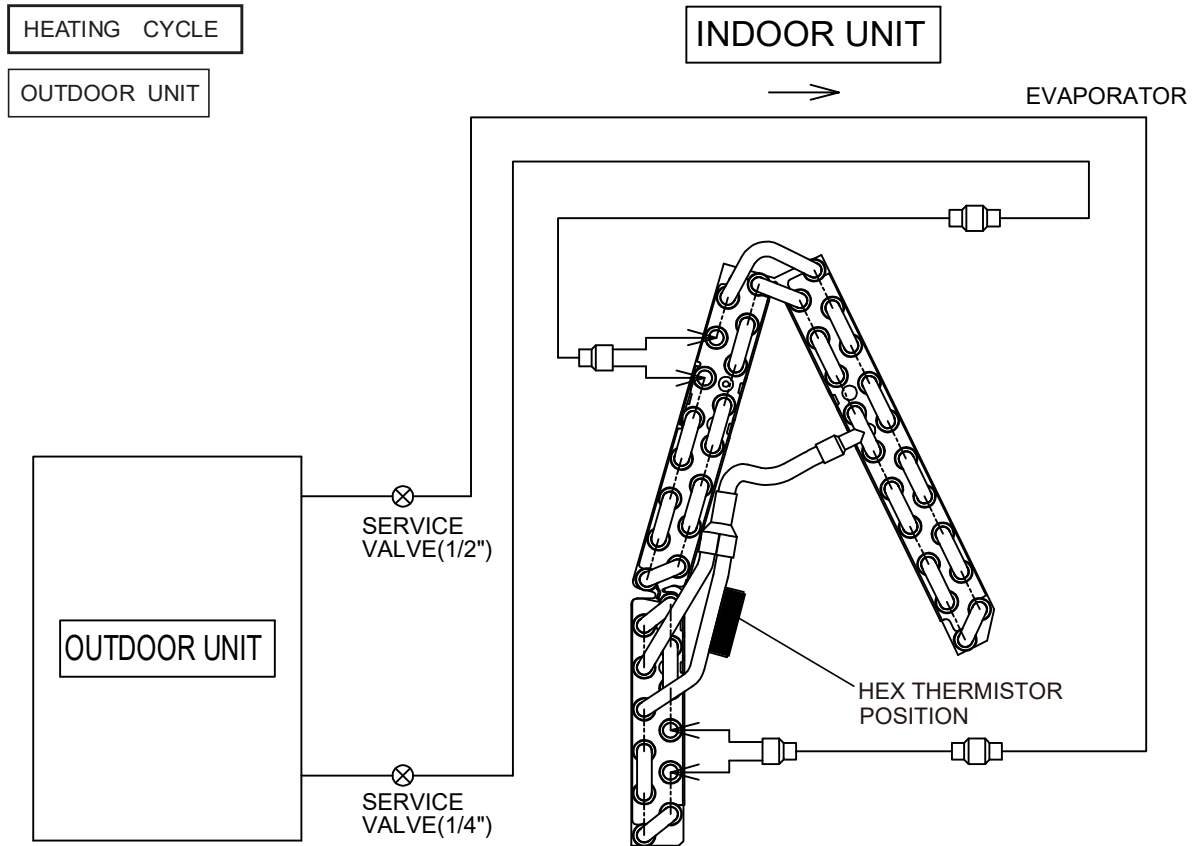
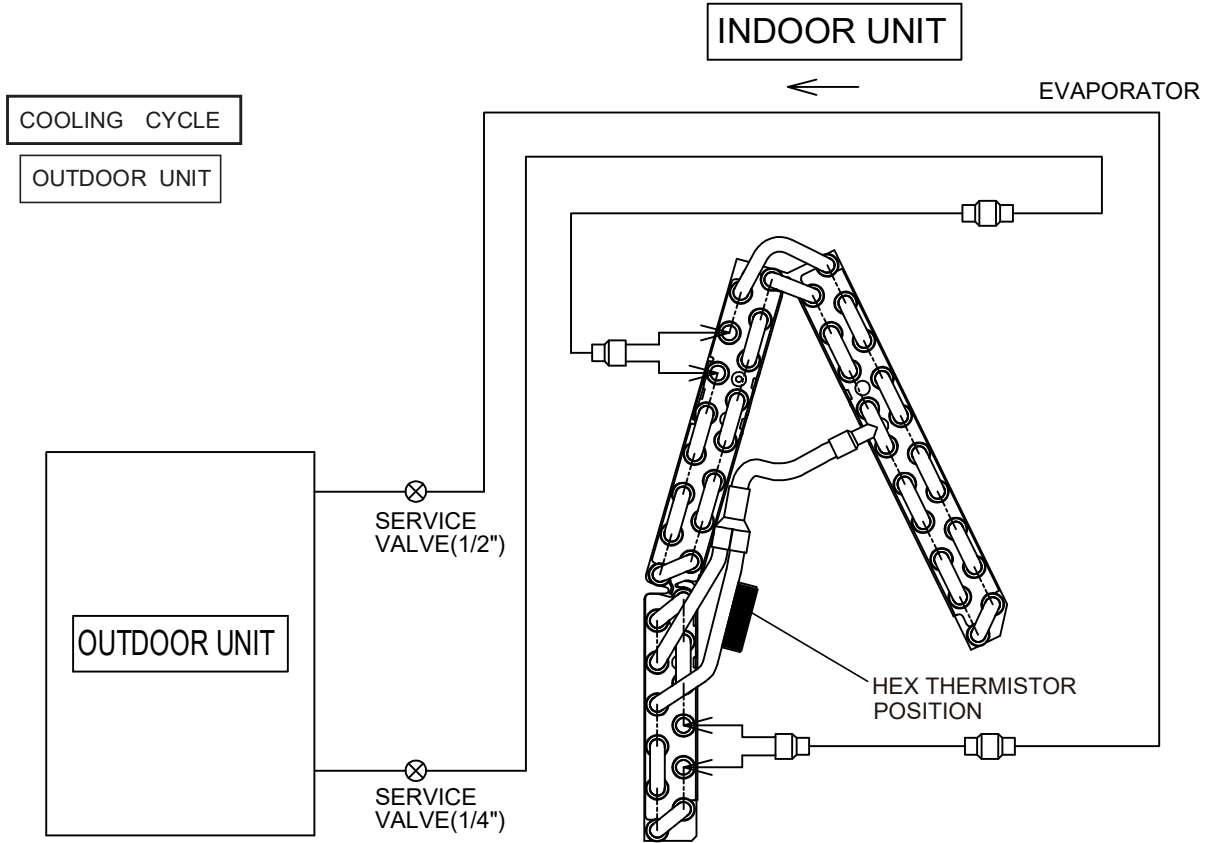
8.1.4. WALL TYPE: RAK-GJ18QHAA



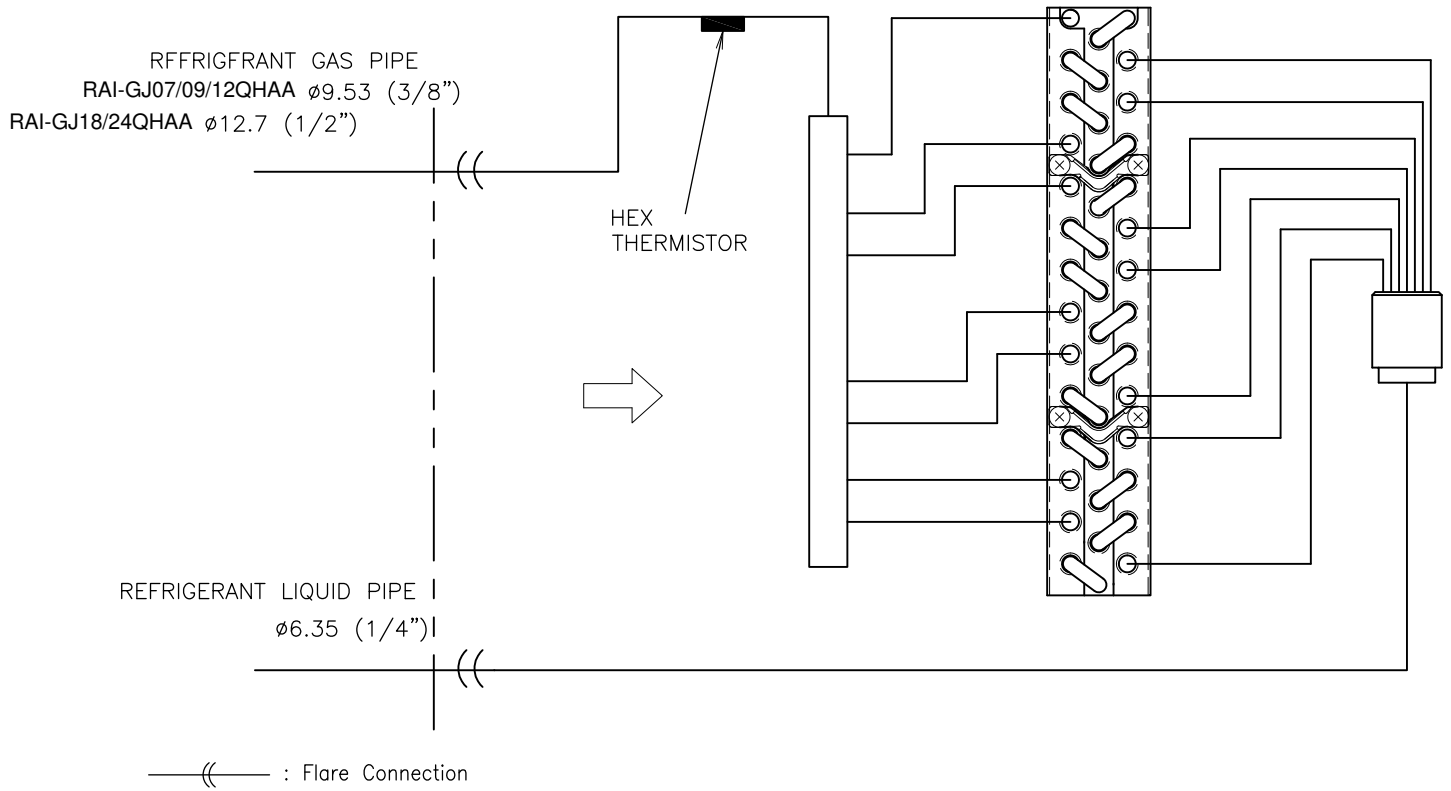
8.1.5. FLOOR TYPE: RAF-FJ07QHAA, RAF-FJ09QHAA, RAF-FJ12QHAA



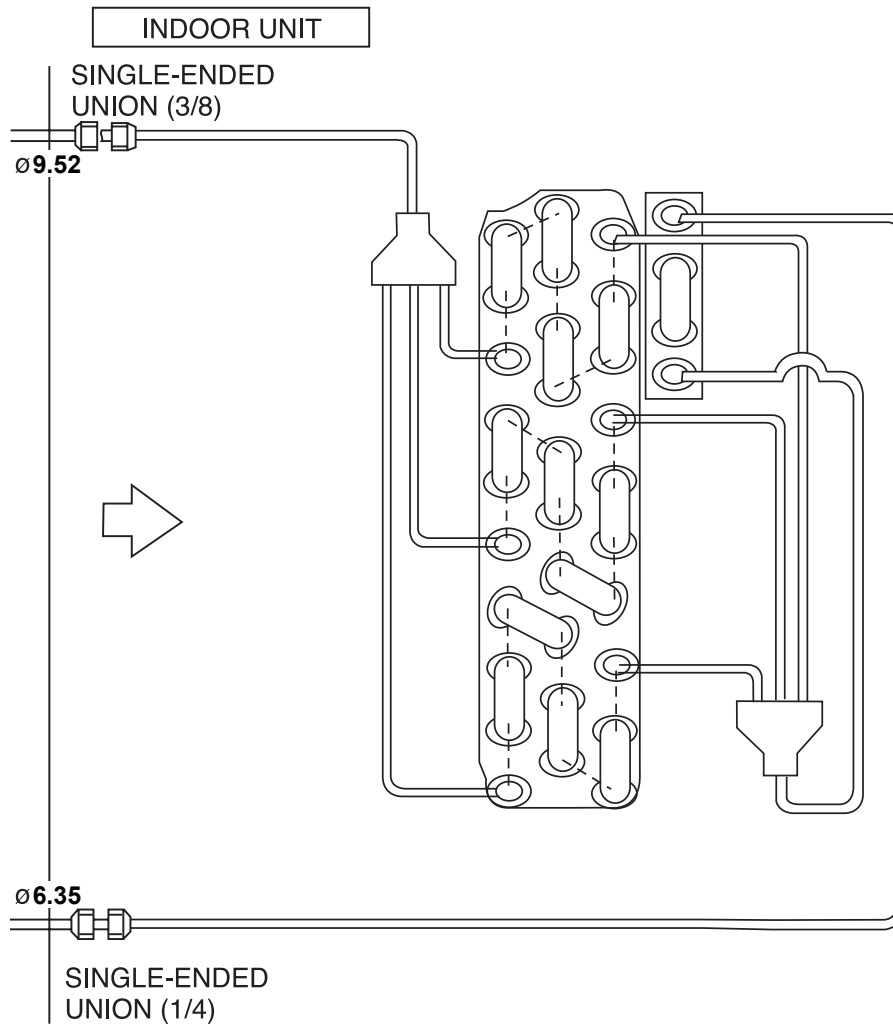
8.1.6. FLOOR TYPE: RAF-FJ18QHAA



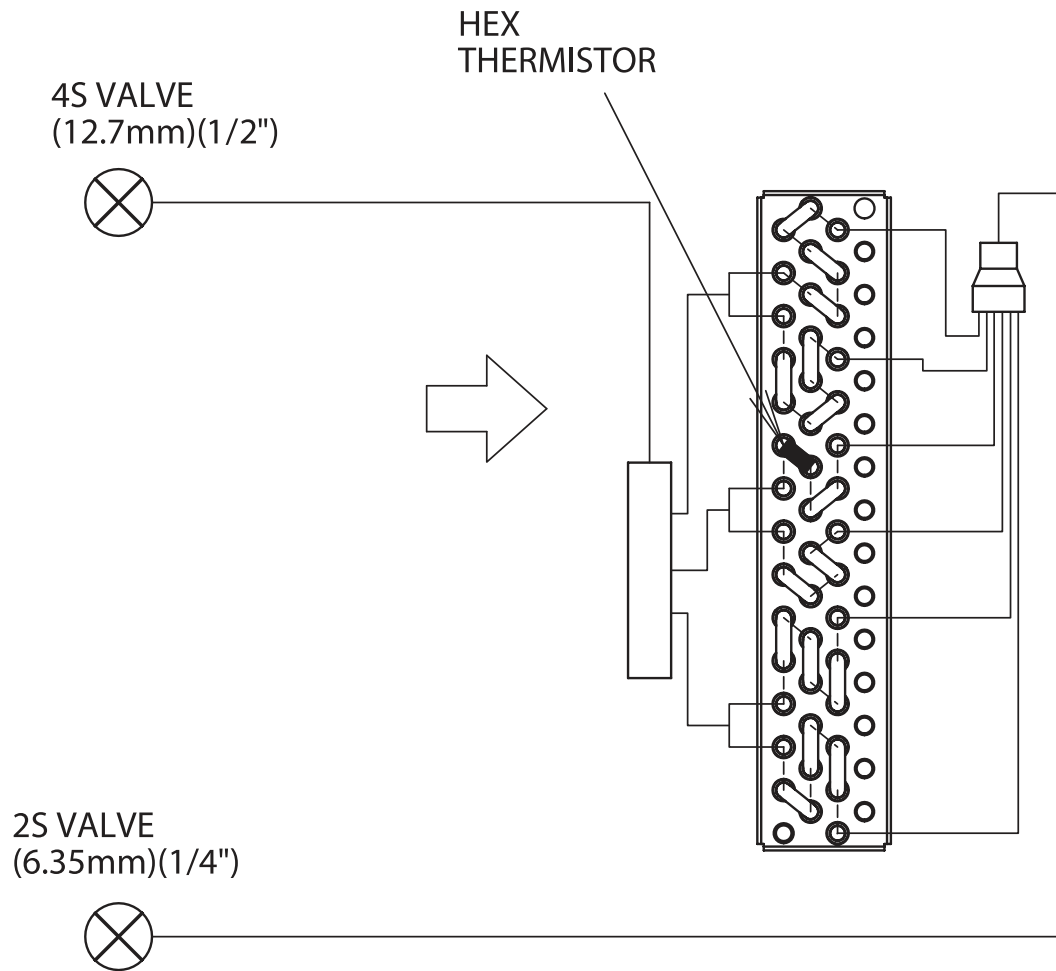
8.1.7. CEILING CASSETTE: RAI-GJ07QHAA, RAI-GJ09QHAA,RAI-GJ12QHAA, RAI-GJ18QHAA,RAI-GJ24QHAA



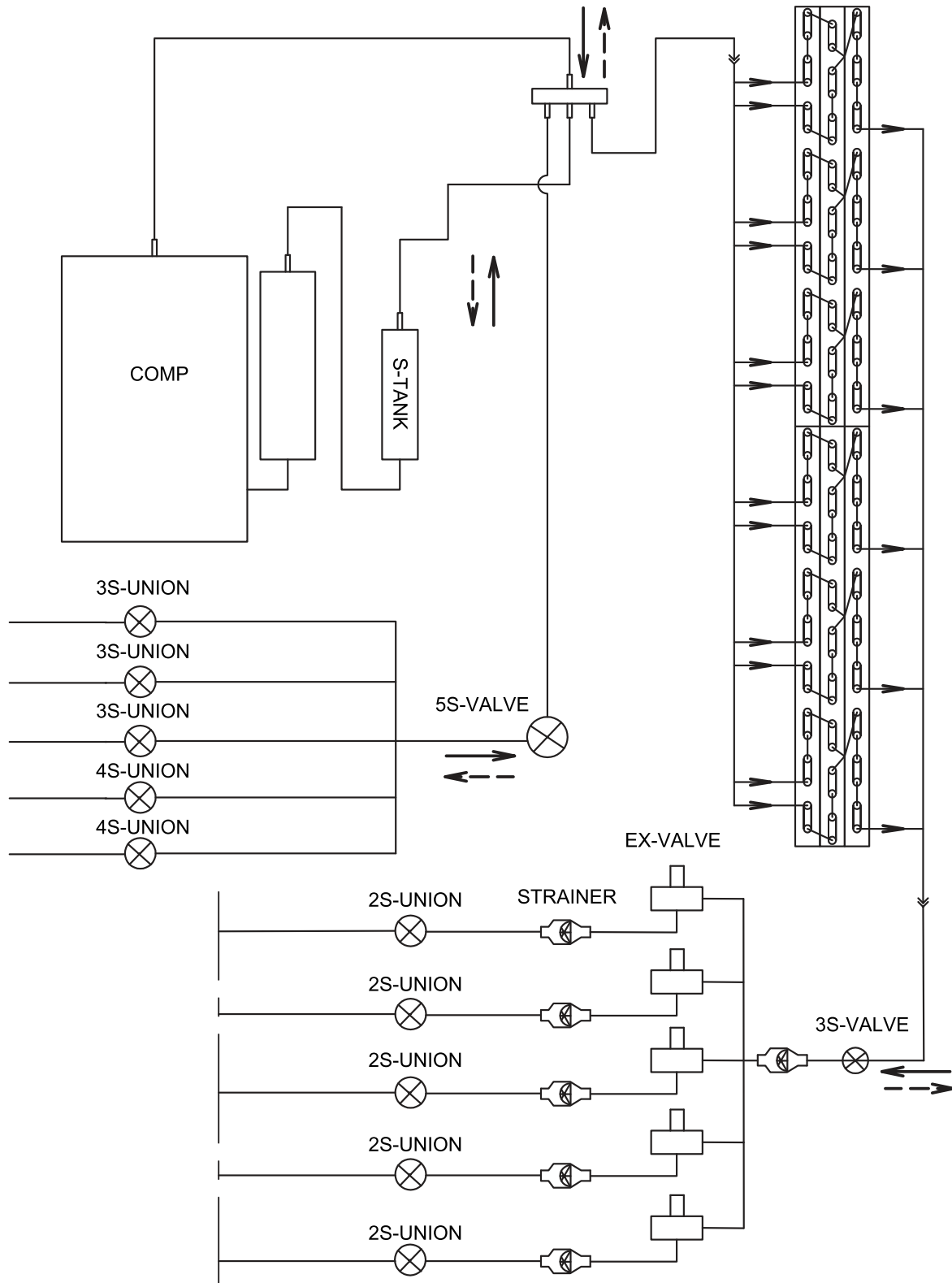
8.1.8. DUCT TYPE: RAD-GJ07QHAA, RAD-GJ09QHAA, RAD-GJ12QHAA



8.1.9. DUCT TYPE: RAD-GJ18QHAA , RAD-GJ24QHAA



8.2 5 ROOMS MULTIZONE: RAM-G42N5HAA



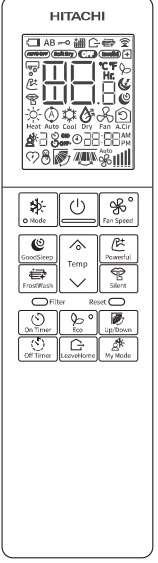
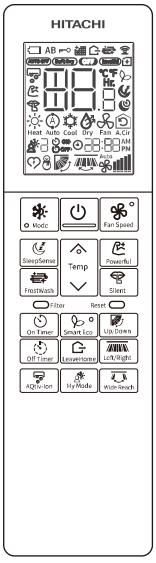
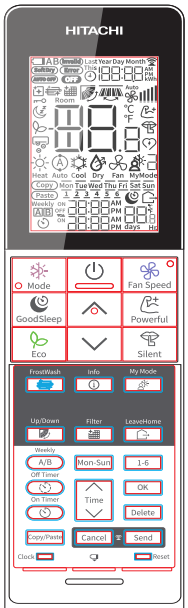

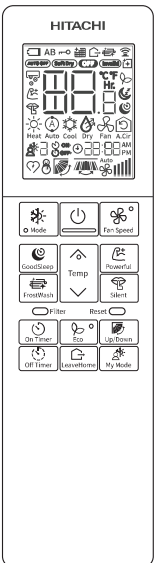
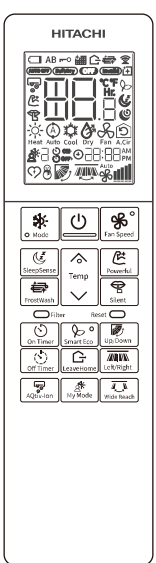
9 CONTROL AND FUNCTION

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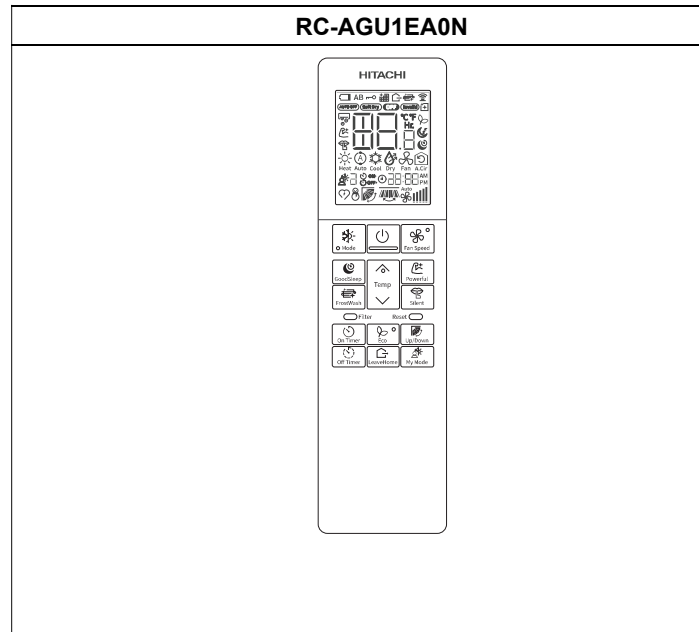
9.1 WIRELESS REMOTE CONTROL FUNCTION




















9.1.1.RC-AGU1EA0N, RC-AGS1EA0N, RC-BGH1FB0N, RC-BGH1FD0N

RC-AGU1EA0N	RC-AGS1EA0N	RC-BGH1FB0N	RC-BGH1FD0N	RC-AGU1EA0N	RC-AGS1EA0N
					
STANDARD	STANDARD	STANDARD	Optional	Optional	Optional
RAK-DJ07QHAA RAK-DJ09RHAA RAK-DJ12RHAA RAK-DJ18RHAA RAK-DJ24RHAA	RAK-GJ07QHAA RAK-GJ09QHAA RAK-GJ12QHAA RAK-GJ18QHAA RAK-GJ24QHAA	RAF-FJ07QHAA RAF-FJ09QHAA RAF-FJ012QHAA RAF-FJ018QHAA	RAF-FJ07QHAA RAF-FJ09QHAA RAF-FJ012QHAA RAF-FJ018QHAA	RAD-GJ07QHAA RAD-GJ09QHAA RAD-GJ12QHAA RAD-GJ18QHAA RAD-GJ24QHAA	RAI-GJ07QHAA RAI-GJ09QHAA RAI-GJ12QHAA RAI-GJ18QHAA RAI-GJ24QHAA

9 CONTROL AND FUNCTION

9.1. RC-AGU1EA0N

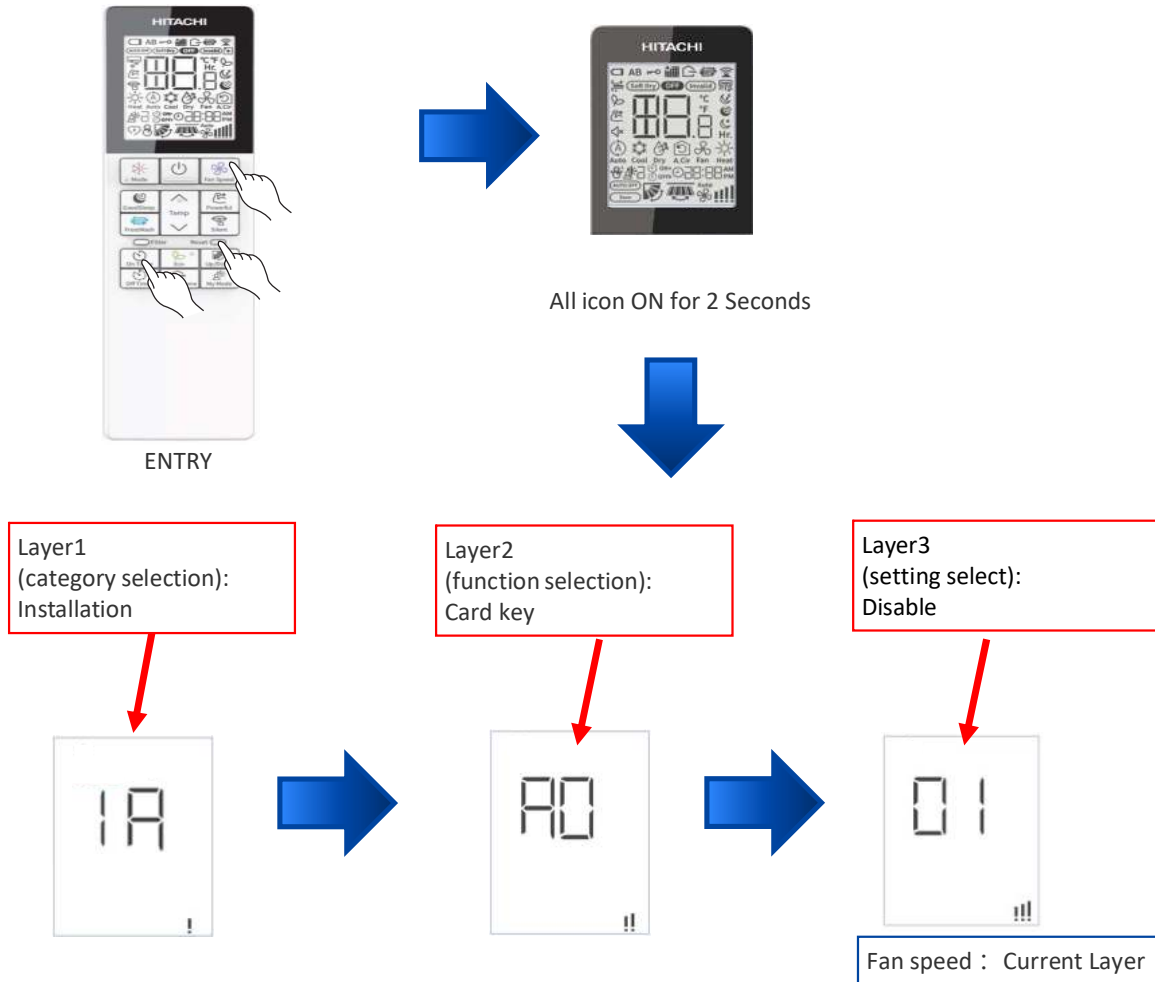


BUTTONS	FUNCTION
	<p>Mode Selector Button Use this button to select the operation mode. Every time you press this button the mode will change from  (Heat) →  (Auto) →  (Cool) →  (Dry) →  (Fan) cyclically.</p>
	<p>GoodSleep Button the unit shifts the room temperature and reduces the fan speed.</p>
	<p>Temperature Button Room temperature setting. Value will change quicker when keep pressing.</p>
	<p>FrostWash Button The dust and dirt adhering to indoor heat exchanger which is the cause of the smell.</p>
	<p>Fan Speed Button Select the fan speed.</p>
	<p>On/Off Button Press this button to start operation. Press it again to stop operation.</p>
	<p>Powerful Button The air conditioner performs at maximum power.</p>
	<p>Silent Button The fan speed changes to the silent fan speed</p>
	<p>On Timer Button Select the turn ON time.</p>
	<p>Off Timer Button Select the turn OFF time.</p>
	<p>Eco Button Use this button to set the Eco mode.</p>
	<p>LeaveHome Button Prevent the room temperature from falling too much by setting temperature 50°F ~ 60°F when no one is at home.</p>
	<p>Up/Down Button Control the angle of the horizontal air deflector.</p>
	<p>My Mode Button Use this mode for personalized comfortable settings. The My Mode can be set by using the remote controller. Up to 3 programs can be set.</p>

9.2. How to set up from Service setting mode

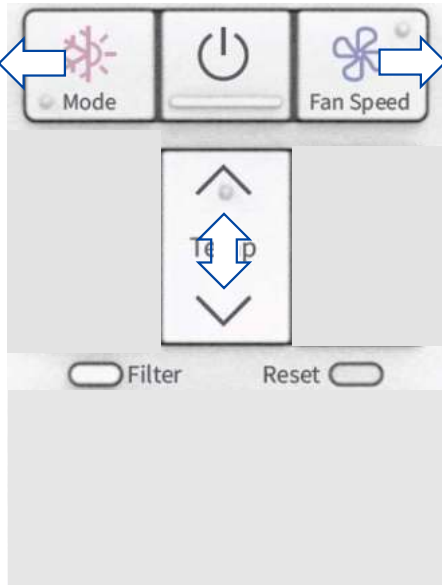
The Service function, which was set by DIP-SW setting or double pressing of the HHRC in the current model. it will be done by HHRC in GRAC as shown as below.

[On timer] + [Fan speed] + [Reset]
(Press three Key for 5 seconds to avoid access by User)



※ If you don't do anything for 30 seconds, you will be out of the service setting mode.

9.3. How to operate the HHRC method

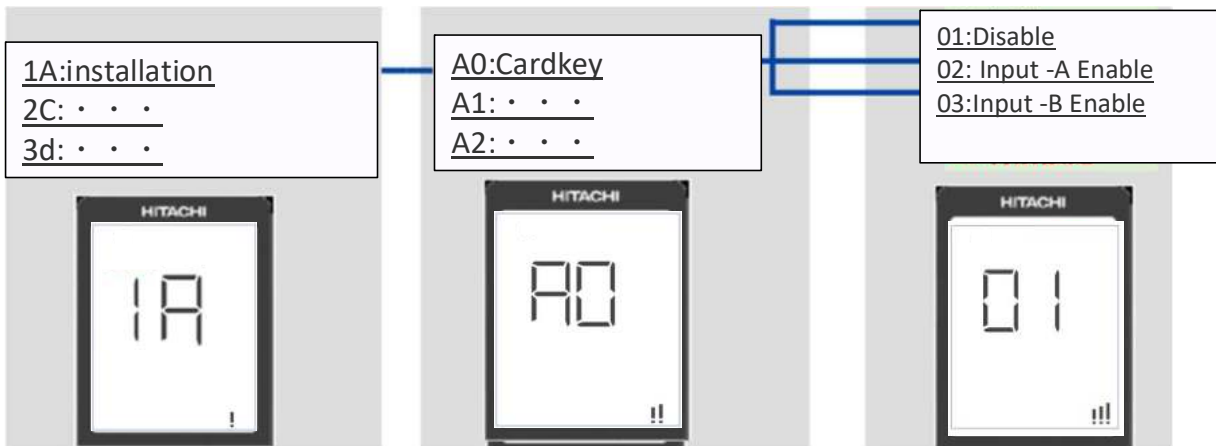


Temp Δ ∇ : Selection (in the same layer)
 Mode : move to previous layer
 Fan Speed : Move to next layer
 ON/OFF : Decision/Send (at layer 3)
 : Current setting check(at layer 2)
 Filter: category initialization(at layer 1)
 Filter + ON/OFF: all category initialization(at layer 1)
 ※ To exit from this setting mode, you need to either not operate the HHRC panel for 30 seconds or press and hold the UP/Down key for 5 seconds.

Layer 1
(category selection)

Layer 2
(Function selection)

Layer 3
(Setting select)



The Adjust filter sign Time can be changed by the remote controller.
 (This procedure shall be implemented strictly by service personnel only.)
 It is possible to return it to the default setting.

Category	Function Name	Value	HHRC LCD display		
			Layer1 Category	Layer2 Function	Layer3 Value
Clean	Time for filter sign display	filter lamp lighting time:Adjustment -1(100h)	2C	C1	01
		filter lamp lighting time:Adjustment ±0(200h)			02
		filter lamp lighting time:Adjustment ±1(300h)			03
		filter lamp lighting time:Adjustment ±2(400h)			04
		reserve			05-99

Layer 1
(category selection)

Layer 2
(Function selection)

Layer 3
(Select settings)

1A: . . .	CO: Outdoor Frost wash	01:
2C: . . .	C1: Time for filter sign display	02:
3d: . . .	C2: IDU auto FrostWash period adjustment	03:
		04:



ON/OFF key at Layer 3
with showing "02" on LCD

【IDU response】
 Buzzer sound: "pi"
 Timer LED: lit for 3s(only for "1A" category)
 Louver etc.: initializing operation

【note】
 If receiving the order of "05"- "99", IDU
 buzzer sounds as "pipi-"(rejecting sound).

9.4. Service setting item used for GRAC Entry

Category	Function	Display on LCD Temperature 7 segment Layer Wise			Value setting meaning at Layer-3
		1	2	3	
Installation	Card Key	1A	A0	01	1 - Card Key Input - Disable
				02	2 - Contact A Enable
				03	3 - Contact B Enable
	Heating/Cooling only mode select - (Operation Mode Lock)	1A	A1	04-99	4-99 : Reserved
				01	1 - Normal Mode
				02	2 -Cooling Lock (Cool,Dry,A.circulator,Fan mode available)
				03	3 - Heating Lock (Heat and Fan mode available)
				04-99	4-99 : Reserved
				01	auto restart changeover disable
Auto restart switchover(Standard)	1A	A2	02	auto restart by previous mode	
			03-99	3-99 : Reserved	
			01	filter lamp lighting time:Adjustment -1 (100hours)	
Clean	Time for filter sign display	2C	C1	02	filter lamp lighting time:Adjustment ±0 (200hours)
				03	filter lamp lighting time:Adjustment +1 (300hours)
				04	filter lamp lighting time:Adjustment +2 (400hours)
				05-99	Reserved
Cycle Operation adjustment	Defrost selection Function	3d	E0	01	01 - Standard Region
				02	02- Cold Region
				03-99	Reserved
	Set temperature shift adjustment (Cooling)	3d	E1	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
				10	Setting Temperature Shift Adjustment (+4°C/8°F)
				11	Setting Temperature Shift Adjustment (+5°C/10°F)
	12-99	Reserved			
	Set temperature shift adjustment (Heating)	3d	E2	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
				10	Setting Temperature Shift Adjustment (+4°C/8°F)
				11	Setting Temperature Shift Adjustment (+5°C/10°F)
	12-99	Reserved			
Indoor fan air speed when cooling thermostat is off	3d	E3	01	01 : standard	
			02	02 : Cold Region	
			03-99	Reserved	
Selection of indoor fan control during heating thermo-off	3d	E4	01	01 : Fan Control at the Time of Heating Thermo- Off "Pattern 1"	
			02	02 : Fan Control at the Time of Heating Thermo- Off "Pattern 2"	
			03	03 : Fan Control at the Time of Heating Thermo- Off "Pattern 3"	
			d		
supporting service	Wi-Fi forced reset count	5F	L1	01	4(Number of forced resets)
				02	8(Number of forced resets)
				03	12(Number of forced resets)
				04-99	Reserved

9.4. Service setting item used for GRAC Entry

HHRC	Temperature Resolution change - 0.5°C--> 1°C	6H	P0	01	1 -0.5 °C Resolution 2-1 °C Resolution		
	Fan Speed key sequence (Weaker to stronger , stronger to Weaker)	6H	P1	01	1 - Default (Auto-Silent-Low-Med-Hi-Hi2) 2- Reverse (Hi2-Hi-Med-Lo-Silent-Auto)		
	Operation Mode : Auto	6H	P2	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key		
	Operation Mode : Cool	6H	P3	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key		
	Operation Mode : Dry	6H	P4	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key		
	Operation Mode : Fan	6H	P5	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key		
	Operation Mode : Heat	6H	P6	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key		
	Auto Fan speed : Enable / Disable	6H	P8	02	1 -Disable Selection on HHRC by Fan key 2 - Enable Selection on HHRC by Fan Key		
	Fan Speed tapping control	6H	P9	01	1- Normal (Auto, Silent, Low, Med, Hi, H2) Selection on HHRC by Fan key 2- (Auto, Silent, Lo, Med, Hi) Selection on HHRC by Fan key		
	Cooling Lower limit setting	6H	PC	16	Lower set temp. start from 60°F)		
17				Lower set temp. start from 63°F)			
18				Lower set temp. start from 64°F)			
19				Lower set temp. start from 66°F)			
20				Lower set temp. start from 68°F)			
21				Lower set temp. start from 70°F)			
22				Lower set temp. start from 72°F)			
23				Lower set temp. start from 73°F)			
24				Lower set temp. start from 76°F)			
25				Lower set temp. start from 77°F)			
26				Lower set temp. start from 79°F)			
27				Lower set temp. start from 80°F)			
28				Lower set temp. start from 83°F)			
29				Lower set temp. start from 84°F)			
30				Lower set temp. start from 86°F)			
31				Lower set temp. start from 88°F)			
32				Lower set temp. start from 90°F)			
Heating Upper limit setting				6H	Pd	32	Upper set temp. start from 90°F)
						31	Upper set temp. start from 88°F)
						30	Upper set temp. start from 86°F)
	29	Upper set temp. start from 84°F)					
	28	Upper set temp. start from 83°F)					
	27	Upper set temp. start from 80°F)					
	26	Upper set temp. start from 79°F)					
	25	Upper set temp. start from 77°F)					
	24	Upper set temp. start from 76°F)					
	23	Upper set temp. start from 73°F)					
	22	Upper set temp. start from 72°F)					
	21	Upper set temp. start from 70°F)					
20	Upper set temp. start from 68°F)						
19	Upper set temp. start from 66°F)						
18	Upper set temp. start from 64°F)						
17	Upper set temp. start from 63°F)						
16	Upper set temp. start from 60°F)						
Diagnosis	Failure Indication(latest to last 5 times)	7J	t0	01	1: Failure Display History 1 (Latest of last Five)		
				02	2: Failure Display History 2		
				03	3: Failure Display History 3		
				04	4: Failure Display History 4		
				05	5: Failure Display History 5 (5 th Error)		
				06-99	Reserved		
	display ODU Self check (Failure Diagnosis Start)	7J	t1	01	1 : Failure Diagnosis Start		
				02-99	Reserved		
	Failure Memory Erase	7J	t2	01	1:Failure Memory Erase		
				02-99	Reserved		
	Humidity Sensor failure diagnosis	7J	t3	01	1:Humidity ensor failure diagnosis request		
				02-99	Reserved		

9.5. Buzzer sounding for showing error contents

【Purpose】

Reduction of “mis-communication about error contents” at contacting the service call center.

【Function】

Add buzzer sounding for showing error contents during error, in addition to IDU LED action .

【How to use】

When IDU or ODU has failed, and the Timer lamp is blinking. Service engineer can know error contents from the buzzer through phone.

[Up/Down]

(Press this Key for 5 seconds)



In case of IDU failure



LED action



Timer lamp is blinking

Buzzer action



【note】

- for stopping buzzer, stop by On/Off button, or press Up/Down button for 5 seconds.

In case of ODU failure



LED action



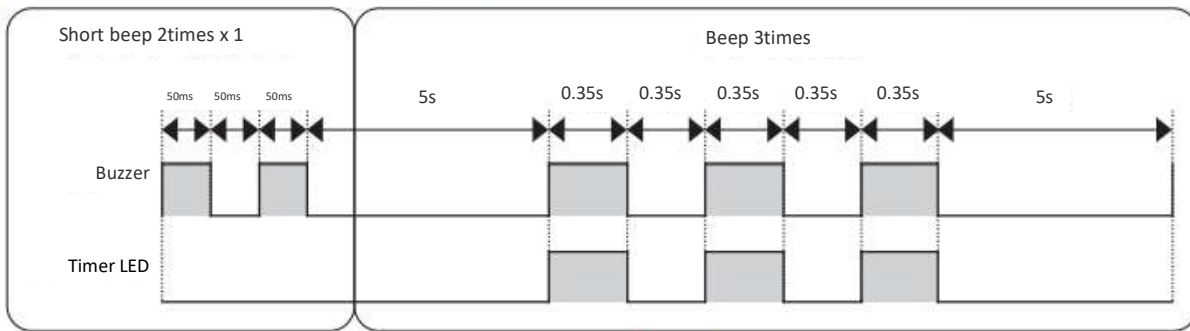
Operation lamp is blinking

Buzzer action



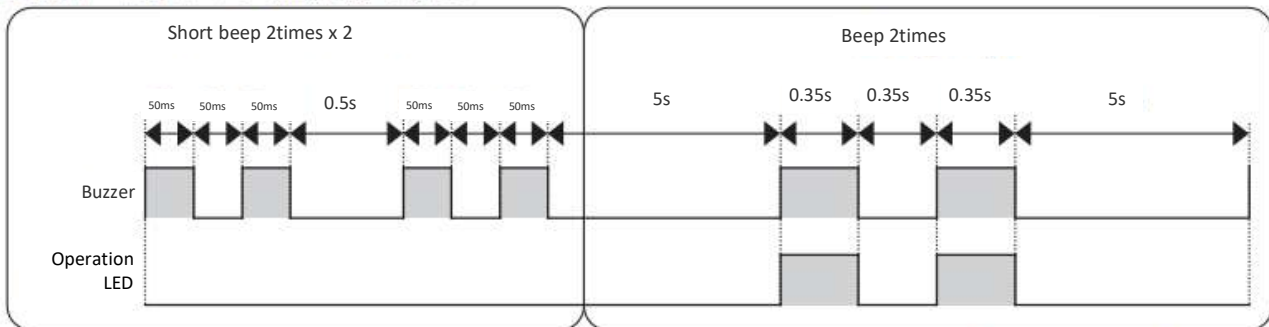
Sounding by same rhythm with LED

<IDU error example: timer LED will blink 3 times(interface defective(IDU) >



After “Short 2times x 1 beep”, “3 times beep” will be repeated.

<ODU error example: operation LED will blink 2 times(peak current cut) >



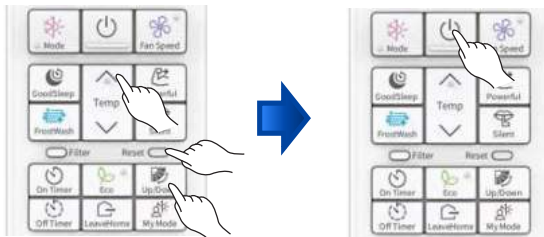
After “Short 2times x 2 beep”, “2 times beep” will be repeated.

9.6. OTHER SETTING

▪ ID SELECTION


1. Press “Up/Down swing button” and “set. Temp. up button” and “reset button”, and release “reset button”.
2. Select from A or B by pressing “set.temp. button”.
3. Press “On/Off button” toward IDU.

(EEPROM in HHRC will keep the A or B information.)

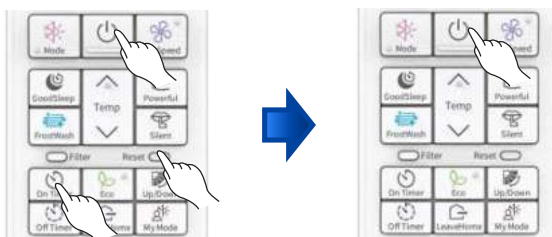


▪ DISPLAY MODE

For operating indoor unit independently (without outdoor unit connection), remote controller has to be set according to below procedures before send the signal to the indoor unit. New communication format between indoor and outdoor is required to communicate with outdoor unit.

1. Press and holding “On Times button” and “On/Off button”, press “reset button” on the same time.
2. Release “reset button” only and make sure that the FAN speed icon  on LCD display.
3. Press “On/Off button” toward IDU.

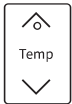
Then, the indoor unit will start to operate independently according to the selected operation mode.


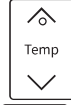



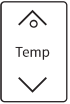
9.7. ERROR CODE INFORMATION

9.7.1. HOW TO DISPLAY ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t0” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.

5. Press “” (On/Off) button of the remote control, the fault information will be seen.

Function Name	Value	Layer1	Layer2	Layer3
		Category	Function	Value
Display self-diagnosis memory(※)	Display History 1 (Latest(newest) of last Five)	7J	t0	01
	Display History 2			02
	Display History 3			03
	Display History 4			04
	Display History 5			05


The specific information of error code is shown in the table below:


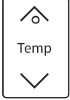
	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
INDOOR	-	-	000 00	Normal
	1 time	-	001 00	Refrigerant cycle fault
	2 times	-	-	Outdoor unit is under forced operation
	3 times	9 times	003 00	Communication error (indoor)
	9 times	-	009 00	Indoor thermistor defective
	10 times	-	003 00	Abnormal rotating numbers of DC fan motor
	12 times	9 times	012 00	Communication error (outdoor)
	13 times	-	013 00	EEPROM data reading error
	20 times	-	020 00	Human sensor defective
	21 times	-	021 00	Interface defective (other machine cause)
	25 times	-	025 00	CN7A/B connection defective


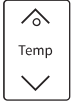
	OPERATION LAMP BLINKING	CODE	MEANING (THE FOLLOW DEFECTIVES IN OUTDOOR UNIT)
INDOOR	2 times	002 01	Peak current cut
	3 times	003 01	Compressor abnormal low speed rotation
	4 times	004 01	Compressor switching failure
	5 times	005 01	Overload lower limit cut
	6 times	006 01	OH thermistor temperature rise
	7 times	007 01	Abnormal outdoor thermistor
	9 times	009 01	Communication error
	10 times	010 01	Abnormal power source
	11 times	011 01	Fan stop for strong wind
	12 times	012 01	Fan motor fault
	13 times	013 01	EEPROM reading error
	14 times	014 01	DC Voltage abnormal
	15 times	015 01	Abnormal PWB circuit
	16 times	016 01	High load stop


9.7.2. HOW TO REMOVE ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t2” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.

5. Press “” (On/Off) button of the remote control, and the error code will be removed.

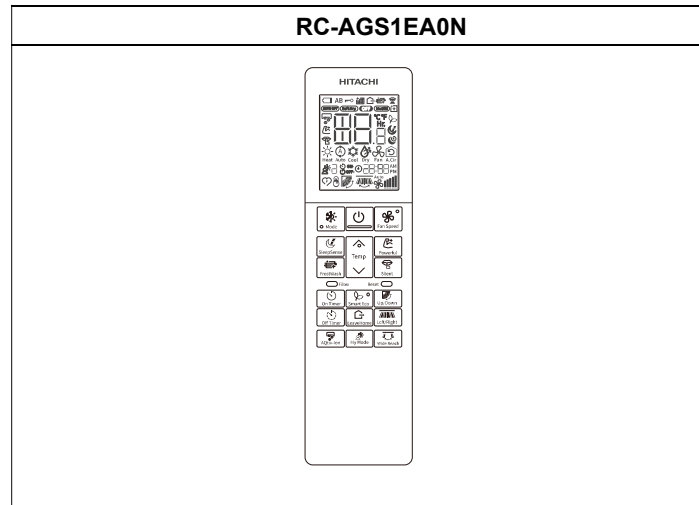
10 CONTROL AND FUNCTION























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10 CONTROL AND FUNCTION

10.1. RC-AGS1EA0N

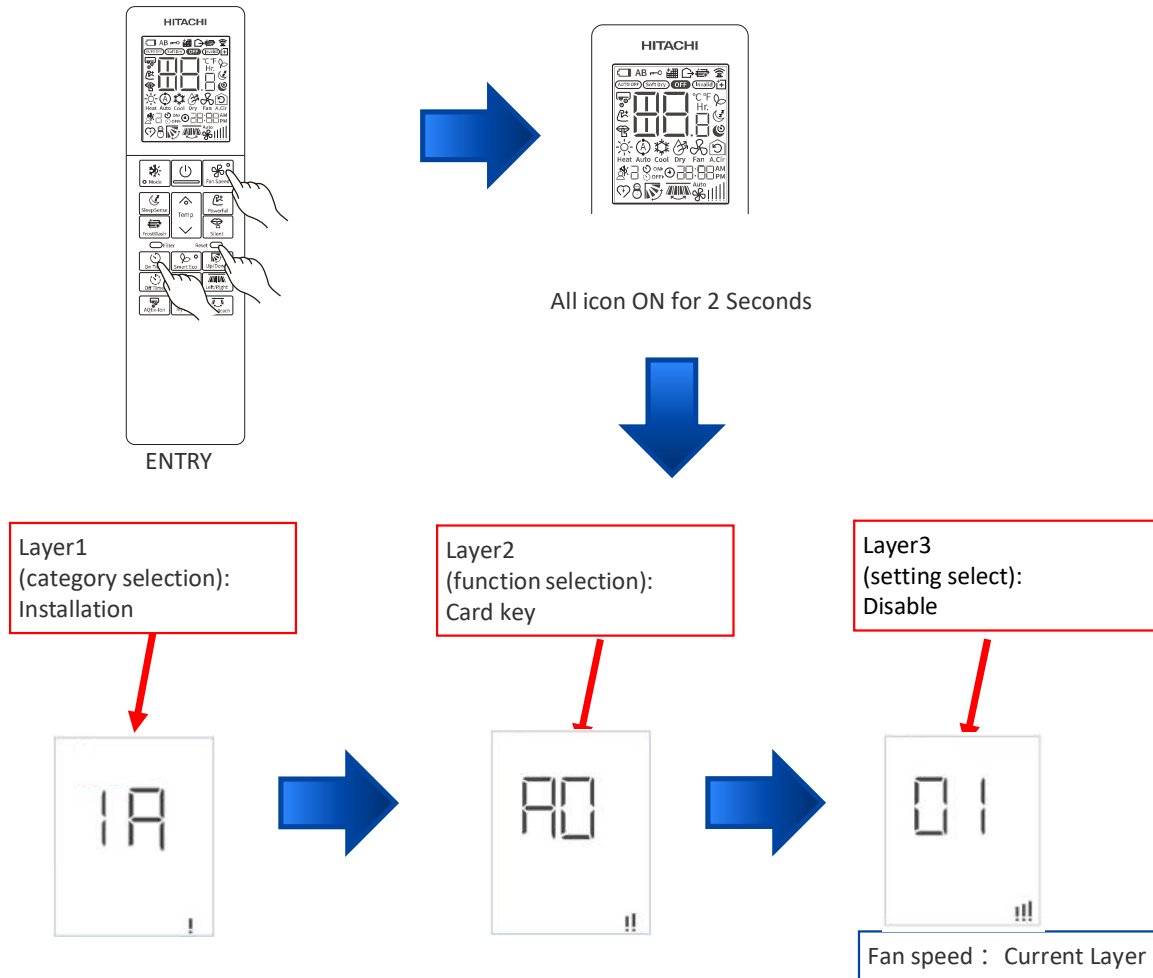


BUTTONS	FUNCTION
	<p>Mode Selector Button Use this button to select the operation mode. Every time you press this button the mode will change from  (Heat) →  (Auto) →  (Cool) →  (Dry) →  (Fan) cyclically.</p>
	<p>SleepSense Button Control set temperature and fan speed.</p>
	<p>Temperature Button Room temperature setting. Value will change quicker when keep pressing.</p>
	<p>FrostWash Button The dust and dirt adhering to indoor heat exchanger which is the cause of the smell.</p>
	<p>Fan Speed Button Select the fan speed.</p>
	<p>On/Off Button Press this button to start operation. Press it again to stop operation.</p>
	<p>Powerful Button The air conditioner performs at maximum power.</p>
	<p>Silent Button The fan speed changes to the silent fan speed</p>
	<p>On Timer Button Select the turn ON time.</p>
	<p>Off Timer Button Select the turn OFF time.</p>
	<p>Smart Eco Button Use this button to set the Smart Eco mode.</p>
	<p>LeaveHome Button Prevent the room temperature from falling too much by setting temperature 50°F~60°F when no one is at home.</p>
	<p>Up/Down Button Control the angle of the horizontal air deflector.</p>
	<p>My Mode Button Use this mode for personalized comfortable settings. The My Mode can be set by using the remote controller. Up to 3 programs can be set.</p>
	<p>Left/Right Button Control the angle of the Vertical air deflector.</p>
	<p>Wide Reach Button Control the angle of the Vertical air deflector.</p>
	<p>AQTiV-Ion Button</p>

10.2. How to set up from Service setting mode

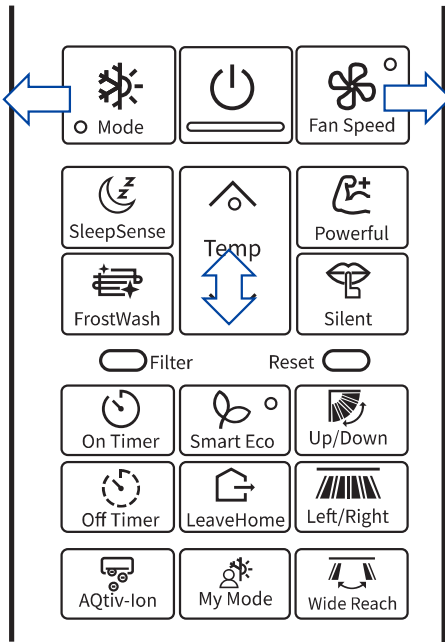
The Service function, which was set by DIP-SW setting or double pressing of the HHRC in the current model. it will be done by HHRC in GRAC as shown as below.

[On timer] + [Fan speed] + [Reset]
(Press three Key for 5 seconds to avoid access by User)



※ If you don't do anything for 30 seconds, you will be out of the service setting mode.

10.3. How to operate the HHRC method

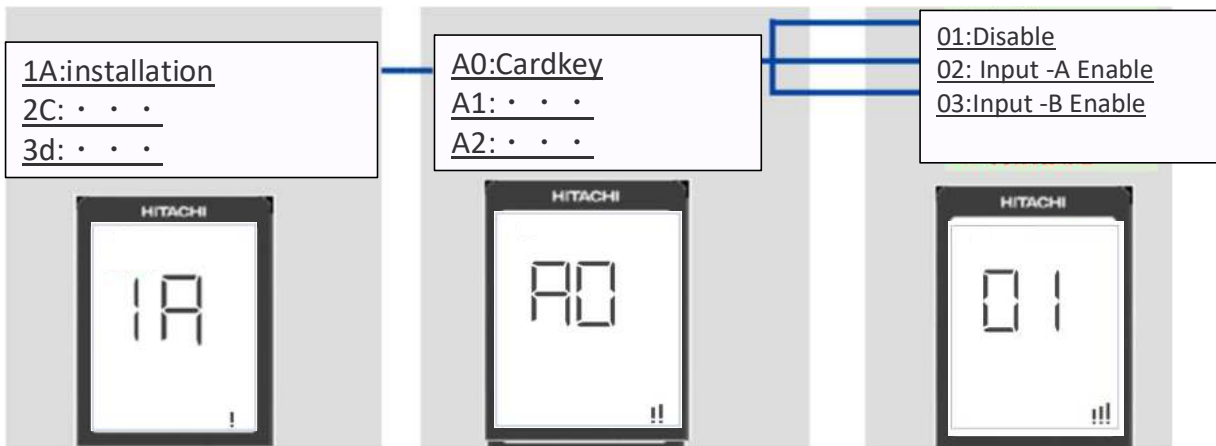


Temp Δ ∇ : Selection (in the same layer)
 Mode : move to previous layer
 Fan Speed : Move to next layer
 ON/OFF : Decision/Send (at layer 3)
 : Current setting check(at layer 2)
 Filter: category initialization(at layer 1)
 Filter + ON/OFF: all category initialization(at layer 1)
 ※ To exit from this setting mode, you need to either not operate the HHRC panel for 30 seconds or press and hold the UP/Down key for 5 seconds.

Layer 1
(category selection)

Layer 2
(Function selection)

Layer 3
(Setting select)



The Adjust filter sign Time can be changed by the remote controller.
 (This procedure shall be implemented strictly by service personnel only.)
 It is possible to return it to the default setting.

Category	Function Name	Value	HHRC LCD display		
			Layer1 Category	Layer2 Function	Layer3 Value
Clean	Time for filter sign display	filter lamp lighting time:Adjustment -1(100h)	2C	C1	01
		filter lamp lighting time:Adjustment ±0(200h)			02
		filter lamp lighting time:Adjustment ±1(300h)			03
		filter lamp lighting time:Adjustment ±2(400h)			04
		reserve	05-99		

Layer 1 (category selection) Layer 2 (Function selection) Layer 3 (Select settings)

1A: - - -	C0: Outdoor Frost wash	01: - - - -
2C: - - -	C1: Time for filter sign display	02: - - - -
3d: - - -	C2: IDU auto FrostWash period adjustment	03: - - - -
		04: - - - -



【IDU response】
 Buzzer sound: "pi"
 Timer LED: lit for 3s(only for "1A" category)
 Louver etc.: initializing operation

【note】
 If receiving the order of "05"- "99", IDU buzzer sounds as "pipi-"(rejecting sound).

10.4. Service setting item used for GRAC Standard (Wireless remote model: RC-AGS1EA0N)

Category	Function	Display on LCD Temperature 7 segment Layer Wise			Value setting meaning at Layer-3
		1	2	3	
Installation	Card Key	1A	A0	01	1 - Card Key Input - Disable
				02	2 - Contact A Enable
				03	3 - Contact B Enable
				04-99	4~99 : Reserved
	Heating/Cooling only mode select - (Operation Mode Lock)	1A	A1	01	1 - Normal Mode
				02	2 -Cooling Lock (Cool,Dry,A.circulator,Fan mode available)
				03	3 - Heating Lock (Heat and Fan mode available)
				04-99	4~99 : Reserved
	Auto restart switchover(Standard)	1A	A2	01	auto restart changeover disable
				02	auto restart by previous mode
				03-99	3~99 : Reserved
	Capacity limitation	1A	A6	01	Normal
02				low capacity	
03-99				(reserve)	
Cycle Operation	Defrost selection Function	3d	E0	01	01 - Standard Region
				02	02- Cold Region
				03-99	Reserved
	Set temperature shift adjustment (Cooling)	3d	E1	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
				10	Setting Temperature Shift Adjustment (+4°C/8°F)
				11	Setting Temperature Shift Adjustment (+5°C/10°F)
	12-99	Reserved			
	Set temperature shift adjustment (Heating)	3d	E2	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
10				Setting Temperature Shift Adjustment (+4°C/8°F)	
11				Setting Temperature Shift Adjustment (+5°C/10°F)	
12-99	Reserved				
Indoor fan air speed when cooling thermostat is off	3d	E3	01	01 : standard	
			02	02 : Cold Region	
			03-99	Reserved	
Selection of indoor fan control during heating thermo-off	3d	E4	01	01 : Fan Control at the Time of Heating Thermo- Off "Pattern 1"	
			02	02 : Fan Control at the Time of Heating Thermo- Off "Pattern 2"	
			03	03 : Fan Control at the Time of Heating Thermo- Off "Pattern 3"	
			04-99	Reserved	

HHRC	Temperature Resolution change - 0.5°C--> 1°C	6H	P0	01	1-0.5 °C Resolution 2-1 °C Resolution
	Fan Speed key sequence (Weaker to stronger ,	6H	P1	01	1 - Default (Auto-Silent-Low-Med-Hi-H2) 2- Reverse (Hi2-Hi-Med-Lo-Silent-Auto)
	Operation Mode : Auto	6H	P2	2	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Cool	6H	P3	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Dry	6H	P4	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Fan	6H	P5	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Heat	6H	P6	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Auto Fan speed : Enable / Disable	6H	P8	02	1-Disable Selection on HHRC by Fan key 2 - Enable Selection on HHRC by Fan Key
	Fan Speed tapping control	6H	P9	01	1- Normal (Auto,Silent, Low,Med,Hi,H2) Selection on HHRC by Fan key 2- (Auto,Silent,Lo,Med,Hi) Selection on HHRC by Fan key
	RTC and Timer setting Format change: 12 Hr Format / 24 HR Format (Only for RTC based models)	6H	PA	02	1 - 12 Hr Format with AM/PM for RTC and Timer ON, Timer OFF 2 - 24 Hr Format for RTC and Timer ON , Timer OFF
	Cooling Lower limit setting	6H	PC	16	Lower set temp. start from 60 °F)
				17	Lower set temp. start from 63 °F)
				18	Lower set temp. start from 64 °F)
				19	Lower set temp. start from 66 °F)
				20	Lower set temp. start from 68 °F)
				21	Lower set temp. start from 70 °F)
				22	Lower set temp. start from 72 °F)
				23	Lower set temp. start from 73 °F)
				24	Lower set temp. start from 76 °F)
				25	Lower set temp. start from 77 °F)
26				Lower set temp. start from 79 °F)	
27				Lower set temp. start from 80 °F)	
28				Lower set temp. start from 83 °F)	
Heating Upper limit setting	6H	Pd	32	Upper set temp. start from 90 °F)	
			31	Upper set temp. start from 88 °F)	
			30	Upper set temp. start from 86 °F)	
			29	Upper set temp. start from 84 °F)	
			28	Upper set temp. start from 83 °F)	
			27	Upper set temp. start from 80 °F)	
			26	Upper set temp. start from 79 °F)	
			25	Upper set temp. start from 77 °F)	
			24	Upper set temp. start from 76 °F)	
			23	Upper set temp. start from 73 °F)	
			22	Upper set temp. start from 72 °F)	
			21	Upper set temp. start from 70 °F)	
			20	Upper set temp. start from 68 °F)	
19	Upper set temp. start from 66 °F)				
18	Upper set temp. start from 64 °F)				
17	Upper set temp. start from 63 °F)				
16	Upper set temp. start from 60 °F)				
Diagnosis	Failure Indication(latest to last 5 times)	7J	t0	01	1: Failure Display History 1 (Latest of last Five)
				02	2: Failure Display History 2
				03	3: Failure Display History 3
				04	4: Failure Display History 4
				05	5: Failure Display History 5 (5 th Error)
				06-99	Reserved
	Failure Diagnosis Start	7J	t1	01	1 : Failure Diagnosis Start
				02-99	Reserved
	Failure Memory Erase	7J	t2	01	1:Failure Memory Erase
				02-99	Reserved
	Humidity Sensor failure diagnosis	7J	t3	01	1:Humidity ensor failure diagnosis request
				02-99	Reserved
Human Sensor failure diagnosis	7J	t4	01	1: failure diagnosis request	
			02-99	Reserved	

Clean	Time for filter sign display	2C	C1	01	filter lamp lighting time:Adjustment -1 (100hours)
				02	filter lamp lighting time:Adjustment ±0 (200hours)
				03	filter lamp lighting time:Adjustment +1 (300hours)
				04	filter lamp lighting time:Adjustment +2 (400hours)
				05-99	Reserved
	IDU auto FrostWash period adjustment	2C	C2	01	Cleaning time setting(normal case):Adjustment_NO 1 (2hours)
				02	Cleaning time setting(normal case):Adjustment_NO 2 (6hours)
				03	Cleaning time setting(normal case):Adjustment_NO 3 (10hours)
				04	Cleaning time setting(normal case):Adjustment_NO 4 (20hours)
				05	Cleaning time setting(normal case):Adjustment_NO 5 (42hours)
				06	Cleaning time setting(normal case):Adjustment_NO 6 (60hours)
				07	Cleaning time setting(normal case):Adjustment_NO 7 (84hours)
				08	Cleaning time setting(normal case):Adjustment_NO 8 (90hours)
				09	Cleaning time setting(normal case):Adjustment_NO 9 (100hours)
				10	Cleaning time setting(normal case):Adjustment_NO 10 (120hours)
				11	Cleaning time setting(normal case):Adjustment_NO 11 (140hours)
				12	Cleaning time setting(normal case):Adjustment_NO 12 (160hours)
				13	Cleaning time setting(normal case):Adjustment_NO 13 (180hours)
				14	Cleaning time setting(normal case):Adjustment_NO 14 (200hours)
15	Cleaning time setting(normal case):Adjustment_NO 15 (250hours)				
Supporting service category	Time for human sensor Auto off	5F	L3	01	Auto-off monitoring time: Adjustment- 3 (20min)
				02	Auto-off monitoring time: Adjustment- 2 (30min)
				03	Auto-off monitoring time: Adjustment- 1 (40min)
				04	Auto-off monitoring time: Adjustment± 0 (50min)
				05	Auto-off monitoring time: Adjustment+ 1 (60min)
				06	Auto-off monitoring time: Adjustment+ 2 (90min)
				07	Auto-off monitoring time: Adjustment+ 3 (120min)
				08-99	(Reserve)

10.5. Buzzer sounding for showing error contents

【Purpose】

Reduction of “mis-communication about error contents” at contacting the service call center.

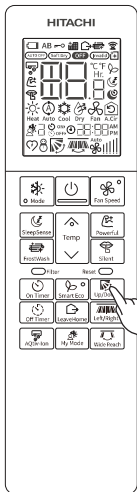
【Function】

Add buzzer sounding for showing error contents during error, in addition to IDU LED action .

【How to use】

When IDU or ODU has failed, and the Timer lamp is blinking. Service engineer can know error contents from the buzzer through phone.

[Up/Down]
(Press this Key for 5 seconds)



In case of IDU failure



LED action



Timer lamp is blinking

Buzzer action



【note】

- for stopping buzzer, stop by On/Off button, or press Up/Down button for 5 seconds.

In case of ODU failure



LED action



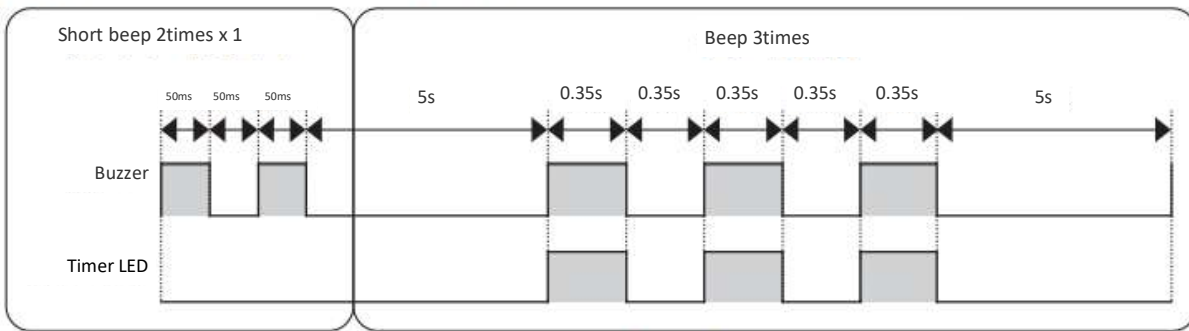
Operation lamp is blinking

Buzzer action



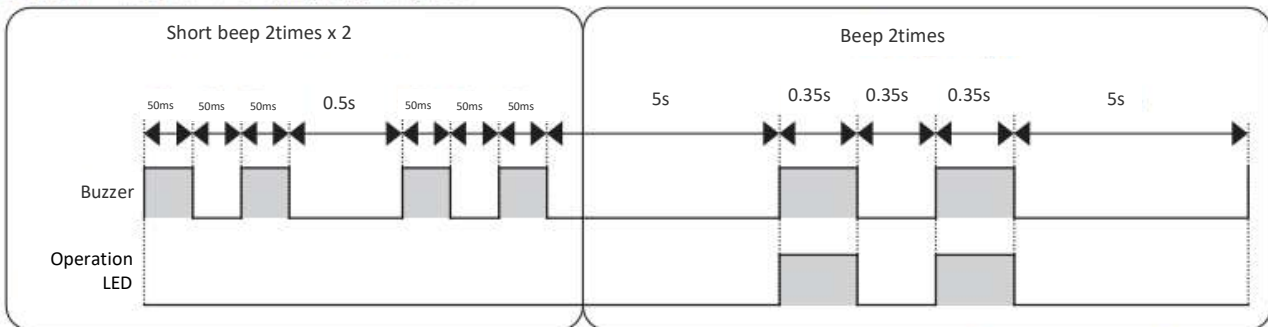
Sounding by same rhythm with LED

<IDU error example: timer LED will blink 3 times(interface defective(IDU) >



After “Short 2times x 1 beep”, “3 times beep” will be repeated.

<ODU error example: operation LED will blink 2 times(peak current cut) >



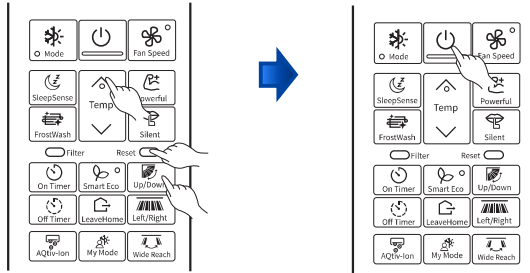
After “Short 2times x 2 beep”, “2 times beep” will be repeated.

10.6. OTHER SETTING

▪ ID SELECTION


1. Press “Up/Down swing button” and “set. Temp. up button” and “reset button”, and release “reset button”.
2. Select from A or B by pressing “set.temp. button”.
3. Press “On/Off button” toward IDU.

(EEPROM in HHRC will keep the A or B information.)

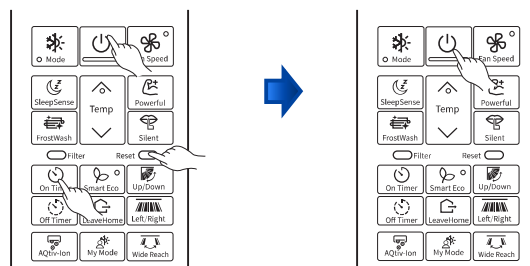


▪ DISPLAY MODE

For operating indoor unit independently (without outdoor unit connection), remote controller has to be set according to below procedures before send the signal to the indoor unit. New communication format between indoor and outdoor is required to communicate with outdoor unit.

1. Press and holding “On Times button” and “On/Off button”, press “reset button” on the same time.
2. Release “reset button” only and make sure that the FAN speed icon  on LCD display.
3. Press “On/Off button” toward IDU.

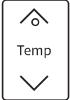
Then, the indoor unit will start to operate independently according to the selected operation mode.


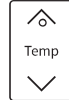



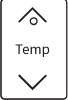
10.7. ERROR CODE INFORMATION


10.7.1. HOW TO DISPLAY ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t0” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.

5. Press “” (On/Off) button of the remote control, the fault information will be seen.

Function Name	Value	Layer1	Layer2	Layer3
		Category	Function	Value
Display self-diagnosis memory(※)	Display History 1 (Latest(newest) of last Five)	7J	t0	01
	Display History 2			02
	Display History 3			03
	Display History 4			04
	Display History 5			05

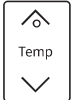
The specific information of error code is shown in the table below:


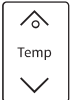
	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
INDOOR	-	-	000 00	Normal
	1 time	-	001 00	Refrigerant cycle fault
	2 times	-	-	Outdoor unit is under forced operation
	3 times	9 times	003 00	Communication error (indoor)
	9 times	-	009 00	Indoor thermistor defective
	10 times	-	010 00	Abnormal rotating numbers of DC fan motor
	12 times	9 times	012 00	Communication error (outdoor)
	13 times	-	013 00	EEPROM data reading error
	20 times	-	020 00	Human sensor defective
	21 times	-	021 00	Interface defective (other machine cause)
25 times	-	025 00	CN7A/B connection defective	


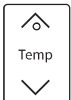
	OPERATION LAMP BLINKING	CODE	MEANING (THE FOLLOW DEFECTIVES IN OUTDOOR UNIT)
INDOOR	2 times	002 01	Peak current cut
	3 times	003 01	Compressor abnormal low speed rotation
	4 times	004 01	Compressor switching failure
	5 times	005 01	Overload lower limit cut
	6 times	006 01	OH thermistor temperature rise
	7 times	007 01	Abnormal outdoor thermistor
	9 times	009 01	Communication error
	10 times	010 01	Abnormal power source
	11 times	011 01	Fan stop for strong wind
	12 times	012 01	Fan motor fault
	13 times	013 01	EEPROM reading error
	14 times	014 01	DC Voltage abnormal
	15 times	015 01	Abnormal PWB circuit
	16 times	016 01	High load stop

9.7.2. HOW TO REMOVE ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t2” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.

5. Press “” (On/Off) button of the remote control, and the error code will be removed.

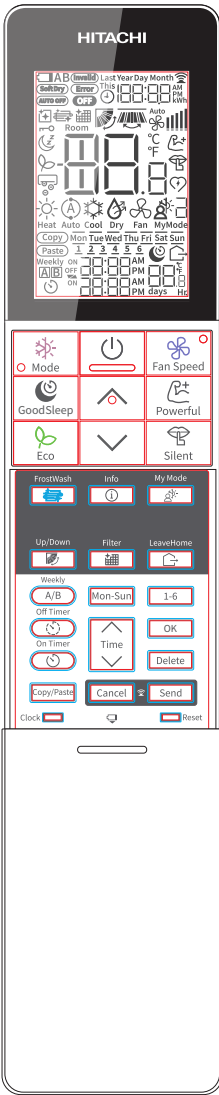




















11 CONTROL AND FUNCTION

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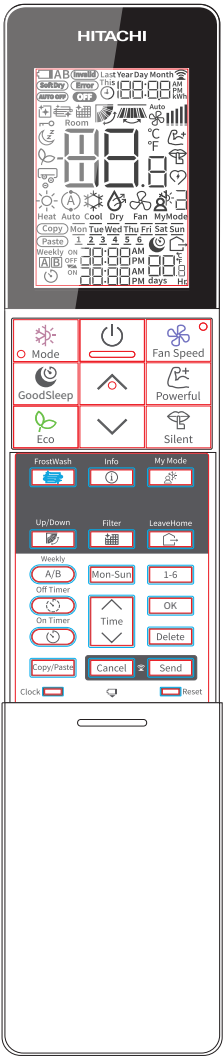











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11 CONTROL AND FUNCTION

11.1. WIRELESS REMOTE CONTROL FUNCTION

	BUTTONS	FUNCTION
 <p>HITACHI</p> <p>Mode Selector Button: A circle with a fan icon and the word 'Mode'.</p> <p>GoodSleep Button: A circle with a crescent moon and the word 'GoodSleep'.</p> <p>Eco Button: A circle with a leaf and the word 'Eco'.</p> <p>On/Off Button: A power button symbol.</p> <p>Temperature Button: Up and down arrow buttons.</p> <p>Fan Speed Button: A circle with a fan icon and the words 'Fan Speed'.</p> <p>Powerful Button: A circle with a fan icon and the word 'Powerful'.</p> <p>Silent Button: A circle with a fan icon and the word 'Silent'.</p> <p>FrostWash Button: A circle with a fan icon and the words 'FrostWash'.</p> <p>Up/Down Button: A circle with a fan icon and the words 'Up/Down'.</p> <p>AQtiV-Ion Button: A circle with a fan icon and the words 'AQtiV-Ion'.</p> <p>Info Button: A circle with a power button symbol and the word 'Info'.</p> <p>Filter Sign Reset Button: A circle with a fan icon and the word 'Filter'.</p> <p>My Mode Button: A circle with a fan icon and the words 'My Mode'.</p> <p>LeaveHome Button: A circle with a fan icon and the words 'LeaveHome'.</p>		<p>Mode Selector Button Use this button to select the operation mode. Every time you press this button the mode will change from  (Heat) →  (Auto) →  (Cool) →  (Dry) →  (Fan) cyclically.</p>
		<p>GoodSleep Button the unit shifts the room temperature and reduces the fan speed.</p>
		<p>Eco Button Use this button to set the Eco mode.</p>
		<p>On/Off Button Press this button to start operation. Press it again to stop operation.</p>
		<p>Temperature Button Room temperature setting. Value will change quicker when keep pressing.</p>
		<p>Fan Speed Button Select the fan speed.</p>
		<p>Powerful Button The air conditioner performs at maximum power.</p>
		<p>Silent Button The fan speed changes to the silent fan speed</p>
		<p>FrostWash Button (Not Applicable) The dust and dirt adhering to indoor heat exchanger which is the cause of the smell.</p>
		<p>Up/Down Button Control the angle of the horizontal air deflector.</p>
		<p>AQtiV-Ion Button (Not Applicable)</p>
		<p>Info Button</p>
		<p>Filter Sign Reset Button (Not Applicable)</p>
		<p>My Mode Button Use this mode for personalized comfort table settings. The My Mode can be set by using the remote controller. Up to 3 programs can be set.</p>
	<p>LeaveHome Button Prevent the room temperature from falling too much by setting temperature 50°F~60°F when no one is at home.</p>	

RC-BGH1FB0N

	WEEKLY TIMER Buttons	FUNCTION
 <p>RC-BGH1FB0N</p>		<p>On Timer Button Select the turn ON time.</p>
		<p>Off Timer Button Select the turn OFF time.</p>
		<p>Time Button Press the button to set starting time of the program.</p>
		<p>OK Button Press the button to save the program. The button shall be pressed everytime after finishing a program setting.</p>
		<p>DELETE Button 1) Press the button to delete the selected program. 2) Press the button for about 10 seconds by directing the remote controller towards the indoor unit while Mode A or B display blinks, programs for Mode A or B will be deleted both from the indoor unit and the remote controller after the beep sound from the indoor unit. The program setting remains in the remote controller.</p>
		<p>DAY Button Select the desired day of the week.</p>
		<p>PROGRAM NO. Button Press this button to select a program number.</p>
		<p>CANCEL Button 1) Press the button to cancel the current setting process on the screen. 2) Press the button by directing the remote controller towards the indoor unit, then weekly timer setting will be canceled from indoor unit after the beep sound from the indoor unit. The program setting remains in the remote controller.</p>
		<p>SEND Button Press the button for about 3 seconds by directing the remote controller towards the indoor unit after finishing the program setting. Timer lamp on the indoor unit will blink rapidly and after the beep sound from indoor unit, TIMER lamp will light up.</p>
		<p>CLOCK Button Press the button to set calendar and clock.</p>
	<p>WEEKLY TIMER MODE Button 1) Select Mode A or Mode B. 2 modes can be set and stored as a weekly timer. 2) By pressing the button longer than 3 seconds, program setting screen will appear.</p>	

For more information, please refer to the operation manual.

11.2.SELF-DIAGNOSIS MEMORY FUNCTION

SELF-DIAGNOSIS MEMORY FUNCTION


Failure modes are stored in the nonvolatile memory of indoor unit and shall be redisplayed by remote controller.



This function is useful in checking the failure modes either during switching OFF the power or restarting the device with checking the number of indication lamp blinking . Remote controller can redisplay up to last 5 failure modes from the memory. However, failure modes which are rarely to occur are also stored in the memory which caused the numbers of failure more than 5. Thus, for some failure modes which are unable to retrieve because of remote controller limit to redisplay only 5 failure modes, it can be found by clearing up the memory first then recheck the memory content again during the visit at the customer place.



ERROR CODE INFORMATION

<HOW TO DISPLAY ERROR CODE>

1.Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t0” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.


5. Press “” (On/Off) button of the remote control, the fault information will be seen.



Function Name	Value	Layer1	Layer2	Layer3
		Category	Function	Value
Display self-diagnosis memory(※)	Display History 1 (Latest(newest) of last Five)	7J	t0	01
	Display History 2			02
	Display History 3			03
	Display History 4			04
	Display History 5			05



There is no special symbol on HHRC LCD screen.

<HOW TO REMOVE ERROR CODE>

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.

3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t2” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.

5. Press “” (On/Off) button of the remote control, and the error code will be removed.

	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
INDOOR	-	-	000 00	Normal
	1 time		001 00	Refrigerant cycle fault
	2 times	-	-	Outdoor unit is under forced operation
	3 times	9 times	003 00	Communication error (indoor)
	4 times	-	004 00	Outdoor unit defective
	8 times	-	008 00	Gas sensor interface defective
	9 times	-	009 00	Indoor thermistor defective
	10 times	-	010 00	Abnormal rotating numbers of DC fan motor
	12 times	9 times	012 00	Communication error (outdoor)
	13 times	-	013 00	EEPROM data reading error
	21 times	-	021 00	Interface defective (other machine cause)
	25 times	-	025 00	CN7A/B connection defective

< Caution >

This function is effective only once immediately after the power is turned on. It will not work if you have performed another remote control operation beforehand.

Note also that it may not function in response to a procedure other than the above. (If it does not work, turn off the power, turn it back on and repeat the procedure.)

If the memory stores nothing, performing a redisplay operation will not blink the lamp.

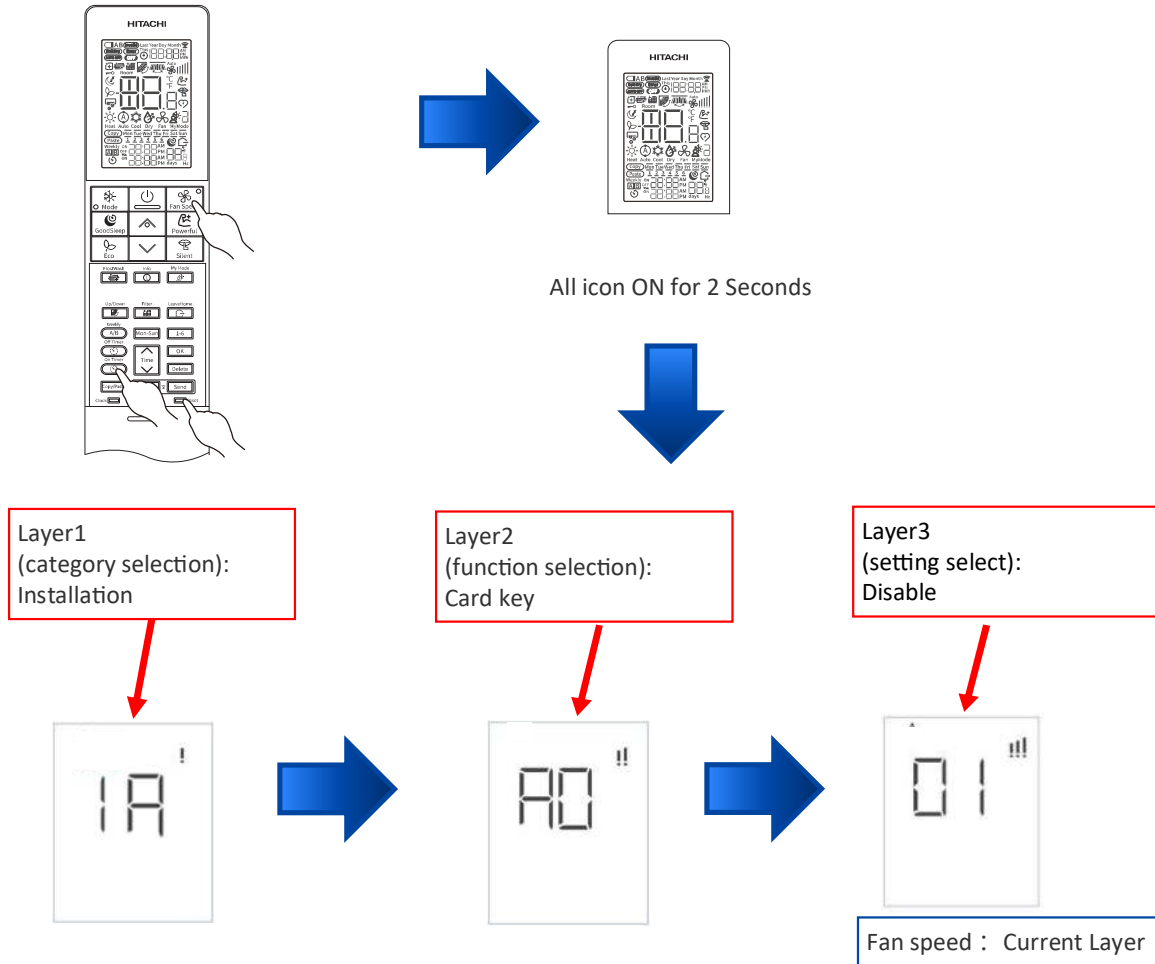
For a normal operation, turn off the power and turn it back on. After the above operation, the product will not receive a remote control signal normally.

After clearing the troubleshooting data, turn off the power. (If you do not turn off the power, the product will become unresponsive to remote control signals.)

11.3 How to set up from Service setting mode

The Service function, which was set by DIP-SW setting or double pressing of the HHRC in the current model. it will be done by HHRC in GRAC as shown as below.

[On timer] + [Fan speed] + [Reset]
 (Press three Key for 5 seconds to avoid access by User)

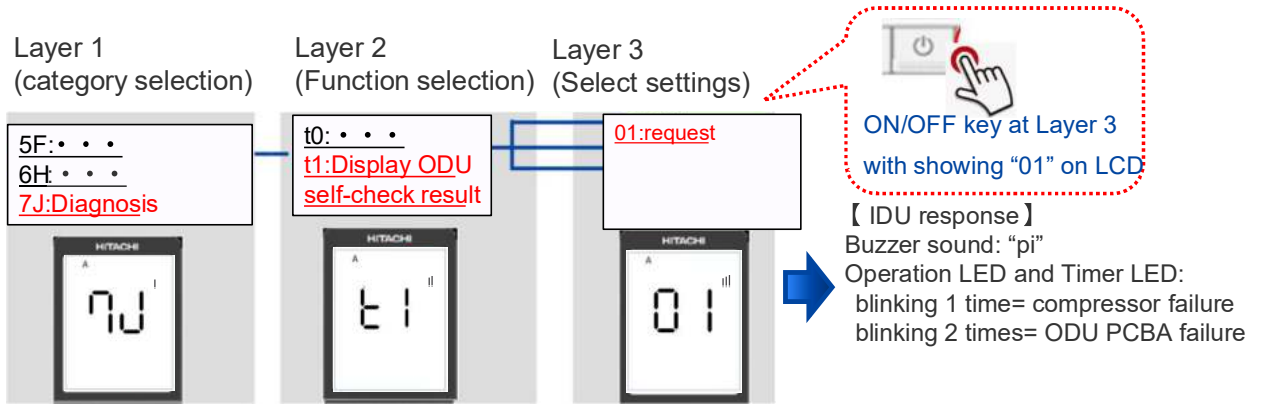


※ If you don't do anything for 30 seconds, you will be out of the service setting mode.

11.4. How to operate the HHRC method

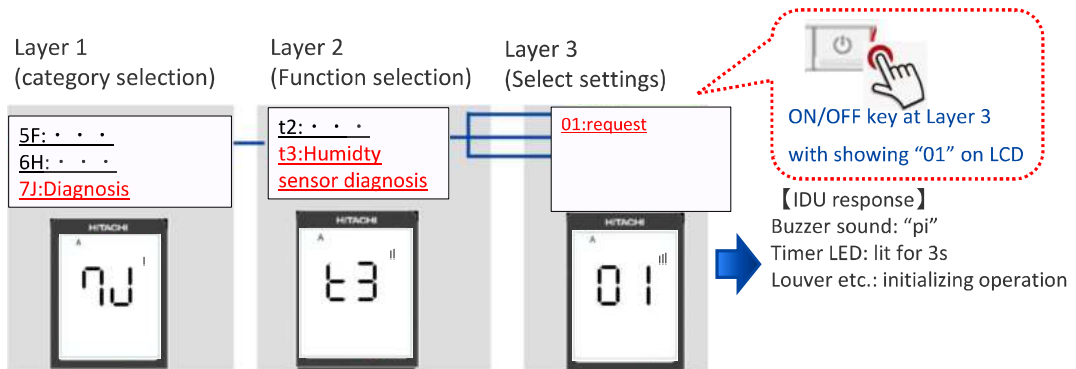
At ODU PCBA error or compressor error.
This function can be done after power supply off, and on.

Category	Function Name	Value	HHRC LCD display		
			Layer1	Layer2	Layer3
			Category	Function	Value
Diagnosis	Display ODU Self-check result	request	7J	t1	01
		reserve			02-99

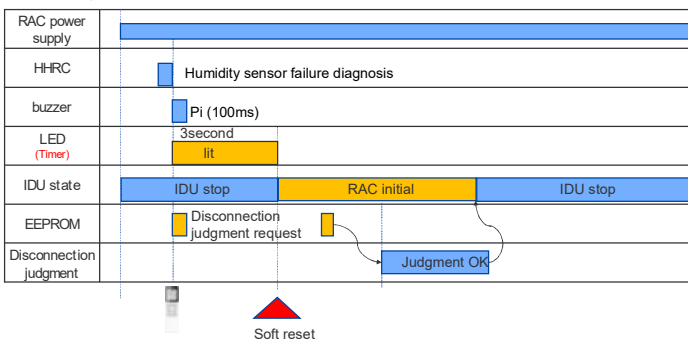


detailed diagnosis(humidity sensor diagnosis)

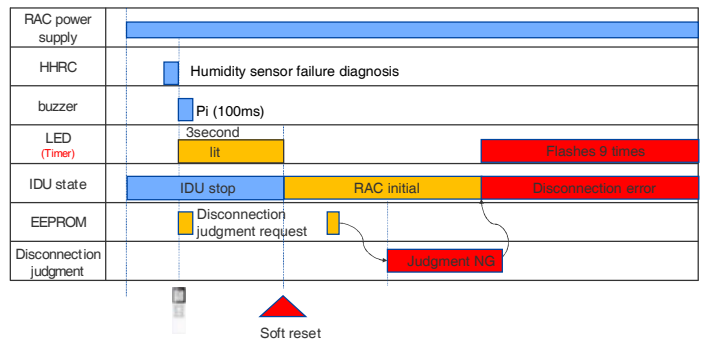
Category	Function Name	Value	HHRC LCD display		
			Layer1	Layer2	Layer3
			Category	Function	Value
Diagnosis	Humidity sensor diagnosis	request	7J	t3	01
		reserve			02-99



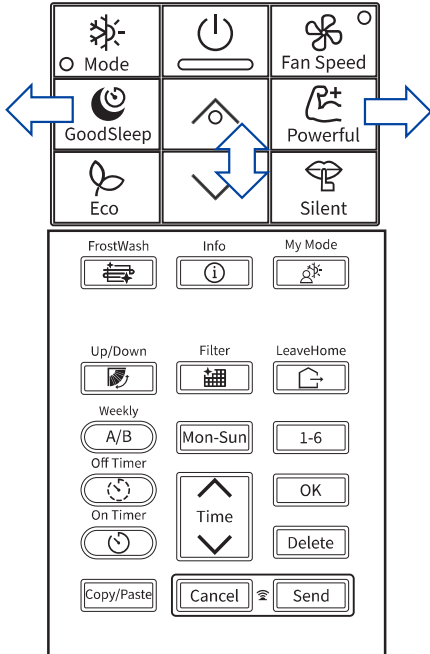
Humidity sensor: no defect case



Humidity sensor: defect case



How to operate the HHRC method

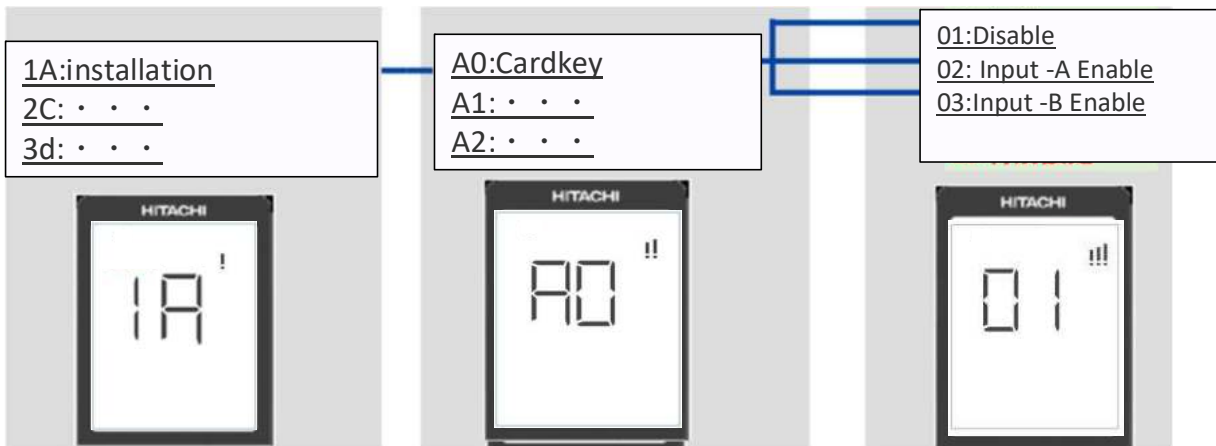


Temp Δ ∇ : Selection (in the same layer)
 Mode : move to previous layer
 Fan Speed : Move to next layer
 ON/OFF : Decision/Send (at layer 3)
 : Current setting check(at layer 2)
 Filter: category initialization(at layer 1)
 Filter + ON/OFF: all category initialization(at layer 1)
 ※ To exit from this setting mode, you need to either not operate the HHRC panel for 30 seconds or press and hold the UP/Down key for 5 seconds.

Layer 1
(category selection)

Layer 2
(Function selection)

Layer 3
(Setting select)



The Adjust filter sign Time can be changed by the remote controller.
 (This procedure shall be implemented strictly by service personnel only.)
 It is possible to return it to the default setting.

Category	Function Name	Value	HHRC LCD display		
			Layer1 Category	Layer2 Function	Layer3 Value
Clean	Time for filter sign display	filter lamp lighting time:Adjustment -1(100h)	2C	C1	01
		filter lamp lighting time:Adjustment ±0(200h)			02
		filter lamp lighting time:Adjustment ±1(300h)			03
		filter lamp lighting time:Adjustment ±2(400h)			04
		reserve			05-99

Layer 1
(category selection)

Layer 2
(Function selection)

Layer 3
(Select settings)

1A: . . .	C0: Outdoor Frost wash	01:
2C: . . .	C1: Time for filter sign display	02:
3d: . . .	C2: IDU auto FrostWash period adjustment	03:
		04:



【IDU response】
 Buzzer sound: "pi"
 Timer LED: lit for 3s(only for "1A" category)
 Louver etc.: initializing operation

【note】
 If receiving the order of "05"- "99", IDU buzzer sounds as "pipi-"(rejecting sound).

11.5. Service setting item used for HHRC (Wireless remote model : RC-BGH1FB0N)

Category	Function	Display on LCD Temperature 7 segment Layer Wise			Value setting meaning at Layer-3
		1	2	3	
Installation	Card Key	1A	A0	01	1 - Card Key Input - Disable
				02	2 - Contact A Enable
				03	3 - Contact B Enable
				04-99	4-99 : Reserved
	Heating/Cooling only mode select - (Operation Mode Lock)	1A	A1	01	1 - Normal Mode
				02	2 -Cooling Lock (Cool,Dry,A.circulator,Fan mode available)
				03	3 - Heating Lock (Heat and Fan mode available)
				04-99	4-99 : Reserved
	Auto restart switchover(Standard)	1A	A2	01	auto restart changeover disable
				02	auto restart by previous mode
				03-99	3-99 : Reserved
	Connecting of gas sensor	1A	A8	01	Normal
				02	Test
				03-99	Reserved
	Gas leak determination time	1A	A9	01	20Sec(initial value)
				02	40Sec
				03-99	Reserved
	Gas leak detection reset	1A	AA	01	Gas leak detection reset
02-99				Reserved	
Cycle Operation	Defrost selection Function	3d	E0	01	01 - Standard Region
				02	02- Cold Region
				03-99	Reserved
	Set temperature shift adjustment (Cooling)	3d	E1	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
				10	Setting Temperature Shift Adjustment (+4°C/8°F)
				11	Setting Temperature Shift Adjustment (+5°C/10°F)
	Set temperature shift adjustment (Heating)	3d	E2	01	Setting Temperature Shift Adjustment (-5°C/-10°F)
				02	Setting Temperature Shift Adjustment (-4°C/-8°F)
				03	Setting Temperature Shift Adjustment (-3°C/-6°F)
				04	Setting Temperature Shift Adjustment (-2°C/-4°F)
				05	Setting Temperature Shift Adjustment (-1°C/-2°F)
				06	Setting Temperature Shift Adjustment (±0°C/±0°F)
				07	Setting Temperature Shift Adjustment (+1°C/2°F)
				08	Setting Temperature Shift Adjustment (+2°C/4°F)
				09	Setting Temperature Shift Adjustment (+3°C/6°F)
				10	Setting Temperature Shift Adjustment (+4°C/8°F)
				11	Setting Temperature Shift Adjustment (+5°C/10°F)
	Indoor fan air speed when cooling thermostat is off	3d	E3	01	01 : standard
				02	02 : Cold Region
03-99				Reserved	
Selection of indoor fan control during heating thermo-off	3d	E4	01	01 : Fan Control at the Time of Heating Thermo- Off "Pattern 1"	
			02	02 : Fan Control at the Time of Heating Thermo- Off "Pattern 2"	
			03	03 : Fan Control at the Time of Heating Thermo- Off "Pattern 3"	
				04-99	Reserved

Service setting item used for HHRC (Wireless remote model: RC-BGH1FB0N)

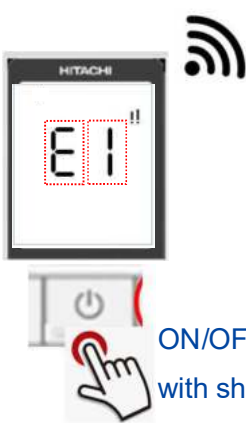
HHRC	Temperature Resolution change - 0.5°C→ 1°C	6H	P0	01	1 -0.5 °C Resolution 2-1 °C Resolution
	Fan Speed key sequence (Weaker to stronger , stronger to Weaker)	6H	P1	01	1 - Default (Auto-Silent-Low-Med-Hi-H2) 2- Reverse (Hi2-Hi-Med-Lo-Silent-Auto)
	Operation Mode : Auto	6H	P2	2	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Cool	6H	P3	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Dry	6H	P4	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Fan	6H	P5	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Operation Mode : Heat	6H	P6	02	1-Disable Selection on HHRC by Mode key 2 - Enable Selection on HHRC by Mode Key
	Auto Fan speed : Enable / Disable	6H	P8	02	1 -Disable Selection on HHRC by Fan key 2 - Enable Selection on HHRC by Fan Key
	Fan Speed tapping control	6H	P9	01	1- Normal (Auto, Silent, Low, Med, Hi, H2) Selection on HHRC by Fan key 2- (Auto, Silent, Lo, Med, Hi) Selection on HHRC by Fan key
	RTC and Timer setting Format change: 12 Hr Format / 24 HR Format (Only for RTC based models)	6H	PA	02	1 - 12 Hr Format with AM/PM for RTC and Timer ON, Timer OFF 2 - 24 Hr Format for RTC and Timer ON , Timer OFF
	Cooling Lower limit setting	6H	PC	16	(Lower set temp. start from 60 °F)
				17	(Lower set temp. start from 63°F)
				18	(Lower set temp. start from 64°F)
				19	(Lower set temp. start from 66°F)
				20	(Lower set temp. start from 68°F)
				21	(Lower set temp. start from 70°F)
				22	(Lower set temp. start from 72°F)
				23	(Lower set temp. start from 73°F)
				24	(Lower set temp. start from 76°F)
				25	(Lower set temp. start from 77°F)
26				(Lower set temp. start from 79°F)	
27				(Lower set temp. start from 80°F)	
Heating Upper limit setting	6H	Pd	32	(Upper set temp. start from 90 °F)	
			31	(Upper set temp. start from 88 °F)	
			30	(Upper set temp. start from 86 °F)	
			29	(Upper set temp. start from 84 °F)	
			28	(Upper set temp. start from 83 °F)	
			27	(Upper set temp. start from 80 °F)	
			26	(Upper set temp. start from 79 °F)	
			25	(Upper set temp. start from 77 °F)	
			24	(Upper set temp. start from 76 °F)	
			23	(Upper set temp. start from 73 °F)	
			22	(Upper set temp. start from 72 °F)	
			21	(Upper set temp. start from 70 °F)	
Diagnosis	Failure Indication(latest to last 5 times)	7J	t0	01	1: Failure Display History 1 (Latest of last Five)
				02	2: Failure Display History 2
				03	3: Failure Display History 3
				04	4: Failure Display History 4
				05	5: Failure Display History 5 (5 th Error)
				06-99	Reserved
	Display ODU self check (failure diagnosis start)	7J	t1	01	1 : Failure Diagnosis Start
				02-99	Reserved
	Failure Memory Erase	7J	t2	01	1:Failure Memory Erase
				02-99	Reserved
	Humidity Sensor failure diagnosis	7J	t3	01	1:Humidity ensor failure diagnosis request
				02-99	Reserved

Check of current service setting (shift value adjustment of setting temperature(Cool Mode)example)

press on/off button toward IDU,
with showing “E1” at Layer 2
(IDU buzzer: “Pi”)

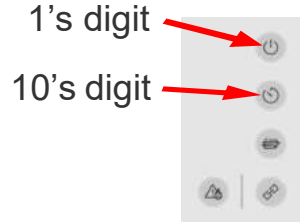
Layer 2
(Function selection)

E0: . . .
E1: shift value adjustment of set temp. (Cool)
E2: . . .



ON/OFF key at Layer 2
with showing “E1” on LCD

IDU LED will show current setting by blinking.
(to show Layer 3 setting contents by blinking times)



<note>

- to show by 2digits with operation LED and timer LED operation LED(10's digit), timer LED(1's digit)
- to be repeated 3 times
- during checking, this control has higher priority than the operation from other devices.
- On airCloud Home application, “during maintenance” is shown.

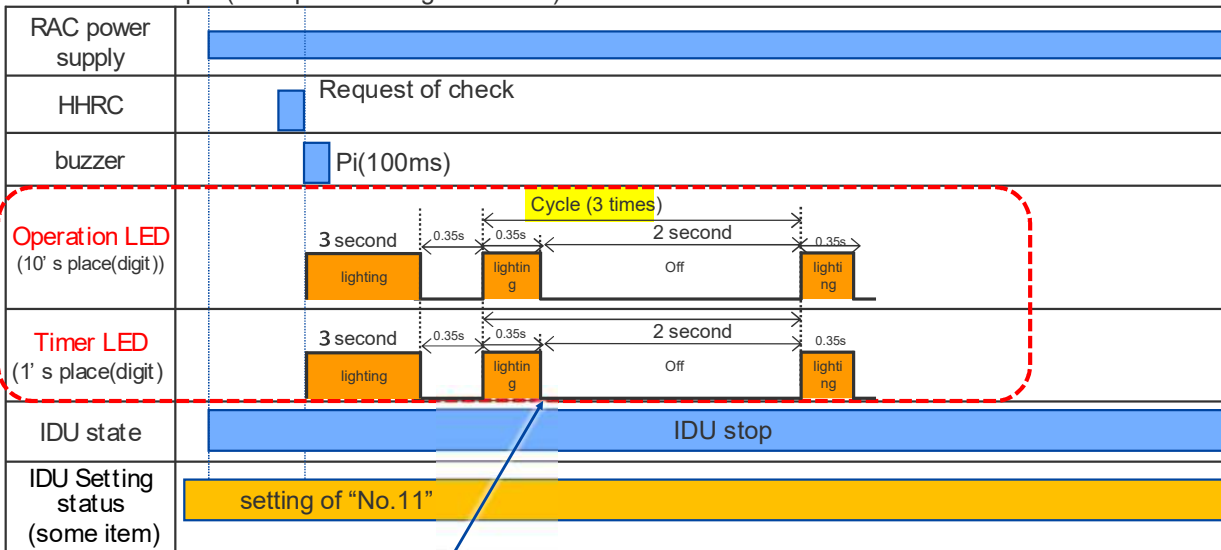
【Caution】

- At defect of IDU main or display PCBA, this function is not available. it is necessary to record the setting history on service record card. it will be packed with manuals.

SERVICE RECORD					
Date	Setting Contents			Serviced By	Note
	Layer 1	Layer 2	Layer 3		

To service engineers:
Explain the service contents, and write down it if necessary.
Ask a customer to keep this paper together with the instruction manual.

Time chart example (example of setting of “No.11”)



- During blinking,
- check command of same service function -> stop the blinking
 - check command of new service function -> blinking for showing the current setting for function

11.6 Buzzer sounding for showing error contents

【Purpose】

Reduction of “mis-communication about error contents” at contacting the service call center.

【Function】

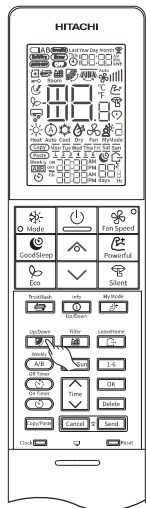
Add buzzer sounding for showing error contents during error, in addition to IDU LED action .

【How to use】

When IDU or ODU has failed, and the Timer lamp is blinking. Service engineer can know error contents from the buzzer through phone.

[Up/Down]

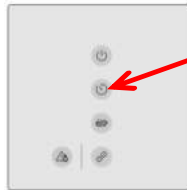
(Press this Key for 5 seconds)



In case of IDU failure



LED action



Timer lamp is blinking

Buzzer action



【note】
· for stopping buzzer, stop by On/Off button.

In case of ODU failure



LED action



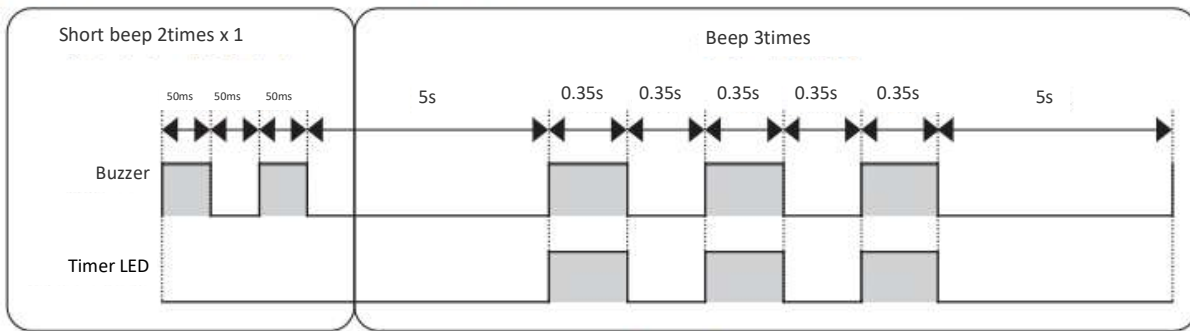
Operation lamp is blinking

Buzzer action



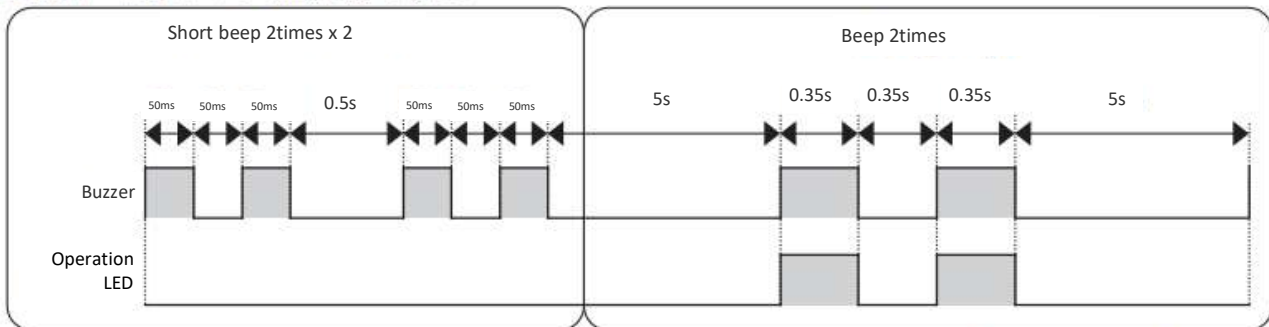
Sounding by same rhythm with LED

<IDU error example: timer LED will blink 3 times(interface defective(IDU) >



After “Short 2times x 1 beep”, “3 times beep” will be repeated.

<ODU error example: operation LED will blink 2 times(peak current cut) >



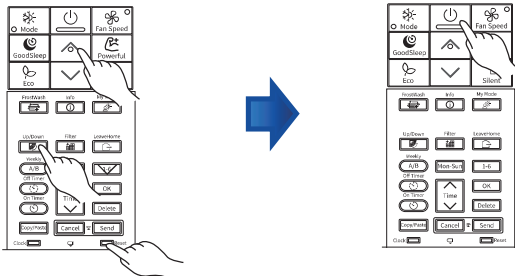
After “Short 2times x 2 beep”, “2 times beep” will be repeated.

11.7 OTHER SETTING

• SETTING THE PREVENTION OF MUTUAL INTERFERENCE FOR REMOTE CONTROLLER


Case: 2 set of indoor units installed near to each other. If both indoor units can receive the remote controller signal, please set the remote controller as below. (This setting will change the signal address of each remote controller.)

- 1.The circuit breaker for the unit shall be OFF.
- 2.Press and holding “UP/Down swing button” and “set. Temp. up button” and “reset button”. Release “reset button” only and when the LCD display “A”.
- 3.Select from A or B by pressing “set. Temp. button”.
- 4.Press “On/Off button” toward IDU. (EEPROM in HHRC will keep the A or B information.)

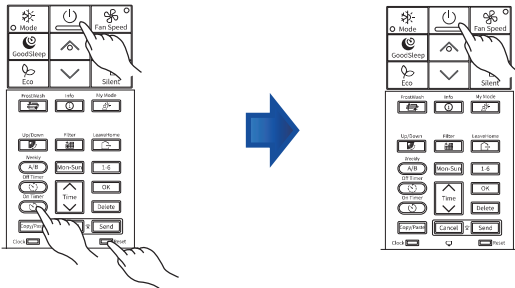


• DISPLAY OPERATION MODE SETTING

For operating indoor unit independently (without outdoor unit connection), remote controller has to be set according to below procedures before send the signal to the indoor unit. New communication format between indoor and outdoor is required to communicate with outdoor unit.

- 1.Press and holding “On Times button” and “On/Off button”, press “reset button” on the same time.
- 2.Release “reset button” only and make sure that the FAN speed icon  on LCD display.
- 3.Press “On/Off button” toward IDU.


Then, the indoor unit will starts to operate independently according the selected operation mode.



【Purpose】

To help the installers(service engineer) to notice the abnormality at installation, we add the new control.

【new operation test mode】

1. Operate with Cool Mode(in summer) or Heat Mode(in winter).
 2. Set setting temperature to 16.0°C for Cool Mode or 32.0°C for Heat Mode.
And set the desired fan speed to "  "(High).
 3. Operate RAC for 20 minutes at least, and make sure that the outlet air is cool or warm.
 4. Press On/Off Button on HHRC and make sure that RAC stops the operation.
- If the IDU LED would blink with sounding the buzzer during the operation test, perform a check.
Before the check and the reoperation, reset the power supply.
 - For connections multi, testing indoor unit will buzzer, other indoor unit will not buzzer.

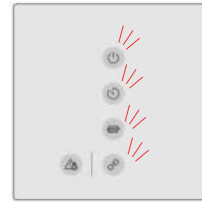


Buzzer will sound 3 times

IDU LED blinking mode	What to check
All IDU LED blinks 3 times repeatedly. (Only Operation/Timer LED blinks for Floor model)	Make sure that the spindles of both service valves are open

【caution】

- Don't operate for over 5 minutes with the situation that the spindle of the service valve is closed.
- Don't operate by Cool Mode with the door and windows opened for a long period.
- During test operation for connections multi, each unit must be operated separately and ensure normal operation.
- For connections multi, If the indoor unit does not operate, check to see that the connections are correct.



Operation/Timer/Frost/Wash/Wifi LED blinks 3 times

	Please confirm fixing sheet which don't put it into drain pan to avoid to drain water fall down.
--	--

4. Service setting for gas sensor(Turn on the circuit breaker first)

Enter service setting mode then follow the table path to complete the sensor connection.

Category	Function Name	Value	HHRC LCD display		
			Layer1	Layer2	Layer3
			Category	Function	Value
Installation	Connecting of gas sensor(floor)	Normal	1A	A8	01
		Test			02
		reserve			03-99

Layer 1 (category selection) Layer 2 (Function selection) Layer 3 (Select settings)

<u>1A:installation</u> 2C: . . . 3d: . . .	<u>A8:</u> A9: . . . AA: . . .	<u>01: Normal</u> 02:Test
--	--------------------------------------	------------------------------



ON/OFF key at Layer 3 with showing "01" on LCD



[IDU response]
 Buzzer sound: "pi"
 Timer LED: lit for 3s(only for "1A" category)

[note]
 If receiving the order of "03"- "99", IDU buzzer sounds as "pipi-"(rejecting sound).

5. Installation confirmation

The green led lights during connection was normal, If there are abnormal indications, Please refer as follows.

6. If the refrigerant leaks, the refrigerant lamp blinks and the buzzer rings, use the HHRC to reset.

Category	Function Name	Value	HHRC LCD display		
			Layer1	Layer2	Layer3
			Category	Function	Value
Installation	Gas leak determination reset	reset	1A	AA	01
		reserve			02-99

Layer 1 (category selection) Layer 2 (Function selection) Layer 3 (Select settings)

<u>1A:installation</u> 2C: . . . 3d: . . .	<u>A8:</u> A9: . . . AA: . . .	<u>01: reset</u>
--	--------------------------------------	------------------



ON/OFF key at Layer 3 with showing "01" on LCD



[IDU response]
 Buzzer sound "pi" then stop ringing
 Refrigerant LED: stop blinking

[note]
 If receiving the order of "02"- "99", IDU buzzer sounds as "pipi-"(rejecting sound).

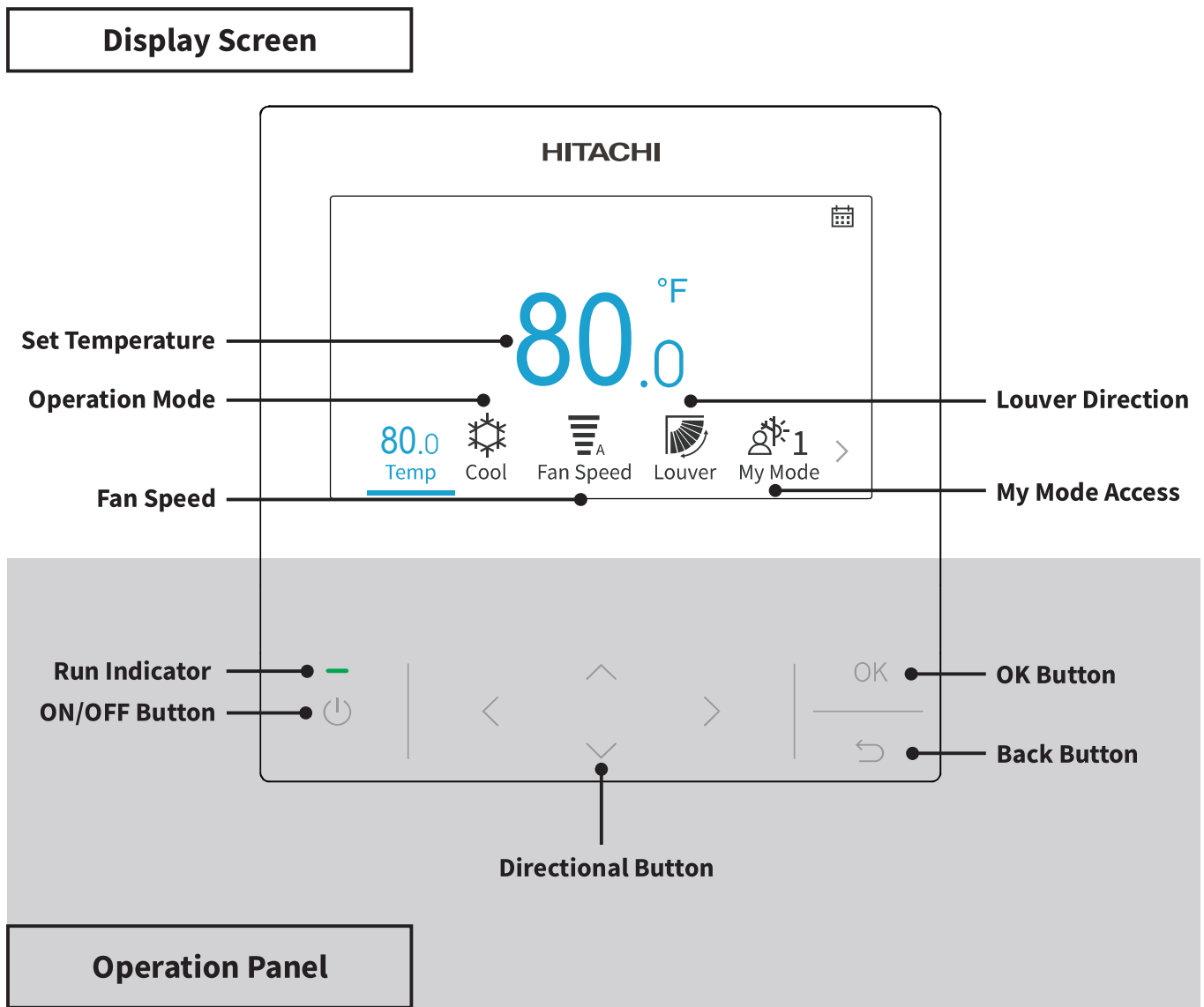
12 OPTION LIST

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12.1 Wired remote control - SPX-URFG

The figure below shows all the functions for reference. The actual display during operation is different.



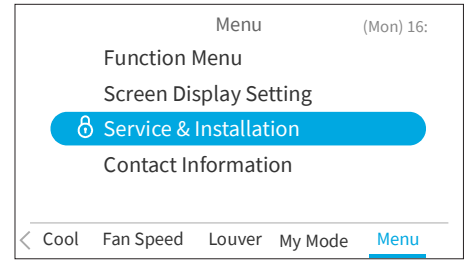
NOTES:

- If the screen is off or the backlight is dim, press any button to re-energise the screen.
- Make sure to press the buttons lightly with your fingertips.
- Do NOT press the buttons with any sharp objects as it may damage the button.

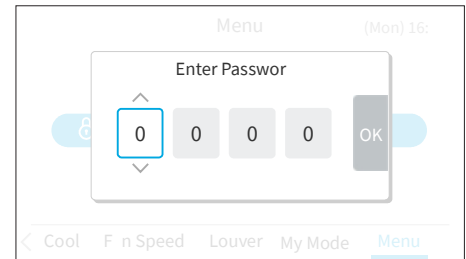
12.1.1. Service & Installation Screen

Service & Installation menu is protected by a password.

Step1. Select "Service & Installation" on "Menu" screen and press "OK".



Step2. Press '^', 'v', '<', or '>' to input the password. Press '>' to select "OK" and press "OK" to enter Service & Installation menu screen.



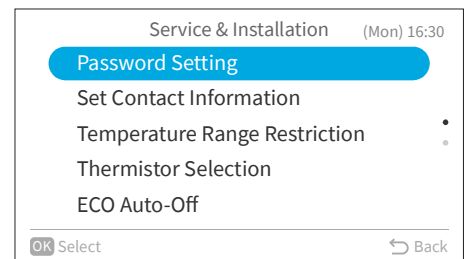
1. Password Setting

The default user password can be changed. If you forget the changed user password, a supervisor password can be used to reset the user password again. The supervisor password is "5567". The password input effective time can be set also.

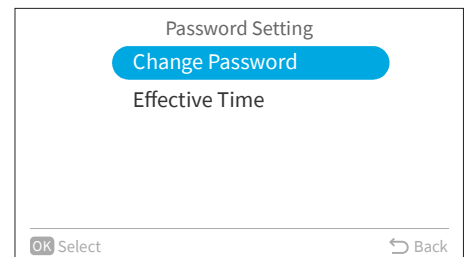
If the password input effective time has been set, then the password is required to be entered only once during the password effective time.

1. Change Password

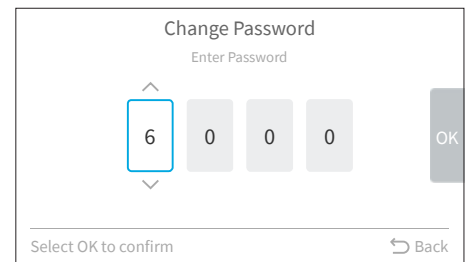
Step1. Select "Password Setting" on Service & Installation screen and press "OK"



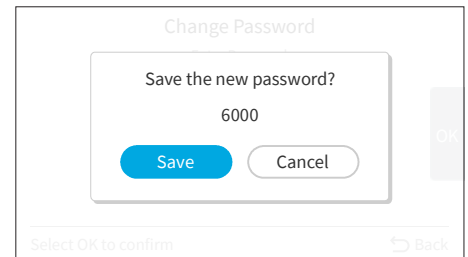
Step2. Select "Change Password" and press "OK".



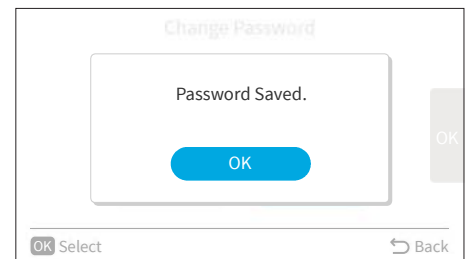
- Step3. Press "^", "v", "<", or ">" to set the password, select "OK" and press "OK".



- Step4. Press "<" or ">" to select "Save" and press "OK" to save password.

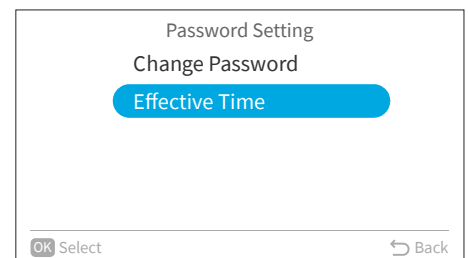


Press "OK", the new password is saved.

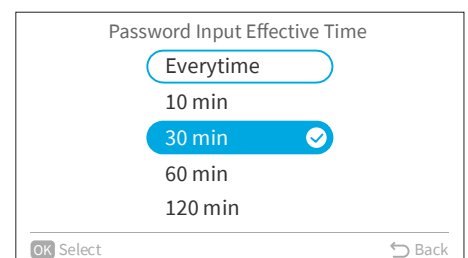


2. Set Password Input Effective Time

- Step1. Select "Password Setting" on the Service & Installation screen and press "OK".
- Step2. Select "Effective Time" and press "OK".



- Step3. Press "^" or "v" to select the setting item and press "OK" to confirm the setting. The item changes as follows:
 "Everytime" ↔ "10 min" ↔ "30 min" ↔ "60 min" ↔ "120 min".
 Press "↶" and it returns to Step3.



NOTES:

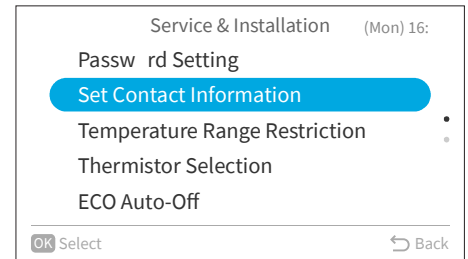
- In order to enhance the security protection, please be sure to change the default password.
- If you enter the wrong password more than 5 times, you will not be able to enter the password within 1 minute.
- The default password is "0000", and the supervisor code is "5567".
- If you forget the password, use the supervisor code to change the password.
- The supervisor code can't be changed.

2. Set Contact Information

Register a service contact (service address and service telephone number are recommended).

1. Register Contact Information

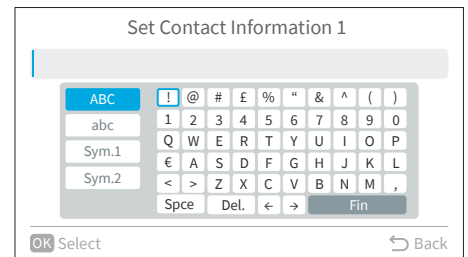
Step1. Select "Set Contact Information" on the Service & Installation screen and press "OK".



Step2. "Set Contact Information1" screen is displayed. Press "<" to move cursor to font type. Press "^" or "v" to select the font type.

*Each time you want to change the font type, press "<" to move the cursor back to font type.

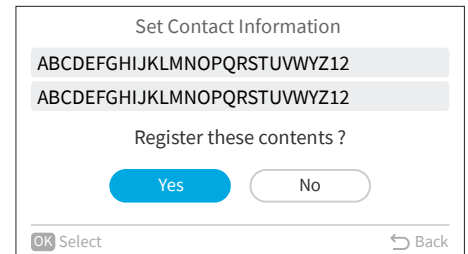
Step3. Press ">" to move cursor to the keypad. Press "^", "v", "<", or ">" to select the font and press "OK" to register it. (Up to 60 characters can be used for each contact information.)



Step4. After all the characters have been set, select "Fin" and press "OK".

Step5. "Set Contact Information2" screen is displayed, repeat Step2, Step3 and Step4.

Step6. Select "Yes" and press "OK" to confirm the setting and Step1 is displayed. If "No" is selected, the screen returns to Step2.

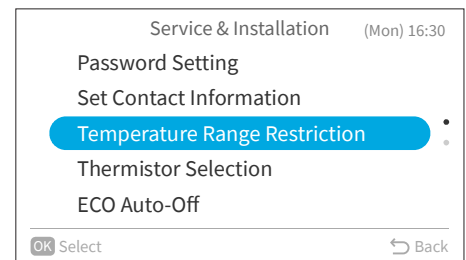


3. Temperature Range Restriction

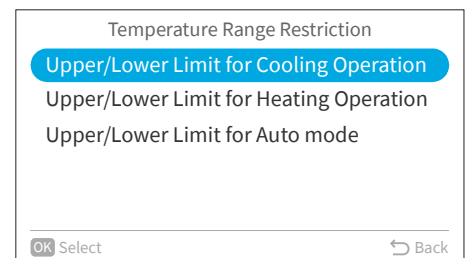
The temperature range can be set by the wired remote controller.

1. Set Temperature Range

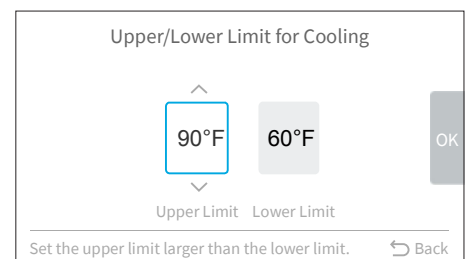
- Step1. Select "Temperature Range Restriction" on the Service & Installation screen and press "OK".



- Step2. Select "Upper/Lower Limit for Cooling Operation"/"Upper/Lower Limit for Heating Operation"/ "Upper/Lower Limit for Auto mode" and press "OK".



- Step3. Press "<", ">" to select the setting limit, then press "^", "v" to change the temperature value.
- Step4. After value setting, select "OK" and press "OK". Press "↶" to return to Step2.



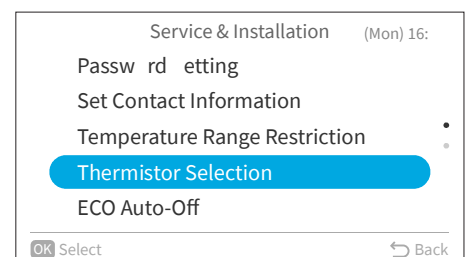
NOTE:

- Please make sure that the upper limit value is equal to or greater than the lower limit value.

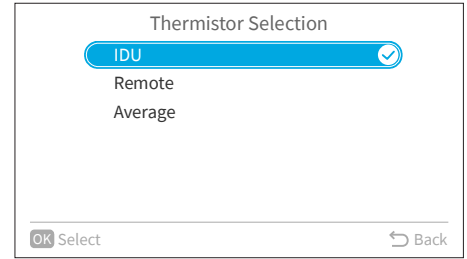
4. Thermistor Selection

This function is to select wired remote controller thermistor or indoor unit thermistor as the room temperature.

- Step1. Select "Thermistor Selection" on the Service & Installation screen and press "OK".



Step2. Select the desired item and press "OK"



NOTE:

- If one of indoor unit or wired remote controller thermistor is broken, the other normal thermistor is selected automatically.

5. ECO Auto-Off

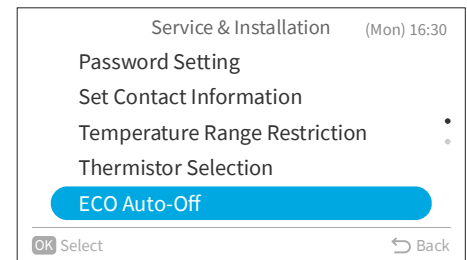
The default Auto-off time is set at 20min, it can be changed from 20min to 120min as described below. When the timer defined by "Auto-Off Timing" elapsed, wired remote controller will turn off indoor unit.

NOTE:

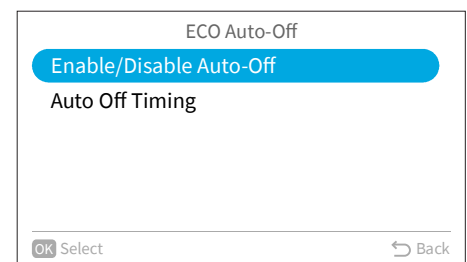
- "ECO Auto-Off" is hidden in Service & Installation screen when "ECO Mode with Auto-Off" is shown in Functions for ECO mode of Function Menu.

1. Enable/Disable Auto-Off

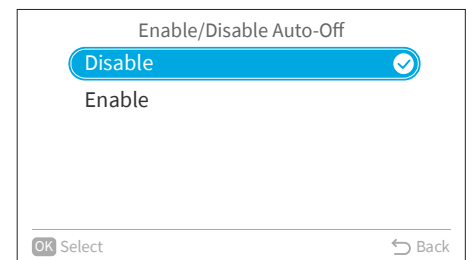
Step1. Select "ECO Auto-Off" on the Service & Installation screen and press "OK".



Step2. Select "Enable/Disable Auto-Off" and press "OK".

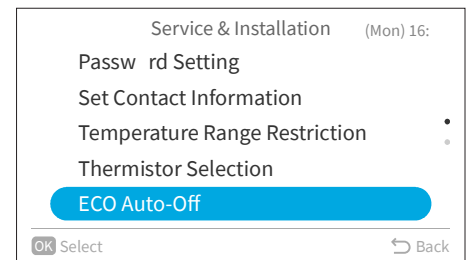


Step3. Press "^" or "v" to select "Disable"/"Enable" and press "OK" to enable/disable Auto-Off.

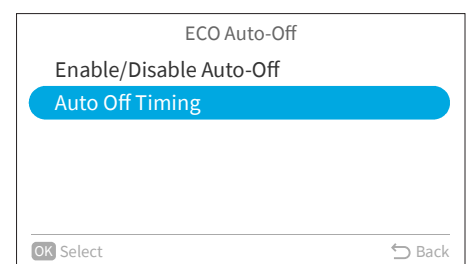


2. Set Auto-Off Timing

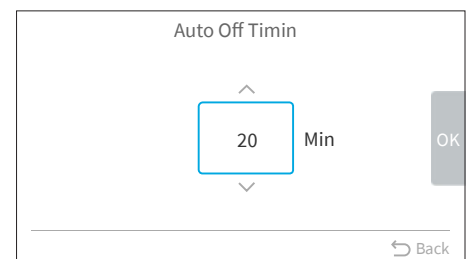
Step1. Select "ECO Auto-Off" on the Service & Installation screen and press "OK".



Step2. Press "∨" to select "Auto-Off Timing" and press "OK".



Step3. Press "∧" or "∨" to change the time from 20min to 120min, then press ">" to select "OK" and press "OK".

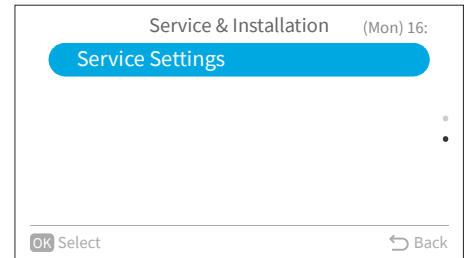


12.1.2 Service Settings

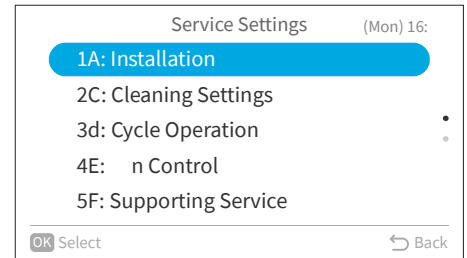
- The service setting items displayed in list depend on indoor unit model.
- When no operation for 2 hours on Service settings or sub settings screen, it returns to Home screen.
- When the air conditioner is turned on, service setting is disabled.
- For more information of service settings, please refer to service manual of the wired remote controller.

1. 1A: Installation

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".

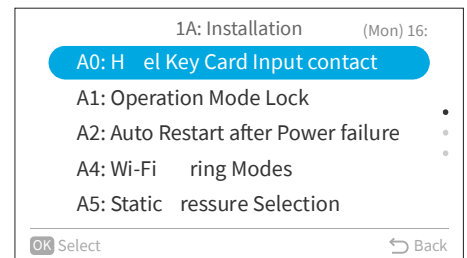


Step2. Select "1A: Installation" and press "OK".

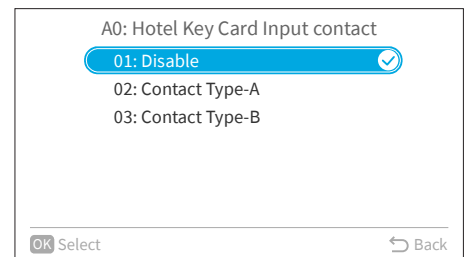


1.1 A0: Hotel Key Card Input contact

Step1. Select "A0: Hotel Key Card Input contact" and press "OK".

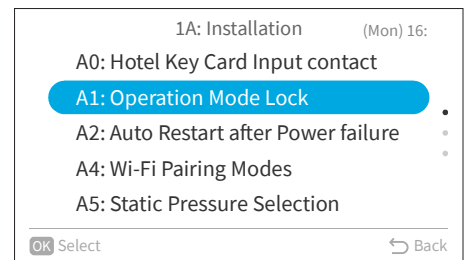


Step2. Press "^" or "v" to select the desired item and press "OK".

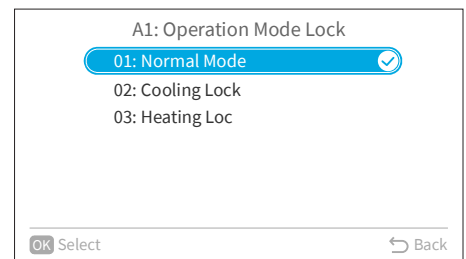


1.2 A1: Operation Mode Lock

Step1. Select "A1: Operation Mode Lock" and press "OK".



Step2. Press "^" or "v" to select the desired item and press "OK".

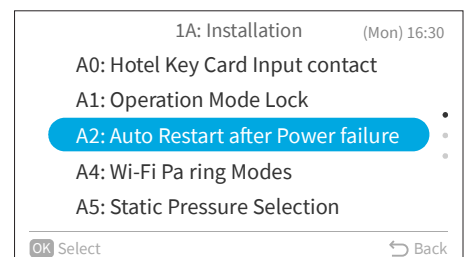


NOTE:

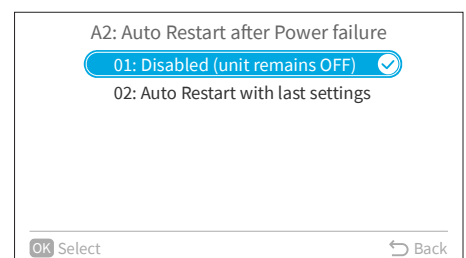
- The operation lock setting will remain unchanged after the unit is turned off.

1.3 A2: Auto Restart after Power failure

Step1. Select "A2: Auto Restart after Power failure" and press "OK".

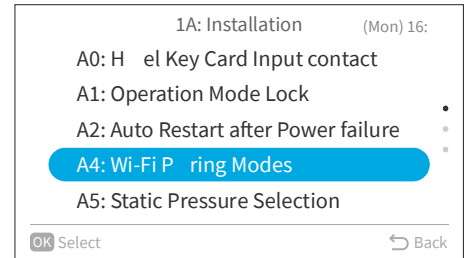


Step2. Press "^" or "v" to select the desired item and press "OK".

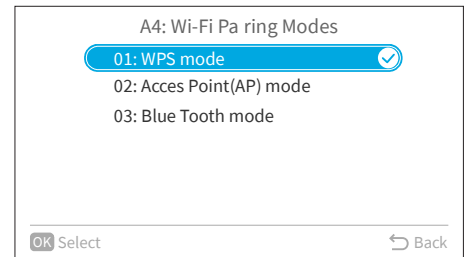


1.4 A4: Wi-Fi Pairing Mode

Step1. Select "A4: Wi-Fi Pairing Mode" and press "OK"

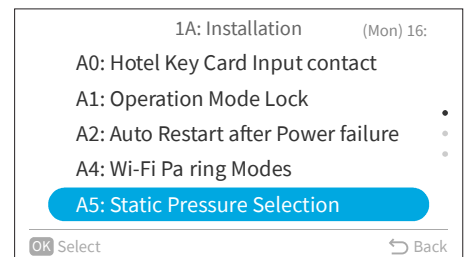


Step2. Press "^" or "v" to select the desired item and press "OK".

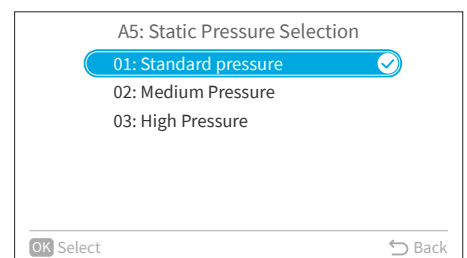


1.5 A5: Static Pressure Selection

Step1. Select "A5: Static Pressure Selection" and press "OK".

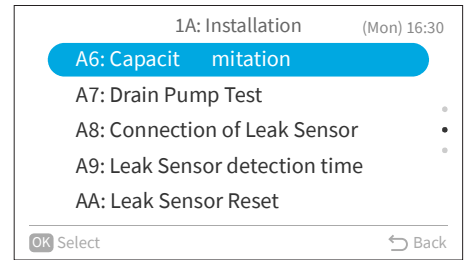


Step2. Press "^" or "v" to select the desired item and press "OK".

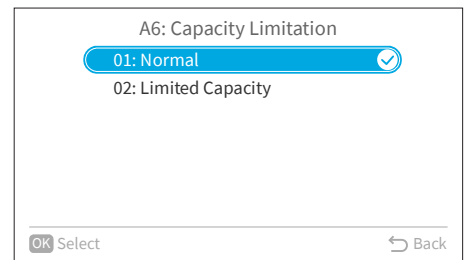


1.6 A6: Capacity Limitation (For models: Not Applicable)

Step1. Select "A6: Capacity Limitation" and press "OK".

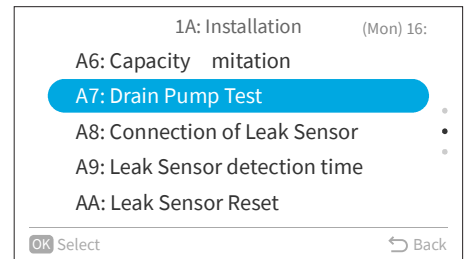


Step2. Press "^" or "v" to select the desired item and press "OK".

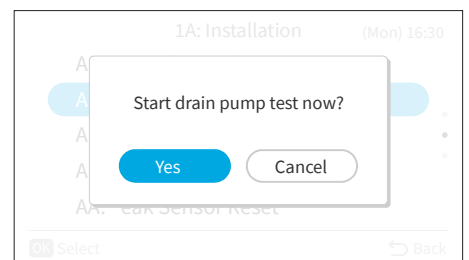


1.7 A7: Drain Pump Test

Step1. Select "A7: Drain Pump Test" and press "OK".

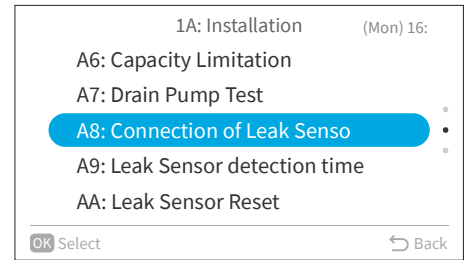


Step2. Select "Yes" and press "OK" to start drain pump test.

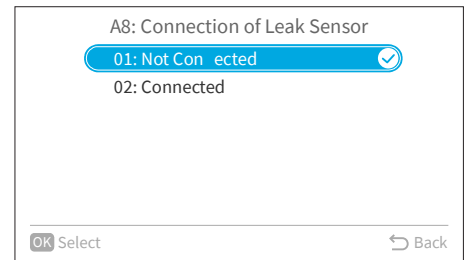


1.8 A8: Connection of Leak Sensor

Step1. Select "A8: Connection of Leak Sensor" and press "OK".

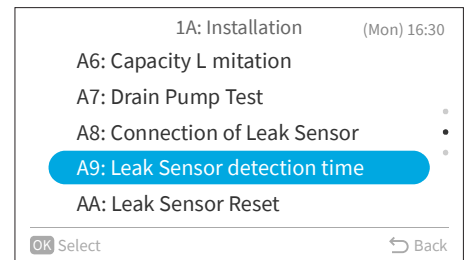


Step2. Press "^" or "v" to select the desired item and press "OK".

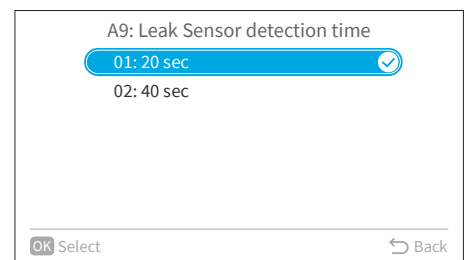


1.9 A9: Leak Sensor detection time

Step1. Select "A9: Leak Sensor detection time" and press "OK".

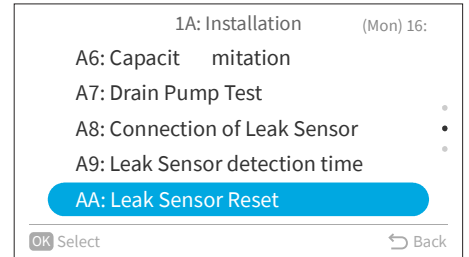


Step2. Press "^" or "v" to select the desired item and press "OK".

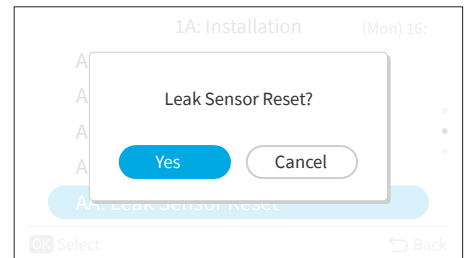


1.10 AA: Leak Sensor Reset

Step1. Select "AA: Leak Sensor Reset" and press "OK"

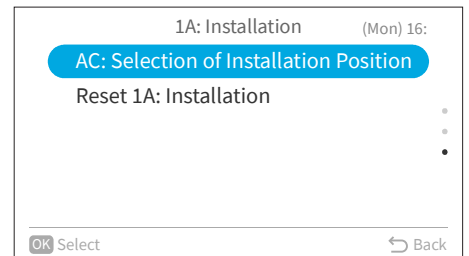


Step2. Select "Yes" and press "OK" to reset leak sensor.

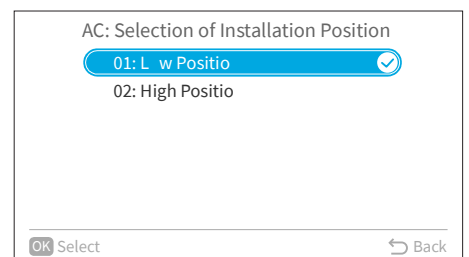


1.11 AC: Selection of Installation Position

Step1. Select "AC: Selection of Installation Position" and press "OK".

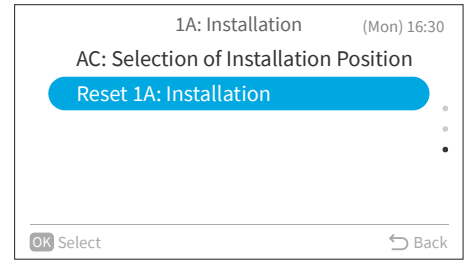


Step2. Press "^" or "v" to select the desired item and press "OK".

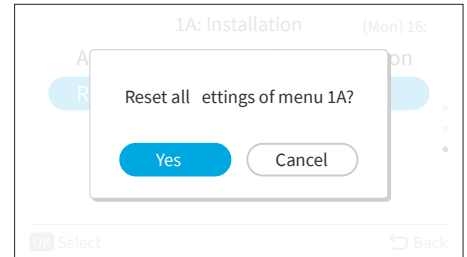


1.12 Reset 1A: Installation

Step1. Select "Reset 1A: Installation" and press "OK".

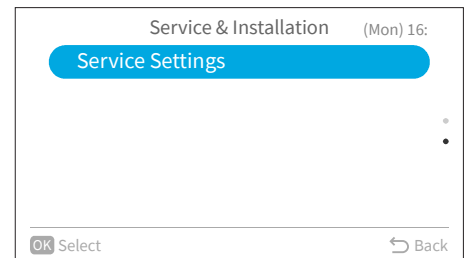


Step2. Select "Yes" and press "OK" to reset all settings of menu 1A.

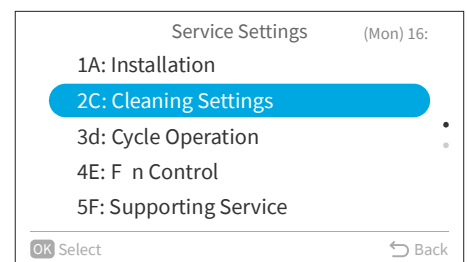


2 2C: Cleaning Settings

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".

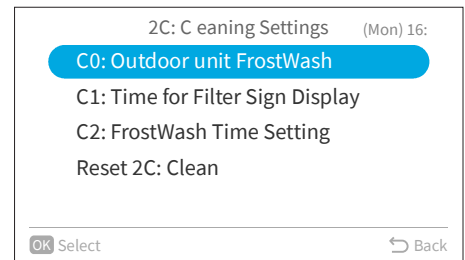


Step2. Select "2C: Cleaning Settings" and press "OK".

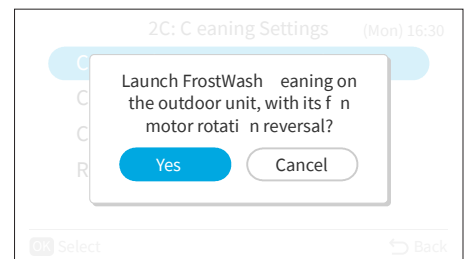


2.1 C0: Outdoor unit FrostWash

Step1. Select "C0: Outdoor unit FrostWash" and press "OK"

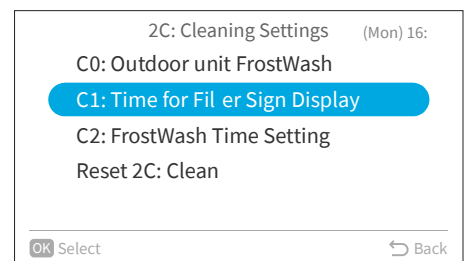


Step2. Select "Yes" and press "OK" to launch Frostwash cleaning.

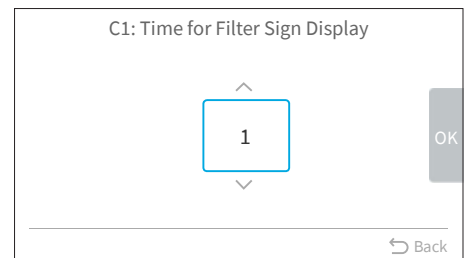


2.2 C1: Time for Filter Sign Display

Step1. Select "C1: Time for Filter Sign Display" and press "OK".

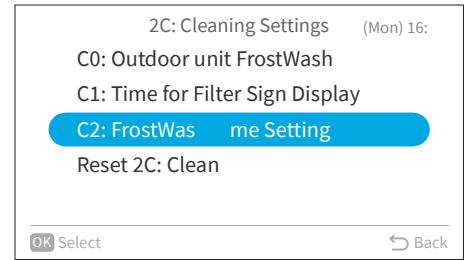


Step2. Press "^" or "v" to change the temperature, then press ">" to select "OK" and press "OK"

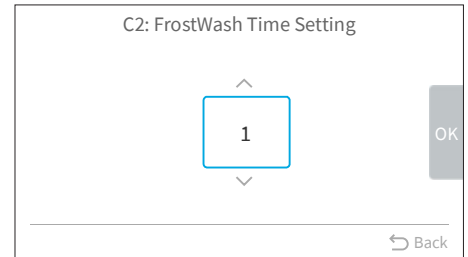


2.3 C2: FrostWash Time Setting

Step1. Select "C2: FrostWash Time Setting" and press "OK".

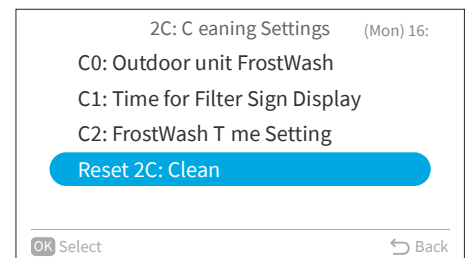


Step2. Press "^" or "v" to change the FrostWash time, then press ">" to select "OK" and press "OK".

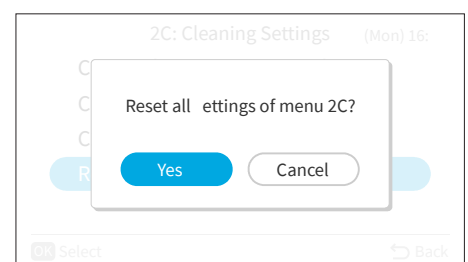


2.4 Reset 2C: Clean

Step1. Select "Reset 2C: Clean" and press "OK".

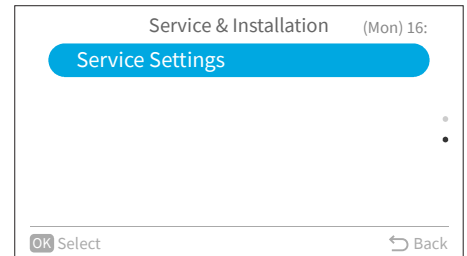


Step2. Select "Yes" and press "OK" to reset all settings of menu 2C.

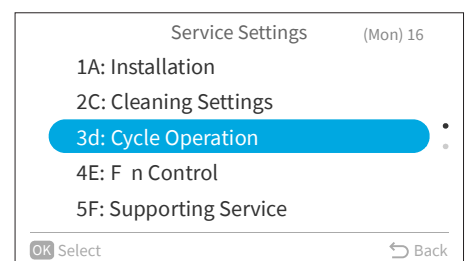


3. 3d: Cycle Operation

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".

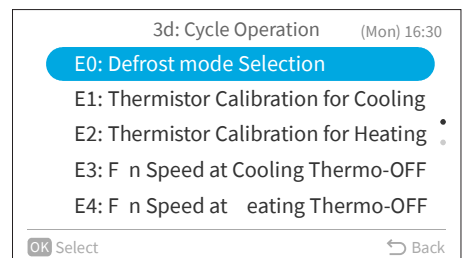


Step2. Select "3d: Cycle Operation" and press "OK".

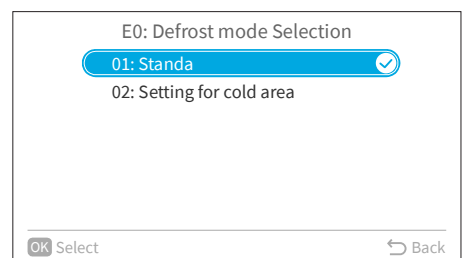


3.1 E0: Defrost Selection Function

Step1. Select "E0: Defrost Selection Function" and press "OK".

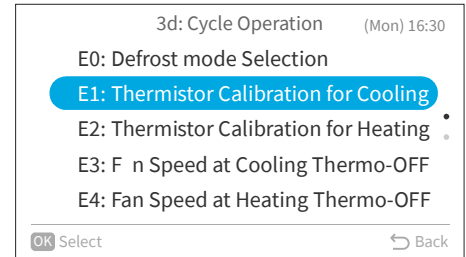


Step2. Press "^" or "v" to select the desired item and press "OK".

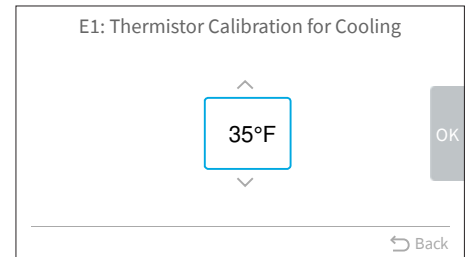


3.2 E1: Thermistor Calibration for Cooling

Step1. Select "E1: Thermistor Calibration for Cooling" and press "OK".

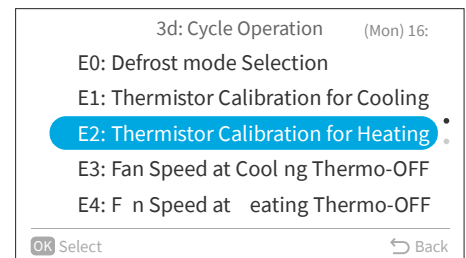


Step2. Press "^" or "v" to change the temperature, then press ">" to select "OK" and press "OK".

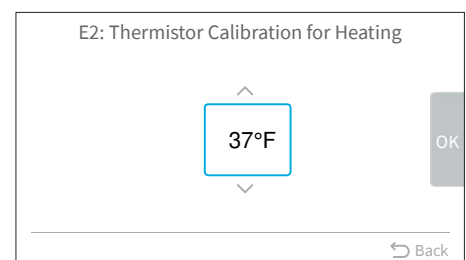


3.3 E2: Thermistor Calibration for Heating

Step1. Select "E2: Thermistor Calibration for Heating" and press "OK".

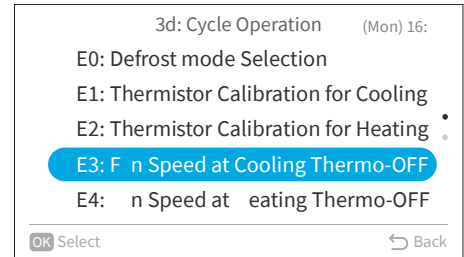


Step2. Press "^" or "v" to change the temperature, then press ">" to select "OK" and press "OK".

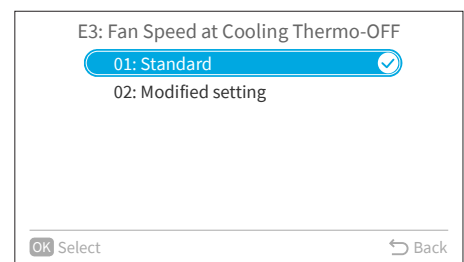


3.4 E3: Fan Speed at Cooling Thermo-OFF

Step1. Select "E3: Fan Speed at Cooling Thermo-OFF" and press "OK".

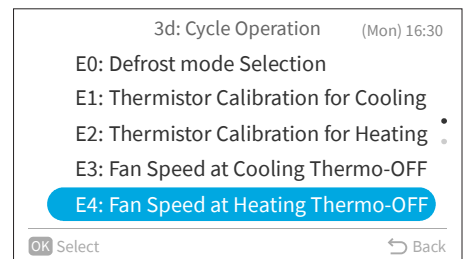


Step2. Press "^" or "v" to select the desired item and press "OK".

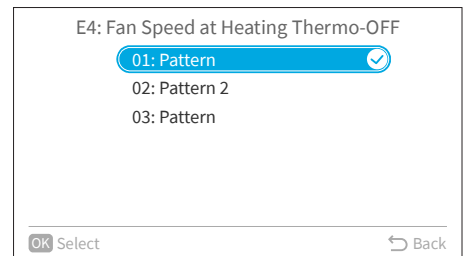


3.5 E4: Fan Speed at Heating Thermo-OFF

Step1. Select "E4: Fan Speed at Heating Thermo-OFF" and press "OK".

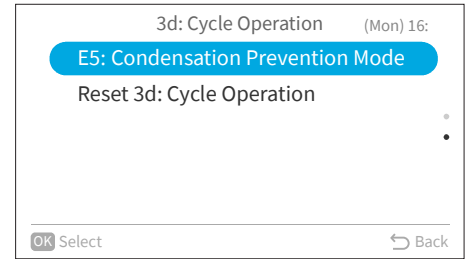


Step2. Press "^" or "v" to select the desired item and press "OK".

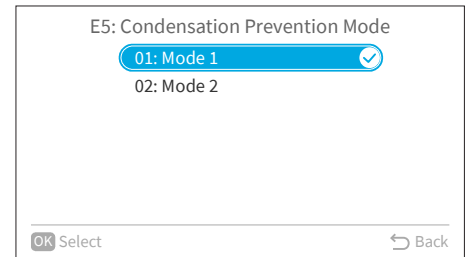


3.6 E5: Condensation Prevention Mode

Step1. Select "E5: Condensation Prevention Mode" and press "OK".

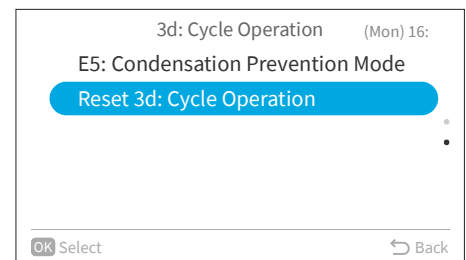


Step2. Press "^" or "v" to select the desired item and press "OK".

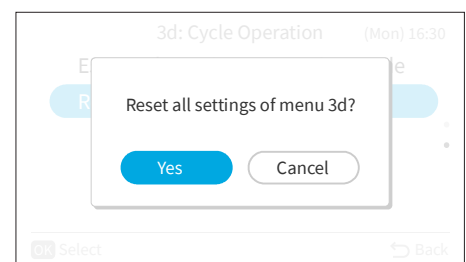


3.7 Reset 3d: Cycle Operation

Step1. Select "Reset 3d: Cycle Operation" and press "OK".

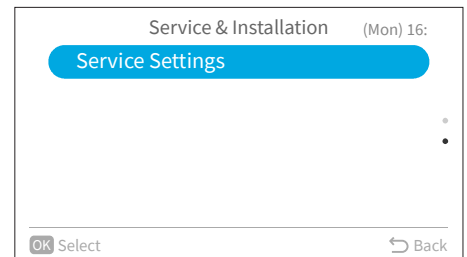


Step2. Select "Yes" and press "OK" to reset all settings of menu 3d.

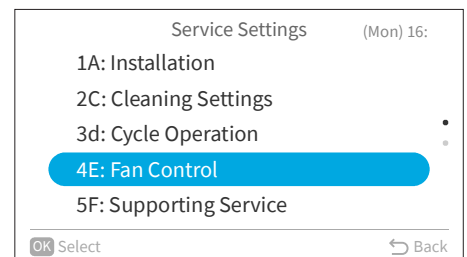


4. 4E: Fan Control

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".

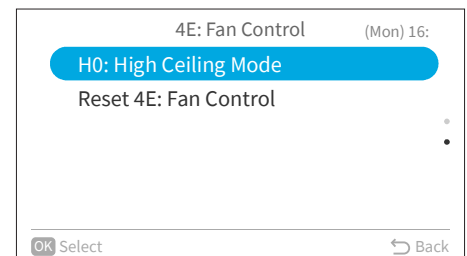


Step2. Select "4E: Fan Control" and press "OK".

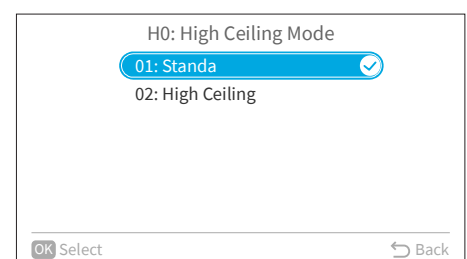


4.1 H0: High Ceiling Mode

Step1. Select "H0: High Ceiling Mode" and press "OK".

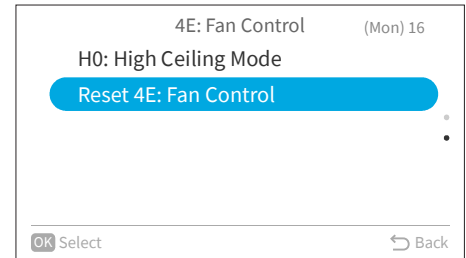


Step2. Press "^" or "v" to select the desired item and press "OK".

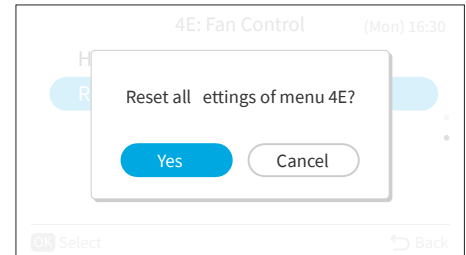


4.2 Reset 4E: Fan Control

Step1. Select "Reset 4E: Fan Control" and press "OK"

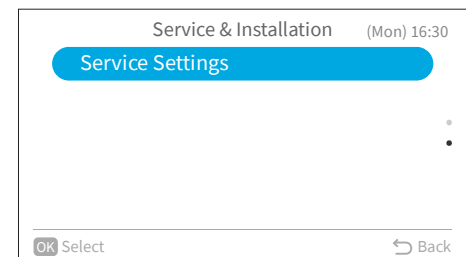


Step2. Select "Yes" and press "OK" to reset all settings of menu 4E.

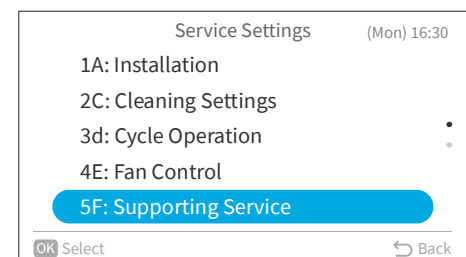


5. 5F: Supporting Service

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".

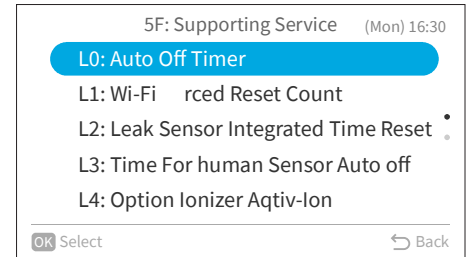


Step2. Select "5F: Supporting Service" and press "OK".

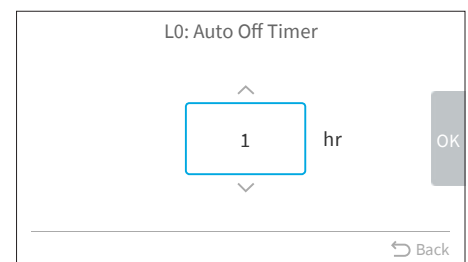


5.1 L0: Auto Off Timer

Step1. Select "L0: Auto Off Timer" and press "OK".

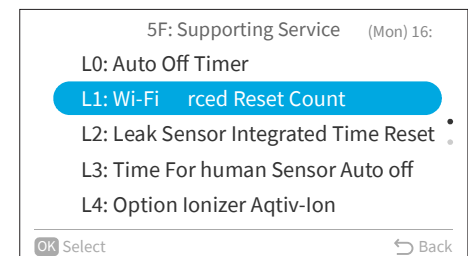


Step2. Press "^" or "v" to change the timer, then press ">" to select "OK" and press "OK".

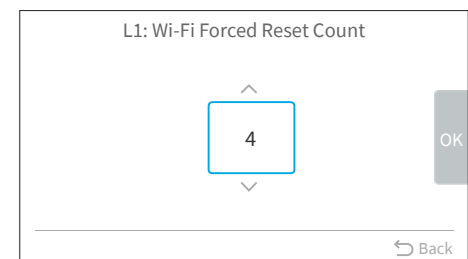


5.2 L1: Wi-Fi Forced Reset Count

Step1. Select "L1: Wi-Fi Forced Reset Count" and press "OK".

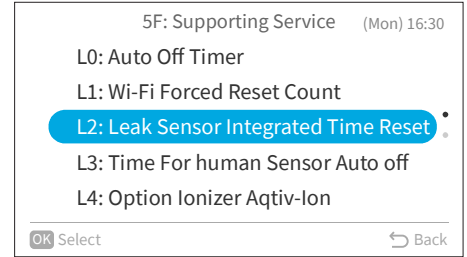


Step2. Press "^" or "v" to change the reset count, then press ">" to select "OK" and press "OK".

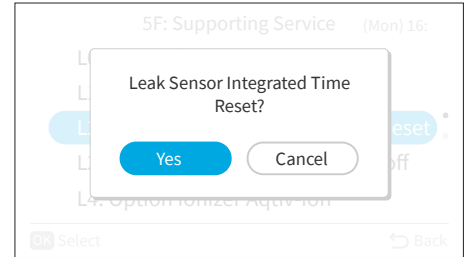


5.3 L2: Leak Sensor Integrated Time Reset

Step1. Select "L2: Leak Sensor Integrated Time Reset" and press "OK"

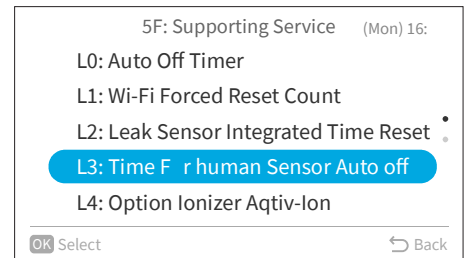


Step2. Select "Yes" and press "OK" to reset leak sensor integrated time.

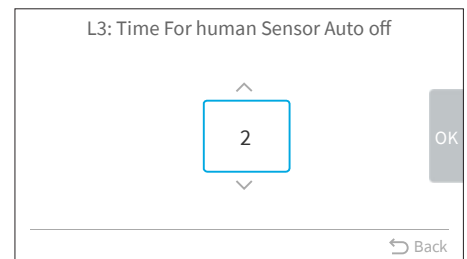


5.4 L3: Time For human Sensor Auto off

Step1. Select "L3: Time For human Sensor Auto off" and press "OK".

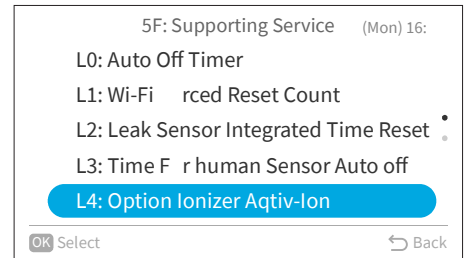


Step2. Press "^" or "v" to change the time, then press ">" to select "OK" and press "OK"

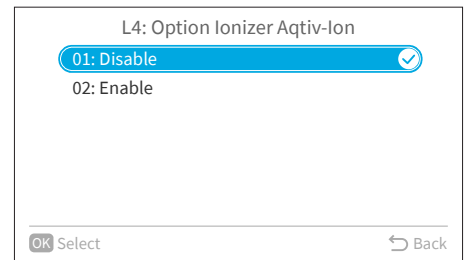


5.5 L4: Option Ionizer Aqtiv-Ion

Step1. Select "L4: Option Ionizer Aqtiv-Ion" and press "OK"



Step2. Press "^" or "v" to disable/enable option Ionizer Aqtiv-Ion and press "OK"

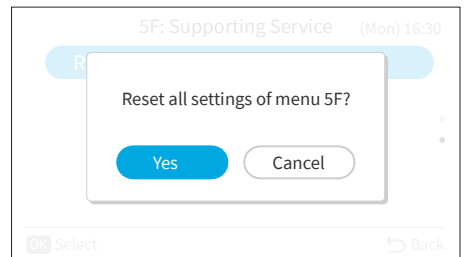


5.6 Reset 5F: Supporting Service

Step1. Select "Reset 5F: Supporting Service" and press "OK".

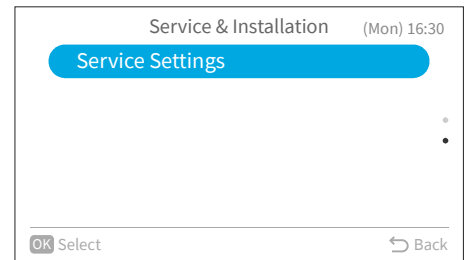


Step2. Select "Yes" and press "OK" to reset all settings of menu 5F.

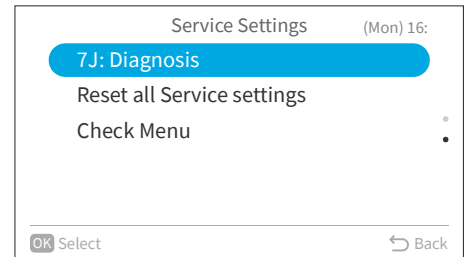


6. 7J: Diagnosis

Step1. select "Service Settings" on "Service & Installation" screen and press "OK".

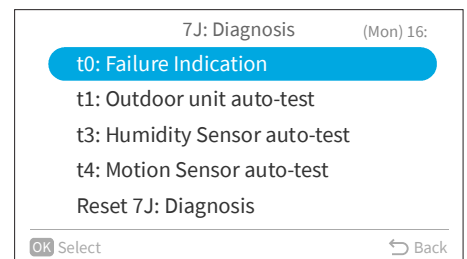


Step2. select "7J: Diagnosis" and press "OK".



6.1t0: Failure Indication

Step1. Select "t0: Failure Indication" and press "OK".



Step2. The failure indication screen is shown.

t0: Failure Indication	
Unit	Code
IDU	008
ODU	042
IDU	012
IDU	016
ODU	005

Back

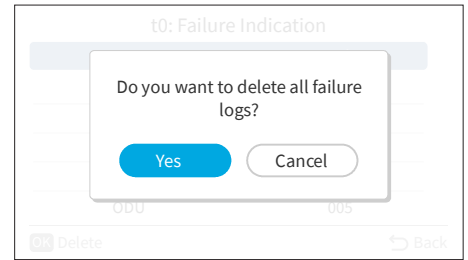
NOTE:

- Second time to go to t0 after indoor unit and wired remote controller is powered on: Failure indication screen with a "Delete".

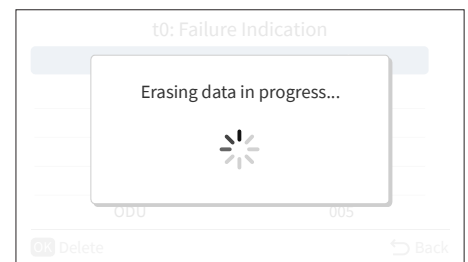
t0: Failure Indication	
Unit	Code
IDU	008
ODU	042
IDU	012
IDU	016
ODU	005

Delete Back

Step3. Press "OK" and a reminder shows up. Select "Yes" and press "OK" to delete all failure logs.

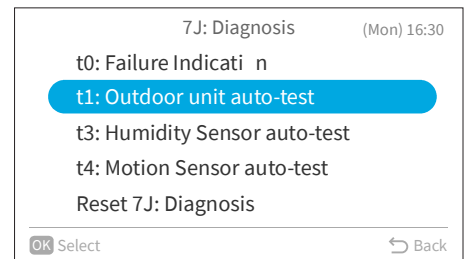


Step4. After completing erasing, it turns to home screen.

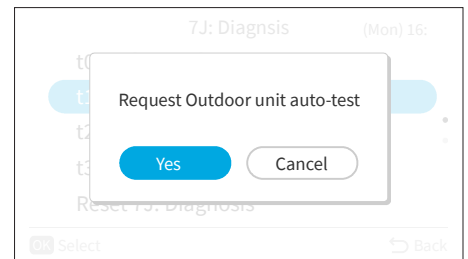


6.2t1: Outdoor unit auto-test

Step1. Select "t1: Outdoor unit auto-test" and press "OK"

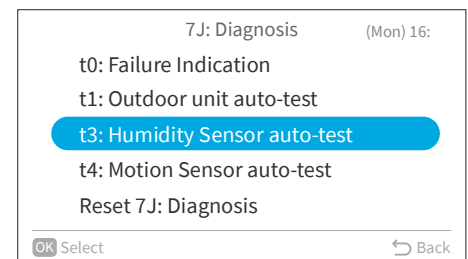


Step2. Select "Yes" and press "OK" to request outdoor unit auto-test.

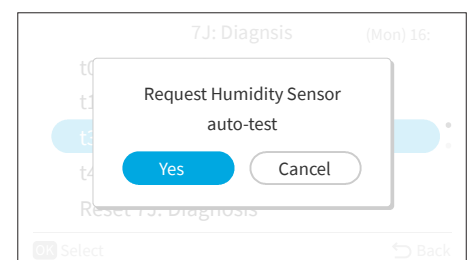


6.3t3: Humidity Sensor auto-test

Step1. Select "t3: Humidity Sensor auto-test" and press "OK".

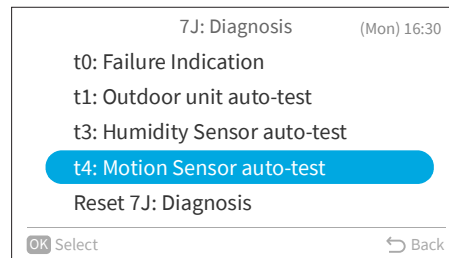


Step2. Select "Yes" and press "OK" to request humidity sensor auto-test.

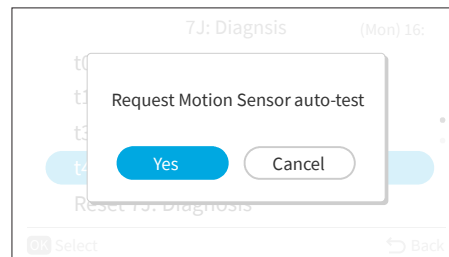


6.4 t4: Motion Sensor auto-test

Step1. elect "t4: Motion Sensor auto-test" and press "OK".

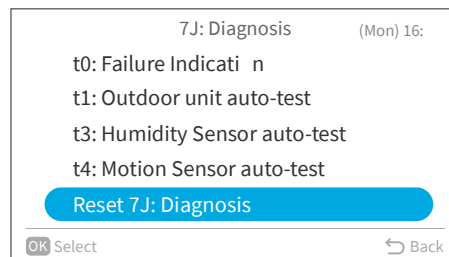


Step2. Select "Yes" and press "OK" to request motion sensor auto-test.

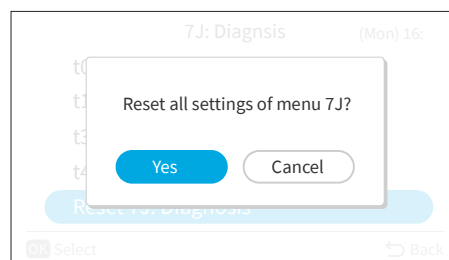


6.5 Reset 7J: Diagnosis

Step1. Select "Reset 7J: Diagnosis" and press "OK".

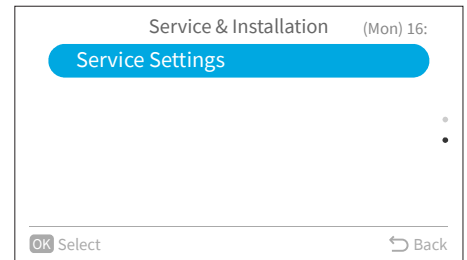


Step2. Select "Yes" and press "OK" to reset all settings of menu 7J.

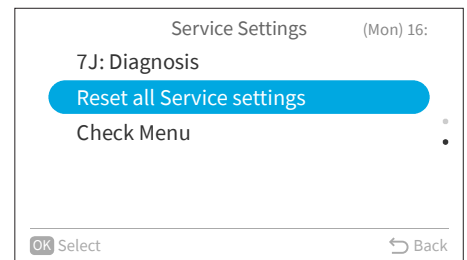


7. Reset All Service Settings

Step1. Select "Service Settings" on "Service & Installation" screen and press "OK".



Step2. Select "Reset all Service settings" and press "OK"

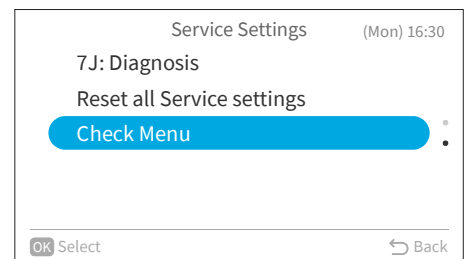


8. Check Menu

This menu displays various statuses of the air conditioner.

1. Enter Check Menu

Step1. Select "Check Menu" on the "Service Settings" screen and press "OK".



Each "Check Menu" item and its function is explained in the following table.

Item	Function
Remote controller auto-test	The wired remote controller checkout process begins and various settings initialize.
Alarm History Display *	Previous alarm history data including date, time, indoor unit number, and alarm code is displayed. (30 Max) The alarm history can be deleted.*

* Press "OK" while the alarm history is displayed, the confirmation screen for deleting the alarm history is displayed. Select "Yes" and press "OK" to delete the alarm history.

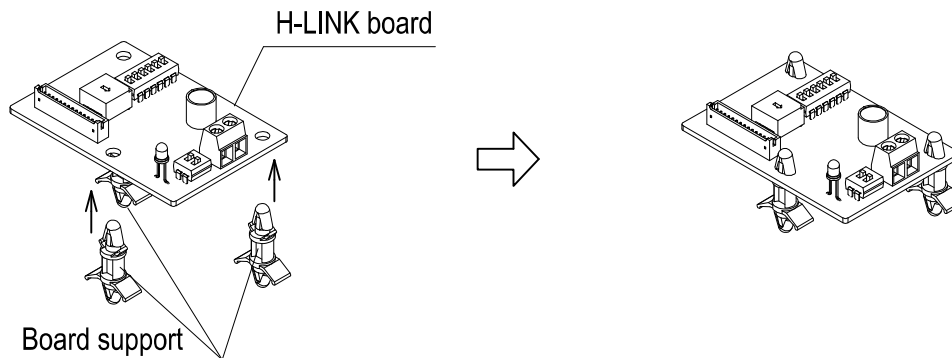
12.2 H-LINK Board (SPX-RAMHLK) Installation Manual

1.1 Check through H-LINK board accessories.

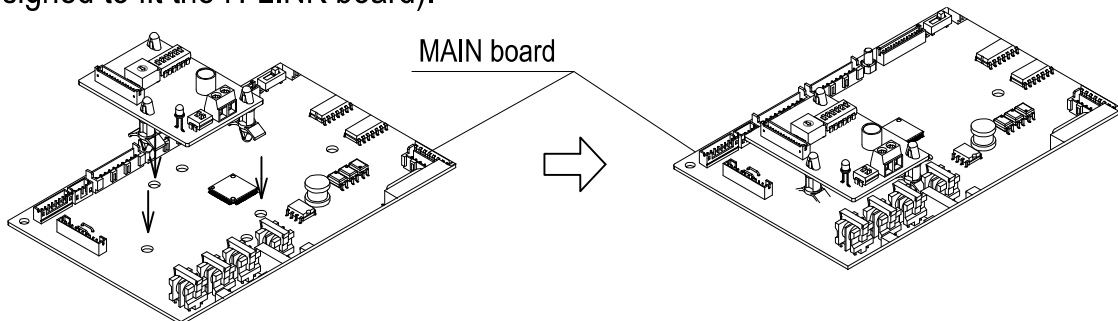
No	Part Name	Quantity
①	H-LINK board	1
②	Board support	3
③	14 pin cord	1
④	Installation manual	1

1.2 H-LINK board installation

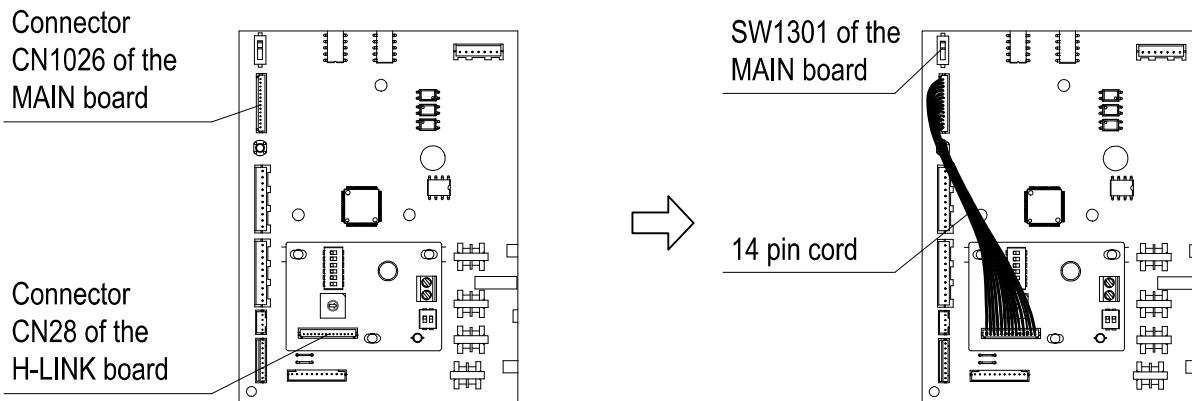
i. Assemble board support (3 pcs) to H-LINK board holes as following picture.



ii. Insert the H-LINK board into the MAIN board (please use 3 holes on MAIN board that designed to fit the H-LINK board).

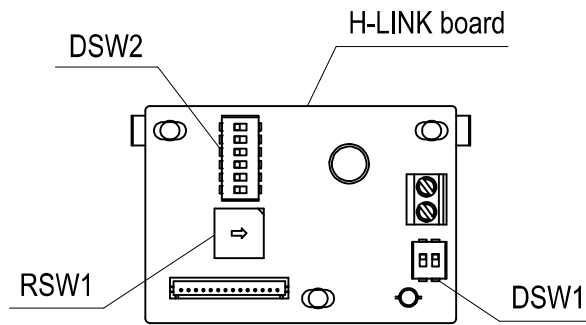


iii. Insert the 14 pin cord to the CN28 of the H-LINK board and CN1026 of the MAIN board.



iv. Set the SW1301 of the MAIN board to ON condition before start the H-LINK operation (default position from factory is OFF condition).

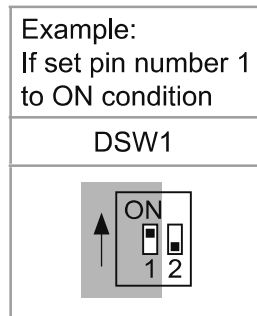
1.3 DIP switch setting.



i. DSW1 setting (terminal resistance setting).

Terminal resistance setting set by pin number 1 of DSW1.
(Default setting from factory is pin number 1 of DSW1 set to OFF condition).

Terminal resistance should be ON in only one position in whole H-LINK.
After checking terminal resistance setting of whole H-LINK, pin number 1 of DSW1 should be set properly.

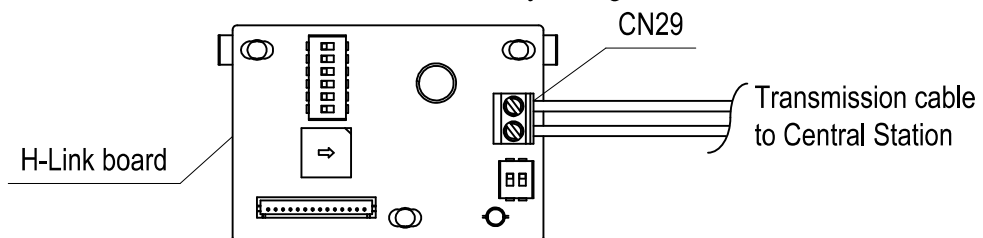


ii. DSW2 and RSW1 setting.

Refrigerant cycle number is set by DSW2 and RSW1.

DSW2 (tens digit)	RSW1 (ones digit)	Example: Setting cycle number to 15	
		DSW2	RSW1
Default setting from factory for DSW2 and RSW1 are set to OFF and 0 respectively.		Pin number 1 is ON	The set position is 5

1.4 Connect the H-LINK board to the Central Station by fixing the transmission cable at CN29.



The transmission cable used shall be as below.

- i. 2 cores cable (0.75mm² to 1.25mm²). Model : VCTF, VCT, CVV, MVVS, CVVS VVR, VVF.
- ii. 2 cores twist pair cable. Model : KPEV, KPEV-S.

Total length of the transmission cable shall be below than 1000m.

2 Error code during H-LINK operation.

- If there is any abnormality to the unit, error code will be displayed at Central Control Station.
- Error code displayed, its self-diagnosis and its suspected cause of the error shall refer to the table below.

Centralized device Alarm display code	RAC (IDU) Alarm display code	Self Diagnosis Display name	Internal and external classification	Display contents (Main cause)	Remarks
1A	0010	Air supply fan failure	IDU	Ventilation fan failure	Reserved ※2
1B	0011	Dirt sensor error	IDU	Ventilation fan failure	Reserved ※2
1C	0012	Cleaning error	IDU	Cleaning error	Reserved ※2
1D	0013	Peltier error	IDU	Peltier error	Reserved ※2
1E	0014	Human sensor error	IDU	-	Reserved ※2
1F	0015	Communication error by other products.	IDU	Communication error by other products.	
71	0001	Four-way valve operation failure	IDU	Four-way valve operation failure	
.※1	0002	Forced cooling in operation	IDU	Forced cooling in operation	Be not a failure
73	0003	IDU communication circuit error	IDU	IDU communication circuit error	
75	0005	Power relay Contact Welding	IDU	Power relay Contact Welding	
76	0006	Error water level	IDU	Error water level	
.※1	0007	Drain-pump test run	IDU	Drain-pump test run	Be not a failure
79	0009	Thermistor failure	IDU	Thermistor failure	
7A	000A	IDU fan failure	IDU	IDU fan failure	
7B	000B	Ionizer generator error	IDU	Ionizer generator error	Reserved ※2
7C	000C	ODU communication circuit error	IDU	ODU communication circuit error	
7D	000D	EEPROM read error	IDU	EEPROM read error	
7E	000E	HEX thermistor wire break short circuit	IDU	HEX thermistor wire break short circuit	Reserved ※2
7F	000F	Indoor temp. thermistor wire break short circuit	IDU	Indoor temp. thermistor wire break short circuit	Reserved ※2
82	0102	Stopping Ip cutting	ODU	Ip Cutting input Signaling detection	
83	0103	Abnormal low speed	ODU	Step-out by axial error condition to detection	Normal operation condition
84	0104	Switching failure	ODU	Step-out by axial error condition to detection	Synchronization, acceleration operation condition
85	0105	Over load shutdown	ODU	Less than min. revolution at over load	
86	0106	OH Stop	ODU	OH has reached the dead temperature.	
87	0107	Thermistor error	ODU	Thermistor burnout/short circuit	
88	0108	Communication between INV	ODU	Communication error between MCU	
89	0109	Incorrect connection	ODU	Connect RAC communication format IDU	Connect single IDU
8A	010A	Power supply VoltageError	ODU	DC voltage is out of limits	
8B	010B	Fan failure detection 1	ODU	Fan OVL stopped	
8C	010C	Fan failure detection 2	ODU	Ip cutting, step-out by axial error, etc.	
8D	010D	EEPROM error	ODU	Read error (ACK, checksum)	
8E	010E	Overvoltage error	ODU	DC voltage is out of limits	Starting
8F	010F	Circuit error	ODU	ACT circuitry, Is/Vs error, etc.	
A0	0128	Valve error	ODU	Yutampo multi valves error	
A1	0029	Leakage of gas (generated IDU)	IDU	Gas-leak Fix	
A2	002A	Gas sensor failure (IDU generated)	IDU	Communication error with gas sensor, etc.	
A4	0129	Gas leak (notification receiving equipment)	ODU	When an A1~A2 occurs, returned to except of the leak generating unit by notifying the ODU.	
A5	012A	Gas sensor failure (notification receiving equipment)	ODU		

• For more information on alarms, see IDU/ODU self diagnosis.

• When an alarm is sent from RAC IDU, the alarm is cleared by RAC IDU.

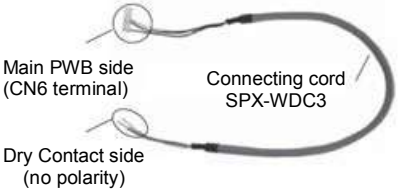
The alarm cannot be cleared from the central device. (Fit to the operating specs of IDU ≠ RAC adapter)

※1: An alarm code is sent from IDU, but it is not notified to the central device. (Fit to the operating specs of IDU ≠ RAC adapter)

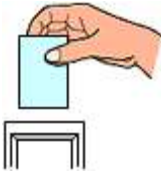
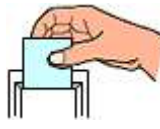




※2: It is not sent from IDU.

12.3. DRY CONTACT (SPX-WDC3) APPLICATION

The dry contact system enables the operation of the air conditioner indoor unit to be controlled by using external dry contacts (with non voltage) such as card-key controller or window for facilities such as hotels.

Optional Connecting cord Accessory SPX-WDC3		Model	DIP SW Label	CN#
	SPX WDC3	RAK-DJ07QHAA	DSW1	CN6
		RAK-DJ(09-24)RHAA		
		RAK-GJ(07-24)QHAA		
		RAF-FJ(07-18)QHAA		
		RAI-GJ(07-24)QHAA		
		RAD-GJ(07-24)QHAA		
		-		
-				
-				

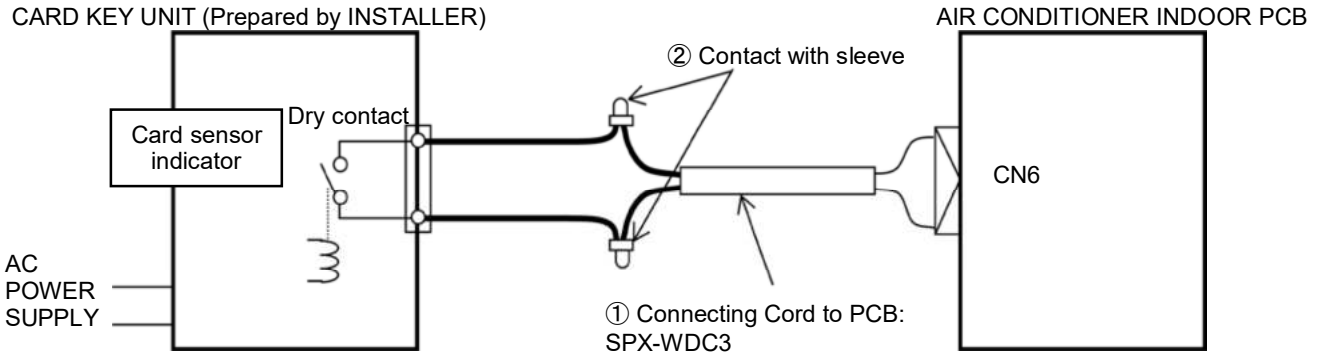
[1] CHECK DRY CONTACT OF CARD KEY UNIT

	AIR CONDITIONER Standby	AIR CONDITIONER Operating
	REMOVE	INSERT
CARD KEY (Door Switch)		
Contact type A	OPEN 	CLOSE 
Contact type B	CLOSE 	OPEN 

After all connection has been done as below diagram, ON the breaker and push ON button of wireless remote controller or wired remote controller to operate the air conditioner unit.

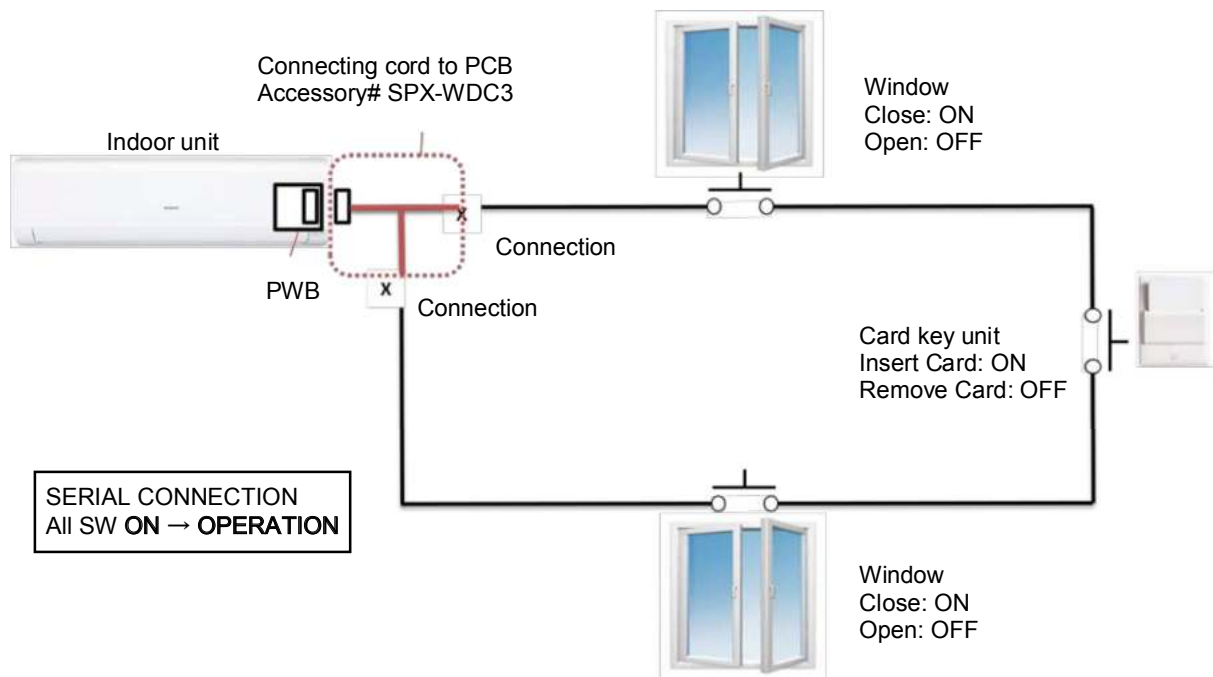
- When the CARD KEY is in insert condition, the air conditioner operation is allowable by remote controller.
- When the dry contact switch on the Card Key Unit is open (refer to diagram below for contact type a), the unit stops to operate (it takes 10 seconds to stop the unit operation after the dry contact switch on the card key turns off) and vice versa.
- When the card key is removed from the Card Key Unit, the wireless remote controller cannot be used.
- When the card key is removed from the Card Key Unit, the wired remote controller LCD display is activated; however it has no control over the unit.
- The suitable accessory Connecting Cord (accessory code#: SPX-WDC3) need to be used to connect the Card Key Unit's dry contact switch to the connector on the control board of the indoor unit. Please refer to Table 1 to select suitable accessory code# for the concerning indoor model.

Example of wiring connection to Card Key Unit will be as below (reference only)

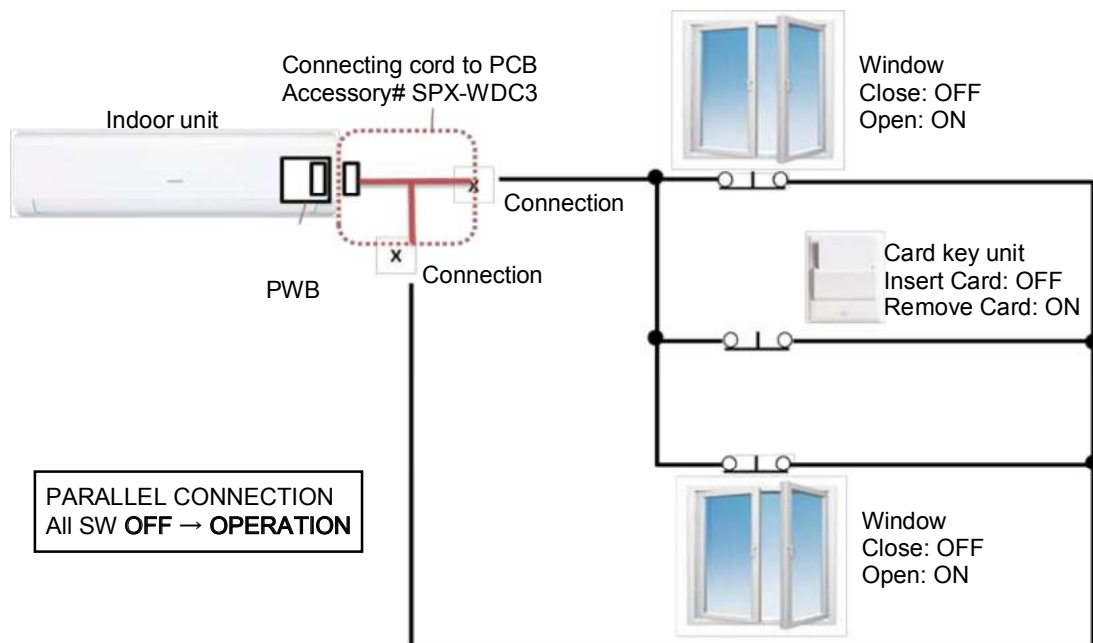


• CONNECTION EXAMPLE

i. HHRC for Dry Contact Type A



ii. HHRC for Dry Contact Type B



Please refer to the actual manual supplied with the optional connecting cords SPX-WDC3 for more details.

12.4 REMOTE SENSOR - SPX-RTH1

This remote sensor is applicable to Duct type indoor unit for Hitachi split system air conditioner.

12.4.1 SELECTION OF INSTALLATION POSITION

The thermistor for detecting room temperature is installed inside the remote sensor

The installation position of the remote sensor should be determined in consideration with the following conditions.

- Where the average room temperature can be detected.
- Where is not exposed to the sun
- Where the heat source is not located near the remote sensor.
- Where the discharge air from the air conditioner does not blow directly.
- Where is not affected by the outdoor air when opening / closing the door, etc

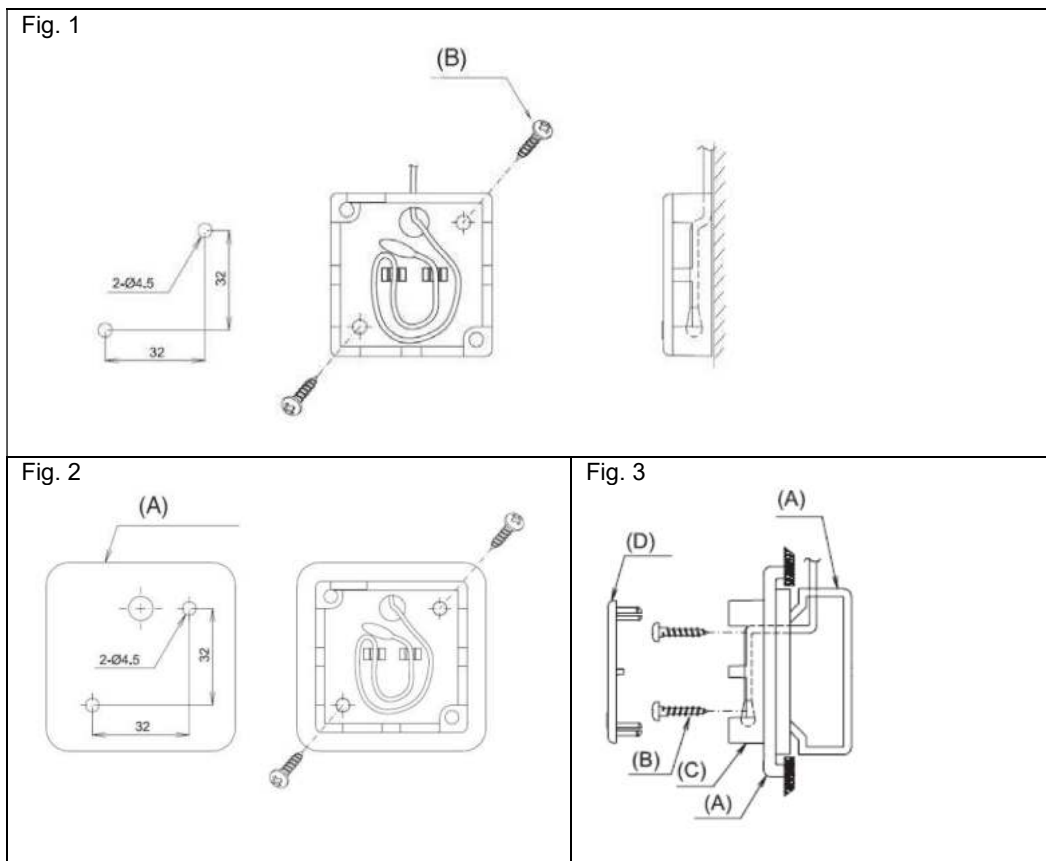
12.4.2 INSTALLATION PROCEDURE

▪ In case of mounting onto the wall (Fig.1)

- Make the wiring on the sensor box, and let the wires for sensor through the box slot.
- Fix the sensor box onto the wall with 2 screws (B)
- In case that the sensor box can not be fixed onto the wall with screws, fix it onto the wall by using the double sided adhesive tapes, etc.

▪ In case of mounting onto Electrical Switch box (Fig. 2 and 3)

- Make the holes for fixing sensor box on the Switch Box Cover (A) (field-supplied) as shown on the Fig. 3 and fix the sensor box to the plate with screws (B)
- Pay attention that the hole for air intake on the sensor box (C) may not be shut.



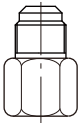
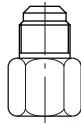
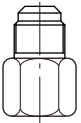
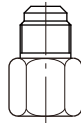


12.4.3 WIRING PROCEDURES

- Remove the original room thermistor from CN1 at the indoor printed circuit board.
- Connect the cord (15m) of the remote sensor to CN1 (Black) of the indoor printed circuit board.

Please refer to the actual manual supplied with the SPX- RTH1 for more details.

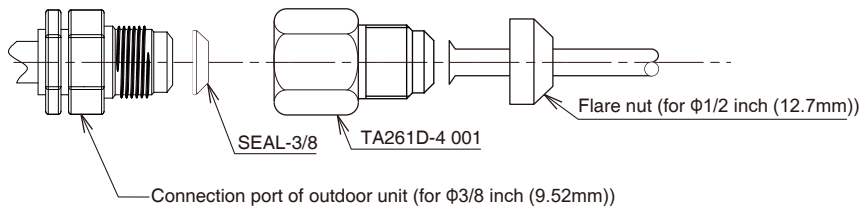
13.1. Instruction of adaptors

- Please find provided adaptors from the list below:-
Size and quantity provided may vary according to model of unit use.

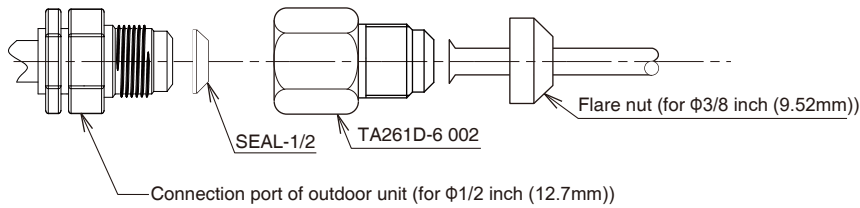
TA261D-4-001	TA261D-6-002	TA261D-7-003	ADAPTOR3-5	SEAL-3/8	SEAL-1/2
Adaptor	Adaptor	Adaptor	Adaptor	Seal	Seal
3/8 to 1/2	1/2 to 3/8	1/2 to 5/8	3/8 to 5/8	3/8	1/2
					

- Use the adaptors supplied with the unit as described below.

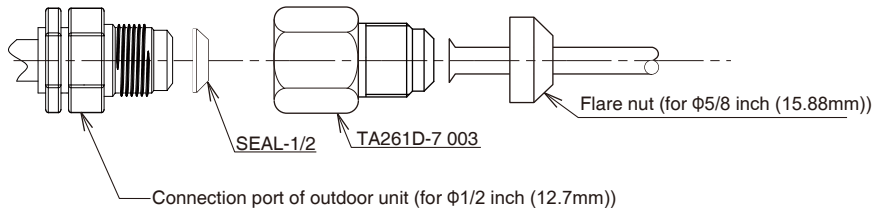
- (1) When connecting a pipe of $\Phi 1/2$ inch (12.7mm) to a gas pipe connection port for $\Phi 3/8$ inch (9.52mm), using part TA261D-4-001 and SEAL-3/8 to connect the connection port and flare nut as shown below.



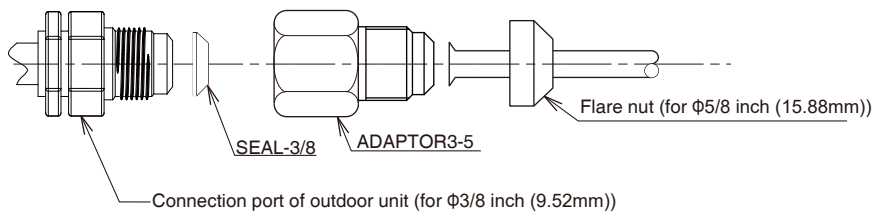
- (2) When connecting a pipe of $\Phi 3/8$ inch (9.52mm) to a gas pipe connection port for $\Phi 1/2$ inch (12.7mm), using part TA261D-6-002 and SEAL-1/2 to connect the connection port and flare nut as shown below.



- (3) When connecting a pipe of $\Phi 5/8$ inch (15.88mm) to a gas pipe connection port for $\Phi 1/2$ inch (12.7mm), using part TA261D-7-003 and SEAL-1/2 to connect the connection port and flare nut as shown below.



- (4) When connecting a pipe of $\Phi 5/8$ inch (15.88mm) to a gas pipe connection port for $\Phi 3/8$ inch (9.52mm), using part ADAPTOR3-5 and SEAL-3/8 to connect the connection port and flare nut as shown below.



CAUTION

- Make sure to attach the seal when using the adaptors.
- Apply a coat of refrigeration oil to the threaded connection port of the outdoor unit where the flare nut comes in.

Piping size	Flare nut tightening torque	Adaptors	Tightening torque
O.D. $\Phi 3/8$ inch (9.52mm)	24-31ft • lbf (33-42N•m)	TA261D-4-001 & ADAPTOR3-5	22-30ft • lbf (30-40N•m)
O.D. $\Phi 1/2$ inch (12.7mm)	37-46ft • lbf (50-62N•m)	TA261D-6-002	30-37ft • lbf (40-50N•m)
O.D. $\Phi 5/8$ inch (15.88mm)	46-57ft • lbf (62-77N•m)	TA261D-7-003	30-37ft • lbf (40-50N•m)

HITACHI

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