AIR CONDITIONER

Wall Mounted type

Refrigerant
R410A

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR

ASU9RLS3
ASU12RLS3
ASU15RLS3

OUTDOOR

AOU9RLS3
AOU12RLS3
AOU15RLS3

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

WALL MOUNTED TYPE :

ASU9RLS3
ASU12RLS3
ASU15RLS3

CONTENTS

1. INDOOR UNIT

1. FEATURE

■ MODEL
ASU9RLS3 / AOU9RLS3
ASU12RLS3 / AOU12RLS3
ASU15RLS3 / AOU15RLS3

■ FEATURES

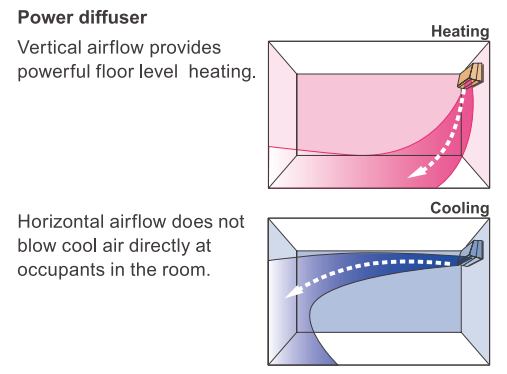### ● Energy Efficiency

	MODEL		
	ASU9RLS3	ASU12RLS3	ASU15RLS3
Seasonal Energy Efficiency Ratio (SEER)	33.0	29.3	25.3
Heating Seasonal Performance Factor (HSPF)	14.2	14.0	13.4

MEASUREMENT CONDITIONS
ANSI/ASHRAE STANDARD 37-1988

● High efficient design

Cross section of copper pipes

Smooth flow of the refrigerant

POINT!

(Schematic)

High density technology

1, Copper pipe diameter **3/16in.(5mm)**

Multiple path technology

2, Refrigerant branches **6**
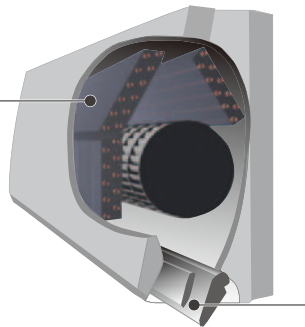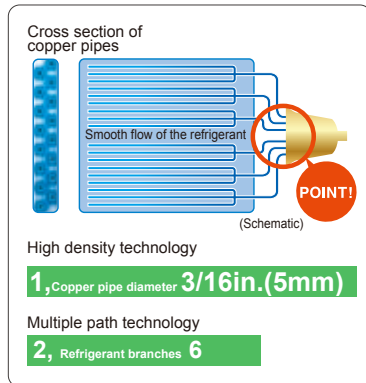
● More comfortable airflow

Power diffuser

Vertical airflow provides powerful floor level heating.

Heating

Horizontal airflow does not blow cool air directly at occupants in the room.

Cooling

● Powerful heating

Heating capacity was improved at low outdoor temperature. Rated heating capacity is maintained even at 5°F (-15°C) outdoor temperature. This new model can operate even at -5°F (-21°C) low outdoor temperature.

● Powerful operation *Only available with Wireless RC.

20 minutes continuous operation by maximum airflow and maximum compressor speed is possible. Rapid cooling and heating makes the room comfortable quickly.

Example : Cooling operation

Temperature

Normal mode

Powerful

Setting temp.

Time
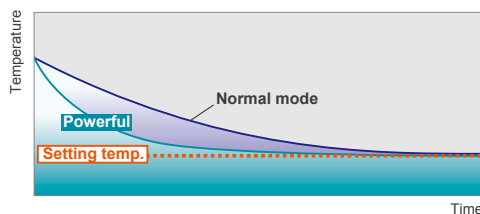
● Energy saving Program *Only available with Wireless RC.

Human sensor catches movements of people in a room, and operates with lower capacity when the room is empty. When people come back to the room, it automatically returns to previous operating mode.

Energy saving operation by detecting someone's movement

SAVE!

AUTO RESET

Human sensor

● MIN. HEAT Operation *Only available with Wireless RC.

The room temperature can be set to go no lower than 50°F (10°C),
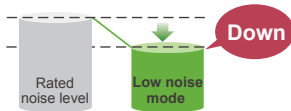thus ensuring that the room does not get too cold when not occupied

Caution)
• When the room temperature is higher than 50°F (10°C), "**MIN. HEAT**" operation does not start. Operation starts and maintains the room temperature at 50°F (10°C) when the temperature drops below 50°F (10°C).

• When "**MIN. HEAT**" operation stops, the room set temperature quickly returns to the preset temperature.

68°F (20°C)

"MIN. HEAT" Button ON

Indoor unit operation START

50°F (10°C)
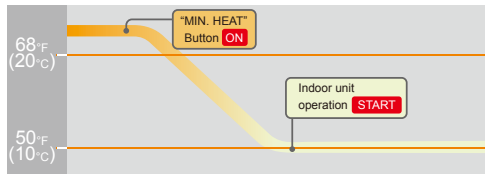
● Outdoor unit low noise *Only available with Wireless RC.

When air-conditioner operates in large capacity, operation noise of outdoor unit will be suppressed. In case of room temperature being close to setting temperature, operation noise might not decrease.

Down

Rated noise level

Low noise mode

● Economy operation

Example : Cooling operation

Temp.

Economy operation

Shift setting temp

Set temperature

Nomal operation

Time

Control maxmum current
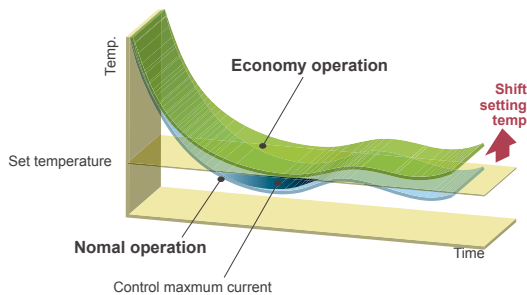
• Economy operation is energy saving, as the set temperature of indoor unit is shifted by 2°F (1°C) and the maximum electric value of the outdoor unit is suppressed.

● 5 Mode timer (ON/OFF/Weekly/Program/Sleep)

*Only available with Wireless RC.

Weekly timer can be easily set by wireless remote controller.
ON, OFF can be set up to 4 times in 1 day and up to 28 times in 1 week.
For other modes, program timer and sleep timer can be also selected by one push.

● Low outdoor air temperature correspondence

122 (50)
104 (40)
86 (30)
68 (20)
50 (10)
32 (0)
14 (-10)
-4 (-20)

Cooling
115°F (46°C)

Heating
75°F (24°C)

14°F (-10°C)

-5°F (-21°C)

2. WIRELESS REMOTE CONTROLLER

■ FEATURES

* 5 Mode timer setup
   (ON / OFF / Weekly / Program / Sleep) are possible.

* Easy operation.

* Easy to change custom code (max. 4 custom codes) by button operation.

● **Built-in timers**

Select from 5 Mode timer programs (ON / OFF / Weekly / Program / Sleep).

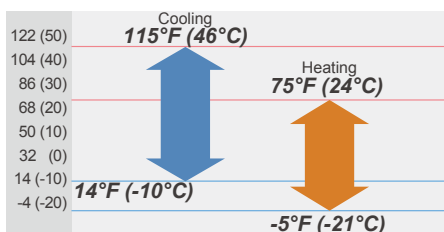● **Weekly timer**

Weekly timer can be easily set by wireless remote controller.
ON, OFF can be set up to 4 times in 1 day and up to 28 times in 1 week.

● **Program timer**

The program timer operates the on and off timer once within a 24 hour period.

● **Sleep timer**

The sleep timer function automatically corrects the temperature thermostat setting according to the timer setting to prevent excessive cooling and heating while sleeping.

Cooling operation/dry operation

When the sleep timer is set, the set temperature automatically rises 2°F (1°C) every hour. The set temperature can rise up to a maximum of 4°F (2°C).
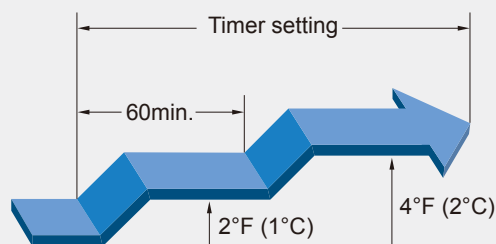
Heating operation

When the sleep timer is set, the set temperature automatically drops 2°F (1°C) every 30 minutes. The set temperature can drop to a maximum of 8°F (4°C).
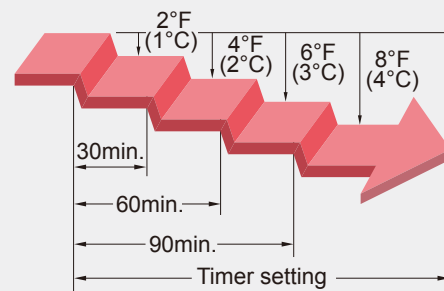
● **Simple function setting**

Setting of the air conditioner selection function is performed by remote controller.

● **Switching remote controller custom code**
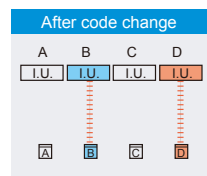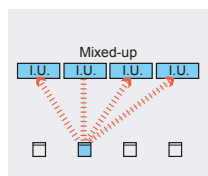
• Code selector switch eliminates unit being wrongly switched.
 (Up to 4 codes can be set.)

*I.U.=Indoor unit

● **To change the temperature unit**

Easy to change the temperature unit (°F ↔ °C) by button operation.

■ FUNCTIONS

Signal Transmitter

MIN. HEAT button

TEMP. button

POWERFUL button

START/STOP button

SENSOR button

MODE button

FAN button

ECONOMY button

OUTDOOR UNIT LOW NOISE button

SWING button

SET button

TIMER SETTING button

SEND button

SELECT button

NEXT button

BACK button

WEEKLY button

ON/OFF button

SLEEP button

RESET button

CLOCK ADJUST button

Display panel

Mode indicator

Temperature indicator

Transmit indicator

Energy Saving Mode indicator

✻ Turns ON when the SENSOR button is operated.

Low Noise Mode indicator

Send indicator

Fan Speed indicator

Swing indicator

Clock & Timer indicator

To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

■ SPECIFICATION

DIMENSIONS [H × W × D]: in. (mm)	8-1/16 (205) × 2-3/8 (61) × 11/16 (17)
WEIGHT oz. (g)	4.3 (122)
ACCESSORY	Holder

3. SPECIFICATIONS

Type				WALL MOUNTED		
				INVERTER HEAT PUMP		
Model name				ASU9RLS3	ASU12RLS3	ASU15RLS3
Power source				208 / 230V ~ 60Hz		
Available voltage range				188 - 253V		
Capacity	Cooling	Rated	kW	2.64	3.52	4.25
			Btu/h	9,000	12,000	14,500
		Min - Max	kW	0.90 - 3.60	0.90 - 4.00	0.90 - 5.40
			Btu/h	3,100 - 12,000	3,100 - 13,600	3,100 - 18,400
	Heating	Rated	kW	3.52	4.69	5.28
			Btu/h	12,000	16,000	18,000
		Min - Max	kW	0.90 - 6.45	0.90 - 6.48	0.90 - 7.00
			Btu/h	3,100 - 22,000	3,100 - 22,100	31,00 - 23,900
Input power	Cooling	Rated	kW	0.50	0.79	1.04
		Max		0.85	0.99	1.56
	Heating	Rated		0.66	1.01	1.15
		Max		1.93	1.94	2.19
Current	Cooling	Rated	A	2.5	3.8	4.8
	Heating			3.3	4.7	5.2
EER	Cooling		kW/kW	5.28	4.46	4.09
			Btu/hW	18.0	15.2	13.9
COP	Heating		kW/kW	5.33	4.64	4.59
			Btu/hW	18.2	15.8	15.7
SEER	Cooling		Btu/hW	33.0	29.3	25.3
HSPF	Heating		Btu/hW	14.2	14.0	13.4
POWER FACTOR	Cooling		%	87	90	94
	Heating			87	93	96
Moisture removal			pints/h (l/h)	2.6 (1.2)	2.7 (1.3)	4.0 (1.9)
Maximum operating current *1	Cooling		A	9.4	9.4	9.9
	Heating			10.9	10.9	13.9
Fan	Airflow rate	Cooling	High	CFM (m³/h)	489(830)		547(930)
			Med		400(680)		459(780)
			Low		341(580)		371(630)
			Quiet		224(380)		259(440)
		Heating	High		489(830)		547(930)
			Med		400(680)		459(780)
			Low		341(580)		371(630)
			Quiet		224(380)		294(500)
	Type × Q'ty			Cross flow fan × 1		
	Motor output		W	61		
Sound pressure level *2	Cooling	High	dB (A)	42		45
		Med		37		40
		Low		32		34
		Quiet		23		26
	Heating	High		41		45
		Med		35		39
		Low		31		33
		Quiet		23		27
Heat exchanger type	Dimensions (H × W × D)		in. (mm)	Main : 15-1/8 × 28-3/8 × 1-3/16 (384 × 720 × 30) Sub : 3-5/16 × 28-3/8 × 1/2 (84 × 720 × 13.3) 4-15/16 × 28-3/8 × 1/2 (126 × 720 × 13.3)		
	Fin pitch		FPI	Main : 21 Sub : 18		
	Rows × Stages			Main : 3 × 24 Sub : 1 × 10		
	Pipe type			Copper		
	Fin type			Aluminum		
Enclosure	Material			Polystyrene		
	Color			White Approximate color of MUNSELL 5PB 9.25/0.5		
Dimensions (H × W × D)	Net		inch	11 - 5/8 × 37 × 10 - 5/8		
			mm	295 × 940 × 270		
	Gross		inch	14 - 3/8 × 40 - 15/16 × 14		
			mm	365 × 1040 × 355		
Weight	Net		lbs. (kg)	31 (14.0)		
	Gross			37 (17.0)		
Connection pipe	Size	Liquid	in. (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		Ø1/2 (Ø12.7)
	Method			Flare		
Operation range	Cooling		°F (°C)	64 to 90 (18 to 32)		
			%RH	80 or less		
	Heating		°F (°C)	60 to 88 (16 to 30)		
Remote controller type				Wireless		
Drain hose	Material			PP+LLDPF		
	Size		in.(mm)	Ø9/16 (Ø13.8) (I.D.) Ø5/8 to Ø11/16 (Ø15.8 to Ø16.7) (O.D.)		

NOTE :
• Specifications are based on the following conditions.
  Cooling : Indoor temperature of 80°F (26.67°C) DB / 67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB / 75°F (23.9°C) WB.
  Heating : Indoor temperature of 70°F (21.11°C) DB / 59°F (15°C) WB, and outdoor temperature of 47°F (8.33°C) DB / 43°F (6.11°C) WB.
  Pipe length : 24ft.7in (7.5m), Height difference:0 m. (Outdoor unit-Indoor unit)
• The protective function might work when using it outside the operation range.

*1: The maximum current is the maximum value when operated within the operation range.

*2: These are the measured values in the manufacturer's anechoic chamber.
    Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

4. DIMENSIONS

■ MODEL : ASU9RLS3, ASU12RLS3, ASU15RLS3

Unit : in. (mm)

37(940)

11-5/8(295)

10-5/8(270)

37(940)

18-1/2(470)   18-1/2(470)

3-1/16
(77)   15-7/16(393)   15-1/4(387)   3-1/4
(83)

1-9/16(40)

(11-5/8(295))

1-11/16(43)

1-11/16(43)

3/8(9)

for pipe inlet Ø2-9/16(65)

for pipe inlet Ø2-9/16(65)

15-1/4(387)   14-3/4(375)
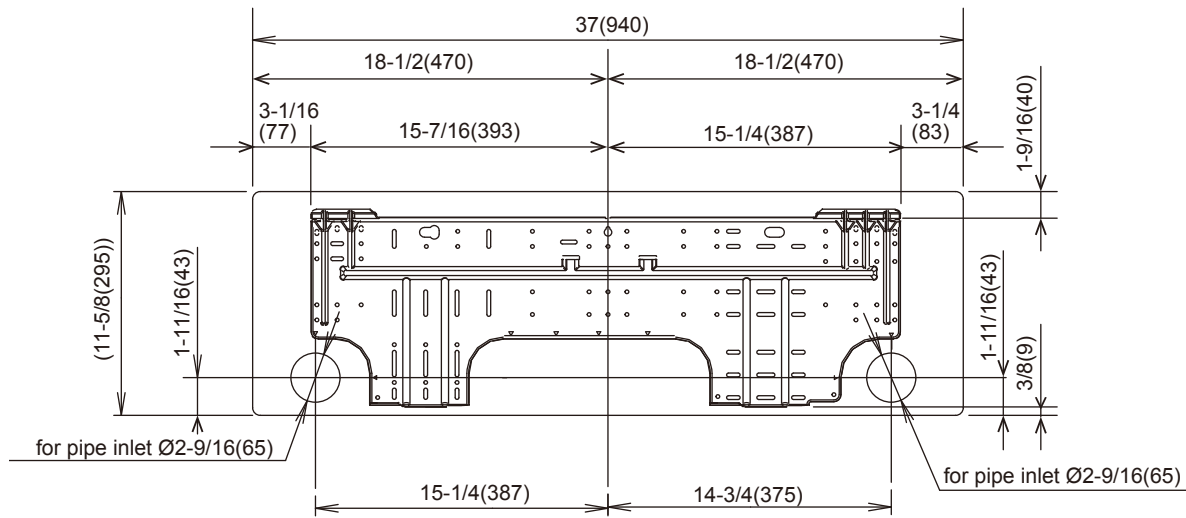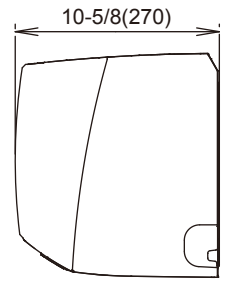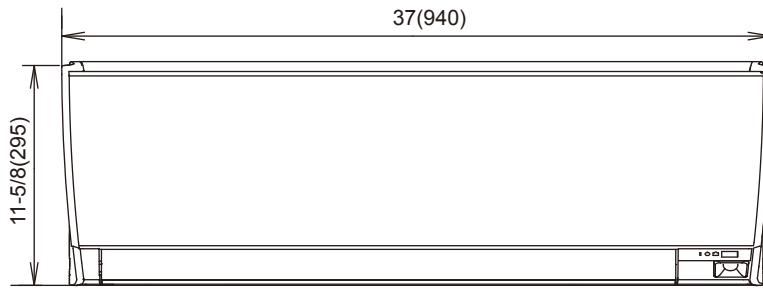
		ASU9RLS3	ASU12RLS3	ASU15RLS3
Refrigerant pipe flare connection	Liquid	Ø 1/4 in. (Ø 6.35 mm)		
	Gas	Ø 3/8 in. (Ø 9.52 mm)		Ø 1/2 in. (Ø 12.7 mm)
Drain hose connection	Drain hose	(Ø 9/16 in. (I.D.), Ø 5/8 to Ø 11/16 in. (O.D.) [Ø 13.8 mm (I.D.), Ø 15.8 to 16.7 mm (O.D.)]		

■ INSTALLATION PLACE

Unit : in. (mm)

Outline of unit

2(50) or more

5(127) or more

2(50) or more
4(84) or more

2(50) or more

6(133) or more

60(1,500) or more

71(1,800) or more
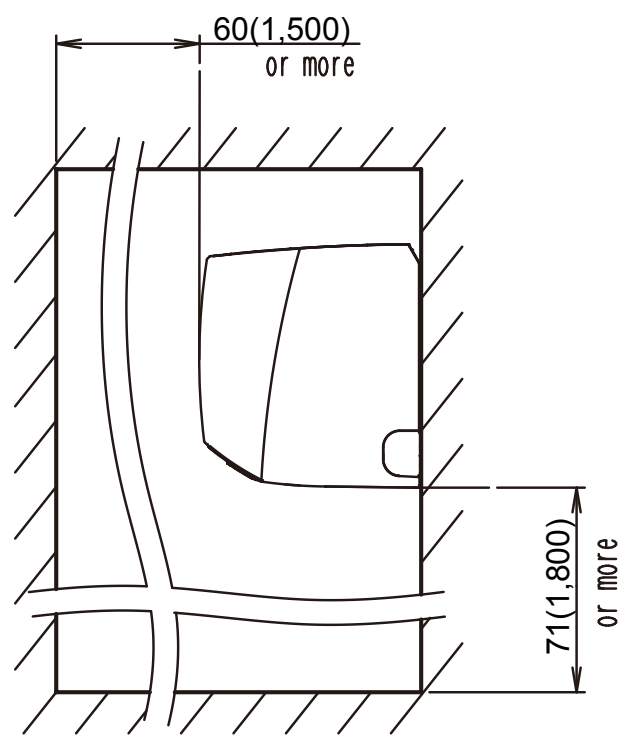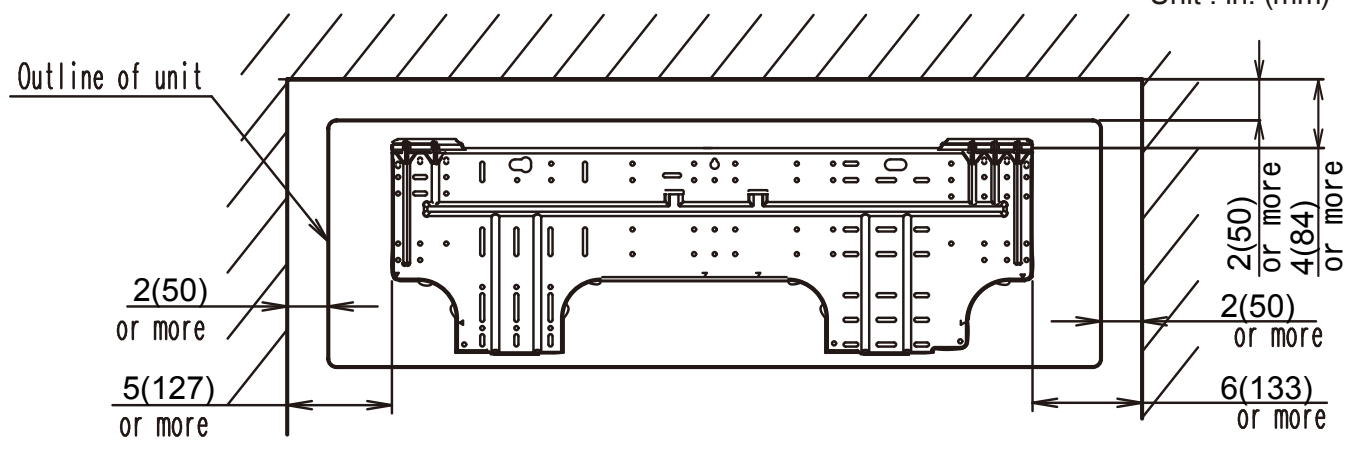
5. WIRING DIAGRAMS

■ MODEL : ASU9RLS3, ASU12RLS3, ASU15RLS3

CONTROL BOARD

CN9

1	1	RED
2	2	ORANGE
3	3	YELLOW
4	4	PINK
5	5	BLUE
6	6	

M

LOUVER
(LEFT/RIGHT)

CN10

1	1	RED
2	2	ORANGE
3	3	YELLOW
4	4	PINK
5	5	BLUE

M

LOUVER
(UP/DOWN)

CN201

DISPLAY BOARD

1	1	WHITE	1	1
2	2	WHITE	2	2
3	3	WHITE	3	3
4	4	WHITE	4	4
5	5	WHITE	5	5
6	6	WHITE	6	6
7	7	WHITE	7	7

CN3

CN6

| 1 |
| 2 |
| 3 | TEST |
| 4 |
| 5 |

THERMISTOR
(PIPE TEMP.)

FM

FAN
MOTOR

BLUE	1	1
YELLOW	2	2
WHITE	3	3
BLACK	4	4
	5	5
RED	6	6

CN7

CN4

1	1	BLACK
2	2	BLACK
3	3	BLACK
4	4	BLACK

THERMISTOR
(ROOM TEMP.)

M

DIFFUSER

RED	1	1
	2	2
	3	3
ORANGE	4	4
YELLOW	5	5
PINK	6	6
BLUE	7	7

CN5

CN2

| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |

TO COMMUNICATION
KIT (OPTION)

GREEN   ● W4

G

EARTH
TERMINAL

CN1

| 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 |

BLACK   WHITE   RED

CN14

| 3 | 2 | 1 |
| 3 | 2 | 1 |

WHITE WHITE WHITE

1	1
2	2
3	3

PYROELECTRIC
SENSOR BOARD

TERMINAL

1 ○   2 ○   3 ○

6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL : ASU9RLS3

AFR	489

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
°FDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
15		8.33	8.06	0.19	9.29	8.11	0.19	10.25	8.87	0.20	10.57	9.53	0.20	11.17	9.50	0.20	11.81	10.07	0.21
23		8.16	7.88	0.22	9.09	7.91	0.22	10.03	8.65	0.23	10.35	9.31	0.22	10.94	9.28	0.22	11.56	9.91	0.23
32		7.99	7.69	0.22	8.90	7.75	0.23	9.81	8.45	0.24	10.13	9.16	0.23	10.70	9.09	0.23	11.32	9.68	0.24
41		7.81	7.58	0.24	8.71	7.61	0.24	9.60	8.28	0.25	9.90	8.97	0.24	10.47	8.90	0.24	11.07	9.50	0.25
50		7.64	7.36	0.22	8.51	7.41	0.22	9.38	8.07	0.24	9.68	8.76	0.23	10.24	8.70	0.23	10.83	9.26	0.24
59		7.47	7.24	0.27	8.32	7.27	0.27	9.16	7.91	0.28	9.46	8.57	0.28	10.01	8.51	0.28	10.58	9.08	0.28
67		8.42	8.15	0.34	9.38	8.18	0.35	10.33	8.94	0.36	10.67	9.63	0.36	11.28	9.59	0.36	11.93	10.18	0.37
77		8.01	7.74	0.39	8.93	7.77	0.39	9.85	8.49	0.40	10.16	9.15	0.40	10.74	9.11	0.41	11.35	9.73	0.41
87		7.57	7.29	0.44	8.45	7.36	0.44	9.31	8.01	0.45	9.58	8.67	0.45	10.16	8.63	0.46	10.74	9.18	0.46
95		7.09	6.88	0.48	7.91	6.91	0.49	8.73	7.53	0.50	9.00	8.15	0.50	9.55	8.12	0.51	10.06	8.63	0.51
104		6.00	5.67	0.45	6.68	6.16	0.46	7.36	6.71	0.46	7.60	7.26	0.46	8.05	7.22	0.47	8.52	7.70	0.47
115		5.52	5.33	0.45	6.17	5.71	0.46	6.78	6.22	0.46	6.99	6.74	0.46	7.43	6.71	0.47	7.84	7.15	0.47

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	13.8

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
°CDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
-10.0		2.44	2.36	0.19	2.72	2.38	0.19	3.00	2.60	0.20	3.10	2.79	0.20	3.27	2.78	0.20	3.46	2.95	0.21
-5.0		2.39	2.31	0.22	2.67	2.32	0.22	2.94	2.53	0.23	3.03	2.73	0.22	3.21	2.72	0.22	3.39	2.90	0.23
0.0		2.34	2.25	0.22	2.61	2.27	0.23	2.88	2.48	0.24	2.97	2.68	0.23	3.14	2.67	0.23	3.32	2.84	0.24
5.0		2.29	2.22	0.24	2.55	2.23	0.24	2.81	2.43	0.25	2.90	2.63	0.24	3.07	2.61	0.24	3.25	2.79	0.25
10.0		2.24	2.16	0.22	2.49	2.17	0.22	2.75	2.37	0.24	2.84	2.57	0.23	3.00	2.55	0.23	3.17	2.71	0.24
15.0		2.19	2.12	0.27	2.44	2.13	0.27	2.69	2.32	0.28	2.77	2.51	0.28	2.93	2.49	0.28	3.10	2.66	0.28
19.4		2.47	2.39	0.34	2.75	2.40	0.35	3.03	2.62	0.36	3.13	2.82	0.36	3.31	2.81	0.36	3.50	2.98	0.37
25.0		2.35	2.27	0.39	2.62	2.28	0.39	2.89	2.49	0.40	2.98	2.68	0.40	3.15	2.67	0.41	3.33	2.85	0.41
30.6		2.22	2.14	0.44	2.48	2.16	0.44	2.73	2.35	0.45	2.81	2.54	0.45	2.98	2.53	0.46	3.15	2.69	0.46
35.0		2.08	2.02	0.48	2.32	2.03	0.49	2.56	2.21	0.50	2.64	2.39	0.50	2.80	2.38	0.51	2.95	2.53	0.51
40.0		1.76	1.66	0.45	1.96	1.80	0.46	2.16	1.97	0.46	2.23	2.13	0.46	2.36	2.12	0.47	2.50	2.26	0.47
46.0		1.62	1.56	0.45	1.81	1.67	0.46	1.99	1.82	0.46	2.05	1.98	0.46	2.18	1.97	0.47	2.30	2.10	0.47

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

■ MODEL : ASU12RLS3

AFR	489

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
°FDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
15		10.34	9.52	0.28	11.53	9.58	0.28	12.72	10.47	0.29	13.11	11.30	0.29	13.87	11.21	0.29	14.67	11.96	0.30
23		10.26	9.44	0.33	11.44	9.47	0.33	12.62	10.34	0.35	13.01	11.19	0.34	13.77	11.12	0.34	14.56	11.85	0.35
32		10.18	9.35	0.36	11.36	9.39	0.36	12.52	10.27	0.38	12.91	11.09	0.37	13.67	11.03	0.38	14.45	11.78	0.39
41		10.10	9.30	0.39	11.27	9.37	0.39	12.42	10.21	0.41	12.81	11.02	0.40	13.57	10.98	0.40	14.34	11.68	0.41
50		10.03	9.21	0.40	11.18	9.25	0.40	12.32	10.10	0.42	12.71	10.92	0.41	13.47	10.86	0.41	14.23	11.60	0.42
59		9.95	9.16	0.41	11.10	9.23	0.41	12.22	10.05	0.44	12.61	10.85	0.42	13.37	10.81	0.43	14.12	11.50	0.44
67		11.22	10.32	0.54	12.51	10.40	0.55	13.77	11.34	0.55	14.22	12.25	0.56	15.07	12.18	0.56	15.92	12.98	0.57
77		10.67	9.82	0.62	11.90	9.85	0.63	13.13	10.76	0.64	13.53	11.63	0.64	14.32	11.56	0.64	15.14	12.32	0.65
87		10.09	9.27	0.69	11.25	9.31	0.70	12.41	10.18	0.71	12.78	10.98	0.71	13.57	10.94	0.72	14.32	11.67	0.73
95		9.48	8.72	0.76	10.53	8.76	0.77	11.63	9.56	0.79	12.00	10.32	0.79	12.72	10.29	0.80	13.43	10.94	0.81
104		8.01	7.78	0.71	8.93	7.82	0.72	9.82	8.51	0.73	10.13	9.20	0.74	10.74	9.16	0.74	11.35	9.78	0.75
115		7.36	7.20	0.71	8.22	7.23	0.72	9.07	7.89	0.74	9.34	8.54	0.74	9.89	8.51	0.74	10.47	9.05	0.75

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	13.8

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
°CDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
-10.0		3.03	2.79	0.28	3.38	2.81	0.28	3.73	3.07	0.29	3.84	3.31	0.29	4.07	3.29	0.29	4.30	3.50	0.30
-5.0		3.01	2.77	0.33	3.35	2.78	0.33	3.70	3.03	0.35	3.81	3.28	0.34	4.04	3.26	0.34	4.27	3.47	0.35
0.0		2.98	2.74	0.36	3.33	2.75	0.36	3.67	3.01	0.38	3.78	3.25	0.37	4.01	3.23	0.38	4.23	3.45	0.39
5.0		2.96	2.73	0.39	3.30	2.75	0.39	3.64	2.99	0.41	3.75	3.23	0.40	3.98	3.22	0.40	4.20	3.42	0.41
10.0		2.94	2.70	0.40	3.28	2.71	0.40	3.61	2.96	0.42	3.73	3.20	0.41	3.95	3.18	0.41	4.17	3.40	0.42
15.0		2.92	2.68	0.41	3.25	2.71	0.41	3.58	2.94	0.44	3.70	3.18	0.42	3.92	3.17	0.43	4.14	3.37	0.44
19.4		3.29	3.03	0.54	3.67	3.05	0.55	4.04	3.32	0.55	4.17	3.59	0.56	4.42	3.57	0.56	4.67	3.80	0.57
25.0		3.13	2.88	0.62	3.49	2.89	0.63	3.85	3.15	0.64	3.97	3.41	0.64	4.20	3.39	0.64	4.44	3.61	0.65
30.6		2.96	2.72	0.69	3.30	2.73	0.70	3.64	2.98	0.71	3.75	3.22	0.71	3.98	3.21	0.72	4.20	3.42	0.73
35.0		2.78	2.56	0.76	3.09	2.57	0.77	3.41	2.80	0.79	3.52	3.03	0.79	3.73	3.02	0.80	3.94	3.21	0.81
40.0		2.35	2.28	0.71	2.62	2.29	0.72	2.88	2.49	0.73	2.97	2.70	0.74	3.15	2.68	0.74	3.33	2.87	0.75
46.0		2.16	2.11	0.71	2.41	2.12	0.72	2.66	2.31	0.74	2.74	2.50	0.74	2.90	2.49	0.74	3.07	2.65	0.75

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

■ MODEL : ASU15RLS3

AFR	547

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
°FDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
15		12.72	9.80	0.36	14.18	10.92	0.36	15.63	12.04	0.38	16.10	12.40	0.37	17.04	13.13	0.37	18.02	13.88	0.38
23		12.53	9.62	0.39	13.95	10.72	0.39	15.38	11.82	0.41	15.85	12.18	0.40	16.78	12.90	0.40	17.75	13.63	0.42
32		12.33	9.49	0.40	13.73	10.57	0.41	15.14	11.65	0.43	15.60	12.01	0.42	16.52	12.72	0.42	17.47	13.45	0.43
41		12.13	9.34	0.41	13.51	10.41	0.41	14.89	11.47	0.43	15.35	11.82	0.42	16.26	12.52	0.42	17.19	13.24	0.44
50		11.93	9.18	0.42	13.29	10.23	0.42	14.65	11.27	0.45	15.10	11.62	0.43	16.00	12.31	0.44	16.91	13.01	0.45
59		11.73	9.01	0.45	13.07	10.04	0.45	14.41	11.07	0.48	14.85	11.41	0.46	15.74	12.10	0.46	16.64	12.78	0.48
67		13.48	11.10	0.72	15.01	11.17	0.74	16.55	12.15	0.75	17.06	13.14	0.75	18.08	13.07	0.76	19.11	13.95	0.76
77		12.86	10.57	0.82	14.33	10.64	0.83	15.80	11.59	0.84	16.27	12.50	0.84	17.23	12.47	0.85	18.22	13.28	0.86
87		12.18	10.00	0.91	13.58	10.07	0.92	14.98	10.99	0.94	15.42	11.87	0.95	16.34	11.84	0.95	17.30	12.61	0.96
95		11.46	9.40	1.01	12.76	9.48	1.02	14.06	10.32	1.03	14.50	11.17	1.04	15.35	11.10	1.05	16.24	11.84	1.06
104		10.06	8.28	0.99	11.22	8.31	1.01	12.35	9.09	1.02	12.73	9.79	1.02	13.51	9.76	1.03	14.26	10.39	1.05
115		9.18	7.54	0.97	10.20	7.57	0.99	11.26	8.28	1.01	11.60	8.91	1.01	12.32	8.88	1.02	13.00	9.48	1.03

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	15.5

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
°CDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
-10.0		3.73	2.87	0.36	4.15	3.20	0.36	4.58	3.53	0.38	4.72	3.63	0.37	5.00	3.85	0.37	5.28	4.07	0.38
-5.0		3.67	2.82	0.39	4.09	3.14	0.39	4.51	3.46	0.41	4.65	3.57	0.40	4.92	3.78	0.40	5.20	4.00	0.42
0.0		3.61	2.78	0.40	4.02	3.10	0.41	4.44	3.42	0.43	4.57	3.52	0.42	4.84	3.73	0.42	5.12	3.94	0.43
5.0		3.56	2.74	0.41	3.96	3.05	0.41	4.37	3.36	0.43	4.50	3.46	0.42	4.77	3.67	0.42	5.04	3.88	0.44
10.0		3.50	2.69	0.42	3.90	3.00	0.42	4.29	3.30	0.45	4.43	3.41	0.43	4.69	3.61	0.44	4.96	3.81	0.45
15.0		3.44	2.64	0.45	3.83	2.94	0.45	4.22	3.24	0.48	4.35	3.34	0.46	4.61	3.54	0.46	4.88	3.75	0.48
19.4		3.95	3.25	0.72	4.40	3.27	0.74	4.85	3.56	0.75	5.00	3.85	0.75	5.30	3.83	0.76	5.60	4.09	0.76
25.0		3.77	3.10	0.82	4.20	3.12	0.83	4.63	3.40	0.84	4.77	3.66	0.84	5.05	3.65	0.85	5.34	3.89	0.86
30.6		3.57	2.93	0.91	3.98	2.95	0.92	4.39	3.22	0.94	4.52	3.48	0.95	4.79	3.47	0.95	5.07	3.70	0.96
35.0		3.36	2.76	1.01	3.74	2.78	1.02	4.12	3.02	1.03	4.25	3.27	1.04	4.50	3.25	1.05	4.76	3.47	1.06
40.0		2.95	2.43	0.99	3.29	2.44	1.01	3.62	2.66	1.02	3.73	2.87	1.02	3.96	2.86	1.03	4.18	3.05	1.05
46.0		2.69	2.21	0.97	2.99	2.22	0.99	3.30	2.43	1.01	3.40	2.61	1.01	3.61	2.60	1.02	3.81	2.78	1.03

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

6-2. HEATING CAPACITY

■ MODEL : ASU9RLS3

AFR	487

			Indoor temperature						
		°FDB	60		65		70		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
	-5	-7	14.7	2.01	14.3	2.05	14.0	2.09	13.3	2.17
	5	3	16.1	2.02	15.7	2.06	15.4	2.10	14.6	2.19
	14	12	16.8	1.98	16.4	2.02	16.0	2.07	15.2	2.15
	23	19	18.3	1.95	17.9	1.99	17.5	2.03	16.6	2.11
	32	28	18.8	1.91	18.4	1.95	17.9	1.99	17.0	2.07
	41	37	21.3	1.88	20.8	1.92	20.3	1.95	19.3	2.03
	47	43	23.1	1.85	22.6	1.89	22.0	1.93	20.9	2.01
	50	47	25.5	1.84	24.9	1.88	24.3	1.91	23.1	1.99
	59	50	26.5	1.63	25.8	1.67	25.2	1.70	23.9	1.77

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	13.8

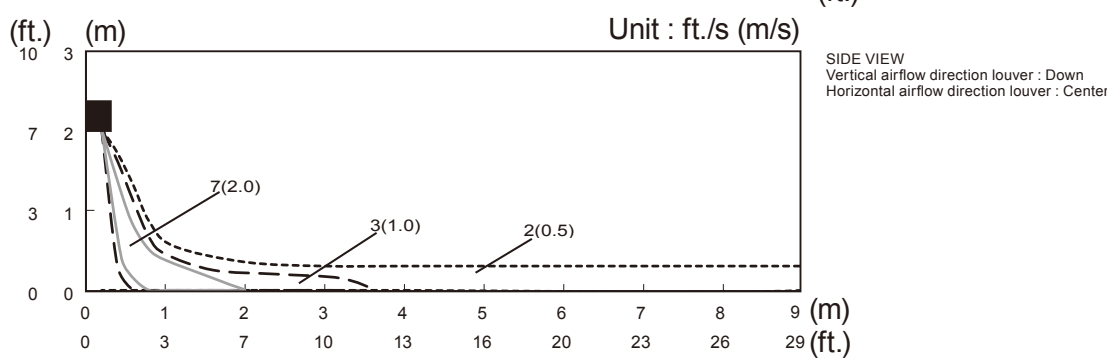|			Indoor temperature						
		°CDB	15.6		18.3		21.1		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
	-20.6	-21.7	4.31	2.01	4.20	2.05	4.10	2.09	3.90	2.17
	-15.0	-16.1	4.73	2.02	4.61	2.06	4.50	2.10	4.28	2.19
	-10.0	-11.1	4.91	1.98	4.80	2.02	4.68	2.07	4.45	2.15
	-5.0	-7.2	5.38	1.95	5.25	1.99	5.12	2.03	4.86	2.11
	0.0	-2.2	5.52	1.91	5.39	1.95	5.26	1.99	5.00	2.07
	5.0	2.8	6.25	1.88	6.10	1.92	5.95	1.95	5.65	2.03
	8.3	6.1	6.77	1.85	6.61	1.89	6.45	1.93	6.13	2.01
	10.0	8.3	7.48	1.84	7.30	1.88	7.13	1.91	6.77	1.99
	15.0	10.0	7.75	1.63	7.57	1.67	7.38	1.70	7.02	1.77

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

■ MODEL : ASU12RLS3

AFR	487

			Indoor temperature						
		°FDB	60		65		70		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
	-5	-7	15.8	2.01	15.4	2.05	15.0	2.09	14.3	2.17
	5	3	17.4	2.02	17.0	2.06	16.6	2.10	15.8	2.19
	14	12	18.3	1.98	17.8	2.03	17.4	2.07	16.5	2.15
	23	19	20.0	1.95	19.5	1.99	19.0	2.03	18.1	2.11
	32	28	20.6	1.92	20.1	1.96	19.6	2.00	18.6	2.08
	41	37	22.5	1.88	21.9	1.92	21.4	1.96	20.3	2.04
	47	43	23.2	1.86	22.7	1.90	22.1	1.94	21.0	2.02
	50	47	25.6	1.85	25.0	1.89	24.4	1.93	23.2	2.00
	59	50	26.6	1.64	25.9	1.68	25.3	1.71	24.0	1.78

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	13.8

			Indoor temperature						
		°CDB	15.6		18.3		21.1		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
	-20.6	-21.7	4.63	2.01	4.52	2.05	4.41	2.09	4.19	2.17
	-15.0	-16.1	5.11	2.02	4.99	2.06	4.86	2.10	4.62	2.19
	-10.0	-11.1	5.36	1.98	5.23	2.03	5.10	2.07	4.85	2.15
	-5.0	-7.2	5.86	1.95	5.72	1.99	5.58	2.03	5.30	2.11
	0.0	-2.2	6.03	1.92	5.88	1.96	5.74	2.00	5.45	2.08
	5.0	2.8	6.58	1.88	6.43	1.92	6.27	1.96	5.96	2.04
	8.3	6.1	6.80	1.86	6.64	1.90	6.48	1.94	6.15	2.02
	10.0	8.3	7.52	1.85	7.34	1.89	7.16	1.93	6.80	2.00
	15.0	10.0	7.79	1.64	7.60	1.68	7.42	1.71	7.05	1.78

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

■ MODEL : ASU15RLS3

AFR	547

			Indoor temperature							
	°FDB		60		65		70		75	
°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
-5	-7	19.6	2.63	19.1	2.69	18.6	2.74	17.7	2.85
5	3	22.0	2.64	21.5	2.70	21.0	2.75	19.9	2.86
14	12	22.7	2.53	22.2	2.58	21.6	2.63	20.5	2.74
23	19	23.3	2.41	22.8	2.46	22.2	2.51	21.1	2.61
32	28	24.0	2.30	23.4	2.34	22.9	2.39	21.7	2.49
41	37	24.7	2.18	24.1	2.22	23.5	2.27	22.3	2.36
47	43	25.1	2.10	24.5	2.15	23.9	2.19	22.7	2.28
50	47	26.1	1.97	25.5	2.01	24.9	2.05	23.6	2.13
59	50	27.2	1.75	26.5	1.79	25.9	1.82	24.6	1.89

(left column label: Outdoor temperature)

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	15.5

			Indoor temperature							
	°CDB		15.6		18.3		21.1		23.9	
°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
-20.6	-21.7	5.73	2.63	5.60	2.69	5.46	2.74	5.19	2.85
-15.0	-16.1	6.46	2.64	6.31	2.70	6.15	2.75	5.84	2.86
-10.0	-11.1	6.65	2.53	6.49	2.58	6.33	2.63	6.02	2.74
-5.0	-7.2	6.84	2.41	6.68	2.46	6.52	2.51	6.19	2.61
0.0	-2.2	7.04	2.30	6.87	2.34	6.70	2.39	6.37	2.49
5.0	2.8	7.23	2.18	7.06	2.22	6.88	2.27	6.54	2.36
8.3	6.1	7.35	2.10	7.18	2.15	7.00	2.19	6.65	2.28
10.0	8.3	7.66	1.97	7.47	2.01	7.29	2.05	6.93	2.13
15.0	10.0	7.97	1.75	7.78	1.79	7.59	1.82	7.21	1.89

(left column label: Outdoor temperature)

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

■ MODEL : ASU9RLS3, ASU12RLS3

Conditions:
  Fan speed : High
  Operation mode : FAN

Unit : ft./s (m/s)

TOP VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Center

7(2.0)   3(1.0)

2(0.5)

Unit : ft./s (m/s)

TOP VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Right & Left

2(0.5)

7(2.0)

3(1.0)

3(1.0)

7(2.0)

2(0.5)

Unit : ft./s (m/s)

SIDE VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Center

2(0.5)

7(2.0)

3(1.0)

Unit : ft./s (m/s)

SIDE VIEW
Vertical airflow direction louver : Down
Horizontal airflow direction louver : Center

7(2.0)

3(1.0)   2(0.5)

■ **MODEL : ASU15RLS3**

Conditions:
Fan speed : High
Operation mode : FAN

Unit : ft./s (m/s)

TOP VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Center

7(2.0)

3(1.0)

2(0.5)

Unit : ft./s (m/s)

TOP VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Right & Left

3(1.0)

2(0.5)

7(2.0)

7(2.0)

3(1.0)

2(0.5)

Unit : ft./s (m/s)

SIDE VIEW
Vertical airflow direction louver : Up
Horizontal airflow direction louver : Center

2(0.5)

7(2.0)

3(1.0)

2(0.5)

Unit : ft./s (m/s)

SIDE VIEW
Vertical airflow direction louver : Down
Horizontal airflow direction louver : Center

3(1.0)

7(2.0)

2(0.5)

7-2. AIR FLOW

■ MODEL : ASU9RLS3, ASU12RLS3

● Cooling

Fan speed	Air flow	
HIGH	830	m^3/h
	231	l/s
	489	CFM
MED	680	m^3/h
	189	l/s
	400	CFM
LOW	580	m^3/h
	161	l/s
	341	CFM
QUIET	380	m^3/h
	106	l/s
	224	CFM

● Heating

Fan speed	Air flow	
HIGH	830	m^3/h
	231	l/s
	489	CFM
MED	680	m^3/h
	189	l/s
	400	CFM
LOW	580	m^3/h
	161	l/s
	341	CFM
QUIET	380	m^3/h
	106	l/s
	224	CFM

■ MODEL : ASU15RLS3

● Cooling

Fan speed	Air flow	
HIGH	930	m^3/h
	258	l/s
	547	CFM
MED	780	m^3/h
	217	l/s
	459	CFM
LOW	630	m^3/h
	175	l/s
	371	CFM
QUIET	440	m^3/h
	122	l/s
	259	CFM

● Heating

Fan speed	Air flow	
HIGH	930	m^3/h
	258	l/s
	547	CFM
MED	780	m^3/h
	217	l/s
	459	CFM
LOW	630	m^3/h
	175	l/s
	371	CFM
QUIET	500	m^3/h
	139	l/s
	294	CFM

8. OPERATION NOISE

8-1. NOISE LEVEL CURVE

■ MODEL : ASU9RLS3

● Cooling
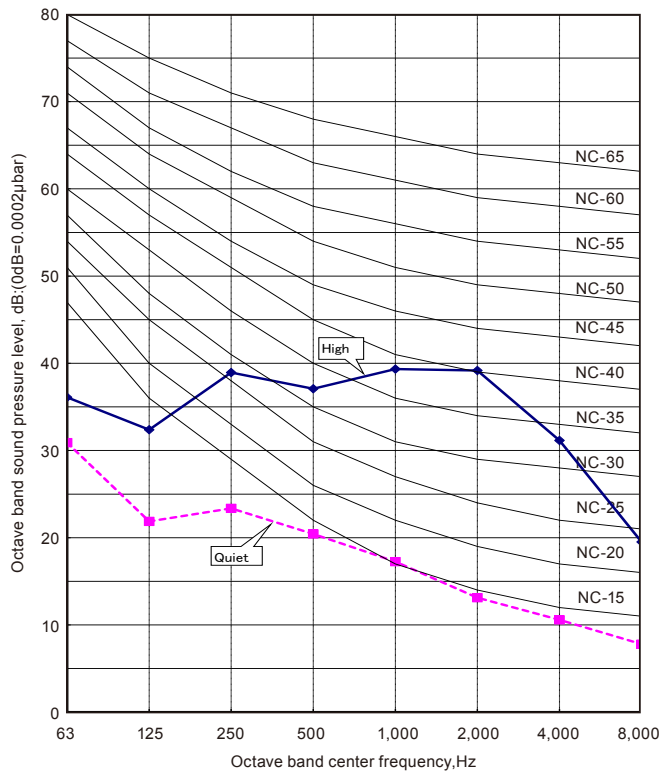
● Heating
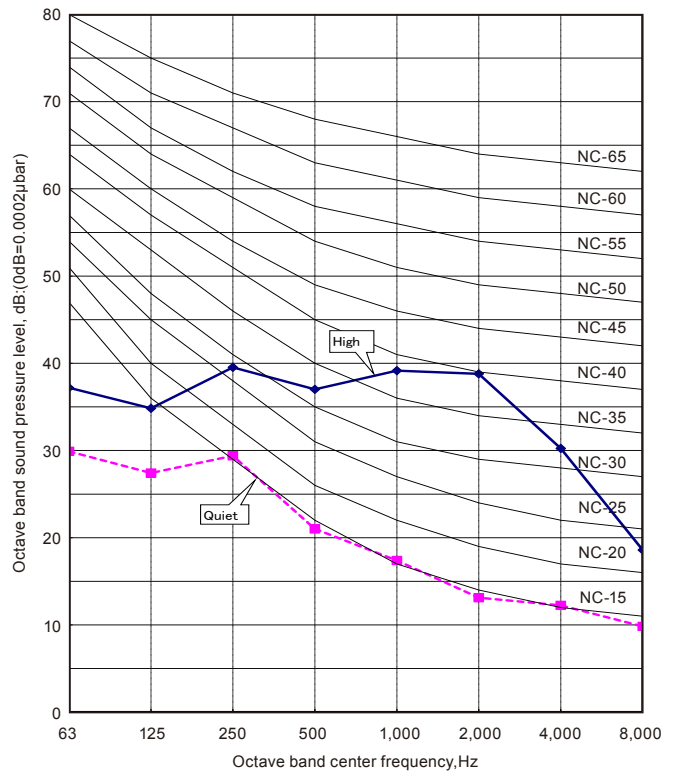
■ MODEL : ASU12RLS3

● Cooling
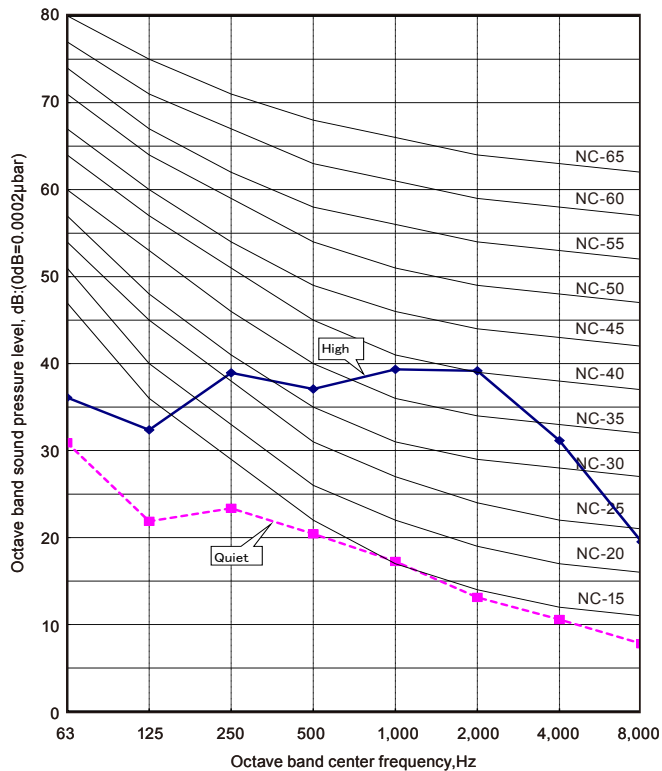
● Heating
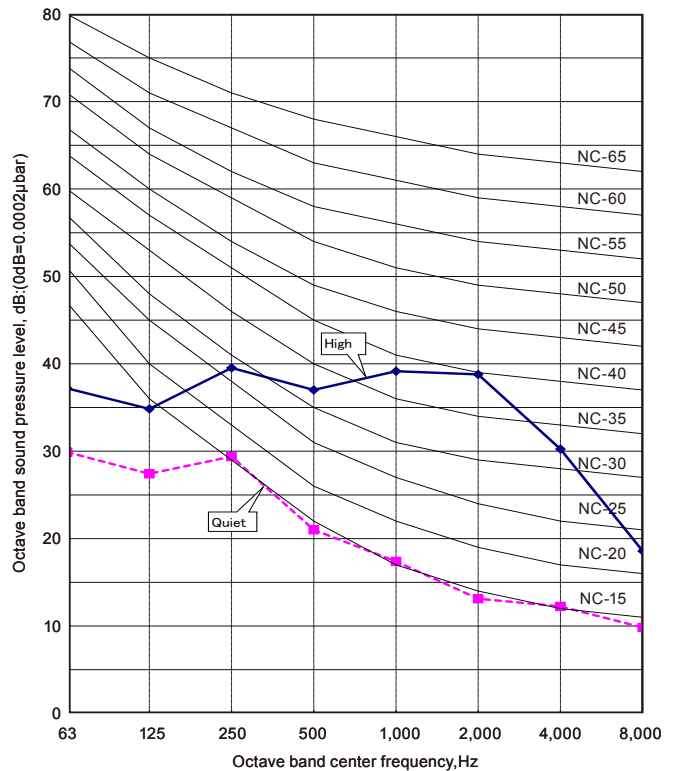
■ MODEL : ASU15RLS3

● Cooling
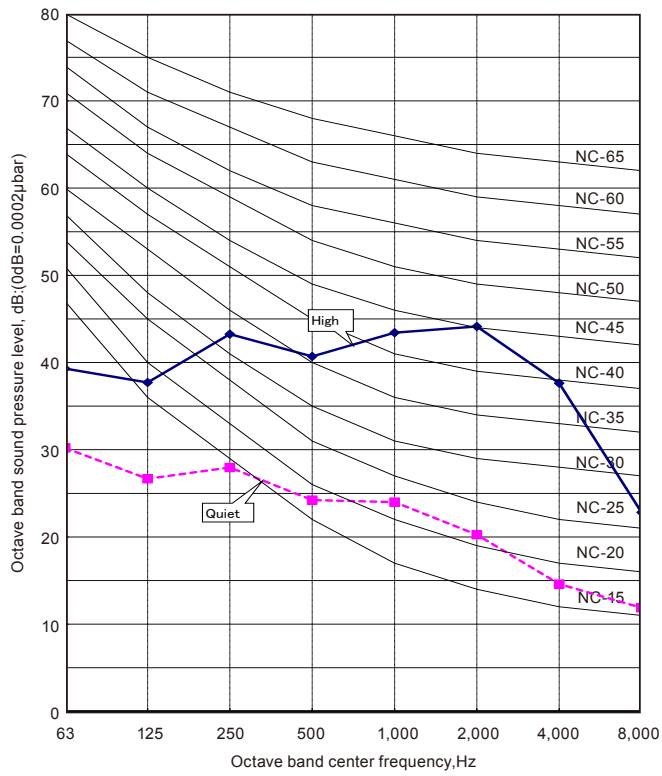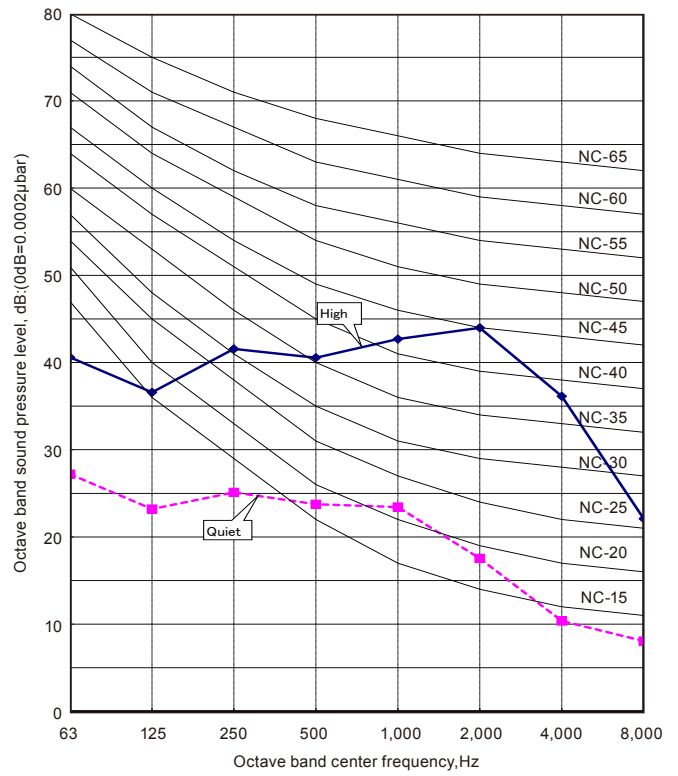
Octave band sound pressure level, dB : (0dB=0.0002μbar)

Octave band center frequency, Hz

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

High
Quiet

● Heating

Octave band sound pressure level, dB : (0dB=0.0002μbar)

Octave band center frequency, Hz

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

High
Quiet

8-2. SOUND LEVEL CHECK POINT

31-1/2in.(0.8m)

39-3/8in.(1m)

MIC

MIC
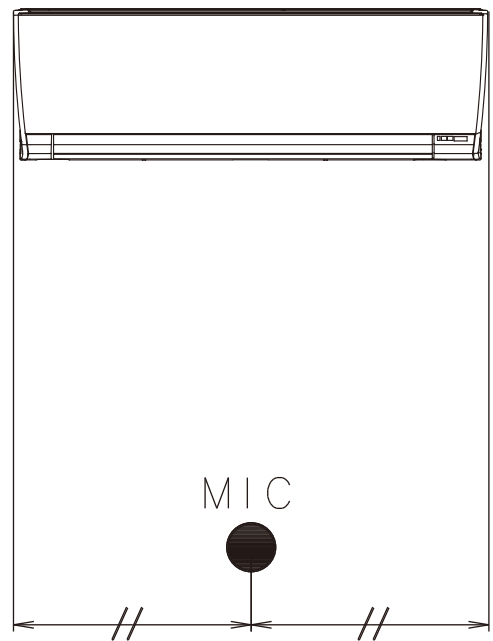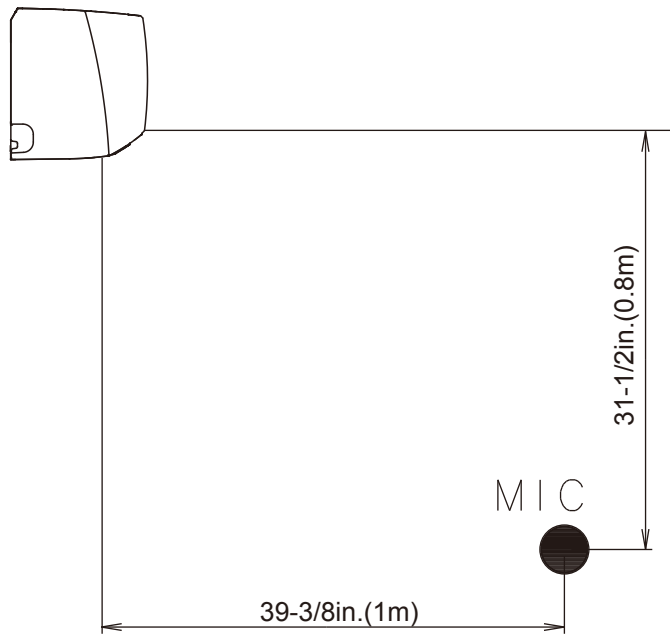
9. SAFETY DEVICES

		Model
	Protection form	ASU9RLS3 ASU12RLS3 ASU15RLS3
Circuit protection	Current fuse (PCB)	3.15A 250V
Fan motor protection	Thermal protector program	302±27 °F (150±15 °C) OFF 248±27 °F (120±15 °C) ON

10. EXTERNAL INPUT & OUTPUT

Connector	INPUT	OUTPUT	REMARKS
CNA01	Control input	-	See external input/output settings for details.
CNB01	-	Operation status output	
CNB02	-	Error status output	

10-1. EXTERNAL INPUT

■ CONTROL INPUT (Operation/Stop or Forced stop)

The air conditioner can be remotely operated by means of the following on-site work.

"Operation/Stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.

Unit operation is started at the following contents by adding the contact input of a commercial ON/OFF switch to a connector on the external control PC board and turning it ON.

Unit operation	Initial starting after turned power on	Other than initial starting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	75°F (24°C)	Temperature at previous operation
Air flow mode	AUTO	Mode at previous operation
Air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

● Circuit diagram example
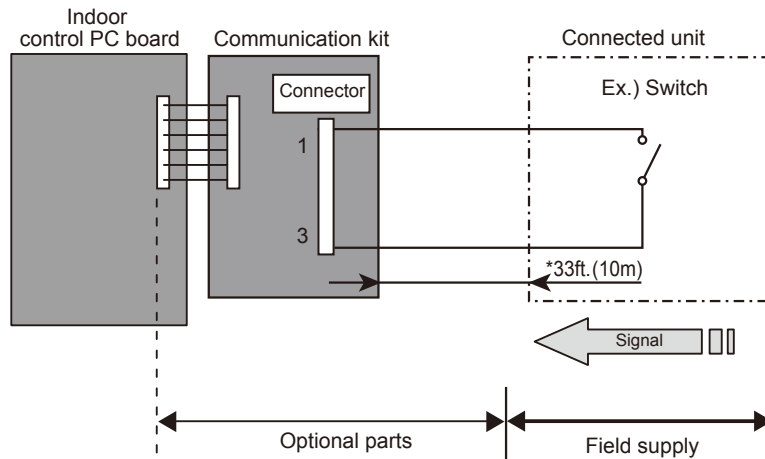
* Make the distance from the PC board to the connected unit within 10m.
Contact capacity : 24VDC or more, 10mA or more.
Please use the non-polar relays and switches.

● When function setting is "Operation/Stop" mode
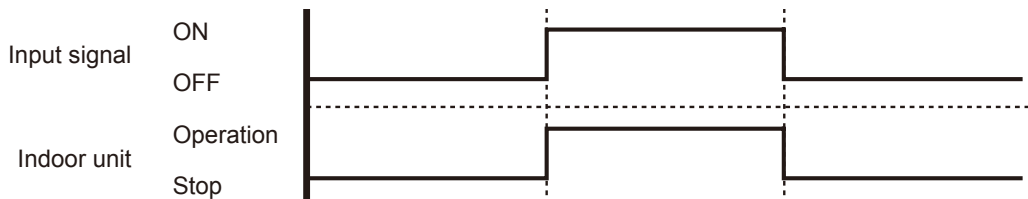
● When function setting is "Forced stop" mode
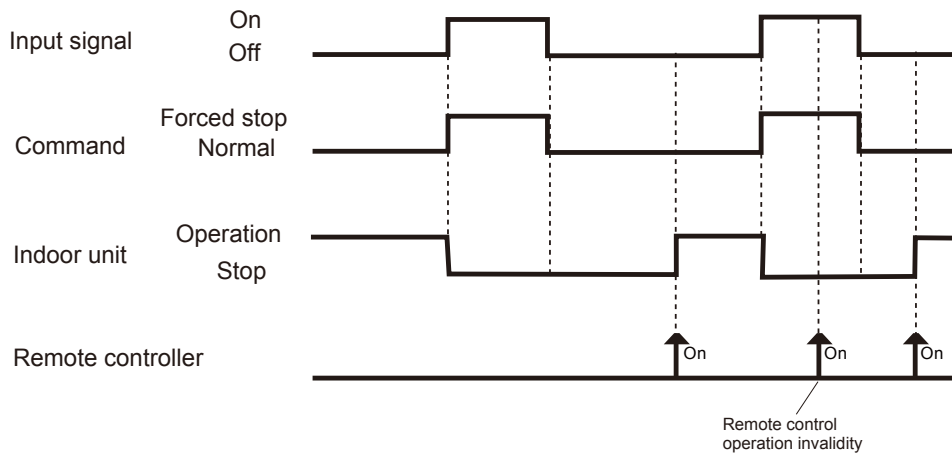
Input signal	On / Off
Command	Forced stop / Normal
Indoor unit	Operation / Stop
Remote controller	On On On

Remote control
operation invalidity

● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZXZ5
Communication kit	UTY-TWBXF1

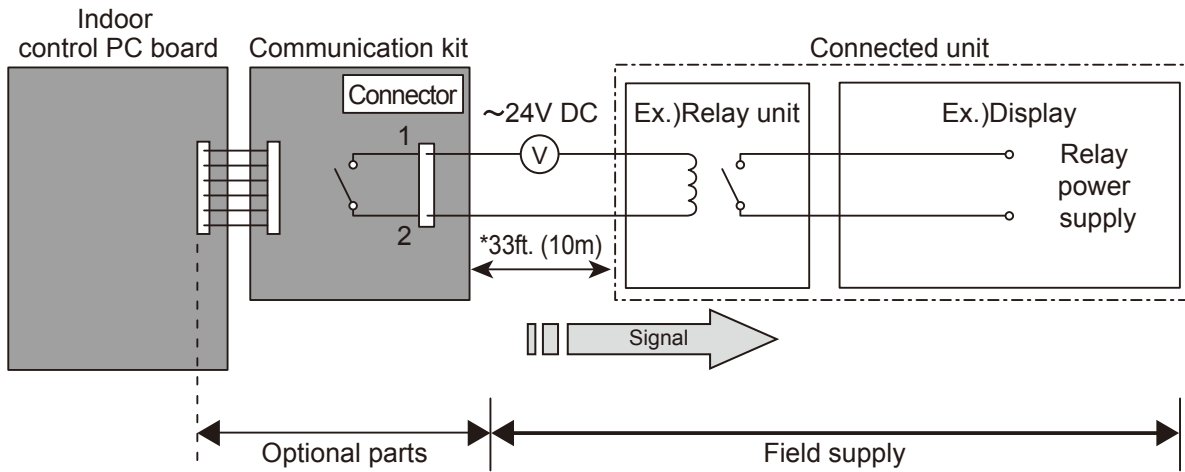*For operating the EXTERNAL function, the Compact wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

Wire (External input) : UTY-XWZXZ5
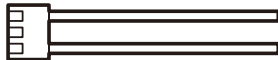
10-2. EXTERNAL OUTPUT

■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.
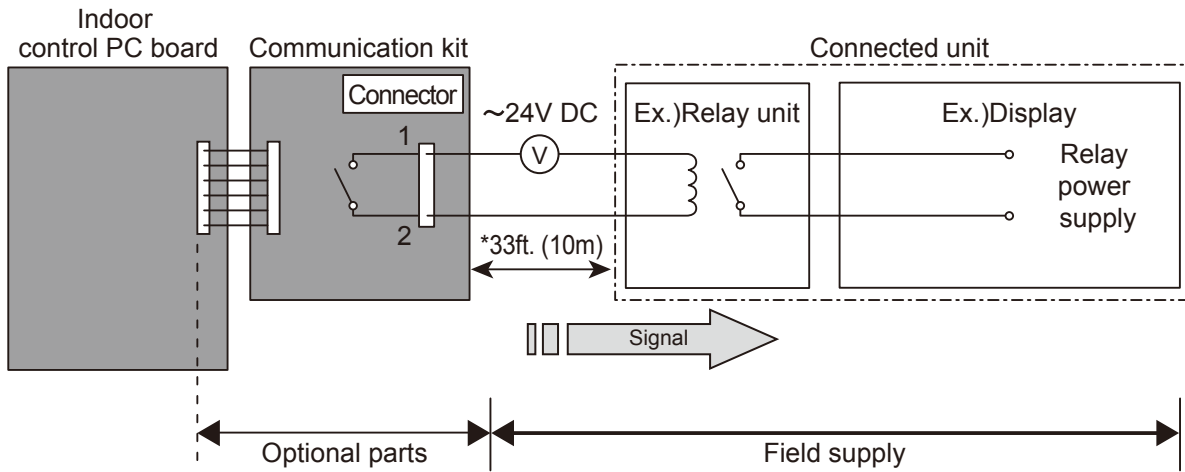
● Circuit diagram example

Indoor control PC board Communication kit Connected unit

Connector

~24V DC

1

2

*33ft. (10m)

Ex.)Relay unit

Ex.)Display

Relay power supply

Signal

Optional parts Field supply

* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Max.24VDC, 10mA to less than 500mA.

Indoor unit
Operation
Stop

Output signal
ON
OFF

● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZXZ5
Communication kit	UTY-TWBXF1

*For operating the EXTERNAL function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

Wire (External output) : UTY-XWZXZ5

■ ERROR STATUS OUTPUT

An air conditioner error status signal can be output.

● Circuit diagram example

Indoor control PC board | Communication kit | Connected unit

Connector
1
2

~24V DC

*33ft. (10m)

Ex.)Relay unit

Ex.)Display

Relay power supply

Signal

Optional parts | Field supply

* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Max.24VDC, 10mA to less than 500mA.

Error status
- Error
- Normal

Output signal
- ON
- OFF

● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZXZ5
Communication kit	UTY-TWBXF1

*For operating the EXTERNAL function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

Wire (External output) : UTY-XWZXZ5

11. FUNCTION SETTING

11-1. INDOOR UNIT (Setting by remote controller)

• The function settings of the control of the indoor unit can be changed by this procedure according to the installation conditions. Incorrect settings can cause the indoor unit malfunction.

• After the power is turned on, perform the "FUNCTION SETTING" according to the installation conditions using the remote controller.

• The settings may be selected between the following two: Function Number or Setting Value.

• Settings will not be changed if invalid numbers or setting values are selected.

■PREPARATION

• Turn on the power

∗ By turning on the power indoor units, so make sure the piping air-tight test and vacuuming have been conducted before turning on the power.

∗ Also check again to make sure no wiring mistakes were made before turning on the power.

■FUNCTION SETTING METHOD (for Wireless remote controller)

Perform the "FUNCTION SETTING" according to the installation conditions using the remote controller.

⚠CAUTION
Confirm whether the wiring work for outdoor unit has been finished.
Confirm that the cover for the electrical enclosure on the outdoor unit is in place.

• This procedure changes to the function settings used to control the indoor unit according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction.

• After the power is turned on, perform the "FUNCTION SETTING" according to the installation conditions using the remote controller.

• The settings may be selected between the following two: Function Number or Setting Value.

• Settings will not be changed if invalid numbers or setting values are selected.

• Refer to the installation manual enclosed with the remote control unit when the wired remote control unit (option) is used.

• Adjust the custom code of the indoor unit and the custom code of the remote controller.

Entering the Function Setting Mode

While pressing the POWERFUL button and SET TEMP. (∧) simultaneously, press the RESET button to enter the function setting mode.

Selecting the Function Number and Setting Value

(1) Press the SET TEMP. (∧ / ∨) buttons to select the function number.
(Press the MIN. HEAT button to switch between the left and right digits.)

(2) Press the POWERFUL button to proceed to setting the value.
(Press the POWERFUL button again to return to the function number selection.)

(3) Press the SET TEMP. (∧ / ∨) buttons to select the setting value.
(Press the MIN. HEAT button to switch between the left and right digits.)

(4) Press the MODE button, in the order listed to confirm the settings.
Please confirm that the beep sounds.

(5) Next, please press START/STOP (⏻/I) button. Please confirm that the beep sounds.

(6) Press the RESET button to cancel the function setting mode.

(7) After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.

Function number

Setting value
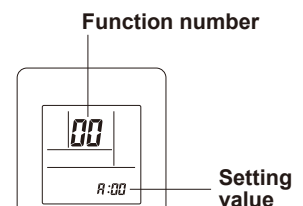
⚠CAUTION
After turning off the power, wait 30 seconds or more before turning on it again. The Function Setting does not become active unless the power is turned off then on again.

■ FUNCTION DETAILS

	Functions
1)	Filter sign
2)	Room temperature control for indoor unit sensor
3)	Auto restart
4)	Room temperature sensor switching
5)	Remote controller custom code
6)	External input control
7)	Room temperature sensor switching (Aux.)
8)	Indoor unit fan control for energy saving for cooling
9)	Room temperature control for wired remote controller sensor
10)	Heat Insulation condition (building insulation)

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.
If the indication is not required, select "No indication" (03).

(◆... Factory setting)

Function number	Setting value	Setting description	
11	00	Standard (400 hour)	
	01	Long interval (1000 hour)	
	02	Short interval (200 hour)	
	03	No indication	◆

2) Room temperature control for indoor unit sensor

Refer to Function 95, before performing this setting.
Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.
The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).
*When Function 95-01(High insulation) is set, the Standard setting "00" will be the same as No correction "01" [0.0°F (0.0°C)].

(◆... Factory setting)

Function number		Setting value	Setting description	
30 (For cooling)	31 (For heating)	00	Standard setting*	◆
		01	No correction 0.0°F (0.0°C)	
		02	-1°F (-0.5°C)	More Cooling Less Heating
		03	-2°F (-1.0°C)	
		04	-3°F (-1.5°C)	
		05	-4°F (-2.0°C)	
		06	-5°F (-2.5°C)	
		07	-6°F (-3.0°C)	
		08	-7°F (-3.5°C)	
		09	-8°F (-4.0°C)	
		10	+1°F (+0.5°C)	Less Cooling More Heating
		11	+2°F (+1.0°C)	
		12	+3°F (+1.5°C)	
		13	+4°F (+2.0°C)	
		14	+5°F (+2.5°C)	
		15	+6°F (+3.0°C)	
		16	+7°F (+3.5°C)	
		17	+8°F (+4.0°C)	

3) Auto restart

Enable or disable automatic restart after a power interruption.

(◆... Factory setting)

Function number	Setting value	Setting description	
40	00	Enable	◆
	01	Disable	

*Auto restart is an emergency function such as for power outage etc.
 Do not attempt to use this function in normal operation.
 Be sure to operate the unit by remote controller or external device.

4) Room temperature sensor switching

(Only for Wired remote controller)

When using the Wired remote controller temperature sensor, change the setting to "Both" (01).

(◆... Factory setting)

Function number	Setting value	Setting description	
42	00	Indoor unit	◆
	01	Both	

00: Sensor on the indoor unit is active.
01: Sensors on both indoor unit and wired remote controller are active.

*Remote controller sensor must be turned on by using the remote controller.

5) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed.

Select the appropriate custom code.

(◆... Factory setting)

Function number	Setting value	Setting description	
44	00	A	◆
	01	B	
	02	C	
	03	D	

6) External input control

"Operation/Stop" mode or "Forced stop" mode can be selected.

(◆... Factory setting)

Function number	Setting value	Setting description	
46	00	Operation/Stop mode	◆
	01	(Setting prohibited)	
	02	Forced stop mode	

7) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01). This function will only work if the function setting 42 is set at "Both" (01)

(◆... Factory setting)

Function number	Setting value	Setting description	
48	00	Both	◆
	01	Wired remote controller	

8) Indoor unit fan control for energy saving for cooling

Enable or disable the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

(◆... Factory setting)

Function number	Setting value	Setting description	
49	00	Disable	◆
	01	Enable	

00: When the outdoor unit is stopped, the indoor unit fan operates continuously following the setting on the remote controller.

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

9) Room temperature control for wired remote controller sensor

Refer to Function 95, before performing this setting.
Depending on the installed environment, correction of the wired remote controller temperature sensor may be required. Select the appropriate control setting according to the installed environment.
To change this setting, set Function 42 to Both "01".
Ensure that the Thermo Sensor icon is displayed on the remote controller screen.

(◆... Factory setting)

Function number		Setting value	Setting description	
92 (For cooling)	93 (For heating)	00	No correction 0.0°F(0.0°C)	◆
		01	No correction 0.0°F (0.0°C)	
		02	-1°F (-0.5°C)	More Cooling Less Heating
		03	-2°F (-1.0°C)	
		04	-3°F (-1.5°C)	
		05	-4°F (-2.0°C)	
		06	-5°F (-2.5°C)	
		07	-6°F (-3.0°C)	
		08	-7°F (-3.5°C)	
		09	-8°F (-4.0°C)	
		10	+1°F (+0.5°C)	Less Cooling More Heating
		11	+2°F (+1.0°C)	
		12	+3°F (+1.5°C)	
		13	+4°F (+2.0°C)	
		14	+5°F (+2.5°C)	
		15	+6°F (+3.0°C)	
		16	+7°F (+3.5°C)	
		17	+8°F (+4.0°C)	

10) Heat Insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

Standard insulation "00" allows system to rapidly respond to the cooling or heating load changes. High insulation "01" is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When High insulation "01" is selected;

・Overheating (overcooling) is prevented at the start-up.

・All room temp. control settings (Function 30, 31, 92, 93) will reset to No correction [0.0°F (0.0°C)].

(◆... Factory setting)

Function number	Setting value	Setting description	
95	00	Standard insulation	◆
	01	High insulation	

NOTE:

When changing Function 95, perform this setting before other Room temp. control settings (Function 30, 31, 92, 93). If Function 95 is not set first, Room temperature control settings (Function 30, 31, 92, 93) will be reset and you must re-do them again.

■ REMOTE CONTROLLER CUSTOM CODE SETTING

Use the following steps to select the custom code of the remote controller. (Note that the air conditioner cannot receive a signal if the air conditioner has not been set for the matching custom code.)

(1) Press the START/STOP (⏻ / |) button until only the clock is displayed on the remote controller display.

(2) Press the MODE button for at least 5 seconds to display the current custom code (initially set to A).

(3) Press the SET TEMP. (∧ / ∨) buttons to change the custom code between $A \rightarrow b \rightarrow c \rightarrow d$.
Match the code on the display to the air conditioner custom code.

(4) Press the MODE button again to return to the clock display. The custom code will be changed.
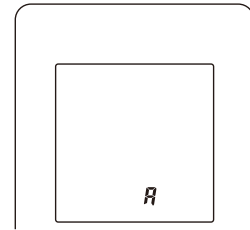
• If no buttons are pressed within 30 seconds after the custom code is displayed, the system returns to the original clock display. In this case, start again from step 1.

• The air conditioner custom code is set to A prior to shipment.

■ REMOTE CONTROLLER TEMPERATURE UNIT
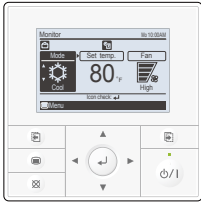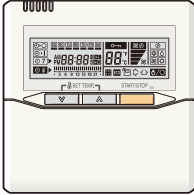
To change the temperature unit:

(1) Press the TEMP. (Up) button (∧) for at least 5 seconds to display the current temperature unit. (Factory setting: °F)

(2) Press the TEMP. buttons (∧ / ∨) to switch the temperature unit. (°F ↔ °C)

(3) With either of pressing the START/STOP button or no additional button operation for 30 seconds in step 2., the temperature unit currently selected will be set.
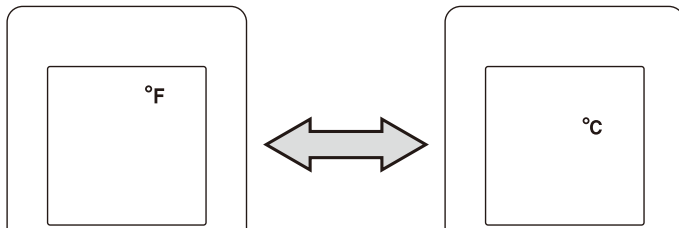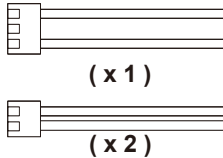
12. OPTIONAL PARTS

12-1. CONTROLLER

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RVNUM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. *Optional communication kit is necessary for installation
	Wired remote controller	UTY-RNNUM	Unit control is performed by wired remote controller. *Optional communication kit is necessary for the installation.
	Simple remote controller	UTY-RSNUM	Unit control is performed by simple remote controller. *Optional communication kit is necessary for the installation.

12-2. OTHERS

Exterior	Parts name	Model No.	Summary
	Communication kit	UTY-TWBXF1	Use to connect with optional devices and air conditioner PC board.
(x 1) (x 2)	External connect kit	UTY-XWZXZ5	Required when external device is connected. *Optional communication kit is necessary for the installation.

2. OUTDOOR UNIT

SINGLE TYPE :

AOU9RLS3
AOU12RLS3
AOU15RLS3

CONTENTS

2. OUTDOOR UNIT

1. SPECIFICATIONS

Type				INVERTER HEAT PUMP		
Model name				AOU9RLS3	AOU12RLS3	AOU15RLS3
Power sourse				208 / 230V ~ 60Hz		
Available voltage range				188 - 253V		
Starting current			A	3.3	4.7	5.2
Fan	Airflow rate	Cooling	CFM (m³/h)	989 (1,680)		1,206 (2,050)
		Heating		1,082 (1,840)		
	Type × Q'ty			Propeller fan × 1		
	Motor output		W	49		
Sound pressure level	Cooling		dB (A)	42	43	49
	Heating			47		50
Heat exchanger type	Dimensions (H × W × D)		in.	23-1/8 × 34-11/16 × 1-7/16		
			mm	588 × 881 × 36.4		
	Fin pitch		FPI	20		
	Rows × Stages			2 × 28		
	Pipe type			Copper		
	Fin Type			Aluminum		
Compressor	Type × Q'ty			Rotary × 1		
	Motor output		W	850		1,000
Refrigerant	Type			R410A		
	Charge		lbs.oz.	2lbs.14oz.		3lbs.1oz.
			kg	1.30		1.40
Refrigerant oil	Type			FREOL α68SZ		
Enclosure	Material			Steel		
	Color			Beige Approximate color of MUNSELL 10YR7.5/1.0		
Dimensions (H × W × D)	Net		in.	24 - 1/2 × 31 - 1/8 × 11 - 7/16		
			mm	620 × 790 × 290		
	Gross		in.	28 - 1/16 × 37-3/16 × 15 - 9/16		
			mm	713 × 945 × 395		
Weight	Net		lbs.(kg)	84 (38)		86 (39)
	Gross			93 (42)		
Connenction pipe	Size	Liquid	in. (mm)	Ø 1/4 (Ø 6.35)		
		Gas		Ø 3/8 (Ø 9.52)		Ø 1/2 (Ø 12.7)
	Method			Flare		
	Pre - charge length		ft. (m)	49 (15)		
	Max. length			66 (20)		
	Max. height difference			49 (15)		
Operation range	Cooling		°F (°C)	14 to 115 (-10 to 46)		
	Heating			-5 to 75 (-21 to 24)		

Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 80°F (26.67°C) DB / 67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB / 75°F (23.9°C) WB.
Heating : Indoor temperature of 70°F (21.11°C) DB / 59°F (15°C) WB, and outdoor temperature of 47°F (8.33°C) DB / 43°F (6.11°C) WB.
Pipe length : 24ft.7in (7.5m), Height difference:0 m. (Outdoor unit - Indoor unit)
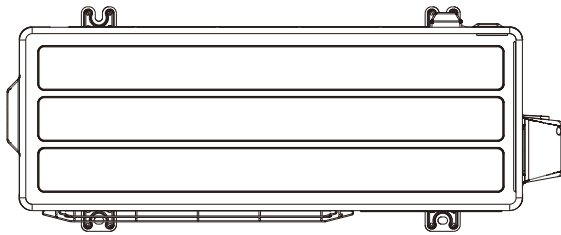The protective function might work when using it outside the operation range.

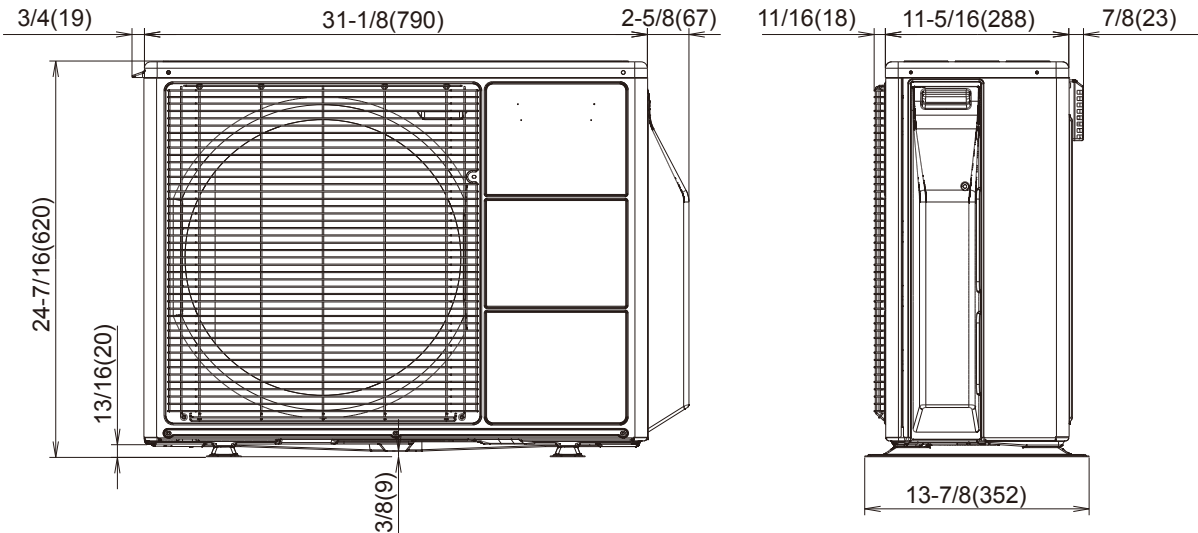# 2. DIMENSIONS

■ MODEL : AOU9RLS3, AOU12RLS3, AOU15RLS3

Unit : in. (mm)

Top view

3/4(19) 31-1/8(790) 2-5/8(67) 11/16(18) 11-5/16(288) 7/8(23)

24-7/16(620)

13/16(20)

3/8(9)

Front view

13-7/8(352)

Side view

21-1/4 (540)

Air flow

12-5/8 (320)

Drain pipe mounting place (Ø13/16 (20))

4-Ø7/16 (11.3) hole

Bottom view

4-5/16 (110)

6-7/8 (175)

8-1/4 (209)

■ INSTALLATION PLACE

24 (600) or more

4 (100) or more

AIR

4 (100) or more

8 (200) or more
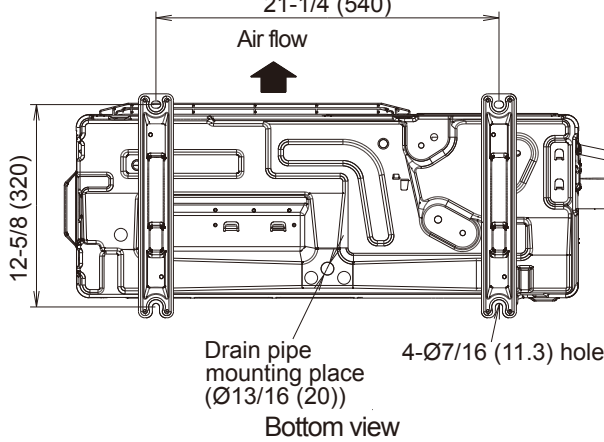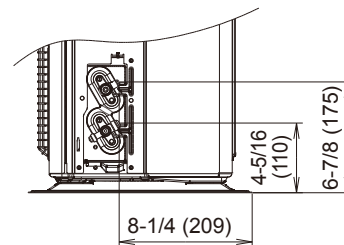
10 (250) or more (Service space)
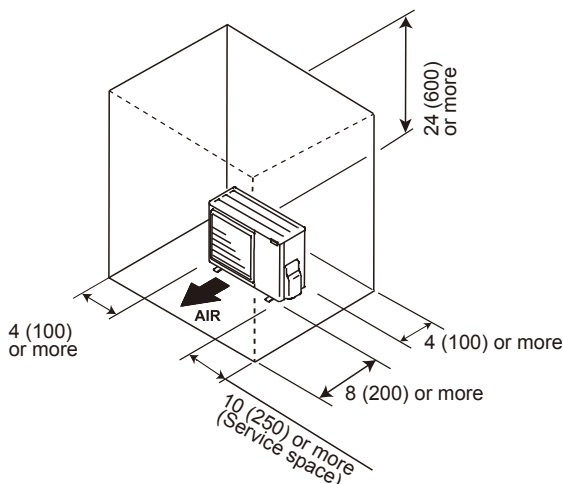
⚠ CAUTION
•When the outdoor temperature is 0 °C or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold weather. (Reverse cycle model only) •In areas with heavy snowfall, if the intake and outlet of outdoor unit is blocked with   snow, it might become difficult to get warm and it is likely to cause breakdown. Please construct a canopy and a pedestal or place the unit on a high stand (local configured).
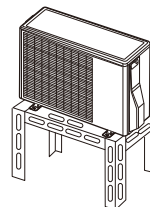
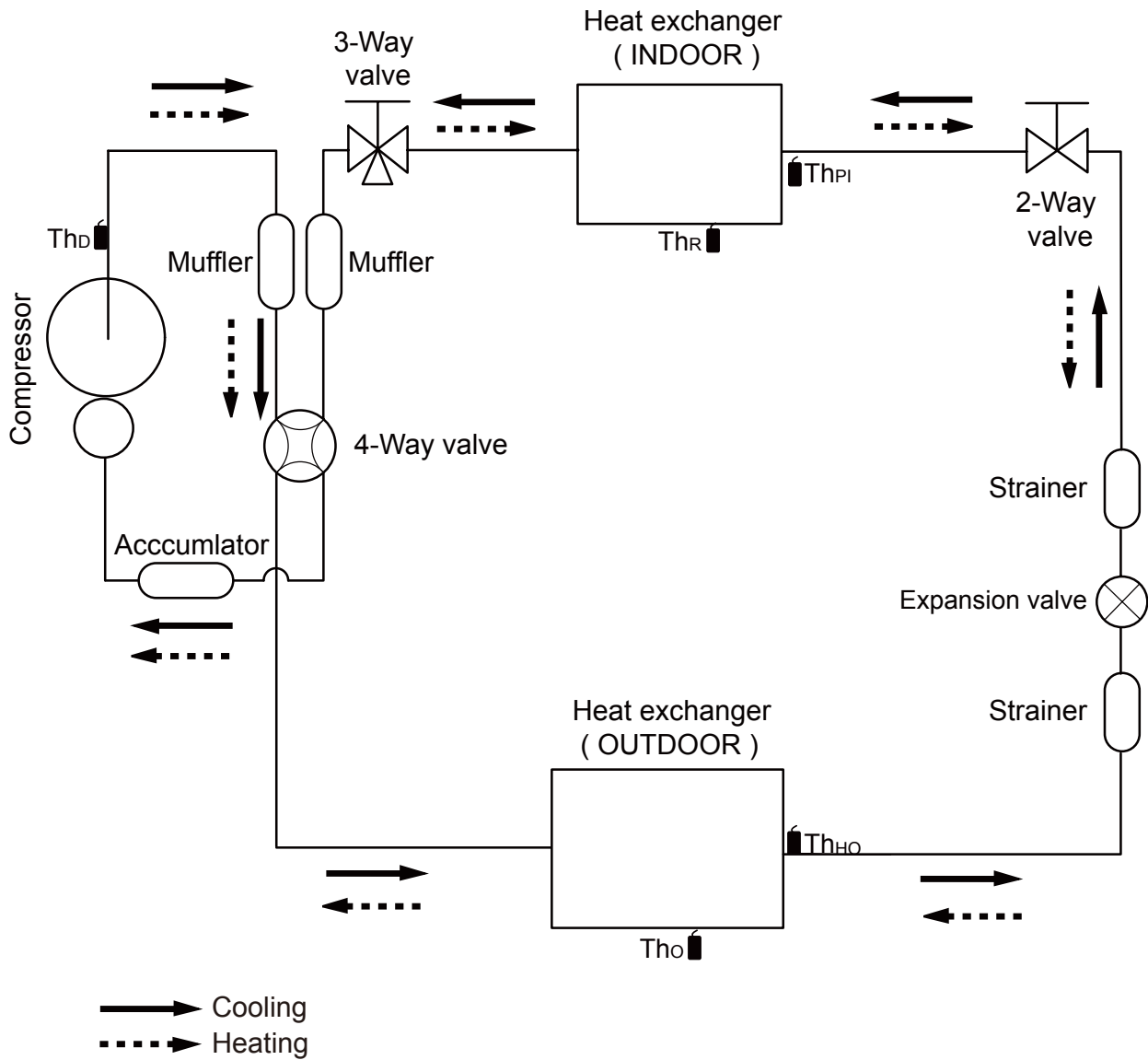•Height above the floor level should be 50 mm or more.

•To obtain better operation efficiency, when the outdoor unit is installed, be sure to open the front and left side.

3. REFRIGERANT CIRCUIT

■ MODEL : AOU9RLS3, AOU12RLS3

3-Way valve

Heat exchanger (INDOOR)

ThPI

2-Way valve

ThD

Muffler

Muffler

ThR

Compressor

4-Way valve

Strainer

Acccumlator

Expansion valve

Strainer
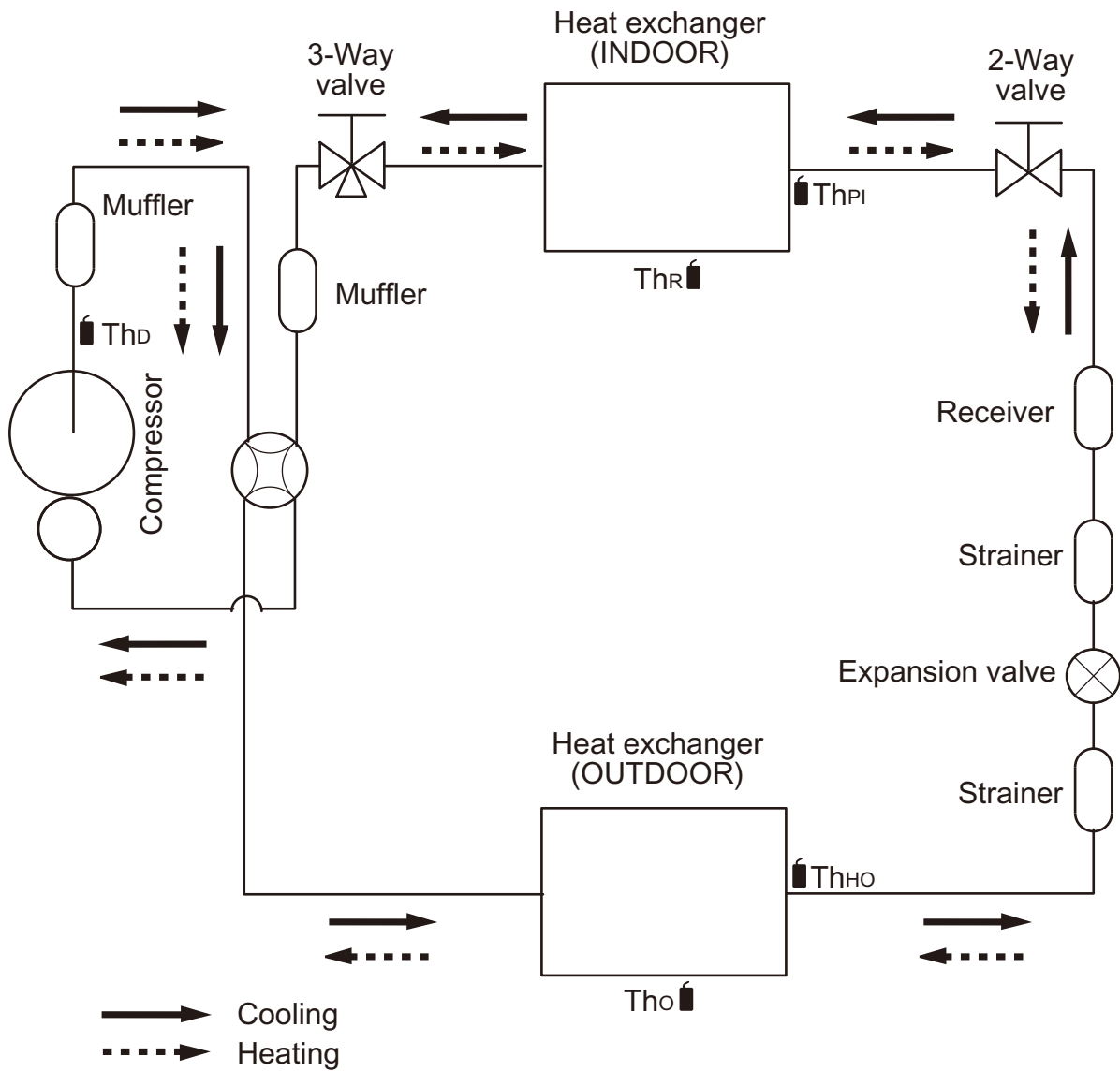
Heat exchanger (OUTDOOR)

ThHO

Tho

→ Cooling

┅► Heating

ThD 　Thermistor (Discharge Temp.)

Tho 　Thermistor (Outdoor Temp.)

ThHO 　Thermistor (Heat Exchanger Out Temp.)

ThR 　Thermistor (Room Temp.)

ThPI 　Thermistor (Pipe Temp.)

Refrigerant pipe diameter
Liquid: 1/4" (6.35 mm)
Gas: 3/8" (9.52 mm)

■ MODEL : AOU15RLS3

Heat exchanger (INDOOR)

3-Way valve

2-Way valve

ThPI

ThR

Muffler

ThD

Muffler

Compressor

Receiver

Strainer

Expansion valve

Strainer

Heat exchanger (OUTDOOR)

ThHO

Tho

→ Cooling

┈┈▶ Heating

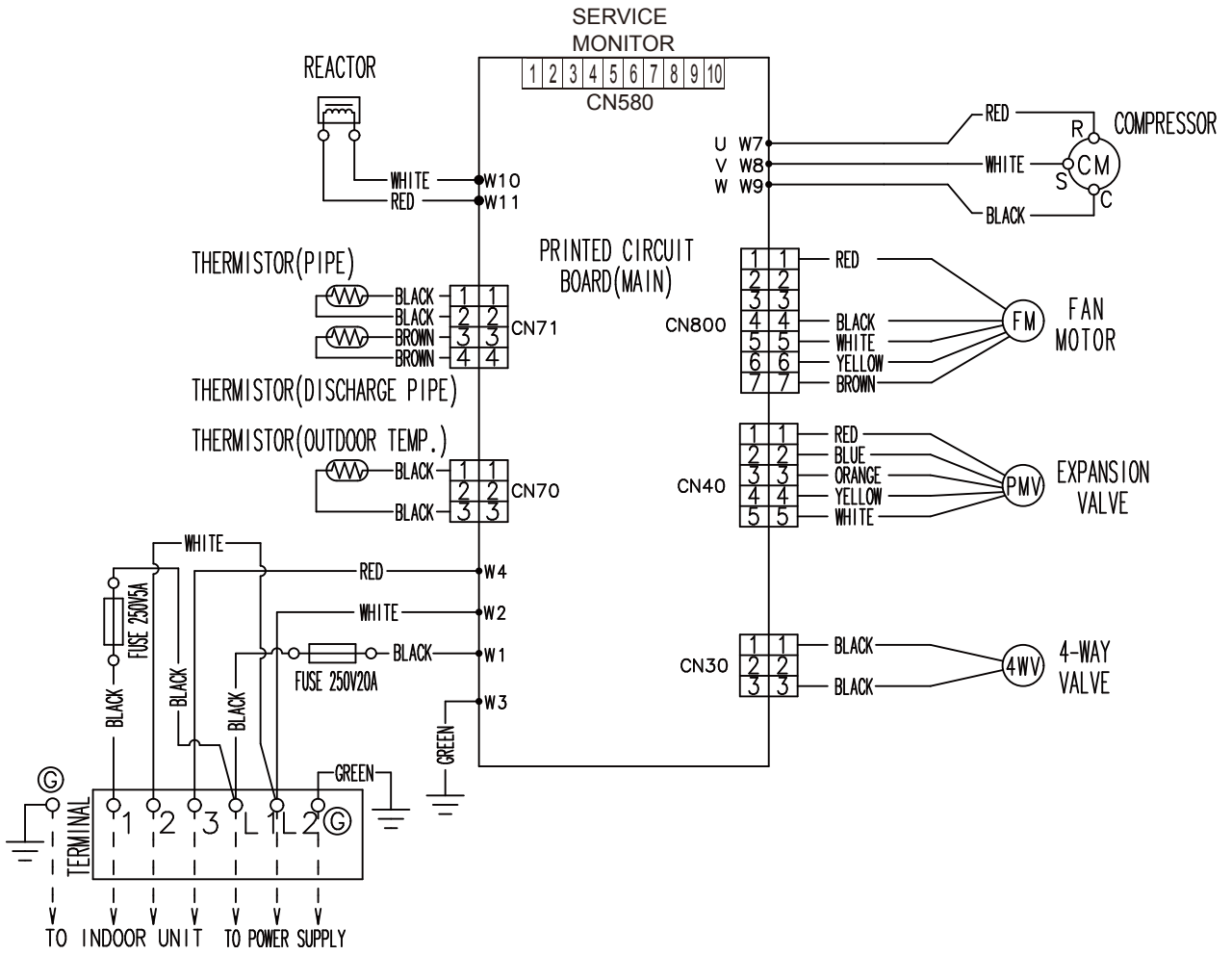| ThD | Thermistor (Discharge Temp.) |
Tho	Thermistor (Outdoor Temp.)
ThHO	Thermistor (Heat Exchanger Out Temp.)
ThR	Thermistor (Room Temp.)
ThPI	Thermistor (Pipe Temp.)

Refrigerant pipe diameter
Liquid: 1/4" (6.35 mm)
Gas: 1/2" (12.70 mm)
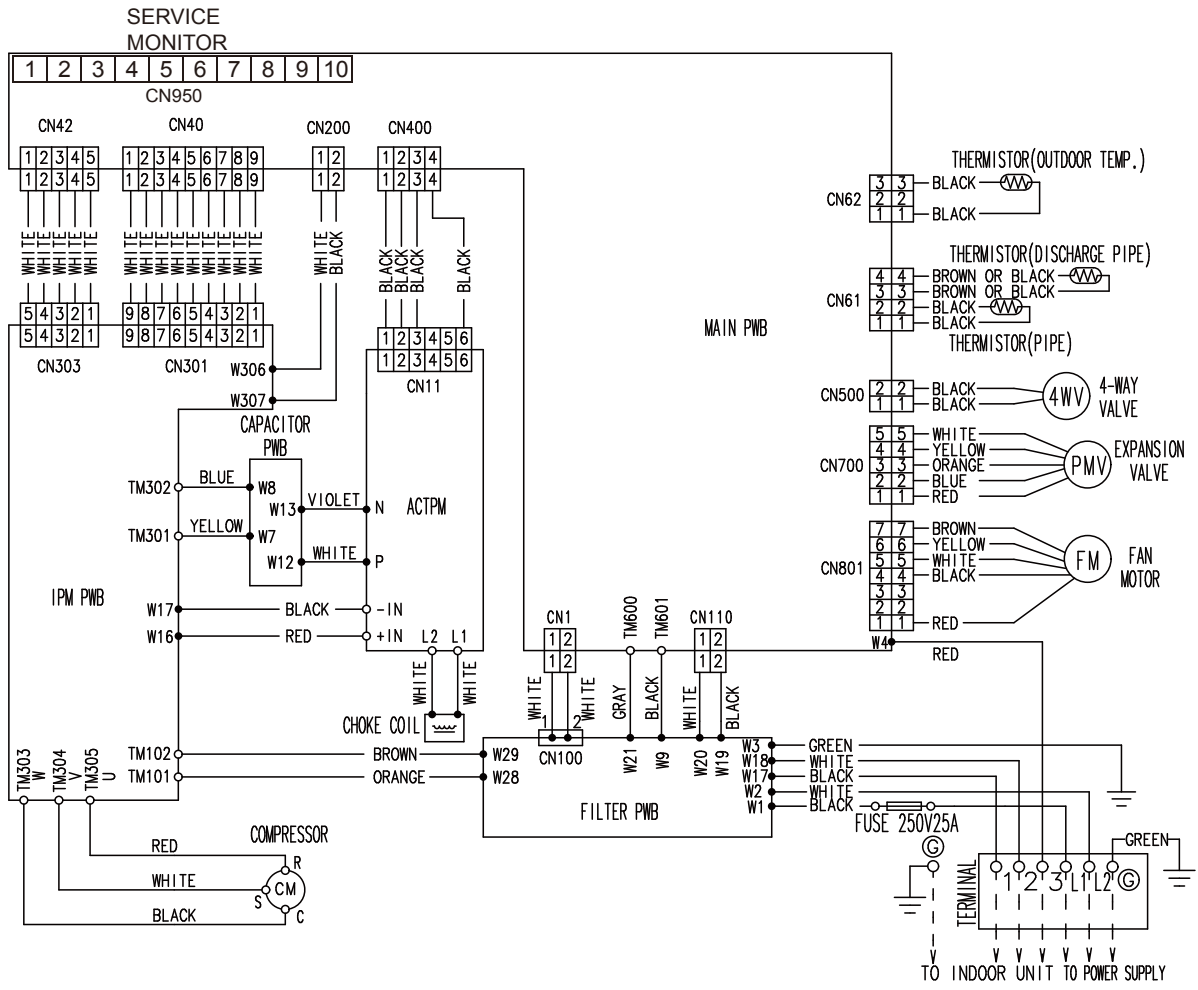
4. WIRING DIAGRAMS

■ MODEL : AOU9RLS3, AOU12RLS3

SERVICE
MONITOR

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

CN580

REACTOR

WHITE — W10
RED — W11

PRINTED CIRCUIT
BOARD(MAIN)

THERMISTOR(PIPE)

BLACK — 1 1
BLACK — 2 2
BROWN — 3 3   CN71
BROWN — 4 4

THERMISTOR(DISCHARGE PIPE)

THERMISTOR(OUTDOOR TEMP.)

BLACK — 1 1
2 2   CN70
BLACK — 3 3

WHITE
RED — W4
WHITE — W2
FUSE 250V5A
BLACK — W1
FUSE 250V20A
BLACK
BLACK
W3
GREEN

GREEN

G
TERMINAL 1 2 3 L1 L2 G

TO INDOOR UNIT   TO POWER SUPPLY

U W7
V W8
W W9

RED
WHITE
BLACK

R
CM
S
C

COMPRESSOR

CN800

1 1 — RED
2 2
3 3
4 4 — BLACK
5 5 — WHITE
6 6 — YELLOW
7 7 — BROWN

FM

FAN
MOTOR

CN40

1 1 — RED
2 2 — BLUE
3 3 — ORANGE
4 4 — YELLOW
5 5 — WHITE

PMV

EXPANSION
VALVE

CN30

1 1 — BLACK
2 2
3 3 — BLACK

4WV

4-WAY
VALVE

- (02 - 05) -

■MODEL: AOU15RLS3

SERVICE MONITOR

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

CN950

CN42

CN40

CN200

CN400

THERMISTOR(OUTDOOR TEMP.)

CN62 — BLACK / BLACK

THERMISTOR(DISCHARGE PIPE)

CN61 — BROWN OR BLACK / BROWN OR BLACK / BLACK / BLACK

THERMISTOR(PIPE)

MAIN PWB

CN500 — BLACK / BLACK — 4WV 4-WAY VALVE

CN700 — WHITE / YELLOW / ORANGE / BLUE / RED — PMV EXPANSION VALVE

CN801 — BROWN / YELLOW / WHITE / BLACK / RED — FM FAN MOTOR

W306
W307

CN303 CN301

CN11

CAPACITOR PWB

TM302 — BLUE — W8
W13 VIOLET N ACTPM
TM301 — YELLOW — W7
W12 WHITE P

IPM PWB

W17 — BLACK — -IN
W16 — RED — +IN L2 L1

CHOKE COIL

CN1 TM600 TM601 CN110

W4

RED

TM303 W
TM304 V
TM305 U

TM102 — BROWN — W29
TM101 — ORANGE — W28

CN100

W21 W9 W20 W19

FILTER PWB

W3 — GREEN
W18 — WHITE
W17 — BLACK
W2 — WHITE
W1 — BLACK

FUSE 250V25A

RED
WHITE
BLACK

COMPRESSOR

R
CM
S C

TERMINAL

1 2 3 L1 L2

TO INDOOR UNIT   TO POWER SUPPLY

GREEN

5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL : AOU9RLS3, AOU12RLS3

COOLING				Pipe length (m)				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	*1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.877	0.874
		10m	33ft.	-	-	0.956	0.891	0.888
		7.5m	25ft.	-	0.988	0.960	0.895	0.892
		5m	17ft.	1.017	0.992	0.964	0.899	0.895
		0m	0ft.	1.025	1.000	0.971	0.906	0.902
	*2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.025	1.000	0.971	0.906	0.902
		-7.5m	-25ft.	-	1.000	0.971	0.906	0.902
		-10m	-33ft.	-	-	0.971	0.906	0.902
		-15m	-50ft.	-	-	-	0.906	0.902

HEATING				Pipe length (m)				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	*1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.933	0.925
		10m	33ft.	-	-	0.981	0.933	0.925
		7.5m	25ft.	-	1.000	0.981	0.933	0.925
		5m	17ft.	1.017	1.000	0.981	0.933	0.925
		0m	0ft.	1.017	1.000	0.981	0.933	0.925
	*2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.012	0.995	0.976	0.928	0.920
		-7.5m	-25ft.	-	0.993	0.974	0.926	0.918
		-10m	-33ft.	-	-	0.971	0.923	0.916
		-15m	-50ft.	-	-	-	0.914	0.906

Height difference H

*1 Indoor unit is upper than outdoor unit.

*2 Indoor unit is under than outdoor unit.

■ MODEL : AOU15RLS3

COOLING				Pipe length (m)				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	*1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.951	0.950
		10m	33ft.	-	-	0.979	0.967	0.966
		7.5m	25ft.	-	0.988	0.983	0.971	0.970
		5m	17ft.	0.994	0.992	0.987	0.975	0.974
		0m	0ft.	1.002	1.000	0.995	0.983	0.982
	*2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.002	1.000	0.995	0.983	0.982
		-7.5m	-25ft.	-	1.000	0.995	0.983	0.982
		-10m	-33ft.	-	-	0.995	0.983	0.982
		-15m	-50ft.	-	-	-	0.983	0.982

HEATING				Pipe length (m)				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	*1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.994	0.979
		10m	33ft.	-	-	1.012	0.994	0.979
		7.5m	25ft.	-	1.000	1.012	0.994	0.979
		5m	17ft.	0.969	1.000	1.012	0.994	0.979
		0m	0ft.	0.969	1.000	1.012	0.994	0.979
	*2 Indoor unit is under than outdoor unit	-5m	-17ft.	0.964	0.995	1.007	0.989	0.974
		-7.5m	-25ft.	-	0.993	1.004	0.986	0.972
		-10m	-33ft.	-	-	1.002	0.984	0.969
		-15m	-50ft.	-	-	-	0.974	0.959

Height difference H

*1 Indoor unit is upper than outdoor unit.

*2 Indoor unit is under than outdoor unit.
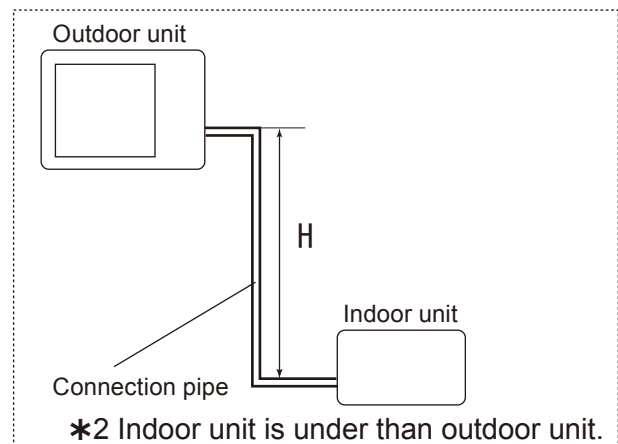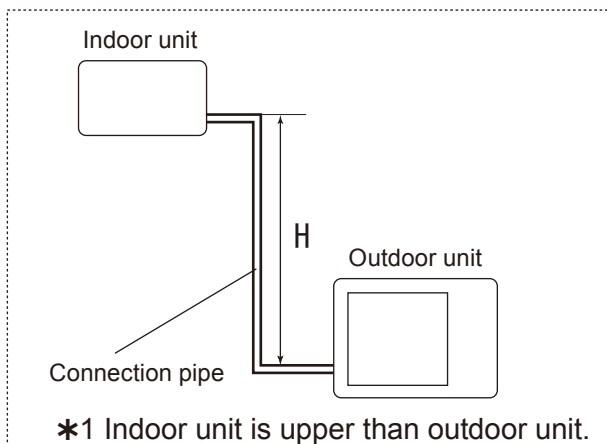
6. ADDITIONAL CHARGE CALCULATION

■ MODEL : AOU9RLS3, AOU12RLS3

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	2lbs.14oz.
	g	1,300

● REFRIGERANT CHARGE

Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	+3.5	
	g	0	+100	

■ MODEL : AOU15RLS3

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	3lbs.1oz.
	g	1,400

● REFRIGERANT CHARGE

Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	+3.5	
	g	0	+100	

7. AIR FLOW

■ MODEL : AOU9RLS3, AOU12RLS3

● Cooling

Air flow	
1,680	m^3/h
467	l/s
989	CFM

● Heating

Air flow	
1,840	m^3/h
510	l/s
1,082	CFM

■ MODEL : AOU15RLS3

● Cooling

Air flow	
2,050	m^3/h
569	l/s
1,206	CFM

● Heating

Air flow	
1,840	m^3/h
510	l/s
1,082	CFM

8. OPERATION NOISE

8-1. NOISE LEVEL CURVE

■ MODEL : AOU9RLS3

● Cooling
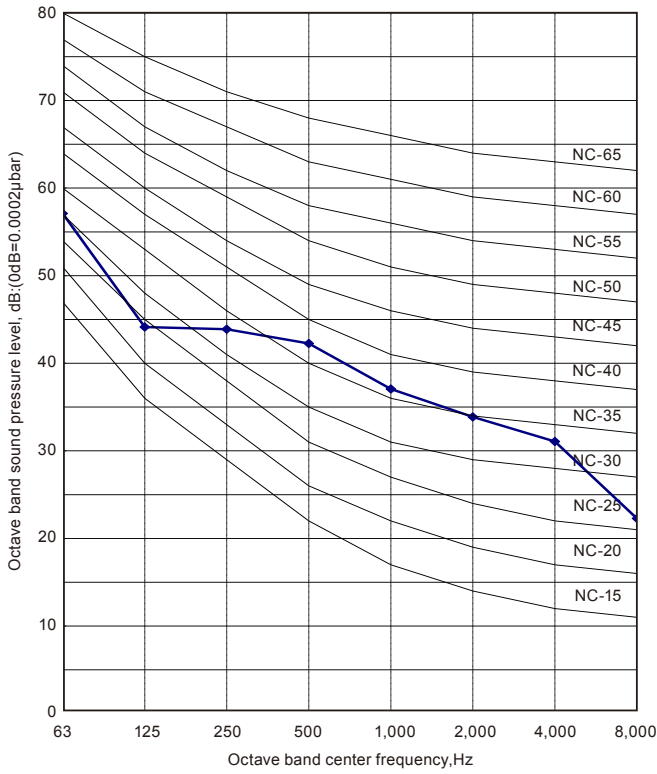
● Heating
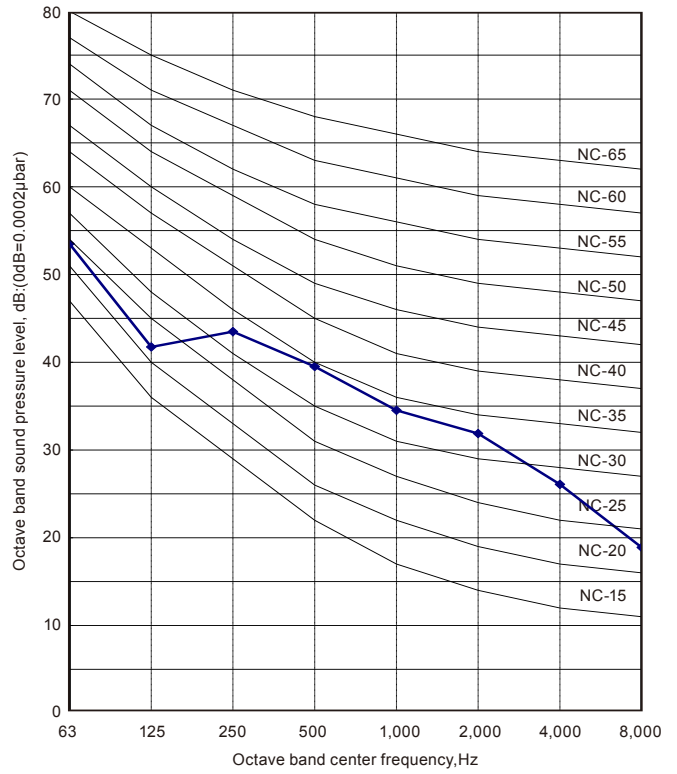
■ MODEL : AOU12RLS3

● Cooling
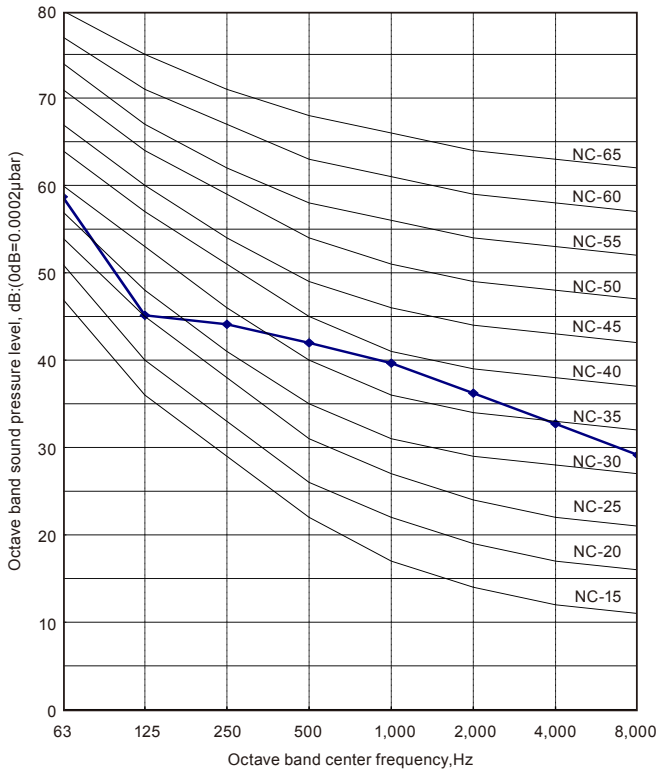
● Heating
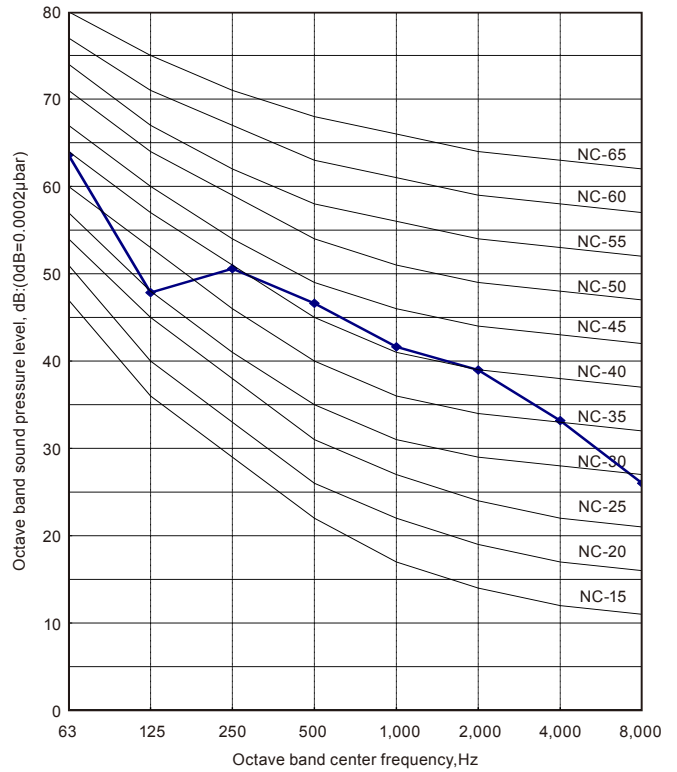
■ MODEL : AOU15RLS3

● Cooling

Octave band sound pressure level, dB : (0dB=0.0002μbar)

Octave band center frequency, Hz

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

● Heating

Octave band sound pressure level, dB : (0dB=0.0002μbar)

Octave band center frequency, Hz

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

8-2. SOUND LEVEL CHECK POINT

Air Flow

Microphone

39-3/8in. (1m)

Microphone
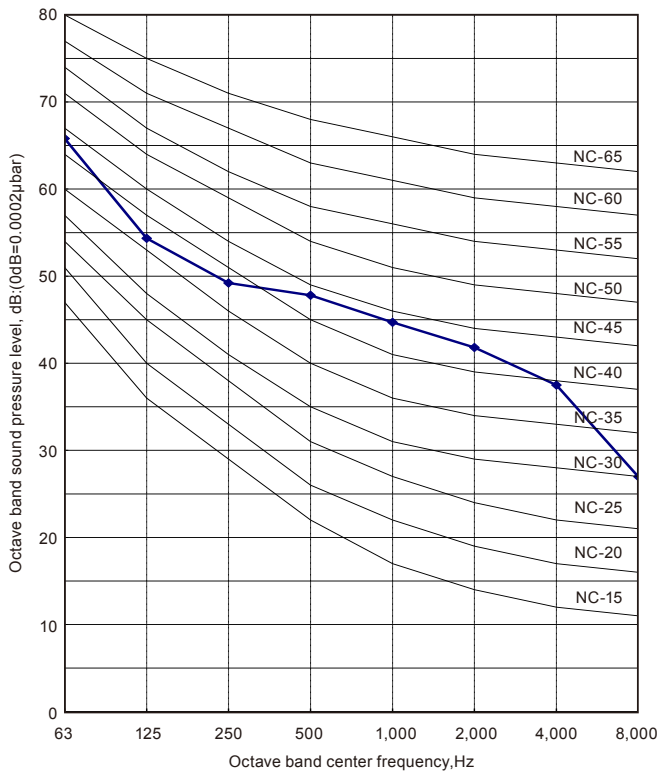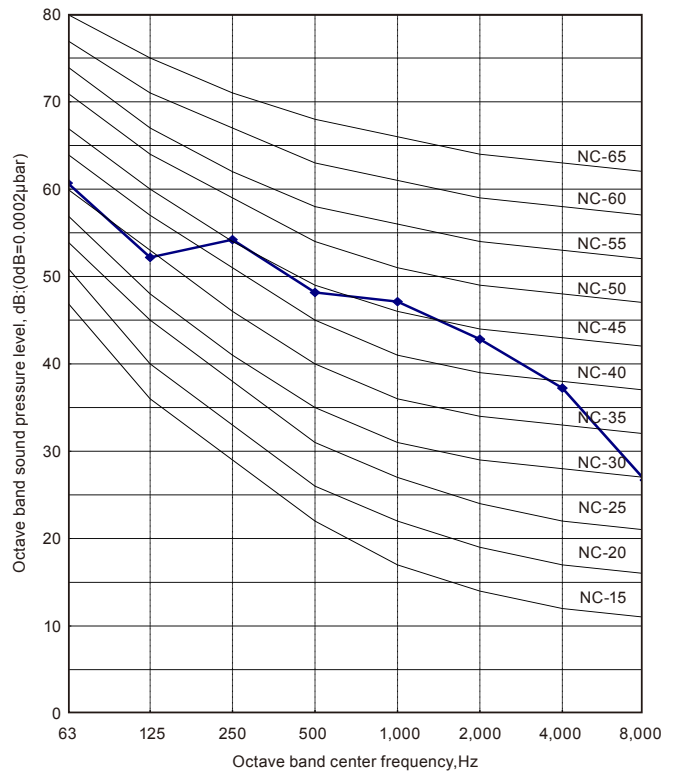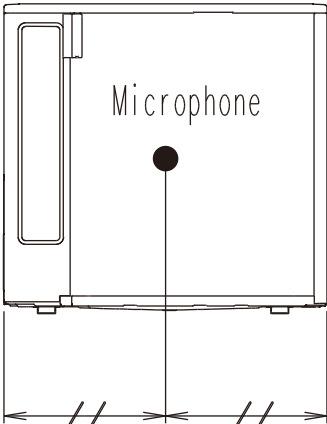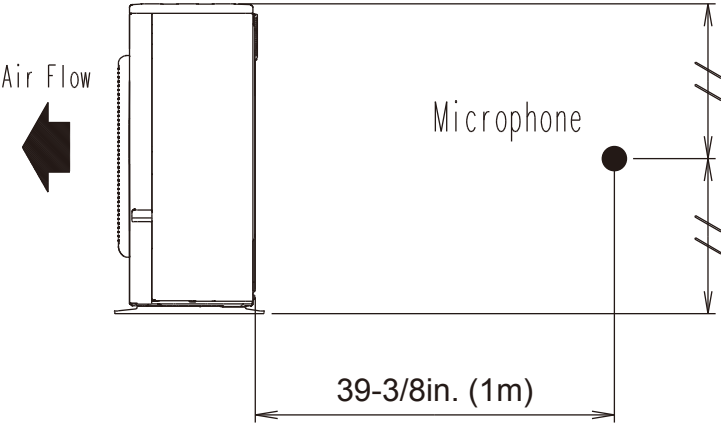
9. ELECTRIC CHARACTERISTICS

Model name				AOU9RLS3	AOU12RLS3	AOU15RLS3
Power supply	Voltage		V	208 / 230 ~		
	Frequency		Hz	60		
MCA			A	13.4		17.2
Starting Current			A	3.3	4.7	5.2
Wiring Spec. *1	MAX. CKT. BKR		A	15		20
	Power Cable		AWG	14		12
	Connection cable *2		AWG	14		
		Limited wiring length :	ft. (m)	68 (21)		

*1: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005.

*2: Limit voltage drop to less than 2%. Increase conductor size if voltage drop is 2% or more.

MCA : Min Circuit Amp (Calculation based on UL1995)
MAX. CKT. BKR : Maximum Circuit Breaker

10. SAFETY DEVICES

	Protection form	Model		
		AOU9RLS3	AOU12RLS3	AOU15RLS3
Circuit protection	Current fuse (NEAR THE TERMINAL)	250V 20A		250V 25A
		250V 5A		
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	250V 15A		250V 3.15A
		250V 3.15A		
	Current fuse (FILTER PRINTED CIRCUIT BOARD)	-		250V 15A
Fan motor protection	Thermal protection program	OFF : 212±27 °F (100±15 °C) ON : 203±18 °F (95±10 °C)		
Compressor protection	Thermal protection program (DISCHARGE TEMP.)	OFF : 230 °F (110 °C) ON : After 7 minutes		