FUJITSU

Refrigerant R410A

INVERTER

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR

ASYG09LZCA
ASYG12LZCA
ASYG14LZCA

OUTDOOR

AOYG09LZCAN
AOYG12LZCAN
AOYG14LZCAN

FUJITSU GENERAL LIMITED

Notices:
• Product specifications and design are subject to change without notice for future improvement.
• For further details, please check with our authorized dealer.

CONTENTS

CONTENTS (continued)

Part 1. INDOOR UNIT

WALL MOUNTED TYPE:
ASYG09LZCA
ASYG12LZCA
ASYG14LZCA

1. Product features

Implemented core technology provides easy-to-use product operations that realize a comfortable space.

1-1. Model lineup

ASYG09LZCA
ASYG12LZCA
ASYG14LZCA

AOYG09LZCAN
AOYG12LZCAN
AOYG14LZCAN

1-2. Features

■ Powerful operation

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
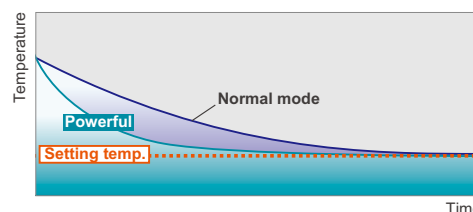
■ Energy saving control by using human sensor

Implemented human sensor detects the presence or absence of human in a room by sensing movement of occupants, and suppress both of the air conditioner operation and energy consumption.

SAVE!

AUTO RESET

Human sensor

■ 10 °C HEAT operation

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

⚠ CAUTION

- When the room temperature is higher than 10 °C, 10 °C HEAT operation does not start. Operation starts and maintains the room temperature at 10 °C when the temperature drops below 10 °C.
- When 10 °C HEAT operation stops, the room set temperature quickly returns to the preset temperature.

■ Outdoor unit low noise

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

■ Economy operation

Economy operation is energy saving as the set temperature of indoor unit is shifted by 1 °C, and the maximum electric value of the outdoor unit is suppressed.

Example: Cooling operation

■ 5-mode timer (on, off, weekly, program, and sleep)

Weekly timer can be easily set by wireless remote controller.
On and 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.

2. Remote controller

2-1. Wireless remote controller

■ Features

• 5-mode timer setup (on, off, weekly, program, and sleep) available.
• Easy operation.
• Easy to change custom code (max. 4 custom code).
• Can be used jointly with wired remote controllers.

● Simple function setting

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

● Weekly timer

Weekly timer can be easily set by wireless remote controller.
On and off can be set up to 4 times in a day, and up to 28 times in a 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 time setting to prevent excessive cooling and heating while sleeping.

Cooling operation/Dry operation
When the sleep timer is set, the set temperature automatically rises 1 °C every hour. The set temperature can rise up to a maximum of 2 °C.
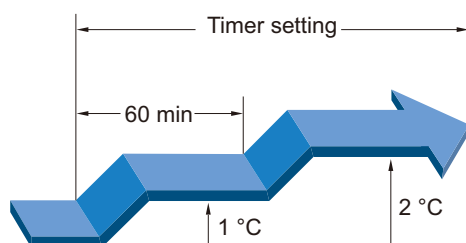
Heating operation
When the sleep timer is set, the set temperature automatically drops 1 °C every 30 minutes. The set temperature can drop to a maximum of 4 °C.
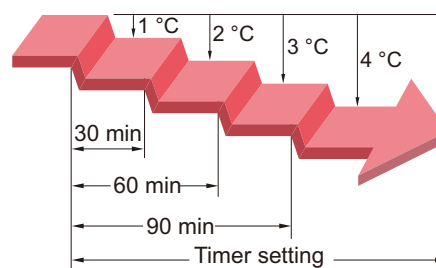
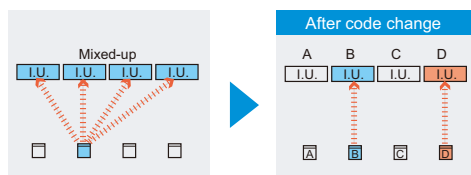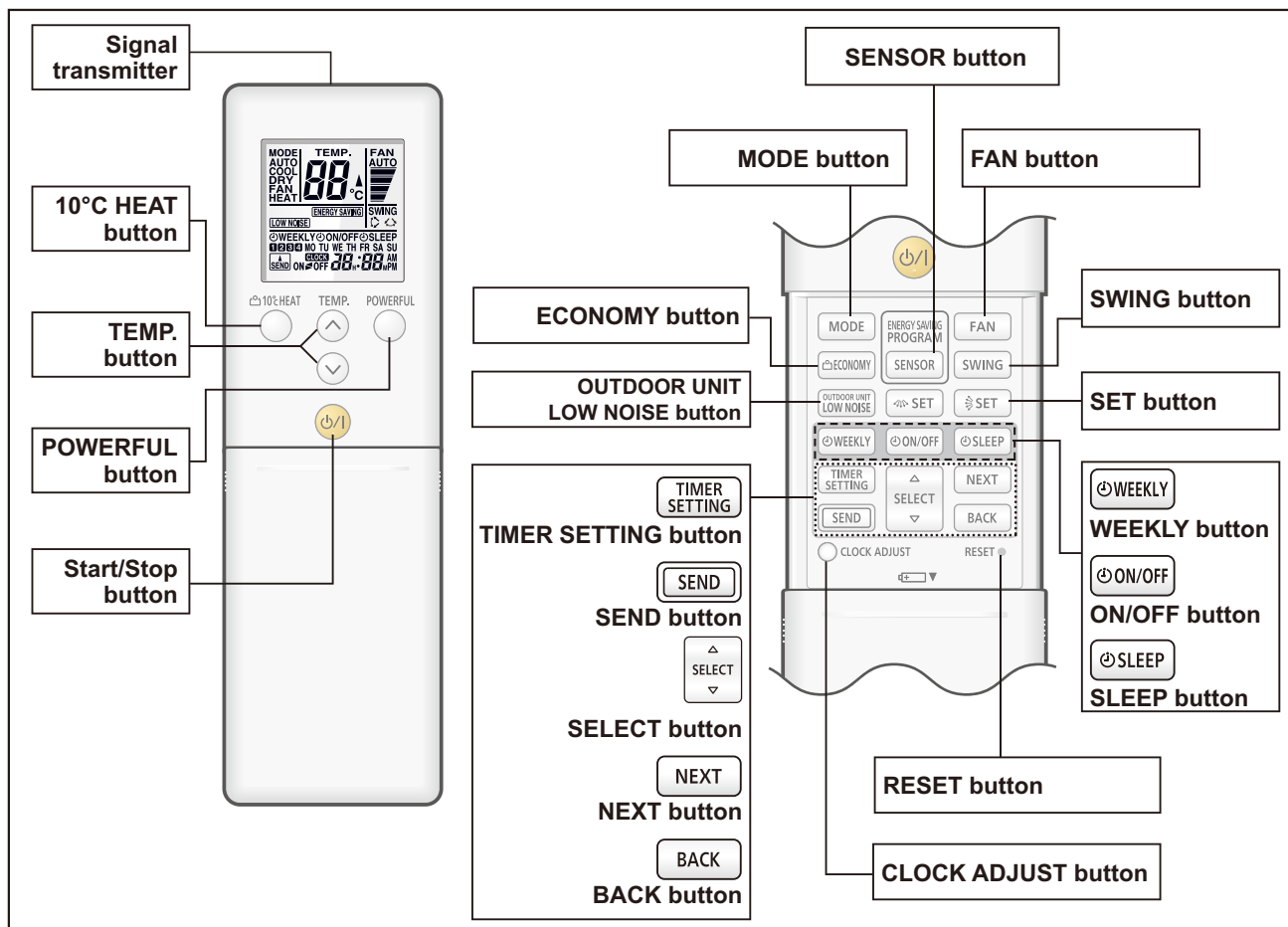# ● Switching remote controller custom code

Code selector switch eliminates unit being wrongly switched. (Up to 4 codes can be set.)

* I.U.: Indoor unit

■ Overview

Signal transmitter	**SENSOR button**
10°C HEAT button	**MODE button** / **FAN button**
TEMP. button	**ECONOMY button** / **SWING button**
POWERFUL button	**OUTDOOR UNIT LOW NOISE button** / **SET button**
Start/Stop button	**TIMER SETTING button**

ECONOMY button

OUTDOOR UNIT LOW NOISE button

TIMER SETTING button

SEND button

SELECT button

NEXT button

BACK button

SWING button

SET button

WEEKLY button

ON/OFF button

SLEEP button

RESET button

CLOCK ADJUST button

NOTE: Functions may differ by type of the indoor unit. For details, refer to the operation manual.

Display panel

Temperature indicator	**Transmit indicator**
Mode indicator	**Fan speed indicator**
ENERGY SAVING mode indicator	
∗Turns on when the SENSOR button is operated.	
LOW NOISE mode indicator	**Swing indicator**
SEND indicator	**Clock and Timer indicator**
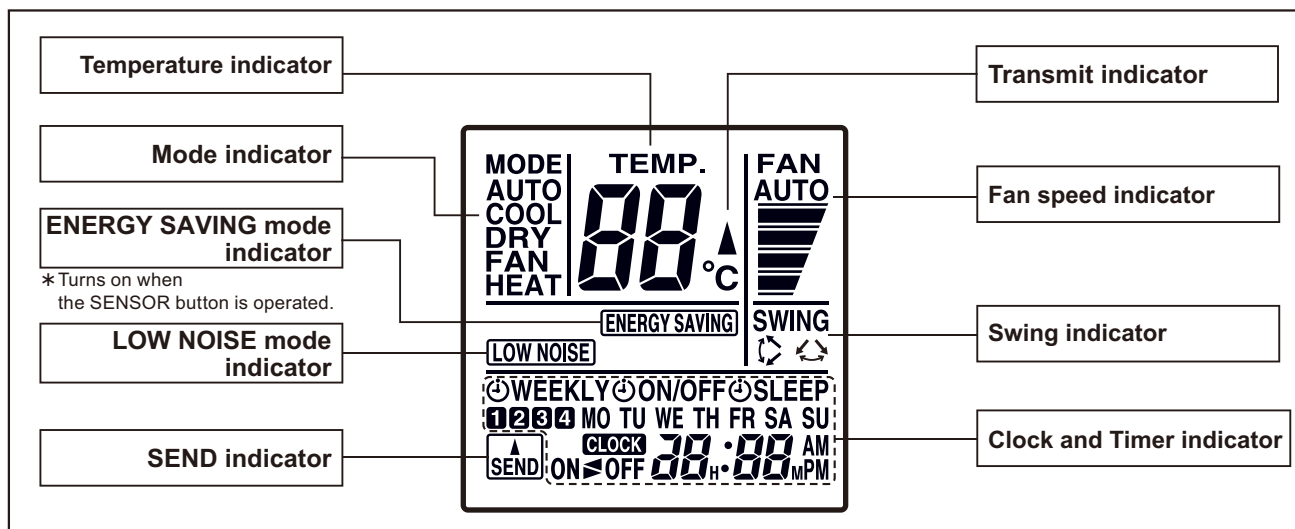
To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

■ Specifications

● Controller

Unit: mm

Top view

Front view   Side view
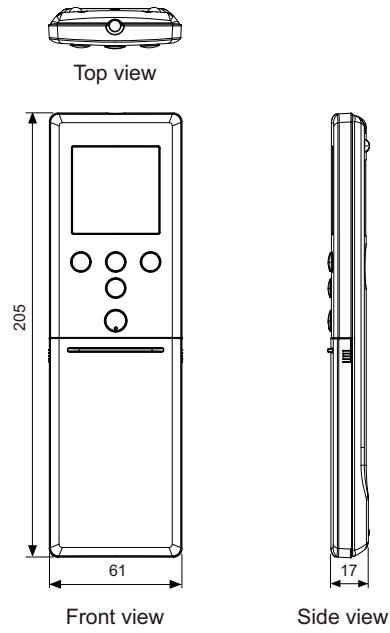
Size (H × W × D)	mm	205 × 61 × 17
Weight	g	122 (without batteries)

● Holder

Unit: mm

Front View   Side View   Bottom View
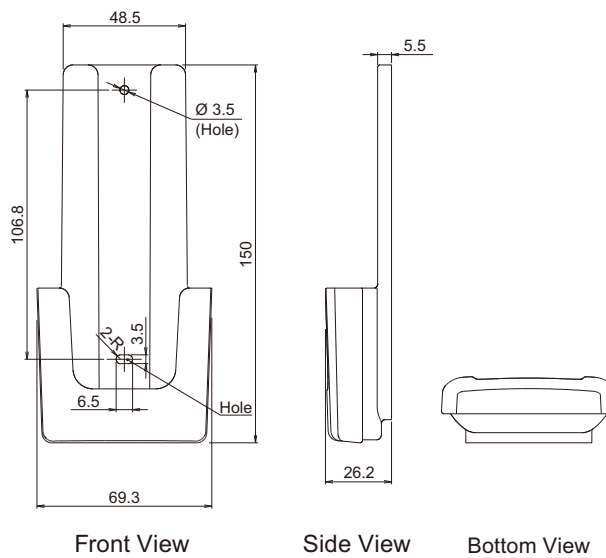
Size (H × W × D)	mm	150 × 69.3 × 26.2
Weight	g	27

3. Specifications

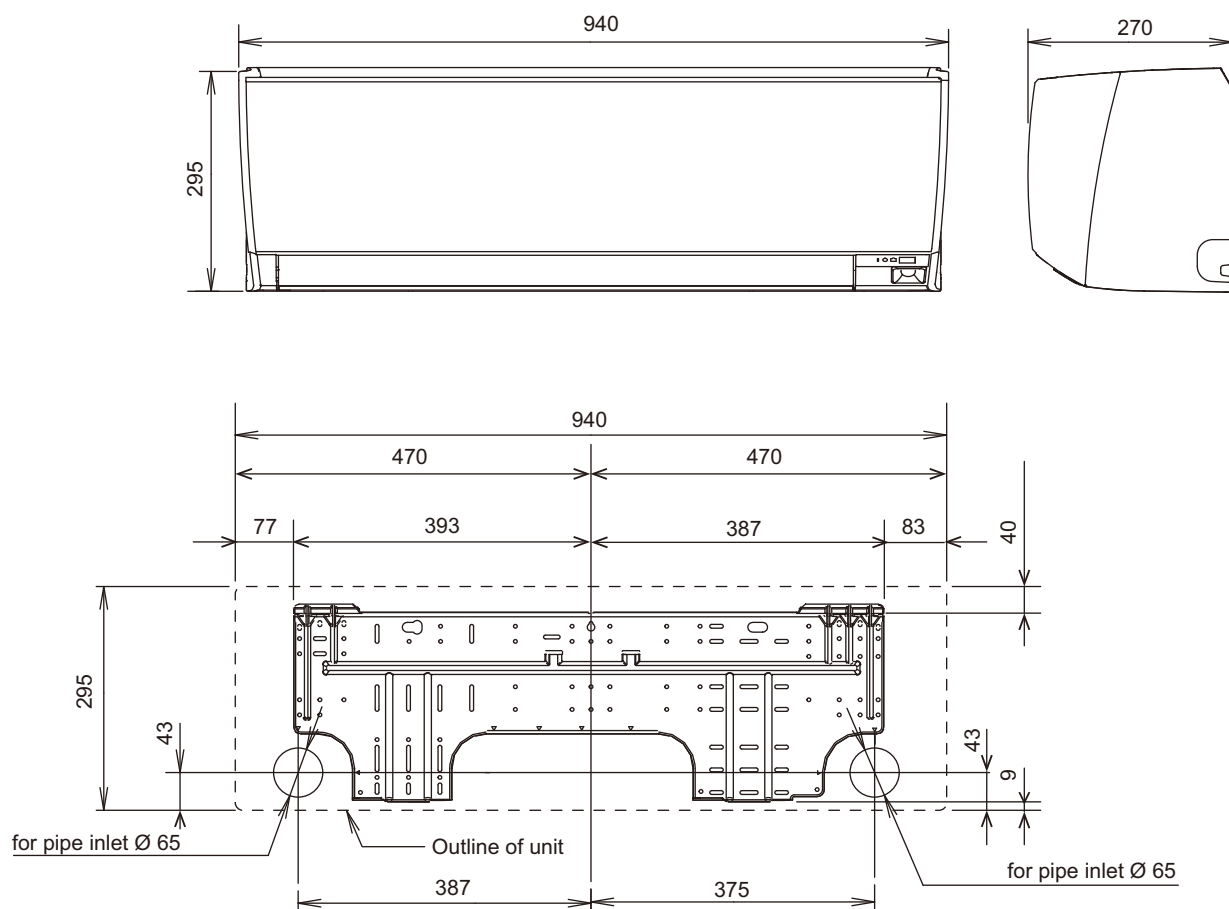| Type					Wall mounted		
					Inverter heat pump		
Model name					ASYG09LZCA	ASYG12LZCA	ASYG14LZCA
Power supply					230 V ~ 50 Hz		
Available voltage range					198—264 V		
Capacity	Cooling	Rated		kW	2.50	3.50	4.20
				Btu/h	8,500	11,900	14,300
		Min.—Max.		kW	0.90—4.65	0.90—4.80	0.90—6.40
				Btu/h	3,100—15,800	3,100—16,300	3,100—21,800
	Heating	Rated		kW	3.20	4.00	5.40
				Btu/h	10,900	13,600	18,400
		Min.—Max.		kW	0.90—7.20	0.90—7.40	0.90—8.90
				Btu/h	3,100—24,500	3,100—25,200	3,100—30,300
Input power	Cooling	Rated	kW		0.48	0.80	1.05
		Max.			0.85	0.99	1.56
	Heating	Rated			0.555	0.76	1.17
		Max.			1.93	1.94	2.19
	Fan	HIGH	W		23	23	32
		MED			13	13	20
		LOW			9	9	12
		QUIET			5	5	6
Current	Cooling	Rated	A		2.7	4.0	4.8
	Heating				2.9	3.9	5.3
EER	Cooling		kW/kW		5.21	4.38	4.00
COP	Heating				5.77	5.26	4.62
Power factor	Cooling		%		77	87	95
	Heating				83	85	96
Moisture removal			L/h (pints/h)		1.0 (2.1)	1.1 (2.3)	1.7 (3.6)
Maximum operating current *1	Cooling		A		9.4	9.4	9.9
	Heating				11.9	11.9	14.9
Fan	Airflow rate	Cooling	HIGH	m³/h	830		900
			MED		680		780
			LOW		580		630
			QUIET		380		440
		Heating	HIGH		830		900
			MED		680		780
			LOW		580		630
			QUIET		380		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		44
		MED			35		39
		LOW			31		33
		QUIET			23		27
Heat exchanger type	Dimensions (H × W × D)		mm		Main: 384 × 720 × 30 Sub 1: 84 × 720 × 13.3 Sub 2: 126 × 720 × 13.3		
	Fin pitch				Main: 1.2, Sub 1 and Sub 2: 1.4		
	Rows × Stages				Main: 3 × 24, Sub 1: 1 × 4, Sub 2: 1 × 6		
	Pipe type				Copper tube		
	Fin type				Aluminum		
Enclosure	Material				Polystyrene		
	Color				White Approximate color of MUNSELL 5PB 9.25/0.5		
Dimensions (H × W × D)	Net		mm		295 × 940 × 270		
	Gross				365 × 1,040 × 355		
Weight	Net		kg		14		
	Gross				17		
Connection pipe	Size	Liquid	mm (in)		Ø 6.35 (Ø 1/4)		
		Gas			Ø 9.52 (Ø 3/8)		Ø 12.7 (Ø 1/2)
	Method				Flare		
Drain hose	Material				PP+LLDPF		
	Size		mm		Ø 13.8 (I.D.), Ø 15.8 to Ø 16.7 (O.D.)		
Operation range	Cooling		°C		18 to 32		
			%RH		80 or less		
	Heating		°C		16 to 30		
Remote controller type					Wireless (Wired [option])		

NOTES:
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27 °CDB/ 19 °CWB, and outdoor temperature of 35 °CDB/ 24 °CWB.
  - Heating: Indoor temperature of 20 °CDB/ 15 °CWB, and outdoor temperature of 7 °CDB/ 6 °CWB.
  - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Maximum current is maximum value when operated within the operation range.
- *2: Sound pressure level:
  - Measured values in 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.

Model name				ASYG09LZCA	ASYG12LZCA	ASYG14LZCA
Energy efficiency class	Cooling			A^{+++}	A^{+++}	A^{++}
	Heating (Average)			A^{+++}	A^{++}	A^{+}
Pdesign	Cooling		kW	2.5 (35 °C)	3.5 (35 °C)	4.2 (35 °C)
	Heating (Average)			2.5 (-10 °C)	3.5 (-10 °C)	4.2 (-10 °C)
SEER	Cooling		kWh/kWh	9.51	8.60	7.92
SCOP	Heating (Average)			5.31	4.93	4.44
Annual energy consumption	QCE		kWh/a	92	142	186
	QHE (Average)			659	993	1322
Sound power level	Cooling	HIGH	dB (A)	56	56	59
	Heating			56	56	59

4. Dimensions

4-1. Models: ASYG09LZCA, ASYG12LZCA, and ASYG14LZCA

Unit: mm

940

270

295

940

470

470

77

393

387

83

40

295

43

43

9

for pipe inlet Ø 65

Outline of unit

for pipe inlet Ø 65

387

375

■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: mm

Outline of unit

50 or more

127 or more

50 or more

84 or more

50 or more

133 or more

1,500 or more

1,800 or more
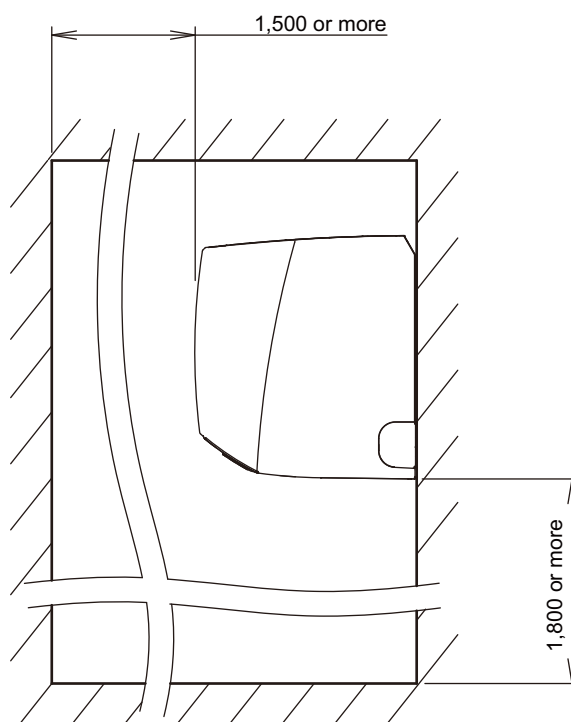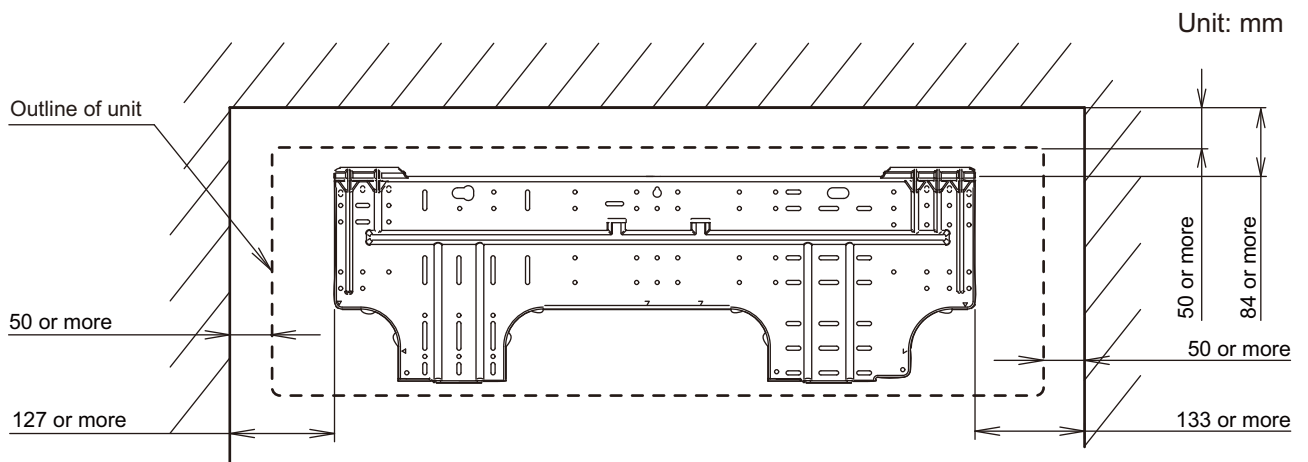
5. Wiring diagrams

5-1. Models: ASYG09LZCA, ASYG12LZCA, and ASYG14LZCA

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 | TO COMMUNICATION KIT (OPTION) |
| 6 |
| 7 |
| 8 |
| 9 |

GREEN ●W4

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

PYROELECTRIC SENSOR BOARD

1	1
2	2
3	3

TERMINAL

| 1 | 2 | 3 |

6. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

For cooling capacity: Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)

For heating capacity: Total Capacity (TC) and Input Power (IP)

6-1. Cooling capacity

■ Model: ASYG09LZCA

AFR	m³/h																				830		

		Indoor temperature																					
	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW			kW		
Outdoor temperature	-10.0	2.31	2.27	0.19	2.58	2.28	0.19	2.71	2.38	0.19	2.85	2.49	0.20	2.93	2.68	0.19	3.10	2.67	0.19	3.28	2.76	0.20
	-5.0	2.27	2.21	0.21	2.53	2.22	0.21	2.66	2.32	0.21	2.79	2.43	0.22	2.87	2.62	0.22	3.04	2.61	0.22	3.21	2.70	0.22
	0.0	2.22	2.16	0.22	2.47	2.18	0.22	2.60	2.28	0.22	2.73	2.37	0.23	2.81	2.57	0.22	2.97	2.56	0.22	3.14	2.65	0.23
	5.0	2.17	2.13	0.23	2.42	2.14	0.23	2.55	2.24	0.23	2.67	2.33	0.24	2.75	2.52	0.23	2.91	2.50	0.23	3.08	2.60	0.24
	10.0	2.12	2.07	0.21	2.36	2.08	0.21	2.49	2.18	0.22	2.61	2.27	0.23	2.69	2.46	0.22	2.84	2.44	0.22	3.01	2.54	0.23
	15.0	2.07	2.04	0.26	2.31	2.04	0.26	2.43	2.14	0.26	2.55	2.22	0.27	2.63	2.41	0.26	2.78	2.39	0.26	2.94	2.49	0.27
	20.0	2.34	2.29	0.33	2.61	2.30	0.33	2.70	2.40	0.34	2.87	2.51	0.34	2.96	2.71	0.34	3.14	2.70	0.34	3.32	2.77	0.35
	25.0	2.22	2.17	0.38	2.48	2.18	0.38	2.56	2.28	0.38	2.73	2.39	0.39	2.81	2.57	0.39	2.98	2.56	0.39	3.15	2.63	0.39
	30.0	2.10	2.05	0.42	2.34	2.07	0.42	2.42	2.16	0.42	2.58	2.25	0.43	2.66	2.43	0.43	2.82	2.43	0.44	2.98	2.48	0.44
	35.0	1.98	1.93	0.46	2.20	1.94	0.47	2.28	2.03	0.47	2.43	2.12	0.48	2.50	2.29	0.48	2.65	2.28	0.49	2.80	2.33	0.49
	40.0	1.76	1.59	0.43	1.96	1.73	0.44	2.03	1.81	0.44	2.16	1.88	0.45	2.23	2.04	0.45	2.36	2.03	0.45	2.50	2.08	0.45
	46.0	1.51	1.50	0.43	1.69	1.60	0.44	1.74	1.68	0.44	1.85	1.75	0.45	1.92	1.89	0.45	2.03	1.88	0.45	2.13	1.93	0.45

■ Model: ASYG12LZCA

AFR	m³/h																				830		

		Indoor temperature																					
	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW			kW		
Outdoor temperature	-10.0	3.02	2.85	0.28	3.36	2.86	0.28	3.54	3.00	0.29	3.77	3.18	0.29	3.83	3.38	0.29	4.05	3.35	0.29	4.28	3.57	0.30
	-5.0	2.99	2.82	0.33	3.34	2.83	0.33	3.51	2.97	0.34	3.74	3.14	0.34	3.80	3.34	0.34	4.02	3.32	0.34	4.25	3.54	0.35
	0.0	2.97	2.80	0.37	3.31	2.81	0.37	3.49	2.94	0.37	3.71	3.12	0.38	3.77	3.32	0.38	3.99	3.30	0.38	4.22	3.52	0.39
	5.0	2.95	2.78	0.39	3.29	2.80	0.39	3.46	2.92	0.40	3.68	3.10	0.40	3.74	3.30	0.41	3.96	3.28	0.41	4.19	3.49	0.42
	10.0	2.93	2.75	0.40	3.26	2.77	0.40	3.43	2.90	0.41	3.65	3.07	0.41	3.71	3.26	0.41	3.93	3.25	0.41	4.15	3.47	0.43
	15.0	2.90	2.74	0.42	3.24	2.76	0.42	3.40	2.88	0.42	3.62	3.05	0.43	3.68	3.24	0.43	3.90	3.23	0.43	4.12	3.44	0.44
	20.0	3.28	3.09	0.55	3.65	3.11	0.56	3.77	3.25	0.56	4.02	3.44	0.57	4.15	3.66	0.57	4.40	3.64	0.57	4.64	3.88	0.58
	25.0	3.12	2.93	0.63	3.47	2.95	0.63	3.59	3.09	0.64	3.83	3.27	0.64	3.95	3.48	0.64	4.18	3.46	0.65	4.42	3.68	0.66
	30.0	2.95	2.77	0.70	3.28	2.78	0.71	3.40	2.91	0.71	3.62	3.09	0.71	3.73	3.28	0.72	3.96	3.27	0.73	4.18	3.49	0.74
	35.0	2.77	2.61	0.77	3.08	2.62	0.78	3.19	2.74	0.79	3.40	2.90	0.80	3.50	3.09	0.80	3.71	3.08	0.81	3.92	3.27	0.82
	40.0	2.34	2.33	0.72	2.60	2.34	0.73	2.69	2.44	0.74	2.87	2.58	0.74	2.96	2.75	0.74	3.14	2.74	0.75	3.31	2.92	0.76
	46.0	1.98	1.97	0.72	2.22	2.10	0.73	2.29	2.20	0.74	2.43	2.32	0.74	2.50	2.48	0.74	2.66	2.47	0.75	2.81	2.63	0.76

■ Model: ASYG14LZCA

AFR	m³/h	900

	Indoor temperature																					
°CDB	18			21			23			25			27			29			32		
°CWB	12			15			16			18			19			21			23		
°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	kW			kW			kW			kW			kW			kW			kW		
-10.0	3.69	2.91	0.36	4.11	3.24	0.37	4.32	3.26	0.37	4.53	3.57	0.39	4.67	3.68	0.37	4.94	3.89	0.38	5.22	4.12	0.39
-5.0	3.63	2.85	0.39	4.04	3.18	0.40	4.25	3.20	0.40	4.46	3.50	0.42	4.59	3.61	0.41	4.86	3.82	0.41	5.14	4.04	0.42
0.0	3.57	2.81	0.41	3.98	3.13	0.41	4.18	3.16	0.41	4.39	3.46	0.43	4.52	3.56	0.42	4.79	3.77	0.42	5.06	3.99	0.43
5.0	3.52	2.77	0.41	3.92	3.09	0.42	4.12	3.11	0.42	4.32	3.40	0.44	4.45	3.51	0.43	4.71	3.71	0.43	4.98	3.93	0.44
10.0	3.46	2.72	0.43	3.85	3.03	0.43	4.05	3.06	0.43	4.25	3.34	0.45	4.38	3.45	0.44	4.64	3.65	0.44	4.90	3.86	0.45
15.0	3.40	2.67	0.45	3.79	2.98	0.46	3.98	3.00	0.46	4.18	3.28	0.48	4.31	3.38	0.47	4.56	3.59	0.47	4.82	3.79	0.48
20.0	3.91	3.29	0.73	4.35	3.31	0.75	4.50	3.46	0.75	4.80	3.60	0.75	4.95	3.90	0.75	5.24	3.87	0.76	5.54	4.14	0.76
25.0	3.72	3.13	0.82	4.15	3.15	0.83	4.29	3.29	0.84	4.57	3.44	0.85	4.71	3.71	0.85	5.00	3.70	0.86	5.28	3.94	0.86
30.0	3.53	2.97	0.92	3.93	2.99	0.93	4.07	3.12	0.94	4.34	3.26	0.95	4.47	3.52	0.95	4.74	3.51	0.96	5.01	3.74	0.96
35.0	3.32	2.79	1.02	3.70	2.81	1.03	3.82	2.94	1.04	4.07	3.06	1.04	4.20	3.31	1.05	4.45	3.29	1.06	4.70	3.51	1.06
40.0	2.92	2.45	1.00	3.25	2.46	1.02	3.36	2.58	1.02	3.58	2.69	1.03	3.69	2.90	1.03	3.91	2.89	1.04	4.13	3.08	1.05
46.0	2.42	2.24	0.98	2.70	2.25	1.00	2.79	2.35	1.00	2.97	2.45	1.02	3.06	2.64	1.02	3.24	2.63	1.03	3.44	2.81	1.02

Outdoor temperature

6-2. Heating capacity

■ Model: ASYG09LZCA

AFR	m³/h	830								

		Indoor temperature								
		16		18		20		22		24	
°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
		kW		kW		kW		kW		kW	
-25	-26	3.53	2.15	3.44	2.19	3.36	2.23	3.27	2.32	3.19	2.36
-20	-21	4.45	2.16	4.34	2.20	4.24	2.24	4.13	2.33	4.02	2.38
-15	-16	4.88	2.17	4.77	2.21	4.65	2.25	4.53	2.34	4.42	2.39
-10	-11	5.19	2.13	5.07	2.17	4.95	2.22	4.82	2.30	4.70	2.35
-5	-7	5.50	2.10	5.37	2.14	5.24	2.18	5.11	2.27	4.98	2.31
0	-2	5.65	2.06	5.52	2.10	5.38	2.14	5.25	2.23	5.11	2.27
5	3	6.97	1.88	6.81	1.92	6.64	1.95	6.47	2.03	6.31	2.07
7	6	7.55	1.85	7.38	1.89	7.20	1.93	7.02	2.01	6.84	2.05
10	8	8.35	1.84	8.15	1.88	7.95	1.91	7.75	1.99	7.55	2.03
15	10	8.65	1.63	8.45	1.67	8.24	1.70	8.03	1.77	7.83	1.80
20	15	8.97	1.45	8.75	1.48	8.54	1.51	8.33	1.57	8.11	1.60
24	18	9.29	1.29	9.07	1.32	8.85	1.34	8.63	1.40	8.41	1.43

■ Model: ASYG12LZCA

AFR	m³/h	830								

		Indoor temperature								
		16		18		20		22		24	
°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
		kW		kW		kW		kW		kW	
-25	-26	3.75	2.15	3.66	2.19	3.57	2.23	3.39	2.32	3.30	2.36
-20	-21	4.79	2.16	4.67	2.20	4.56	2.24	4.33	2.33	4.22	2.38
-15	-16	5.11	2.17	4.99	2.21	4.87	2.25	4.63	2.34	4.50	2.39
-10	-11	5.55	2.13	5.42	2.18	5.29	2.22	5.03	2.31	4.89	2.35
-5	-7	6.00	2.10	5.85	2.14	5.71	2.18	5.42	2.27	5.28	2.31
0	-2	6.17	2.07	6.02	2.11	5.87	2.15	5.58	2.23	5.43	2.28
5	3	7.52	1.88	7.34	1.92	7.16	1.96	6.80	2.04	6.62	2.08
7	6	7.77	1.86	7.58	1.90	7.40	1.94	7.03	2.02	6.84	2.06
10	8	8.58	1.85	8.38	1.89	8.18	1.93	7.77	2.00	7.56	2.04
15	10	8.90	1.64	8.68	1.68	8.47	1.71	8.05	1.78	7.84	1.81
20	15	9.22	1.46	9.00	1.49	8.78	1.52	8.34	1.58	8.12	1.61
24	18	9.55	1.30	9.32	1.33	9.10	1.35	8.64	1.41	8.41	1.43

■ Model: ASYG14LZCA

AFR	m³/h	900								

		Indoor temperature								
		16		18		20		22		24	
°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
		kW		kW		kW		kW		kW	
-25	-26	5.07	2.92	4.95	2.97	4.83	3.03	4.58	3.15	4.46	3.21
-20	-21	5.80	2.93	5.66	2.99	5.52	3.04	5.25	3.16	5.11	3.22
-15	-16	6.53	2.94	6.38	3.00	6.22	3.05	5.91	3.18	5.75	3.24
-10	-11	7.41	2.83	7.24	2.88	7.06	2.93	6.71	3.05	6.53	3.11
-5	-7	8.30	2.71	8.10	2.76	7.90	2.81	7.51	2.92	7.31	2.98
0	-2	8.93	2.60	8.72	2.64	8.51	2.69	8.08	2.80	7.87	2.85
5	3	9.18	2.18	8.96	2.22	8.74	2.27	8.30	2.36	8.09	2.41
7	6	9.34	2.10	9.12	2.15	8.90	2.19	8.45	2.28	8.23	2.32
10	8	9.72	1.97	9.49	2.01	9.26	2.05	8.80	2.13	8.57	2.17
15	10	10.12	1.75	9.88	1.79	9.64	1.82	9.16	1.89	8.91	1.93
20	15	10.53	1.55	10.28	1.59	10.03	1.62	9.53	1.68	9.28	1.72
24	18	10.96	1.38	10.70	1.41	10.44	1.44	9.92	1.50	9.66	1.53

7. Fan performance

7-1. Air velocity distributions

■ Models: ASYG09LZCA and ASYG12LZCA

| Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

(m)
Unit: m/s

Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center

2.0   1.0

0.5

(m)
Unit: m/s

Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Left & Right

2.0   1.0

0.5

1.0

2.0

0.5

(m)
Unit: m/s

Side view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center

0.5

2.0

1.0

(m)
Unit: m/s

Side view
Vertical airflow direction louver: Down
Horizontal airflow direction louver: Center

2.0   1.0   0.5

■ Model: ASYG14LZCA

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

(m)   Unit: m/s

Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center

0.5

2.0   1.0

Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Left & Right

2.0   0.5
1.0
1.0
2.0   0.5

(m)   Unit: m/s

Side view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center

0.5
2.0
1.0

(m)   Unit: m/s

Side view
Vertical airflow direction louver: Down
Horizontal airflow direction louver: Center

2.0   1.0   0.5
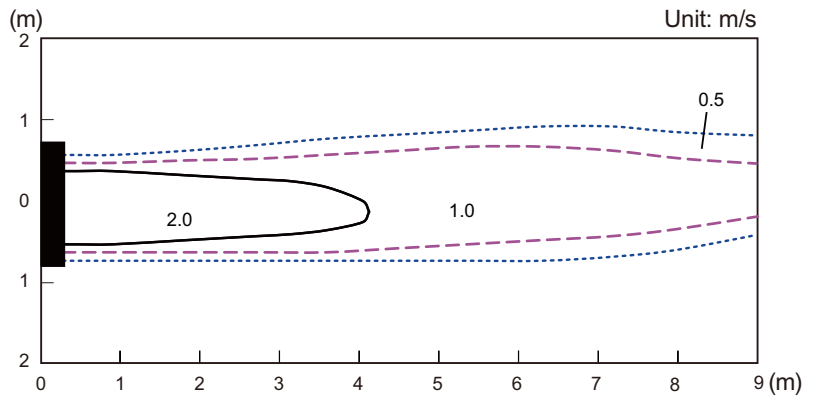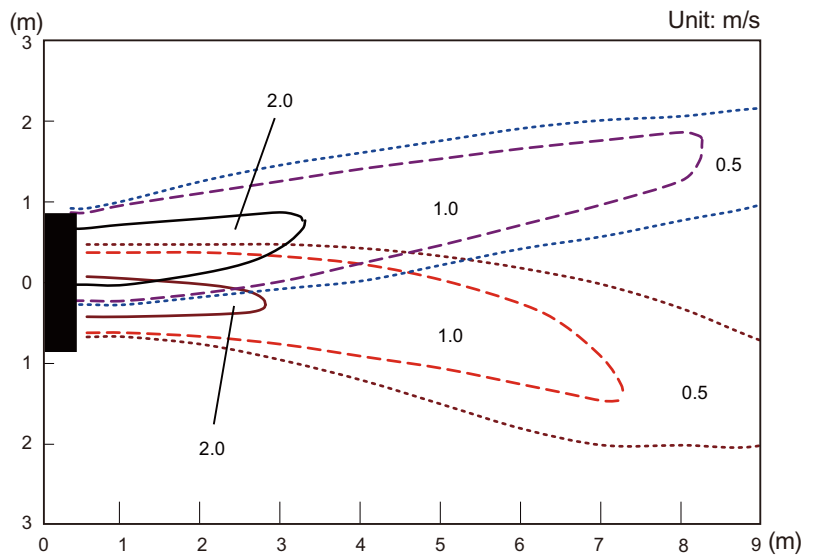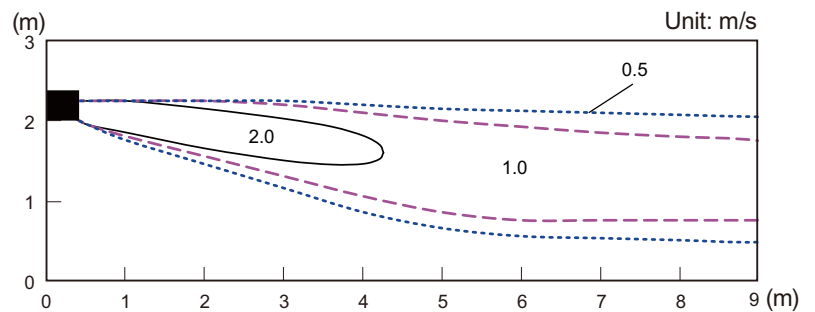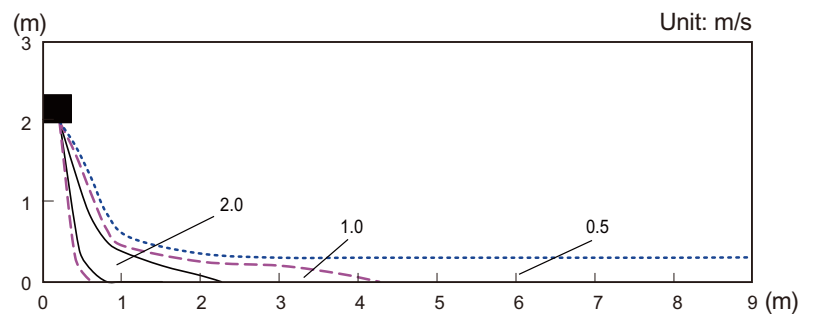
7-2. Airflow

■ Models: ASYG09LZCA and ASYG12LZCA

● Cooling

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

● Heating

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

■ Model: ASYG14LZCA

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	900
	l/s	250
	CFM	530
MED	m^3/h	780
	l/s	217
	CFM	459
LOW	m^3/h	630
	l/s	175
	CFM	371
QUIET	m^3/h	440
	l/s	122
	CFM	259

● Heating

Fan speed	Airflow	
HIGH	m^3/h	900
	l/s	250
	CFM	530
MED	m^3/h	780
	l/s	217
	CFM	459
LOW	m^3/h	630
	l/s	175
	CFM	371
QUIET	m^3/h	500
	l/s	139
	CFM	294

8. Operation noise (sound pressure)

8-1. Noise level curve

■ Model: ASYG09LZCA

● Cooling
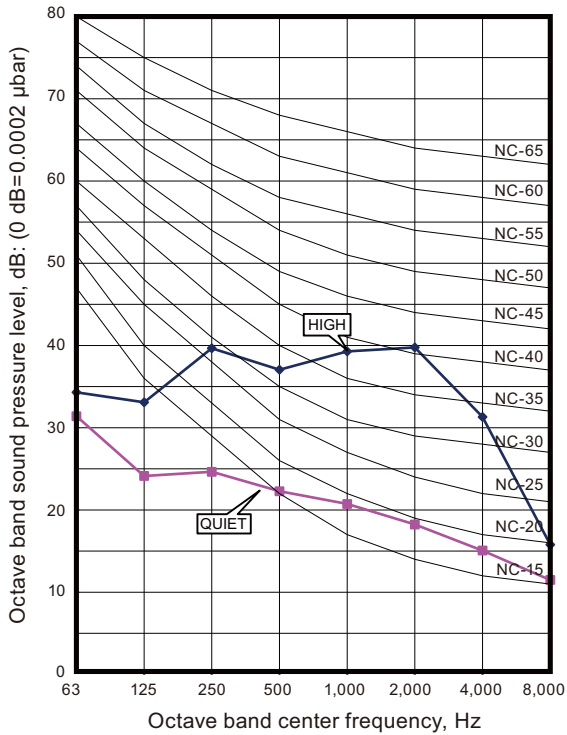
● Heating
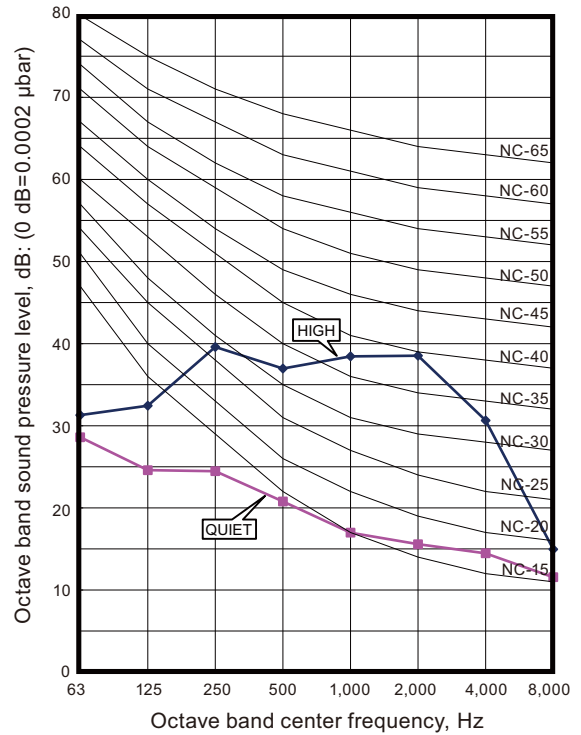
■ Model: ASYG12LZCA

● Cooling
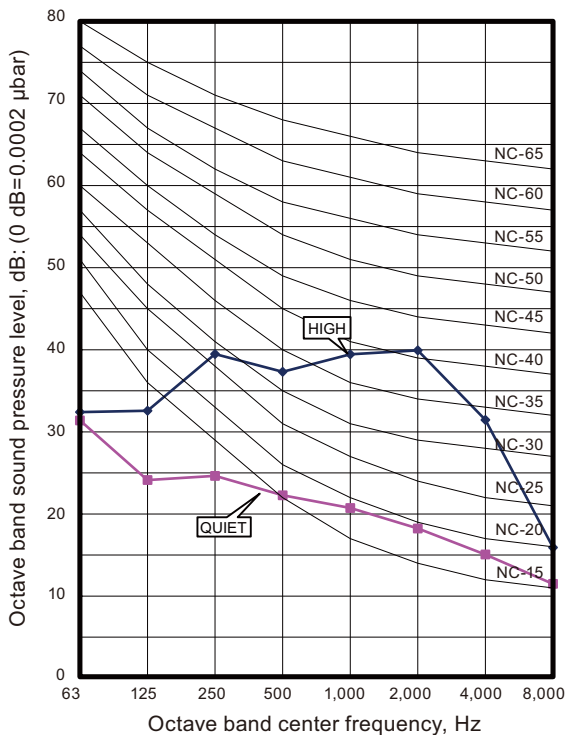
● Heating
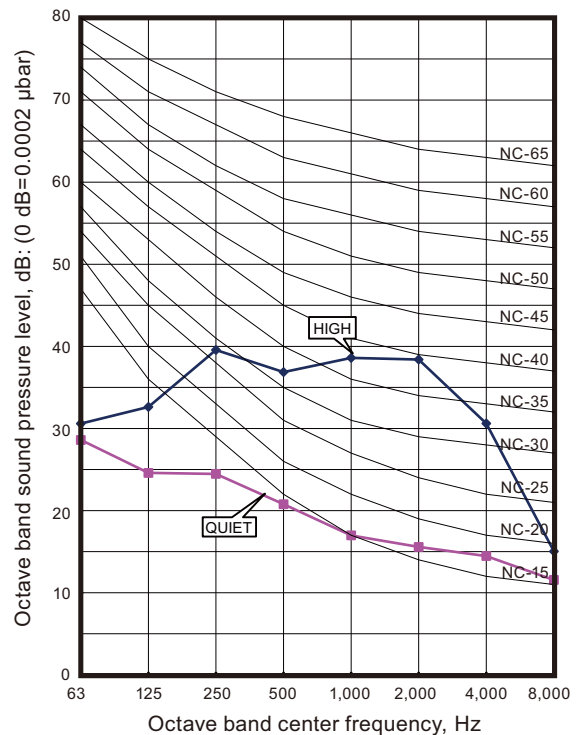
■ Model: ASYG14LZCA

● Cooling
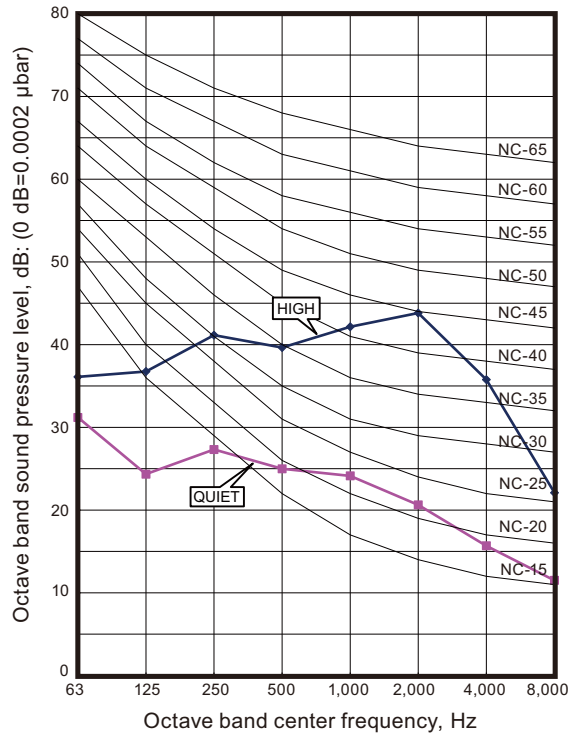
● Heating

8-2. Sound level check point

0.8 m

Microphone

1 m

Microphone
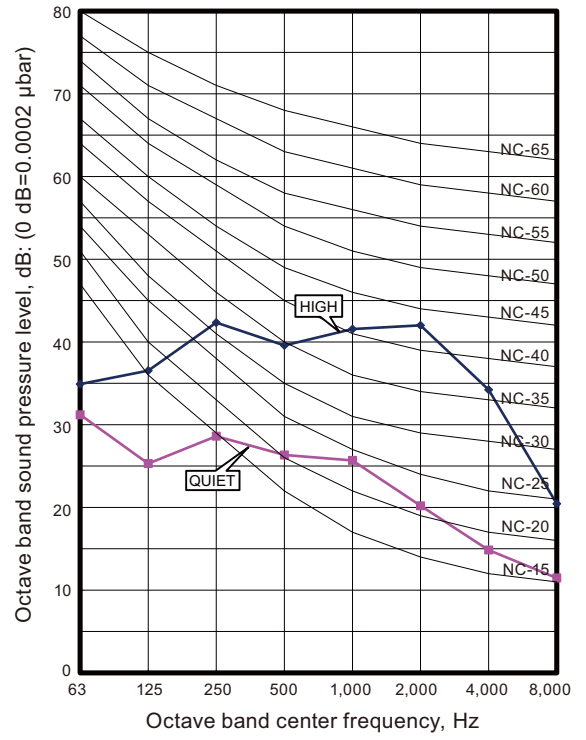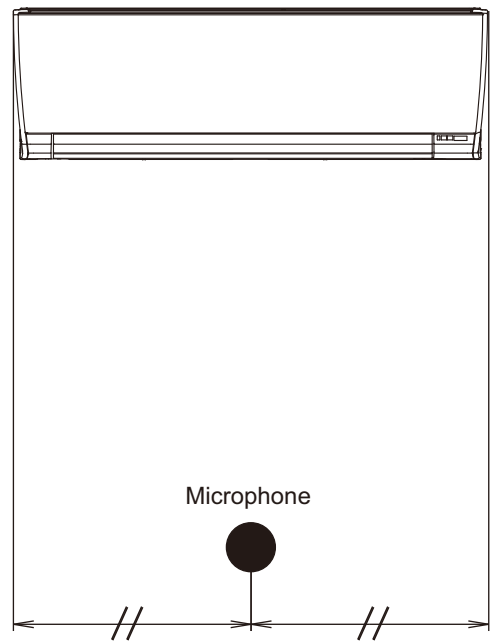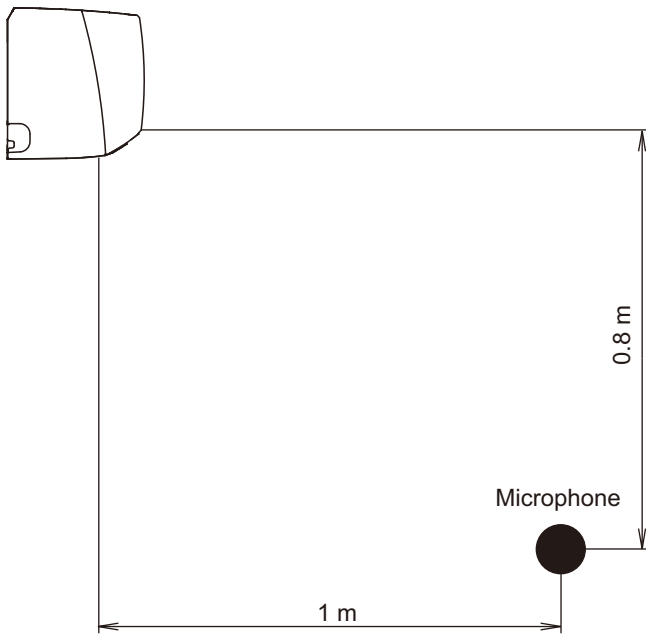
9. Safety devices

Type of protection	Protection form		Model		
			ASYG09LZCA	ASYG12LZCA	ASYG14LZCA
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermal protector program	Activate	105±10 °C Fan motor stop		
		Reset	90±10 °C Fan motor restart		

*PCB: Printed Circuit Board

10. External input and output

With using external input and output functions, this product can be operated inter-connectedly with an external device.

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

With using external input function, some functions on this product can be controlled from an external device.

- "Operation/Stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.
- A twisted pair cable (22AWG) should be used. Maximum length of cable is 150 m.
- The wire connection should be separate from the power cable line.

■ Control input (Operation/Stop or Forced stop)

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

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 PCB and turning it on.

Unit operation	Initial setting after power is on	Starting mode other than initial setting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24 °C	Temperature at previous operation
Airflow mode	AUTO	Mode at previous operation
Air direction (swing)	Standard air direction (swing: off)	Air direction at previous operation

● Circuit diagram example
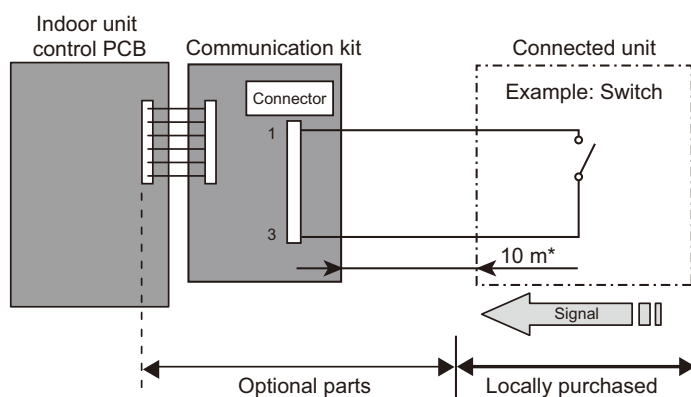
- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 10 m.
- Use non-polar relays and switches.

● When function setting is "Operation/Stop" mode
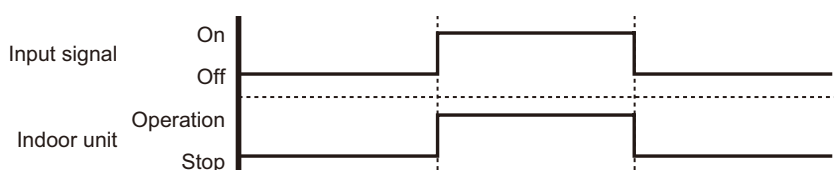
● When function setting is "Forced stop" mode

Input signal	On / Off	
Command	Forced stop / Normal	
Indoor unit	Operation / Stop	
Remote controller		On On On

Remote control operation invalidity

● When function setting is "Operation/Stop" mode 2

Input	On / Off	
Indoor unit	Operation / Stop (R.C. disabled)	
Remote controller		On Off On
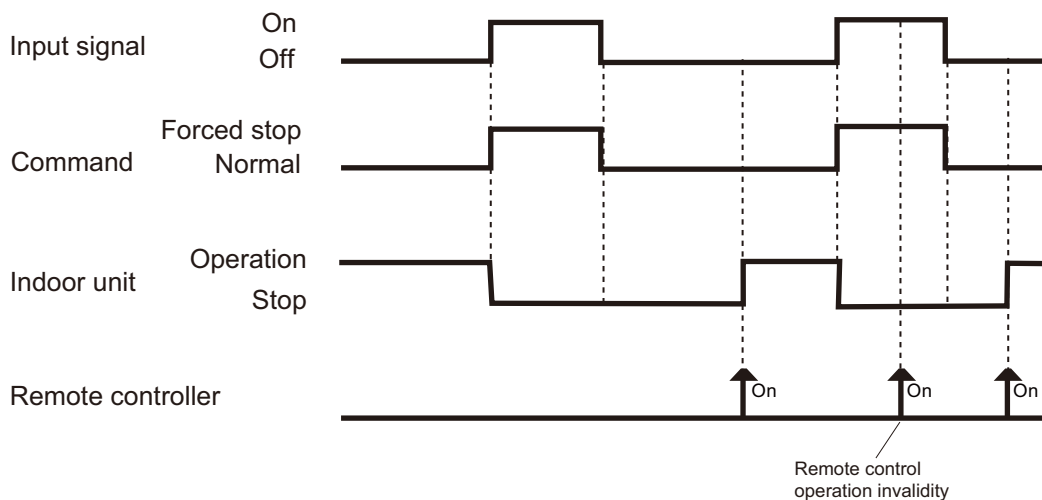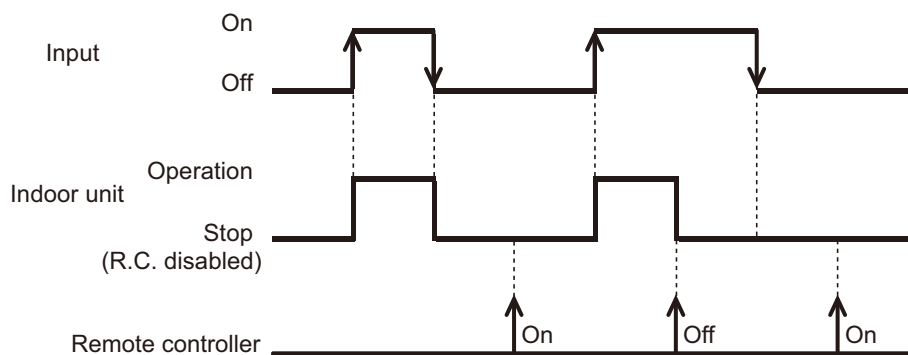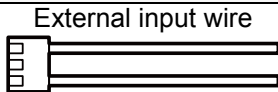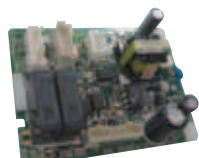
NOTE: When "Operation/Stop" mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

● Optional part

Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	External input wire
Communication kit	UTY-TWBXF1	

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

10-2. External output

With using external output function, operating status of this product can be transmitted to the external device, and also, this product can be inter-connected with the external device.

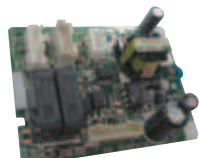## ■ Operation status output
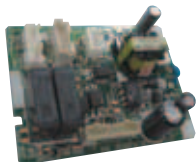
● Circuit diagram example
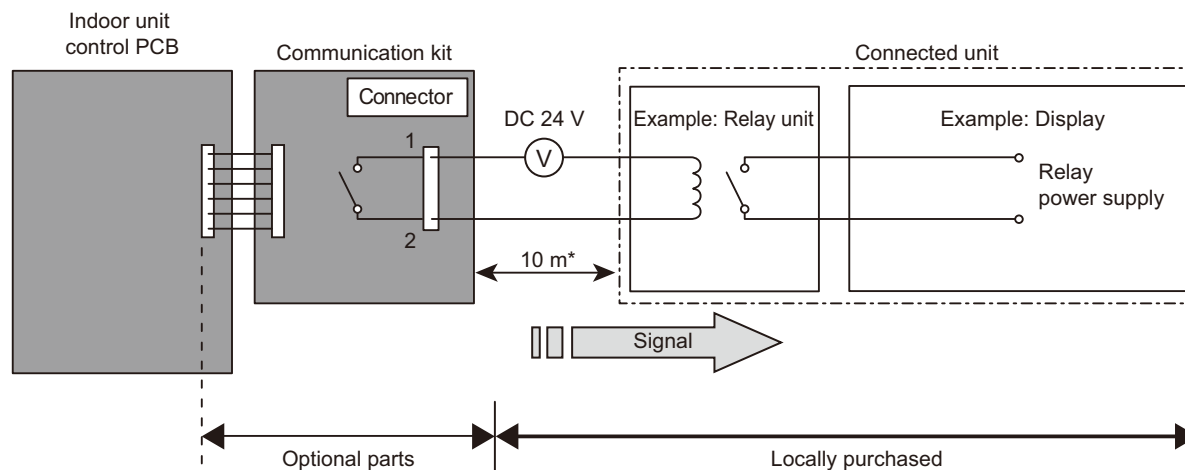
- • *: Make the distance from the PCB to the connected unit within 10 m.
- • Relay spec: Max. DC 24 V, 10 mA to less than 500 mA.
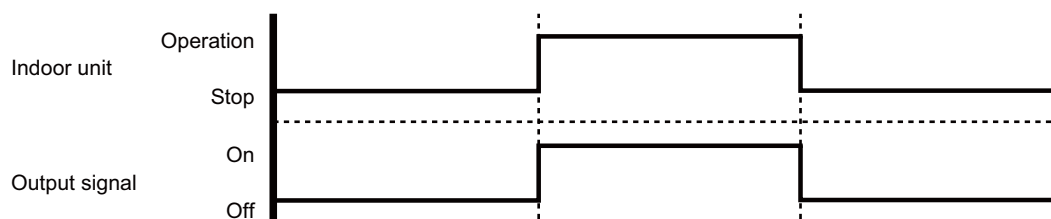
● Optional part

Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	External output wire
Communication kit	UTY-TWBXF1	

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

■ Error status output

● Circuit diagram example

Indoor unit
control PCB

Communication kit

Connector

1

2

DC 24 V

10 m*

Signal

Connected unit

Example: Relay unit

Example: Display

Relay
power supply

Optional parts

Locally purchased

- *: Make the distance from the PCB to the connected unit within 10 m.
- Relay spec: Max. DC 24 V, 10 mA to less than 500 mA.

Error status

Error

Normal

Output signal

On

Off
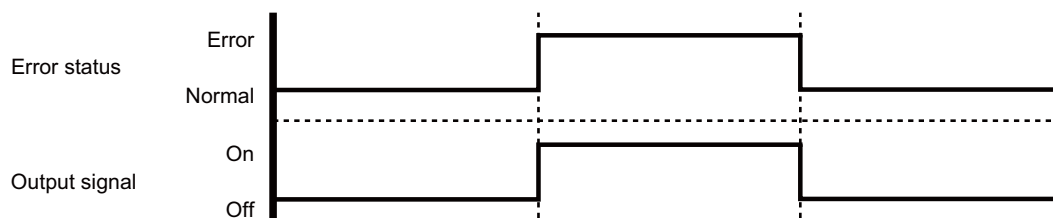
● Optional part

Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	External output wire
Communication kit	UTY-TWBXF1	

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

11. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

NOTE: Incorrect settings can cause a product malfunction.

11-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

NOTE: Incorrect settings can cause a product malfunction.

■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

Before connecting the power supply of the indoor unit, reconfirm following items:
• Cover for the electrical enclosure on the outdoor unit is in place.
• There is no wiring mistake.
• Piping air tight test and vacuuming have been performed firmly.
• All the necessary wiring work for outdoor unit has been finished.
After reconfirming the items listed above, connect the power supply of the indoor unit.

NOTES:
• Settings will not be changed if invalid numbers or setting values are selected.
• When optional wired remote controller is used, refer to the installation manual enclosed with the remote controller.

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

Selecting the function number and setting value:
1. Press the TEMP. (∧) (∨) buttons to select the function number. To switch between the left and right digits, press the 10 °C HEAT button.
2. Press the POWERFUL button to proceed to value setting. To return the function number selection, press the POWERFUL button again.
3. Press the TEMP. (∧) (∨) buttons to select the setting value. To switch between the left and right digits, press the 10 °C HEAT button.
4. Press the MODE button once to send the function setting information. Confirm that you hear the beep sound.
5. Press the START/STOP button to fix the function setting. Confirm that you hear the beep sound.
6. Press the RESET button to end the function setting mode.
7. After completing the function setting, be sure to disconnect the power supply and then reconnect it.

Function number
Setting value
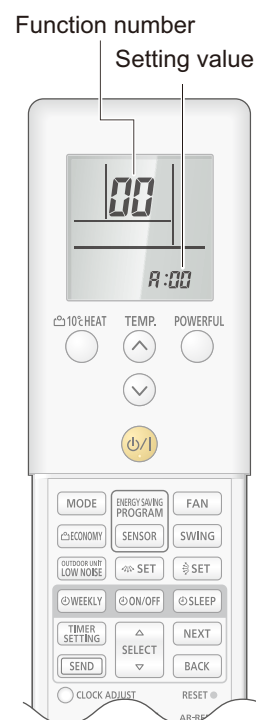
⚠CAUTION

After disconnecting the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

NOTES:
• The air conditioner custom code is set to 月 prior to shipment.
• If you do not know the air conditioner custom code setting, try each of the custom codes (月 →ﾋ →ﾆ →ﾀ) until you find the code that operates the air conditioner.

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30	Room temperature sensor control for cooling
3)	31	Room temperature sensor control for heating
4)	40	Auto restart
5)	42	Room temperature sensor switching
6)	44	Remote controller custom code
7)	46	External input control
8)	48	Room temperature sensor switching (Aux.)
9)	49	Indoor unit fan control for energy saving for cooling

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).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (400 hours)	
	01	Long interval (1,000 hours)	
	02	Short interval (200 hours)	
	03	No indication	♦

2) Room temperature sensor control for cooling

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

Function number	Setting value	Setting description	Factory setting
30	00	Standard	♦
	01	Slightly lower control	
	02	Lower control	
	03	Higher control	

3) Room temperature sensor control for heating

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

Function number	Setting value	Setting description	Factory setting
31	00	Standard	♦
	01	Lower control	
	02	Slightly higher control	
	03	Higher control	

4) Auto restart

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	♦
	01	Disable	

NOTE: 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.

5) Room temperature sensor switching

(Only for wired remote controller)

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

Function number	Setting value	Setting description	Factory setting
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.

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

6) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

Function number	Setting value	Setting description	Factory setting
44	00	A	♦
	01	B	
	02	C	
	03	D	

7) External input control

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

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

8) 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).

When the setting value is set to "Both" (00), more suitable control of the room temperature is possible by setting function setting 30 and 31 too.

Function number	Setting value	Setting description	Factory setting
48	00	Both	♦
	01	Wired remote controller	

9) Indoor unit fan control for energy saving for cooling

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

Function number	Setting value	Setting description	Factory setting
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.

11-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

NOTE: Air conditioner cannot receive a signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

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 TEMP. ($\wedge$) ($\vee$) buttons to change the custom code between A →b →c →d. Match the code on the display to the air conditioner custom code. (Initially set to A.)

4. Press the MODE button again to return to the clock display. The custom code will be changed.

NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to A prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code (A →b →c →d) until you find the code which operates the air conditioner.

11-3. Switching the temperature unit of remote controller

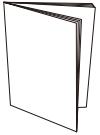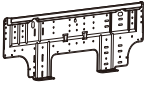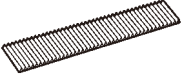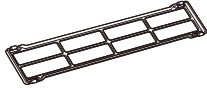Displayed temperature unit on the remote controller LCD can be switched between °F (Fahrenheit) and °C (Celsius).

To change temperature unit, do as follows:

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

2. Press the TEMP. ($\wedge$) ($\vee$) buttons to switch the temperature unit between °F and °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.
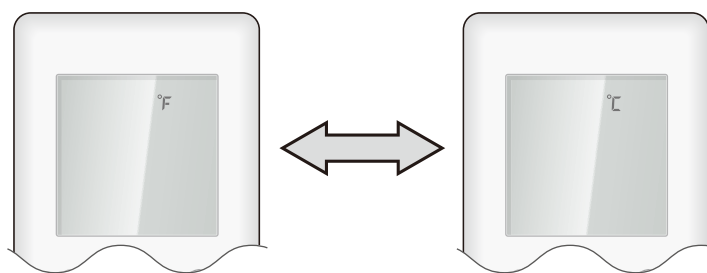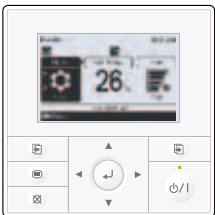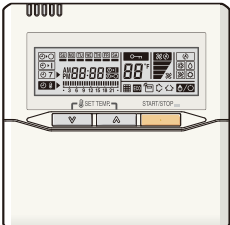
12. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Cloth tape		1
Installation manual		1	Tapping screw (large), M4 × 25 mm		5
Wall hook bracket		1	Tapping screw (small), M3 × 12 mm		2
Remote controller		1	Air cleaning filter		2
Battery		2	Filter holder		2
Remote controller holder		1	Seal A (for 14 model)		1

13. Optional parts

13-1. Controllers

Exterior	Part name	Model name	Summary
	Wired remote controller	UTY-RVNYM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. Wire type: Polar 3-wire Optional communication kit is necessary for installation.
	Wired remote controller	UTY-RNNYM	Room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor. Wire type: Polar 3-wire Optional communication kit is necessary for installation.
	Simple remote controller	UTY-RSNYM	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Polar 3-wire Optional communication kit is necessary for installation.

NOTE: Available functions may differ by the remote controller. For details, refer to the operation manual.

13-2. Others

Exterior	Part name	Model name	Summary
	External connect kit	UTY-XWZXZ5	Required when external device is connected. Optional communication kit is necessary for installation.
	Communication kit	UTY-TWBXF1	Use to connect with optional devices and air conditioner PCB.

Part 2. OUTDOOR UNIT

SINGLE TYPE:
AOYG09LZCAN
AOYG12LZCAN
AOYG14LZCAN

1. Specifications

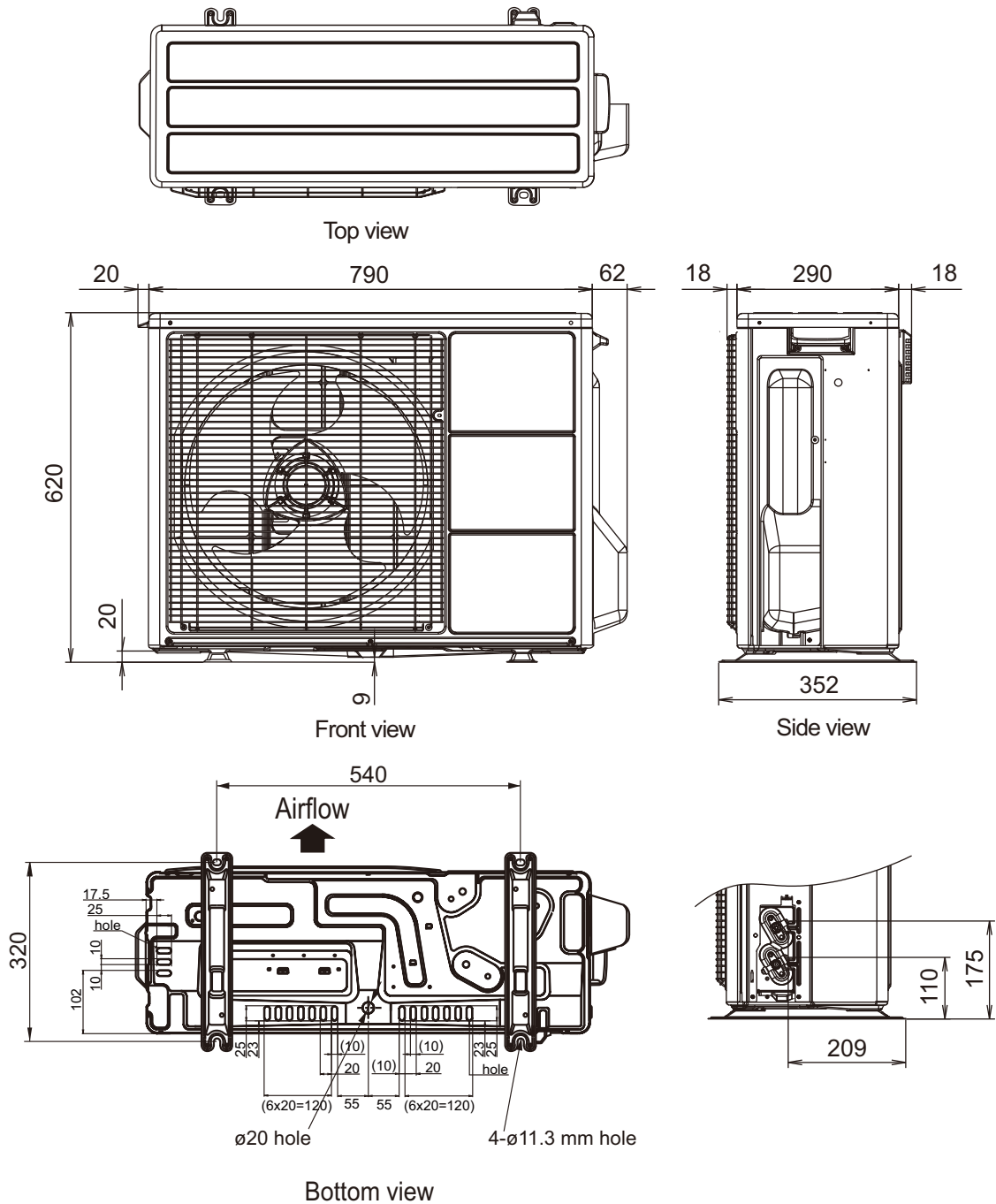| Type				Inverter heat pump		
Model name				AOYG09LZCAN	AOYG12LZCAN	AOYG14LZCAN
Power supply				230 V ~ 50 Hz		
Available voltage range				198—264 V		
Starting current			A	2.9	4.0	5.3
Fan	Airflow rate	Cooling	m³/h	1,350	1,680	2,050
		Heating		1,840		
	Type × Q'ty			Propeller fan × 1		
	Motor output		W	115		
Sound pressure level *1		Cooling	dB (A)	39	43	49
		Heating		47		49
Sound power level		Cooling	dB (A)	52	57	61
		Heating		58	59	61
Heat exchanger type	Dimensions (H × W × D)		mm	588 × 881 × 36.4		
	Fin pitch			1.3		
	Rows × Stages			2 × 28		
	Pipe type			Copper		
	Fin type	Type (Material)		Corrugate (Aluminum)		
		Surface treatment		Corrosion resistance		
Compressor	Type × Q'ty			Rotary × 1		
	Motor output		W	850		1,000
Refrigerant	Type (Global warming potential)			R410A		
	Charge		g	1,300		1,400
Refrigerant oil	Type			FREOL α68SZ		
	Amount		cm³	350		
Enclosure	Material			Steel sheet		
	Color			Beige Approximate color of MUNSELL 10YR7.5/1.0		
Dimensions (H × W × D)	Net		mm	620 × 790 × 290		
	Gross			713 × 945 × 395		
Weight	Net		kg	39		40
	Gross			43		
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)		
		Gas		Ø 9.52 (Ø 3/8)		Ø 12.7 (Ø 1/2)
	Method			Flare		
	Pre-charge length			15		
	Max. length		m	20		
	Max. height difference			15		
Operation range	Cooling		°C	-10 to 46		
	Heating			-25 to 24		
Drain hose	Material			LDPE		
	Size		mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.)		

NOTES:
- Specifications are based on the following conditions:
  – Cooling: Indoor temperature of 27 °CDB/ 19 °CWB, and outdoor temperature of 35 °CDB/ 24 °CWB.
  – Heating: Indoor temperature of 20 °CDB/ 15 °CWB, and outdoor temperature of 7 °CDB/ 6 °CWB.
  – Pipe length: 5 m, Height difference: 0 m.
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
  – Measured values in 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.

2. Dimensions

2-1. Models: AOYG09LZCAN, AOYG12LZCAN, and AOYG14LZCAN

Top view

Front view

Side view

Airflow

Bottom view

20 790 62

18 290 18

620

20

9

352

540

320

17.5
25
hole
10
10
102
10
25
23

(10)
20
(10)
(6x20=120) 55 55 (6x20=120)

23
25
hole

ø20 hole

4-ø11.3 mm hole

175
110

209

- 39 -

3. Installation space

3-1. Models: AOYG09LZCAN, AOYG12LZCAN, and AOYG14LZCAN
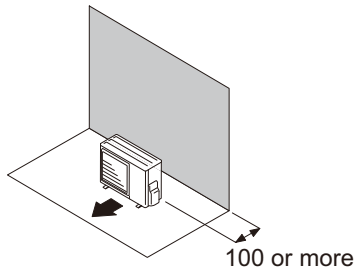
■ Space requirement

Provide sufficient installation space for product safety.

● Single outdoor unit installation

• **When the upper space is open:**

Unit: mm

When there are obstacles at the rear only.

100 or more

When there are obstacles at the rear and sides.
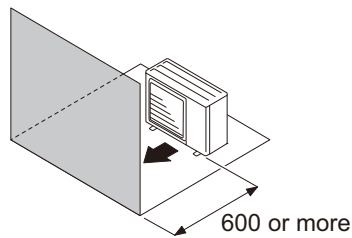
100 or more   100 or more

250 or more

When there are obstacles at the front only.

600 or more

When there are obstacles at the front and rear.

100 or more

600 or more

• **When there is an obstruction in the upper space:**

Unit: mm

When there are obstacles at the rear and above.

Max. 200

600 or more

100 or more
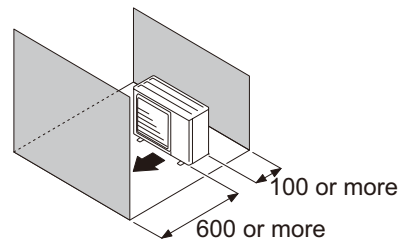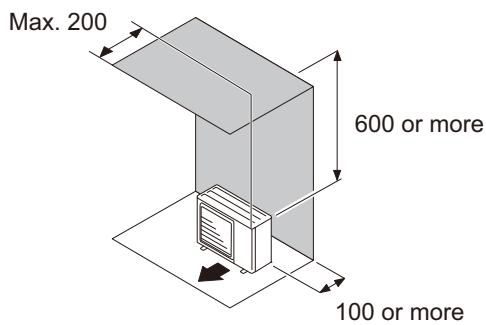
When there are obstacles at the rear, sides, and above.

Max. 200

600 or more

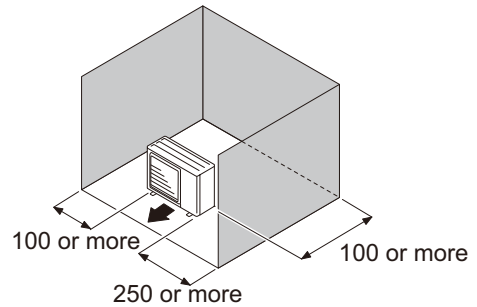100 or more   100 or more

250 or more

- 40 -
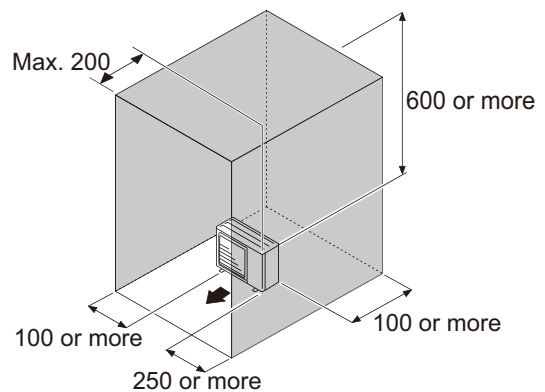
● Multiple outdoor unit installation

・ **When the upper space is open:**

Unit: mm

When there are obstacles at the rear only.

When there are obstacles at the front only.
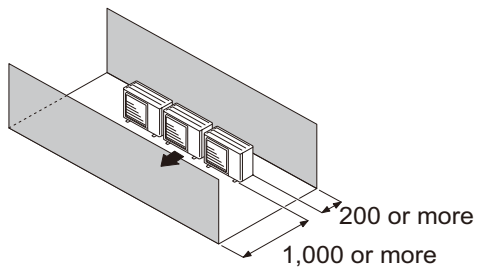
200
or more

1,000 or more

When there are obstacles at the front and rear.

200 or more

1,000 or more
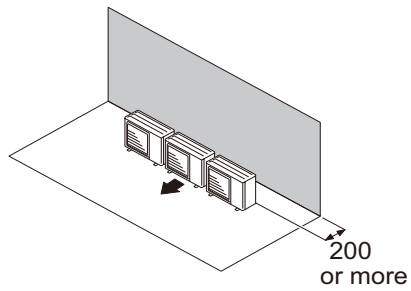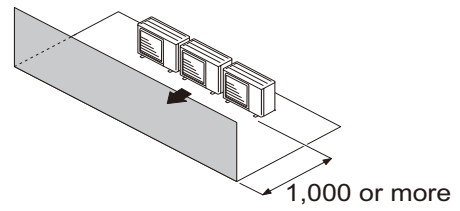
・ **When there is an obstruction in the upper space:**

Unit: mm

When there are obstacles at the rear and above.

Max. 300

1,500 or more

200 or more
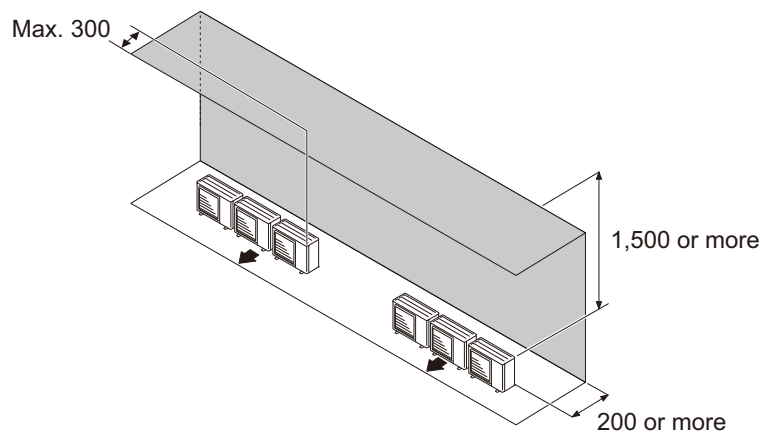
● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement
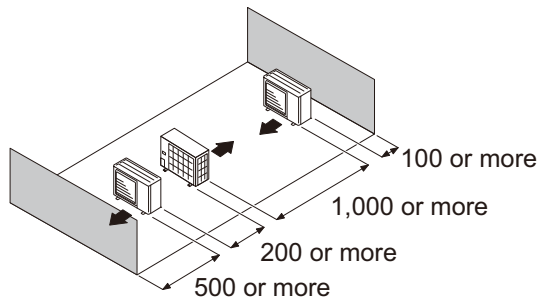
Multiple parallel unit arrangement

100 or more
1,000 or more
200 or more
500 or more

200 or more
2,000 or more
400 or more
1,000 or more

200 or more
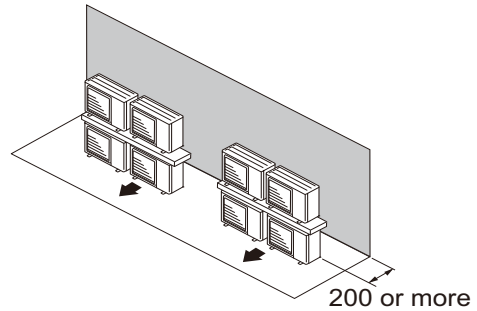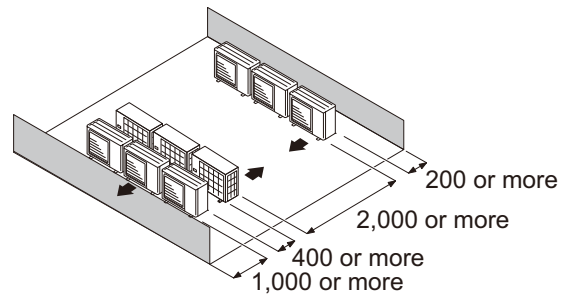
NOTES:
- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- Height above the floor level should be 50 mm or more.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

⚠ CAUTION
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- 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 climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.
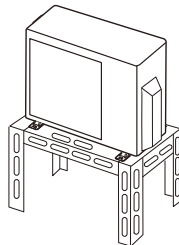
4. Refrigerant circuit

4-1. Models: AOYG09LZCAN and AOYG12LZCAN
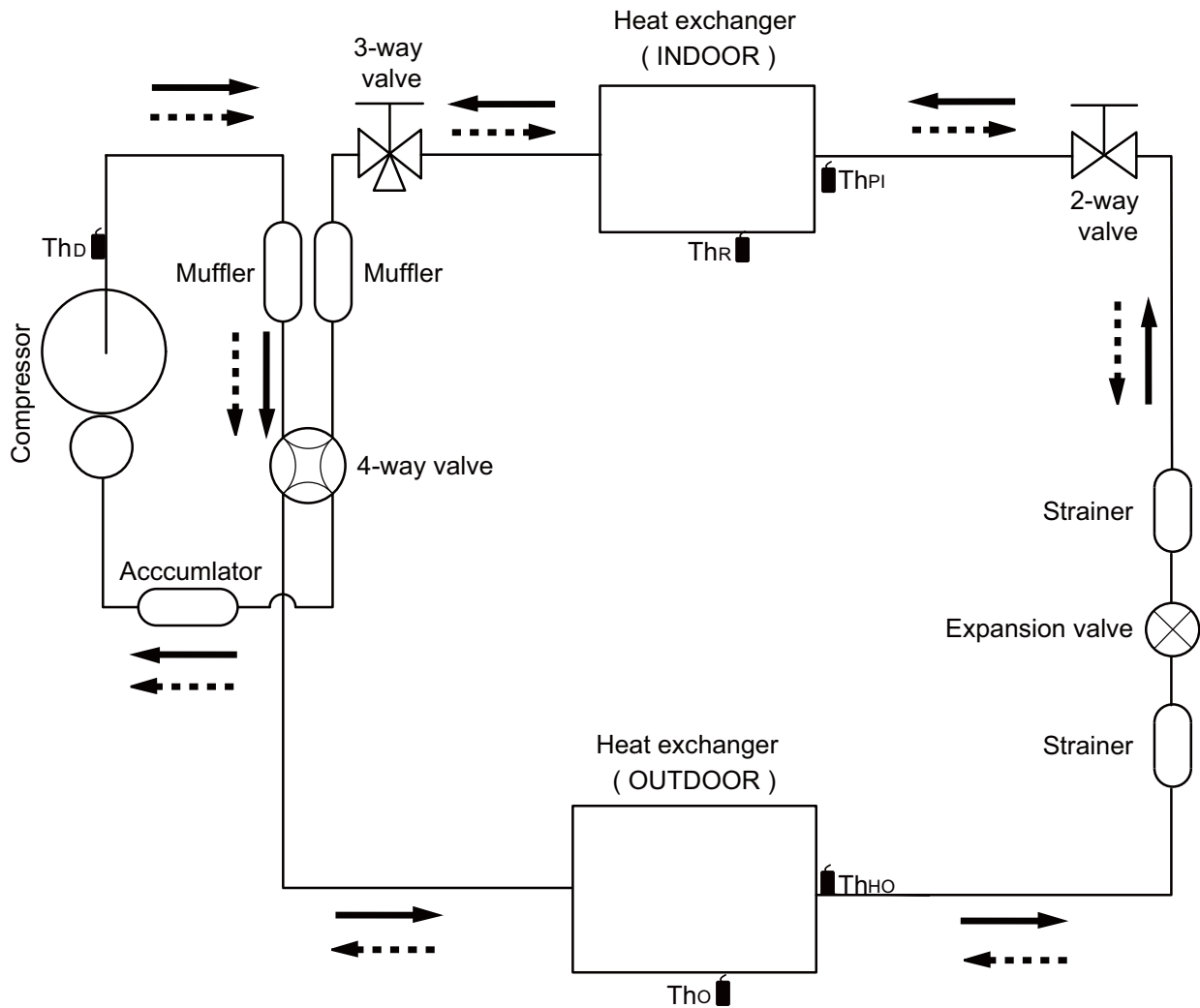
───────▶	Cooling
▪▪▪▪▪▶	Heating

ThD ▮ :Thermistor (Discharge temp.)

Tho ▮ :Thermistor (Outdoor temp.)

ThHO ▮ :Thermistor (Heat exchanger out temp.)

ThR ▮ :Thermistor (Room temp.)

ThPI ▮ :Thermistor (Pipe temp.)

4-2. Model: AOYG14LZCAN

Heat exchanger
(INDOOR)

3-Way
valve

2-Way
valve

ThPI

Muffler

ThD

Muffler

ThR

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.)

5. Wiring diagrams

5-1. Models: AOYG09LZCAN and AOYG12LZCAN

REACTOR

WHITE — W10
RED — W11

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

PRINTED CIRCUIT
BOARD(MAIN)

U W7
V W8
W W9

RED — R
WHITE — CM — S
BLACK — 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

FUSE 250V5A

BLACK

WHITE — RED — W4
WHITE — W2
BLACK — W1
FUSE 250V20A

W3
GREEN

CN10
1 2 3 4 5
1 2 3 4 5

BLACK FUSE 250V5A — BLACK
WHITE — WHITE
FUSE 250V5A

3 3 BLACK
2 2
1 1 WHITE

THERMOSTAT (55℃)
BLACK
BLACK
WHITE

HEATER

BLACK

FUSE 250V5A

TERMINAL
1 2 3 L N
GREEN

TO INDOOR UNIT   TO POWER SUPPLY

- 45 -

5-2. Model: AOYG14LZCAN

WHITE — FUSE 250V5A — WHITE — 1 1 — WHITE — HEATER — BLACK

2 2

BLACK — 3 3 — BLACK — THERMOSTAT (55℃)

CN112 2 2

THERMISTOR(OUTDOOR TEMP.)
CN62 3 3 BLACK
2 2
1 1 BLACK

THERMISTOR(DISCHARGE PIPE)
CN61 4 4 BROWN OR BLACK
3 3 BROWN OR BLACK
2 2 BLACK
1 1 BLACK
THERMISTOR(PIPE)

CN42 CN40 CN200 CN400

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

WHITE WHITE WHITE WHITE WHITE   WHITE WHITE WHITE WHITE WHITE WHITE WHITE WHITE WHITE   WHITE BLACK   BLACK BLACK BLACK BLACK

5 4 3 2 1 9 8 7 6 5 4 3 2 1
5 4 3 2 1 9 8 7 6 5 4 3 2 1
CN303   CN301

MAIN PWB

W306   1 2 3 4 5 6
W307   1 2 3 4 5 6
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

CN500 2 2 BLACK 4WV 4-WAY VALVE
1 1 BLACK

CN700 5 5 WHITE
4 4 YELLOW
3 3 ORANGE PMV EXPANSION VALVE
2 2 BLUE
1 1 RED

CN800 7 7 BROWN
6 6 YELLOW
5 5 WHITE FM FAN MOTOR
4 4 BLACK
3 3
2 2
1 1 RED
W44 RED

CN1 TM600 TM601 CN110
1 2   1 2
1 2   1 2

WHITE WHITE GRAY BLACK WHITE BLACK

TM102 BROWN W29
CN100
TM101 ORANGE W28   W21 W9 W20 W19
FILTER PWB

TM303 W TM304 V TM305 U

RED COMPRESSOR
WHITE CM R
BLACK S C

W3 GREEN
W18 WHITE
W17 BLACK
W2 WHITE
W100 BLACK

TERMINAL 1 2 3 L N ⏚ GREEN

TO INDOOR UNIT   TO POWER SUPPLY

- 46 -

6. Capacity compensation rate for pipe length and height difference

Height difference H

Indoor unit is higher than outdoor unit *1	Indoor unit is lower than outdoor unit *2

Indoor unit
Connection pipe
H
Outdoor unit

Outdoor unit
Connection pipe
H
Indoor unit
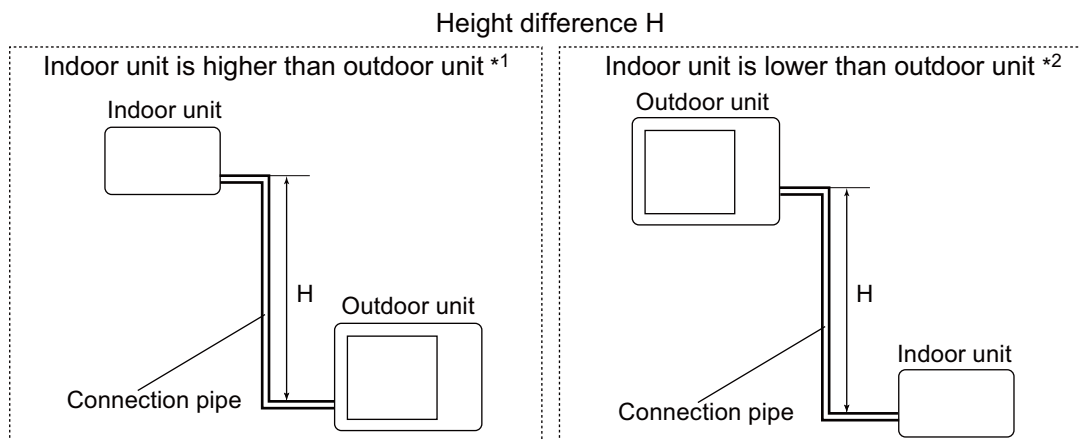
6-1. Models: AOYG09LZCAN and AOYG12LZCAN

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.877	0.874
		10	-	-	0.956	0.891	0.888
		7.5	-	0.988	0.960	0.895	0.892
		5	1.017	0.992	0.964	0.899	0.895
		0	1.025	1.000	0.971	0.906	0.902
	Indoor unit is lower than outdoor unit *2	-5	1.025	1.000	0.971	0.906	0.902
		-7.5	-	1.000	0.971	0.906	0.902
		-10	-	-	0.971	0.906	0.902
		-15	-	-	-	0.906	0.902

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.933	0.925
		10	-	-	0.981	0.933	0.925
		7.5	-	1.000	0.981	0.933	0.925
		5	1.017	1.000	0.981	0.933	0.925
		0	1.017	1.000	0.981	0.933	0.925
	Indoor unit is lower than outdoor unit *2	-5	1.012	0.995	0.976	0.928	0.920
		-7.5	-	0.993	0.974	0.926	0.918
		-10	-	-	0.971	0.923	0.916
		-15	-	-	-	0.914	0.906

6-2. Model: AOYG14LZCAN

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.951	0.950
		10	-	-	0.979	0.967	0.966
		7.5	-	0.988	0.983	0.971	0.970
		5	0.994	0.992	0.987	0.975	0.974
		0	1.002	1.000	0.995	0.983	0.982
	Indoor unit is lower than outdoor unit *2	-5	1.002	1.000	0.995	0.983	0.982
		-7.5	-	1.000	0.995	0.983	0.982
		-10	-	-	0.995	0.983	0.982
		-15	-	-	-	0.983	0.982

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.994	0.979
		10	-	-	1.012	0.994	0.979
		7.5	-	1.000	1.012	0.994	0.979
		5	0.969	1.000	1.012	0.994	0.979
		0	0.969	1.000	1.012	0.994	0.979
	Indoor unit is lower than outdoor unit *2	-5	0.964	0.995	1.007	0.989	0.974
		-7.5	-	0.993	1.004	0.986	0.972
		-10	-	-	1.002	0.984	0.969
		-15	-	-	-	0.974	0.959

7. Additional charge calculation

7-1. Models: AOYG09LZCAN and AOYG12LZCAN

Refrigerant type		R410A
Refrigerant amount	g	1,300

■ Refrigerant charge

Total pipe length	m	15 or less	20 (Max.)	20 g/m
Additional charge	g	0	100	

7-2. Model: AOYG14LZCAN

Refrigerant type		R410A
Refrigerant amount	g	1,400

■ Refrigerant charge

Total pipe length	m	15 or less	20 (Max.)	20 g/m
Additional charge	g	0	100	

8. Airflow

8-1. Model: AOYG09LZCAN

● Cooling

m^3/h	1,350
l/s	375
CFM	795

● Heating

m^3/h	1,840
l/s	511
CFM	1083

8-2. Model: AOYG12LZCAN

● Cooling

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

● Heating

m^3/h	1,840
l/s	511
CFM	1083

8-3. Model: AOYG14LZCAN

● Cooling

m^3/h	2,050
l/s	569
CFM	1206

● Heating

m^3/h	1,840
l/s	511
CFM	1083

9. Operation noise (sound pressure)

9-1. Noise level curve

■ Model: AOYG09LZCAN

● Cooling

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

Octave band center frequency, Hz

● Heating

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

Octave band center frequency, Hz

■ Model: AOYG12LZCAN

● Cooling

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

Octave band center frequency, Hz

● Heating

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

Octave band center frequency, Hz

■ Model: AOYG14LZCAN

● Cooling

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

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

Octave band center frequency, Hz

● Heating

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

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

Octave band center frequency, Hz

9-2. Sound level check point

Rear

Microphone

Airflow

1 m

Side view

Microphone

Rear view

NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

10. Electrical characteristics

Model name			AOYG09LZCAN	AOYG12LZCAN	AOYG14LZCAN
Power supply	Voltage	V	230~		
	Frequency	Hz	50		
Max operating current *1		A	11.9		14.9
Starting current		A	2.9	4.0	5.3
Wiring spec. *2	Circuit breaker current	A	15		20
	Power cable	mm^2	1.5		3.5—4.0
	Connection cable *3	mm^2	1.5		
	Limited wiring length	m	21		

*1: Maximum current is the total current of the indoor unit and the outdoor unit.

*2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.

*3: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

11. Safety devices

Type of protection	Protection form		Model		
			AOYG09LZCAN	AOYG12LZCAN	AOYG14LZCAN
Circuit protection	Current fuse (Near the terminal)		250 V, 20 A		250 V, 5 A
			250 V, 5 A		
	Current fuse (Filter PCB)		—		250 V, 20 A
					250 V, 5 A
	Current fuse (Main PCB)		250 V, 15 A		250 V, 5 A
			250 V, 3.15 A		250 V, 3.15 A
Fan motor protection	Thermal protection program	Activate	110±15 °C Fan motor stop		
		Reset	95±10 °C Fan motor restart		
Compressor protection	Thermal protection program (Discharge temp.)	Activate	110 °C Compressor stop		
		Reset	After 7 minutes Compressor restart		

12. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Installation manual		1			