

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASYG07KMCE
ASYG09KMCE
ASYG12KMCE
ASYG14KMCE

OUTDOOR



AOYG07KMCC
AOYG09KMCC
AOYG12KMCC



AOYG14KMCC

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

ASYG07KMCE

ASYG09KMCE

ASYG12KMCE

ASYG14KMCE

1. Specifications

Type				Wall mounted						
				Inverter heat pump						
Model name				ASYG07KMCE	ASYG09KMCE	ASYG12KMCE	ASYG14KMCE			
Power supply				230 V~ 50 Hz						
Power supply intake				Outdoor unit						
Available voltage range				198—264 V						
Capacity	Cooling	Rated	kW	2.0	2.5	3.4	4.2			
			Btu/h	6,800	8,500	11,600	14,300			
		Min.—Max.	kW	0.9—3.0	0.9—3.2	0.9—3.9	0.9—4.4			
			Btu/h	3,100—10,200	3,100—10,900	3,100—13,300	3,100—15,000			
	Heating	Rated	kW	2.5	2.8	4.0	5.4			
			Btu/h	8,500	9,500	13,600	18,400			
		Min.—Max.	kW	0.9—3.4	0.9—4.0	0.9—5.3	0.9—6.0			
			Btu/h	3,100—11,600	3,100—13,600	3,100—18,000	3,100—20,500			
Input power	Cooling	Rated	kW	0.450	0.630	0.935	1.220			
				Min.—Max.	0.25—1.17	0.25—1.21	0.25—1.27	0.25—1.40		
	Heating	Rated	kW	0.555	0.620	0.960	1.410			
				Min.—Max.	0.25—1.21	0.25—1.26	0.25—1.52	0.25—1.73		
	Fan	HIGH	W	22.1	26.5	26.5	33.6			
				MED	15.1	16.0	16.0	20.0		
				LOW	10.0	10.0	6.4	11.8		
				QUIET	6.4	6.4	4.8	7.1		
	Current	Cooling	Rated	A	2.6	3.4	4.8	5.8		
					Heating	3.0	3.4	5.1	6.8	
EER	Cooling		kW/kW	4.43	3.97	3.65	3.44			
COP	Heating		kW/kW	4.52	4.52	4.17	3.83			
Sensible capacity	Cooling		kW	1.2	1.6	2.2	3.2			
Power factor	Cooling		%	75	81	88	88			
				Heating	80	79	87	87		
Moisture removal			L/h (pints/h)	1.0 (1.8)	1.3 (2.3)	1.8 (3.2)	2.1 (3.7)			
Maximum operating current *1	Cooling		A	6.5	6.5	6.5	6.5			
				Heating	9.0	9.0	9.0	9.0		
Fan	Airflow rate	Cooling	m ³ /h	HIGH	650	700	700	770		
				MED	540	560	560	600		
				LOW	430	430	430	450		
				QUIET	270	270	270	280		
		Heating	HIGH	720	750	780	820			
			MED	580	610	640	660			
			LOW	460	470	520	520			
			QUIET	330	330	330	340			
	Type × Q'ty	Crossflow fan × 1								
	Motor output	W								
Sound pressure level *2	Cooling	HIGH	dB (A)	38	40	40	43			
				MED	33	34	35	36		
				LOW	29	29	30	30		
				QUIET	20	20	20	20		
	Heating	HIGH	41	42	42	44				
			MED	35	36	38	39			
			LOW	31	31	33	33			
			QUIET	22	22	22	24			
			Main1: 210 × 670 × 26.6				Main1: 210 × 670 × 26.6			
			Main2: 112 × 670 × 20				Main2: 112 × 670 × 20			
				Sub: 84 × 670 × 13.3						
Heat exchanger type	Dimensions (H × W × D)		mm	Main1: 1.2			Main1: 1.2			
	Fin pitch			Main2: 1.1			Main2: 1.1			
	Rows × Stages			Main1: 2 × 10			Main1: 2 × 10			
		Main2: 2 × 7			Main2: 2 × 7	Sub: 1 × 4				
Pipe type		Copper tube								
Fin type		Aluminum								
Material		Polystyrene								
Color		White + Pearl white (painted)								
		Approximate color of Munsell N 9.25/								
Dimensions (H × W × D)	Net	mm	270 × 834 × 222							
	Gross		277 × 914 × 332							
Weight	Net	kg	10.0							
	Gross		12.5				13.0			
Connection pipe	Size	Liquid	mm (in)	Ø6.35 (Ø1/4)						
		Gas		Ø9.52 (Ø3/8)						
Method		Flare								
Material		PP+LLDPE								
Drain hose	Tip diameter		mm	Ø13.8 (I.D.), Ø15.0 to Ø16.8 (O.D.)						
				18 to 32						
Operation range	Cooling			80 or less						
				16 to 30						
Heating				16 to 30						
Remote controller type				Wireless (Wired, Mobile app*3 [FGLair™] [option])						

NOTES:

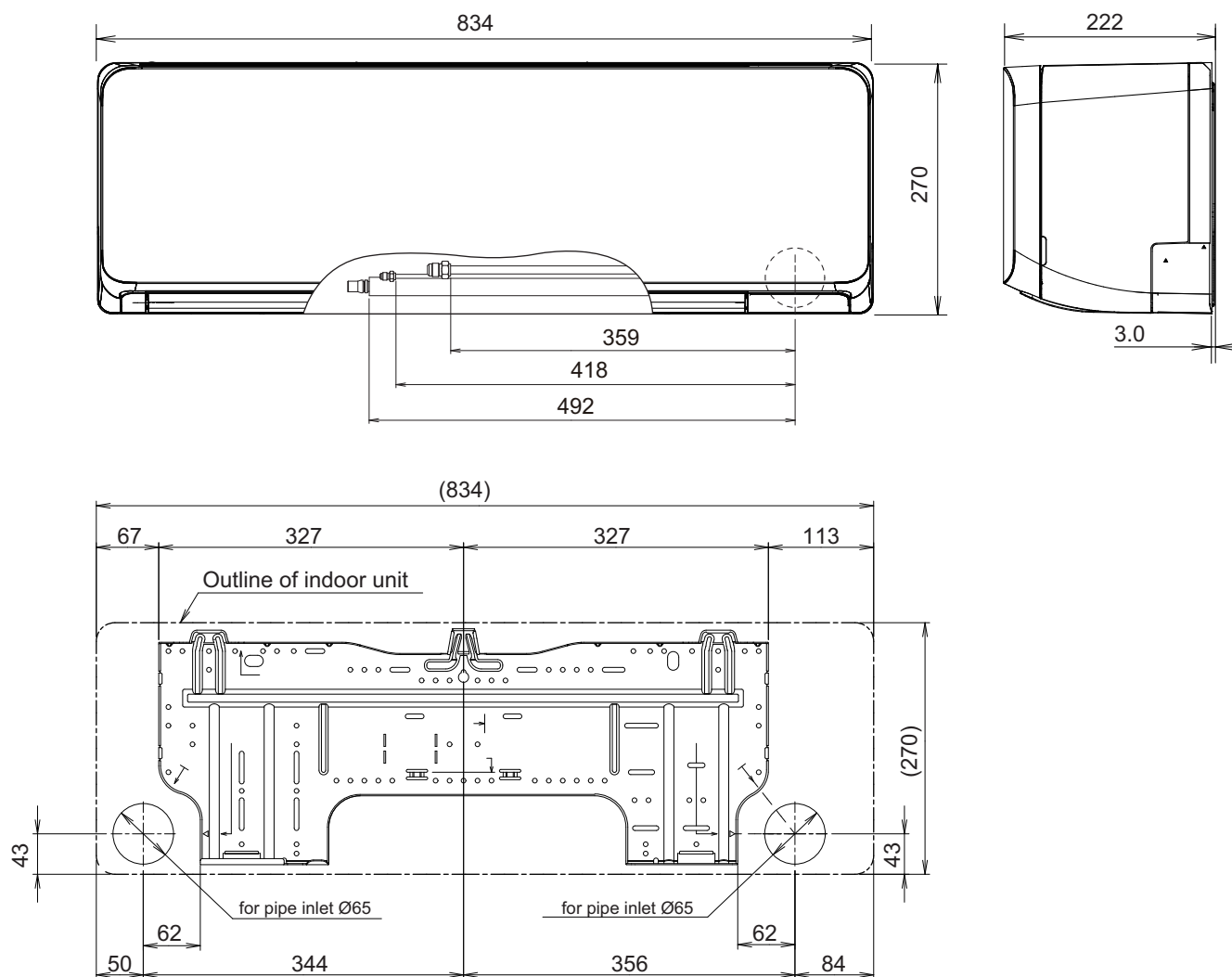
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27°CDB/19°CWB, and outdoor temperature of 35°CDB/24°CWB.
 - Heating: Indoor temperature of 20°CDB/15°CWB, and outdoor temperature of 7°CDB/6°CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit 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.
- *3: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual.

Specifications for Lot10							
Model name		ASYG07KMCE	ASYG09KMCE	ASYG12KMCE	ASYG14KMCE		
Energy efficiency class	Cooling	A ⁺⁺					
	Heating (Average)	A ⁺					
Pdesign	Cooling	kW	2.0 (35°C)	2.5 (35°C)	3.4 (35°C)	4.2 (35°C)	
	Heating (Average)		2.3 (-10°C)	2.4 (-10°C)	2.5 (-10°C)	4.0 (-10°C)	
SEER	Cooling	kWh/kWh	7.4	7.4	7.3	6.9	
SCOP	Heating (Average)		4.1	4.1	4.4	4.1	
Annual energy consumption	QCE	kWh/a	95	118	163	213	
	QHE (Average)		785	819	795	1,367	
Sound power level	Cooling	HIGH	dB (A)	54	55	55	57
	Heating			56	57	58	59

2. Dimensions

2-1. Models: ASYG07KMCE, ASYG09KMCE, ASYG12KMCE, and ASYG14KMCE

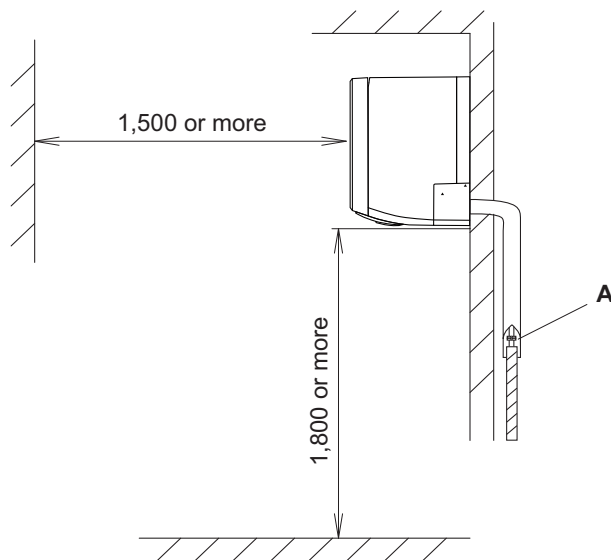
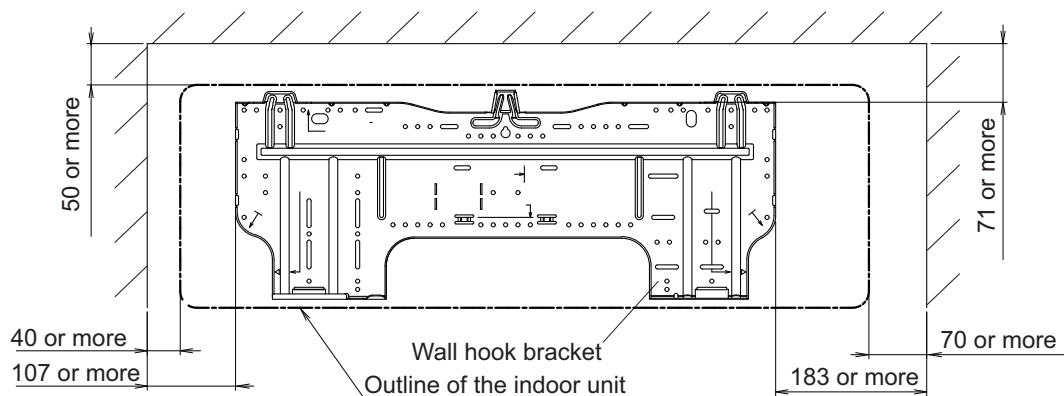
Unit: mm



■ Installation space requirement

Provide sufficient installation space for product safety.

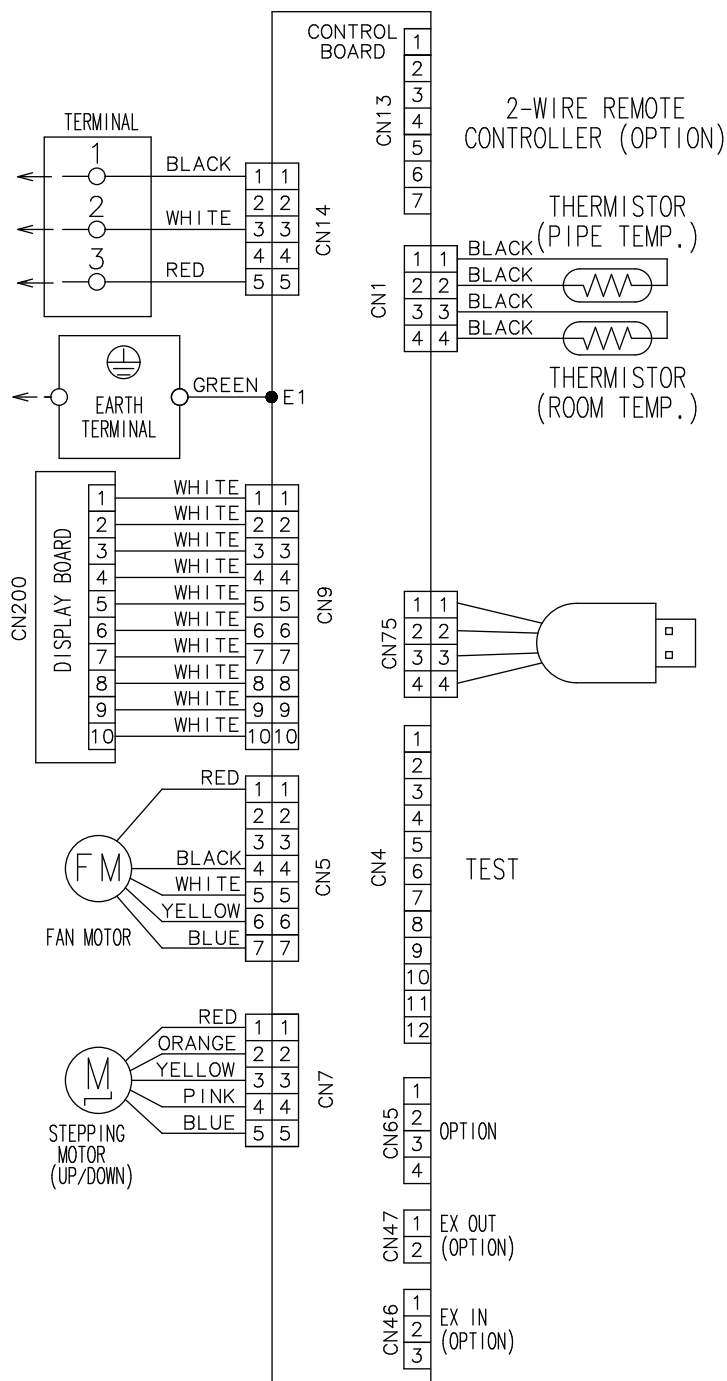
Unit: mm



A: Install so that the flare connection part is outdoors.

3. Wiring diagrams

3-1. Models: ASYG07KMCE, ASYG09KMCE, ASYG12KMCE, and ASYG14KMCE



4. 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)

4-1. Cooling capacity

■ Model: ASYG07KMCE

AFR	m ³ /h										650									
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CWB	kW			kW			kW			kW			kW			kW			kW		
	-10	2.07	1.20	0.25	2.25	1.25	0.25	2.37	1.28	0.25	2.49	1.31	0.25	2.55	1.35	0.25	2.73	1.37	0.24	2.91	1.42	0.24
	0	2.02	1.17	0.29	2.19	1.22	0.28	2.31	1.25	0.28	2.43	1.28	0.28	2.48	1.31	0.28	2.66	1.34	0.27	2.84	1.38	0.27
	5	1.91	1.14	0.38	2.07	1.19	0.38	2.18	1.21	0.38	2.29	1.24	0.37	2.34	1.28	0.38	2.51	1.30	0.37	2.68	1.34	0.37
	10	1.96	1.13	0.36	2.13	1.17	0.36	2.24	1.20	0.35	2.36	1.23	0.35	2.41	1.27	0.35	2.58	1.29	0.35	2.75	1.33	0.34
	15	1.92	1.14	0.36	2.08	1.18	0.35	2.20	1.21	0.35	2.31	1.24	0.35	2.36	1.27	0.35	2.53	1.29	0.34	2.70	1.34	0.34
	20	1.86	1.13	0.37	2.02	1.18	0.36	2.13	1.20	0.36	2.24	1.23	0.36	2.29	1.27	0.36	2.46	1.29	0.35	2.62	1.33	0.35
	25	1.80	1.12	0.39	1.95	1.16	0.38	2.06	1.19	0.38	2.16	1.22	0.38	2.21	1.25	0.38	2.37	1.28	0.37	2.53	1.32	0.37
	30	1.72	1.10	0.42	1.87	1.14	0.41	1.97	1.17	0.41	2.07	1.20	0.41	2.11	1.23	0.41	2.27	1.25	0.40	2.42	1.30	0.40
35	1.63	1.07	0.46	1.77	1.11	0.45	1.86	1.14	0.45	1.96	1.17	0.45	2.00	1.20	0.45	2.15	1.22	0.44	2.29	1.26	0.44	
40	1.52	1.03	0.51	1.66	1.07	0.50	1.75	1.10	0.50	1.83	1.13	0.50	1.87	1.16	0.50	2.01	1.18	0.49	2.14	1.22	0.49	
46	1.39	0.98	0.59	1.51	1.02	0.58	1.59	1.04	0.58	1.67	1.07	0.57	1.70	1.10	0.58	1.83	1.12	0.57	1.95	1.15	0.56	

■ Model: ASYG09KMCE

AFR	m ³ /h										700									
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CWB	kW			kW			kW			kW			kW			kW			kW		
	-10	2.59	1.60	0.36	2.82	1.66	0.35	2.97	1.70	0.35	3.12	1.74	0.35	3.18	1.79	0.35	3.42	1.83	0.34	3.64	1.89	0.34
	0	2.52	1.56	0.40	2.74	1.62	0.40	2.89	1.66	0.39	3.04	1.70	0.39	3.10	1.75	0.39	3.33	1.78	0.38	3.55	1.84	0.38
	5	2.38	1.52	0.54	2.59	1.58	0.53	2.73	1.62	0.53	2.87	1.66	0.52	2.93	1.71	0.53	3.14	1.73	0.52	3.35	1.79	0.51
	10	2.45	1.51	0.50	2.66	1.57	0.50	2.80	1.60	0.50	2.95	1.64	0.49	3.01	1.69	0.50	3.23	1.72	0.49	3.44	1.78	0.48
	15	2.40	1.51	0.50	2.61	1.57	0.50	2.74	1.61	0.49	2.88	1.65	0.49	2.95	1.70	0.49	3.16	1.73	0.48	3.37	1.78	0.48
	20	2.33	1.51	0.51	2.53	1.57	0.51	2.67	1.61	0.50	2.80	1.64	0.50	2.86	1.69	0.50	3.07	1.72	0.49	3.27	1.78	0.49
	25	2.25	1.49	0.54	2.44	1.55	0.53	2.57	1.59	0.53	2.70	1.63	0.53	2.76	1.67	0.53	2.96	1.70	0.52	3.16	1.76	0.51
	30	2.15	1.47	0.58	2.33	1.52	0.58	2.46	1.56	0.57	2.58	1.60	0.57	2.64	1.64	0.57	2.83	1.67	0.56	3.02	1.73	0.56
35	2.03	1.43	0.64	2.21	1.48	0.63	2.33	1.52	0.63	2.45	1.56	0.63	2.50	1.60	0.63	2.68	1.63	0.62	2.86	1.68	0.61	
40	1.91	1.38	0.71	2.07	1.43	0.71	2.18	1.47	0.70	2.29	1.50	0.70	2.34	1.54	0.70	2.51	1.57	0.69	2.68	1.62	0.68	
46	1.73	1.31	0.82	1.88	1.36	0.81	1.98	1.39	0.81	2.08	1.42	0.80	2.13	1.46	0.81	2.28	1.49	0.79	2.44	1.54	0.78	

■ Model: ASYG12KMCE

AFR	m ³ /h										700									
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CWB	kW			kW			kW			kW			kW			kW			kW		
	-10	3.45	2.30	0.54	3.75	2.37	0.54	3.94	2.42	0.53	4.14	2.46	0.53	4.26	2.52	0.53	4.53	2.56	0.53	4.82	2.63	0.52
	0	3.22	2.20	0.70	3.50	2.27	0.69	3.68	2.32	0.69	3.86	2.36	0.69	3.97	2.41	0.68	4.22	2.45	0.68	4.50	2.52	0.68
	5	3.06	2.15	0.81	3.32	2.21	0.81	3.49	2.26	0.80	3.66	2.30	0.80	3.77	2.35	0.79	4.01	2.39	0.79	4.27	2.45	0.79
	10	3.35	2.31	0.61	3.63	2.38	0.61	3.82	2.43	0.60	4.01	2.47	0.60	4.12	2.53	0.59	4.38	2.57	0.60	4.67	2.64	0.59
	15	3.27	2.23	0.67	3.55	2.30	0.67	3.73	2.34	0.66	3.92	2.39	0.66	4.03	2.44	0.65	4.28	2.48	0.65	4.56	2.55	0.65
	20	3.17	2.16	0.73	3.44	2.22	0.73	3.62	2.27	0.73	3.80	2.31	0.72	3.91	2.36	0.71	4.16	2.40	0.72	4.43	2.47	0.71
	25	3.06	2.10	0.80	3.31	2.16	0.80	3.49	2.20	0.79	3.66	2.25	0.79	3.76	2.30	0.78	4.00	2.33	0.78	4.26	2.40	0.78
	30	2.92	2.05	0.88	3.17	2.11	0.87	3.33	2.15	0.87	3.49	2.19	0.87	3.59	2.24	0.86	3.82	2.28	0.86	4.07	2.34	0.85
35	2.76	2.01	0.96	2.99	2.07	0.95	3.15	2.11	0.95	3.30	2.15	0.95	3.40	2.20	0.94	3.62	2.24	0.94	3.85	2.30	0.93	
40	2.58	1.98	1.05	2.80	2.04	1.04	2.95	2.08	1.04	3.09	2.12	1.03	3.18	2.17	1.02	3.38	2.21	1.02	3.60	2.27	1.01	
46	2.34	1.97	1.16	2.54	2.03	1.15	2.67	2.07	1.15	2.80	2.11	1.14	2.88	2.15	1.13	3.07	2.19	1.13	3.26	2.25	1.12	

■ Model: ASYG14KMCE

WALL MOUNTED
ASYG07-14KMCE

WALL MOUNTED
ASYG07-14KMCE

AFR	m ³ /h	770
-----	-------------------	-----

		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CWB			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	-10	3.77	3.49	0.67	4.11	3.62	0.66	4.34	3.70	0.66	4.57	3.79	0.65	4.85	3.86	0.65	5.03	3.95	0.65	5.37	4.08	0.64
	0	3.59	3.39	0.88	3.92	3.51	0.88	4.14	3.60	0.87	4.35	3.68	0.87	4.62	3.74	0.86	4.79	3.84	0.86	5.12	3.96	0.85
	5	3.50	3.34	0.99	3.82	3.46	0.99	4.04	3.54	0.98	4.25	3.62	0.98	4.51	3.69	0.96	4.67	3.78	0.97	4.99	3.90	0.96
	10	3.64	3.40	0.63	3.97	3.52	0.62	4.19	3.60	0.62	4.41	3.68	0.62	4.68	3.75	0.61	4.85	3.84	0.61	5.19	3.97	0.61
	15	3.65	3.33	0.78	3.99	3.45	0.78	4.21	3.53	0.77	4.43	3.61	0.77	4.70	3.67	0.76	4.88	3.77	0.76	5.21	3.89	0.76
	20	3.62	3.25	0.92	3.96	3.36	0.92	4.18	3.44	0.91	4.40	3.52	0.91	4.67	3.58	0.90	4.84	3.67	0.90	5.17	3.79	0.89
	25	3.55	3.15	1.05	3.87	3.26	1.04	4.09	3.33	1.04	4.31	3.41	1.03	4.57	3.47	1.02	4.74	3.56	1.02	5.06	3.67	1.01
	30	3.43	3.03	1.16	3.74	3.14	1.15	3.95	3.21	1.15	4.16	3.28	1.14	4.42	3.34	1.13	4.58	3.43	1.13	4.89	3.54	1.12
	35	3.26	2.90	1.26	3.56	3.00	1.25	3.76	3.07	1.24	3.96	3.14	1.23	4.20	3.20	1.22	4.35	3.28	1.22	4.65	3.39	1.21
40	3.05	2.75	1.34	3.33	2.85	1.33	3.51	2.92	1.32	3.70	2.98	1.31	3.93	3.04	1.30	4.07	3.12	1.30	4.35	3.21	1.29	
46	2.73	2.55	1.41	2.98	2.65	1.40	3.15	2.71	1.40	3.31	2.77	1.39	3.52	2.82	1.37	3.65	2.89	1.37	3.90	2.98	1.36	

4-2. Heating capacity

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

Model: ASYG07KMCE

AFR		m ³ /h		720											
Outdoor temperature		°CDB °CWB		Indoor temperature											
				16		18		20		22		24			
				TC	IP	TC	IP	TC	IP	TC	IP	TC	IP		
		kW		kW		kW		kW		kW					
-15	-16	1.85	0.95	1.83	0.97	1.81	0.98	1.80	1.02	1.78	1.04				
-10	-11	2.22	1.00	2.20	1.02	2.17	1.03	2.16	1.07	2.14	1.10				
-5	-7	2.59	1.05	2.57	1.07	2.53	1.09	2.52	1.12	2.50	1.15				
0	-2	2.96	1.10	2.93	1.13	2.89	1.14	2.88	1.18	2.86	1.21				
5	3	3.33	1.15	3.30	1.18	3.26	1.19	3.24	1.23	3.21	1.26				
7	6	3.48	1.17	3.45	1.20	3.40	1.21	3.39	1.25	3.36	1.28				
10	8	3.70	1.20	3.67	1.23	3.62	1.24	3.60	1.29	3.57	1.32				
15	10	3.68	1.11	3.64	1.14	3.59	1.15	3.58	1.19	3.55	1.22				
20	15	3.87	1.06	3.84	1.09	3.78	1.10	3.77	1.14	3.74	1.17				
24	18	4.03	1.02	3.99	1.05	3.94	1.06	3.92	1.10	3.89	1.12				

Model: ASYG09KMCE

AFR		m ³ /h		750											
Outdoor temperature		°CDB °CWB		Indoor temperature											
				16		18		20		22		24			
				TC	IP	TC	IP	TC	IP	TC	IP	TC	IP		
		kW		kW		kW		kW		kW					
-15	-16	2.14	0.99	2.13	1.02	2.12	1.02	2.12	1.06	2.11	1.09				
-10	-11	2.57	1.04	2.56	1.07	2.55	1.08	2.55	1.12	2.54	1.15				
-5	-7	3.00	1.09	2.99	1.12	2.98	1.13	2.97	1.18	2.96	1.20				
0	-2	3.43	1.15	3.42	1.17	3.40	1.19	3.40	1.23	3.39	1.26				
5	3	3.86	1.20	3.85	1.23	3.83	1.24	3.83	1.29	3.81	1.32				
7	6	4.04	1.22	4.02	1.25	4.00	1.26	4.00	1.31	3.98	1.34				
10	8	4.29	1.25	4.28	1.28	4.26	1.29	4.25	1.34	4.24	1.37				
15	10	4.43	1.26	4.42	1.29	4.39	1.30	4.39	1.35	4.37	1.38				
20	15	4.85	1.27	4.83	1.30	4.80	1.31	4.80	1.36	4.78	1.39				
24	18	5.18	1.28	5.16	1.31	5.13	1.32	5.13	1.37	5.11	1.40				

Model: ASYG12KMCE

AFR		m ³ /h		780											
Outdoor temperature		°CDB °CWB		Indoor temperature											
				16		18		20		22		24			
				TC	IP	TC	IP	TC	IP	TC	IP	TC	IP		
		kW		kW		kW		kW		kW					
-15	-16	2.88	1.19	2.86	1.22	2.82	1.23	2.81	1.28	2.78	1.31				
-10	-11	3.46	1.25	3.43	1.28	3.38	1.30	3.37	1.35	3.34	1.38				
-5	-7	4.04	1.32	4.00	1.35	3.94	1.36	3.93	1.41	3.89	1.44				
0	-2	4.62	1.38	4.57	1.41	4.51	1.43	4.49	1.48	4.45	1.51				
5	3	5.19	1.44	5.15	1.48	5.07	1.49	5.05	1.55	5.01	1.58				
7	6	5.42	1.47	5.38	1.50	5.30	1.52	5.28	1.58	5.23	1.61				
10	8	5.77	1.51	5.72	1.54	5.64	1.56	5.62	1.62	5.57	1.65				
15	10	5.73	1.40	5.68	1.43	5.60	1.45	5.58	1.50	5.53	1.53				
20	15	6.04	1.34	5.98	1.37	5.90	1.38	5.88	1.43	5.82	1.47				
24	18	6.28	1.29	6.23	1.32	6.14	1.33	6.12	1.38	6.06	1.41				

Model: ASYG14KMCE

AFR		m ³ /h		820											
Outdoor temperature		°CDB °CWB		Indoor temperature											
				16		18		20		22		24			
				TC	IP	TC	IP	TC	IP	TC	IP	TC	IP		
		kW		kW		kW		kW		kW					
-15	-16	3.26	1.36	3.23	1.39	3.19	1.40	3.18	1.45	3.15	1.49				
-10	-11	3.92	1.43	3.88	1.46	3.83	1.48	3.81	1.53	3.78	1.57				
-5	-7	4.57	1.50	4.53	1.54	4.47	1.55	4.45	1.61	4.41	1.64				
0	-2	5.23	1.57	5.18	1.61	5.11	1.63	5.09	1.69	5.04	1.72				
5	3	5.88	1.64	5.83	1.68	5.74	1.70	5.72	1.76	5.67	1.80				
7	6	6.14	1.67	6.09	1.71	6.00	1.73	5.98	1.79	5.92	1.83				
10	8	6.53	1.72	6.48	1.76	6.38	1.77	6.36	1.84	6.30	1.88				
15	10	6.49	1.59	6.43	1.63	6.34	1.65	6.32	1.71	6.26	1.75				
20	15	6.84	1.52	6.77	1.56	6.68	1.57	6.65	1.63	6.59	1.67				
24	18	7.11	1.47	7.05	1.50	6.95	1.52	6.92	1.57	6.86	1.61				

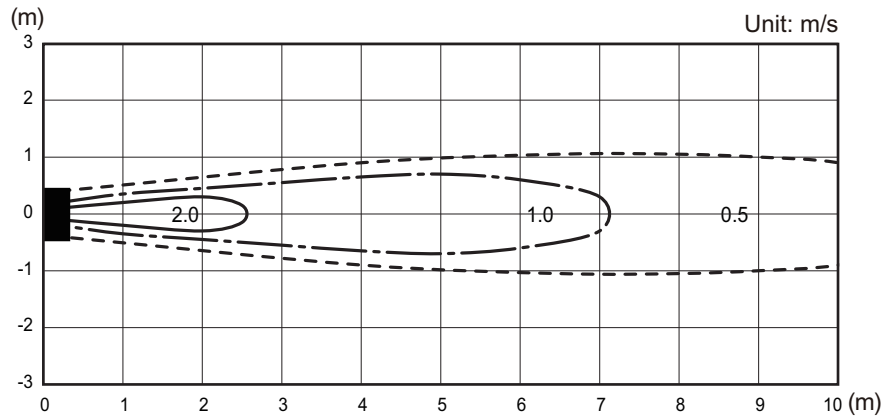
5. Fan performance

5-1. Air velocity distributions

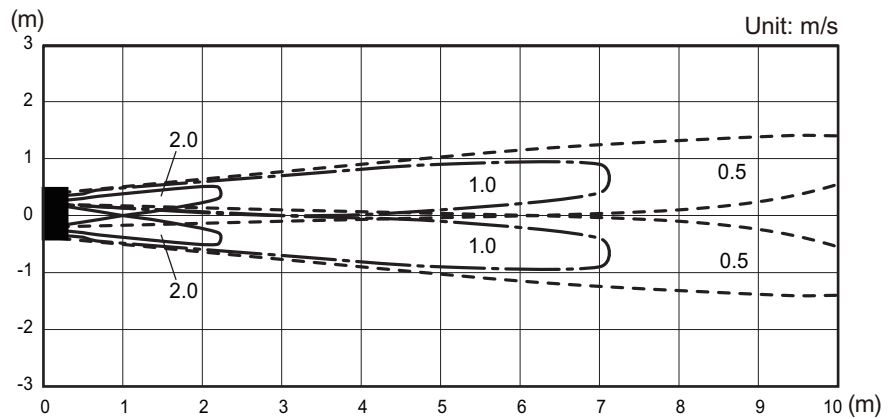
■ Models: ASYG07KMCE, ASYG09KMCE, and ASYG12KMCE

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

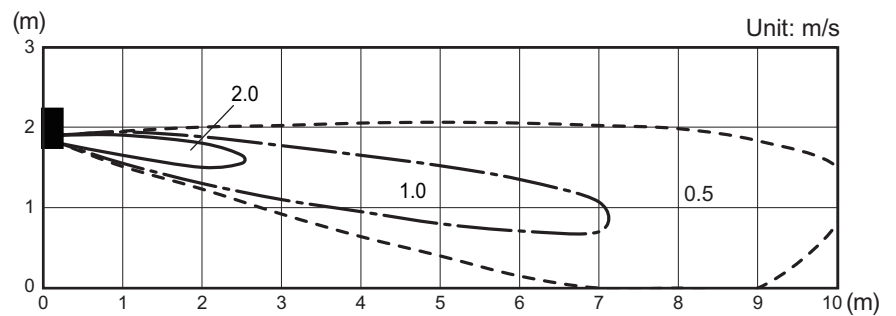
Top view
Horizontal louver: Up
Vertical louver: Center



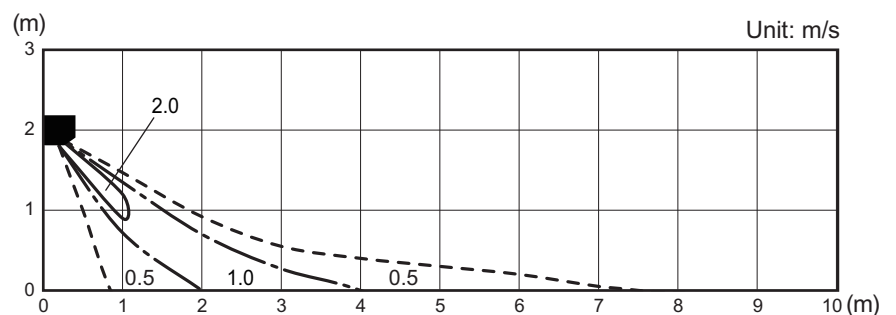
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



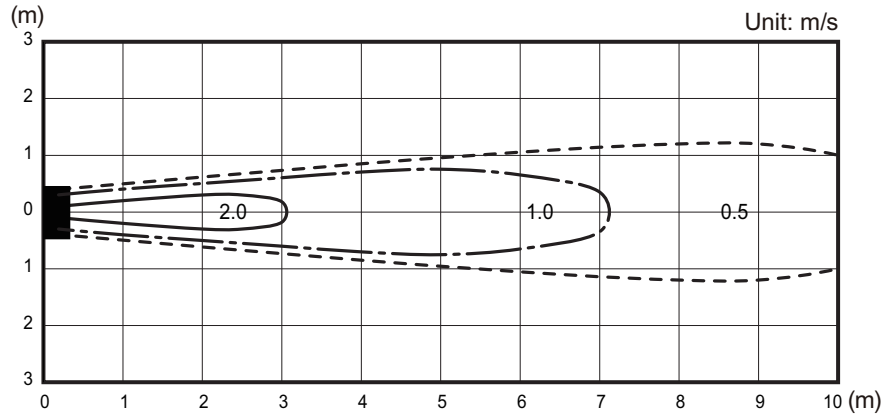
Model: ASYG14KMCE

WALL MOUNTED
ASYG07-14KMCE

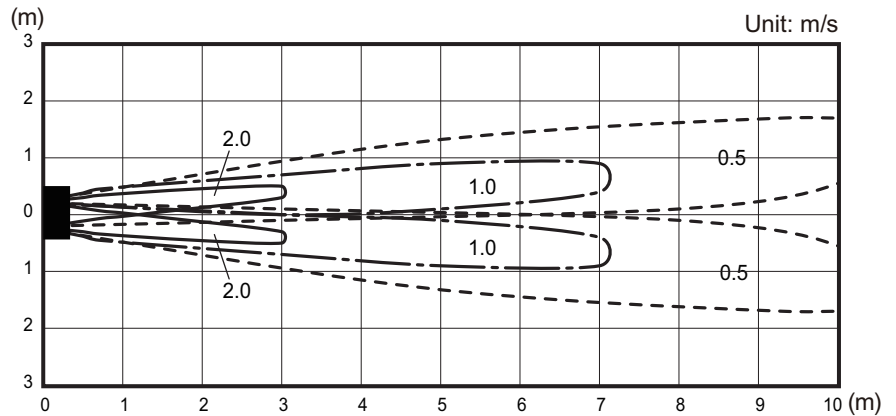
WALL MOUNTED
ASYG07-14KMCE

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

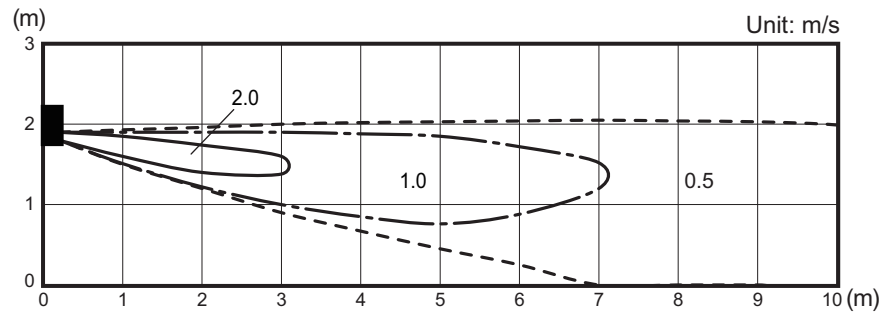
Top view
Horizontal louver: Up
Vertical louver: Center



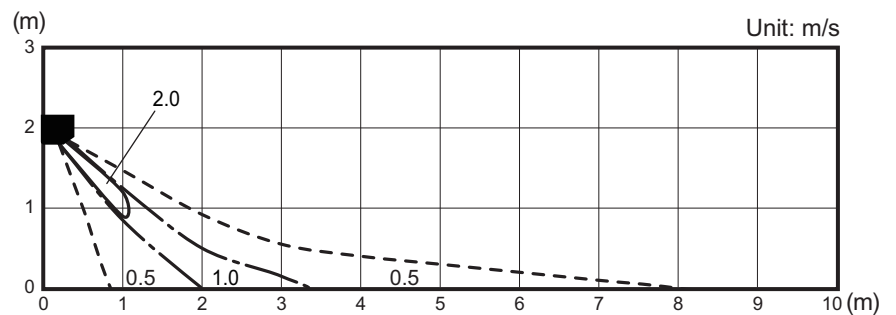
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



5-2. Airflow

■ Model: ASYG07KMCE

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	650
	l/s	181
	CFM	383
MED	m ³ /h	540
	l/s	150
	CFM	318
LOW	m ³ /h	430
	l/s	119
	CFM	253
QUIET	m ³ /h	270
	l/s	75
	CFM	159

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	720
	l/s	200
	CFM	424
MED	m ³ /h	580
	l/s	161
	CFM	341
LOW	m ³ /h	460
	l/s	128
	CFM	271
QUIET	m ³ /h	330
	l/s	92
	CFM	194

■ Model: ASYG09KMCE

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	700
	l/s	194
	CFM	412
MED	m ³ /h	560
	l/s	156
	CFM	330
LOW	m ³ /h	430
	l/s	119
	CFM	253
QUIET	m ³ /h	270
	l/s	75
	CFM	159

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	750
	l/s	208
	CFM	441
MED	m ³ /h	610
	l/s	169
	CFM	359
LOW	m ³ /h	470
	l/s	131
	CFM	277
QUIET	m ³ /h	330
	l/s	92
	CFM	194

■ Model: ASYG12KMCE

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	700
	l/s	194
	CFM	412
MED	m ³ /h	560
	l/s	156
	CFM	330
LOW	m ³ /h	430
	l/s	119
	CFM	253
QUIET	m ³ /h	270
	l/s	75
	CFM	159

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	780
	l/s	217
	CFM	459
MED	m ³ /h	640
	l/s	178
	CFM	377
LOW	m ³ /h	520
	l/s	144
	CFM	306
QUIET	m ³ /h	330
	l/s	92
	CFM	194

■ Model: ASYG14KMCE

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	770
	l/s	214
	CFM	453
MED	m ³ /h	600
	l/s	167
	CFM	353
LOW	m ³ /h	450
	l/s	125
	CFM	265
QUIET	m ³ /h	280
	l/s	78
	CFM	165

● Heating

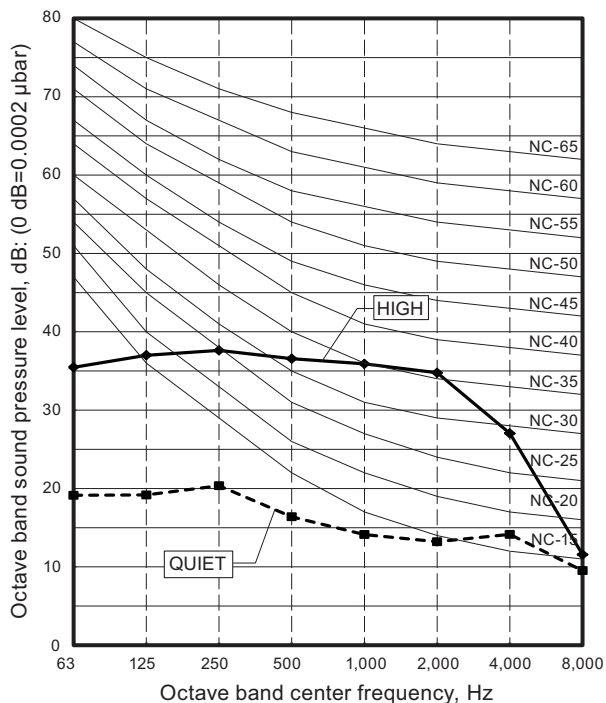
Fan speed	Airflow	
HIGH	m ³ /h	820
	l/s	228
	CFM	483
MED	m ³ /h	660
	l/s	183
	CFM	388
LOW	m ³ /h	520
	l/s	144
	CFM	306
QUIET	m ³ /h	340
	l/s	94
	CFM	200

6. Operation noise (sound pressure)

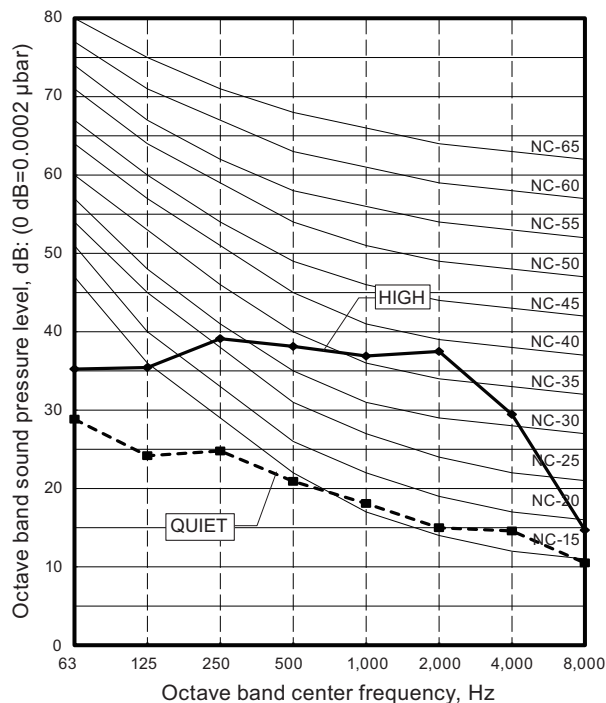
6-1. Noise level curve

Model: ASYG07KMCE

Cooling

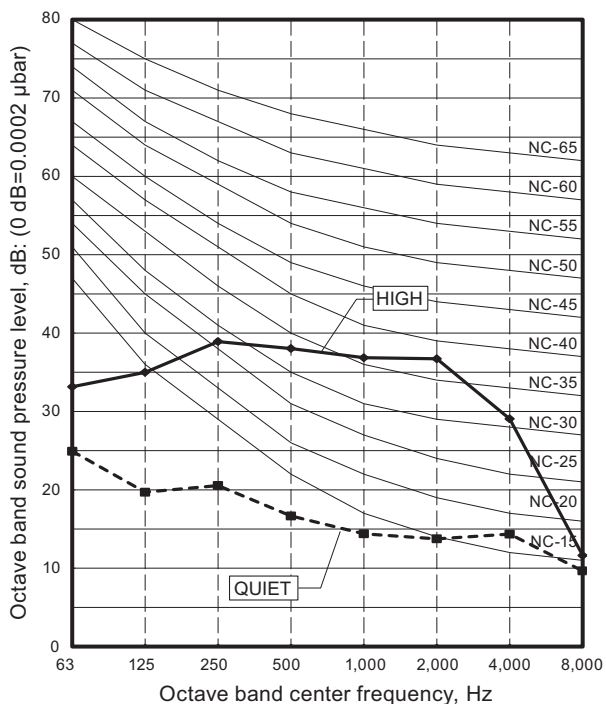


Heating

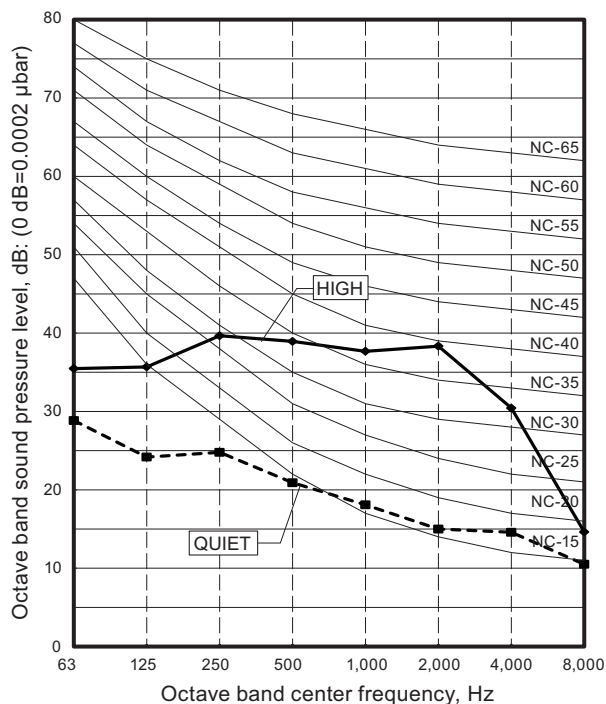


Model: ASYG09KMCE

Cooling

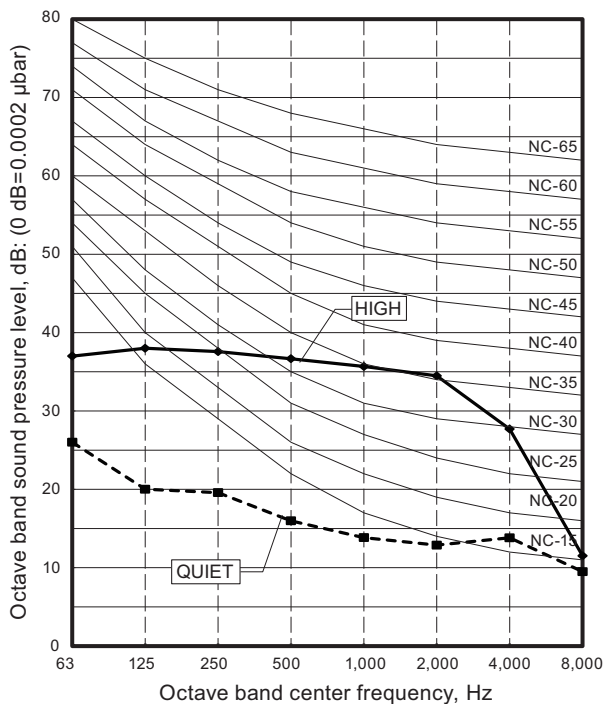


Heating

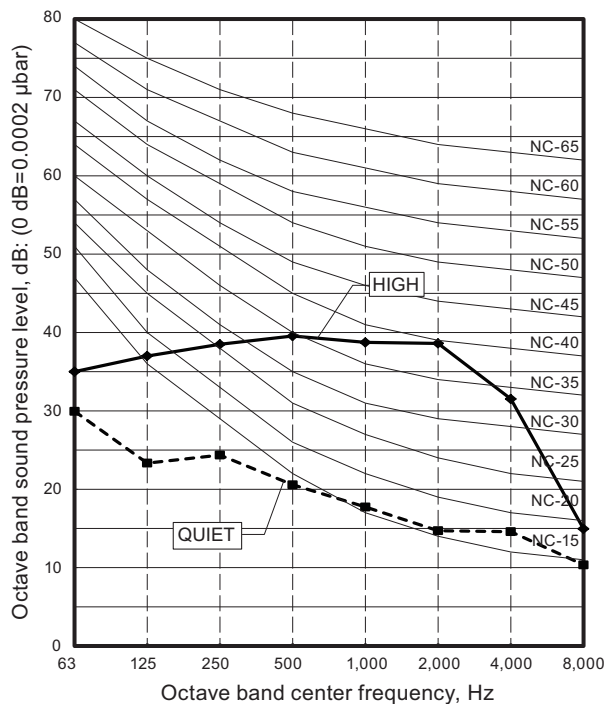


Model: ASYG12KMCE

Cooling

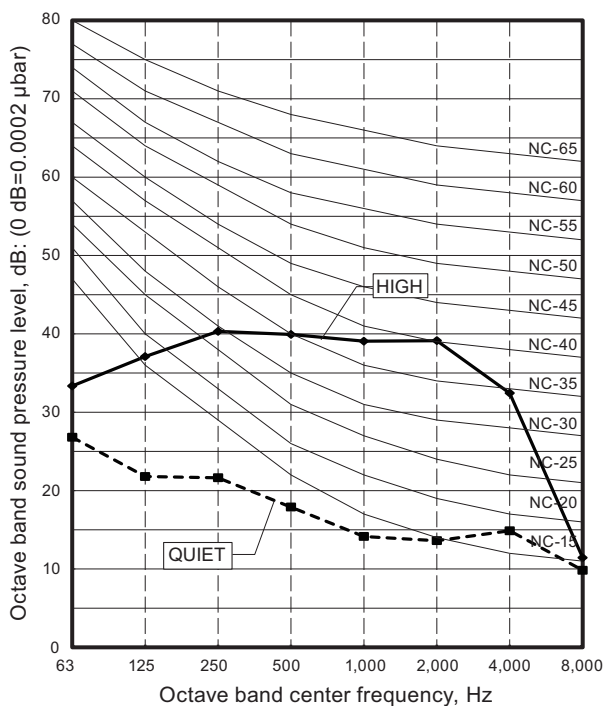


Heating

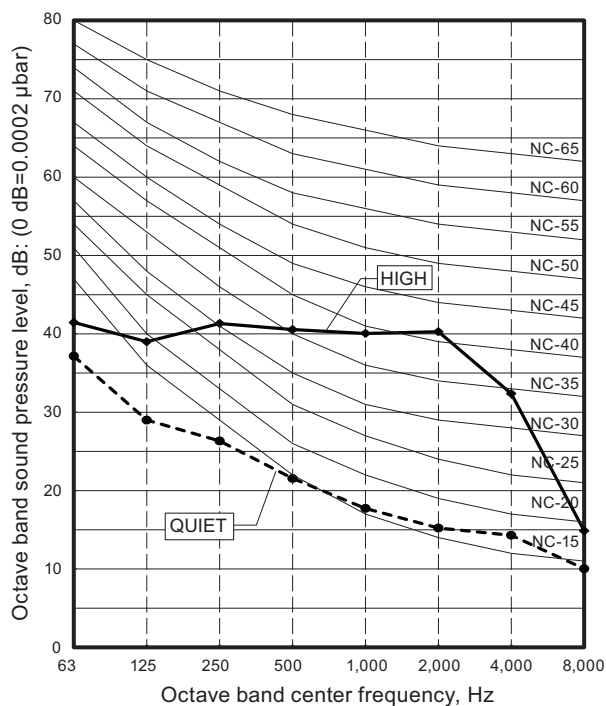


Model: ASYG14KMCE

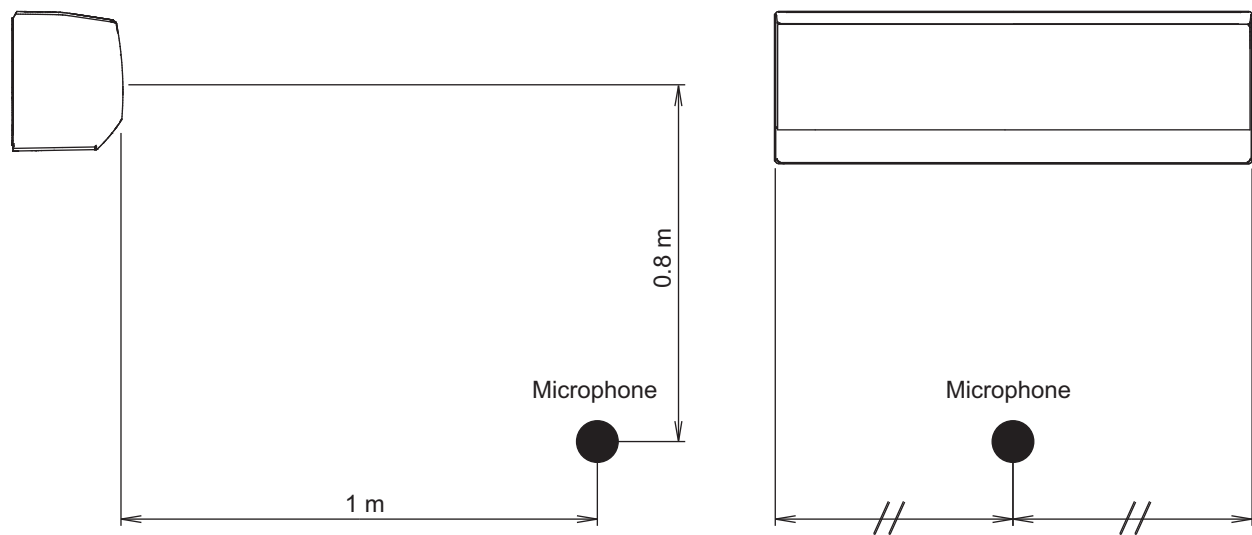
Cooling



Heating



6-2. Sound level check point



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

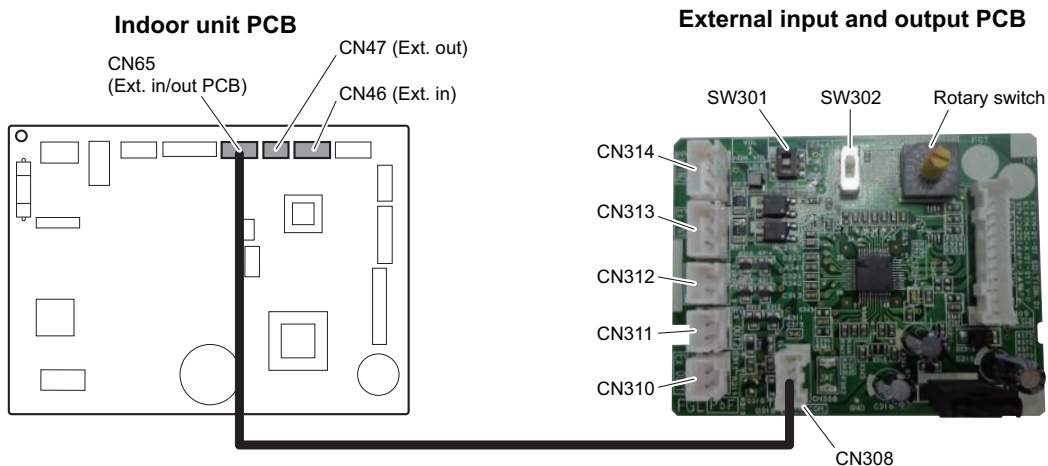
7. Safety devices

Type of protection	Protection form		Model		
			ASYG07KMCE	ASYG09KMCE	ASYG12KMCE
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermal protection	Activate	170 ⁺²⁵ ₋₃₀ °C Fan motor stop		
		Reset	145 ⁺²⁵ ₋₃₀ °C Fan motor restart		

Type of protection	Protection form		Model		
			ASYG14KMCE		
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermal protection	Activate	170 ⁺²⁵ ₋₃₀ °C Fan motor stop		
		Reset	145 ⁺²⁵ ₋₃₀ °C Fan motor restart		

*PCB: Printed Circuit Board

8. External input and output



PCB	External input	External output	Connector	Input select	Input signal
Indoor unit	Operation/Stop	—	CN46	Dry contact	Edge
	Forced stop				
	—	Operation status	CN47	—	—
	Error status				
External input and output (UTY-XCSXZ2)	Operation/Stop	—	CN313/ CN314	Dry contact/ Apply voltage	Edge/Pulse
	Forced stop		CN313		Edge
	Forced thermostat off				
	—	Operation status	CN310/ CN311/ CN312	—	—
	Error status				
	Indoor unit fan operation status				

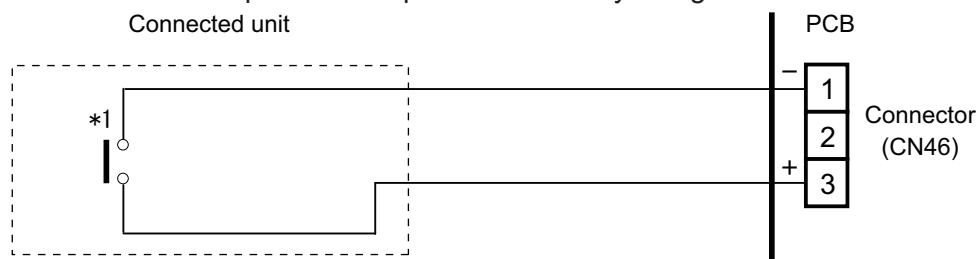
8-1. External input

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 should be used. Maximum length of cable is 150 m.
- The wire connection should be separate from the power cable line.

■ Indoor unit

Indoor unit functions such as Operation/Stop can be done by using indoor unit connectors.



*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

External Input and Output PCB

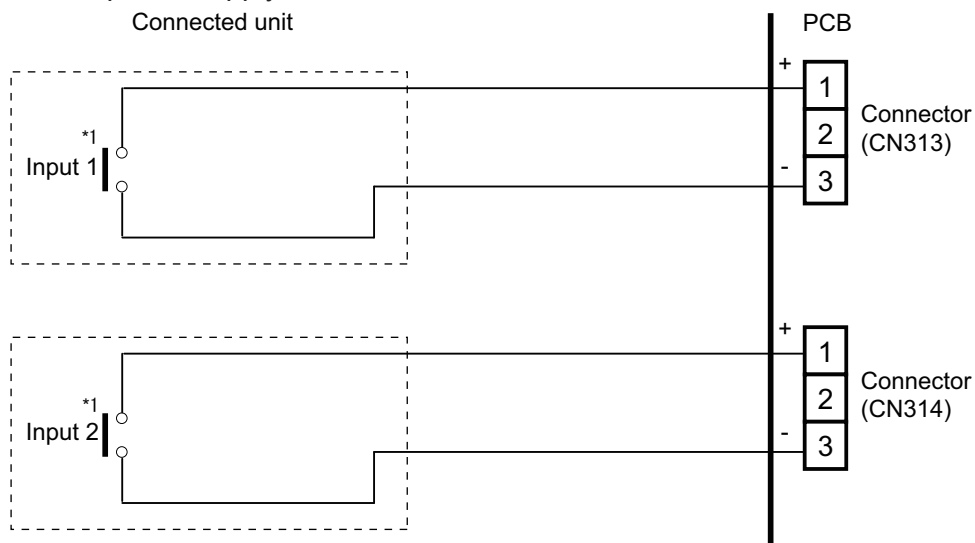
The indoor unit Operation/Stop can be set by using the input connector on the PCB.

• Input select:

Use either one of these types of connectors according to the application. (Both types of connectors cannot be used simultaneously.)

– Dry contact

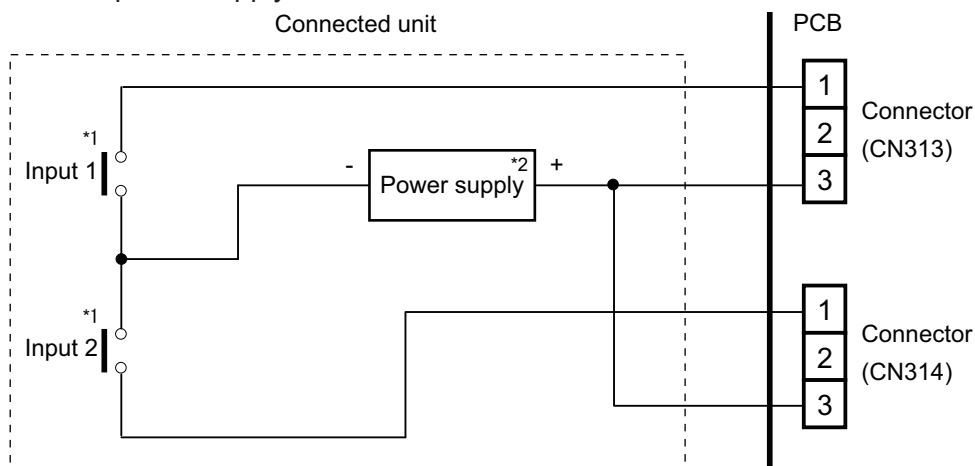
In case of internal power supply, set the slide switch of SW301 to "NON VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

– Apply voltage

In case of external power supply, set the slide switch of SW301 to "VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

*2: Make the power supply DC 12 to 24 V, 10 mA or more.

8-2. External output

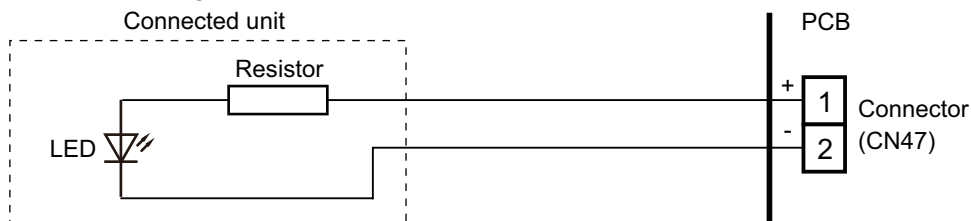
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

Indoor unit

- A twisted pair cable should be used. Maximum length of cable is 25 m.
- Output voltage: High DC 12 V \pm 2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to ["Combination of external input and output"](#) on page 25

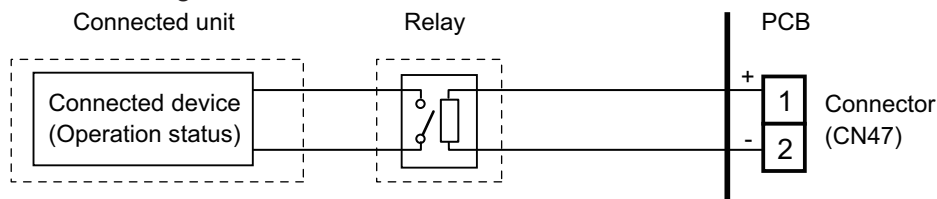
When indicator or other components are connected directly

Example: Function setting 60 is set to "00"



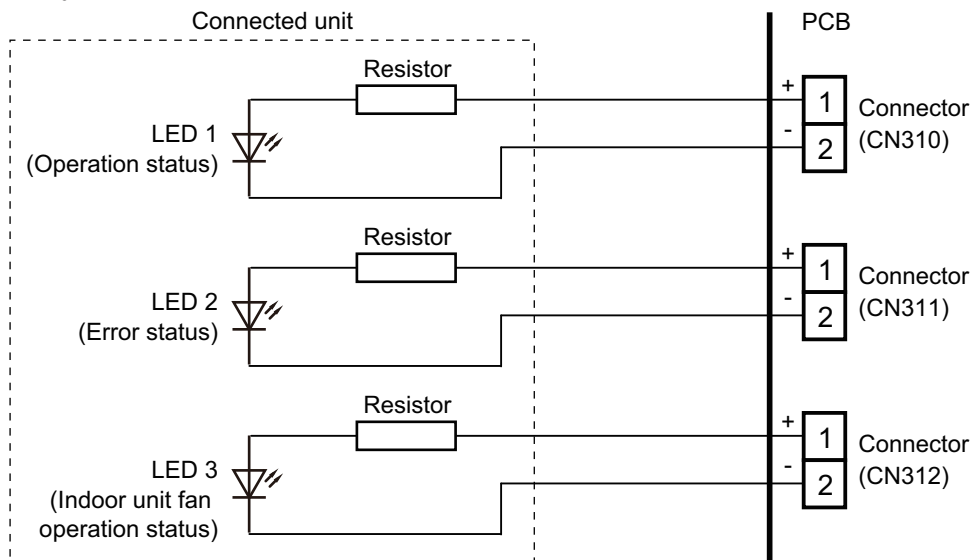
When connecting with a device equipped with a power supply

Example: Function setting 60 is set to "00"

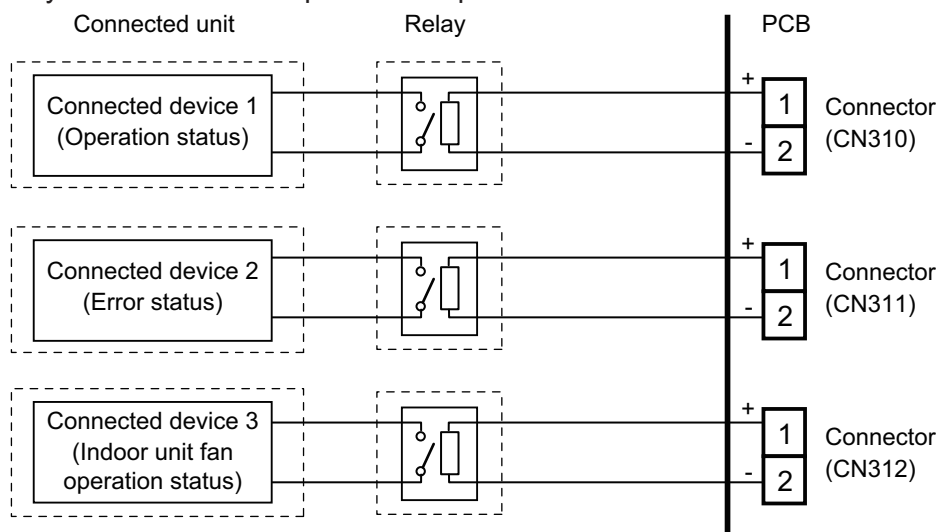


External Input and Output PCB

- A twisted pair cable should be used. Maximum length of cable is 25 m.
 - Output voltage: High DC 12 V±2 V, Low 0 V.
 - Permissible current: 50 mA
 - For details, refer to "[Combination of external input and output](#)" on page 25
- **When indicator or other components are connected directly:**
Example: Rotary SW on External Input and Output PCB is set to "1".



- **When connecting with a device equipped with a power supply:**
Example: Rotary SW on External Input and Output PCB is set to "1".



8-3. Combination of external input and output

By combining the function setting of the indoor unit and rotary switch setting of the External Input and Output PCB, you can select various combinations of functions.

Combination examples of external input and output are as follows:

Mode	Function setting	Rotary SW	External input			
			Indoor unit	External Input and Output PCB		
			CN46	CN313	CN314	
0-1	60—00	1	Operation/Stop mode1 (Function setting 46-00)	Operation/Stop	Not available	
			or	Operation	Stop	
0-2	60-00	2	Forced stop (Function setting 46-02)	Forced thermostat OFF	Not available	
			or			
			Operation/Stop mode2 (Function setting 46-03)			
1—8	60-01—08	3—9, A	(Setting prohibited)			
9	60-09	B	Operation/Stop mode1 (Function setting 46-00)	Forced thermostat OFF	Not available	
						or
10	60-10	C				Forced stop (Function setting 46-02)
			or			
			Operation/Stop mode2 (Function setting 46-03)			
11	60-11	D	(Setting prohibited)			

Mode	Function setting	Rotary SW	External output			
			Indoor unit	External Input and Output PCB		
			CN47	CN310	CN311	CN312
0-1	60-00	1	Operation/Stop	Operation/Stop	Error status	Indoor unit fan operation status
0-2	60-00	2	Operation/Stop	Error status	Indoor unit fan operation status	Not available
1—8	60-01—08	3—9, A	(Setting prohibited)			
9	60-09	B	Error status	Operation/Stop	Indoor unit fan operation status	Not available
10	60-10	C	Indoor unit fan operation status		Error status	
11	60-11	D	(Setting prohibited)			

NOTE: Input of Operation/Stop depends on the setting of function setting 46.

00: Operation/Stop mode 1 (Remote controller enabled)

01: (Setting prohibited)

02: Forced stop

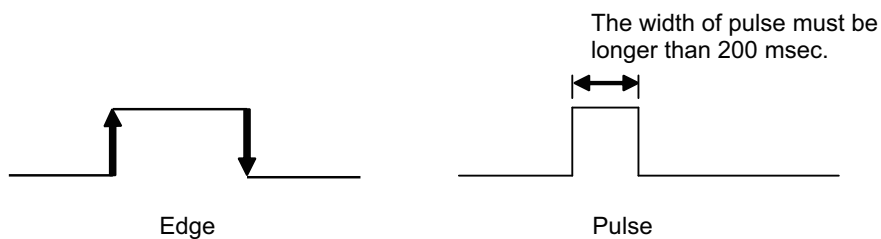
03: Operation/Stop mode 2 (Remote controller disabled)

■ Input signal type

External Input and Output PCB:

The input signal type can be selected.

Signal type (edge or pulse) can be switched by the DIP switch SW302 on the External Input and Output PCB.

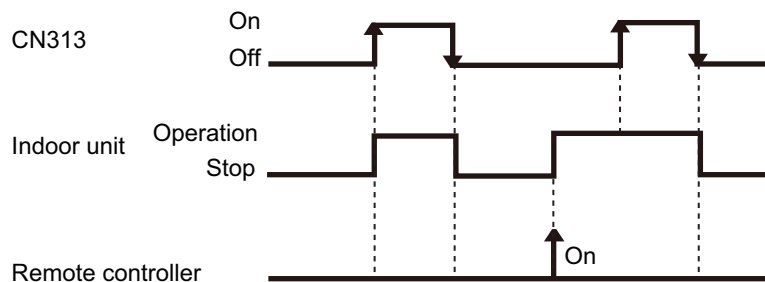


8-4. Details of function

■ Control input function

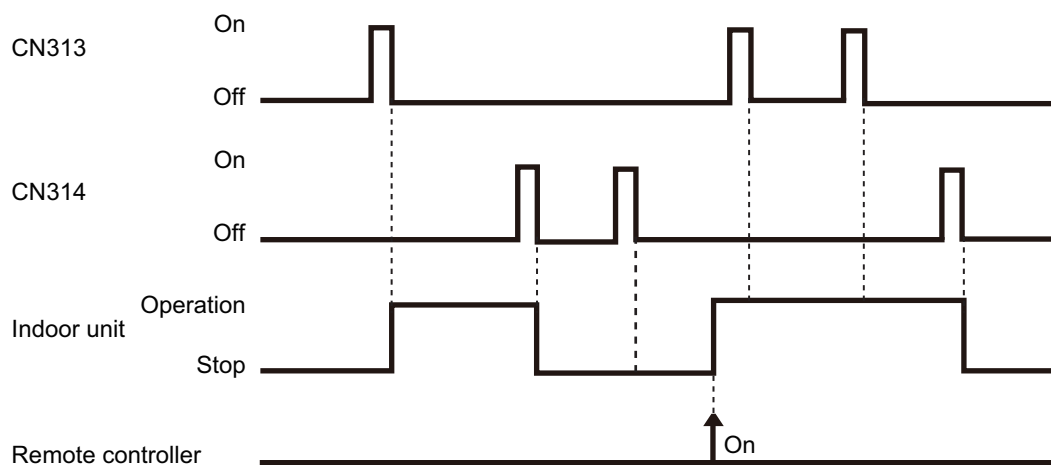
- When function setting is “Operation/Stop” mode 1
 - In the case of “Edge” input:

Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
		External Input and Output PCB	CN313		
46-00	1			Off → On	Operation
				On → Off	Stop



- In the case of “Pulse” input:

Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
		External Input and Output PCB	CN313		
46-00	1		CN313	Pulse	Operation
			CN314	Pulse	Stop



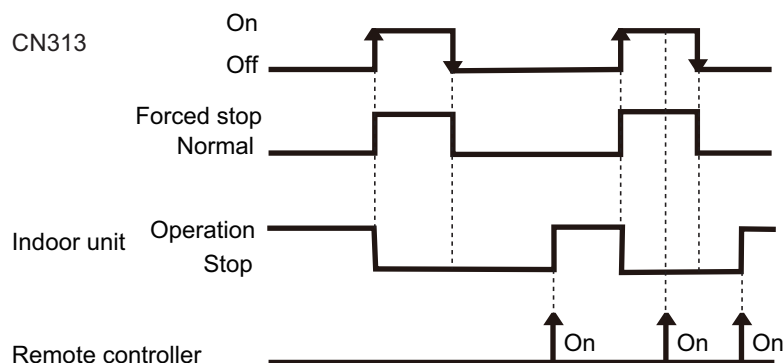
NOTES:

- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

• When function setting is “Forced stop” mode

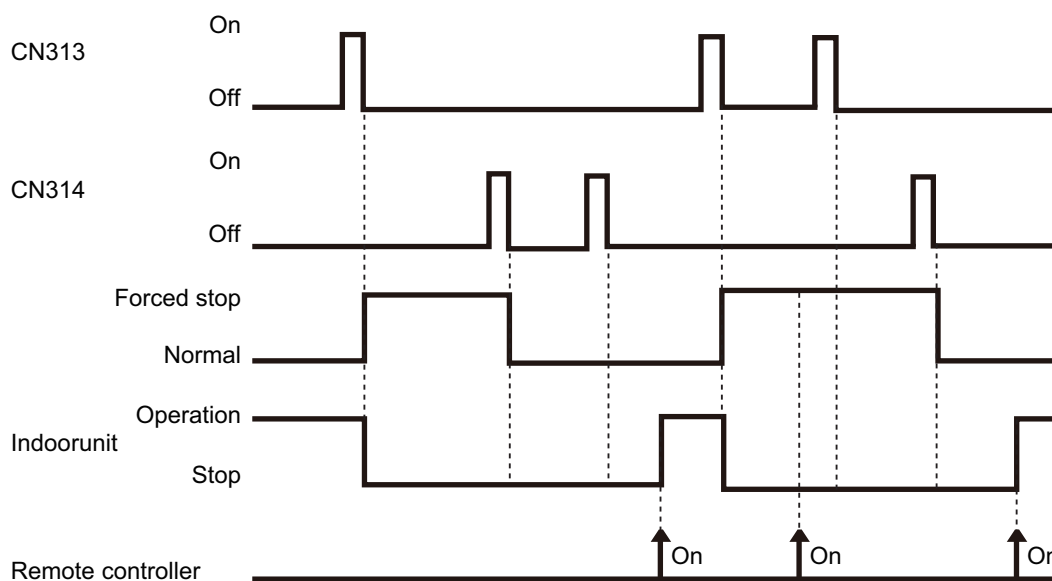
– In the case of “Edge” input:

Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
		External Input and Output PCB	CN313		
46-02	1			Off → On	Forced stop
				On → Off	Normal



– In the case of “Pulse” input:

Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
		External Input and Output PCB	CN313 CN314		
46-02	1		CN313	Pulse	Forced stop
			CN314	Pulse	Normal



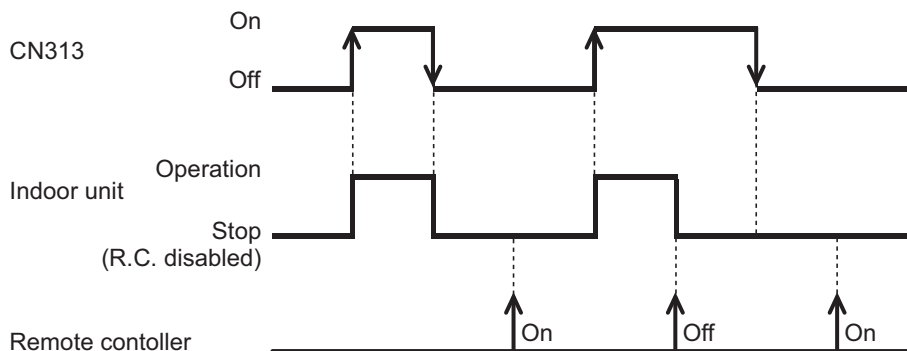
NOTES:

- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

• When function setting is “Operation/Stop” mode 2

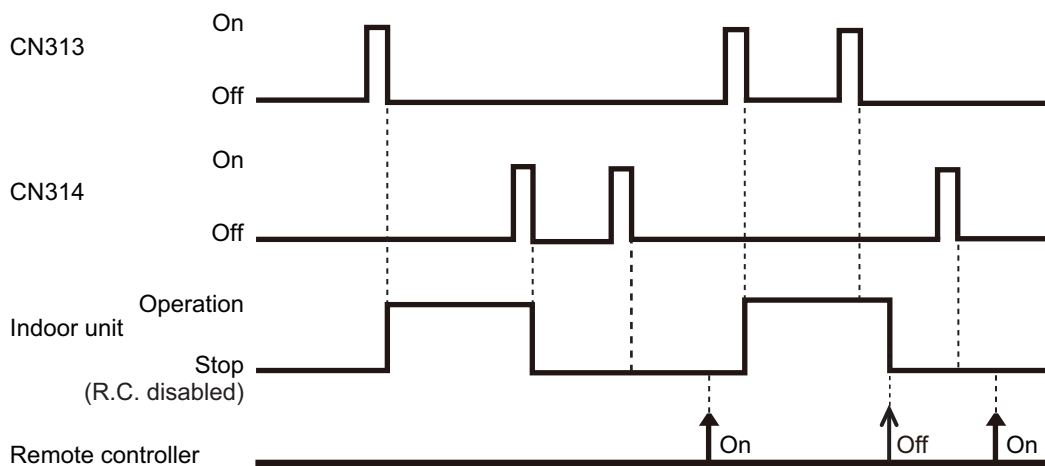
– In the case of “Edge” input:

Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
46-03	1	External Input and Output PCB	CN313	Off → On	Operation
				On → Off	Stop (Remote controller disabled)



– In the case of “Pulse” input:

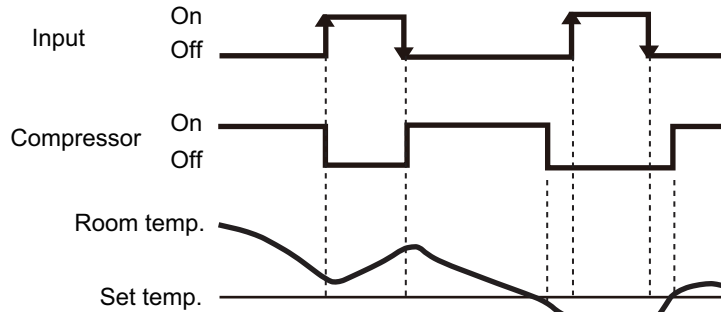
Function setting	Rotary SW on External Input and Output PCB	External input		Input signal	Command
46-03	1	External Input and Output PCB	CN313	Pulse	Operation
			CN314	Pulse	Stop (Remote controller disabled)



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.

• Forced thermostat off function

Function setting / Rotary SW on External Input and Output PCB	External input		Input signal	Command
60-00 / 2	External Input and Output PCB	CN313	Off → On	Thermostat off
60-09 / B			On → Off	Normal operation
60-10 / C				

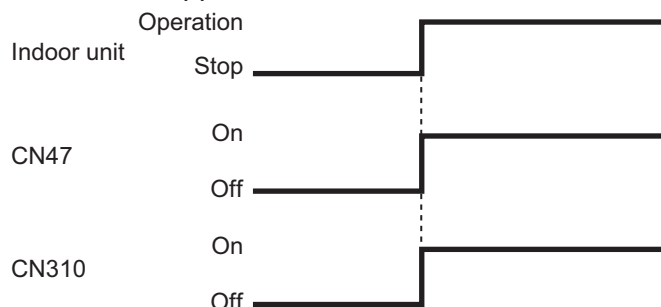


Control output function

• Operation/Stop status

Function setting / Rotary SW on External Input and Output PCB	External output		Output signal	Command
60-00 / 1 60-00 / 2	Output of indoor unit	CN47	Off → On	Operation
			On → Off	Stop
60-00 / 1 60-09 / B 60-10 / C 60-11 / D	External Input and Output PCB	CN310	Off → On	Operation
			On → Off	Stop

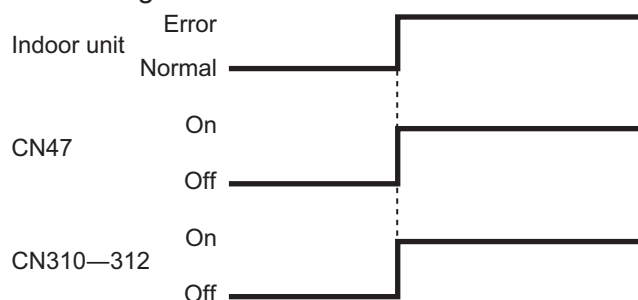
The output is low when the unit is stopped.



• Error status

Function setting / Rotary SW on External Input and Output PCB	External output		Output signal	Command
60-09 / B	Output of indoor unit	CN47	Off → On	Error
			On → Off	Normal
60-00 / 2		CN310	Off → On	Error
			On → Off	Normal
60-00 / 1 60-10 / C		CN311	Off → On	Error
			On → Off	Normal
60-11 / D		CN312	Off → On	Error
			On → Off	Normal

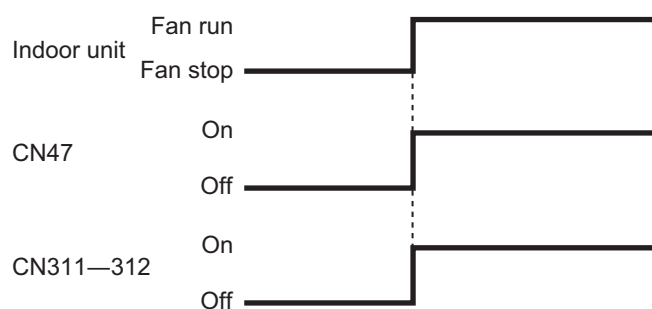
The output is ON when an error is generated for the indoor unit.



- Indoor unit fan operation status

Function setting / Rotary SW on External Input and Output PCB	External output		Output signal	Command
60-10 / C	Output of indoor unit	CN47	Off → On	Fan run
			On → Off	Fan stop
60-00 / 2 60-09 / B 60-11 / D	External Input and Output PCB	CN311	Off → On	Fan run
			On → Off	Fan stop
60-00 / 1		CN312	Off → On	Fan run
			On → Off	Fan stop

Output signal	Condition
On Low → High	The indoor unit fan is operating.
Off High → Low	The fan is stopped or during cold air prevention. During thermostat off when in dry mode operation.



9. Group connection

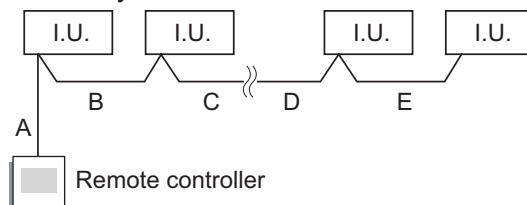
NOTE: Group control cannot be used together with Wireless LAN adapter.

Installation procedure for group control system:

A number of indoor units can be operated at the same time using a single remote controller.

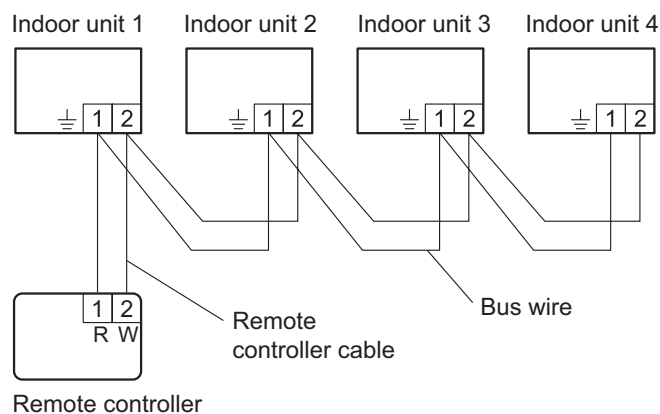
NOTE: When different type of indoor units (such as wall mounted type and cassette type, cassette type and duct type, or other combinations) are connected using group control system, some functions may no longer be available.

1. Connect up to 16 indoor units in a system.



A, B, C, D, E: Remote controller cable	
Wiring length limitation	$A + B + C + D + E \leq 500 \text{ m}$

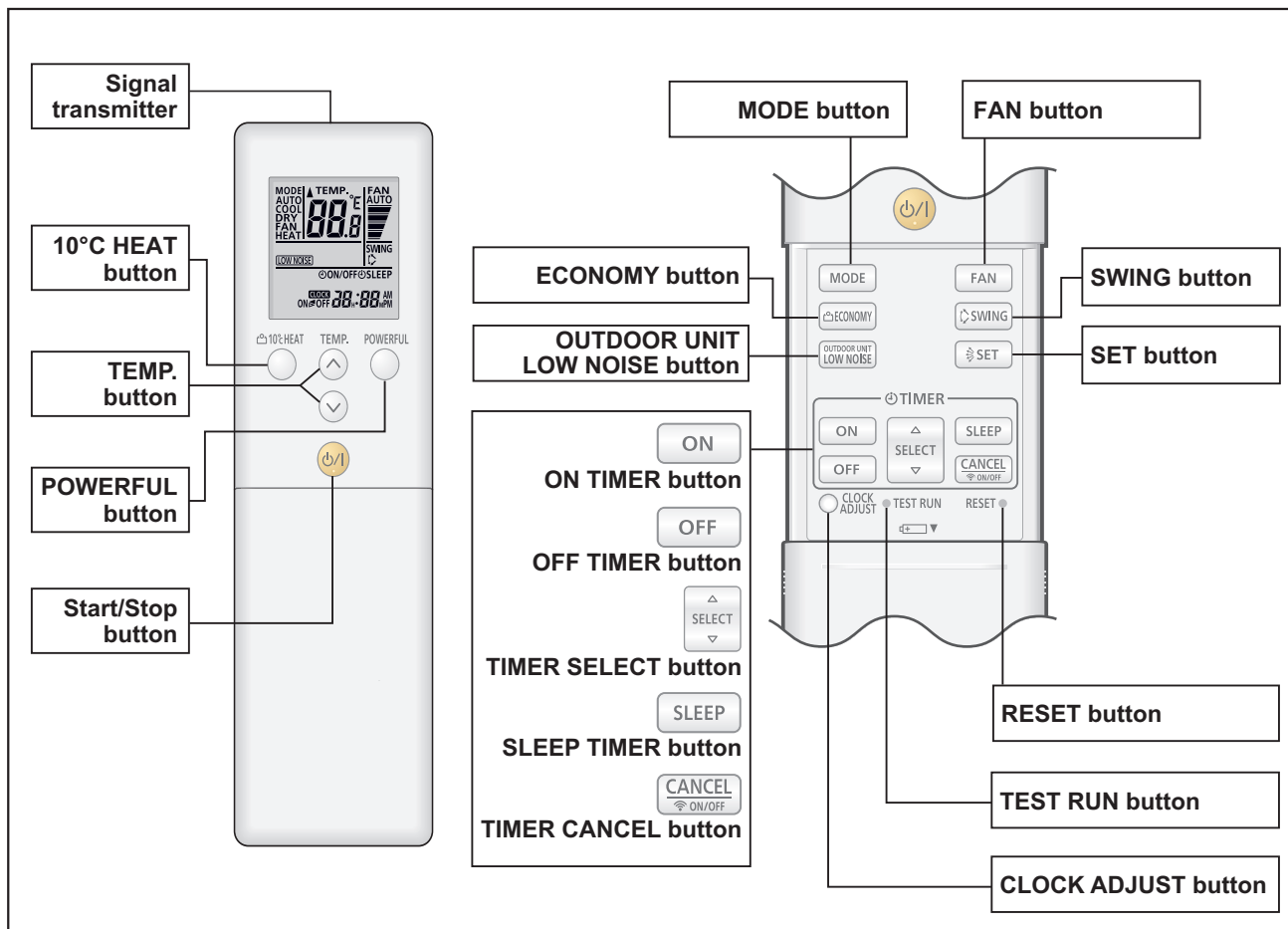
Example of wiring method



10. Remote controller

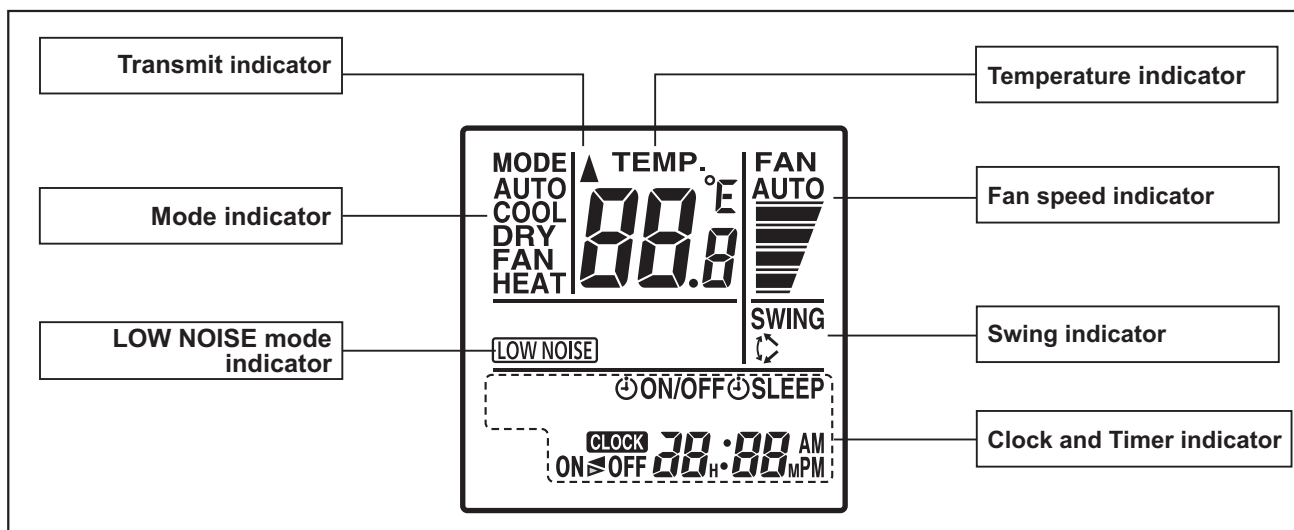
10-1. Wireless remote controller

Overview



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

Display panel

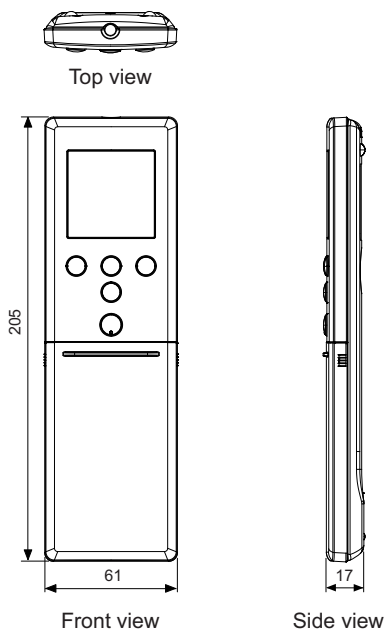


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

■ Specifications

● Controller

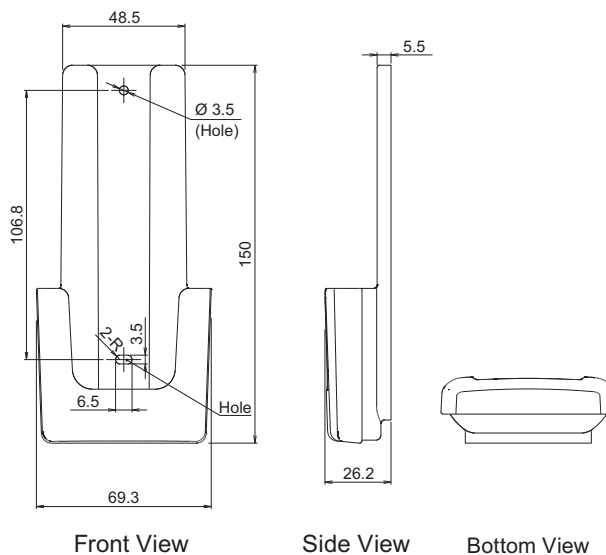
Unit: mm



Size (H × W × D)	mm	205 × 61 × 17
Weight	g	124 (without batteries)

● Holder

Unit: mm



Size (H × W × D)	mm	150 × 69.3 × 26.2
Weight	g	27

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.

■ 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 tightness 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:

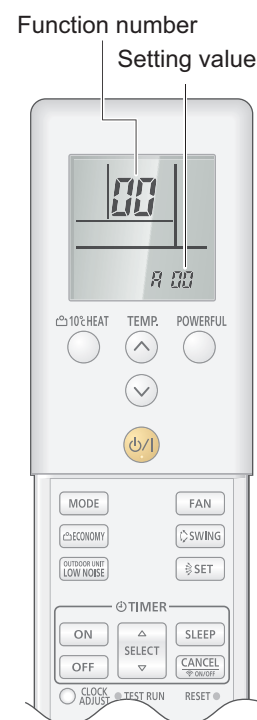
- Settings will not be changed if invalid numbers or setting values are selected.
- When optional wired remote controller is used, refer to the installation manual enclosed with the remote controller.

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. (^) (v) 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. (^) (v) 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. 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.



⚠ 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 \overline{H} prior to shipment.
- If you do not know the air conditioner custom code setting, try each of the custom codes ($\overline{H} \rightarrow \overline{b}$
 $\rightarrow \overline{c} \rightarrow \overline{d}$) 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)	30/31	Room temperature control for indoor unit sensor
3)	35/36	Room temperature control for wired remote controller sensor
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
10)	60	Switching functions for external output terminal

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 control for indoor unit sensor

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 of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 26°C and the setting value is "03" (-1.0°C), corrected temp. will be 27°C (26°C - [-1.0°C]).

The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

Function number		Setting value	Setting description	Factory setting	
30 (For cooling)	31 (For heating)	00	Standard setting	◆	
		01	No correction 0.0 °C		
		02	-0.5 °C	More cooling Less heating	
		03	-1.0 °C		
		04	-1.5 °C		
		05	-2.0 °C		
		06	-2.5 °C		
		07	-3.0 °C		
		08	-3.5 °C		
		09	-4.0 °C		
		10	+0.5 °C	Less cooling More heating	
		11	+1.0 °C		
		12	+1.5 °C		
		13	+2.0 °C		
		14	+2.5 °C		
		15	+3.0 °C		
		16	+3.5 °C		
17	+4.0 °C				

3) Room temperature control for wired remote controller sensor

Depending on the installed environment, correction of the wire remote 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.

Function number		Setting value	Setting description	Factory setting	
35 (For cooling)	36 (For heating)	00	Standard setting	◆	
		01	No correction 0.0°C		
		02	-0.5 °C	More cooling Less heating	
		03	-1.0 °C		
		04	-1.5 °C		
		05	-2.0 °C		
		06	-2.5 °C		
		07	-3.0 °C		
		08	-3.5 °C		
		09	-4.0 °C		
		10	+0.5 °C	Less cooling More heating	
		11	+1.0 °C		
		12	+1.5 °C		
		13	+2.0 °C		
		14	+2.5 °C		
		15	+3.0 °C		
		16	+3.5 °C		
17	+4.0 °C				

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 1 (Remote controller enabled)	◆
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2 (Remote controller disabled)	

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	
	02	Remote controller	◆

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.

02: Enable or disable this function by remote controller setting.

NOTE: Set to "00" or "01" when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter. To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

10) Switching functions for external output terminal

Functions of the external output terminal can be switched. For details, refer to “External input and output”.

Function number	Setting value	Setting description	Factory setting
60	00	Operation status	◆
	01—08	(Setting prohibited)	
	09	Error status	
	10	Indoor unit fan operation status	
	11	(Setting prohibited)	

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 $\text{A} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$. 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.


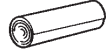

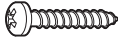


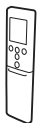
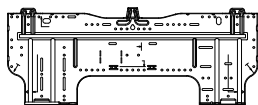


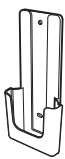
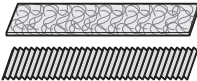


NOTES:

- 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 ($\text{A} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$) until you find the code which operates the air conditioner.

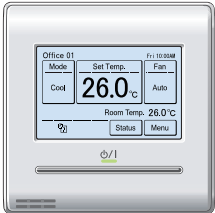
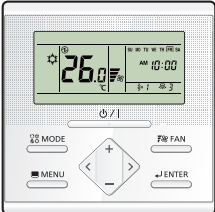

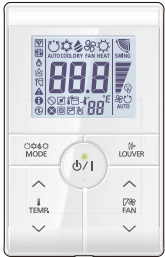
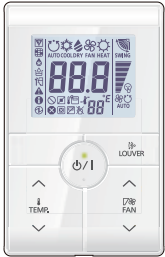
12. Accessories

12-1. Models: ASYG07KMCE, ASYG09KMCE, ASYG12KMCE, and ASYG14KMCE

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Cloth tape		1
Operating manual (CD-ROM)		1	Tapping screw (large)		5
Installation manual		1	Tapping screw (small)		2
Remote controller		1	Wall hook bracket		1
Battery		2	Filter holder		2
Remote controller holder		1	Air cleaning filters		1

13. Optional parts

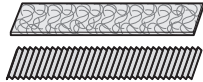
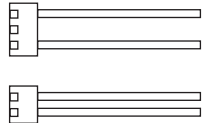
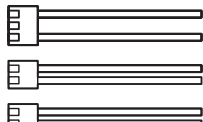

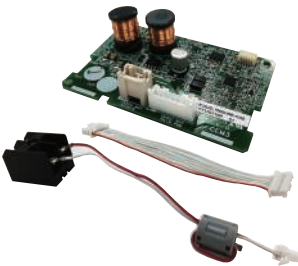





13-1. Controllers


Exterior	Part name	Model name	Summary
	Wired Remote Controller	UTY-RNRYZ*	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.
	Wired Remote Controller	UTY-RLRY	High visibility and easy operation. Room temperature can be accurately controlled using the thermo sensor. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.
	Compact Wired Remote Controller	UTY-RCRYZ1	Compact body and easy operation. Room temperature can be accurately controlled using the thermo sensor. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.
	Simple Remote Controller	UTY-RSRY	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.
	Simple Remote Controller	UTY-RHRY	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, and temperature setting. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.

NOTES:

- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using the group controlling system of the Wired Remote Controller, using Wireless LAN adapter is prohibited.

13-2. Others

Exterior	Part name	Model name	Summary
	Air Cleaning Filter	UTR-FA16-5	Air Cleaning Filter can be mounted to the indoor unit.
	External Connect Kit	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PCB.
	External Connect Kit	UTY-XWZXZ5	Required when external device is connected.
	External Input and Output PCB	UTY-XCSXZ2	Use to connect with external devices and air conditioner PCB. Optional External Connect Kit is necessary for installation.
	Communication Kit	UTY-TWRXZ2	Use to connect Non-polar 2-core wired remote controller.
	Wireless LAN adapter	UTY-TFSXF2	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. Appropriate application for each region is required to use this option. For details, contact FGL sales company.
	Modbus Converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network.
	KNX Converter	UTY-VKSX	For connection between indoor unit with UART interface and a KNX open network.
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system.
	Network Converter (AC power supply)	UTY-VTGXV	This converter is required when connecting single split system to VRF network system.

Exterior	Part name	Model name	Summary
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches.

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOYG07KMCC

AOYG09KMCC

AOYG12KMCC

AOYG14KMCC

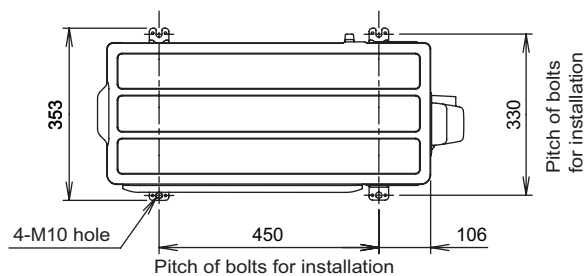
1. Specifications

Type			Inverter heat pump			
Model name			AOYG07KMCC	AOYG09KMCC	AOYG12KMCC	AOYG14KMCC
Power supply			230 V ~ 50 Hz			
Power supply intake			Outdoor unit			
Available voltage range			198—264 V			
Starting current			A			
Fan	Airflow rate	Cooling	3.0	3.4	5.1	6.8
		Heating	1,650	1,650	1,700	1,680
	Type × Q'ty	m ³ /h	1,450	1,450	1,470	1,580
	Motor output	W	Propeller fan × 1 23			
Sound pressure level *	Cooling	dB (A)	46		50	
	Heating		46		50	
Sound power level	Cooling	dB (A)	61		65	
	Heating		61	62	65	66
Heat exchanger type	Dimensions (H × W × D)	mm	504 × 650 × 18.2		504 × 630 × 36.4	504 × 881 × 36.4
	Fin pitch		1.3			
	Rows × Stages	1 × 24		2 × 24		
	Pipe type	Copper				
	Fin type	Type (Material)	Corrugate (Aluminum)			
	Surface treatment	Corrosion resistance				
Compressor	Type × Q'ty	W	DC rotary × 1			
	Motor output		550		900	
Refrigerant	Type (Global warming potential)	R32 (675)				
	Charge	g	600		700	850
Refrigerant oil	Type	RB74AF				RB68A
	Amount	cm ³	240		340	
Enclosure	Material	Steel sheet				
	Color	Beige Approximate color of Munsell 10YR 7.5/1.0				
Dimensions (H × W × D)	Net	mm	541 × 663 × 290		542 × 799 × 290	
	Gross		602 × 804 × 375		602 × 940 × 375	
Weight	Net	kg	22		24	31
	Gross		25		27	35
Connection pipe	Size	Liquid	Ø6.35 (Ø1/4)			
		Gas	Ø9.52 (Ø3/8)			
	Method	Flare				
	Pre-charge length	m	15			
	Max. length		20			
Max. height difference	15					
Operation range	Cooling	°C	-10 to 46			
	Heating		-15 to 24			
Drain hose	Material	PP				
	Tip diameter	mm	Ø13.0 (I.D.), Ø16.0 to Ø16.8 (O.D.)			
NOTES:						
<ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – 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. • *: Sound pressure level <ul style="list-style-type: none"> – 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. 						

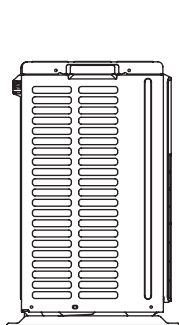
2. Dimensions

2-1. Models: AOYG07KMCC, AOYG09KMCC, and AOYG12KMCC

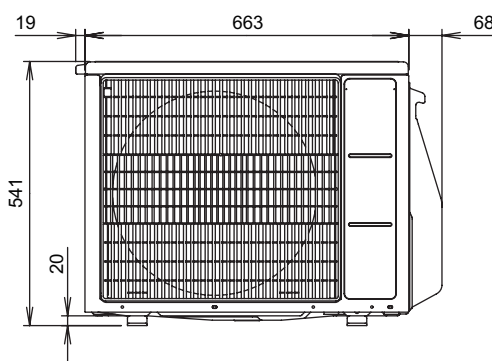
Unit: mm



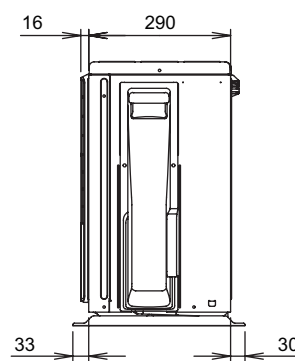
Top view



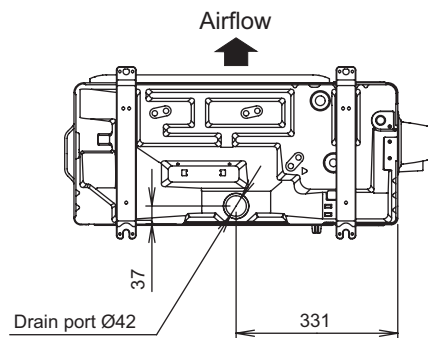
Side view



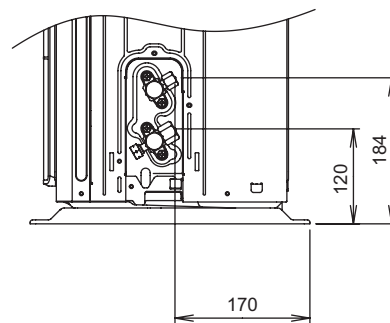
Front view



Side view



Bottom view



Side view (Valve part)

OUTDOOR UNIT
AOYG07-14KMCC

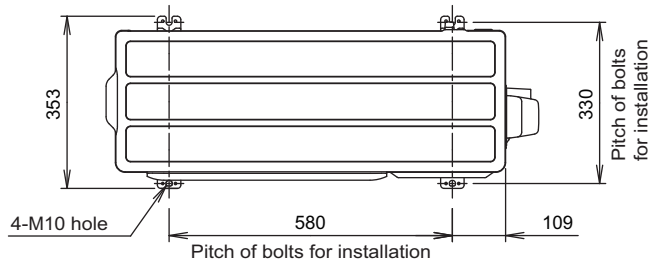
OUTDOOR UNIT
AOYG07-14KMCC

2-2. Model: AOYG14KMCC

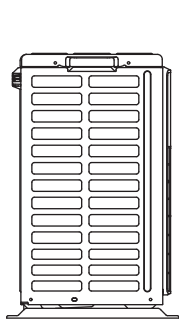
Unit: mm

OUTDOOR UNIT
AOYG07-14KMCC

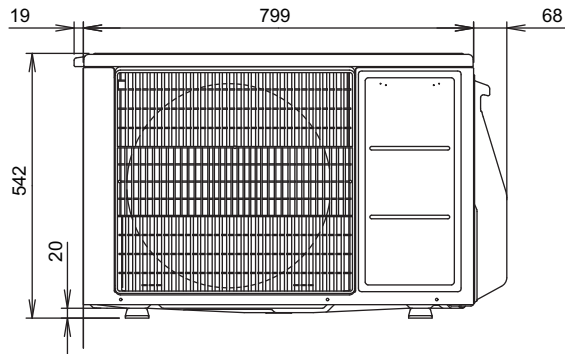
OUTDOOR UNIT
AOYG07-14KMCC



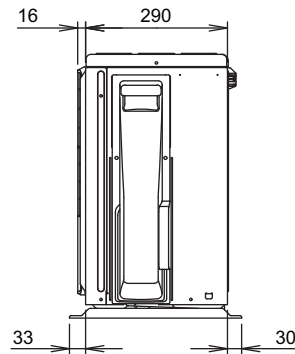
Top view



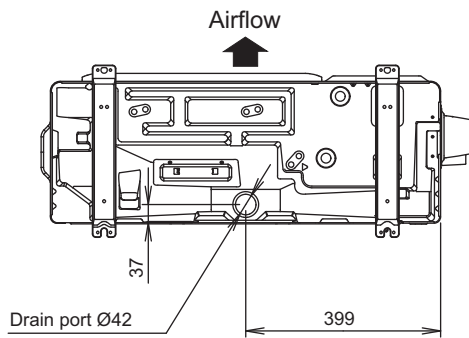
Side view



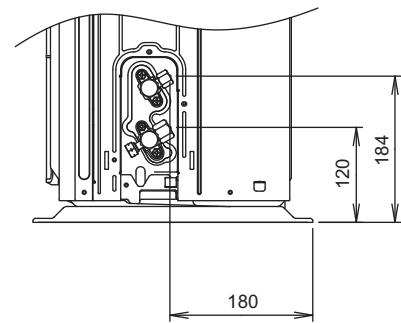
Front view



Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOYG07KMCC, AOYG09KMCC, AOYG12KMCC, and AOYG14KMCC

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

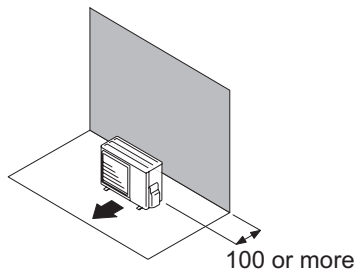
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

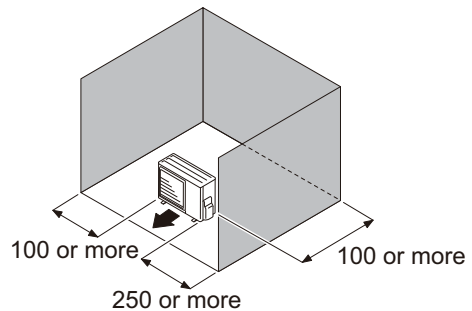
- When the upper space is open:

Unit: mm

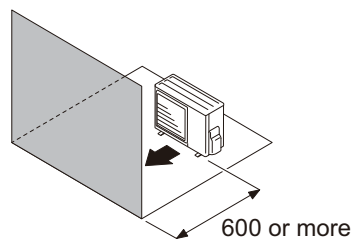
Obstacles at rear only



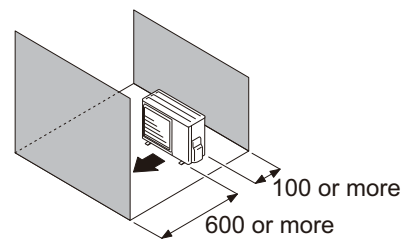
Obstacles at rear and sides



Obstacles at front



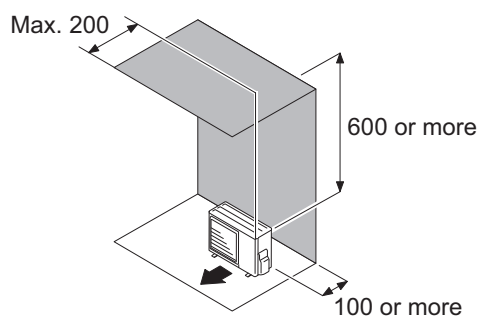
Obstacles at front and rear



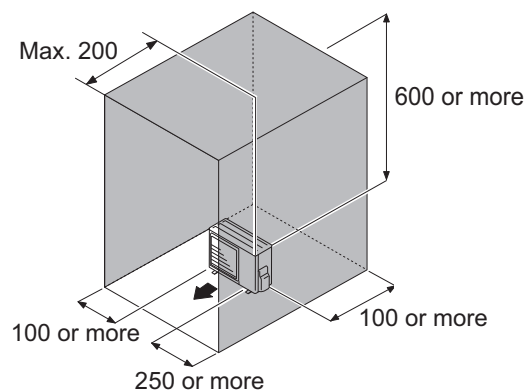
- When an obstruction in the upper space:

Unit: mm

Obstacles at rear and above



Obstacles at rear, sides, and above



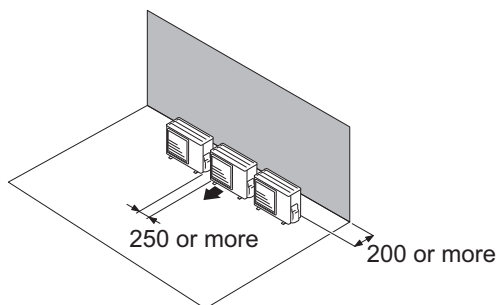
● Multiple outdoor unit installation

- Provide at least 250 mm of space between the outdoor units if multiple units are installed.
- When routing the piping from the side of an outdoor unit, provide space for piping.
- No more than 3 units must be installed side by side.
When 4 units or more are arranged in a line, provide the space as shown in the following example **“When an obstruction in the upper space:”**.

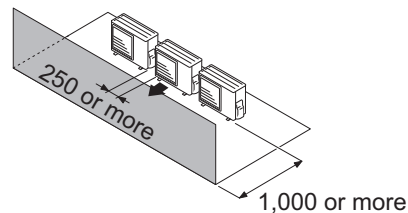
- **When the upper space is open:**

Unit: mm

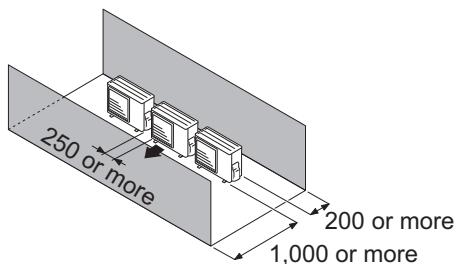
Obstacles at rear only



Obstacles at front only



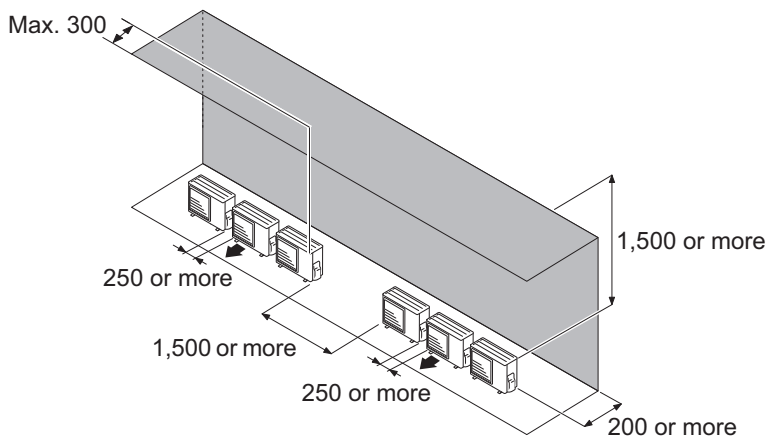
Obstacles at front and rear



- **When an obstruction in the upper space:**

Unit: mm

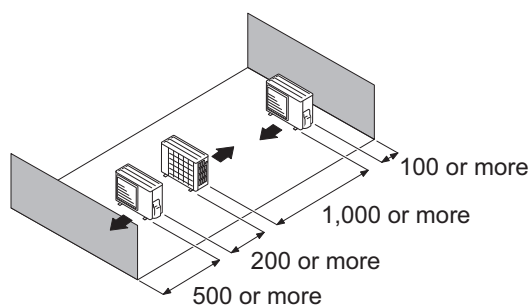
Obstacles at rear and above.



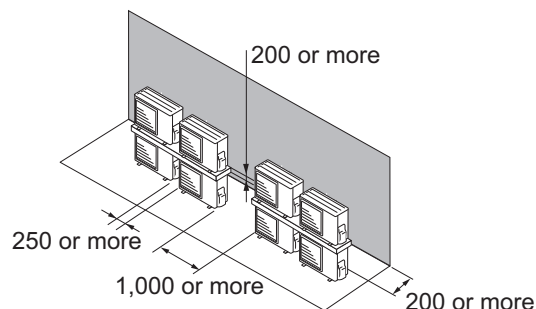
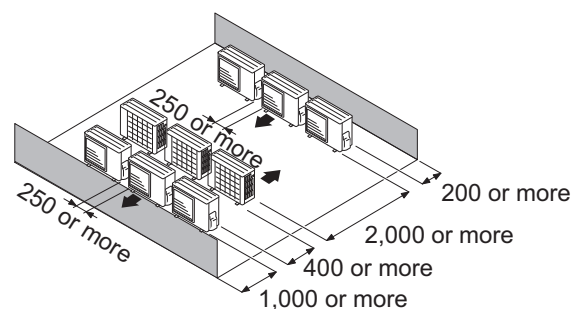
● Outdoor units installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

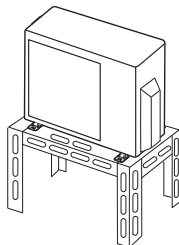


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

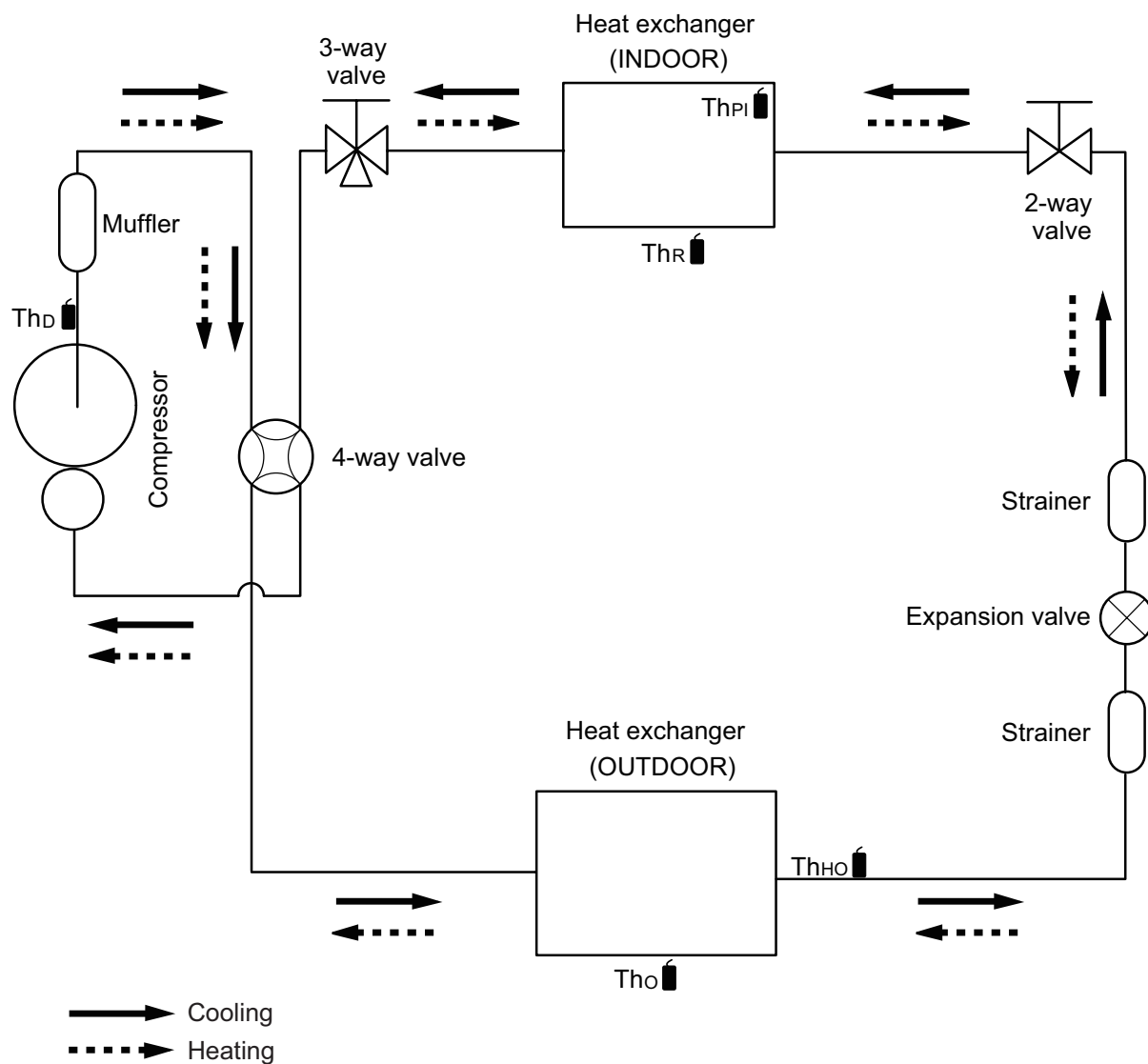
⚠ CAUTION

- 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: AOYG07KMCC, AOYG09KMCC, and AOYG12KMCC



Th_D : Thermistor (Discharge temperature)

Th_O : Thermistor (Outdoor temperature)

Th_{HO} : Thermistor (Heat exchanger out temperature)

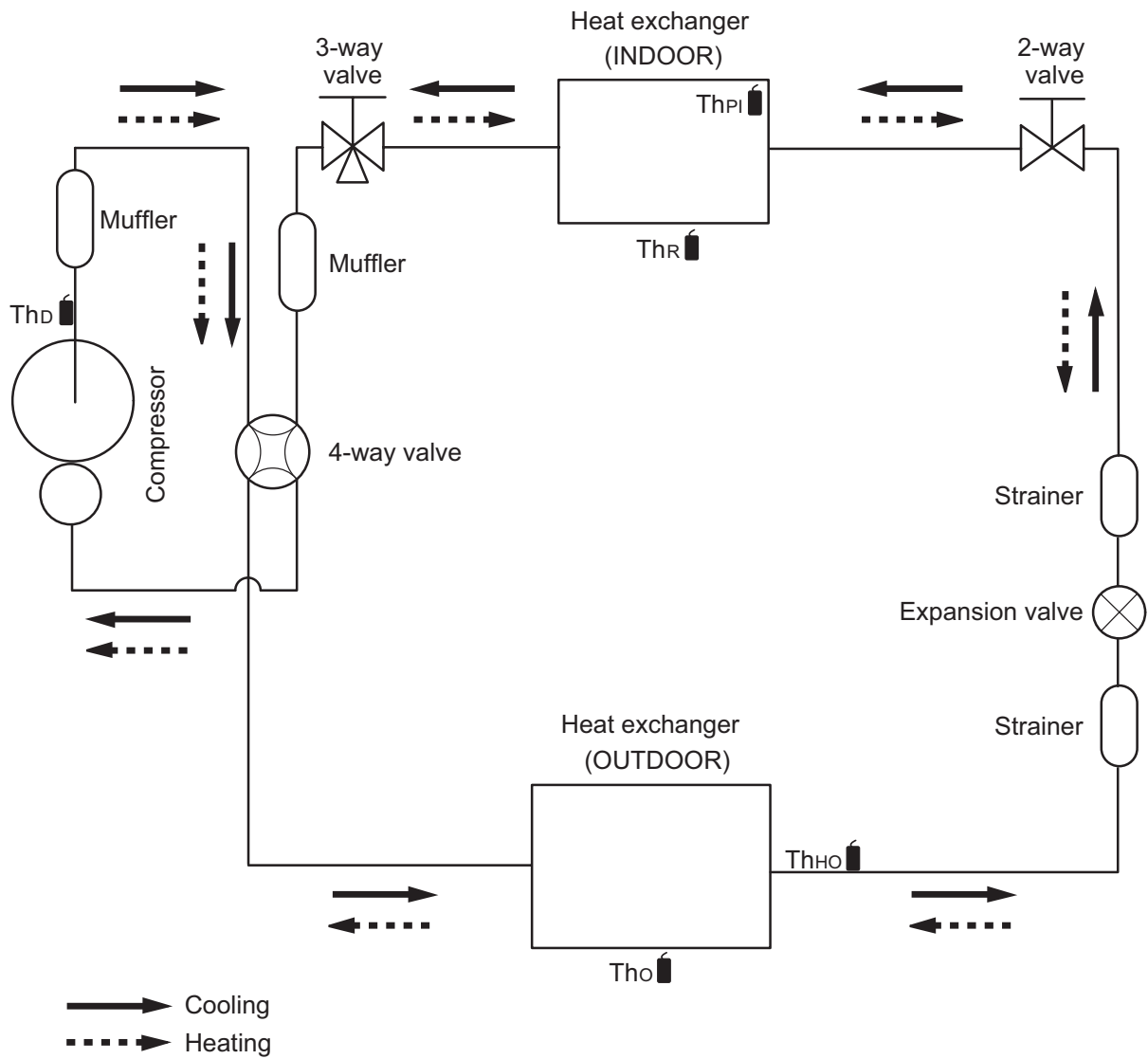
Th_{PI} : Thermistor (Pipe temperature)

Th_R : Thermistor (Room temperature)

4-2. Model: AOYG14KMCC

OUTDOOR UNIT
AOYG07-14KMCC

OUTDOOR UNIT
AOYG07-14KMCC



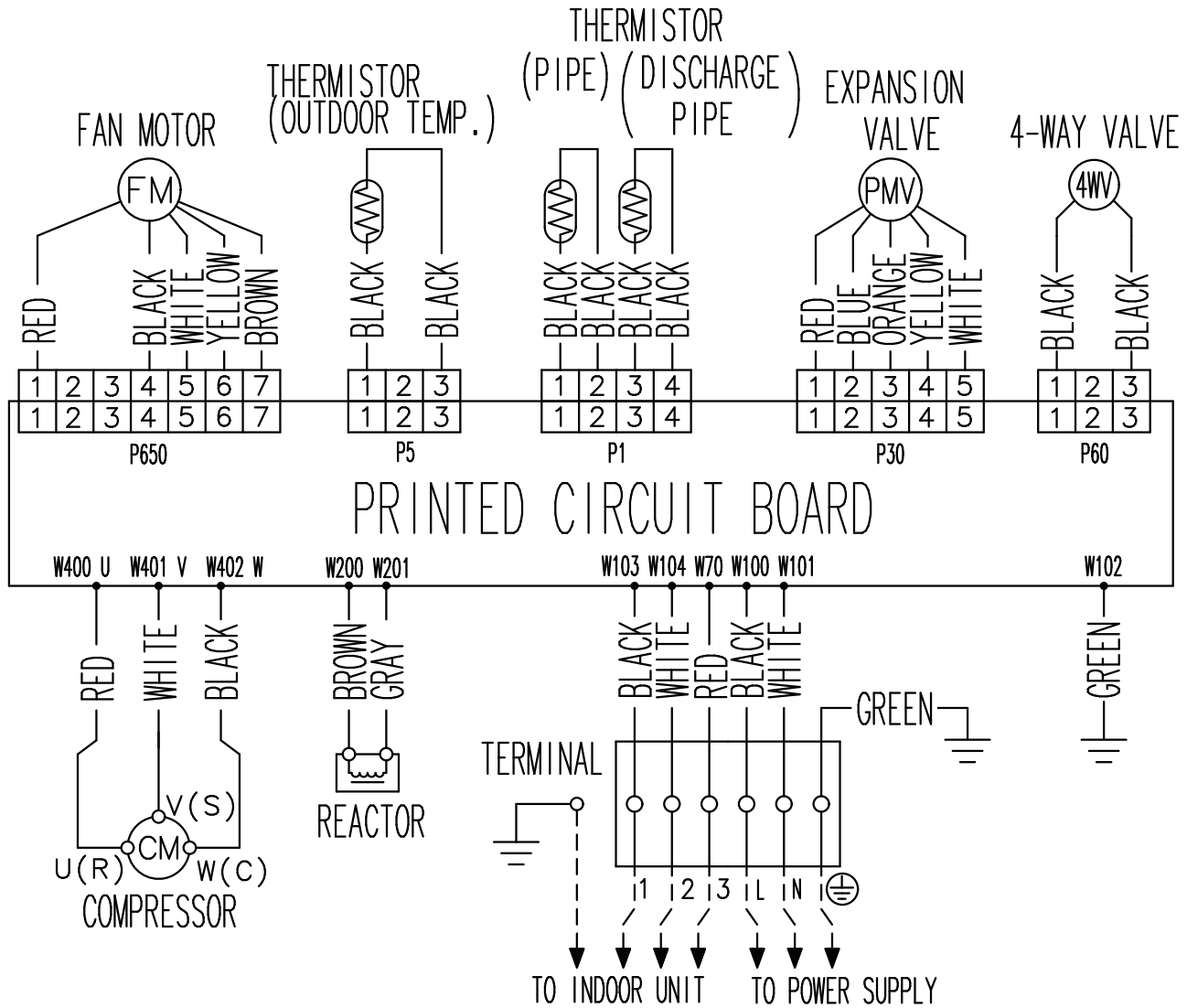
- Th_D : Thermistor (Discharge temperature)
- Th_O : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat exchanger out temperature)
- Th_{PI} : Thermistor (Pipe temperature)
- Th_R : Thermistor (Room temperature)

5. Wiring diagrams

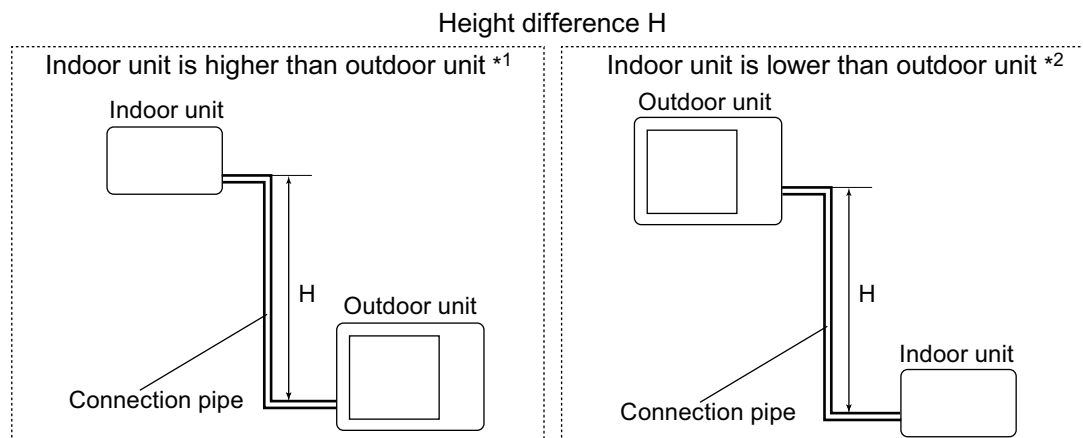
5-1. Models: AOYG07KMCC, AOYG09KMCC, AOYG12KMCC, and AOYG14KMCC

OUTDOOR UNIT
AOYG07-14KMCC

OUTDOOR UNIT
AOYG07-14KMCC



6. Capacity compensation rate for pipe length and height difference



6-1. Models: AOYG07KMCC and AOYG09KMCC

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	—	—	—	0.872	0.910
		10	—	—	0.961	0.886	0.925
		7.5	—	0.979	0.965	0.890	0.929
		5	0.992	0.983	0.969	0.893	0.933
	Indoor unit is lower than outdoor unit *2	0	1.000	0.991	0.976	0.901	0.940
		-5	1.000	0.991	0.976	0.901	0.940
		-7.5	—	0.991	0.976	0.901	0.940
		-10	—	—	0.976	0.901	0.940
		-15	—	—	—	0.901	0.940

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.832	0.822
		10	—	—	0.917	0.832	0.822
		7.5	—	0.961	0.917	0.832	0.822
		5	1.000	0.961	0.917	0.832	0.822
	Indoor unit is lower than outdoor unit *2	0	1.000	0.961	0.917	0.832	0.822
		-5	0.955	0.956	0.912	0.828	0.818
		-7.5	—	0.954	0.910	0.826	0.816
		-10	—	—	0.908	0.824	0.814
		-15	—	—	—	0.815	0.805

6-2. Model: AOYG12KMCC

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	—	—	—	0.858	0.868
		10	—	—	0.929	0.872	0.882
		7.5	—	0.960	0.933	0.876	0.885
		5	0.992	0.964	0.937	0.879	0.889
	Indoor unit is lower than outdoor unit *2	0	1.000	0.972	0.944	0.887	0.896
		-5	1.000	0.972	0.944	0.887	0.896
		-7.5	—	0.972	0.944	0.887	0.896
		-10	—	—	0.944	0.887	0.896
		-15	—	—	—	0.887	0.896

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.896	0.879
		10	—	—	0.968	0.890	0.879
		7.5	—	0.994	0.968	0.896	0.879
		5	1.000	0.994	0.968	0.896	0.879
		0	1.000	0.994	0.968	0.896	0.879
	Indoor unit is lower than outdoor unit *2	-5	0.995	0.989	0.963	0.891	0.875
		-7.5	—	0.987	0.961	0.889	0.873
		-10	—	—	0.959	0.887	0.871
		-15	—	—	—	0.878	0.862

6-3. Model: AOYG14KMCC

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	—	—	—	0.893	0.909
		10	—	—	0.955	0.908	0.924
		7.5	—	0.975	0.959	0.912	0.928
		5	0.992	0.979	0.963	0.916	0.931
		0	1.000	0.987	0.970	0.923	0.939
	Indoor unit is lower than outdoor unit *2	-5	1.000	0.987	0.970	0.923	0.939
		-7.5	—	0.987	0.970	0.923	0.939
		-10	—	—	0.970	0.923	0.939
		-15	—	—	—	0.923	0.939

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.956	0.938
		10	—	—	1.004	0.956	0.938
		7.5	—	1.013	1.004	0.956	0.938
		5	1.000	1.013	1.004	0.956	0.938
		0	1.000	1.013	1.004	0.956	0.938
	Indoor unit is lower than outdoor unit *2	-5	0.995	1.008	0.999	0.951	0.938
		-7.5	—	1.005	0.997	0.948	0.931
		-10	—	—	0.994	0.946	0.929
		-15	—	—	—	0.937	0.919

7. Additional charge calculation

7-1. Models: AOYG07KMCC and AOYG09KMCC

Refrigerant type		R32
Factory charge amount	g	600

■ Refrigerant charge

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

7-2. Model: AOYG12KMCC

Refrigerant type		R32
Factory charge amount	g	700

■ Refrigerant charge

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

7-3. Model: AOYG14KMCC

Refrigerant type		R32
Factory charge amount	g	850

■ Refrigerant charge

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

8. Airflow

8-1. Model: AOYG07KMCC

● Cooling

m ³ /h	1,650
l/s	458
CFM	971

● Heating

m ³ /h	1,450
l/s	403
CFM	853

8-2. Model: AOYG09KMCC

● Cooling

m ³ /h	1,650
l/s	458
CFM	971

● Heating

m ³ /h	1,450
l/s	403
CFM	853

8-3. Model: AOYG12KMCC

● Cooling

m ³ /h	1,700
l/s	472
CFM	1,001

● Heating

m ³ /h	1,470
l/s	408
CFM	865

8-4. Model: AOYG14KMCC

● Cooling

m ³ /h	1,680
l/s	467
CFM	989

● Heating

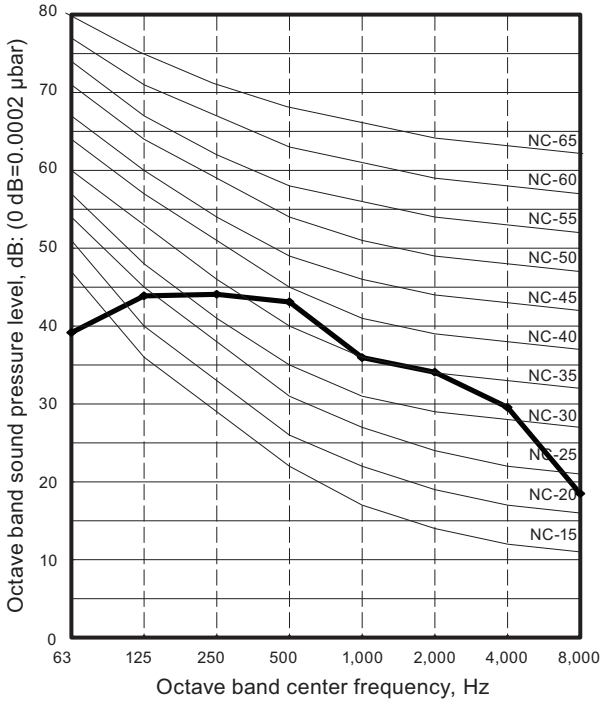
m ³ /h	1,580
l/s	439
CFM	930

9. Operation noise (sound pressure)

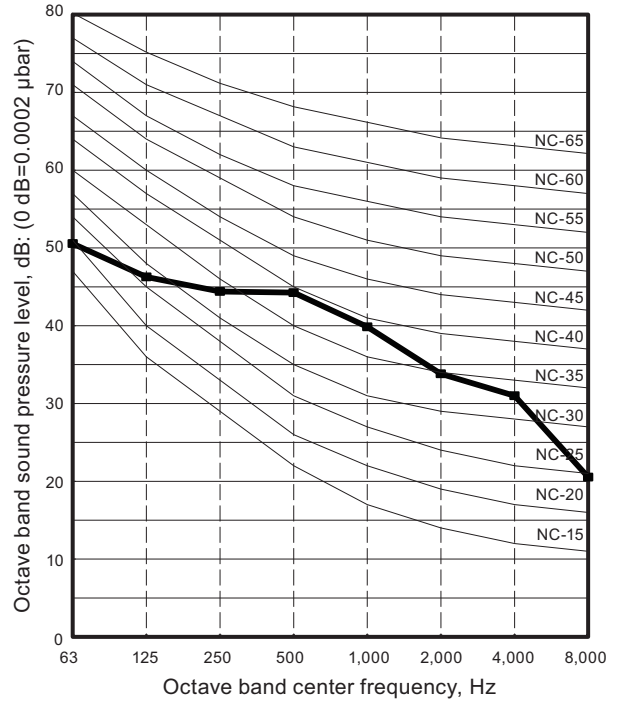
9-1. Noise level curve

Model: AOYG07KMCC

Cooling

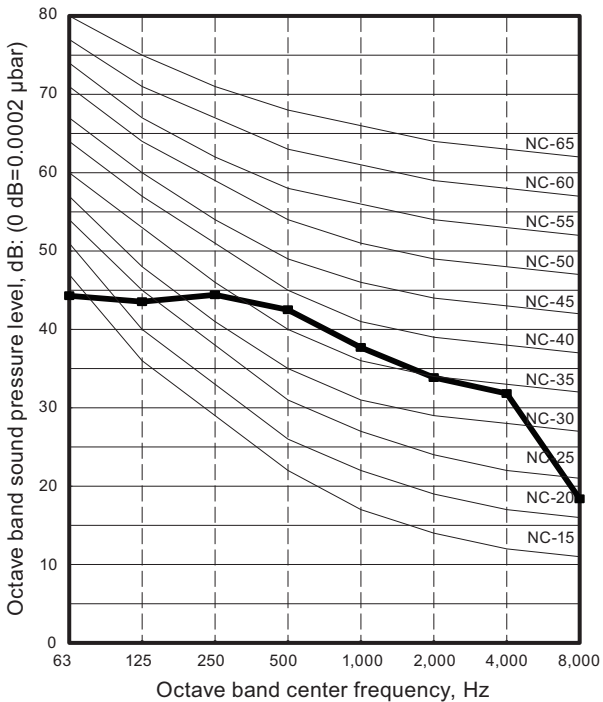


Heating

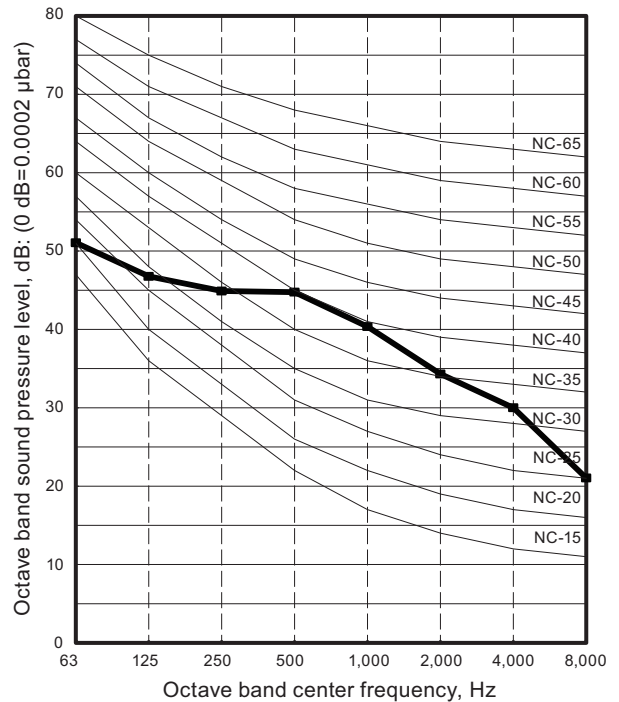


Model: AOYG09KMCC

Cooling



Heating

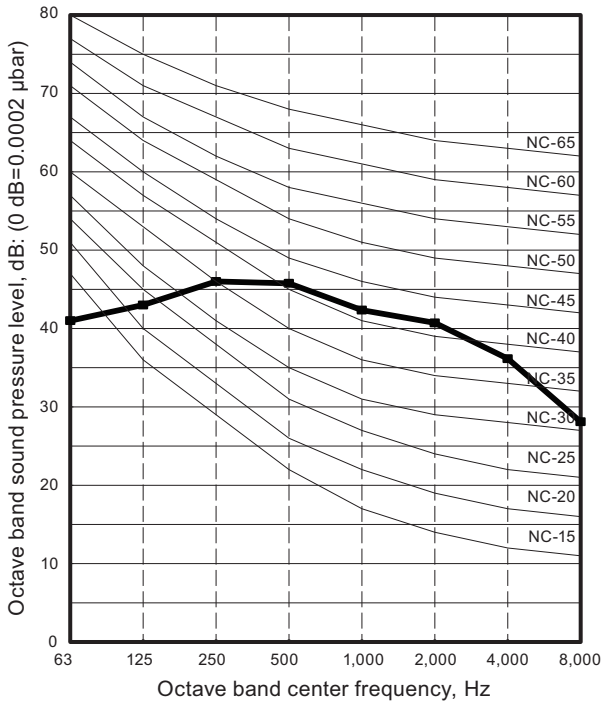


OUTDOOR UNIT
AOYG07-14KMCC

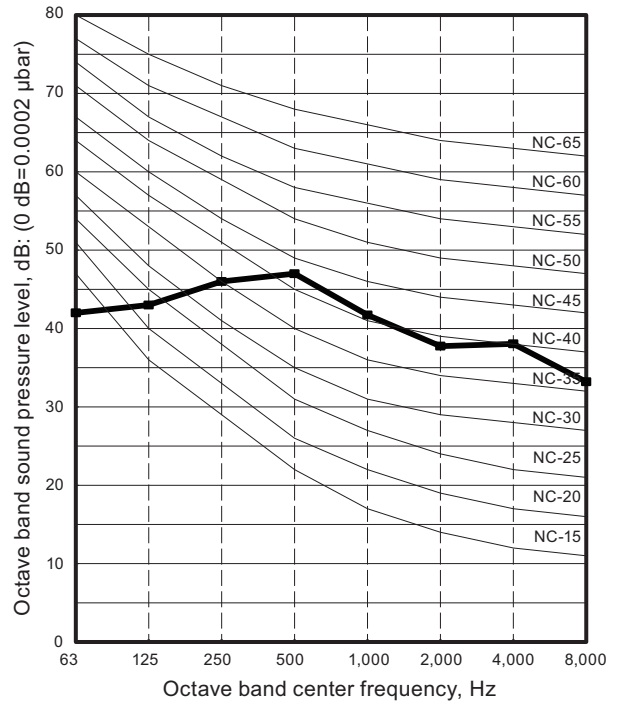
OUTDOOR UNIT
AOYG07-14KMCC

Model: AOYG12KMCC

Cooling



Heating

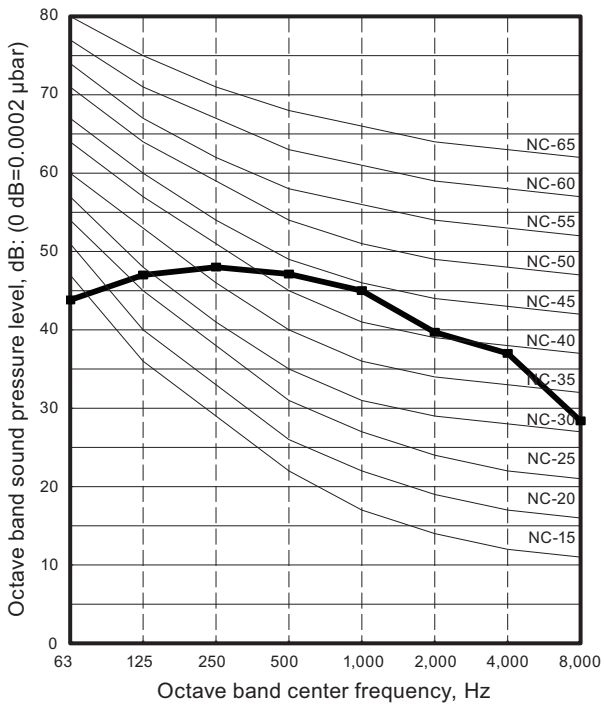


OUTDOOR UNIT
AOYG07-14KMCC

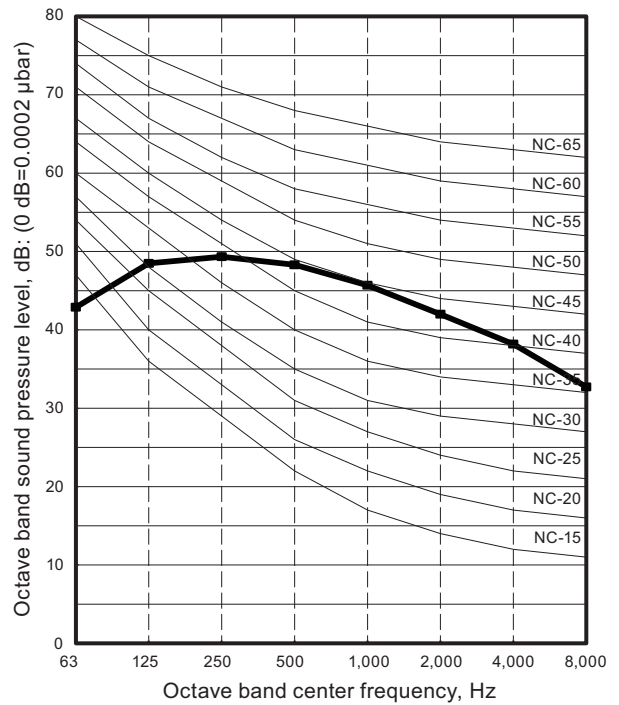
OUTDOOR UNIT
AOYG07-14KMCC

Model: AOYG14KMCC

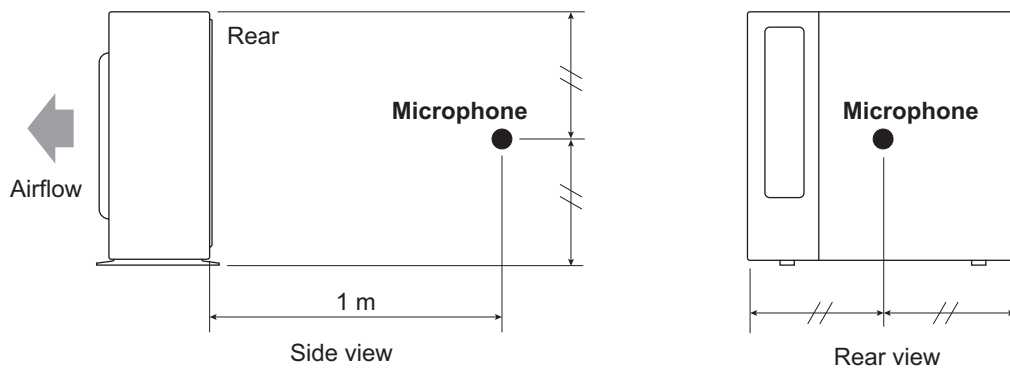
Cooling



Heating



9-2. Sound level check point



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

10. Electrical characteristics

Model name			AOYG07KMCC	AOYG09KMCC	AOYG12KMCC	AOYG14KMCC
Power supply	Voltage	V	230 ~			
	Frequency	Hz	50			
Max operating current *1		A	9.0			
Starting current		A	3.0	3.4	5.1	6.8
Wiring spec. *2	Circuit breaker current		A	15		
	Power cable		mm ²	1.5		
	Connection cable *3	Cross-sectional area	mm ²	1.5		
		Limited wiring length	m	21		

*1: Maximum operating 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	
			AOYG07KMCC	AOYG09KMCC
Circuit protection	Current fuse (Main PCB)		250 V, 20 A	
			250 V, 5 A	
Fan motor protection	Thermal protection	Activate	100 ±15°C Fan motor stop	
		Reset	95 ±10°C Fan motor restart	
Compressor protection	Terminal protection program (Discharge temp.)	Activate	110°C Compressor stop	
		Reset	After 7 minutes Compressor restart	

Type of protection	Protection form		Model	
			AOYG12KMCC	AOYG14KMCC
Circuit protection	Current fuse (Main PCB)		250 V, 20 A	
			250 V, 5 A	
Fan motor protection	Thermal protection	Activate	100 ±15°C Fan motor stop	
		Reset	95 ±10°C Fan motor restart	
Compressor protection	Terminal protection program (Discharge temp.)	Activate	110°C Compressor stop	
		Reset	After 7 minutes Compressor restart	

12. Accessories

12-1. Models: AOYG07KMCC, AOYG09KMCC, AOYG12KMCC, and AOYG14KMCC

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