

Refrigerant
R410A
INVERTER

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASYG30LMTA
ASYG36LMTA

OUTDOOR



AOYG30LMTA
AOYG36LMTA

FUJITSU GENERAL LIMITED

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Notices:

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

CONTENTS

Part 1. INDOOR UNIT.....	1
1. Product features.....	2
1-1. Model lineup.....	2
1-2. Features.....	2
1-3. Details of server room control	4
2. Remote controller	8
2-1. Wireless remote controller	8
3. Specifications.....	12
4. Dimensions.....	14
4-1. Models: ASYG30LMTA and ASYG36LMTA	14
5. Wiring diagrams	16
5-1. Models: ASYG30LMTA and ASYG36LMTA	16
6. Capacity table.....	17
6-1. Cooling capacity.....	17
6-2. Heating capacity	18
7. Fan performance	19
7-1. Air velocity distributions.....	19
7-2. Airflow	21
8. Operation noise (sound pressure).....	23
8-1. Noise level curve.....	23
8-2. Sound level check point	24
9. Safety devices	25
10. External input and output.....	26
10-1.External input.....	26
10-2.External output.....	28
10-3.Combination of external input and output.....	30
10-4.Details of function	32
11. Function settings	38
11-1.Function settings on indoor unit	38
11-2.Function settings by using remote controller.....	39
11-3.Custom code setting for wireless remote controller.....	46
12. Accessories	47
13. Optional parts	48
13-1.Controllers	48
13-2.Others	49

CONTENTS (continued)

Part 2. OUTDOOR UNIT.....	51
1. Specifications.....	52
2. Dimensions.....	53
2-1. Models: AOYG30LMTA and AOYG36LMTA.....	53
3. Installation space	54
3-1. Models: AOYG30LMTA and AOYG36LMTA.....	54
4. Refrigerant circuit	57
4-1. Models: AOYG30LMTA and AOYG36LMTA.....	57
5. Wiring diagrams	58
5-1. Models: AOYG30LMTA and AOYG36LMTA.....	58
6. Capacity compensation rate for pipe length and height difference....	59
6-1. Models: AOYG30LMTA and AOYG36LMTA.....	59
7. Additional charge calculation	60
7-1. Model: AOYG30LMTA	60
7-2. Model: AOYG36LMTA	60
8. Airflow	61
8-1. Model: AOYG30LMTA	61
8-2. Model: AOYG36LMTA	61
9. Operation noise (sound pressure).....	62
9-1. Noise level curve.....	62
9-2. Sound level check point	63
10. Electrical characteristics	64
11. Safety devices	65
12. Accessories	66

Part 1. INDOOR UNIT

WALL MOUNTED TYPE:
ASYG30LMTA
ASYG36LMTA

1. Product features

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

1-1. Model lineup



ASYG30LMTA
ASYG36LMTA



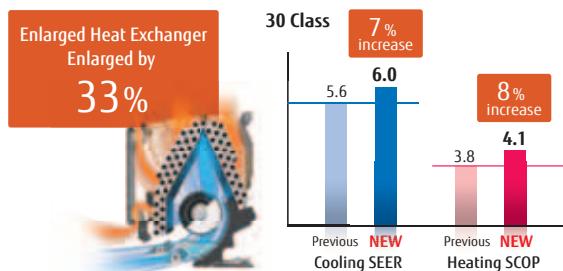
AOYG30LMTA
AOYG36LMTA

1-2. Features

■ Energy efficiency class

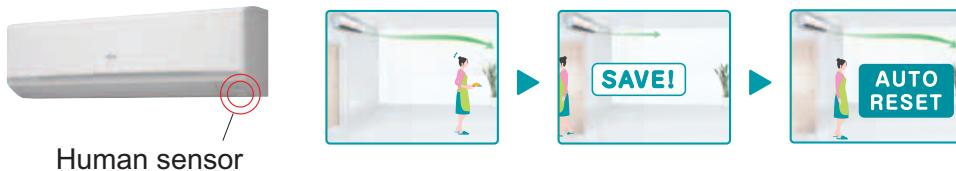
	MODEL	
	ASYG30LMTA	ASYG36LMTA
Cooling	A ⁺⁺	A ⁺
Heating	A ⁺	A ⁺

■ High energy efficiency



■ Energy saving control by using human sensor

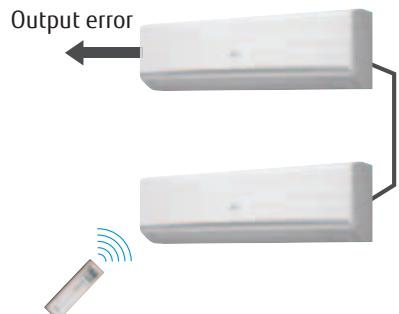
Implemented human sensor detects the presence or absence of human in a room by sensing movement of occupants, and suppress both of the air conditioner operation and energy consumption.



■ Corresponding to server room air conditioning

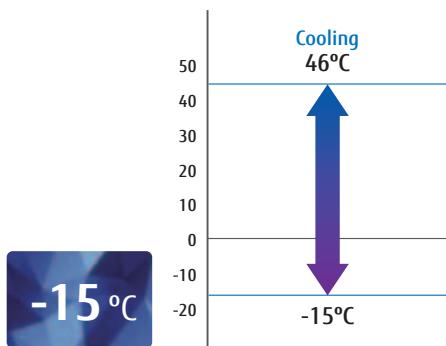
Operation:

Cooling operation can be performed even in the low outdoor temperature and low humidity environment. In addition, the following interlock operation is possible by connecting 2 indoor units with a cable.



- Alternative operation: 2 units operate alternately.
- Backup operation: In case one unit breaks down, the other unit starts operation automatically.
- Supporting operation: Both units operate simultaneously when the loaded capacity is not enough with one unit.

Low ambient operation:



- Stable cooling operation is guaranteed down to -15°C outdoor temperature.
- Keep high sensible cooling performance (approx. 75% capacity of rated condition) at -15°C outdoor temperature. (Room temperature condition: 27°CWB 19°C).
- Server room control can be set at site.

1-3. Details of server room control

By activating server room control using function setting 96, this product maintains a room at constant temperature.

■ Available operations

When server room control is activated by changing the setting on function setting 96, this product maintains the room temperature constant by performing 3 types of operations automatically according to the room temperature conditions.

While this function is activated, contents of operation is fixed as follows:

Operation mode	Set temperature	Airflow mode
COOL	24°C*	HIGH

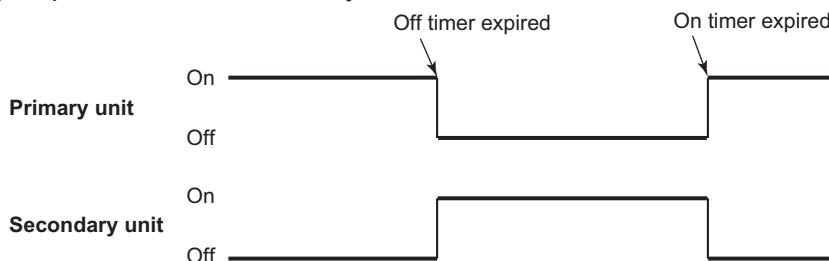
*: Set temperature correction ($\pm 4^{\circ}\text{C}$) is possible by switching the setting value on function setting 30. For the setting details, refer to "Room temperature control for indoor unit sensor" in "[Contents of function setting](#)" on page 41.

- **Alternative operation**

Controls the units operations by using the weekly timer of the primary unit.

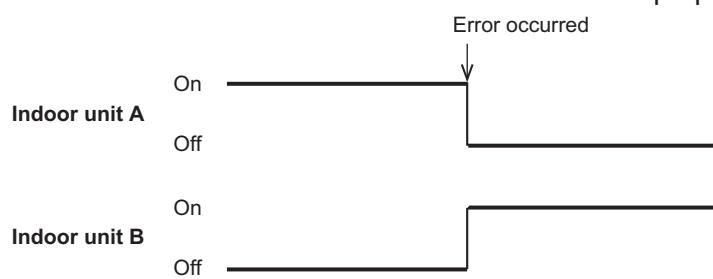
When the weekly timer is activated and the primary unit operation is turned off, the secondary unit starts operation simultaneously.

Also, when the weekly timer is activated and the primary unit operation is turned on, the secondary unit stops operation simultaneously.



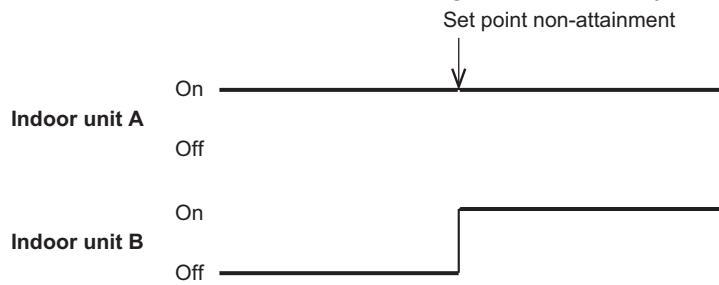
- **Backup operation**

Regardless of the primary-secondary relation of the unit, if an error occurred on one unit, operation start indication is issued to another unit and the unit starts backup operation.

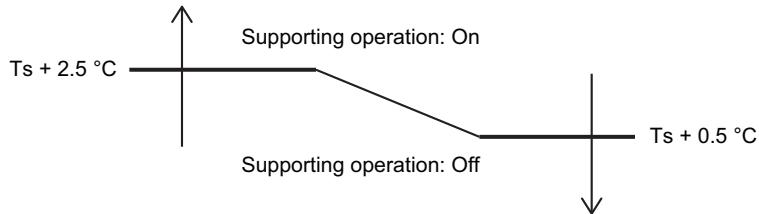


- **Supporting operation**

When the room temperature does not reach to the set point after a certain period of time, regardless of the primary-secondary relation of the unit, operation start indication is issued to another unit and both indoor units perform air conditioning simultaneously.



*: Operation is started even when the unit is stopped by the weekly timer.



NOTE: While performing this function, following functions cannot be used:

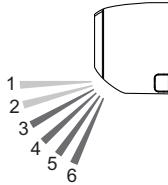
- Operation modes other than cooling
- Airflow modes other than HIGH
- Temperature setting other than 24°C
- POWERFUL mode
- 10°C HEAT operation
- ECONOMY operation
- On/off timer, program timer, and SLEEP timer
- Weekly timer on secondary unit
- Human sensor function
- Shutdown operation
- Starting operation on secondary unit

To stop the operation, shutdown the power supply.

■ Precautions on unit installation

⚠ CAUTION

- Do not place any other electrical products or household belongings under the product. Condensation dripping from the product might get them wet, and may cause damage or malfunction to the property.
- In units installation facing each other, the vertical airflow direction louver on each indoor unit should be set at a position from 3 to 6.



- Do not connect any wired remote controller.

To perform server room control, mind the followings:

- Additional cable connecting between 2 indoor units needs to be purchased locally.
- One Communication kit (UTY-XWNX) per indoor unit required.
- For connecting the optional communication kit, refer to the service instruction.
- DIP switch on the indoor unit main PC board needs to be switched to "3WIRE".
- Setting of function setting 30 "Room temperature control for indoor unit sensor" on each indoor unit needs to be same. For contents of the function setting 30, refer to "Room temperature control for indoor unit sensor" in "[Contents of function setting](#)" on page 41.
- Setting change on function setting 96 required. For contents of the function setting 96, refer to "Server room control" in "[Contents of function setting](#)" on page 41.

■ Initial setup for server room control

● Function setting procedure

Before activating server room control, assignment of primary unit and secondary unit is required. Change the setting of function setting 96 as follows:

1. Turn on the power source of 2 indoor units.
2. Set one of the indoor unit as "Primary unit" (Setting value: 01) by function setting 96. (For contents of function setting 96, refer to "Server room control" in "[Contents of function setting](#)" on page 41.)
When performing the setting, operate the remote controller close to the signal receiver on the primary unit as possible so that the signal transmission is firmly received by the primary unit only.
3. Set the other unit as "Secondary unit" (Setting value: 02) by function setting 96.
When performing the setting, operate the remote controller close to the signal receiver on the secondary unit as possible so that the signal transmission is firmly received by the secondary unit only.
4. Turn off the power supply of the 2 indoor units.

● Starting units operation

After the setting change on function setting 96 is completed, do as follows:

1. After 30 seconds or more since the power source is turned off, turn on the power source of the secondary unit.
2. Turn on the power source of the primary unit.
3. Press the MANUAL AUTO button on the primary unit for more than 3 seconds.
You will hear a short beep, and the primary unit starts operation.

NOTE: While performing these steps, error indications will be lit on the unit. Nevertheless, continue the procedure.

● Starting server room control

Set the weekly timer on the primary unit.

Server room control is activated, and the unit will start the alternative operation.

NOTE: If the alternative operation does not start or error indications on the unit are still lit, reconfirm whether the settings on function setting 96 are set correctly, and perform the setup procedures from the beginning.

As for the display pattern of the error indications of the indoor unit, refer to the installation manual.

2. Remote controller

2-1. Wireless remote controller

■ Features



- 5-mode timer setup (on, off, weekly, program, and sleep) available.
NOTE: When performing server room control, only the weekly timer is effective.
- Easy operation.
- Easy to change custom code (max. 4 custom code).
- Can be used jointly with wired remote controllers.
NOTE: When performing server room control, wired remote controller cannot be connected.

● 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.

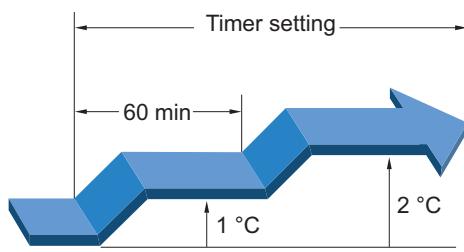
● Sleep timer

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.

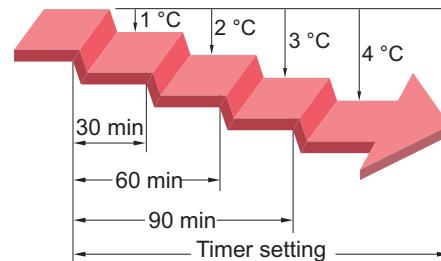
The set temperature can rise up to a maximum of 2 °C.



Heating operation

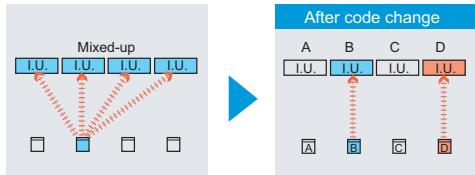
When the sleep timer is set, the set temperature automatically drops 1 °C every 30 minutes.

The set temperature can drop to a maximum of 4 °C.



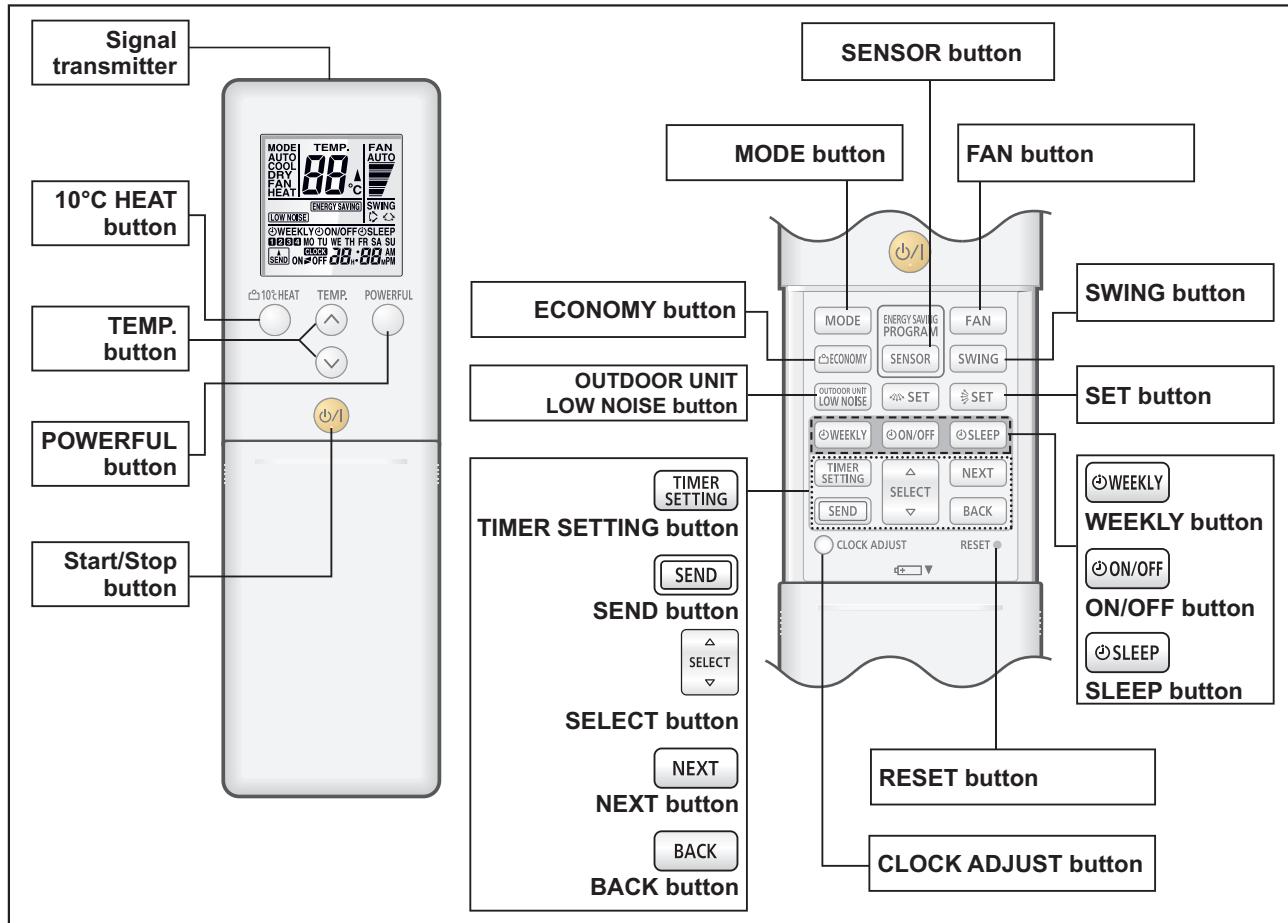
● Switching remote controller custom code

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



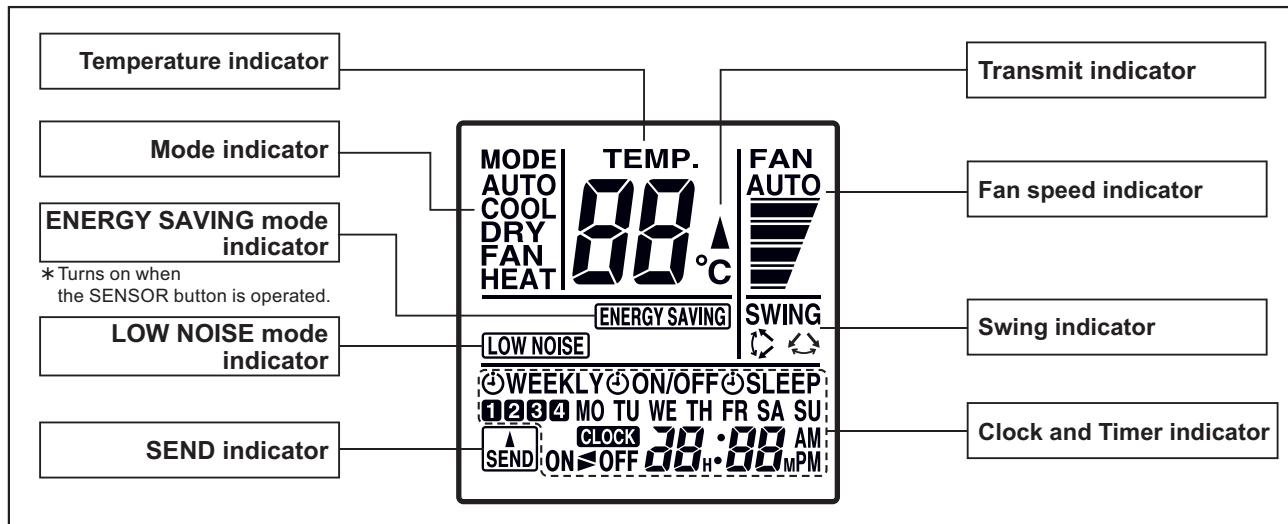
* I.U.: Indoor unit

■ Overview



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

Display panel

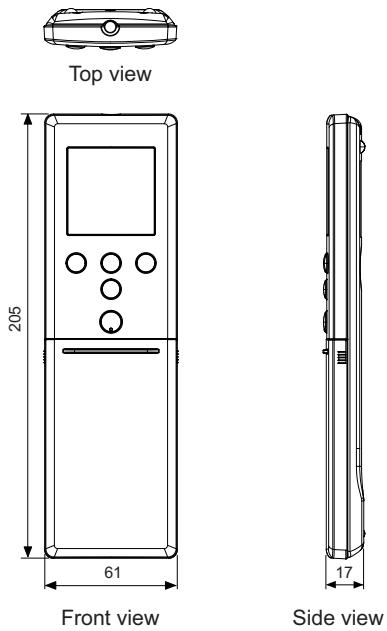


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

■ Specifications

● Controller

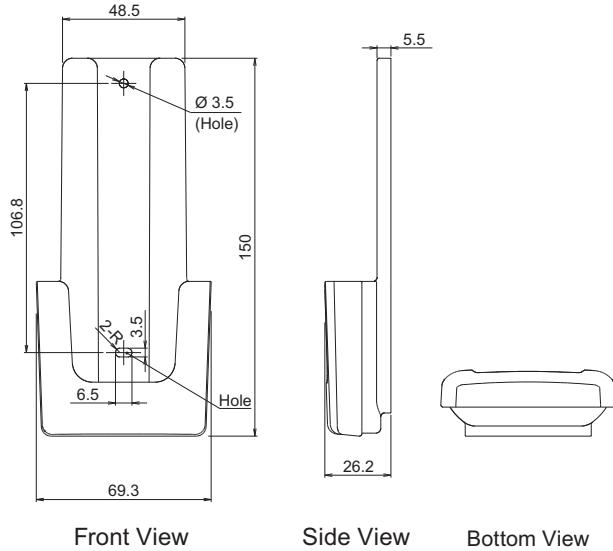
Unit: mm



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

● Holder

Unit: mm



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

3. Specifications

Type	Wall mounted			
Model name	Inverter heat pump			
Power supply	230 V ~ 50 Hz			
Available voltage range	198–264 V			
Capacity	Cooling	Rated	kW Btu/h	
		Min.—Max.	2.9—9.0 9,900—30,700	
		Rated	kW Btu/h	
		Min.—Max.	8.80 30,000	
	Heating	Rated	kW Btu/h	
		Min.—Max.	2.2—11.0 7,500—37,500	
		Rated	8.00 2.9—10.0	
		Min.—Max.	32,100 9,900—34,100	
Input power	Cooling	Rated	2.33 0.50—3.30	
		Min.—Max.	3.16 0.50—4.33	
	Heating	Rated	2.41 0.50—3.30	
		Min.—Max.	2.96 0.50—4.33	
	Fan	HIGH	60	
		MED	35	
		LOW	20	
		QUIET	11	
Current	Cooling	Rated	10.2 10.5	
	Heating		13.9 13.0	
EER	Cooling		3.43	
COP	Heating		3.65	
Sensible capacity	Cooling		1.85	
Power factor	Cooling		99	
	Heating		99	
Moisture removal	L/h (pints/h)		2.7 (4.8) 3.7 (6.5)	
Maximum operating current *1	Cooling	A	14.5	
	Heating		19.0 19.0	
Fan	Airflow rate	HIGH	1,380	
		MED	1,130	
		LOW	910	
		QUIET	710	
		HIGH	1,380	
	Heating	MED	1,130	
		LOW	910	
		QUIET	710	
Type × Q'ty		Cross flow fan × 1		
Motor output		W	61	
Sound pressure level *2	Cooling	HIGH	50	
		MED	44	
		LOW	38	
		QUIET	31	
	Heating	HIGH	49	
		MED	44	
		LOW	39	
		QUIET	33	
			Main: 462 × 900 × 26.6 Sub1: 126 × 900 × 13.3 Sub2: 84 × 900 × 13.3	
Heat exchanger type	Dimensions (H × W × D)		mm	
	Fin pitch			1.2
	Rows × Stages			Main: 2 × 22, Sub1: 1 × 6, Sub2: 1 × 4
	Pipe type			Copper tube
	Fin type			Aluminum
	Material			Polystyrene
Enclosure	Color			White
				Approximate color of Munsell N 9.25/
Dimensions (H × W × D)	Net	mm	340 × 1,150 × 280	
	Gross		405 × 1,270 × 450	
Weight	Net	kg	18	
	Gross		24	
Connection pipe	Size	mm (in)	Ø 9.52 (Ø 3/8)	
	Gas		Ø 15.88 (Ø 5/8)	
Method			Flare	
Drain hose	Material		PVC	
	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])

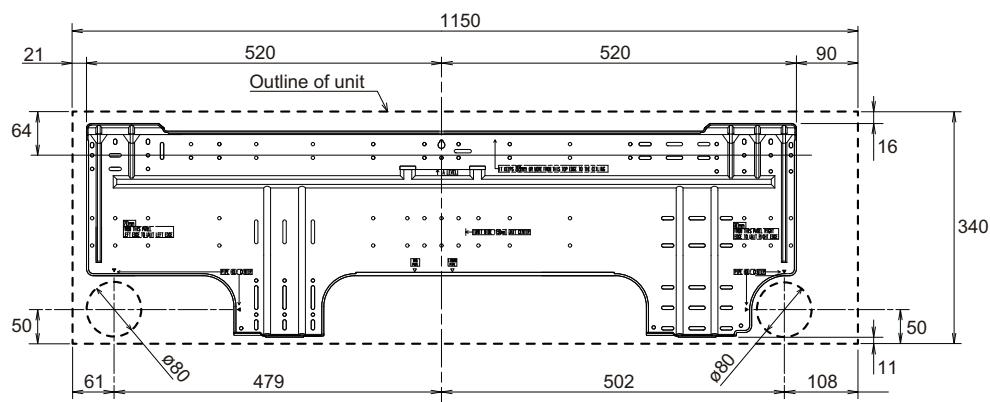
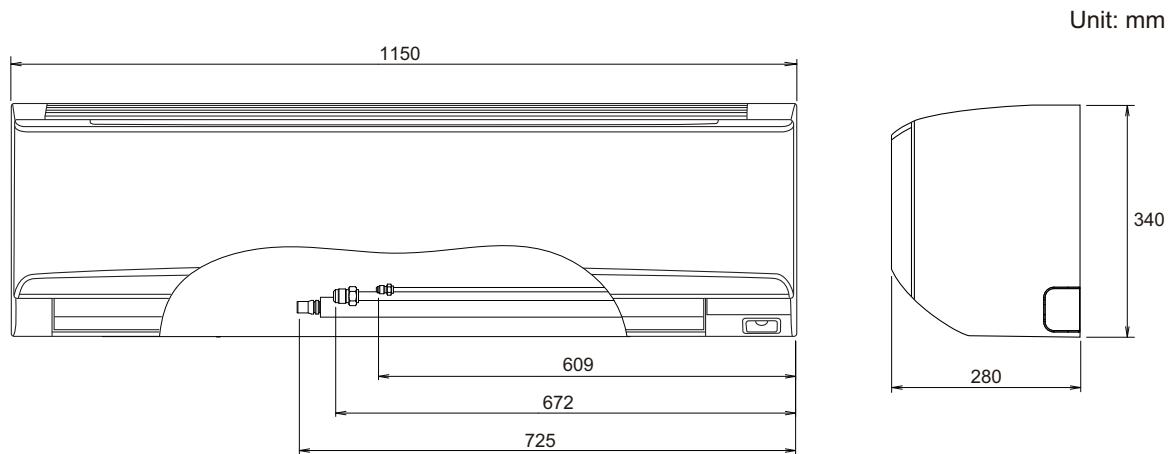
NOTES:

- 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			ASYG30LMTA	ASYG36LMTA
Energy efficiency class		Cooling	A++	A ⁺
Heating (Average)			A ⁺	A ⁺
Pdesign	Cooling	kW	8.0 (35 °C)	9.4 (35 °C)
	Heating (Average)		6.5 (-10 °C)	7.1 (-10 °C)
SEER	Cooling	kWh/kWh	6.35	5.73
	Heating (Average)		4.15	4.19
SCOP	QCE	kWh/a	441	575
	QHE (Average)		2,193	2,373
Annual energy consumption	Cooling	dB (A)	65	65
	Heating		65	65
Sound power level	HIGH			

4. Dimensions

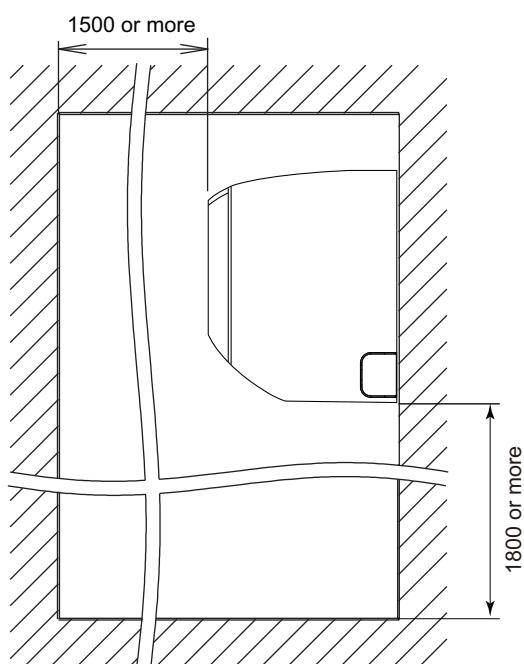
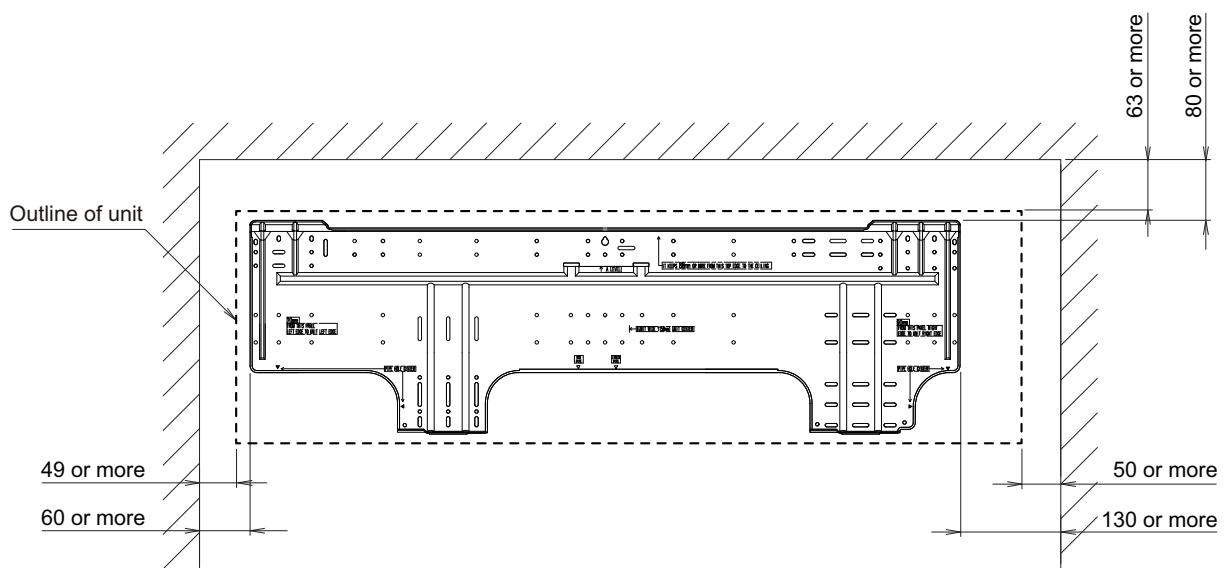
4-1. Models: ASYG30LMTA and ASYG36LMTA



■ Installation space requirement

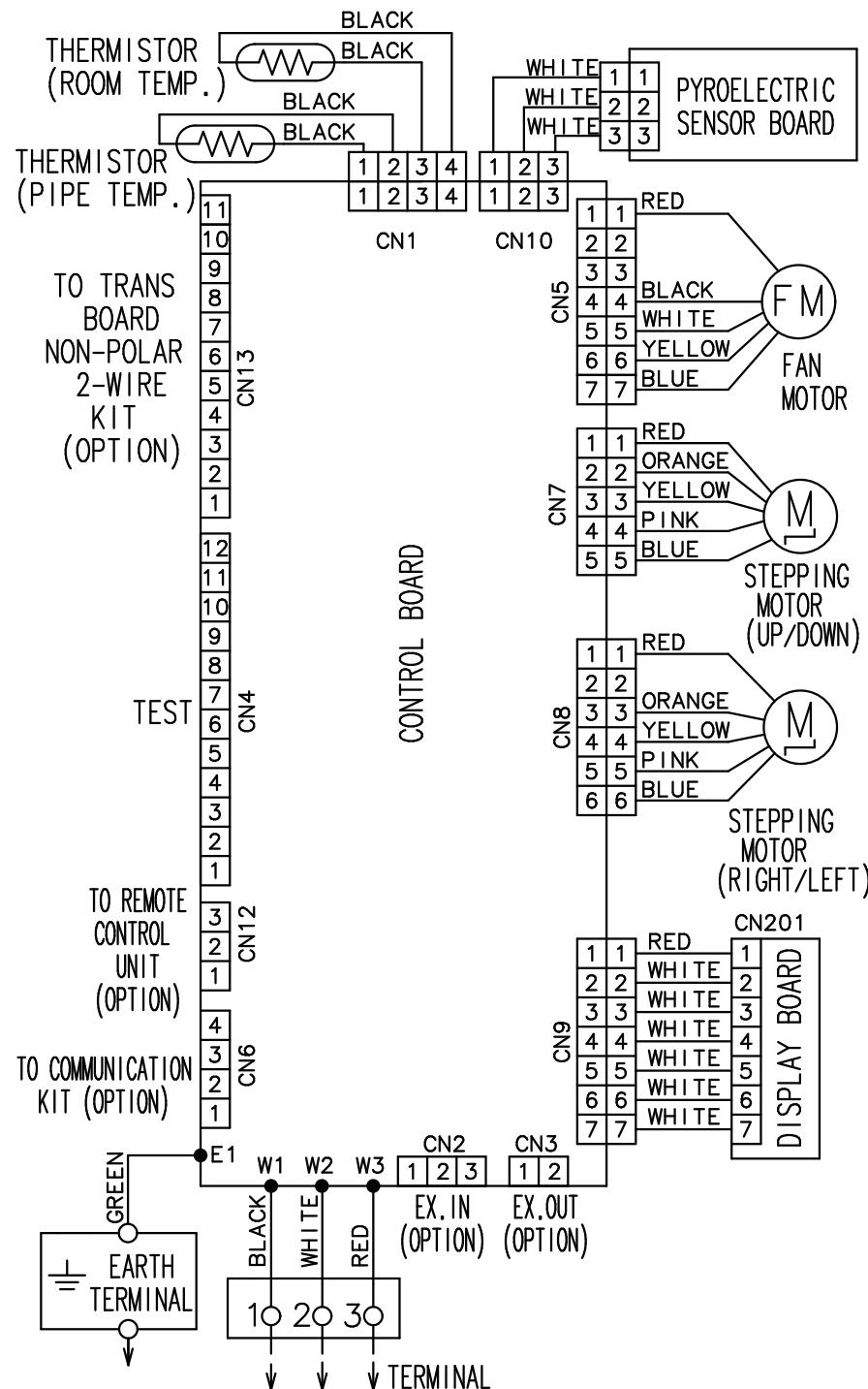
Provide sufficient installation space for product safety.

Unit: mm



5. Wiring diagrams

5-1. Models: ASYG30LMTA and ASYG36LMTA



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: ASYG30LMTA

AFR	m³/h			Indoor temperature																		
	18			21			23			25			27			29			32			
	°CDB			°CWB																		
Outdoor temperature	°CDB	TC	SHC	IP	°CWB	TC	SHC	IP	TC	SHC	IP	°CWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
		kW				kW			kW				kW				kW					
	-15	5.08	4.70	0.96	5.66	4.73	0.98	5.85	5.14	0.98	6.24	5.16	0.99	6.43	5.57	0.99	6.82	5.55	1.00	7.20	5.91	1.01
	-10	5.79	5.09	0.72	6.45	5.12	0.73	6.67	5.57	0.74	7.11	5.58	0.74	7.33	6.03	0.75	7.77	6.01	0.75	8.21	6.40	0.76
	0	5.99	5.19	0.79	6.67	5.22	0.80	6.90	5.68	0.81	7.35	5.69	0.82	7.58	6.15	0.82	8.04	6.13	0.83	8.49	6.53	0.84
	5	5.72	5.06	0.92	6.38	5.09	0.94	6.59	5.53	0.94	7.03	5.55	0.95	7.25	5.99	0.95	7.68	5.97	0.96	8.12	6.36	0.97
	10	6.21	5.29	0.70	6.92	5.32	0.71	7.16	5.78	0.72	7.63	5.80	0.73	7.86	6.26	0.73	8.34	6.24	0.74	8.81	6.64	0.74
	15	5.95	5.12	0.83	6.63	5.15	0.84	6.85	5.60	0.84	7.30	5.62	0.85	7.53	6.07	0.86	7.98	6.04	0.87	8.43	6.44	0.87
	20	6.31	5.01	0.92	7.03	5.04	0.93	7.27	5.48	0.94	7.75	5.50	0.95	7.99	5.94	0.95	8.47	5.92	0.96	8.95	6.30	0.97
	25	6.99	5.45	1.44	7.79	5.48	1.46	8.05	5.96	1.47	8.58	5.98	1.48	8.85	6.46	1.49	9.38	6.43	1.51	9.91	6.85	1.52
	30	6.84	5.36	2.26	7.62	5.39	2.29	7.88	5.86	2.30	8.40	5.88	2.33	8.66	6.35	2.34	9.18	6.32	2.36	9.70	6.73	2.39
	35	6.32	5.19	2.25	7.04	5.22	2.28	7.28	5.68	2.30	7.76	5.69	2.32	8.00	6.15	2.33	8.48	6.13	2.35	8.96	6.53	2.38
	40	5.68	4.75	2.51	6.33	4.78	2.55	6.54	5.19	2.56	6.97	5.21	2.59	7.19	5.63	2.60	7.62	5.60	2.63	8.05	5.97	2.65
	46	5.17	4.22	2.87	5.76	4.25	2.91	5.96	4.62	2.93	6.35	4.63	2.96	6.55	5.00	2.97	6.94	4.98	3.00	7.34	5.31	3.03

■ Model: ASYG36LMTA

AFR	m³/h			Indoor temperature																		
	18			21			23			25			27			29			32			
	°CDB			°CWB																		
Outdoor temperature	°CDB	TC	SHC	IP	°CWB	TC	SHC	IP	TC	SHC	IP	°CWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
		kW				kW			kW				kW				kW					
	-15	5.97	5.23	1.30	6.65	5.27	1.32	6.88	5.72	1.33	7.33	5.74	1.34	7.56	6.20	1.35	8.01	6.18	1.36	8.46	6.58	1.38
	-10	6.80	5.67	0.98	7.58	5.70	0.99	7.84	6.20	1.00	8.35	6.22	1.01	8.61	6.72	1.01	9.13	6.69	1.02	9.65	7.13	1.03
	0	7.04	5.78	1.08	7.84	5.82	1.09	8.11	6.32	1.10	8.64	6.34	1.11	8.91	6.85	1.11	9.44	6.82	1.13	9.98	7.27	1.14
	5	6.73	5.63	1.25	7.49	5.67	1.27	7.75	6.16	1.27	8.26	6.18	1.29	8.51	6.67	1.29	9.02	6.65	1.31	9.54	7.08	1.32
	10	7.30	5.89	0.95	8.13	5.92	0.97	8.41	6.44	0.97	8.96	6.46	0.98	9.24	6.98	0.99	9.79	6.95	1.00	10.35	7.40	1.01
	15	6.99	5.71	1.12	7.78	5.74	1.14	8.05	6.24	1.14	8.58	6.26	1.16	8.85	6.76	1.16	9.38	6.73	1.17	9.91	7.17	1.19
	20	7.81	6.06	1.12	8.70	6.10	1.13	9.00	6.63	1.14	9.60	6.65	1.15	9.89	7.19	1.16	10.49	7.16	1.17	11.08	7.62	1.18
	25	8.66	6.60	1.75	9.64	6.63	1.77	9.97	7.21	1.78	10.63	7.24	1.80	10.96	7.81	1.81	11.61	7.78	1.83	12.27	8.29	1.85
	30	7.81	6.06	2.74	8.70	6.10	2.78	9.00	6.63	2.80	9.60	6.65	2.82	9.89	7.19	2.84	10.49	7.16	2.87	11.08	7.62	2.89
	35	7.43	5.78	3.05	8.27	5.82	3.10	8.55	6.32	3.11	9.12	6.34	3.14	9.40	6.85	3.16	9.96	6.82	3.19	10.53	7.27	3.22
	40	6.61	5.54	2.85	7.36	5.58	2.90	7.61	6.06	2.91	8.11	6.08	2.94	8.36	6.57	2.96	8.86	6.54	2.99	9.37	6.97	3.02
	46	5.78	5.17	2.87	6.44	5.20	2.91	6.66	5.65	2.93	7.09	5.67	2.96	7.31	6.13	2.97	7.75	6.10	3.00	8.19	6.50	3.03

6-2. Heating capacity

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

■ Model: ASYG30LMTA

AFR			m³/h		1,380							
			Indoor temperature									
Outdoor temperature	°CDB	°CWB	16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
-15	-16	7.08	3.17	6.91	3.23	6.74	3.30	6.57	3.37	6.40	3.43	
-10	-11	7.67	3.17	7.49	3.23	7.30	3.30	7.12	3.37	6.94	3.43	
-5	-7	8.88	3.17	8.66	3.23	8.45	3.30	8.24	3.37	8.03	3.43	
0	-2	9.83	3.17	9.60	3.23	9.36	3.30	9.13	3.37	8.89	3.43	
5	3	10.63	3.17	10.37	3.23	10.12	3.30	9.87	3.37	9.61	3.43	
7	6	11.55	3.17	11.28	3.23	11.00	3.30	10.73	3.37	10.45	3.43	
10	8	11.90	3.16	11.61	3.22	11.33	3.29	11.05	3.36	10.76	3.42	
15	10	11.03	2.53	10.77	2.59	10.51	2.64	10.25	2.69	9.98	2.73	
20	15	10.95	1.96	10.69	2.00	10.43	2.04	10.17	2.08	9.91	2.11	
24	18	10.87	1.38	10.61	1.41	10.35	1.44	10.09	1.47	9.83	1.49	

■ Model: ASYG36LMTA

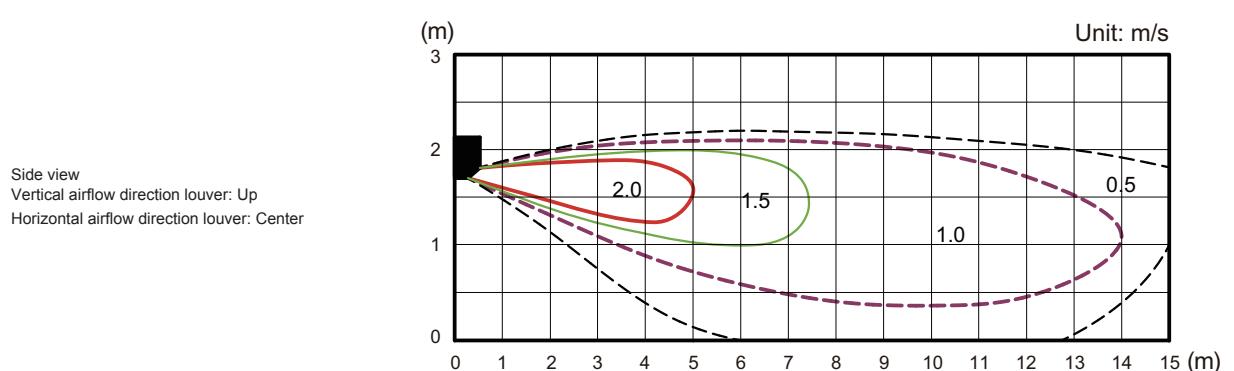
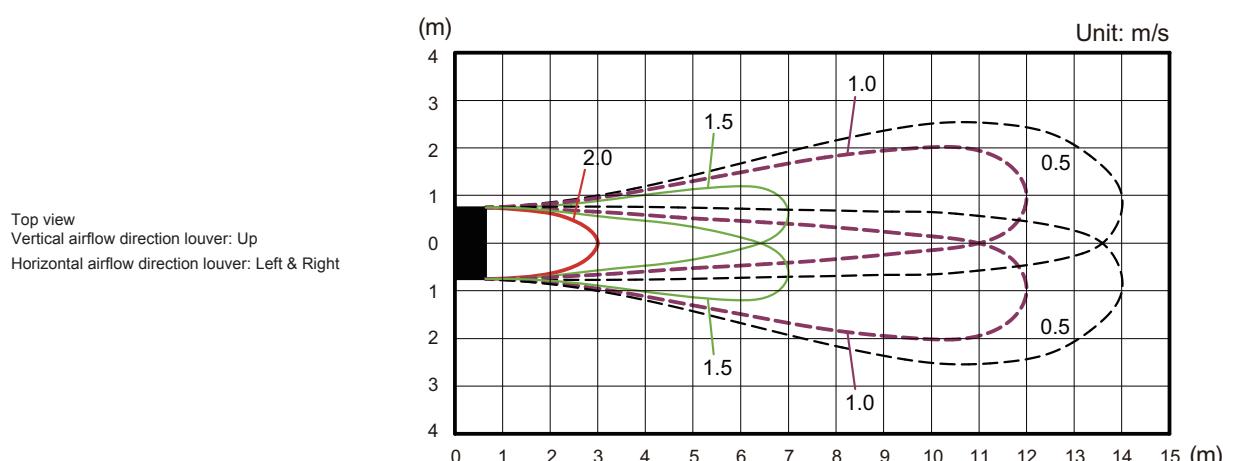
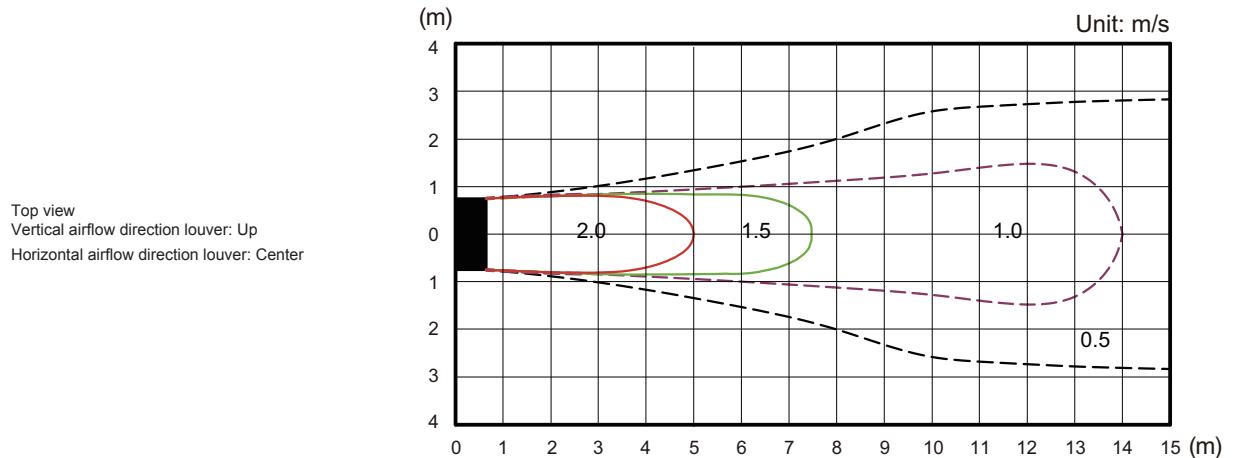
AFR			m³/h		1,380							
			Indoor temperature									
Outdoor temperature	°CDB	°CWB	16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
-15	-16	8.54	4.13	8.34	4.21	8.13	4.30	7.93	4.39	7.73	4.47	
-10	-11	9.19	4.10	8.97	4.18	8.75	4.27	8.53	4.36	8.31	4.44	
-5	-7	10.58	4.08	10.33	4.17	10.08	4.25	9.83	4.34	9.58	4.42	
0	-2	11.61	4.04	11.34	4.13	11.06	4.21	10.78	4.29	10.51	4.38	
5	3	12.70	4.09	12.40	4.17	12.10	4.26	11.79	4.35	11.49	4.43	
7	6	11.76	3.50	11.48	3.57	11.20	3.64	10.92	3.72	10.64	3.79	
10	8	12.11	3.49	11.82	3.56	11.54	3.63	11.25	3.71	10.96	3.78	
15	10	11.14	2.78	10.88	2.84	10.61	2.90	10.35	2.96	10.08	3.00	
20	15	11.06	2.21	10.80	2.25	10.53	2.30	10.27	2.35	10.01	2.38	
24	18	10.98	1.63	10.71	1.67	10.45	1.70	10.19	1.74	9.93	1.76	

7. Fan performance

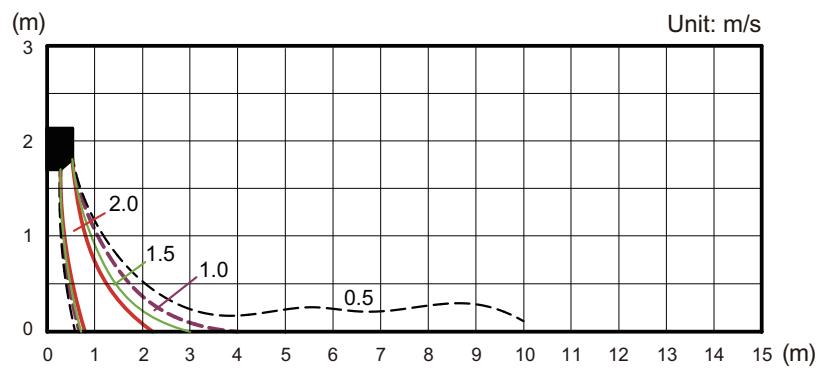
7-1. Air velocity distributions

■ Models: ASYG30LMTA and ASYG36LMTA

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN



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



7-2. Airflow

■ Model: ASYG30LMTA

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	1,380
	l/s	383
	CFM	812
MED	m ³ /h	1,130
	l/s	314
	CFM	665
LOW	m ³ /h	910
	l/s	253
	CFM	536
QUIET	m ³ /h	710
	l/s	197
	CFM	418

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	1,380
	l/s	383
	CFM	812
MED	m ³ /h	1,130
	l/s	314
	CFM	665
LOW	m ³ /h	910
	l/s	253
	CFM	536
QUIET	m ³ /h	710
	l/s	197
	CFM	418

■ Model: ASYG36LMTA**● Cooling**

Fan speed	Airflow	
HIGH	m ³ /h	1,380
	l/s	383
	CFM	812
MED	m ³ /h	1,130
	l/s	314
	CFM	665
LOW	m ³ /h	910
	l/s	253
	CFM	536
QUIET	m ³ /h	710
	l/s	197
	CFM	418

● Heating

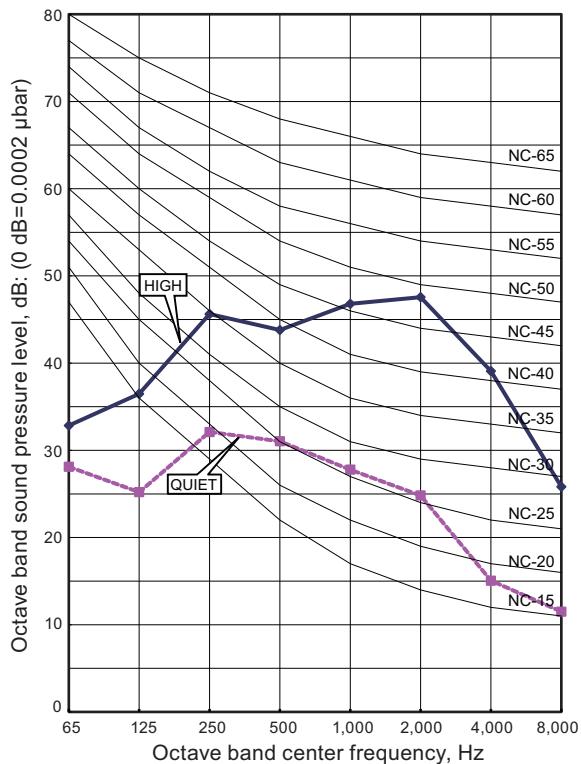
Fan speed	Airflow	
HIGH	m ³ /h	1,380
	l/s	383
	CFM	812
MED	m ³ /h	1,130
	l/s	314
	CFM	665
LOW	m ³ /h	910
	l/s	253
	CFM	536
QUIET	m ³ /h	710
	l/s	197
	CFM	418

8. Operation noise (sound pressure)

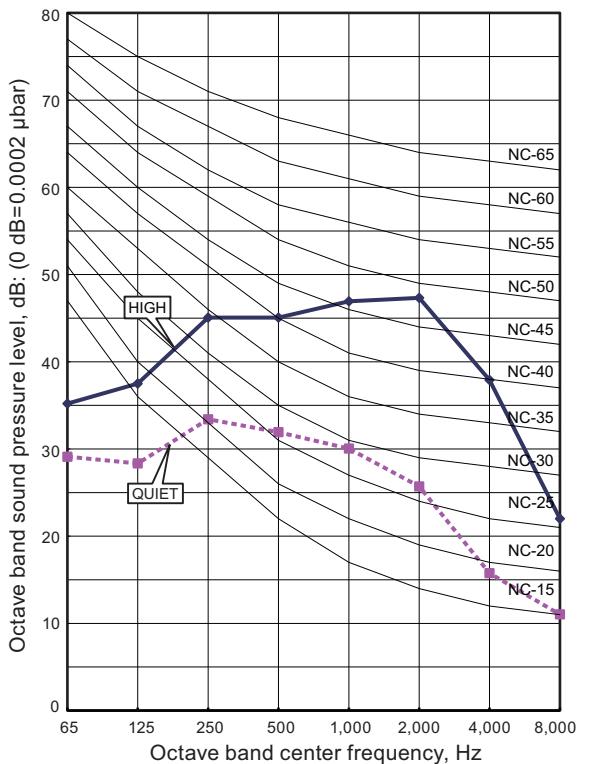
8-1. Noise level curve

■ Model: ASYG30LMTA

● Cooling

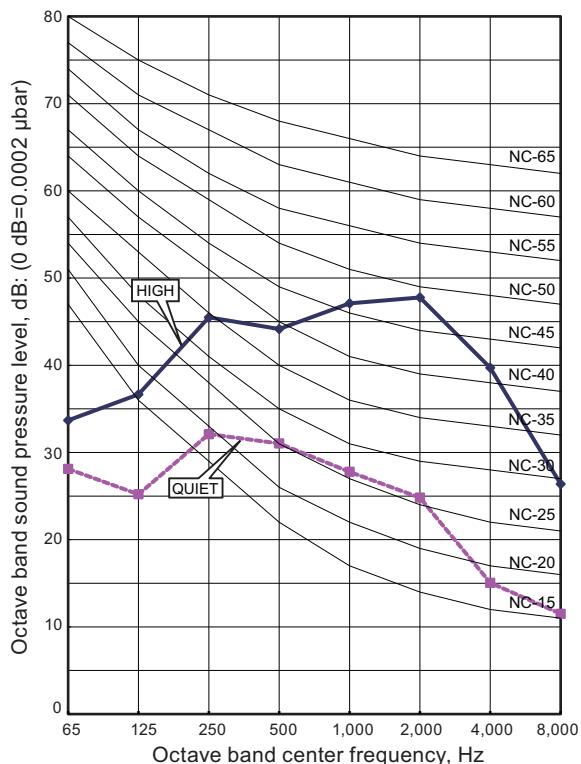


● Heating

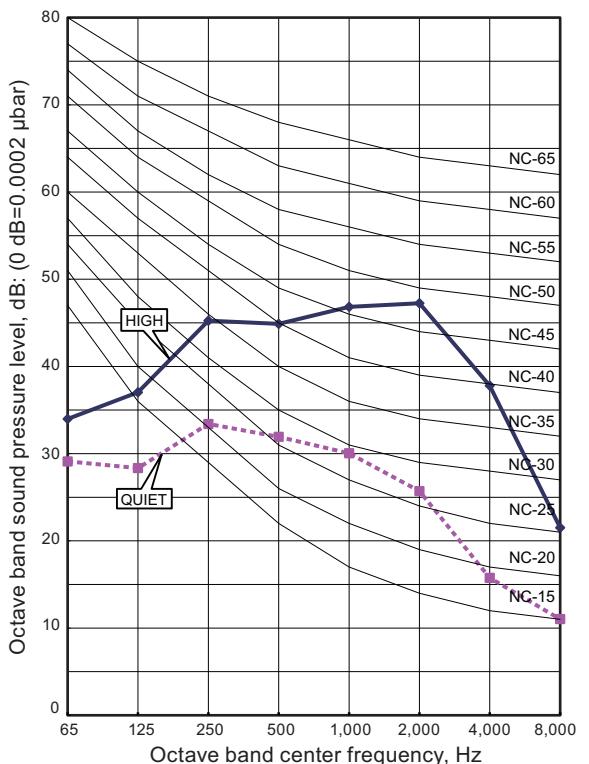


■ Model: ASYG36LMTA

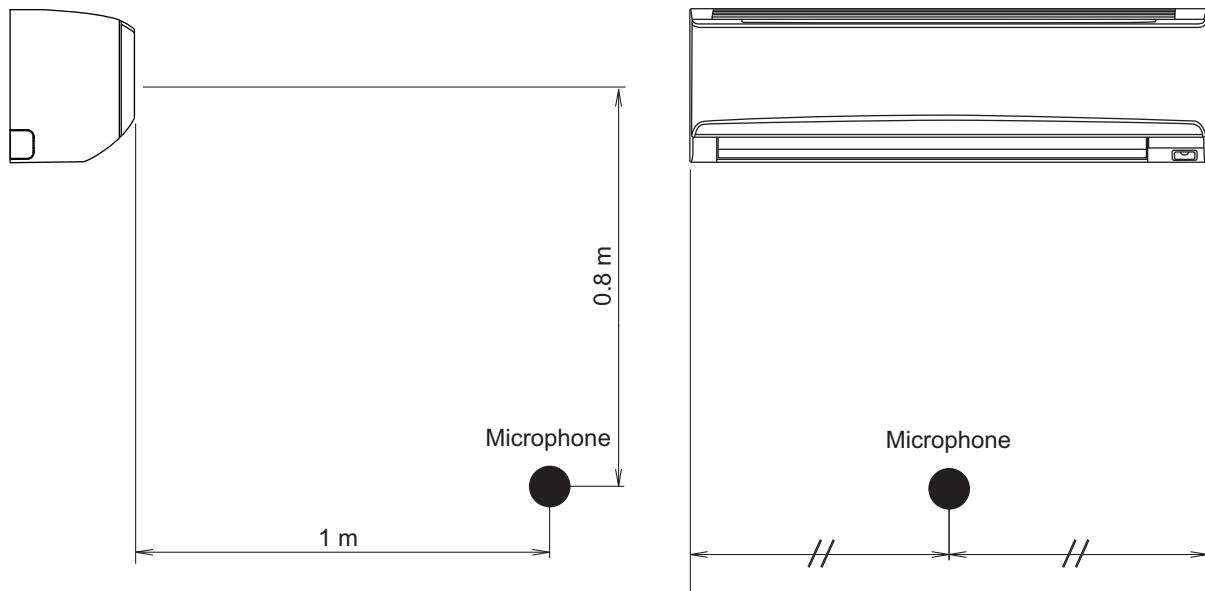
● Cooling



● Heating



8-2. Sound level check point

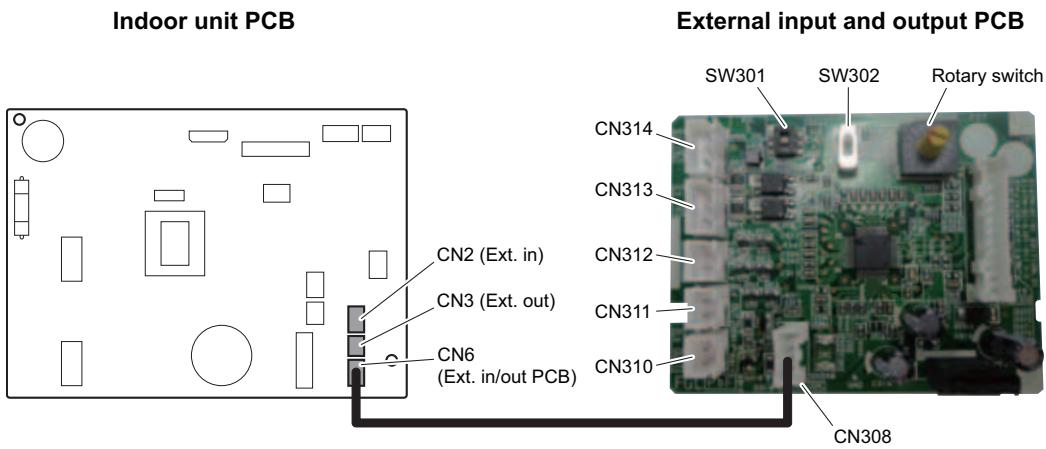


9. Safety devices

Type of protection	Protection form	Model	
		ASYG30LMTA	ASYG36LMTA
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A
Fan motor protection	Thermistor protection	Activate	More than 85 °C Fan motor speed down
		Reset	85 °C or less Fan motor speed recover
	Power IC thermal shutdown protection	Activate	150±15 °C Fan motor stop
		Reset	Less than 135 °C Fan motor restart

*PCB: Printed Circuit Board

10. External input and output



PCB	External input	External output	Connector	Input select	Input signal	
Indoor unit	Operation/Stop	-	CN2	Dry contact	Edge	
	Forced stop					
	Operation status		CN3	-	-	
	Error status					
	Indoor unit fan operation status					
External input and output (UTY-XCSXZ1)	Set point attainment status	-	CN313/CN314	Dry contact/Apply voltage	Edge/Pulse	
	Operation/Stop					
	Forced stop		CN313	-	Edge	
	Forced thermostat off	-	CN310 CN311 CN312		-	
	Operation status					
	Error status					
	Indoor unit fan operation status					

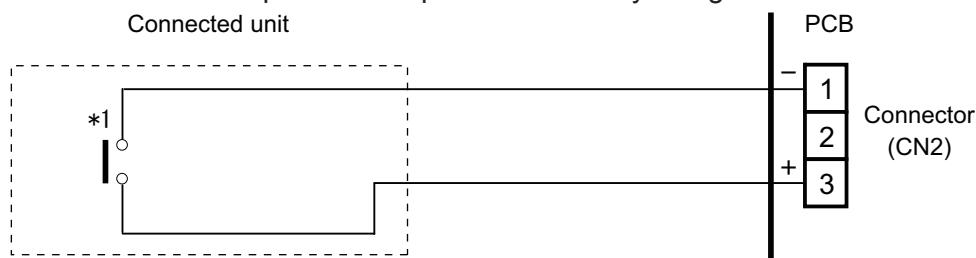
10-1. External input

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 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

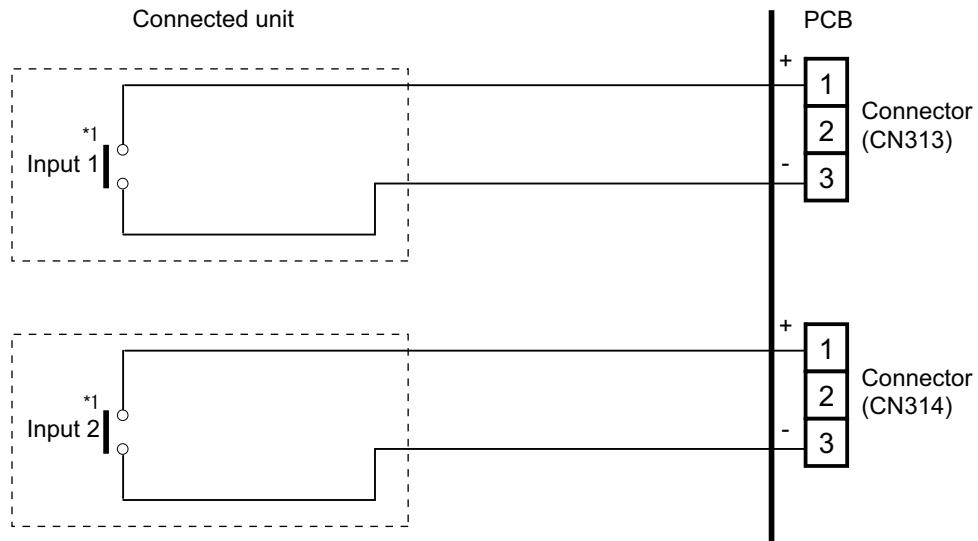
The indoor unit Operation/Stop can be set by using the input connector on the PCB.

- **Input select:**

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

- Dry contact

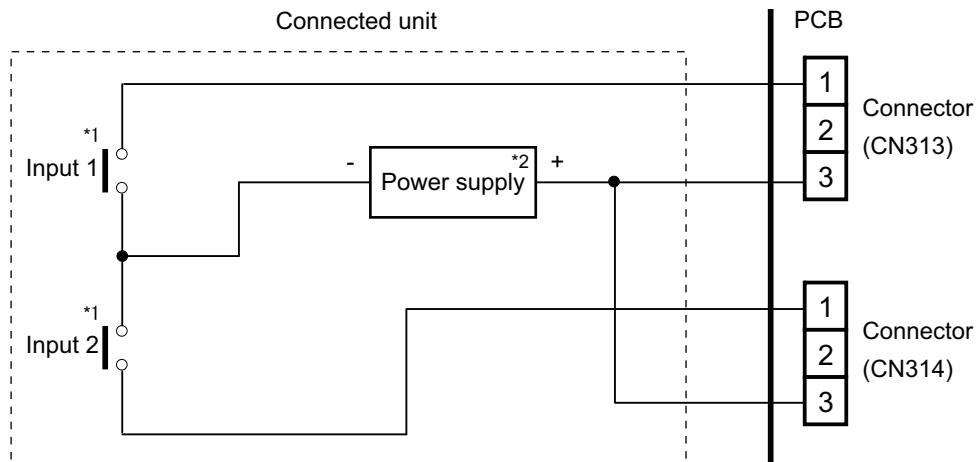
In case of internal power supply, set the slide switch of SW301 to "NON VOL" side.



*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.

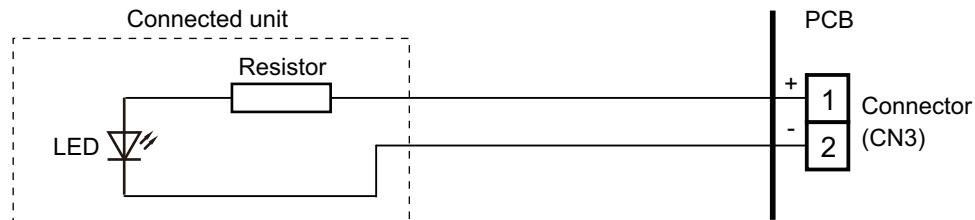
10-2. External output

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

■ Indoor unit

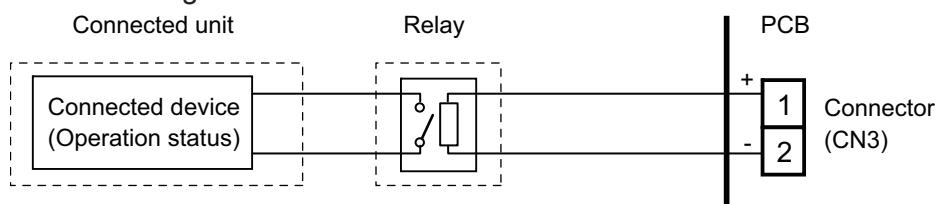
- A twisted pair cable (22AWG) should be used. Maximum length of cable is 25 m.
- Output voltage: High DC 12 V ± 2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to Chapter 10-3. "[Combination of external input and output](#)" on page 30.
- **When indicator or other components are connected 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"

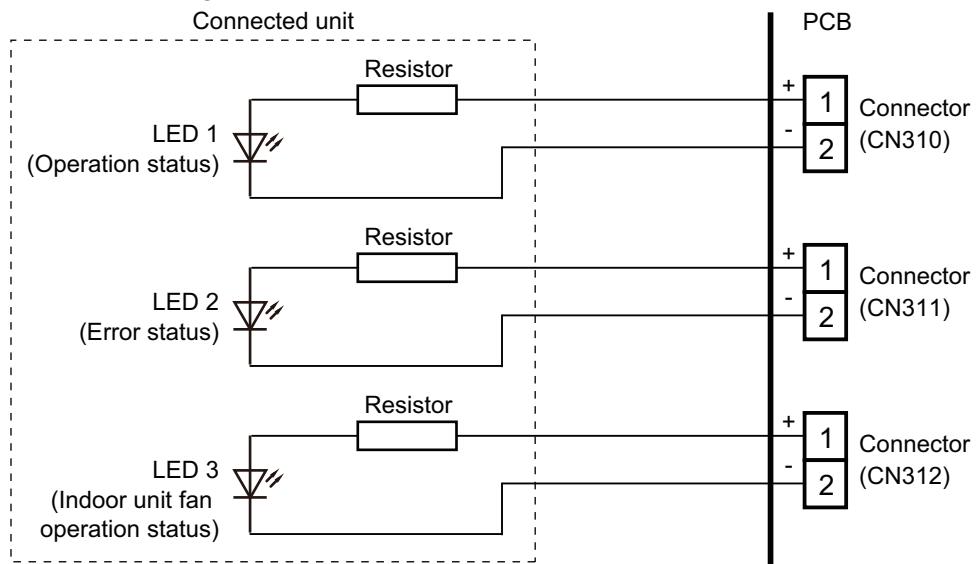


■ External input and output PCB

- A twisted pair cable (22AWG) 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 Chapter 10-3. "Combination of external input and output" on page 30.

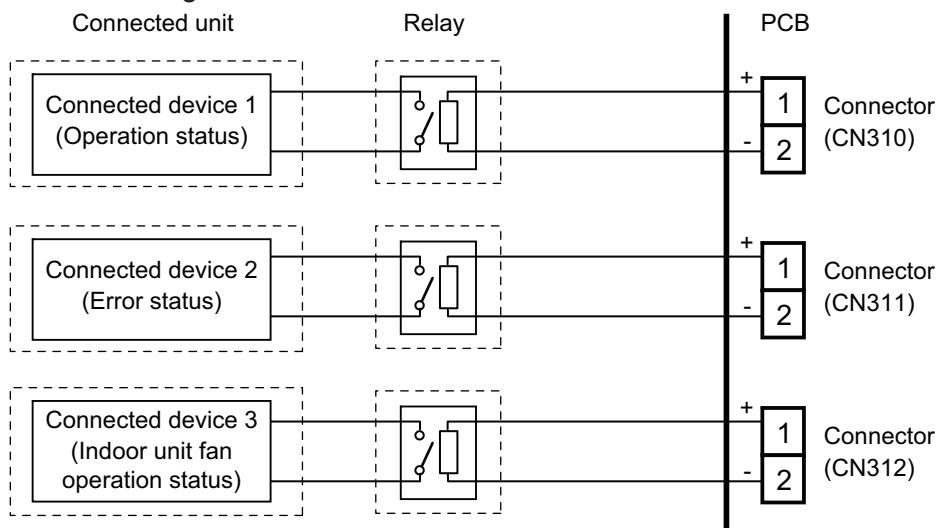
- When indicator or other components are connected directly:

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".



10-3. 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	External input and output PCB (Rotary SW)	External input			
			Indoor unit Input	External input and output PCB		
			CN2	CN313	CN314	Signal type
0-1	60-00	1	Operation/Stop	Operation/Stop	Not available	Edge
				Operation	Stop	Pulse
0-2	60-00	2	Operation/Stop	Forced Thermostat OFF	Not available	Edge
1—8	60-01 to 60-08	3 - 9, A	(Setting prohibited)			
9	60-09	B	Operation/Stop	Forced Thermostat OFF	Not available	Edge
10	60-10	C	Operation/Stop	Forced Thermostat OFF	Not available	Edge
11	60-11	D	Operation/Stop	Forced Thermostat OFF	Not available	Edge
12	60-12	D	Operation/Stop	Forced Thermostat OFF	Not available	Edge

Mode	Function setting	External input and output PCB (Rotary SW)	External output			
			Indoor unit Output	External input and output PCB		
			CN3	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 to 60-08	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	Operation/Stop	Error status	Not available
11	60-11	D	Not available	Operation/Stop	Indoor unit fan operation status	Error status
12	60-12	D	Set point attainment status	Operation/Stop	Indoor unit fan operation status	Error status

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

00: Operation/Stop mode 1 (R.C. enabled)

01: (Setting prohibited)

02: Forced stop

03: Operation/Stop mode 2 (R.C. disabled)

■ Input signal type

- **Indoor unit**

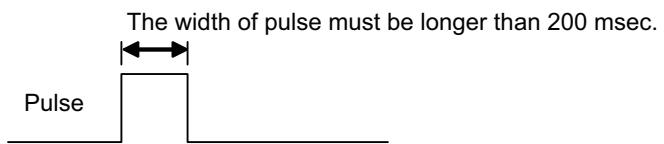
Input signal type is only "Edge".



- **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.



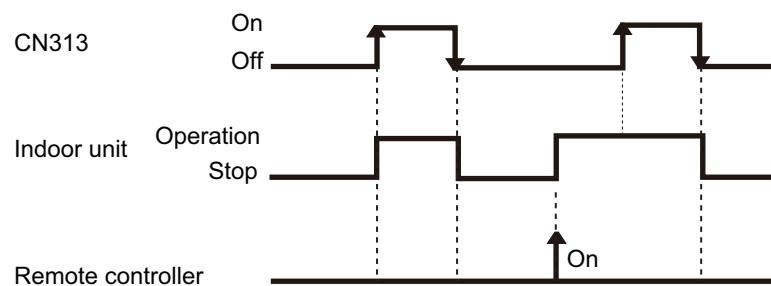
10-4. Details of function

■ Control input function

● When function setting is "Operation/Stop" mode 1

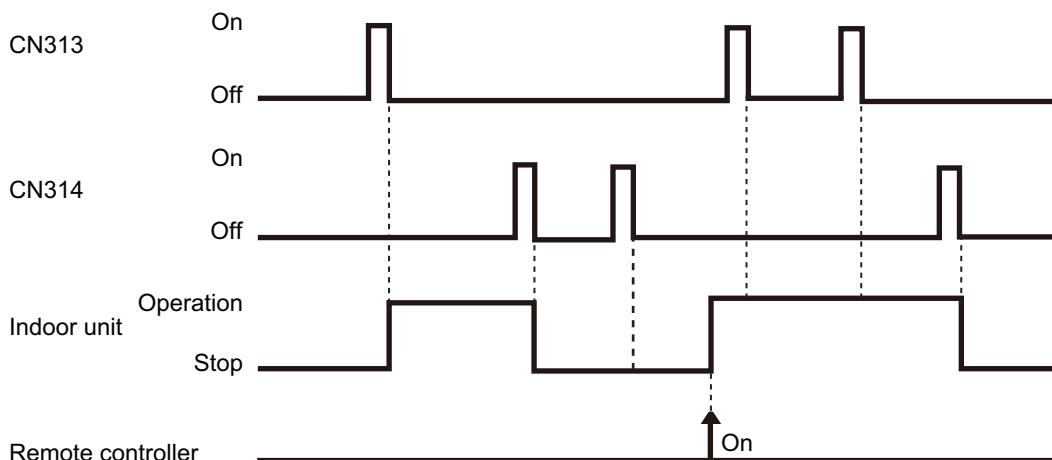
- In the case of "Edge" input

Function setting /	Rotary SW on External input and output PCB	External input		Input signal	Command
46-00	-	Input of indoor unit	CN2	Off → On	Operation
	60-00 / 1			On → Off	Stop
	60-00 / 1	External input and output PCB	CN313	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
46-00	60-00 / 1	External input and output PCB	CN313	Pulse	Operation
				Pulse	Stop



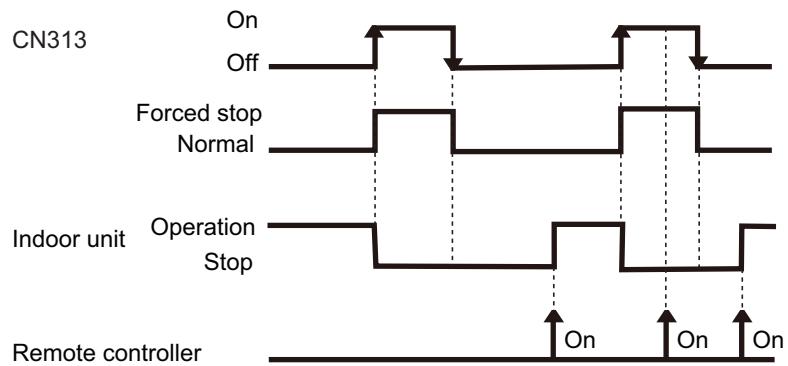
NOTES:

- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.
- This function is invalid when function setting 96 is set to "02" (Secondary unit).

● When function setting is "Forced stop" mode

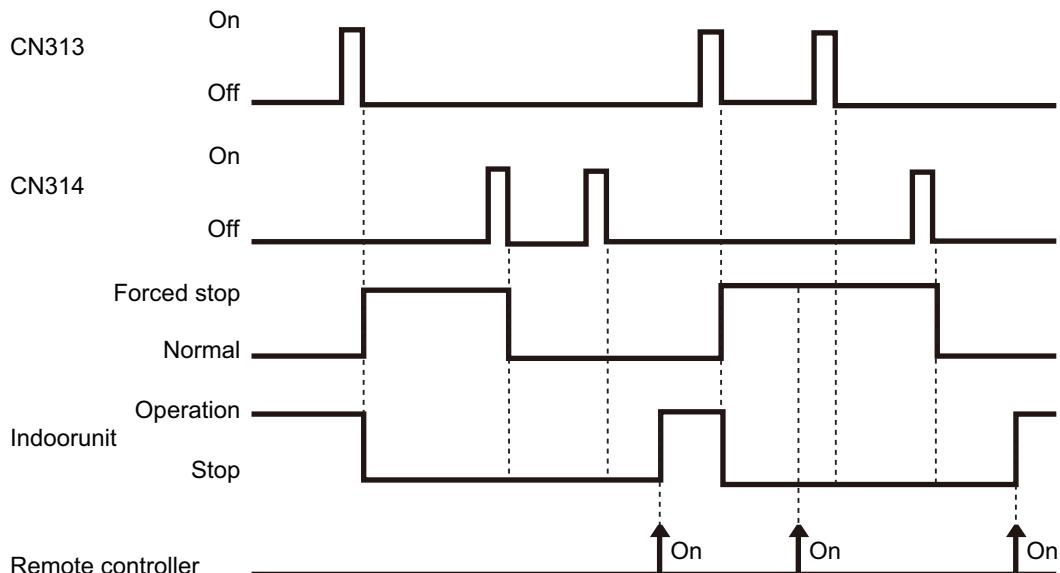
- In the case of "Edge" input

Function setting /	Rotary SW on External input and output PCB	External input		Input signal	Command
46-02	-	Input of indoor unit	CN2	Off → On	Forced stop
				On → Off	Normal
	60-00 / 1	External input and output PCB	CN313	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
46-02	60-00 / 1	External input and output PCB	CN313	Pulse	Forced stop
				Pulse	Normal



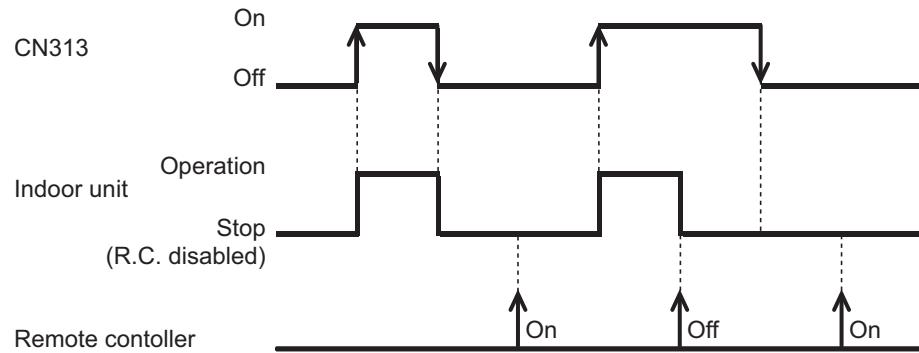
NOTES:

- 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.
- This function is invalid when function setting 96 is set to "02" (Secondary unit).

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

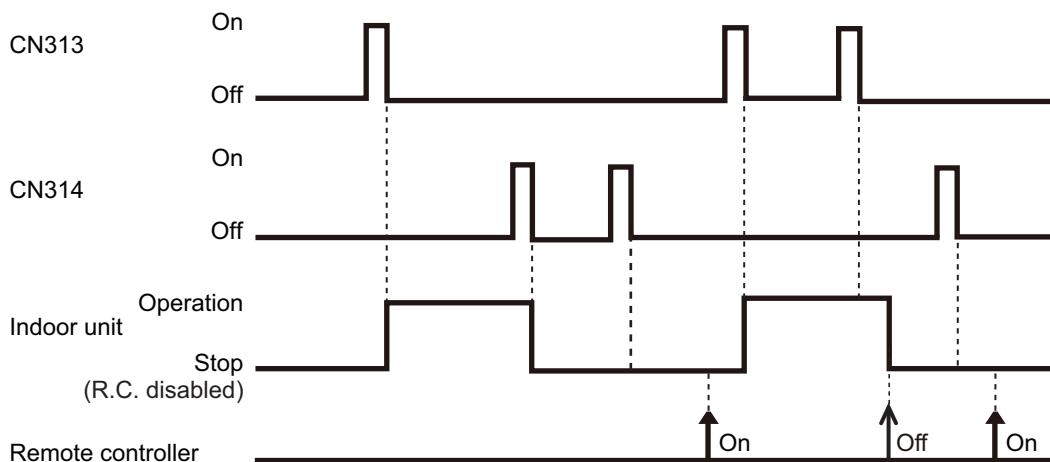
- In the case of "Edge" input

Function setting /	Rotary SW on External input and output PCB	External input		Input signal	Command
46-03	-	Input of indoor unit	CN2	Off → On	Operation
				On → Off	Stop (R.C. disabled)
	60-00 / 1	External input and output PCB	CN313	Off → On	Operation
				On → Off	Stop (R.C. disabled)



- In the case of "Pulse" input

Function setting /	Rotary SW on External input and output PCB	External input		Input signal	Command
46-03	60-00 / 1	External input and output PCB	CN313	Pulse	Operation
			CN314	Pulse	Stop (R.C. disabled)

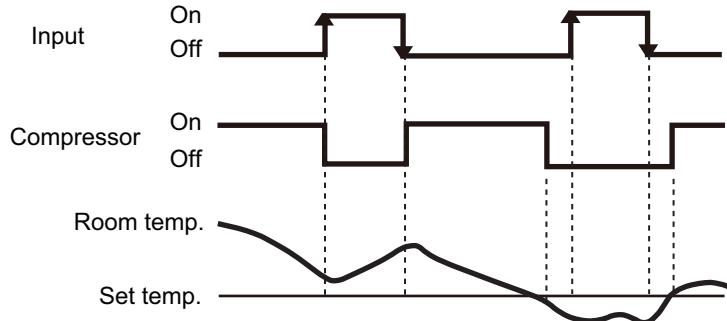


NOTES:

- 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.
- This function is invalid when function setting 96 is set to "02" (Secondary unit).

● Forced thermostat off function

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

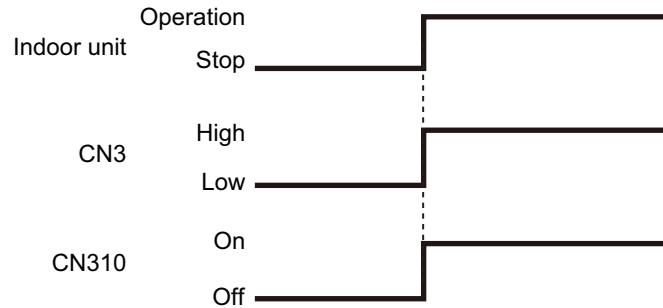


■ Control output function

● Operation/Stop status

Function setting /	Rotary SW on External input and output PCB	External output		Output signal	Command
60-00 / 1, 2		Output of indoor unit		CN3	Low → High High → Low
60-00 / 1		External input and output PCB			Off → On On → Off
		CN310		CN310	Operation Stop

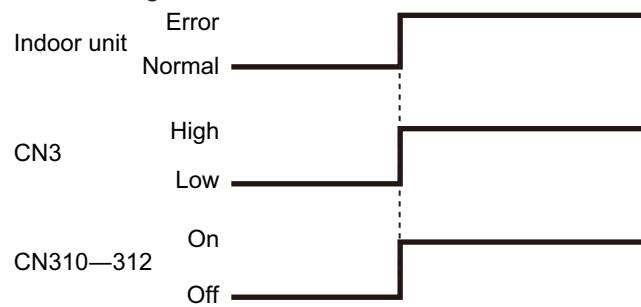
The output is low when the unit is stopped.



● Error status

Function setting /	Rotary SW on External input and output PCB	External output		Output signal	Command
60-09 / B		Output of indoor unit		CN3	Low → High High → Low
60-00 / 1		External input and output PCB			Off → On On → Off
		CN311		CN311	Error Normal

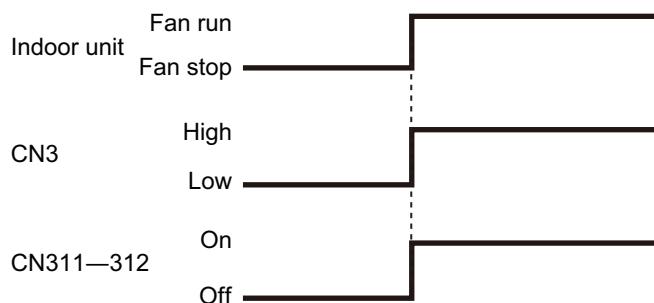
The output is ON when an error is generated for the indoor unit.



● Indoor unit fan operation status

Function setting /	Rotary SW on External input and output PCB	External output		Output signal	Command
60-10 / C	60-10 / C	Output of indoor unit	CN3	Low → High	Fan run
				High → Low	Fan stop
60-00 / 1	60-00 / 1	External input and output PCB	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.



● Set point attainment status

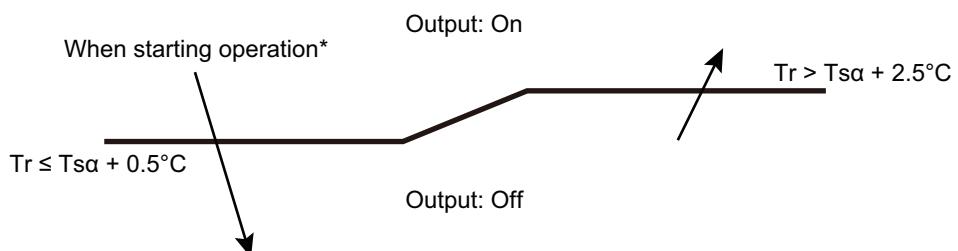
NOTE: This function is valid only when function setting 96 is set to “01” (Primary unit) or “02” (Secondary unit).

When the room temperature does not reach the set point at a room due to the lower cooling performance caused by external factor such as the outdoor temperature change, signal is output to tell the attainment status of set point.

Function setting /	Rotary SW on External input and output PCB	External output		Output signal	Command
60-12 / D	60-12 / D	Output of indoor unit	CN3	On → Off	Normal
				Off → On	Set point attainment

Output signal	Condition
Off	Reached the set point. ($Tr \leq Tsa + 0.5^\circ C$)
On	Unreached the set point. ($Tr > Tsa + 2.5^\circ C$) However, even if the set point unreached, the signal will not be output for 7 minutes after power is turned on.

When performing the server room control, both of the primary unit and secondary unit output the set point attainment status if any of the unit is outputting alternative operation command.



*: When starting operation or resetting, judges the zone to descending direction.

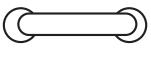
11. Function settings

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.

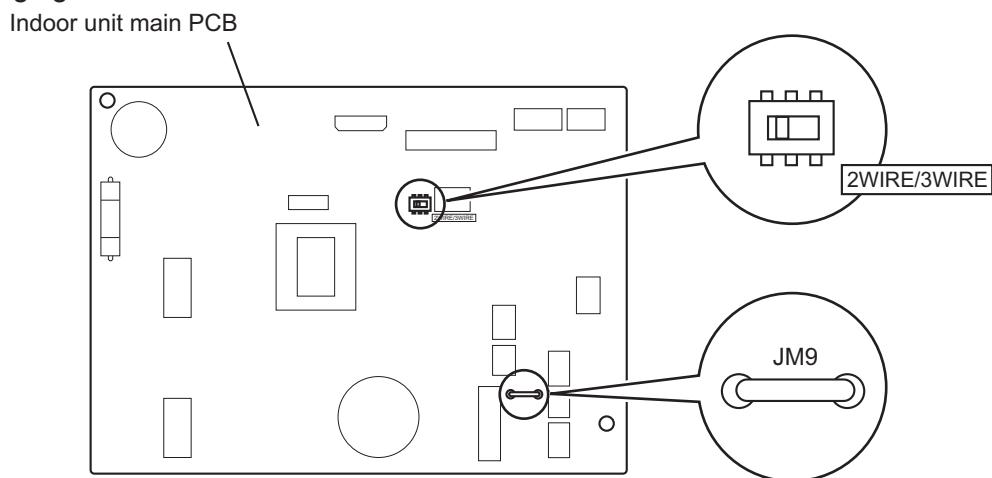
11-1. Function settings on indoor unit

Depending on the connected remote controller type or performing control, following setting is required:

Status	DIP switch	Jumper (JM9)
2-wire-type wired remote controller is connected	 2WIRE/3WIRE (Factory setting)	JM9  (Disconnected)
3-wire-type wired remote controller is connected or Server room control	 2WIRE/3WIRE	JM9  (Connected) (Factory setting)

■ Component location

Component on the indoor unit main PCB used for this setting is located as shown in the following figure.



11-2. 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.

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 **A** prior to shipment.
- If you do not know the air conditioner custom code setting, try each of the custom codes (**A** → **B** → **C** → **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)	00	Remote controller address setting
2)	11	Filter sign
3)	30/31	Room temperature control for indoor unit sensor
4)	35/36	Room temperature control for wired remote controller sensor
5)	40	Auto restart
6)	42	Room temperature sensor switching
7)	44	Remote controller custom code
8)	46	External input control
9)	48	Room temperature sensor switching (Aux.)
10)	49	Indoor unit fan control for energy saving for cooling
11)	60	Switching functions for external output terminal
12)	96	Server room control

1) Remote controller address setting

NOTE: Because this setting is normally done automatically when 2-wire-type wired remote controller is installed, setting is unnecessary.

Multiple indoor units can be operated by using one wired remote controller.

Set the unit number of each indoor unit.

Function number	Setting value	Setting description	Factory setting
00	00	Unit no. 0	◆
	01	Unit no. 1	
	02	Unit no. 2	
	03	Unit no. 3	
	04	Unit no. 4	
	05	Unit no. 5	
	06	Unit no. 6	
	07	Unit no. 7	
	08	Unit no. 8	
	09	Unit no. 9	
	10	Unit no. 10	
	11	Unit no. 11	
	12	Unit no. 12	
	13	Unit no. 13	
	14	Unit no. 14	
	15	Unit no. 15	

NOTES:

- When connecting Polar 3-core wired remote controller, set the remote controller address in the order of 0, 1, 2,, and 15.
- 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.

2) 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	◆

3) 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 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		
		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		
		11	+1.0 °C		
		12	+1.5 °C		
		13	+2.0 °C		
		14	+2.5 °C		
		15	+3.0 °C		
		16	+3.5 °C		
		More cooling Less heating			
		Less cooling More heating			

4) 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	No correction			
		01	No correction 0.0°C			
		02	-0.5 °C			
		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			
		11	+1.0 °C			
		12	+1.5 °C			
		13	+2.0 °C			
		14	+2.5 °C			
		15	+3.0 °C			
		16	+3.5 °C			
		More cooling Less heating	◆			
		Less cooling More heating				

5) 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.

6) 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.

7) 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	

8) 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	◆
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2	

9) 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	

10) 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.

NOTES:

- As the factory setting, this setting is initially activated.
- 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.

11) 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	◆
	09	Error status	
	10	Indoor unit fan operation status	
	12	Set point attainment status	

12) Server room control

Switches between normal control and server room control.

NOTE: To use this function, address setting of the primary unit and secondary unit needs to be done.

Function number	Setting value	Setting description	Factory setting
96	00	Normal control	◆
	01	Server room control (Primary unit)	
	02	Server room control (Secondary unit)	

When performing server room control, mind the followings:

- Set to "01" on one of the 2 indoor units, and set to "02" on the other indoor unit.
- As for the function details and setup procedure, refer to "[Details of server room control](#)" on page 4.

11-3. 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** \rightarrow **B** \rightarrow **C** \rightarrow **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** \rightarrow **B** \rightarrow **C** \rightarrow **D**) until you find the code which operates the air conditioner.

12. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Drain hose insulation		1
Installation manual		1	Cloth tape		1
Wall hook bracket		1	Tapping screw (large), M4 × 25 mm		8
Remote controller		1	Tapping screw (small), M3 × 12 mm		2
Battery		2	Air cleaning filter		2
Remote controller holder		1	Air cleaning filter frame		2

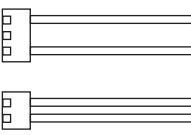
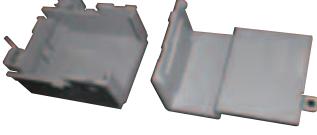
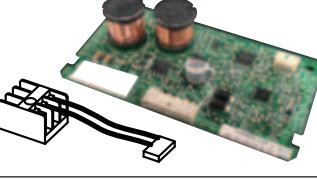
13. Optional parts

13-1. Controllers

Exterior	Part name	Model name	Summary
	Wired remote controller	UTY-RNRYZ1	<p>Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room.</p> <p>Wire type: Non-polar 2-wire</p> <p>Optional communication kit is necessary for installation.</p> <p>NOTE:</p>
	Wired remote controller	UTY-RLRY	<p>High visibility and easy operation. Room temperature can be accurately controlled using the built-in thermo sensor.</p> <p>Wire type: Non-polar 2-wire</p> <p>Optional communication kit is necessary for installation.</p>
	Wired remote controller	UTY-RVNYM	<p>Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key.</p> <p>Wire type: Polar 3-wire</p> <p>Optional communication kit is necessary for installation.</p>
	Simple remote controller	UTY-RSNYM	<p>Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode.</p> <p>Wire type: Polar 3-wire</p> <p>Optional communication kit is necessary for installation.</p>

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-XWZX	Use to connect with various peripheral devices and air conditioner PCB.
	External input and output PCB	UTY-XCSXZ1	Use to connect with external devices and air conditioner PCB.
	External input and output PCB box	UTZ-GXXB	For installing the External input and output PCB.
	Communication kit	UTY-TWRX	Use to connect Non-polar 2-core wired remote controller.
	Communication kit	UTY-XWNX	Use to connect Polar 3-core wired remote controller. Also, used for performing server room control.

Part 2. OUTDOOR UNIT

SINGLE TYPE:
AOYG30LMTA
AOYG36LMTA

1. Specifications

Type			Inverter heat pump					
Model name			AOYG30LMTA		AOYG36LMTA			
Power supply			230 V ~ 50 Hz					
Available voltage range			198—264 V					
Starting current		A	10.5	13.9				
Fan	Airflow rate	Cooling	m ³ /h	3,600	3,800			
		Heating		3,600	3,800			
Type × Q'ty			Propeller fan × 1					
Motor output		W	100					
Sound pressure level *1		Cooling	dB (A)	52	55			
		Heating		55	56			
Sound power level		Cooling	dB (A)	67	68			
		Heating		68	70			
Heat exchanger type		Dimensions (H × W × D)	mm	798 × 900 × 36.4				
		Fin pitch		1.30				
Compressor		Rows × Stages	2 × 38					
		Pipe type	Copper					
		Fin type	Type (Material)	Corrugate (Aluminum)				
			Surface treatment	Corrosion resistance (Blue fin)				
Refrigerant		Type (Global warming potential)	R410A (1975)					
		Charge	g	2,100				
Refrigerant oil		Type	POE (RB68)					
		Amount	cm ³	800				
Enclosure		Material	Steel sheet					
		Color	Beige					
			Approximate color of MUNSELL 10YR7.5/1.0					
Dimensions (H × W × D)	Net		mm	830 × 900 × 330				
	Gross			1,000 × 1,050 × 445				
Weight	Net		kg	61				
	Gross			69				
Connection pipe	Size	Liquid	mm	Ø 9.52 (Ø 3/8)				
		Gas		Ø 15.88 (Ø 5/8)				
	Method			Flare				
	Pre-charge length			20				
Operation range		Max. length	m	50				
		Max. height difference		30				
Drain hose		Cooling	°C	-15 to 46				
		Heating		-15 to 24				
		Material	LDPE					
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.)				

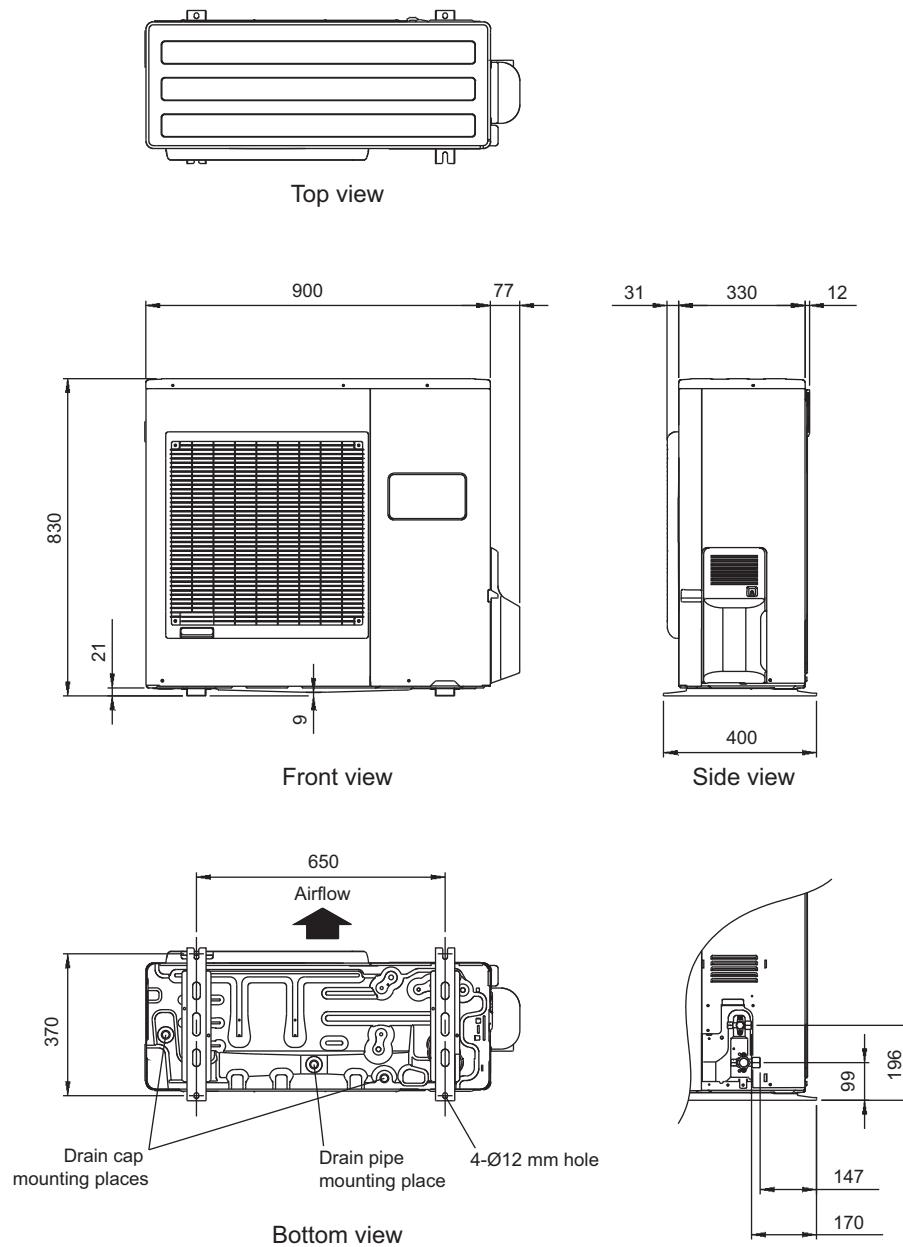
NOTES:

- 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: AOYG30LMTA and AOYG36LMTA

Unit: mm



OUTDOOR UNIT
AOYG30, 36LMTA

3. Installation space

3-1. Models: AOYG30LMTA and AOYG36LMTA

■ Space requirement

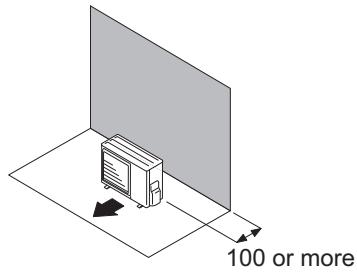
Provide sufficient installation space for product safety.

● Single outdoor unit installation

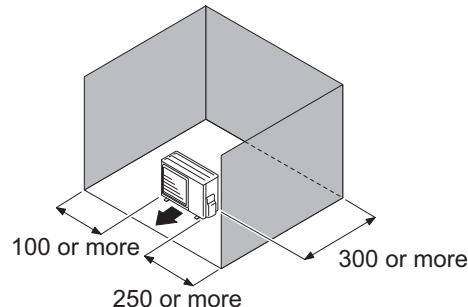
- When the upper space is open:

Unit: mm

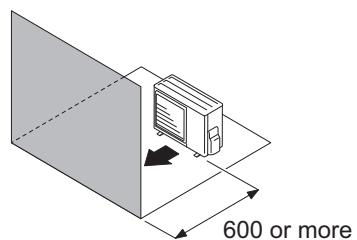
When there are obstacles at the rear only.



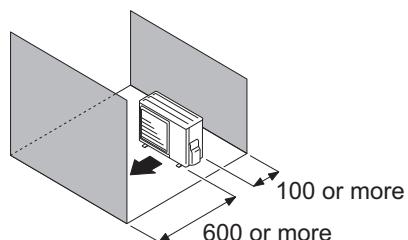
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



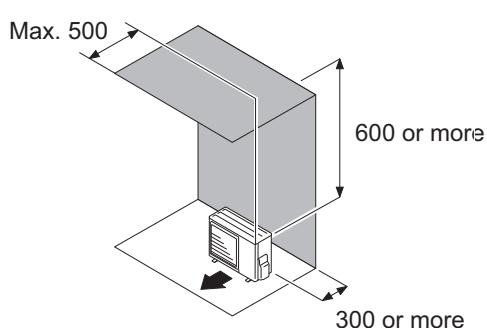
When there are obstacles at the front and rear.



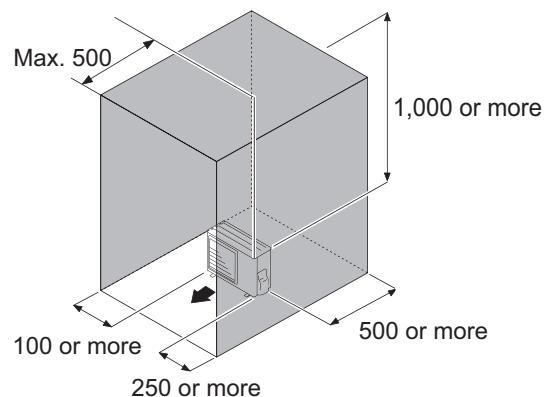
- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



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

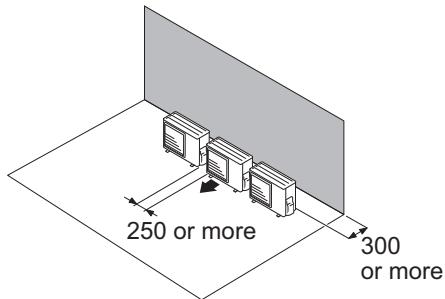


● Multiple outdoor unit installation

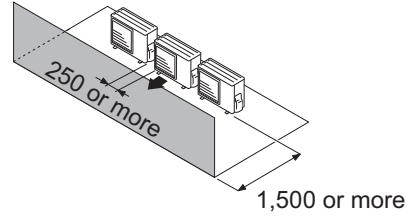
- When the upper space is open:

Unit: mm

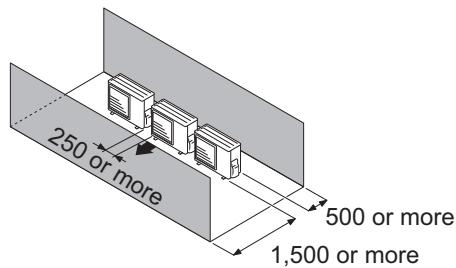
When there are obstacles at the rear only.



When there are obstacles at the front only.



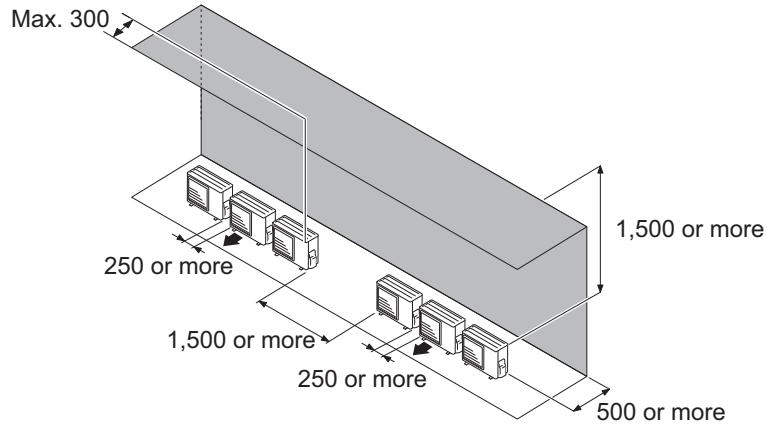
When there are obstacles at the front and rear.



- When there is an obstruction in the upper space:

Unit: mm

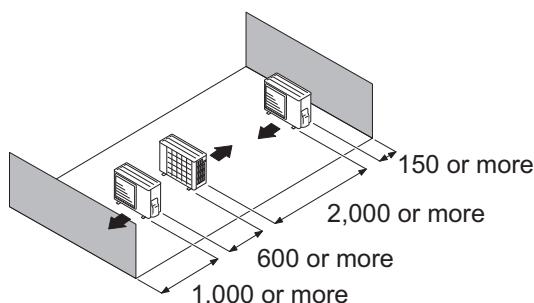
When there are obstacles at the rear and above.



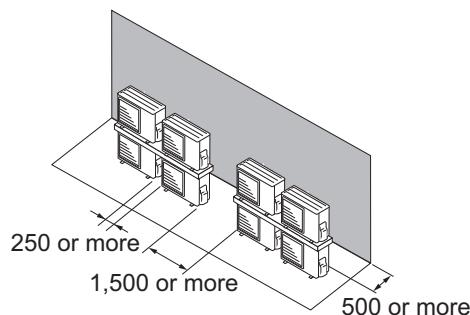
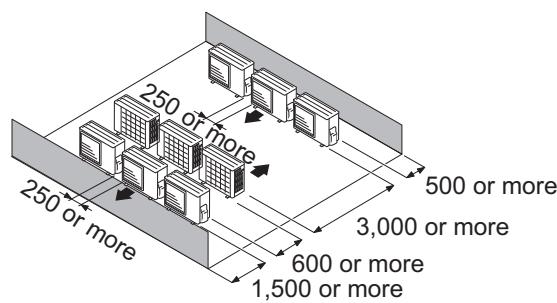
● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement



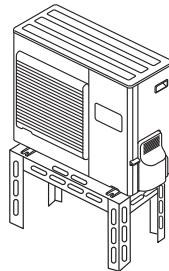
Multiple parallel unit arrangement

**NOTES:**

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- 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.

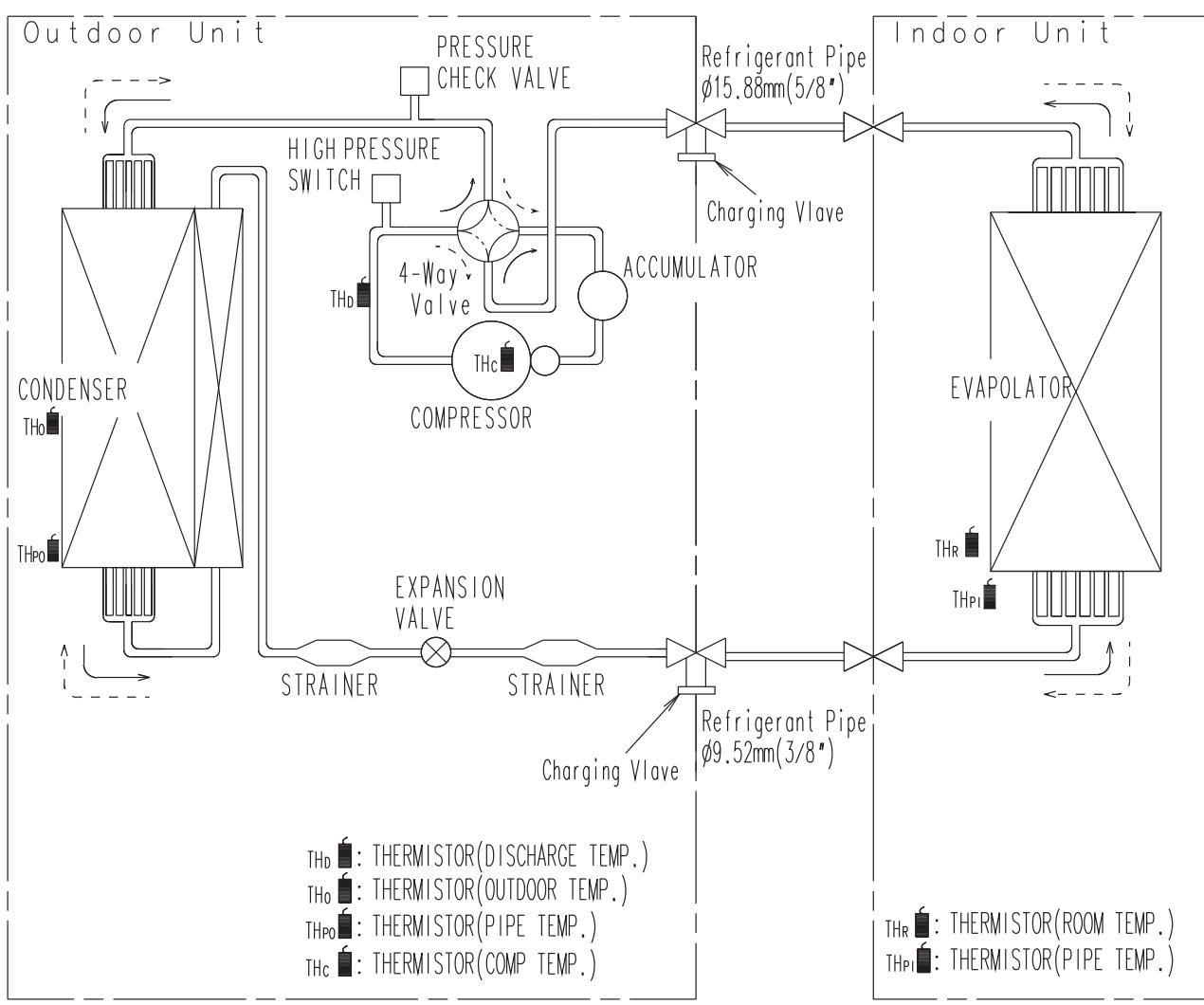
△ CAUTION

- 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.



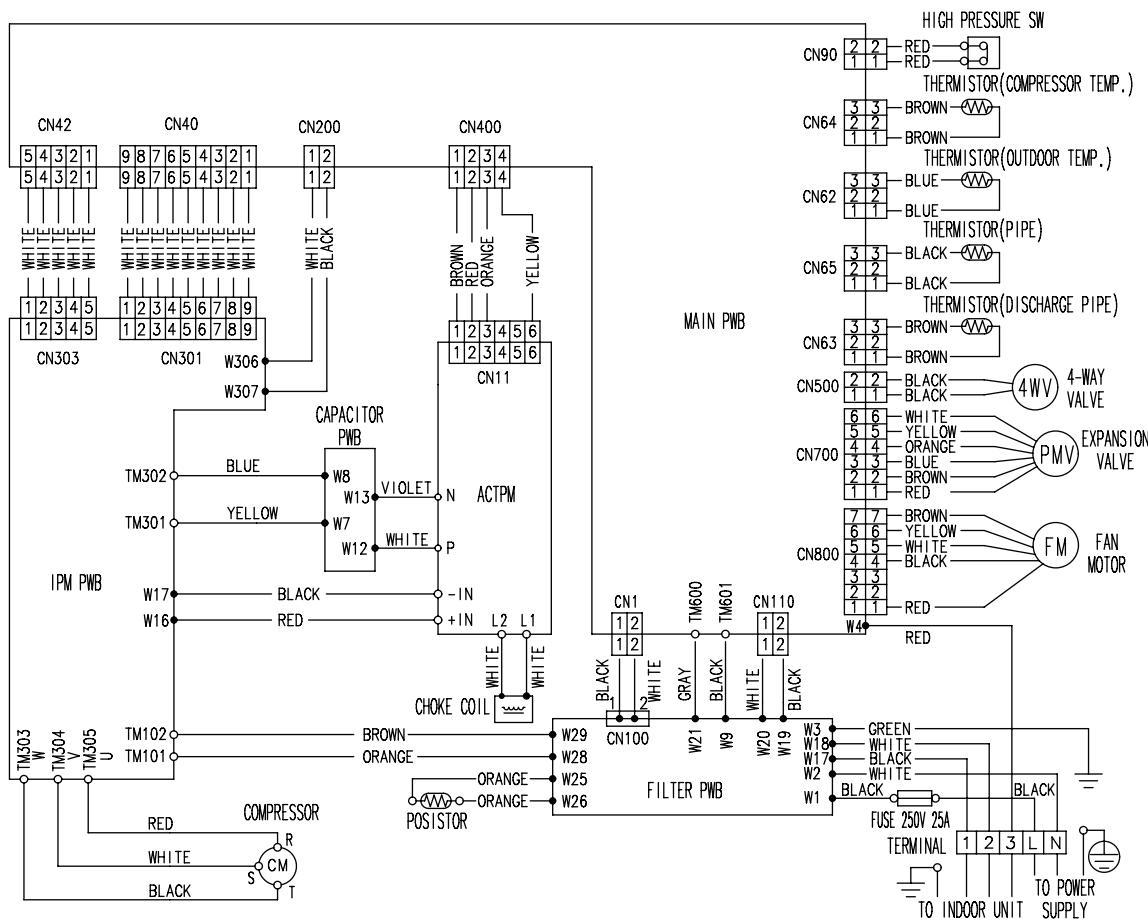
4. Refrigerant circuit

4-1. Models: AOYG30LMTA and AOYG36LMTA



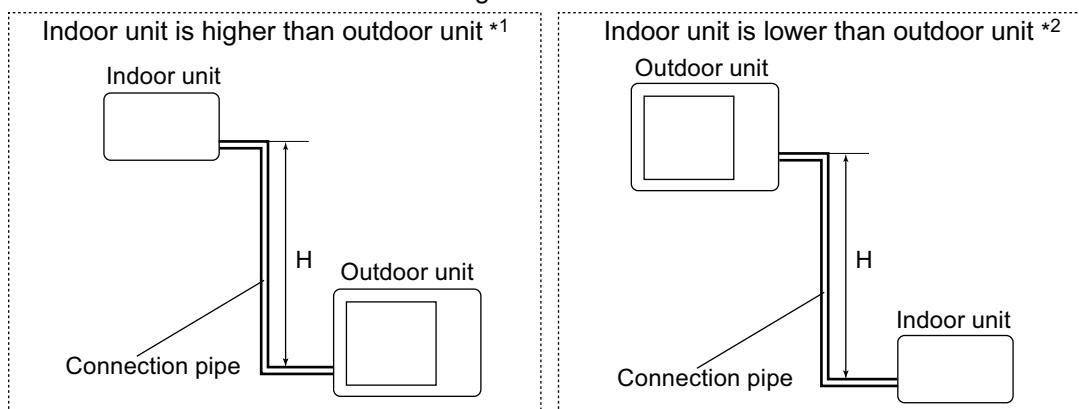
5. Wiring diagrams

5-1. Models: AOYG30LMTA and AOYG36LMTA



6. Capacity compensation rate for pipe length and height difference

Height difference H



OUTDOOR UNIT
AOYG30, 36LMTA

6-1. Models: AOYG30LMTA and AOYG36LMTA

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

COOLING		Pipe length (m)							
		5	7.5	10	20	30	40	50	
Height difference H (m)	Indoor unit is higher than outdoor unit *1	30	-	-	-	-	0.932	0.929	0.924
		20	-	-	-	0.945	0.947	0.945	0.940
		10	-	-	0.984	0.961	0.963	0.960	0.956
		7.5	-	0.988	0.988	0.965	0.967	0.964	0.959
		5	0.992	0.992	0.992	0.968	0.971	0.968	0.963
	Indoor unit is lower than outdoor unit *2	0	1.000	1.000	1.000	0.976	0.979	0.976	0.971
		-5	1.000	1.000	1.000	0.976	0.979	0.976	0.971
		-7.5	-	1.000	1.000	0.976	0.979	0.976	0.971
		-10	-	-	1.000	0.976	0.979	0.976	0.971
		-20	-	-	-	0.976	0.979	0.976	0.971
		-30	-	-	-	-	0.979	0.976	0.971

HEATING		Pipe length (m)							
		5	7.5	10	20	30	40	50	
Height difference H (m)	Indoor unit is higher than outdoor unit *1	30	-	-	-	-	0.816	0.756	0.686
		20	-	-	-	0.872	0.816	0.756	0.686
		10	-	-	0.991	0.872	0.816	0.756	0.686
		7.5	-	1.000	0.991	0.872	0.816	0.756	0.686
		5	1.000	1.000	0.991	0.872	0.816	0.756	0.686
	Indoor unit is lower than outdoor unit *2	0	1.000	1.000	0.991	0.872	0.816	0.756	0.686
		-5	0.995	0.995	0.986	0.868	0.812	0.752	0.683
		-7.5	-	0.993	0.983	0.866	0.810	0.750	0.681
		-10	-	-	0.981	0.864	0.808	0.748	0.679
		-20	-	-	-	0.855	0.799	0.740	0.672
		-30	-	-	-	-	0.791	0.733	0.665

7. Additional charge calculation

7-1. Model: AOYG30LMTA

Refrigerant type	R410A			
Refrigerant amount	g	2,100		

■ Refrigerant charge

Total pipe length	m	20 or less	30	40	50 (Max.)	40 g/m
Additional charge	g	0	400	800	1,200	

7-2. Model: AOYG36LMTA

Refrigerant type	R410A			
Refrigerant amount	g	2,100		

■ Refrigerant charge

Total pipe length	m	20 or less	30	40	50 (Max.)	40 g/m
Additional charge	g	0	400	800	1,200	

8. Airflow

8-1. Model: AOYG30LMTA

● Cooling

m ³ /h	3,600
l/s	1,000
CFM	2,119

● Heating

m ³ /h	3,600
l/s	1,000
CFM	2,119

8-2. Model: AOYG36LMTA

● Cooling

m ³ /h	3,800
l/s	1,056
CFM	2,237

● Heating

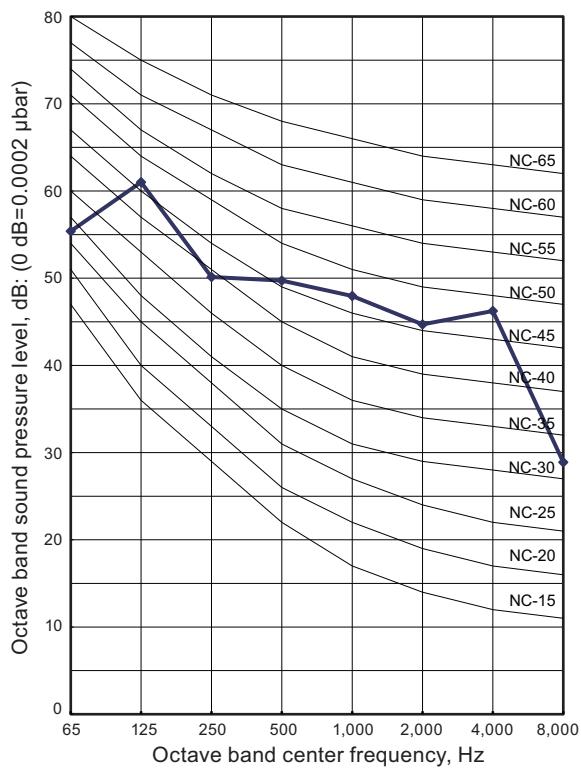
m ³ /h	3,800
l/s	1,056
CFM	2,237

9. Operation noise (sound pressure)

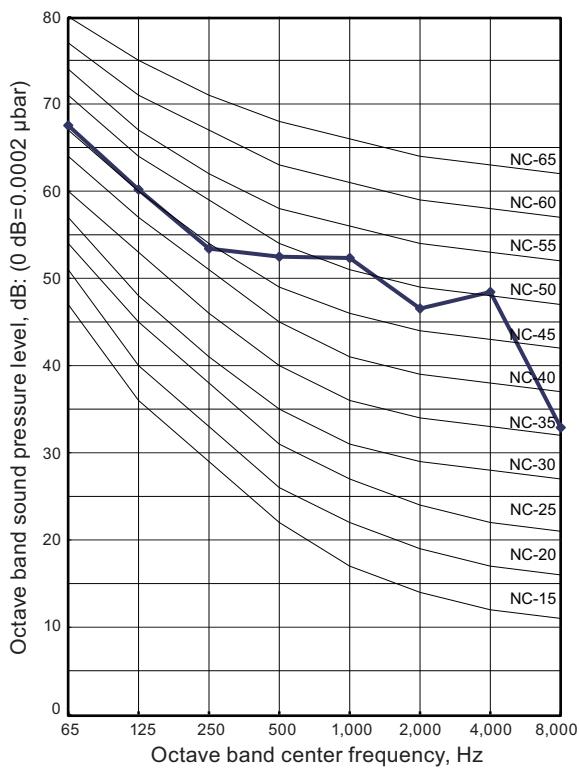
9-1. Noise level curve

■ Model: AOYG30LMTA

● Cooling

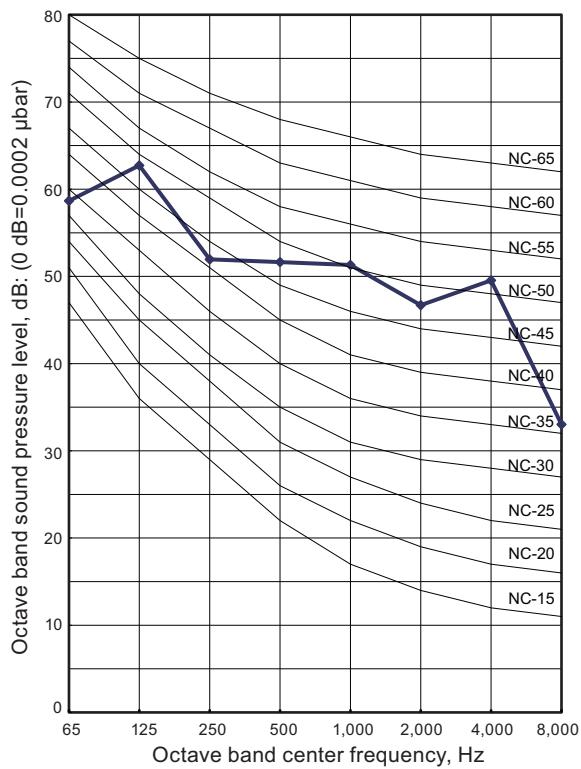


● Heating

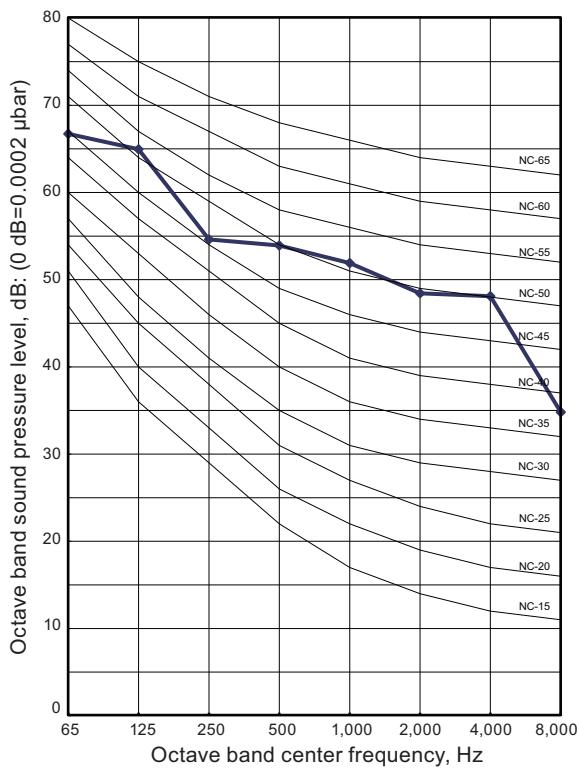


■ Model: AOYG36LMTA

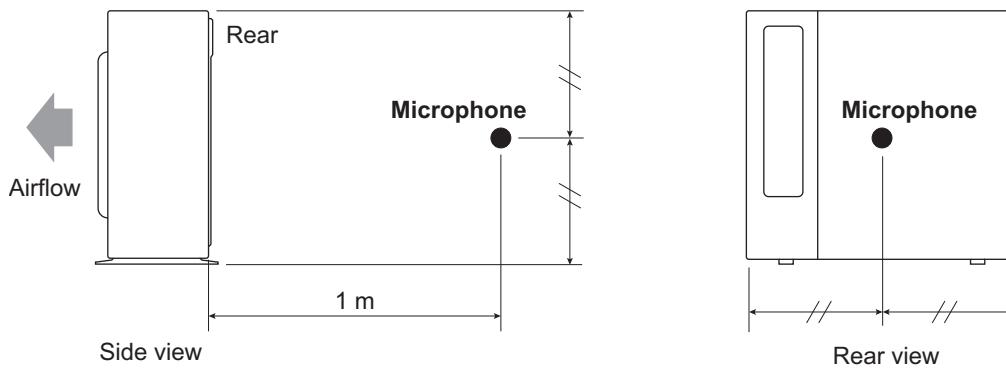
● Cooling



● 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			AOYG30LMTA	AOYG36LMTA
Power supply	Voltage	V	230 ~	
	Frequency	Hz	50	
Max operating current *1		A	14.5	19.0
Starting current		A	10.5	13.9
Wiring spec. *2	Circuit breaker current	A	30	
	Power cable	mm ²	2.5	4.0
	Connection cable *3	mm ²	1.5—2.5	
	Limited wiring length	m	51	

*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	
		AOYG30LMTA	AOYG36LMTA
Circuit protection	Current fuse (Near the terminal)	250 V, 25 A	
	Current fuse (Filter PCB)	250 V, 10 A	
	Current fuse (Main PCB)	250 V, 3.15 A	
Fan motor protection	Thermal protection program	Activate	150±15 °C Fan motor stop
		Reset	120±15 °C Fan motor restart
Compressor protection	Terminal protection program (Compressor temp.)	Activate	108 °C Compressor stop
		Reset	After 40 minutes Compressor restart
	Thermal protection program (Discharge temp.)	Activate	110°C Compressor stop
		Reset	After 7 minutes Compressor restart
High pressure protection	Pressure switch	Activate	4.2±0.1 MPa Compressor stop
		Reset	3.2±0.15 MPa Compressor restart

12. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Installation manual		1	Drain cap		2
Drain pipe		1			