AIRSTAGE

AIR CONDITIONER

Wall mounted type

FUJITSU

REFRIGERANT R32

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR

ASUH09KZAS
ASUH12KZAS
ASUH15KZAS

ASUH18KZAS
ASUH24KZAS

OUTDOOR

AOUH09KZAH1
AOUH12KZAH1
AOUH15KZAH1

AOUH18KZAH1
AOUH24KZAH1

FUJITSU GENERAL LIMITED

DR_AS233ES_02
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- For further details, please check with our authorized dealer.

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

ASUH09KZAS

ASUH12KZAS

ASUH15KZAS

ASUH18KZAS

ASUH24KZAS

WALL MOUNTED
ASUH09-24KZAS

1. Specifications

1-1. Models: ASUH09KZAS, ASUH12KZAS, and ASUH15KZAS

Type					Wall mounted		
					Inverter, Heat pump		
Model name					ASUH09KZAS	ASUH12KZAS	ASUH15KZAS
Power supply intake					Outdoor unit		
System power supply		Voltage		V	208/230		
		Frequency		Hz	60		
		Available voltage range		V	187—253		
Indoor unit power supply (from outdoor unit)				V	208/230		
Capacity	Cooling		Rated	kW	2.64	3.52	4.25
				Btu/h	9,000	12,000	14,500
			Min.—Max.	kW	0.91—3.67	0.91—4.69	0.91—5.57
				Btu/h	3,100—12,500	3,100—16,000	3,100—19,000
	Heating	47°FDB (Outdoor temp.)	Rated	kW	3.52	4.69	5.28
				Btu/h	12,000	16,000	18,000
			Min.—Max.	kW	1.03—6.74	1.03—6.92	1.22—7.33
				Btu/h	3,500—23,000	3,500—23,600	4,150—25,000
		17°FDB (Outdoor temp.)*1	Rated	kW	2.20	2.93	3.34
				Btu/h	7,500	10,000	11,400
			Max.	kW	5.13	5.49	6.45
				Btu/h	17,500	18,700	22,000
		5°FDB (Outdoor temp.)*2	Rated	kW	4.51	4.87	6.15
				Btu/h	15,400	16,600	21,000
			Max.	kW	4.51	4.87	6.15
				Btu/h	15,400	16,600	21,000
Input power	Cooling		Rated	kW	0.48	0.75	0.98
			Min.—Max.		0.11—0.92	0.11—1.22	0.15—1.70
	Heating	47°FDB (Outdoor temp.)	Rated		0.66	1.01	1.15
			Min.—Max.		0.20—2.19	0.20—2.25	0.24—2.25
		17°FDB (Outdoor temp.)*1	Rated		0.61	0.85	0.97
			Max.		2.06	2.25	2.74
		5°FDB (Outdoor temp.)*2	Rated		2.00	2.25	2.93
			Max.		2.00	2.25	2.93
	Fan		HIGH	W	35.0		41.0
			MED—HIGH		26.0		31.0
			MED		20.0		25.0
			MED—LOW		16.0		18.0
			LOW		13.0		13.0
			QUIET		9.0		10.0
Current		Cooling	Rated	A	2.5	3.8	4.8
		Heating			3.3	4.7	5.2
EER2		Cooling		Btu/hW	18.8	16.0	14.8
COP2		Heating		kW/kW	5.34	4.64	4.60
SEER2		Cooling		Btu/hW	33.1	30.5	27.5
HSPF2		Heating			13.3	12.7	
Power factor		Cooling		%	83.5	85.8	88.8
		Heating			87.0	93.4	96.2
Moisture removal				pints/h (L/h)	2.3 (1.1)	4.0 (1.9)	5.3 (2.5)
Maximum operating current*3		Cooling		A	9.4		9.9
		Heating			11.9		14.4
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	518 (880)		553 (940)
			MED—HIGH		453 (770)		494 (840)
			MED		388 (660)		441 (750)
			MED—LOW		347 (590)		371 (630)
			LOW		300 (510)		
			QUIET		200 (340)		230 (390)
		Heating	HIGH		571 (970)		594 (1,010)
			MED—HIGH		471 (800)		530 (900)
			MED		406 (690)		465 (790)
			MED—LOW		353 (600)		371 (630)
			LOW		300 (510)		
			QUIET		200 (340)		230 (390)
	Type × Qty				Crossflow fan × 1		
	Motor output			W	59		
Sound pressure level*4		Cooling	HIGH	dB (A)	43		45
			MED—HIGH		41		43
			MED		37		40
			MED—LOW		34		36
			LOW		31		
			QUIET		23		26
		Heating	HIGH		44		46
			MED—HIGH		41		44
			MED		37		41
			MED—LOW		34		35
			LOW		31		
			QUIET		23		26

WALL MOUNTED
ASUH09-24KZAS

Type				Wall mounted		
				Inverter, Heat pump		
Model name				ASUH09KZAS	ASUH12KZAS	ASUH15KZAS
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 8-1/4 × 31-5/16 × 1-1/16 (210 × 796 × 26.6) Main 2: 5-5/16 × 31-5/16 × 13/16 (135 × 796 × 20.0) Sub 1: 3-5/16 × 31-5/16 × 1/2 (84 × 796 × 13.3) Sub 2: 3-5/16 × 31-5/16 × 1/2 (84 × 796 × 13.3)		
		Fin pitch	FPI	Main1: 21 Main2: 23 Sub 1: 18 Sub 2: 18		
		Rows × Stages		Main1: 2 × 10 Main2: 2 × 8 Sub 1: 1 × 4 Sub 2: 1 × 4		
		Pipe type		Copper tube		
		Fin type		Aluminum		
Enclosure		Material		Polystyrene		
		Color		White Approximate color of Munsell N9.25/		
Dimensions (H × W × D)	Net		in (mm)	11 × 38-9/16 × 9-7/16 (280 × 980 × 240)		
	Gross			12-11/16 × 42-7/16 × 13-5/8 (322 × 1,078 × 346)		
Weight	Net		lb (kg)	28 (12.5)		
	Gross			36 (16.5)		
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		Ø1/2 (Ø12.70)
	Method			Flare		
Drain hose	Material			Polypropylene + High-density polyethylene		
	Tip diameter		in (mm)	Ø17/32 (Ø13.8) (I.D.), Ø19/32 to 21/32 (Ø15.0 to 16.8) (O.D.)		
Operation range		Cooling	°F (°C)	64 to 90 (18 to 32)		
			%RH	80 or less		
		Heating	°F (°C)	60 to 86 (16 to 30)		
Remote controller type				Wireless (Option: Wired, Mobile app*5 [AIRSTAGE Mobile])		

NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB).
  - Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (8.33°CDB/6.11°CWB).
  - *1: Heating (17°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°FWB (-8.33°CDB/-9.44°CWB).
  - *2: Heating (5°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°FWB (-15.0°CDB/-15.56°CWB).
  - Test conditions are based on AHRI 210/240 2023.
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: 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.
- *5: Available on Google Play™ store or on App Store®.

WALL MOUNTED
ASUH09-24KZAS

1-2. Models: ASUH18KZAS and ASUH24KZAS

Type					Wall mounted	
					Inverter, Heat pump	
Model name					ASUH18KZAS	ASUH24KZAS
Power supply intake					Outdoor unit	
System power supply		Voltage		V	208/230	
		Frequency		Hz	60	
		Available voltage range		V	187—253	
Indoor unit power supply (from outdoor unit)				V	208/230	
Capacity	Cooling		Rated	kW	5.28	6.45
				Btu/h	18,000	22,000
			Min.—Max.	kW	2.05—7.68	2.67—8.47
				Btu/h	7,000—26,200	9,100—28,900
	Heating	47°FDB (Outdoor temp.)	Rated	kW	6.33	7.39
				Btu/h	21,600	25,200
			Min.—Max.	kW	2.34—9.32	2.40—10.79
				Btu/h	8,000—31,800	8,200—36,800
		17°FDB (Outdoor temp.)*1	Rated	kW	3.99	4.66
				Btu/h	13,600	15,900
			Max.	kW	7.97	8.47
				Btu/h	27,200	28,900
		5°FDB (Outdoor temp.)*2	Rated	kW	7.27	7.38
				Btu/h	24,800	25,200
			Max.	kW	7.45	7.56
				Btu/h	25,400	25,800
Input power	Cooling		Rated	kW	1.29	1.76
			Min.—Max.		0.40—2.45	0.40—3.05
	Heating	47°FDB (Outdoor temp.)	Rated		1.45	1.86
			Min.—Max.		0.43—2.90	0.43—3.55
		17°FDB (Outdoor temp.)*1	Rated		1.20	1.50
			Max.		3.47	3.63
		5°FDB (Outdoor temp.)*2	Rated		3.50	3.45
			Max.		3.69	3.67
	Fan		HIGH	W	27.4	
			MED—HIGH		21.8	
			MED		17.0	
			MED—LOW		13.5	
			LOW		10.9	
			QUIET		7.8	
Current		Cooling	Rated	A	5.9	7.8
		Heating			6.5	8.3
EER2		Cooling		Btu/hW	14.0	12.5
COP2		Heating		kW/kW	4.36	3.96
SEER2		Cooling		Btu/hW	25.5	24.0
HSPF2		Heating			12.5	11.9
Power factor		Cooling		%	95.1	98.1
		Heating			97.0	97.4
Moisture removal				pints/h (L/h)	7.6 (3.6)	8.7 (4.1)
Maximum operating current*3		Cooling		A	15.4	
		Heating			15.9	
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	624 (1,060)	
			MED—HIGH		571 (970)	
			MED		518 (880)	
			MED—LOW		471 (800)	
			LOW		430 (730)	
			QUIET		371 (630)	
		Heating	HIGH		677 (1,150)	706 (1,200)
			MED—HIGH		583 (990)	612 (1,040)
			MED		518 (880)	
			MED—LOW		471 (800)	
			LOW		430 (730)	
			QUIET		371 (630)	
	Type × Qty				Crossflow fan × 1	
	Motor output			W	78	
Sound pressure level*4		Cooling	HIGH	dB (A)	44	
			MED—HIGH		42	
			MED		39	
			MED—LOW		36	
			LOW		33	
			QUIET		30	
		Heating	HIGH		46	47
			MED—HIGH		42	43
			MED		38	
			MED—LOW		36	
			LOW		34	
			QUIET		30	
Heat exchanger type		Dimensions (H × W × D)		in (mm)	18-3/16 × 35-3/8 × 1-1/16 (462 × 898 × 26.6)	
		Fin pitch		FPI	21	
		Rows × Stages			2 × 22	
		Pipe type			Copper tube	
		Fin type			Aluminum	
Enclosure		Material			Polystyrene	
		Color			White Approximate color of Munsell N9.25/	
Dimensions (H × W × D)	Net			in (mm)	13-3/8 × 45-1/4 × 11 (340 × 1,150 × 280)	
	Gross				15-15/16 × 50 × 17-11/16 (405 × 1,270 × 450)	
Weight	Net			lb (kg)	36 (16.5)	
	Gross				49 (22.0)	

WALL MOUNTED
ASUH09-24KZAS

Type				Wall mounted	
				Inverter, Heat pump	
Model name				ASUH18KZAS	ASUH24KZAS
Connection pipe	Size	Liquid	in (mm)	Ø3/8 (Ø9.52)	
		Gas		Ø5/8 (Ø15.88)	
	Method			Flare	
Drain hose	Material			Polypropylene + High-density polyethylene	
	Tip diameter		in (mm)	Ø17/32 (Ø13.8) (I.D.), Ø19/32 to 21/32 (Ø15.0 to 16.8) (O.D.)	
Operation range		Cooling	°F (°C)	64 to 90 (18 to 32)	
			%RH	80 or less	
		Heating	°F (°C)	86 or less (30 or less)	
Remote controller type				Wireless (Option: Wired, Mobile app*5 [AIRSTAGE Mobile])	

NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB).
  - Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (8.33°CDB/6.11°CWB).
  - *1: Heating (17°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°FWB (-8.33°CDB/-9.44°CWB).
  - *2: Heating (5°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°FWB (-15.0°CDB/-15.56°CWB).
  - Test conditions are based on AHRI 210/240 2023.
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: 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.
- *5: Available on Google Play™ store or on App Store®.

WALL MOUNTED
ASUH09-24KZAS

2. Wireless LAN control

By installing mobile app on a smart device, several functions can be controlled from outside the house.

2-1. System requirement

Before using this function, prepare the following items:

- **Wireless router:**

Wireless LAN standard	IEEE802.11b/g/n
Frequency bands*	• U.S.A., Canada: 2.4 GHz (1ch—11ch) • Other countries: 2.4 GHz (1ch—13ch)
Network security standard	• Open • WEP • WPA (PSK) • WPA2 Personal (PSK) • WPS for same-LAN registration

*: Usable only in the country or region where you purchased the product.

To check whether your wireless router complies with the network security standards listed above, refer to the operation manual.

- **Smartphone:**

App-compliant operating system	iOS	Check the latest version of supported OS at Google Play store or App Store.
	Android™	

- **AIRSTAGE Mobile (mobile application):**
  Mobile app is available on Google Play store or on App Store.
  After installation of mobile app, user registration is required. For user registration and setup information, refer to Setting Manual attached with the product.

For the latest version of the wireless LAN control manuals, refer to the following web site.
https://www.fujitsu-general.com/global/support/

WALL MOUNTED
ASUH09-24KZAS

2-2. Wireless LAN function list

NOTE: To use the wireless LAN control, user registration in advance and access to the wireless home network are required.

Item			Mobile app	Attached Wireless Remote Controller
Air conditioning control function	Operation on/off		○	○
	Operation mode setting		○	○
	Set temperature setting		○	○
	Fan speed setting		○	○
	Airflow direction setting	Louver position adjustment • Up/down	○	○
		Swing • Up/down	○	○
	Timer operation	Off timer	—	○
		On timer	—	○
		Sleep timer	—	○
		On/off program timer	—	○
		Weekly timer	○	—
Additional function	POWERFUL operation setting		○*	○*
	ECONOMY operation setting		○	○
	MIN. HEAT operation setting		○*	○*
	INDIVIDUAL AUTO operation setting		—	○*
	Room temperature indication		○	—
	Fan control for energy saving		○	○
	Human sensor for energy saving setting		○	○
	Outdoor unit low noise operation setting		○*	○*

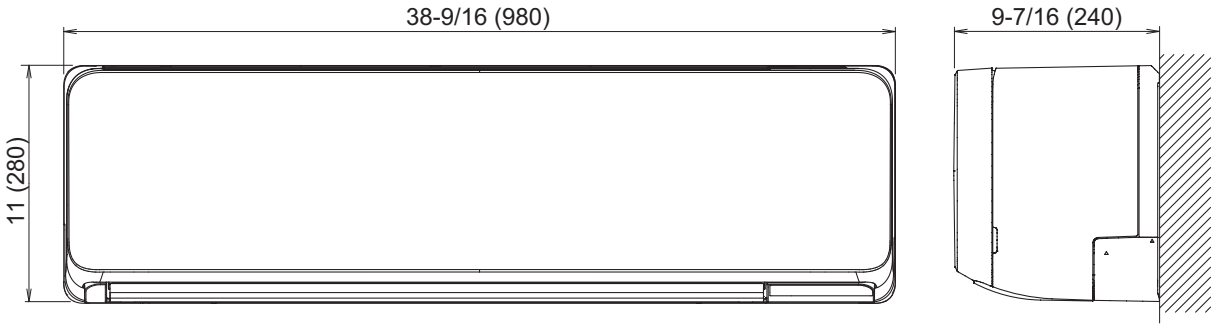
*: Not operable when Wired Remote Controller is connected.

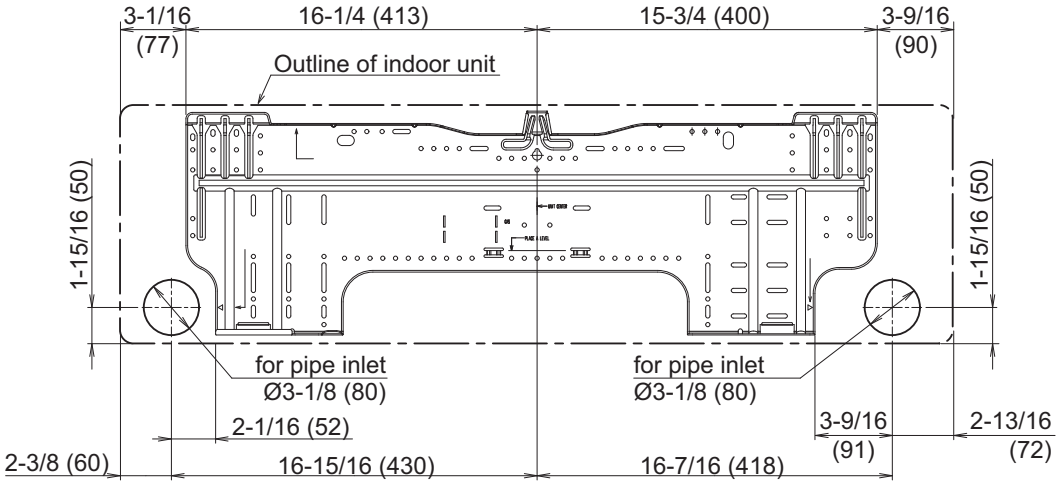
WALL MOUNTED
ASUH09-24KZAS

3. Dimensions

3-1. Models: ASUH09KZAS, ASUH12KZAS, and ASUH15KZAS

Unit: in (mm)



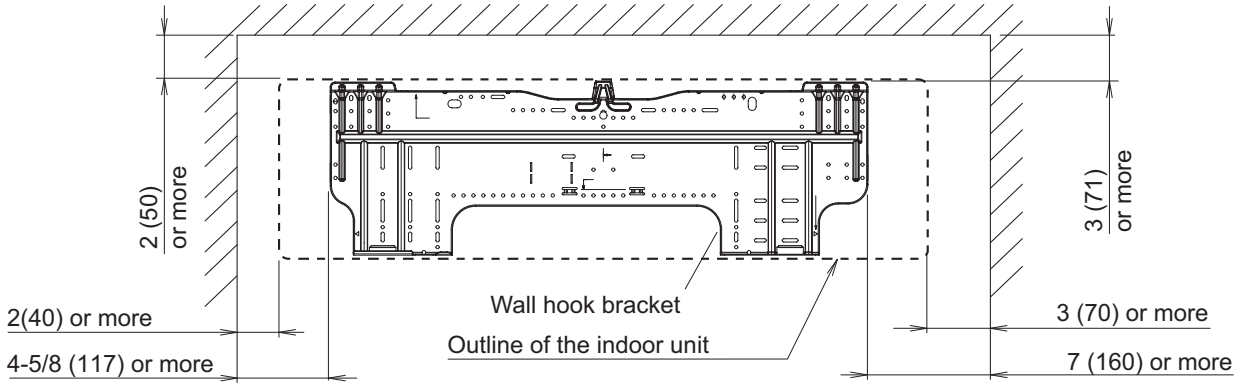


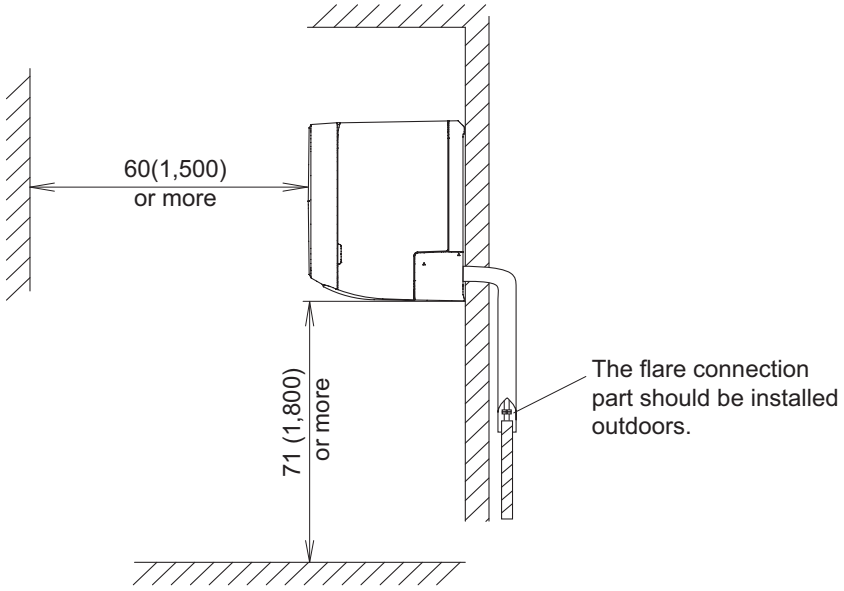
WALL MOUNTED
ASUH09-24KZAS

■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: in (mm)

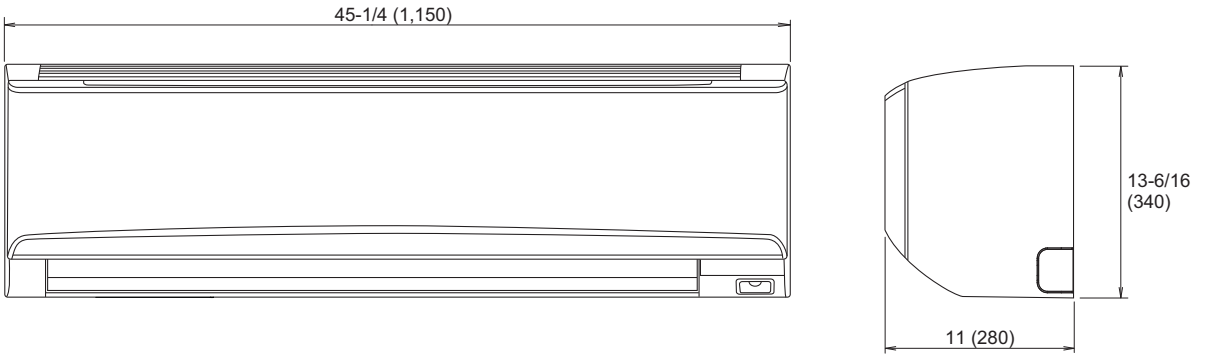


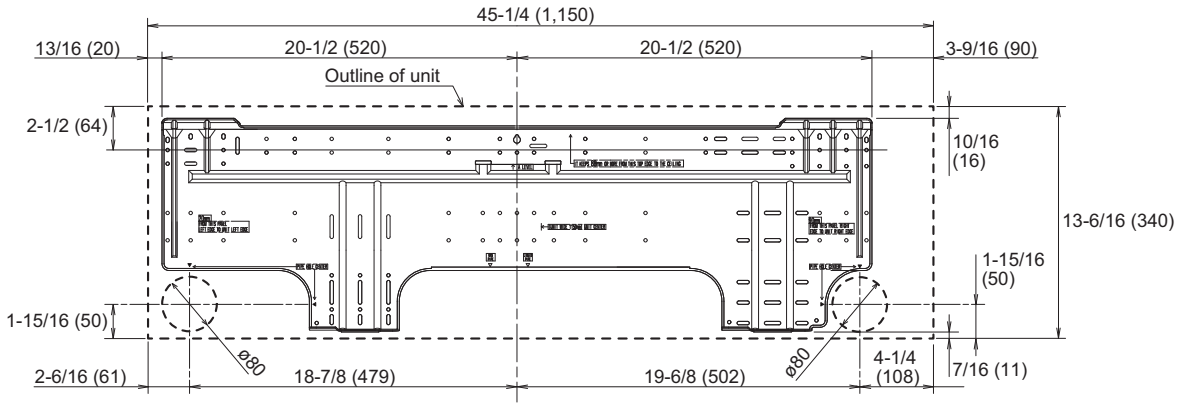


WALL MOUNTED
ASUH09-24KZAS

3-2. Models: ASUH18KZAS and ASUH24KZAS

Unit: in (mm)





WALL MOUNTED
ASUH09-24KZAS

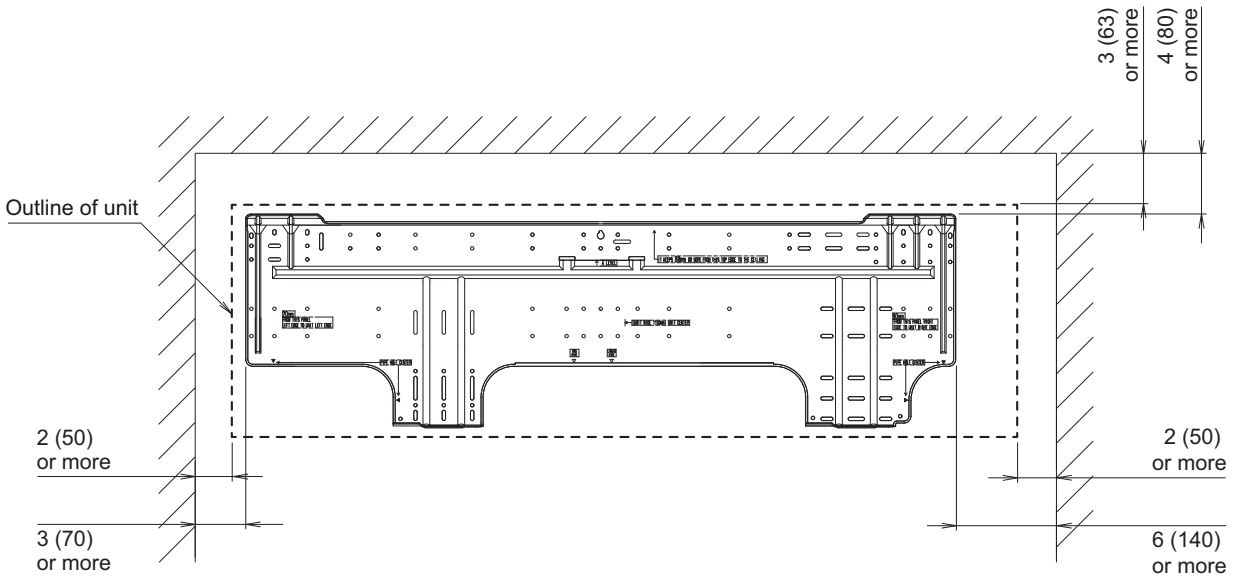
■ Installation space requirement

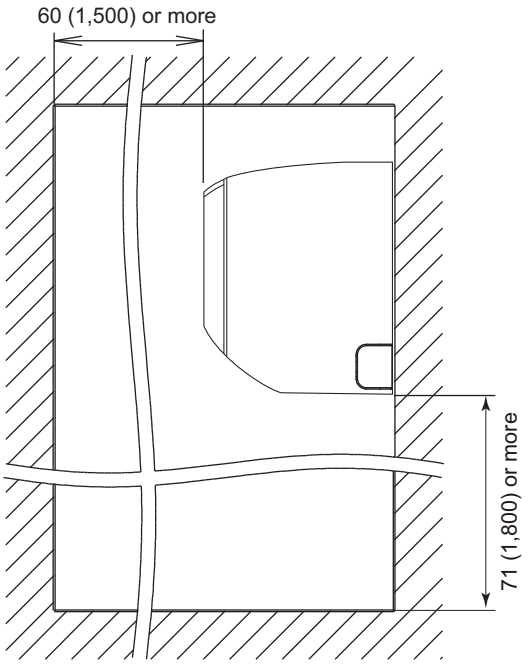
Provide sufficient installation space for product safety.

⚠ 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.

Unit: in (mm)





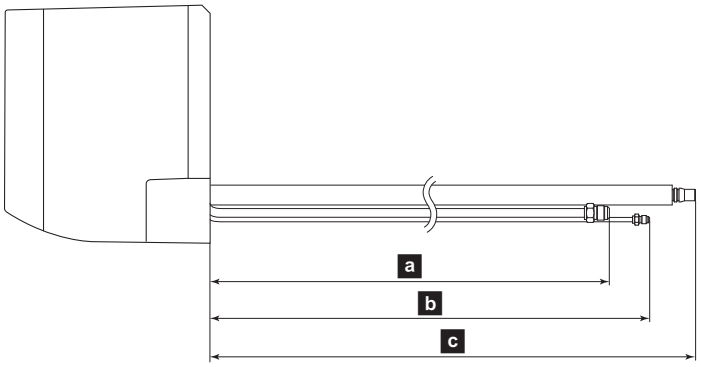
WALL MOUNTED
ASUH09-24KZAS

3-3. Pipe exit length from the rear

Design the system considering the length of the pipes or hose exiting from the rear of the indoor unit.

NOTE: Detailed shapes of the indoor unit and the tip of each pipe or hose may vary depending on the model.

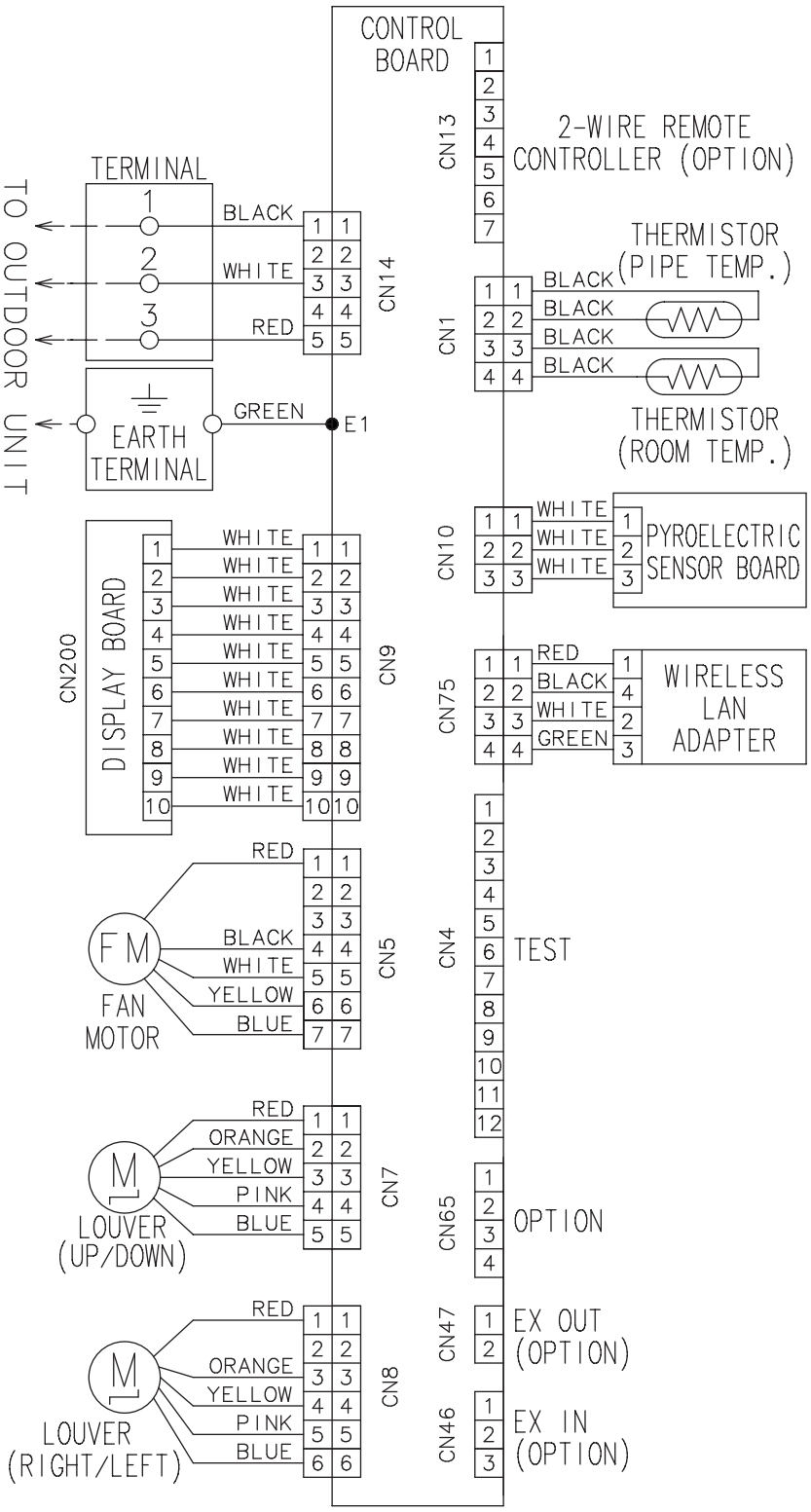
Unit: in (mm)



Model name	Approximate length		
	a Gas pipe	b Liquid pipe	c Drain hose
ASUH09-15KZAS	16-15/16 (430)	19-1/8 (485)	18-1/2 (470)
ASUH18-24KZAS	21-7/8 (555)	19-1/8 (485)	20-1/4 (515)

4. Wiring diagrams

4-1. Models: ASUH09KZAS, ASUH12KZAS, ASUH15KZAS, ASUH18KZAS, and ASUH24KZAS



WALL MOUNTED
ASUH09-24KZAS

5. 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)

5-1. Cooling capacity

■ Model: ASUH09KZAS

AFR	CFM	518

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	14	8.50	7.85	0.34	9.41	8.69	0.35	9.87	9.12	0.35	10.57	9.76	0.36	11.37	10.50	0.36	11.77	10.88	0.37
	23	7.80	7.55	0.39	8.63	8.36	0.40	9.06	8.77	0.40	9.70	9.39	0.41	10.43	10.10	0.41	10.81	10.46	0.42
	32	8.86	8.03	0.33	9.80	8.89	0.33	10.29	9.33	0.33	11.01	9.99	0.34	11.85	10.74	0.34	12.27	11.13	0.35
	41	8.50	8.13	0.40	9.40	9.00	0.40	9.87	9.45	0.41	10.57	10.11	0.42	11.36	10.88	0.42	11.77	11.26	0.42
	50	7.58	7.48	0.31	8.39	8.28	0.31	8.80	8.69	0.31	9.42	9.30	0.32	10.14	10.00	0.32	10.50	10.36	0.33
	59	7.61	7.53	0.40	8.42	8.33	0.40	8.84	8.74	0.41	9.46	9.36	0.41	10.18	10.07	0.42	10.54	10.42	0.42
	67	8.38	7.74	0.25	9.28	8.56	0.25	9.74	8.99	0.26	10.43	9.62	0.26	11.21	10.35	0.26	11.61	10.72	0.27
	77	7.97	7.43	0.33	8.82	8.23	0.33	9.26	8.64	0.34	9.91	9.24	0.34	10.66	9.94	0.35	11.04	10.30	0.35
	87	7.56	7.38	0.41	8.36	8.16	0.41	8.78	8.57	0.41	9.40	9.17	0.42	10.11	9.87	0.43	10.47	10.22	0.43
	95	7.23	6.89	0.47	8.01	7.63	0.47	8.40	8.01	0.48	9.00	8.57	0.48	9.68	9.22	0.49	10.02	9.55	0.49
	104	6.89	6.65	0.53	7.63	7.36	0.54	8.01	7.73	0.54	8.57	8.27	0.55	9.22	8.90	0.56	9.55	9.22	0.56
	115	6.27	6.13	0.61	6.94	6.78	0.62	7.28	7.12	0.63	7.80	7.62	0.64	8.39	8.20	0.65	8.68	8.49	0.65
	122	5.85	5.85	0.67	6.48	6.48	0.68	6.80	6.80	0.68	7.28	7.28	0.70	7.83	7.83	0.70	8.11	8.11	0.71

AFR	m^3/h	880

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW		
	-10.0	2.49	2.30	0.34	2.75	2.54	0.35	2.89	2.67	0.35	3.09	2.86	0.36	3.33	3.07	0.36	3.44	3.18	0.37
	-5.0	2.28	2.21	0.39	2.52	2.45	0.40	2.65	2.57	0.40	2.84	2.75	0.41	3.05	2.96	0.41	3.16	3.06	0.42
	0.0	2.59	2.35	0.33	2.87	2.60	0.33	3.01	2.73	0.33	3.22	2.92	0.34	3.47	3.14	0.34	3.59	3.26	0.35
	5.0	2.49	2.38	0.40	2.75	2.63	0.40	2.89	2.76	0.41	3.09	2.96	0.42	3.32	3.18	0.42	3.44	3.29	0.42
	10.0	2.22	2.19	0.31	2.45	2.42	0.31	2.57	2.54	0.31	2.76	2.72	0.32	2.97	2.93	0.32	3.07	3.03	0.33
	15.0	2.23	2.20	0.40	2.46	2.44	0.40	2.59	2.56	0.41	2.77	2.74	0.41	2.98	2.95	0.42	3.08	3.05	0.42
	19.4	2.45	2.26	0.25	2.71	2.50	0.25	2.85	2.63	0.26	3.05	2.81	0.26	3.28	3.03	0.26	3.40	3.14	0.27
	25.0	2.33	2.17	0.33	2.58	2.41	0.33	2.71	2.53	0.34	2.90	2.70	0.34	3.12	2.91	0.35	3.23	3.01	0.35
	30.6	2.21	2.16	0.41	2.45	2.39	0.41	2.57	2.51	0.41	2.75	2.68	0.42	2.96	2.89	0.43	3.06	2.99	0.43
	35.0	2.11	2.01	0.47	2.34	2.23	0.47	2.46	2.34	0.48	2.64	2.51	0.48	2.83	2.70	0.49	2.93	2.79	0.49
	40.0	2.01	1.94	0.53	2.23	2.15	0.54	2.34	2.26	0.54	2.51	2.42	0.55	2.70	2.60	0.56	2.79	2.70	0.56
	46.1	1.83	1.79	0.61	2.03	1.98	0.62	2.13	2.08	0.63	2.28	2.23	0.64	2.45	2.40	0.65	2.54	2.48	0.65
	50.0	1.71	1.71	0.67	1.89	1.89	0.68	1.99	1.99	0.68	2.13	2.13	0.70	2.29	2.29	0.70	2.37	2.37	0.71

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH12KZAS

AFR	CFM	518

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	14	9.22	8.25	0.61	10.20	9.13	0.62	10.71	9.59	0.62	11.47	10.26	0.63	12.33	11.04	0.64	12.77	11.43	0.65
	23	8.47	7.94	0.69	9.37	8.78	0.70	9.83	9.22	0.71	10.53	9.87	0.72	11.32	10.61	0.73	11.72	10.99	0.74
	32	9.82	8.43	0.52	10.87	9.33	0.53	11.41	9.79	0.54	12.22	10.48	0.55	13.14	11.27	0.55	13.61	11.67	0.56
	41	9.16	8.17	0.65	10.14	9.04	0.66	10.64	9.49	0.66	11.39	10.16	0.68	12.25	10.93	0.68	12.69	11.32	0.69
	50	9.96	8.43	0.46	11.02	9.33	0.46	11.57	9.79	0.47	12.38	10.48	0.48	13.32	11.27	0.48	13.80	11.67	0.49
	59	10.00	8.48	0.59	11.07	9.38	0.60	11.62	9.85	0.61	12.43	10.54	0.62	13.37	11.34	0.62	13.85	11.74	0.63
	67	11.33	8.97	0.44	12.53	9.93	0.44	13.16	10.42	0.45	14.08	11.15	0.45	15.15	12.00	0.46	15.69	12.42	0.46
	77	10.72	8.66	0.54	11.87	9.58	0.55	12.46	10.06	0.55	13.33	10.77	0.56	14.34	11.58	0.57	14.85	11.99	0.57
	87	10.12	8.35	0.64	11.20	9.24	0.65	11.76	9.70	0.66	12.58	10.38	0.67	13.54	11.16	0.68	14.02	11.56	0.68
	95	9.65	8.10	0.72	10.68	8.97	0.73	11.21	9.41	0.74	12.00	10.08	0.75	12.90	10.84	0.76	13.36	11.22	0.77
	104	9.42	8.27	0.81	10.43	9.15	0.81	10.94	9.61	0.82	11.71	10.28	0.84	12.60	11.06	0.85	13.05	11.46	0.86
	115	8.62	8.03	0.92	9.54	8.89	0.93	10.01	9.33	0.94	10.72	9.99	0.96	11.53	10.74	0.97	11.94	11.12	0.98
	122	8.08	7.87	0.99	8.94	8.71	1.00	9.39	9.14	1.02	10.05	9.79	1.04	10.81	10.53	1.05	11.19	10.90	1.06

AFR	m^3/h	880

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW		
	-10.0	2.70	2.41	0.61	2.98	2.67	0.62	3.13	2.81	0.62	3.36	3.00	0.63	3.61	3.23	0.64	3.74	3.34	0.65
	-5.0	2.48	2.32	0.69	2.74	2.57	0.70	2.88	2.70	0.71	3.08	2.89	0.72	3.31	3.10	0.73	3.43	3.22	0.74
	0.0	2.87	2.47	0.52	3.18	2.73	0.53	3.34	2.86	0.54	3.58	3.07	0.55	3.85	3.30	0.55	3.98	3.42	0.56
	5.0	2.68	2.39	0.65	2.97	2.64	0.66	3.11	2.78	0.66	3.33	2.97	0.68	3.59	3.20	0.68	3.71	3.31	0.69
	10.0	2.91	2.47	0.46	3.22	2.73	0.46	3.39	2.86	0.47	3.62	3.07	0.48	3.90	3.30	0.48	4.04	3.42	0.49
	15.0	2.93	2.48	0.59	3.24	2.74	0.60	3.40	2.88	0.61	3.64	3.08	0.62	3.91	3.32	0.62	4.05	3.44	0.63
	19.4	3.32	2.62	0.44	3.67	2.91	0.44	3.85	3.05	0.45	4.12	3.26	0.45	4.44	3.51	0.46	4.59	3.63	0.46
	25.0	3.14	2.53	0.54	3.47	2.80	0.55	3.65	2.94	0.55	3.90	3.15	0.56	4.20	3.39	0.57	4.35	3.51	0.57
	30.6	2.96	2.44	0.64	3.28	2.70	0.65	3.44	2.84	0.66	3.68	3.04	0.67	3.96	3.27	0.68	4.10	3.38	0.68
	35.0	2.82	2.37	0.72	3.12	2.62	0.73	3.28	2.75	0.74	3.52	2.95	0.75	3.78	3.17	0.76	3.91	3.28	0.77
	40.0	2.76	2.42	0.81	3.05	2.68	0.81	3.20	2.81	0.82	3.43	3.01	0.84	3.69	3.24	0.85	3.82	3.35	0.86
	46.1	2.52	2.35	0.92	2.79	2.60	0.93	2.93	2.73	0.94	3.14	2.92	0.96	3.37	3.14	0.97	3.49	3.25	0.98
	50.0	2.36	2.30	0.99	2.62	2.55	1.00	2.75	2.67	1.02	2.94	2.86	1.04	3.16	3.08	1.05	3.27	3.19	1.06

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH15KZAS

AFR	CFM	553

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	14	13.01	9.98	0.52	14.40	11.04	0.52	15.11	11.59	0.53	16.18	12.41	0.54	17.40	13.34	0.55	18.02	13.82	0.55
	23	11.95	9.60	0.59	13.22	10.62	0.60	13.87	11.15	0.60	14.85	11.93	0.62	15.97	12.83	0.62	16.54	13.29	0.63
	32	13.32	10.11	0.54	14.74	11.19	0.54	15.47	11.74	0.55	16.56	12.57	0.56	17.82	13.52	0.56	18.45	14.00	0.57
	41	12.63	9.85	0.65	13.98	10.90	0.65	14.67	11.44	0.66	15.70	12.25	0.67	16.89	13.17	0.68	17.49	13.64	0.69
	50	13.49	10.17	0.50	14.93	11.25	0.51	15.67	11.81	0.51	16.78	12.64	0.53	18.05	13.60	0.53	18.69	14.08	0.54
	59	13.55	10.23	0.65	14.99	11.32	0.66	15.74	11.88	0.67	16.85	12.72	0.68	18.12	13.68	0.69	18.76	14.17	0.69
	67	13.82	10.31	0.59	15.29	11.41	0.59	16.05	11.97	0.60	17.18	12.82	0.61	18.48	13.78	0.62	19.14	14.28	0.62
	77	13.04	9.78	0.72	14.43	10.82	0.72	15.15	11.36	0.73	16.22	12.16	0.75	17.44	13.08	0.75	18.06	13.55	0.76
	87	12.27	9.26	0.84	13.58	10.24	0.85	14.25	10.75	0.86	15.25	11.51	0.88	16.41	12.38	0.89	16.99	12.82	0.90
	95	11.66	8.84	0.95	12.90	9.79	0.96	13.54	10.27	0.97	14.50	11.00	0.98	15.59	11.83	0.99	16.15	12.25	1.00
	104	11.43	9.22	1.03	12.64	10.21	1.04	13.27	10.71	1.05	14.21	11.47	1.07	15.28	12.34	1.09	15.82	12.78	1.10
	115	10.48	9.04	1.17	11.59	10.00	1.18	12.17	10.50	1.19	13.03	11.24	1.22	14.01	12.09	1.23	14.51	12.52	1.24
	122	9.84	8.78	1.26	10.89	9.72	1.27	11.43	10.20	1.29	12.24	10.92	1.31	13.16	11.75	1.32	13.63	12.17	1.34

AFR	m^3/h	940

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW		
	-10.0	3.81	2.92	0.52	4.22	3.23	0.52	4.42	3.39	0.53	4.74	3.63	0.54	5.09	3.90	0.55	5.28	4.05	0.55
	-5.0	3.50	2.81	0.59	3.87	3.11	0.60	4.06	3.26	0.60	4.35	3.49	0.62	4.68	3.76	0.62	4.84	3.89	0.63
	0.0	3.90	2.96	0.54	4.31	3.27	0.54	4.53	3.44	0.55	4.85	3.68	0.56	5.22	3.96	0.56	5.40	4.10	0.57
	5.0	3.70	2.88	0.65	4.09	3.19	0.65	4.29	3.35	0.66	4.60	3.59	0.67	4.94	3.85	0.68	5.12	3.99	0.69
	10.0	3.95	2.98	0.50	4.37	3.29	0.51	4.59	3.46	0.51	4.91	3.70	0.53	5.28	3.98	0.53	5.47	4.12	0.54
	15.0	3.97	2.99	0.65	4.39	3.31	0.66	4.61	3.48	0.67	4.93	3.72	0.68	5.31	4.00	0.69	5.49	4.15	0.69
	19.4	4.05	3.02	0.59	4.48	3.34	0.59	4.70	3.50	0.60	5.03	3.75	0.61	5.41	4.03	0.62	5.60	4.18	0.62
	25.0	3.82	2.86	0.72	4.22	3.17	0.72	4.44	3.32	0.73	4.75	3.56	0.75	5.11	3.83	0.75	5.29	3.97	0.76
	30.6	3.59	2.71	0.84	3.97	3.00	0.85	4.17	3.15	0.86	4.46	3.37	0.88	4.80	3.62	0.89	4.97	3.75	0.90
	35.0	3.41	2.59	0.95	3.78	2.86	0.96	3.96	3.00	0.97	4.25	3.22	0.98	4.56	3.46	0.99	4.73	3.59	1.00
	40.0	3.34	2.70	1.03	3.70	2.99	1.04	3.88	3.13	1.05	4.16	3.36	1.07	4.47	3.61	1.09	4.63	3.74	1.10
	46.1	3.07	2.64	1.17	3.39	2.93	1.18	3.56	3.07	1.19	3.81	3.29	1.22	4.10	3.54	1.23	4.25	3.66	1.24
	50.0	2.88	2.57	1.26	3.19	2.84	1.27	3.34	2.98	1.29	3.58	3.20	1.31	3.85	3.44	1.32	3.99	3.56	1.34

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH18KZAS

AFR	CFM	624

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	14	16.20	13.15	0.36	18.12	12.95	0.36	19.10	14.12	0.37	20.45	14.59	0.37	21.97	14.81	0.37	22.70	16.41	0.38
	23	15.36	12.72	0.46	17.18	12.53	0.47	18.11	13.67	0.48	19.40	14.11	0.48	20.83	14.33	0.49	21.53	15.88	0.49
	32	14.73	12.43	0.58	16.47	12.25	0.59	17.36	13.36	0.60	18.60	13.79	0.60	19.97	14.00	0.61	20.64	15.51	0.61
	41	13.77	11.17	0.68	15.40	11.00	0.70	16.23	12.00	0.71	17.38	12.39	0.71	18.67	12.58	0.72	19.30	13.94	0.72
	50	13.62	11.32	0.76	15.23	11.16	0.78	16.05	12.16	0.79	17.19	12.56	0.79	18.47	12.75	0.80	19.09	14.13	0.80
	59	13.74	11.38	0.84	15.37	11.22	0.85	16.20	12.23	0.86	17.35	12.63	0.87	18.64	12.82	0.88	19.26	14.21	0.88
	67	16.70	14.00	0.87	18.67	13.79	0.89	19.68	15.03	0.90	21.08	15.53	0.91	22.65	15.76	0.92	23.40	17.47	0.92
	77	15.94	13.59	1.00	17.82	13.39	1.02	18.79	14.60	1.03	20.12	15.08	1.04	21.62	15.31	1.05	22.34	16.96	1.05
	87	15.15	13.18	1.13	16.95	12.98	1.15	17.86	14.16	1.16	19.14	14.62	1.18	20.55	14.84	1.19	21.24	16.45	1.19
	95	14.27	12.70	1.24	15.96	12.51	1.26	16.82	13.64	1.28	18.00	14.10	1.29	19.35	14.30	1.30	20.00	15.85	1.30
	104	13.59	12.36	1.38	15.19	12.18	1.40	16.02	13.28	1.42	17.16	13.72	1.43	18.43	13.92	1.45	19.04	15.43	1.45
	115	12.40	11.78	1.54	13.87	11.60	1.57	14.62	12.65	1.59	15.66	13.07	1.61	16.82	13.26	1.62	17.38	14.69	1.62
	122	10.23	10.23	1.19	11.44	11.44	1.21	12.06	12.06	1.23	12.91	12.91	1.24	13.87	13.87	1.25	14.33	14.33	1.25

AFR	m^3/h	1,060

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW		
	-10.0	4.75	3.85	0.36	5.31	3.80	0.36	5.60	4.14	0.37	5.99	4.28	0.37	6.44	4.34	0.37	6.65	4.81	0.38
	-5.0	4.50	3.73	0.46	5.03	3.67	0.47	5.31	4.01	0.48	5.68	4.14	0.48	6.11	4.20	0.49	6.31	4.65	0.49
	0.0	4.32	3.64	0.58	4.83	3.59	0.59	5.09	3.91	0.60	5.45	4.04	0.60	5.85	4.10	0.61	6.05	4.55	0.61
	5.0	4.04	3.27	0.68	4.51	3.22	0.70	4.76	3.52	0.71	5.10	3.63	0.71	5.47	3.69	0.72	5.66	4.08	0.72
	10.0	3.99	3.32	0.76	4.46	3.27	0.78	4.70	3.56	0.79	5.04	3.68	0.79	5.41	3.74	0.80	5.59	4.14	0.80
	15.0	4.03	3.34	0.84	4.50	3.29	0.85	4.75	3.58	0.86	5.09	3.70	0.87	5.46	3.76	0.88	5.64	4.16	0.88
	19.4	4.89	4.10	0.87	5.47	4.04	0.89	5.77	4.41	0.90	6.18	4.55	0.91	6.64	4.62	0.92	6.86	5.12	0.92
	25.0	4.67	3.98	1.00	5.22	3.93	1.02	5.51	4.28	1.03	5.90	4.42	1.04	6.34	4.49	1.05	6.55	4.97	1.05
	30.6	4.44	3.86	1.13	4.97	3.81	1.15	5.24	4.15	1.16	5.61	4.29	1.18	6.02	4.35	1.19	6.23	4.82	1.19
	35.0	4.18	3.72	1.24	4.68	3.67	1.26	4.93	4.00	1.28	5.28	4.13	1.29	5.67	4.19	1.30	5.86	4.65	1.30
	40.0	3.98	3.62	1.38	4.45	3.57	1.40	4.69	3.89	1.42	5.03	4.02	1.43	5.40	4.08	1.45	5.58	4.52	1.45
	46.1	3.63	3.45	1.54	4.06	3.40	1.57	4.28	3.71	1.59	4.59	3.83	1.61	4.93	3.89	1.62	5.09	4.31	1.62
	50.0	3.00	3.00	1.19	3.35	3.35	1.21	3.53	3.53	1.23	3.78	3.78	1.24	4.07	4.07	1.25	4.20	4.20	1.25

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH24KZAS

AFR	CFM	624

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	14	19.67	13.54	0.94	21.53	14.81	0.95	23.59	16.23	0.97	24.32	16.73	0.98	25.92	17.83	0.99	27.63	19.01	1.00
	23	17.86	12.54	1.25	19.54	13.72	1.26	21.42	15.04	1.29	22.08	15.50	1.30	23.52	16.52	1.32	25.08	17.61	1.33
	32	16.95	12.13	1.39	18.55	13.27	1.40	20.32	14.55	1.43	20.95	14.99	1.44	22.33	15.98	1.46	23.80	17.03	1.47
	41	18.13	12.46	1.31	19.83	13.64	1.33	21.74	14.94	1.36	22.41	15.40	1.37	23.87	16.41	1.38	25.45	17.50	1.40
	50	19.13	13.49	1.24	20.94	14.77	1.25	22.94	16.18	1.28	23.65	16.68	1.29	25.20	17.77	1.31	26.87	18.95	1.32
	59	20.19	14.17	1.10	22.09	15.50	1.11	24.21	16.99	1.13	24.95	17.51	1.14	26.59	18.66	1.15	28.35	19.90	1.17
	67	20.41	14.56	1.05	22.33	15.93	1.07	24.47	17.46	1.09	25.23	18.00	1.10	26.88	19.18	1.11	28.66	20.45	1.12
	77	19.80	13.72	1.36	21.66	15.02	1.38	23.74	16.46	1.41	24.47	16.96	1.42	26.08	18.08	1.43	27.80	19.27	1.45
	87	18.86	13.31	1.52	20.63	14.57	1.53	22.61	15.96	1.56	23.31	16.46	1.58	24.84	17.54	1.60	26.48	18.69	1.61
	95	17.80	12.86	1.69	19.48	14.07	1.71	21.35	15.42	1.74	22.00	15.90	1.76	23.45	16.94	1.78	25.00	18.06	1.80
	104	16.64	12.42	1.85	18.21	13.59	1.87	19.96	14.90	1.91	20.57	15.36	1.93	21.92	16.36	1.95	23.37	17.44	1.97
	115	12.67	10.92	1.55	13.86	11.95	1.56	15.19	13.10	1.59	15.66	13.50	1.61	16.68	14.39	1.63	17.79	15.34	1.64
	122	10.45	10.44	1.19	11.43	11.43	1.20	12.53	12.52	1.22	12.91	12.91	1.24	13.76	13.76	1.25	14.67	14.67	1.26

AFR	m^3/h	1,060

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW		
	-10.0	5.77	3.97	0.94	6.31	4.34	0.95	6.91	4.76	0.97	7.13	4.90	0.98	7.60	5.23	0.99	8.10	5.57	1.00
	-5.0	5.23	3.68	1.25	5.73	4.02	1.26	6.28	4.41	1.29	6.47	4.54	1.30	6.89	4.84	1.32	7.35	5.16	1.33
	0.0	4.97	3.56	1.39	5.44	3.89	1.40	5.96	4.26	1.43	6.14	4.39	1.44	6.54	4.68	1.46	6.98	4.99	1.47
	5.0	5.31	3.65	1.31	5.81	4.00	1.33	6.37	4.38	1.36	6.57	4.51	1.37	7.00	4.81	1.38	7.46	5.13	1.40
	10.0	5.61	3.95	1.24	6.14	4.33	1.25	6.72	4.74	1.28	6.93	4.89	1.29	7.39	5.21	1.31	7.87	5.55	1.32
	15.0	5.92	4.15	1.10	6.47	4.54	1.11	7.09	4.98	1.13	7.31	5.13	1.14	7.79	5.47	1.15	8.31	5.83	1.17
	19.4	5.98	4.27	1.05	6.54	4.67	1.07	7.17	5.12	1.09	7.39	5.28	1.10	7.88	5.62	1.11	8.40	5.99	1.12
	25.0	5.80	4.02	1.36	6.35	4.40	1.38	6.96	4.82	1.41	7.17	4.97	1.42	7.64	5.30	1.43	8.15	5.65	1.45
	30.6	5.53	3.90	1.52	6.05	4.27	1.53	6.63	4.68	1.56	6.83	4.82	1.58	7.28	5.14	1.60	7.76	5.48	1.61
	35.0	5.22	3.77	1.69	5.71	4.13	1.71	6.26	4.52	1.74	6.45	4.66	1.76	6.87	4.97	1.78	7.33	5.29	1.80
	40.0	4.88	3.64	1.85	5.34	3.98	1.87	5.85	4.37	1.91	6.03	4.50	1.93	6.43	4.80	1.95	6.85	5.11	1.97
	46.1	3.71	3.20	1.55	4.06	3.50	1.56	4.45	3.84	1.59	4.59	3.96	1.61	4.89	4.22	1.63	5.21	4.50	1.64
	50.0	3.06	3.06	1.19	3.35	3.35	1.20	3.67	3.67	1.22	3.78	3.78	1.24	4.03	4.03	1.25	4.30	4.30	1.26

WALL MOUNTED
ASUH09-24KZAS

5-2. Heating capacity

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

■ Model: ASUH09KZAS

AFR	CFM	571

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
Outdoor temperature	-15	-17	12.02	1.90	11.71	1.93	11.40	1.97	11.08	2.01	10.77	2.05
	-5	-7	14.60	1.84	14.22	1.87	13.84	1.91	13.45	1.95	13.07	1.99
	5	3	16.25	1.92	15.82	1.96	15.40	2.00	14.97	2.04	14.54	2.08
	14	12	17.97	1.96	17.50	2.00	17.03	2.05	16.56	2.08	16.09	2.12
	23	19	19.69	2.00	19.17	2.04	18.66	2.09	18.14	2.13	17.63	2.17
	32	28	21.41	2.04	20.85	2.08	20.29	2.13	19.73	2.17	19.17	2.21
	41	37	23.13	2.08	22.52	2.12	21.92	2.17	21.31	2.21	20.71	2.25
	47	43	24.27	2.11	23.63	2.15	23.00	2.19	22.36	2.24	21.72	2.28
	50	47	25.64	1.94	24.97	1.97	24.30	2.02	23.62	2.05	22.95	2.09
	59	50	21.43	1.11	20.87	1.14	20.31	1.16	19.75	1.18	19.19	1.20
	68	59	23.91	1.17	23.29	1.19	22.66	1.22	22.04	1.24	21.41	1.26
	75	64	25.90	1.21	25.22	1.24	24.54	1.26	23.87	1.29	23.19	1.31

AFR	m^3/h	970

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-26.1	-27.0	3.52	1.90	3.43	1.93	3.34	1.97	3.24	2.01	3.15	2.05
	-20.6	-21.7	4.27	1.84	4.16	1.87	4.05	1.91	3.94	1.95	3.83	1.99
	-15.0	-16.1	4.76	1.92	4.63	1.96	4.51	2.00	4.38	2.04	4.26	2.08
	-10.0	-11.1	5.26	1.96	5.12	2.00	4.99	2.05	4.85	2.08	4.71	2.12
	-5.0	-7.2	5.77	2.00	5.61	2.04	5.46	2.09	5.31	2.13	5.16	2.17
	0.0	-2.2	6.27	2.04	6.11	2.08	5.94	2.13	5.78	2.17	5.61	2.21
	5.0	2.8	6.77	2.08	6.59	2.12	6.42	2.17	6.24	2.21	6.06	2.25
	8.3	6.1	7.11	2.11	6.92	2.15	6.74	2.19	6.55	2.24	6.36	2.28
	10.0	8.3	7.51	1.94	7.31	1.97	7.12	2.02	6.92	2.05	6.72	2.09
	15.0	10.0	6.28	1.11	6.11	1.14	5.95	1.16	5.78	1.18	5.62	1.20
	20.0	15.0	7.00	1.17	6.82	1.19	6.64	1.22	6.45	1.24	6.27	1.26
	24.0	18.0	7.59	1.21	7.39	1.24	7.19	1.26	6.99	1.29	6.79	1.31

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH12KZAS

AFR	CFM	571

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW
Outdoor temperature	-15	-17	12.87	1.90	12.53	1.93	12.20	1.97	11.86	2.01	11.52	2.05
	-5	-7	15.74	2.07	15.33	2.11	14.92	2.15	14.50	2.20	14.09	2.24
	5	3	17.51	2.16	17.05	2.21	16.60	2.25	16.14	2.30	15.68	2.34
	14	12	19.18	2.16	18.68	2.21	18.18	2.25	17.67	2.30	17.17	2.34
	23	19	20.86	2.16	20.31	2.21	19.77	2.25	19.22	2.30	18.67	2.34
	32	28	22.53	2.16	21.94	2.21	21.36	2.25	20.77	2.30	20.18	2.34
	41	37	24.21	2.16	23.58	2.21	22.95	2.25	22.31	2.30	21.68	2.34
	47	43	24.90	2.16	24.25	2.21	23.60	2.25	22.94	2.30	22.29	2.34
	50	47	25.31	1.94	24.65	1.98	23.99	2.02	23.33	2.06	22.66	2.10
	59	50	22.55	1.25	21.96	1.28	21.37	1.30	20.78	1.33	20.19	1.35
	68	59	25.09	1.32	24.43	1.35	23.77	1.37	23.12	1.40	22.46	1.43
	75	64	27.11	1.38	26.40	1.40	25.69	1.43	24.98	1.46	24.27	1.49

AFR	m^3/h	970

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-26.1	-27.0	3.77	1.90	3.67	1.93	3.57	1.97	3.47	2.01	3.37	2.05
	-20.6	-21.7	4.61	2.07	4.49	2.11	4.37	2.15	4.24	2.20	4.12	2.24
	-15.0	-16.1	5.13	2.16	4.99	2.21	4.86	2.25	4.73	2.30	4.59	2.34
	-10.0	-11.1	5.62	2.16	5.47	2.21	5.32	2.25	5.17	2.30	5.03	2.34
	-5.0	-7.2	6.11	2.16	5.95	2.21	5.79	2.25	5.63	2.30	5.47	2.34
	0.0	-2.2	6.60	2.16	6.42	2.21	6.25	2.25	6.08	2.30	5.91	2.34
	5.0	2.8	7.09	2.16	6.91	2.21	6.72	2.25	6.53	2.30	6.35	2.34
	8.3	6.1	7.29	2.16	7.10	2.21	6.91	2.25	6.72	2.30	6.53	2.34
	10.0	8.3	7.41	1.94	7.22	1.98	7.03	2.02	6.83	2.06	6.64	2.10
	15.0	10.0	6.60	1.25	6.43	1.28	6.26	1.30	6.09	1.33	5.91	1.35
	20.0	15.0	7.35	1.32	7.15	1.35	6.96	1.37	6.77	1.40	6.58	1.43
	24.0	18.0	7.94	1.38	7.73	1.40	7.52	1.43	7.32	1.46	7.11	1.49

■ Model: ASUH15KZAS

AFR	CFM	594

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW
Outdoor temperature	-15	-17	17.30	2.40	16.85	2.45	16.40	2.50	15.94	2.55	15.49	2.60
	-5	-7	19.97	2.62	19.45	2.68	18.93	2.73	18.41	2.79	17.88	2.84
	5	3	22.16	2.82	21.58	2.87	21.00	2.93	20.41	2.99	19.83	3.05
	14	12	23.06	2.68	22.46	2.73	21.85	2.79	21.25	2.84	20.65	2.90
	23	19	23.97	2.54	23.34	2.59	22.71	2.64	22.08	2.69	21.46	2.74
	32	28	24.87	2.40	24.22	2.44	23.57	2.50	22.92	2.54	22.27	2.59
	41	37	25.78	2.26	25.10	2.30	24.43	2.35	23.75	2.40	23.08	2.44
	47	43	26.38	2.16	25.69	2.21	25.00	2.25	24.30	2.30	23.61	2.34
	50	47	26.65	1.99	25.96	2.03	25.26	2.08	24.56	2.12	23.86	2.16
	59	50	24.45	1.32	23.81	1.34	23.17	1.37	22.53	1.40	21.89	1.42
	68	59	26.95	1.38	26.25	1.41	25.54	1.44	24.84	1.47	24.13	1.49
	75	64	28.96	1.44	28.20	1.46	27.44	1.49	26.69	1.52	25.93	1.55

AFR	m^3/h	1,010

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-26.1	-27.0	5.07	2.40	4.93	2.45	4.81	2.50	4.67	2.55	4.53	2.60
	-20.6	-21.7	5.85	2.62	5.70	2.68	5.54	2.73	5.39	2.79	5.24	2.84
	-15.0	-16.1	6.49	2.82	6.32	2.87	6.15	2.93	5.98	2.99	5.81	3.05
	-10.0	-11.1	6.75	2.68	6.58	2.73	6.40	2.79	6.22	2.84	6.05	2.90
	-5.0	-7.2	7.02	2.54	6.84	2.59	6.65	2.64	6.47	2.69	6.28	2.74
	0.0	-2.2	7.28	2.40	7.09	2.44	6.90	2.50	6.71	2.54	6.52	2.59
	5.0	2.8	7.55	2.26	7.35	2.30	7.15	2.35	6.96	2.40	6.76	2.44
	8.3	6.1	7.73	2.16	7.52	2.21	7.33	2.25	7.12	2.30	6.91	2.34
	10.0	8.3	7.81	1.99	7.60	2.03	7.40	2.08	7.19	2.12	6.99	2.16
	15.0	10.0	7.16	1.32	6.97	1.34	6.79	1.37	6.60	1.40	6.41	1.42
	20.0	15.0	7.89	1.38	7.69	1.41	7.48	1.44	7.27	1.47	7.07	1.49
	24.0	18.0	8.48	1.44	8.26	1.46	8.04	1.49	7.82	1.52	7.59	1.55

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH18KZAS

AFR	CFM	677

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW
Outdoor temperature	-15	-17	20.16	3.26	19.63	3.33	19.11	3.40	18.58	3.47	18.05	3.53
	-5	-7	24.12	3.38	23.49	3.45	22.86	3.52	22.23	3.59	21.60	3.66
	5	3	26.82	3.54	26.12	3.61	25.40	3.69	24.72	3.76	24.02	3.83
	14	12	28.27	3.38	27.53	3.45	26.79	3.52	26.05	3.59	25.31	3.66
	23	19	29.71	3.22	28.94	3.28	28.16	3.35	27.38	3.42	26.60	3.48
	32	28	31.16	3.05	30.34	3.11	29.53	3.18	28.71	3.24	27.90	3.30
	41	37	32.60	2.89	31.75	2.95	30.90	3.01	30.04	3.07	29.19	3.13
	47	43	33.56	2.78	32.68	2.84	31.80	2.90	30.92	2.96	30.04	3.01
	50	47	34.19	2.78	33.29	2.83	32.40	2.89	27.30	2.95	27.30	3.00
	59	50	32.59	2.45	31.73	2.49	30.88	2.55	27.58	2.60	27.58	2.65
	68	59	30.97	2.12	30.16	2.16	29.35	2.20	27.89	2.25	27.73	2.29
	75	64	29.71	1.93	28.93	1.96	28.16	2.01	27.38	2.05	26.60	2.08

AFR	m^3/h	1,150

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-26.1	-27.0	5.91	3.26	5.75	3.33	5.60	3.40	5.45	3.47	5.29	3.53
	-20.6	-21.7	7.07	3.38	6.89	3.45	6.70	3.52	6.51	3.59	6.33	3.66
	-15.0	-16.1	7.86	3.54	7.66	3.61	7.45	3.69	7.24	3.76	7.04	3.83
	-10.0	-11.1	8.28	3.38	8.07	3.45	7.85	3.52	7.63	3.59	7.42	3.66
	-5.0	-7.2	8.71	3.22	8.48	3.28	8.25	3.35	8.02	3.42	7.80	3.48
	0.0	-2.2	9.13	3.05	8.89	3.11	8.65	3.18	8.41	3.24	8.18	3.30
	5.0	2.8	9.56	2.89	9.31	2.95	9.06	3.01	8.81	3.07	8.55	3.13
	8.3	6.1	9.83	2.78	9.58	2.84	9.32	2.90	9.06	2.96	8.81	3.01
	10.0	8.3	10.02	2.78	9.76	2.83	9.50	2.89	8.00	2.95	8.00	3.00
	15.0	10.0	9.55	2.45	9.30	2.49	9.05	2.55	8.08	2.60	8.08	2.65
	20.0	15.0	9.08	2.12	8.84	2.16	8.60	2.20	8.17	2.25	8.13	2.29
	24.0	18.0	8.71	1.93	8.48	1.96	8.25	2.01	8.02	2.05	7.80	2.08

■ Model: ASUH24KZAS

AFR	CFM	706

			Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW
Outdoor temperature	-15	-17	20.16	3.26	19.63	3.33	19.11	3.40	18.58	3.47	18.05	3.53
	-5	-7	24.12	3.38	23.49	3.45	22.86	3.52	22.23	3.59	21.60	3.66
	5	3	27.22	3.52	26.51	3.59	25.80	3.67	25.08	3.74	24.37	3.81
	14	12	29.75	3.48	28.98	3.55	28.20	3.63	27.42	3.70	26.64	3.77
	23	19	32.29	3.46	31.44	3.53	30.60	3.61	29.75	3.68	28.91	3.75
	32	28	34.82	3.44	33.91	3.51	33.00	3.59	32.09	3.65	31.18	3.72
	41	37	37.36	3.42	36.38	3.49	35.40	3.56	34.42	3.63	33.45	3.70
	47	43	38.85	3.41	37.83	3.48	36.80	3.55	35.80	3.62	34.78	3.69
	50	47	39.58	3.40	38.54	3.47	37.51	3.54	32.59	3.61	32.59	3.67
	59	50	37.90	2.99	36.91	3.05	35.92	3.12	32.75	3.18	32.75	3.24
	68	59	36.02	2.59	35.08	2.64	34.13	2.70	32.75	2.75	32.25	2.80
	75	64	34.56	2.36	33.65	2.41	32.75	2.46	31.84	2.50	30.94	2.55

AFR	m^3/h	1,200

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.0		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-26.1	-27.0	5.91	3.26	5.75	3.33	5.60	3.40	5.45	3.47	5.29	3.53
	-20.6	-21.7	7.07	3.38	6.89	3.45	6.70	3.52	6.51	3.59	6.33	3.66
	-15.0	-16.1	7.98	3.52	7.77	3.59	7.56	3.67	7.35	3.74	7.14	3.81
	-10.0	-11.1	8.72	3.48	8.49	3.55	8.26	3.63	8.04	3.70	7.81	3.77
	-5.0	-7.2	9.46	3.46	9.22	3.53	8.97	3.61	8.72	3.68	8.47	3.75
	0.0	-2.2	10.21	3.44	9.94	3.51	9.67	3.59	9.40	3.65	9.14	3.72
	5.0	2.8	10.95	3.42	10.66	3.49	10.38	3.56	10.09	3.63	9.80	3.70
	8.3	6.1	11.39	3.41	11.09	3.48	10.79	3.55	10.49	3.62	10.19	3.69
	10.0	8.3	11.60	3.40	11.30	3.47	10.99	3.54	9.55	3.61	9.55	3.67
	15.0	10.0	11.11	2.99	10.82	3.05	10.53	3.12	9.60	3.18	9.60	3.24
	20.0	15.0	10.56	2.59	10.28	2.64	10.00	2.70	9.60	2.75	9.45	2.80
	24.0	18.0	10.13	2.36	9.86	2.41	9.60	2.46	9.33	2.50	9.07	2.55

WALL MOUNTED
ASUH09-24KZAS

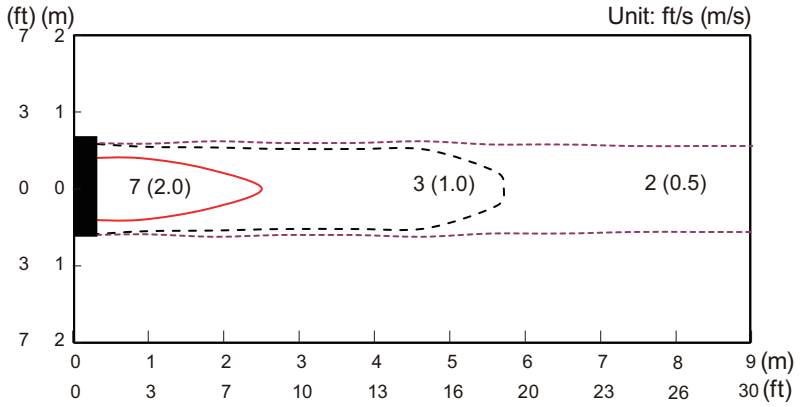
6. Fan performance

6-1. Air velocity distributions

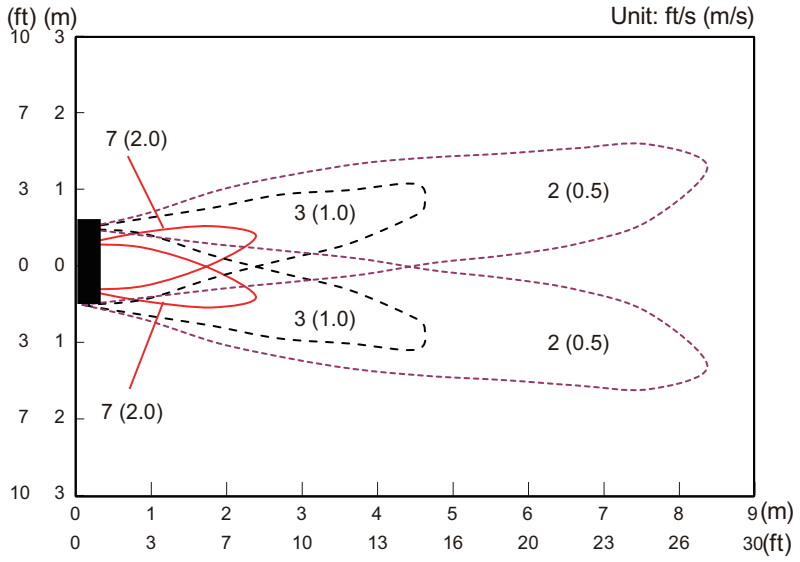
■ Models: ASUH09KZAS and ASUH12KZAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

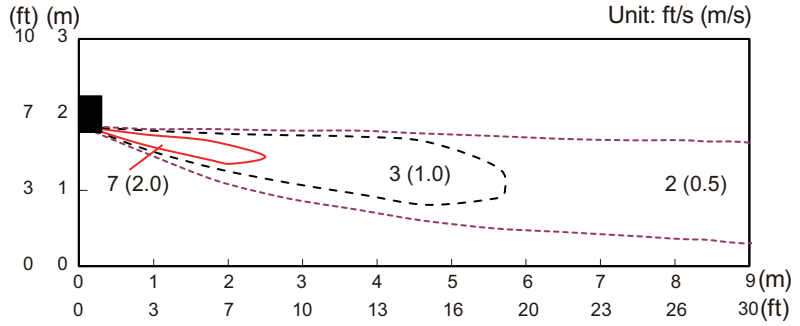
Top view
Horizontal louver: Up
Vertical louver: Center



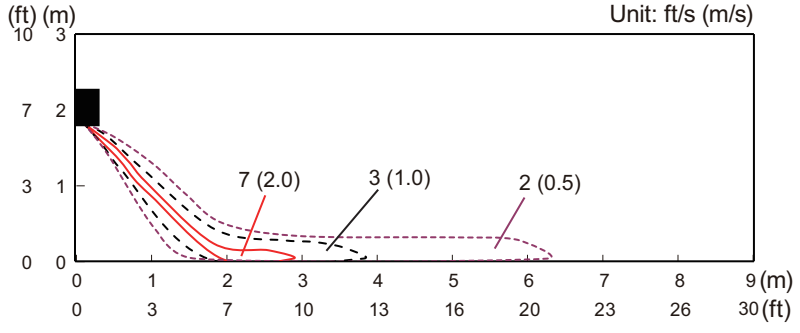
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center

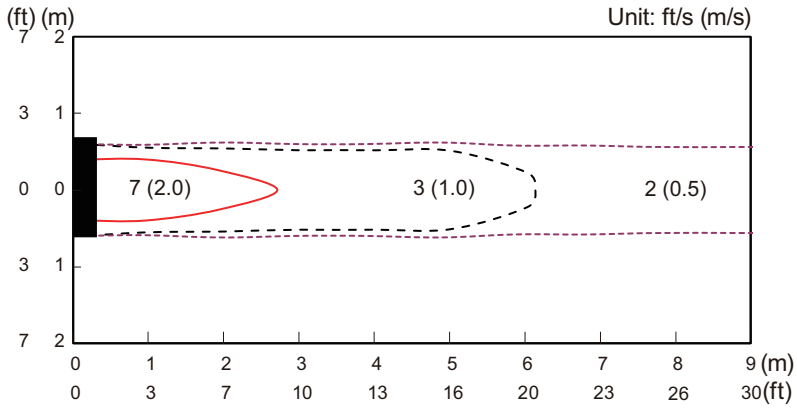


WALL MOUNTED
ASUH09-24KZAS

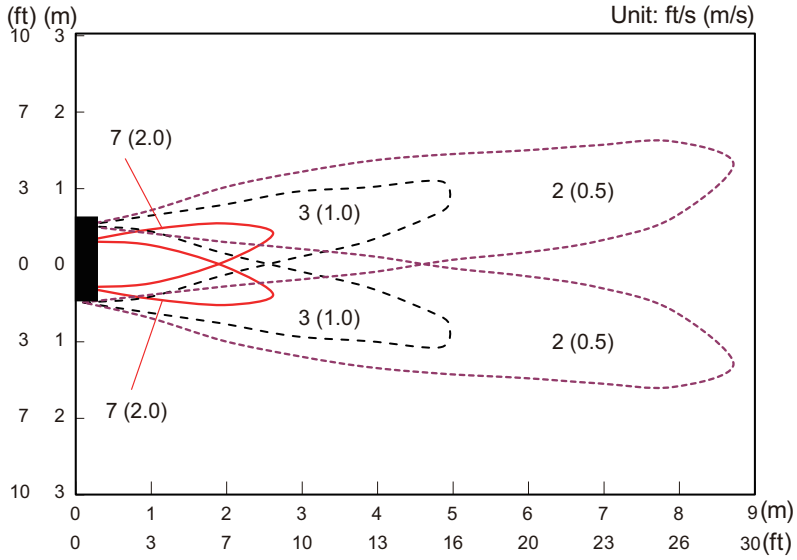
■ Model: ASUH15KZAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

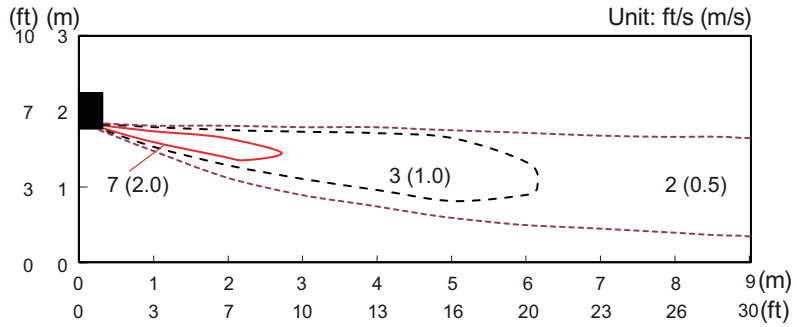
Top view
Horizontal louver: Up
Vertical louver: Center



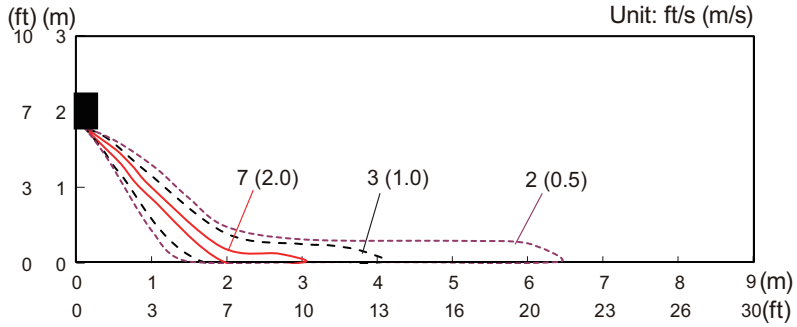
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center

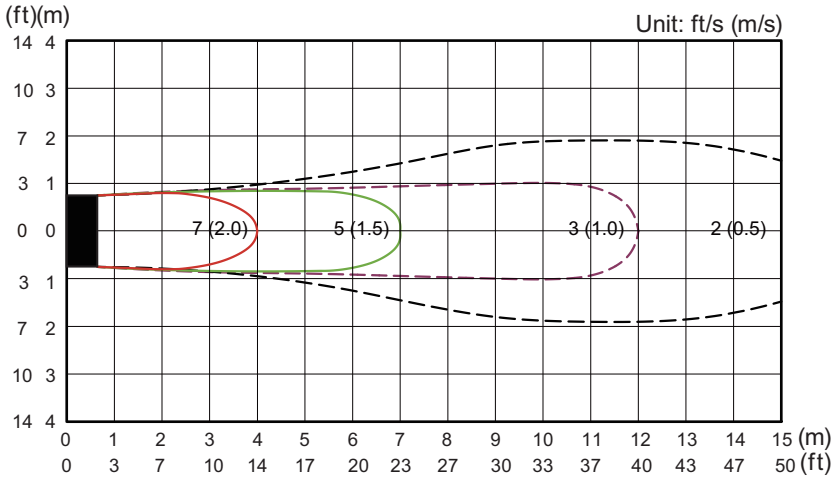


WALL MOUNTED
ASUH09-24KZAS

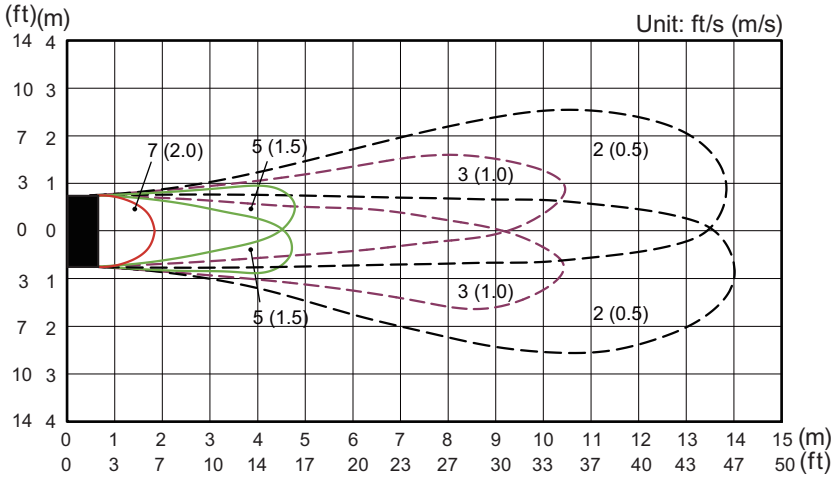
■ Models: ASUH18KZAS and ASUH24KZAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

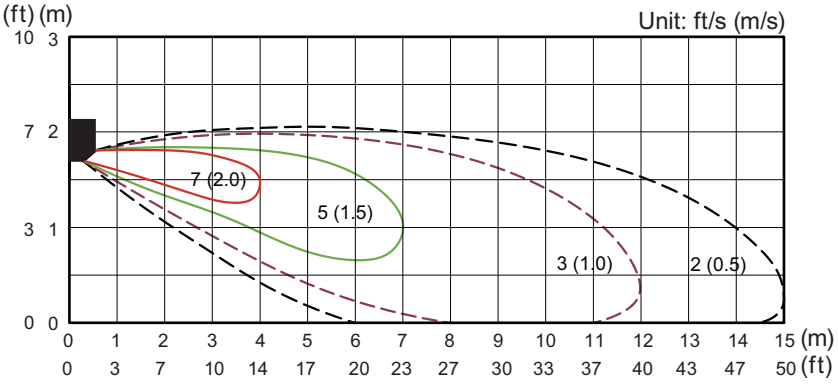
Top view
Horizontal louver: Up
Vertical louver: Center



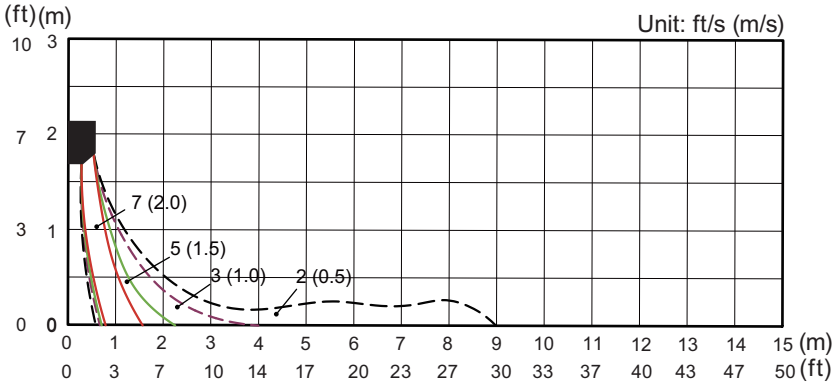
Top view
Horizonal louver: Up
Vertical louver: Left & Right



Side view
Horizonal louver: Up
Vertical louver: Center



Side view
Horizonal louver: Down
Vertical louver: Center



WALL MOUNTED
ASUH09-24KZAS

6-2. Airflow

■ Model: ASUH09KZAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	880
	l/s	244
	CFM	518
MED—HIGH	m^3/h	770
	l/s	214
	CFM	453
MED	m^3/h	660
	l/s	183
	CFM	388
MED—LOW	m^3/h	590
	l/s	164
	CFM	347
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	340
	l/s	94
	CFM	200

● Heating

Fan speed	Airflow	
HIGH	m^3/h	970
	l/s	269
	CFM	571
MED—HIGH	m^3/h	800
	l/s	222
	CFM	471
MED	m^3/h	690
	l/s	192
	CFM	406
MED—LOW	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	340
	l/s	94
	CFM	200

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH12KZAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	880
	l/s	244
	CFM	518
MED—HIGH	m^3/h	770
	l/s	214
	CFM	453
MED	m^3/h	660
	l/s	183
	CFM	388
MED—LOW	m^3/h	590
	l/s	164
	CFM	347
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	340
	l/s	94
	CFM	200

● Heating

Fan speed	Airflow	
HIGH	m^3/h	970
	l/s	269
	CFM	571
MED—HIGH	m^3/h	800
	l/s	222
	CFM	471
MED	m^3/h	690
	l/s	192
	CFM	406
MED—LOW	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	340
	l/s	94
	CFM	200

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH15KZAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	940
	l/s	261
	CFM	553
MED—HIGH	m^3/h	840
	l/s	233
	CFM	494
MED	m^3/h	750
	l/s	208
	CFM	441
MED—LOW	m^3/h	630
	l/s	175
	CFM	371
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	390
	l/s	108
	CFM	230

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,010
	l/s	281
	CFM	594
MED—HIGH	m^3/h	900
	l/s	250
	CFM	530
MED	m^3/h	790
	l/s	219
	CFM	465
MED—LOW	m^3/h	630
	l/s	175
	CFM	371
LOW	m^3/h	510
	l/s	142
	CFM	300
QUIET	m^3/h	390
	l/s	108
	CFM	230

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH18KZAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,060
	l/s	294
	CFM	624
MED—HIGH	m^3/h	970
	l/s	269
	CFM	571
MED	m^3/h	880
	l/s	244
	CFM	518
MED—LOW	m^3/h	800
	l/s	222
	CFM	471
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,150
	l/s	319
	CFM	677
MED—HIGH	m^3/h	990
	l/s	275
	CFM	583
MED	m^3/h	880
	l/s	244
	CFM	518
MED—LOW	m^3/h	800
	l/s	222
	CFM	471
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH24KZAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,060
	l/s	294
	CFM	624
MED—HIGH	m^3/h	970
	l/s	269
	CFM	571
MED	m^3/h	880
	l/s	244
	CFM	518
MED—LOW	m^3/h	800
	l/s	222
	CFM	471
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,200
	l/s	333
	CFM	706
MED—HIGH	m^3/h	1,040
	l/s	289
	CFM	612
MED	m^3/h	880
	l/s	244
	CFM	518
MED—LOW	m^3/h	800
	l/s	222
	CFM	471
LOW	m^3/h	730
	l/s	203
	CFM	430
QUIET	m^3/h	630
	l/s	175
	CFM	371

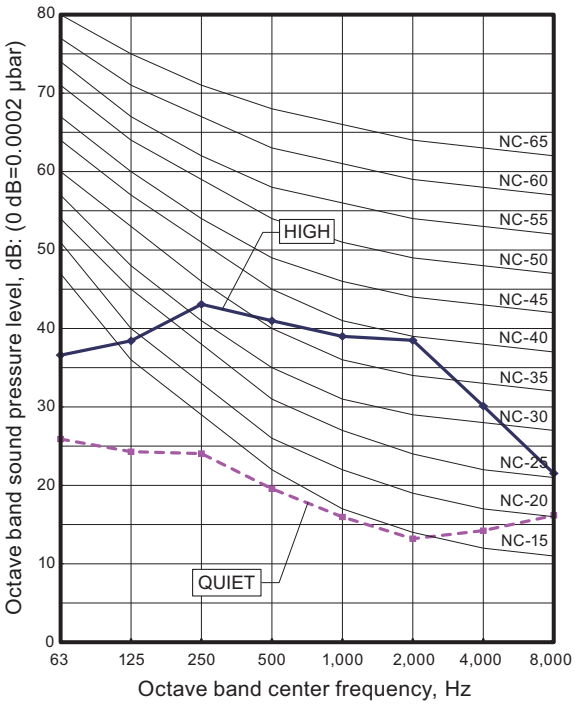
WALL MOUNTED
ASUH09-24KZAS

7. Operation noise (sound pressure)

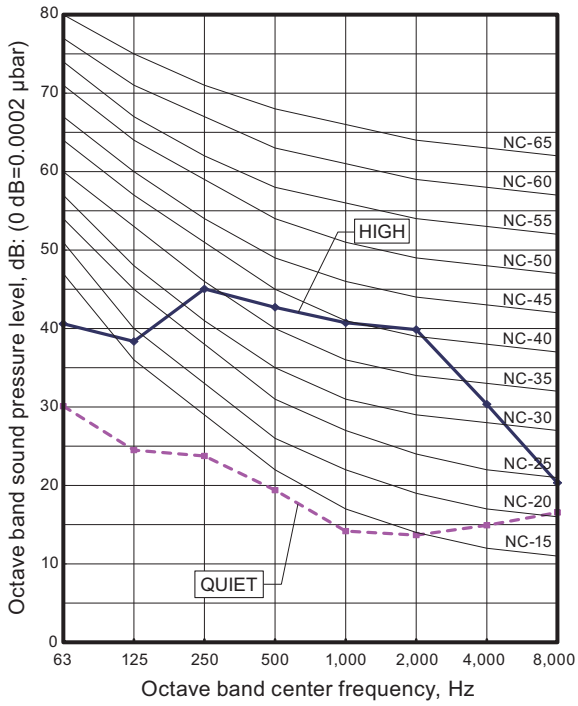
7-1. Noise level curve

■ Model: ASUH09KZAS

● Cooling

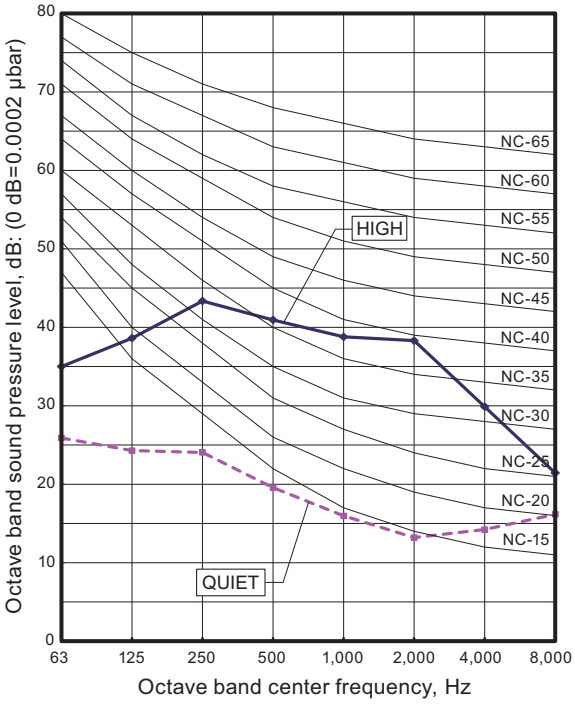


● Heating

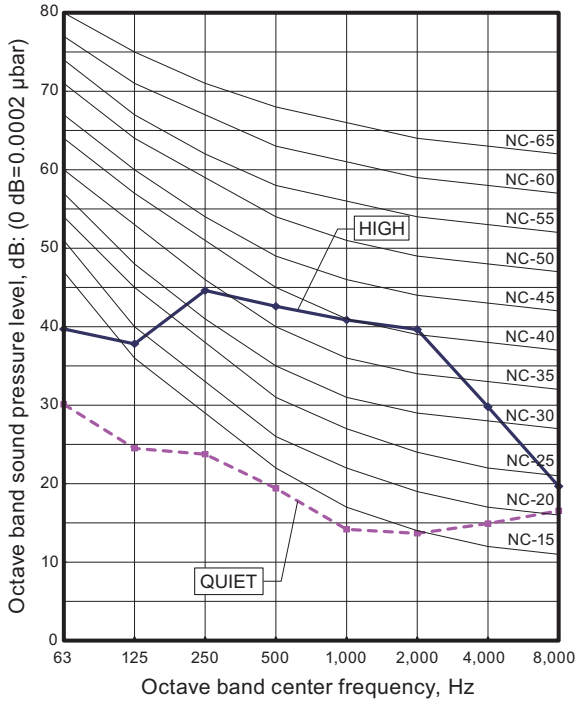


■ Model: ASUH12KZAS

● Cooling



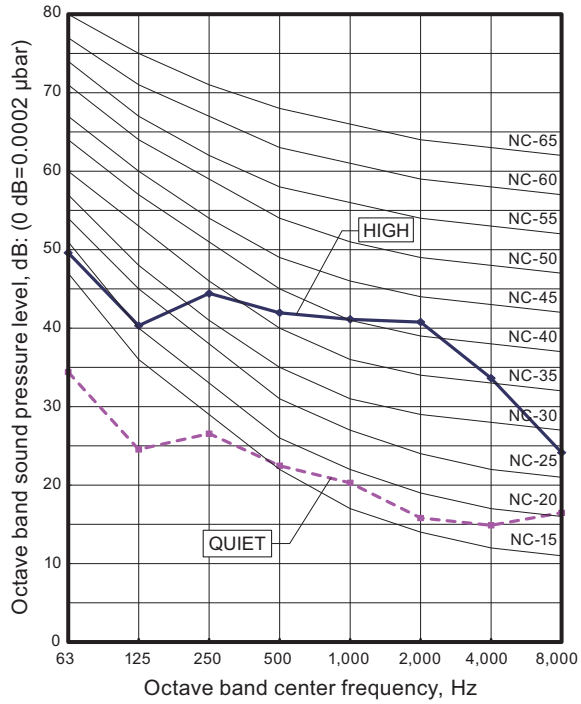
● Heating



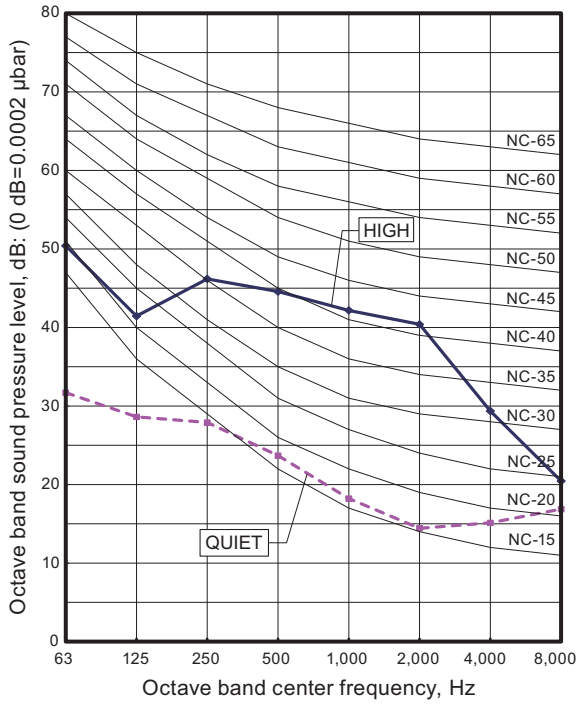
WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH15KZAS

● Cooling

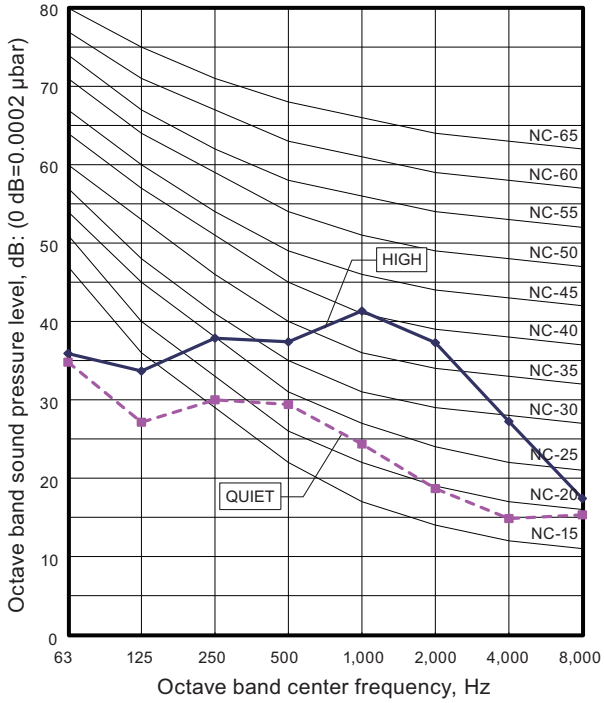


● Heating

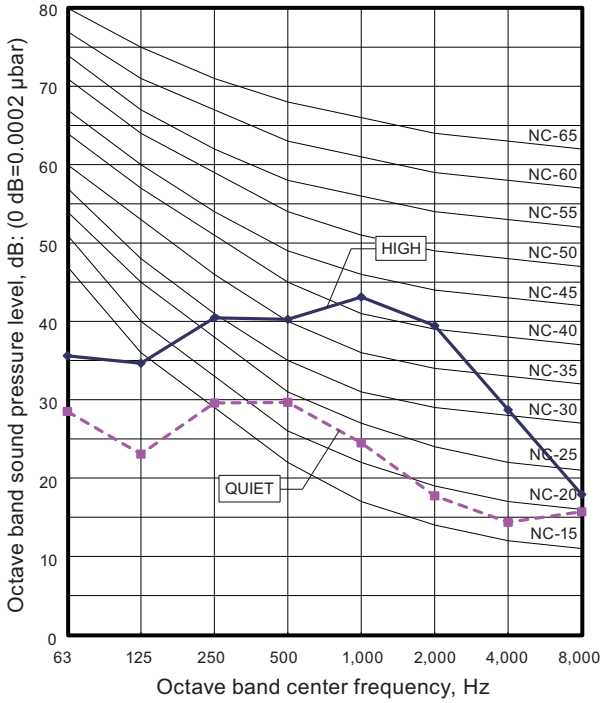


■ Model: ASUH18KZAS

● Cooling



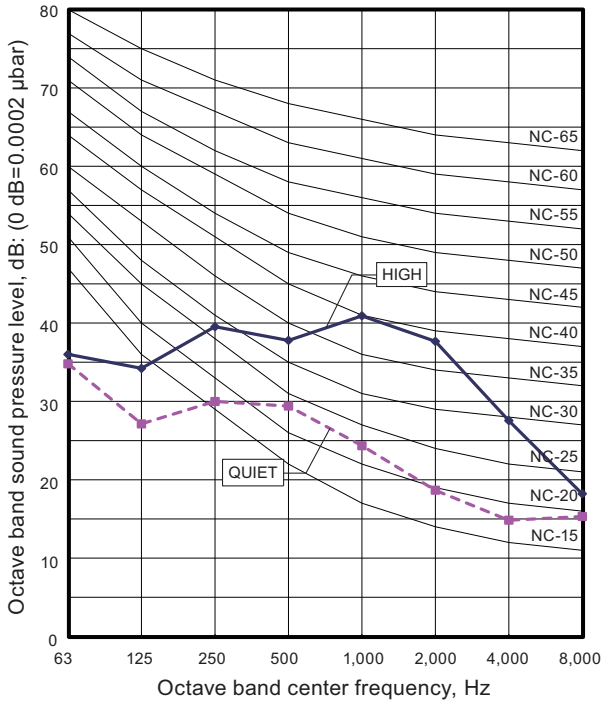
● Heating



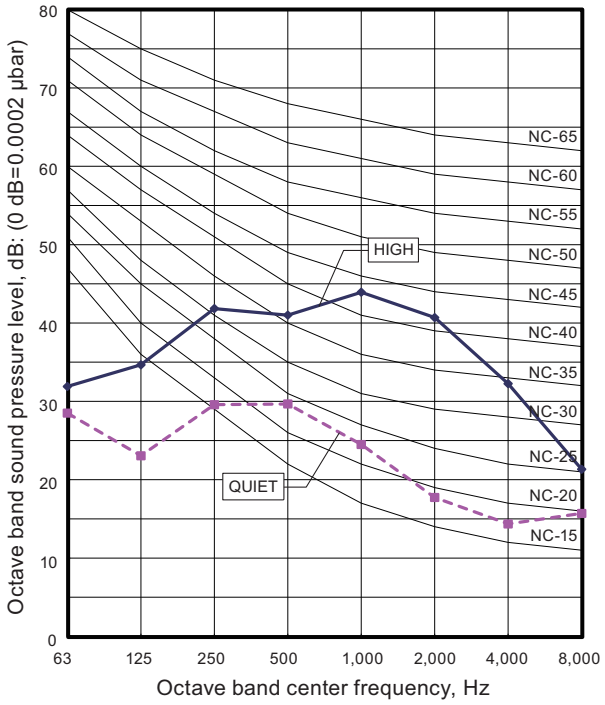
WALL MOUNTED
ASUH09-24KZAS

■ Model: ASUH24KZAS

● Cooling

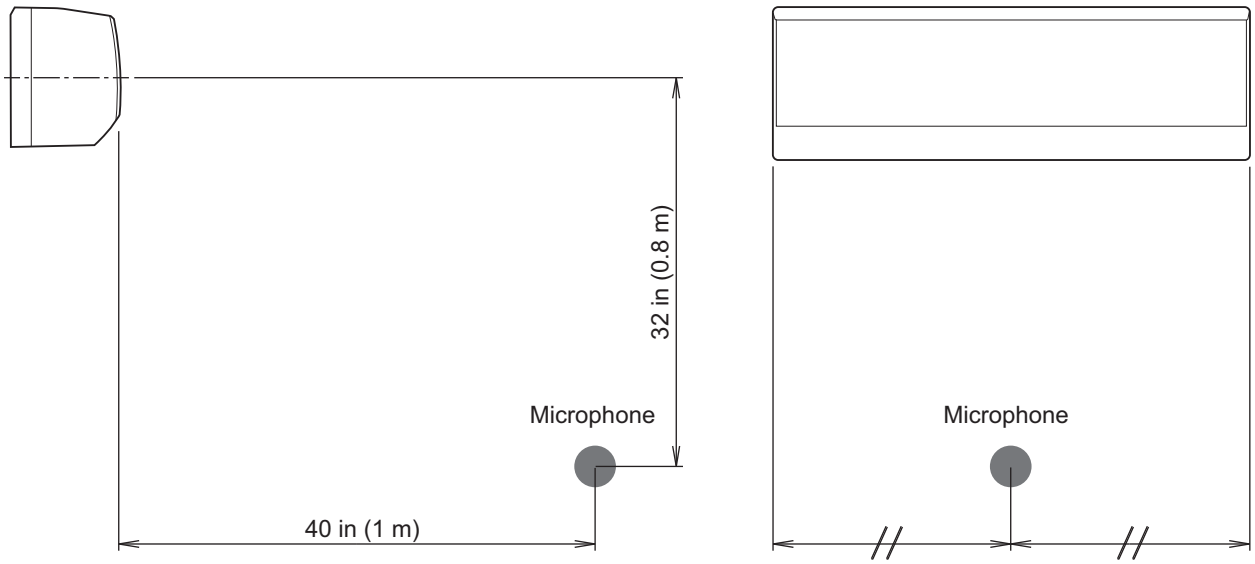


● Heating



WALL MOUNTED
ASUH09-24KZAS

7-2. Sound level check point



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

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8. Safety devices

Type of protection	Protection form		Model
			ASUH09-24KZAS
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A
Fan motor protection	Thermal protection program	Activate	257 ±18°F (125 ±10°C) Fan motor stop
		Reset	212 ±18°F (100 ±10°C) Fan motor restart

*PCB: Printed Circuit Board

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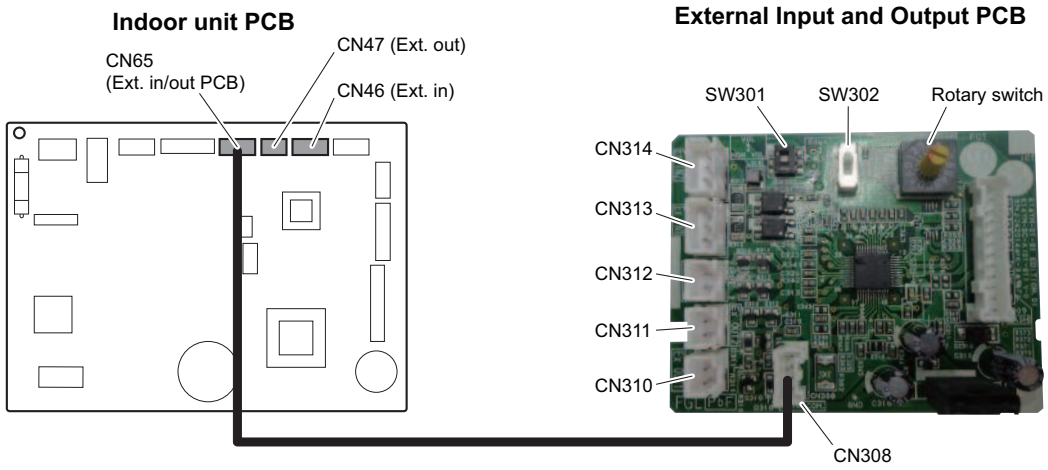
9. External input and output



Connecting point		Input/Output	Function	Input select	Input signal
Indoor unit	CN46	Input	Operation/Stop	Dry contact	Edge
			Forced stop		
	CN47	Output	Operation/Stop	—	—
			Error status		
			Indoor unit fan operation status		
			Cooling thermostat On		
			Heating thermostat On		
			External heater output		
External Input and Output PCB (UTY-XCSXZ2)	CN313/CN314	Input	Operation/Stop	Dry contact/Apply voltage	Edge/Pulse
			Forced stop		
	CN313		Forced thermostat off		Edge
	CN310 CN311 CN312	Output	Operation status	—	—
			Error status		
			Indoor unit fan operation status		
			External heater output		
			Remote controller output		
			Cooling high/low output		
			Heating thermostat On		

NOTE: For details of the switching function, refer to "Setting of external input and output" on page 41.

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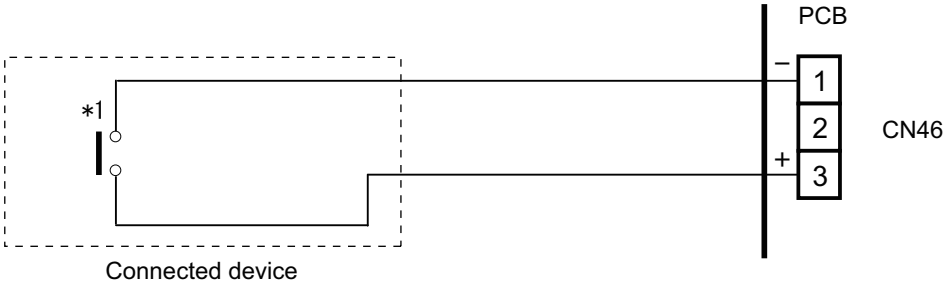
9-1. External input

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 (22 AWG) should be used. Maximum length of cable is 492 ft (150 m).
- Use an external input and output cable with appropriate external dimension, depending on the number of cables to be installed.
- 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.

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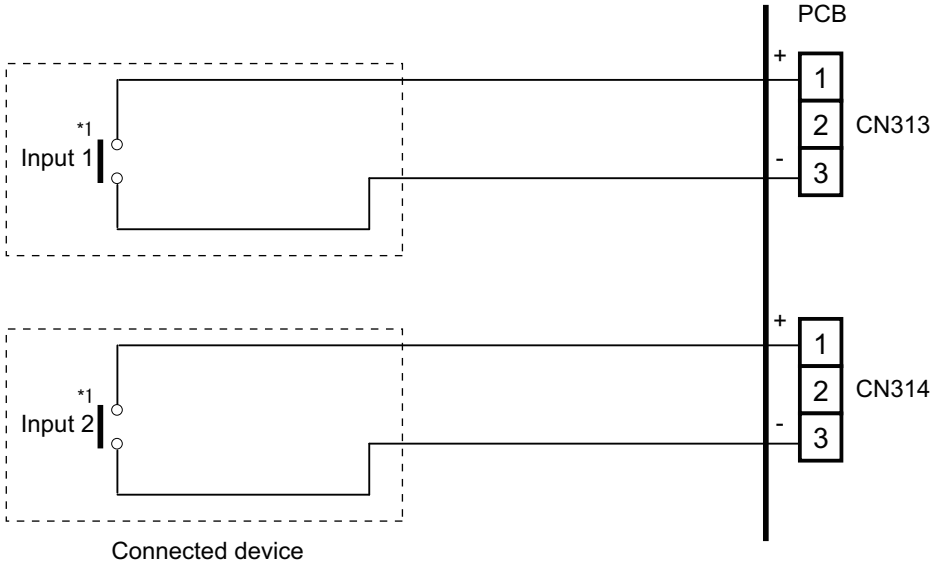
■ External Input and Output PCB

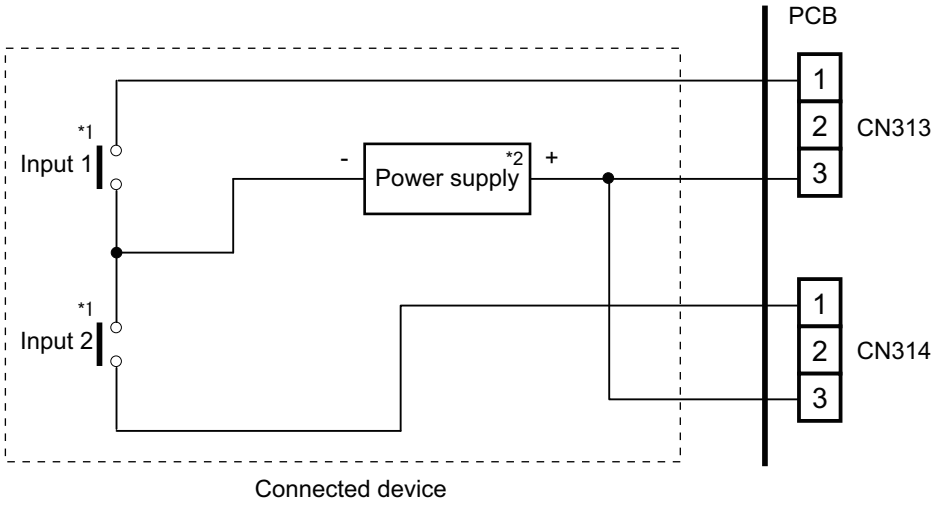
The indoor unit Operation/Stop can be set by using the input connector on the PCB.

- **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 V to 24 V, 10 mA or more.

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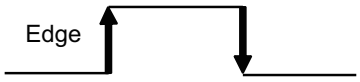
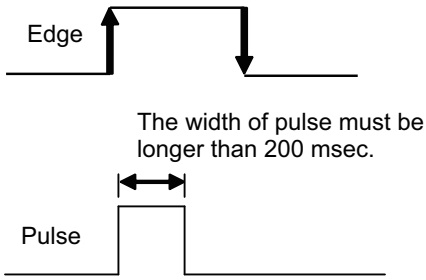
■ Input signal type

- **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 2 (SW302) on the External Input and Output PCB.



NOTE: The input signal supports the following switch type:
- Edge: Alternate type switch
- Pulse: Momentary type switch

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9-2. External output

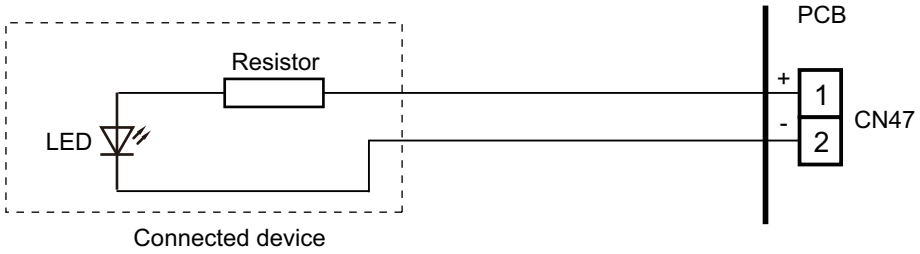
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

■ Indoor unit

- A twisted pair cable (22 AWG)should be used. Maximum length of cable is 82 ft (25 m).
- Output voltage: High DC 12 V ±2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to "Setting of external input and output" on page 41.

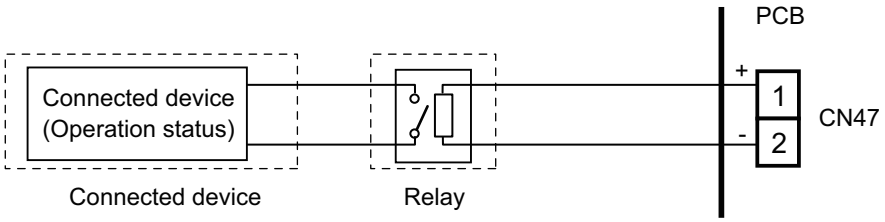
- **When indicator, etc. are connected directly**

Example: Function setting number 60 is set to "00"



- **When connecting with a device equipped with a power supply**

Example: Function setting number 60 is set to "00"



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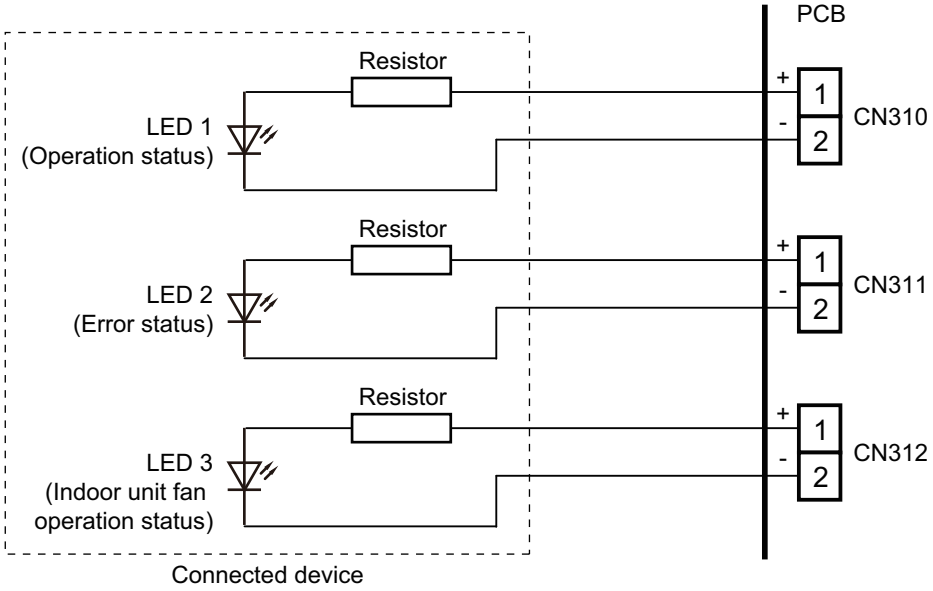
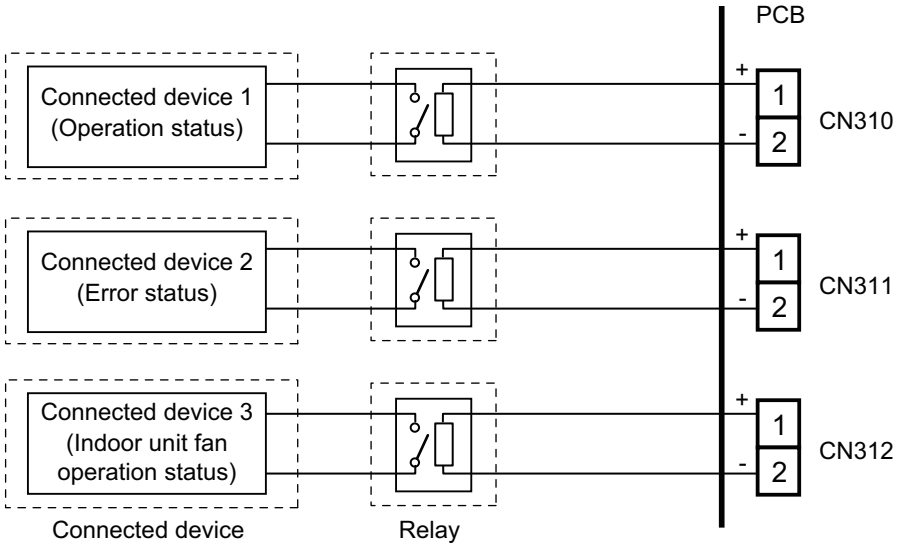
■ External Input and Output PCB

- A twisted pair cable (22AWG) should be used. Maximum length of cable is 82 ft (25 m).
- Output voltage: High DC 12 V ±2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to "Setting of external input and output" on page 41.

- **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”.



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9-3. Setting of external input and output

- **Indoor unit**

Input		
Connection point	**Function setting number 46**	**Function**
CN46	00	Operation/Stop mode 1 (R.C. enabled)
	01	(Setting prohibited)
	02	Forced stop mode
	03	Operation/Stop mode 2 (R.C. disabled)

Output		
Connection point	**Function setting number 60**	**Function**
CN47	00	Operation/Stop
	01 to 04	Cooling thermostat On
	05	Heating thermostat On
	06	Operation/Stop
	07 to 08	Cooling thermostat On
	09	Error status
	10	Indoor unit fan operation status
	11	External heater output

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- **External Input and Output PCB**

Switch setting		Ex IN		Ex OUT		
Rotary switch	**SW302**	**CN313**	**CN314**	**CN310**	**CN311**	**CN312**
1	Edge	Operation/Stop	Not available	Operation/Stop	Error status	Indoor unit fan operation status
	Pulse	Operation	Stop			
2	Edge*1	Forced thermostat off	Not available	Error status	Indoor unit fan operation status	External heater output
3		Mechanical cooling off	Not available	Error status	Indoor unit fan operation status	External heater output
4		Forced thermostat off	Not available	Error status	Remote controller output	External heater output
5		Mechanical cooling on*2	Not available	Cooling high/low output	Remote controller output	External heater output
6		Mechanical cooling on*2	Not available	Error status	Remote controller output	Cooling high/low output
7		Forced thermostat off	Not available	Error status	Indoor unit fan operation status	External heater output
8		Forced thermostat off	Not available	Error status	Indoor unit fan operation status	Heating thermostat on
9		Mechanical cooling off	Not available	Error status	Heating thermostat on	External heater output
A		Forced thermostat off	Not available	Heating thermostat on	Remote controller output	External heater output
B		Forced thermostat off	Not available	Operation/Stop	Indoor unit fan operation status	External heater output
C		Forced thermostat off	Not available	Operation/Stop	Error status	External heater output
D		Forced thermostat off	Not available	Operation/Stop	Indoor unit fan operation status	Error status

NOTES:

- When the rotary switch is selected to “1", the operation of the connector input of the indoor unit and the External Input and Output PCB input are the same. The operation content depends on the setting of function setting number 46.
- *1: The external input other than “Operation/Stop” is available only when the SW302 is set to “Edge”.
- *2: The external input of “Mechanical cooling on” is available only when the function setting number 60 is set to “03” or “04”.

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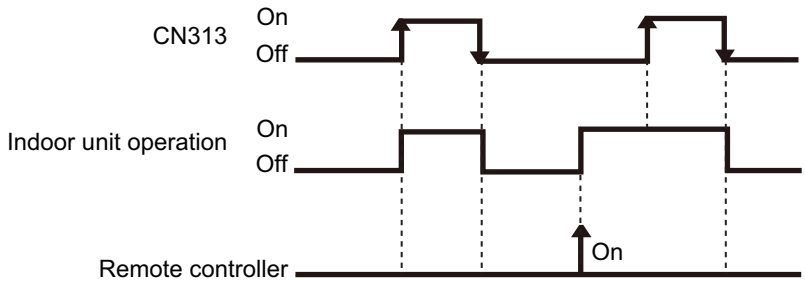
9-4. Details of control input function

■ Operation/Stop mode 1

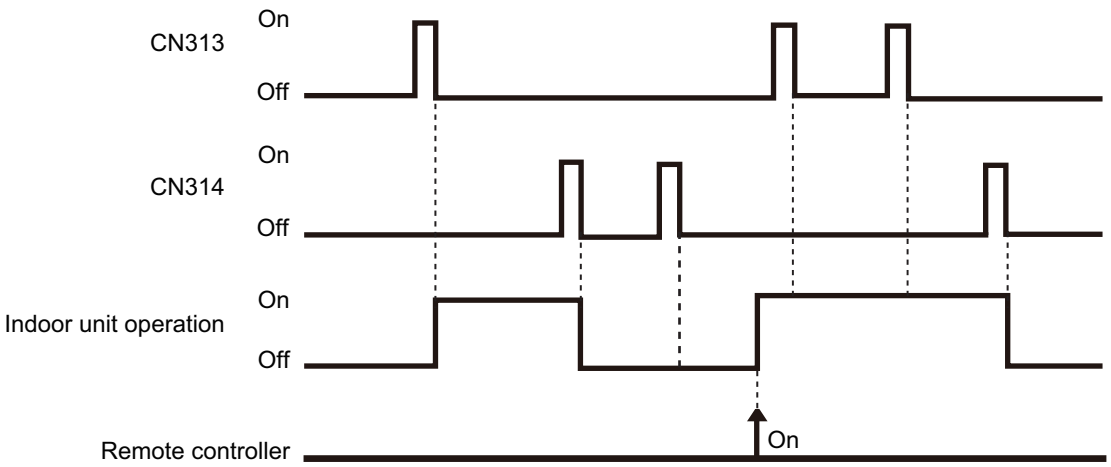
- **In the case of "Edge" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-00	—		Input of indoor unit	CN46	Off → On	Operation
					On → Off	Stop
	1	Edge	External Input and Output PCB	CN313	Off → On	Operation
					On → Off	Stop



- **In the case of "Pulse" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-00	1	Pulse	External Input and Output PCB	CN313	Pulse	Operation
				CN314		Stop



NOTES:

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

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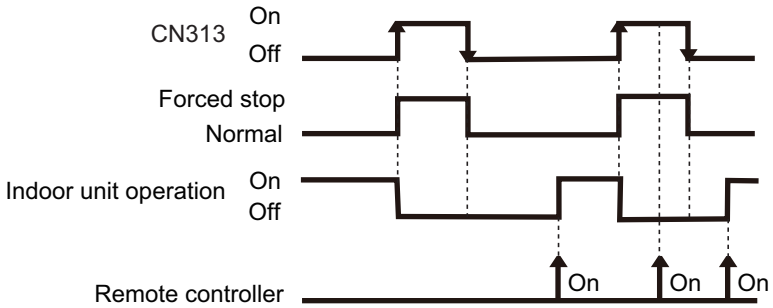
■ Forced stop

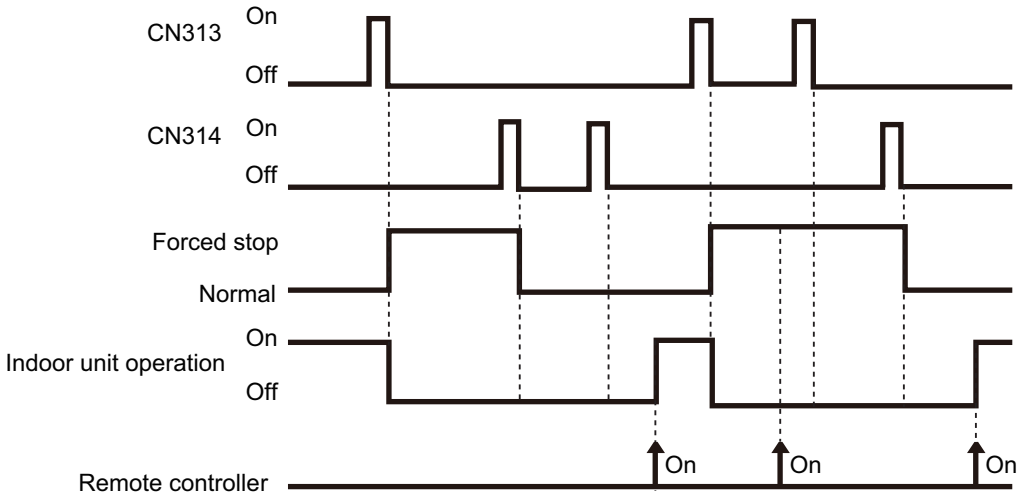
- **In the case of "Edge" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-02	—		Input of indoor unit	CN46	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)
	1	Edge	External Input and Output PCB	CN313	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)



- **In the case of "Pulse" input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-02	1	Pulse	External Input and Output PCB	CN313	Pulse	Forced stop (R.C. disabled)
				CN314		Normal (R.C. enabled)



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.

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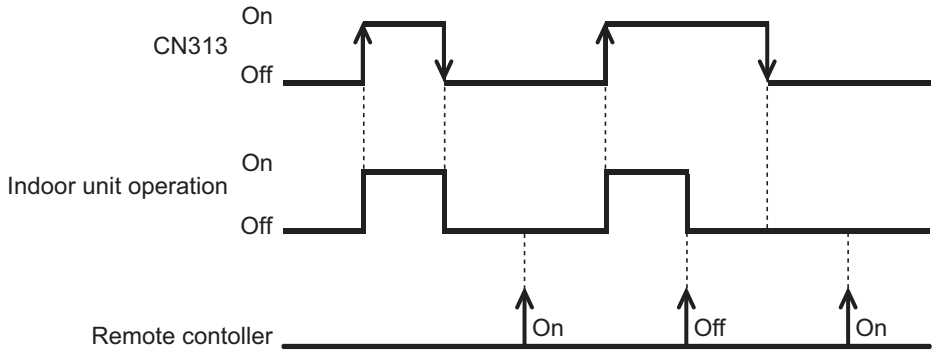
■ Operation/Stop mode 2

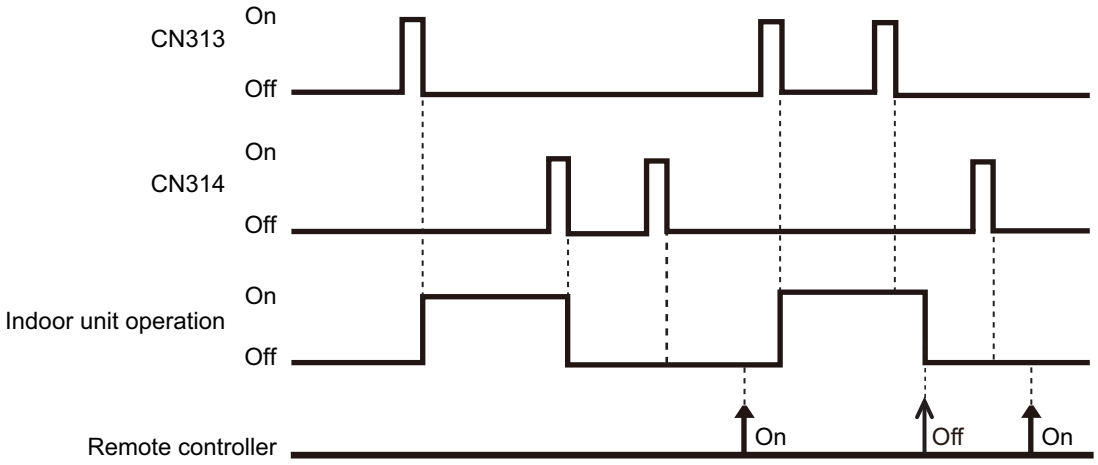
- **In the case of “Edge” input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-03	—		Input of indoor unit	CN46	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)
	1	Edge	External Input and Output PCB	CN313	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)



- **In the case of “Pulse” input**

Function setting	External Input and Output PCB		External input		Input signal	Command
	Rotary switch	SW302				
46-03	1	Pulse	External Input and Output PCB	CN313	Pulse	Operation (R.C. enabled)
				CN314		Stop (R.C. 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.

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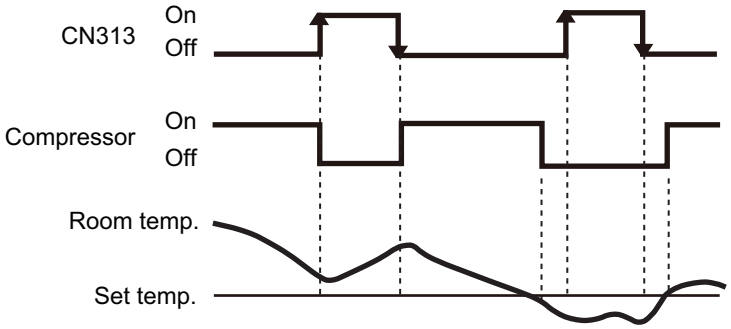
■ Forced thermostat off

External Input and Output PCB Rotary switch	External input		Input signal	Command
2, B, C, D	External Input and Output PCB	CN313	Off → On	Thermostat off
			On → Off	Normal operation
4, 7, 8, A	External Input and Output PCB	CN313	Off → On	Thermostat off
			On → Off	Normal operation



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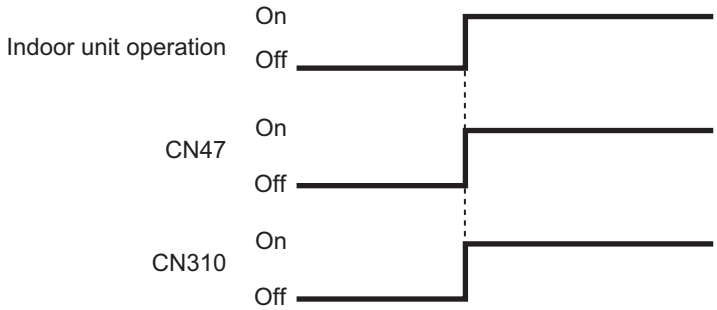
9-5. Details of control output function

■ Operation status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-00 60-06	1, 2, 8	Output of indoor unit	CN47	Off → On	Operation
				On → Off	Stop
—	1, B, C, D	External Input and Output PCB	CN310	Off → On	Operation
				On → Off	Stop

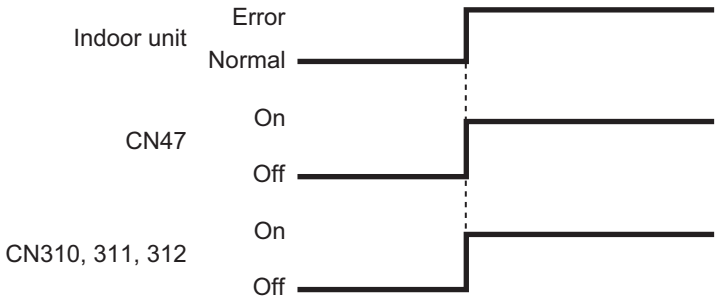
The output is low when the unit is stopped.



■ Error status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-09	—	Output of indoor unit	CN47	Off → On	Error
				On → Off	Normal
—	2, 3, 4, 6, 7, 8, 9	External Input and Output PCB	CN310	Off → On	Error
				On → Off	Normal
—	1, C	External Input and Output PCB	CN311	Off → On	Error
				On → Off	Normal
—	D	External Input and Output PCB	CN312	Off → On	Error
				On → Off	Normal

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



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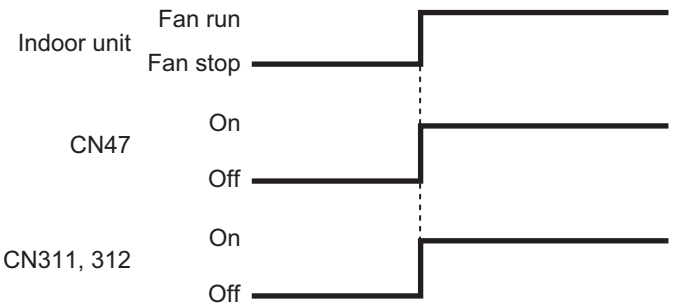
■ Indoor unit fan operation status

Function setting	External Input and Output PCB Rotary switch	External output		Output signal	Status
60-10	C	Output of indoor unit	CN47	Off → On	Fan run
				On → Off	Fan stop
—	2, 3, 7, 8, B, D	External Input and Output PCB	CN311	Off → On	Fan run
				On → Off	Fan stop
—	1	External Input and Output PCB	CN312	Off → On	Fan run
				On → Off	Fan stop

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



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■ External heater output

Control	Primary heater	Auxiliary heater	Function setting
			Indoor unit
			Control switching external heaters No. 61
Auxiliary heater control 1	Heat pump	External device*	61-00
Auxiliary heater control 2	Heat pump	External device	61-01
Heat pump prohibition control	External device	None	61-02
Auxiliary heater control by outdoor temperature 1	Heat pump	External device	61-03
Auxiliary heater control by outdoor temperature 2	Heat Pump	External device	61-04
Auxiliary heater control by outdoor temperature 3	Heat Pump	External device	61-05
Auxiliary heat pump control	External device	Heat pump	61-06
Auxiliary heat pump control by outdoor temperature 1	External device	Heat pump	61-07
Auxiliary heat pump control by outdoor temperature 2	External device	Heat pump	61-08
Auxiliary heat pump control by outdoor temperature 3	External device	Heat pump	61-09

NOTES:

- After turning off the heater, 3 minutes of standby time is required by next power-on of the heater.
- For items marked "—" in the table, any of validate or invalidate of the setting are acceptable.
- *: External device means Hot water, Electrical heater, etc.

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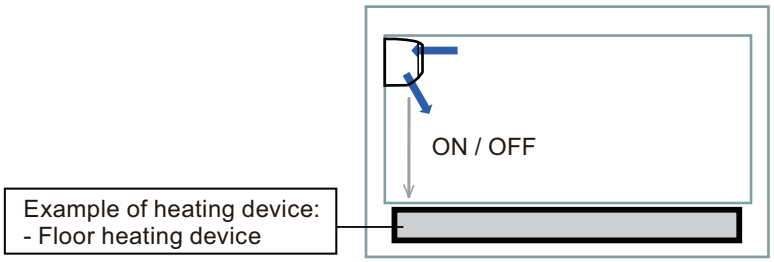
● Installation configuration of individual connection

External heating device is installed individually. (No use of indoor unit fan)



⚠ WARNING

- Design and install an external heater appropriately, with consideration for its protection and local codes.
- Inappropriate designing and installation of external heater may cause a fire by emitted heat from the external heater.
- Fujitsu General Ltd. is not responsible for inappropriate designing or installation of external heating device.

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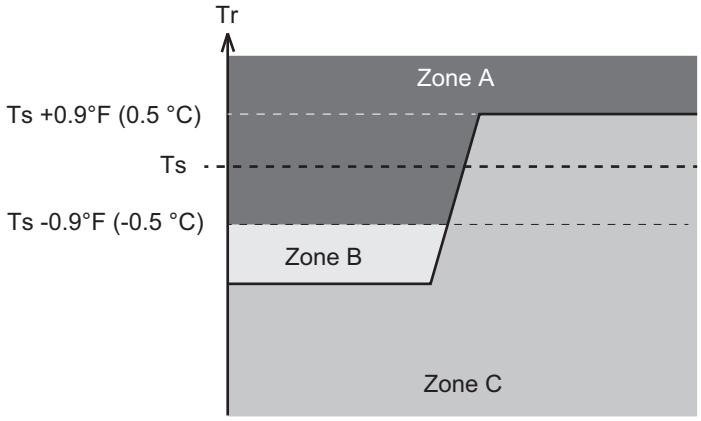
● Auxiliary equipment control by room temperature

Auxiliary equipment control is switchable by room temperature. Auxiliary equipment switching is performed for each room temperature divided to following 3 zones.



Ts: Setting temperature
Tr: Room temperature

Zone	Application	When temperature dropping		When temperature rising	
		Primary	Auxiliary	Primary	Auxiliary
A	Both of primary and auxiliary equipment is unnecessary.	Off	Off	Off	Off
B	Primary heater only.When room temperature stays in zone B for a long time, auxiliary equipment also operates.	On	Off*1	—	—
C	Auxiliary equipment also operates.	On	On*2	On	On*2

*1: For standby time for auxiliary equipment operation, refer to indoor unit function number 71 "Contents of function setting" on page 72.

*2: When indoor unit function number 61 is set to "00", auxiliary equipment operates according to the following conditions.

- Ts - Tr > 21.6 °F (-12.0 °C): Auxiliary equipment turn off.
- Ts - Tr > 18.0 °F (-10.0 °C): Auxiliary equipment turn on.

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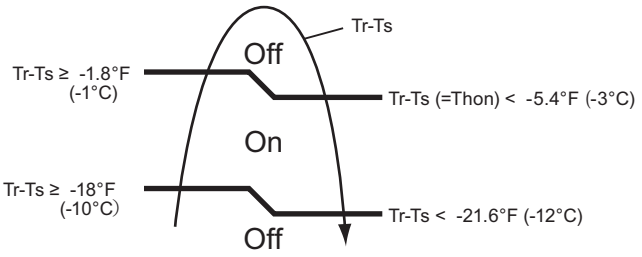
● Auxiliary heater control 1

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



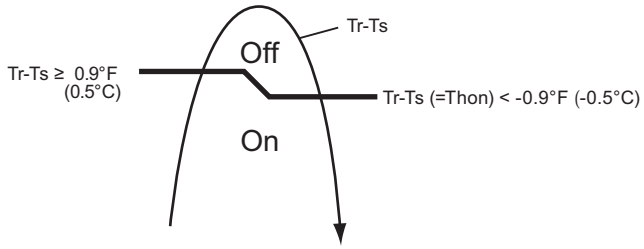
Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

Example: When set temperature (Ts) is 72°F (22°C) (Factory setting),
- and room temperature (Tr) increases above 53.6°F (12°C), signal output is on.
- and room temperature (Tr) increases above 69.8°F (21°C), signal output is off.
- and room temperature (Tr) decreases below 66.2°F (19°C), signal output is on.
- and room temperature (Tr) decreases below 50°F (10°C), signal output is off.

● Auxiliary heater control 2

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

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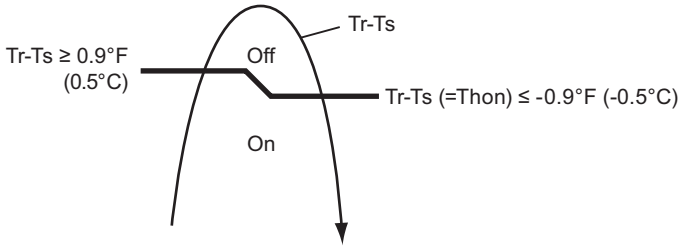
● Heat pump prohibition control

Perform heating by external heater only. Indoor unit is continuous thermostat off.

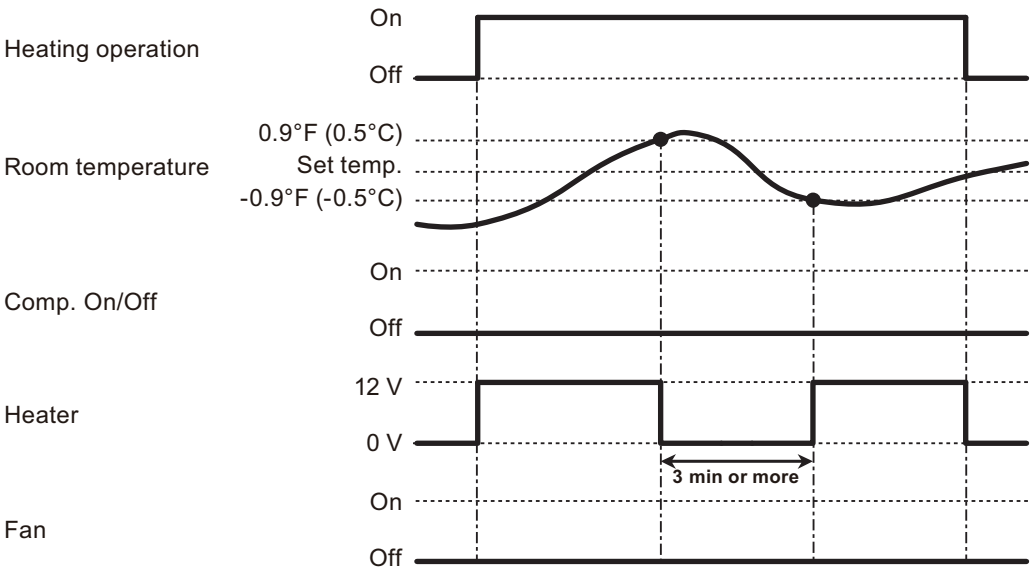
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Operation status**



NOTE: In following operations, compressor will be on.
- Other than heating
- Test run

WALL MOUNTED
ASUH09-24KZAS

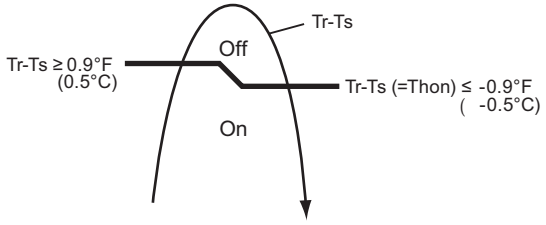
● Auxiliary heater control by outdoor temperature 1

This control selects heat pump or external heater according to the outdoor temperature. When outdoor temperature is high, the heating is performed by using heat pump only.

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Heat pump only zone

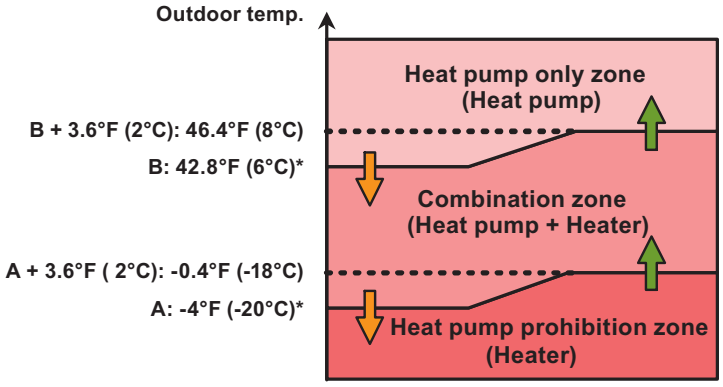
- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary A and B: Adjustable individually by function setting number 66 and 67.

- **External heater output**



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Outdoor temperature zone**



*: Adjustable by function setting 66 and 67

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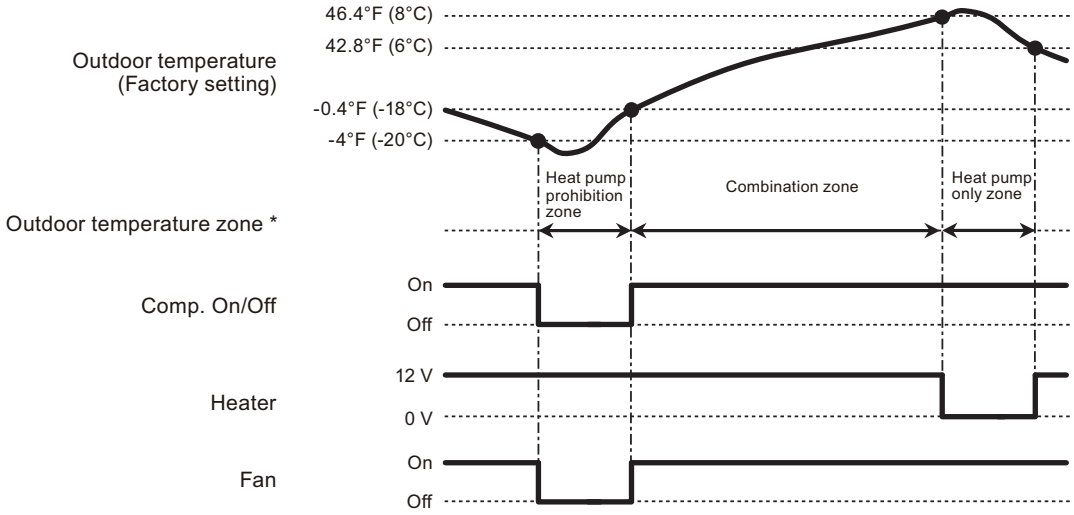
- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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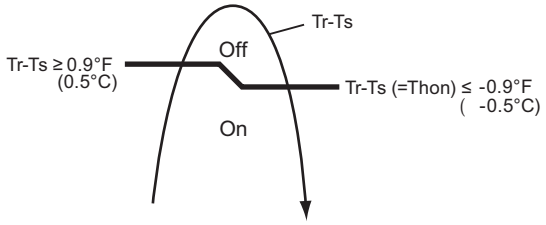
● Auxiliary heater control by outdoor temperature 2

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

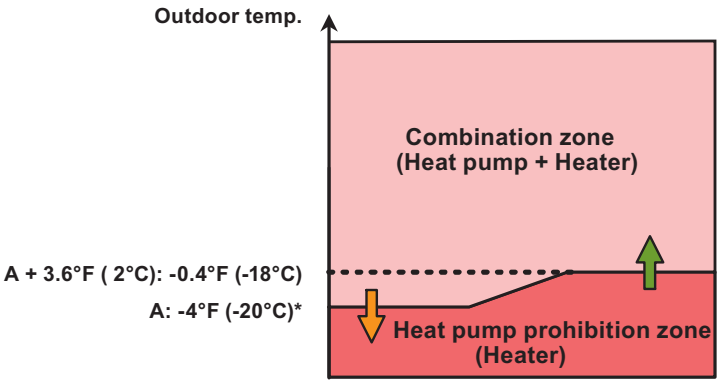
- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary A: Adjustable by function setting number 66.

- **External heater output**



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Outdoor temperature zone**



*: Adjustable by function setting 66

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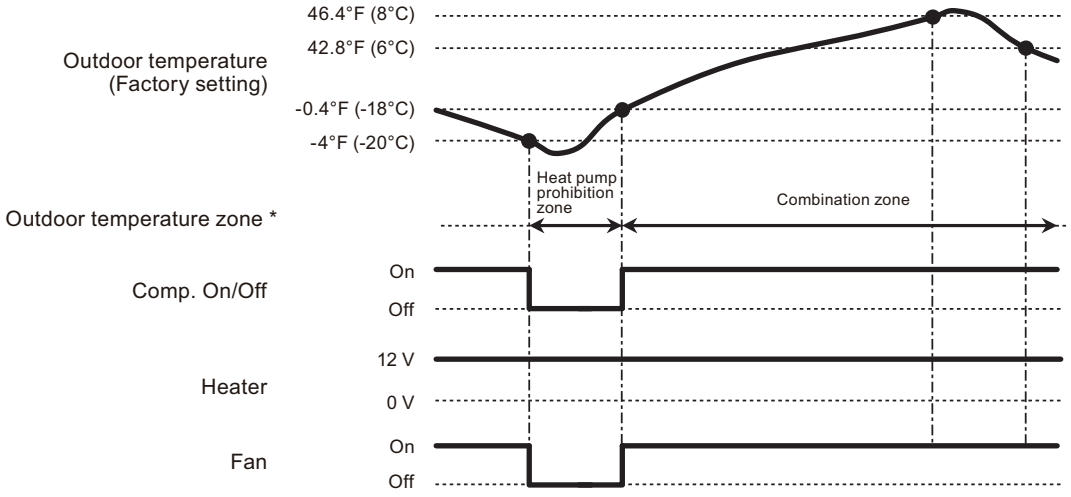
- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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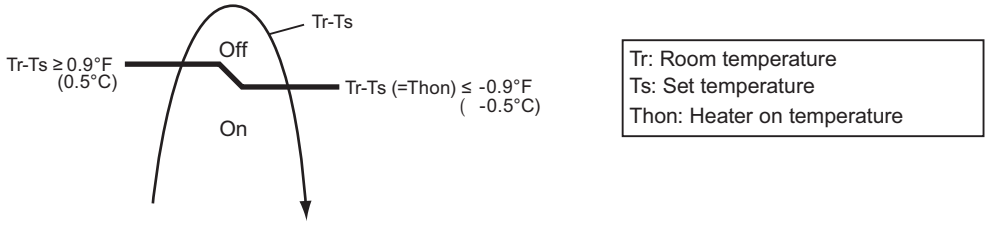
● Auxiliary heater control by outdoor temperature 3

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

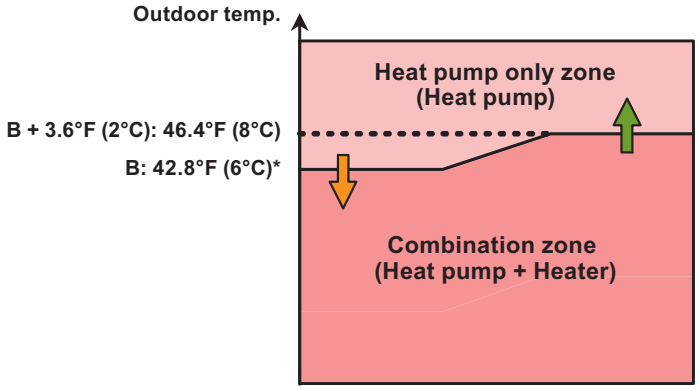
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary B: Adjustable by function setting number 37.

- **External heater output**

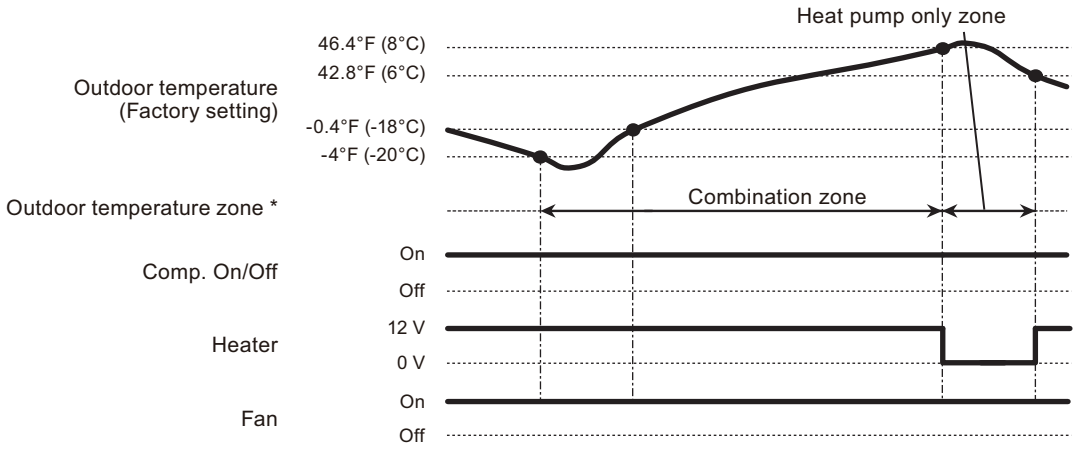


- **Outdoor temperature zone**



*: Adjustable by function setting 67

- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

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NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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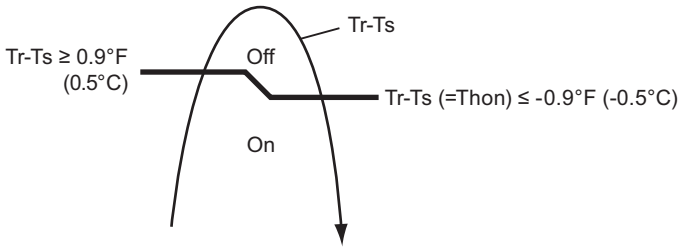
● Auxiliary heat pump control

- **External heater output**

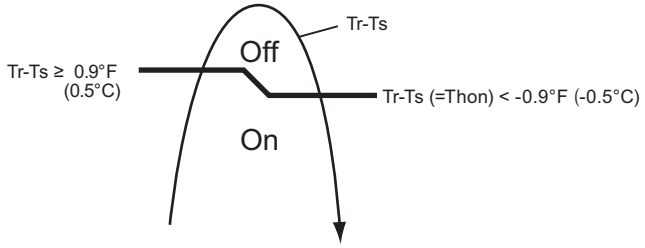
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

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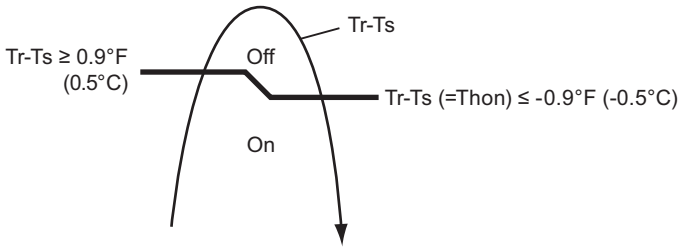
● Auxiliary heat pump control by outdoor temperature 1

- **External heater output**

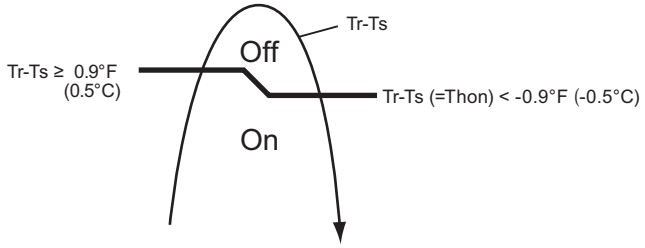
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



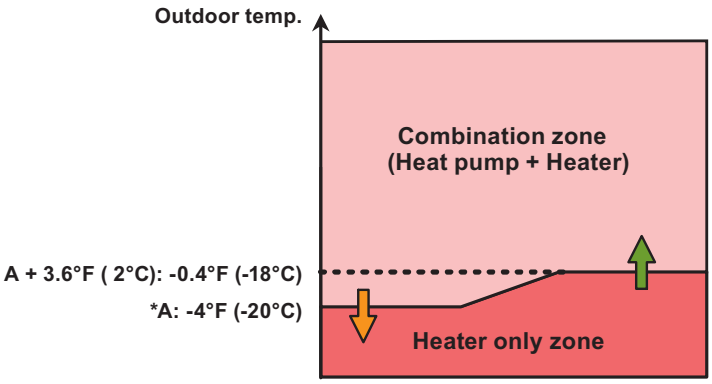
Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Outdoor temperature zone**



*: Adjustable by function setting 66

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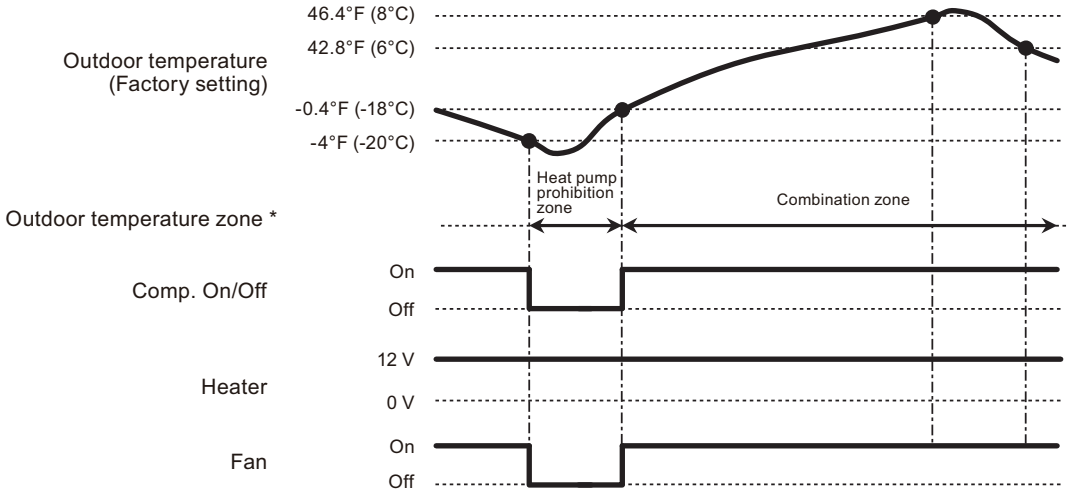
- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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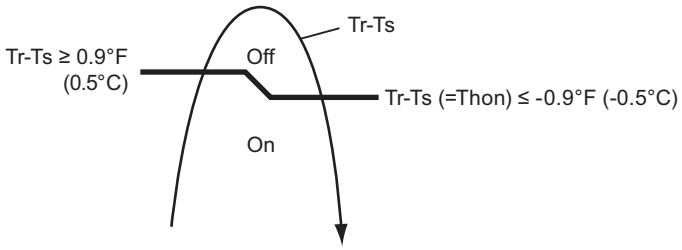
ASUH09-24KZAS

● Auxiliary heat pump control by outdoor temperature 2

- **External heater output**

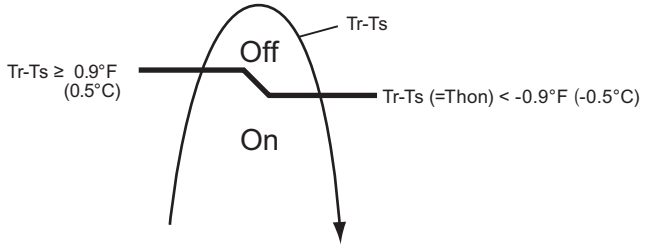
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



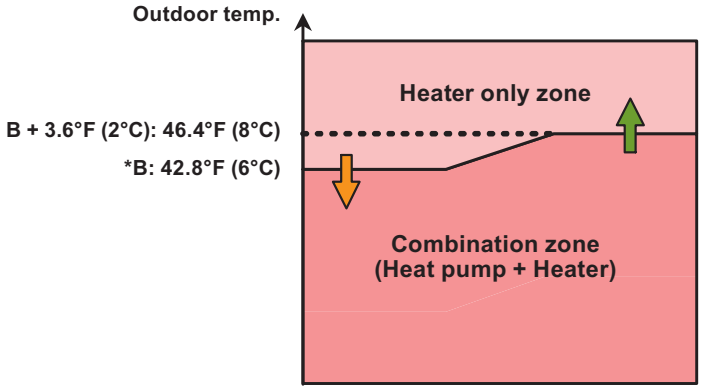
Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

- **Outdoor temperature zone**



*: Adjustable by function setting 67

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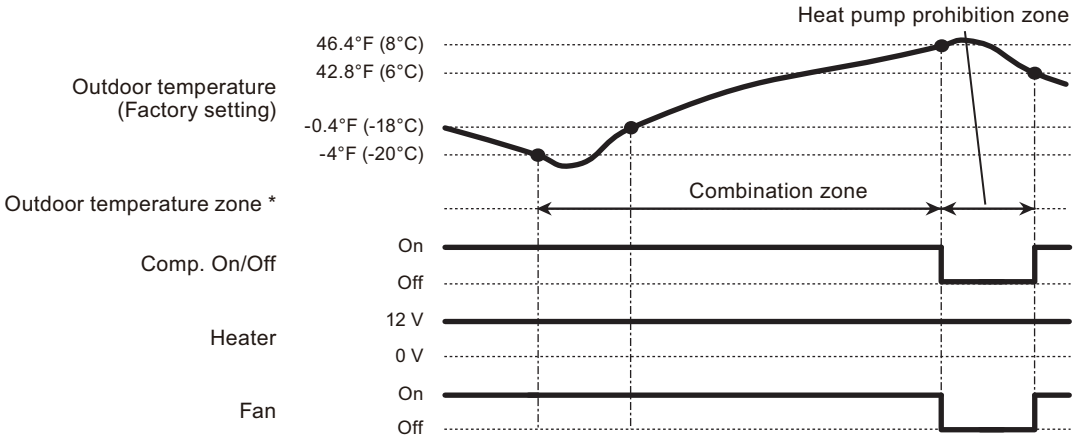
- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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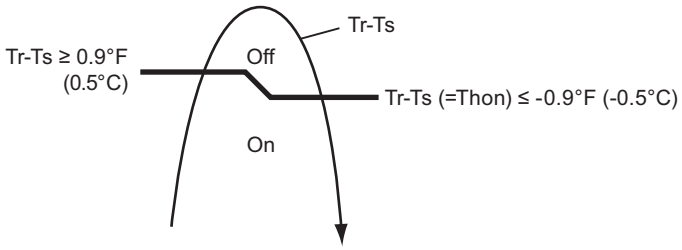
● Auxiliary heat pump control by outdoor temperature 3

- **External heater output**

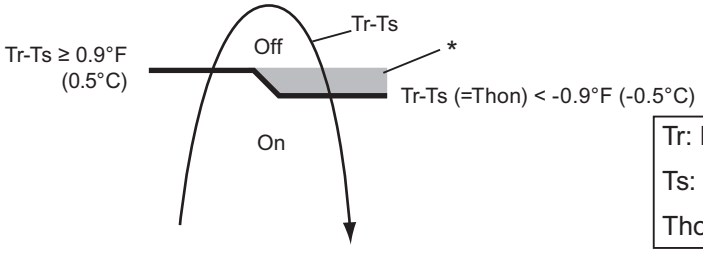
Operation	Condition
Heater on	Heater is on as shown in following diagram of heating temperature.
Heater off	• Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off

– Temperature of heater on (Thon): Set temperature (Ts) -0.9°F (-0.5°C)
– Temperature of heater off: Set temperature (Ts) +0.9°F (+0.5°C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

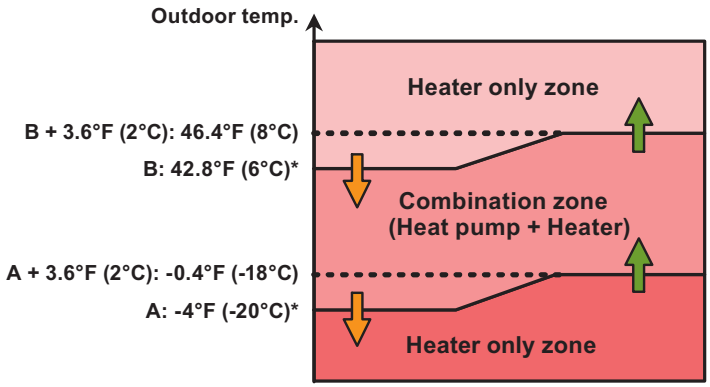
- **Auxiliary heat pump On/Off**
  – Temperature of heat pump on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
  – All control temperatures will shift by adjusting “Thon”.



Tr: Room temperature
Ts: Set temperature
Thon: Heat pump on temperature

*: When room temperature stays in this zone for a specific time, auxiliary heater is turned on. For details, refer to function number 71.

- **Outdoor temperature zone**



*: Adjustable by function setting 66 and 67

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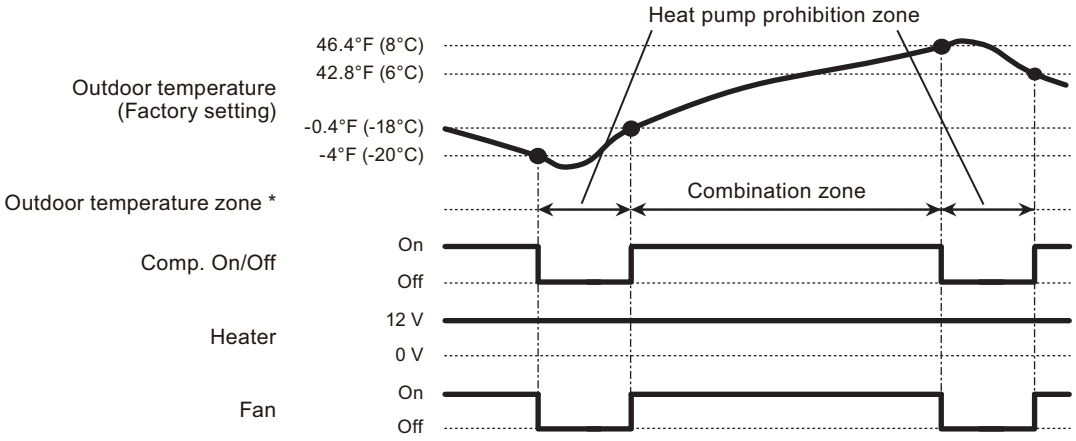
- **Operation status**



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

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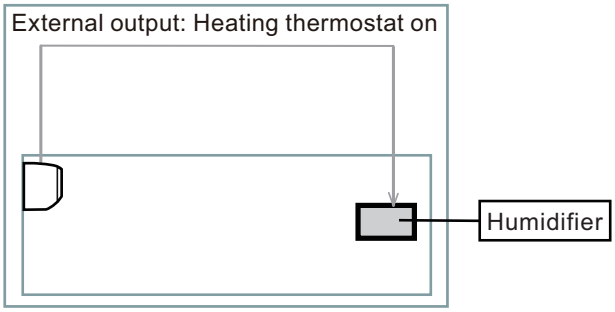
■ Heating thermostat on for humidifier

Situation	Indoor unit				
	Mode	Function setting	Rotary SW	External output	
		Heating thermostat on no. 60		Heating thermostat on	Indoor unit fan operation status
Example of individual connection	5	60-05	7	CN47	Not used
	6	60-06	8	CN312	
	7	60-07	9	CN311	
	8	60-08	A	CN310	

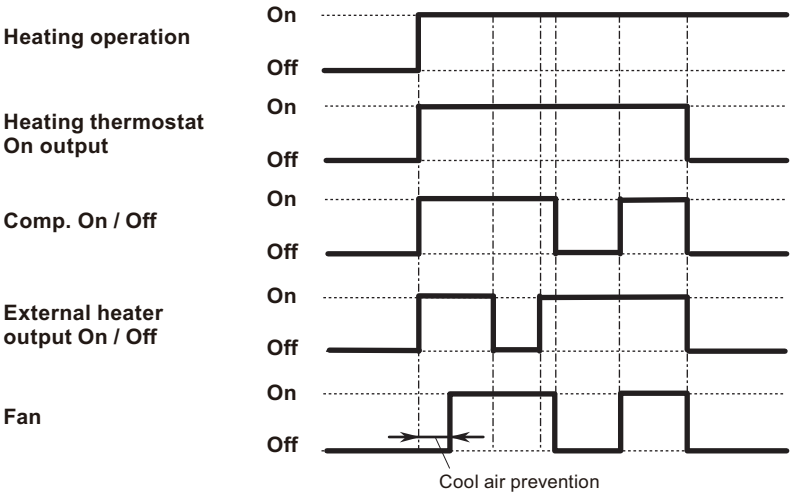
- **Example of individual connection**



- **Operation status**

  The heating thermostat output for CNB01 (1-2 or 1-3 or 1- or 1-5) will be on when comp on or external heater on.

  The heating thermostat output will be off when comp off and external heater off.



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10. Group connection

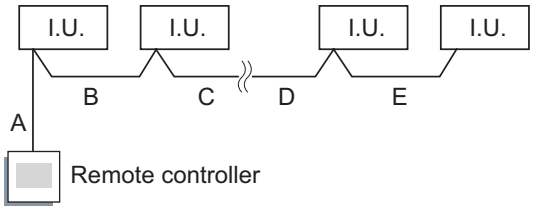
NOTE: Group control cannot be used together with WLAN Adapter.

Installation procedure for group control system:

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

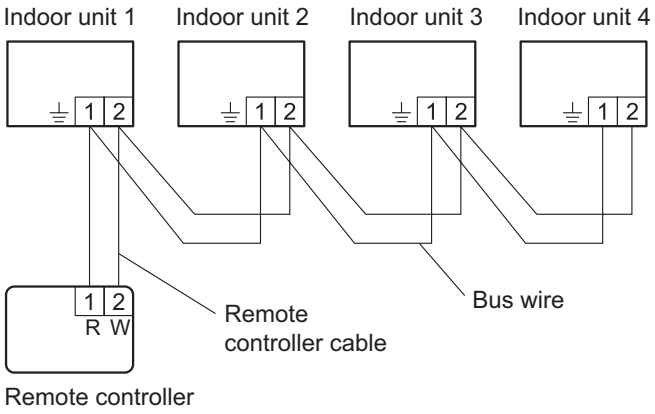
NOTE: When different type of indoor units (such as wall-mounted type and cassette type, cassette type and duct type, or other combinations) are connected using group control system, some functions may no longer be available.

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



A, B, C, D, E: Remote controller cable		
Wiring length limitation	UTY-RVRU	A + B + C + D + E ≤ 76.5 yd (70 m)
	Other than UTY-RVRU	A + B + C + D + E ≤ 546.8 yd (500 m)

Example of wiring method



2. Automatic address setting
   After the remote controller connection in the system, the automatic address setting runs in the initial starting up. Do not change the remote controller address for the indoor unit.

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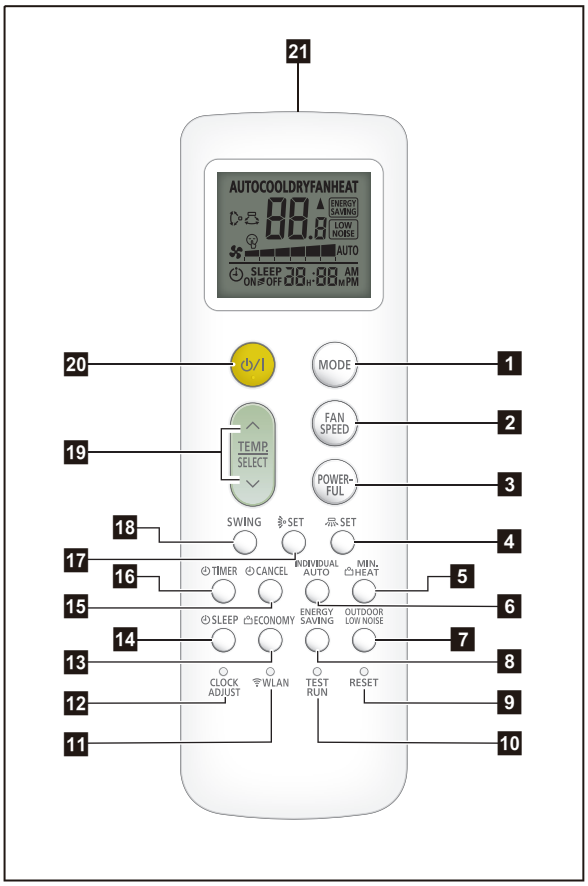
11. Remote controller

11-1. Wireless remote controller

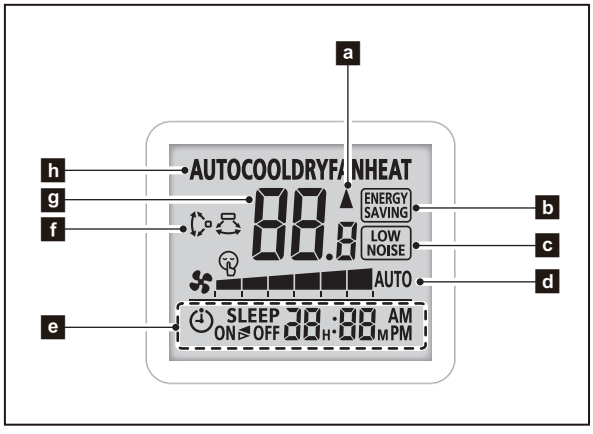
■ Overview



1 **MODE button**
2 **FAN SPEED button**
3 **POWERFUL button**
4 **SET button (Left/right airflow)**
5 **MIN. HEAT button**
6 **INDIVIDUAL AUTO button**
7 **OUTDOOR LOW NOISE button**
8 **ENERGY SAVING button**
9 **RESET button**
10 **TEST RUN button**
11 **WLAN button**
12 **CLOCK ADJUST button**
13 **ECONOMY button**
14 **SLEEP timer button**
15 **CANCEL button**
16 **TIMER button**
17 **SET button (Up/down airflow)**
18 **SWING button**
19 **TEMP./SELECT button**
20 **START/STOP button**
21 **Signal transmitter**

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

Display panel



a **Signal transmit indicator**
b **ENERGY SAVING mode indicator**
c **OUTDOOR LOW NOISE mode indicator**
d **Fan speed indicator**
e **Clock and Timer indicator**
f **Swing indicator**
g **Temperature indicator**
h **Operating mode indicator**

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

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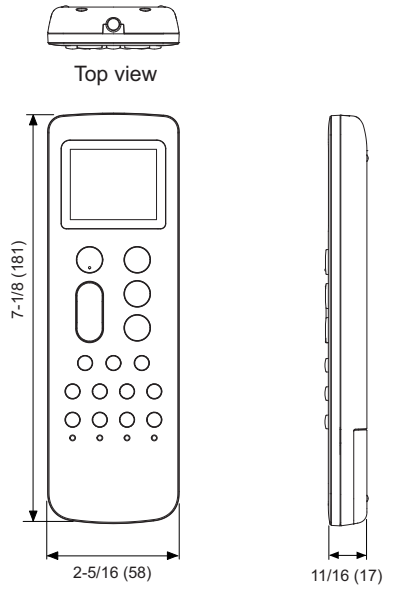
■ Specifications

● Controller

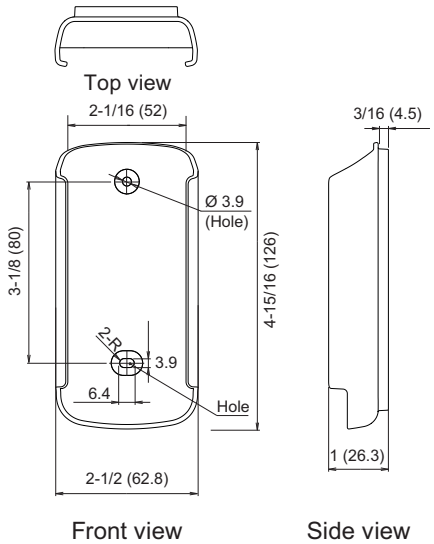
Unit: in (mm)



Size (H × W × D)	in (mm)	7-1/8 × 2-5/16 × 11/16 (181 × 58 × 17)
Weight	oz (g)	4 (116) (without batteries)

● Holder

Unit: in (mm)



Size (H × W × D)	in (mm)	4-15/16 × 2-1/2 × 1 (126 × 62.8 × 26.3)
Weight	oz (g)	1 (28)

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12. 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.

12-1. 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.

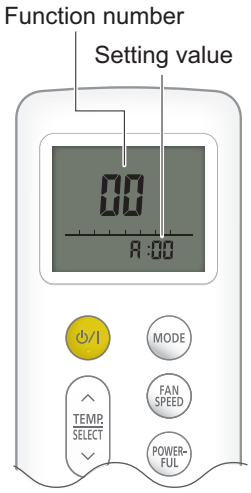
After reconfirming the items listed above, connect the power supply of the indoor unit.

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 FAN SPEED button and TEMP./SELECT (∧) button simultaneously, press the RESET button to enter the function setting mode.



Selecting the function number and setting value:

1. Press MODE button.
2. Press the TEMP./SELECT (∧) (∨) buttons to select the function number. (Press MODE button to switch between the left and right digits.)
3. Press the FAN SPEED button to proceed to value setting. (Press FAN SPEED button again to return to the function number selection.)
4. Press the TEMP./SELECT (∧) (∨) buttons to select the setting value. (Press MODE button to switch between the left and right digits.)
5. Press the POWERFUL button once. Please confirm the beeping sound.
6. Press the START/STOP button once to fix the Function setting. Please confirm the beeping sound.
7. Press the RESET button to cancel the function setting mode.
8. 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.

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■ 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
11)	61	Control switching of external heaters
12)	62	Operating temperature switching of external heaters
13)	66	Outdoor temperature zone boundary temperature A
14)	67	Outdoor temperature zone boundary temperature B
15)	71	Standby time for auxiliary equipment operation
16)	72	Heat pump backup setting
17)	73	Emergency heat for external output terminal
18)	94	Fixed operation mode switching
19)	95	Heat insulation condition (building insulation)

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

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	♦

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2) Room temperature control for indoor unit sensor

NOTE: Before performing this setting, refer to Function 95.
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 78°F and the setting value is “03” (-2°F), the corrected temp. will be 80°F (78°F - [-2°F]).

The temperature correction values show the difference from the Standard setting “00” (manufacturer’s recommended value).
*When Function 95-01 (High insulation) is set, the Standard setting “00” will be the same as “No correction 0.0°F (0.0°C)” (01).

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

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3) Room temperature control for wired remote controller sensor

NOTE: Before performing this setting, refer to Function 95.
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.

*When Function 95-01 (High insulation) is set, the Standard setting “00” will be the same as “No correction 0.0°C” (01).

Function number		Setting value	Setting description		Factory setting
35 (For cooling)	36 (For heating)	00	Standard setting*		♦
		01	No correction 0.0°F (0.0°C)		
		02	-1°F (-0.5°C)	More cooling Less heating	
		03	-2°F (-1.0°C)		
		04	-3°F (-1.5°C)		
		05	-4°F (-2.0°C)		
		06	-5°F (-2.5°C)		
		07	-6°F (-3.0°C)		
		08	-7°F (-3.5°C)		
		09	-8°F (-4.0°C)		
		10	+1°F (+0.5°C)	Less cooling More heating	
		11	+2°F (+1.0°C)		
		12	+3°F (+1.5°C)		
		13	+4°F (+2.0°C)		
		14	+5°F (+2.5°C)		
		15	+6°F (+3.0°C)		
		16	+7°F (+3.5°C)		
		17	+8°F (+4.0°C)		

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.

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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.

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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—04	Cooling thermostat On	
	05	Heating operation	
	06	Operation/Stop	
	07—08	Cooling thermostat On	
	09	Error status	
	10	Indoor unit fan operation status	
	11	External heater	

11) Control switching of external heaters

Sets the control method for external heater to be used.

For details, refer to “External heater output” in "Details of control output function" on page 47.

Function number	Setting value	Setting description	Factory setting
61	00	Auxiliary heater control 1	♦
	01	Auxiliary heater control 2	
	02	Heat pump prohibition control	
	03	Auxiliary heater control by outdoor temperature 1	
	04	Auxiliary heater control by outdoor temperature 2	
	05	Auxiliary heater control by outdoor temperature 3	
	06	Auxiliary heat pump control	
	07	Auxiliary heat pump control by outdoor temperature 1	
	08	Auxiliary heat pump control by outdoor temperature 2	
	09	Auxiliary heat pump control by outdoor temperature 3	

12) Operating temperature switching of external heaters

Sets the temperature conditions when the external heater is ON.

For details, refer to “External heater output” in "Details of control output function" on page 47.

Function number	Setting value	Setting description		Factory setting
		Heater: On	Heater: Off	
62	00	-5.4 °F (-3 °C)	-1.8 °F (-1 °C)	♦
	01	-3.6 °F (-2 °C)	-1.8 °F (-1 °C)	
	02	-3.6 °F (-2 °C)	-1.8 °F (-1 °C)	
	03	-5.4 °F (-3 °C)	-1.8 °F (-1 °C)	
	04	-7.2 °F (-4 °C)	-1.8 °F (-1 °C)	
	05	-9.0 °F (-5 °C)	-1.8 °F (-1 °C)	

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13) Outdoor temperature zone boundary temperature A

Setting required if changing of the outdoor temperature setting for heat pump prohibition zone is required when auxiliary heater control by outdoor temperature 1 and 2 are performed on the indoor unit.

For details, refer to “External heater output” in "Details of control output function" on page 47.

Function number	Setting value	Setting description	Factory setting
66	00	-4.0°F (-20°C)	♦
	01	-0.4°F (-18°C)	
	02	3.2°F (-16°C)	
	03	6.8°F (-14°C)	
	04	10.4°F (-12°C)	
	05	14.0°F (-10°C)	
	06	17.6°F (-8°C)	
	07	21.2°F (-6°C)	
	08	24.8°F (-4°C)	

14) Outdoor temperature zone boundary temperature B

Setting required if changing of the outdoor temperature setting for heat pump only zone is required when auxiliary heater control by outdoor temperature 1 and 3 is performed on the indoor unit.

For details, refer to “External heater output” in "Details of control output function" on page 47.

Function number	Setting value	Setting description	Factory setting
67	00	42.8°F (6°C)	♦
	01	14.0°F (-10°C)	
	02	17.6°F (-8°C)	
	03	21.2°F (-6°C)	
	04	24.8°F (-4°C)	
	05	28.4°F (-2°C)	
	06	32.0°F (0°C)	
	07	35.6°F (2°C)	
	08	39.2°F (4°C)	
	09	42.8°F (6°C)	
	10	46.4°F (8°C)	
	11	50.0°F (10°C)	
	12	53.6°F (12°C)	
	13	57.2°F (14°C)	
	14	60.8°F (16°C)	
	15	64.4°F (18°C)	

15) Standby time for auxiliary equipment operation

Sets the standby time until the auxiliary equipment operation starts during primary equipment operation.

For details, refer to "Details of control output function" on page 47.

Function number	Setting value	Setting description	Factory setting
71	00	Disable	♦
	01	1 minute	
	02	2 minutes	
	•	•	
	•	•	
	•	•	
	98	98 minutes	
	99	99 minutes	

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16) Heat pump backup setting

Enables or disables the heat pump backup operation.

Function number	Setting value	Setting description	Factory setting
72	00	Disable	♦
	01	Enable	

17) Emergency heat for external output terminal

Enables or disables emergency heat input.

Function number	Setting value	Setting description	Factory setting
73	00	Disable	♦
	01	Enable	

NOTE: When this function is used, IR Receiver Unit or Wired Remote Controller is necessary.

18) Fixed operation mode switching

Sets the operation mode to heat pump, heating only, or cooling only.

Function number	Setting value	Setting description	Factory setting
94	00	Heat pump	♦
	01	Heating only	
	02	Cooling only	

19) Heat insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

“Standard insulation” (00) allows system to rapidly respond to the cooling or heating load changes.

“High insulation” (01) is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When “High insulation” (01) is selected:

- Overheating (overcooling) is prevented at the start-up.
- All room-temperature control settings (Function 30, 31, 35, and 36) will reset to “No correction 0.0°F (0.0°C)”.

Function number	Setting value	Setting description	Factory setting
95	00	Standard insulation	♦
	01	High insulation	

NOTE: When changing Function 95, perform this setting before other room-temperature control settings (Function 30, 31, 35, and 36). If Function 95 is not set first, room-temperature control settings (Function 30, 31, 35, and 36) will be reset and you must re-do them again.

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12-2. Custom code setting for wireless remote controller

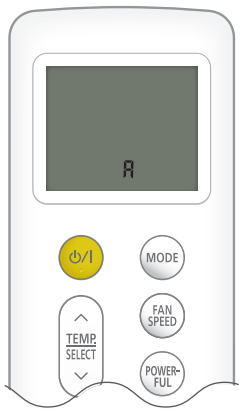
To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

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./SELECT (∧) (∨) buttons to change the custom code between A →b →c →d. Match the code on the display to the air conditioner custom code.
4. Press the MODE button again to return to the clock display. The custom code will be changed.



NOTES:

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

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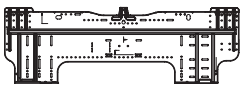
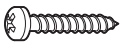
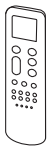
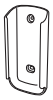
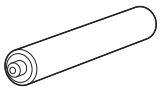
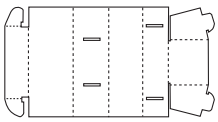
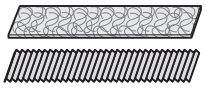
13. Accessories

13-1. Models: ASUH09KZAS, ASUH12KZAS, and ASUH15KZAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Wall hook bracket		1
Installation manual		1	Tapping screw (large)		5
Remote controller		1	Tapping screw (small)		2
Remote controller holder		1	Cloth tape		1
Battery		2	Filter holder		2
Installation spacer		1	Air cleaning filters		1

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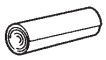
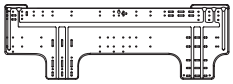
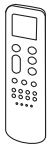
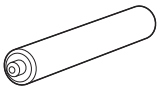
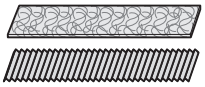
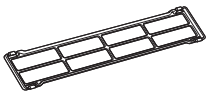
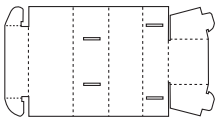
13-2. Models: ASUH18KZAS and ASUH24KZAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Drain hose insulation		1
Installation manual		1	Cloth tape		1
Wall hook bracket		1	Self-tapping screw (large)		8
Remote controller		1	Self-tapping screw (small)		2
Battery		2	Air cleaning filters		1
Remote controller holder		1	Filter holder		2
Installation spacer		1			

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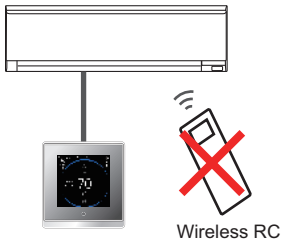
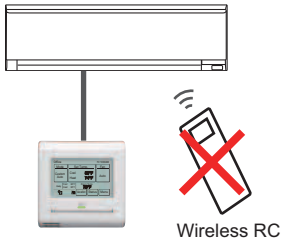
14. Optional parts

14-1. Controllers

Exterior	Part name	Model name	Summary
	Wired Remote Controller (Touch Panel)	UTY-RVRU	Remote controller that provides the functions you need in a sleek design that uniquely transforms itself to blend with any interior. Optional Communication Kit is necessary for installation. **NOTE:** When this remote controller is connected, wireless remote controller cannot be used. 
	Wired Remote Controller (Touch Panel)	UTY-RNRUZ∗	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Optional Communication Kit is necessary for installation. **NOTE:** When this remote controller is connected, wireless remote controller cannot be used. 
	Simple Remote Controller	UTY-RSRY	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. 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. Optional Communication Kit is necessary for installation.

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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 WLAN Adapter is prohibited.

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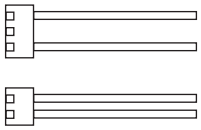
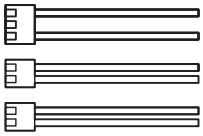
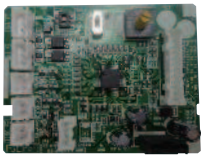
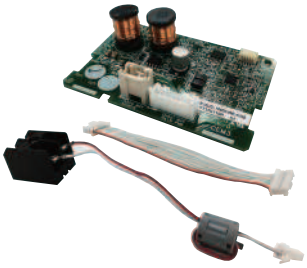
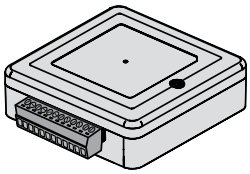
14-2. Others

Exterior	Part name	Model name	Summary
	External Connect Kit	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PCB. Connecting point: CN46 and CN47 on Main PCB
	External Connect Kit	UTY-XWZXZ5	Required when external device is connected. Connecting point: CN46 and CN47 on Main PCB
	External Input and Output PCB	UTY-XCSXZ2	Use to connect with external devices and air conditioner PCB. Optional External Connect Kit might be required to connect locally purchased devices via this PCB. Connecting point: CN65 on Main PCB
	Communication Kit	UTY-TWRXZ2	Use to connect Non-polar 2-core wired remote controller. Connecting point: CN13 on Main PCB
	Modbus Converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network. Connecting point: CN65 on Main PCB
	Thermostat Converter	UTY-TTRXZ*	This converter can control Fujitsu General products using a third-party thermostat controller. Optional Communication Kit is necessary for installation. Simultaneous use with Wireless Remote Controller is prohibited.
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system. Optional Communication Kit is necessary for installation.
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches. Optional Communication Kit is necessary for installation.

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOUH09KZAH1
AOUH12KZAH1
AOUH15KZAH1
AOUH18KZAH1
AOUH24KZAH1

1. Specifications

1-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1

OUTDOOR UNIT
AOUH09-24KZAH1

Type				Inverter, Heat pump		
Model name				**AOUH09KZAH1**	**AOUH12KZAH1**	**AOUH15KZAH1**
Power supply				208/230 V~ 60 Hz		
Power supply intake				Outdoor unit		
Available voltage range				187—253 V		
Starting current			A	3.3	4.7	5.2
Fan	Airflow rate	Cooling	CFM (m^3/h)	1,089 (1,850)	1,171 (1,990)	1,218 (2,070)
		Heating		1,089 (1,850)		1,348 (2,290)
	Type × Qty			Propeller fan × 1		
	Motor output		W	49		
Sound pressure level*1		Cooling	dB (A)	46	47	49
		Heating		47		50
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 23-1/8 × 34-11/16 × 11/16 (588 × 881 × 18.19) Main 2: 23-1/8 × 33-1/2 × 11/16 (588 × 851 × 18.19)		
		Fin pitch	FPI	Main 1: 20 Main 2: 20		
		Rows × Stages		Main 1: 1 × 28 Main 2: 1 × 28		
		Pipe type		Copper tube		
		Fin type	Type (Material)	Aluminum		
			Surface treatment	PC fin		
Compressor		Type		DC rotary		
		Motor output	W	925		1,060
Refrigerant		Type		R32		
		Charge	lb oz	2 lb 9 oz		2 lb 10 oz
			g	1,150		1,200
Refrigerant oil		Type		RmM68AF		
		Amount	in^3 (cm^3)	24.4 (400)		
Enclosure		Material		Steel sheet		
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0		
Dimensions (H × W × D)		Net	in (mm)	24-7/8 × 31-7/16 × 11-7/16 (632 × 799 × 290)		
		Gross		27-1/4 × 37 × 14-3/4 (692 × 940 × 375)		
Weight		Net	lb (kg)	86 (39)		
		Gross		95 (43)		
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		Ø1/2 (Ø12.70)
	Method			Flare		
	Pre-charge length		ft (m)	49 (15)		
	Min. length			10 (3)		
	Max. length			82 (25)		98 (30)
	Max. height difference			66 (20)		82 (25)
Operation range		Cooling*2	°F (°C)	14 to 122 (-10 to 50)		
		Heating		-15 to 75 (-26 to 24)		

NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
  - Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FWB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
  - Measured values in manufacturer's semi-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: Suction temperature of the outdoor unit.

OUTDOOR UNIT
AOUH09-24KZAH1

1-2. Models: AOUH18KZAH1 and AOUH24KZAH1

Type				Inverter, Heat pump	
Model name				**AOUH18KZAH1**	**AOUH24KZAH1**
Power supply				208/230 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				187—253 V	
Starting current			A	6.5	8.3
Fan	Airflow rate	Cooling	CFM (m^3/h)	1,666 (2,830)	1,919 (3,260)
		Heating		1,725 (2,930)	2,172 (3,690)
	Type × Qty			Propeller fan × 1	
	Motor output		W	100	
Sound pressure level*		Cooling	dB (A)	47	51
		Heating		50	54
Heat exchanger type		Dimensions (H × W × D)	in (mm)	Main 1: 29-3/4 × 35-5/8 × 11/16 (756 × 905 × 18.19) Main 2: 29-3/4 × 35-5/8 × 11/16 (756 × 905 × 18.19)	
		Fin pitch	FPI	Main 1: 18 Main 2: 18	
		Rows × Stages		Main 1: 1 × 36 Main 2: 1 × 36	
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	Blue fin	
Compressor		Type		DC twin rotary	
		Motor output	W	1,435	
Refrigerant		Type		R32	
		Charge	lb oz	3 lb 12 oz	
			g	1,700	
Refrigerant oil		Type		RmM68AF	
		Amount	in^3 (cm^3)	48.8 (800)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	in (mm)	31 × 37 × 12-5/8 (788 × 940 × 320)	
		Gross		38-1/16 × 40-7/16 × 17-1/2 (966 × 1,027 × 445)	
Weight		Net	lb (kg)	117 (53)	
		Gross		134 (61)	
Connection pipe	Size	Liquid	in (mm)	Ø3/8 (Ø9.52)	
		Gas		Ø5/8 (Ø15.88)	
	Method			Flare	
	Pre-charge length		ft (m)	66 (20)	
	Min. length			16 (5)	
	Max. length			164 (50)	
	Max. height difference			98 (30)	
Operation range		Cooling	°F (°C)	14 to 122 (-10 to 50)	
		Heating		-15 to 75 (-26 to 24)	
Drain hose		Material		Low-density polyethylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.7) (O.D.)	

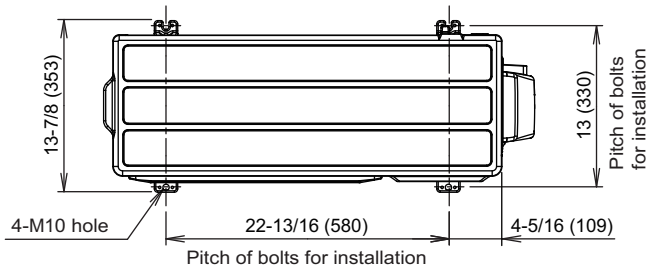
NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
  - Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FWB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *: Sound pressure level
  - Measured values in manufacturer's semi-anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

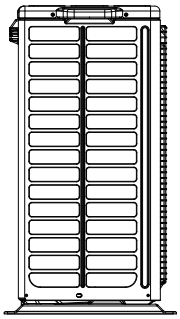
2. Dimensions

2-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1

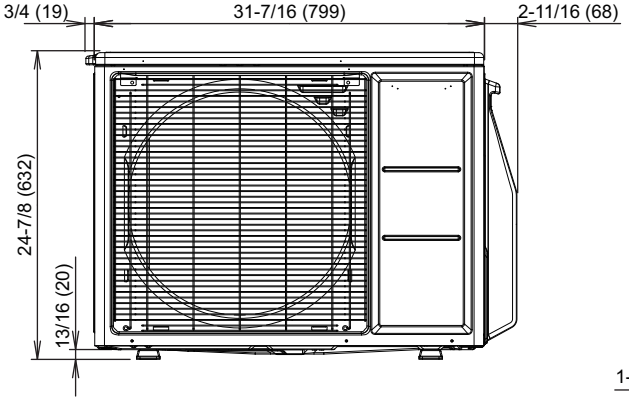
Unit: in (mm)



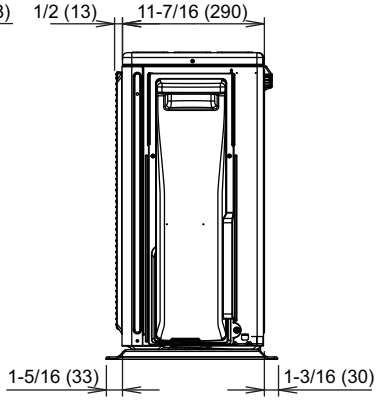
Top view



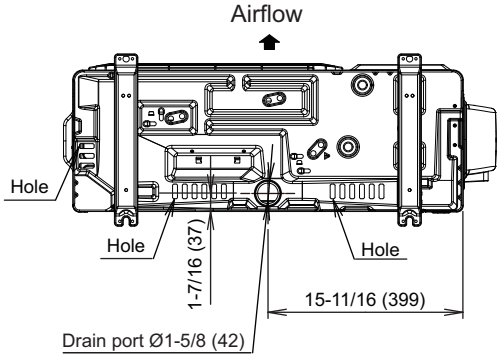
Side view



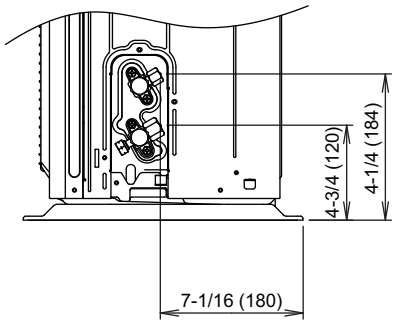
Front view



Side view



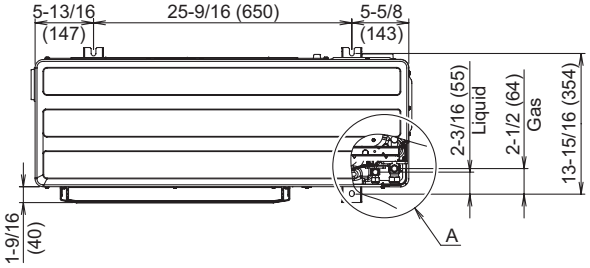
Bottom view



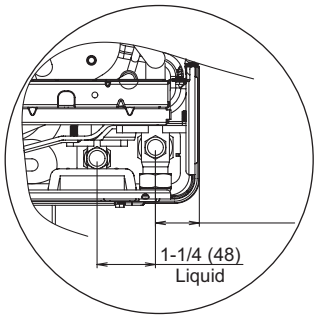
Side view (Valve part)

2-2. Models: AOUH18KZAH1 and AOUH24KZAH1

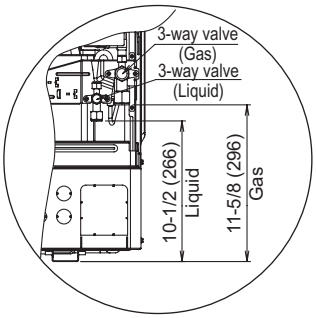
Unit: in (mm)



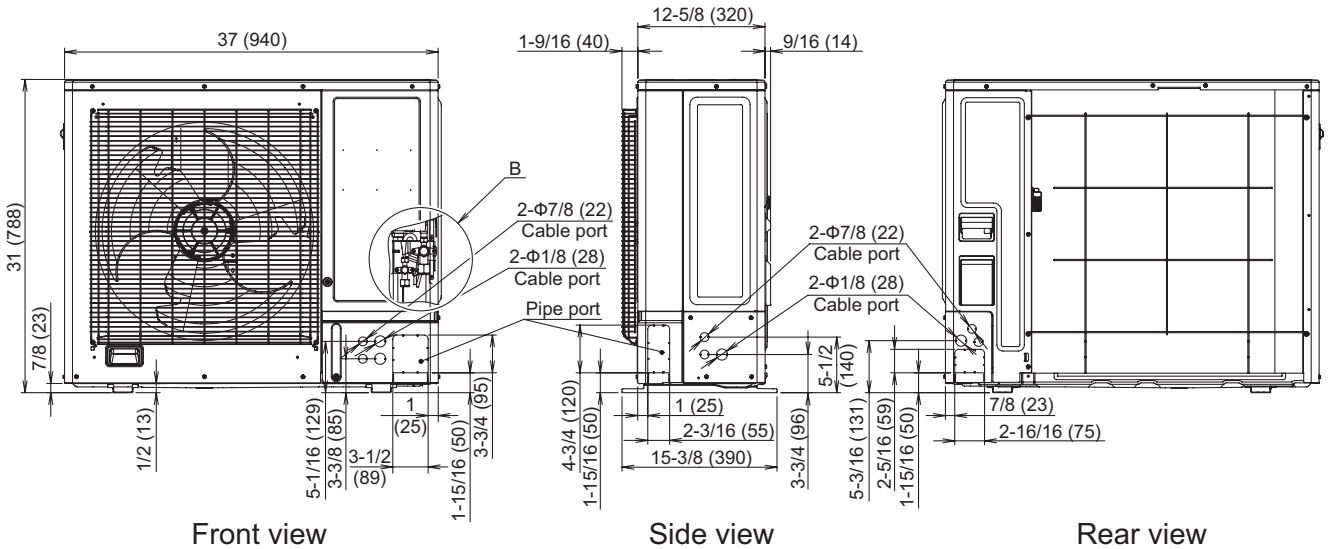
Top view



Detail A



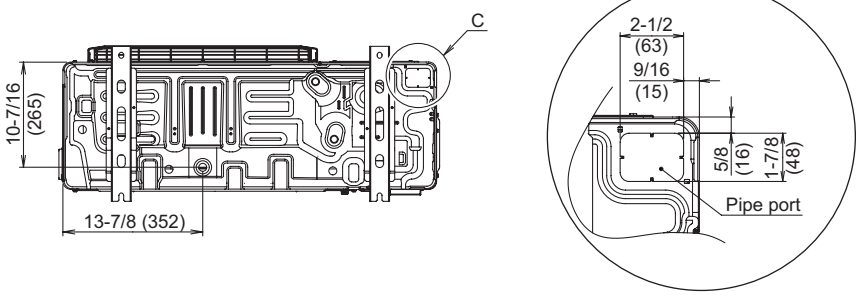
Detail B



Front view

Side view

Rear view



Bottom view

Detail C

OUTDOOR UNIT
AOUH09-24KZAH1

3. Installation space

3-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

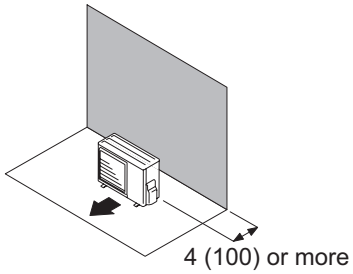
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

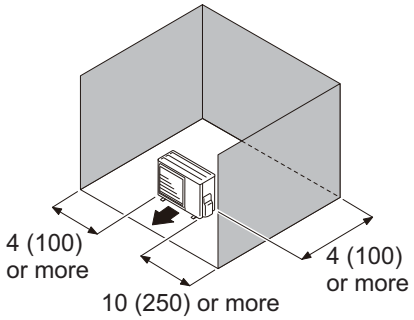
- **When the upper space is open:**

Unit: in (mm)

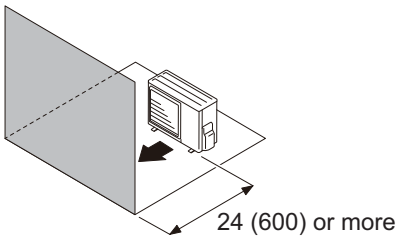
Obstacles at rear only



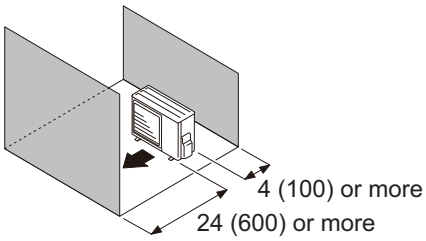
Obstacles at rear and sides



Obstacles at front



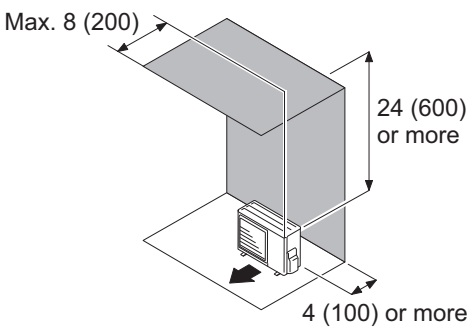
Obstacles at front and rear



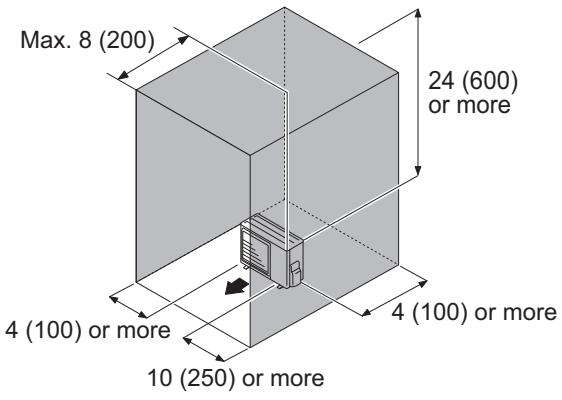
- **When an obstruction in the upper space:**

Unit: in (mm)

Obstacles at rear and above



Obstacles at rear, sides, and above



OUTDOOR UNIT
AOUH09-24KZAH1

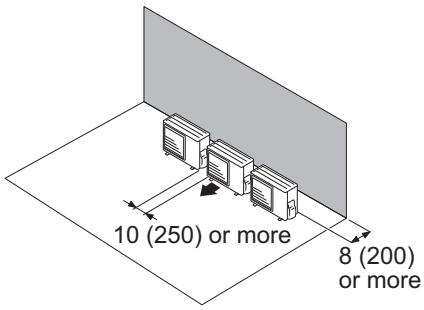
● Multiple outdoor unit installation

- Provide at least 10 in (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:**".

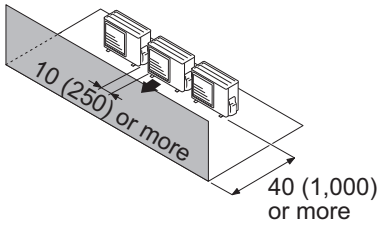
- **When the upper space is open:**

Unit: in (mm)

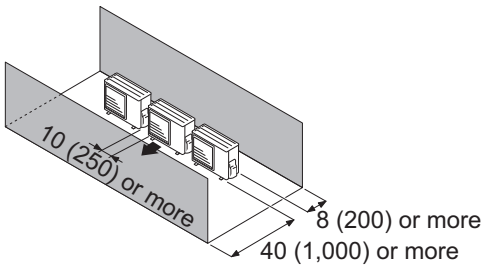
Obstacles at rear only



Obstacles at front only



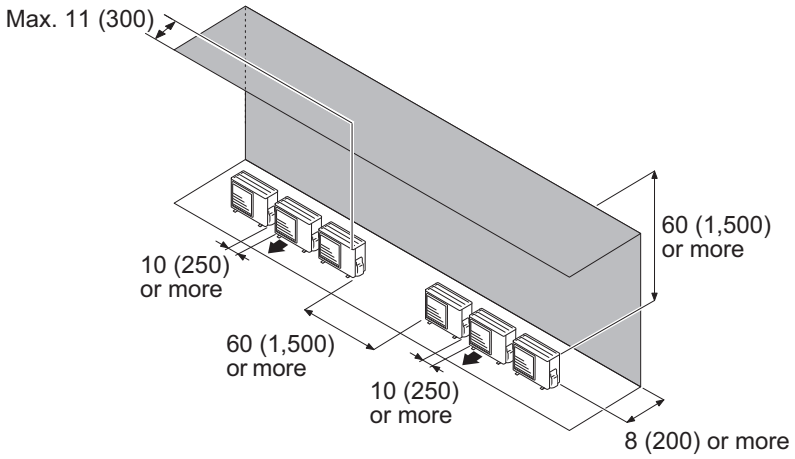
Obstacles at front and rear



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

Unit: in (mm)

Obstacles at rear and above.

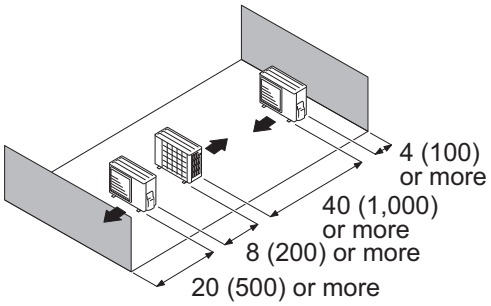


OUTDOOR UNIT
AOUH09-24KZAH1

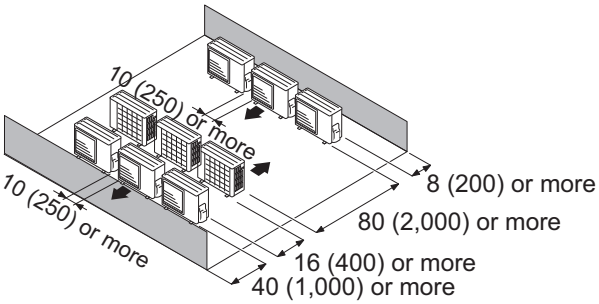
● Outdoor units installation in multi-row

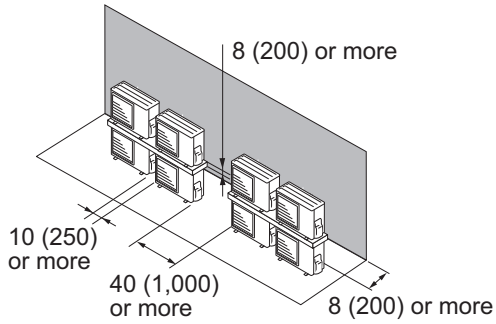
Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement



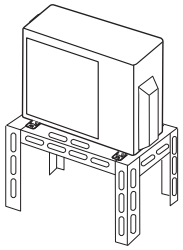


NOTES:

- 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 32 °F (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.



OUTDOOR UNIT
AOUH09-24KZAH1

3-2. Models: AOUH18KZAH1 and AOUH24KZAH1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

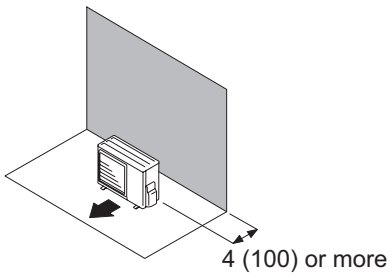
Keep the space shown in the installation examples.
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

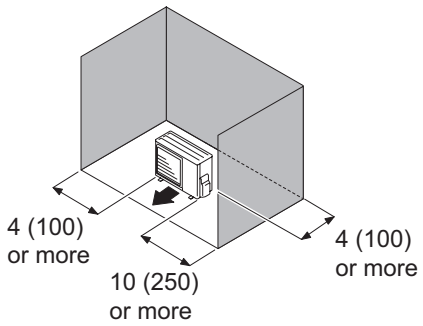
- **When the upper space is open:**

Unit: in (mm)

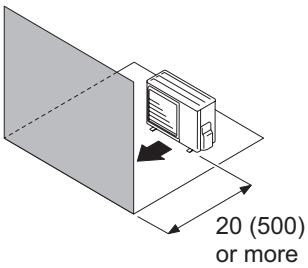
When there are obstacles at the rear only.



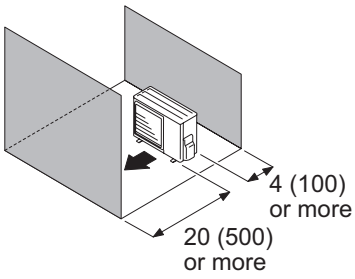
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



When there are obstacles at the front and rear.

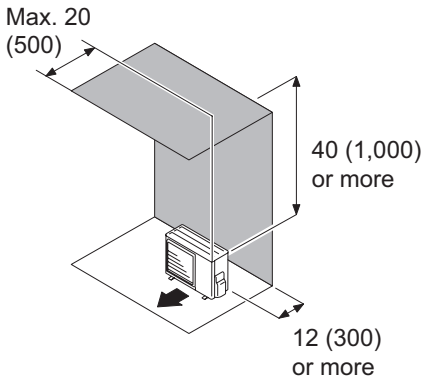


OUTDOOR UNIT
AOUH09-24KZAH1

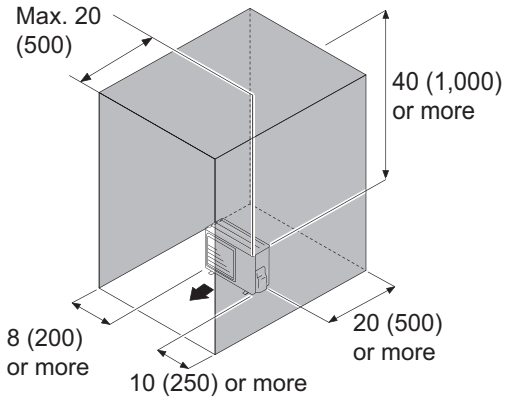
- **When an obstruction in the upper space:**

Unit: in (mm)

When there are obstacles at the rear and above.



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



OUTDOOR UNIT
AOUH09-24KZAH1

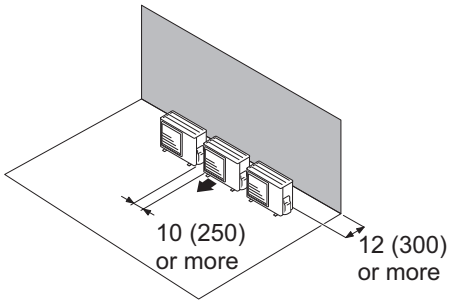
● Multiple outdoor unit installation

- 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:**".

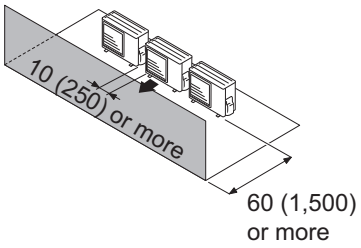
- **When the upper space is open:**

Unit: in (mm)

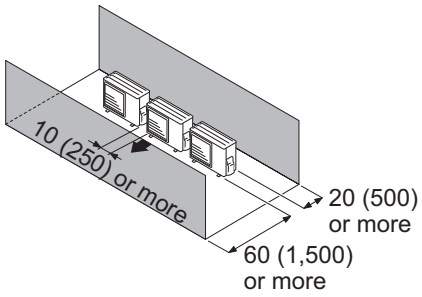
When there are obstacles at the rear only.



When there are obstacles at the front only.



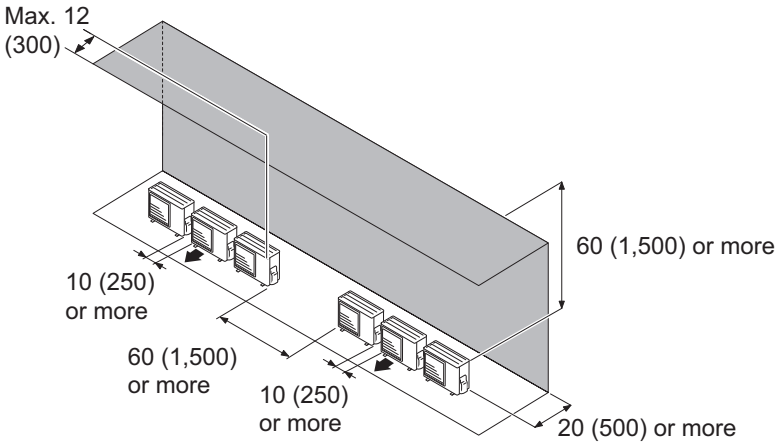
When there are obstacles at the front and rear.



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

Unit: in (mm)

When there are obstacles at the rear and above.

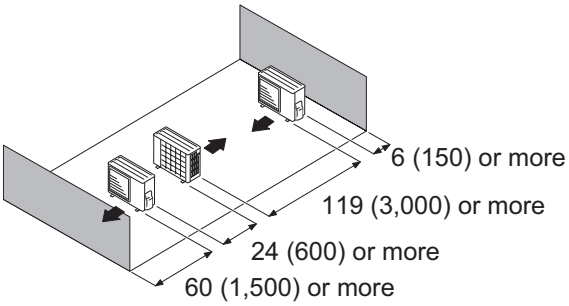


OUTDOOR UNIT
AOUH09-24KZAH1

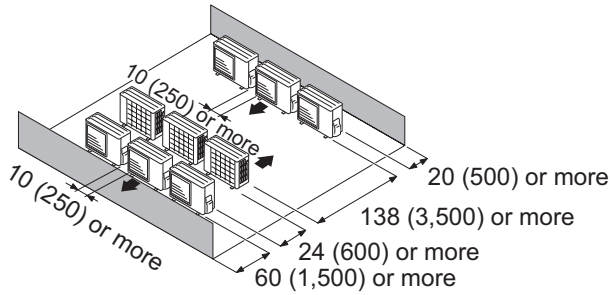
● Outdoor unit installation in multi-row

Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement

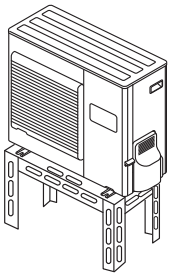


NOTES:

- 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 2 in (50 mm) or more.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

⚠ CAUTION

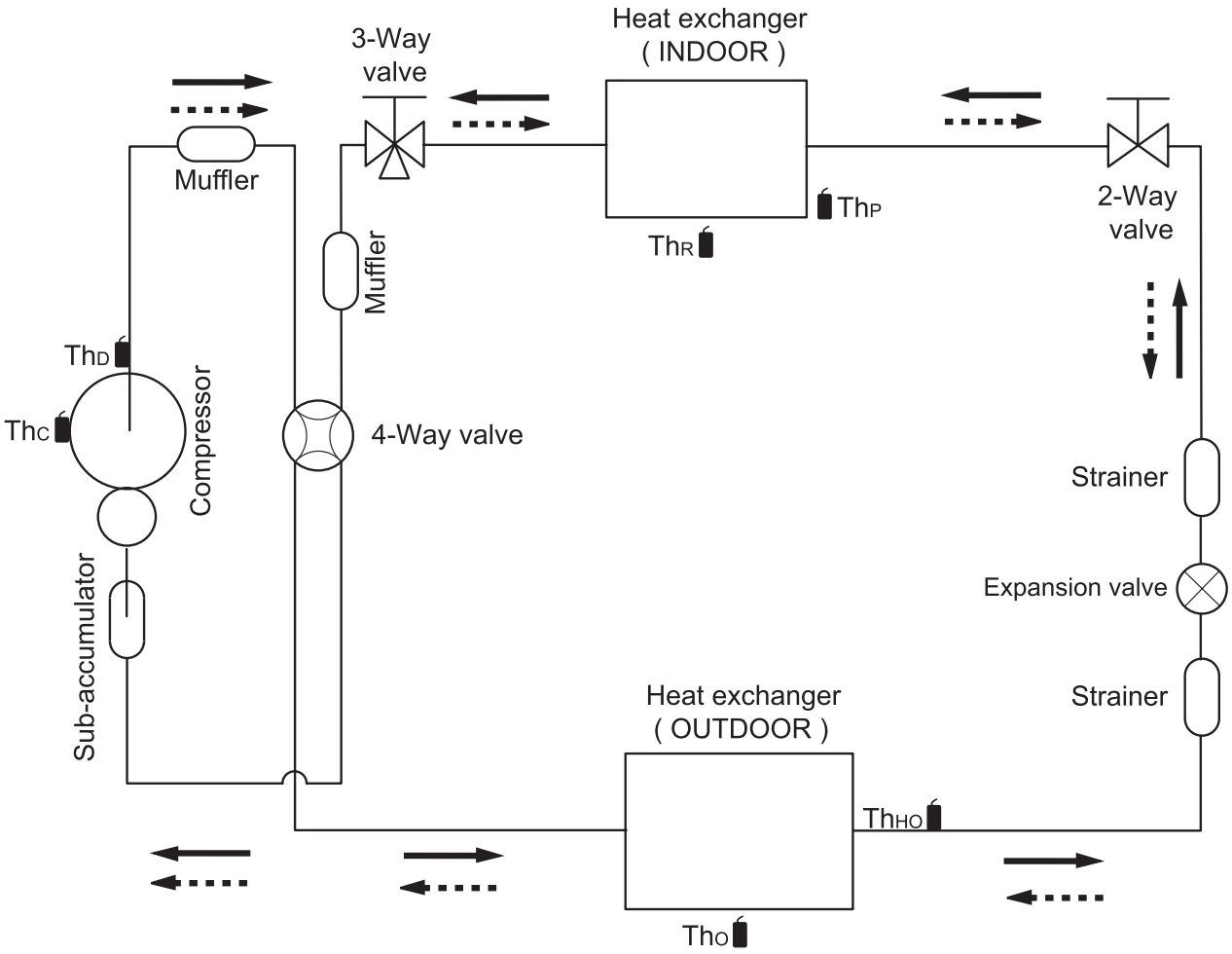
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 32 °F (0 °C) or less, do not use the accessory drain pipe and drain cap. If the drain 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.



OUTDOOR UNIT
AOUH09-24KZAH1

4. Refrigerant circuit

4-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1



Cooling
Heating

ThC : Thermistor (Compressor temperature)

ThD : Thermistor (Discharge temperature)

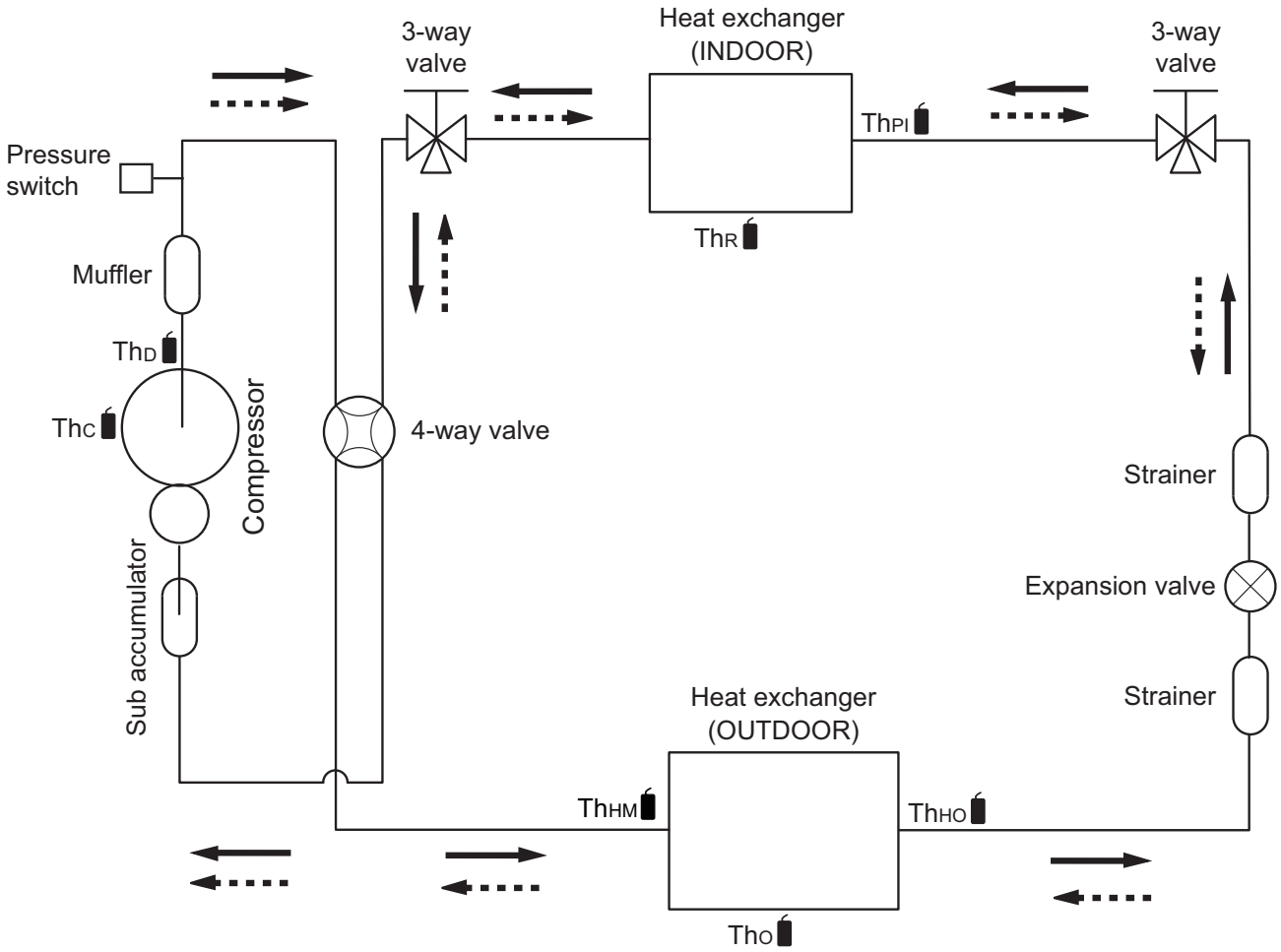
ThO : Thermistor (Outdoor temperature)

ThHO : Thermistor (Heat exchanger out temperature)

ThP : Thermistor (Pipe temperature)

ThR : Thermistor (Room temperature)

4-2. Models: AOUH18KZAH1 and AOUH24KZAH1



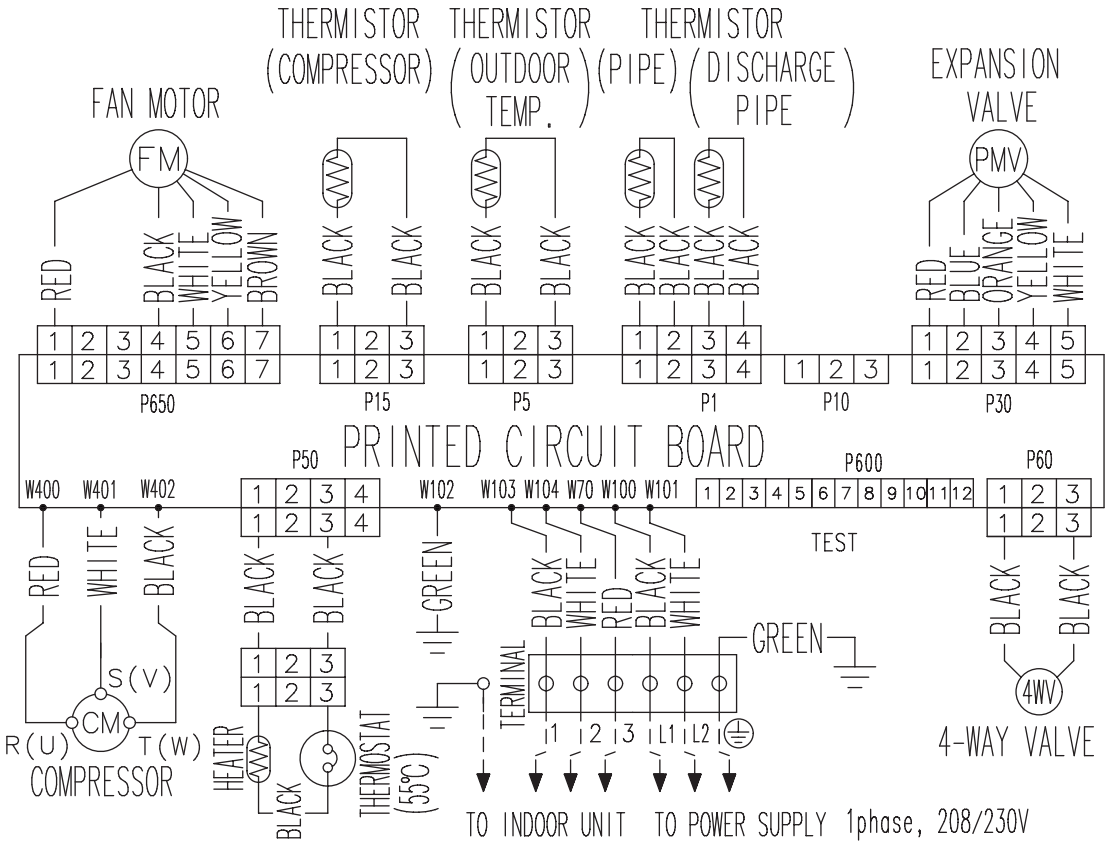
: Cooling
: Heating

ThC : Thermistor (Compressor temperature)
ThD : Thermistor (Discharge temperature)
ThHM : Thermistor (Heat exchanger middle temperature)
ThO : Thermistor (Outdoor temperature)
ThHO : Thermistor (Heat exchanger out temperature)
ThPI : Thermistor (Pipe temperature)
ThR : Thermistor (Room temperature)

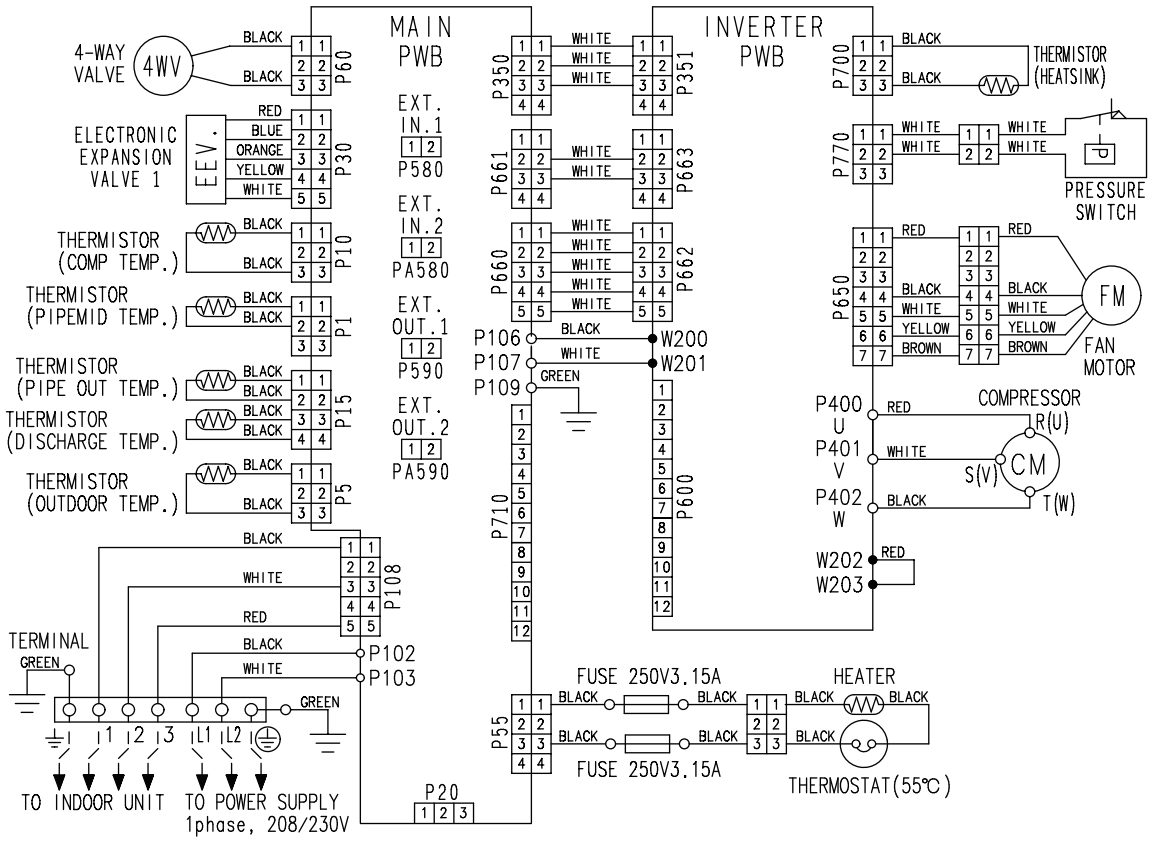
OUTDOOR UNIT
AOUH09-24KZAH1

5. Wiring diagrams

5-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1

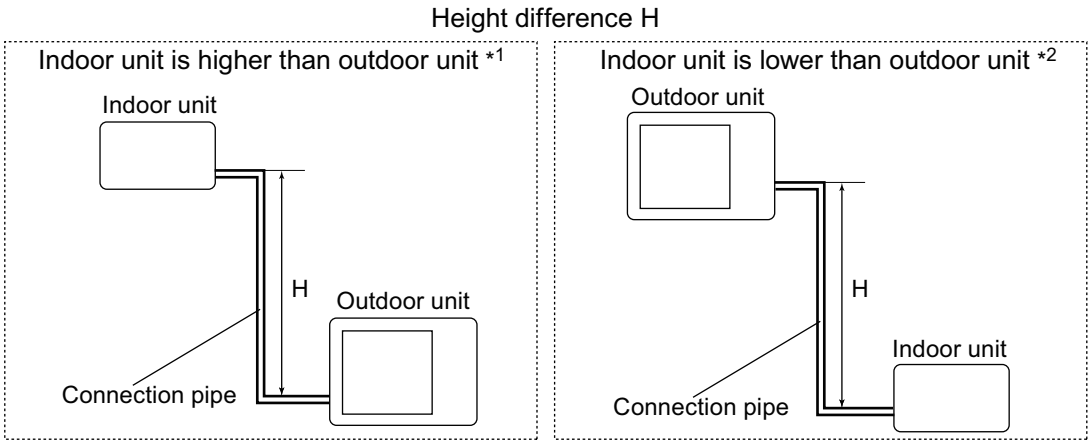


5-2. Models: AOUH18KZAH1 and AOUH24KZAH1



OUTDOOR UNIT
AOUH09-24KZAH1

6. Capacity compensation rate for pipe length and height difference



6-1. Models: AOUH09KZAH1 and AOUH12KZAH1

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

COOLING		Pipe length								
		m		3	5	7.5	10	15	20	25
			ft	10	16	24	33	49	66	82
Height difference H	Indoor unit is higher than outdoor unit *1	20	66	—	—	—	—	—	0.925	0.909
		15	49	—	—	—	—	0.949	0.932	0.916
		10	32	—	—	—	0.975	0.957	0.940	0.923
		7.5	24	—	—	0.988	0.979	0.961	0.943	0.927
		5	16	—	1.002	0.992	0.983	0.964	0.947	0.930
		3	10	1.013	1.005	0.995	0.986	0.967	0.950	0.933
		0	0	1.018	1.010	1.000	0.990	0.972	0.954	0.938
	Indoor unit is lower than outdoor unit *2	-3	-10	1.018	1.010	1.000	0.990	0.972	0.954	0.938
		-5	-16	—	1.010	1.000	0.990	0.972	0.954	0.938
		-7.5	-24	—	—	1.000	0.990	0.972	0.954	0.938
		-10	-32	—	—	—	0.990	0.972	0.954	0.938
		-15	-49	—	—	—	—	0.972	0.954	0.938
		-20	-66	—	—	—	—	—	0.954	0.938

HEATING		Pipe length								
		m		3	5	7.5	10	15	20	25
			ft	10	16	24	33	49	66	82
Height difference H	Indoor unit is higher than outdoor unit *1	20	66	—	—	—	—	—	0.896	0.873
		15	49	—	—	—	—	0.929	0.896	0.873
		10	32	—	—	—	0.973	0.929	0.896	0.873
		7.5	24	—	—	1.000	0.973	0.929	0.896	0.873
		5	16	—	1.027	1.000	0.973	0.929	0.896	0.873
		3	10	1.052	1.027	1.000	0.973	0.929	0.896	0.873
		0	0	1.052	1.027	1.000	0.973	0.929	0.896	0.873
	Indoor unit is lower than outdoor unit *2	-3	-10	1.049	1.024	0.997	0.970	0.927	0.894	0.871
		-5	-16	—	1.023	0.995	0.969	0.925	0.892	0.869
		-7.5	-24	—	—	0.993	0.966	0.923	0.890	0.867
		-10	-32	—	—	—	0.964	0.921	0.888	0.865
		-15	-49	—	—	—	—	0.916	0.883	0.861
		-20	-66	—	—	—	—	—	0.879	0.857

6-2. Model: AOUH15KZAH1

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

COOLING		Pipe length								
		m		3	5	7.5	10	15	20	25	30
			ft	10	16	24	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	25	82	—	—	—	—	—	—	0.901	0.885
		20	66	—	—	—	—	—	0.924	0.908	0.893
		15	49	—	—	—	—	0.949	0.932	0.915	0.900
		10	32	—	—	—	0.975	0.957	0.939	0.923	0.907
		7.5	24	—	—	0.988	0.979	0.960	0.943	0.927	0.911
		5	16	—	1.002	0.992	0.982	0.964	0.947	0.930	0.914
		3	10	1.004	0.996	0.986	0.977	0.959	0.942	0.925	0.909
		0	0	1.018	1.010	1.000	0.990	0.972	0.954	0.938	0.922
	Indoor unit is lower than outdoor unit *2	-3	-10	1.018	1.010	1.000	0.990	0.972	0.954	0.938	0.922
		-5	-16	—	1.010	1.000	0.990	0.972	0.954	0.938	0.922
		-7.5	-24	—	—	1.000	0.990	0.972	0.954	0.938	0.922
		-10	-32	—	—	—	0.990	0.972	0.954	0.938	0.922
		-15	-49	—	—	—	—	0.972	0.954	0.938	0.922
		-20	-66	—	—	—	—	—	0.954	0.938	0.922
		-25	-82	—	—	—	—	—	—	0.938	0.922

HEATING		Pipe length								
		m		3	5	7.5	10	15	20	25	30
			ft	10	16	24	33	49	66	82	98
Height difference H	Indoor unit is higher than outdoor unit *1	25	82	—	—	—	—	—	—	0.873	0.861
		20	66	—	—	—	—	—	0.896	0.873	0.861
		15	49	—	—	—	—	0.929	0.896	0.873	0.861
		10	32	—	—	—	0.973	0.929	0.896	0.873	0.861
		7.5	24	—	—	1.000	0.973	0.929	0.896	0.873	0.861
		5	16	—	1.027	1.000	0.973	0.929	0.896	0.873	0.861
		3	10	1.052	1.027	1.000	0.973	0.929	0.896	0.873	0.861
		0	0	1.052	1.027	1.000	0.973	0.929	0.896	0.873	0.861
	Indoor unit is lower than outdoor unit *2	-3	-10	1.049	1.024	0.997	0.970	0.927	0.894	0.871	0.858
		-5	-16	—	1.022	0.995	0.969	0.925	0.892	0.869	0.857
		-7.5	-24	—	—	0.993	0.966	0.923	0.890	0.867	0.855
		-10	-32	—	—	—	0.964	0.920	0.887	0.865	0.852
		-15	-49	—	—	—	—	0.916	0.883	0.861	0.848
		-20	-66	—	—	—	—	—	0.879	0.856	0.844
		-25	-82	—	—	—	—	—	—	0.852	0.840

6-3. Models: AOUH18KZAH1 and AOUH24KZAH1

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
			ft	16	24	32	65	98	131	164
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.932	0.929	0.924
		20	65	—	—	—	0.945	0.947	0.945	0.940
		10	32	—	—	0.984	0.961	0.963	0.960	0.956
		7.5	24	—	0.988	0.988	0.965	0.967	0.964	0.959
		5	16	0.992	0.992	0.992	0.968	0.971	0.968	0.963
		0	0	0.998	1.000	1.000	0.976	0.979	0.976	0.971
	Indoor unit is lower than outdoor unit *2	-5	-16	0.998	1.000	1.000	0.976	0.979	0.976	0.971
		-7.5	-24	—	1.000	1.000	0.976	0.979	0.976	0.971
		-10	-32	—	—	1.000	0.976	0.979	0.976	0.971
		-20	-65	—	—	—	0.976	0.979	0.976	0.971
		-30	-98	—	—	—	—	0.979	0.976	0.971

HEATING		Pipe length								
		m		5	7.5	10	20	30	40	50
			ft	16	24	32	65	98	131	164
Height difference H	Indoor unit is higher than outdoor unit *1	30	98	—	—	—	—	0.816	0.756	0.686
		20	65	—	—	—	0.872	0.816	0.756	0.686
		10	32	—	—	0.991	0.872	0.816	0.756	0.686
		7.5	24	—	1.000	0.991	0.872	0.816	0.756	0.686
		5	16	0.986	1.000	0.991	0.872	0.816	0.756	0.686
		0	0	0.986	1.000	0.991	0.872	0.816	0.756	0.686
	Indoor unit is lower than outdoor unit *2	-5	-16	0.981	0.995	0.986	0.868	0.812	0.752	0.683
		-7.5	-24	—	0.993	0.983	0.866	0.810	0.750	0.681
		-10	-32	—	—	0.981	0.864	0.808	0.748	0.679
		-20	-65	—	—	—	0.855	0.799	0.740	0.672
		-30	-98	—	—	—	—	0.791	0.733	0.665

OUTDOOR UNIT
AOUH09-24KZAH1

7. Additional charge calculation

7-1. Models: AOUH09KZAH1 and AOUH12KZAH1

Refrigerant type		R32
Factory charge amount	lb oz	2 lb 9 oz
	g	1,150

■ Refrigerant charge

Total pipe length	ft	49 or less	66	82 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20	25 (Max.)	
Additional charge amount	oz	0	3.5	7	
	g	0	100	200	

7-2. Model: AOUH15KZAH1

Refrigerant type		R32
Factory charge amount	lb oz	2 lb 10 oz
	g	1,200

■ Refrigerant charge

Total pipe length	ft	49 or less	66	82	98 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20	25	30 (Max.)	
Additional charge amount	oz	0	3.5	7	10.5	
	g	0	100	200	300	

7-3. Models: AOUH18KZAH1 and AOUH24KZAH1

OUTDOOR UNIT
AOUH09-24KZAH1

Refrigerant type		R32
Factory charge amount	lb oz	3 lb 12 oz
	g	1,700

■ Refrigerant charge

Total pipe length	ft	66 or less	82	98	114	131	147	164 (Max.)	0.43 oz/ft (40 g/m)
	m	20 or less	25	30	35	40	45	50 (Max.)	
Additional charge amount	oz	0	7	14	21	28	35	42	
	g	0	200	400	600	800	1,000	1,200	

OUTDOOR UNIT
AOUH09-24KZAH1

8. Airflow

8-1. Model: AOUH09KZAH1

● Cooling

m^3/h	1,850
l/s	514
CFM	1,089

● Heating

m^3/h	1,850
l/s	514
CFM	1,089

8-2. Model: AOUH12KZAH1

● Cooling

m^3/h	1,990
l/s	553
CFM	1,171

● Heating

m^3/h	1,850
l/s	514
CFM	1,089

8-3. Model: AOUH15KZAH1

● Cooling

m^3/h	2,070
l/s	575
CFM	1,218

● Heating

m^3/h	2,290
l/s	636
CFM	1,348

OUTDOOR UNIT
AOUH09-24KZAH1

8-4. Model: AOUH18KZAH1

● Cooling

m^3/h	2,830
l/s	786
CFM	1,666

● Heating

m^3/h	2,930
l/s	814
CFM	1,725

8-5. Model: AOUH24KZAH1

● Cooling

m^3/h	3,260
l/s	906
CFM	1,919

● Heating

m^3/h	3,690
l/s	1,025
CFM	2,172

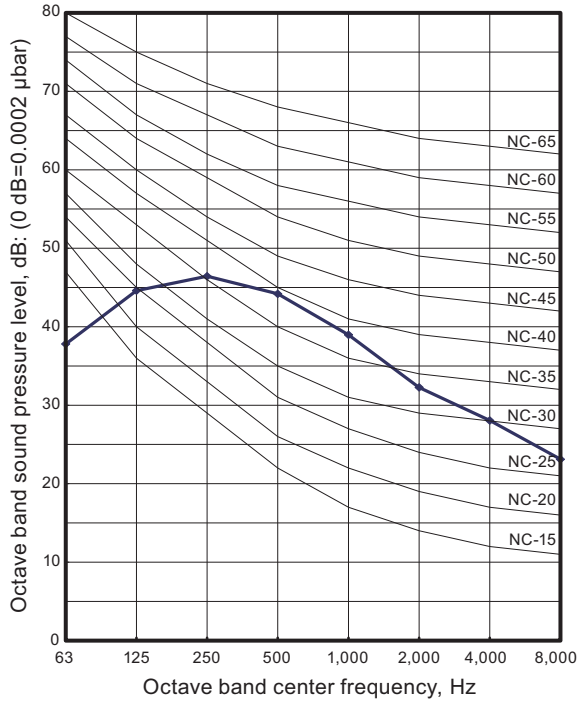
OUTDOOR UNIT
AOUH09-24KZAH1

9. Operation noise (sound pressure)

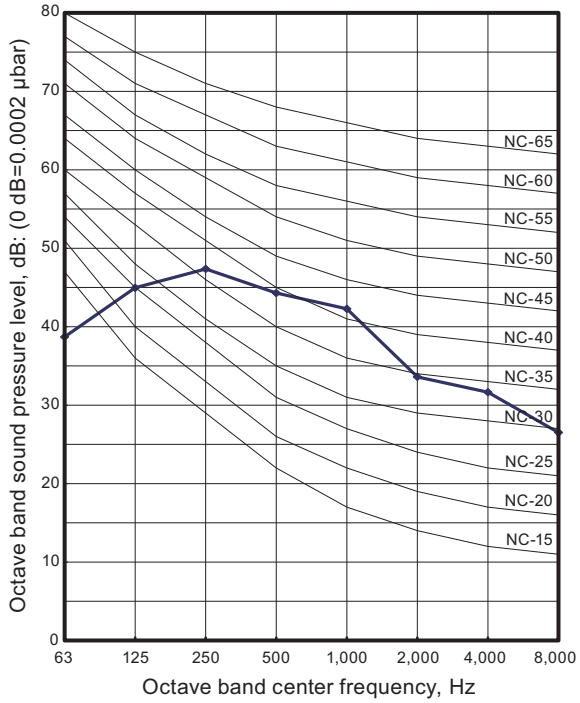
9-1. Noise level curve

■ AOUH09KZAH1

● Cooling

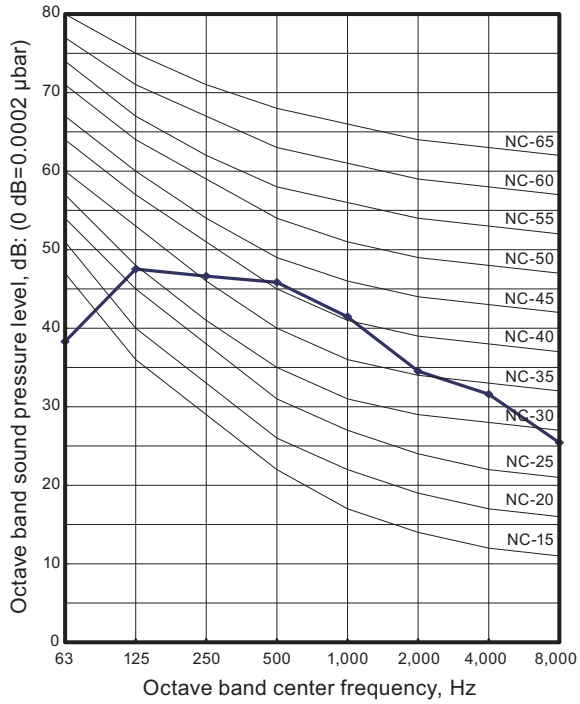


● Heating

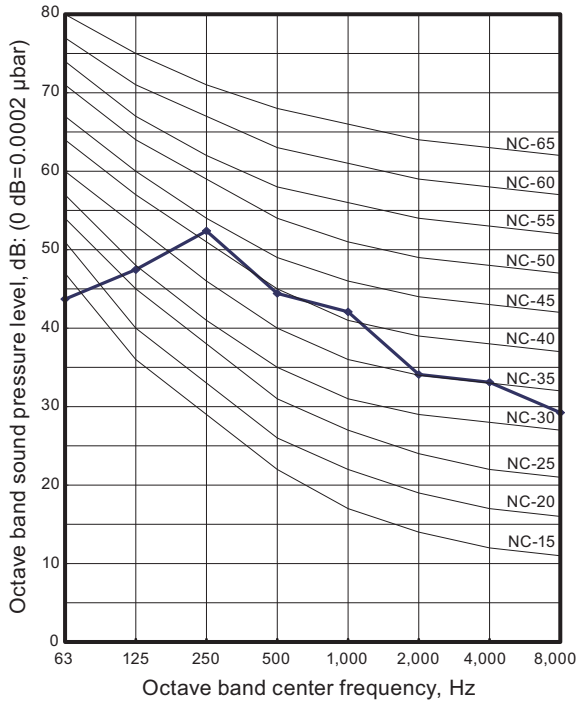


■ AOUH12KZAH1

● Cooling



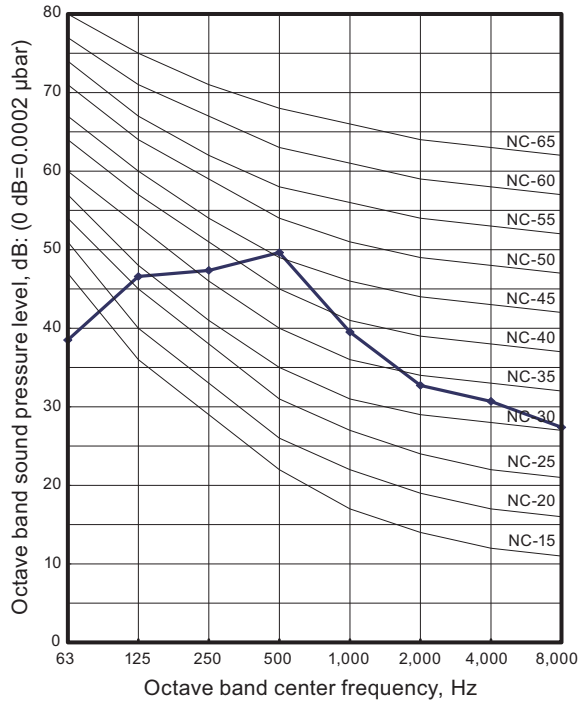
● Heating



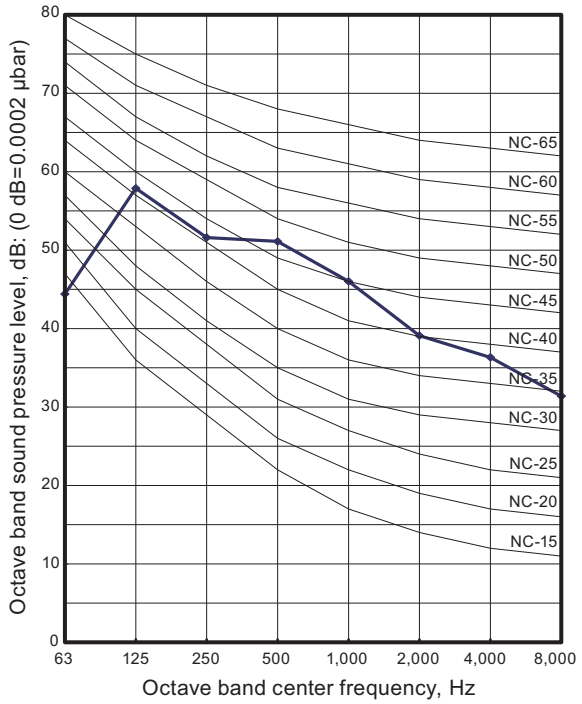
OUTDOOR UNIT
AOUH09-24KZAH1

■ AOUH15KZAH1

● Cooling

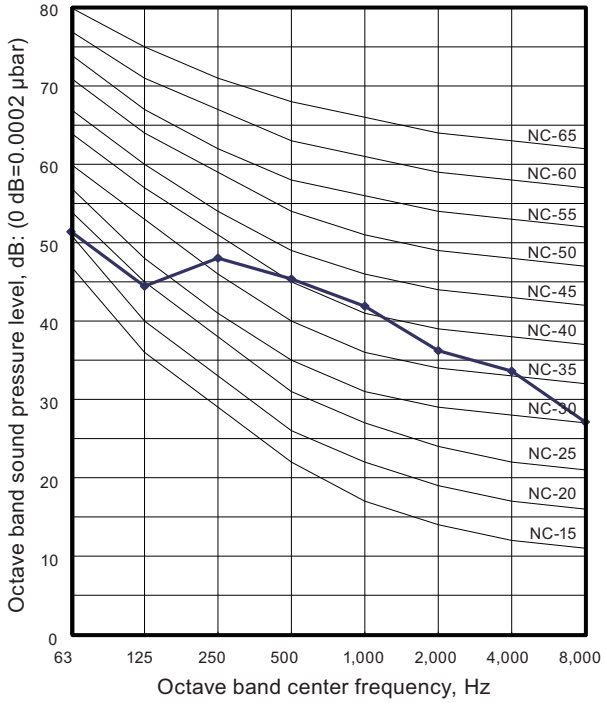


● Heating

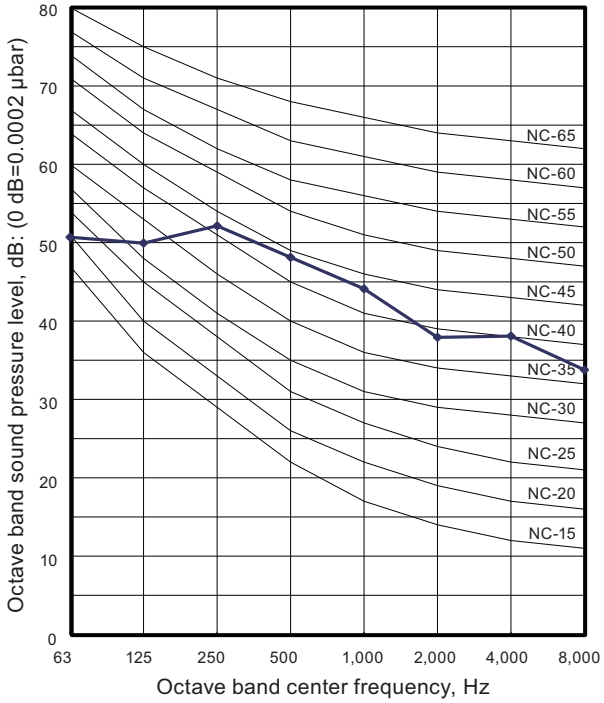


■ AOUH18KZAH1

● Cooling

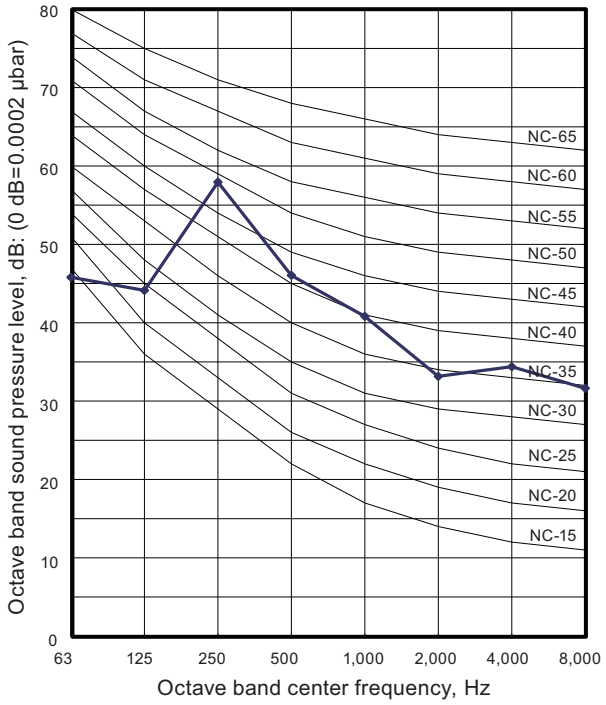


● Heating

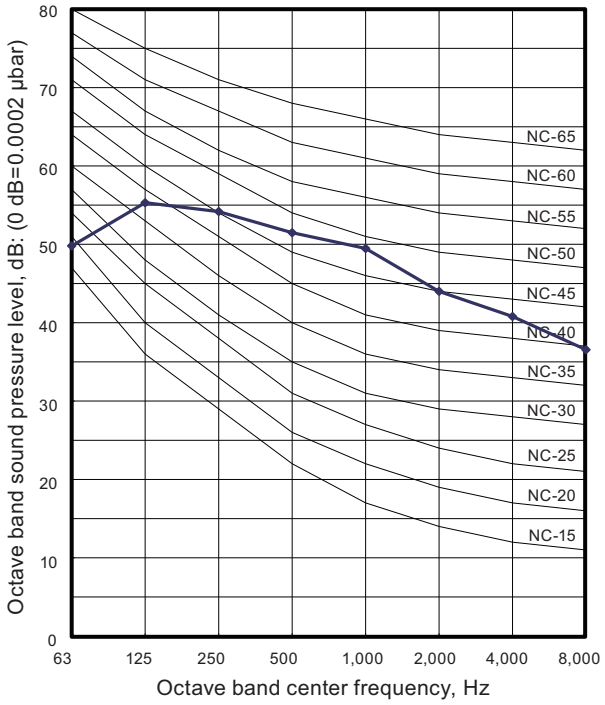


■ AOUH24KZAH1

● Cooling

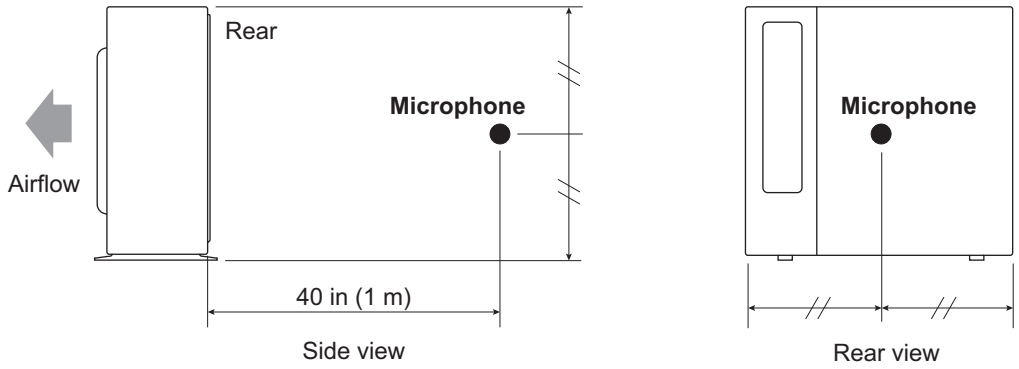


● Heating



OUTDOOR UNIT
AOUH09-24KZAH1

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				AOUH09KZAH1	AOUH12KZAH1	AOUH15KZAH1
Power supply	Voltage		V	208/230		
	Frequency		Hz	60		
MCA*1			A	14.4		17.5
Starting current			A	3.3	4.7	5.2
Wiring spec.*2	MAX. CKT. BKR*3		A	15		20
	Power cable		AWG	14		
	Connection cable*3	Size	AWG	14		
		Limited wiring length	ft (m)	85 (26)		102 (31)

Model name				AOUH18KZAH1	AOUH24KZAH1
Power supply	Voltage		V	208/230	
	Frequency		Hz	60	
MCA*1			A	19.4	
Starting current			A	6.5	8.3
Wiring spec.*2	MAX. CKT. BKR*3		A	20	
	Power cable		AWG	12	
	Connection cable*3	Size	AWG	14	
		Limited wiring length	ft (m)	167 (51)	

NOTES:

- *1: Minimum Circuit Ampacity (Calculation based on UL60335-2-40)
- *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: Maximum Circuit Breaker
- *4: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

OUTDOOR UNIT
AOUH09-24KZAH1

11. Safety devices

Type of protection	Protection form		Model		
			AOUH09KZAH1	AOUH12KZAH1	AOUH15KZAH1
Circuit protection	Current fuse (Main PCB*)		250 V, 25 A		
			250 V, 5 A		
			250 V, 3.15 A		
Fan motor protection	Thermal protection program	Activate	257±18°F (125±10°C) Fan motor stop		
		Reset	248±18°F (120±10°C) Fan motor restart		
Compressor protection	Thermal protection program (Compressor temp.)	Activate	226°F (108°C) Compressor stop		
		Reset	After 3 minutes, and 176°F (80°C) or less Compressor restart		
	Thermal protection program (Discharge temp.)	Activate	230°F (110°C) Compressor stop		
		Reset	After 7 minutes Compressor restart		
	Thermal protection program (Outdoor temp.) (Only in COOL or DRY mode)	Activate	5°F (-15°C) Compressor stop		
		Reset	14°F (-10°C) Compressor restart		

Type of protection	Protection form		Model	
			AOUH18KZAH1	AOUH24KZAH1
Circuit protection	Current fuse (Main PCB*)		250 V, 30 A	
			250 V, 3.15 A	
			250 V, 10 A × 2	
Fan motor protection	Thermal protection	Activate	251.6 ±16.2°F (122 ±9°C) Fan motor stop	
		Reset	240.8 $^{+18.0}_{-16.2}$°F (116$^{+10}_{-9}$°C) Fan motor restart	
Compressor protection	Thermal protection program (Compressor temp.)	Activate	226.4°F (108°C) Compressor stop	
		Reset	After 3 minutes, and 176°F (80°C) or less Compressor restart	
	Thermal protection program (Discharge temp.)	Activate	230°F (110°C) Compressor stop	
		Reset	After 7 minutes Compressor restart	
	Thermal protection program (Outdoor temp.) (Only in COOL or DRY mode)	Activate	-4°F (-20°C) Compressor stop	
		Reset	5°F (-15°C) Compressor restart	

*PCB: Printed Circuit Board

OUTDOOR UNIT
AOUH09-24KZAH1

12. External input and output (for 18-24 model)

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

Connector	Input	Output	Remarks
P580	Low noise mode	—	See external input/output settings for details.
PA580	Peak cut mode	—	
P590	—	Error status	
PA590	—	Compressor status	

12-1. External input

With using external input function, on/off status of “Low noise mode” and “Peak cut mode” can be specified by the external signal.

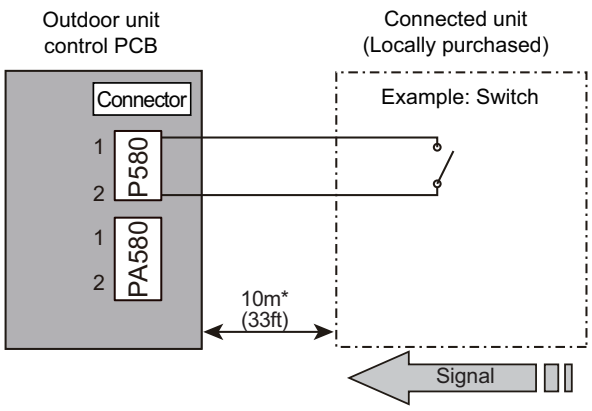
■ Low noise mode

In following condition, the operating noise of the outdoor unit reduces comparing from the one in normal operating condition:

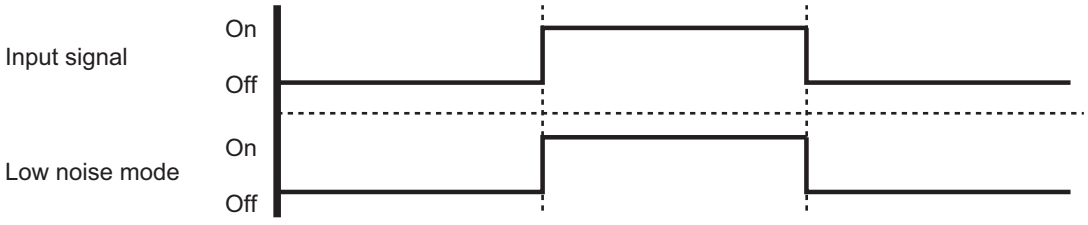
The air conditioner is set to the “Low noise mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

NOTE: Product performance may drop depending on some conditions such as the outdoor temperature.

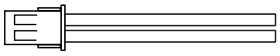
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Low noise mode”
- Input signal: Off in normal operation
- To set the level of “Low noise mode”, refer to “Low noise mode” in "Local setting procedure" on page 120.



- **Optional part**

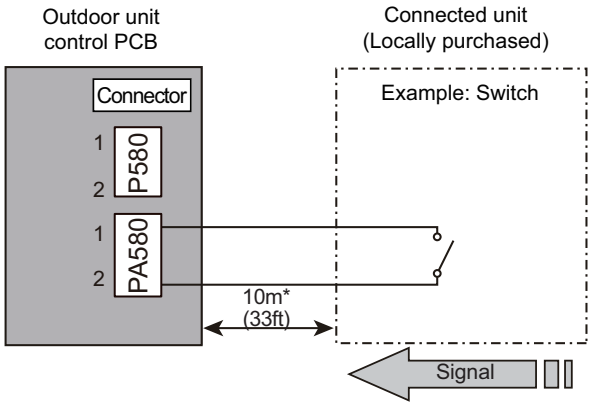
Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOUH09-24KZAH1

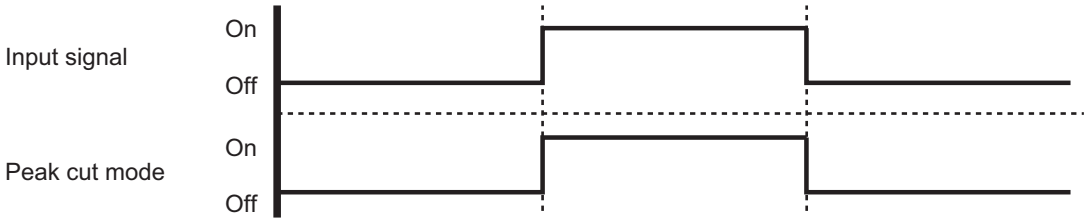
■ Peak cut mode

By performing following on-site work, operation that suppresses the current value can be enabled:
The air conditioner is set to the “Peak cut mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

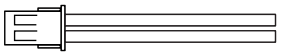
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Peak cut mode”
- Input signal: Off in normal operation
- To set the level of “Peak cut mode”, refer to "Peak cut mode" on page 121.



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOUH09-24KZAH1

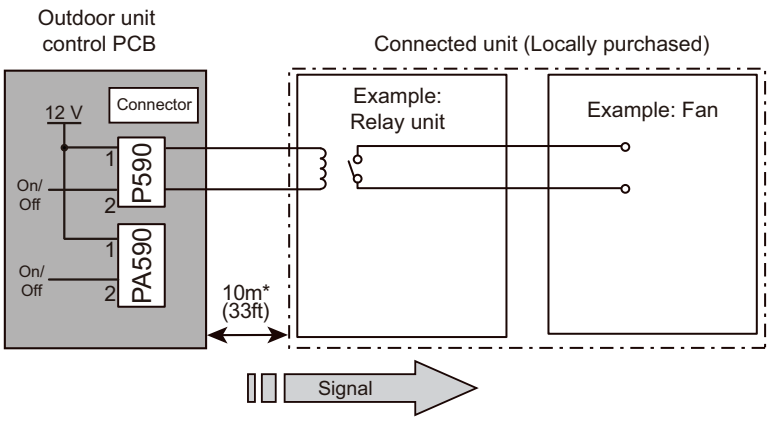
12-2. External output

With using external output function, some status signals are transmitted to the control PCB, and the related LED lamp indicates the status of this product.

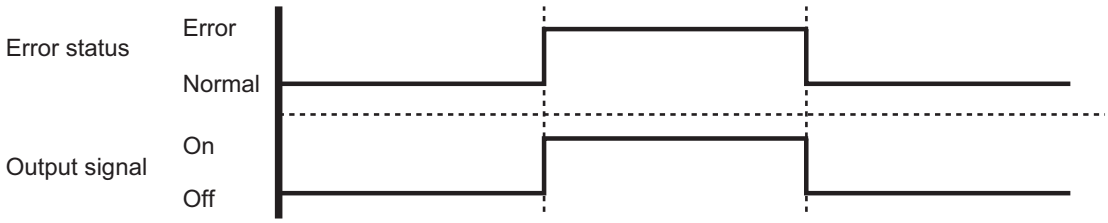
■ Error status output

Signal on air conditioner error status is generated when a malfunction occurs.

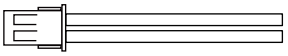
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
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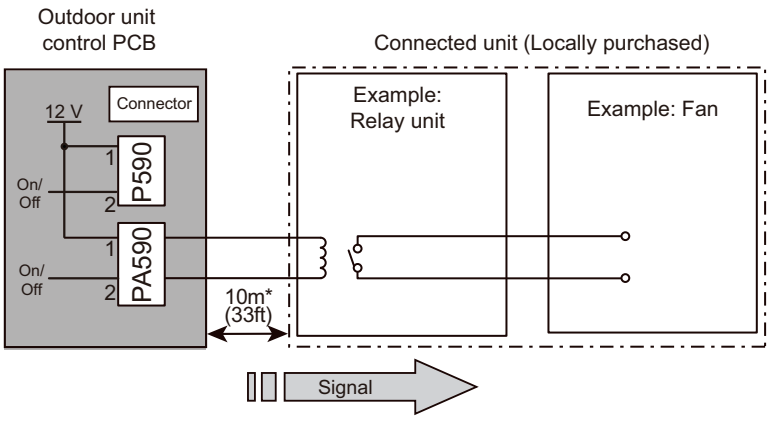
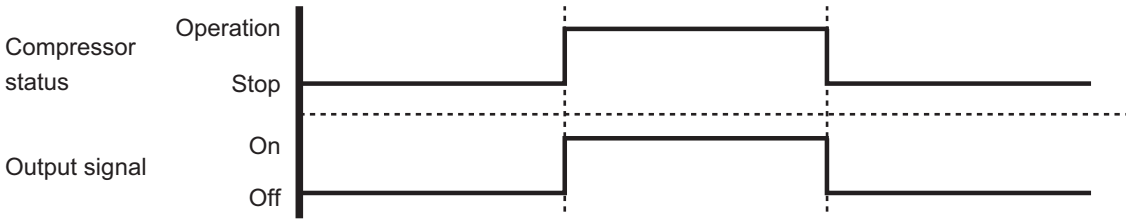
■ Compressor status output

Signal on compressor operation status is generated when the compressor is running.

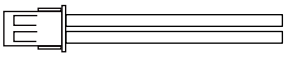
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 33 ft (10 m).



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
AOUH09-24KZAH1

13. Function settings (for 18-24 model)

Perform appropriate function setting locally according to the installation environment.

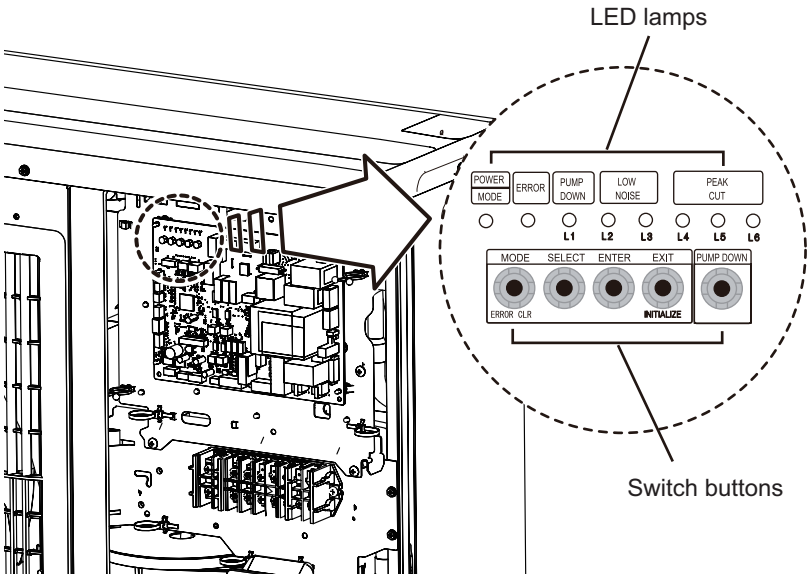
NOTE: Incorrect settings can cause a product malfunction.

⚠ CAUTION

- Before setting up the switch buttons, discharge the static electricity from your body.
- Never touch the terminals or the patterns on the parts that are mounted on the PCB.

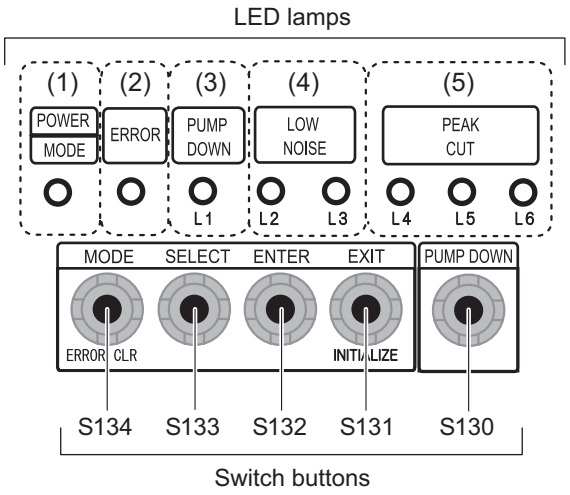
13-1. Control PCB and switch buttons location

Control PCB of the outdoor unit is located as shown in the following figure.



OUTDOOR UNIT
AOUH09-24KZAH1

■ Switch buttons and the functions



LED lamp			Function or operation method
(1)	POWER/MODE	Green	Lights on while power on. Blinks to show the local setting on the outdoor unit or the error code.
(2)	ERROR	Red	Blinks during error operation.
(3)	PUMP DOWN (L1)	Orange	Lights on during pump down operation.
(4)	LOW NOISE MODE (L2 and L3)	Orange	Lights on during “Low noise mode” when local setting is activated. (Light pattern of L2 and L3 indicates the low noise level.)
(5)	PEAK CUT MODE (L4, L5, and L6)	Orange	Lights on during “Peak cut mode” when local setting is activated. (Light pattern of L4, L5, and L6 indicates the peak cut level.)

Switch button		Function or operation method
S134	MODE	Switches between “Local setting” and “Error code display”.
S133	SELECT	Switches between the individual “Local settings” and the “Error code displays”.
S132	ENTER	Switches between the individual “Local settings” and the “Error code displays”.
S131	EXIT	Returns to “Operation status display”.
S130	PUMP DOWN	Starts the pump down operation.

OUTDOOR UNIT
AOUH09-24KZAH1

13-2. Local setting procedure

NOTE: Before performing the function setting, be sure to stop the operation of the air conditioner.

■ Low noise mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MODE	○	Blink

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MODE	○	●

Sign “ ●”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	Blink
MODE 2: Lower	○	Blink	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	●
MODE 2: Lower	○	●	○

7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

In case of missing how many times you pressed the SELECT and ENTER switch buttons:

1. To return to “Operation status display (Normal operation)”, press the EXIT switch button once.
2. Restart from the beginning of setting procedure.

OUTDOOR UNIT
AOUH09-24KZAH1

■ Peak cut mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MODE	Blink	○

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MODE	●	○

Sign “ ● ”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	Blink
50 % of rated input ratio	○	Blink	○
75 % of rated input ratio	○	Blink	Blink
100 % of rated input ratio	Blink	○	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	●
50 % of rated input ratio	○	●	○
75 % of rated input ratio	○	●	●
100 % of rated input ratio	●	○	○

7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

NOTE: When pressed number is lost during setting, you must redo the setting procedure. Return to “Operation status display (Normal operation)” by pressing the EXIT switch button once, and restart from the beginning of the setting procedure.

OUTDOOR UNIT
AOUH09-24KZAH1

14. Accessories

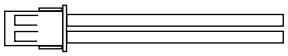
14-1. Models: AOUH09KZAH1, AOUH12KZAH1, and AOUH15KZAH1

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Protection label		1
Cable tie		2			

14-2. Models: AOUH18KZAH1 and AOUH24KZAH1

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Protection label		1

15. Optional parts

Exterior	Part name	Model name	Summary
	External Connect Kit	UTY-XWZXZ3	Use to operate the external input and output functions of outdoor unit. (for 18-24 model)

OUTDOOR UNIT
AOUH09-24KZAH1