

AIR CONDITIONER

Duct type

DESIGN & TECHNICAL MANUAL

INDOOR



AR*G45LHTA
AR*G54LHTA

OUTDOOR



AO*G45LETL
AO*G54LETL

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

DUCT TYPE :
AR*G45LHTA
AR*G54LHTA

CONTENTS

1. INDOOR UNIT

1.	FEATURES	01 - 01
2.	WIRED REMOTE CONTROLLER.....	01 - 03
3.	SPECIFICATIONS.....	01 - 05
4.	DIMENSIONS.....	01 - 06
5.	WIRING DIAGRAMS.....	01 - 08
6.	CAPACITY TABLE	01 - 09
	6-1. COOLING CAPACITY.....	01 - 09
	6-2. HEATING CAPACITY	01 - 10
7.	FAN PERFORMANCE AND CAPACITY	01 - 11
8.	OPERATION NOISE	01 - 13
	8-1. NOISE LEVEL CURVE	01 - 13
	8-2. SOUND LEVEL CHECK POINT.....	01 - 14
9.	ELECTRIC CHARACTERISTICS.....	01 - 15
10.	SAFETY DEVICES	01 - 16
11.	EXTERNAL INPUT & OUTPUT	01 - 17
	11-1. EXTERNAL INPUT.....	01 - 18
	11-2. EXTERNAL OUTPUT.....	01 - 19
12.	FUNCTION SETTINGS	01 - 23
	12-1. INDOOR UNIT.....	01 - 23
	12-2. INDOOR UNIT (Setting by remote controller)	01 - 25
	12-3. WIRED REMOTE CONTROLLER.....	01 - 29
13.	OPTIONAL PARTS.....	01 - 30
	13-1. CONTROLLER.....	01 - 30
	13-2. OTHERS	01 - 30

1. FEATURES

MODEL

AR*G45LHTA / AO*G45LETL
AR*G54LHTA / AO*G54LETL



FEATURES

⑥ Improvement of market suitability

Considerable improvement of installation work by compact size and light weight considering with the conditions of installation in the ceiling.

The size which the indoor unit can be installed in the spacing between the beams is required for the installation in the ceiling.

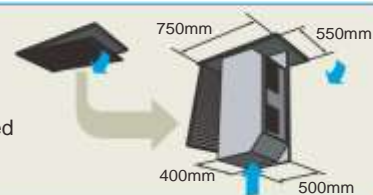
Restriction for dimension of width and height.

Indoor unit installation example



Carrying-in example in the ceiling

Restriction for space when being carried into the ceiling for replacement (Ceiling intake grille)

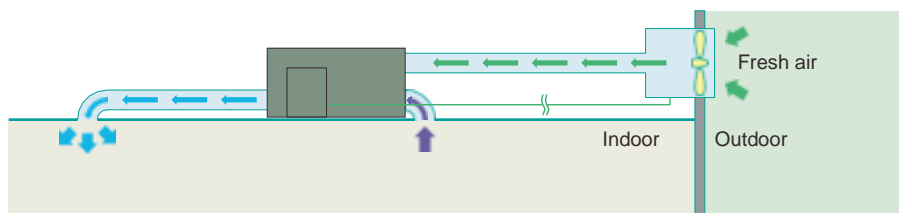


⑥ Correspondence to Network

Various networks can be constructed according to the user needs.

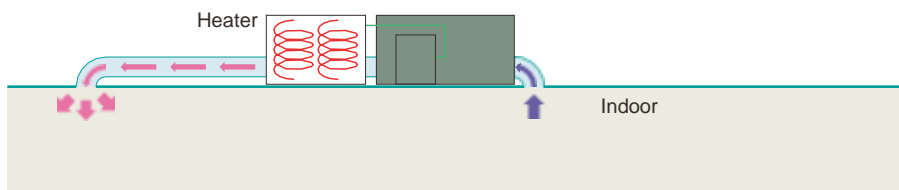
1. Fresh air output port

Fresh air is connected with the fan of an indoor unit.



2. Electrical heater output port

Electrical heater operates at the time of heating.

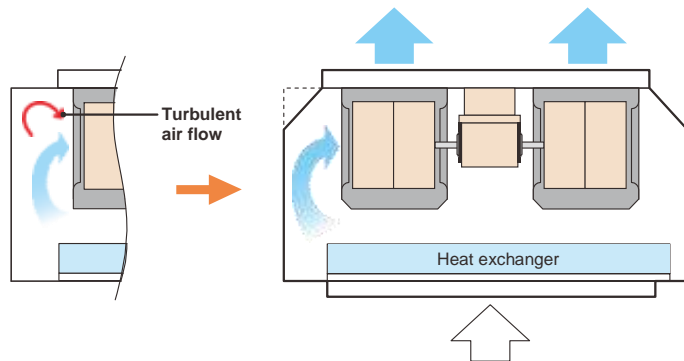


3. External input port

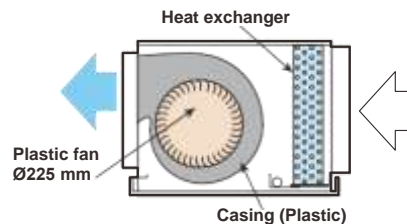
Start / Stop of the air conditioner can be changed from the external equipment.

⑥ Operation sound (Low noise)

Turbulent air flow is reduced by cutting off the corners of conventional indoor unit front panel and fan case



Low noise is realized by adopting plastic case, plastic fan



⑥ Economy operation

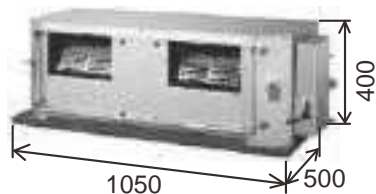
The power consumption can be reduced.

⑥ Space saving

• Compact size

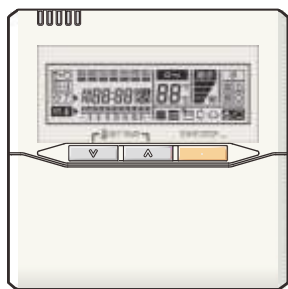
High performance has been realized with a compact indoor unit.

Due to the compact size of the indoor unit, the installation space required has been reduced allowing for a wider selection on installation locations.



2. WIRED REMOTE CONTROLLER

FEATURES



- * Various timer setup (ON / OFF / WEEKLY) are possible.
- * Equipped with weekly timer as standard function.(2 times Start / Stop per day for a week)
- * When setting up a timer, operation mode and a temperature setup can be changed.
- * When a failure occurs, the error code is displayed. (Maximum of 16)
- * Error indication.(A maximum of 16 error histories are memorizable.)
- * Up to 16 indoor units can be simultaneously controlled.
- * The room temperature can be controlled by being detected the temperature accurately with built-in thermo sensor.

⑥ Simple function setting

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

⑥ High performance and compact size

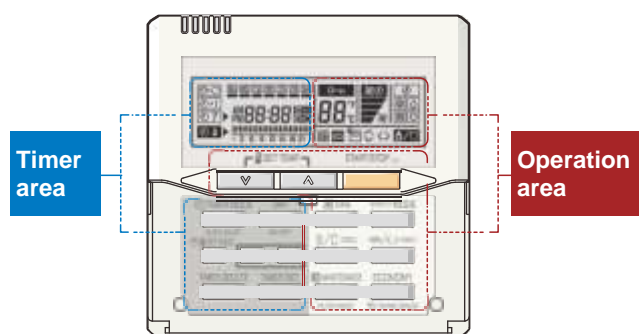
Three functions are combined in one unit.



⑥ Built-in timers

Weekly timer	Setback timer
<p>Possible to set ON/OFF time to operate twice each day of the week.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Easy-to-understand time bar display</p> <p>Setup screen example (Set to Wednesday: 8:00 to 20:00.)</p> </div> <div style="text-align: center;"> <p>Screen after setup</p> </div> </div>	<p>Possible to set temperature for two time spans and for each day of the week.</p> <div style="text-align: center;"> <p>Setup screen example (Set from Sunday to Saturday: 12:00 to 15:00, 28°C.)</p> </div>
<p>At "Weekly timer" + "Set back timer" setup</p> <div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid red; padding: 2px; margin-right: 10px;">24°C → 28°C → 24°C</div> </div>	

⑥ Easy-to-understand operation

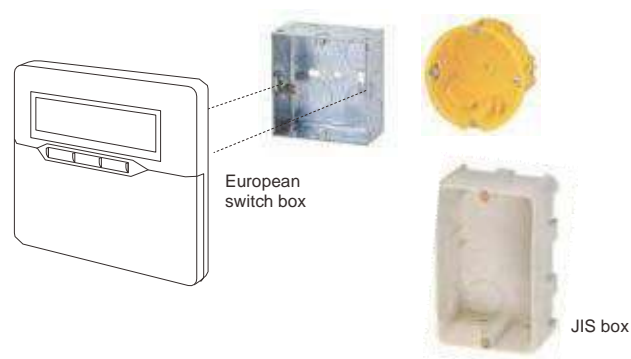


[Variable timer control]

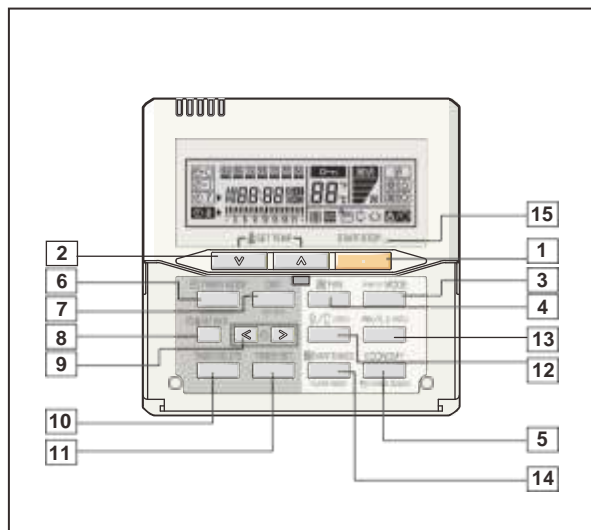
The operation/display sections are zoned according to time and operation, enabling variable programming to match application.

⑥ Simple installation

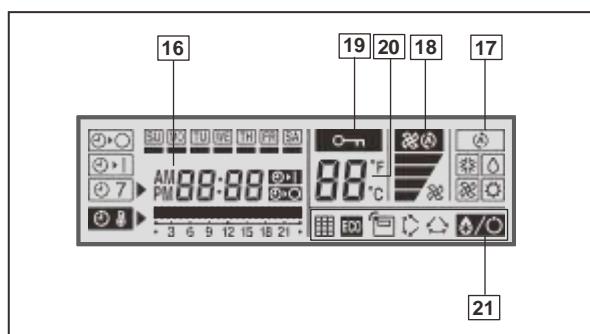
Components are compatible with standard switch boxes. Flat back construction allows equipment to be installed wherever it is needed.



FUNCTIONS

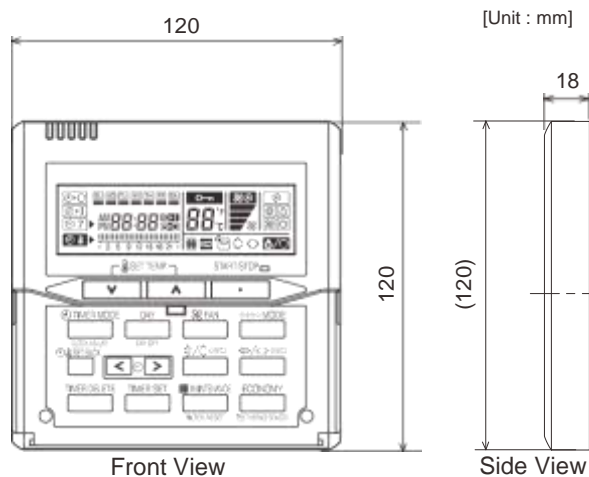


Display panel

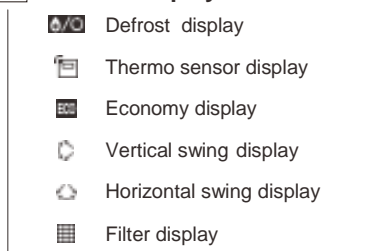


- 1 START/STOP button**
Pressed to start and stop operation.
- 2 SET TEMP. button**
Selects the setting temperature.
- 3 MODE button**
Selects the operating mode (AUTO, HEAT, FAN, COOL, DRY).
- 4 FAN button**
Selects the fan speed (AUTO, LOW, MED, HIGH).
- 5 ECONOMY button**
Turns the economy efficient mode on and off.
- 6 TIMER MODE (CLOCK ADJUST) button**
Selects the timer mode (OFF TIMER, ON TIMER, WEEKLY TIMER). Set the current time.
- 7 DAY (DAY OFF) button**
Temporarily cancels of one day timer.
- 8 SET BACK button**
Pressed to select the set back timer.
- 9 Set time button**
Pressed to set time.
- 10 TIMER DELETE button**
The schedule of a weekly timer is deleted.
- 11 TIMER SET button**
Sets the date, hour, minute and on-off time.
- 12 Vertical airflow direction and swing button**
Push for two seconds to change the swing mode.
- 13 Horizontal airflow direction and swing button**
Push for two seconds to change the swing mode.
- 14 FILTER RESET button**
- 15 Operation lamp**
Lights during operation and when the timer is on.

DIMENSIONS



- 16 Timer and clock display**
- 17 Operation mode display**
- 18 Fan speed display**
- 19 Operation lock display**
- 20 Temperature display**
- 21 Function display**



SPECIFICATION

SIZE	(H x W x D mm)	120 x 120 x 18
WEIGHT	(g)	160
CABLE LENGTH	(m)	10
POWER	(V)	12

Functions will be different due to type of indoor unit.
For details, please see operation manual.

WIRING SPECIFICATIONS

Use	Size	Wire type	Remarks
Remote controller cable	0.33mm ² (22 AWG)	Polar 3 code	Use sheathed PVC cable

3. SPECIFICATIONS

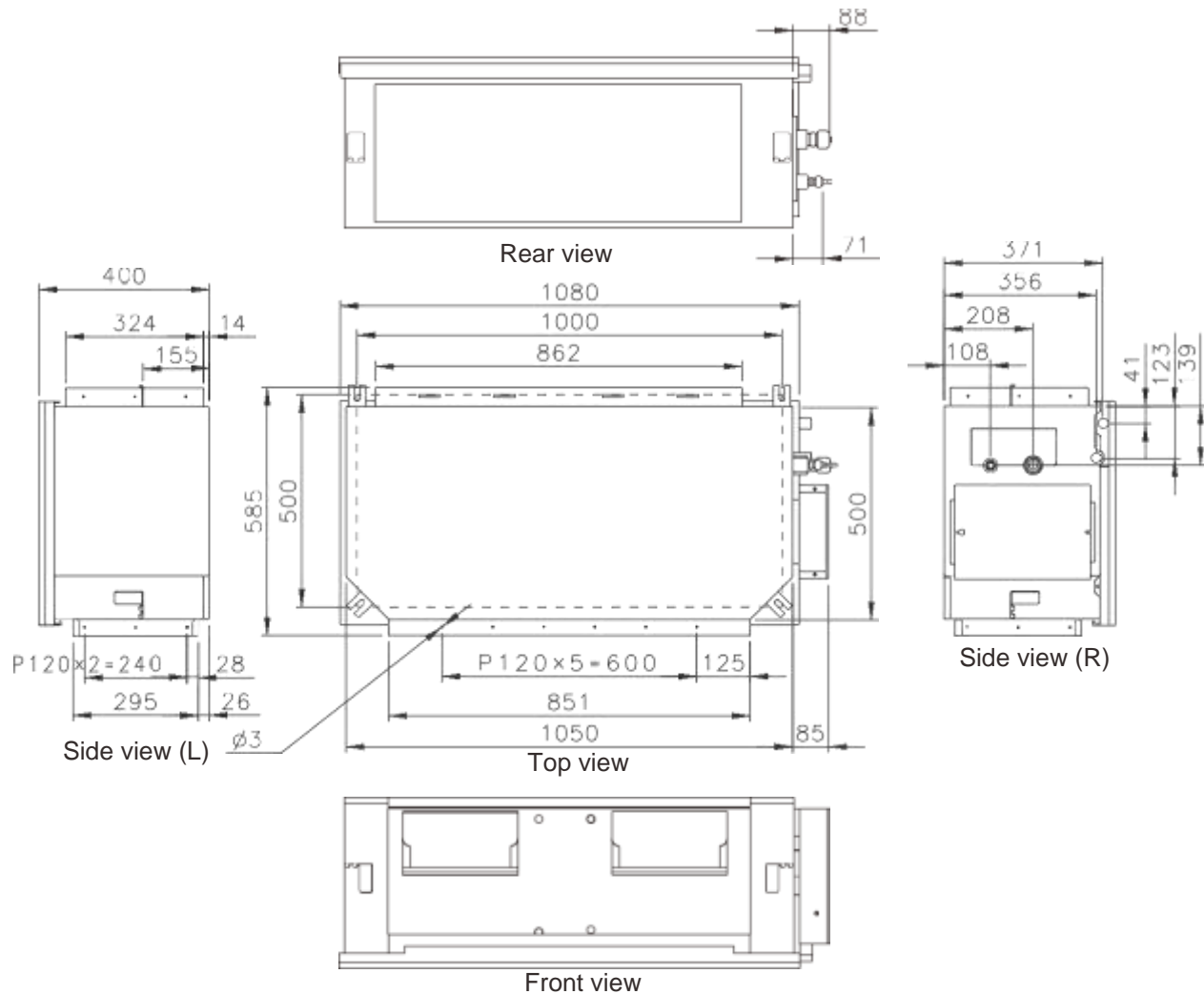
Type				DUCTED MODEL		
				INVERTER HEATPUMP		
Model name				AR*G45LHTA	AR*G54LHTA	
Power source				230 V~ 50 Hz		
Available voltage range				198 - 264 V		
Capacity	Cooling	Rated	kW	12.5	13.4	
			BTU/h	42700	45700	
		Min-Max	kW	4.5-14.0	5.0-14.5	
	Heating	Rated	BTU/h	15400-47800	17100-49500	
			kW	14.0	16.0	
		Min-Max	BTU/h	47800	54600	
kW			5.0-16.2	5.5-18.0		
Input power	Cooling	Rated	BTU/h	17100-55300	18800-61500	
			kW	4.30	4.77	
		Max	kW	5.15	5.40	
	Heating	Rated	kW	3.80	4.69	
			Max	kW	5.15	5.40
		Current	Cooling	Rated	A	18.9
Heating	Rated		A	16.7	20.5	
EER	Cooling		kW/kW	2.91	2.81	
COP	Heating		kW/kW	3.68	3.41	
Moisture removal			l/h (pints/h)	1.5 (2.6)	2.0 (3.5)	
Maximum operating current*		Cooling	A	22.5	23.5	
		Heating	A	22.5	23.5	
Fan	Airflow rate	Cooling	High	m ³ /h	3350	3350
			Med	m ³ /h	2850	2850
			Low	m ³ /h	2430	2430
			QUIET	m ³ /h	-	-
		Heating	High	m ³ /h	3350	3350
			Med	m ³ /h	2850	2850
			Low	m ³ /h	2430	2430
			QUIET	m ³ /h	-	-
	Type x Q'ty		Sirocco x 2			
	Motor output		W	490		
Recommended static pressure			Pa	100 to 250	100 to 250	
Sound pressure level	Cooling	High	dB(A)	47	47	
		Med	dB(A)	43	43	
		Low	dB(A)	40	40	
		Quiet	dB(A)	-	-	
	Heating	High	dB(A)	47	47	
		Med	dB(A)	43	43	
		Low	dB(A)	40	40	
		Quiet	dB(A)	-	-	
Heat exchanger type	Dimensions (H x W x D)		mm	336 x 890 x 53.2		
	Fin pitch		mm	1.3		
	Rows x Stages			4 x 16		
	Pipe type			Copper		
	Fin type			Aluminium		
Enclosure	Material			Steel		
	Colour			-		
Dimensions (H x W x D)	Net	mm	400 x 1050 x 500			
	Gross	mm	460 x 1230 x 640			
Weight	Net	kg	46			
	Gross	kg	51			
Connection pipe	Size	Liquid	mm	Ø9.52 (3/8 in.)		
		Gas	mm	Ø15.88 (5/8 in.)		
	Method			Flare		
Operation range	Cooling	°C		18 to 32		
		%RH		80 or less		
	Heating	°C		16 to 30		
Remote controller type				Wired		
Drain port	Material			Steel		
	Size		mm	Ø23.4 (I.D.), Ø25.4 (O.D.)		

Note :
 Specifications are based on the following conditions.
 Cooling : Indoor temperature of 27 °CDB / 19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 Heating : Indoor temperature of 20 °CDB / 15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 Standard static pressure : 100Pa.
 Pipe length : 5 m, Height difference : 0 m.(Outdoor unit - Indoor unit)
 Sound pressure level : Install a 2m duct to the outlet port and a 1m duct to the suction port and measure.
 The protective function might work when using outside the operation range.
 *: The maximum current is the maximum value when operated within the operation range.

4. DIMENSIONS

☉ MODEL: AR*G45LHTA, AR*G54LHTA

(Unit : mm)

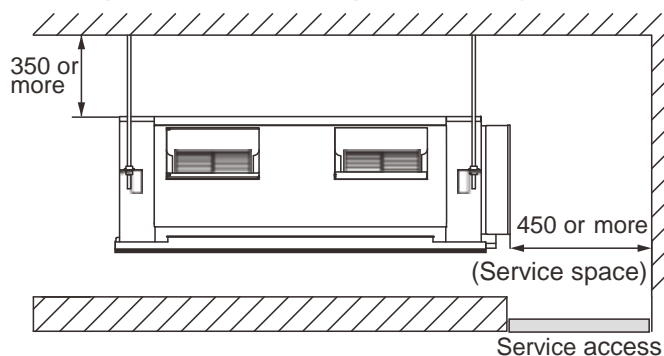


☪ INSTALLATION PLACE

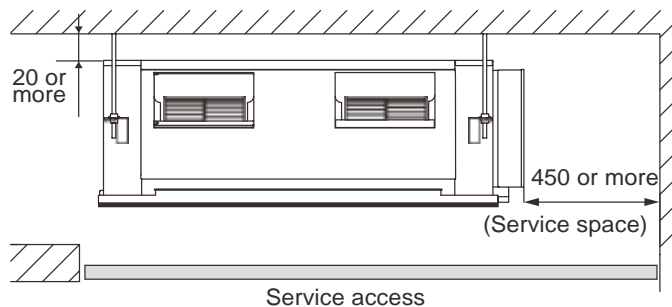
(Unit : mm)

⑥ AR*G45LHTA, AR*G54LHTA

Installation by which service space is made on top of the unit (recommended).



Installation by which service is carried out from the bottom of the unit.



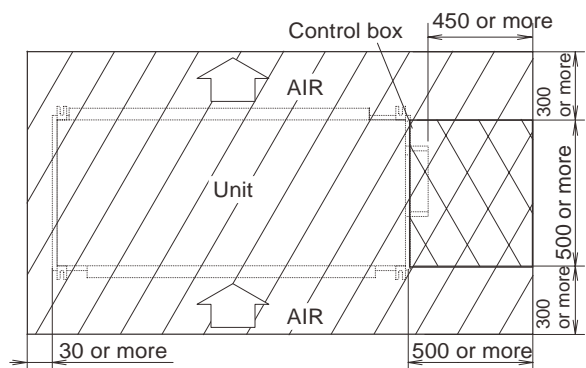
☪ MAINTENANCE SPACE

Provide a maintenance space for inspection purposes as shown below.

Do not place any wiring or illumination in the service space, as they will impede service.

(Unit : mm)

⑥ AR*G45LHTA, AR*G54LHTA

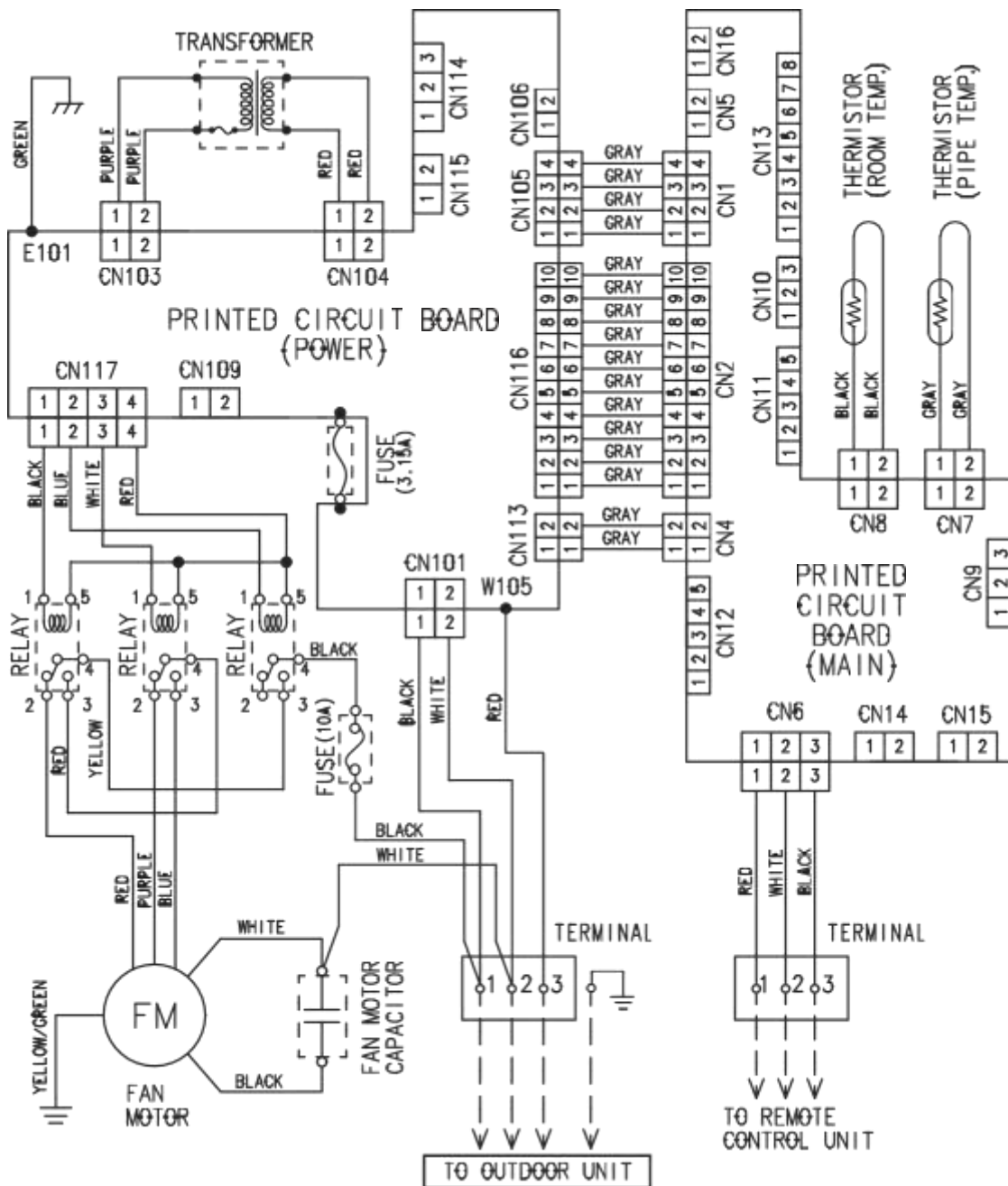


XXXXX : Service access

: Service space

5. WIRING DIAGRAMS

☎ MODEL: AR*G45LHTA, AR*G54LHTA



6. CAPACITY TABLE

6-1. COOLING CAPACITY

MODEL: AR*G45LHTA

AFR 55.8

		Indoor temperature																							
		°CDB			18			21			23			25			27			29			32		
		°CWB			12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP			
	-15	11.75	10.43	2.86	13.09	10.50	2.90	13.54	11.41	2.92	14.43	11.45	2.95	14.88	12.36	2.96	15.77	12.31	2.99	16.66	13.12	3.02			
	-10	11.74	10.41	2.73	13.08	10.47	2.77	13.53	11.39	2.79	14.42	11.42	2.82	14.86	12.34	2.83	15.76	12.29	2.86	16.65	13.09	2.89			
	0	12.10	10.59	2.42	13.48	10.65	2.46	13.94	11.58	2.47	14.86	11.62	2.50	15.32	12.54	2.51	16.24	12.49	2.54	17.16	13.31	2.56			
	5	11.72	10.41	2.55	13.06	10.47	2.59	13.50	11.38	2.60	14.39	11.42	2.63	14.84	12.33	2.64	15.73	12.28	2.67	16.62	13.08	2.69			
	10	11.56	10.29	2.73	12.87	10.35	2.77	13.31	11.25	2.79	14.19	11.28	2.82	14.63	12.19	2.83	15.51	12.14	2.86	16.38	12.93	2.89			
	15	11.49	10.23	2.87	12.80	10.29	2.91	13.23	11.19	2.93	14.10	11.22	2.96	14.54	12.12	2.97	15.41	12.07	3.00	16.28	12.86	3.03			
	20	11.89	10.45	3.38	13.24	10.51	3.43	13.69	11.43	3.45	14.60	11.47	3.48	15.05	12.38	3.50	15.95	12.33	3.54	16.85	13.14	3.57			
	25	11.49	10.24	3.65	12.80	10.30	3.70	13.24	11.20	3.72	14.11	11.23	3.76	14.55	12.13	3.78	15.42	12.08	3.82	16.30	12.87	3.86			
	30	11.74	10.41	4.73	13.08	10.48	4.80	13.52	11.39	4.83	14.41	11.43	4.88	14.86	12.34	4.90	15.75	12.29	4.90	16.64	13.09	4.90			
	35	11.06	9.98	4.97	12.32	10.04	5.05	12.74	10.91	5.07	13.58	10.95	5.12	14.00	11.82	5.15	14.84	11.77	5.15	15.68	12.54	5.15			
	40	9.68	9.15	4.23	10.78	9.36	4.29	11.15	10.18	4.31	11.88	10.21	4.36	12.25	11.02	4.38	12.98	10.98	4.38	13.72	11.70	4.38			
46	7.37	7.36	3.55	8.21	7.81	3.61	8.49	8.46	3.62	9.05	8.52	3.66	9.33	9.20	3.68	9.89	9.16	3.68	10.45	9.76	3.68				

MODEL: AR*G54LHTA

AFR 55.8

		Indoor temperature																							
		°CDB			18			21			23			25			27			29			32		
		°CWB			12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP			
	-15	12.72	11.08	3.16	14.17	11.14	3.21	14.66	12.12	3.23	15.62	12.15	3.26	16.11	13.13	3.28	17.07	13.07	3.31	18.04	13.93	3.34			
	-10	12.71	11.05	3.04	14.16	11.12	3.08	14.64	12.09	3.10	15.61	12.13	3.13	16.09	13.10	3.15	17.06	13.05	3.18	18.02	13.90	3.21			
	0	12.84	11.10	2.73	14.30	11.16	2.77	14.79	12.13	2.79	15.76	12.17	2.82	16.25	13.15	2.83	17.23	13.09	2.86	18.20	13.95	2.89			
	5	12.44	10.83	2.74	13.85	10.89	2.79	14.33	11.84	2.80	15.27	11.88	2.83	15.74	12.83	2.84	16.69	12.78	2.87	17.63	13.61	2.90			
	10	12.26	10.69	2.87	13.66	10.75	2.92	14.12	11.69	2.93	15.05	11.73	2.96	15.52	12.66	2.98	16.45	12.61	3.01	17.38	13.44	3.04			
	15	12.02	10.51	3.17	13.39	10.57	3.22	13.85	11.49	3.24	14.76	11.53	3.27	15.22	12.45	3.29	16.13	12.40	3.32	17.05	13.21	3.36			
	20	12.42	10.75	4.02	13.84	10.81	4.09	14.31	11.75	4.11	15.25	11.79	4.15	15.72	12.74	4.17	16.67	12.68	4.21	17.61	13.51	4.25			
	25	12.18	10.63	4.60	13.56	10.69	4.67	14.03	11.62	4.70	14.95	11.66	4.75	15.41	12.59	4.77	16.34	12.54	4.82	17.26	13.36	4.87			
	30	12.35	10.82	4.99	13.75	10.88	5.07	14.22	11.83	5.09	15.16	11.87	5.14	15.63	12.82	5.17	16.57	12.77	5.17	17.51	13.60	5.17			
	35	11.46	10.21	5.10	12.76	10.27	5.17	13.20	11.17	5.20	14.07	11.20	5.25	14.50	12.10	5.28	15.37	12.05	5.28	16.24	12.84	5.28			
	40	9.68	9.15	4.23	10.78	9.36	4.29	11.15	10.18	4.31	11.88	10.21	4.36	12.25	11.02	4.38	12.98	10.98	4.38	13.72	11.70	4.38			
46	7.37	7.36	3.55	8.21	7.76	3.61	8.49	8.44	3.62	9.05	8.46	3.66	9.33	9.14	3.68	9.89	9.10	3.68	10.45	9.70	3.68				

AFR: Air flow rate (m³/min)
 TC: Total capacity (kW)
 SHC: Sensible Heat capacity (kW)
 IP: Input power (kW)

6-2. HEATING CAPACITY

MODEL: AR*G45LHTA

AFR

55.8

		Indoor temperature										
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	11.47	4.69	11.19	4.79	10.92	4.89	10.65	4.90	10.37	4.90
	-10	-11	12.63	4.70	12.33	4.80	12.03	4.90	11.73	4.90	11.43	4.90
	-5	-7	13.99	4.70	13.65	4.80	13.32	4.90	12.99	4.90	12.65	4.90
	0	-2	15.28	4.70	14.91	4.80	14.55	4.90	14.19	4.90	13.82	4.90
	5	3	16.36	4.70	15.97	4.80	15.58	4.90	15.19	4.90	14.80	4.90
	7	6	17.01	4.70	16.61	4.80	16.20	4.90	15.80	4.90	15.39	4.90
	10	8	18.16	4.70	17.73	4.80	17.30	4.90	16.86	4.90	16.43	4.90
	15	10	18.03	4.22	17.60	4.31	17.17	4.40	16.74	4.40	16.31	4.40
	20	15	18.59	4.22	18.14	4.31	17.70	4.40	17.26	4.40	16.82	4.40
24	18	18.50	3.81	18.06	3.89	17.62	3.97	17.18	3.97	16.74	3.97	

MODEL: AR*G54LHTA

AFR

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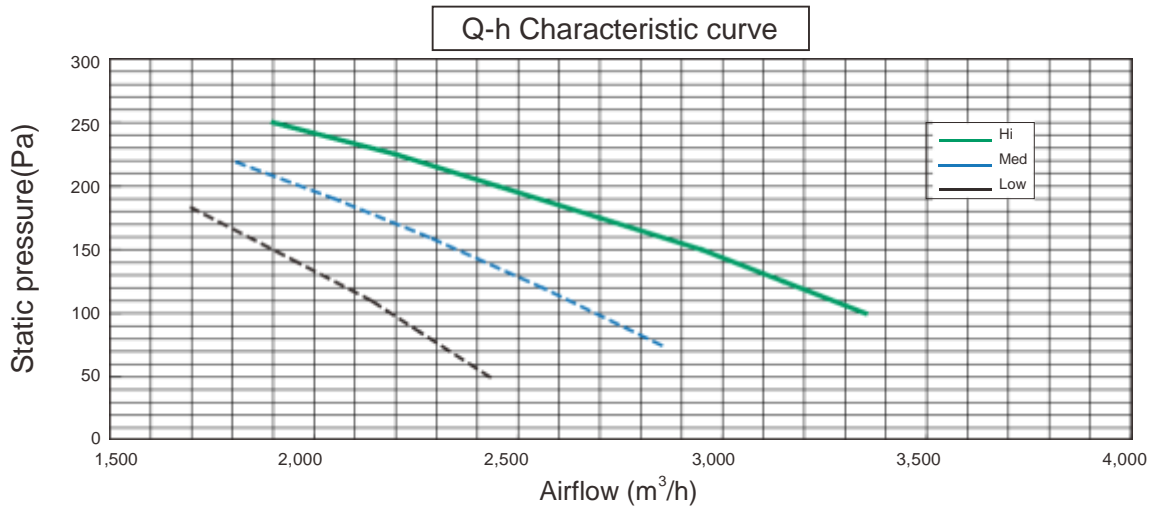
		Indoor temperature										
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	12.10	4.92	11.81	5.03	11.52	5.13	11.23	5.23	10.94	5.28
	-10	-11	13.42	5.07	13.10	5.17	12.78	5.28	12.46	5.28	12.14	5.28
	-5	-7	15.02	5.07	14.66	5.17	14.30	5.28	13.94	5.28	13.59	5.28
	0	-2	16.24	5.07	15.86	5.17	15.47	5.28	15.08	5.28	14.70	5.28
	5	3	17.43	5.07	17.02	5.17	16.60	5.28	16.19	5.28	15.77	5.28
	7	6	18.90	5.07	18.45	5.17	18.00	5.28	17.55	5.28	17.10	5.28
	10	8	19.20	5.07	18.75	5.17	18.29	5.28	17.83	5.28	17.38	5.28
	15	10	18.03	4.22	17.60	4.31	17.17	4.40	16.74	4.40	16.31	4.40
	20	15	18.59	4.22	18.14	4.31	17.70	4.40	17.26	4.40	16.82	4.40
24	18	18.50	3.81	18.06	3.89	17.62	3.97	17.18	3.97	16.74	3.97	

AFR: Air flow rate (m³/min)
 TC : Total capacity (kW)
 IP : Input power (kW)

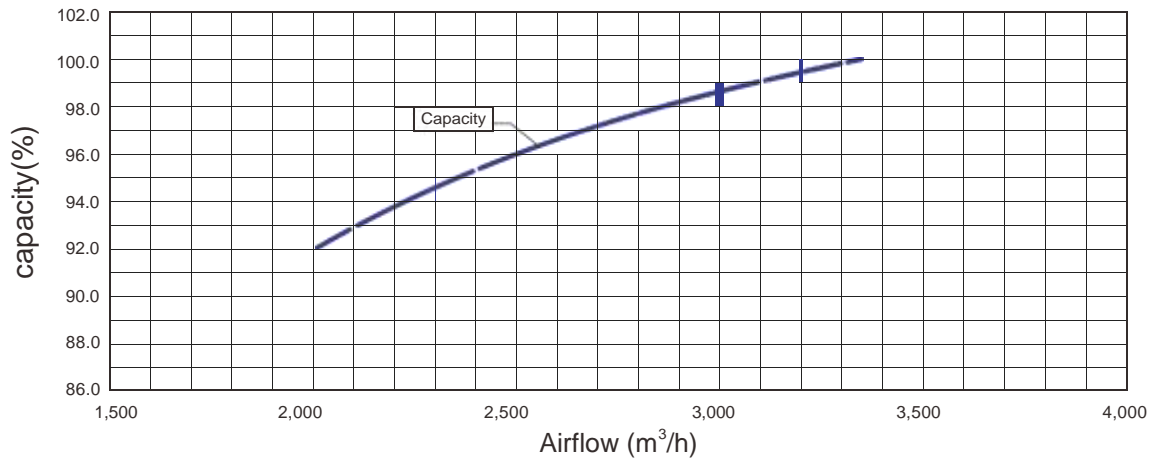
7. FAN PERFORMANCE AND CAPACITY

MODEL: AR*G45LHTA

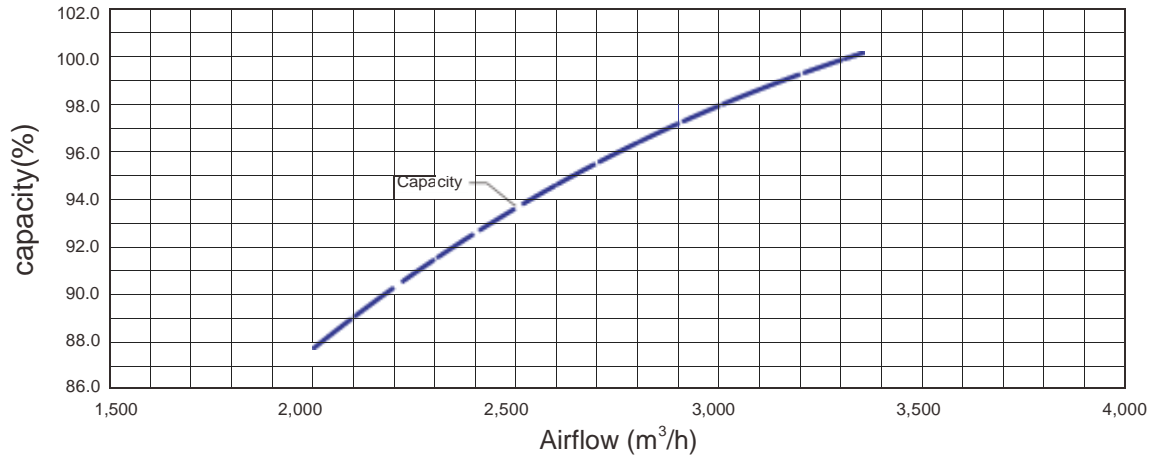
			Static pressure (Pa)								
			50	75	100	125	150	175	200	225	250
FAN SPEED	Hi	m ³ /h	-	-	3350	3150	2950	2700	2450	2280	1900
		l/s	-	-	931	875	819	750	681	633	528
		CFM	-	-	1972	1854	1736	1589	1442	1342	1118
	Med	m ³ /h	-	2850	2700	2520	2350	2160	1970	1750	-
		l/s	-	792	750	700	653	600	547	486	-
		CFM	-	1677	1589	1483	1383	1271	1159	1030	-
	Low	m ³ /h	2430	2310	2180	2050	1900	1750	-	-	-
		l/s	675	642	606	569	528	486	-	-	-
		CFM	1430	1360	1283	1207	1118	1030	-	-	-



⑥ Cooling

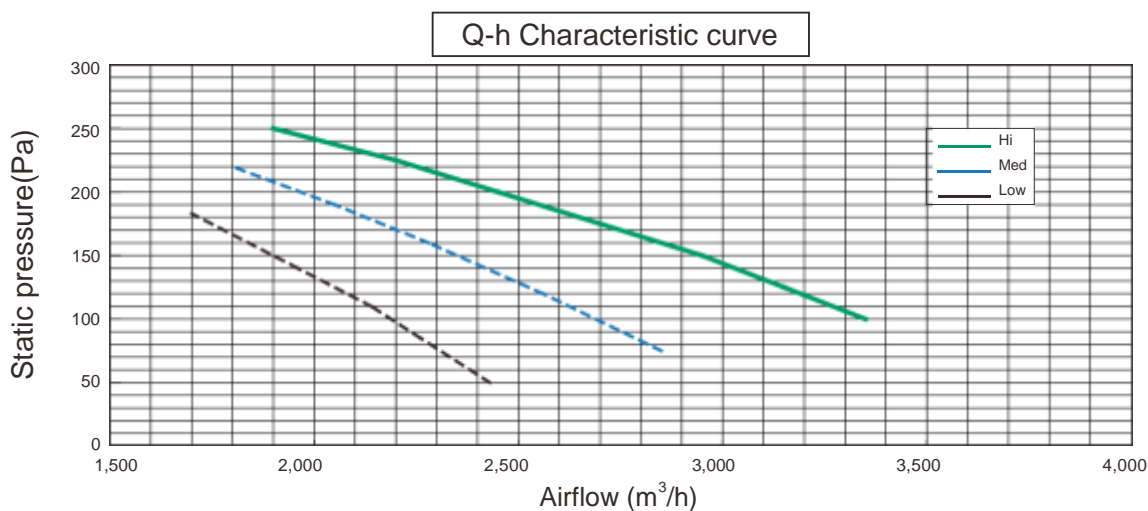


⑥ Heating

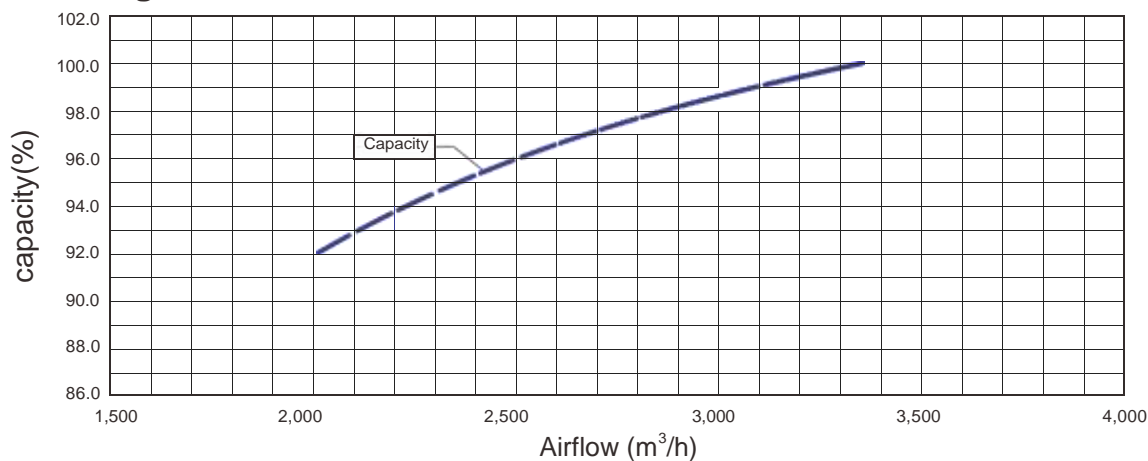


MODEL: AR*G54LHTA

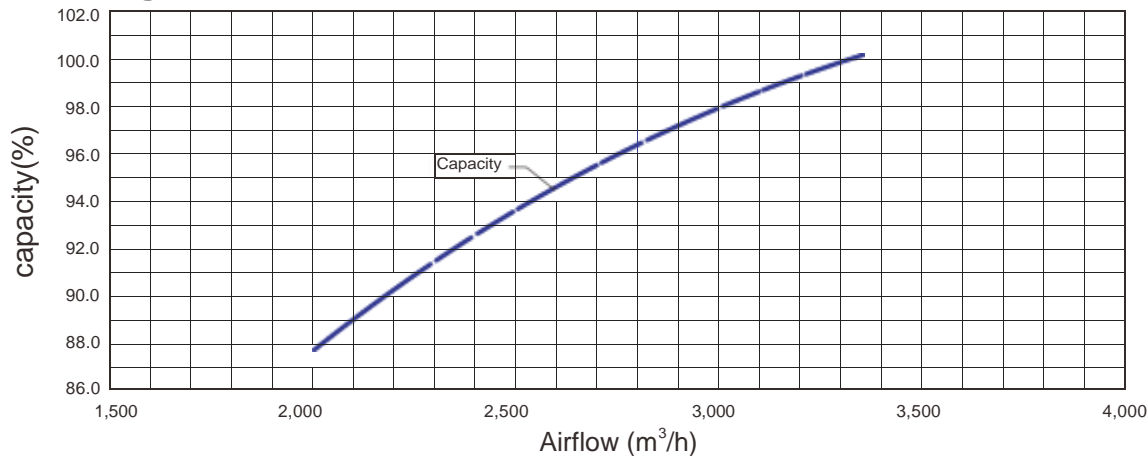
			Static pressure (Pa)								
			50	75	100	125	150	175	200	225	250
FAN SPEED	Hi	m ³ /h	-	-	3350	3150	2950	2700	2450	2280	1900
		l/s	-	-	931	875	819	750	681	633	528
		CFM	-	-	1972	1854	1736	1589	1442	1342	1118
	Med	m ³ /h	-	2850	2700	2520	2350	2160	1970	1750	-
		l/s	-	792	750	700	653	600	547	486	-
		CFM	-	1677	1589	1483	1383	1271	1159	1030	-
	Low	m ³ /h	2430	2310	2180	2050	1900	1750	-	-	-
		l/s	675	642	606	569	528	486	-	-	-
		CFM	1430	1360	1283	1207	1118	1030	-	-	-



⑥ Cooling



⑥ Heating



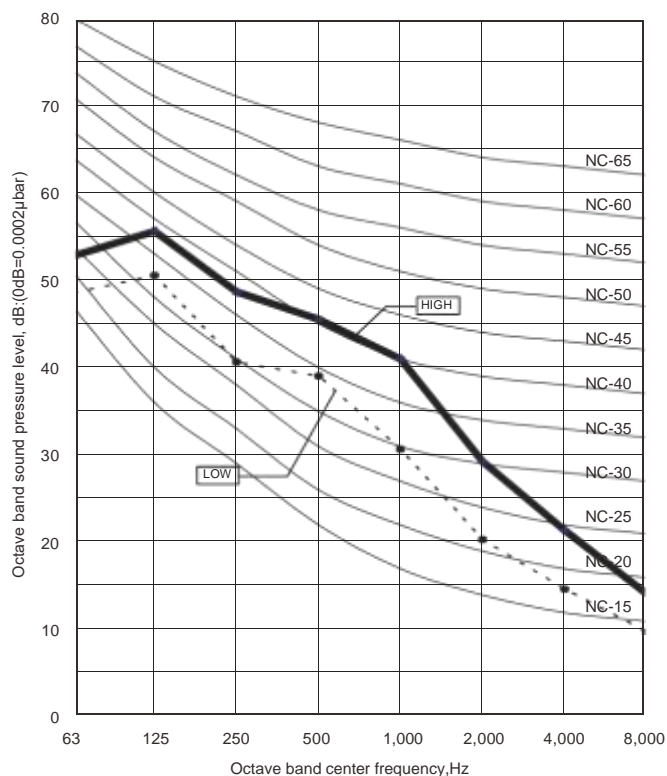
8. OPERATION NOISE

8-1. NOISE LEVEL CURVE

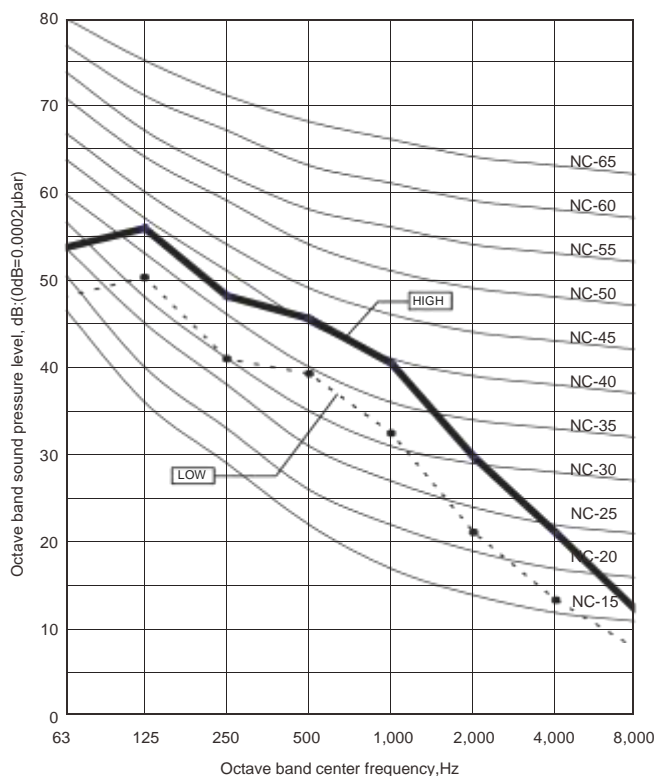
Condition
Static pressure : 100Pa

MODEL: AR*G45LHTA

⑥ Cooling

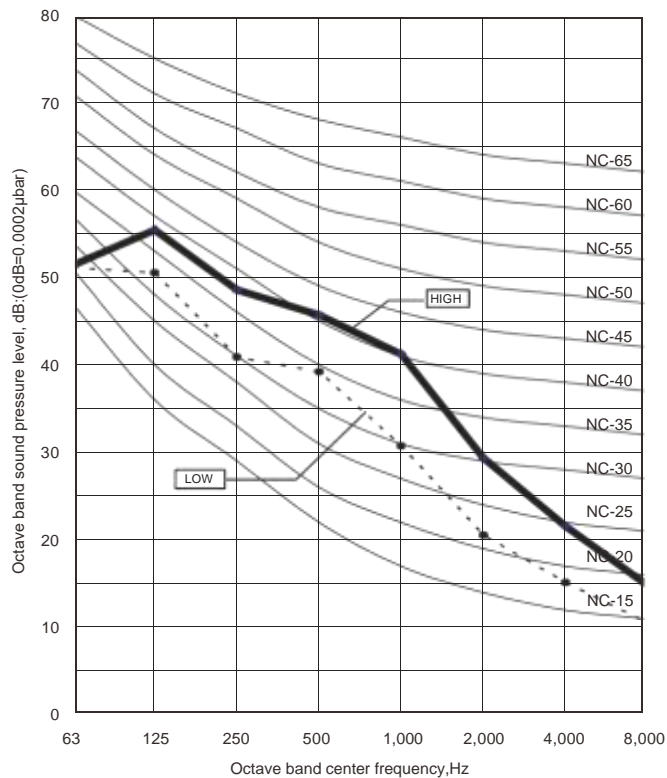


⑥ Heating

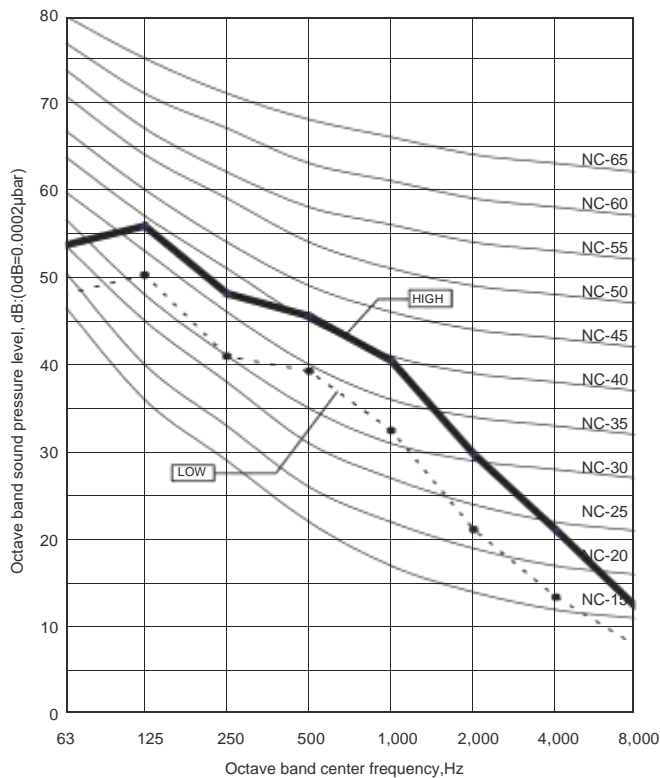


MODEL: AR*G54LHTA

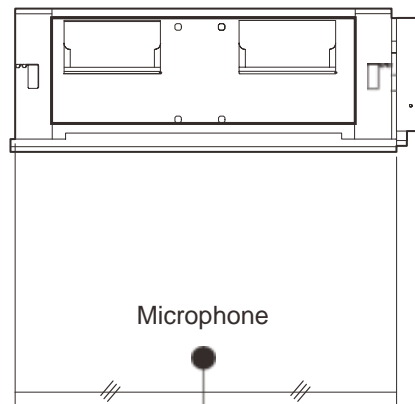
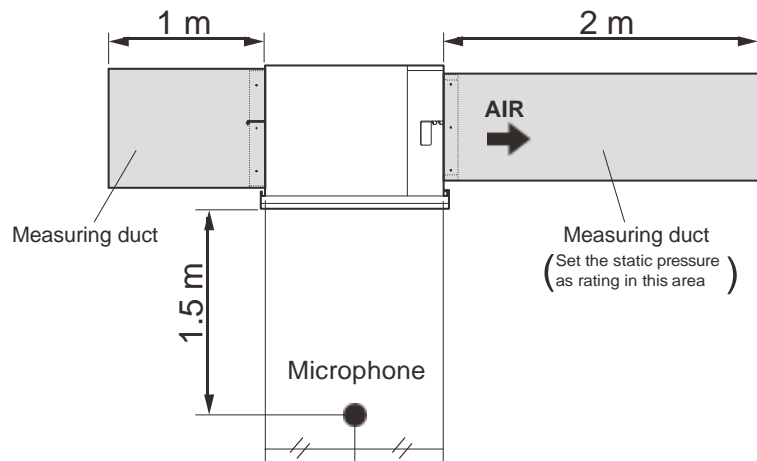
⑥ Cooling



⑥ Heating



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model name			AR *G45LHTA AR *G54LHTA
Power supply	Voltage	V	230~
	Frequency	Hz	50
Max Operating Current		A	4.0
Wiring spec.	Connection cable	mm ²	1.5
	Limited wiring length	m	50

Note: Wiring specification

1. Selected sample

(Selected based on Japan Electrotechnical Standards and Codes Committee E0005)

2. Limited wiring length : Limit voltage drop to less than 2%. Increase cable gauge if voltage drop is 2% or more.

10. SAFETY DEVICES

	Protection form	Model
		AR*G45LHTA AR*G54LHTA
Circuit protection	Current fuse (PCB)	250V 3.15A
Fan motor protection	Thermal protector	145±5°C OFF

11. EXTERNAL INPUT & OUTPUT

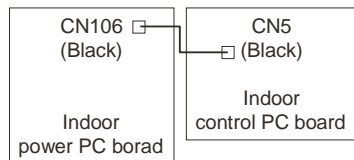
INPUT	OUTPUT	Connector	REMARKS
CONTROL INPUT	—	CN114	See external input / output settings for details.
—	OPERATION STATUS	CN115	
—	FRESH AIR CONTROL	CN14	
—	AUXILIARY HEATER	CN15	

⌘ PREPARATION

Before connecting the external input, preparation is necessary using the signal wire in the figure below.



When the external input/output is used, connect the external signal wire as shown in the figure.



11-1. EXTERNAL INPUT

⌘ CONTROL INPUT (Operation/Stop or Forced stop)

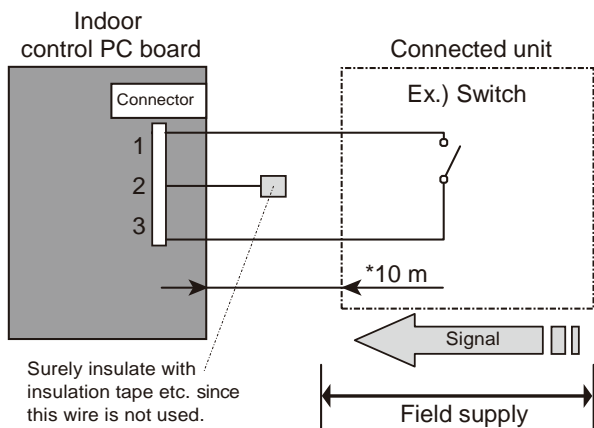
The air conditioner can be remotely operated by means of the following on-site work.

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

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

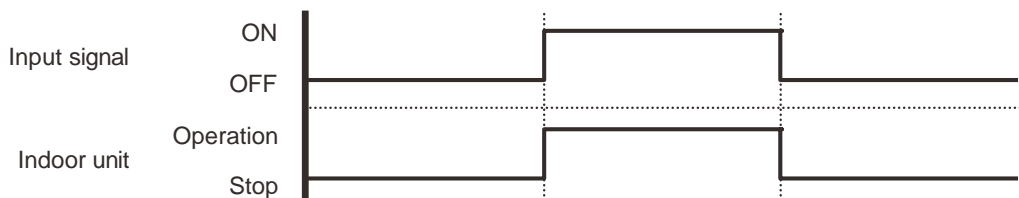
	Initial setting after power is ON	Starting mode other than initial setting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24°C	Temperature at previous operation
Air flow mode	AUTO	Mode at previous operation

⑥ Circuit diagram example

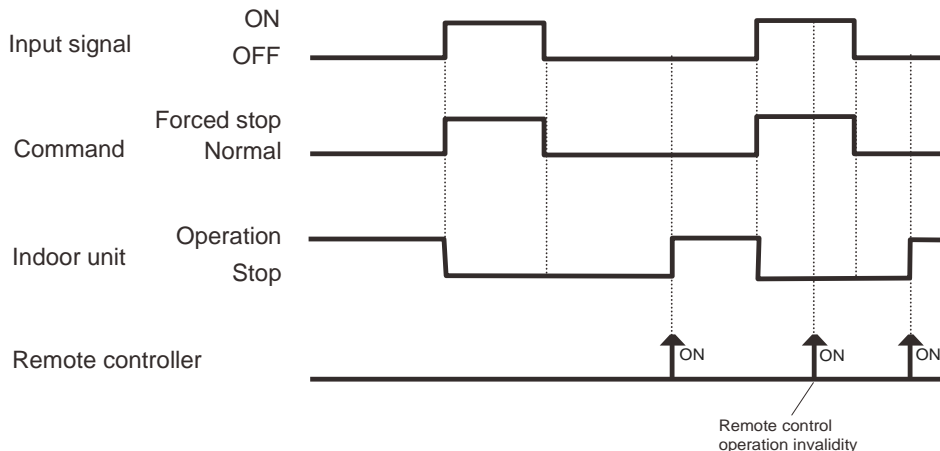


* Make the distance from the PC board to the connected unit within 10 m.
Contact capacity : 5VDC or more, 15mA or more.
Please use non-polar relays and switches.

- When function setting is in "Operation/Stop" mode



- When function setting is in "Forced stop" mode



⑥ Parts(Optional)

Model name
UTD-ECS5A

Wire (External input)

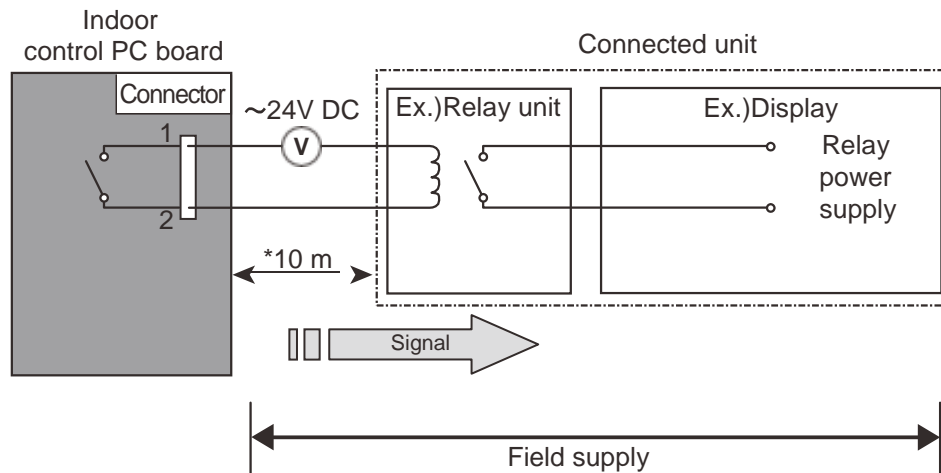


11-2. EXTERNAL OUTPUT

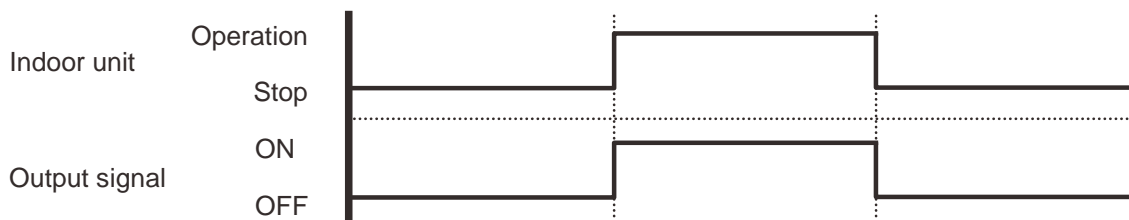
⌘ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

⑥ Circuit diagram example



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



⑥ Parts (Optional)

Model name
UTD-ECS5A

Wire (External output)

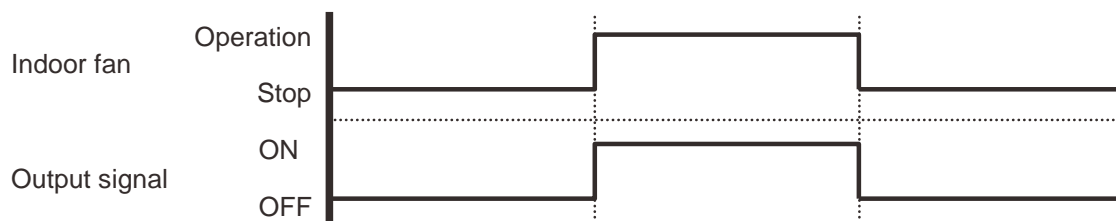
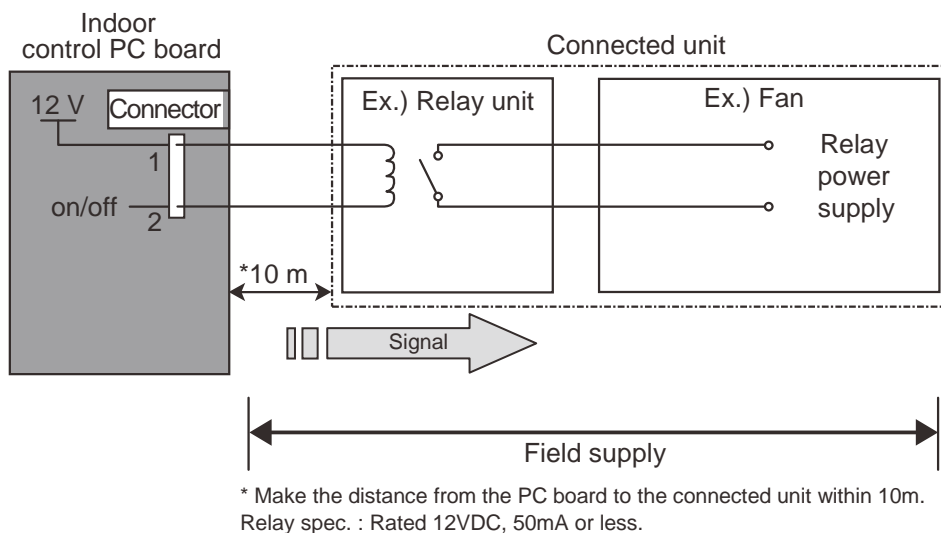


☞ FRESH AIR CONTROL OUTPUT

A signal linked to air conditioner indoor fan ON can be output.

* However, signal becomes OFF during cold air prevention control operation.

⑥ Circuit diagram example



⑥ Parts (Optional)

Model name
UTD-ECS5A

Wire (Fresh air output)



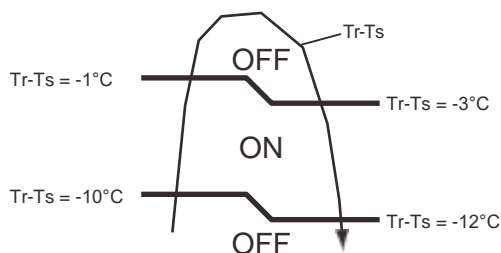
⌘ AUXILIARY HEATER OUTPUT

A signal is outputted from Connector when indoor fan and compressor is turned on under heating operation.

*Signal output performance specifications are as shown on the right.

Ex. When Set Temperature(T_s) is 22°C;

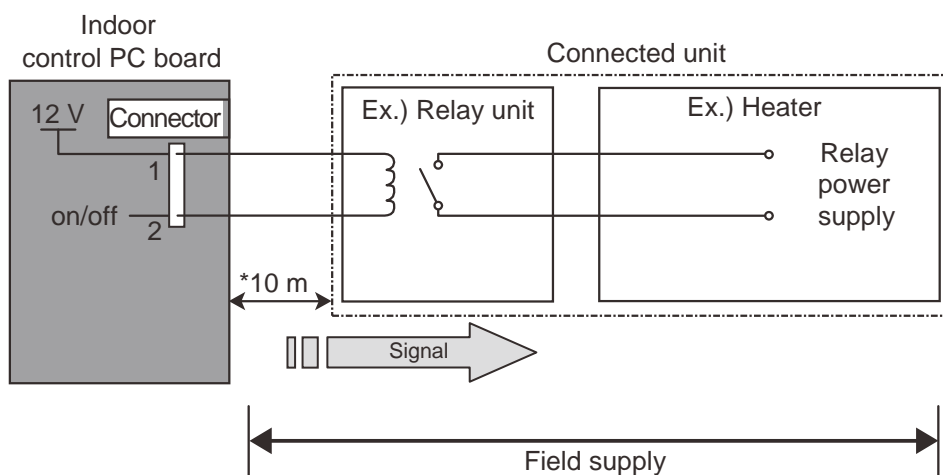
- and Room Temperature(T_r) increase above 12°C, signal output is on.
- and Room Temperature(T_r) increase above 21°C, signal output is off.
- and Room Temperature(T_r) decrease below 19°C, signal output is on.
- and Room Temperature(T_r) decrease below 10°C, signal output is off.



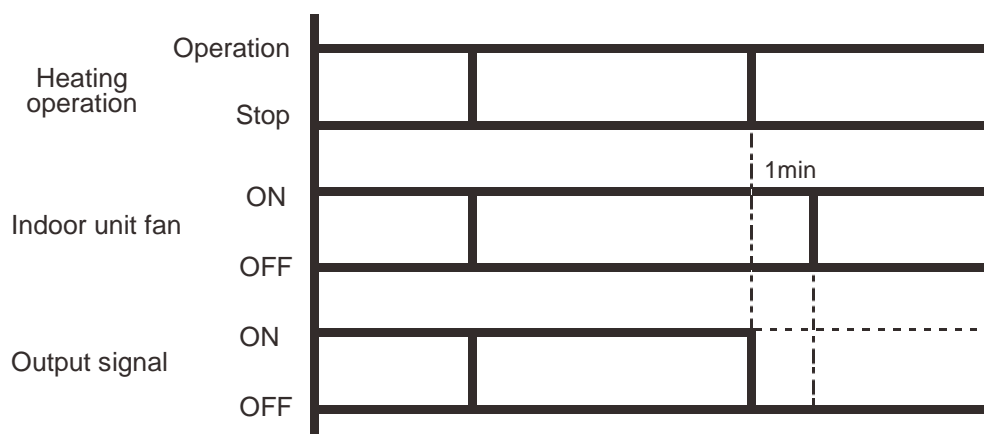
⑥ Jumper wire (Indoor Unit)

This is used to continue indoor unit fan operation for 1 minute after thermo OFF in heating mode. 1 minute delay control set by cutting jumper wire on PCB.

⑥ Circuit diagram example

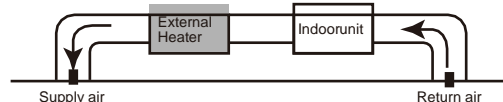


* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Rated 12VDC, 50mA or less.



⚠ CAUTION

Please place an external a heater between the indoor unit and the ductwork.
Please be sure to use delay control of the fan.



⑥ Parts (Optional)

Model name
UTD-ECS5A

Wire (Heater output)



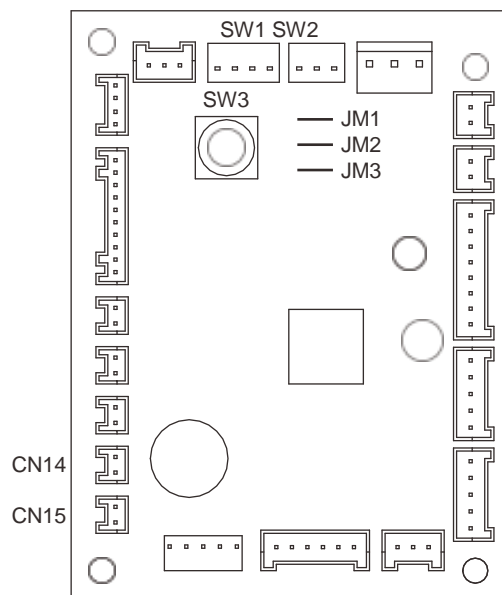
12. FUNCTION SETTINGS

12-1. INDOOR UNIT

INDOOR UNIT			
DIP SW	SW 1	1	Prohibited
		2	
		3	
		4	
	SW 2	1	
		2	
		3	
Rotary SW	SW 3		Remote controller address setting
Jumper Wire		JM 1	Prohibited
		JM 2	
		JM 3	Fan delay setting

⌘ SWITCH POSITION

Control PC board



⌘ ROTARY SWITCH SETTING

⑥ Remote controller address setting (SW3)

This switch can be used when group control system. Set the remote controller address in the 1,2,-,15 order.

(◆ . . . Factory setting)

SW 3	SW state
◆ 0	single
1-15	Remote controller address

⌘ JUMPER WIRE SETTING

⑥ JM1, 2 setting prohibited

⑥ Fan delay setting (JM3)

When the indoor unit is stopped while operating in conjunction with auxiliary heater, the indoor unit fan operation will continue for one minute.

(◆ . . . Factory setting)

	JM state
◆ Connect	Invalid
Disconnect	Valid

12-2. INDOOR UNIT (Setting by remote controller)

- The function settings of the control of the indoor unit can be changed by this procedure according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction.
- After the power is turned on, perform The Function Setting according to the installation conditions using the remote controller.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

⌘ PREPARATION

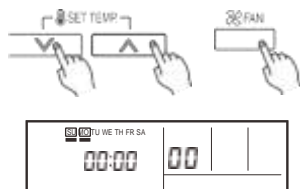
⑥ Turn on the power.

- * Before turning on the power of the indoor units, make sure the piping air-tight test and vacuuming have been conducted.
- * Also check again to make sure no wiring mistakes were made before turning on the power.

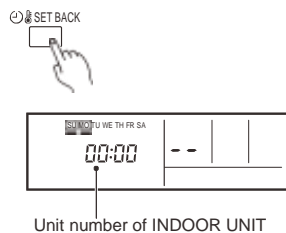
⌘ FUNCTION SETTING METHOD (for Wired remote controller)

⑥ Setting method

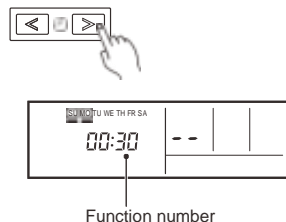
- (1) Press the SET TEMP. buttons () () and FAN button simultaneously for more than 5 seconds to enter the function setting mode.



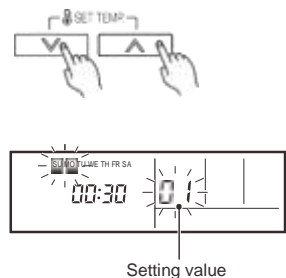
- (2) Press the SET BACK button to select the indoor unit number.





- (3) Press the Set time buttons to select the function number.



- (4) Press the SET TEMP. buttons () () to select the setting value. The display flashes during setting value selection.



- (5) Press the TIMER SET button to confirm the setting. Press the TIMER SET button for a few seconds until the setting value stops flashing. If the setting value display changes or if “-” is displayed when the flashing stops, the setting value has not been set correctly. (An invalid setting value may have been selected for the indoor unit.)
- (6) Repeat steps 2 to 5 to perform additional settings. Press the SET TEMP. buttons () () and FAN control button simultaneously again for more than 5 seconds to cancel the function setting mode. In addition, the function setting mode will be automatically canceled after 1 minute if no operation is performed.
- (7) After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.

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

⌘ CONTENTS FUNCTION SETTING

- Follow the instructions in the Local Setup Procedure, which is supplied with the remote control, in accordance with the installed condition.
After the power is turned on, perform the Function Setting on the remote control.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

1)	Filter sign
2)	Room temperature control for cooling
3)	Room temperature control for heating
4)	Auto restart
5)	Room temperature sensor switching
6)	Cool air prevention
7)	Remote controller custom code
8)	External input control
9)	Room temperature sensor switching (Aux.)

1) Filter sign

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

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

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Standard (2500 hours)	11	00
	Long interval (5000 hours)		01
	Short interval (1250 hours)		02
	No indication		03

2) Room temperature control for cooling

Depending on the installed environment, correction of the room temperature sensor may be required.

Select the appropriate control setting according to the installed environment.

(◆... Factory setting)

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

3) Room temperature control for heating

Depending on the installed environment, correction of the room temperature sensor may be required.

Select the appropriate control setting according to the installed environment.

(◆... Factory setting)

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

4) Auto restart

Enable or disable automatic restart after a power interruption.

(◆... Factory setting)

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

*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).

(◆... Factory setting)

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

00: Sensor on the indoor unit is active.

01: Sensors on both indoor unit and wired remote controller are active.

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

6) Cool air prevention

This setting is to disable the cold air prevention function during heating operation. When disabled, the fan setting will always follow the setting on the remote controller. (Excluding defrost mode)

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Enable	43	00
	Disable		01

7) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed.

Select the appropriate custom code

(◆... Factory setting)

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

8) External input control

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

(◆... Factory setting)

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

9) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01).

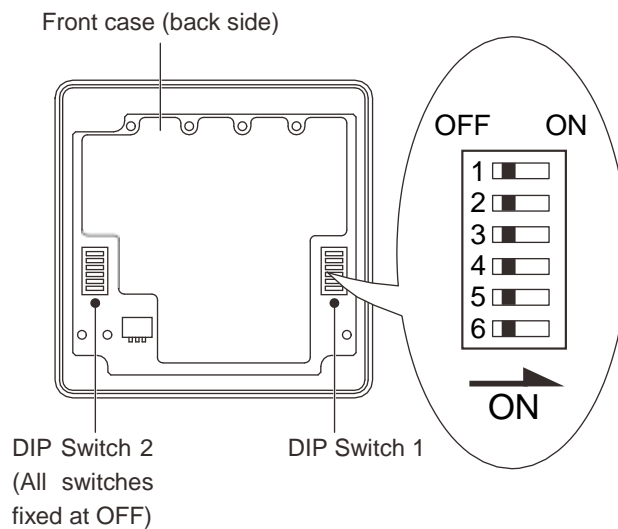
This function will only work if the function setting 42 is set at "Both" (01).

(◆... Factory setting)

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

12-3. WIRED REMOTE CONTROLLER

⌘ SWITCH POSITION



⌘ DIP SWITCH 1 SETTING

DIP Switch 1	SW1	Prohibited*
	SW2	Dual remote controller setting
	SW3	Prohibited*
	SW4	Prohibited*
	SW5	Prohibited*
	SW6	Memory backup setting

*Switches are fixed at OFF.

⑥ Dual remote controller setting

Set the remote controller SW2 according to the following table.

(◆... Factory setting)

	Number of remote controller	Primary unit	Secondary unit
		SW2	SW2
◆	1 (Normal)	OFF	—
	2 (Dual)	OFF	ON

⑥ Memory backup setting

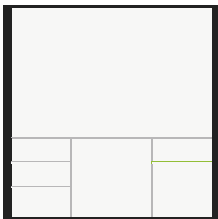
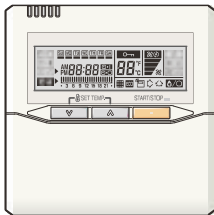

Set to ON to use batteries for the memory backup. If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

(◆... Factory setting)


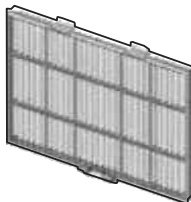
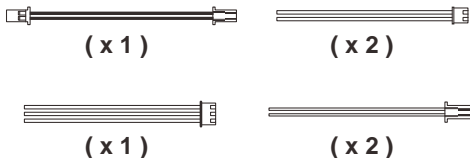
	SW6	Memory backup
◆	OFF	Invalidity
	ON	Validity

13. OPTIONAL PARTS

13-1. CONTROLLER

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RVN*M	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key.
	Wired remote controller	UTY-RNN*M	The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor.
	Simple remote controller	UTY-RSN*M	Compact remote controller concentrates on the basic functions such as Start/Stop, Fan Control, Temperature Setting and Operation mode.

13-2. OTHERS

Exterior	Parts name	Model No.	Summary
	Remote sensor	UTY-XSZX	New amenity space can be offered by installing the Remote sensor in the remote controller.
	Long-life filter	UTD-LF60KA	Long- life filter can be mounted to the indoor unit.
	External control set	UTD-ECS5A	Use to connect with various peripheral devices and air conditioner PC board. (Set of 6)

2. OUTDOOR UNIT

SINGLE TYPE :

AO*G45LETL

AO*G54LETL

CONTENTS

2. OUTDOOR UNIT

1. FEATURE	02 - 01
2. SPECIFICATIONS	02 - 03
3. DIMENSIONS	02 - 04
4. INSTALLATION PLACE	02 - 05
4-1. SINGLE OUTDOOR UNIT INSTALLATION	02 - 05
4-2. MULTIPLE OUTDOOR UNIT INSTALLATION	02 - 06
4-3. OUTDOOR UNIT INSTALLATION IN MULTI ROW	02 - 06
5. REFRIGERANT CIRCUIT	02 - 07
6. WIRING DIAGRAMS	02 - 08
7. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE	02 - 09
8. ADDITIONAL CHARGE CALCULATION	02 - 11
9. AIR FLOW	02 - 12
10. OPERATION NOISE (SOUND PRESSURE)	02 - 13
10-1. NOISE LEVEL CURVE	02 - 13
10-2. SOUND LEVEL CHECK POINT	02 - 14
11. ELECTRIC CHARACTERISTICS	02 - 15
12. SAFETY DEVICES	02 - 16
13. EXTERNAL INPUT & OUTPUT	02 - 17
13-1. EXTERNAL INPUT	02 - 17
13-2. EXTERNAL OUTPUT	02 - 19
14. FUNCTION SETTINGS	02 - 21
14-1. FIELDSETTING SWITCHES	02 - 21
14-2. SETTING METHOD	02 - 22
14-2-1. LOW NOISE MODE	02 - 22
14-2-2. PEAK CUT MODE	02 - 23
15. OPTIONAL PARTS	02 - 24

1. FEATURE

☪ FEATURES

⑥ Peak cut operation

Peak cut mode

Suppresses maximum capacity to perform energy-saving operation, preventing breaker tripping. This function operates by setting a peak current value and reducing the power consumption.

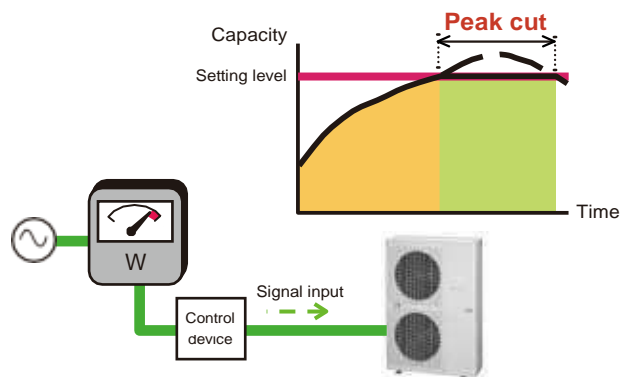
* Performance drops by reducing the power consumption preferentially.

Level 1 ... Suppresses the power consumption to almost 0% by stopping the compressor.

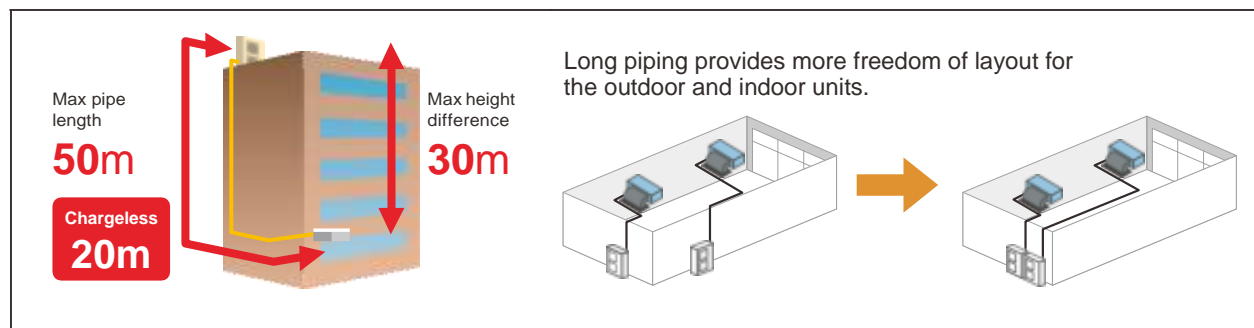
Level 2 ... Suppresses the power consumption to 50% of the rated power consumption value.

Level 3 ... Suppresses the power consumption to 75% of the rated power consumption value.

Level 4 ... Suppresses the power consumption to the rated power consumption value (100%).



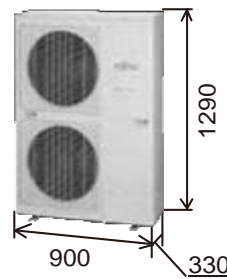
⑥ High installation capability long piping correspondence



⑥ Space saving

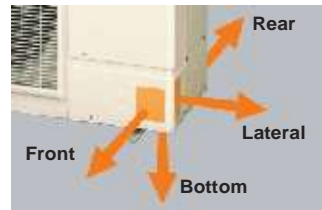
Compact size

High performance has been realized with a compact outdoor unit. Due to the compact size, the space required for installation has been reduced, allowing a wider selection of installation locations.



⑥ 4-direction piping connection

Piping is connectable in any of the four directions. The perfect route can be selected according to the installation.



⑥ Low outdoor air temperature correspondence

Both cooling and heating operations can be performed when the outdoor air temperature is low.

Cooling **-15 °C**

Heating Dry-bulb **-15 °C**
Wet-bulb **-20 °C**

⑥ External output (option)

Compressor status output

This output indicates the outdoor unit compressor status.

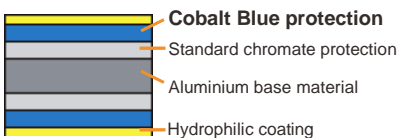
Error status output

This output indicates the Normal / Error status of the outdoor unit and connected indoor unit.

⑥ Blue fin heat exchanger

Corrosion-resistance of the heat exchanger even in coastal areas has been improved by blue fin treatment of the outdoor unit heat exchanger.

Blue fin heat exchanger



⑥ Service, maintenance

- "Error display" and "Operating information" can be explained by LED display.
- Pump down operation can be performed by one button during refrigerant recovery.



⑥ Quiet operation

Low noise mode

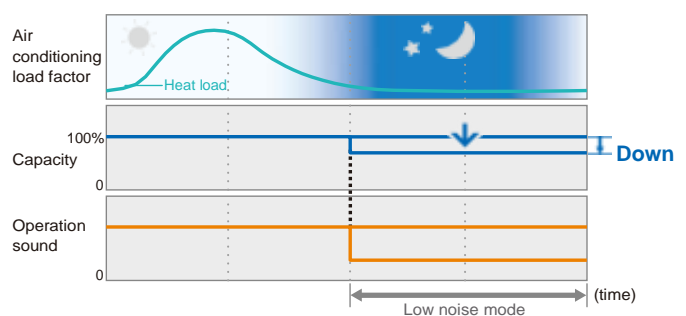
Suppresses operating sound.

This function suppresses the outdoor unit noise value to the following 2 levels.

* Performance may drop depending on the outside air temperature condition, etc.

Level 1 ... Rated noise value -2dB

Level 2 ... Rated noise value -4dB



2. SPECIFICATIONS

Model name				AO*G45LETL	AO*G54LETL	
Power source				Ø 230 V~ 50 Hz		
Available voltage range				198 - 264 V		
Starting current			A	18.9	20.9	
Fan	Airflow rate	Cooling	(m³/h)	6,750	6,750	
		Heating		6,200	6,850	
	Type × Q'ty		Propeller × 2			
	Motor output		W	104	104	
Sound pressure level		Cooling	dB(A)	55	55	
		Heating		55	57	
Heat exchanger type		Dimensions (H × W × D)		1260 × 900 × 36.4		
		Fin pitch		mm		1.30
		Rows x Stages				2 × 60
		Pipe type				Copper
		Fin type	Type (Material)			Corrugate (Aluminium)
Surface treatment			Corrosion resistance (Blue fin)			
Compressor	Type × Q'ty		Twin Rotary × 1			
	Motor output		W	2100		
Refrigerant		Type (Global Warming Potential)		R410A (1975)		
		Charge	g	3350		
Refrigerant oil		Type		RB68		
Enclosure		Material		Steel sheet		
		Colour		BEIGE (Approximate colour of MUNSELL 10YR 7.5 / 1.0)		
Dimensions (H×W×D)		Net		mm		1290 × 900 × 330
		Gross				1460 × 1050 × 445
Weight		Net		kg		86
		Gross				95
Connection pipe		Size	Liquid	mm	Ø 9.52 (Ø 3/8 in.)	
			Gas		Ø 15.88 (Ø 5/8 in.)	
		Method				Flare
		Pre-charge length				20
		Max. length				50
Max. height difference				30		
Operation range		Cooling	°C	-15 to 46		
		Heating		-15 to 24		

Note :

Specifications are based on the following conditions.

Cooling : Indoor temperature of 27 °CDB / 19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.

Heating : Indoor temperature of 20 °CDB / 15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.

Pipe length : 5 m, Height difference : 0 m.(Outdoor unit - Indoor unit)

The protective function may work when using it outside the operation range.

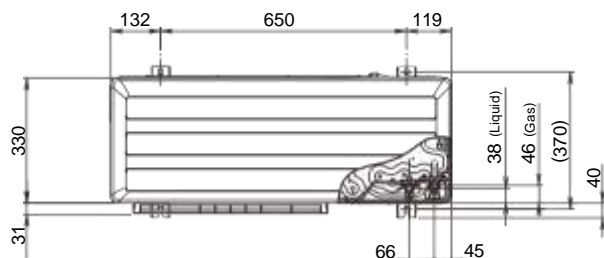
3. DIMENSIONS

☉ MODELS: AO*G45LETL, AO*G54LETL

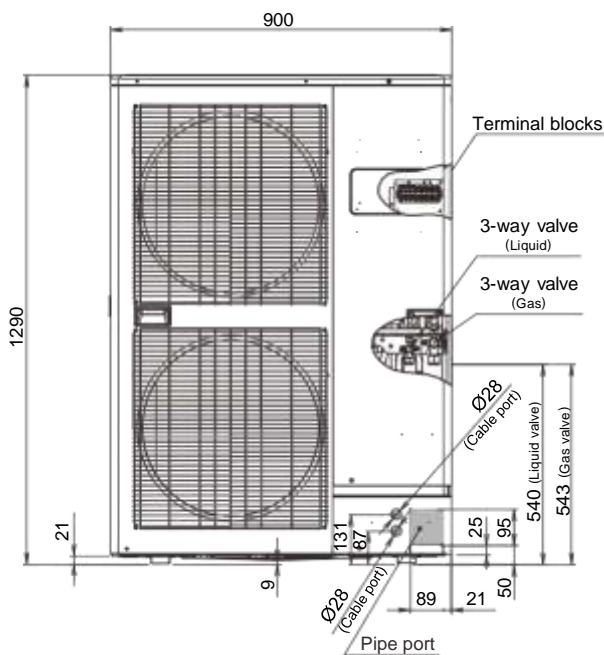
(Unit : mm)

OUTDOOR UNIT
AO*G45-54LETL

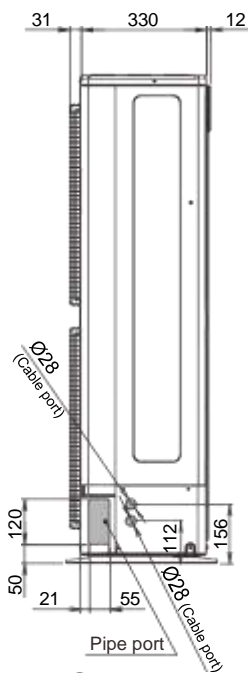
OUTDOOR UNIT
AO*G45-54LETL



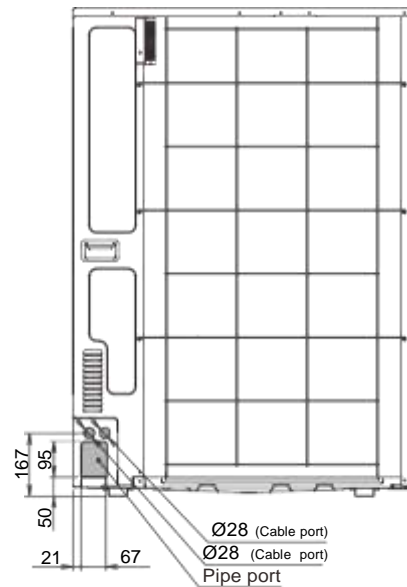
Top view



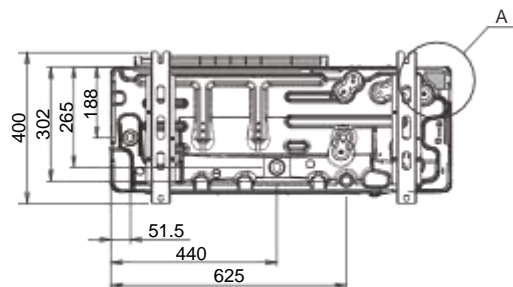
Front view



Side view

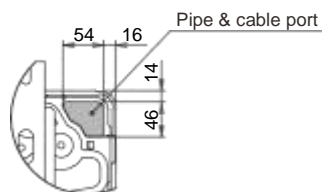


Rear view



Bottom view

Detail A



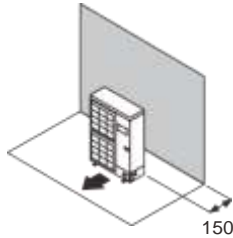
4. INSTALLATION PLACE

4-1. SINGLE OUTDOOR UNIT INSTALLATION

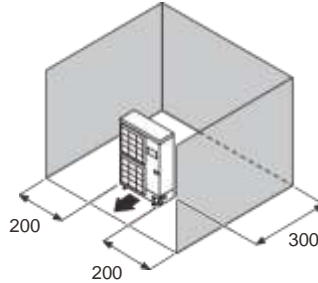
⌘ WHEN THE UPWARD AREA IS OPEN

(Unit : mm)

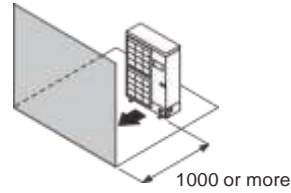
Obstacles at rear only



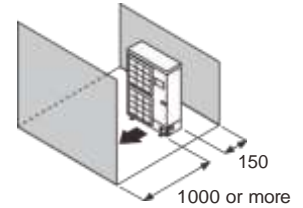
Obstacles at rear and sides only



Obstacles at front only



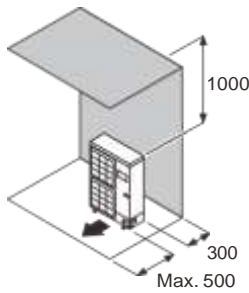
Obstacles at front and rear only



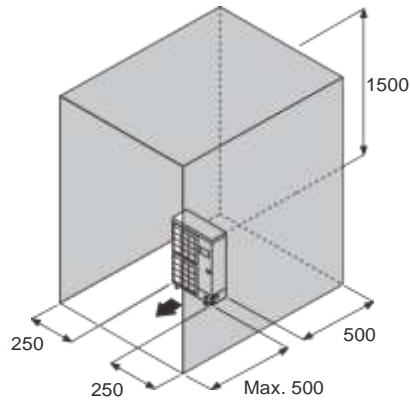
⌘ WHEN AN OBSTRUCTION IS PRESENT ALSO IN THE UPWARD AREA

(Unit : mm)

Obstacles at rear and above only



Obstacles at rear, sides, and above only



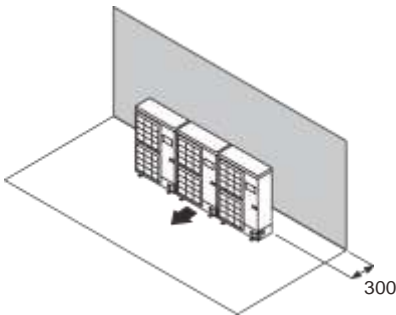
If the space is larger than stated, the condition will be the same as those without any obstacles.

4-2. MULTIPLE OUTDOOR UNIT INSTALLATION

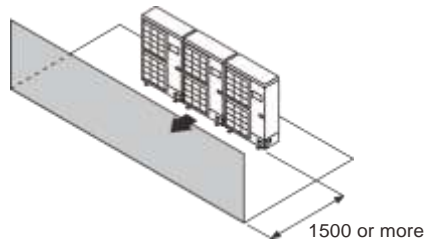
⌘ WHEN THE UPWARD AREA IS OPEN

(Unit : mm)

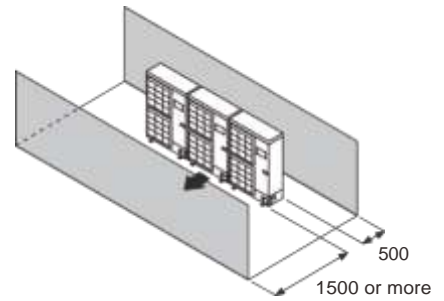
Obstacles at rear only



Obstacles at front only



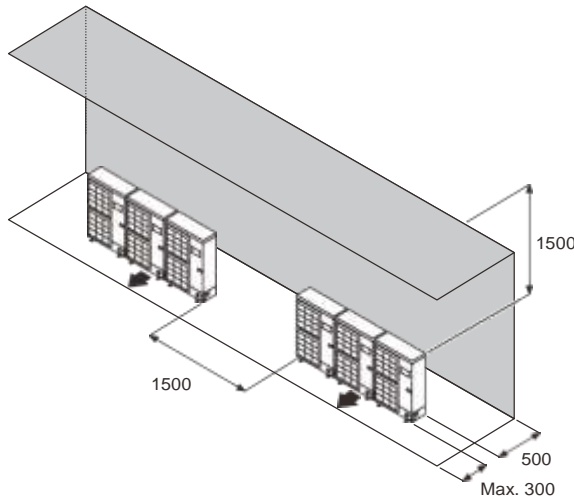
Obstacles at front and rear only



⌘ WHEN AN OBSTRUCTION IS PRESENT ALSO IN THE UPWARD AREA

(Unit : mm)

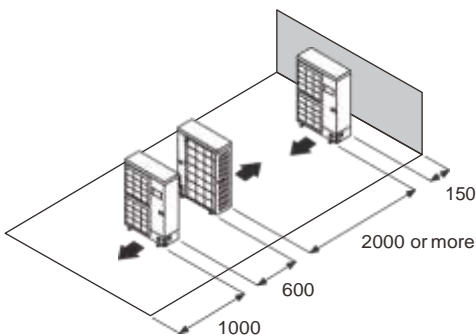
Obstacles at rear and above only



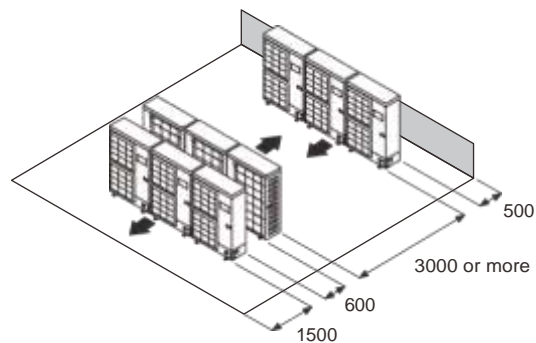
4-3. OUTDOOR UNIT INSTALLATION IN MULTI ROW

(Unit : mm)

Single parallel unit arrangement



Multiple parallel unit arrangement



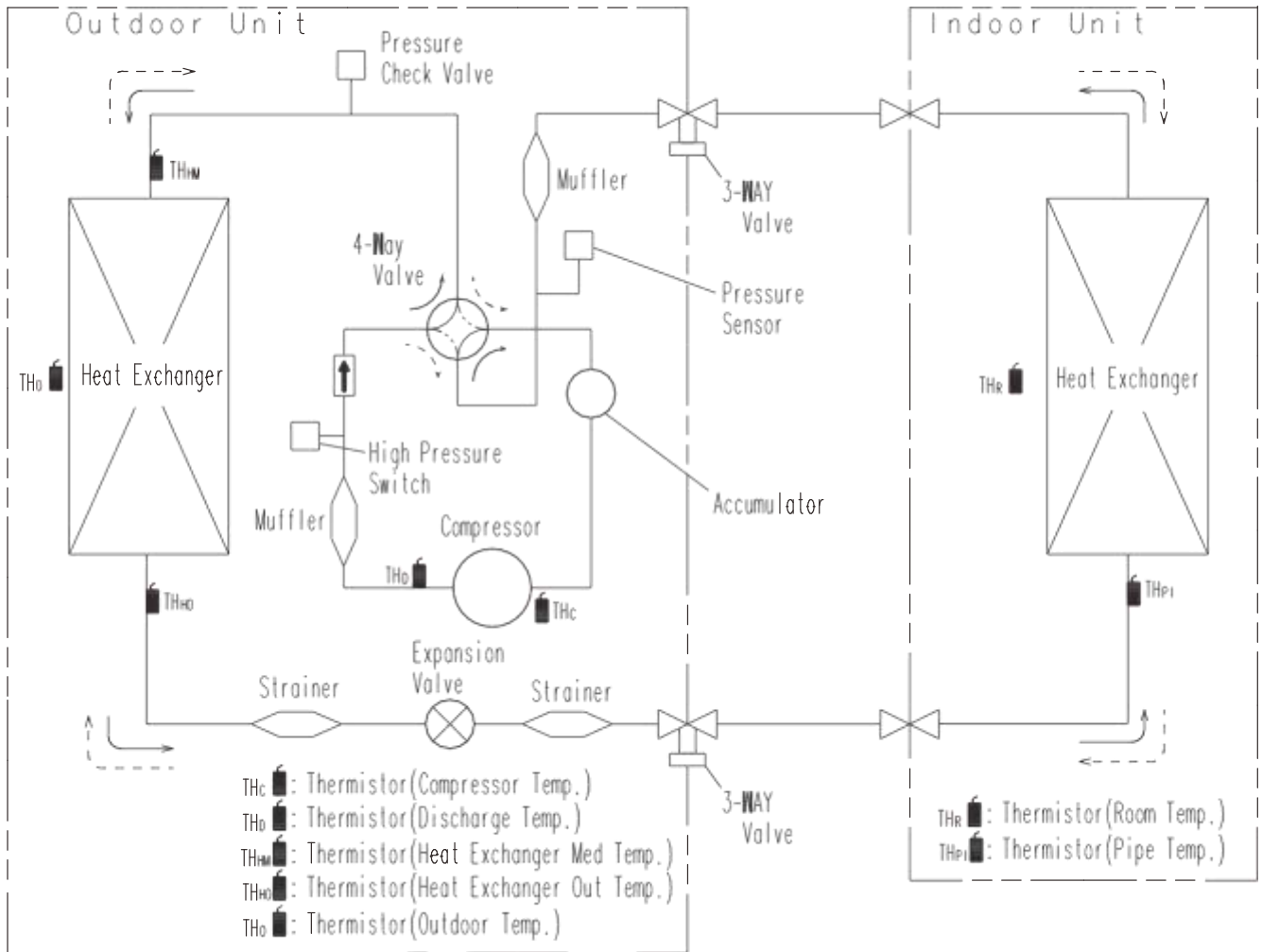
If the space is larger than stated, the condition will be the same as those without any obstacles.

5. REFRIGERANT CIRCUIT

☪ MODELS: AO*G45LETL, AO*G54LETL

OUTDOOR UNIT
AO*G45-54LETL

OUTDOOR UNIT
AO*G45-54LETL



Refrigerant direction

- > Cooling
- - -> Heating

Refrigerant pipe diameter

Liquid : 9.52mm (3/8")

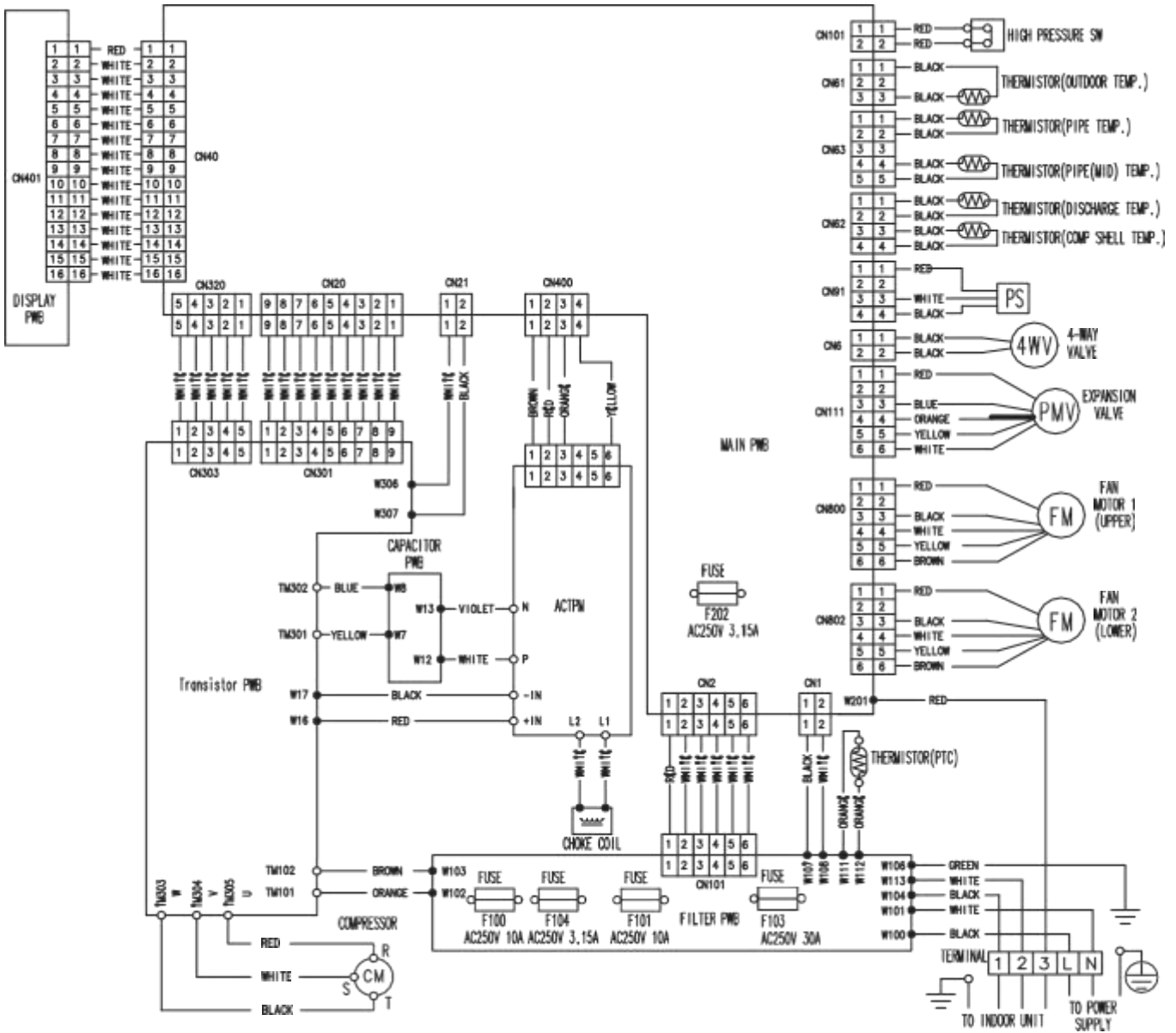
Gas : 15.88mm (5/8")

6. WIRING DIAGRAMS

☪ MODELS: AO*G45LETL, AO*G54LETL

OUTDOOR UNIT
AO*G45-54LETL

OUTDOOR UNIT
AO*G45-54LETL



7. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

☪ MODEL: AO*G45LETL

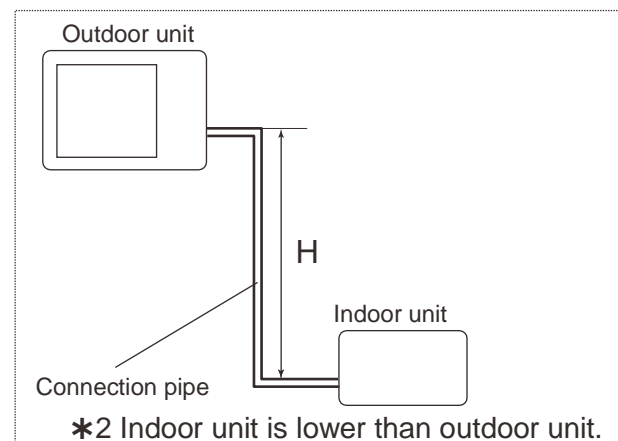
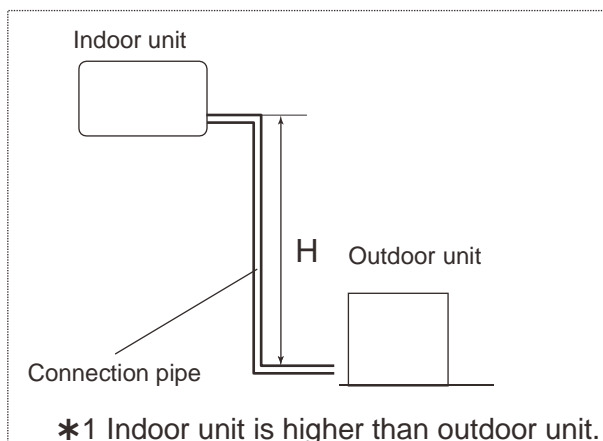
OUTDOOR UNIT
AO*G45-54LETL

OUTDOOR UNIT
AO*G45-54LETL

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.879	0.846	0.814
		20	-	-	-	0.926	0.893	0.861	0.828
		10	-	-	0.975	0.942	0.908	0.875	0.841
		7.5	-	0.988	0.979	0.946	0.912	0.878	0.845
		5	0.992	0.992	0.983	0.949	0.916	0.882	0.848
	*2 Indoor unit is lower than outdoor unit.	0	1.000	1.000	0.991	0.957	0.923	0.889	0.855
		-5	1.000	1.000	0.991	0.957	0.923	0.889	0.855
		-7.5	-	1.000	0.991	0.957	0.923	0.889	0.855
		-10	-	-	0.991	0.957	0.923	0.889	0.855
		-20	-	-	-	0.957	0.923	0.889	0.855
-30	-	-	-	-	0.923	0.889	0.855		

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.978	0.968	0.958
		20	-	-	-	0.988	0.978	0.968	0.958
		10	-	-	0.998	0.988	0.978	0.968	0.958
		7.5	-	1.000	0.998	0.988	0.978	0.968	0.958
		5	1.000	1.000	0.998	0.988	0.978	0.968	0.958
	*2 Indoor unit is lower than outdoor unit.	0	1.000	1.000	0.998	0.988	0.978	0.968	0.958
		-5	0.998	0.995	0.993	0.983	0.973	0.963	0.953
		-7.5	-	0.993	0.991	0.981	0.971	0.961	0.951
		-10	-	-	0.988	0.978	0.968	0.958	0.948
		-20	-	-	-	0.968	0.958	0.949	0.939
-30	-	-	-	-	0.949	0.939	0.929		

Height difference H



MODEL: AO*G54LETL

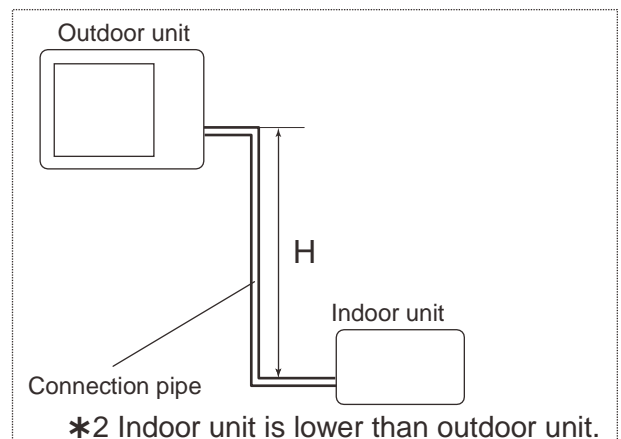
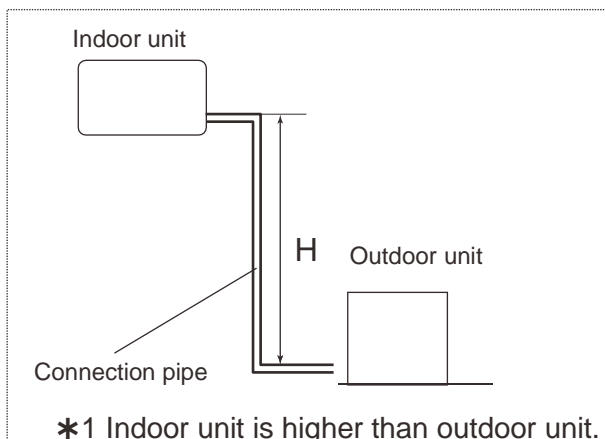
OUTDOOR UNIT
AO*G45-54LETL

OUTDOOR UNIT
AO*G45-54LETL

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.871	0.837	0.803
		20	-	-	-	0.921	0.886	0.851	0.816
		10	-	-	0.971	0.936	0.900	0.865	0.830
		7.5	-	0.988	0.975	0.940	0.904	0.868	0.833
		5	0.992	0.992	0.979	0.943	0.908	0.872	0.836
	*2 Indoor unit is lower than outdoor unit.	0	1.000	1.000	0.987	0.951	0.915	0.879	0.843
		-5	1.000	1.000	0.987	0.951	0.915	0.879	0.843
		-7.5	-	1.000	0.987	0.951	0.915	0.879	0.843
		-10	-	-	0.987	0.951	0.915	0.879	0.843
		-20	-	-	-	0.951	0.915	0.879	0.843
-30	-	-	-	-	0.915	0.879	0.843		

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.978	0.968	0.958
		20	-	-	-	0.988	0.978	0.968	0.958
		10	-	-	0.998	0.988	0.978	0.968	0.958
		7.5	-	1.000	0.998	0.988	0.978	0.968	0.958
		5	1.000	1.000	0.998	0.988	0.978	0.968	0.958
	*2 Indoor unit is lower than outdoor unit.	0	1.000	1.000	0.998	0.988	0.978	0.968	0.958
		-5	0.998	0.995	0.993	0.983	0.973	0.963	0.953
		-7.5	-	0.993	0.991	0.981	0.971	0.961	0.951
		-10	-	-	0.988	0.978	0.968	0.958	0.948
		-20	-	-	-	0.968	0.958	0.949	0.939
-30	-	-	-	-	0.949	0.939	0.929		

Height difference H



8. ADDITIONAL CHARGE CALCULATION

☪ MODELS: AO*G45LETL, AO*G54LETL

Refrigerant type		R410A
Refrigerant amount	g	3350

⑥ Refrigerant Charge

Total pipe length	m	20 or less	30	40	50 (MAX)	40g/m
Additional charge	g	0	400	800	1200	

9. AIR FLOW

☪ MODELS: AO*G45LETL, AO*G54LETL

⑥ Cooling

MODEL		Number of rotations (r.p.m.)	Air flow	
AO*G45LETL	Upper fan	850	m ³ /h	6750
	Lower fan	800	l/s	1875
CFM			3974	
AO*G54LETL	Upper fan	850	m ³ /h	6750
	Lower fan	800	l/s	1875
CFM			3974	

⑥ Heating

MODEL		Number of rotations (r.p.m.)	Air flow	
AO*G45LETL	Upper fan	780	m ³ /h	6200
	Lower fan	750	l/s	1722
CFM			3650	
AO*G54LETL	Upper fan	850	m ³ /h	6850
	Lower fan	830	l/s	1903
CFM			4033	

10. OPERATION NOISE (SOUND PRESSURE)

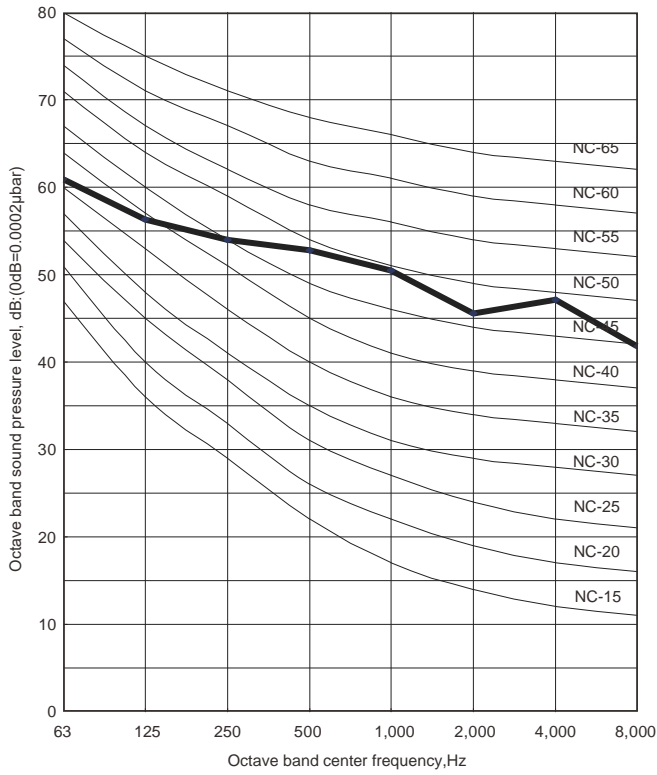
10-1. NOISE LEVEL CURVE

OUTDOOR UNIT
AO*G45-54LETL

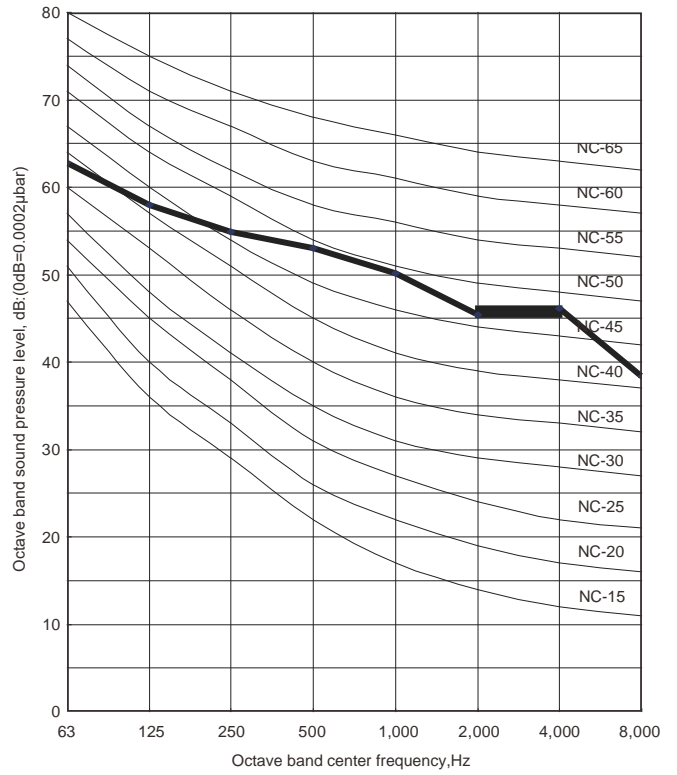
OUTDOOR UNIT
AO*G45-54LETL

MODEL: AO*G45LETL

⑥ Cooling

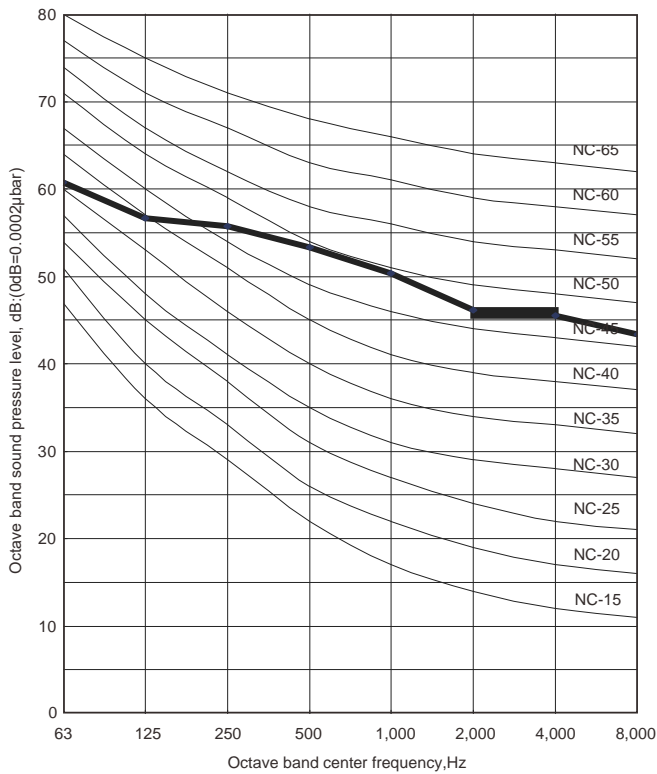


⑥ Heating

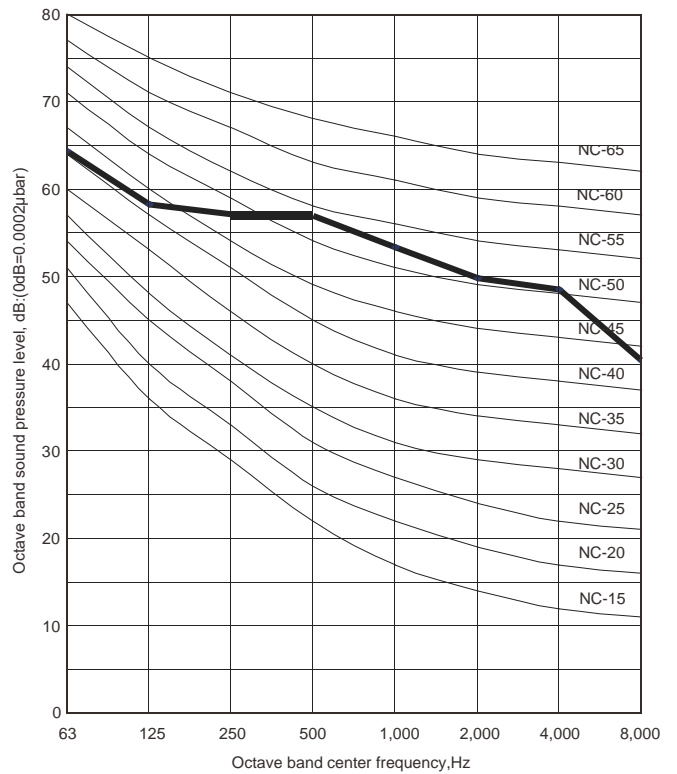


MODEL: AO*G54LETL

⑥ Cooling

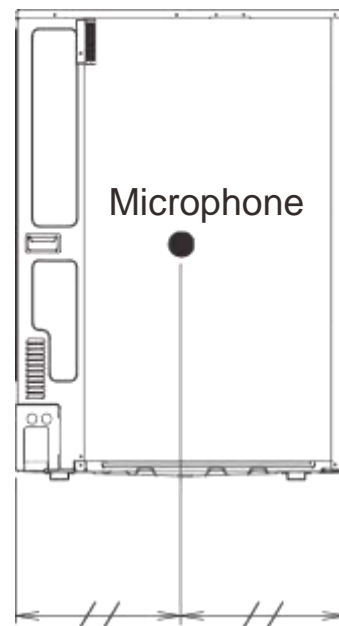
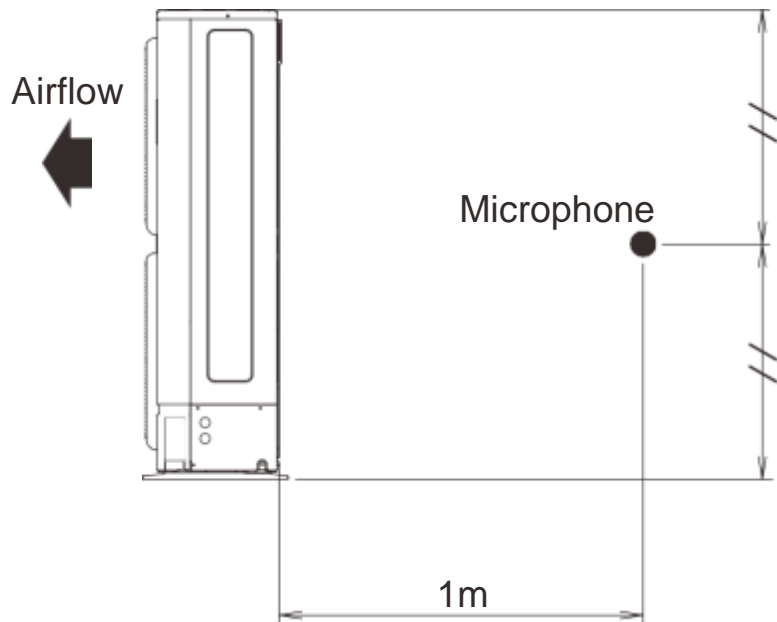


⑥ Heating



10-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*G45-54LET/L



OUTDOOR UNIT
AO*G45-54LET/L

11. ELECTRIC CHARACTERISTICS

Model name			AO*G45LETL	AO*G54LETL
Power supply	Voltage	V	230 ~	
	Frequency	Hz	50	
*1) Max. operating current		A	22.5	23.5
*2) Wiring spec.	Circuit breaker current	A	30	
	Power cable	mm ²	6.0	

*1) The maximum current is the total current of indoor unit and outdoor unit.

*2) Wiring spec. :

Selected sample

(Selected based on Japan Electrotechnical Standards and Codes Committee E0005)

12. SAFETY DEVICES

	Protection form	AO*G45LETL	Model	AO*G54LETL
Circuit protection	Current fuse (Filter printed circuit board)	250V 30A, 250V 10A x2, 250V 3.15A		
	Current fuse (Main printed circuit board)	250V 3.15A		
Fan motor protector	Thermal protector	OFF : 150±15°C ON : 120±15°C		
Compressor protection	Thermal protection program (Compressor temp.)	OFF : 108°C ON : 80°C		
	Thermal protection program (Discharge temp.)	OFF : 110°C ON : After 7 minutes		
High pressure protection	Pressure switch	OFF : 4.2±0.1MPa ON : 3.2±0.15MPa		
Low pressure protection	Pressure sensor	OFF : 0.12MPa ON : 0.15MPa		

13. EXTERNAL INPUT & OUTPUT

Input	Output	Connector	Remarks
Low noise mode	—	CN10	See external input/output settings for details.
Peak cut mode	—	CN11	
—	Error status	CN12	
—	Compressor status	CN13	

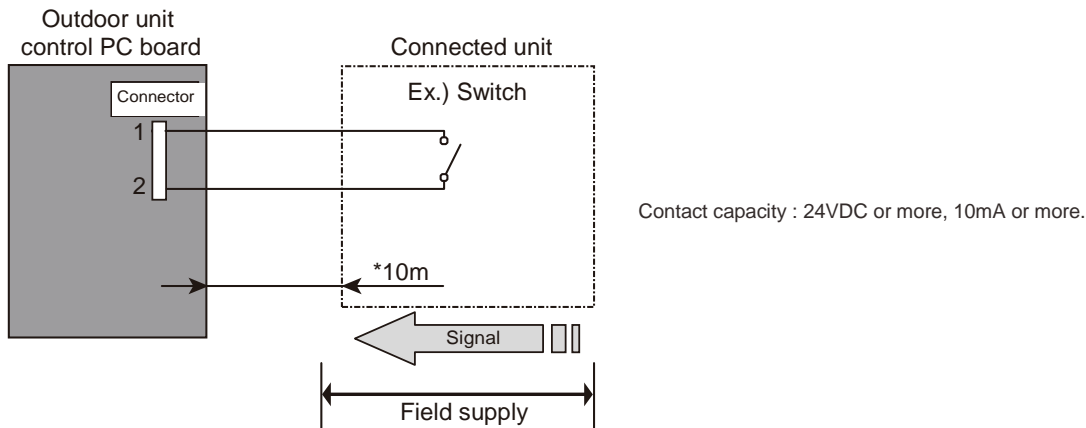
13-1. EXTERNAL INPUT

ON/OFF of the "Low noise mode" and "Peak cut mode" functions can be specified by external signal.

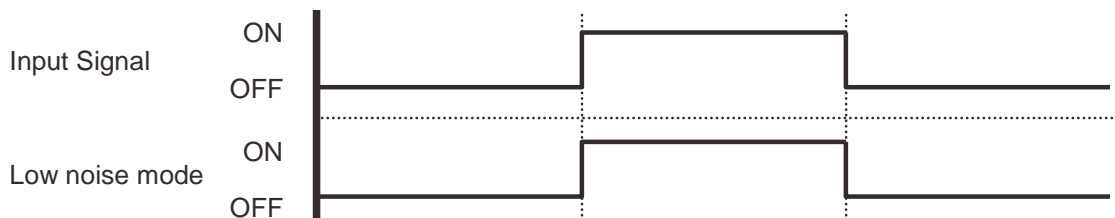
⌘ LOW NOISE MODE

- The following reduces the operating sound of the outdoor unit from the normal sound. 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 outdoor control PC board.
- * Performance may drop depending on the outside air temperature condition, etc.

⑥ Circuit diagram example

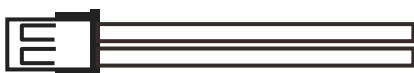


- * Make the distance from the PC board to the connected unit within 10m.
- Use the following parts and construct a circuit as shown above.
- Input Signal···ON : Low noise mode, Input Signal···OFF : Normal operation
- *To set the "Low noise mode" level, refer to "13.FUNCTION SETTINGS".



⑥ Parts (Optional)

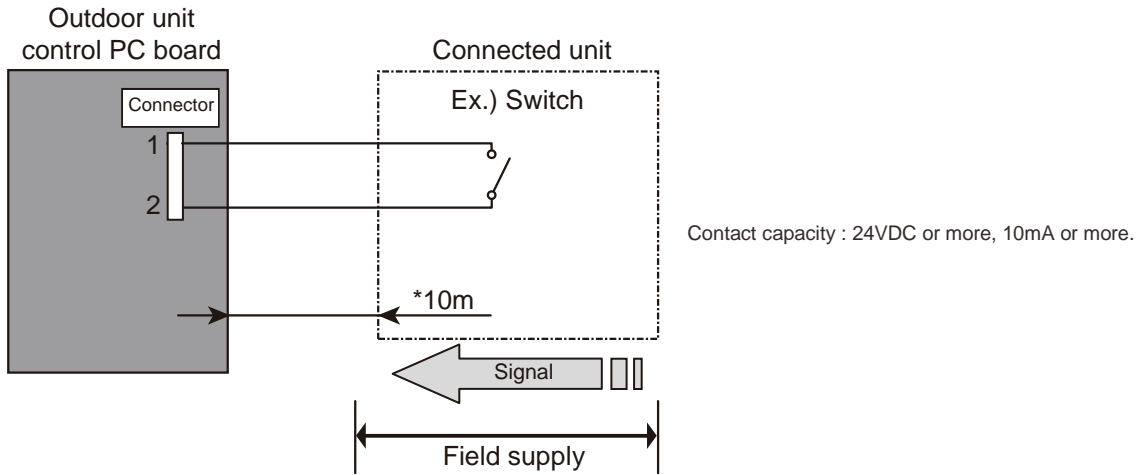
Parts name	External connect kit
Model name	UTY-XWZXZ3



⌘ PEAK CUT MODE

- Operation that suppressed the current value can be performed by means of the following on-site work. The air conditioner is set to the Peak cut mode when closing the contact input of a commercial ON/OFF switch to a connector on the outdoor control PC board.

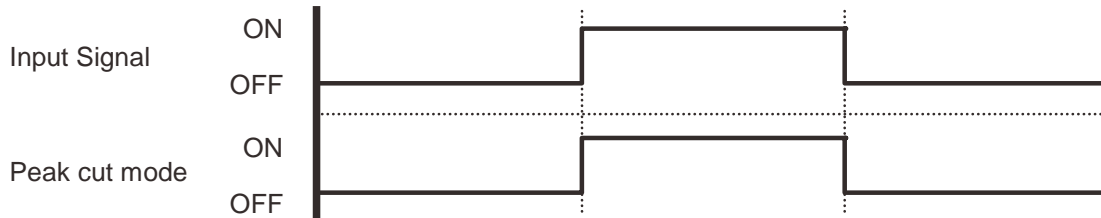
⑥ Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.

- Use the following parts and construct a circuit as shown above.
- Input Signal...ON : Peak cut mode, Input Signal...OFF : Normal operation

*To set the "Peak cut mode" level, refer to "13.FUNCTION SETTINGS".



⑥ Parts (Optional)

Parts name	External connect kit
Model name	UTY-XWZXZ3

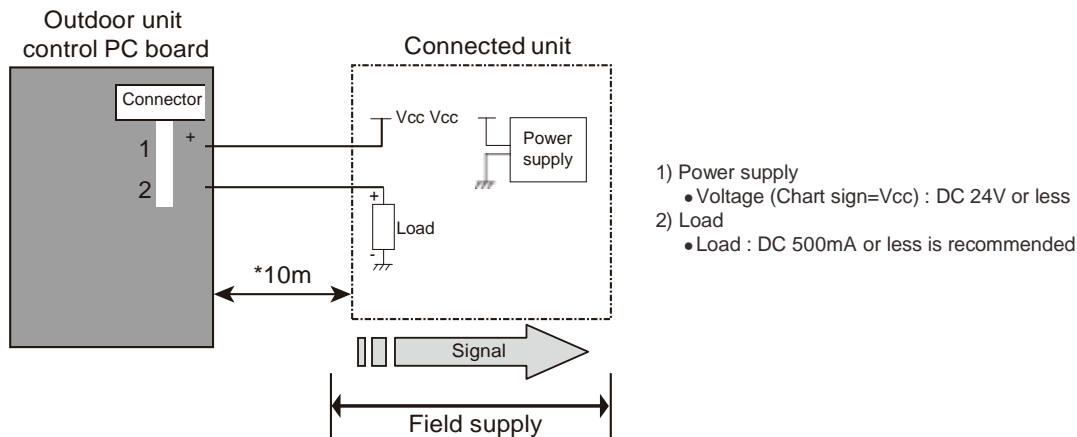


13-2. EXTERNAL OUTPUT

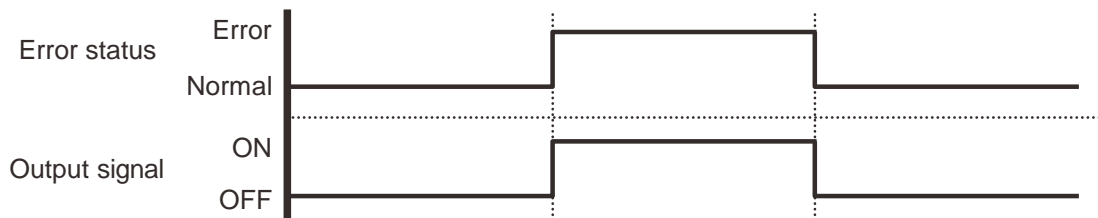
⌘ ERROR STATUS OUTPUT

• An air conditioner error status signal is produced when a malfunction occurs.

⑥ Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.



⑥ Parts (Optional)

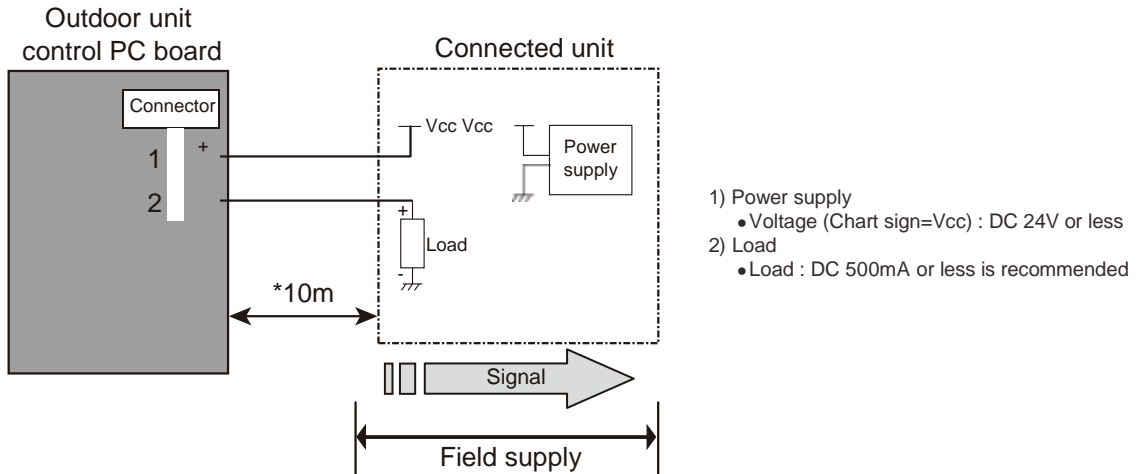
Parts name	External connect kit
Model name	UTY-XWZXZ3



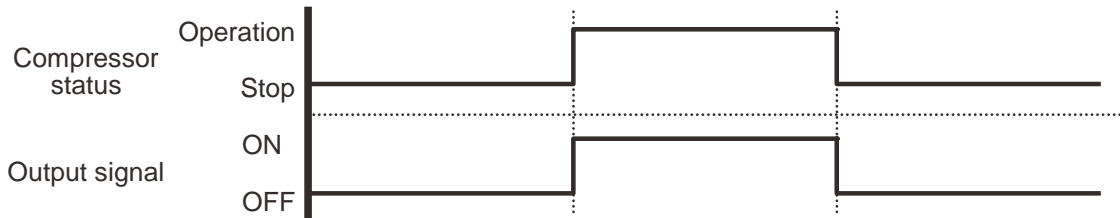
COMPRESSOR STATUS OUTPUT

• Compressor operation status signal is produced when the compressor is running.

⑥ Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.



⑥ Parts (Optional)

Parts name	External connect kit
Model name	UTY-XWZXZ3



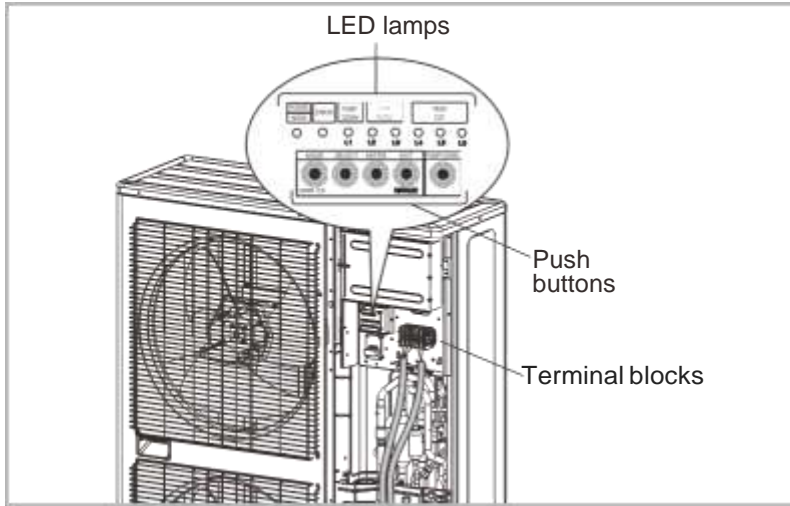
14. FUNCTION SETTINGS

⚠ Caution

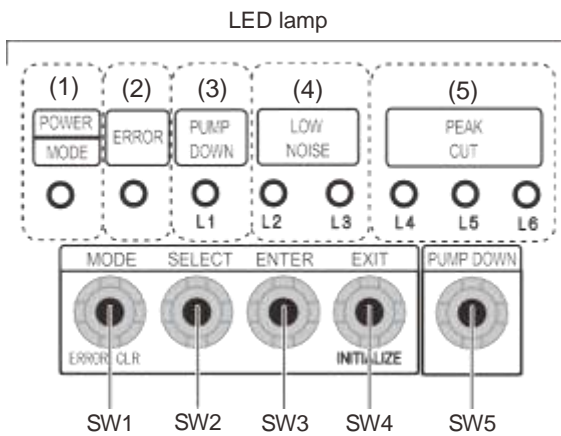
Discharge the static electricity from your body before setting up the push buttons.
 Never touch the terminals or the patterns on the parts that are mounted on the board.

14-1. FIELD SETTING SWITCHES

The positions of the switches on the outdoor unit control board are shown in the figure below.



⌘ FUNCTIONS



Display lamp	Function or operation method
(1) POWER / MODE Green	Lights on while power on. Local setting in outdoor unit or error code is displayed with blink.
(2) ERROR Red	Blinks during abnormal operation.
(3) PUMP DOWN (L1) Orange	Lights on during pump down operation.
(4) LOW NOISE MODE (L2,L3) Orange	Lights on during "Low noise" mode when local setting is activated. (Lighting pattern of L2 and L3 indicates low noise level)
(5) PEAK CUT MODE (L4,L5,L6) Orange	Lights on during "Peak cut" mode when local setting is activated. (Lighting pattern of L4, L5 and L6 indicates peak cut level)

Button	Function or operation method
SW1 MODE	To switch between "Local setting" and "Error code display".
SW2 SELECT	To switch between the individual "Local settings" and the "Error code displays".
SW3 ENTER	To fix between the individual "Local settings" and the "Error code displays".
SW4 EXIT	To return to "Operation status display".
SW5 PUMP DOWN	To start the pump down operation.

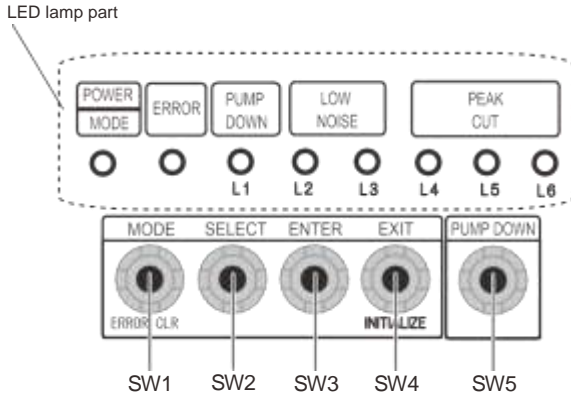
OUTDOOR UNIT
AO*G45-54LETL

OUTDOOR UNIT
AO*G45-54LETL

14-2. SETTING METHOD

※ Stop the operation of air conditioner before this setting.

14-2-1. LOW NOISE MODE



(1) Switch to "Local setting mode" by pressing [MODE] button (SW1) for 3 seconds or more.

(2) Confirm that the (POWER / MODE) blinks 9 times, then press [ENTER] button (SW3).

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

Sign "○": Lights off

(3) Press [SELECT] button (SW2), and adjust LED lamp as shown below. (Current setting is displayed)

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

(4) Press [ENTER] button (SW3).

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

Sign "●": Lights on

(5) Press [SELECT] button (SW2), and adjust LED lamp as shown in below figure.

MODE	PEAK CUT (L4) (L5) (L6)
MODE 1: Rated noise value -2dB	○ ○ Blink
MODE 2: Rated noise value -4dB	○ Blink ○

The noise of MODE2 is lower than that of MODE1.

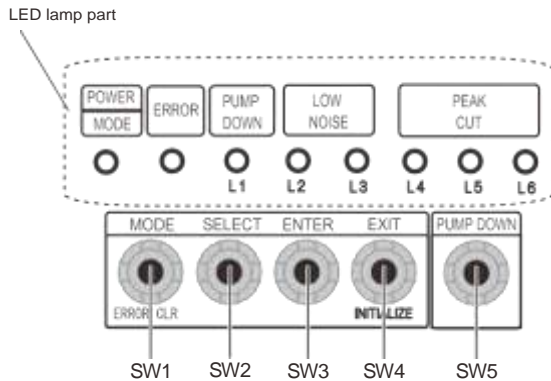
(6) Press [ENTER] button (SW3) to fix it.

MODE	PEAK CUT (L4) (L5) (L6)
MODE 1: Rated noise value -2dB	○ ○ ●
MODE 2: Rated noise value -4dB	○ ● ○

(7) Return to "Operating status display (Normal operation)" by pressing [EXIT] button (SW4).

- To restart the setting during the process, return to "Operating status display (Normal operation)" by pressing the [EXIT] button once.

14-2-2. PEAK CUT MODE

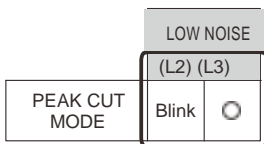


- (1) Switch to "Local setting mode" by pressing [MODE] button (SW1) for 3 seconds or more.
- (2) Confirm that the (POWER / MODE) blinks 9 times, then press [ENTER] button (SW3).

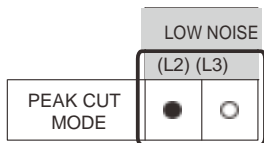
POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2) (L3)	PEAK CUT (L4) (L5) (L6)
Blinks (9 times)	○	○	○	○

Sign "○": Lights off

- (3) Press [SELECT] button (SW2), and adjust LED lamp as shown below. (Current setting is displayed)



- (4) Press [ENTER] button (SW3).



Sign "●": Lights on

- (5) Press [SELECT] button (SW2), and adjust LED lamp as shown in below figure.

	PEAK CUT (L4) (L5) (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 [ENTER] button (SW3) to fix it.

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

- (7) Return to "Operating status display (Normal operation)" by pressing [EXIT] button (SW4).

• To restart the setting during the process, return to "Operating status display (Normal operation)" by pressing the [EXIT] button once.

15. OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	External connect kit	UTY-XWZXZ3	Use to operate the External input and output function of Outdoor unit.