Manual No.'19・PAC-DB-299
updated December 09, 2021

MITSUBISHI HEAVY INDUSTRIES

DATA BOOK

HYPER INVERTER PACKAGED AIR-CONDITIONERS

(Split system, air to air heat pump type)

CEILING CASSETTE-4 WAY TYPE

FDT40ZSXVH
50ZSXVH
60ZSXVH

MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.

CONTENTS

■ How to read the model name

Example: FDT 40 Z SXVH

- SXVH — Series code
- Z — Inverter type
- 40 — Product capacity
- FDT — Model name
  - FDT : Ceiling cassette-4 way type
  - SRC : Outdoor unit

1. SPECIFICATIONS

Item			Model	FDT40ZSXVH	
				Indoor unit **FDT40VH**	Outdoor unit **SRC40ZSX-S**
Power source				1 Phase, 220-240V 50Hz / 220V 60Hz	
Operation data	Nominal cooling capacity (range)		kW	4.0 [1.1(Min.) - 4.7(Max.)]	
	Nominal heating capacity (range)		kW	4.5 [0.6(Min.) - 5.4(Max.)]	
	Power consumption	Cooling	kW	0.93	
		Heating		1.03	
	Max power consumption			2.60	
	Running current	Cooling	A	4.3 / 4.5	
		Heating		4.8 / 5.0	
	Inrush current, max current			5 , 12	
	Power factor	Cooling	%	94	
		Heating		93 / 94	
	EER	Cooling		4.30	
	COP	Heating		4.37	
	Sound power level	Cooling	dB(A)	50	63
		Heating			
	Sound pressure level	Cooling		P-Hi : 36 Hi : 33 Me : 30 Lo : 26	50
		Heating		P-Hi : 36 Hi : 33 Me : 28 Lo : 20	49
	Silent mode sound pressure level			—	Cooling : 42 / Heating : 43
Exterior dimensions (Height x Width x Depth)			mm	Unit 236 × 840 × 840 Panel 35 × 950 × 950	640×800(+71)×290
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white Munsell : (4.2Y7.5/1.1) , RAL : 7004
Net weight			kg	Unit 19 Panel 5	45
Compressor type & Q'ty				—	RMT5113MCE2 (Twin rotary type)×1
Compressor motor (Starting method)			kW	—	Direct line start
Refrigerant oil (Amount, type)			ℓ	—	0.45 (MA68)
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)	
Heat exchanger				Louver fin & inner grooved tubing	M shape fin & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Q'ty				Turbo fan ×1	Propeller fan ×1
Fan motor (Starting method)			W	50 < Direct line start >	34 < Direct line start >
Air flow		Cooling	m^3/min	P-Hi : 19 Hi : 16 Me : 13 Lo : 10	36
		Heating			33
Available external static pressure			Pa	0	0
Outside air intake				Possible	—
Air filter, Quality / Quantity				Pocket plastic net ×1 (Washable)	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)
Electric heater			W	0	—
Operation control	Remote control			(Option) Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5AW-E2	
	Room temperature control			Thermostat by electronics	
	Operation display			—	
Safety equipments				Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: I/U ϕ 6.35 (1/4") Pipe ϕ 6.35(1/4")x0.8 O/U ϕ 6.35 (1/4")	
				Gas line: ϕ 12.7 (1/2") ϕ 12.7(1/2")x0.8 ϕ 12.7 (1/2")	
	Connecting method			Flare piping	Flare piping
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (both Liquid & Gas lines)	
	Refrigerant line (one way) length		m	Max.30m	
	Vertical height diff. between O/U and I/U		m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)
	Drain hose			Hose connectable VP25(O.D.32)	Hole size ϕ 20 x 5pcs
Drain pump, max lift height			mm	Built-in drain pump , 850	—
Recommended breaker size			A	—	
L.R.A. (Locked rotor ampere)			A	4.8	
Interconnecting wires	Size x Core number			1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Drain hose	Drain elbow, Drain hole grommet
Option parts				—	

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item / Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-H1
Heating	20°C	—	7°C	6°C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

PJF000Z551 A

Item			Model	FDT50ZSXVH	
				Indoor unit **FDT50VH**	Outdoor unit **SRC50ZSX-S**
Power source				1 Phase, 220-240V 50Hz / 220V 60Hz	
Operation data	Nominal cooling capacity (range)		kW	5.0 [1.1(Min.) - 5.6(Max.)]	
	Nominal heating capacity (range)		kW	5.4 [0.6(Min.) - 6.3(Max.)]	
	Power consumption	Cooling	kW	1.29	
		Heating		1.31	
	Max power consumption			2.90	
	Running current	Cooling	A	5.9 / 6.2	
		Heating		6.0 / 6.3	
	Inrush current, max current			5 , 15	
	Power factor	Cooling	%	95	
		Heating		95	
	EER	Cooling		3.88	
	COP	Heating		4.12	
	Sound power level	Cooling	dB(A)	55	63
		Heating		56	
	Sound pressure level	Cooling		P-Hi : 41 Hi : 33 Me : 30 Lo : 26	50
		Heating		P-Hi : 42 Hi : 33 Me : 28 Lo : 20	49
	Silent mode sound pressure level			—	Cooling : 42 / Heating : 43
Exterior dimensions (Height x Width x Depth)			mm	Unit 236 × 840 × 840 Panel 35 × 950 × 950	640×800 (+71)×290
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white Munsell : (4.2Y7.5/1.1) , RAL : 7004
Net weight			kg	Unit 19 Panel 5	45
Compressor type & Q'ty				—	RMT5113MCE2 (Twin rotary type)×1
Compressor motor (Starting method)			kW	—	Direct line start
Refrigerant oil (Amount, type)			ℓ	—	0.45 (MA68)
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)	
Heat exchanger				Louver fin & inner grooved tubing	M shape fin & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Q'ty				Turbo fan ×1	Propeller fan ×1
Fan motor (Starting method)			W	50 < Direct line start >	34 < Direct line start >
Air flow		Cooling	m^3/min	P-Hi : 22 Hi : 16 Me : 13 Lo : 10	39
		Heating			33
Available external static pressure			Pa	0	0
Outside air intake				Possible	—
Air filter, Quality / Quantity				Pocket plastic net ×1 (Washable)	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)
Electric heater			W	0	—
Operation control	Remote control			(Option) Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5AW-E2	
	Room temperature control			Thermostat by electronics	
	Operation display			—	
Safety equipments				Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: I/U ϕ 6.35 (1/4") Pipe ϕ 6.35(1/4")x0.8 O/U ϕ 6.35 (1/4")	
				Gas line: ϕ 12.7 (1/2") ϕ 12.7(1/2")x0.8 ϕ 12.7 (1/2")	
	Connecting method			Flare piping	Flare piping
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (both Liquid & Gas lines)	
	Refrigerant line (one way) length		m	Max.30m	
	Vertical height diff. between O/U and I/U		m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)
	Drain hose			Hose connectable VP25(O.D.32)	Hole size ϕ 20 x 5pcs
Drain pump, max lift height			mm	Built-in drain pump , 850	—
Recommended breaker size			A	—	
L.R.A. (Locked rotor ampere)			A	5.0	
Interconnecting wires	Size x Core number			1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Drain hose	Drain elbow, Drain hole grommet
Option parts				—	

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item / Operation	Indoor air temperature DB	Indoor air temperature WB	Outdoor air temperature DB	Outdoor air temperature WB	Standards
Cooling	27°C	19°C	35°C	24°C	ISO5151-H1
Heating	20°C	—	7°C	6°C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

PJF000Z551 A

Item			Model	FDT60ZSXVH	
				Indoor unit **FDT60VH**	Outdoor unit **SRC60ZSX-S**
Power source				1 Phase, 220-240V 50Hz / 220V 60Hz	
Operation data	Nominal cooling capacity (range)		kW	5.6 [1.1(Min.) - 6.3(Max.)]	
	Nominal heating capacity (range)		kW	6.7 [0.6(Min.) - 7.1(Max.)]	
	Power consumption	Cooling	kW	1.52	
		Heating		1.56	
	Max power consumption			2.90	
	Running current	Cooling	A	6.9 / 7.2	
		Heating		7.1 / 7.4	
	Inrush current, max current			5 , 15	
	Power factor	Cooling	%	96	
		Heating		96	
	EER	Cooling		3.68	
	COP	Heating		4.29	
	Sound power level	Cooling	dB(A)	58	65
		Heating		59	64
	Sound pressure level	Cooling		P-Hi : 44 Hi : 34 Me : 30 Lo : 27	52
		Heating		P-Hi : 44 Hi : 34 Me : 30 Lo : 23	
	Silent mode sound pressure level			—	Cooling : 42 / Heating : 43
Exterior dimensions (Height x Width x Depth)			mm	Unit 236 × 840 × 840 Panel 35 × 950 × 950	640×800 (+71) ×290
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white Munsell : (4.2Y7.5/1.1) , RAL : 7004
Net weight			kg	Unit 21 Panel 5	45
Compressor type & Q'ty				—	RMT5113MCE2 (Twin rotary type)×1
Compressor motor (Starting method)			kW	—	Direct line start
Refrigerant oil (Amount, type)			ℓ	—	0.45 (MA68)
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)	
Heat exchanger				Louver fin & inner grooved tubing	M shape fin & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Q'ty				Turbo fan ×1	Propeller fan ×1
Fan motor (Starting method)			W	50 < Direct line start >	34 < Direct line start >
Air flow		Cooling	m^3/min	P-Hi : 26 Hi : 17 Me : 14 Lo : 11	41.5
		Heating			39
Available external static pressure			Pa	0	—
Outside air intake				Possible	—
Air filter, Quality / Quantity				Pocket plastic net ×1 (Washable)	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)
Electric heater			W	0	—
Operation control	Remote control			(Option) Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5AW-E2	
	Room temperature control			Thermostat by electronics	
	Operation display			—	
Safety equipments				Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: I/U ϕ 6.35 (1/4") Pipe ϕ 6.35(1/4")x0.8 O/U ϕ 6.35 (1/4")	
				Gas line: ϕ 12.7 (1/2") ϕ 12.7(1/2")x0.8 ϕ 12.7 (1/2")	
	Connecting method			Flare piping	Flare piping
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (both Liquid & Gas lines)	
	Refrigerant line (one way) length		m	Max.30m	
	Vertical height diff. between O/U and I/U		m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)
	Drain hose			Hose connectable VP25(O.D.32)	Hole size ϕ 20 x 5pcs
Drain pump, max lift height			mm	Built-in drain pump , 850	—
Recommended breaker size			A	—	
L.R.A. (Locked rotor ampere)			A	5.0	
Interconnecting wires	Size x Core number			1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Drain hose	Drain elbow, Drain hole grommet
Option parts				—	

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item / Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27˚C	19˚C	35˚C	24˚C	ISO5151-H1
Heating	20˚C	—	7˚C	6˚C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

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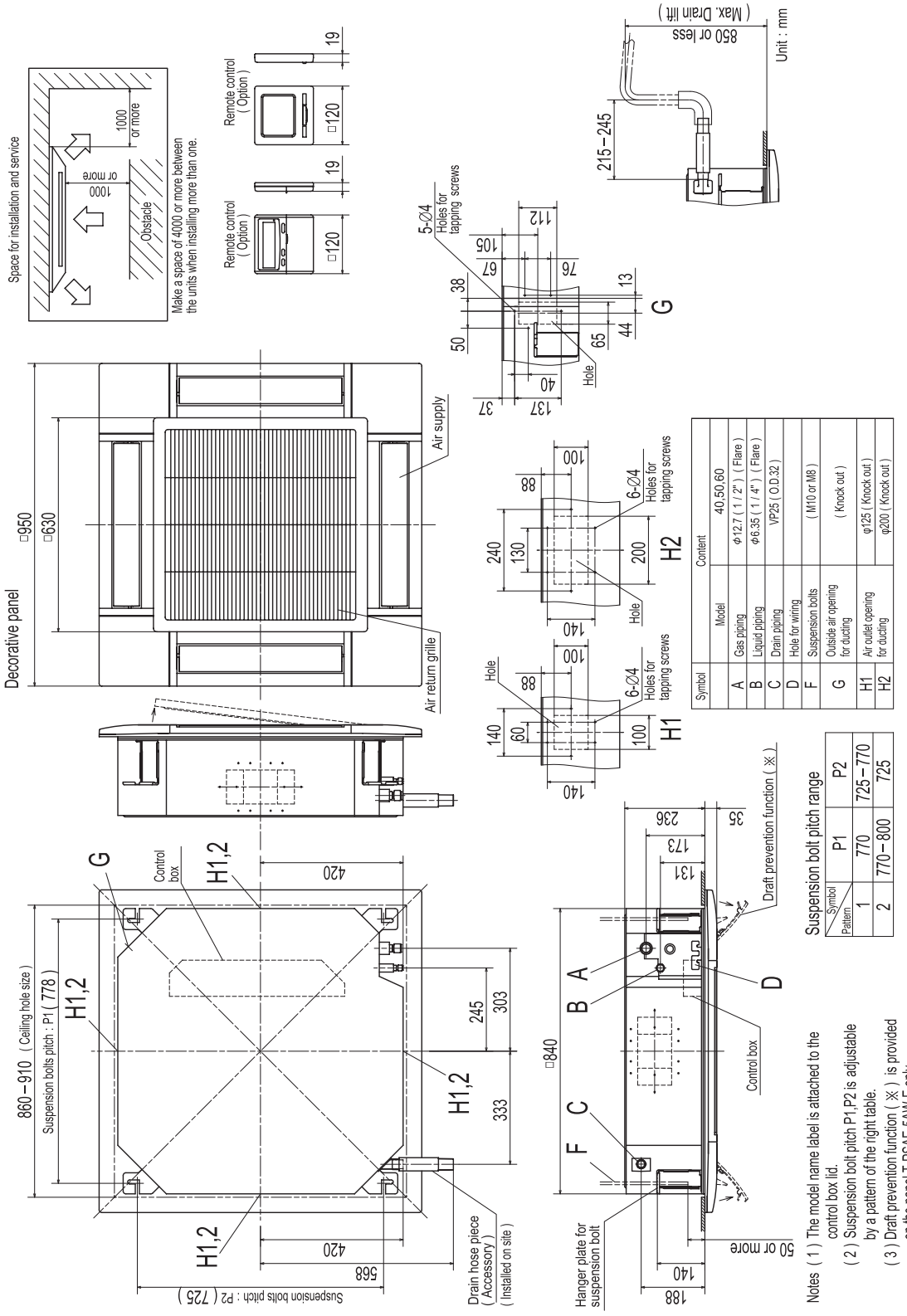
2. EXTERIOR DIMENSIONS

(1) Indoor units

Models FDT40VH, 50VH, 60VH



Notes (1) The model name label is attached to the control box lid.
(2) Suspension bolt pitch P1,P2 is adjustable by a pattern of the right table.
(3) Draft prevention function (※) is provided on the panel T-PSAE-5AW-E only.

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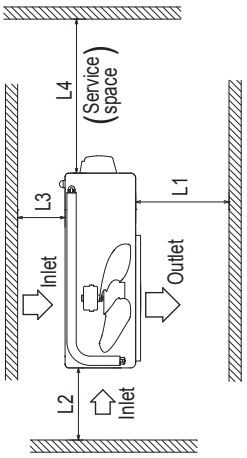
(2) Outdoor units
Models SRC40ZSX-S, 50ZSX-S, 60ZSX-S

Symbol	Content	
A	Service valve connection (Gas side)	ϕ12.7(1／2")(Flare)
B	Service valve connection (Liquid side)	ϕ6.35(1／4")(Flare)
C	Pipe／cable draw-out hole	
D	Drain discharge hole	ϕ20×5 places
E	Anchor bolt hole	M10-12×4 places

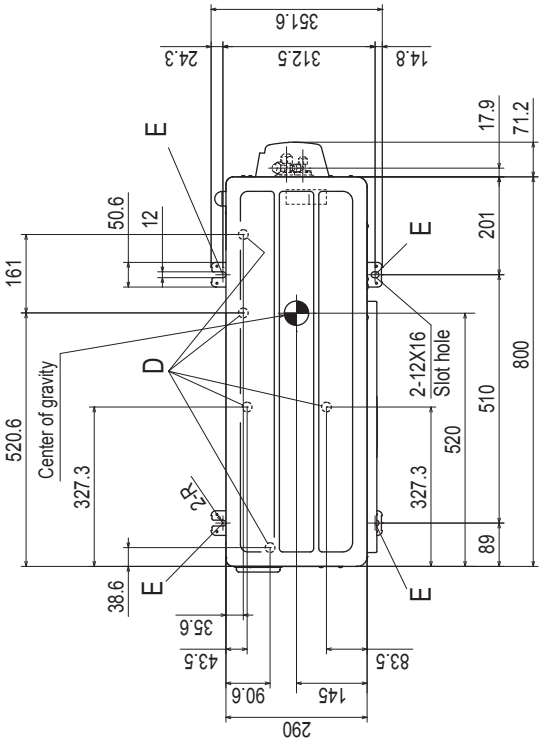
Notes
(1) The unit must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) If the unit is installed in the location where there is a possibility of strong winds, place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.
(4) Leave 200mm or more space above the unit.
(5) The wall height on the outlet side should be 1200mm or less.
(6) The model name label is attached on the front side of the unit.

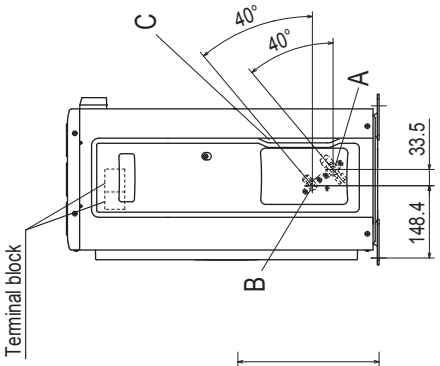


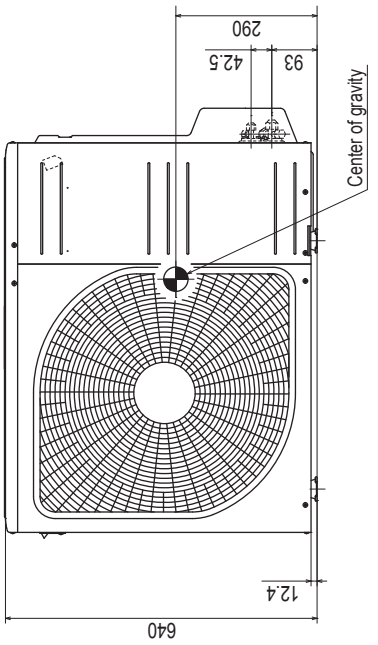
Minimum installation space

Examples installation / Size	Ⅰ	Ⅱ	Ⅲ	Ⅳ
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

Unit:mm







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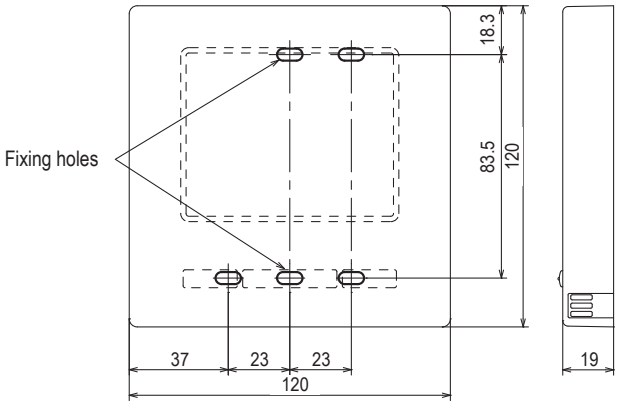
(3) Remote control (Option parts)

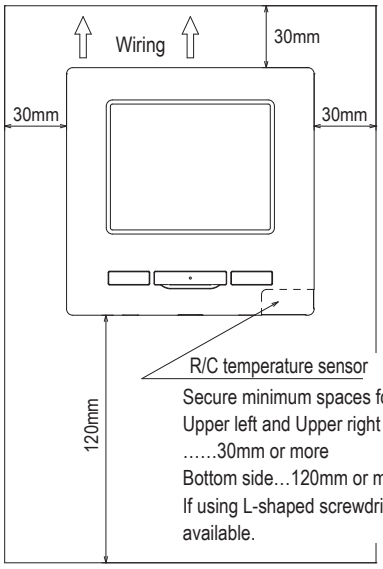
(a) Wired remote control

Model RC-EX3A

Dimensions (Viewed from front)



Installation space



Secure minimum spaces for disassembling the case.
Upper left and Upper right sides
……30mm or more
Bottom side…120mm or more
If using L-shaped screwdriver, 50mm or more is available.

● Do not install the remote control at following places.

1) It could cause break-down or deformation of remote control.
   - Where it is exposed to direct sunlight
   - Where the ambient temperature becomes 0 °C or below, or 40 °C or above
   - Where the surface is not flat
   - Where the strength of installation area is insufficient
2) Moisture may be attached to internal parts of the remote control, resulting in a display failure.
   - Place with high humidity where condensation occurs on the remote control
   - Where the remote control gets wet
3) Accurate room temperature may not be detected using the temperature sensor of the remote control.
   - Where the average room temperature cannot be detected
   - Place near the equipment to generate heat
   - Place affected by outside air in opening/closing the door
   - Place exposed to direct sunlight or wind from air-conditioner
   - Where the difference between wall and room temperature is large
4) When you are using the automatic grille up and down panel in the IU, you may not be able to confirm the up and down motion.
   - Where the IU cannot be visually confirmed

R/C cable:0.3mm²x2 cores

When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm² . Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≦ 200 m	0.5 mm² x 2 cores
≦ 300m	0.75 mm² x 2 cores
≦ 400m	1.25 mm² x 2 cores
≦ 600m	2.0 mm² x 2 cores

● When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

Adapted RoHS directive

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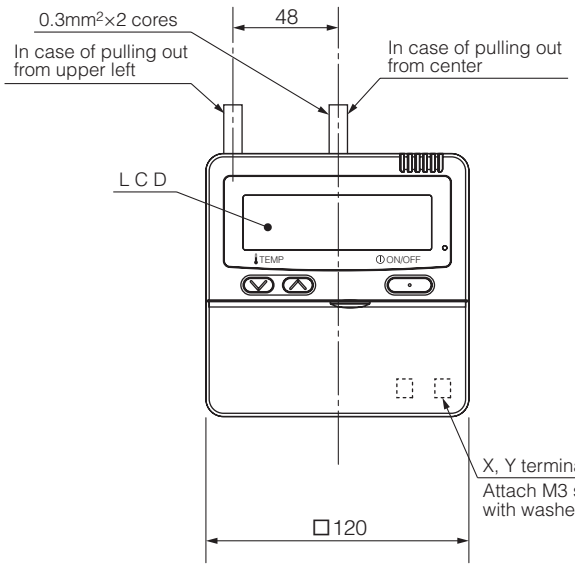
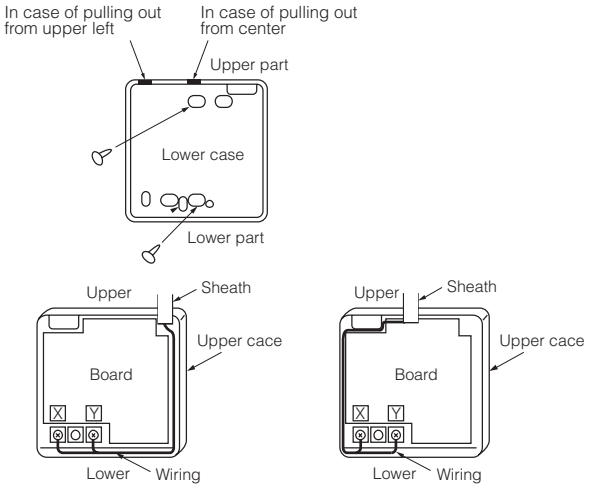
Model RC-E5

Exposed mounting



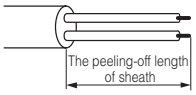
Exterior appearance (Munsell color)	Pearl white (N8.5) near equivalent

Wiring outlet
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.

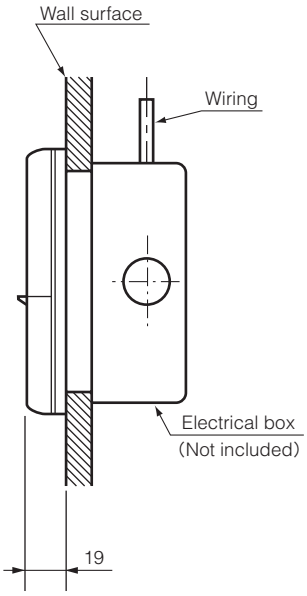


The peeling-off length of sheath

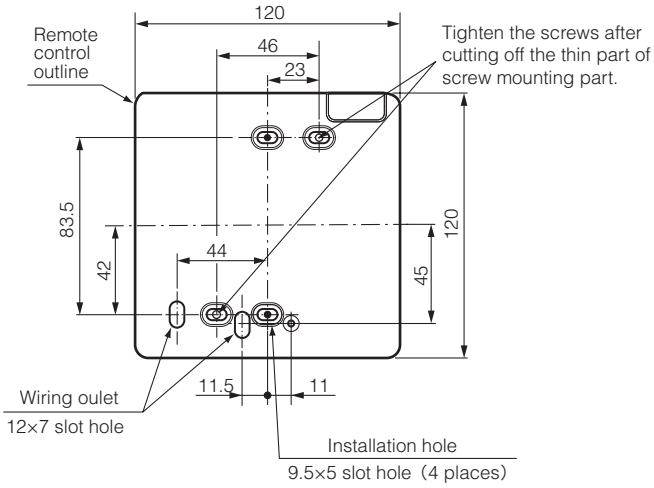
Pulling out from upper left	Pulling out from center
X wiring : 215mm Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



Embedded mounting



Remote control installation dimensions



1) Installation screw for remote control
M4 Screw (2 pieces)

Unit:mm

Wiring specifications

1) If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

Length	Wiring thickness
100 to 200m	0.5mm²×2 cores
Under 300m	0.75mm²×2 cores
Under 400m	1.25mm²×2 cores
Under 600m	2.0mm²×2 cores

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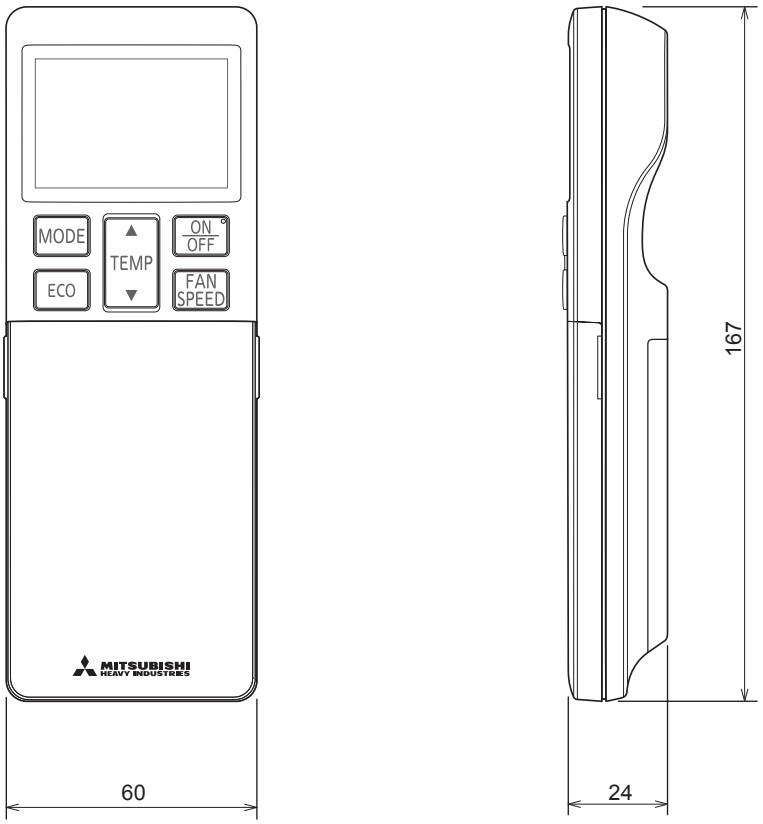
(b) Wireless remote control (RCN-E2)

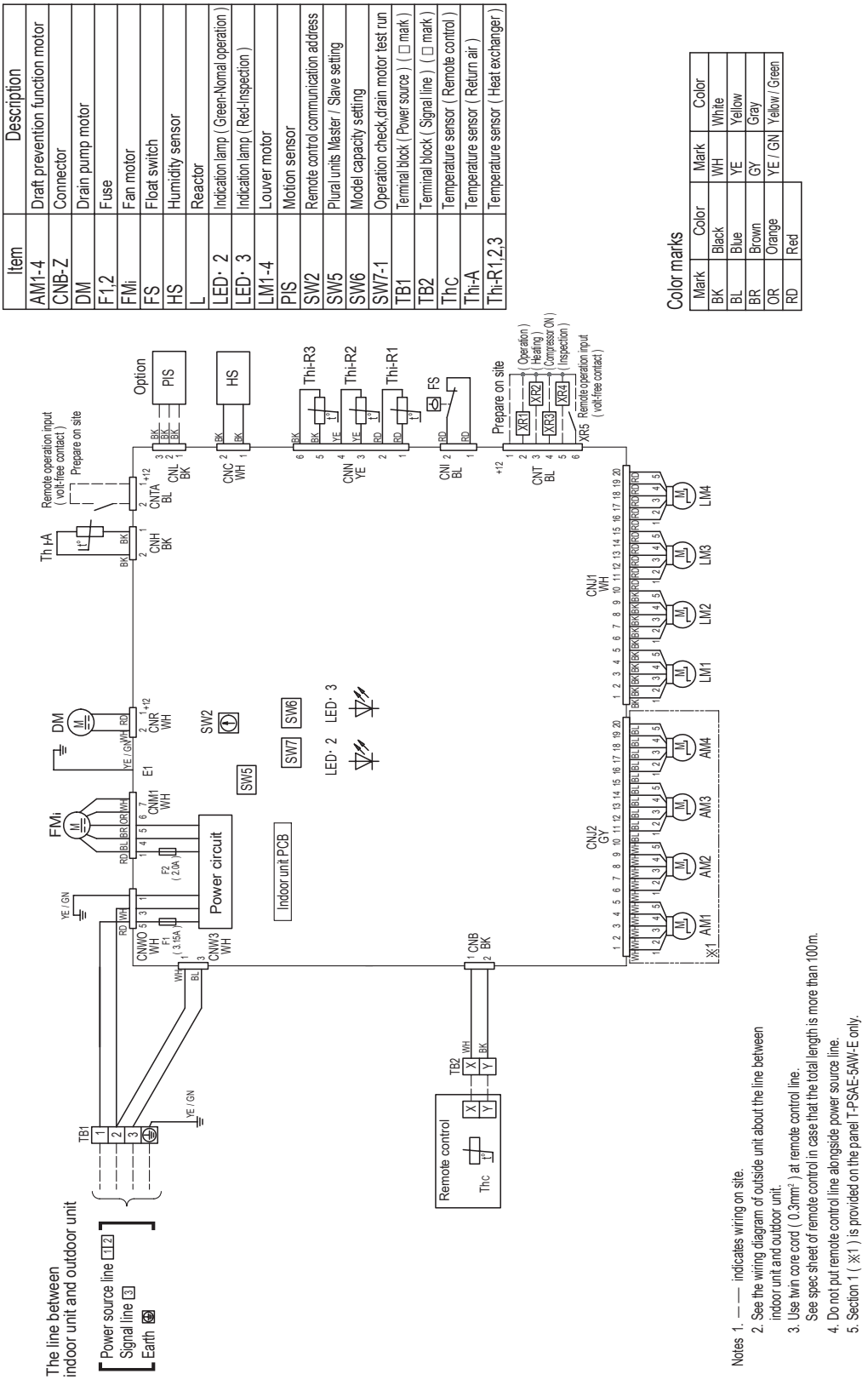
Unit: mm



3. ELECTRICAL WIRING

(1) Indoor units

Models FDT 40VH, 50VH, 60VH



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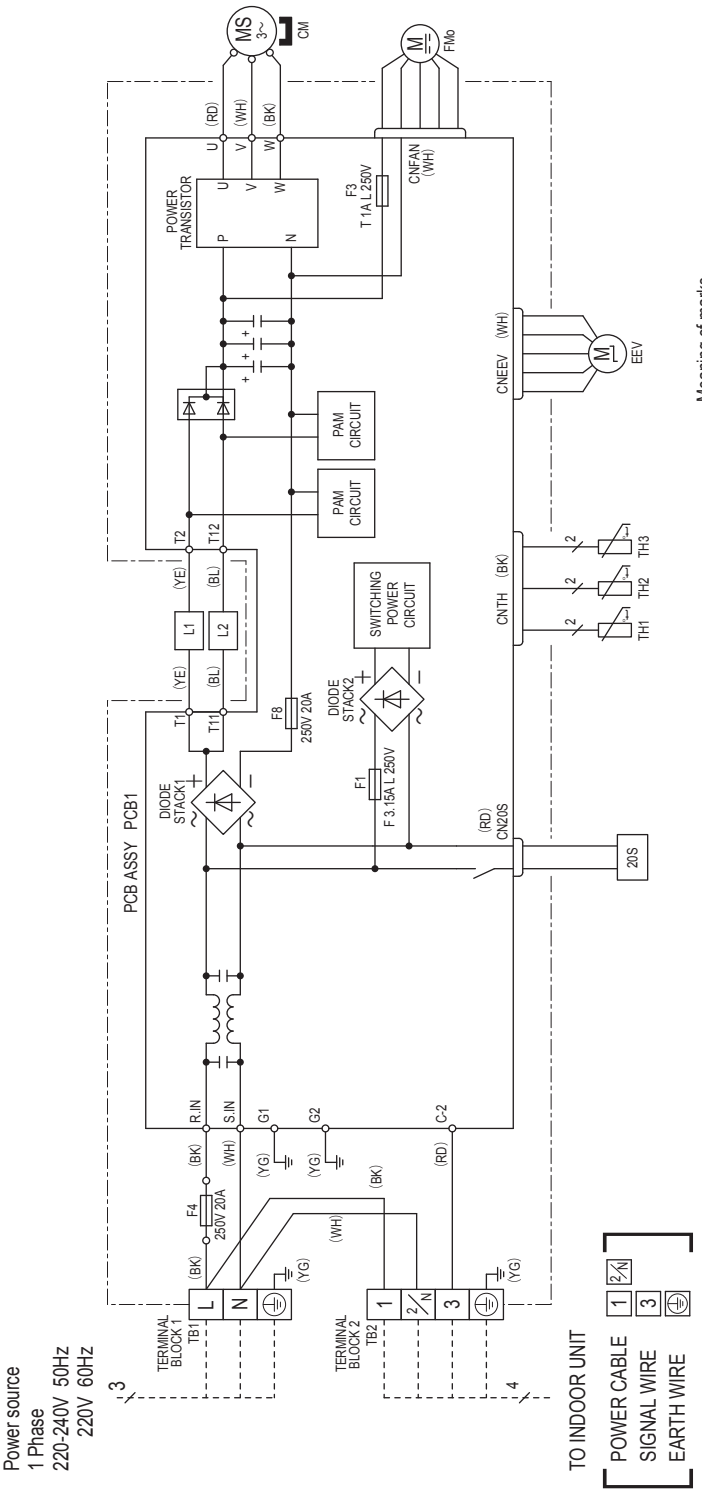
(2) Outdoor units
Models SRC40ZSX-S, 50ZSX-S, 60ZSX-S



Meaning of marks

Item	Description
20S	Solenoid coil for 4-way valve
CN20S CNEEV CNFAN CNTH	Connector
CM	Compressor motor
EEV	Electric expansion valve (coil)
FMo	Fan motor
L1,2	Reactor
TH1	Heat exchanger sensor
TH2	Outdoor air temperature sensor
TH3	Discharge pipe temperature sensor

Color marks

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YG	Yellow/Green

Power cable, indoor-outdoor connecting wires

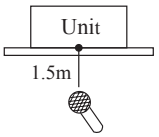
Model name	MAX running current (A)	Power cable wire size x number*	Power cable length (m)	Connecting cable wire size x number*
SRC40ZSX-S SRC50ZSX-S SRC60ZSX-S	15	2.0mm² x 3	13	1.5mm² x 4

* The wire numbers include earth wire (Yellow/Green).
◦ Switchgear or circuit breaker capacity should be chosen according to national or regional electricity regulations.
◦ The power cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the national or regional electricity regulations.

RWC000Z298

4. NOISE LEVEL

Notes(1) The data are based on the following conditions.
Ambient air temperature: Indoor unit 27℃WB. Outdoor unit 35℃DB.
(2) The data in the chart are measured in an anechoic room.
(3) The noise levels measured in the field are usually higher than the data because of reflection.



Measured based on JIS B 8616
Mike position

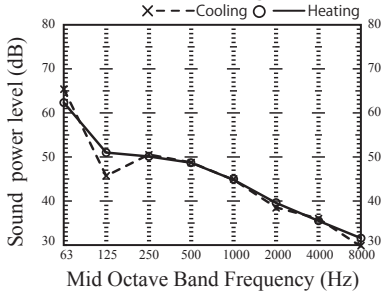
Mike (in front & below unit)

(1) Indoor units

(a) Sound power level

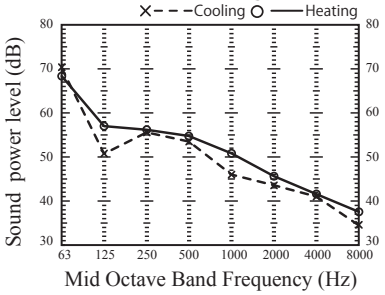
Model FDT40VH

Noise level Cooling : 50 dB (A)
Heating : 50 dB (A)



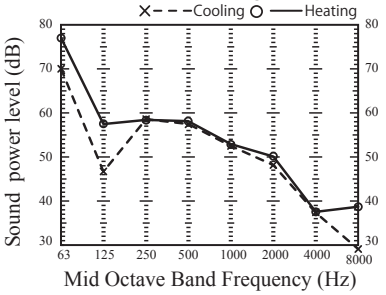
Model FDT50VH

Noise level Cooling : 55 dB (A)
Heating : 56 dB (A)



Model FDT60VH

Noise level Cooling : 58 dB (A)
Heating : 59 dB (A)

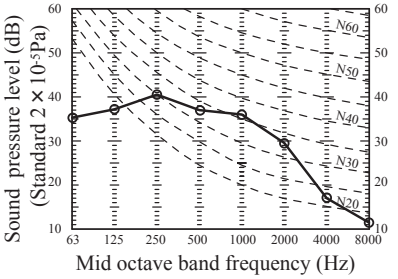


(b) Sound pressure level

Model FDT40VH

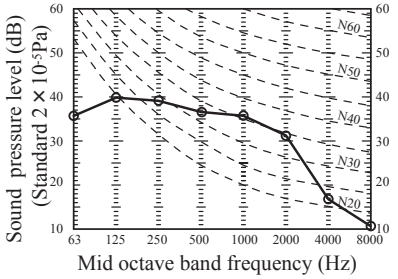
Noise level 36 dB(A) at P-Hi
33 dB(A) at Hi
30 dB(A) at Me
26 dB(A) at Lo

Cooling



Noise level 36 dB(A) at P-Hi
33 dB(A) at Hi
28 dB(A) at Me
20 dB(A) at Lo

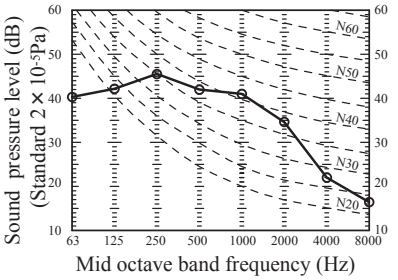
Heating



Model FDT50VH

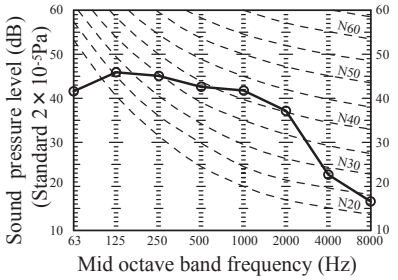
Noise level 41 dB(A) at P-Hi
33 dB(A) at Hi
30 dB(A) at Me
26 dB(A) at Lo

Cooling



Noise level 42 dB(A) at P-Hi
33 dB(A) at Hi
28 dB(A) at Me
20 dB(A) at Lo

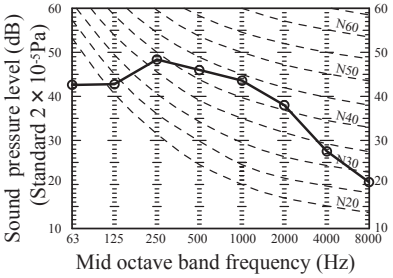
Heating



Model FDT60VH

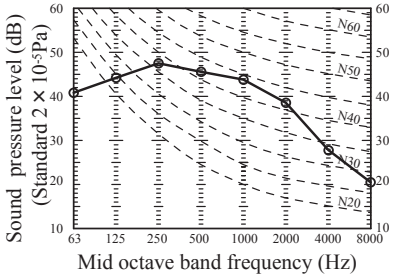
Noise level 44 dB(A) at P-Hi
34 dB(A) at Hi
30 dB(A) at Me
27 dB(A) at Lo

Cooling



Noise level 44 dB(A) at P-Hi
34 dB(A) at Hi
30 dB(A) at Me
23 dB(A) at Lo

Heating

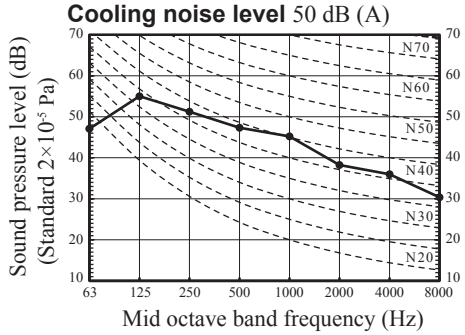


(2) Outdoor units

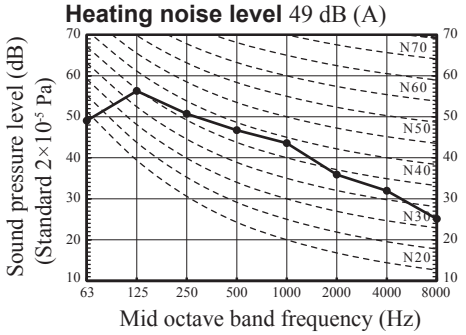
Measured based or JIS B 8616 or JIS C 9612
Mike position: at highest noise level in position as mentined below.
Distance from front side 1m

Models SRC40ZSX-S, 50ZSX-S

Cooling noise level 50 dB (A)

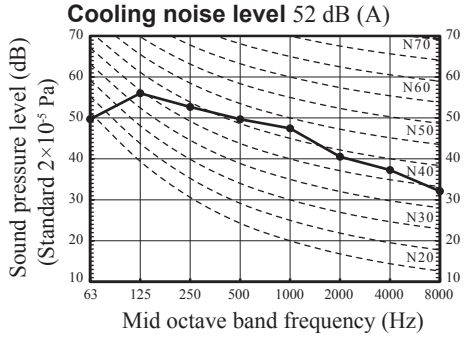


Heating noise level 49 dB (A)

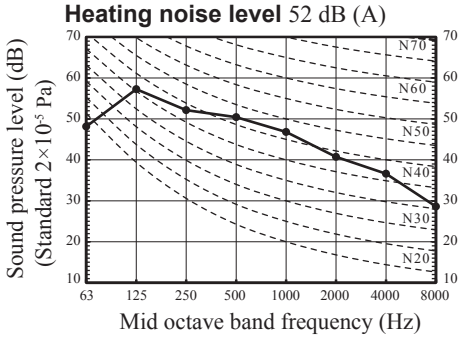


Model SRC60ZSX-S

Cooling noise level 52 dB (A)



Heating noise level 52 dB (A)



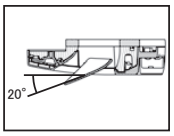
5. TEMPERATURE AND VELOCITY DISTRIBUTION

Indoor temperature
Cooling 27°CDB / 19°CWB
Heating 20°CDB
Note: These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.
In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

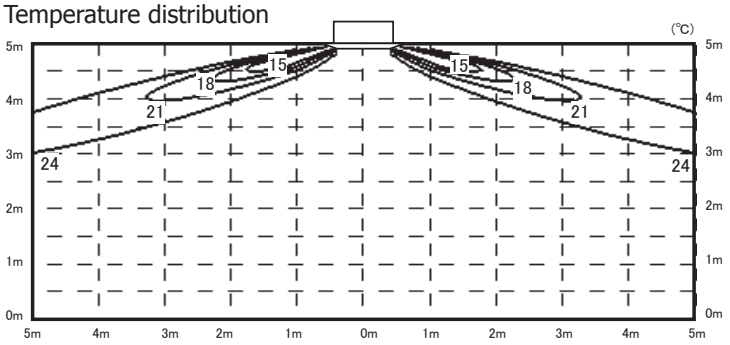
Models FDT40VH, 50VH

Cooling Air flow: P-Hi

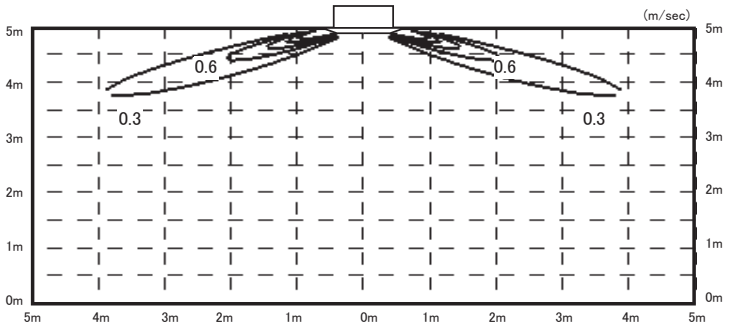
Louver position



Temperature distribution

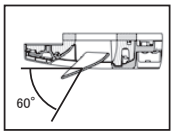


Velocity distribution

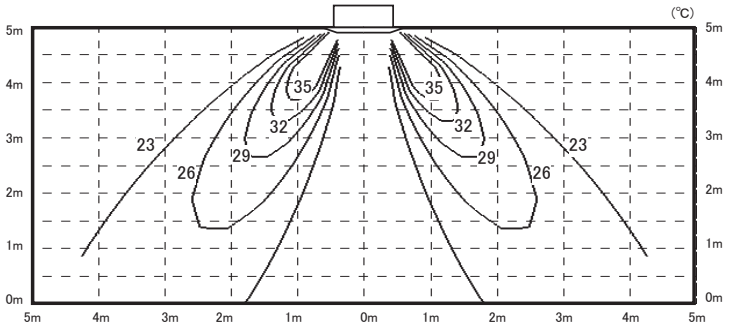


Heating Air flow: P-Hi

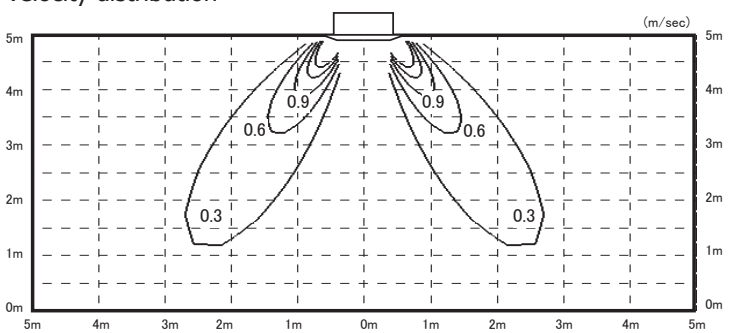
Louver position



Temperature distribution



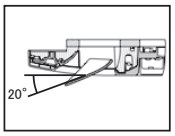
Velocity distribution



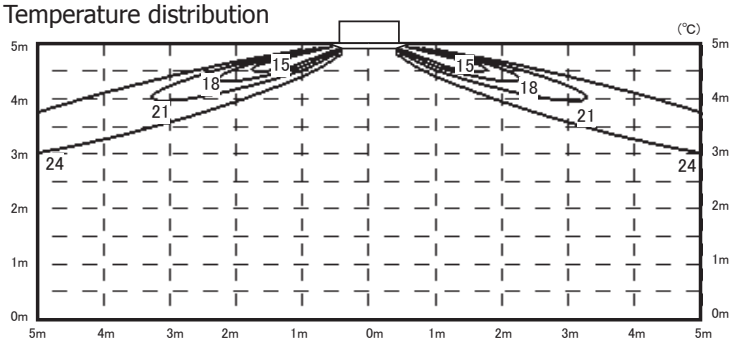
Model FDT60VH

Cooling Air flow: P-Hi

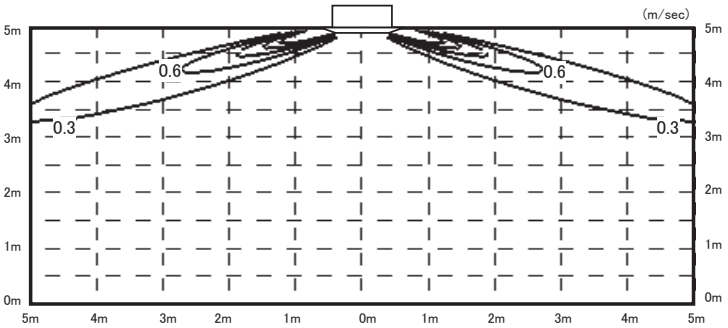
Louver position



Temperature distribution

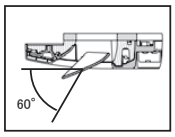


Velocity distribution

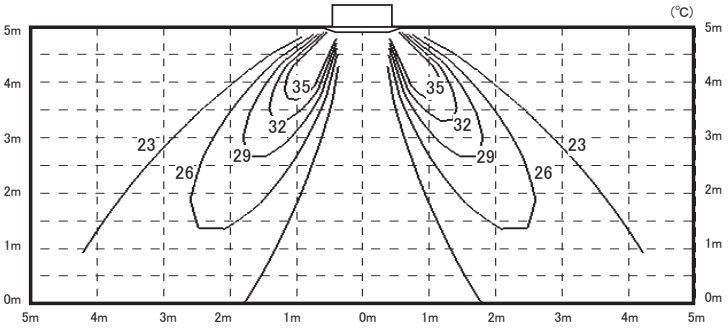


Heating Air flow: P-Hi

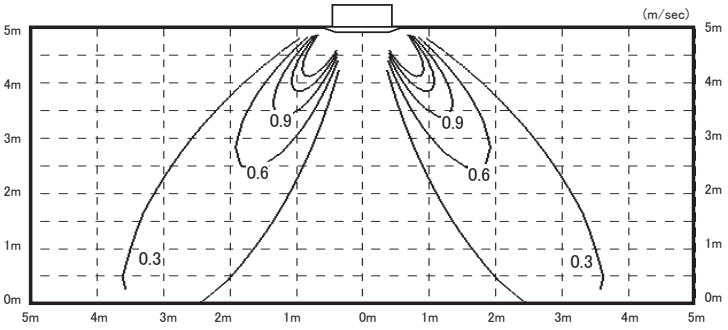
Louver position



Temperature distribution

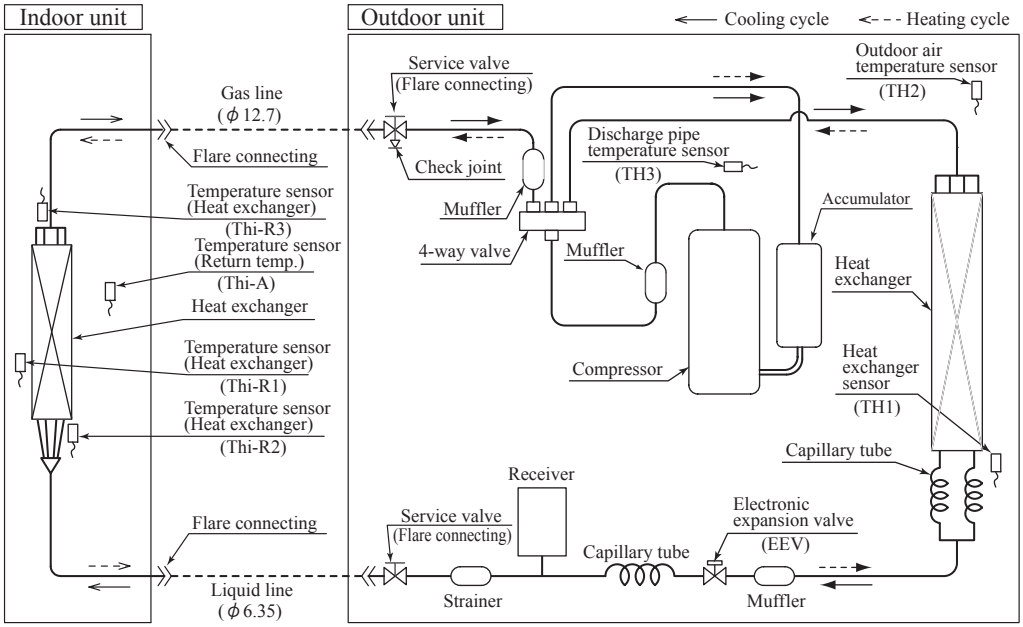


Velocity distribution



6. PIPING SYSTEM

Models 40, 50, 60



Preset point of the protective devices

Parts name	Mark	Equipped unit	40, 50, 60 model
Temperature sensor (for protection overloading in heating)	**Thi-R**	Indoor unit	OFF 63℃ ON 56℃
Temperature sensor (for frost prevention)	**Thi-R**		OFF 1.0℃ ON 10℃
Temperature sensor (for protection high pressure in cooling.)	**TH1**	Outdoor unit	OFF 63℃ ON 53℃
Temperature sensor (for detecting discharge pipe temp.)	**TH3**	Outdoor unit	OFF 115℃ ON 95℃

7. RANGE OF USAGE & LIMITATIONS

Operating temperature range		See the next page.
Recommendable area to install		Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0˚C, and it has no snow accumulation.
Installation site		The limitations of installation space are shown in the page for outline drawing. Install the indoor unit at least 2.5m higher than the floor surface.
Temperature and humidity conditions surrounding the indoor unit in the ceiling (Note 2)		Dew point temperature : 23 ˚C or less, relative hummdity : 80% or less
Limitations on unit and piping installation		Connecting pipe length : 30m or less Elevation difference between indoor and outdoor units : 20m or less
Compressor ON-OFF cycling	Cycle Time	Max. 4 times / h (Inching prevention 10 minutes)
	Stop Time	3 minutes or more
Power source	Voltage range	Rating ±10%
	Voltage drop at start-up	Min.85% of rating
	Phase-to-phase imbalance	3% or less

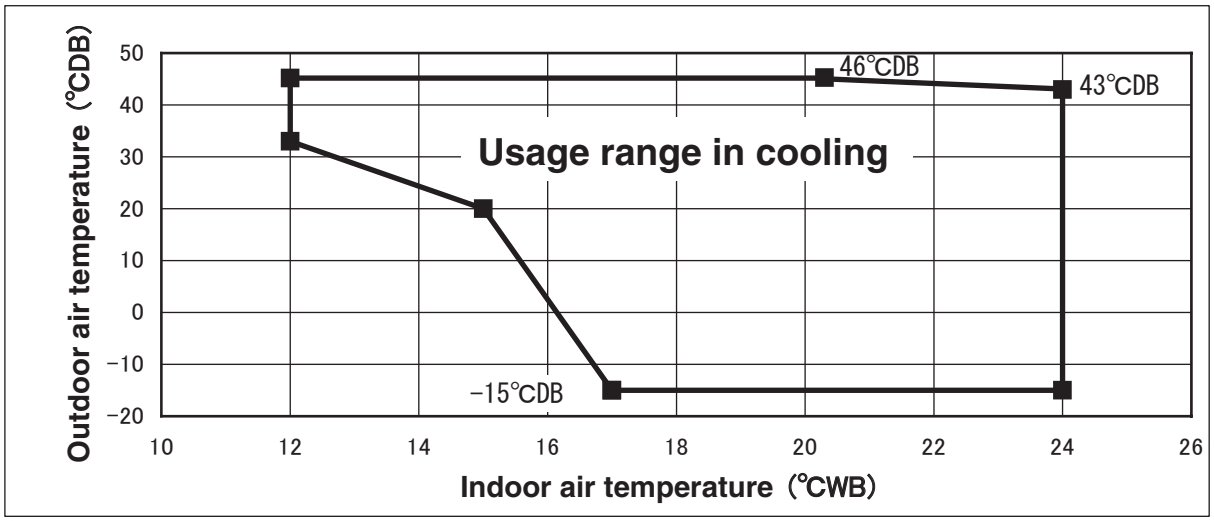
Note 1. Do not install the unit in places which :
1) Flammable gas may leak.
2) Carbon fiber, metal particles, powder, etc. are floating.
3) Cosmetic or special sprays are used frequently.
4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
5) Exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent).
6) Exposed to ammonia substance (e.g. organic fertilizer).
7) Matters affecting devices, such as sulfuric gas, chlorine gas, acid, alkali, etc. may generate or accumulate.
8) Chimney smoke is hanging.
9) Sucking the exhaust gas from heat exchanger.
10) Adjacent to equipment generating electromagnetic waves or high frequency waves.
11) There is light beams that affect the receiving device of indoor unit in case of the wireless specification.
12) Snow falls heavily.
13) At an elevation of 1000 meters or higher.
14) On mobile machine (e.g. vehicle, ship, etc.)
15) Splashed with water to indoor unit (e.g. laundry room).
16) Indoor units of twin and triple specifications separately in a room with partition.

Note 2. If ambient temperature and humidity exceed the above values, add polyurethane foam insulation on the outer plate (10mm or thicker) of indoor unit.

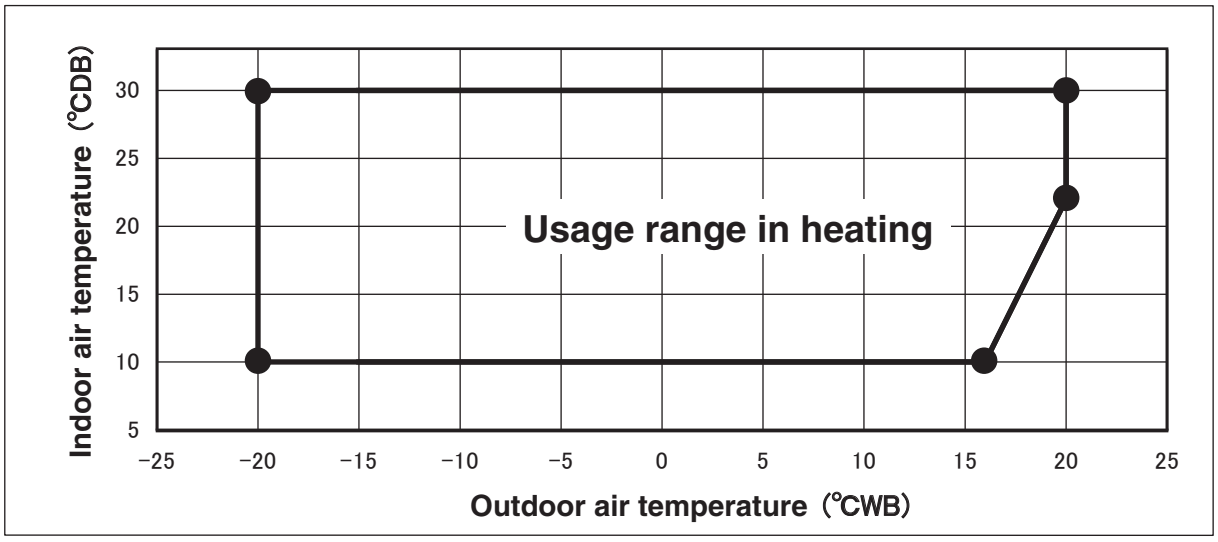
Note 3. Both gas and liquid pipes need to be cover with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.
When snow accumulate, install a snow hood on site.

Operating temperature range

■ Cooling



■ Heating



Decline in cooling and heating capacity or operation stop may occur when the outdoor unit is installed in places where natural wind can increase or decrease its design air flow rate.

"CAUTION" Cooling operation under low outdoor air temperature conditions

PAC models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

In case of severely low temperature condition

1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adapter (prepared as option part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

Under the low outdoor air temperature conditions of -5℃ or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.

8. SELECTION CHART

Correct the cooling and heating capacity in accordance with the operating conditions. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown in the capacity tables (8.1) × Correction factors shown in the table (8.2) (8.3) (8.4).

Caution: In case that the cooling operation during low outdoor air temperature below -5°C is expected, install the outdoor unit where it is not influenced by natural wind. Otherwise protection control by low pressure will be activated much more frequently and it will cause insufficient capacity or breakdown of the compressor in worst case.

8.1 Capacity tables

Model FDT40ZSXVH Indoor unit FDT40VH Outdoor unit SRC40ZSX-S

Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					3.38	3.31	3.56	3.49	3.65	3.58	3.75	3.68	3.95	3.87	4.15	3.90
13					3.46	3.39	3.65	3.58	3.75	3.68	3.85	3.76	4.05	3.97	4.26	3.91
15					3.54	3.47	3.74	3.67	3.84	3.76	3.95	3.78	4.15	4.04	4.36	3.93
17					3.62	3.55	3.83	3.75	3.94	3.85	4.04	3.80	4.26	4.06	4.47	3.95
19					3.69	3.57	3.91	3.83	4.02	3.87	4.15	3.83	4.41	4.09	4.67	3.98
21					3.81	3.60	3.99	3.91	4.10	3.89	4.26	3.85	4.56	4.12	4.87	4.01
23					3.85	3.61	4.04	3.96	4.15	3.91	4.30	3.86	4.59	4.13	4.88	4.01
25			3.73	3.66	3.89	3.63	4.08	3.97	4.20	3.92	4.34	3.87	4.61	4.13	4.89	4.01
27			3.76	3.68	3.93	3.64	4.13	3.98	4.25	3.93	4.36	3.87	4.60	4.13		
29			3.70	3.63	3.86	3.62	4.06	3.96	4.18	3.91	4.30	3.86	4.54	4.12		
31			3.64	3.57	3.80	3.60	4.00	3.92	4.12	3.90	4.24	3.85	4.48	4.11		
33	3.23	3.17	3.44	3.37	3.74	3.58	3.94	3.86	4.06	3.88	4.18	3.83	4.42	4.09		
35	3.28	3.21	3.44	3.37	3.68	3.56	3.88	3.80	4.00	3.87	4.12	3.82	4.36	4.08		
37	3.23	3.17	3.38	3.31	3.62	3.55	3.82	3.74	3.94	3.85	4.06	3.81	4.30	4.07		
39	3.17	3.11	3.32	3.25	3.56	3.49	3.76	3.68	3.88	3.80	4.00	3.79	4.23	4.06		
41	3.12	3.06	3.27	3.20	3.50	3.43	3.70	3.63	3.82	3.74	3.93	3.78	4.17	4.05		
43	3.06	3.00	3.21	3.15	3.44	3.37	3.64	3.57	3.76	3.68	3.87	3.76	4.10	4.02		

Heating mode : HC (kW)

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-19.8	-20	2.19	2.15	2.11	2.06	2.01
-17.7	-18	2.34	2.30	2.26	2.22	2.17
-15.7	-16	2.50	2.46	2.42	2.38	2.33
-13.5	-14	2.67	2.63	2.59	2.55	2.50
-11.5	-12	2.83	2.79	2.75	2.71	2.67
-9.5	-10	3.00	2.96	2.92	2.88	2.84
-7.5	-8	3.17	3.13	3.09	3.05	3.01
-5.5	-6	3.23	3.20	3.16	3.12	3.09
-3.0	-4	3.29	3.26	3.23	3.20	3.17
-1.0	-2	3.36	3.33	3.30	3.28	3.25
1.0	0	3.42	3.40	3.38	3.35	3.33
2.0	1	3.45	3.43	3.41	3.39	3.37
3.0	2	3.67	3.65	3.63	3.61	3.59
5.0	4	4.11	4.09	4.07	4.04	4.01
7.0	6	4.55	4.53	4.50	4.47	4.44
9.0	8	4.78	4.75	4.72	4.69	4.66
11.5	10	5.01	4.98	4.95	4.91	4.88
13.5	12	5.30	5.26	5.21	5.14	5.10
15.5	14	5.58	5.53	5.48	5.37	5.32
16.5	16	5.73	5.67	5.61	5.48	5.44

PJF000Z587

Model FDT50ZSXVH Indoor unit FDT50VH Outdoor unit SRC50ZSX-S

Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.22	3.98	4.45	4.36	4.56	4.31	4.69	4.24	4.94	4.53	5.19	4.38
13					4.32	4.01	4.56	4.40	4.68	4.33	4.81	4.26	5.07	4.55	5.32	4.39
15					4.42	4.03	4.68	4.43	4.80	4.36	4.93	4.29	5.19	4.56	5.45	4.41
17					4.53	4.06	4.79	4.45	4.92	4.38	5.06	4.31	5.32	4.59	5.58	4.42
19					4.62	4.09	4.89	4.48	5.02	4.40	5.19	4.34	5.51	4.62	5.84	4.46
21					4.76	4.13	4.99	4.50	5.13	4.43	5.32	4.36	5.70	4.65	6.09	4.49
23					4.81	4.14	5.04	4.51	5.19	4.44	5.37	4.37	5.73	4.65	6.10	4.49
25			4.66	4.38	4.86	4.15	5.10	4.52	5.25	4.45	5.42	4.38	5.76	4.66	6.11	4.49
27			4.70	4.40	4.91	4.17	5.16	4.54	5.31	4.47	5.46	4.39	5.75	4.66		
29			4.62	4.37	4.83	4.15	5.08	4.52	5.23	4.45	5.38	4.38	5.68	4.64		
31			4.54	4.35	4.75	4.12	5.00	4.50	5.15	4.43	5.30	4.36	5.60	4.63		
33	4.04	3.93	4.31	4.22	4.67	4.10	4.93	4.48	5.08	4.42	5.23	4.35	5.53	4.62		
35	4.11	3.95	4.30	4.21	4.59	4.08	4.85	4.47	5.00	4.40	5.15	4.33	5.45	4.61		
37	4.04	3.93	4.23	4.15	4.52	4.06	4.77	4.45	4.92	4.38	5.07	4.31	5.37	4.59		
39	3.97	3.89	4.16	4.08	4.45	4.04	4.70	4.43	4.85	4.37	4.99	4.30	5.29	4.58		
41	3.90	3.82	4.09	4.01	4.38	4.02	4.62	4.41	4.77	4.35	4.92	4.28	5.21	4.57		
43	3.83	3.75	4.01	3.93	4.30	4.00	4.55	4.40	4.69	4.33	4.84	4.27	5.13	4.56		

Heating mode : HC (kW)

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-19.8	-20	2.63	2.58	2.53	2.47	2.42
-17.7	-18	2.81	2.77	2.72	2.66	2.61
-15.7	-16	3.00	2.95	2.91	2.85	2.80
-13.5	-14	3.20	3.15	3.11	3.05	3.00
-11.5	-12	3.40	3.35	3.31	3.26	3.20
-9.5	-10	3.60	3.55	3.51	3.46	3.41
-7.5	-8	3.80	3.75	3.71	3.66	3.61
-5.5	-6	3.88	3.83	3.79	3.75	3.71
-3.0	-4	3.95	3.92	3.88	3.84	3.80
-1.0	-2	4.03	4.00	3.97	3.93	3.90
1.0	0	4.10	4.08	4.05	4.03	4.00
2.0	1	4.14	4.12	4.10	4.07	4.05
3.0	2	4.41	4.38	4.36	4.33	4.30
5.0	4	4.94	4.91	4.88	4.85	4.82
7.0	6	5.46	5.43	5.40	5.37	5.33
9.0	8	5.74	5.70	5.67	5.63	5.59
11.5	10	6.02	5.98	5.94	5.89	5.85
13.5	12	6.36	6.31	6.25	6.17	6.12
15.5	14	6.70	6.64	6.57	6.44	6.39
16.5	16	6.87	6.80	6.73	6.58	6.52

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Notes(1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
(3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model FDT60ZSXVH Indoor unit FDT60VH Outdoor unit SRC60ZSX-S

Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18 ℃DB		21 ℃DB		23 ℃DB		26 ℃DB		27 ℃DB		28 ℃DB		31 ℃DB		33 ℃DB	
	12 ℃WB		14 ℃WB		16 ℃WB		18 ℃WB		19 ℃WB		20 ℃WB		22 ℃WB		24 ℃WB	
℃DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.73	4.64	4.98	4.88	5.11	5.01	5.25	5.15	5.53	5.42	5.81	5.67
13					4.84	4.74	5.11	5.01	5.24	5.14	5.39	5.28	5.67	5.56	5.96	5.70
15					4.95	4.85	5.24	5.14	5.38	5.27	5.52	5.41	5.82	5.70	6.11	5.73
17					5.07	4.97	5.37	5.26	5.51	5.40	5.66	5.52	5.96	5.84	6.25	5.76
19					5.17	5.07	5.48	5.37	5.63	5.52	5.81	5.56	6.17	5.95	6.54	5.82
21					5.33	5.21	5.59	5.48	5.74	5.63	5.96	5.60	6.39	6.00	6.82	5.88
23					5.39	5.23	5.65	5.54	5.81	5.66	6.01	5.61	6.42	6.01	6.83	5.88
25			5.22	5.12	5.44	5.24	5.71	5.60	5.88	5.68	6.07	5.63	6.45	6.01	6.84	5.89
27			5.27	5.16	5.50	5.26	5.78	5.66	5.94	5.70	6.11	5.64	6.44	6.01		
29			5.18	5.08	5.41	5.23	5.69	5.58	5.86	5.67	6.02	5.61	6.36	5.99		
31			5.09	4.99	5.32	5.20	5.60	5.49	5.77	5.65	5.94	5.59	6.27	5.97		
33	4.53	4.44	4.82	4.72	5.23	5.13	5.52	5.41	5.69	5.58	5.85	5.57	6.19	5.95		
35	4.60	4.51	4.81	4.71	5.15	5.05	5.43	5.32	5.60	5.49	5.77	5.54	6.10	5.93		
37	4.52	4.43	4.73	4.64	5.06	4.96	5.35	5.24	5.51	5.40	5.68	5.52	6.01	5.89		
39	4.44	4.35	4.65	4.56	4.98	4.88	5.26	5.15	5.43	5.32	5.59	5.48	5.92	5.80		
41	4.37	4.28	4.58	4.49	4.90	4.80	5.18	5.08	5.34	5.23	5.51	5.40	5.83	5.71		
43	4.29	4.20	4.50	4.41	4.82	4.72	5.10	5.00	5.26	5.15	5.42	5.31	5.74	5.63		

Heating mode : HC (kW)

Outdoor air temp.		Indoor air temperature				
		℃DB				
℃DB	℃WB	16	18	20	22	24
-19.8	-20	3.26	3.20	3.14	3.07	3.00
-17.7	-18	3.49	3.43	3.37	3.30	3.24
-15.7	-16	3.72	3.66	3.61	3.54	3.48
-13.5	-14	3.97	3.91	3.85	3.79	3.73
-11.5	-12	4.22	4.16	4.10	4.04	3.98
-9.5	-10	4.47	4.41	4.35	4.29	4.23
-7.5	-8	4.72	4.66	4.60	4.54	4.48
-5.5	-6	4.81	4.76	4.70	4.65	4.60
-3.0	-4	4.90	4.86	4.81	4.77	4.72
-1.0	-2	5.00	4.96	4.92	4.88	4.84
1.0	0	5.09	5.06	5.03	4.99	4.96
2.0	1	5.14	5.11	5.08	5.05	5.02
3.0	2	5.47	5.44	5.41	5.37	5.34
5.0	4	6.12	6.09	6.05	6.01	5.98
7.0	6	6.78	6.74	6.70	6.66	6.61
9.0	8	7.12	7.08	7.03	6.98	6.94
11.5	10	7.47	7.41	7.36	7.31	7.26
13.5	12	7.89	7.82	7.76	7.65	7.59
15.5	14	8.31	8.23	8.15	7.99	7.93
16.5	16	8.53	8.44	8.35	8.16	8.09

Notes(1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
(3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

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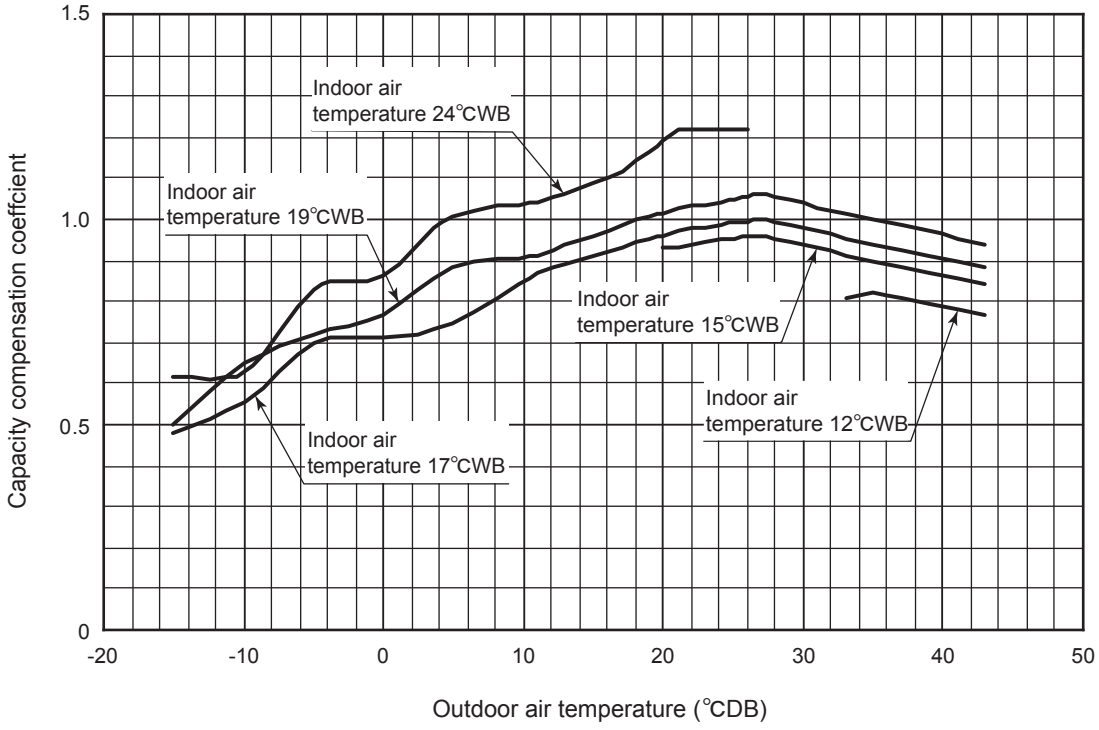
[References data]

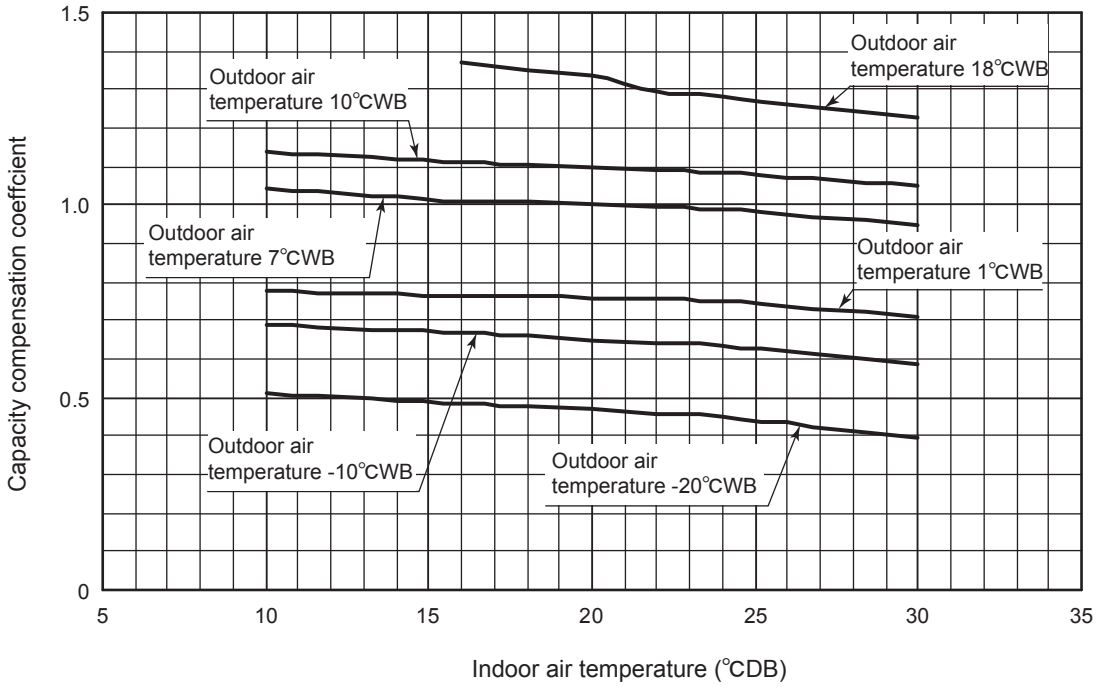
Capacity variation against outdoor and indoor temperature at the maximum compressor speed capacity compensation coefficient shows the ratio to nominal capacity.

(I) **Models SRC40, 50, 60ZSX-S**

① **Cooling**



② **Heating**



8.2 Correction of cooling and heating capacity in relation to air flow rate control (Fan speed)

Fan speed	P-Hi or Hi	Me	Lo
Coefficient	1.00	0.97	0.95

8.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way equivalent piping length between the indoor and outdoor units.

Piping length (m)	7	10	15	20	25	30
Cooling	1	0.99	0.975	0.965	0.95	0.935
Heating	1	1	1	1	1	1

8.4 Height difference between the indoor unit and outdoor unit

When the outdoor unit is located below indoor units in cooling mode, or when the outdoor unit is located above indoor units in heating mode, the correction coefficient mentioned in the below table should be subtracted from the value in the above table.

Height difference between the indoor unit and outdoor unit in the vertical height difference	5m	10m	15m	20m	25m	30m
Adjustment coefficient	0.99	0.98	0.97	0.96	0.95	0.94

Piping length limitations

Item \ Capacity	40, 50, 60
Max. one way piping length	30m
Max. vertical height difference	Outdoor unit is higher 20m Outdoor unit is lower 20m

Note (1) Values in the table indicate the one way piping length between the indoor and outdoor units.

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDT40ZSXVH with the air flow "P-Hi", the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulb temperature at 19.0℃ and outdoor dry-bulb temperature 35℃ is

Net cooling capacity = 4.0 × 1.00 × 0.975 × 0.99 ≒ 3.9kW

- 4.0 : Net cooling total capacity of FDT40ZSXVH (Outdoor temp. : 35℃DB Indoor temp. : 19℃WB) shown in table 8.1
- 1.00 : Air flow : P-Hi shown in table 8.2
- 0.975 : Piping length :15m (Gas pipe size is ϕ15.88) shown in table 8.3
- 0.99 : Height diff. :5m (Outdoor unit : below) shown in table 8.4

9. APPLICATION DATA

9.1 Installation of indoor unit

PJF012D062

This manual is for the installation of the indoor unit.
For electrical wiring work (Indoor unit), refer to page 29. For remote control installation, refer to page 33. For wireless kit installation, refer to page 52. For electrical wiring work (Outdoor unit) and refrigerant pipe work installation for outdoor unit, refer to page 45. For motion sensor kit installation, refer to page 60. This unit must always be used with the panel.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : Wrong installation might cause serious consequences depending on circumstances.
  Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right:
  ⃠ Never do it under any circumstances. ❗ Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit.
  Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

⚠ WARNING

- **Installation should be performed by the specialist.**
  If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit.
- **Install the system correctly according to these installation manuals.**
  Improper installation may cause explosion, injury, water leakage, electric shock, and fire.
- **Check the density refered by the foumula (accordance with ISO5149).**
  If the density exceeds the limit density, please consult the dealer and installate the ventilation system.
- **Use the genuine accessories and the specified parts for installation.**
  If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit.
- **Ventilate the working area well in case the refrigerant leaks during installation.**
  If the refrigerant contacts the fire, toxic gas is produced.
  In case of R32, the refrigerant could be ignited because of its flammability.
- **Install the unit in a location that can hold heavy weight.**
  Improper installation may cause the unit to fall leading to accidents.
- **Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.**
  Improper installation may cause the unit to fall leading to accidents.
- **Do not mix air in to the cooling cycle on installation or removal of the air conditioner.**
  If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries.
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
  Power source with insufficient capacity and improper work can cause electric shock and fire.
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.**
  Loose connections or hold could result in abnormal heat generation or fire.
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property.**
  Improper fitting may cause abnormal heat and fire.
- **Check for refrigerant gas leakage after installation is completed.**
  If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced.
- **Use the specified pipe, flare nut, and tools for R32 or R410A.**
  Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle.
- **Tighten the flare nut according to the specified method by with torque wrench.**
  If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period.
- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur.**
  Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.
- **Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.**
  If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system.
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
  If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.
- **Only use prescribed optional parts. The installation must be carried out by the qualified installer.**
  If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- **Do not repair by yourself. And consult with the dealer about repair.**
  Improper repair may cause water leakage, electric shock or fire.
- **Consult the dealer or a specialist about removal of the air conditioner.**
  Improper installation may cause water leakage, electric shock or fire.
- **Turn off the power source during servicing or inspection work.**
  If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.
- **Do not run the unit when the panel or protection guard are taken off.**
  Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock.
- **Shut off the power before electrical wiring work.**
  It could cause electric shock, unit failure and improper running.

⚠ CAUTION

- **Perform earth wiring surely.**
  Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circuit.
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause electric shocks.
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.**
  Using the incorrect one could cause the system failure and fire.
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.**
  Connecting the circuit by wire or copper wire could cause unit failure and fire.
- **Do not install the indoor unit near the location where there is possibility of flammable gas leakages.**
  If the gas leaks and gathers around the unit, it could cause fire.
- **Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, it could be sprayed with chemicals, or volatile flammable substances are handled.**
  It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire.
- **Secure a space for installation, inspection and maintenance specified in the manual.**
  Insufficient space can result in accident such as personal injury due to falling from the installation place.
- **Do not use the indoor unit at the place where water splashes such as laundry.**
  Indoor unit is not waterproof. It could cause electric shock and fire.
- **Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.**
  It could cause the damage of the items.
- **Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics.**
  Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming.
- **Do not install the remote control at the direct sunlight.**
  It could cause breakdown or deformation of the remote control.
- **Do not install the indoor unit at the place listed below.**
  · Places where flammable gas could leak.
  · Places where carbon fiber, metal powder or any powder is floated.
  · Place where the substances which affect the air conditioner are generated such as sulfide gas, chloride gas, acid, alkali or ammonic atmospheres.
  · Places exposed to oil mist or steam directly.
  · On vehicles and ships
  · Places where machinery which generates high harmonics is used.
  · Places where cosmetics or special sprays are frequently used.
  · Highly salted area such as beach.
  · Heavy snow area
  · Places where the system is affected by smoke from a chimney.
  · Altitude over 1000m
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)**
  · Locations with any obstacles which can prevent inlet and outlet air of the unit
  · Locations where vibration can be amplified due to insufficient strength of structure.
  · Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared specification unit)
  · Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
  · Locations where drainage cannot run off safely.
  It can affect performance or function and etc..
  Do not install the motion sensor mounting panel at following places. It could cause detection error, incapacity of detection, or characteristic degradation.
  • Place where vibration is applied to it for a long period of time.
  • Place where static electricity or electromagnetic wave generates.
  • Place where it is exposed to high temperature or humidity for a long period of time.
  • Dusty place or where the lens face could be fouled or damaged.
- **Do not put any valuables which will break down by getting wet under the air conditioner.**
  Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings.
- **Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.**
  It could cause the unit falling down and injury.
- **Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.**
  If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit.
- **Install the drain pipe to drain the water surely according to the installation manual.**
  Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.**
  If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.
- **For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.**
  Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance.
- **Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.**
  Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables.
- **Do not install the outdoor unit where is likely to be a nest for insects and small animals.**
  Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean.
- **Pay extra attention, carrying the unit by hand.**
  Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury.
- **Make sure to dispose of the packaging material.**
  Leaving the materials may cause injury as metals like nail and woods are used in the package.
- **Do not operate the system without the air filter.**
  It may cause the breakdown of the system due to clogging of the heat exchanger.
- **Do not touch any button with wet hands.**
  It could cause electric shock.
- **Do not touch the refrigerant piping with bare hands when in operation.**
  The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frostbite.
- **Do not clean up the air conditioner with water, and do not spray disinfectants etc. directly over the air conditioner.**
  It could cause electrical shock or corrode parts.
- **Do not turn off the power source immediately after stopping the operation.**
  Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown.
- **Do not control the operation with the circuit breaker.**
  It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

①Before installation

●Install correctly according to the installation manual.

●Confirm the following points:

○Unit type/Power supply specification

○Pipes/Wires/Small parts ○Accessory items

When moving the indoor unit, hold only the hanging hardware (4 places) only, with care not to apply forces to any other parts of the unit (particularly the refrigerant pipe, drain pipe, and resin parts).

Accessory item

For unit hanging		For refrigerant pipe			For drain pipe			
Flat washer (M10)	Level gauge	Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
								
8	1	1	1	4	1	1	1	1
For unit hanging	For unit height position adjustment and hanging agent	For heat insulation of gas pipe	For heat insulation of liquid tube	For pipe cover fixing	For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting

②Selection of installation location for the indoor unit

① Select the suitable areas to install the unit under approval of the user.

- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- In case of the panel having the motion sensor, the installation height must be no higher than 4 m. It could reduce the sensitivity of motion sensor, disabling the detection.
- Areas where there is enough space to install and service.
- Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
- Areas where there is no obstruction of airflow on both air return grille and air supply port.
- Areas where fire alarm will not be accidentally activated by the air conditioner.
- Areas where the supply air does not short-circuit.
- Areas where it is not influenced by draft air.
- Areas not exposed to direct sunlight.
- Areas where dew point is lower than around 28°C and relative humidity is lower than 80%.

  This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above.
  If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.
- Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
- Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates.
- Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.
  (A beam from lighting device sometimes affects the infrared receiver for the wireless remote control and the air conditioner might not work properly.)

②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

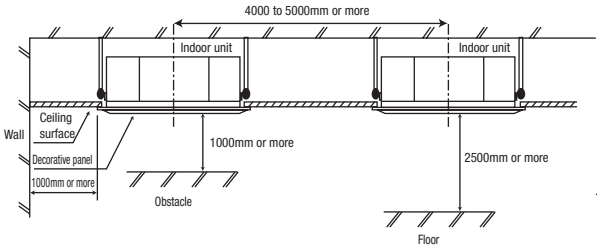
③If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.

④When plural indoor units are installed nearby, keep them away for more than 4 to 5m.

Space for installation and service

●When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit of airflow.

●Install the indoor unit at a height of more than 2.5m above the floor.



Where there are pipe joints on the way of embedded piping, provide adequate openings for inspection of the joints.

Set blow-out pattern

●Select the most proper number of blow-out air supply port direction from 4 way, 3 way or 2 way according to the shape of the room and installation position. (1 way is not available.)

●If it is necessary to change the number of air supply port, prepare the covering materials. (sold as accessory)

●Instruct the user not to use low fan speed when 2way or 3way air supply is used.

●Do not use 2way air supply port under high temperature and humidity environment. (Otherwise it could cause condensation and leakage of water.)

●It is possible to set the airflow direction port by port independently. Refer to tne user's manual for details.

③Preparation before installation

●If suspension bolt becomes longer, do reinforcement of earthquake resistant.

○For grid ceiling

When suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.

○In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.

When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.

●Prepare four (4) sets of suspension bolt, nut and spring washer (M10 or M8) on site.

Ceiling opening, Suspension bolts pitch, Pipe position

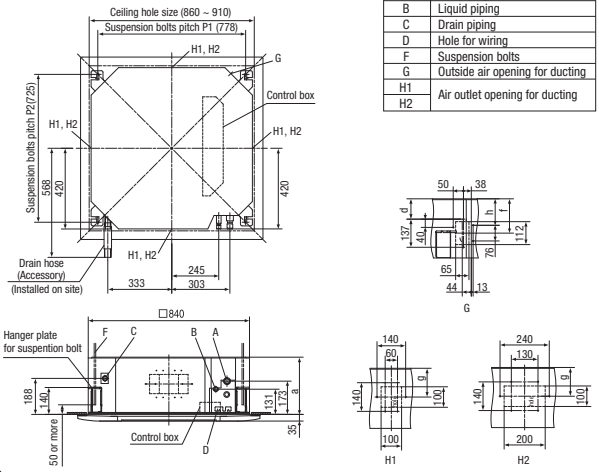
(mm)

∗It is possible the suspension bolts pitch to adjust accoding to the this table.

Type \ Mark	P1	P2
1	770	725~770
2	770~800	725

Series	Type	a	d	f	g	h
Single Split (PAC) series	40 to 71 type	236	37	105	88	67
	100 to 140 type	298	99	167	140	129
VRF (KX) series	28 to 71 type	236	37	105	88	67
	90 to 160 type	298	99	167	140	129

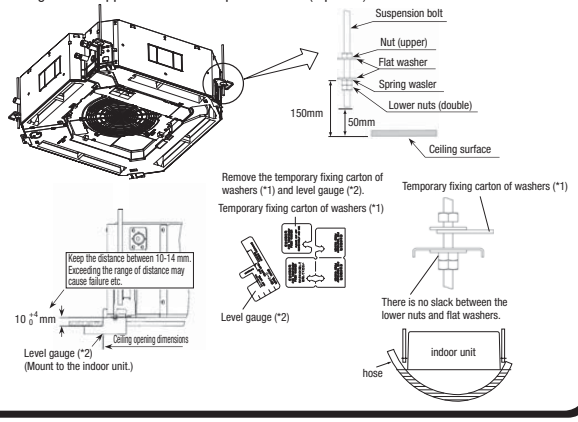
Symbol	
A	Gas piping
B	Liquid piping
C	Drain piping
D	Hole for wiring
F	Suspension bolts
G	Outside air opening for ducting
H1	Air outlet opening for ducting
H2	



④Installation of indoor unit

Work procedure

1. Set the suspension bolt length to about 50 mm from the ceiling.
2. Temporarily locate the lower nuts of the suspension bolts (4 places) at a position approximately 150 mm from the ceiling.
3. Temporarily locate the upper nuts of the suspension bolts (4 places) at positions sufficiently distance from the lower nuts so that they do not interfere with the suspension of the indoor unit and with its height adjustment.
4. Set the upper nuts of the suspension bolts and upper washers (4 places) at positions sufficiently distance from the lower nuts. Then, push and insert the temporary fixing carton of washers (*1) onto suspension bolts. Make sure that the upper washers do not slide down.
5. Suspend the indoor unit.
6. After suspending the indoor unit, mount the level gauge (*2) to the air outlet of the indoor unit, and adjust the suspension height of the indoor unit. Loosen the upper nuts (4 places), and adjust the suspension height using the lower nuts (4 places). Confirm there is no slack between the lower nuts and flat washers of the indoor unit hanger plate (4 places).
7. Remove the temporary fixing carton of washers (from all 4 places).
8. Make sure that the indoor unit is installed horizontally. Confirm the levelness of the indoor unit using a level gauge or transparent hose filled with water.
   (Keep the height difference at both ends of the indoor unit within 3 mm.)
9. Tighten the upper nuts of the suspension bolts (4 places).



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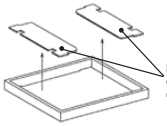
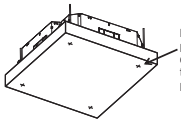
④Installation of indoor unit (continued)

Protection of the indoor unit

● If it is not possible to install the panel for a while or if attaching the ceiling board after installing the indoor unit, protect the indoor unit by using upper carton.





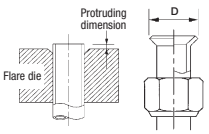
Caution

● Do not adjust the unit height by adjusting the upper nuts. Doing so will cause unexpected stress on the indoor unit and cause the unit to become deformed, prevent the panel from being installed, and be generated fan interference noise.
● Make sure that the indoor unit is installed horizontally and set the appropriate gap between the underside of the unit and the ceiling plane. Improper installation may cause air leakage, dew condensation, water leakage and noise.
● Even after the panel has been installed, the unit height can still be finely adjusted. Refer to the panel installation manual for details.
● Make sure there is no gap between the panel and the ceiling surface, and between the panel and the indoor unit. Any gap may cause air and/or water to leak, or condensation to form.

⑤Refrigerant pipe

Caution

●Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product.
Regarding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the outdoor unit, catalogue or technical data.
1) In case of reuse: Do not use old flare nut, but use the nut attached to the unit.
2) In case of reuse: Flare the end of pipe replaced partially for R32 or R410A.
⚠WARNING : When flared joints are reused indoors, the flare part shall be re-fabricated. (only for R32)

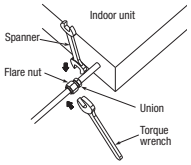


Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type)			
		For R32 For R410A	Conventional tool		
6.35	0.8	0 ~ 0.5	0.7 ~ 1.3	8.9 ~ 9.1	14 ~ 18
9.52	0.8			12.8 ~ 13.2	34 ~ 42
12.7	0.8			16.2 ~ 16.6	49 ~ 61
15.88	1			19.3 ~ 19.7	68 ~ 82
19.05	1.2			23.6 ~ 24.0	100 ~ 120

●Use phosphorus deoxidized copper alloy seamless pipe (C1220T) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
●Do not use any refrigerant other than the designated refrigerant.
Using other refrigerant except the designated refrigerant, may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
●Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
●Use special tools for R32 or R410A refrigerant.

Work procedure

1. Remove the flare nut and blind flanges on the pipe of the indoor unit.
   ＊Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
   ● Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
2. Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
   ＊Bend radius of pipe must be 4D or larger. Once a pipe is bent, do not readjust the bending. Do not twist a pipe or collapse to 2/3D or smaller.
   ● Make sure to use flare nuts assembled on the unions. Usage of other flare nuts could cause refrigerant leakage.
   ＊Do a flare connection as follows:
   ●Make sure to hold the nut on indoor unit pipe side using double spanner method as indicated when fastening / loosening flare nuts in order to prevent unintentional twisting of the copper pipe.
   ● When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table above.

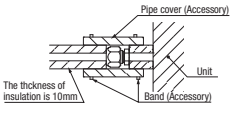


3. Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
   ● Make sure to insulate both gas pipes and liquid pipes completely.
   ＊Incomplete insulation may cause dew condensation or water dropping.
   ● Use heat-resistant (120 °C or more) insulations on the gas side pipes.
   ● In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condition or water dropping, if insulations are not reinfoced.
4. Refrigerant is charged in the outdoor unit.
   As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

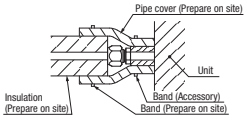
⑤Refrigerant pipe (continued)

Caution:
Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening torque is applied, the oil is likely to decrease the slide friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion.
Refrigerating machine oil may be applied to the internal surface of flare only.

<The case of using thicness of insulation is 10mm>



<The case of using reinfoced insulation>

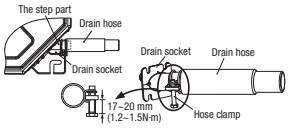


⑥Drain pipe

Caution

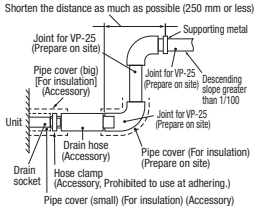
● Install the drain pipe according to the installation manual in order to drain properly.
Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
● Be sure to use the supplied drain hose. Unless it is used, the drain socket could be damaged by undue stresses, causing water leakage.
● Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
● Connect the pipe securely to avoid water leakage from the joint.
● Insulate the pipe properly to avoid condensation drop.
● Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
● Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Drain socket and drain hose connection



● **Where temperatures around the drain socket may rise beyond 50℃, adhere the drain socket and the drain hose.**
● Avoid using the hose clamp with adhesive. It could cause water leakage.

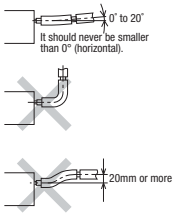
<When using the hose clamp>
1. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
   Fix the hose clamp so that its bolt is located on the outside of the indoor unit, and the bolt are fastened in a vertical orientation.
2. Position the hose clamp so that it touches the insulation of the drain hose, and then tighten the bolt.
3. Turn the bolt several times until it is securely tightened, but do not tighten it excessively. Target extent of bolt tightening should be 17 to 20 mm (Reference:1.2 to 1.5N·m)



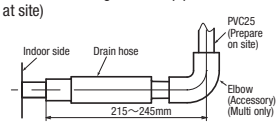
<When using adhesives>
1. Connect the drain hose (the soft PVC side) to the drain socket using polyvinyl type adhesives. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
2. Use the adhesive according to maker's instructions.
   ＊ **Do not use adhesives containing phthalic esters. It could cause water leak.**
   ● Make sure that the adhesive will not get into the drain hose or drain socket.

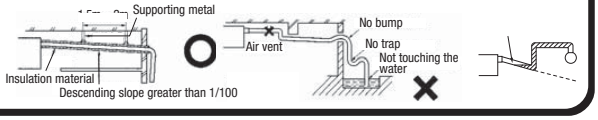
Drain hose and piping connection

1. Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the rigid PVC side), and adhere and connect VP-25 pipe (prepare on site).
   ＊As for drain pipe, apply VP-25 made of rigid PVC which is on the market.
   ● **Make sure that the adhesive will not get into the supplied drain hose.**
   It may cause the flexible part broken after the adhesive is dried up and gets rigid.
   ● The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.



2. Pay attention not to apply stresses to the drain socket or drain pipe, and support and fix the drain pipe as close place to the unit as possible when connecting the drain pipe. (within 250 mm from the end of joint prepared at site)
   ● As for drain pipe, apply VP25 (OD32). If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)
3. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
   ● Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
   ● Do not set up air vent.





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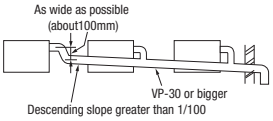
⑥Drain pipe (continued)

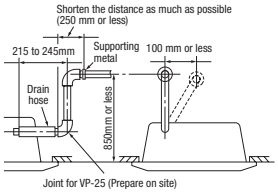
●When sharing a drain pipe for more than 1 unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



4. Insulate the drain pipe.
   ● Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
   ∗ After drainage test implementation, cover the drain socket part with pipe cover (small size), then use the pipe cover (big size) to cover the pipe cover (small size), hose clamp and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Drain up

● The position for drain pipe outlet can be raised up to 850mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the right figure.

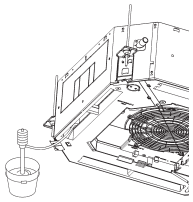


Drain test

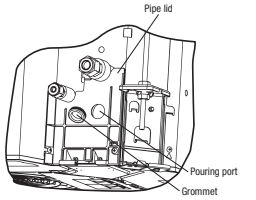
● After installing the drain pipe, make sure that drain system works correctly and that no water leaks from the joint and drain pan. Check whether the motor sound of the drain pump is normal.
● Conduct a drain test when installing, even during the heating season.
● In the case of new buildings, be sure to complete the test before fixing the ceiling.

1. Pour about 1,000 cc of test water into the drain pan of the indoor unit. Exercise care not to allow electrical equipment such as the drain pump and other components to become wet while filling water.
   Pour test water through the pouring port of the pipe lid using a feed water pump or a similar device, or through the refrigerant pipe joint.

●In case of pouring water from the air outlet



●In case of pouring water from the pouring port of the pipe lid



2. Make sure that water drains out completely and that no water leaks from any joints of the drain pipe during the test.
   Test to confirm that the water drains out correctly while listening to the drain pump motor operating sound. At the drain socket (transparent), it is possible to check whether the water drains out correctly.
3. Unplug the rubber plug on the indoor unit so that the remaining water drains from the drain pan after the draining test.
   After checking the water drainage, fix the rubber plug correctly. Installation work for the drain pipe must be performed for the entire drain pipe up to the indoor unit.
   If the pipe lid has been removed in order to pour water, mount the pipe lid again.

Drain pump operation

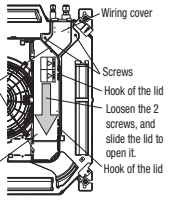
●In case electrical wiring work completed
Drain pump can be operated by the wired remote controller.
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.
●In case electrical wiring work not completed
Drain pump will run continuously when the dip switch"SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (230VAC on the terminal block ① and ②) is turned ON.
Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

⑦Wiring-out position and wiring connection

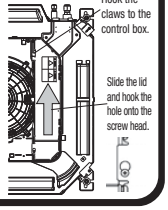
● Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
Be sure to use an exclusive circuit.
● Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
● Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
● Be sure to do D type earth work.
● For the details of electrical wiring work, see attached instruction manual for electrical wiring work.

1. Loosen the 2 screws of the lid of the control box, and slide the lid in the direction of the arrow shown in the figure. It will then be possible to open the lid.
2. Unhook the lid from the control box, and remove the lid.
3. Remove the 2 screws from the wiring cover, and remove the wiring cover.
4. Hold each wire inside the unit, and securely fasten them to the terminal block.
5. Fix the wiring using clamps.
6. Install the wiring cover and the lid of the control box.

When opening the lid of the control box



When closing the lid of the control box

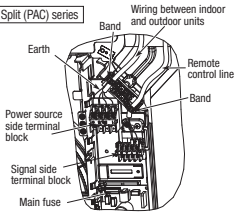


Main fuse specification

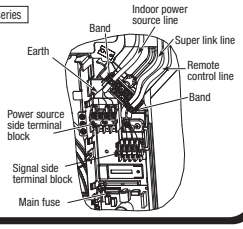
Specification	Part No.
T3.15A L250V	SSA564A149AF

⑦Wiring-out position and wiring connection (continued)

Single Split (PAC) series



VRF (KX) series



⑧Panel installation

●Install the panel on the indoor unit after electrical wiring work.
●Refer to the attached manual for panel installation for details.

⑨Check list after installation

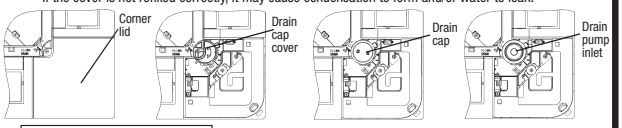
●Check the following items after all installation work completed.

Check if;	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

⑩How to check the dirt of drain pan and cleanimg the inlet of the drain pump. (Maintenance)

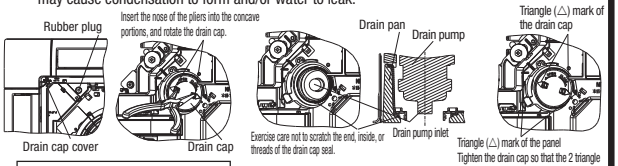
The method of checking the dirt of drain pan

●It is possible to check dirt on the drain pan and drain pump inlet without removing the panel.
1. Open the inlet grille and remove the corner lid on the drain pan side.
2. Remove the drain cap cover (1 screw) from the panel corner.
3. Check the dirt on the drain pan from the drain cap, and check the drain pump inlet. If the drain pan is very dirty, remove the drain pan and clean it.
4. After checking, refix the drain cap cover securely.
   If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



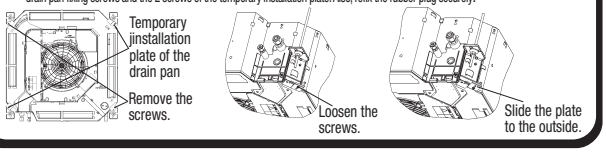
Cleaning of drain pump inlet

●It is possible to clean the drain pump inlet and surrounding area by removing the drain cap only; it is not necessary to remove the panel and drain pan.
●Before removing the drain cap, remove the rubber plug and drain water from the drain pan.
1. Remove the drain cap cover as described above.
2. Insert the nose of the pliers into the concave portions (2 places) of the drain cap, and rotate the pliers about 1 turn in the CCW direction. The drain cap is removed.
3. When cleaning the drain pump inlet, use a soft plastic tool. If a metallic tool is used, the drain cap mounting portion may be scratched and water may leak.
4. Before mounting the drain cap, rinse it and **remove any foreign material from the inside of the cap.** If the drain cap is installed with foreign material inside it, it may cause water to leak.
5. Insert the nose of the pliers into the concave portions of the drain cap and rotate the pliers to install the drain cap. Rotate the drain cap about 1 turn in the CW direction until it stops rotating. If the drain cap is not rotated for 1 or more turns, the cap will not have been installed correctly. Remove the drain cap, and then install it again correctly.
6. After tightening the drain cap, make sure the triangle (△) mark of the drain cap comes close to the triangle mark on the panel. If these triangle marks are not close to each other, tighten the drain cap further.
7. Refix the drain cap cover and rubber plug securely. If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



Notes for removing the drain pan

●Before removing the drain pan, drain water from the drain pan. Remove the rubber plug and drain water.
●The drain pan is installed by the temporary installation plate. Remove the 2 drain pan fixing screws, and loosen the 2 screws of the temporary installation plate.
Slide the temporary installation plate to the outside of the drain pan. And then,it is possible to remove the drain pan.
●When reinstalling the drain pan, slide the temporary installation plate to the inside and temporarily fix the drain pan. Then, tighten the 2 drain pan fixing screws and the 2 screws of the temporary installation plate. Also, refix the rubber plug securely.



#

PJF012D037 B

• Panel installation

Read this manual together with the indoor unit's installation manual.

⚠ WARNING

- **Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal. Loose connection or hold will cause abnormal heat generation or fire.**
- **Make sure the power source is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur.**

Function

The Anti draft panel has the anti draft mechanism. If the Anti draft panel is installed and the anti draft function is set, the anti draft function will be oprerated and reduce the draft feeling. (Refer to ⑩ Panel setting for details.)

- Standard panel : without the anti draft mechanism
- Anti draft panel : with the anti draft mechanism

① Before installation

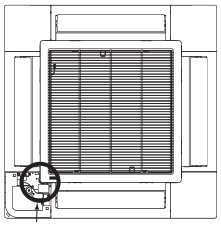
- Follow installation manual carefully, and install the panel properly.
- Check the following items.

○ Accessories

Accessories

Bolt		4 pieces	For panel installation
Strap		4 pieces	For avoiding the corner panel from falling
Screw		4 pieces	For fixing the corner panel

Note: Accessories are laid in the position removing the corner lid.



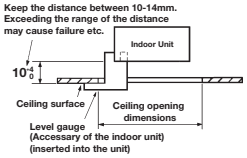
Accessories holding position

② Checking the indoor unit installation position

- Read this manual together with the air-conditioner installation manual carefully.
- Check if the opening size for the indoor unit is correct with the level gauge supplied in the indoor unit.
- Check if the gap between the plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
- Adjust the installation elevation if necessary.
- Remove the level gauge before installing the panel.

Caution

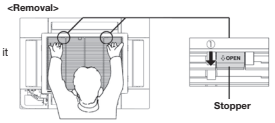
If there is a height difference beyond the design limit between the installation level of the indoor unit and the panel, the panel may be subject to excessive stress during installation and it may cause distortion and damage.



- The installation level of the indoor unit can be adjusted finely from the opening provided on the corner, even after panel is Installed. (Refer to ⑥ Installing the panel for details.)

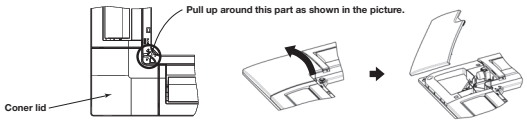
③ Removing the inlet grille

1. Hold the stoppers on the inlet grille (2 places) toward OPEN direction, open the inlet grille.
2. Remove the hooks of the inlet grille from the panel while it is in the open position.



④ Removing the corner lid

- Pull the corner lid toward the direction indicated by the arrow and remove it. (Same way for all 4 corner lids)



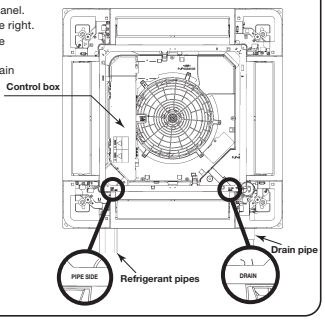
⑤ Orientation of the panel installation

Take note that there is an orientation to install the panel.

- Install the panel with the orientation shown on the right.
- Align the "PIPE SIDE" mark (on the panel) with the refrigerant pipes on the indoor unit.
- Align the "DRAIN" mark (on the panel) with the drain pipe on the indoor unit.

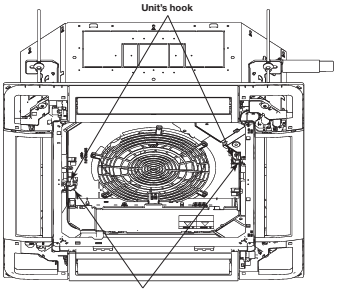
CAUTION

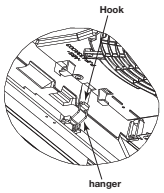
In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the flap motor wiring.

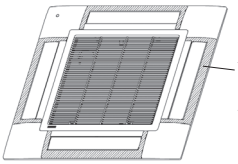


⑥ Installing the panel

1. Temporary hanging
   - Lift up the hanger (2 places) on the panel for temporary support.
   - Hang the panel on the hook on the indoor unit.







The Anti draft panel moves the parts of the anti draft mechanism (shaded area,4 places).Note that they may break if they are moved forcibly by hand. Although the parts (shaded area) of the Standard panel are separate parts from the body, they do not move.

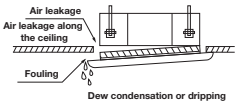
Caution

- The parts (shaded area), of the anti draft mechanism around the air outlet, are separate parts. Handle the panel with care. Especialy, the shaded area of the Anti draft panel move. Note that they may break if they are moved forcibly by hand.

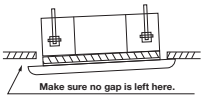
2. Fix the panel on the indoor unit
   - Fasten the panel on the indoor unit with the 4 bolts supplied with the panel.

Caution

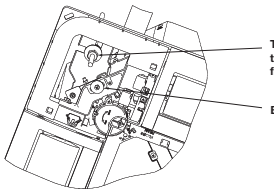
- Improperly tightened fixing bolts cause the problems listed below, so make sure that bolts are securely tightened.



- If there is a gap between the ceiling and the panel even after the fixing bolts are tightened, adjust the installation level of the indoor unit again.



- It is possible to adjust the installation height of the indoor unit with the panel installed as long as there is no influence on the drain pipe inclination and/or the indoor unit levelness.

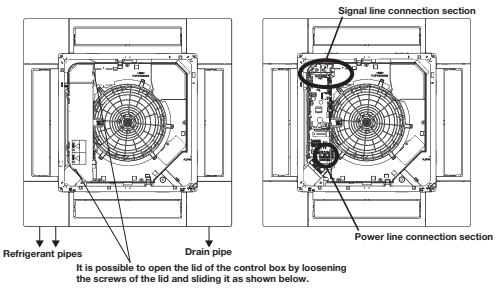


Caution

Do not give any stress on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the inlet grille, and the parts of the anti draft mechanism.

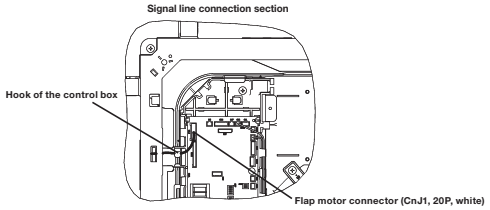
⑦ Electrical wiring

The wiring work varies depending on the panel type. Select the wiring work appropriate for the panel type.
The connection positions of the indoor unit are as shown below irrespective of the panel type.



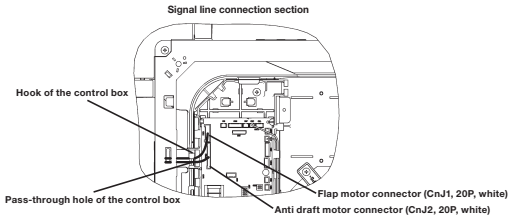
<For the Standard panel>
1. Loosen 2 screws on the control box lid of the indoor unit, and remove the lid by sliding it.
2. Pass the flap motor wiring (20-wire) through the hook of the control box, and connect to CnJ1 (20P, white).
3. Fix the control box lid of the indoor unit, and tighten 2 screws.

For the Standard panel



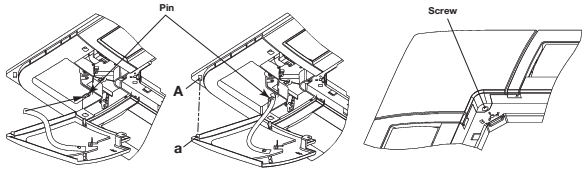
<For the Anti draft panel>
1. Loosen 2 screws on the control box lid of the indoor unit, and remove the lid by sliding it.
2. Pass the flap motor cable (20-wire) through the hook of the control box, and connect to CnJ1 (20P, white).
3. Pass the anti draft motor cable (20-wire) through the hook of the control box, and connect to CnJ2 (20P, white).
4. Fix the control box lid of the indoor unit, and tighten the 2 screws.

For the Anti draft panel



⑧ Installing a corner lid

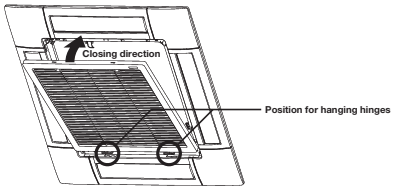
1. To avoid unexpected falling of the corner lid, put the strap onto the corner lid's pin with turning the strap up.
2. Then hang the strap of a corner lid onto the panel's pin.
3. First insert the part "a" of a corner lid into the part "A" of the panel, and then engage 2 hooks.
4. Fix with screw.



⑨ Installing the inlet grille

To attach the inlet grille, follow the procedure described in ⑤ Removing the inlet grille in the reverse order.
1. Hang the hooks of the inlet grille in the hole of the panel. (The hooks of the grille can be hanged in 4 side of the panel as following.)
2. After the grille is hanged, close the grille while the stoppers(2 places) on the grille are kept pressed to "OPEN" direction. When the grille comes to the original position, release the stoppers to hold the grille. Make sure to hear the sound of "CLICK" in both stoppers.

<Installation>



Caution

- Installing the inlet grille from the hinge side.
- Be careful in the inlet grille Installing, unstable installing may cause grille falling.
- Repair or replace the distorted, broken stopper at once, or the grille falling may occur.

⑩ Panel setting

<Flap swing range setting (Individual flap cotrol setting)>

It is possible to change the swing range of the flap by the wired remote control. Once the upper and lower limit positions are set, the flap will swing within the set range.It is also possible to set the different range to each flap.

<Anti draft setting>

The anti draft function will not be operated if the anti draft panel is installed and its wirings are only connected. To operate the anti draft function, enable the anti draft setting by using the wired or wireless remote control.

Note: It is not possible to set by the following remote control models or older.
Wired:RC-EX1A, RC-E5, RCH-E3
Wireless: RCN-E1R

Once you have enabled the settings in this mode, the anti draft function is operated when the air-conditioner is started, and the parts of the anti draft mechanism are always open when the air-conditioner is operating. When the air-conditioner is stopped, they are closed. It is possible to enabled or disabled the anti draft function for each air outlet.

For the setting details, refer to the user's manual supplied with the remote control.

9.2 Electric wiring work installation

PSC012D117

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site.

Security instructions

- **Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.**
- **The precautionary items mentioned below are distinguished into two levels, ⚠WARNING and ⚠CAUTION .**
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : Wrong installation might cause serious consequences depending on circumstances.
  Both mentions the important items to protect your health and safety so strictly follow them by any means.
- **The meanings of "Marks" used here are as shown on the right:**
  ⃠ Never do it under any circumstances. ❗ Always do it according to the instruction.
- **Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short-circuit.**

⚠WARNING

- **Be sure to have the electric wiring work done by qualified electrical installer, and use exclusive circuit.**
  Power source with insufficient capacity and improper work can cause electric shock and fire.
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.**
  Loose connections or hold could result in abnormal heat generation or fire.
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property.**
  Improper fitting may cause abnormal heat and fire.
- **Use the genuine option parts. And installation should be performed by a specialist.**
  If you install the unit by yourself, it could cause water leakage, electric shock and fire.
- **Do not repair by yourself. And consult with the dealer about repair.**
  Improper repair may cause water leakage, electric shock or fire.
- **Consult the dealer or a specialist about removal of the air-conditioner.**
  Improper installation may cause water leakage, electric shock or fire.
- **Turn off the power source during servicing or inspection work.**
  If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.
- **Shut off the power before electrical wiring work.**
  It could cause electric shock, unit failure and improper running.

⚠CAUTION

- **Perform earth wiring surely.**
  Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short-circuit.
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause electric shocks.
- **Make sure to install earth leakage breaker on power source line. (countermeasure thing to high harmonics.)**
  Absence of breaker could cause electric shock.
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.**
  Using the incorrect one could cause the system failure and fire.
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.**
  Connecting the circuit by wire or copper wire could cause unit failure and fire.
- **Use power source line of correct capacity.**
  Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.
- **Do not mingle solid cord and stranded cord on power source and signal side terminal block.**
  In addition, do not mingle difference capacity solid or stranded cord.
  Inappropriate cord setting could cause loosing screw on terminal block, bad electrical contact, smoke and fire.
- **Do not turn off the power source immediately after stopping the operation.**
  Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown.
- **Do not control the operation with the circuit breaker.**
  It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

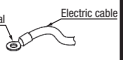
Control mode switching

- The control content of indoor units can be switched in following way. (▭ is the default setting)

Switch No.	Control Content	
SW2	Indoor unit address (0-Fh)	
SW5-1	Master/Slave Switching (plural /Slave unit Setting)	
SW5-2		
SW6-1～4	Model capacity setting	
SW7－1	ON	Operation check, Drain motor test run
	OFF	Normal operation

①Electrical wiring connection

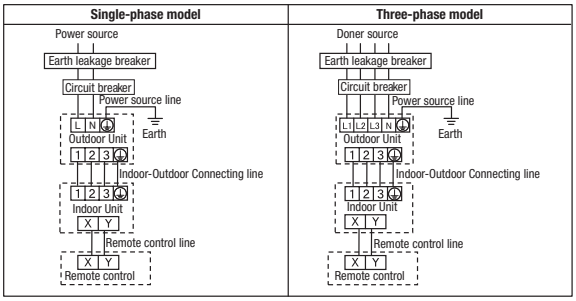
- Electrical wiring work must be performed by an electlician an qualified by a local power provider. These wiring specifications are determined on the assumption that the following instructions are observed:
  ① Do not use cords other than copper ones.
  Do not use any source line lighter than one specified in parentheses for each type below.
  –braided cord (code designation 60245 IEC 51), if allowed in the relevant part 2;
  –ordinary tough rubber sheathed cord (code designation 60245 IEC 53);
  –flat twin tinsel cord (code designation 60227 IEC 41);
  –ordinary polyvinyl chloride sheathed cord (code designation 60227 IEC 53);
  ② Connect the power source to the outdoor unit.
  ③ Pay extra attention so as not to confuse signal line and power source line connection, because an error in their connection can be burn all the boards at once.
- Connect ground wires before connecting wires between the indoor and outdoor units and between indoor units. The ground wires need to be longer than the wires between the indoor and outdoor units, and protected from undue stress.
- Do not turn on the power source before completing the work.
- The ground wires must be connected by the Class D grounding connection.
- Use the round crimp terminals for connections to the terminal block.



- Use dedicated branch circuits, avoiding combination with other devices. Otherwise, it could trip the power source breaker, resulting in secondary accidents.
- Install the overcurrent and earth leakage breakers (sensitivity current: 30 mA) specified to respective models.
- Do not connect indoor and outdoor signal cables to extension cables on the way. If the joint is wetted with intruding water, it could cause a ground insulation failure or poor connection, resulting in communication errors. (If it is inevitable to connect cables on the way, make sure to prevent the water intrusion completely.)
- When running wires (wires for power source, remote controller, connecting between indoor and outdoor units, or other) behind the ceiling, protect them using copper or other pipes against assault by rat, or other.
- It is up to 3.5 mm^2 the size of power supply cables connected to indoor units. When using cables of 5.5 mm^2 or larger, provide a dedicated pull box for branching connection to indoor units.
- If signal and power source cables are connected mistakenly, it could burn down all PCBs.
  ① Even if the power source of 220/240/380/415 V is connected mistakenly to A-B signal cable, it is protected at initial occasion only.
  ② If the remote control fails to detect the unit No. (address) at 15 minutes after turning the power on, check and repair all signal cables for misconnection.
  ③ Cut the jumper wire J10SL1 of burnt PCB, and reconnect connectors CnK (yellow) and CnK1 (white) to CnK2 (black).
  ④ If any anomaly is found on wires between the A-B terminal block and the PCB, replace them.
- At the outside of indoor and outdoor units, take care to avoid direct contacts between remote control and power source cables.
- In no event connect the power source of 220/240/380/415 V to the remote control terminal block. It could cause failures.
- Connections of wiring between units, ground wire and remote control cable
  ① When connecting wires between units, ground wire or remote control wire, connect them according to the number of terminals on the power source terminal block or signal terminal block in the control box. Connect the ground wire to the ground terminal on the power source terminal block.
  ② Make sure to install an earth leakage breaker for the power source. Select a breaker for inverter circuit.
  ③ When the earth leakage breaker is exclusive for the earth leakage protection, it is necessary to connect also an isolating switch (Switch + Class B fuse) or wiring circuit breaker in series to the earth leakage breaker.
  ④ Install the isolating switch close to the unit.
- Connect wires securing by tightening screws firmly. Confirm also no connector or wire (from terminal) is disconnected in the control box.
- When installing an auxiliary electric heater, consult the electric heater manual or technical data.

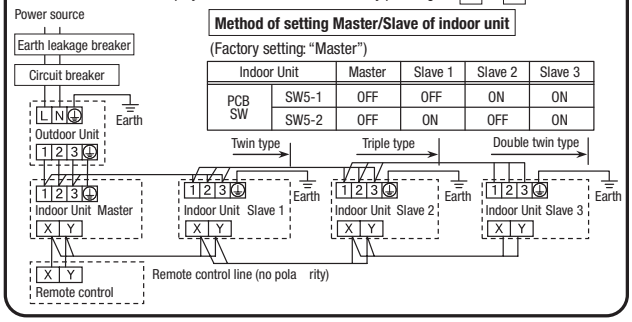
Cable connection for single unit installation

①As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power souce line to inside unit.
※As for exceptional connecting method of power source, discuss with the power provider of the country with referring to technical documents, and follow its instruction.
②For cable size and circuit breaker selection, refer to the outdoor unit installation manual.



Cable connection for a V multi configuration installation

①Connect the same pairs number of terminal block "①, ②, and ③"and " Ⓧ and Ⓨ" between master and slave indoor units.
②Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor unit's PCB (Printed circuit board).
③Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB.
④When the AIR CON NO. button on the remote control unit is pressed after turning on the power, an indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the ▲ or ▼ button.



Method of setting Master/Slave of indoor unit

(Factory setting: "Master")

Indoor Unit		Master	Slave 1	Slave 2	Slave 3
PCB SW	SW5-1	OFF	OFF	ON	ON
	SW5-2	OFF	ON	OFF	ON

② Remote control, wiring and functions

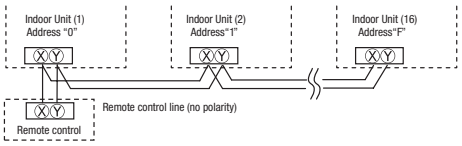
●Do not install it on the following places
①Places exposed to direct sunlight
②Places near heat devices
③High humidity places
④Hot surface or cold surface enough to generate condensation
⑤Places exposed to oil mist or steam directly.
⑥Uneven surface

Installation and wiring of remote control

①Install remote control referring to the attached installation manual.
②Wiring of remote control should use 0.3mm² ×2 core wires or cables.
The insulation thickness is 1mm or more. (on-site configuration)
③Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm² . Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
100 - 200m ..... 0.5mm² × 2 cores
Under 300m ..... 0.75mm² × 2 cores
Under 400m ..... 1.25mm² × 2 cores
Under 600m ..... 2.0mm² × 2 cores
④Avoid using multi-core cables to prevent malfunction.
⑤Keep remote control line away from earth (frame or any metal of building).
⑥Make sure to connect remote control line to the remote control and terminal block of indoor unit. (No polarity)

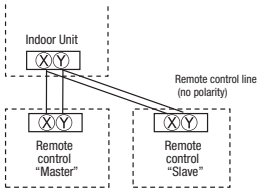
Control plural indoor units by a single remote control

①A remote control can control plural indoor units (Up to 16).
In above setting, all plural indoor units will operate under same mode and temperature setting.
②Connect all indoor units with 2 core remote control line.
③Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW2 on the indoor unit's PCB.



Master/ slave setting when more than one remote control unit are used

A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)
The air-conditioner operation follows the last operation of the remote control regardless of the master/slave setting of it.
Acceptable combination is "two (2) wired remote controls", "one (1) wired remote control and one (1) wireless kit" or "two (2) wireless kits".
Set one to "Master" and the other to "Slave".
Note:The setting "Remote control unit sensor enabled" is only selectable with the master remote control unit in the position where you want to check room temperature.

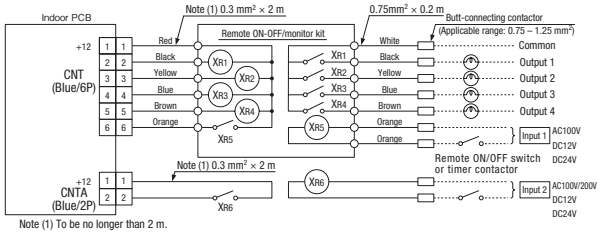


③ Operation and confirmation from remote control

No.	Item	Operation from the eco touch remote control (RC-EX series)	Operation from the standard remote control (RC-E series)
1	Check the number of units connected in the multi remote control system.	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [IU address]	① Press the AIR CON NO button to display the IU address. ② Press the ▲ or ▼ button and check addresses of connected indoor units one by one.
2	Check if each unit is connected properly in the remote control system.	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [IU address] ⇒ [Check run mode]	① Press the AIR CON NO button to display the IU address. ② Press the ▲ or ▼ button and select one of IU addresses. ③ Press the (MODE) button. The unit starts to blow air.
3	Setting main/sub remote controls	[Menu] ⇒ [Service setting] ⇒ [R/C function settings] ⇒ [Service password] ⇒ [Main/Sub of R/C]	Set SW1 to "Sub" for the sub remote control unit.
4	Checking operation data	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [Operation data]	Press the CHECK button. ⇒ "OPER DATA ▼" is displayed. ⇒ Press the (SET) button. ⇒ "DATA LOADING" is displayed. ⇒ Select one of addresses for connected indoor units by pressing the ▲ or ▼ button. ⇒ Press the (SET) button. ⇒ "DATA LOADING" is displayed. ⇒ Select data by pressing the ▲ or ▼ button.
5	Checking inspection display	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [Error display]	Press the CHECK button. ⇒ "OPER DATA ▼" is displayed. ⇒ Press the ▼ button. ⇒ "ERROR DATA ▲" is displayed. ⇒ Press the (SET) button. ⇒ "DATA LOADING" is displayed. ⇒ Data is displayed.
6	Cooling test run from remote control	[Menu] ⇒ [Service setting] ⇒ [Installation settings] ⇒ [Service password] ⇒ [Test run] ⇒ [Cooling test run] ⇒ [Start]	① Start the system by pressing the ON/OFF button. ② Select "❄ (Cool)" with the (MODE) button. ③ Press the TEST button for 3 seconds or longer. The screen display will switch to "TEST RUN ▼". ④ Pressing the (SET) button, while the "TEST RUN ▼" is displayed, starts the cooling test run. The screen display will switch to "TEST RUN".
7	Trial operation of drain pump from remote control	[Menu] ⇒ [Service setting] ⇒ [Installation settings] ⇒ [Service password] ⇒ [Test run] ⇒ [Drain pump test run] ⇒ [Run]	① Start the system by pressing the ON/OFF button. The display will change to "TEST RUN ▼". ② Press the ▼ button once to display "DRAIN PUMP ▲▼". ③ Pressing the (SET) button starts the drain pump operation. The display will show "TEST TO STOP".

The menu configuration may vary depending on models of the remote control. If the model of your remote control is different, refer to the installation manual attached to the remote control.

④ Function of CNT connector of indoor printed circuit board



Note (1) To be no longer than 2 m.

●XR1-4 are DC 12 V relays. (Equivalent to Omron's LY2F)
●XR5 is a DC 12 V, 24 V or 100 V, 200 V relay. (Equivalent to Omron's MY2F)
●Maker and model of CnT connector (Site side)
Connector : Molex 5264-06
Terminal : Molex 5263T
●CnTA connector is used on FDT, or other. <Check with the specifications.> (Site side) Maker and model
Connector : J.S.T. Mfg. XAP02V-1-E
Terminal : J.S.T. Mfg. SXA-01T-P0.6
●Output 1 – 4 and input1/2 can be selected/set as required from following items.
Factory default is set as shown below.

Output

①	RUN output	⑧	Fan ON output 3
②	Heating output	⑨	Defrost/oil return output
③	Compressor ON output	⑩	Ventilation output
④	Inspection (error) output	⑪	Heater output
⑤	Cooling output	⑫	Free cleaning output
⑥	Fan ON output 1	⑬	Indoor overload error output
⑦	Fan ON output 2		

Input

①	RUN/STOP	⑤	Setting temp. shift
②	RUN permit prohibition	⑥	Compulsory thermostat OFF
③	Emergency stop	⑦	Temporary stop
④	Cooling/Heating	⑧	Silent mode

Factory default setting

CnT-2	Output 1	RUN output	CnT-5	Output 4	Inspection (error) output
CnT-3	Output 2	Heating output	CnT-6	Input 1	RUN/STOP
CnT-4	Output 3	Compressor ON output	CnTA	Input 2	RUN/STOP

●For the setting method, refer to the technical data.

⑤ Operation and setting from remote control

A : Refer to the instruction manual for RC-EX series ○ : Nearly same function setting and operations are possible. *1: Remote controls before RC-EX1A don't have this function.
B : Refer to the installation manual for RC-EX series △ : Similar function setting and opperations are possible. *2: Remote controls before RC-EX3 don't have this function.
C : Loading a utility software vie Internet

Setting & display item			Description	RC-EX3A	RC-E5
1.Remote Control network					
1	Control plural indoor units by a single remote control		A remote control can control plural indoor units up to 16 (in one group of remote control network). An address is set to each indoor unit.		○
2	Main/sub setting of remote controls		A pair of remote controls (including option wireless remote control) can be connected within the remote control network. Set one to “Main” and the other to “Sub”.	B	○
2.TOP scrren, Switch manipulation					
1	Menu		"Control","State", or "Details" can be selected. (3-8)	A	
2	Operation mode		"Cooling","Heating","Fan","Dry" or "Auto" can be set.	A	○
3	Set temp.		"Set temperature" can be set by 0.5℃ interval.	A	○
4	Air flow direction		"Air flow direction" [Individual flap control] can be set. Select Enable or Disable for the “3D AUTO” (in case of FDK). *1	A	△
5	Fan speed		"Fan speed" can be set.	A	○
6	Timer setting		"Timer operation" can be set.	A	○
7	ON/OFF		"On/Off operation of the system" can be done.	A	○
8	F1 SW	*1	The system operates and is controlled according to the function specified to the F1 switch.	A	
9	F2 SW	*1	The system operates and is controlled according to the function specified to the F2 switch.	A	
10	Select the language	*2	Select the language to display on the remote control. ・ Select from English, German, French, Spanish, Italian, Dutch, Turkish, Portuguese, Russian,Polish, Japanese and Chinese.	A	
3.Useful functions					
1	Individual flap control		The moving range (the positions of upper limit and lower limit) of the flap for individual flap can be set. Set also the left and right limit positions for FDK. *1	A	△
2	Anti draft setting When the panel with the anti-draft function is assembled.	*1	・ Details .....You can set Enable or Disable for anti draft motion performed at each blow outlet in each operation mode. ・ ON/OFF setting .....You can set ON/OFF (operation/stop) of anti draft function for the enabled blow outlet set in Details. *2	A	
3	Timer settings	Set On timer by hour	The period of time to start operation after stopping can be set. ・ The period of set time can be set within range of 1hour-12houres (1hr interval). ・ The operation mode, set temp-and fan speed at starting operation can be set.	A	△
		Set Off timer by hour	The period of time to stop operation after starting can be set. ・ The period of set time can be set within range of 1hour-12houres (1hr interval).	A	△
		Set On timer by clock	The clock time to start operation can be set. ・ The set clock time can be set by 5-minutes intervals. ・ [Once (one time only)] or [Everyday] operation can be switched. ・ The operation mode, set temp. and fan speed at starting operation can be set.	A	△
		Set Off timer by clock	The clock time to stop operation can be set. ・ The set clock time can be set by 5-minute intervals. ・ [Once (one time only)] or [Everyday] operation can be switched.	A	△
		Confirmation of timer settings	Status of timer settings can be seen.	A	
4	Favorite setting [Administrator password]	*1	Set the operation mode, setting temperature, air flow capacity and air flow direction for the choice setting operations. Set them for the Favorite set 1 and the Favorite set 2 respectively.	A	
5	Weekly timer		On timer and Off timer on weekly basis can be set. ・ 8-operation patterns per day can be set at a maximum. ・ The setting clock time can be set by 5-minute intervals. ・ Holiday setting is available. ・ The operation mode, set temp. and fan speed at starting operation can be set.	A	△
6	Home leave mode [Administrator password]		When leaving home for a long period like a vaction leave, the unit can be operated to maintain the room temperature not to be hotter in summer or not to be colder in winter. ・ The judgment to switch the operation mode (Cooring ⇔ Heating) is done by the both factors of the set temp. and outdoor air temp. ・ The set temp. and fan speed can be set.	A	
7	External Ventilation When the ventilator is combined.		On/Off operation of the external ventilator can be done. It is necessary to set from [Menu] ⇒ [Service setting] ⇒ [R/C function settings] ⇒ [Ventilation setting]. ・ If the “Independent” is selected for the ventilation setting, the ventilator can be operated or stopped.	A	○
8	Select the language		Select the language to display on the remote control. ・ Select from English, German, French, Spanish, Italian, Dutch, Turkish, Portuguese, Russian,Polish, Japanese and Chinese. *1	A	
9	Silent mode control	*2	The period of time to operate the unit by prioritizing the quietness can be set. ・ Start and end can be set for the silent mode	A	
4.Energy-saving setting			Administrator password		
1	Sleep timer		To prevent the timer from keeping ON, set hours to stop operation automatically with this timer. ・ The selectable range of setting time is from 30 to 240 minutes. (10-minute intervals) ・ When setting is "Enable", this timer will activate whenever the ON timer is set.	A	△
2	Peak-cut timer		Power consumption can be reduced by restructing the maximum capacity. Set the [Start time], the [End time] and the capacity limit % (Peak-cut %). ・ 4-operation patterns per day can be set at maximum. ・ The setting time can be changed by 5-minute intervals. ・ The selectable range of capacity limit % (Peak-cut %) is from 0% to 40-80% (20% interval) ・ Holiday setting is available.	A	
3	Automatic temp set back		After the elapse of the set time period, the current set temp. will be set back to the [Set back time.] ・ The setting can be done in cooling and heating mode respectively. ・ Selectable range of the set time is from 20 min. to 120 min. (10 min. interval). ・ Set the [Set back temp.] by 1℃ interval.	A	△
4	Motion sensor control When the panel with the motion sensor is assembled.	*1	When the motion sensor is used, it is necessary to set Enable or Disable for the “Power control” and the “Auto-off”.	A	
5.Filter					
1	Filter sign reset	Filter sign reset	The filter sign can be reset.	A	
		Setting next cleaning date	The next cleaning date can be set.	A	
6.User setting					
1	Internal settings	Clock setting	The current date and time can be set or revised. ・ If a power failure continues no longer than 80 hours, the clock continues to tick by the built-in power source.	A	△
		Date and time display	[Display] or [Hide] the date and/or time can be set, and [12H] or [24H] display can be set.	A	
		Summer time	When select [Enable], the +1hour adjustment of current time can be set. When select [Disable], the [Summer time] adjustment can be reset.	A	
		Contrast	The contrast of LCD can be adjusted higher or lower.	A	
		Backlight	Switching on/off a light can be set and period of the lighting time can be set within the range of 5sec-90 sec (5sec interval).	A	
		Control sound	It can set with or without [Control sound (beep sound)] at touch panel.	A	
		Operation lamp luminance *1	This is used to adjust the luminance of operation lamp.	A	
2	Administrator settings [Administrator password]	Permission/Prohibition setting	・ Permission/Prohibition setting of operation can be set. [On/Off] [Change set temp] [Change operation mode] [Change flap direction] [Change fan speed] [High power operation] [Energy-saving operation] [Timer] Request for administrator can be set. [Individual flap control] [Weekly timer] [Select the language] [Anti draft setting] *1	A	△
		Outdoor unit silent mode timer	The period of time to operate the outdoor unit by prioritizing the quiteness can be set. ・ The [Start time] and the [End time] for operating outdoor unit in silent mode can be set. ・ The period of the operation time can be set once aday by 5-minute interals.	A	△
		Setting temp. range	The upper/lower limit of temp. setting range can be set. ・ The limitation of indoor temp. setting range can be set for each operation mode in cooling and heating.	A	△

⑤ Operation and setting from remote control (continued)

Setting & display item				Description	RC-EX3A	RC-E5
2	Administrator settings	Temp increment setting		The temp increment setting can be changed by 0.5˚C or 1.0˚C.	A	
		Set temp display		Ways of displaying setting temperatures can be selected.	A	
	[Administrator password]	R/C display setting		Register [Room name] [Name of I/U] Display [Indoor temp display] or not. Display [Error code display] or not. Display [Heating stand-by display] [Defrost operation display] [Auto cooling/heating display] [Display temp of R/C, Room, Outdoor] or not	A	△
		Change administrator password		The administrator password can be changed. (Default setting is "0000")	A	
				The administrator password can be reset.	B	
		F1/F2 function setting	*1	Functions can be set for F1 and F2. Selectable functions: [Anti draft ON/OFF] *2 [High power operation], [Energy-saving operation], [Silent mode cont.], [Home leave mode], [Favorite set 1], [Favorite set 2] and [Filter sign reset].	A	
7.Service setting						
1	Installer settings	Installation date		The [Installation date] can be registed. ・ When registering the [Instaration date], the [Next service date] is displayed automatically. (For changing the [Next service date], please refer the item of [Service & Maintenance])	B	
	[Service password]	Company information		The [Company information] can be registed and can be displayed on the R/C. ・ The [Company] can be registered within 26 characters. ・ The [Phone No.] can be registed within 13 digits.	B	
		Test run		On/Off operation of the test run can be done.	B	○
			Cooling test run	The [Cooling test run] can be done at 5˚C of set temp. for 30 minutes.		
			Drain pump test run	Only drain pump can be operated.		
		Staric pressure adjustment		In case of combination with only the ducted indoor unit which has a function of static pressure adjustment, the static pressure is adjustable. ・ It can be set for each indoor unit individually.	B	
		Change auto-address		The set address of each indoor unit decided by auto-address setting method can be changed to any other address. (For multiple KX units only)	B	△
		Address setting of main IU		Main indoor unit address can be set. ・ Only the Main indoor unit can change operation mode and the Sub indoor units dominated by the Main indoor shall follow. ・ The Main indoor unit can domain 10 indoor units at a maximum.	B	△
		IU back-up function		When a pair of indoor units (2 groups) is connected to one unit of remote control, it can be set Enable or Disable for the [IU rotation], [IU capacity back-up] and [IU fault back-up]	B	
		Motion sensor setting When the panel with the motion sensor is assembled.	*1	Set Enable or Disable for the infrared sensor detectors of indoor units connected to the remote control. If Disable is selected, it cannot be control the motion sensor control for the energy-saving setting.	B	
2	R/C function setting	Main/Sub R/C		The R/C setting of [Main/Sub] can be changed.	B	○
	[Service password]	Return air temp		When two or more indoor units are connected to one unit of remote control, suction sensors, which are used for the judgement by thermostat, can be selected. ・ It can be selected from [Individual], [Master IU] and [Average temp].	B	
		R/C sensor		It can be set the mode to switch to the remote control sensor. It can be selected from cooling and heating.	B	△
		R/C sensor adjustment		The offset value of [R/C sensor] sensing temp. can be set respectively in heating and cooling.	B	△
		Operation mode		Enable or Disable can be set for each operation mode.	B	△
		ºC / ºF		Set the unit for setting temperatures. ・ °C or °F can be selected.	B	
		Fan speed		Fan speeds can be selected.	B	○
		External input		When two or more indoor units are connected to one unit of remote control, the range to apply CNT inputs can be set.	B	○
		Upper/lower flap control		[Stop at fixed position] or [Stop at any position] can be selected for the upper and lower louvers.	B	○
		Left/right flap control	*1	[Fixed position stop] or [Stop at any position] can be selected for the right and left louvers.	B	
		Ventilation setting		Combination control for ventilator can be set.	B	○
		Auto-restart		The operation control method after recovery of power failure happened during operation can be set.	B	○
		Auto temp setting		[Enable] or [Disable] of [Auto temp setting] can be selected.	B	
		Auto fan speed		[Enable] or [Disable] of [Auto fan speed] can be selected.	B	
3	IU settings	Fan speed setting		The fan speed for indoor units can be set.	B	○
		Filter sign		The setting of filter sign display timer can be done from following patterns.	B	○
	[Service password]	External input 1		The connect of control by external input 1 can be changed.	B	○
		External input 1 signal		The type of external input 1 signal can be changed.	B	○
		External input 2		The connect of control by external input 2 can be changed.	B	
		External input 2 signal		The type of external input 2 signal can be changed.	B	
		Heating thermo-OFF temp adjustment		The judgement temp. of heating themo-off can be adjusted within the range from 0 to +3˚C (1˚C interval)	B	△
		Return temperature adjustment		The sensing temp. of return air temp. sensor built in the indoor unit can be adjusted within the range of ±2˚C.	B	△
		Fan control in cooling thermo-OFF		Fan control, when the cooling thermostat is turned OFF, can be changed.	B	○
		Fan control in heating thermo-OFF		Fan control, when the heating thermostat is turned OFF, can be changed.	B	○
		Anti-frost temp		Judgment temperature for the anti-frost control during cooling can be changed.	B	○
		Anti-frost control		When the anti-frost control of indoor unit in cooling is activated, the fan speed can be changed.	B	○
		Drain pump operation		In any operation mode in addition to cooling and dry mode, the setting of drain pump operation can be done.	B	○
		Keep fan operating after cooling is stopped		The time period residual fan operation after stopping or thermo-off in cooling mode can be set.	B	○
		Keep fan operating after heating is stopped		The time period residual fan operation after stopping or thermo-off in heating mode can be set.	B	○
		Intermittent fan operation in heating		The fan operation rule following the residual fan operation after stopping or themo-off in heating mode can be set.	B	○
		Fan circulator operation		In case that the fan is operated as the circulator, the fan control rule can be set.	B	
		Control pressure adjust		When only the OA processing units are operated, control pressure value can be changed.	B	
		Auto operation mode		The [Auto rule selection] for switching the operation mode automatically can be selected from 3 patterns.	B	
		Thermo. rule setting		When selecting [Outdoor air temp. control], the judgment temp can be offset by outdoor temp..	B	
		Auto fan speed control		Auto switching range for the auto fan speed control can be set.	B	
		IU overload alarm		If the difference between the setting temperature and the suction temperature becomes larger than the temperature difference set for the overload alarm, at 30 minutes after the start of operation, the overload alarm signal is transmitted from the external output (CNT-5).	B	
		External output setting	*1	Functions assigned to the external outputs 1 to 4 can be changed.	B	
4	Service & Maintenance	IU address		Max 16 indoor units can be connected to one remote control, and all address No. of the connected indoor units can be displayed. ・ The indoor unit conforming to the address No. can be identified by selecting the address No. and tapping [Check] to operate the indoor fan.	B	○
	[Service password]	Next service date		The [Next service date] can be registered. ・ The [Next service date] and [Company information] is displayed on the message screen.	A B	○
		Operation data		The [Operation data] for indoor unit and outdoor unit can be displayed.	B	○
		Error display			B	△
			Error history	The error history can be displayed.		
			Display anomaly data	The operation data just before the latest error stop can be displayed.		
			Erase anomaly data	Anomaly operation data can be erased.		
			Reset periodical check	The timer for the periodical check can be reset.		
		Saving IU settings		The I/U settings memorized in the indoor PCB connected to the remote control can be saved in the memory of the remote control.	B	
		Special settings		[Erase IU address] [CPU reset] [Restore of default setting] [Touch panel calibration]	B	△
		Indoor unit capacity display	*1	Address No. and capacities of indoor units connected to the remote control are displayed.	B	
8.Contact company				Shows registered [Contact company] and [Contact phone].		
9.Inspection						
	Confirmation of Inspection			This is displayed when any error occurs.	A	△
10.PC connection						
	USB connection			Weekly timer setting and etc., can be set from PC.	C	

◆ Listed items may not function depending on the specifications of indoor and outdoor units which are combined.

9.3 Installation of wired remote control (Option parts)

(1) Model RC-EX3A

1. Safety precautions

●Please read this manual carefully before starting installation work to install the unit properly.
Every one of the followings is important information to be observed strictly.

⚠WARNING	Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
⚠CAUTION	Failure to follow these instructions properly may cause injury or property damage.

It could have serious consequences depending on the circumstances.

●The following pictograms are used in the text.

⃠	Never do.	❗	Always follow the instructions given.

●Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

⚠WARNING

Consult your dealer or a professional contractor to install the unit.
Improper installation made on your own may cause electric shocks, fire or dropping of the unit.

Installation work should be performed properly according to this installation manual.
Improper installation work may result in electric shocks, fire or break-down.

Be sure to use accessories and specified parts for installation work.
Use of unspecified parts may result in drop, fire or electric shocks.

Install the unit properly to a place with sufficient strength to hold the weight.
If the place is not strong enough, the unit may drop and cause injury.

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.
Power source with insufficient and improper work can cause electric shock and fire.

Shut OFF the main power source before starting electrical work.
Otherwise, it could result in electric shocks, break-down or malfunction.

Do not modify the unit.
It could cause electric shocks, fire, or break-down.

Be sure to turn OFF the power circuit breaker before repairing/ inspecting the unit.
Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.

⚠WARNING

Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.

If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.

Do not install the unit where water vapor is generated excessively or condensation occurs.

It could cause electric shocks, fire, or break-down.

Do not use the unit in a place where it gets wet, such as laundry room.

It could cause electric shocks, fire, or break-down.

Do not operate the unit with wet hands.

It could cause electric shocks.

Do not wash the unit with water.

It could cause electric shocks, fire, or break-down.

Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.

Improper connections or fixing could cause heat generation, fire, etc.

Seal the inlet hole for remote control cable with putty.

If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

If dew or water enters the unit, it may cause screen display anomalies.

When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.

The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

Do not leave the remote control with its upper case removed.

If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

⚠CAUTION

Do not install the remote control at following places.

(1) It could cause break-down or deformation of remote control.
- Where it is exposed to direct sunlight
- Where the ambient temperature becomes 0 ˚C or below, or 40 ˚C or above
- Where the surface is not flat
- Where the strength of installation area is insufficient

(2) Moisture may be attached to internal parts of the remote control, resulting in a display failure.
- Place with high humidity where condensation occurs on the remote control
- Where the remote control gets wet

(3) Accurate room temperature may not be detected using the temperature sensor of the remote control.
- Where the average room temperature cannot be detected
- Place near the equipment to generate heat
- Place affected by outside air in opening/closing the door
- Place exposed to direct sunlight or wind from air-conditioner
- Where the difference between wall and room temperature is large

To connect to a personal computer via USB, use the dedicated software.
Do not connect other USB devices and the remote control at the same time.

It could cause malfunction or break-down of the remote control/personal computer.

2 . Accessories & Prepare on site

Following parts are provided.

Accessories	R/C main unit, wood screw (ø3.5 x 16) 2 pcs, Quick reference

Following parts are arranged at site. Prepare them according to the respective installation procedures.

Item name	Q'ty	Remark
Switch box For 1 piece or 2 pieces (JIS C 8340 or equivalent)	1	These are not required when installing directly on a wall.
Thin wall steel pipe for electric appliance directly on a wall. (JIS C 8305 or equivalent)	As required	
Lock nut, bushing (JIS C 8330 or equivalent)	As required	
Lacing (JIS C 8425 or equivalent)	As required	Necessary to run R/C cable on the wall.
Putty	Suitably	For sealing gaps
Molly anchor	As required	
R/C cable (0.3 mm^2 x 2 pcs)	As required	See right table when longer than 100 m

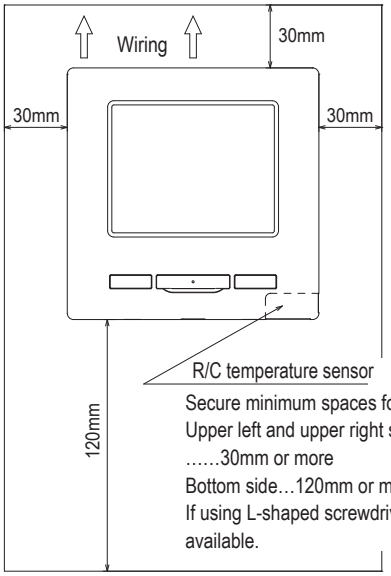
When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm^2 . Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≦ 200 m	0.5 mm^2 x 2 cores
≦ 300m	0.75 mm^2 x 2 cores
≦ 400m	1.25 mm^2 x 2 cores
≦ 600m	2.0 mm^2 x 2 cores

3 . Installation place

Secure the installation space shown in the figure.
For the installation method, “embedding wiring” or “exposing wiring” can be selected.
For the wiring direction, “Backward”, “Upper center” or “Upper left” can be selected.
Determine the installation place in consideration of the installation method and wiring direction.

Installation space

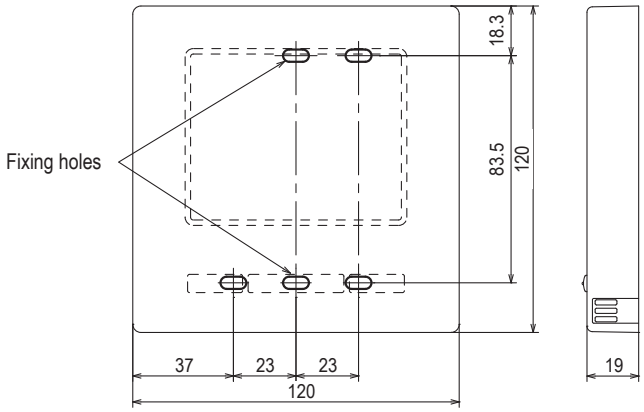


Secure minimum spaces for disassembling the case.
Upper left and upper right sides
……30mm or more
Bottom side…120mm or more
If using L-shaped screwdriver, 50mm or more is available.

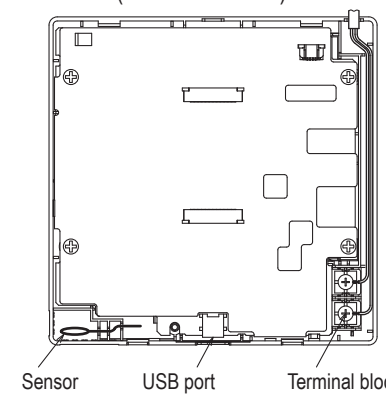
4 . Installation procedure

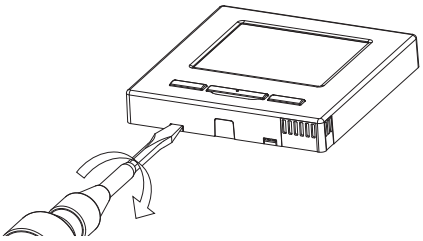
Perform installation and wiring work for the remote control according to the following procedure.

Dimensions (Viewed from front)



PCB side (Viewed from rear)





To disassemble the R/C case into the upper and lower pieces after assembling them once

· Insert the tip of flat head screwdriver or the like in the recess at the lower part of R/C and twist it lightly to remove. It is recommended that the tip of the screwdriver be wrapped with tape to avoid damaging the case.

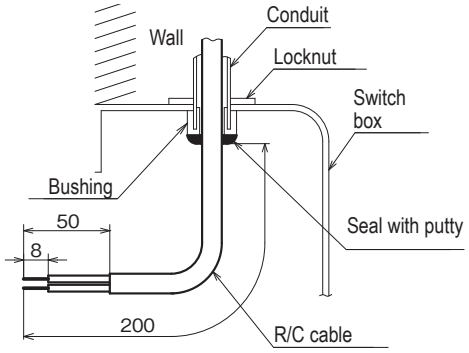
Take care to protect the removed upper case from moisture or dust.

In case of embedding wiring

(When the wiring is retrieved “Backward”)

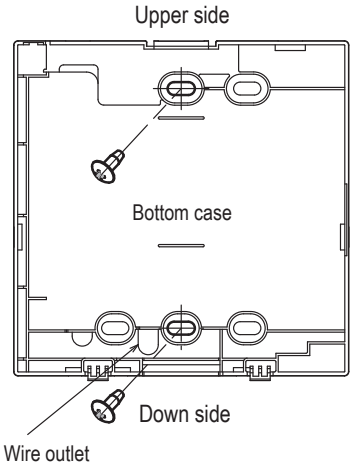
① Embed the switch box and the R/C wires beforehand.

Seal the inlet hole for the R/C wiring with putty.

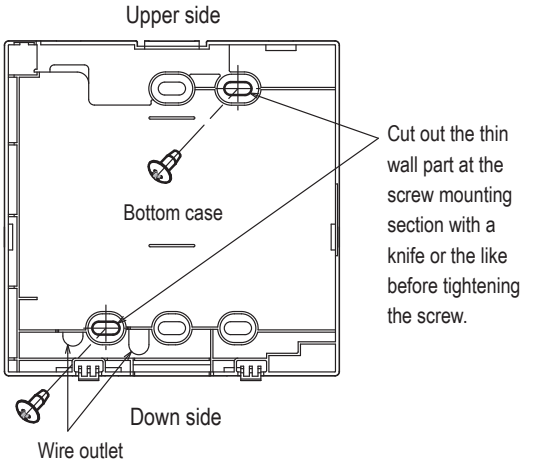


② When wires are passed through the bottom case, fix the bottom case at 2 places on the switch box.

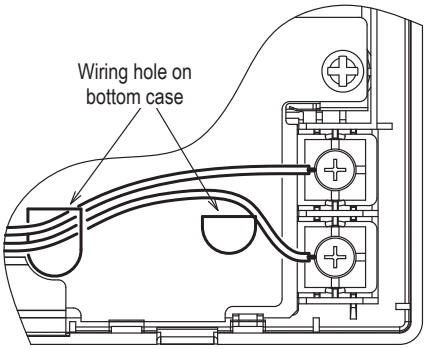
Switch box for 1 pcs



Switch box for 2 pcs

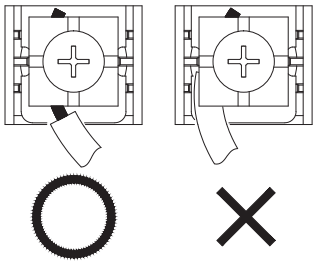


③ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
④ Install the upper case with care not to pinch wires of R/C.



Cautions for wire connection

Use wires of no larger than 0.5 mm^2 for wiring running through the remote control case. Take care not to pinch the sheath.
Tighten by hand (0.7 N·m or less) the wire connection. If the wire is connected using an electric driver, it may cause failure or deformation.

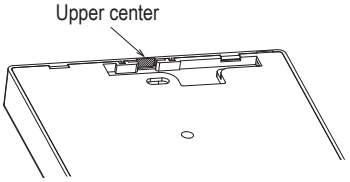


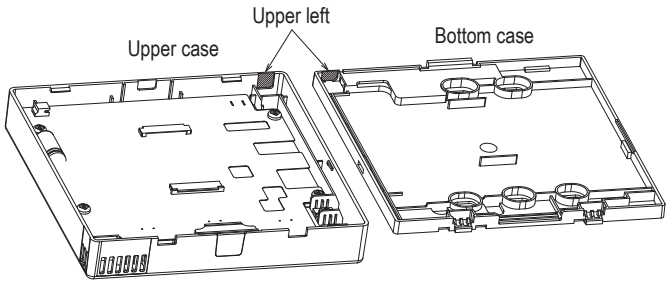
In case of exposing wiring

(When the wiring is taken out from the "upper center" or "upper left" of R/C)

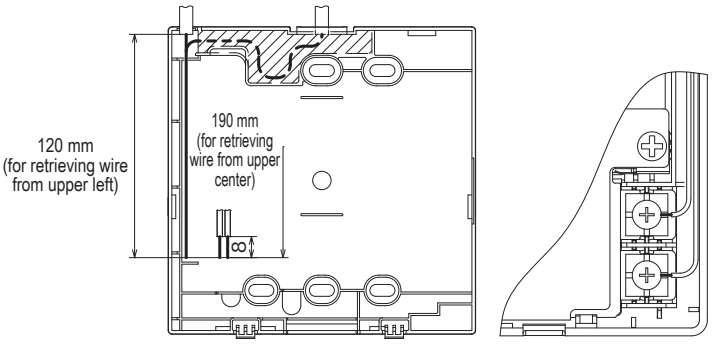
① Cut out the thin wall sections on the cases for the size of wire.

When taking the wiring out from the upper center, open a hole before separating the upper and bottom cases. This will reduce risk of damaging the PCB and facilitate subsequent work.
When taking the wiring out from the upper left, take care not to damage the PCB and not to leave any chips of cut thin wall inside.



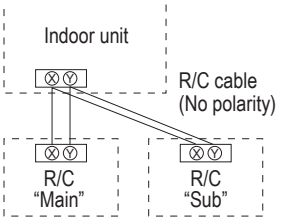


② Fix the bottom R/C case on a flat surface with two wood screws.
③ In case of the upper center, pass the wiring behind the bottom case. (Hatched section)
④ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
⑤ Install the top case with care not to pinch wires of R/C.
⑥ Seal the area cut in ① with putty.



5 . Main/Sub setting when more than one remote control are used

Up to two units of R/C can be used at the maximum for 1 indoor unit or 1 group.
One is main R/C and the other is sub R/C.
Operating range is different depending on the main or sub R/C.



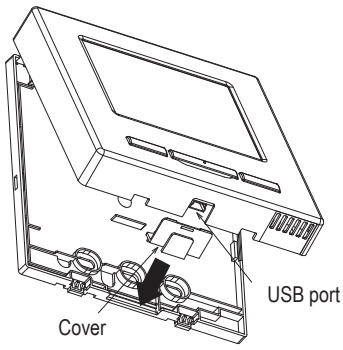
○: operable ×: not operable

R/C operations			Main	Sub
Run/Stop, Change set temp., Change flap direction, Auto swing, Change fan speed operations			○	○
High power operation, Energy-saving operation			○	○
Silent mode control			○	×
Useful functions	Individual flap control		○	×
	Anti draft setting		○	×
	Timer		○	○
	Favorite setting		○	○
	Weekly timer		○	×
	Home leave mode		○	×
	External ventilation		○	○
	Select the language		○	○
	Silent mode control		○	×
Energy-saving setting			○	×
Filter	Filter sign reset		○	○
User setting	Initial settings		○	○
	Administrator settings	Permission/ Prohibition setting	○	×
		Outdoor unit silent mode timer	○	×
		Setting temp. range	○	×
		Temp increment setting	○	×
		Set temp. display	○	○
		R/C display setting	○	○
		Change administrator password	○	○
		F1/F2 function setting	○	○

R/C operations				Main	Sub
Service setting	Installation settings	Installation date		○	×
		Company information		○	○
		Test run		○	×
		Static pressure adjustment		○	×
		Change auto-address		○	×
		Address setting of main IU		○	×
		IU back-up function		○	×
		Motion sensor setting		○	×
	R/C function settings	Main/Sub of R/C		○	○
		Return air temp.		○	×
		R/C sensor		○	×
		R/C sensor adjustment		○	×
		Operation mode		○	×
		ºC / ºF		○	×
		Fan speed		○	×
		External input		○	×
		Upper/lower flap control		○	×
		Left/right flap control		○	×
		Ventilation setting		○	×
		Auto-restart		○	×
		Auto temp. setting		○	×
		Auto fan speed		○	×
	IU settings			○	×
	Service & Maintenance	IU address		○	○
		Next service date		○	×
		Operation data		○	×
		Error display	Error history	○	○
			Display/erase anomaly data	○	×
			Reset periodical check	○	○
		Saving IU settings		○	×
		Special settings	Erase IU address	○	×
			CPU reset	○	○
			Restore of default setting	○	×
			Touch panel calibration	○	○
		Indoor unit capacity display		○	×

Advice: Connection to personal computer

It can be set from a personal computer via the USB port (mini-B).
Connect after removing the cover for USB port of upper case.
Replace the cover after use.
Special software is necessary for the connection.
For details, view the web site.

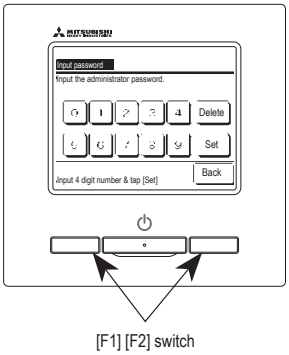


Advice: Initializing of password

Administrator password (for daily setting items) and
service password (for installation, test run and maintenance) are used.

○ The administrator password at factory default is "0000". This setting can be changed (Refer to User's Manual).
If the administrator password is forgotten, it can be initialized by holding down the [F1] and [F2] switches together for five seconds on the administrator password input screen.

○ Service password is "9999", which cannot be changed.
When the administrator password is input, the service password is also accepted.



Advice

When connecting two or more FDT/FDTC to one R/C, unify the panel type either to a panel with anti draft function or a standard panel.

PJA012D730B

(2) Model RC-E5

Read together with indoor unit's installation manual.

⚠WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.
  Loose connection or hold will cause abnormal heat generation or fire.
- Make sure the power source is turned off when electric wiring work.
  Otherwise, electric shock, malfunction and improper running may occur.

⚠CAUTION

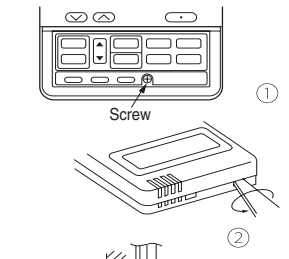
- Do not install the remote control at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- Do not leave the remote control without the upper case.
  In case the upper cace needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust.

Accessories	Remote control, wood screw (ø3.5×16) 2 pieces
Prepare on site	Remote control cord (2 cores) the insulated thickness in 1mm or more. [In case of embedding cord] Erectrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

Installation procedure

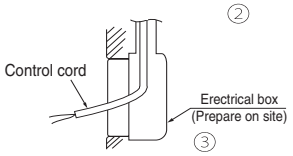
① Open the cover of remote control, and remove the screw under the buttons without fail.

② Remove the upper case of remote control.
Insert a flat-blade screwdriver into the dented part of the upper part of the remote control, and wrench slightly.

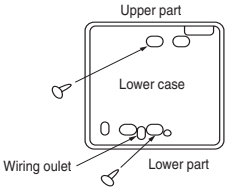


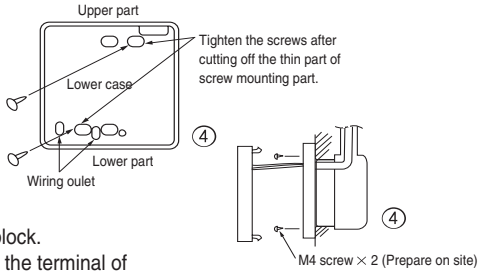
[In case of embedding cord]

③ Embed the erectrical box and remote control cord beforehand.



④ Prepare two M4 screws (recommended length is 12-16mm) on site, and install the lower case to erectrical box.
Choose either of the following two positions in fixing it with screws.





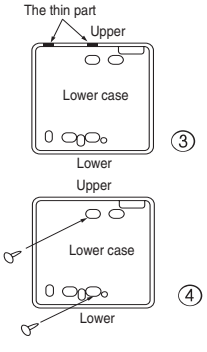
⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)

⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.

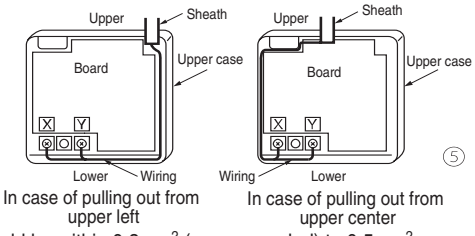
[In case of exposing cord]

③ You can pull out the remote control cord from left upper part or center upper part.
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.

④ Install the lower case to the flat wall with attached two wooden screws.

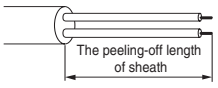


⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y).
(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.



The wiring inside the remote control case should be within 0.3mm^2 (recommended) to 0.5mm^2.
The sheath should be peeled off inside the remote control case.
The peeling-off length of each wire is as below.

Pulling out from upper left	Pulling out from upper center
X wiring : 215mm Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



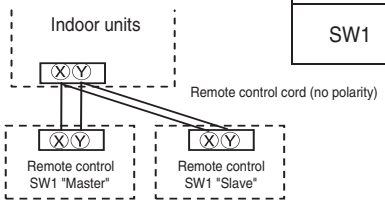
⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.
⑦ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote control

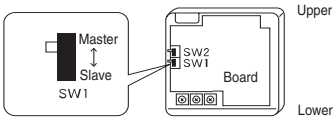
① Wiring of remote control should use 0.3mm^2 × 2 cores wires or cables. (on-site configuration)
② Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm^2 . Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
100 - 200m·····0.5mm^2 × 2 cores
Under 300m·····0.75mm^2 × 2 cores
Under 400m·····1.25mm^2 × 2 cores
Under 600m·····2.0mm^2 × 2 cores

Master/ slave setting when more than one remote controls are used

A maximum of two remote controls can be connected to one indoor unit (or one group of indoor units.)



Switch	Setting	Contents
SW1	M	Master remote control
	S	Slave remote control

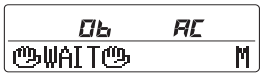


Set SW1 to "Slave" for the slave remote control. It was factory set to "Master" for shipment.
Note: The setting "Remote control sensor enabled" is only selectable with the master remote control in the position where you want to check room temperature.
The air-conditioner operation follows the last operation of the remote control regardless of the master/ slave setting of it.

The indication when power source is supplied

When power source is turned on, the following is displayed on the remote control until the communication between the remote control and indoor unit settled.
Master remote control : " WAIT M"
Slave remote control : " WAIT S"

At the same time, a mark or a number will be displayed for two seconds first.
This is the software's administration number of the remote control, not an error cord.



※ The left mark is only an example. Other marks may appear.

When remote control cannot communicate with the indoor unit for half an hour, the below indication will appear.
Check wiring of the indoor unit and the outdoor unit etc.

The range of temperature setting

When shipped, the range of set temperature differs depending on the operation mode as below.

Heating : 16-30˚C (55-86˚F)

Except heating (cooling, fan, dry, automatic) : 18-30˚C (62-86˚F)

●Upper limit and lower limit of set temperature can be changed with remote control.

Upper limit setting: valid during heating operation. Possible to set in the range of 20 to 30˚C (68 to 86˚F).

Lower limit setting: valid except heating (automatic, cooling, fan, dry) Possible to set in the range of 18 to 26˚C (62 to 79˚F).

When you set upper and lower limit by this function, control as below.

1. When ⑫TEMP RANGE SET, remote control function of function setting mode is "INDN CHANGE" (factory setting),
   【If upper limit value is set】
   During heating, you cannot set the value exceeding the upper limit.

   【If lower limit value is set 】
   During operation mode except heating, you cannot set the value below the lower limit.

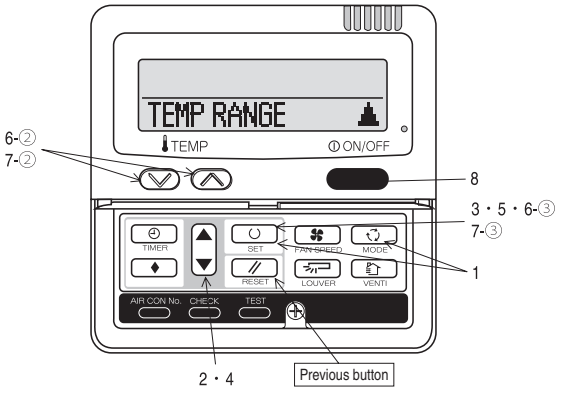
2. When ⑫TEMP RANGE SET, remote control function of function setting mode is "NO INDN CHANGE"
   【If upper limit value is set】
   During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

   【If lower limit value is set 】
   During except heating, even if the value lower than the lower limit is set, lower limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

●How to set upper and lower limit value

1. Stop the air-conditioner, and press (SET) and (MODE) button at the same time for over three seconds .
   The indication changes to "FUNCTION SET ▼".
2. Press ▼ button once, and change to the "TEMP RANGE ▲ " indication.
3. Press (SET) button, and enter the temperature range setting mode.
4. Select "UPPER LIMIT ▼" or "LOWER LIMIT ▲" by using ▲ ▼ button.
5. Press (SET) button to fix.
6. When "UPPER LIMIT ▼" is selected (valid during heating)
   ① Indication: "☝ ∨ ∧ SET UP" → "UPPER 30˚C ∨"
   ② Select the upper limit value with temperature setting button ▽ △. Indication example: "UPPER 26˚C ∨ ∧" (blinking)
   ③ Press (SET) button to fix. Indication example: "UPPER 26˚C" (Displayed for two seconds)
   After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼".
7. When "LOWER LIMIT ▲" is selected (valid during cooling, dry, fan, automatic)
   ① Indication: "☝ ∨ ∧ SET UP" → "LOWER 18˚C ∧"
   ② Select the lower limit value with temperature setting button ▽ △. Indication example: "LOWER 24˚C ∨ ∧" (blinking)
   ③ Press (SET) button to fix. Indication for example: "LOWER 24˚C" (Displayed for two seconds)
   After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼".
8. Press ON/OFF button to finish.

- It is possible to finish by pressing ON/OFF button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.



The functional setting

●The initial function setting for typical using is performed automatically by the indoor unit connected, when remote control and indoor unit are connected.
As long as they are used in a typical manner, there will be no need to change the initial settings.
If you would like to change the initial setting marked "○", set your desired setting as for the selected item.
The procedure of functional setting is shown as the following diagram.

[Flow of function setting]

Start : Stop air-conditioner and press "○" (SET) and "☜" (MODE) buttons at the same time for over three seconds.
Finalize : Press "○" (SET) button.
Reset : Press "✎" (RESET) button.
Select : Press ▲ ▼ button.
End : Press ON/OFF button.
It is possible to finish above setting on the way, and unfinished change of setting is unavailable.
"○" : Initial settings
"※" : Automatic criterion

Record and keep the setting

Consult the technical data etc. for each control details

Stop air-conditioner and press ○ (SET) + ☜ (MODE) buttons at the same time for over three seconds.

FUNCTION SET ▼

FUNCTION ▼ (Remote control function)

Function / **setting**

01 ESP SET
- ESP VALID ○ — Validate setting of ESP:External Static Pressure
- ESP INVALID — Invalidate setting of ESP

02 AUTO RUN SET
- AUTO RUN ON ※
- AUTO RUN OFF ※ — Automatical operation is impossible

03 TEMP SW
- VALID ○
- INVALID — Temperature setting button is not working

04 MODE SW
- VALID ○
- INVALID — Mode button is not working

05 ON/OFF SW
- VALID ○
- INVALID — On/Off button is not working

06 FAN SPEED SW
- VALID ※
- INVALID ※ — Fan speed button is not working

07 LOUVER SW
- VALID ※
- INVALID ※ — Louver button is not working

08 TIMER SW
- VALID ○
- INVALID — Timer button is not working

09 SENSOR SET
- SENSOR OFF ○ — Remote thermistor is not working.
- SENSOR ON — Remote thermistor is working.
- SENSOR +3.0℃ — Remote thermistor is working, and to be set for producing +3.0˚C increase in temperature.
- SENSOR +2.0℃ — Remote thermistor is working, and to be set for producing +2.0˚C increase in temperature.
- SENSOR +1.0℃ — Remote thermistor is working, and to be set for producing +1.0˚C increase in temperature.
- SENSOR -1.0℃ — Remote thermistor is working, and to be set for producing -1.0˚C increase in temperature.
- SENSOR -2.0℃ — Remote thermistor is working, and to be set for producing -2.0˚C increase in temperature.
- SENSOR -3.0℃ — Remote thermistor is working, and to be set for producing -3.0˚C increase in temperature.

10 AUTO RESTART
- INVALID ○
- VALID

11 VENT LINK SET
- NO VENT ○
- VENT LINK — In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit.
- NO VENT LINK — In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), you can operate /stop the ventilation device independently by ☜ (VENT) button.

12 TEMP RANGE SET
- INDIN CHANGE ○ — If you change the range of set temperature, the indication of set temperature will vary following the control.
- NO INDIN CHANGE — If you change the range of set temperature, the indication of set temperature will not vary following the control, and keep the set temperature.

13 I/U FAN
- HI-MID-LO ※ — Air flow of fan becomes the three speed of ※ -※ -※ or ※ -※ -※ -※ .
- HI-LO ※ — Air flow of fan becomes the two speed of ※ -※ .
- HI-MID — Air flow of fan becomes the two speed of ※ -※ .
- 1 FAN SPEED ※ — Air flow of fan is fixed at one speed.

14 POSITION — If you change the remote control function "14 POSITION", you must change the indoor function "04 POSITION" accordingly.
- 4POSITION STOP ○ — You can select the louver stop position in the four.
- FREE STOP — The louver can stop at any position.

15 MODEL TYPE
- HEAT PUMP ※
- COOLING ONLY ※

16 EXTERNAL CONTROL SET
- INDIVIDUAL ○ — If you input signal into CnT of the indoor printed circuit board from external, the indoor unit will be operated independently according to the input from external. If you input into CNT of the indoor printed circuit board from external, all units which connect to the same remote control are operated according to the input from external.
- FOR ALL UNITS

17 ROOM TEMP INDICATION SET
- INDICATION OFF ○
- INDICATION ON — In normal working indication, indoor unit temperature is indicated instead of air flow. (Only the master remote control can be indicated.)

18 ※ INDICATION
- INDICATION ON ○
- INDICATION OFF — Heating preparation indication should not be indicated.

19 ℃/℉ SET
- ℃ ○ — Temperature indication is by degree C.
- ℉ — Temperature indication is by degree F.

I/U FUNCTION ▲ (Indoor unit function)

Indoor unit No. are indicated only when plural indoor units are connected.

I/U000 ▲
I/U001 ≑
I/U002 ≑
I/U003 ≑
I/U004 ≑

To set other indoor unit, press AIR CON No. button, which allows you to go back to the indoor unit selection screen (for example: I/U 000 ▲).

Function / **setting**

02 FAN SPEED SET
- STANDARD ※
- HIGH SPEED 1 ※
- HIGH SPEED 2

03 FILTER SIGN SET
- INDICATION OFF
- TYPE 1 ○ — The filter sign is indicated after running for 180 hours.
- TYPE 2 — The filter sign is indicated after running for 600 hours.
- TYPE 3 — The filter sign is indicated after running for 1000 hours.
- TYPE 4 — The filter sign is indicated after running for 1000 hours, then the indoor unit will be stopped by compulsion after 24 hours.

04 POSITION — If you change the indoor function "04 POSITION", you must change the remote control function "14 POSITION" accordingly.
- 4POSITION STOP ○ — You can select the louver stop position in the four.
- FREE STOP — The louver can stop at any position.

05 EXTERNAL INPUT
- LEVEL INPUT ○
- PULSE INPUT

06 OPERATION PERMISSION/PROHIBITION
- INVALID ○
- VALID — Permission/prohibition control of operation will be valid.

07 EMERGENCY STOP
- INVALID ○
- VALID — With the VRF series, it is used to stop all indoor units connected with the same outdoor unit immediately. When stop signal is inputed from remote on-off terminal "CNT-6", all indoor units are stopped immediately.

08 ※ SP OFFSET
- OFFSET +3.0℃ — To be reset for producing +3.0˚C increase in temperature during heating.
- OFFSET +2.0℃ — To be reset for producing +2.0˚C increase in temperature during heating.
- OFFSET +1.0℃ — To be reset for producing +1.0˚C increase in temperature during heating.
- NO OFFSET ○

09 RETURN AIR TEMP
- OFFSET +2.0℃ — To be reset producing +2.0˚C increase in return air temperature of indoor unit.
- OFFSET +1.5℃ — To be reset producing +1.5˚C increase in return air temperature of indoor unit.
- OFFSET +1.0℃ — To be reset producing +1.0˚C increase in return air temperature of indoor unit.
- NO OFFSET ○
- OFFSET -1.0℃ — To be reset producing -1.0˚C increase in return air temperature of indoor unit.
- OFFSET -1.5℃ — To be reset producing -1.5˚C increase in return air temperature of indoor unit.
- OFFSET -2.0℃ — To be reset producing -2.0˚C increase in return air temperature of indoor unit.

10 ※ FAN CONTROL
- LOW FAN SPEED ○ — When heating thermostat is OFF, fan speed is low speed.
- SET FAN SPEED — When heating thermostat is OFF, fan speed is set speed.
- INTERMITTENCE — When heating thermostat is OFF, fan speed is operated intermittently.
- FAN OFF — When heating thermostat is OFF, the fan is stopped. When the remote thermistor is working, "FAN OFF" is set automatically. Do not set "FAN OFF" when the indoor unit's thermistor is working.

11 FROST PREVENTION TEMP — Change of indoor heat exchanger temperature to start frost prevention control.
- TEMP HIGH
- TEMP LOW ○

12 FROST PREVENTION CONTROL — Working only with the Single split series.
- FAN CONTROL ON ○ — To control frost prevention, the indoor fan tap is raised.
- FAN CONTROL OFF

13 DRAIN PUMP LINK
- ✲ ○ — Drain pump is run during cooling and dry.
- ✲ AND ※ — Drain pump is run during cooling, dry and heating.
- ✲ AND ※ AND ≋ — Drain pump is run during cooling, dry, heating and fan.
- ✲ AND ≋ — Drain pump is run during cooling, dry and fan.

14 ✲ FAN REMAINING
- NO REMAINING ○ — After cooling is stopped is OFF, the fan does not perform extra operation.
- 0.5 HOUR — After cooling is stopped is OFF, the fan perform extra operation for half an hour.
- 1 HOUR — After cooling is stopped is OFF, the fan perform extra operation for an hour.
- 6 HOUR — After cooling is stopped is OFF, the fan perform extra operation for six hours.

15 ※ FAN REMAINING
- NO REMAINING ○ — After heating is stopped or heating thermostat is OFF, the fan does not perform extra operation.
- 0.5 HOUR — After heating is stopped or heating thermostat is OFF,the fan perform extra operation for half an hour.
- 2 HOUR — After heating is stopped or heating thermostat is OFF,the fan perform extra operation for two hours.
- 6 HOUR — After heating is stopped or heating thermostat is OFF, the fan perform extra operation for six hours.

16 ※ FAN INTERMITTENCE
- NO REMAINING ○
- 2min OFF 5min ON — During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after twenty minutes' OFF.
- 5min OFF 5min ON — During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after five minutes' OFF.

17 PRESSURE CONTROL
- STANDARD ※
- TYPE1 ※ — Connected "OA Processing" type indoor unit, and is automatically defined.

ON/OFF button (finished)

Note 1: The initial setting marked "※" is decided by connected indoor and outdoor unit, and is automatically defined as following table.

Function No.	Item	Default	Model
Remote control function02	AUTO RUN SET	AUTO RUN ON	"Auto-RUN" mode selectable indoor unit.
		AUTO RUN OFF	Indoor unit without "Auto-RUN" mode
Remote control function06	FAN SPEED SW	VALID	Indoor unit with two or three step of air flow setting
		INVALID	Indoor unit with only one of air flow setting
Remote control function07	LOUVER SW	VALID	Indoor unit with automatically swing louver
		INVALID	Indoor unit without automatically swing louver
Remote control function13	I/U FAN	HI-MID-LO	Indoor unit with three step of air flow setting
		HI-LO	Indoor unit with two step of air flow setting
		HI-MID	
		1 FAN SPEED	Indoor unit with only one of air flow setting
Remote control function15	MODEL TYPE	HEAT PUMP	Heat pump unit
		COOLING ONLY	Exclusive cooling unit

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.
But only master indoor unit is received the setting change of indoor unit function "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".

Note2: Fan setting of "HIGH SPEED"

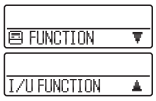
Fan tap		Indoor unit air flow setting			
		※ - ※ - ※ - ※	※ - ※ - ※	※ - ※	※ - ※
FAN SPEED SET	STANDARD	UH - Hi - Me - Lo	Hi - Me - Lo	Hi - Lo	Hi - Me
	HIGH SPEED1, 2	UH - UH - Hi - Me	UH - Hi - Me	UH - Me	UH - Hi

Initial function setting of some indoor unit is "HIGH SPEED".

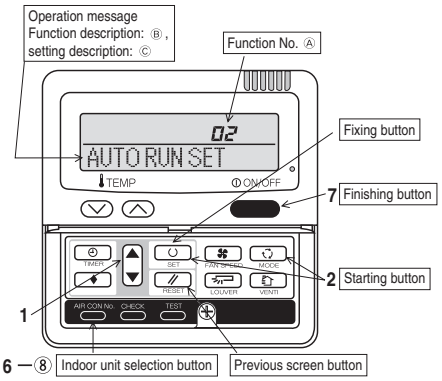
How to set function

1. **Stop air-conditioner and press (SET) (MODE) buttons at the same time for over three seconds, and the "FUNCTION SET ▼" will be displayed.**

2. **Press (SET) button.**
3. **Make sure which do you want to set, "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).**
4. **Press ▲ or ▼ button.**
   Selecct "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).



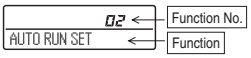
5. **Press (SET) button.**



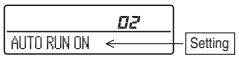
6. **【On the occasion of remote control function selection】**

① "DATA LOADING" (Indication with blinking)
↓
Display is changed to "01 ESP SET".

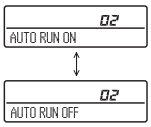
② Press ▲ or ▼ button.
"No. and function"are indicated by turns on the remote control function table, then you can select from them.
(For example)



③ Press (SET) button.
The current setting of selected function is indicated.
(for example) "AUTO RUN ON" ← If "02 AUTO RUN SET" is selected



④ Press ▲ or ▼ button.
Select the setting.



⑤ Press (SET)
"SET COMPLETE" will be indicated, and the setting will be completed.
Then after "No. and function" indication returns, Set as the same procedure if you want to set continuously ,and if to finish, go to 7.

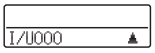
7. **Press ON/OFF button.**
   Setting is finished.

【On the occasion of indoor unit function selection】

① "DATA LOADING" (Blinking for 2 to 23 seconds to read the data)
↓
Indication is changed to "02 FAN SPEED SET".
Go to ②.

[Note]

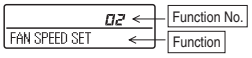
(1) If plural indoor units are connected to a remote control, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



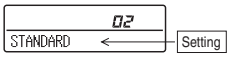
(2) Press ▲ or ▼ button.
Select the number of the indoor unit you are to set
If you select "ALL UNIT ▼", you can set the same setting with all unites.

(3) Press (SET) button.

② Press ▲ or ▼ button.
"No. and function" are indicated by turns on the indoor unit function table, then you can select from them.
(For example)



③ Press (SET) button.
The current setting of selected function is indicated.
(For example) "STANDARD" ← If "02 FAN SPEED SET" is selected.



④ Press ▲ or ▼ button.
Select the setting.

⑤ Press (SET) button.
"SET COMPLETE" will be indicated, and the setting will be completed.
Then after "No. and function" indication returns, set as the same procedure if you want to set continuously , and if to finish, go to 7.

※ When plural indoor units are connected to a remote control, press the AIR CON No. button, which allows you to go back to the indoor unit selection screen. (example "I/U 000 ▲")

- It is possible to finish by pressing ON/OFF button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.
- Setting is memorized in the control and it is saved independently of power failure.

【How to check the current setting】

When you select from "No. and funcion" and press set button by the previous operation, the "Setting" displayed first is the current setting.
(But, if you select "ALL UNIT ▼", the setting of the lowest number indoor unit is displayed.)

9.4 Installation of outdoor unit

Models SRC40-60ZSX-S

RWC012A060

Model	SRC20,25,35,40,50,60ZSX-S SRC20,25,35ZSX-SA
R410A REFRIGERANT USED	

• This installation manual deals with an outdoor unit installation only. For an indoor unit installation, refer to page 23.

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, ⚠WARNING and ⚠ CAUTION .

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, can result in serious consequences such as death or severe injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, can result in personal injury or property damage.

Both mention the important items to protect your health and safety. Therefore, strictly follow them by any means.

- Be sure to confirm no operation problem on the equipment after completing the installation. If unusual noise can be heard during the test run, consult the dealer.
- Be sure to explain the operating methods as well as the maintenance methods of this equipment to the user according to the user's manual.
- Be sure to keep the installation manual together with user's manual at a place where it is easily accessible to the user any time. Moreover, ask the user to hand the manuals to a new user, whenever required.

⚠ WARNING

- **Be sure to use only for residential purpose.**
  If this unit is installed in inferior environment such as machine shop, vehicle (like ship), warehouse, etc., it can malfunction.
- **Installation must be carried out by the qualified installer completely in accordance with the installation manual.**
  Installation by non qualified person or incorrect installation can cause serious troubles such as water leak, electric shock, fire and personal injury.
- **Be sure to wear protective goggles and gloves while performing installation work.**
  Improper safety measures can result in personal injury.
- **Use the original accessories and the specified components for the installation.**
  Using parts other than those prescribed may cause water leak, electric shock, fire and personal injury.
- **Do not install the unit near the location where leakage of flammable gases can occur.**
  If leaked gases accumulate around the unit, it can cause fire resulting in property damage and personal injury.
- **When installing the unit in small rooms, make sure that refrigerant density does not exceed the limit (Reference: ISO5149) in the event of leakage.**
  If refrigerant density exceeds the limit, consult the dealer and install the ventilation system.
  Otherwise lack of oxygen can occur resulting in serious accident.
- **Install the unit in a location where unit will remain stable, horizontal and free of any vibration transmission.**
  Unsuitable installation location can cause the unit to fall resulting in material damage and personal injury.
- **Do not run the unit with removed panels or protections.**
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shock.
- **This unit is designed specifically for R410A.**
  Using any other refrigerant can cause unit failure and personal injury.
- **Do not vent R410A into atmosphere.**
  R410A is a fluorinated greenhouse gas with a Global Warming Potential(GWP)=2088.
- **Make sure that no air enters the refrigerant circuit when the unit is installed and removed.**
  If air enters the refrigerant circuit, the pressure in the refrigerant circuit will become too high, which can cause burst and personal injury.
- **Be sure to use the prescribed pipes, flare nuts and tools for R410A.**
  Using existing parts (for R22 or R407C) can cause refrigerant circuit burst resulting in unit failure and personal injury.
- **Be sure to connect both liquid and gas connecting pipes properly before operating the compressor.**
  Do not open the liquid and gas service valves before completing piping work, and evacuation.
  If the compressor is operated when connecting pipes are not connected and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **Be sure to tighten the flare nuts to specified torque using the torque wrench.**
  Tightening flare nuts with excess torque can cause burst and refrigerant leakage after a long period.
- **During pump down work, be sure to stop the compressor before closing service valves and removing connecting pipes.**
  If the connecting pipes are removed when the compressor is in operation and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **In the event of refrigerant leakage during installation, be sure to ventilate the working area properly.**
  If the refrigerant comes into contact with naked flames, poisonous gases will be produced.
- **Electrical work must be carried out by the qualified electrician, strictly in accordance with national or regional electricity regulations.**
  Incorrect installation can cause electric shock, fire or personal injury.
- **Make sure that earth leakage breaker and circuit breaker of appropriate capacities are installed.**
  Circuit breaker should be able to disconnect all poles under over current. Absence of appropriate breakers can cause electric shock, personal injury or property damage.
- **Be sure to switch off the power source in the event of installation, maintenance or service.**
  If the power source is not switched off, there is a risk of electric shock, unit failure or personal injury.
- **Be sure to tighten the cables securely in terminal block and relieve the cables properly to prevent overloading the terminal blocks.**
  Loose connections or cable mountings can cause anomalous heat production or fire.
- **Do not process, splice or modify the power cable, or share the socket with other power plugs.**
  Improper power cable or power plug can cause fire or electric shock due to poor connection, insufficient insulation or over-current.
- **Do not perform any change in protective device or its setup condition yourself.**
  Changing protective device specifications can cause electric shock, fire or burst.
- **Be sure to clamp the cables properly so that they do not touch any internal component of the unit.**
  If cables touch any internal component, it can cause overheating and fire.
- **Be sure to install service cover properly.**
  Improper installation can cause electric shock or fire due to intrusion of dust or water.
- **Be sure to use the prescribed power and connecting cables for electrical work.**
  Using improper cables can cause electric leak, anomalous heat production or fire.
- **This appliance must be connected to main power source by means of a circuit breaker or switch with a contact separation of at least 3mm.**
  Improper electrical work can cause unit failure or personal injury.
- **When plugging this unit, a plug conforming to the norm IEC60884-1 must be used.**
  Using improper plug can cause electric shock or fire.
- **Be sure to connect the power source cable with power source properly.**
  Improper connection can cause intrusion of dust or water resulting in electric shock or fire.

⚠ CAUTION

- **Take care when carrying the unit by hand.**
  If the unit weight is more than 20kg, it must be carried by two or more persons.
  Do not carry the unit by the plastic straps. Always use the carry handle.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
  Insects and small animals can enter the electrical parts and cause damage resulting in fire or personal injury. Instruct the user to keep the surroundings clean.
- **If the outdoor unit is installed at height, make sure that there is enough space for installation, maintenance and service.**
  Insufficient space can result in personal injury due to falling from the height.
- **Do not install the unit near the location where neighbours are bothered by noise or air generating from the unit.**
  It can affect surrounding environment and cause a claim.
- **Do not install in the locations where unit is directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.**
  It can cause corrosion of heat exchanger and damage to plastic parts.
- **Do not install the unit close to the equipments that generate electromagnetic waves and/or high-harmonic waves.**
  Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns.
  The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.
- **Do not install the unit in the locations where:**
  - There are heat sources nearby.
  - Unit is directly exposed to rain or sunlight.
  - There is any obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
  - Unit is directly exposed to oil mist and steam such as kitchen.
  - Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will generate or accumulate.
  - Drain water can not be discharged properly.
  - TV set or radio receiver is placed within 1m.
  - Height above sea level is more than 1000m.

  It can cause performance degradation, corrosion and damage of components, unit malfunction and fire.
- **Dispose of all packing materials properly.**
  Packing materials contain nails and wood which can cause personal injury.
  Keep the polybag away from children to avoid the risk of suffocation.
- **Do not put anything on the outdoor unit.**
  Object may fall causing property damage or personal injury.
- **Do not touch the aluminum fin of the outdoor unit.**
  Aluminium fin temperature is high during heating operation. Touching fin can cause burn.
- **Do not touch any refrigerant pipe with your hands when the system is in operation.**
  During operation the refrigerant pipes become extremely hot or extremely cold depending on the operating condition. Touching pipes can cause personal injury like burn (hot/cold).
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
  The isolator should be locked in OFF state in accordance with EN60204-1.

1. ACCESSORIES AND TOOLS

Standard accessories (Supplied with outdoor unit)		Q'ty
(1)	Drain grommet	4
(2)	Drain elbow	1

*Not included for SRC20, 25, or 35ZSX-SA.

Locally procured parts	
(a)	Anchor bolt(M10-M12)×4 pcs
(b)	Putty
(c)	Electrical tape
(d)	Connecting pipe
(e)	Connecting cable
(f)	Power cable
(g)	Clamp and screw (for finishing work)

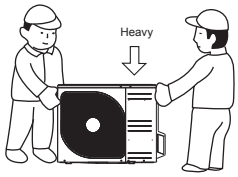
Tools for installation work		
Plus headed driver	Spanner wrench	Vacuum pump*
Knife	Torque wrench [14.0-62.0N・m(1.4-6.2kgf・m)]	Gauge manifold *
Saw	Wrench key (Hexagon) [4mm]	Charge hose *
Tape measure	Flaring tool set *	Vacuum pump adapter* (Anti-reverse flow type)
Pipe cutter	Flare adjustment gauge	Gas leak detector *

*Designed specifically for R410A

2. OUTDOOR UNIT INSTALLATION

1. Haulage

- Always carry or move the unit with two or more persons.
- The right hand side of the unit as viewed from the front (outlet side) is heavier.
  A person carrying the right hand side must take care of this fact. A person carrying the left hand side must hold the handle provided on the front panel of the unit with his right hand and the corner column section of the unit with his left hand.



⚠ CAUTION

When a unit is hauled, take care of its gravity center position which is shifted towards right hand side. If the unit is not hauled properly, it can go off balance and fall resulting in serious injury.

2. Selecting the installation location

Select the suitable installation location where:

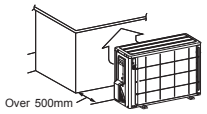
- Unit will be stable, horizontal and free of any vibration transmission.
- There is no obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
- There is enough space for service and maintenance of unit.
- Neighbours are not bothered by noise or air generating from the unit.
- Outlet air of the unit does not blow directly to animals or plants.
- Drain water can be discharged properly.
- There is no risk of flammable gas leakage.
- There are no other heat sources nearby.
- Unit is not directly exposed to rain or sunlight.
- Unit is not directly exposed to oil mist and steam.
- Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will not generate or accumulate.
- Unit is not directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.
- No TV set or radio receiver is placed within 1m.
- Unit is not affected by electromagnetic waves and/or high-harmonic waves generated by other equipments.
- Strong wind does not blow against the unit outlet.
- Heavy snowfalls do not occur (If installed, provide proper protection to avoid snow accumulation).

NOTE

If the unit is installed in the area where there is a possibility of strong wind or snow accumulation, the following measures are required.

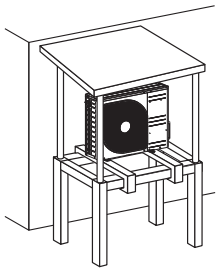
(1) Location of strong wind

- Place the unit with its outlet side facing the wall.
- Place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.



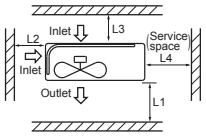
(2) Location of snow accumulation

- Install the unit on the base so that the bottom is higher than snow cover surface.
- Install the unit under eaves or provide the roof on site.



3. Installation space

- There must be 1 meter or larger space between the unit and the wall in at least 1 of the 4 sides. Walls surrounding the unit from 4 sides is not acceptable. The wall height on the outlet side should be 1200 mm or less. Refer to the following figure and table for details.



(mm)

Size \ Example installation	I	II	III	IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

NOTE

When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space.

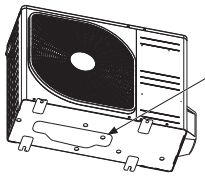
⚠ CAUTION

When more than one unit are installed in parallel directions, provide sufficient inlet space so that short-circuiting may not occur.

4. Drain piping work (If necessary)

Carry out drain piping work by using a drain elbow and a drain grommet supplied separately as accessories if condensed water needs to be drained out.
(1) Install drain elbow and drain grommet.
(2) Seal around the drain elbow and drain grommet with putty or adequate caulking material.

<SRC20/25/35/40/50/60ZSX-S>

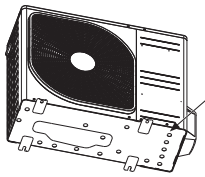


Do not put a grommet on this hole.
This is a supplementary drain hole to discharge drain water, when a large amount of it is gathered.

⚠ CAUTION

Do not use drain elbow and drain grommet if there is a possibility to have several consecutive days of sub zero temperature. (There is a risk of drain water freezing inside and blocking the drain.)

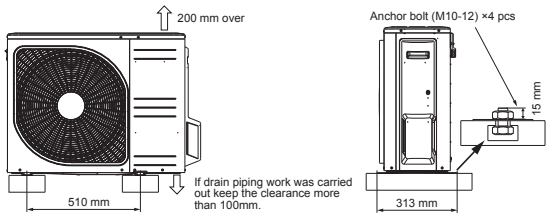
<SRC20/25/35ZSX-SA>



Do not block the drain holes when installing the outdoor unit.

5. Installation

- Install the unit on a flat level base.
- While installing the unit, keep space and fix the unit's legs with 4 anchor bolts as shown in the figure below. The protrusion of an anchor bolt from the foundation surface must be kept within 15mm.



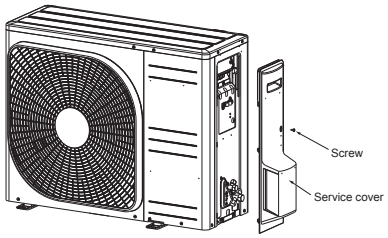
⚠ CAUTION

- Install the unit properly so that it does not fall over during earthquake, strong wind, etc.
- Make sure that unit is installed on a flat level base. Installing unit on uneven base may result in unit malfunction.

3. PREPARATION FOR WORK

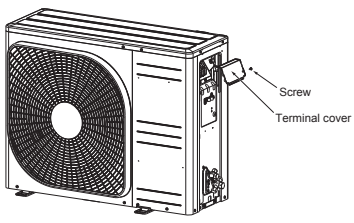
1. Removing service cover

Remove the screw. Slide service cover downwards and remove it.



2. Removing terminal cover

Remove the screw and take out terminal cover.

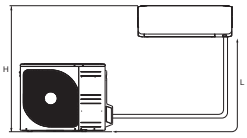


4. CONNECTING PIPING WORK

1. Restrictions on unit installation

Abide by the following restrictions on unit installation.
Improper installation can cause compressor failure or performance degradation.

	Dimensional restrictions	
	Model SRC20/25/35	Model SRC40/50/60
Connecting pipe length(L)	25m or less	30m or less
Elevation difference between indoor and outdoor units(H)*	15m or less	20m or less



* Outdoor unit installation position can be higher as well as lower than the indoor unit installation position.

2. Preparation of connecting pipe

2.1. Selecting connecting pipe

Select connecting pipe according to the following table.

	Model SRC20/25/35	Model SRC40/50/60
Gas pipe	ø9.52	ø12.7
Liquid pipe	ø6.35	ø6.35

- Pipe wall thickness must be greater than or equal to 0.8 mm.
- Pipe material must be O-type (Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30).

NOTE

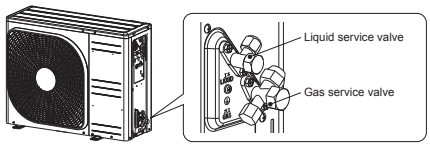
If it is required to reuse the existing connecting pipe system, refer to 5. UTILIZATION OF EXISTING PIPE.

2.2. Cutting connecting pipe

(1) Cut the connecting pipe to the required length with pipe cutter.
(2) Hold the pipe downward and remove the burrs. Make sure that no foreign material enters the pipe.
(3) Cover the connecting pipe ends with the tape.

3. Piping work

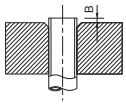
Check that both liquid and gas service valves are fully closed.
Carry out the piping work with service valves fully closed.



3.1. Flaring pipe

(1) Take out flare nuts from the service valves of outdoor unit and engage them onto connecting pipes.
(2) Flare the pipes according to table and figure shown below.
Flare dimensions for R410A are different from those for conventional refrigerant.
Although it is recommended to use the flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a flare adjustment gauge.

Copper pipe outer diameter	A 0 −0.4
ø6.35	9.1
ø9.52	13.2
ø12.7	16.6

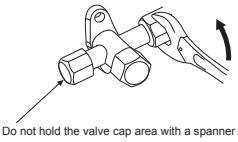


Copper pipe outer diameter	Rigid (clutch) type	
	R410A	Conventional
ø6.35	0-0.5	1.0-1.5
ø9.52		
ø12.7		

3.2. Connecting pipes

(1) Connect pipes on both liquid and gas sides.
(2) Tighten nuts to specified torque shown in the table below.

Service valve size (mm)	Tightening torque (N·m)
ø6.35 (1/4")	14-18
ø9.52 (3/8")	34-42
ø12.7 (1/2")	49-61



Do not hold the valve cap area with a spanner

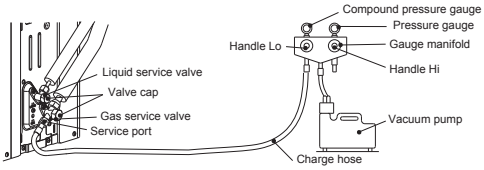
⚠ CAUTION

- Do not apply refrigerating machine oil to the flared surface. It can cause refrigerant leakage.
- Do not apply excess torque to the flared nuts. The flared nuts may crack resulting in refrigerant leakage.

4. Evacuation

(1) Connect vacuum pump to gauge manifold. Connect charge hose of gauge manifold to service port of outdoor unit.
(2) Run the vacuum pump for at least one hour after the vacuum gauge shows -0.1MPa (–76cm Hg).
(3) Confirm that the vacuum gauge indicator does not rise even if the system is left for 15 minutes or more.
Vacuum gauge indicator will rise if the system has moisture left inside or has a leakage point.
Check the system for the leakage point. If leakage point is found, repair it and return to (1) again.
(4) Close the Handle Lo and stop the vacuum pump.
Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.
(5) Remove valve caps from liquid service valve and gas service valve.
(6) Turn the liquid service valve's rod 90 degree counterclockwise with a hexagonal wrench key to open valve.
Close it after 5 seconds, and check for gas leakage.
Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods.
Wipe off all the water after completing the check.
(7) Disconnect charging hose from gas service valve's service port and fully open liquid and gas service valves. (Do not attempt to turn valve rod beyond its stop.)
(8) Tighten service valve caps and service port cap to the specified torque shown in the table below.

Service valve size (mm)	Service valve cap tightening torque (N·m)	Service port cap tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø9.52 (3/8")		
ø12.7 (1/2")	25-35	



⚠ CAUTION

- To prevent the entering of different oil into the refrigeration system, do not use tools designed for any other refrigerant type (R22, R407C, etc.).
- To prevent vacuum pump oil from entering into the refrigerant system, use a counterflow prevention adapter.

5. Additional refrigerant charge

Additional refrigerant charge is required only when connecting pipe length exceeds 15 m.

5.1 Calculating additional refrigerant charge

Additional refrigerant charge can be calculated using the formula given below.
Additional refrigerant charge (g) = { Connecting pipe length (m) – Factory charged length 15 (m) } x 20 (g/m)

NOTE

- If additional refrigerant charge calculation result is negative, there is no need to remove the refrigerant.
- If refrigerant recharge is required for the unit with connecting pipe length 15m or shorter, charge the factory charged volume as shown in the table below.

	Model SRC 20/25/35	Model SRC40/50/60
Factory charged volume(kg)	1.45	1.50

5.2 Charging refrigerant

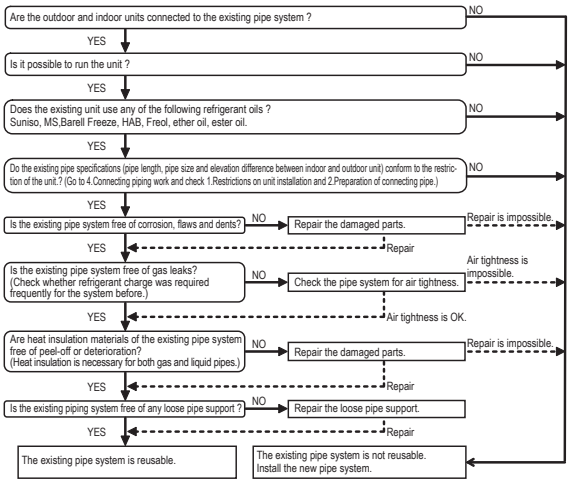
(1) Charge the R410A refrigerant in liquid phase from service port with both liquid and gas service valves shut. Since R410A refrigerant must be charged in the liquid phase, make sure that refrigerant is discharged from the cylinder in the liquid phase all the time.
(2) When it is difficult to charge a required refrigerant volume, fully open both liquid and gas service valves and charge refrigerant, while running the unit in the cooling mode. When refrigerant is charged with the unit being run, complete the charge operation within 30 minutes.
(3) Write the additional refrigerant charge calculated from the connecting pipe length on the label attached on the service cover.

⚠ CAUTION

Running the unit with an insufficient quantity of refrigerant for a long time can cause unit malfunction.

5. UTILIZATION OF EXISTING PIPE

(1) Check whether an existing pipe system is reusable or not by using the following flow chart.



NOTE

- Consult with our distributor in the area, if you need to recover refrigerant and charge it again.

(2) Clean the existing pipe system according to the procedure given below.
(a) Carry out forced cooling operation of existing unit for 30 minutes.
For 'Forced cooling operation' refer to the indoor unit installation manual.
(b) Stop the indoor fan and carry out forced cooling operation for 3 minutes (Liquid return).
(c) Close the liquid service valve of the outdoor unit and carry out pump down operation (Refer to 6. PUMP DOWN).
(d) Blow with nitrogen gas. If discolored refrigeration oil or any foreign matter is discharged by the blow, wash the pipe system or install a new pipe system.
(3) Remove the flare nuts from the existing pipe system. Go back to 4.Connecting Piping work and proceed to step 2.2 Cutting connecting pipe.

⚠ CAUTION

Do not use the old flare nuts (of existing unit). Make sure that the flare nuts supplied with the (new) outdoor unit are used.

* If the existing piping is specified as liquid pipe ø9.52 or gas pipe ø12.7, refer to the following. (SRC40,50 and 60 only)

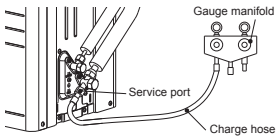
<Table of pipe size restrictions>

Additional charge volume per meter of pipe		0.06kg/m
Pipe size	Liquid pipe	ø9.52
	Gas pipe	ø12.7
Maximum one-way pipe length		10
Length covered without additional charge		5

Additional charge volume (kg) = {Main pipe length (m) - Length covered without additional charge shown in the table (m)} X Additional charge volume per meter of pipe shown in the table (kg/m)

6. PUMP DOWN

(1) Connect charge hose of gauge manifold to service port of outdoor unit.
(2) Close the liquid service valve with hexagonal wrench key.
(3) Fully open the gas service valve with hexagonal wrench key.
(4) Carry out forced cooling operation (For forced cooling operation procedure, refer to indoor unit installation manual).
(5) When the low pressure gauge becomes 0.01MPa, close the gas service valve and stop forced cooling operation.



7. ELECTRICAL WIRING WORK

⚠ WARNING

- Make sure that all the electrical work is carried out in accordance with the national or regional electrical standards.
- Make sure that the earth leakage breaker and circuit breaker of appropriate capacities are installed (Refer to the table given below).
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor. Moreover, it can cause an abnormal overheat accident).

Breaker specifications

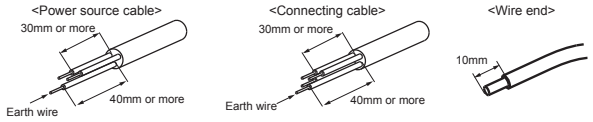
Model	Phase	Earth leakage breaker	Circuit breaker
SRC20/25/35	Single phase	Leakage current: 30mA, 0.1sec or less	Over current: 16A
SRC40/50/60			Over current: 20A

Main fuse specification

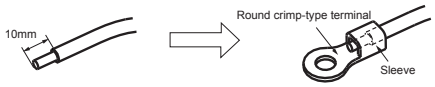
Model	Specification	Parts No.	Code on LABEL,WIRING
SRC20/25/35	250V 15A	SSA564A136	F7
SRC40/50/60	250V 20A	SSA564A136A	F4

1.Preparing cable

(1) Selecting cable
Select the power source cable and connecting cable in accordance with the specifications mentioned below.
(a) Power source cable
3-core* 2.0mm^2 or more, conformed with 60245 IEC57(CENELEC H05RN-F)
When selecting the power source cable length, make sure that voltage drop is less than 2%.
If the wire length gets longer, increase the wire diameter.
(b) Connecting cable
4-core* 1.5mm^2, conformed with 60245 IEC57(CENELEC H05RN-F)
* 1 Earth wire is included (Yellow/Green).
(2) Arrange each wire length as shown below.
Make sure that each wire is stripped 10mm from the end.



(3) Attach round crimp-type terminal to each wire as shown in the below.
Select the size of round crimp-type terminal after considering the specifications of terminal block and wire diameter.



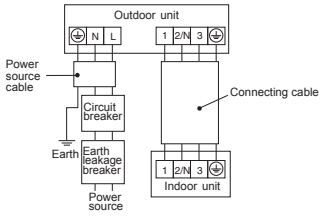
⚠ CAUTION

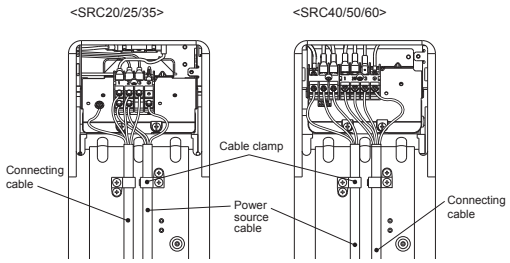
Power source cable and connecting cable must conform to the specifications mentioned in the manual.
Using cables with wrong specifications may result in unit malfunction.

2.Connecting cable

(1) Remove the service cover.
(2) Connect the cables according to the instructions and figures given below.
(a) Connect the earth wire of power source cable.
An earth wire must be connected before connecting the other wires of power source cable.
Keep the earth wire longer than the remaining two wires of power source cable.
(b) Connect the remaining two wires (N and L) of power source cable.
(c) Connect the wires of connecting cable. Make sure that for each wire, outdoor and indoor side terminal numbers match.
(3) Fasten the cables properly with cable clamps so that no external force may work on terminal connections.
Moreover, make sure that cables do not touch the piping, etc. When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection.

<Circuit diagram>

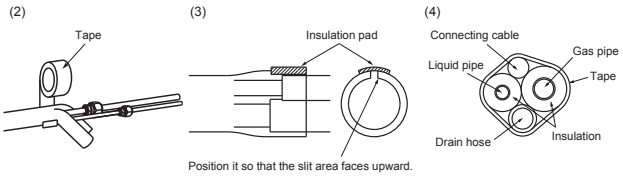




8. FINISHING WORK

1. Heating and condensation prevention

(1) Dress the connecting pipes (both liquid and gas pipes) with insulation to prevent it from heating and dew condensation.
Use the heat insulating material which can withstand 120°C or higher temperature. Make sure that insulation is wrapped tightly around the pipes and no gap is left between them.
(2) Wrap the refrigerant pipings of indoor unit with indoor unit heat insulation using tape.
(3) Cover the flare-connected joints (indoor side) with the indoor unit heat insulation and wrap it with an insulation pad (standard accessory provided with indoor unit).
(4) Wrap the connecting pipes, connecting cable and drain hose with the tape.



NOTE

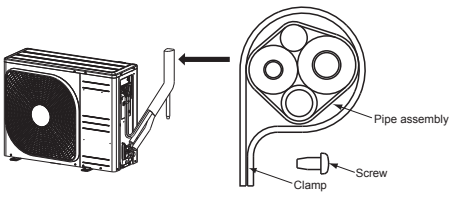
Locations where relative humidity exceeds 70%, both liquid and gas pipes need to be dressed with 20mm or thicker heat insulation materials.

⚠ CAUTION

- Improper insulation can cause condensate(water) formation during cooling operation. Condensate can leak or drip causing damage to household property.
- Poor heat insulating capacity can cause pipe outer surface to reach high temperature during heating operation. It can cause cable deterioration and personal injury.

2.Finishing work

(1) Make sure that the exterior portion of connecting pipes, connecting cable and drain hose is wrapped properly with tape. Shape the connecting pipes to match with the contours of the pipe assembly route.
(2) Fix the pipe assembly with the wall using clamps and screws. Pipe assembly should be anchored every 1.5m or less to isolate the vibration.
(3) Install the service cover securely. Water may enter the unit if service cover is not installed properly, resulting in unit malfunction and failure.



⚠ CAUTION

Make sure that the connecting pipes do not touch the components within the unit. If pipes touch the internal components, it may generate abnormal sounds and/or vibrations.

9. INSTALLATION TEST CHECK POINTS

After finishing the installation work, check the following points again before turning on the power.
Conduct test run (Refer to indoor unit installation manual) and ensure that the unit operates properly.

Power source voltage complies with the rated voltage of air-conditioner.	
Earth leakage breaker and circuit breaker are installed.	
Power cable and connecting cable are securely fixed to the terminal block.	
Both liquid and gas service valves are fully open.	

No gas leaks from the joints of the service valves.	
Indoor and outdoor side pipe joints have been insulated.	
Drain hose (if installed) is fixed properly.	
Screw of the service cover is tightened properly.	

10. TECHNICAL INFORMATION

Model FDT40ZSXVH

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**FDT40VH**
Outdoor unit model name	**SRC40ZSX-S**

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**Yes**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**4.0**	kW
heating / Average	Pdesignh	**3.8**	kW
heating / Warmer	Pdesignh	**-**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**8.51**	A+++
heating / Average	SCOP/A	**4.47**	A+
heating / Warmer	SCOP/W	**-**	-
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	Pdh	**3.8**	kW
heating / Warmer (2℃)	Pdh	**-**	kW
heating / Colder (-22℃)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			unit
heating / Average (-10℃)	elbu	**0**	kW
heating / Warmer (2℃)	elbu	**-**	kW
heating / Colder (-22℃)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	Pdc	**4.00**	kW
Tj=30℃	Pdc	**2.95**	kW
Tj=25℃	Pdc	**1.90**	kW
Tj=20℃	Pdc	**1.40**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	EERd	**4.30**	-
Tj=30℃	EERd	**6.41**	-
Tj=25℃	EERd	**11.52**	-
Tj=20℃	EERd	**17.80**	-

Declared capacity for heating / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**3.34**	kW
Tj=2℃	Pdh	**2.04**	kW
Tj=7℃	Pdh	**1.32**	kW
Tj=12℃	Pdh	**1.09**	kW
Tj=bivalent temperature	Pdh	**3.80**	kW
Tj=operating limit	Pdh	**2.20**	kW

Declared coefficient of performance / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**2.98**	-
Tj=2℃	COPd	**4.30**	-
Tj=7℃	COPd	**5.82**	-
Tj=12℃	COPd	**7.45**	-
Tj=bivalent temperature	COPd	**2.38**	-
Tj=operating limit	COPd	**1.99**	-

Declared capacity for heating / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-

Declared capacity for heating / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**-**	kW
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15℃	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**-**	-
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15℃	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	℃
heating / Warmer	Tbiv	**-**	℃
heating / Colder	Tbiv	**-**	℃

Operating limit temperature			
heating / Average	Tol	**-15**	℃
heating / Warmer	Tol	**-**	℃
heating / Colder	Tol	**-**	℃

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**7**	W
standby mode	Psb	**7**	W
thermostat-off mode	Pto(cooling)	**10**	W
	Pto(heating)	**20**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**165**	kWh/a
heating / Average	Qhe	**1192**	kWh/a
heating / Warmer	Qhe	**-**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**53**	dB(A)
Sound power level(outdoor)	Lwa	**63**	dB(A)
Global warming potential	GWP	**2088**	kgCO2eq.
Rated air flow(indoor)	-	**1140**	m3/h
Rated air flow(outdoor)	-	**2160**	m3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative.
	Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex,UB11 1ET, United kingdom

PJF000Z551 A

Model FDT50ZSXVH

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**FDT50VH**
Outdoor unit model name	**SRC50ZSX-S**

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**Yes**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**5.0**	kW
heating / Average	Pdesignh	**4.1**	kW
heating / Warmer	Pdesignh	**-**	kW
heating / Colder	Pdesignh	**-**	kW
Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	Pdh	**4.1**	kW
heating / Warmer (2℃)	Pdh	**-**	kW
heating / Colder (-22℃)	Pdh	**-**	kW
Declared capacity for cooling, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	Pdc	**5.00**	kW
Tj=30℃	Pdc	**3.69**	kW
Tj=25℃	Pdc	**2.37**	kW
Tj=20℃	Pdc	**1.40**	kW
Declared capacity for heating / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**3.60**	kW
Tj=2℃	Pdh	**2.20**	kW
Tj=7℃	Pdh	**1.40**	kW
Tj=12℃	Pdh	**1.12**	kW
Tj=bivalent temperature	Pdh	**4.10**	kW
Tj=operating limit	Pdh	**2.95**	kW
Declared capacity for heating / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Declared capacity for heating / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**-**	kW
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15℃	Pdh	**-**	kW
Bivalent temperature			
heating / Average	Tbiv	**-10**	℃
heating / Warmer	Tbiv	**-**	℃
heating / Colder	Tbiv	**-**	℃
Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW
Degradation coefficient			
cooling	Cdc	**0.25**	-
Electric power input in power modes other than 'active mode'			
off mode	Poff	**7**	W
standby mode	Psb	**7**	W
thermostat-off mode	Pto(cooling)	**10**	W
	Pto(heating)	**20**	W
crankcase heater mode	Pck	**0**	W

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**7.82**	A++
heating / Average	SCOP/A	**4.61**	A++
heating / Warmer	SCOP/W	**-**	-
heating / Colder	SCOP/C	**-**	-
			unit
Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	elbu	**0**	kW
heating / Warmer (2℃)	elbu	**-**	kW
heating / Colder (-22℃)	elbu	**-**	kW
Declared energy efficiency ratio, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	EERd	**3.88**	-
Tj=30℃	EERd	**5.70**	-
Tj=25℃	EERd	**9.67**	-
Tj=20℃	EERd	**17.28**	-
Declared coefficient of performance / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**3.14**	-
Tj=2℃	COPd	**4.40**	-
Tj=7℃	COPd	**6.03**	-
Tj=12℃	COPd	**7.61**	-
Tj=bivalent temperature	COPd	**2.37**	-
Tj=operating limit	COPd	**2.22**	-
Declared coefficient of performance / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Declared coefficient of performance / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**-**	-
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15℃	COPd	**-**	-
Operating limit temperature			
heating / Average	Tol	**-15**	℃
heating / Warmer	Tol	**-**	℃
heating / Colder	Tol	**-**	℃
Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-
Degradation coefficient			
heating	Cdh	**0.25**	-
Annual electricity consumption			
cooling	Qce	**224**	kWh/a
heating / Average	Qhe	**1246**	kWh/a
heating / Warmer	Qhe	**-**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**54**	dB(A)
Sound power level(outdoor)	Lwa	**63**	dB(A)
Global warming potential	GWP	**2088**	kgCO2eq.
Rated air flow(indoor)	-	**1200**	m3/h
Rated air flow(outdoor)	-	**2400**	m3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative.
	Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex,UB11 1ET, United kingdom

PJF000Z551 A

Model FDT60ZSXVH

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**FDT60VH**
Outdoor unit model name	**SRC60ZSX-S**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**Yes**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**5.6**	kW
heating / Average	Pdesignh	**4.7**	kW
heating / Warmer	Pdesignh	**-**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**8.26**	A++
heating / Average	SCOP/A	**5.00**	A++
heating / Warmer	SCOP/W	**-**	-
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	Pdh	**4.7**	kW
heating / Warmer (2℃)	Pdh	**-**	kW
heating / Colder (-22℃)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			unit
heating / Average (-10℃)	elbu	**0**	kW
heating / Warmer (2℃)	elbu	**-**	kW
heating / Colder (-22℃)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	Pdc	**5.60**	kW
Tj=30℃	Pdc	**4.05**	kW
Tj=25℃	Pdc	**2.65**	kW
Tj=20℃	Pdc	**1.30**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	EERd	**3.68**	-
Tj=30℃	EERd	**6.29**	-
Tj=25℃	EERd	**10.43**	-
Tj=20℃	EERd	**16.46**	-

Declared capacity for heating / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**4.16**	kW
Tj=2℃	Pdh	**2.53**	kW
Tj=7℃	Pdh	**1.63**	kW
Tj=12℃	Pdh	**1.12**	kW
Tj=bivalent temperature	Pdh	**4.70**	kW
Tj=operating limit	Pdh	**3.80**	kW

Declared coefficient of performance / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**3.41**	-
Tj=2℃	COPd	**4.83**	-
Tj=7℃	COPd	**6.45**	-
Tj=12℃	COPd	**7.61**	-
Tj=bivalent temperature	COPd	**2.85**	-
Tj=operating limit	COPd	**2.47**	-

Declared capacity for heating / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-

Declared capacity for heating / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**-**	kW
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15℃	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**-**	-
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15℃	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	℃
heating / Warmer	Tbiv	**-**	℃
heating / Colder	Tbiv	**-**	℃

Operating limit temperature			
heating / Average	Tol	**-15**	℃
heating / Warmer	Tol	**-**	℃
heating / Colder	Tol	**-**	℃

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**7**	W
standby mode	Psb	**7**	W
thermostat-off mode	Pto(cooling)	**10**	W
	Pto(heating)	**20**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**238**	kWh/a
heating / Average	Qhe	**1316**	kWh/a
heating / Warmer	Qhe	**-**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**60**	dB(A)
Sound power level(outdoor)	Lwa	**64**	dB(A)
Global warming potential	GWP	**2088**	kgCO2eq.
Rated air flow(indoor)	-	**1560**	m3/h
Rated air flow(outdoor)	-	**2490**	m3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative.
	Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex,UB11 1ET, United kingdom

PJF000Z551 A

11. OPTION PARTS

(1) Wireless kit (RCN-T-5AW-E2)

Notes:
Following function of FDT indoor unit series are not able to be set with this wireless remote control (RCN-T-5AW-E2).
1. Individual flap control system

PJF012D035 B

Safety precautions

●Please read this manual carefully before starting installation work to install the unit properly. Every one of the followings is important information to be observed strictly.
⚠WARNING Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
⚠CAUTION Failure to follow these instructions properly may cause injury or property damage. It could have serious consequences depending on the circumstances.
●The following pictograms are used in the text.

⃠	Never do.	❗	Always follow the instructions given.

●Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

⚠WARNING

- **Consult your dealer or a professional contractor to install the unit.**
  Improper installation made on your own may cause electric shocks, fire or dropping of the unit.
- **Installation work should be performed properly according to this installation manual.**
  Improper installation work may result in electric shocks, fire or break-down.
- **Be sure to use accessories and specified parts for installation work.**
  Use of unspecified parts may result in drop, fire or electric shocks.
- **Install the unit properly to a place with sufficient strength to hold the weight.**
  If the place is not strong enough, the unit may drop and cause injury.
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
  Power source with insufficient and improper work can cause electric shock and fire.
- **Shut OFF the main power source before starting electrical work.**
  Otherwise, it could result in electric shocks, break-down or malfunction.
- **Do not modify the unit.**
  It could cause electric shocks, fire, or break-down.
- **Be sure to turn OFF the power circuit breaker before repairing/inspecting the unit.**
  Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.
- **Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.**
  If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.
- **Do not install the unit where water vapor is generated excessively or condensation occurs.**
  It could cause electric shocks, fire, or break-down.
- **Do not use the unit in a place where it gets wet, such as laundry room.**
  It could cause electric shocks, fire, or break-down.
- **Do not operate the unit with wet hands.**
  It could cause electric shocks.

⚠WARNING

- **Do not wash the unit with water.**
  It could cause electric shocks, fire, or break-down.
- **Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.**
  Improper connections or fixing could cause heat generation, fire, etc.
- **When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.**
  It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
  The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.
- **Do not leave the remote control with its PCB case removed.**
  If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

⚠CAUTION

- Do not install the wireless kit at the following places in order to avoid malfunction.
  It could cause break-down or deformation of remote control.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
  (7) Places affected by the direct air flow of the AC unit
  (8) Places where the receiver is influenced by the fluorescent lamp (especially inverter type) or sunlight
  (9) Places where the receiver is affected by infrared rays of any other communication devices
  (10) Places where some object may obstruct the communication with the remote control

①Accessories

Please make sure that you have all of the following accessories.

① Receiver		1
② Parts set (A)		1
③ Installation manual		1

① Wireless remote control		1
② Remote control holder		1
③ Screw for holder		2
④ AAA dry cell battery (LR03)		2
⑤ User's manual		1

②Preparation before installation

Setting on site

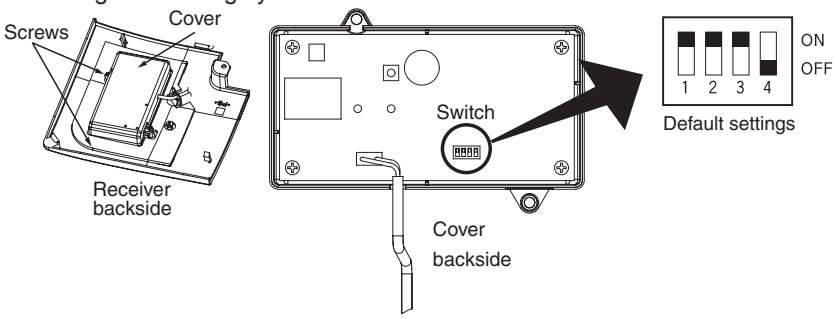
PCB on the receiver has the following switches to set the function.
Default setting is shown with ☐ mark.

SW1	Prevents interference during plural setting	☐ ON : Normal	OFF : Customized
SW2	Receiver master/ slave setting	☐ ON : Master	OFF : Slave
SW3	Buzzer	☐ ON : Valid	OFF : Invalid
SW4	Auto restart	ON : Valid	☐ OFF : Invalid

② Preparation before installation (continued)

To change setting

1. Remove the cover by unscrewing two screws from the back of receiver.
2. Change the setting by the switch on PCB.



Master/Slave setting when using plural remote controls

Up to two receiver or wired remote control can be installed in one indoor unit group.
When two receiver or wired remote control are used, it is necessary to change SW on the PCB to set it as slave.

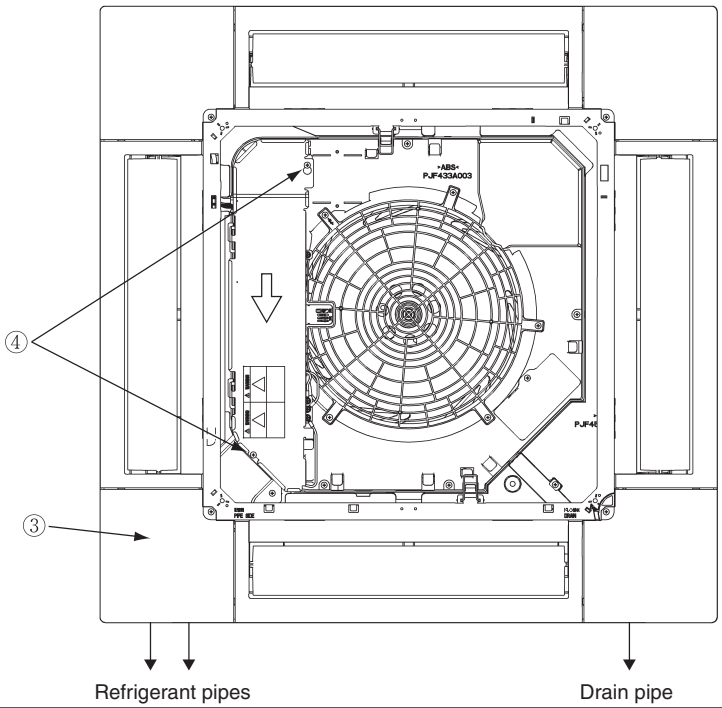
3. When SW1 is turned to OFF position, change the wireless remote control setting.
   For the method of changing the setting, refer to Setting to avoid mixed communication of ④ Wireless remote control .
   *The receivable area of the signal refer to ⑤ Receiver .

③ How to install the receiver

The receiver can be installed by replacing with a corner panel on the applicable decorative panel.

Preparation before installation

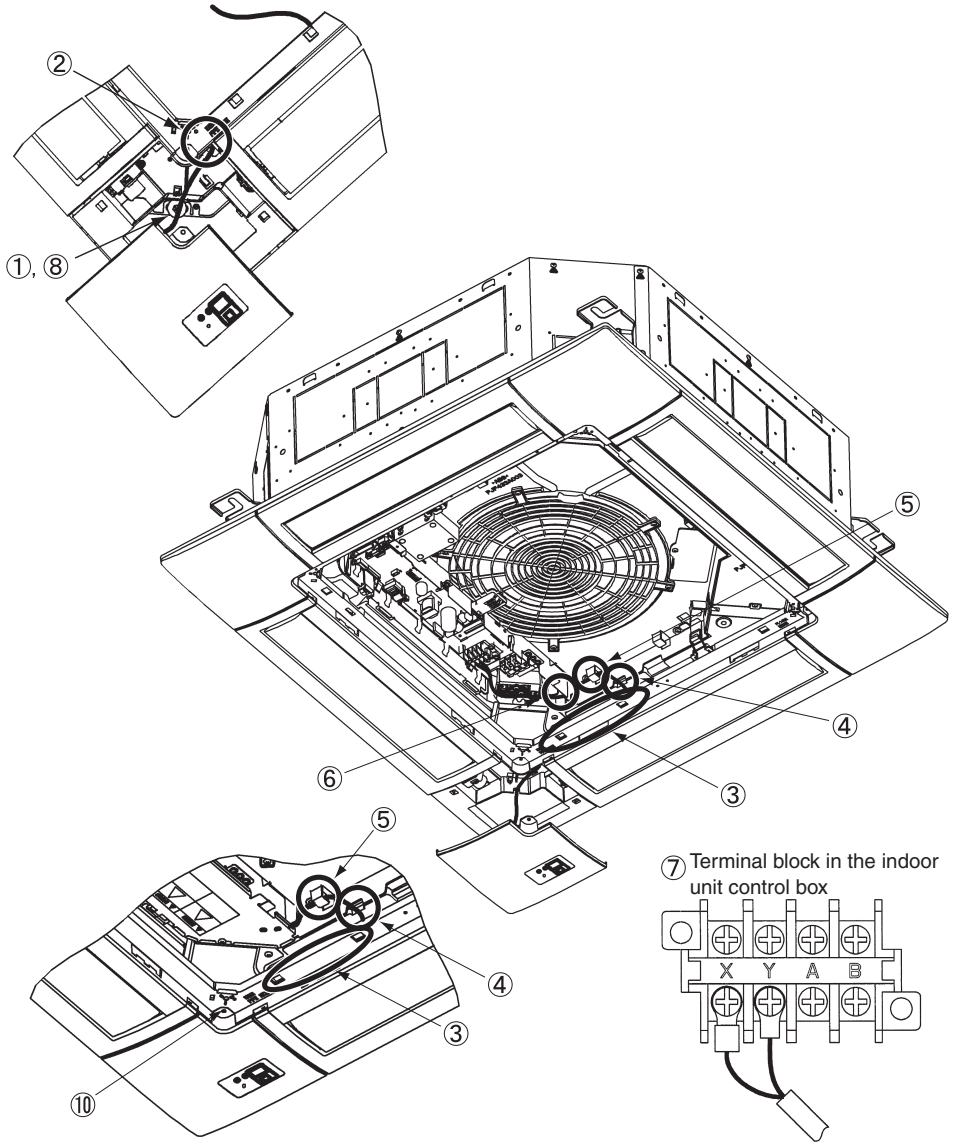
① Attach the decorative panel onto the air-conditioner according to the installation manual for the panel.
② Remove the air return grille.
③ Remove a corner panel located on the refrigerant pipes side.
④ Remove three screws and detach the cover (indicated as shadowed area) from the control box of the air- conditioner.



③ How to install the receiver(continued)

Installation of the receiver

① Loosen the bolts which fix the panel and make a gap between the panel and the indoor unit.
② Put the wiring of the receiver through the opening.
③ Put the wiring on the notch on the control box so as not to be pinched by the control box and lid as shown below.
④ Connect the wiring to the terminal block provided in the control box. (No polarity)
⑤ Attach the receiver to the panel according to the panel installation manual.
⑥ Fix the wiring with the clamp so that the wiring do not contact the edge of control box's metal sheet.
⑦ Reattach the control box lid with 3 screws removed.

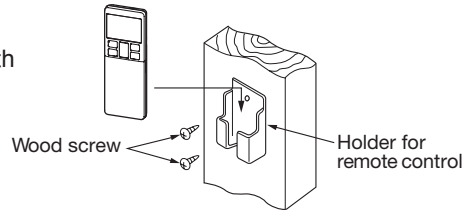


④ Wireless remote control

Installation tips for the remote control holder

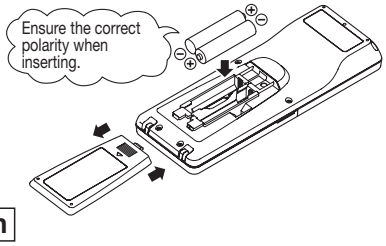
Fix the remote control holder using the screws supplied with this product.

* Precautions for installing the holder
- Adjust the position so that it is upright.
- Ensure that the screw heads are not protruding.
- Do not attach the holder on plaster wall



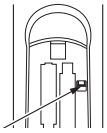
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

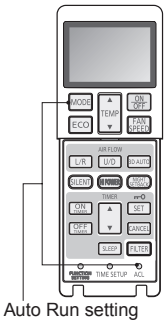
1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



Changing the remote control setting

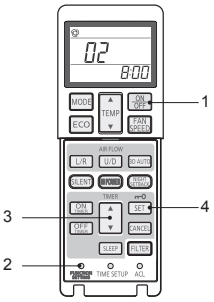
How to change the Auto Run setting
The Auto Run mode is not available on the building air-conditioning and gas heat pump series (excluding the cooling/heating free multi system).
When using the remote control to operate those models, set the remote control to disable the Auto Run mode.
To disable the Auto Run mode, press the ACL switch while holding down the MODE button, or insert batteries while holding down the MODE button.

* Note: Once the batteries are removed, the setting is reset to the factory default.
When the batteries are removed, repeat the steps described above.



Indoor function settings

1. How to set indoor functions
   ① Press the ON/OFF button to stop the unit.
   ② Press the desired one of the buttons shown item **2.** while holding down the FUNCTION SETTING switch.
   ③ Use the selection buttons, ▲ and ▼, to change the setting.
   ④ Press the SET button.
   The buzzer on the remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.



④ Wireless remote control (continued)

2. Setting details
   The following functions can be set.

Button	Number indicator	Function setting
FAN SPEED	00	Fun speed setting : Standard
	01	Fun speed setting : Setting 1 *
	02	Fun speed setting : Setting 2 *
MODE	00	Room heating temperature adjustment : Disable
	01	Room heating temperature adjustment : +1°C
	02	Room heating temperature adjustment : +2°C
	03	Room heating temperature adjustment : +3°C
FILTER	00	Filter sign display : OFF
	01	Filter sign display : 180 hours
	02	Filter sign display : 600 hours
	03	Filter sign display : 1000 hours
	04	Filter sign display : Operation stop after 1000 hours have elapsed
U/P	00	Anti draft setting : Disable
	01	Anti draft setting : Enable
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control and Auto OFF
ON TIMER	00	Cooling fan residual-period running : Disable
	01	Cooling fan residual-period running : 0.5 hours
	02	Cooling fan residual-period running : 2 hours
	03	Cooling fan residual-period running : 6 hours
OFF TIMER	00	Heating fan residual-period running : Disable
	01	Heating fan residual-period running : 0.5 hours
	02	Heating fan residual-period running : 2 hours
	03	Heating fan residual-period running : 6 hours
NIGHT SETBACK	00	Remote control signal receiver LED : Brightness High
	01	Remote control signal receiver LED : Brightness Low
	02	Remote control signal receiver LED : OFF

* Refer to technical data.

⑤ Receiver

1 Control plural indoor units with one remote control

Up to 16 indoor units can be connected.

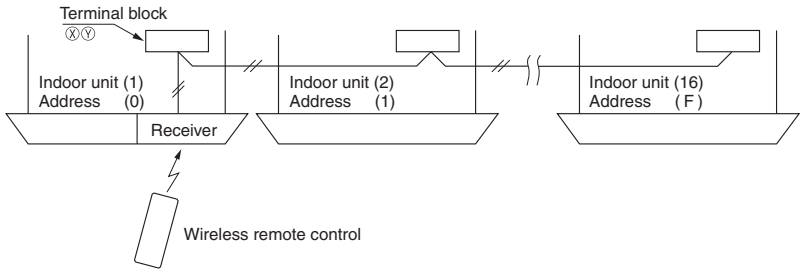
1. Connect the XY terminal with 2 cores wire. As for the size, refer to the following note.
2. For Packaged air-conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximun total extension 600m.)

Standard	Within 0.3 mm² × 100m
	Within 0.5 mm² × 200m
	Within 0.75mm² × 300m
	Within 1.25mm² × 400m
	Within 2.0 mm² × 600m

For the shop series

For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate.

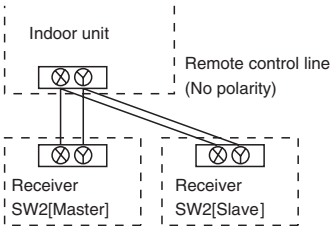


For the building air-conditioning and gas heat pump series

Set the indoor unit and outdoor unit numbers by manually specifying the addresses.
Use the rotary switches SW1 and SW2 provided on the indoor unit PCB (printed circuit board) to set the indoor unit numbers so that they are not duplicated.

Master/Slave setting when using plural remote control

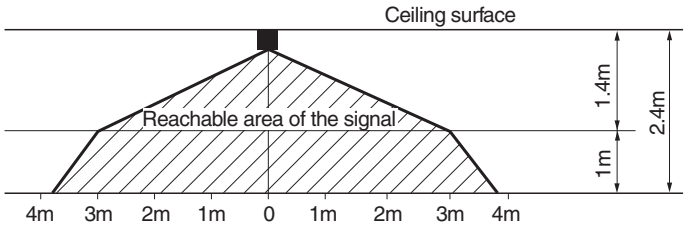
Up to two receivers can be installed in one indoor unit group.



Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

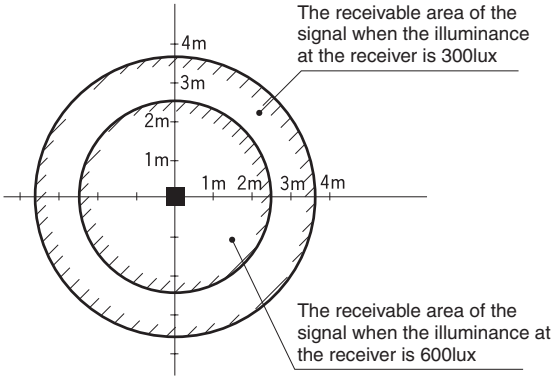
Wireless remote control's operable area

1. Standard reachable area of the signal
   [condition] Illuminance at the receiver: 300lux
   (when no lighting is installed within 1m of the receiver in an ordinary office.)



⑤ Receiver (continued)

2. Correlation between illuminance at the receiver and reachable area of the signal in a plain view. The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the remote control is operated at 1.0m high under the condition of ceiling height of 2.4m. When the illuminance becomes double, the area is narrowed down to two thirds.

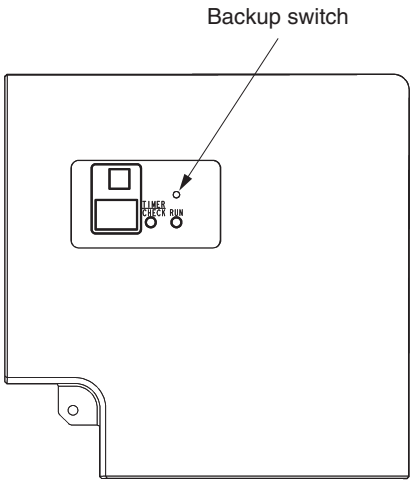


3. Installation tips when several receivers are installed close
   Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver.
   (When no lighting is installed within 1m of the receiver in an ordinary office)

Backup switch

A backup switch is provided on the receiver. Even when the operation from the wireless remote control is not possible (due to flat batteries, control lost, or control failure), still it possible to operate as temporary means. Press the switch directly when operating it.

1. The air-conditioner starts the operation with the condition of Auto mode, 23°C of set point, High fan speed and horizontal louver position.
2. The air-conditioner stops the operation when the switch is pressed when in operation.



Cooling test run operation

- After safety confirmation, turn on the power.
- Transmit a cooling operation command with the wireless remote control unit, while the backup switch on the receiver is depressed.
- If the backup switch on the receiver is pressed during a test run, it will end the test run.
- If you cannot operate the unit properly during a test run, please check wiring by consulting with inspection guides.

How to read the 2-digit display

On the receiver of a wireless kit, a two-digit (7-segment) display is provided.

1. An indication will be displayed for one hour after power on.
2. An indication will be displayed for 3.5 seconds after transmitting a “STOP” command from the wireless remote control or the operation of the backup switch to stop the unit.
3. An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.
4. When there are no error records to indicate, addresses of all the connected units are displayed.
5. When there are some error records remaining, the error records are displayed.
6. Error records can be cleared by transmitting a "STOP" command from the wireless remote control, while the backup button is pressed.

(2) Motion sensor kit (LB-T-5W-E)

PJF012D036 B

⚠ WARNING

- Connect the wiring to the PCB in the control box on the indoor unit and hold the wiring securely so as not to apply unexpected stress on the PCB.
  Loose connection or hold will cause abnormal heat generation or fire.
- Make sure the power source is turned off when electric wiring work.
  Otherwise, electric shock, malfunction and improper running may occur.

⚠ CAUTION

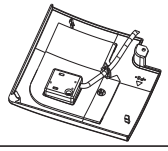
- Do not install the motion sensor kit at the following places in order to aboid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Places affected by the direct air flow of the Indoor unit
  (7) Places where the motion sensor is influenced by the fluorescent lamp or sunlight
  (8) Places where the motion sensor is affected by infrared rays of any other communication devices
  (9) Places where some object may obstruct the motion sensor
- Do not leave the motion sensor without the cover.
  In case the cover needs to be detached, protect the motion sensor with a packaging or bag.
  In order to keep it away from water and dust.

Attention

- Instruct the customer how to operate it correctly referring to the instruction manual.
- For the installation method of the air-conditioner itself, refer to the installation manual enclosed in the package.

① Accessories

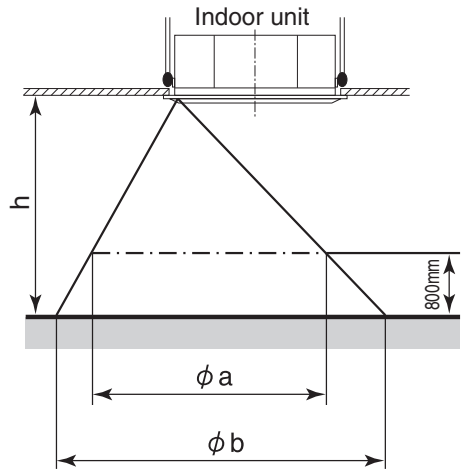
Please make sure that you have the motion sensor.

Motion sensor		1

② Installing the motion sensor

It is possible to install the motion sensor by replacing with a corner lid on the panel.

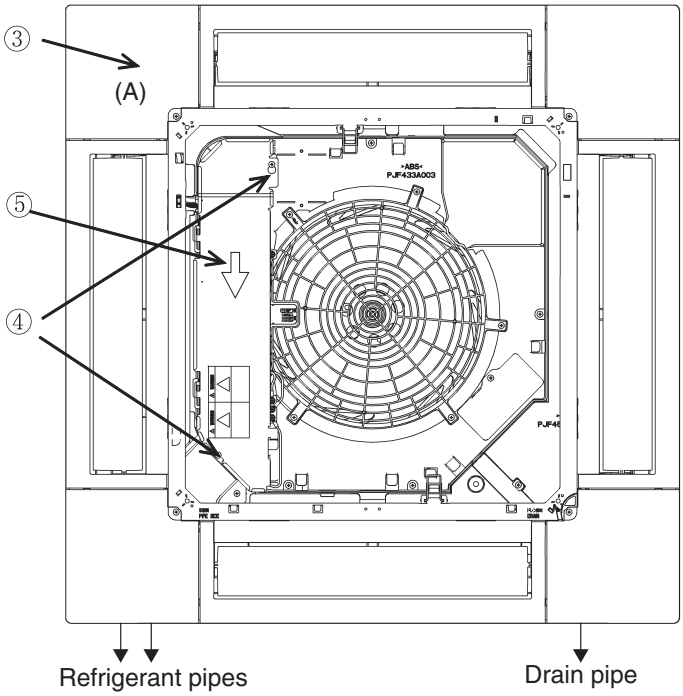
Aim of the detectable scope



Hight of the ceiling	h[m]	2.7	3.5	4.0
Detectable scope①	ϕa[m]	about 4.5	about 6.4	about 7.6
Detectable scope②	ϕb[m]	about 6.4	about 8.3	about 9.5

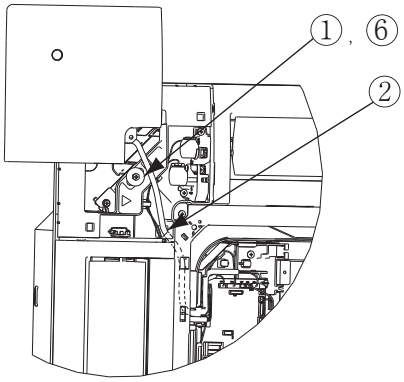
Preparation before installation

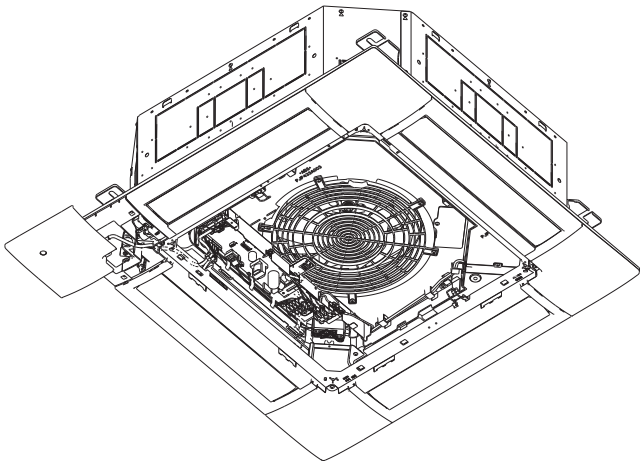
① Install the panel onto the indoor unit according to the installation manual for the panel.
② Remove the inlet grille.
③ Remove the corner lid (A) located on the panel.
④ Loosen 2 screws for the control lid. (It is unnecessury to remove the screws.)
⑤ Slide the control lid, and open and remove it.

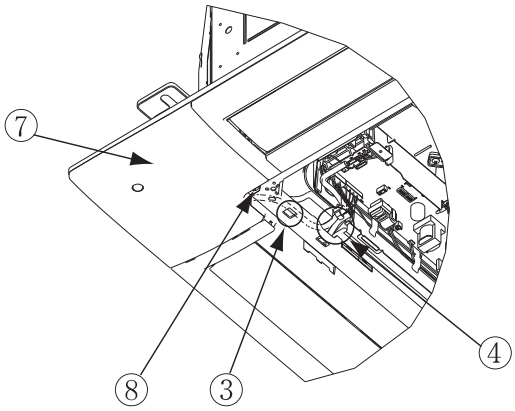


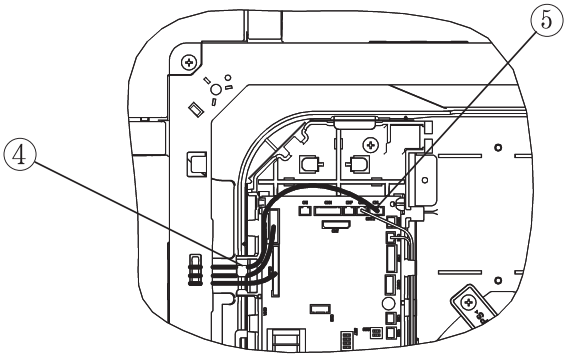
Installation of the motion sensor

① Loosen the bolts which fix the panel, and make a gap between the panel and the indoor unit.
② Pass the wiring of the motion sensor through the opening of the panel.
③ Hang the wiring on the hook which is on the panel's inside.
④ Pass the wiring through the opening of the control box.
⑤ Connect the connecter to CNL(3P,Black) on PCB in the contorl box.
⑥ Tighten the bolts which fix the panel.
⑦ Install the motion sensor on the panel.
⑧ Fix the motion sensor by the screw.
⑨ Reinstall the control lid, and tighten 2 screws.









③ Setting the motion sensor

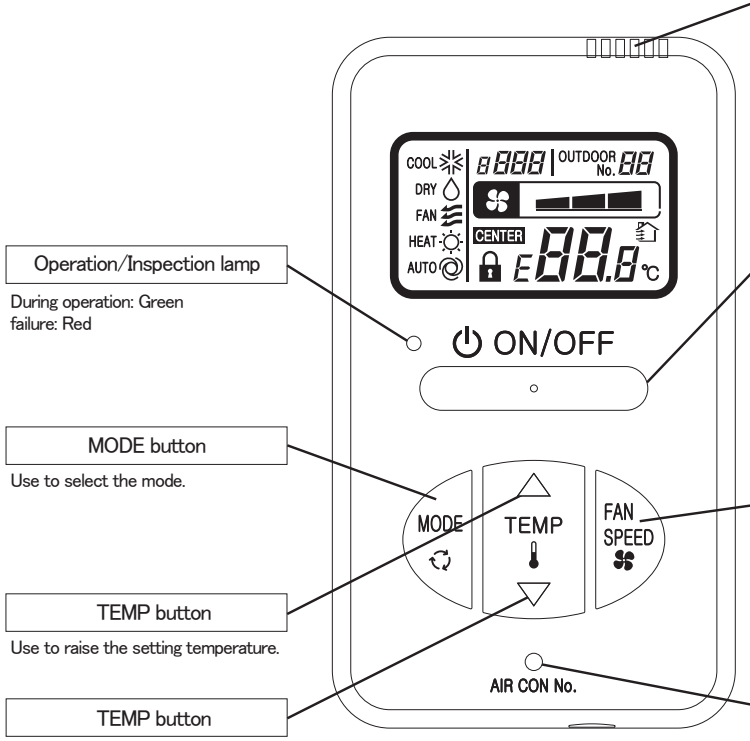
The motion sensor will not function if it is only installed.
Set the function of the motion sensor by the wired or wireless remote control.
Refer to the manual instruction of each remote control for the setting procedure.

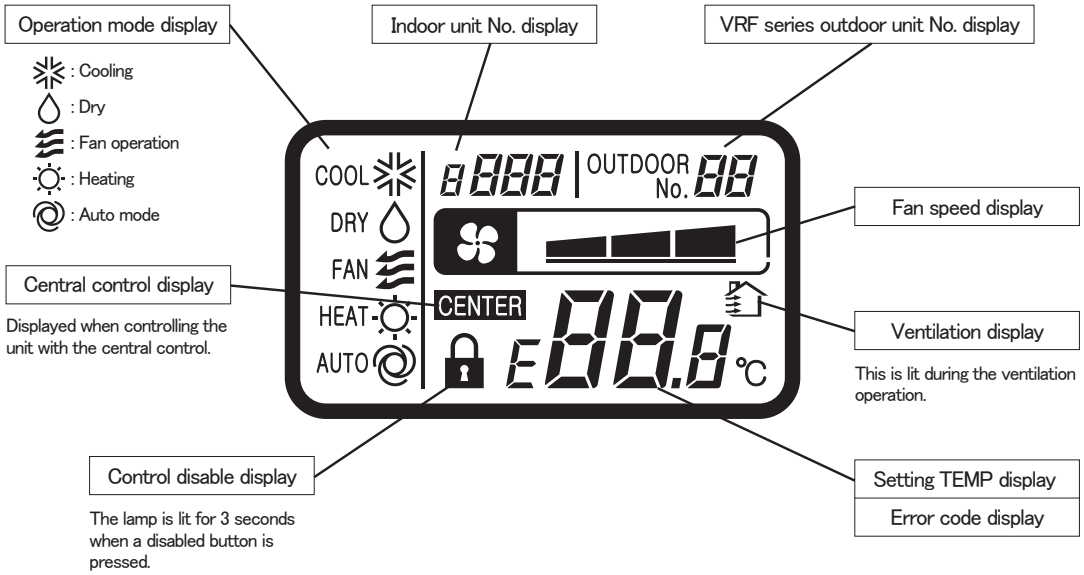
Note: It is not possible to set by the following remote control models or older.
Wired:RC-EX1A, RC-E5, RCH-E3
Wireless: RCN-E1R

(3) Simple wired remote control (RCH-E3)

Note:
Following functions of FDU indoor unit series are not able to be set with this simple wired remote control (RCH-E3).
1. 4-fan speed setting (P-Hi/Hi/Me/Lo)→ 3-fan speed setting (Hi/Me/Lo)

Names and functions of sections





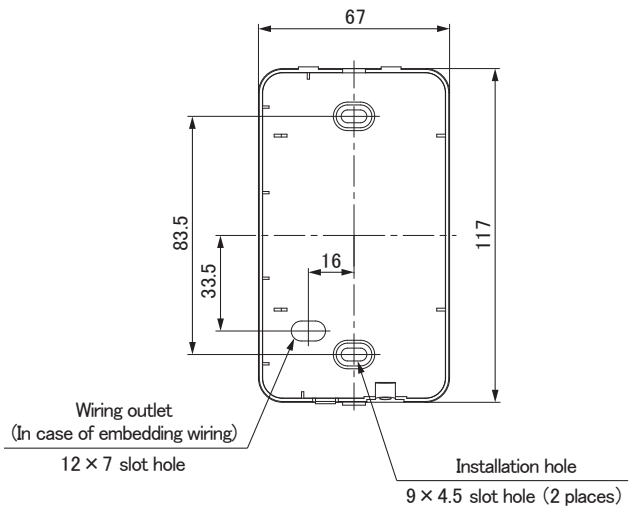
Installation of remote control

Do not install the remote control at the following places in order to avoid malfunction.

(1) Places exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places
(4) Hot surface or cold surface enough to generate condensation
(5) Places exposed to oil mist or steam directly
(6) Uneven surface

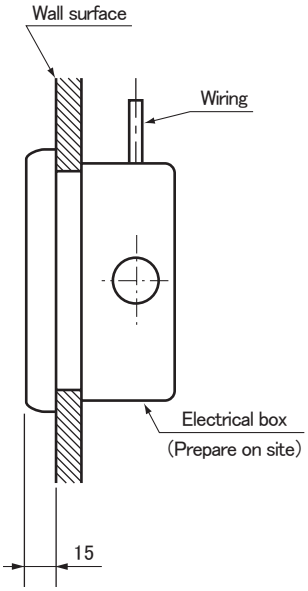
PJZ000Z272

Remote control installation dimensions

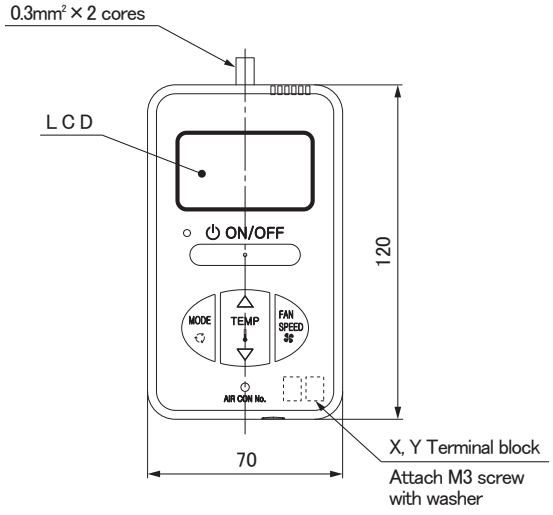


Note: Installation screw for remote control
M4 screw (2 pieces)

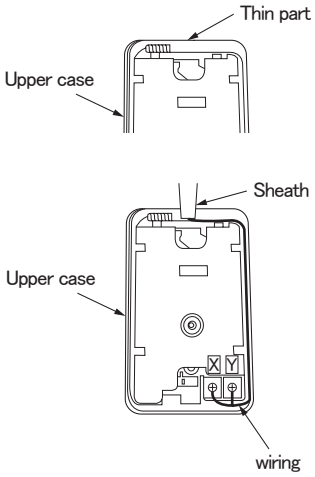
In case of embedding wiring



In case of exposing wiring

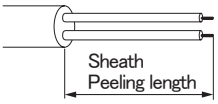


The remote control wiring can be extracted from the upper center.
After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



Wiring specifications

(1) Wiring of remote control should use 0.3mm² × 2 cores wires or cables. (on-site configuration)
(2) Maximum prolongation of remote control wiring is 600m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control case should be 0.3mm² (recommended) to 0.5mm².
Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

Unit:mm

Length	Wiring thickness
100 to 200m	0.5mm² × 2 cores
Under 300m	0.75mm² × 2 cores
Under 400m	1.25mm² × 2 cores
Under 600m	2.0mm² × 2 cores

Adapted to **RoHS** directive

Simple Remote Control Installation Manual

PJZ012D069Ⓐ

Read together with indoor unit's installation manual.

⚠WARNING

- **Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.**
  Loose connection or hold will cause abnormal heat generation or fire.
- **Make sure the power source is turned off when electric wiring work.**
  Otherwise, electric shock, malfunction and improper running may occur.

⚠ CAUTION

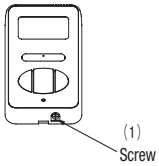
- **Do not install the remote control at the following places in order to avoid malfunction.**
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- **Do not leave the remote control without the upper case.**
  In case the upper cace needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust.

Accessories	Remote control, wood screw (ϕ3.5×16) 2 pieces
Prepare on site	Remote control cord (2 cores) (Refer to [2. Installation and wiring of remote control]) [In case of embedding cord] Electrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

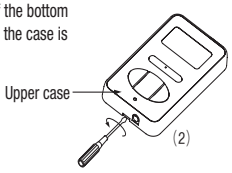
1. Installation procedure

In case of embedding cord

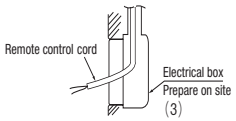
(1) Make certain to remove the screw on the bottom surface of the remote control.



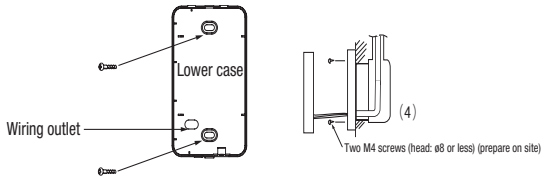
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



(3) Pre-bury the electrical box and remote control cord.



(4) Prepare two M4 screws (recommended length: 12 – 16mm), and install the lower case to the electrical box.
Do not use a screw whose screw head is larger than the height of the wall around the screw hole.

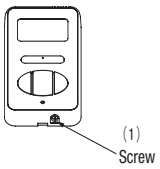


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)

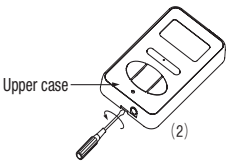
(6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.

In case of exposing cord

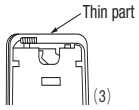
(1) Make certain to remove a screw on the bottom surface of the remote control.



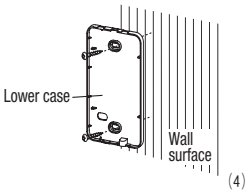
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



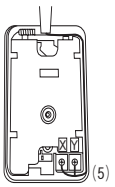
(3) The remote control cord can be extracted from the upper center.
After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



(4) The lower case of the remote control is mounted to a flat wall with two accessory wood screws.

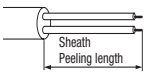


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
The wiring route is as shown in the right.



The wiring in the remote control case should be 0.3 mm^2 (recommended) to 0.5 mm^2 at maximum.
Further, peel off the sheath.
The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



(6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.

(7) In the case of exposing installation, secure the remote control cord to the wall surface with a cord clamp so as not to loosen the remote control cord.

2. Installation and wiring of remote control

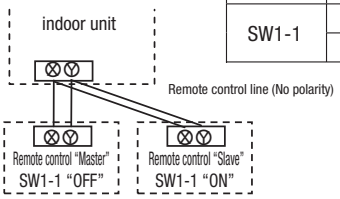
(1) Wiring of remote control should use 0.3mm^2 × 2 cores wires or cables. (on-site configuration)
(2) Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control case should be 0.3mm^2 (recommended) to 0.5mm^2.
Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

100 - 200m·····0.5mm^2 × 2 cores
Under 300m·····0.75mm^2 × 2 cores
Under 400m·····1.25mm^2 × 2 cores
Under 600m·····2.0mm^2 × 2 cores

3. Master/ slave setting when more than one remote control are used

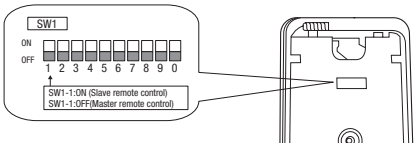
(1) Up to two remote controls can be connected to one unit (or one group) of indoor unit.

Switch	Setting	Function detail
SW1-1	ON	Slave remote control
	OFF	Master remote control



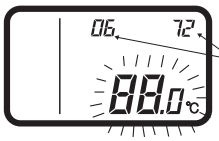
(2) Set the switch SW1-1 of the slave remote control is "Slave" (ON). The factory default is set as "Master" (OFF).

(Note) • The remote control temperature sensor enabled setting can be set only to the master remote control.
• Install the master remote control at the position to detect room temperature.
• The air-conditioner operation follows the last operation of the remote control in case of the master / slave setting.



4. The indication when power source is supplied

(1) At the time of turning the power source on, after the light is on for the first 2 seconds, the display becomes as shown below.
The number displayed on the upper side of LCD in the remote control is the software number, and this is not an error code.



Software number
(The number in the left is one example. Another number may be shown.)

(2) Then, "88.0 °C" blinks on the remote control until the communication between the remote control and the indoor unit is established.

(3) In the case of connecting one remote control with one unit (or one group) of indoor unit, make certain to set the master remote control (factory default).
If the slave remote control is set, a communication cannot be established.

(4) If a state where the communication between the remote control and the indoor unit cannot be established continues about for 30 minutes, "E" is displayed. Confirm the wiring of the indoor unit and the outdoor unit and master/slave setting of the remote control.

5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote control operation.

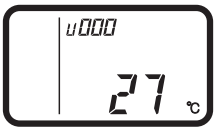
(1) **Press AIR CON No. button for over 5 seconds.**
"88" blinks on the temperature setting indicator.
("88" blinks for approximately 2 seconds while data is read.)
↓
Then, the return air temperature is displayed.
(Example) return air temperature: "27 °C" (blinking)

(Note) For the return air temperature, in the normal case, the return air temperature of the indoor unit is displayed; however, in the case that the remote control temperature sensor is effective, detected temperature by the remote control temperature sensor is displayed.

(2) **Press ON/OFF button.**
End.

[In the case that the remote temperature sensor is ineffective and plural indoor units are connected to one remote control]

(1) **Press AIR CON No. button for over 5 seconds.**
indoor unit No. indicator: "U 000" (blinking)
(Among the connected indoor units, the lowest number is displayed.)



(2) **Press TEMP△ or TEMP▽ button.**
Select the indoor unit No.

(3) **Press MODE button.**
Dectder the indoor unit No.
(Example) indoor unit No. indicator: "U 000"
"88" blinks on the temperature setting indicator. (blinking for approximately 2 to 10 seconds while data is read) Then, the return air temperature is displayed. When AIR CON No. is pressed, return to the indoor unit selection display (example, "U 000").

(4) **Press ON/OFF button.**
End.

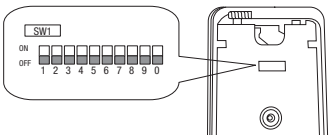
6. Function setting

Each function of the remote control and the indoor unit is automatically set to the initial setting, which is the standard use, on the occasion of connecting the remote control with the indoor unit. In the case of the standard use, the setting change is unnecessary. However, if you whould like to change the initial setting " ○ ", change the setting for only the item of the function number. **Record the setting contents and stored them.**

(1) Function setting item by switch on PCB

Switch No.	Setting	Setting detail	Initial setting
SW1-1	ON	Slave remote control	
	OFF	Master remote control	○
SW1-2	ON	Remote control temperature sensor enabled	
	OFF	Remote control temperature sensor disabled	○
SW1-3	ON	"MODE" button prohibited	
	OFF	"MODE" button enabled	○
SW1-4	ON	"ON/OFF" button prohibited	
	OFF	"ON/OFF" button enabled	○

Switch No.	Setting	Setting detail	Initial setting
SW1-5	ON	"TEMP" button prohibited	
	OFF	"TEMP" button enabled	○
SW1-6	ON	"FAN SPEED" button prohibited	※ Note 1
	OFF	"FAN SPEED" button enabled	※ Note 1
SW1-7	ON	Auto restart function enabled	
	OFF	Auto restart function disabled	○
SW1-8, 9, 0	ON	Not used	
	OFF		



- As for the slave remote control, function setting is impossible other than SW1-1.
- In the indoor unit with only one fan speed, "FAN SPEED" button cannot be enabled.

(2) Function setting item by button operation

Classification	Function No.	Function	Setting No.	Setting	Initial setting	Remarks
Remote control function	01	Indoor unit fan speed	01	Fan speed: three steps	※ Note 1	The fan speed is three steps, ❋■■■ - ❋■■ - ❋■ .
			02	Fan speed: two steps (Hi-Lo)	※ Note 1	The fan speed is two steps, ❋■■■ - ❋■ .
			03	Fan speed: two steps (Hi-Me)		The fan speed is two steps, ❋■■■ - ❋■■ .
			04	Fan: one step	※ Note 1	The fan speed is fixed to one step.
	03	Remote control thermistor at the time of cooling	01	Remote control temperature sensor: no offset	○	
			02	Remote control temperature sensor: +3.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offset temperature at +3.0°C.
			03	Remote control temperature sensor: +2.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offset temperature at +2.0°C.
			04	Remote control temperature sensor: +1.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offset temperature at +1.0°C.
			05	Remote control temperature sensor: -1.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offset temperature at -1.0°C.
			06	Remote control temperature sensor: -2.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offset temperature at -2.0°C.
			07	Remote control temperature sensor: -3.0 °C		At the time of cooling, in the case of remote control temperature sensor enabled, offsett temperature at -3.0°C.
	04	Remote control thermistor at the time of heating	01	Remote control temperature sensor: no offset	○	
			02	Remote control temperature sensor: +3.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at +3.0°C.
			03	Remote control temperature sensor: +2.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at +2.0°C.
			04	Remote control temperature sensor: +1.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at +1.0°C.
			05	Remote control temperature sensor: -1.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at -1.0°C.
			06	Remote control temperature sensor: -2.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at -2.0°C.
			07	Remote control temperature sensor: -3.0 °C		At the time of heating, in the case of remote control temperature sensor enabled, offset temperature at -3.0°C.
	05	Ventilation setting	01	No ventilator connection	○	
			02	Ventilator links air-conditioner		In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit.
	06	"Auto" operation setting	01	"Auto" operation enabled	※ Note 1	
			02	"Auto" operation disabled	※ Note 1	"Auto" operation disabled
Indoor unit function	07	Operation permission/ prohibition	01	Disabled	○	
			02	Enabled		Operation permission/prohibition control is enabled.
	08	External input	01	Level input	○	
			02	Pulse input		
	09	Fan speed setting	01	Standard	Note2	
			02	High speed 1	Note2	
			03	High speed 2	Note2	
	10	Fan remaining operation at the time of cooling	01	No remaining operation	○	After cooling stopped, no fan remaining operation
			02	0.5 hours		After cooling stopped, fan remaining operation for 0.5 hours
			03	1 hour		After cooling stopped, fan remaining operation for 1 hour
			04	6 hours		After cooling stopped, fan remaining operation for 6 hours
	11	Fan remaining operation at the time of heating	01	No remaining operation	○	After heating stopped or after heating thermostat OFF, no fan remaining operation
			02	0.5 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 0.5 hours
			03	2 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 2 hours
			04	6 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 6 hours
	12	Setting temperature offset at the time of heating	01	No offset	○	
			02	Setting temperature offset + 3.0 °C		The setting temperature at the time of heating is offset by +3.0 °C.
			03	Setting temperature offset + 2.0 °C		The setting temperature at the time of heating is offset by +2.0 °C.
			04	Setting temperature offset + 1.0 °C		The setting temperature at the time of heating is offset by +1.0 °C.
	13	Heating fan controller	01	Low fan speed	※ Note 1	At the time of heating thermostat OFF, operate with low fan speed.
			02	Setting fan speed		At the time of heating thermostat OFF, operate with the setting fan speed.
			03	Intermittent operation	※ Note 1	At the time of heatingr thermostat OFF, intermittently operate.
			04	Fan off		At the time of heating thermostat OFF, a fan will be stopped. When the remote control thermistor is enabled, automatically set to "Fan off". Do not set at the time of the indoor unit temperature sensor.
	14	Return air temperature offset	01	No offset	○	
			02	Return air temperature offset +2.0 °C		Offset the return air temperature of the indoor unit by +2.0 °C.
			03	Return air temperature offset +1.5 °C		Offset the return air temperature of the indoor unit by +1.5 °C.
			04	Return air temperature offset +1.0 °C		Offset the return air temperature of the indoor unit by +1.0 °C.
			05	Return air temperature offset -1.0 °C		Offset the return air temperature of the indoor unit by -1.0 °C.
			06	Return air temperature offset -1.5 °C		Offset the return air temperature of the indoor unit by -1.5 °C.
			07	Return air temperature offset -2.0 °C		Offset the return air temperature of the indoor unit by -2.0 °C.

Note 1: The symbol " ※ " in the initial setting varies depending upon the indoor unit and the outdoor unit to be connected, and this is automatically determined as follows:

Swith No. Function No.	Function	Setting	Product model
SW1-6	"FAN SPEED" button	"FAN SPEED" button prohibited	Product model whose indoor fan speed is only one step
		"FAN SPEED" button enabled	Product model whose indoor fan speed is two steps or three steps
Remote control function 01	Indoor unit fan speed	Fan speed: three steps	Product model whose indoor unit fan speed is three steps
		Fan speed: two steps (Hi-Lo)	Product model whose indoor unit fan speed is two steps
		Fan speed: two steps (Hi-Me)	
		Fan: one step	Product model whose indoor unit fan speed is only one step
Remote control function 06	"Auto" operation setting	"Auto" operation enabled	Product model where "Auto" mode is selectable
		"Auto" operation disabled	Product model without "Auto" mode
Indoor unit function 13	Heating fan control	Low fan speed	Product model except FDUS
		Intermittent operation	FDUS

Note 2: Fan speed of "High speed" setting

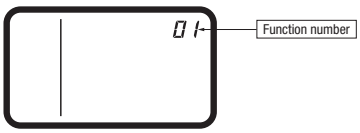
Fan speed setting	Indoor unit fan speed setting		
	❋■■■ - ❋■■ - ❋■	❋■■■ - ❋■	❋■■■ - ❋■■
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid
High speed 1・2	UHi — Hi — Mid	UHi — Mid	UHi — Hi

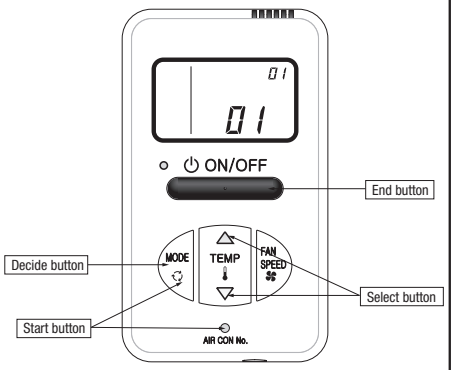
Initial setting of some indoor unit is "High speed".

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.
But only master indoor unit is received the setting change of indoor unit function "07 Operation permission/ prohibition" and "08 External input".

7. How to set functions by button operation

(1) **Stop air-conditioner, and simultaneously press AIR CON No. and MODE buttons at the same time for over three seconds.**
The function number "01" blinks in the upper right.

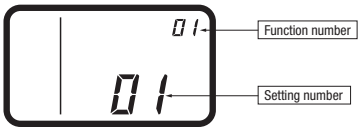




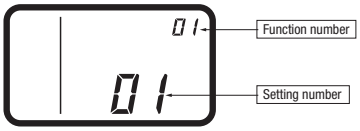
(2) **Press TEMP△ or TEMP▽ button.**
Select the function number.

(3) **Press MODE button.**
Decide the function number.

(4) **[In the case of selecting the remote control function (01-06)]**
① The current setting number of the selected function number blinks
(Example)
Function number: "01" (lighting)
Setting number: "01" (blinking)



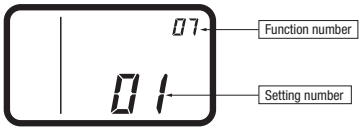
② **Press TEMP△ or TEMP▽ button.**
Select the setting number.
③ **Press MODE button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
Function number: "01" (lighting for 3 to 20 seconds)
Setting number: "01" (lighting for 3 to 20 seconds)



Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

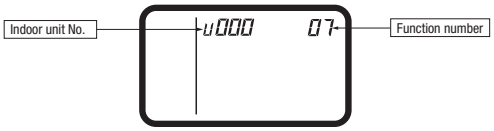
(5) **Press ON/OFF button.**
The setting is completed.

[In the case of selecting the indoor unit function (07-14)]
① **"88" blinks on the temperature setting indicators.**
(blinking for approximately 2 to 10 seconds while data are read)
↓
After that, the current setting number of the selected function number blinks.
(Example)
Function number: "07" (lighting)
Setting number: "01" (blinking)



Proceed to ②.

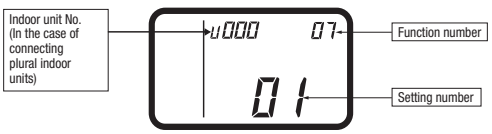
[Note]
a. In the case of connecting one remote control to plural indoor units, the display will be as follows:
Indoor unit No. display: "U 000" (blinking)
(Display the lowest number among the connected indoor units.)



b. Press TEMP△ or TEMP▽ button.
Select the indoor unit No. to be set.
If "U ALL" is selected, the same setting can be set to all units.
c. Press MODE button.
Decide the indoor unit No.
"88" blinks on the temperature setting indicators. (blinking for 2 to 10 seconds while data is read)
When AIR CON No. button is pressed, go back to the indoor unit selection display (for example, "U 000" blinking).

② **Press TEMP△ or TEMP▽ button.**
Select the setting number

③ **Press MODE button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
Indoor unit No.: "U 000" (lighting for 3 to 20 seconds)
Function number: "07" (lighting for 3 to 20 seconds)
Setting number: "01" (lighting for 3 to 20 seconds)



Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

- Even if ON/OFF button is pressed during setting, the setting is ended. However, any details where the setting has not been completed will be ineffective.
- The setting contents are stored in the control, and even if the power failure occur, this will not be lost.

[Confirmation method for current setting]
According to the operation, the "setting number" displayed first after selecting "function number" and pressing MODE button is the currently set content.
(However, in the case of selecting "U ALL" (all units), the setting number of the lowest number among the indoor units is displayed.)

(4) Interface kit (SC-BIKN2-E)

※ When RC-EX3A is connected, please use SC-BIKN2-E by all means.

RKZ012A099

Accessories included in package

Be sure to check all the accessories included in package.

No.	Part name	Quantity
①	Indoor unit's connection cable (cable length: 1.8m)	1
②	Wood screws (for mounting the interface: ø4x 25)	2
③	Tapping screws (for the cable clump and the interface mounting bracket)	3
④	Interface mounting bracket	1
⑤	Cable clamp (for the indoor unit's connection cable)	1
⑥	CnT terminal connection cable (total cable length: 0.5m)	1

Safety precautions

Before use, please read these Safety precautions thoroughly before installation.

- All the cautionary items mentioned below are important safety related items to be taken into consideration, so be sure to observe them at all times.

⚠Warning	Incorrect installation could lead to serious consequences such as death, major injury or enviromental destruction.

- Symbols used in these precautions

❗	Always go along these instruction.

- After completed installation, carry out trial operation to confirm no anomaly, and ask the user to keep this installation manual in a good place for future reference.

⚠ Warnings

❗

- **Installation must be carried out by a qualified installer.**
  If you install it by yourself, it may cause an electric shock, fire and personal injury , as a result of a system malfunction.
- **Install it in full accordance with the installation manual.**
  Incorrect installation may cause an electric shock, fire and personal injury.
- **Electrical work must be carried out by a qualified electrician in accordance with the technical standard for electrical equipment, the indoor wiring standard and this installation manual.**
  Incorrect installation may cause an electric shock, fire and personal injury.
- **Use the specific cables for wiring. And connect all the cables to terminals or connectors securely and clamp them with cable clamps in order for external forces not to be transmitted to the terminals directly.**
  Incomplete connection may cause malfunction, and lead to heat generation and fire.
- **Use the original accessories and specified components for installation.**
  If the parts other than those prescribed by us are used, it may cause an electric shock, fire and sersonal injury.

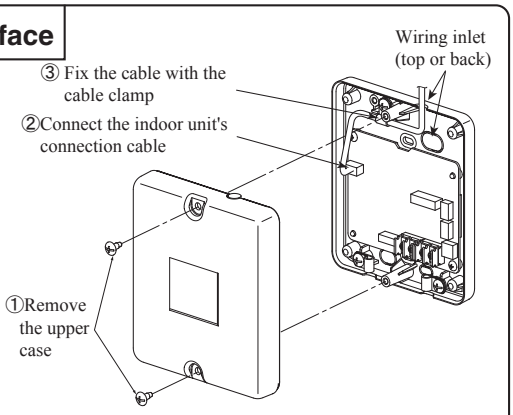
Connecting the indoor unit's connection cable to the interface

①Remove the upper case of the interface.
- Remove 2 screws from the interface casing before removal of upper casing.

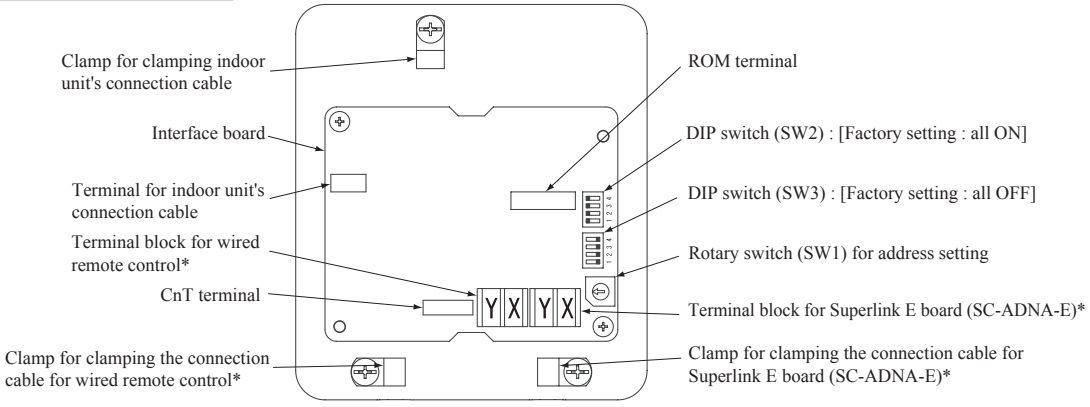
②Connect the indoor unit's connection cable to the interface.
- Connect the connector of the indoor unit connection cable to the connector on the interface's circuit board.

③Fix the indoor unit's connection cable with the cable clamp.
- Cable can be brought in from the top or from the back.
- Cut out the punch-outs for the connection cables running into the casing with cutter.

④Connect the indoor unit's connection cable to the indoor control PCB.
- Connect the indoor unit's connection cable to the indoor control PCB securely.
- Clamp the connection cable to the indoor control box securely with the cable clamp provided as an accessory.
- Regarding the cable connection to the indoor unit, refer to the installation manual for indoor unit.



Name of each part of the interface



*Either the connection cables of Superlink E board (SC-ADNA-E) or of wired remote control is connectable.

Switch	Setting	Function	Switch	Setting	Function
SW2-1	ON**	CnT level input	SW2-3	ON**	External input (CnT input)
	OFF	CnT pulse input		OFF	Operation permission/prohibition (CnT input)
SW2-2	ON**	Wired remote control : Enable	SW2-4	ON**	Annual cooling : Enable***
	OFF	Wired remote control : Disable		OFF	Annual cooling : Disable***

** Factory setting

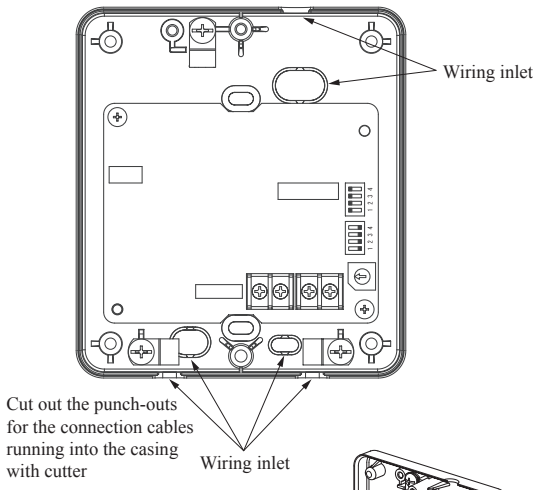
*** Indoor fan control at low outdoor air temperature in cooling

Installation of the interface

- Install the interface within the range of the connection cable length (approximately 1.3m) from the indoor unit.
- Be sure not to extend the connection cable on site. If the connection cable is extended, malfunction may occur.
- Fix the interface on the wall, pillar or the like.

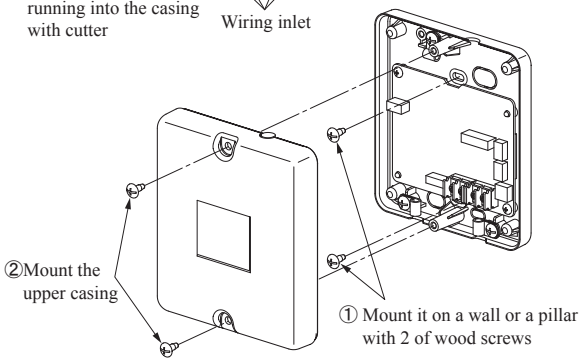
●Don't install the interface and wired remote control at the following places.

○Places exposed to direct sunlight
○Places near heating devices
○High humidity places
○Surfaces where are enough hot or cold to generate condensation
○Places exposed to oil mist or steam directly
○Uneven surface



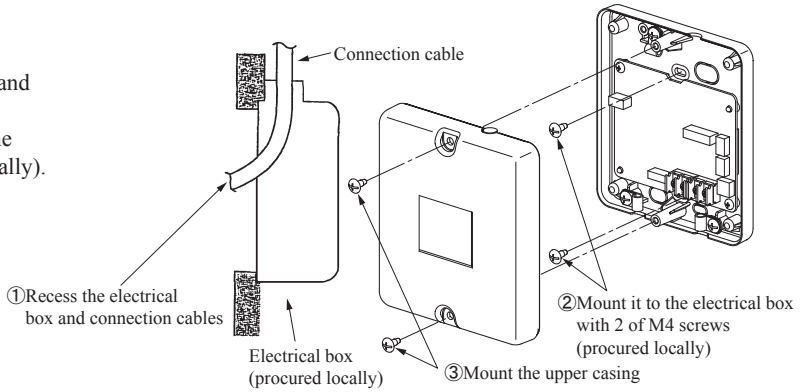
Mounting the interface directly on a wall

①Mount the lower casing of the interface on a flat surface with wood screws provided as standard accessory.
②Mount the upper casing.



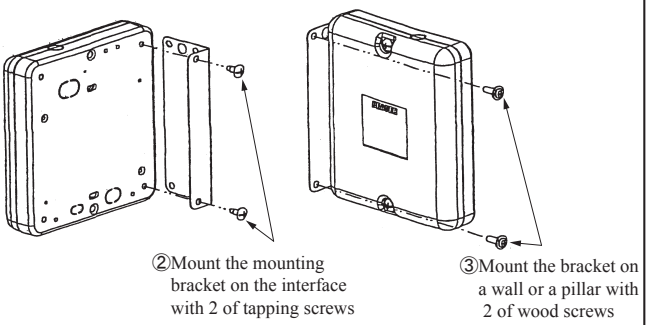
Recessing the interface in the wall

①Recess the electrical box (procured locally) and connection cables in the wall.
②Mount the lower casing of the interface to the electrical box with M4 screws (procured locally).
③Mount the upper casing.



Mounting the interface with the mounting bracket

①Mount the upper casing.
②Mount the mounting bracket to the interface with tapping screws provided as standard accessory.
③Mount the mounting bracket on wall or the like with wood screws provided as standard accessory.



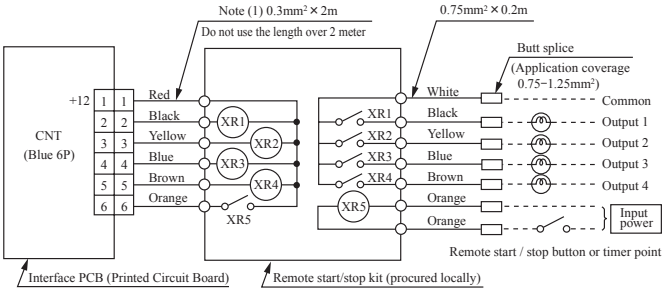
Installation check items

☐ Are the connection cables connected securely to the terminal blocks and connectors?
☐ Are the thickness and length of the connection cables conformed with the standard?

Functions of CnT connector

It is available to operate the air-conditioner and to monitor the operation status with the external control unit (remote display) by sending the input/output signal through CnT connector on the indoor control PCB.

①Connect a external remote control unit (procured locally) to CnT terminal.
②In case of the pulse input, switch OFF the DIP switch SW2-1 on the interface PCB.
③When setting operation permission/prohibition mode, switch OFF the DIP switch SW2-3 on the interface PCB.



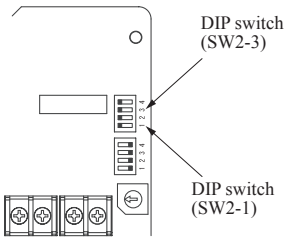
Input/ Output	Function	Output signal		Content
		Relay	ON/OFF	
Output 1	Operation output	XR_1	ON	During air-conditioner operation
Output 2	Heating output	XR_2	ON	During heating operation
Output 3	Compressor operation output	XR_3	ON	During compressor running
Output 4	Malfunction output	XR_4	ON	During anomalous stop

- XR_{1-4} are for the DC 12V relay
- XR_5 is a DC 12/24V or AC 220-240V relay
- CnT connector (local) maker, model

Connector	Molex	5264-06
Terminals	Molex	5263T

Input/ Output	Function	SW2-1		SW2-3				Air-conditioner	Operation by remote control
		Setting		Setting	Input signal		Content		
					Level/Pulse	XR_5			
Input	External control input	ON*	Level input	ON*	Level	OFF→ON	External input	ON	Allowed
						ON→OFF		OFF	
				OFF		OFF→ON	Operation permission	OFF	
						ON→OFF	Operation prohibition	OFF	Not allowed
		OFF	Pulse input	ON*	Pulse	OFF→ON	External input	OFF→ON	Allowed
								ON→OFF	
				OFF	Level	OFF→ON	Operation permission	ON	
						ON→OFF	Operation prohibition	OFF	Not allowed

* Factory setting

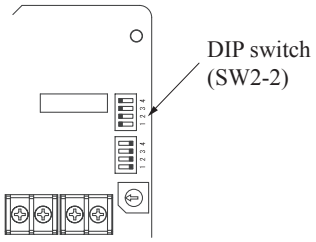


In case of the remote control (RC-EX3 or later model), the external outputs (1 – 4) and the external input can be changed using the function setting of remote control. For the setting method, refer to the installation manual.
Also refer to the technical manual to know how it is adapted to the function setting for the external outputs and input, at the indoor unit side.

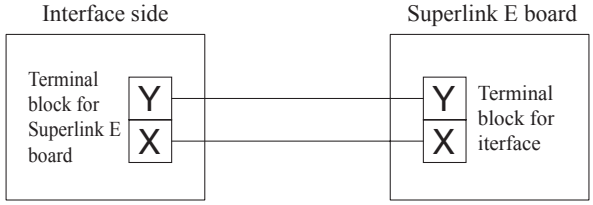
Connection of Superlink E board

Regarding the connection of Superlink E board, refer to the installation manual of Superlink E board.
For electrical work, power source for all of units in the Superlink system must be turned OFF.

①Switch ON the DIP switch SW2-2 (Factory setting: ON) on the interface PCB.
Caution: Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.



②Wiring connection between the interface and the Superlink E board.

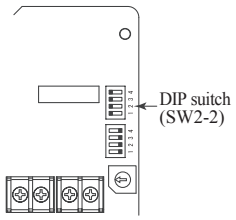


No.	Names of recommended signal wires
1	Shielded wire
2	Vinyl cabtyre round cord
3	Vinyl cabtyre round cable
4	Vinyl insulated wire vinyl sheathed cable for control

Within 200 m 0.5 mm² × 2 cores
Within 300 m 0.75 mm² × 2 cores
Within 400 m 1.25 mm² × 2 cores
Within 600 m 2.0 mm² × 2 cores

③Clamp the connection cables with cable clamps.

Connection of wired remote control



Regarding the connection of wired remote control, refer to the installation manual of wired remote control.

①Switch ON the DIP switch SW2-2 (Factory setting : ON) on the interface PCB.

Caution:Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.

②Wiring connection between the interface and the wired remote control.

Installation and wiring of wired remote control

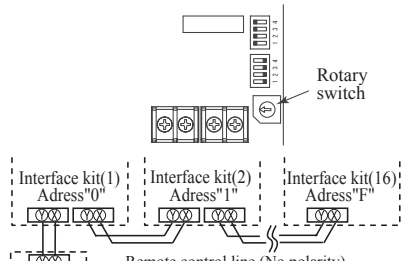
Ⓐ Install the wired remote control with reference to the attached installation manual of wired remote control.
Ⓑ 0.3mm² x 2 cores cable should be used for the wiring of wired remote control.
Ⓒ Maximum length of wiring is 600m.
If the length of wiring exceeds 100m, change the size of cable as mentioned below.
100m-200m: 0.5mm² X 2 cores, 300m or less: 0.75mm² X 2 cores, 400m or less: 1.25mm² X 2 cores, 600m or less: 2.0mm² X 2 cores
However, cable size connecting to the terminal of wired remote control should not exceed 0.5mm². Accordingly if the size of connection cable exceeds 0.5mm², be sure to downsize it to 0.5mm² at the nearest section of the wired remote control and waterproof treatment should be done at the connecting section in order to avoid contact failure.
Ⓓ Don't use the multi-core cable to avoid malfunction.
Ⓔ Keep the wiring of wired remote control away from grounding (Don't touch it to any metal frame of building, etc.).
Ⓕ Connect the connection cables to the terminal blocks of the wired remote control and the interface securely (No polarity).

③Clamp the connection cables with cable clamps.

Control of multiple units by a single wired remote control

Multiple units (up to 16) can be controlled by a single wired remote control.
In this case, all units connected with a single wired remote control will operate under the same mode and same setting temperature.

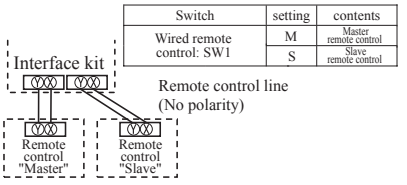
①Connect all the interface with 2 cores cables of wired remote control line.
②Set the address of indoor unit for remote control communication from "0" to "F" with the rotary switch SW1 on the interface PCB.
③After turning the power ON, the address of indoor unit can be displayed by pressing AIR CON No. button on the wired remote control.
Make sure all indoor units connected are displayed in order by pressing ▲ or ▼ button.



Master/Slave setting wired when 2 of wired remote control are used

Maximum two wired remote control can be connected to one indoor unit (or one group of indoor units)

①Set the DIP switch SW1 on the wired remote control to "Slave" for the slave remote control. (Factory setting : Master)
○ Caution : Remote control sensor of the slave remote control is invalid.



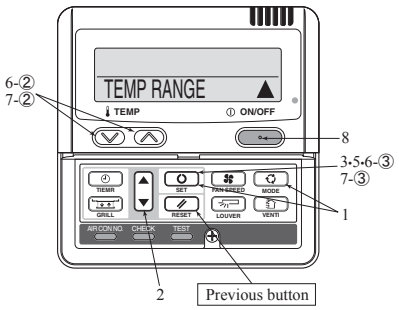
●When using the wireless remote control in parallel with the wired remote control;
Since temperature setting range of wired remote control is different from that of wireless remote control, please adjust the setting range of wired remote control to be the same setting range of wireless remote control by following procedure. (The set temperature may not be displayed correctly on the wireless remote control, unless change of temperature setting range is done.)
Changing procedure of temperature setting range is as follows.

How to set upper and lower limit of temperature setting range

1. Stop the air-conditioner, and press ○ (SET) and ◇ (MODE) button at the same time for 3 seconds or more.
The indication changes to"FUNCTION SET▼"
2. Press ▼ button once, and change to the "TEMP RANGE▲" indication.
3. Press ○ (SET) button, and enter the temperature range setting mode.
4. Confirm that the "Upper limit ▼ " is shown on the display.
5. Press ○ (SET)button to fix.
6. ①Indication: "☝∨ ∧ SET UP"→"UPPER 28℃ ∨ ∧"
②Select the upper limit value 30℃ with temperature setting button △."UPPER30℃∨ " (blinking)
③Press ○ (SET) button to fix. "UPPER 30℃" (Displayed for two seconds)
After the fixed upper limit value displayed for two seconds, the indication will return to"UPPER LIMIT▼".
7. Press ▼ button once, "LOWER LIMIT ▲ " is selected, press ○ (SET) button to fix.
①Indication: "☝∨ ∧ SET UP" → "LOWER 20℃∨ ∧"
②Select the lower limit value 18℃ with temperature setting button ▽."LOWER18℃∧ " (blinking)
③Press ○ (SET) button to fix. "LOWER 18℃" (Displayed for two seconds)
After the fixed lower limit value displayed for two seconds, the indication will return to"LOWER LIMIT▼"
8. Press ON/OFF button to finish.

Temperature setting range

Mode	Temperature setting range
Cooling, Heating, Dry, Auto	18-30℃



- It is possible to quit in the middle by pressing ON/OFF button, but the change of setting is incompleted.
- During setting, if pressing ✎ (RESET) button, it returns to the previous screen.

(5) Superlink E board (SC-ADNA-E)

PJZ012D029K

- Read and understand the instructions completely before starting installation.
- Refer to the instructions for both indoor and outdoor units.

Safety precautions

- Carefully read "Safety precautions" first. Follow the instructions for installation.
- Precautions are grouped into "Warning⚠" and "Caution⚠". The "Warning⚠" group includes items that may lead to serious injury or death if not observed. The items included in the "Caution⚠" group also may lead to serious results under certain conditions. Both groups are crucial for safety installation. Read and understand them carefully.
- After installation, conduct the test operation of the device to check for any abnormalities. Describe how to operate the device to the customer following the installation instruction manual. Instruct the customer to keep this installation instruction for future reference.

⚠Warning

- This device should be installed by the dealer where you purchase the device or a licensed professional shop. If the device is incorrectly installed by the customer, it may result in electric shock or fire.
- Install the device carefully following the installation instruction. If the device is incorrectly installed, it may result in electric shock or fire.
- Use the accessory parts and specified parts for installation. If any parts that do not match the specifications are used, it may result in electric shock or fire.
- A person with the electrical service certification should conduct the service based on the "Technical standards for electrical facilities", "Electrical Wiring Code", and the installation instruction. If the work is done incorrectly, it may result in electric shock or fire.
- Wiring should be securely connected using the specified types of wire. No external force on the wire should be applied to any terminals. If a secure connection is not achieved, it may result in electric shock or fire.

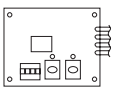
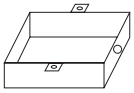
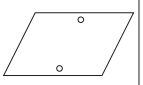
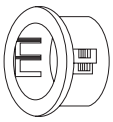
⚠Caution

- Provide ground connection.
  The ground line should never be connected to the gas supply piping, the water supply piping, the lightning conductor rod, nor the telephone ground.If the grounding is improper, it may result in electric shock.
- Do not install the device in the following locations.
  1.Where there is mist/spray of oil or steam such as kitchens.
  2.Where there is corrosive gases such as sulfurous acid gas.
  3.Where there is a device generating electromagnetic waves.
  These may interfere with the control system resulting in the device becoming uncontrollable.
  4.Where flammable volatile materials such as paint thinner and gasoline may exist or where they are handled. This may cause a fire.

1 Application

Indoor-to-outdoor three core communication specification type 3 (since October 2007)

2 Accessories

SL E board	Metal box	Metal cover	Screw for ground
			M4×8L 2 pieces 
Pan head screws	Locking supports	Binding band	Grommet
ø4×8L 2 pieces 	To secure the print board and the metal box Made of nylon 4 pieces 		

3 Function

Allowing the central control SL1N-E, SL2NA-E, and SL4-AE/BE to control and monitor the commercial air-conditioner unit.

4 Control switching

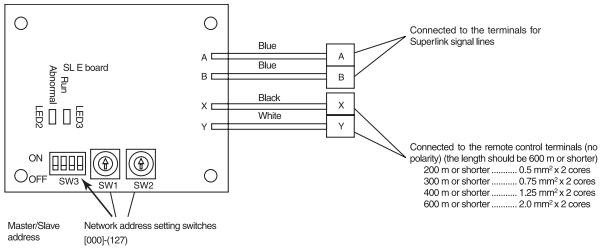
Settings can be changed by the DIP switch SW3 on the SL E board as in the following.

Switch	Symbol	Switch	Remarks
SW3	1	ON	Master
		OFF (default)	Slave
	2	ON	Fixed previous protocol
		OFF (default)	Automatic adjustment of Superlink protocol
	3	ON	Indicates the forced operation stop when abnormality has occurred.
		OFF (default)	Indicates the status of running/stop as it is, when abnormality has occurred.
	4	ON	The hundredth address activated "1"
		OFF (default)	The hundredth address activated "0"

5 Connection outline

Note for setting the address

- Set the address between 00 and 47 for the previous Superlink connection and between 000 and 127 for the new Superlink connection. (*1)
- Do not set the address overlapping with those of the other devices in the network. (The default is 000)



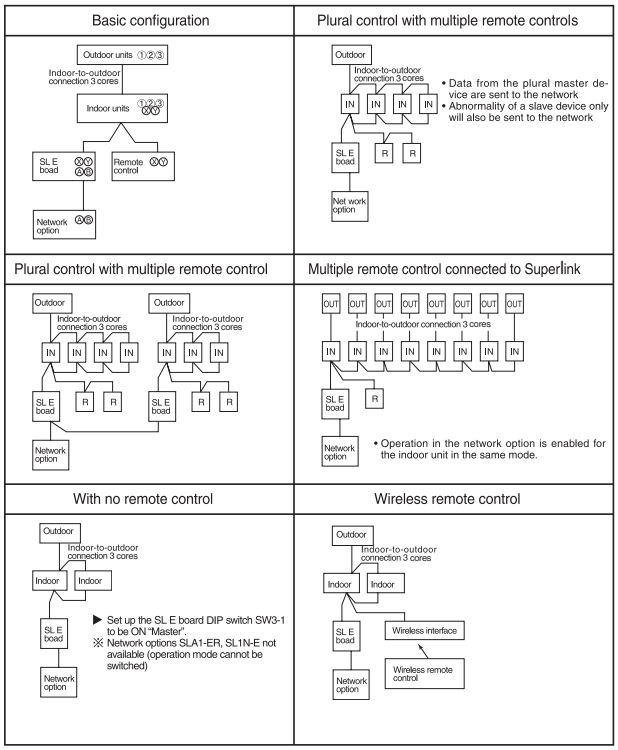
(*1) Whether the actual link is either the new Superlink or the previous Superlink depends on the models of the connected outdoor and indoor units. Consult the agent or the dealer.

Signal line specification

Communication method	Previous Superlink	New Superlink
Line type	MVVS	MVVS
Line diameter	0.75 - 1.25mm²	0.75/1.25mm²
Signal line (total length)	up to 1000m	up to 1500/1000m (*2)
Signal line (maximum length)	up to 1000m	up to 1000m

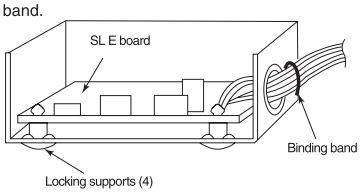
(*2) Up to 1500 m for 0.75 mm², and up to 1000 m for 1.25 mm².
Do not use 2.0 mm². It may cause an error.
(*3) Connect grounding on both ends of the shielding wire.
For the grounding method, refer to the section "6 Installation".

(1) Set the Superlink network address with SW1 (tens place), SW2 (ones place), and SW3 (hundreds place).
(2) Set the SL E board SW3-1 to be ON (Master) when using this without any remote control (no wired remote controller nor wireless remote control).
(3) Set up the plural master/slave device using the DIP switches on the indoor unit board.
(4) Set up the remote control master/slave device using the slide switch on the remote control board.
(5) Set up "0" to "F" using the address rotary switch on the indoor unit board when controlling the indoor unit with the multiple remote control.

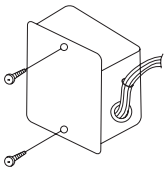


6 Installation

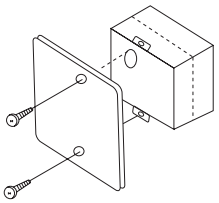
1. When using the metal box (mounted on the indoor unit / mounted on the back of the remote control):
   (1) Mount the SL E board in the metal box using the locking supports.
   (2) Wiring should go through the provided grommet since then through the wiring to the hole on the Metal box.
   Secure the grommet after inserting the grommet into the Metal box as shown in below figure, then tie the wiring at the outlet of the unit using a binding band.



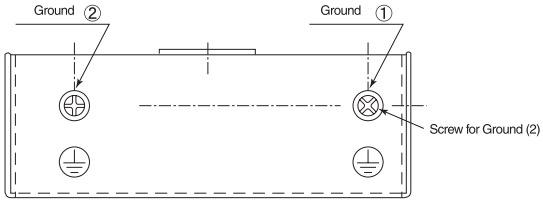
▲ When installed outside the indoor unit, put the metal cover on.



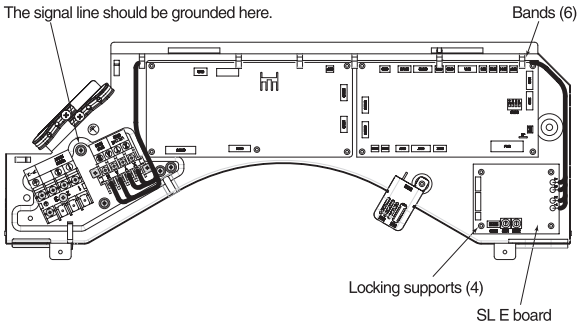
▲ When installed on the back of the remote control, mount it directly on the remote control bottom case.



Connect grounding. Connect grounding for the power line to Ground ①, and grounding for the signal line to Ground ② or to the Ground on the indoor unit control box.



2. When connecting to the indoor unit control box (ceiling-concealed type and FDT type only):
   (1) Mount the SL E board in the control box using the locking supports.
   (2) Remove 6 bands from the box and put the wiring through the bands to be secured.



Electrical shock hazard! make sure to turn the power off for servicing. Be cautious so that no abnormal force should be applied to the wiring. Do not let the SL E board hung by the wiring. Do not damage the board with a screw driver.
The board is sensitive to static electricity. Release the static electricity of your body before servicing.
(You can do this by touching the control board which is grounded).

Location of installation

Install the device at the location where there are no electromagnetic waves nor where there is water and dust. The specified temperature range of the device is 0 to 40°C. Install the device at the location where the ambient temperature stays within the range. If it exceeds the specification, make sure to provide solution such as installing a cooling fan. When used outside of the range, it may cause abnormal operation.

7 Indicator display

Check the LED 3 (green) and LED 2 (red) on the SL E board for flashing.

SL E board LEDs		Inspection mode	Display on the integrated network control device
Red	Green		
Off	Flashing	Normal communication	
Off	Off	• Disconnection in the remote control communication line (X or Y) • Short-circuit in the remote control communication line (between X and Y) • Faulty indoor unit remote control power • Faulty remote control communication circuit • Faulty CPU on SL E board	No corresponding unit number
One flash	Flashing	• Disconnection in the Superlink signal line (A or B) • Short-circuit in the Superlink signal line (between A and B) • Faulty Superlink signal circuit	
Two flashes	Flashing	• Faulty address setting for the SL E board (Set up the address for previous SL E board : more than 48 new SL E board : more than 128)	
Three flashes	Flashing	• SL E board parent not set up when used without a remote control • Faulty remote control communication circuit	E1
Four flashes	Flashing	• Address overlapping for the SL E board and the Superlink network connected indoor unit	E2
Off	Flashing	• Number of connected devices exceeds the specification for the multiple indoor unit control	E10

HYPER INVERTER PACKAGED AIR-CONDITIONERS

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