

# **Part 5**

## **Outdoor Units**

### **High COP Series**

#### **(Energy Saving Series)**

#### **RXQ-PH**

**Cooling Only (50Hz)**

**High COP Series(Energy Saving Series) . . . . .453**



# RXQ-PH

## Cooling Only (50Hz)

## High COP Series

## (Energy Saving Series)

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# 1. Specifications

## 1.1 Cooling Only 50Hz High COP Series (Energy Saving Series) <RXQ-PH>

Model Name			RXQ16PHY1	RXQ18PHY1
Model Name (Independent Unit)			RXQ8PY1+RXQ8PY1	RXQ8PY1+RXQ10PY1
★1 Cooling Capacity (19.5°CWB)	kcal / h		38,800	43,600
	Btu / h		154,000	173,000
	kW		45.1	50.7
★2 Cooling Capacity (19.0°CWB)	kW		44.8	50.4
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×930×765)	(1680×930×765)+(1680×930×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m³/h	(13.72)+(13.72)	(13.72)+(13.72+10.53)
	Number of Revolutions	r.p.m	(7980)+(7980)	(7980)+(6300,2900)
	Motor Output×Number of Units	kW	(3.8×1)+(3.8×1)	(3.8×1)+((1.2+4.5)×1)
	Starting Method		Soft start	Soft start
Fan	Type		Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×1)+(0.75×1)	(0.75×1)+(0.75×1)
	Air Flow Rate	m³/min	180+180	180+185
	Drive		Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ12.7(Brazing Connection)	φ15.9(Brazing Connection)
	Gas Pipe	mm	φ28.6(Brazing Connection)	φ28.6(Brazing Connection)
Product Mass (Machine weight)		kg	205+205	205+249
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Capacity Control		%	10~100	8~100
Refrigerant	Refrigerant Name		R-410A	R-410A
	Charge	kg	7.7+7.7	7.7+8.4
	Control		Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the nameplate of compressor	Refer to the nameplate of compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.				

### Notes:

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

#### Conversion Formulae

kcal/h=kW×860  
 Btu/h=kW×3412  
 cfm=m³/min×35.3

Model Name (Combination Unit)			RXQ24PHY1		RXQ26PHY1	
Model Name (Independent Unit)			RXQ8PY1+RXQ8PY1+RXQ8PY1		RXQ8PY1+RXQ8PY1+RXQ10PY1	
★1 Cooling Capacity (19.5°CWB)		kcal / h	58,100		63,000	
		Btu / h	231,000		250,000	
		kW	67.6		73.2	
★2 Cooling Capacity (19.0°CWB)		kW	67.2		72.8	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×930×765)+(1680×930×765)		(1680×930×765)+(1680×930×765)+(1680×930×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72)+(13.72)+(13.72)		(13.72)+(13.72)+(13.72+10.53)	
	Number of Revolutions	r.p.m	(7980)+(7980)+(7980)		(7980)+(7980)+(6300,2900)	
	Motor Output×Number of Units	kW	(3.8×1)+(3.8×1)+(3.8×1)		(3.8×1)+(3.8×1)+((1.2+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.75×1)+(0.75×1)+(0.75×1)		(0.75×1)+(0.75×1)+(0.75×1)	
	Air Flow Rate	m³/min	180+180+180		180+180+185	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ15.9(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ34.9(Brazing Connection)		φ34.9(Brazing Connection)	
Product Mass (Machine Weight)		kg	205+205+205		205+205+249	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	7~100		6~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	7.7+7.7+7.7		7.7+7.7+8.4	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

Conversion Formulae	
kcal/h=kW×860	
Btu/h=kW×3412	
cfm=m³/min×35.3	

Model Name (Combination Unit)			RXQ28PHY1		RXQ30PHY1	
Model Name (Independent Unit)			RXQ8PY1+RXQ8PY1+RXQ12PY1		RXQ8PY1+RXQ10PY1+RXQ12PY1	
★1 Cooling Capacity (19.5°CWB)		kcal / h	67,800		72,600	
		Btu / h	269,000		288,000	
		kW	78.8		84.4	
★2 Cooling Capacity (19.0°CWB)		kW	78.3		83.9	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×930×765)+(1680×1240×765)		(1680×930×765)+(1680×930×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72)+(13.72)+(13.72+10.53)		(13.72)+(13.72+10.53)+(13.72+10.53)	
	Number of Revolutions	r.p.m	(7980)+(7980)+(6300,2900)		(7980)+(6300,2900)+(6300,2900)	
	Motor Output×Number of Units	kW	(3.8×1)+(3.8×1)+((2.5+4.5)×1)		(3.8×1)+((1.2+4.5)×1)+((2.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.75×1)+(0.75×1)+(0.35×2)		(0.75×1)+(0.75×1)+(0.35×2)	
	Air Flow Rate	m³/min	180+180+233		180+185+233	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ34.9(Brazing Connection)		φ34.9(Brazing Connection)	
Product Mass (Machine Weight)		kg	205+205+285		205+249+285	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	6~100		5~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	7.7+7.7+10.0		7.7+8.5+10.0	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

**Conversion Formulae**

kcal/h=kW×860  
Btu/h=kW×3412  
cfm=m³/min×35.3

Model Name (Combination Unit)			RXQ32PHY1		RXQ34PHY1	
Model Name (Independent Unit)			RXQ8PY1+RXQ12PY1+RXQ12PY1		RXQ10PY1+RXQ12PY1+RXQ12PY1	
★1 Cooling Capacity (19.5°CWB)		kcal / h	77,300		82,200	
		Btu / h	307,000		326,000	
		kW	89.9		95.6	
★2 Cooling Capacity (19.0°CWB)		kW	89.4		95.0	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×1240×765)+(1680×1240×765)		(1680×930×765)+(1680×1240×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72)+(13.72+10.53)+(13.72+10.53)		(13.72+10.53)+(13.72+10.53)+(13.72+10.53)	
	Number of Revolutions	r.p.m	(7980)+(6300,2900)+(6300,2900)		(6300,2900)+(6300,2900)+(6300,2900)	
	Motor Output×Number of Units	kW	(3.8×1)+((2.5+4.5)×1)+((2.5+4.5)×1)		((1.2+4.5)×1)+((2.5+4.5)×1)+((2.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.75×1)+(0.35×2)+(0.35×2)		(0.75×1)+(0.35×2)+(0.35×2)	
	Air Flow Rate	m³/min	180+233+233		185+233+233	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ34.9(Brazing Connection)		φ34.9(Brazing Connection)	
Product Mass (Machine Weight)		kg	205+285+285		249+285+285	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	5~100		5~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	7.7+10.0+10.0		8.4+10.0+10.0	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

**Conversion Formulae**

kcal/h=kW×860  
Btu/h=kW×3412  
cfm=m³/min×35.3

Model Name (Combination Unit)			RXQ36PHY1		RXQ38PHY1	
Model Name (Independent Unit)			RXQ12PY1+RXQ12PY1+RXQ12PY1		RXQ12PY1+RXQ12PY1+RXQ14PY1	
★1 Cooling Capacity (19.5°CWB)	kcal / h		87,700		92,900	
	Btu / h		348,000		368,000	
	kW		102		108	
★2 Cooling Capacity (19.0°CWB)	kW		101		107	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)		(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72+10.53)+(13.72+10.53)+(13.72+10.53)		(13.72+10.53)+(13.72+10.53)+(13.72+10.53+10.53)	
	Number of Revolutions	r.p.m	(6300,2900)+(6300,2900)+(6300,2900)		(6300,2900)+(6300,2900)+(6300,2900,2900)	
	Motor Output×Number of Units	kW	((2.5+4.5)×1)+((2.5+4.5)×1)+((2.5+4.5)×1)		((2.5+4.5)×1)+((2.5+4.5)×1)+((0.3+4.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.35×2)+(0.35×2)+(0.35×2)		(0.35×2)+(0.35×2)+(0.35×2)	
	Air Flow Rate	m³/min	233+233+233		233+233+233	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ41.3(Brazing Connection)		φ41.3(Brazing Connection)	
Product Mass (Machine Weight)		kg	285+285+285		285+285+329	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	5~100		4~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	10.0+10.0+10.0		10.0+10.0+12.3	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

Conversion Formulae	
kcal/h=	kW×860
Btu/h=	kW×3412
cfm=	m³/min×35.3

Model Name (Combination Unit)			RXQ40PHY1		RXQ42PHY1	
Model Name (Independent Unit)			RXQ12PY1+RXQ12PY1+RXQ16PY1		RXQ12PY1+RXQ12PY1+RXQ18PY1	
★1 Cooling Capacity (19.5°CWB)	kcal / h		97,200		101,000	
	Btu / h		386,000		399,000	
	kW		113		117	
★2 Cooling Capacity (19.0°CWB)	kW		112		116	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)		(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72+10.53)+(13.72+10.53)+(13.72+10.53+10.53)		(13.72+10.53)+(13.72+10.53)+(13.72+10.53+10.53)	
	Number of Revolutions	r.p.m	(6300,2900)+(6300,2900)+(6300,2900,2900)		(6300,2900)+(6300,2900)+(7980,2900,2900)	
	Motor Output×Number of Units	kW	((2.5+4.5)×1)+((2.5+4.5)×1)+((1.4+4.5+4.5)×1)		((2.5+4.5)×1)+((2.5+4.5)×1)+((3.0+4.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.35×2)+(0.35×2)+(0.35×2)		(0.35×2)+(0.35×2)+(0.75×2)	
	Air Flow Rate	m³/min	233+233+233		233+233+239	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ41.3(Brazing Connection)		φ41.3(Brazing Connection)	
Product Mass (Machine Weight)		kg	285+285+329		285+285+341	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	4~100		4~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	10.0+10.0+12.5		10.0+10.0+12.7	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

**Conversion Formulae**

kcal/h=kW×860  
 Btu/h=kW×3412  
 cfm=m³/min×35.3

Model Name (Combination Unit)			RXQ44PHY1		RXQ46PHY1	
Model Name (Independent Unit)			RXQ12PY1+RXQ16PY1+RXQ16PY1		RXQ12PY1+RXQ16PY1+RXQ18PY1	
★1 Cooling Capacity (19.5°CWB)	kcal / h		108,000		111,000	
	Btu / h		427,000		440,000	
	kW		125		129	
★2 Cooling Capacity (19.0°CWB)	kW		124		128	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)		(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72+10.53)+(13.72+10.53+10.53)+(13.72+10.53+10.53)		(13.72+10.53)+(13.72+10.53+10.53)+(13.72+10.53+10.53)	
	Number of Revolutions	r.p.m	(6300,2900)+(6300,2900,2900)+(6300,2900,2900)		(6300,2900)+(6300,2900,2900)+(7980,2900,2900)	
	Motor Output×Number of Units	kW	((2.5+4.5)×1)+((1.4+4.5+4.5)×1)+((1.4+4.5+4.5)×1)		((2.5+4.5)×1)+((1.4+4.5+4.5)×1)+((3.0+4.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.35×2)+(0.35×2)+(0.35×2)		(0.35×2)+(0.35×2)+(0.75×2)	
	Air Flow Rate	m³/min	233+233+233		233+233+239	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ41.3(Brazing Connection)		φ41.3(Brazing Connection)	
Product Mass (Machine Weight)		kg	285+329+329		285+329+341	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	4~100		3~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	10.0+12.5+12.5		10.0+12.5+12.7	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

Conversion Formulae	
kcal/h=	kW×860
Btu/h=	kW×3412
cfm=	m³/min×35.3

Model Name (Combination Unit)			RXQ48PHY1		RXQ50PHY1	
Model Name (Independent Unit)			RXQ16PY1+RXQ16PY1+RXQ16PY1		RXQ16PY1+RXQ16PY1+RXQ18PY1	
★1 Cooling Capacity (19.5°CWB)		kcal / h	117,000		120,000	
		Btu / h	464,000		478,000	
		kW	136		140	
★2 Cooling Capacity (19.0°CWB)		kW	135		139	
Casing Color			Ivory White (5Y7.5/1)		Ivory White (5Y7.5/1)	
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)		(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	
Heat Exchanger			Cross Fin Coil		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m³/h	(13.72+10.53+10.53)+(13.72+10.53+10.53)+(13.72+10.53+10.53)		(13.72+10.53+10.53)+(13.72+10.53+10.53)+(13.72+10.53+10.53)	
	Number of Revolutions	r.p.m	(6300,2900,2900)+(6300,2900,2900)+(6300,2900,2900)		(6300,2900,2900)+(6300,2900,2900)+(7980,2900,2900)	
	Motor Output×Number of Units	kW	((1.4+4.5+4.5)×1)+((1.4+4.5+4.5)×1)+((1.4+4.5+4.5)×1)		((1.4+4.5+4.5)×1)+((1.4+4.5+4.5)×1)+((3.0+4.5+4.5)×1)	
	Starting Method		Soft start		Soft start	
Fan	Type		Propeller Fan		Propeller Fan	
	Motor Output	kW	(0.35×2)+(0.35×2)+(0.35×2)		(0.35×2)+(0.35×2)+(0.75×2)	
	Air Flow Rate	m³/min	233+233+233		233+233+239	
	Drive		Direct Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ19.1(Brazing Connection)		φ19.1(Brazing Connection)	
	Gas Pipe	mm	φ41.3(Brazing Connection)		φ41.3(Brazing Connection)	
Product Mass (Machine Weight)		kg	329+329+329		329+329+341	
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector		High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	
Capacity Control		%	3~100		3~100	
Refrigerant	Refrigerant Name		R-410A		R-410A	
	Charge	kg	12.5+12.5+12.5		12.5+12.5+12.7	
	Control		Electronic Expansion Valve		Electronic Expansion Valve	
Refrigerator Oil			Refer to the nameplate of compressor		Refer to the nameplate of compressor	
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps		Installation Manual, Operation Manual, Connection Pipes, Clamps	
Drawing No.						

**Notes:**

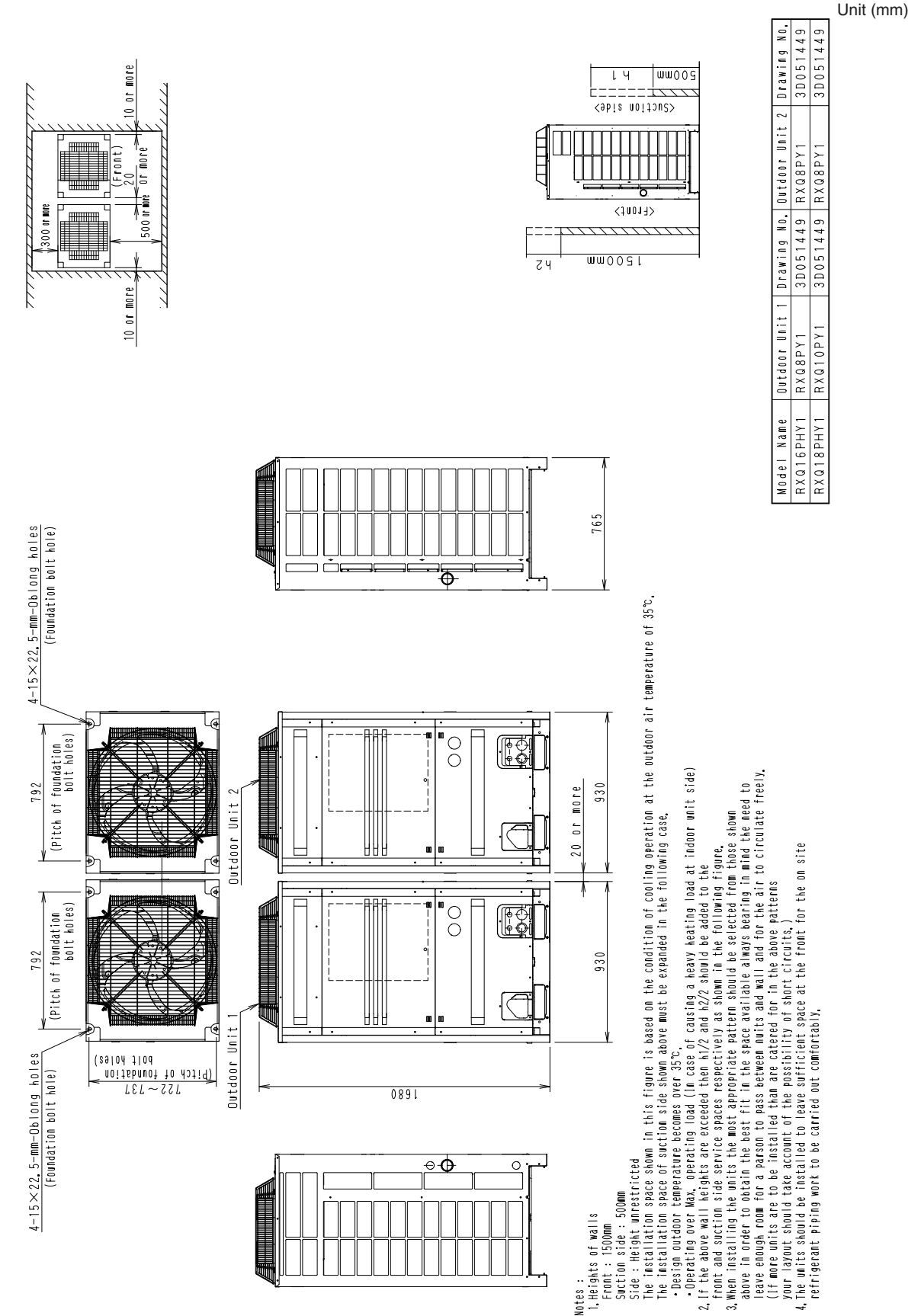
- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.  
 3 The power input (PI) (Comp.+Outdoor Fan Motor) : Refer to P.470~485.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3412
cfm=m³/min×35.3

2. Dimensions

2.1 Combination Unit

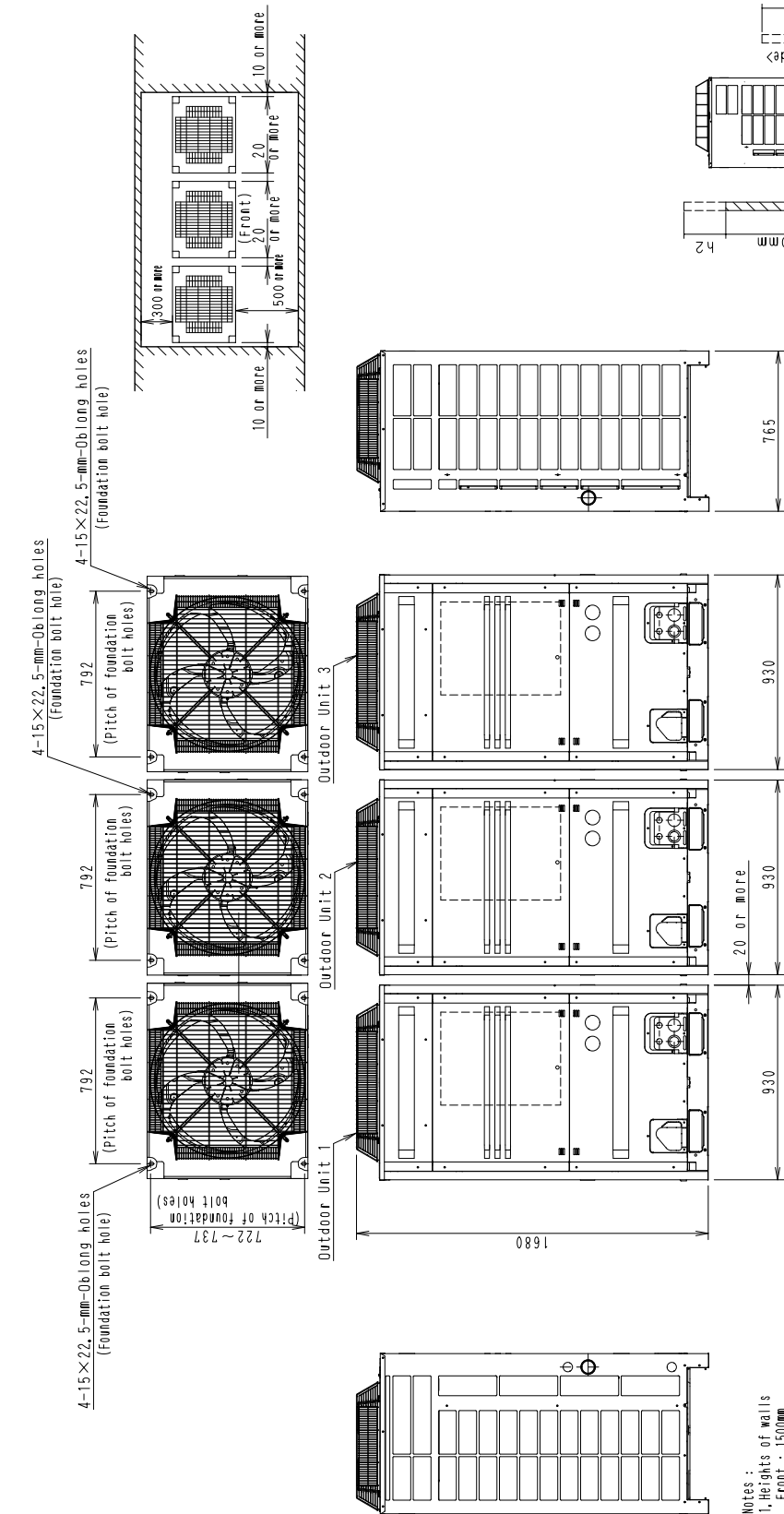
RXQ16PH  
RXQ18PH



C:3D053034

RXQ24PH  
RXQ26PH

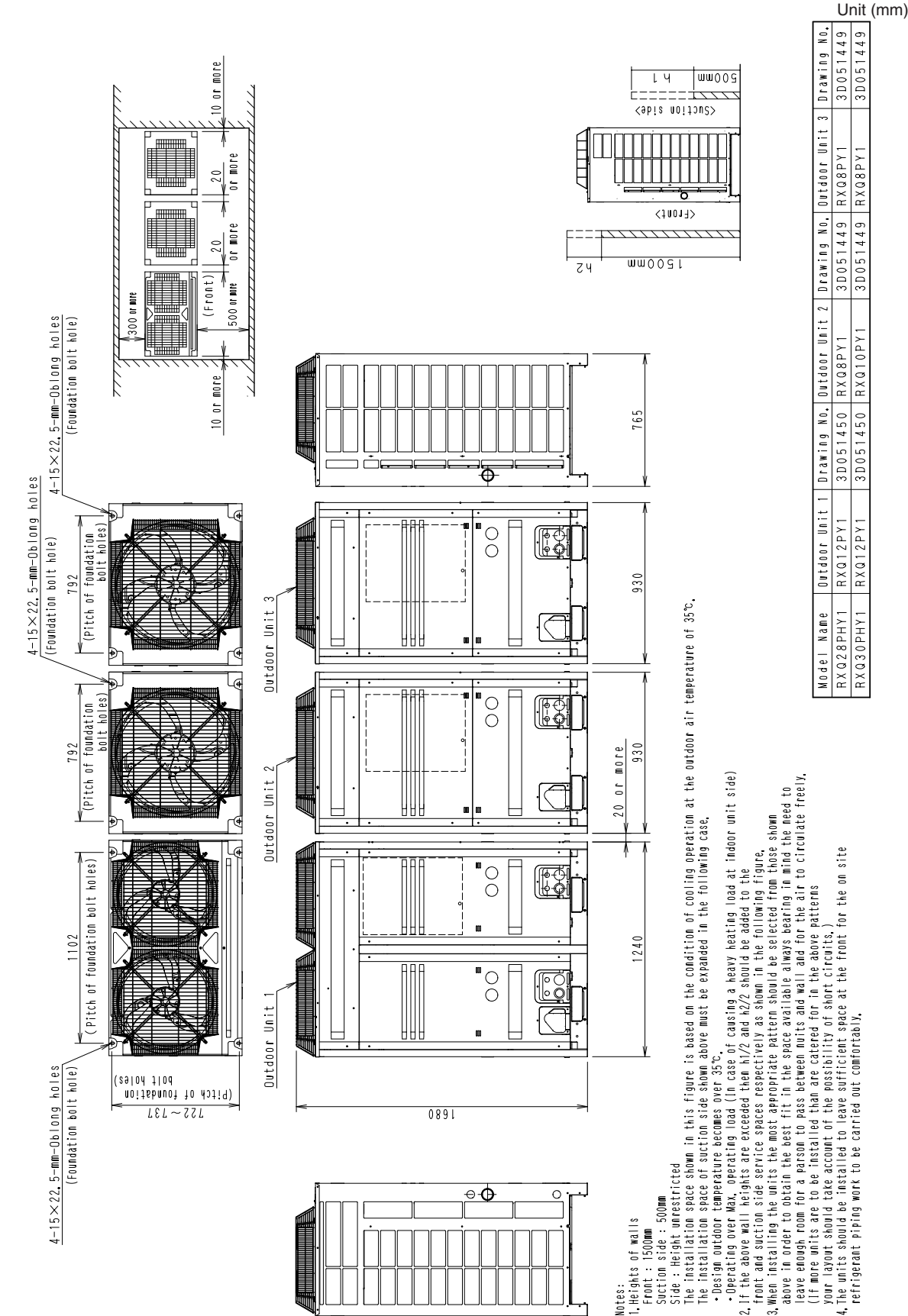
Unit (mm)



Model Name	Outdoor Unit 1	Outdoor Unit 2	Outdoor Unit 3	Drawing No.
RXQ24PHY1	RXQ8PY1	RXQ8PY1	RXQ8PY1	3D051449
RXQ26PHY1	RXQ10PY1	RXQ8PY1	RXQ8PY1	3D051449

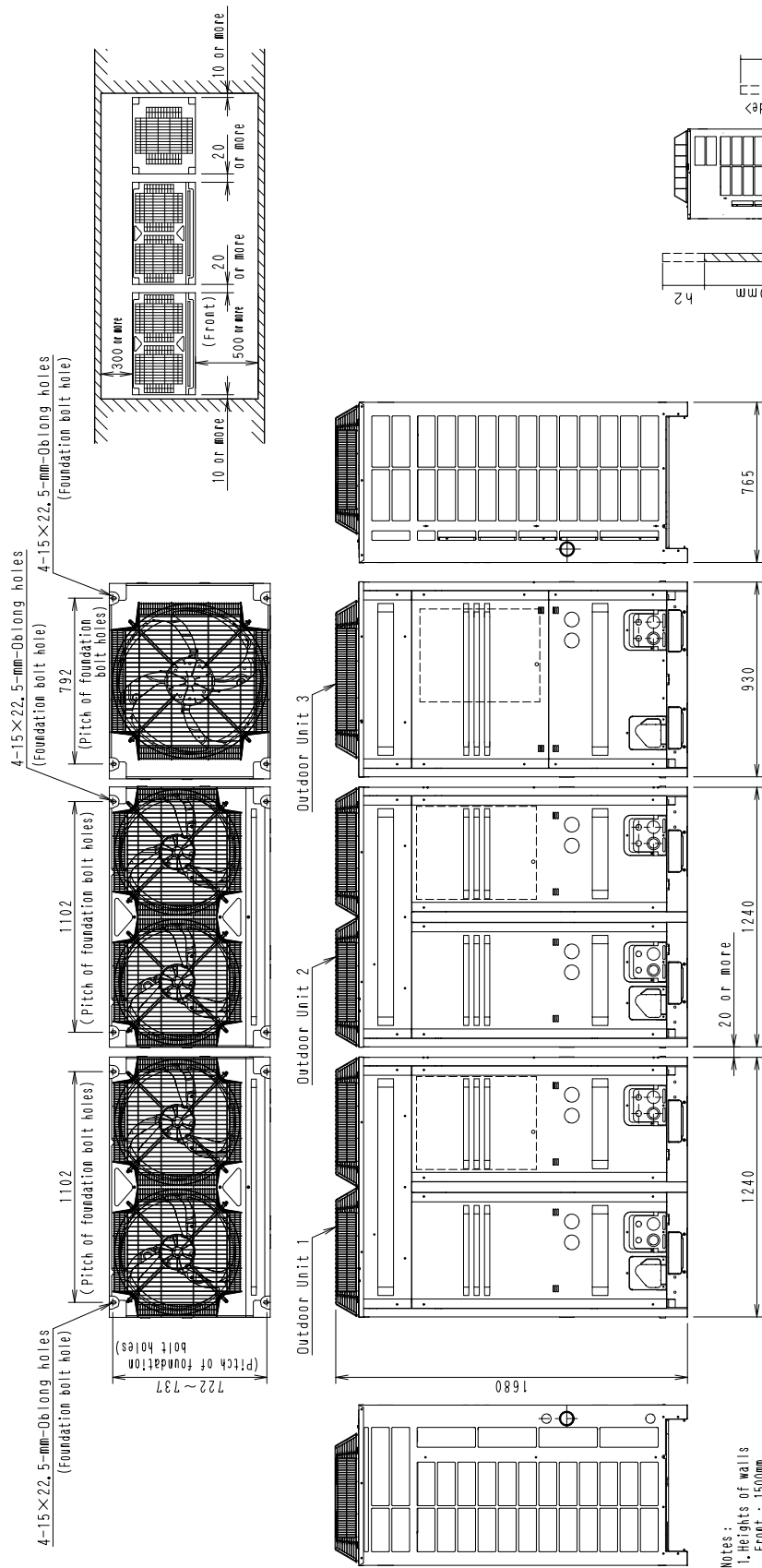
C : 3D053035

RXQ28PH  
RXQ30PH



C : 3D053036

RXQ32PH  
RXQ34PH



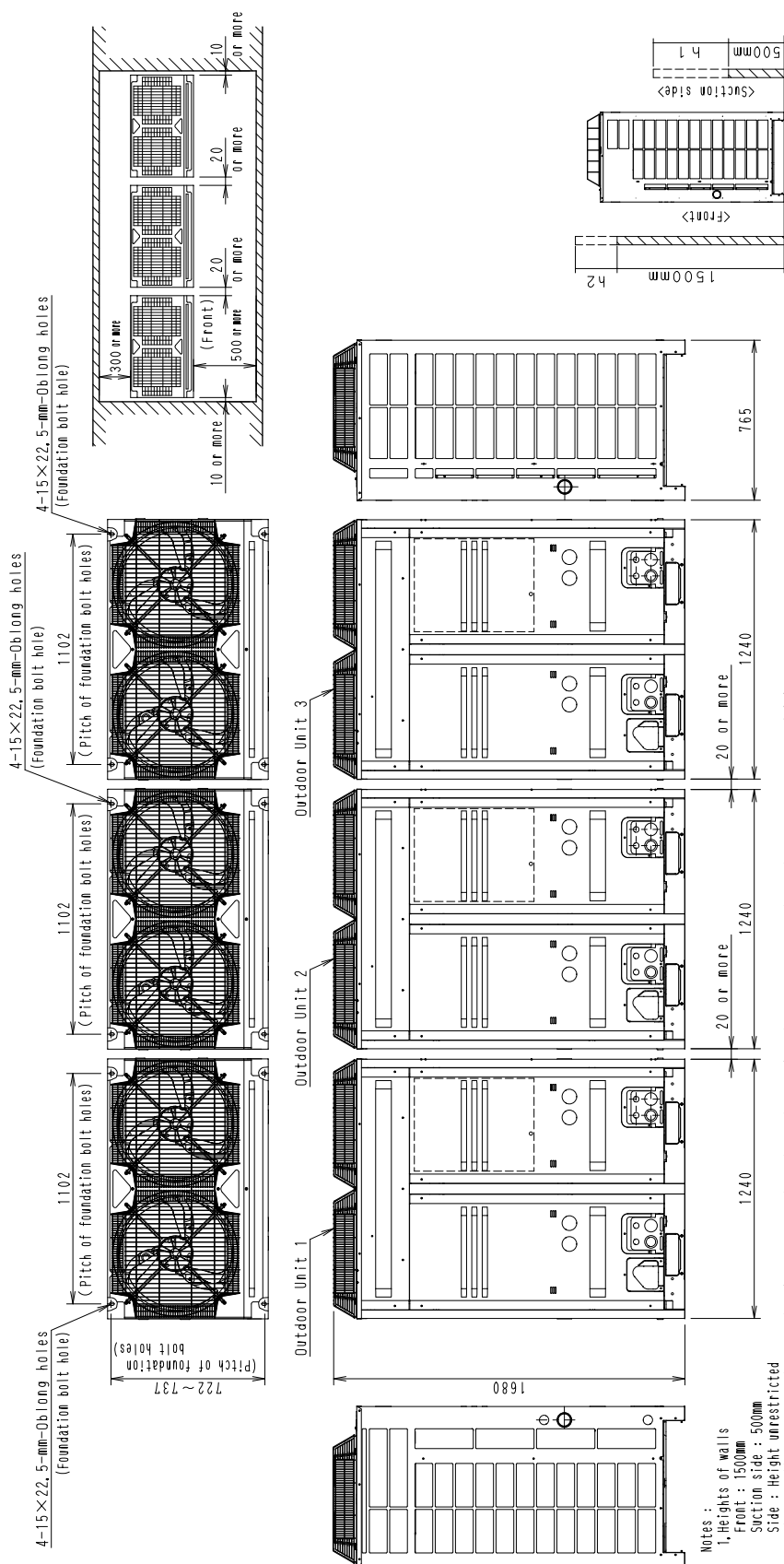
Unit (mm)

Model Name	Outdoor Unit 1	Outdoor Unit 2	Outdoor Unit 3	Drawing No.	Drawing No.
RXQ32PHY1	RXQ12PY1	RXQ12PY1	RXQ8PY1	3D051450	3D051449
RXQ34PHY1	RXQ12PY1	RXQ12PY1	RXQ10PY1	3D051450	3D051449

C : 3D053037

**RXQ36PH, RXQ38PH, RXQ40PH, RXQ42PH,  
RXQ44PH, RXQ46PH, RXQ48PH, RXQ50PH**

Unit (mm)



## Notes :

1. Heights of walls

Front : 1500mm

Suction side : 500mm

Side : Height unrestricted

The installation space shown in this figure is based on the condition of cooling operation at the outdoor air temperature of 35°C.  
The installation space of suction side shown above must be expanded in the following case.

- Design outdoor temperature becomes over 35°C.
- Operating over Max. operating load (In case of causing a heavy heating load at indoor unit side)
- 2. If the above wall heights are exceeded then h1/2 and h2/2 should be added to the front and suction side service spaces respectively as shown in the following figure.
- 3. When installing the units the most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough room for a person to pass between units and wall and for the air to circulate freely. (If more units are to be installed than are catered for in the above patterns)
- 4. Your layout should take account of the possibility of short circuits.
- 5. The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

Model Name	Outdoor Unit 1	Drawing No.	Outdoor Unit 2	Drawing No.	Outdoor Unit 3	Drawing No.
RXQ36PHY1	RXQ12PY1	3D051450	RXQ12PY1	3D051450	RXQ12PY1	3D051450
RXQ38PHY1	RXQ14PY1	3D051450	RXQ12PY1	3D051450	RXQ12PY1	3D051450
RXQ40PHY1	RXQ16PY1	3D051450	RXQ12PY1	3D051450	RXQ12PY1	3D051450
RXQ42PHY1	RXQ18PY1	3D051450	RXQ12PY1	3D051450	RXQ12PY1	3D051450
RXQ44PHY1	RXQ16PY1	3D051450	RXQ16PY1	3D051450	RXQ12PY1	3D051450
RXQ46PHY1	RXQ18PY1	3D051450	RXQ16PY1	3D051450	RXQ12PY1	3D051450
RXQ48PHY1	RXQ16PY1	3D051450	RXQ16PY1	3D051450	RXQ16PY1	3D051450
RXQ50PHY1	RXQ18PY1	3D051450	RXQ16PY1	3D051450	RXQ16PY1	3D051450

C : 3D053038

## 3. Electric Characteristics

### 3.1 50Hz

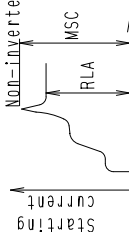
#### RXQ16, 18, 24, 26, 28, 30, 32PHY1

Model Name			Units		Power supply			Comp.		OFM				
Combination Unit	Independent Unit		Unit	Hz	Volts	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	KW	FLA
RX(Y)Q16PHY1	RX(Y)Q8PY1	RX(Y)Q8PY1		50	380						—	(8.6)×2		
					400	342	456	37.0	33.1	45	(8.2)×2	(0.75)×2	(0.7)×2	
					415						(7.9)×2			
RX(Y)Q18PHY1	RX(Y)Q8PY1	RX(Y)Q10PY1		50	380						82	8.6+4.7+7.2		
					400	342	456	40.1	48.0	45	78	8.2+4.5+6.8	(0.75)×2	0.7 +0.9
					415						75	7.9+4.3+6.6		
RX(Y)Q24PHY1	RX(Y)Q8PY1	RX(Y)Q8PY1		50	380						—	(8.6)×3		
					400	342	456	55.5	49.6	70	—	(8.2)×3	(0.75)×3	(0.7)×3
					415						—	(7.9)×3		
RX(Y)Q26PHY1	RX(Y)Q8PY1	RX(Y)Q10PY1		50	380						86	(8.6)×2+4.7+7.2		
					400	342	456	58.6	64.6	70	82	(8.2)×2+4.5+6.8	(0.75)×2 +0.75	(0.7)×2 +0.9
					415						79	(7.9)×2+4.3+6.6		
RX(Y)Q28PHY1	RX(Y)Q8PY1	RX(Y)Q12PY1		50	380						86	(8.6)×2+6.5+7.0		
					400	342	456	59.7	64.6	70	82	(8.2)×2+6.2+6.7	(0.75)×2 +0.35×2	(0.7)×2 +0.6×2
					415						79	(7.9)×2+6.0+6.4		
RX(Y)Q30PHY1	RX(Y)Q8PY1	RX(Y)Q10PY1		50	380						96	8.6+4.7+7.2+6.5+7.0		
					400	342	456	62.8	79.5	70	91	8.2+4.5+6.8+6.2+6.7	(0.75)×2 +0.35×2	0.7 +0.9 +0.6×2
					415						88	7.9+4.3+6.6+6.0+6.4		
RX(Y)Q32PHY1	RX(Y)Q8PY1	RX(Y)Q12PY1		50	380						96	8.6+(6.5+7.0)×2		
					400	342	456	63.9	79.5	80	92	8.2+(6.2+6.7)×2	0.75 +0.35×2	0.7 +0.6×2
					415						88	7.9+(6.0+6.4)×2		

Symbols:

MCA :Min. Circuit Amps, (A)  
 TOCA :Total Over-current Amps, (A)  
 MFA :Max. Fuse Amps, (A)  
 MSC :Max. Starting current  
 RLA :Rated Load Amps, (A)  
 OFM :Outdoor Fan Motor  
 FLA :Full Load Amps, (A)  
 kW :Rated Motor Output(kw)

(Inverter comp. +  
Non-inverter comp.)



The relationship between the starting time and the starting current, is not below or above listed range limits.

Notes:

1. RLA is based on the following conditions.  
 Indoor temp, 27°C DB/19.0°C WB  
 Outdoor temp, 35°C DB
2. TOCA means the total value of each OC set.
3. MSC means the Max. current during the starting of compressor.
4. Voltage range  
 Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

5. Maximum allowable voltage variation between phases is 2%.
6. Select wire size based on the larger value of MCA or TOCA.
7. MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

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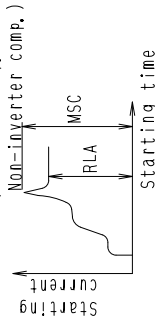
## RXQ34, 36, 38, 40, 42, 44, 46PHY1

Model Name			Units			Power supply			Comp.			OFM	
Combination Unit	Independent Unit	Unit	Hz	Volts	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	KW	FLA
RX(Y)Q34PHY1	RX(Y)Q10PY1	RX(Y)Q12PY1	50	380	342	456	67.0	94.4	80	106	4.7+7.2+(6.5+7.0)×2	0.75 +(0.35×2)×2	0.9 +(0.6×2)×2
				400									
				415									
RX(Y)Q36PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	68.1	94.4	80	107	(6.5+7.0)×3	(0.35×2)×3	(0.6×2)×3
				400									
				415									
RX(Y)Q38PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	76.9	109.4	90	116	(6.5+7.0)×2+3.6+7.9×2	(0.35×2)×2 +(0.35×2)	(0.6×2)×2 +(0.6×2)
				400									
				415									
RX(Y)Q40PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	76.9	109.4	90	111	(6.5+7.0)×2+6.1+7.6×2	(0.35×2)×2 +(0.35×2)	(0.6×2)×2 +(0.6×2)
				400									
				415									
RX(Y)Q42PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	77.9	111.2	90	107	(6.5+7.0)×2+5.9+7.3×2	(0.35×2)×2 +(0.35×2)	(0.6×2)×2 +(0.6×2)
				400									
				415									
RX(Y)Q44PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	85.7	124.3	100	129	6.5+7.0+(6.4+8.0×2)×2	0.35×2 +(0.35×2)×2	0.6×2 +(0.6×2)×2
				400									
				415									
RX(Y)Q46PHY1	RX(Y)Q12PY1	RX(Y)Q12PY1	50	380	342	456	86.7	126.2	100	122	6.2+6.7+(6.1+7.6×2)×2	0.35×2 +(0.35×2)×2	0.6×2 +(0.6×2)×2
				400									
				415									

## Symbols:

MCA : Min. Circuit Amps, (A)  
 TOCA : Total over-current Amps, (A)  
 MFA : Max. Fuse Amps, (A)  
 MSC : Max. Starting current  
 RLA : Rated Load Amps, (A)  
 OFM : Outdoor Fan Motor  
 FLA : Full Load Amps, (A)  
 kW : Rated Motor Output (kW)

(Inverter comp. +  
 No. inverter comp.)



The relationship between the starting time and the starting current.

## Notes:

1. RLA is based on the following conditions.  
Indoor temp. 27°C DB/19.0°C WB  
Outdoor temp. 35°C DB
2. TOCA means the total value of each OC set.
3. MSC means the Max. current during the starting of compressor.
4. Voltage range.  
Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

5. Maximum allowable voltage variation between phases is 2%.

6. Select wire size based on the larger value of MCA or TOCA.

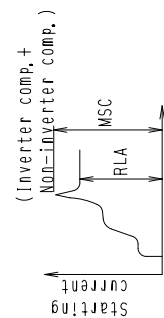
7. MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

## RXQ48, 50PHY1

Model Name		Units			Power supply			Comp.		OFM		
Combination Unit	Independent Unit	Hz	Volts	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	KW	FLA
RX(Y)Q48PHY1	RX(Y)Q16PY1	50	380	342	456	94.5	139.3	110	141	(6.4+8.0x2)x3	(0.35x2)x3	(0.6x2)x3
			400									
			415									
RX(Y)Q50PHY1	RX(Y)Q16PY1	50	380	342	456	95.5	141.1	110	141	(6.4+8.0x2)x2+9.4+8.3x2	(0.35x2)x2	(0.6x2)x2
			400									
			415									

## Symbols:

MCA :Min. Circuit Amps. (A)  
 TOCA :Total Over-current Amps. (A)  
 MFA :Max. Fuse Amps. (A)  
 MSC :Max. Starting current  
 RLA :Rated Load Amps. (A)  
 OFM :Outdoor Fan Motor  
 FLA :Full Load Amps. (A)  
 kW :Rated Motor Output (kW)



## Notes:

1. RLA is based on the following conditions.  
Indoor temp. 27°C DB/19.0°C WB  
Outdoor temp. 35°C DB
2. TOCA means the total value of each OC set.
3. MSC means the Max. current during the starting of compressor.
4. Voltage range  
Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
5. Maximum allowable voltage variation between phases is 2%.
6. Select wire size based on the larger value of MCA or TOCA.
7. MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

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# 4. Capacity Tables (Cooling Only High COP Series)

## 4.1 Cooling Capacity (RXQ-PH)

### RXQ16PHY1

Combi- ation (Capacity index)	Outdoor air temp. °C/DB	Indoor air temp.												Cooling capacity											
		14.0°CWB				16.0°CWB				18.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB			
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130 (520)	10	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	11	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	12	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	13	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	14	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	15	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	16	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	17	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	18	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
	19	39.3	4.83	48.9	5.92	54.5	7.0	56.4	7.2	57.1	7.0	58.6	6.7	60.0	6.4	61.4	6.1	62.8	5.8	64.2	5.5	65.6	5.2	67.0	4.9
120 (480)	10	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	11	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	12	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	13	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	14	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	15	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	16	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	17	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	18	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
	19	36.3	4.42	43.3	5.40	50.3	6.42	53.8	6.9	56.2	7.2	57.5	7.0	58.9	6.7	60.3	6.4	61.7	6.1	63.1	5.8	64.5	5.5	65.9	5.2
110 (440)	10	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	11	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	12	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	13	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	14	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	15	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	16	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	17	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	18	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
	19	33.3	4.00	39.7	4.89	46.1	5.80	49.3	6.25	51.5	6.6	52.5	6.4	53.5	6.2	54.5	6.0	55.5	5.8	56.5	5.6	57.5	5.4	58.5	5.2
100 (400)	10	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	11	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	12	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	13	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	14	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	15	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	16	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	17	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	18	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7
	19	30.3	3.58	36.7	4.39	41.9	5.20	44.8	5.62	47.7	6.04	48.5	5.9	49.5	5.7	50.5	5.5	51.5	5.3	52.5	5.1	53.5	4.9	54.5	4.7

1. This table indicates the situation of 50~130% combination of indoor units.  
2. If connecting the indoor units over 130% of outdoor unit capacity, capacity of indoor unit will decrease.

TC Total capacity : kW  
PI Power Input : kW(Comp.+Outdoor fan motor)  
Note1: The above table shows the average value of conditions which may occur.

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Combin- ation (%) (Capacity Index)	Outdoor air temp. °C/DB	Indoor air temp.												Outdoor air temp. °C/DB		Cooling capacity														
		14.0°CWB				16.0°CWB				18.0°CWB						20.0°CWB				22.0°CWB				24.0°CWB						
		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	
90 (405)	10	30.6	4.04	38.5	4.87	42.4	5.75	45.4	6.21	48.3	6.67	54.2	7.62	60.1	8.6															
	12	30.6	4.11	38.5	4.96	42.4	5.86	45.4	6.32	48.3	6.80	54.2	7.77	60.1	8.8															
	14	30.6	4.18	38.5	5.05	42.4	5.97	45.4	6.44	48.3	6.93	54.2	7.92	60.1	8.9															
	16	30.6	4.25	38.5	5.14	42.4	6.08	45.4	6.57	48.3	7.08	54.2	8.07	60.1	9.1															
	18	30.6	4.33	38.5	5.24	42.4	6.18	45.4	6.68	48.3	7.17	54.2	8.16	60.1	9.2															
	20	30.6	4.40	38.5	5.34	42.4	6.28	45.4	6.79	48.3	7.27	54.2	8.25	60.1	9.3															
	21	30.6	4.45	38.5	5.39	42.4	6.32	45.4	6.83	48.3	7.31	54.2	8.29	60.1	9.4															
	22	30.6	4.50	38.5	5.44	42.4	6.36	45.4	6.88	48.3	7.35	54.2	8.33	60.1	9.5															
	23	30.6	4.54	38.5	5.48	42.4	6.40	45.4	6.92	48.3	7.39	54.2	8.37	60.1	9.6															
	24	30.6	4.58	38.5	5.52	42.4	6.44	45.4	6.96	48.3	7.43	54.2	8.41	60.1	9.7															
90 (360)	25	30.6	4.78	38.5	6.00	42.4	7.36	45.4	8.10	48.3	8.9	54.2	10.5	56.3	10.9															
	26	30.6	5.09	38.5	6.40	42.4	7.86	45.4	8.7	48.3	9.5	54.2	11.8	54.7	11.9															
	27	30.6	5.41	38.5	6.82	42.4	8.39	45.4	9.2	48.3	10.1	53.6	12.8	53.9	12.8															
	31	30.6	6.15	38.5	7.26	42.4	9.4	45.4	10.5	48.3	11.8	51.9	12.7	53.0	12.8															
	33	30.6	6.49	38.5	7.61	42.4	9.7	45.4	10.8	48.3	12.1	51.2	13.2	53.2	13.3															
	35	30.6	6.83	38.5	7.93	42.4	10.1	45.4	11.2	48.3	12.5	51.5	13.7	53.5	13.8															
	39	30.6	7.59	38.5	8.69	42.4	11.6	45.4	12.7	48.3	14.1	50.6	14.6	50.6	14.7															
	40	30.6	7.81	38.5	8.9	42.4	11.8	45.4	12.9	48.3	14.3	50.8	14.8	50.8	14.9															
	45	27.2	3.59	32.5	4.29	37.7	5.05	40.3	5.44	42.9	5.83	48.2	6.78	53.4	7.56															
	48	27.2	3.84	32.5	4.53	37.7	5.29	40.3	5.64	42.9	5.94	48.2	6.93	53.4	7.81															
70 (315)	12	27.2	3.70	32.5	4.45	37.7	5.23	40.3	5.44	42.9	5.83	48.2	6.78	53.4	7.54															
	14	27.2	3.77	32.5	4.53	37.7	5.33	40.3	5.54	42.9	5.94	48.2	6.91	53.4	7.76															
	16	27.2	3.83	32.5	4.61	37.7	5.43	40.3	5.64	42.9	6.05	48.2	7.04	53.4	7.94															
	18	27.2	3.90	32.5	4.69	37.7	5.54	40.3	5.74	42.9	6.15	48.2	7.18	53.4	8.09															
	20	27.2	3.94	32.5	4.74	37.7	5.59	40.3	5.84	42.9	6.25	48.2	7.24	53.4	8.17															
	21	27.2	4.01	32.5	4.83	37.7	5.66	40.3	5.94	42.9	6.35	48.2	7.31	53.4	8.25															
	22	27.2	4.07	32.5	4.89	37.7	5.71	40.3	6.04	42.9	6.46	48.2	7.38	53.4	8.33															
	27	27.2	4.40	32.5	5.46	37.7	6.69	40.3	7.32	42.9	8.00	48.2	8.1	53.4	11.0															
	29	27.2	4.68	32.5	5.83	37.7	7.12	40.3	7.82	42.9	8.54	48.2	9.01	53.4	11.8															
	31	27.2	4.97	32.5	6.20	37.7	7.58	40.3	8.32	42.9	9.1	48.2	10.8	52.6	12.2															
50 (225)	33	27.2	5.27	32.5	6.59	37.7	8.07	40.3	8.9	42.9	9.7	48.2	11.5	51.8	12.7															
	35	27.2	5.59	32.5	7.00	37.7	8.6	40.3	9.4	42.9	10.1	48.2	12.2	51.0	13.6															
	37	27.2	5.93	32.5	7.44	37.7	9.1	40.3	10.0	42.9	11.0	48.2	13.0	50.1	13.2															
	39	27.2	6.28	32.5	7.90	37.7	9.7	40.3	10.7	42.9	11.7	48.2	13.9	49.3	14.1															
	10	23.8	3.15	28.4	3.74	33.0	4.37	35.3	4.69	37.6	5.03	42.2	5.72	46.8	6.43															
	12	23.8	3.25	28.4	3.80	33.0	4.45	35.3	4.76	37.6	5.12	42.2	5.82	46.8	6.55															
	14	23.8	3.30	28.4	3.93	33.0	4.49	35.3	4.81	37.6	5.16	42.2	5.86	46.8	6.60															
	16	23.8	3.36	28.4	3.99	33.0	4.69	35.3	5.05	37.6	5.21	42.2	5.91	46.8	6.66															
	18	23.8	3.41	28.4	4.08	33.0	4.78	35.3	5.14	37.6	5.32	42.2	6.00	46.8	6.73															
	21	23.8	3.50	28.4	4.11	33.0	4.82	35.3	5.19	37.6	5.37	42.2	6.05	46.8	6.78															
60 (270)	23	23.8	3.58	28.4	4.19	33.0	4.92	35.3	5.27	37.6	5.44	42.2	6.13	46.8	6.86															
	25	23.8	3.67	28.4	4.26	33.0	5.09	35.3	5.37	37.6	5.52	42.2	6.22	46.8	6.94															
	27	23.8	3.77	28.4	4.34	33.0	5.16	35.3	5.46	37.6	5.61	42.2	6.31	46.8	7.02															
	29	23.8	4.00	28.4	4.64	33.0	5.36	35.3	5.61	37.6	5.79	42.2	6.49	46.8	7.13															
	31	23.8	4.20	28.4	4.84	33.0	5.56	35.3	5.81	37.6	5.99	42.2	6.67	46.8	7.31															
	33	23.8	4.50	28.4	5.13	33.0	6.24	35.3	6.37	37.6	6.37	42.2	6.9	46.8	7.63															
	35	23.8	4.76	28.4	5.40	33.0	6.71	35.3	6.83	37.6	6.83	42.2	7.17	46.8	7.91															
	37	23.8	5.04	28.4	5.69	33.0	7.00	35.3	7.12	37.6	7.12	42.2	7.46	46.8	8.15															
	39	23.8	5.33	28.4	5.98	33.0	7.30	35.3	7.33	37.6	7.33	42.2	7.75	46.8	8.43															
	40	23.8	5.53	28.4	6.18	33.0	7.50	35.3	7.53	37.6	7.53	42.2	7.97	46.8	8.63															
40 (180)	10	20.4	2.74	24.3	3.22	28.3	3.73	30.2	3.99	32.2	4.26	36.1	4.82	40.1	5.40															
	12	20.4	2.78	24.3	3.27	28.3	3.79	30.2	4.06	32.2	4.33	36.1	4.90	40.1	5.50															
	14	20.4	2.82	24.3	3.32	28.3	3.85	30.2	4.13	32.2	4.41	36.1	4.99	40.1	5.60															
	16	20.4	2.87	24.3	3.37	28.3	3.92	30.2	4.20	32.2	4.49	36.1	5.09	40.1	5.71															
	18	20.4	2.91	24.3	3.43	28.3	3.99	30.2	4.27	32.2	4.57	36.1	5.18	40.1	5.82															
	20	20.4	2.96	24.3	3.49	28.3	4.06	30.2	4.34	32.2	4.65	36.1	5.26	40.1	5.93															
	21	20.4	2.98	24.3	3.52	28.3	4.09	30.2	4.39	32.2	4.70	36.1	5.33	40.1	5.99															
	23	20.4	3.03	24.3	3.58	28.3	4.17	30.2	4.48	32.2	4.79	36.1	5.54	40.1	6.07															
	25	20.4	3.08	24.3	3.65	28.3	4.23	30.2	4.54	32.2	4.86	36.1	5.69	40.1	6.16															
	27	20.4	3.19	24.3	3.87	28.3	4.61	30.2	5.01	32.2	5.22	36.1	6.02	40.1	6.30	</														

## Cooling capacity

TC  
PI  
Note1:

Cooling capacity[illegible]

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Combin- ation (Capacity Index)	Outdoor air temp. °C/DB	Indoor air temp.												Cooling capacity kW												
		14.0°CWB				16.0°CWB				18.0°CWB					20.0°CWB				22.0°CWB				24.0°CWB			
		TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW		TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW		
90 (685)	10	44.2	5.68	52.7	6.84	61.3	8.1	65.5	8.7	69.8	9.4	78.3	10.7	86.8	12.1											
	12	44.2	5.77	52.7	6.97	61.3	8.2	65.5	8.9	69.8	9.5	78.3	10.9	86.8	12.3											
	14	44.2	5.87	52.7	7.09	61.3	8.4	65.5	9.1	69.8	9.7	78.3	11.1	86.8	12.5											
	16	44.2	5.97	52.7	7.22	61.3	8.5	65.5	9.2	69.8	9.9	78.3	11.3	86.7	12.7											
	18	44.2	6.08	52.7	7.36	61.3	8.7	65.5	9.4	69.8	10.1	78.3	11.5	85.5	13.1											
	20	44.2	6.19	52.7	7.50	61.3	8.9	65.5	9.6	69.8	10.5	78.3	12.3	83.7	14.4											
	21	44.2	6.25	52.7	7.58	61.3	9.0	65.5	9.9	69.8	10.6	78.3	12.5	83.5	14.6											
	22	44.2	6.31	52.7	7.64	61.3	9.1	65.5	10.0	69.8	10.7	78.3	12.6	83.2	14.7											
	23	44.2	6.37	52.7	7.7	61.3	9.3	65.5	10.6	69.8	11.6	78.3	13.8	82.5	14.7											
	24	44.2	6.41	52.7	7.8	61.3	9.7	65.5	11.4	69.8	12.5	78.3	14.8	81.3	15.4											
80 (620)	10	39.3	4.83	46.9	5.61	54.5	7.09	58.2	7.64	62.0	8.2	69.6	9.3	77.2	10.7											
	12	39.3	4.92	46.9	5.74	54.5	7.22	58.2	7.8	62.0	8.5	69.6	9.5	77.2	10.9											
	14	39.3	5.00	46.9	6.24	54.5	7.35	58.2	7.9	62.0	8.7	69.6	9.7	77.2	11.1											
	16	39.3	5.29	46.9	6.36	54.5	7.48	58.2	8.1	62.0	8.8	69.6	9.9	77.2	11.3											
	18	39.3	5.38	46.9	6.47	54.5	7.63	58.2	8.2	62.0	8.8	69.6	10.1	77.2	11.4											
	20	39.3	5.48	46.9	6.59	54.5	7.8	58.2	8.4	62.0	9.0	69.6	10.5	77.2	11.6											
	21	39.3	5.53	46.9	6.66	54.5	7.9	58.2	8.5	62.0	9.2	69.6	10.8	77.2	11.8											
	22	39.3	5.63	46.9	6.79	54.5	8.2	58.2	8.6	62.0	9.8	69.6	11.6	77.2	12.6											
	23	39.3	5.81	46.9	7.22	54.5	8.8	58.2	9.6	62.0	10.5	69.6	12.4	77.2	13.5											
	24	39.3	5.81	46.9	7.22	54.5	8.8	58.2	9.6	62.0	10.5	69.6	12.4	77.2	13.5											
70 (455)	10	34.4	4.37	41.0	4.76	47.6	5.84	51.0	6.39	54.3	7.06	60.9	8.0	67.5	9.8											
	12	34.4	4.50	41.0	5.34	47.6	6.24	51.0	6.71	54.3	7.32	60.9	8.2	67.5	9.2											
	14	34.4	4.57	41.0	5.43	47.6	6.35	51.0	6.83	54.3	7.32	60.9	8.3	67.5	9.4											
	16	34.4	4.64	41.0	5.53	47.6	6.47	51.0	6.96	54.3	7.46	60.9	8.5	67.5	9.6											
	18	34.4	4.72	41.0	5.62	47.6	6.59	51.0	7.09	54.3	7.60	60.9	8.7	67.5	9.9											
	20	34.4	4.80	41.0	5.72	47.6	6.71	51.0	7.22	54.3	7.8	60.9	9.0	67.5	10.4											
	21	34.4	4.84	41.0	5.76	47.6	6.71	51.0	7.29	54.3	7.8	60.9	9.0	67.5	10.4											
	22	34.4	4.92	41.0	5.88	47.6	6.91	51.0	7.54	54.3	8.2	60.9	9.6	67.5	11.1											
	23	34.4	5.01	41.0	6.12	47.6	7.37	51.0	8.0	54.3	8.8	60.9	10.3	67.5	11.9											
	24	34.4	5.30	41.0	6.51	47.6	7.9	51.0	8.6	54.3	9.3	60.9	11.0	67.5	12.7											
60 (390)	10	29.5	3.52	35.2	4.52	40.8	5.23	43.7	5.70	46.5	5.98	52.2	6.77	65.8	7.9											
	12	29.5	3.52	35.2	4.59	40.8	5.32	43.7	5.80	46.5	6.19	52.2	6.9	65.8	8.0											
	14	29.5	3.97	35.2	4.66	40.8	5.41	43.7	5.80	46.5	6.30	52.2	7.1	65.8	8.2											
	16	29.5	4.02	35.2	4.74	40.8	5.50	43.7	5.90	46.5	6.42	52.2	7.28	65.8	8.4											
	18	29.5	4.09	35.2	4.82	40.8	5.60	43.7	6.01	46.5	6.54	52.2	7.42	65.8	8.6											
	20	29.5	4.15	35.2	4.90	40.8	5.70	43.7	6.11	46.5	6.65	52.2	7.49	65.8	8.8											
	21	29.5	4.18	35.2	4.94	40.8	5.75	43.7	6.17	46.5	6.65	52.2	7.49	65.8	8.8											
	22	29.5	4.25	35.2	5.03	40.8	5.86	43.7	6.29	46.5	6.73	52.2	7.8	65.8	9.6											
	23	29.5	4.32	35.2	5.12	40.8	6.09	43.7	6.61	46.5	7.15	52.2	8.3	65.8	9.6											
	24	29.5	4.46	35.2	5.43	40.8	6.48	43.7	7.04	46.5	7.62	52.2	9.9	65.8	10.6											
50 (325)	10	24.6	2.93	30.3	3.63	34.0	4.39	36.4	4.75	38.8	5.06	43.5	5.89	68.0	7.0											
	12	24.6	2.93	30.3	3.63	34.0	4.39	36.4	4.75	38.8	5.06	43.5	5.89	68.0	7.0											
	14	24.6	3.31	29.3	3.83	34.0	4.40	36.4	4.75	38.8	5.05	43.5	5.68	68.2	7.22											
	16	24.6	3.40	29.3	3.94	34.0	4.52	36.4	4.82	38.8	5.13	43.5	5.77	68.2	7.48											
	18	24.6	3.45	29.3	4.00	34.0	4.59	36.4	4.90	38.8	5.22	43.5	5.87	68.2	7.65											
	20	24.6	3.54	29.3	4.13	34.0	4.67	36.4	4.99	38.8	5.31	43.5	6.05	68.0	7.87											
	21	24.6	3.57	29.3	4.16	34.0	4.70	36.4	5.07	38.8	5.40	43.5	6.09	68.2	8.0											
	22	24.6	3.62	29.3	4.23	34.0	4.87	36.4	5.21	38.8	5.45	43.5	6.14	68.2	8.2											
	23	24.6	3.68	29.3	4.30	34.0	4.96	36.4	5.32	38.8	5.55	43.5	6.26	68.2	8.4											
	24	24.6	3.74	29.3	4.45	34.0	5.23	36.4	5.65	38.8	6.08	43.5	6.57	68.2	8.6											
40 (260)	10	19.7	2.34	24.4	2.93	28.0	3.63	30.3	3.63	32.5	3.63	38.8	4.39	48.2	5.1											
	12	19.7	2.34	24.4	2.93	28.0	3.63	30.3	3.63	32.5	3.63	38.8	4.39	48.2	5.1											
	14	19.7	2.63	23.4	3.23	27.0	3.93	29.3	3.93	31.3	4.23	37.8	4.63	48.2	5.5											
	16	19.7	2.68	23.4	3.29	27.0	3.99	29.3	3.99	31.3	4.29	37.8	4.69	48.2	5.7											
	18	19.7	2.72	23.4	3.34	27.0	4.04	29.3	4.04	31.3	4.34	37.8	4.75	48.2	5.9											
	20	19.7	2.77	23.4	3.40	27.0	4.10	29.3	4.10	31.3	4.40	37.8	4.81	48.2	6.1											
	21	19.7	2.81	23.4	3.45	27.0	4.15	29.3	4.15	31.3	4.45	37.8	4.86	48.2	6.3											
	22	19.7	2.86	23.4	3.51	27.0	4.21	29.3	4.21	31.3	4.51	37.8	4.92	48.2	6.5											
	23	19.7	2.91	23.4	3.56	27.0	4.26	29.3	4.26	31.3	4.56	37.8	4.97	48.2	6.7											
	24	19.7	2.96	23.4	3.61	27.0	4.31	29.3	4.31	31.3	4.61	37.8	5.03	48.2	6.9											
30 (205)	10	14.8	1.73	19.8	2.13	23.0	2.73	26.0	2.73	28.0	2.73	34.0	3.33	42.2	4.0											
	12	14.8	1.73	19.8	2.13	23.0	2.73	26.0	2.73	28.0	2.73	34.0	3.33	42.2	4.0											
	14	14.8	1.93	18.8	2.33	22.0	2.93	25.0	2.93	27.0	2.93	33.0	3.53	42.2	4.4											
	16	14.8	1.98	18.8	2.38	22.0	2.98	25.0	2.98	27.0	2.98	33.0	3.58	42.2	4.6											
	18	14.8	2.02	18.8	2.42	22.0	3.02	25.0	3.02	27.0	3.02	33.0	3.62	42.2	4.8											
	20	14.8	2.07	18.8	2.47	22.0	3.07	25.0	3.07	27.0	3.07	33.0	3.67	42.2	5.0											
	21	14.8	2.11	18.8	2.51	22.0	3.11	25.0	3.11	27.0	3.11	33.0	3.71.													

## RXQ28PHY1

Cooling capacity	Combi- air temp. (Capacity index)		Indoor air temp.												Outdoor air temp. °C/DB																										
			14.0°CWB				16.0°CWB				18.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB																		
			TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI															
90 (630)	10	47.6	5.98	56.7	7.22	65.9	8.5	70.5	9.2	75.1	9.9	84.2	11.3	89.4	12.7	93.4	13.9	98.1	15.1	102.8	16.3	107.5	17.5	112.2	18.7	116.9	19.9	121.6	21.1	126.3	22.3	131.0	23.5	135.7	24.7	140.4	25.9	145.1	27.1		
	12	47.6	6.08	56.7	7.34	65.9	8.7	70.5	9.4	75.1	10.1	84.2	11.5	89.4	12.9	93.4	14.1	98.1	15.3	102.8	16.5	107.5	17.7	112.2	18.9	116.9	20.1	121.6	21.3	126.3	22.5	131.0	23.7	135.7	24.9	140.4	26.1	145.1	27.3		
	14	47.6	6.19	56.7	7.48	65.9	8.8	70.5	9.5	75.1	10.3	84.2	11.7	89.4	13.1	93.4	14.3	98.1	15.5	102.8	16.7	107.5	17.9	112.2	19.1	116.9	20.3	121.6	21.5	126.3	22.7	131.0	23.9	135.7	25.1	140.4	26.3	145.1	27.5		
	16	47.6	6.30	56.7	7.62	65.9	9.0	70.5	9.7	75.1	10.5	84.2	12.0	89.4	13.2	93.4	14.4	98.1	15.6	102.8	16.9	107.5	18.1	112.2	19.3	116.9	20.5	121.6	21.7	126.3	22.9	131.0	24.1	135.7	25.3	140.4	26.5	145.1	27.7		
	18	47.6	6.41	56.7	7.78	65.9	9.2	70.5	9.9	75.1	10.7	84.2	12.2	89.4	13.4	93.4	14.6	98.1	15.8	102.8	17.1	107.5	18.3	112.2	19.5	116.9	20.7	121.6	21.9	126.3	23.1	131.0	24.3	135.7	25.5	140.4	26.7	145.1	27.9		
	20	47.6	6.53	56.7	7.9	65.9	9.4	70.5	10.1	75.1	11.1	84.2	12.3	89.4	13.5	93.4	14.7	98.1	16.0	102.8	17.2	107.5	18.4	112.2	19.6	116.9	20.9	121.6	22.1	126.3	23.3	131.0	24.5	135.7	25.7	140.4	27.1	145.1	28.1		
	22	47.6	6.59	56.7	8.0	65.9	9.5	70.5	10.2	75.1	11.3	84.2	12.4	89.4	13.6	93.4	14.8	98.1	16.1	102.8	17.3	107.5	18.5	112.2	19.7	116.9	21.1	121.6	22.3	126.3	23.5	131.0	24.7	135.7	25.9	140.4	27.3	145.1	28.3		
	24	47.6	6.72	56.7	8.3	65.9	9.7	70.5	10.4	75.1	11.5	84.2	12.5	89.4	13.7	93.4	14.9	98.1	16.3	102.8	17.4	107.5	18.6	112.2	19.8	116.9	21.3	121.6	22.5	126.3	23.7	131.0	24.9	135.7	26.1	140.4	27.5	145.1	28.5		
	26	47.6	7.03	56.7	8.6	65.9	10.0	70.5	10.7	75.1	11.8	84.2	12.6	89.4	14.0	93.4	15.1	98.1	16.5	102.8	17.6	107.5	18.8	112.2	20.0	116.9	21.5	121.6	22.7	126.3	23.9	131.0	25.1	135.7	26.3	140.4	27.7	145.1	28.7		
	28	47.6	7.53	56.7	9.5	65.9	11.2	70.5	12.8	75.1	14.0	84.2	13.8	89.4	15.0	93.4	16.1	98.1	17.4	102.8	18.6	107.5	19.8	112.2	21.0	116.9	22.1	121.6	23.1	126.3	24.1	131.0	25.1	135.7	26.3	140.4	27.7	145.1	28.7		
30	47.6	8.0	56.7	10.1	65.9	12.4	70.5	13.7	75.1	15.0	83.2	14.5	89.4	15.4	93.4	16.5	98.1	17.9	102.8	19.1	107.5	20.3	112.2	21.4	116.9	22.5	121.6	23.5	126.3	24.5	131.0	25.5	135.7	26.5	140.4	27.7	145.1	28.7			
80 (660)	10	42.3	5.31	50.4	6.36	56.6	7.47	62.6	8.1	66.7	8.6	74.9	9.9	78.6	10.6	83.0	11.3	87.1	12.0	91.2	12.7	95.3	13.4	99.4	14.1	103.5	14.8	107.6	15.5	111.7	16.2	115.8	16.9	120.0	17.6	124.1	18.3	128.2	19.0	132.3	19.7
	12	42.3	5.40	50.4	6.47	56.6	7.61	62.6	8.2	66.7	8.8	74.9	10.0	78.6	10.7	83.0	11.3	87.1	12.0	91.2	12.7	95.3	13.4	99.4	14.1	103.5	14.8	107.6	15.5	111.7	16.2	115.8	16.9	120.0	17.6	124.1	18.3	128.2	19.0	132.3	19.7
	14	42.3	5.49	50.4	6.56	56.6	7.7	62.6	8.3	66.7	9.0	74.9	10.2	78.6	10.9	83.0	11.5	87.1	12.2	91.2	12.9	95.3	13.6	99.4	14.3	103.5	15.0	107.6	15.7	111.7	16.4	115.8	17.1	120.0	17.9	124.1	18.5	128.2	19.3	132.3	19.9
	16	42.3	5.58	50.4	6.65	56.6	8.0	62.6	8.7	66.7	9.3	74.9	10.4	78.6	11.0	83.0	12.0	87.1	12.5	91.2	13.0	95.3	13.9	99.4	14.5	103.5	15.1	107.6	15.9	111.7	16.6	115.8	17.3	120.0	18.1	124.1	18.7	128.2	19.5	132.3	20.1
	18	42.3	5.78	50.4	6.95	56.6	8.2	62.6	8.8	66.7	9.5	74.9	11.0	78.6	11.6	83.0	12.8	87.1	13.0	91.2	13.5	95.3	14.4	99.4	14.9	103.5	15.6	107.6	16.1	111.7	16.8	115.8	17.5	120.0	18.3	124.1	18.9	128.2	19.7	132.3	20.3
	20	42.3	5.93	50.4	7.02	56.6	8.3	62.6	8.9	66.7	9.7	74.9	11.4	78.6	12.0	83.0	13.3	87.1	13.5	91.2	13.9	95.3	14.8	99.4	15.3	103.5	15.8	107.6	16.3	111.7	17.0	115.8	17.6	120.0	18.5	124.1	19.1	128.2	19.9	132.3	20.5
	22	42.3	6.04	50.4	7.15	56.6	8.4	62.6	9.0	66.7	10.0	74.9	11.8	78.6	12.4	83.0	13.7	87.1	14.0	91.2	14.4	95.3	15.3	99.4	15.7	103.5	16.0	107.6	16.6	111.7	17.3	115.8	17.9	120.0	18.7	124.1	19.3	128.2	20.1	132.3	20.7
	24	42.3	6.13	50.4	7.26	56.6	8.5	62.6	9.1	66.7	10.2	74.9	12.0	78.6	12.6	83.0	14.0	87.1	14.5	91.2	14.9	95.3	15.7	99.4	16.0	103.5	16.3	107.6	16.9	111.7	17.6	115.8	18.0	120.0	18.9	124.1	19.5	128.2	20.3	132.3	20.7
	26	42.3	6.32	50.4	7.45	56.6	8.6	62.6	9.2	66.7	10.4	74.9	12.4	78.6	12.8	83.0	14.4	87.1	14.9	91.2	15.3	95.3	16.0	99.4	16.3	103.5	16.6	107.6	17.2	111.7	17.9	115.8	18.3	120.0	19.1	124.1	19.7	128.2	20.5	132.3	20.9
	28	42.3	6.52	50.4	7.65	56.6	8.8	62.6	9.4	66.7	10.6	74.9	12.6	78.6	13.0	83.0	14.6	87.1	15.1	91.2	15.5	95.3	16.3	99.4	16.5	103.5	16.8	107.6	17.4	111.7	18.0	115.8	18.6	120.0	19.3	124.1	19.9	128.2	20.7	132.3	21.1
30	42.3	6.73	50.4	7.86	56.6	9.0	62.6	9.6	66.7	10.8	74.9	12.8	78.6	13.2	83.0	14.8	87.1	15.3	91.2	15.7	95.3	16.5	99.4	16.7	103.5	17.0	107.6	17.6	111.7	18.3	115.8	18.9	120.0	19.5	124.1	20.1	128.2	20.9	132.3	21.3	
70 (490)	10	37.0	4.67	44.1	5.54	51.2	6.47	54.8	6.8	58.4	7.2	65.9	8.5	69.5	8.9	72.6	9.3	76.3	9.7	80.0	10.1	83.7	10.5	87.4	10.9	91.1	11.3	94.8	11.7	98.5	12.1	102.2	12.5	105.9	12.9	109.6	13.3	113.3	13.7		
	12	37.0	4.74	44.1	5.63	51.2	6.58	54.8	6.9	58.4	7.3	65.9	8.6	69.5	9.0	72.6	9.4	76.3	9.8	80.0	10.2	83.7	10.6	87.4	11.0	91.1	11.4	94.8	11.8	98.5	12.2	102.2	12.6	105.9	13.0	109.6	13.4	113.3	13.8		
	14	37.0	4.82	44.1	5.73	51.2	6.67	54.8	7.0	58.4	7.4	65.9	8.7	69.5	9.1	72.6	9.5	76.3	10.0	80.0	10.4	83.7	10.8	87.4	11.2	91.1	11.6	94.8	12.0	98.5	12.4	102.2	12.8	105.9	13.2	109.6	13.6	113.3	14.0		
	16	37.0	4.89	44.1	5.83	51.2	6.82	54.8	7.3	58.4	7.5	65.9	8.8	69.5	9.2	72.6	9.6	76.3	10.1	80.0	10.5	83.7	10.9	87.4	11.3	91.1	11.7	94.8	12.1	98.5	12.5	102.2	12.9	105.9	13.5	109.6	13.7	113.3	14.2		
	18	37.0	4.97	44.1	5.93	51.2	6.94	54.8	7.4	58.4	7.6	65.9	8.9	69.5	9.3	72.6	9.7	76.3	10.2	80.0	10.6	83.7	11.0	87.4	11.4	91.1	11.9	94.8	12.2	98.5	12.6	102.2	13.0	105.9	13.8	109.6	13.9	113.3	14.4		
	20	37.0	5.06	44.1	6.04	51.2	7.08	54.8	7.6	58.4	7.8	65.9	9.0	69.5	9.4	72.6	9.8	76.3	10.3	80.0	10.7	83.7	11.1	87.4	11.5	91.1	12.1	94.8	12.3	98.5	12.7	102.2	13.2	105.9	14.0	109.6	14.1	113.3	14.6		
	22	37.0	5.10	44.1	6.09	51.2	7.14	54.8	7.7	58.4	7.9	65.9	9.1	69.5	9.5	72.6	9.9	76.3	10.4	80.0	10.8	83.7	11.2	87.4	11.6	91.1	12.2	94.8	12.4	98.5	12.8	102.2	13.3	105.9	14.2	109.6	14.3	113.3	14.7		
	24	37.0	5.19	44.1	6.20	51.2	7.29	54.8	8.0	58.4	8.0	65.9	9.2	69.5	9.6	72.6	10.0	76.3	10.5	80.0	10.9	83.7	11.3	87.4	11.7	91.1	12.3	94.8	12.5	98.5	12.9	102.2	13.4	105.9	14.4	109.6	14.5	113.3	14.9		
	26	37.0	5.28	44.1	6.45	51.2	7.48	54.8	8.5	58.4	8.5	65.9	9.4	69.5	9.8	72.6	10.1	76.3	10.6	80.0	11.0	83.7	11.4	87.4	11.8	91.1	12.4	94.8	12.6	98.5	13.0	102.2	13.5	105.9	14.6	109.6	14.7	113.3	15.1		
	28	37.0	5.38	44.1	6.60	51.2	7.63	54.8	8.6	58.4	8.6	65.9	9.5	69.5	10.0	72.6	10.2	76.3	10.7	80.0	11.1	83.7	11.5	87.4	11.9	91.1	12.5	94.8	12.7	98.5	13.1	102.2	13.6	105.9	14.8	109.6	14.9	113.3	15.3		

RXQ30PHY1

Combin- ation(%) (Capacity Index)	Outdoor air temp. °C/DB	14.0°CWB						16.0°CWB						18.0°CWB						20.0°CWB						22.0°CWB						24.0°CWB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		TC			PI			TC			PI			TC			PI			TC			PI			TC			PI			TC			PI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		KW	PI	kW	KW	PI	kW	KW	PI	kW	KW	PI	kW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW	KW	PI	KW

Cooling capacity	Combin. airflow (Capacity Index)	Outdoor air temp. CDB	Indoor air temp.												24°C CWB											
			14.0°CWB				16.0°CWB				18.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB			
			TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI
90 (720)	10	54.3	7.13	64.8	8.6	75.2	10.1	80.5	10.9	85.7	11.8	96.2	13.4	107	15.2											
	12	54.3	7.2	64.8	8.7	75.2	10.3	80.5	11.2	85.7	12.0	96.2	13.7	107	15.4											
	14	54.3	7.4	64.8	8.9	75.2	10.5	80.5	11.4	85.7	12.2	96.2	14.0	107	15.7											
	16	54.3	7.5	64.8	9.1	75.2	10.7	80.5	11.6	85.7	12.5	96.2	14.2	106	16.0											
	18	54.3	7.6	64.8	9.2	75.2	10.9	80.5	11.8	85.7	12.7	96.2	14.5	106	16.3											
	20	54.3	7.8	64.8	9.5	75.2	11.3	80.5	12.5	85.7	13.6	96.2	16.2	103	17.7											
	23	54.3	8.0	64.8	9.9	75.2	12.1	80.5	13.4	85.7	14.6	96.2	17.3	101	18.5											
	25	54.3	8.4	64.8	10.6	75.2	13.0	80.5	14.3	85.7	15.6	96.2	18.6	100	19.3											
	27	54.3	9.0	64.8	11.3	75.2	13.9	80.5	15.3	85.7	16.7	96.2	19.8	98.0	20.1											
	29	54.3	9.5	64.8	12.0	75.2	14.8	80.5	16.3	85.7	17.9	96.2	20.8	97.0	20.9											
80 (640)	31	54.3	10.1	64.8	12.8	75.2	15.8	80.5	17.4	85.7	19.1	93.6	21.6	95.5	21.8											
	33	54.3	10.8	64.8	13.6	75.2	16.8	80.5	18.5	85.7	20.3	92.1	22.4	94.1	22.6											
	35	54.3	11.4	64.8	14.5	75.2	17.8	80.5	19.7	85.7	21.7	90.7	23.2	92.6	23.4											
	37	54.3	12.0	64.8	15.4	75.2	18.9	80.5	20.9	85.7	23.0	88.2	24.0	90.4	23.8											
	39	54.3	12.9	64.8	16.4	75.2	20.3	80.5	22.4	85.7	24.6	87.6	24.9	89.2	25.1											
	10	48.3	6.32	57.6	7.6	66.9	8.9	71.5	9.6	76.2	10.3	85.5	11.7	94.8	13.2											
	12	48.3	6.43	57.6	7.7	66.9	9.1	71.5	9.8	76.2	10.5	85.5	12.0	94.8	13.5											
	14	48.3	6.53	57.6	7.8	66.9	9.2	71.5	9.9	76.2	10.7	85.5	12.2	94.8	13.7											
	16	48.3	6.64	57.6	8.0	66.9	9.4	71.5	10.1	76.2	10.9	85.5	12.4	94.8	14.0											
	18	48.3	6.76	57.6	8.1	66.9	9.6	71.5	10.3	76.2	11.1	85.5	12.7	94.8	14.3											
70 (640)	20	48.3	6.88	57.6	8.3	66.9	9.8	71.5	10.5	76.2	11.3	85.5	13.1	94.8	15.3											
	21	48.3	6.94	57.6	8.4	66																				

TC Total capacity ; kW  
PI Power Input ; kW(Comp.+Outdoor fan motor)  
Note: The above table shows the average value of conditions which may occur.

Combi- ation (%) Capacity (index)	Outdoor air temp. t <sub>db</sub>	Indoor air temp.												Cooling capacity															
		14.0°CWB				16.0°CWB				18.0°CWB						19.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB	
		TC	PI	KW	KW	TC	PI	KW	KW	TC	PI	KW	KW	TC	PI	KW	KW	TC	PI	KW	KW	TC	PI	KW	KW	TC	PI	KW	KW
130 (1040)	10	78.4		10.6	93.5	13.0	109	15.8	113	15.8	113	15.8	113	15.8	113	15.8	113	15.8	113	15.8	113	15.8	113	15.8	113	14.8	120	14.2	
	12	78.4		10.8	93.5	13.3	109	15.5	111	15.7	111	15.7	111	15.7	111	15.7	111	15.7	111	15.7	111	15.7	111	15.7	111	14.8	118	14.5	
	14	78.4		11.0	93.5	13.5	108	16.0	109	15.6	110	15.6	110	15.6	110	15.6	110	15.6	110	15.6	110	15.6	110	15.6	110	14.8	117	15.3	
	16	78.4		11.2	93.5	13.8	107	16.9	108	15.8	111	15.8	111	15.8	111	15.8	111	15.8	111	15.8	111	15.8	111	15.8	111	14.8	116	16.2	
	18	78.4		11.5	93.5	14.1	105	16.5	107	16.6	108	16.7	111	16.8	111	16.8	111	16.8	111	16.8	111	16.8	111	16.8	111	14.8	114	17.0	
	20	78.4		11.7	93.5	15.0	104	17.3	105	17.4	107	17.3	105	17.4	107	17.3	105	17.4	107	17.3	105	17.4	107	17.3	105	17.4	112	17.8	
	22	78.4		12.0	93.5	16.6	102	18.5	103	18.6	105	18.7	109	18.9	110	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	
	24	78.4		12.3	93.5	17.8	100	19.3	102	19.4	103	19.5	106	19.7	109	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	
	26	78.4		14.7	93.5	19.0	98.8	20.1	100	20.3	102	20.4	104	20.6	107	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	
	29	78.4		15.7	93.5	20.4	97.4	21.0	98.8	21.1	100	21.2	103	21.4	106	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	
120 (960)	31	78.4		16.7	93.1	21.5	95.9	21.8	97.3	21.9	98.7	22.0	102	22.3	104	22.5	104	22.5	104	22.5	104	22.5	104	22.5	104	22.5	104	22.5	
	33	78.4		17.8	91.6	22.4	94.5	22.6	95.9	22.7	97.3	22.9	103	23.1	105	23.4	105	23.4	105	23.4	105	23.4	105	23.4	105	23.4	105	23.4	
	35	78.4		19.0	90.2	23.2	93.0	23.4	94.4	23.6	95.8	23.7	98.7	24.0	101	24.2	101	24.2	101	24.2	101	24.2	101	24.2	101	24.2	101	24.2	
	37	78.4		20.2	88.7	24.0	91.6	24.3	93.0	24.4	94.4	24.6	97.2	24.8	103	25.1	103	25.1	103	25.1	103	25.1	103	25.1	103	25.1	103	25.1	
	39	78.4		21.6	87.3	24.8	90.1	25.1	91.5	25.3	92.9	25.4	95.8	25.7	105	26.0	105	26.0	105	26.0	105	26.0	105	26.0	105	26.0	105	26.0	
	10	72.4		9.7	86.4	11.9	100	14.1	107	15.3	111	15.3	111	15.3	111	15.3	111	15.3	111	15.3	111	15.3	111	15.3	111	14.7	117	14.7	
	12	72.4		9.9	86.4	12.3	100	14.7	107	15.5	109	15.5	109	15.5	109	15.5	109	15.5	109	15.5	109	15.5	109	15.5	109	14.7	115	14.5	
	14	72.4		10.1	86.4	12.6	100	14.9	107	16.0	108	15.8	110	15.9	111	15.9	111	15.9	111	15.9	111	15.9	111	15.9	111	14.7	113	14.3	
	16	72.4		10.5	86.4	12.8	100	15.5	105	16.5	105	16.5	105	16.5	105	16.5	105	16.5	105	16.5	105	16.5	105	16.5	105	14.7	112	16.9	
	18	72.4		10.7	86.4	13.3	100	16.6	104	17.3	105	17.4	108	17.5	110	17.7	108	17.5	110	17.7	108	17.5	110	17.7	108	17.5	110	17.7	
110 (880)	21	72.4		10.8	86.4	13.8	100	17.2	103	17.7	104	17.8	107	17.9	109	18.1	109	18.1	109	18.1	109	18.1	109	18.1	109	18.1	109	18.1	
	23	72.4		11.5	86.4	14.8	100	18.4	101	18.5	103	18.6	105	18.8	108	18.9	108	18.9	108	18.9	108	18.9	108	18.9	108	18.9	108	18.9	
	25	72.4		12.3	86.4	15.8	98.7	19.2	100	19.3	101	19.4	104	19.6	107	19.8	107	19.8	107	19.8	107	19.8	107	19.8	107	19.8	107	19.8	
	27	72.4		13.1	86.4	16.9	97.3	20.0	98.6	20.1	100	20.2	102	104	20.5	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	
	29	72.4		14.0	86.4	18.1	95.8	20.8	97.1	20.9	98.4	21.0	101	103	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	
	31	72.4		14.9	86.4	19.3	94.3	21.7	95.7	21.8	97.0	21.9	100	102	104	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	
	33	72.4		15.9	86.4	20.6	92.9	22.5	94.2	22.6	95.5	22.7	98.3	23.0	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2		
	35	72.4		16.8	86.4	21.9	91.5	23.3	93.0	23.4	94.3	23.5	97.1	23.8	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	
	37	72.4		18.6	86.4	23.4	90.0	24.1	91.3	24.2	92.6	24.3	95.2	24.6	97.8	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	
	39	72.4		19.2	85.9	24.7	88.5	24.7	89.8	25.1	91.1	91.1	93.8	25.5	96.4	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	
100 (800)	10	68.4		8.8	79.2	10.7	91.9	12.8	99.8	13.8	105	14.8	113	15.8	115	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	
	12	68.4		9.0	79.2	10.9	91.9	13.0	98.3	14.1	105	15.1	111	15.7	114	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	
	14	68.4		9.1	79.2	11.2	91.9	13.3	98.3	14.3	105	15.4	110	15.6	112	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	
	16	68.4		9.5	79.2	11.4	91.9	13.5	98.3	14.6	105	15.7	108	15.8	111	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	
	18	68.4		9.9	79.2	11.6	91.9	13.8	98.3	15.0	105	16.5	107	16.6	109	16.7	109	16.7	109	16.7	109	16.7	109	16.7	109	16.7	109	16.7	
	20	68.4		9.7	79.2	11.8	91.9	14.6	98.3	16.1	103	17.3	106	17.4	108	17.6	108	17.6	108	17.6	108	17.6	108	17.6	108	17.6	108	17.6	
	21	68.4		9.8	79.2	12.2	91.9	15.1	98.3	16.7	102	17.7	105	17.8	107	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	
	23	68.4		10.2	79.2	13.0	91.9	16.2	98.3	17.9	101	18.5	103	18.6	106	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	
	27	68.4		11.7	79.2	14.9	91.9	18.6	98.3	20.0	98.1	20.3	102	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	
	31	68.4		12.4	79.2	15.9	91.9	19.8	95.4	20.8	96.0	20.9	99.0	21.1	101	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	
100 (800)	39	68.4		13.2	79.2	17.0	91.9	21.2	94.0	21.6	95.2	21.9	97.6	21.9	100	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	
	31	68.4		14.1	79.2	18.1	91.3	22.3	92.5	22.4	93.7	22.5	96.1	22.8	98.5	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	
	33	68.4		15.0	79.2	19.3	89.9	23.1	91.1	23.3	92.3	23.4	94.7	23.6	97.1	23.8	97.1	23.8	97.1	23.8	97.1	23.8	97.1	23.8	97.1	23.8	97.1	23.8	
	35	68.4		15.9	79.2	20.5	88.4	24.0	89.6	24.1	90.8	24.2	93.2	24.4	95.6	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	
	37	68.4		16.9	79.2	21.8	87.0	24.8	88.2	24.9	89.4	25.0	91.8	25.3	94.1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	
	10	60.3		8.0	72.0	9.7	83.6	11.6	89.4	12.4	95.2	13.3	107	15.2	113	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	
	12	60.3		8.1	72.0	9.8	83.6	11.8	89.4	12.6	95.2	13.5	107	15.5	112	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	
	14	60.3		8.2	72.0	10.0	83.6	12.0	89.4	12.8	95.2	13.8	107	15.8	110	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	
	16	60.3		8.5	72.0	10.2	83.6	12.3	89.4	13.3	95.2																		

TC  
PI  
Note1:

Cooling capacity	24.0°CWB			
	TC	KW	PI	
113	113	17.2	16.9	
113	113	17.2	17.1	
113	113	17.6	17.6	
112	112	18.4	18.4	
109	109	19.8	19.8	
108	108	20.7	20.7	
106	106	21.6	21.6	
105	105	22.5	22.5	
103	103	24.3	24.3	
102	102	24.3	24.3	
100	100	25.2	25.2	
98.4	98.4	26.1	26.1	
96.9	96.9	27.1	27.1	
95.3	95.3	28.0	28.0	
93.8	93.8	28.8	28.8	
101	101	15.0	15.0	
101	101	15.3	15.3	
101	101	15.6	15.6	
101	101	15.9	15.9	
101	101	17.0	17.0	
101	101	17.7	17.7	
101	101	18.9	18.9	
101	101	20.3	20.3	
101	101	21.7	21.7	
99	99	24.1	24.1	
97.6	97.6	25.0	25.0	
96.1	96.1	25.9	25.9	
94.5	94.5	26.8	26.8	
93.0	93.0	27.7	27.7	
88.1	88.1	12.7	12.7	
88.1	88.1	12.9	12.9	
88.1	88.1	13.1	13.1	
88.1	88.1	13.4	13.4	
88.1	88.1	13.7	13.7	
88.1	88.1	14.0	14.0	
88.1	88.1	14.5	14.5	
88.1	88.1	15.6	15.6	
88.1	88.1	16.7	16.7	
88.1	88.1	17.8	17.8	
88.1	88.1	19.0	19.0	
88.1	88.1	20.3	20.3	
88.1	88.1	21.6	21.6	
88.1	88.1	23.0	23.0	
88.1	88.1	24.6	24.6	
88.1	88.1	26.6	26.6	
88.1	88.1	28.6	28.6	
75.5	75.5	10.8	10.8	
75.5	75.5	11.0	11.0	
75.5	75.5	11.2	11.2	
75.5	75.5	11.5	11.5	
75.5	75.5	11.7	11.7	
75.5	75.5	12.5	12.5	
75.5	75.5	13.4	13.4	
75.5	75.5	14.5	14.5	
75.5	75.5	16.3	16.3	
75.5	75.5	17.3	17.3	
75.5	75.5	18.4	18.4	
75.5	75.5	19.6	19.6	
75.5	75.5	20.8	20.8	
62.9	62.9	8.72	8.72	
62.9	62.9	8.9	8.9	
62.9	62.9	9.0	9.0	
62.9	62.9	9.2	9.2	
62.9	62.9	9.5	9.5	
62.9	62.9	9.6	9.6	
62.9	62.9	9.8	9.8	
62.9	62.9	10.5	10.5	
62.9	62.9	11.2	11.2	
62.9	62.9	11.9	11.9	
62.9	62.9	12.7	12.7	
62.9	62.9	13.5	13.5	
62.9	62.9	14.3	14.3	
62.9	62.9	15.1	15.1	
62.9	62.9	16.2	16.2	

Combin- ation (Capacity index)	Outdoor air temp. C/D	Indoor air temp.												Cooling capacity																
		14.0°CWB				16.0°CWB				18.0°CWB					19.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB			
		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI
120 (1020)	10	83.3	11.9	99	94.5	115	17.6	120	17.7	120	17.7	121	17.3	124	16.6	127	15.8													
	12	83.3	12.1	99	94.8	115	17.6	118	17.6	118	17.6	117	17.5	117	17.1	120	17.0	124	17.1											
	14	83.3	12.3	99	15.1	115	17.8	117	17.5	117	17.5	117	17.5	117	17.1	120	17.0	124	17.1											
	16	83.3	12.6	99	15.4	114	17.8	115	17.6	117	17.5	117	17.5	117	17.1	120	17.0	124	17.1											
	18	83.3	12.8	99	15.7	112	18.4	113	18.3	115	18.3	115	18.6	118	18.9	121	19.0													
	20	83.3	13.1	99	16.0	110	19.8	112	19.6	114	19.6	114	19.9	124	20.0	126	20.2													
	21	83.3	13.4	99	17.3	110	19.8	111	19.9	113	20.0	116	20.2	119	20.4															
	23	83.3	14.4	99	18.6	108	20.7	110	20.8	111	20.9	114	21.1	117	21.3															
	25	83.3	15.4	99	19.9	107	21.6	108	21.7	110	21.8	113	22.0	116	22.3															
	29	83.3	16.4	99	21.3	105	22.5	107	22.6	108	22.7	109	23.0	114	23.2															
110 (935)	29	83.3	17.5	99	22.7	103	23.4	105	23.5	105	24.5	105	24.6	108	24.9	111	25.1													
	31	83.3	18.7	99	24.1	102	24.3	102	25.4	103	25.5	106	25.8	109	26.1															
	33	83.3	19.9	97.4	25.0	100	25.3	102	26.3	102	26.5	105	26.8	108	27.1															
	35	83.3	21.2	95.8	25.8	98.8	25.2	100	26.3	102	26.5	105	26.8	108	27.1															
	37	83.3	22.6	94.3	25.9	97.3	27.1	98.8	27.3	99.3	27.4	103	27.7	106	28.0															
	10	70.5	9.9	84.1	12.0	97.7	14.3	105	15.4	111	16.6	120	17.6	122	17.0															
	12	70.5	10.0	84.1	12.2	97.7	14.5	105	15.7	111	16.9	118	17.5	121	16.9															
	14	70.5	10.2	84.1	12.5	97.7	14.8	105	16.0	111	17.2	117	17.4	119	16.9															
	16	70.5	10.4	84.1	12.7	97.7	15.1	105	16.3	111	17.5	115	17.6	118	17.8															
	18	70.5	10.6	84.1	13.0	97.7	15.4	105	16.6	111	17.8	115	17.8	118	18.0															
20	70.5	10.8	84.1	13.3	97.7	15.7	105	16.9	111	18.1	115	18.1	118	18.3																
21	70.5	10.9	84.1	13.6	97.7	16.0	105	17.0	109	19.7	111	19.9	114	20.1																
23	70.5	11.4	84.1	14.6	97.7	18.1	105	20.0	107	20.6	110	20.8	112	21.0																
25	70.5	12.2	84.1	15.6	97.7	19.4	105	21.4	106	21.5	108	21.7	110	21.9																
29	70.5	13.0	84.1	16.6	97.7	20.7	103	22.3	104	22.4	104	22.4	105	22.6	109	22.8														
31	70.5	14.8	84.1	18.9	97.7	23.7	100	24.2	101	23.2	103	23.4	105	23.6	108	23.8														
33	70.5	15.7	84.1	20.2	97.1	24.9	98.3	25.1	100	24.2	101	24.3	104	24.5	106	24.7														
35	70.5	16.7	84.1	21.5	95.5	25.8	96.8	26.0	98.0	26.1	101	25.2	102	25.4	105	25.7														
37	70.5	17.8	84.1	22.9	94.0	26.9	95.2	26.9	95.2	26.9	95.2	27.0	99	27.3	102	27.6														
100 (850)	10	64.1	8.9	76.5	10.8	95.8	12.8	95.0	13.8	101	14.8	101	14.8	101	14.8															
	12	64.1	9.0	76.5	11.0	88.8	13.0	95.0	14.1	101	15.1	114	17.3	119	17.5															
	14	64.1	9.2	76.5	11.2	88.8	13.3	95.0	14.3	101	15.4	114	17.6	119	17.5															
	16	64.1	9.4	76.5	11.4	88.8	13.6	95.0	14.6	101	15.7	113	17.8	115	17.7															
	18	64.1	9.5	76.5	11.6	88.8	13.8	95.0	14.9	101	16.0	112	18.4	114	18.6															
	20	64.1	9.7	76.5	11.8	88.8	14.2	95.0	15.6	101	17.2	110	19.3	112	19.5															
	21	64.1	9.8	76.5	12.0	88.8	14.7	95.0	16.2	101	17.8	109	19.8	112	19.9															
	23	64.1	10.1	76.5	12.8	88.8	15.7	95.0	17.4	101	19.1	108	20.7	110	20.8															
	25	64.1	10.8	76.5	13.6	88.8	16.8	95.0	18.6	101	20.4	106	21.6	109	21.7															
	27	64.1	11.5	76.5	14.5	88.8	18.0	95.0	20.2	101	21.3	103	22.3	107	22.5															
	29	64.1	12.0	76.5	15.5	88.8	19.2	95.0	21.2	101	22.3	103	23.3	107	23.5															
	31	64.1	13.0	76.5	16.5	88.8	20.5	95.0	22.7	99	24.1	102	24.3	104	24.5															
	33	64.1	13.8	76.5	17.5	88.8	21.9	95.0	24.2	97.7	25.0	100	25.2	102	25.4															
	35	64.1	14.7	76.5	18.8	88.8	23.3	95.0	25.8	96.8	26.1	101	25.9	103	26.2															
	37	64.1	15.6	76.5	19.9	88.8	24.8	93.5	26.7	94.6	26.8	102	26.9	104	27.1															
	39	64.1	16.6	76.5	21.2	88.8	26.5	91.9	27.6	93.1	27.7	103	28.0	105	28.3															

## RXQ36PHY1

		Cooling capacity																												
		14.0°CWB				16.0°CWB				18.0°CWB						20.0°CWB				22.0°CWB				24.0°CWB						
Combin. ation(%) Capacity Index)	Outdoor air temp. °C/DB	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	
		Indoor air temp.												Indoor air temp.																
		14.0°CWB				16.0°CWB				18.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB								
		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	
90 (810)	10	61.0	8.27	72.8	10.0	84.6	11.8	90.5	12.7	96.3	13.7	108	15.6	120	17.9															
	12	61.0	8.6	72.8	10.3	84.6	12.2	90.5	13.2	96.3	14.2	108	16.2	120	18.3															
	14	61.0	8.7	72.8	10.5	84.6	12.4	90.5	13.4	96.3	14.4	108	16.5	120	18.5															
	16	61.0	8.9	72.8	10.7	84.6	12.7	90.5	13.7	96.3	14.7	108	16.8	120	18.8															
	18	61.0	9.0	72.8	10.9	84.6	12.9	90.5	14.0	96.3	15.3	108	18.1	116	20.1															
	20	61.0	9.1	72.8	11.0	84.6	13.2	90.5	14.5	96.3	15.8	108	18.7	116	20.7															
	21	61.0	9.3	72.8	11.5	84.6	14.1	90.5	15.5	96.3	17.0	108	19.1	116	21.1															
	23	61.0	9.8	72.8	12.3	84.6	15.1	90.5	16.6	96.3	18.1	108	21.5	112	22.4															
	25	61.0	10.4	72.8	13.1	84.6	16.1	90.5	17.7	96.3	19.4	108	23.0	111	23.3															
	27	61.0	11.1	72.8	13.9	84.6	17.2	90.5	18.9	96.3	20.7	107	24.1	109	24.3															
	29	61.0	11.7	72.8	14.6	84.6	18.3	90.5	20.2	96.3	22.1	105	25.0	107	25.2															
	31	61.0	12.5	72.8	15.8	84.6	19.8	90.5	22.5	96.3	24.5	102	26.9	104	27.2															
33	61.0	13.3	72.8	16.8	84.6	20.8	90.5	22.9	96.3	25.1	102	27.9	104	27.2																
35	61.0	14.1	72.8	17.9	84.6	22.1	90.5	24.4	96.3	26.8	100	29.9	102	28.1																
37	61.0	14.9	72.8	19.0	84.6	23.5	90.5	26.0	96.3	28.5	98.7	31.9	100	28.1																
39	61.0	15.7	72.8	20.1	84.6	24.8	90.5	27.1	96.3	29.8	98.7	32.8	101	28.1																
80 (720)	10	54.3	7.34	64.7	8.8	75.2	10.3	80.4	11.1	85.6	11.9	96.7	13.1																	
	12	54.3	7.66	64.7	9.1	75.2	10.5	80.4	11.3	85.6	12.2	96.1	13.7																	
	14	54.3	7.76	64.7	9.3	75.2	10.9	80.4	11.8	85.6	12.6	96.1	14.4																	
	16	54.3	7.84	64.7	9.6	75.2	11.1	80.4	12.0	85.6	12.9	96.1	14.7																	
	18	54.3	7.98	64.7	9.9	75.2	11.3	80.4	12.2	85.6	13.1	96.1	15.2																	
	20	54.3	8.05	64.7	9.9	75.2	11.4	80.4	12.3	85.6	13.4	96.1	15.8																	
	21	54.3	8.20	64.7	9.9	75.2	12.0	80.4	13.1	85.6	14.3	96.1	16.9																	
	23	54.3	8.5	64.7	10.5	75.2	12.8	80.4	14.0	85.6	15.3	96.1	18.1																	
	25	54.3	9.0	64.7	11.2	75.2	13.7	80.4	15.0	85.6	16.4	96.1	19.3																	
	27	54.3	9.6	64.7	11.9	75.2	14.6	80.4	16.0	85.6	17.5	96.1	20.6																	
	29	54.3	10.2	64.7	12.7	75.2	15.5	80.4	17.0	85.6	18.6	96.1	22.0																	
	31	54.3	10.8	64.7	13.5	75.2	16.5	80.4	18.1	85.6	19.8	96.1	23.5																	
33	54.3	11.4	64.7	14.3	75.2	17.6	80.4	19.3	85.6	21.5	96.1	25.0																		
35	54.3	12.1	64.7	15.3	75.2	18.7	80.4	20.5	85.6	22.5	96.1	26.7																		
37	54.3	12.8	64.7	16.4	75.2	19.9	80.4	21.9	85.6	23.9	96.1	28.4																		
39	54.3	13.6	64.7	17.6	75.2	21.1	80.4	23.4	85.6	25.9	96.1	30.1																		
70 (630)	10	47.5	6.45	56.6	7.66	65.8	8.9	70.4	9.6	74.9	10.3	84.1	11.7																	
	12	47.5	6.55	56.6	7.78	65.8	9.1	70.4	9.9	74.9	10.5	84.1	11.9																	
	14	47.5	6.65	56.6	7.91	65.8	9.3	70.4	9.9	74.9	10.7	84.1	12.1																	
	16	47.5	6.76	56.6	8.05	65.8	9.6	70.4	10.1	74.9	10.9	84.1	12.4																	
	18	47.5	6.87	56.6	8.18	65.8	9.6	70.4	10.3	74.9	11.1	84.1	12.6																	
	20	47.5	6.99	56.6	8.34	65.8	9.8	70.4	10.5	74.9	11.3	84.1	12.9																	
	21	47.5	7.05	56.6	8.4	65.8	9.9	70.4	10.6	74.9	11.4	84.1	13.1																	
	23	47.5	7.16	56.6	8.6	65.8	10.1	70.4	10.7	74.9	11.9	84.1	14.0																	
	25	47.5	7.30	56.6	8.9	65.8	10.4	70.4	11.0	74.9	12.5	84.1	14.9																	
	27	47.5	7.47	56.6	9.5	65.8	11.2	70.4	11.7	74.9	13.6	84.1	16.0																	
	29	47.5	7.70	56.6	10.1	65.8	12.2	70.4	12.5	74.9	14.5	84.1	17.0																	
	31	47.5	8.19	56.6	10.7	65.8	13.0	70.4	13.2	74.9	15.4	84.1	18.1																	
33	47.5	9.2	56.6	11.4	65.8	13.8	70.4	14.1	74.9	16.4	84.1	19.3																		
35	47.5	9.7	56.6	12.1	65.8	14.6	70.4	15.0	74.9	17.5	84.1	20.6																		
37	47.5	10.3	56.6	12.8	65.8	15.5	70.4	16.0	74.9	18.6	84.1	21.9																		
39	47.5	10.9	56.6	13.6	65.8	16.8	70.4	17.1	74.9	19.8	84.1	23.3																		
60 (540)	10	40.7	5.61	48.5	6.59	56.4	7.62	60.3	8.16	64.2	8.7	72.1	9.9																	
	12	40.7	5.69	48.5	6.69	56.4	7.75	60.3	8.30	64.2	8.9	72.1	10.0																	
	14	40.7	5.78	48.5	6.79	56.4	7.88	60.3	8.4	64.2	9.0	72.1	10.2																	
	16	40.7	5.86	48.5	6.90	56.4	8.01	60.3	8.6	64.2	9.2	72.1	10.4																	
	18	40.7	5.95	48.5	7.02	56.4	8.15	60.3	8.7	64.2	9.4	72.1	10.6																	
	20	40.7	6.04	48.5	7.14	56.4	8.30	60.3	8.9	64.2	9.5	72.1	10.8																	
	21	40.7	6.19	48.5	7.33	56.4	8.5	60.3	9.0	64.2	9.8	72.1	10.9																	
	23	40.7	6.30	48.5	7.46	56.4	8.9	60.3	9.6	64.2	10.4	72.1	11.3																	
	25	40.7	6.52	48.5	7.91	56.4	9.4	60.3	10.2	64.2	11.1	72.1	12.9																	
	27	40.7	6.81	48.5	8.4	56.4	10.0	60.3	10.9	64.2	11.8	72.1	13.8																	
	29	40.7	7.32	48.5	8.9	56.4	10.7	60.3	11.6	64.2	12.6	72.1	14.6																	
	31	40.7	7.74	48.5	9.4	56.4	11.3	60.3	12.3	64.2	13.4	72.1	15.6																	
33	40.7	8.19	48.5	10.0	56.4	12.0	60.3	13.1	64.2	14.2	72.1	16.6																		
35	40.7	8.7	48.5	10.6	56.4	12.7	60.3	13.9	64.2	15.1	72.1	17.5																		
37	40.7	9.3	48.5	11.3	56.4	13.5	60.3	14.7	64.2	16.1	72.1	18.4																		
39	40.7	9.9	48.5	12.1	56.4	14.3	60.3</																							

TC Total capacity : kW  
 PI Power Input : kW(Comp.+Outdoor fan motor)  
 Note: The above table shows the average value of conditions which may occur.

RXQ38PHY1

Combi- ation (Capacity Index)	Outdoor air temp. °C/DB	14.0°CWB												16.0°CWB												18.0°CWB												20.0°CWB												22.0°CWB												24.0°CWB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		TC				PI				kW				TC				PI				kW				TC				PI				kW				TC				PI				kW				TC				PI				kW				TC				PI				kW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW	TC	PI	TW

## RXQ40PHY1

Combi- ation (%) (max)	Outdoor air temp. °C/DB	Indoor air temp.												Cooling capacity			
		14.0°CWB				16.0°CWB				18.0°CWB				20.0°CWB			
		TC	PI	RW	TC	PI	RW	TC	PI	RW	TC	PI	RW	TC	PI	RW	TC
90 (900)	10	68.0	9.9	81.9	94.2	11.9	94.2	14.1	101	15.2	107	16.4	120	18.7	134	21.1	137
	12	68.0	10.2	81.1	94.2	12.4	94.2	14.6	101	15.8	107	17.0	120	19.4	134	21.5	137
	14	68.0	10.4	81.1	94.2	12.6	94.2	14.9	101	16.1	107	17.3	120	19.8	133	22.2	137
	16	68.0	10.6	81.1	94.2	12.8	94.2	15.2	101	16.4	107	17.6	120	20.2	132	22.9	137
	18	68.0	10.8	81.1	94.2	13.1	94.2	15.5	101	16.7	107	17.9	120	20.6	131	23.6	137
	20	68.0	11.1	81.1	94.2	13.4	94.2	15.8	101	17.0	107	18.3	120	21.1	130	24.4	137
	22	68.0	11.3	81.1	94.2	13.7	94.2	16.1	101	17.3	107	18.6	120	21.6	129	25.2	137
	24	68.0	11.5	81.1	94.2	14.0	94.2	16.4	101	17.6	107	18.9	120	22.1	128	26.0	137
	26	68.0	11.7	81.1	94.2	14.3	94.2	16.7	101	17.9	107	19.2	120	22.6	127	26.8	137
	28	68.0	12.0	81.1	94.2	14.6	94.2	17.0	101	18.2	107	19.5	120	23.1	126	27.6	137
80 (800)	10	68.0	9.9	81.9	94.2	11.9	94.2	14.1	101	15.2	107	16.4	120	18.7	134	21.1	137
	12	68.0	10.2	81.1	94.2	12.4	94.2	14.6	101	15.8	107	17.0	120	19.4	134	21.5	137
	14	68.0	10.4	81.1	94.2	12.6	94.2	14.9	101	16.1	107	17.3	120	19.8	133	22.2	137
	16	68.0	10.6	81.1	94.2	12.8	94.2	15.2	101	16.4	107	17.6	120	20.2	132	22.9	137
	18	68.0	10.8	81.1	94.2	13.1	94.2	15.5	101	16.7	107	17.9	120	20.6	131	23.6	137
	20	68.0	11.1	81.1	94.2	13.4	94.2	15.8	101	17.0	107	18.3	120	21.1	130	24.4	137
	22	68.0	11.3	81.1	94.2	13.7	94.2	16.1	101	17.3	107	18.6	120	21.6	129	25.2	137
	24	68.0	11.5	81.1	94.2	14.0	94.2	16.4	101	17.6	107	18.9	120	22.1	128	26.0	137
	26	68.0	11.7	81.1	94.2	14.3	94.2	16.7	101	17.9	107	19.2	120	22.6	127	26.8	137
	28	68.0	12.0	81.1	94.2	14.6	94.2	17.0	101	18.2	107	19.5	120	23.1	126	27.6	137
70 (700)	10	68.0	9.9	81.9	94.2	11.9	94.2	14.1	101	15.2	107	16.4	120	18.7	134	21.1	137
	12	68.0	10.2	81.1	94.2	12.4	94.2	14.6	101	15.8	107	17.0	120	19.4	134	21.5	137
	14	68.0	10.4	81.1	94.2	12.6	94.2	14.9	101	16.1	107	17.3	120	19.8	133	22.2	137
	16	68.0	10.6	81.1	94.2	12.8	94.2	15.2	101	16.4	107	17.6	120	20.2	132	22.9	137
	18	68.0	10.8	81.1	94.2	13.1	94.2	15.5	101	16.7	107	17.9	120	20.6	131	23.6	137
	20	68.0	11.1	81.1	94.2	13.4	94.2	15.8	101	17.0	107	18.3	120	21.1	130	24.4	137
	22	68.0	11.3	81.1	94.2	13.7	94.2	16.1	101	17.3	107	18.6	120	21.6	129	25.2	137
	24	68.0	11.5	81.1	94.2	14.0	94.2	16.4	101	17.6	107	18.9	120	22.1	128	26.0	137
	26	68.0	11.7	81.1	94.2	14.3	94.2	16.7	101	17.9	107	19.2	120	22.6	127	26.8	137
	28	68.0	12.0	81.1	94.2	14.6	94.2	17.0	101	18.2	107	19.5	120	23.1	126	27.6	137
60 (600)	10	68.0	9.9	81.9	94.2	11.9	94.2	14.1	101	15.2	107	16.4	120	18.7	134	21.1	137
	12	68.0	10.2	81.1	94.2	12.4	94.2	14.6	101	15.8	107	17.0	120	19.4	134	21.5	137
	14	68.0	10.4	81.1	94.2	12.6	94.2	14.9	101	16.1	107	17.3	120	19.8	133	22.2	137
	16	68.0	10.6	81.1	94.2	12.8	94.2	15.2	101	16.4	107	17.6	120	20.2	132	22.9	137
	18	68.0	10.8	81.1	94.2	13.1	94.2	15.5	101	16.7	107	17.9	120	20.6	131	23.6	137
	20	68.0	11.1	81.1	94.2	13.4	94.2	15.8	101	17.0	107	18.3	120	21.1	130	24.4	137
	22	68.0	11.3	81.1	94.2	13.7	94.2	16.1	101	17.3	107	18.6	120	21.6	129	25.2	137
	24	68.0	11.5	81.1	94.2	14.0	94.2	16.4	101	17.6	107	18.9	120	22.1	128	26.0	137
	26	68.0	11.7	81.1	94.2	14.3	94.2	16.7	101	17.9	107	19.2	120	22.6	127	26.8	137
	28	68.0	12.0	81.1	94.2	14.6	94.2	17.0	101	18.2	107	19.5	120	23.1	126	27.6	137
50 (500)	10	68.0	9.9	81.9	94.2	11.9	94.2	14.1	101	15.2	107	16.4	120	18.7	134	21.1	137
	12	68.0	10.2	81.1	94.2	12.4	94.2	14.6	101	15.8	107	17.0	120	19.4	134	21.5	137
	14	68.0	10.4	81.1	94.2	12.6	94.2	14.9	101	16.1	107	17.3	120	19.8	133	22.2	137
	16	68.0	10.6	81.1	94.2	12.8	94.2	15.2	101	16.4	107	17.6	120	20.2	132	22.9	137
	18	68.0	10.8	81.1	94.2	13.1	94.2	15.5	101	16.7	107	17.9	120	20.6	131	23.6	137
	20	68.0	11.1	81.1	94.2	13.4	94.2	15.8	101	17.0	107	18.3	120	21.1	130	24.4	137
	22	68.0	11.3	81.1	94.2	13.7	94.2	16.1	101	17.3	107	18.6	120	21.6	129	25.2	137
	24	68.0	11.5	81.1	94.2	14.0	94.2	16.4	101	17.6	107	18.9	120	22.1	128	26.0	137
	26	68.0	11.7	81.1	94.2	14.3	94.2	16.7	101	17.9	107	19.2	120	22.6	127	26.8	137
	28	68.0	12.0	81.1	94.2	14.6	94.2	17.0	101	18.2	107	19.5	120	23.1	126	27.6	137

TC Total capacity : kW  
PI Power input : kW (Comp + Outdoor fan motor)  
Note1: The above table shows the average value of conditions which may occur.

## Cooling capacity

Cooling capacityRXQ-PH



RXQ46PHY1

Combi- ation (%) (Capacity Index)	Outdoor air temp. °C/DB	Indoor air temp.												Cooling capacity																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		14.0°CWB				16.0°CWB				18.0°CWB						19.0°CWB				20.0°CWB				22.0°CWB				24.0°CWB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI			TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	TC	PI	KW	PI	TC	PI	KW	PI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
90 (1035)	10	77.4	12.2	92.4	14.7	107	17.3	115	18.7	122	20.1	137	23.0	142	24.9	158	27.2	167	28.9	177	30.2	186	31.5	223	35.8	233	36.9	244	38.6	261	39.7	276	41.1	30.2	43.0	41.4	44.8	48.1	51.6	55.1	58.6	62.1	65.6	69.1	72.6	76.1	79.6	83.1	86.6	90.1	93.6	97.1	100.6	104.1	107.6	111.1	114.6	118.1	121.6	125.1	128.6	132.1	135.6	139.1	142.6	146.1	149.6	153.1	156.6	160.1	163.6	167.1	170.6	174.1	177.6	181.1	184.6	188.1	191.6	195.1	198.6	202.1	205.6	209.1	212.6	216.1	219.6	223.1	226.6	230.1	233.6	237.1	240.6	244.1	247.6	251.1	254.6	258.1	261.6	265.1	268.6	272.1	275.6	279.1	282.6	286.1	289.6	293.1	296.6	300.1	303.6	307.1	310.6	314.1	317.6	321.1	324.6	328.1	331.6	335.1	338.6	342.1	345.6	349.1	352.6	356.1	359.6	363.1	366.6	370.1	373.6	377.1	380.6	384.1	387.6	391.1	394.6	398.1	401.6	405.1	408.6	412.1	415.6	419.1	422.6	426.1	429.6	433.1	436.6	440.1	443.6	447.1	450.6	454.1	457.6	461.1	464.6	468.1	471.6	475.1	478.6	482.1	485.6	489.1	492.6	496.1	499.6	503.1	506.6	510.1	513.6	517.1	520.6	524.1	527.6	531.1	534.6	538.1	541.6	545.1	548.6	552.1	555.6	559.1	562.6	566.1	569.6	573.1	576.6	580.1	583.6	587.1	590.6	594.1	597.6	601.1	604.6	608.1	611.6	615.1	618.6	622.1	625.6	629.1	632.6	636.1	639.6	643.1	646.6	650.1	653.6	657.1	660.6	664.1	667.6	671.1	674.6	678.1	681.6	685.1	688.6	692.1	695.6	699.1	702.6	706.1	709.6	713.1	716.6	720.1	723.6	727.1	730.6	734.1	737.6	741.1	744.6	748.1	751.6	755.1	758.6	762.1	765.6	769.1	772.6	776.1	779.6	783.1	786.6	790.1	793.6	797.1	800.6	804.1	807.6	811.1	814.6	818.1	821.6	825.1	828.6	832.1	835.6	839.1	842.6	846.1	849.6	853.1	856.6	860.1	863.6	867.1	870.6	874.1	877.6	881.1	884.6	888.1	891.6	895.1	898.6	902.1	905.6	909.1	912.6	916.1	919.6	923.1	926.6	930.1	933.6	937.1	940.6	944.1	947.6	951.1	954.6	958.1	961.6	965.1	968.6	972.1	975.6	979.1	982.6	986.1	989.6	993.1	996.6	1000.1	1003.6	1007.1	1010.6	1014.1	1017.6	1021.1	1024.6	1028.1	1031.6	1035.1	1038.6	1042.1	1045.6	1049.1	1052.6	1056.1	1059.6	1063.1	1066.6	1070.1	1073.6	1077.1	1080.6	1084.1	1087.6	1091.1	1094.6	1098.1	1101.6	1105.1	1108.6	1112.1	1115.6	1119.1	1122.6	1126.1	1129.6	1133.1	1136.6	1140.1	1143.6	1147.1	1150.6	1154.1	1157.6	1161.1	1164.6	1168.1	1171.6	1175.1	1178.6	1182.1	1185.6	1189.1	1192.6	1196.1	1199.6	1203.1	1206.6	1210.1	1213.6	1217.1	1220.6	1224.1	1227.6	1231.1	1234.6	1238.1	1241.6	1245.1	1248.6	1252.1	1255.6	1259.1	1262.6	1266.1	1269.6	1273.1	1276.6	1280.1	1283.6	1287.1	1290.6	1294.1	1297.6	1301.1	1304.6	1308.1	1311.6	1315.1	1318.6	1322.1	1325.6	1329.1	1332.6	1336.1	1339.6	1343.1	1346.6	1350.1	1353.6	1357.1	1360.6	1364.1	1367.6	1371.1	1374.6	1378.1	1381.6	1385.1	1388.6	1392.1	1395.6	1399.1	1402.6	1406.1	1409.6	1413.1	1416.6	1420.1	1423.6	1427.1	1430.6	1434.1	1437.6	1441.1	1444.6	1448.1	1451.6	1455.1	1458.6	1462.1	1465.6	1469.1	1472.6	1476.1	1479.6	1483.1	1486.6	1490.1	1493.6	1497.1	1500.6	1504.1	1507.6	1511.1	1514.6	1518.1	1521.6	1525.1	1528.6	1532.1	1535.6	1539.1	1542.6	1546.1	1549.6	1553.1	1556.6	1560.1	1563.6	1567.1	1570.6	1574.1	1577.6	1581.1	1584.6	1588.1	1591.6	1595.1	1598.6	1602.1	1605.6	1609.1	1612.6	1616.1	1619.6	1623.1	1626.6	1630.1	1633.6	1637.1	1640.6	1644.1	1647.6	1651.1	1654.6	1658.1	1661.6	1665.1	1668.6	1672.1	1675.6	1679.1	1682.6	1686.1	1689.6	1693.1	1696.6	1700.1	1703.6	1707.1	1710.6	1714.1	1717.6	1721.1	1724.6	1728.1	1731.6	1735.1	1738.6	1742.1	1745.6	1749.1	1752.6	1756.1	1759.6	1763.1	1766.6	1770.1	1773.6	1777.1	1780.6	1784.1	1787.6	1791.1	1794.6	1798.1	1801.6	1805.1	1808.6	1812.1	1815.6	1819.1	1822.6	1826.1	1829.6	1833.1	1836.6	1840.1	1843.6	1847.1	1850.6	1854.1	1857.6	1861.1	1864.6	1868.1	1871.6	1875.1	1878.6	1882.1	1885.6	1889.1	1892.6	1896.1	1899.6	1903.1	1906.6	1910.1	1913.6	1917.1	1920.6	1924.1	1927.6	1931.1	1934.6	1938.1	1941.6	1945.1	1948.6	1952.1	1955.6	1959.1	1962.6	1966.1	1969.6	1973.1	1976.6	1980.1	1983.6	1987.1	1990.6	1994.1	1997.6	2001.1	2004.6	2008.1	2011.6	2015.1	2018.6	2022.1	2025.6	2029.1	2032.6	2036.1	2039.6	2043.1	2046.6	2050.1	2053.6	2057.1	2060.6	2064.1	2067.6	2071.1	2074.6	2078.1	2081.6	2085.1	2088.6	2092.1	2095.6	2099.1	2102.6	2106.1	2109.6	2113.1	2116.6	2120.1	2123.6	2127.1	2130.6	2134.1	2137.6	2141.1	2144.6	2148.1	2151.6	2155.1	2158.6	2162.1	2165.6	2169.1	2172.6	2176.1	2179.6	2183.1	2186.6	2190.1	2193.6	2197.1	2200.6	2204.1	2207.6	2211.1	2214.6	2218.1	2221.6	2225.1	2228.6	2232.1	2235.6	2239.1	2242.6	2246.1	2249.6	2253.1	2256.6	2260.1	2263.6	2267.1	2270.6	2274.1	2277.6	2281.1	2284.6	2288.1	2291.6	2295.1	2298.6	2302.1	2305.6	2309.1	2312.6	2316.1	2319.6	2323.1	2326.6	2330.1	2333.6	2337.1	2340.6	2344.1	2347.6	2351.1	2354.6	2358.1	2361.6	2365.1	2368.6	2372.1	2375.6	2379.1	2382.6	2386.1	2389.6	2393.1	2396.6	2400.1	2403.6	2407.1	2410.6	2414.1	2417.6	2421.1	2424.6	2428.1	2431.6	2435.1	2438.6	2442.1	2445.6	2449.1	2452.6	2456.1	2459.6	2463.1	2466.6	2470.1	2473.6	2477.1	2480.6	2484.1	2487.6	2491.1	2494.6	2498.1	2501.6	2505.1	2508.6	2512.1	2515.6	2519.1	2522.6	2526.1	2529.6	2533.1	2536.6	2540.1	2543.6	2547.1	2550.6	2554.1	2557.6	2561.1	2564.6	2568.1	2571.6	2575.1	2578.6	2582.1	2585.6	2589.1	2592.6	2596.1	2599.6	2603.1	2606.6	2610.1	2613.6	2617.1	2620.6	2624.1	2627.6	2631.1	2634.6	2638.1	2641.6	2645.1	2648.6	2652.1	2655.6	2659.1	2662.6	2666.1	2669.6	2673.1	2676.6	2680.1	2683.6	2687.1	2690.6	2694.1	2697.6	2701.1	2704.6	2708.1	2711.6	2715.1	2718.6	2722.1	2725.6	2729.1	2732.6	2736.1	2739.6	2743.1	2746.6	2750.1	2753.6	2757.1	2760.6	2764.1	2767.6	2771.1	2774.6	2778.1	2781.6	2785.1	2788.6	2792.1	2795.6	2799.1	2802.6	2806.1	2809.6	2813.1	2816.6	2820.1	2823.6	2827.1	2830.6	2834.1	2837.6	2841.1	2844.6	2848.1	2851.6	2855.1	2858.6	2862.1	2865.6	2869.1	2872.6	2876.1	2879.6	2883.1	2886.6	2890.1	2893.6	2897.1	2900.6	2904.1	2907.6	2911.1	2914.6	2918.1	2921.6	2925.1	2928.6	2932.1	2935.6	2939.1	2942.6	2946.1	2949.6	2953.1	2956.6	2960.1	2963.6	2967.1	2970.6	2974.1	2977.6	2981.1	2984.6	2988.1	2991.6	2995.1	2998.6	3002.1	3005.6	3009.1	3012.6	3016.1	3019.6	3023.1	3026.6	3030.1	3033.6	3037.1	3040.6	3044.1	3047.6	3051.1	3054.6	3058.1	3061.6	3065.1	3068.6	3072.1	3075.6	3079.1	3082.6	3086.1	3089.6	3093.1	3096.6	3100.1	3103.6	3107.1	3110.6	3114.1	3117.6	3121.1	3124.6	3128.1	3131.6	3135.1	3138.6	3142.1	3145.6	3149.1	3152.6	3156.1	3159.6	3163.1	3166.6	3170.1	3173.6	3177.1	3180.6	3184.1	3187.6	3191.1	3194.6	3198.1	3201.6	3205.1	3208.6	3212.1	3215.6	3219.1	3222.6	3226.1	3229.6	3233.1	3236.6	3240.1	3243.6	3247.1	3250.6	3254.1	3257.6	3261.1	3264.6	3268.1	3271.6	3275.1	3278.6	3282.1	3285.6	3289.1	3292.6	3296.1	3299.6	3303.1	3306.6	3310.1	3313.6	3317.1	3320.6	3324.1	3327.6	3331.1	3334.6	3338.1	3341.6	3345.1	3348.6	3352.1	3355.6	3359.1	3362.6	3366.1	3369.6	3373.1	3376.6	3380.1	3383.6	3387.1	3390.6	3394.1	3397.6	3401.1	3404.6	3408.1	3411.6	3415.1	3418.6	3422.1	3425.6	3429.1	3432.6	3436.1	3439.6	3443.1	3446.6	3450.1	3453.6	3457.1	3460.6	3464.1	3467.6	3471.1	3474.6	3478.1	3481.6	3485.1	3488.6	3492.1	3495.6	3499.1	3502.6	3506.1	3509.6	3513.1	3516.6	3520.1	3523.6	3527.1	3530.6	3534.1	3537.6	3541.1	3544.6	3548.1	3551.6	3555.1	3558.6	3562.1	3565.6	3569.1	3572.6	3576.1	3579.6	3583.1	3586.6	3590.1	3593.6	3597.1	3600.6	3604.1	3607.6	3611.1	3614.6	3618.1	3621.6	3625.1	3628.6	3632.1	3635.6	3639.1	3642.6	3646.1	3649.6	3653.1	3656.6	3660.1	3663.6	3667.1	3670.6	3674.1	3677.6	3681.1	3684.6	3688.1	3691.6	3695.1	3698.6	3702.1	3705.6	3709.1	3712.6	3716.1	3719.6	3723.1	3726.6	3730.1	3733.6	3737.1	3740.6	3744.1	3747.6	3751.1	3754.6	3758.1	3761.6	3765.1	3768.6	3772.1	3775.6	3779.1	3782.6	3786.1	3789.6	3793.1	3796.6	3800.1	3803.6	3807.1	3810.6	3814.1	3817.6	3821.1	3824.6	3828.1	3831.6	3835.1	3838.6	3842.1	3845.6	3849.1	3852.6	

## Cooling capacity

[illegible]

TC Total capacity ; kW  
PI Power Input ; kW(Comp.+Outdoor fan motor)  
Note: The above table shows the average value of conditions which may occur.

Total capacity : kW

Power Input : kW(Comp.+Outdoor fan motor)

Note1:

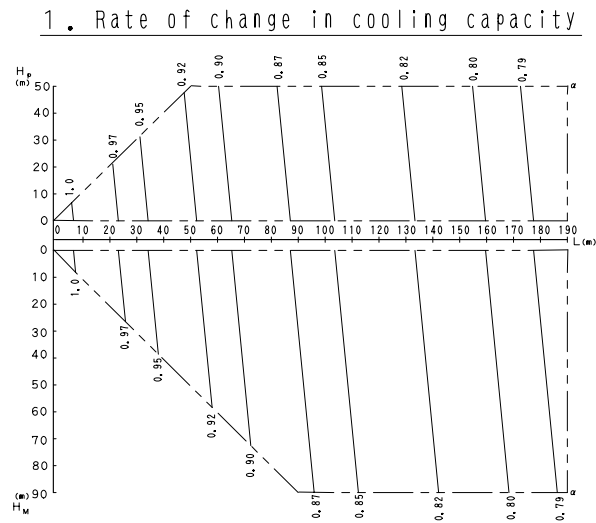
RXQ-PH

Combin- ation (Capacity Index)	Outdoor air temp. CDB	Indoor air temp.												Cooling capacity																
		14.0°CDB				16.0°CDB				18.0°CDB				19.0°CDB				20.0°CDB				22.0°CDB				24.0°CDB				
		TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	TC	PI	KW	PI	
90 (1125)	10	84.4	13.8	100.7	16.7	117	19.7	125	21.2	133	22.8	150	26.1	166	28.4															
	12	84.4	14.1	100.7	17.0	117	20.0	125	21.6	133	23.2	150	26.6	166	28.9															
	14	84.4	14.3	100.7	17.3	117	20.4	125	22.0	133	24.2	150	27.1	166	30.5															
	16	84.4	14.5	100.7	17.6	117	20.8	125	22.5	133	24.7	150	27.6	166	31.0															
	18	84.4	14.7	100.7	17.9	117	21.2	125	23.0	133	25.2	150	28.1	166	31.5															
	20	84.4	15.1	100.7	18.3	117	21.6	125	23.4	133	25.5	150	28.5	161	33.5															
	21	84.4	15.2	100.7	18.4	117	22.0	125	24.2	133	26.5	150	31.2	161	34.3															
	23	84.4	15.5	100.7	19.2	117	23.6	125	25.9	133	28.3	150	33.6	158	35.9															
	25	84.4	16.3	100.7	20.5	117	25.2	125	27.7	133	30.3	150	36.0	155	37.4															
	27	84.4	17.4	100.7	21.9	117	26.9	125	29.6	133	32.4	150	38.5	153	39.0															
	29	84.4	18.5	100.7	23.3	117	28.7	125	31.6	133	34.6	148	40.3	151	40.6															
	31	84.4	19.7	100.7	24.8	117	30.6	125	33.7	133	37.0	145	41.9	149	42.2															
80 (1000)	10	84.4	20.9	100.7	26.4	117	32.6	125	35.9	133	39.4	143	43.4	146	43.8															
	12	84.4	21.2	100.7	26.7	117	32.9	125	36.2	133	39.7	143	43.7	146	44.1															
	14	84.4	21.5	100.7	27.0	117	33.2	125	36.5	133	40.0	143	44.0	146	44.4															
	16	84.4	21.8	100.7	27.3	117	33.5	125	36.8	133	40.3	143	44.3	146	44.7															
	18	84.4	22.1	100.7	27.6	117	33.8	125	37.1	133	40.6	143	44.6	146	45.0															
	20	84.4	22.4	100.7	27.9	117	34.1	125	37.4	133	40.9	143	44.9	146	45.3															
	21	84.4	22.5	100.7	28.0	117	34.2	125	37.5	133	41.0	143	45.0	146	45.4															
	23	84.4	22.8	100.7	28.3	117	34.5	125	37.8	133	41.3	143	45.3																	

Combin- ation(%) (Capacity index)	Outdoor air temp. C/D/B	Indoor air temp.												Cooling capacity									
		14.0°CWB			16.0°CWB			18.0°CWB			19.0°CWB				20.0°CWB			22.0°CWB			24.0°CWB		
		KW	PI	TC	KW	PI	TC	KW	PI	TC	KW	PI	TC		KW	PI	TC	KW	PI	TC	KW	PI	TC
130 (1625)	10	122	20.6	145	25.3	169	30.0	175	30.7	177	30.0	182	28.8	186	27.5								
	12	122	21.0	145	25.7	169	30.6	173	30.5	177	30.0	182	28.8	186	27.5								
	14	122	21.4	145	26.2	168	31.0	171	30.3	173	29.7	177	29.9	179	28.6	184	28.1						
	16	122	21.8	145	26.7	166	30.8	168	30.6	170	30.8	177	29.9	179	28.6	184	28.1						
	18	122	22.2	145	27.2	166	30.6	168	30.6	170	30.8	177	29.9	179	28.6	184	28.1						
	20	122	22.7	145	28.0	162	33.6	164	33.7	166	33.9	170	34.2	175	34.6								
	21	122	23.3	145	30.1	160	34.4	163	34.5	166	34.7	170	35.0	174	35.4								
	23	122	25.0	145	32.3	158	35.9	160	36.1	160	36.1	163	36.3	167	36.7	171	37.0						
	25	122	26.7	145	34.5	156	37.3	158	37.7	160	37.9	165	38.3	169	38.7								
	27	122	28.5	145	36.9	154	39.1	156	39.3	158	39.5	162	39.9	167	40.3								
120 (1500)	10	113	18.8	134	23.0	156	27.9	167	29.6	172	30.8	179	29.7	183	28.5								
	12	113	19.2	134	23.5	156	27.9	167	30.2	172	30.7	179	29.7	183	28.5								
	14	113	19.5	134	24.4	156	28.0	166	31.0	170	30.5	174	29.3	178	29.5								
	16	113	19.9	134	24.4	156	28.0	166	31.0	170	30.5	174	29.3	178	29.5								
	18	113	20.3	134	24.8	156	30.0	163	32.0	165	32.1	170	32.4	174	32.7								
	20	113	20.7	134	25.8	156	32.2	161	33.5	163	33.7	167	34.0	171	34.3								
	21	113	20.9	134	26.8	156	33.4	160	34.3	162	34.3	166	34.8	170	35.1								
	23	113	23.9	134	30.7	153	37.3	156	37.5	158	37.6	162	38.0	168	38.4								
	25	113	25.5	134	32.8	151	38.8	153	39.0	155	39.2	159	39.6	163	40.0								
	27	113	27.2	134	35.0	149	40.4	151	40.6	153	40.8	157	41.2	161	41.6								
110 (1375)	10	103	13.1	123	17.1	143	21.6	153	22.8	153	22.8	153	22.8	153	22.8								
	12	103	13.4	123	17.4	143	21.9	153	23.1	153	23.1	153	23.1	153	23.1								
	14	103	13.7	123	17.7	143	22.2	153	23.4	153	23.4	153	23.4	153	23.4								
	16	103	14.1	123	18.0	143	22.5	1															

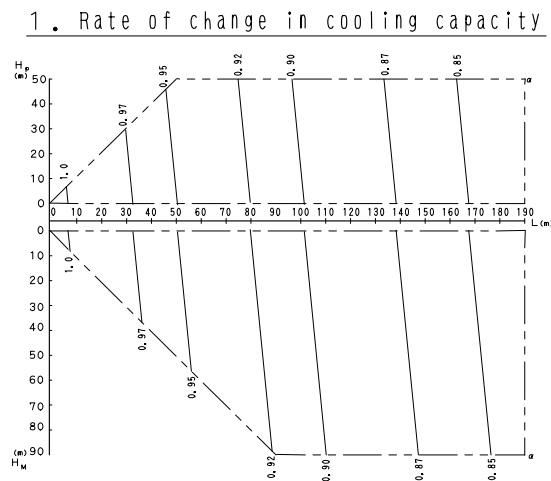
## 4.2 Capacity Correction Factor (RXQ-PH)

### RXQ16PHY1



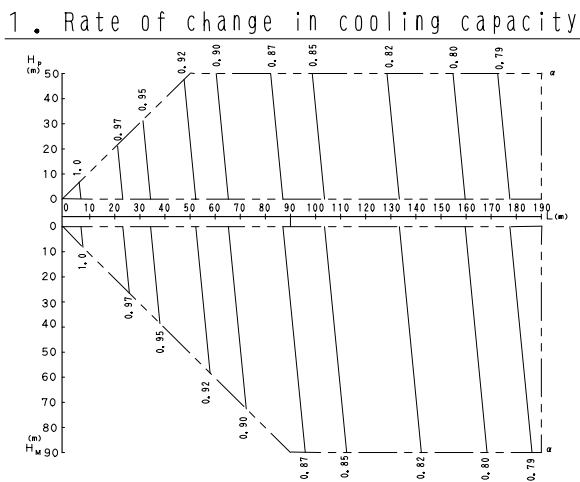
C: 3D056903

### RXQ24PHY1 / RXQ36PHY1



C: 3D056902

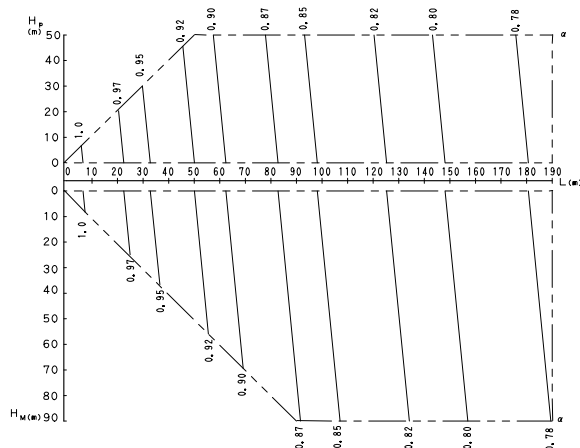
### RXQ18PHY1 / RXQ26PHY1 / RXQ28PHY1 / RXQ30PHY1 / RXQ38PHY1 / RXQ40PHY1 / RXQ42PHY1 / RXQ44PHY1



C: 3D056904

## RXQ32PHY1 / RXQ34PHY1

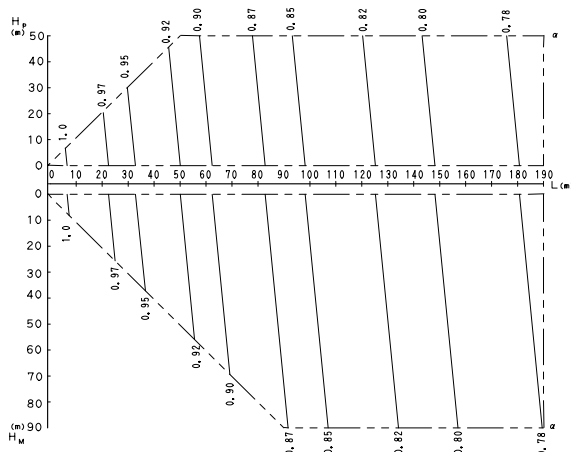
## 1. Rate of change in cooling capacity



C: 3D056906

## RXQ46PHY1

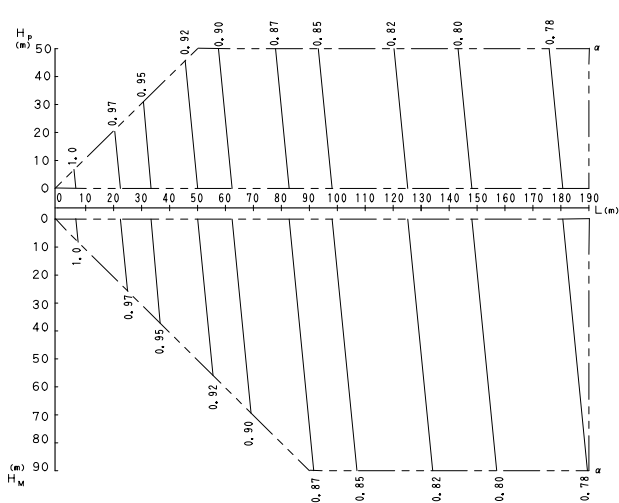
## 1. Rate of change in cooling capacity



C: 3D056907

## RXQ48PHY1

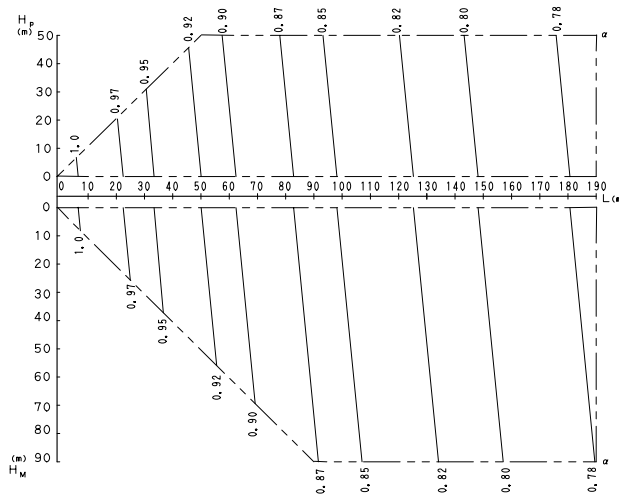
## 1. Rate of change in cooling capacity



C: 3D056908

## RXQ50PHY1

## 1. Rate of change in cooling capacity



C: 3D056909

## [Explanation of symbols]

$H_p$  : Level difference (m) between indoor and outdoor units where indoor unit in inferior position

$H_m$  : Level difference (m) between indoor and outdoor units where indoor unit in superior position

$L$  : Equivalent pipe length (m)

$\alpha$  : Rate of change in cooling/heating capacity

[Diameters of pipes (Standard size)]

Model	Gas	Liquid
RXQ16PHY1	φ28.6	φ12.7
RXQ18PHY1	φ28.6	φ15.9
RXQ24PHY1	φ34.9	φ15.9
RXQ26PHY1	φ34.9	φ19.1
RXQ28PHY1	φ34.9	φ19.1

Model	Gas	Liquid
RXQ30PHY1	φ34.9	φ19.1
RXQ32PHY1	φ34.9	φ19.1
RXQ34PHY1	φ34.9	φ19.1
RXQ36PHY1	φ41.3	φ19.1
RXQ38PHY1	φ41.3	φ19.1

Model	Gas	Liquid
RXQ40PHY1	φ41.3	φ19.1
RXQ42PHY1	φ41.3	φ19.1
RXQ44PHY1	φ41.3	φ19.1
RXQ46PHY1	φ41.3	φ19.1
RXQ48PHY1	φ41.3	φ19.1
RXQ50PHY1	φ41.3	φ19.1

## [ Notes ]

- These figures illustrate the rate of change in capacity of a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions. Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.
- With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.
- Method of calculating A/C (cooling/heating) capacity:  
The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outdoor units as mentioned below, whichever smaller.

## Calculating A/C capacity of outdoor units

- Condition: Indoor unit combination ratio does not exceed 100%.

$$\text{Maximum A/C capacity of outdoor units} = \left[ \text{A/C capacity of outdoor units obtained from capacity characteristic table at the 100\% combination} \right] \times \left[ \text{Capacity change rate due to piping length to the farthest indoor unit} \right]$$

- Condition: Indoor unit combination ratio exceeds 100%.

$$\text{Maximum A/C capacity of outdoor units} = \left[ \text{A/C capacity of outdoor units obtained from capacity characteristic table at the combination} \right] \times \left[ \text{Capacity change rate due to piping length to the farthest indoor unit} \right]$$

- When overall equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit-branch sections) must be increased.  
When level difference is 50m or more, the diameter of the main liquid pipe (outdoor unit-branch sections) must be increased.

■ Diameter of above case

Model	Gas	Liquid
RXQ16PHY1	φ38.1	φ15.9
RXQ18PHY1	φ38.1	φ19.1
RXQ24PHY1	Not Increased	φ19.1
RXQ26PHY1	φ38.1*	φ22.2
RXQ28PHY1	φ38.1*	φ22.2

Model	Gas	Liquid
RXQ30PHY1	φ38.1*	φ22.2
RXQ32PHY1	φ38.1*	φ22.2
RXQ34PHY1	φ38.1*	φ22.2
RXQ36PHY1	Not Increased	φ22.2
RXQ38PHY1	Not Increased	φ22.2

Model	Gas	Liquid
RXQ40PHY1	Not Increased	φ22.2
RXQ42PHY1	Not Increased	φ22.2
RXQ44PHY1	Not Increased	φ22.2
RXQ46PHY1	Not Increased	φ22.2
RXQ48PHY1	Not Increased	φ22.2

Model	Gas	Liquid
RXQ50PHY1	Not Increased	φ22.2

\*If available on the site, use this size. Otherwise it can not be increased.

(Unit: mm)

Temper grade	O Type				1/2 Type							
Outer diameter	φ6.4	φ9.5	φ12.7	φ15.9	φ19.1	φ22.2	φ25.4	φ28.6	φ31.8	φ34.9	φ38.1	φ41.3
Minimum Wall Thickness	0.80	0.80	0.80	0.99	0.80	0.80	0.88	0.99	1.10	1.21	1.32	1.43

5. Read cooling / heating capacity rate of change in the above figures based on the following equivalent length.

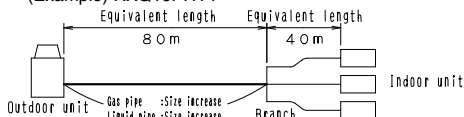
Overall equivalent length=  
(Equivalent length to main pipe)×Correction factor+(Equivalent length after branching)

Choose a correction factor from the following table.

When cooling capacity is calculated : gas pipe size

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

(Example) RXQ16PHY1

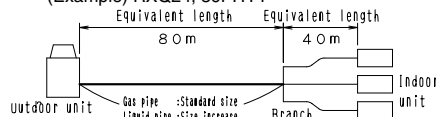


In the above case  
(Cooling) Overall equivalent length=80m×0.5+40m=80m

The rate of change in  
cooling capacity when Hp=0m is thus approximately 0.88

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

(Example) RXQ24, 36PHY1

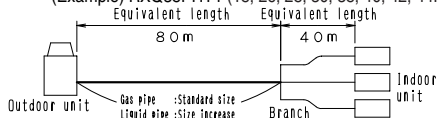


In the above case  
(Cooling) Overall equivalent length=80m×1.0+40m=120m

The rate of change in  
cooling capacity when Hp=0m is thus approximately 0.88

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

(Example) RXQ38PHY1 (18, 26, 28, 30, 38, 40, 42, 44PHY1)

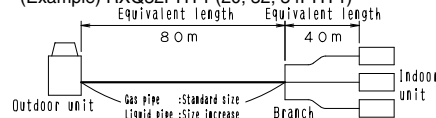


In the above case  
(Cooling) Overall equivalent length=80m×1.0+40m=120m

The rate of change in  
cooling capacity when Hp=0m is thus approximately 0.83

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	0.5

(Example) RXQ32PHY1 (20, 32, 34PHY1)

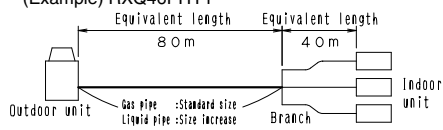


In the above case  
(Cooling) Overall equivalent length=80m×1.0+40m=120m

The rate of change in  
cooling capacity when Hp=0m is thus approximately 0.82

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	

(Example) RXQ46PHY1

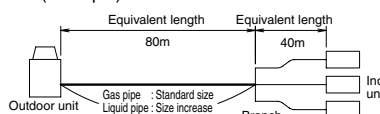


In the above case  
(Cooling) Overall equivalent length =  $80\text{m} \times 1.0 + 40\text{m} = 120\text{m}$

The rate of change in  
cooling capacity when  $H_p=0\text{m}$  is thus approximately 0.82

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	

(Example) RXQ48PHY1

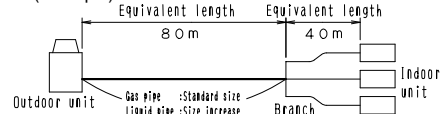


In the above case  
(Cooling) Overall equivalent length =  $80\text{m} \times 1.0 + 40\text{m} = 120\text{m}$

The rate of change in  
cooling capacity when  $H_p=0\text{m}$  is thus approximately 0.82

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	

(Example) RXQ50PHY1



In the above case  
(Cooling) Overall equivalent length =  $80\text{m} \times 1.0 + 40\text{m} = 120\text{m}$

The rate of change in  
cooling capacity when  $H_p=0\text{m}$  is thus approximately 0.82

6. If heat insulation of piping is insufficient, heat loss will become larger and capacity will decrease.

## 5. Sound Levels

### Overall

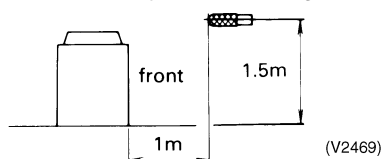
dBA		dBA		dBA	
Power Supply Model	50Hz/380-415V	Power Supply Model	50Hz/380-415V	Power Supply Model	50Hz/380-415V
RXQ16PHY1	60	RXQ32PHY1	64	RXQ42PHY1	66
RXQ18PHY1	61	RXQ34PHY1	64	RXQ44PHY1	65
RXQ24PHY1	62	RXQ36PHY1	65	RXQ46PHY1	66
RXQ26PHY1	62	RXQ38PHY1	65	RXQ48PHY1	65
RXQ28PHY1	63	RXQ40PHY1	65	RXQ50PHY1	66
RXQ30PHY1	63				

(Note)

Sound level:

Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m.





During actual operation, these values are normally somewhat higher as a result of ambient conditions.


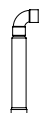




Please refer to page 444 concerning about the Band level of each module.

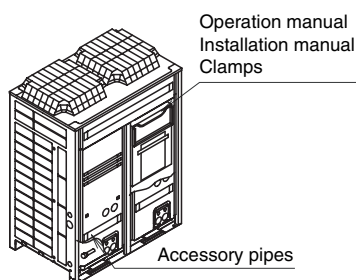
## 6. Accessories

### 6.1 Standard Accessories

Q16 · Q18 type				
Name	Clamp (1)	Clamp (2)	Clamp (3)	Gas side accessory pipe (1)
Quantity	9 pcs.	2 pcs.	1 pc.	1 pc.
Shape	 Small		 Large	

Q16 · Q18 type				
Name	Gas side accessory pipe (2)	Liquid side accessory pipe (1)	Liquid side accessory pipe (2)	Others
Quantity	1 pc.	1 pc.	1 pc.	<ul style="list-style-type: none"> <li>• Operation manual</li> <li>• Installation manual</li> <li>• Declaration of conformity (PED) (16 · 18HP)</li> <li>• Request for the Indication (Installation Records)</li> </ul>
Shape	 16 · 18 HP type		  16      18 HP type HP type	

[ RXQ16 · 18 type ]



## 6.2 Optional Accessories

### RXQ16 ~ 18PHY1

Optional accessories		RXQ16PHY1 RXQ18PHY1
Distributive Piping	Refnet header	KHRP26M22H, KHRP26M33H, (Max. 4 branch) (Max. 8 branch) KHRP26M72H (Max. 8 branch)
	Refnet joint	KHRP26A22T, KHRP26A33T, KHRP26A72T
Outdoor unit multi connection piping kit		BHFP22P100
Central drain pan kit		KWC26C280×2
Digital Pressure Gauge Kit		BHGP26A1(E)

C : 3D056901

### RXQ24 ~ 30PHY1

Optional accessories		RXQ24PHY1 RXQ26PHY1	RXQ28PHY1 RXQ30PHY1
Distributive Piping	Refnet header	KHRP26M22H, KHRP26M33H, KHRP26M72H, KHRP26M73H (Max. 4 branch) (Max. 8 branch) (Max. 8 branch) (Max. 8 branch)	
	Refnet joint	KHRP26A22T, KHRP26A33T, KHRP26A72T, KHRP26A73T	
Outdoor unit multi connection piping kit		BHFP22P151	
Pipe size reducer		KHRP26M73TP, KHRP26M73HP	
Central drain pan kit		KWC26C280×3	KWC26C280 × 2 KWC26C450
Digital Pressure Gauge Kit		BHGP26A1(E)	

C : 3D056901

### RXQ32 ~ 50PHY1

Optional accessories		RXQ32PHY1 RXQ34PHY1	RXQ36PHY1 RXQ44PHY1 RXQ38PHY1 RXQ46PHY1 RXQ40PHY1 RXQ48PHY1 RXQ42PHY1 RXQ50PHY1
Distributive Piping	Refnet header	KHRP26M22H, KHRP26M33H, KHRP26M72H, KHRP26M73H (Max. 4 branch) (Max. 8 branch) (Max. 8 branch) (Max. 8 branch)	
	Refnet joint	KHRP26A22T, KHRP26A33T, KHRP26A72T, KHRP26A73T	
Outdoor unit multi connection piping kit		BHFP22P151	
Pipe size reducer		KHRP26M73TP, KHRP26M73HP	
Central drain pan kit		KWC26C280 KWC26C450 × 2	KWC26C450 × 3
Digital Pressure Gauge Kit		BHGP26A1(E)	

C : 3D056901

6.3 Digital Pressure Gauge Kit BHGP26A1(E)

Dimensions

	Model Name
Standard Type	BHGP26A1
Anti-Corrosion Type	BHGP26A1E

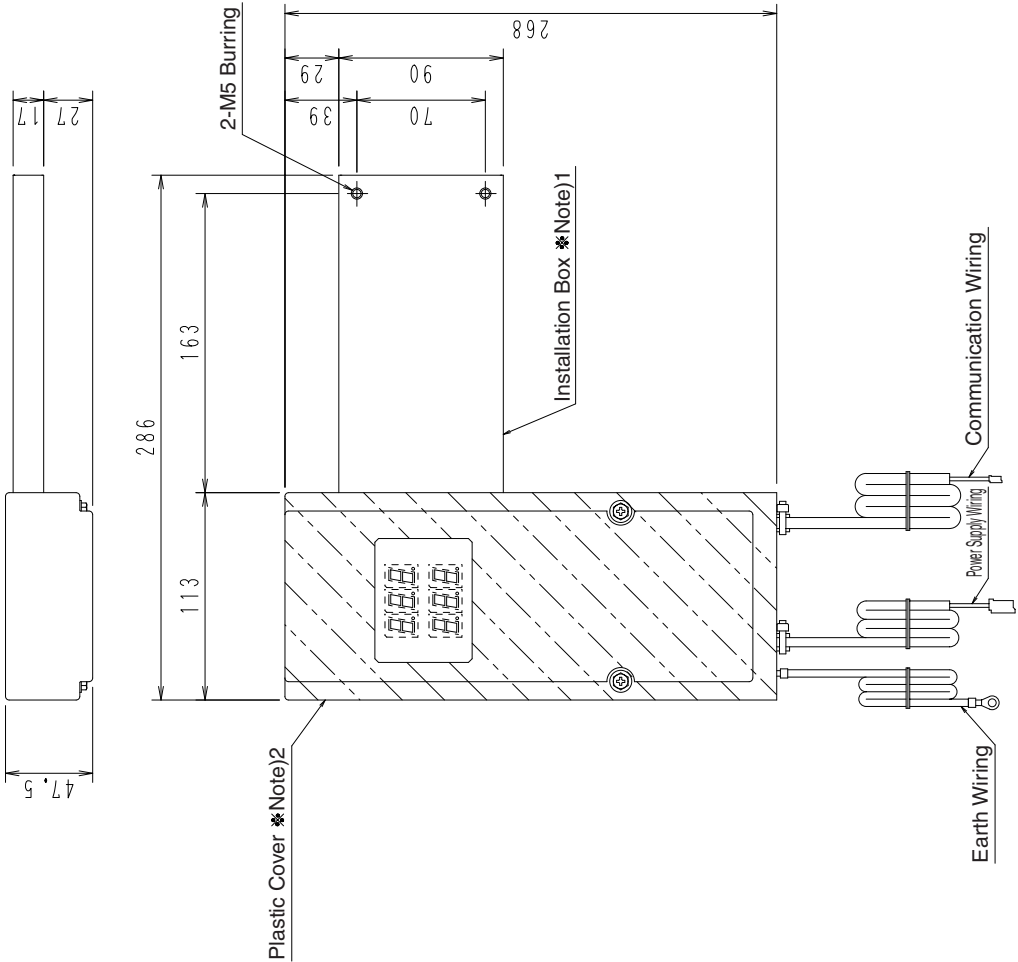
Note) 1. Installation Box  
[Materials] : SGCC-Z22 (Standard)  
SGCC-F08 (Anti-Corrosion • Heavy Anti-Corrosion)  
light Camel (Anti-Corrosion)  
gray (Heavy Anti-Corrosion)

2. Plastic Cover  
[Materials] : Methacrylate Resin  
[Finish of Surface] :  flat finish

3. Standard Accessory : Set of Fixing Screw  
Clamp Material  
Gauge Window Name Plate  
Plastic bush  
Fixing manual

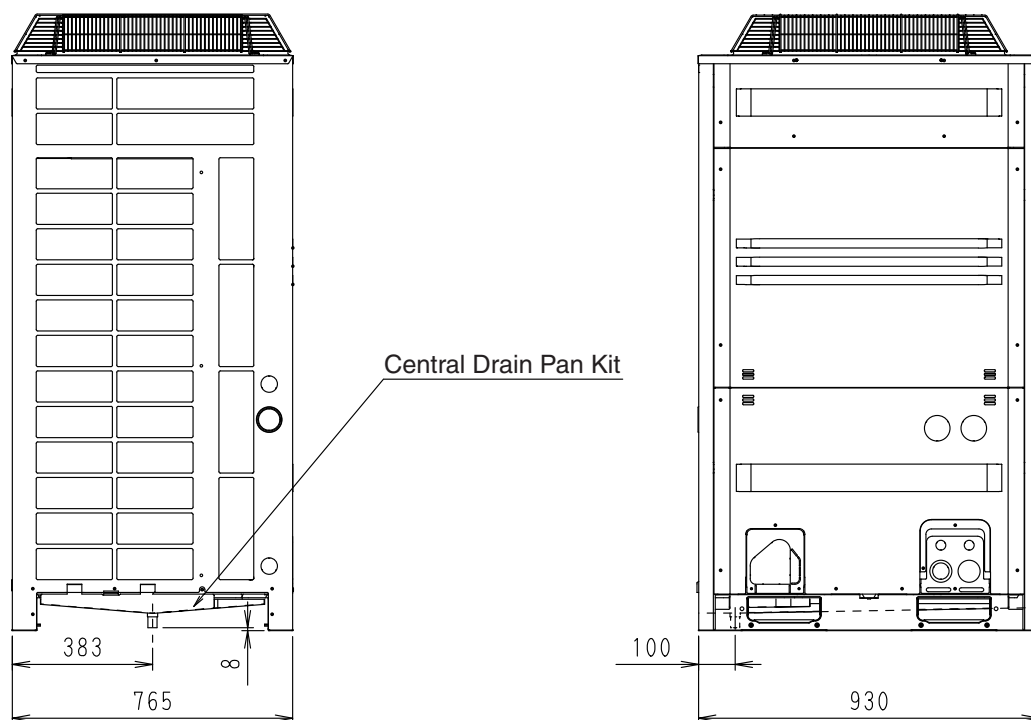
4. This kit is assembled on site

C : 3D055954



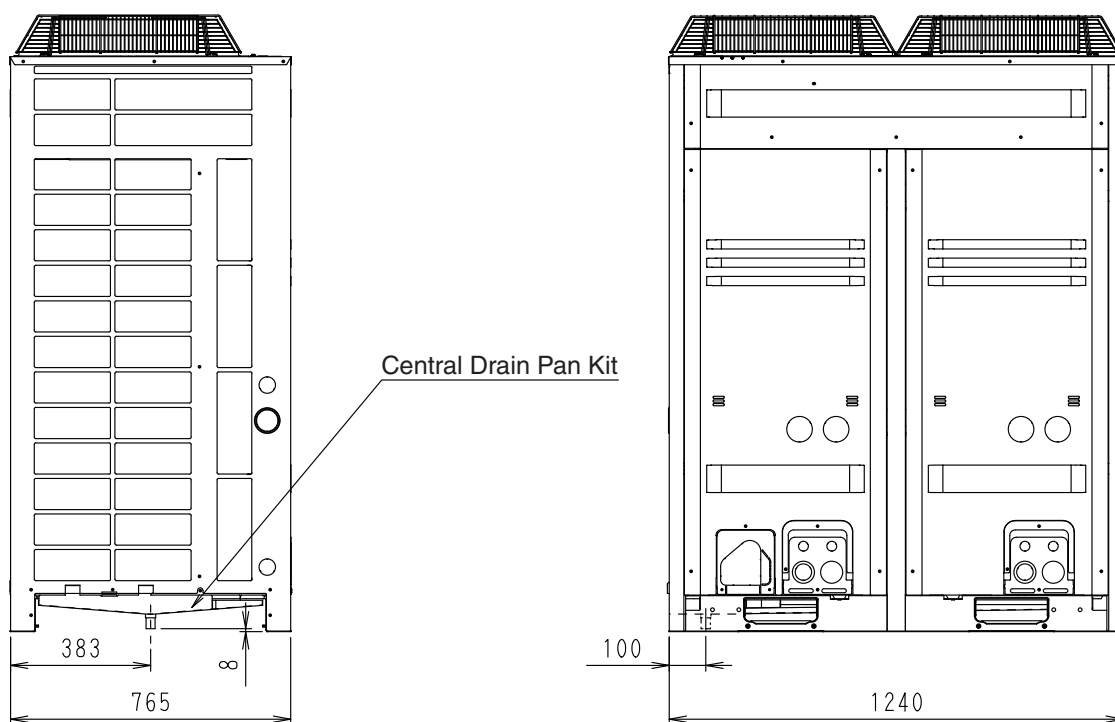
## 6.4 Central Drain Pan Kit KWC26C280, 450

RXQ8, 10P



3D052254

## RXQ12, 14, 16, 18P



3D052255

# Part 6

## Installation of Outdoor Units

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# 1. Precaution on Installation

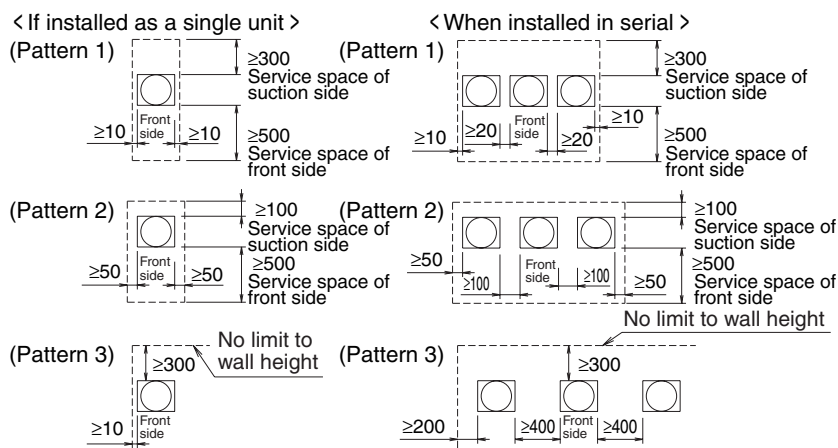
## Determination of the Installation Location

### SELECTION OF LOCATION

This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a household appliance it could cause electromagnetic interference.

The VRV outdoor units should be installed in a location that meets the following requirements:

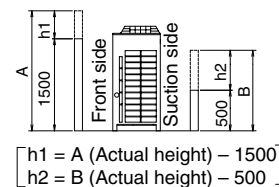
1. The foundation is strong enough to support the weight of the unit and the floor is flat to prevent vibration and noise generation.
2. The space around the unit is adequate for servicing and the minimum space for air inlet and air outlet is available. (Refer to below figure and choose one of both possibilities.)
3. There is no danger of fire due to leakage of inflammable gas.
4. Ensure that water cannot cause any damage to the location in case it drips out the unit (e.g. in case of a blocked drain pipe).
5. The piping length between the outdoor unit and the indoor unit may not exceed the allowable piping length. (See "Example of connection".)
6. Select the location of the unit in such a way that neither the discharged air nor the sound generated by the unit disturb anyone.
7. Make sure that the air inlet and outlet of the unit are not positioned towards the main wind direction. Frontal wind will disturb the operation of the unit. If necessary, use a windscreen to block the wind.



### For Patterns 1 and 2 in figure :

- Wall height for front side no higher than 1500 mm.
- Wall height on the suction side no higher than 500 mm.
- Wall height for sides – no limit.

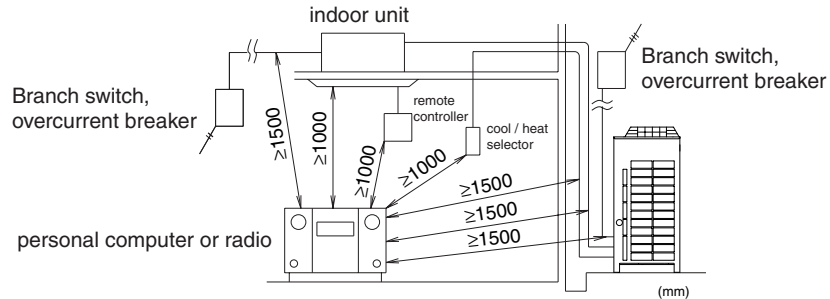
If this height is exceeded, calculate h1 and h2 shown in the figure below, and add the service space for the front and suction sides to h1/2 and h2/2.



**Note**



1. An inverter air conditioner may cause electronic noise generated from AM broadcasting. Examine where to install the main air conditioner and electric wires, keeping proper distances away from stereo equipment, personal computers, etc.

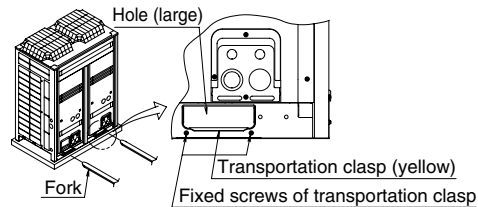
Particularly for locations with weak reception, ensure there is a distance of at least 3 meters for indoor remote controllers, place power wiring and transmission wiring in conduits, and ground the conduits.



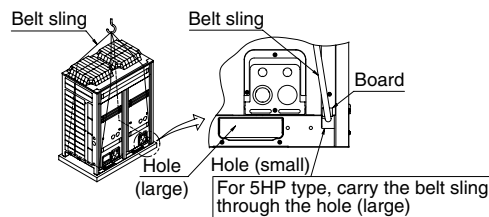
2. When installing in a locations where there is heavy snowfall, implement the following snow measures.
  - Ensure the base is high enough that intakes are not clogged by snow.
  - Attach a snow hood (sold separately).
  - Remove the rear intake grille to prevent snow from accumulating on the fins.
3. If condensate may drip on downstairs (walkway) depending on the floor condition, take a measure such as the installation of central drain pan kit (sold separately).
4. The refrigerant R-410A itself is nontoxic, nonflammable and is safe. If the refrigerant should leak however, its concentration may exceed the allowable limit depending on room size. Due to this it could be necessary to take measures against leakage. See **"14. Caution for Refrigerant Leaks"** for details.

## Suspension Method

- At delivery, the package should be checked and any damage should be reported immediately to the carrier claims agent.
- When handling the unit, take into account the following:
  1.  Fragile, handle the unit with care.
  2.  Keep the unit upright in order to avoid compressor damage.
  3. Decide on the transportation route.
  3. If a forklift is to be used, pass the forklift arms through the large openings on the bottom of the unit.



4. If hanging the unit, use a cloth sling to prevent damaging the unit when hanging it. Keeping the following points in mind, hang the unit following the procedure shown in figure 6.
  - Use a sling sufficiently strong to hold the mass of the unit.
  - Use 2 belts of at least 8m long.
  - Place extra cloth or boards in the locations where the casing comes in contact with the sling to prevent damage.
  - Hoist the unit making sure it is being lifted at its center of gravity.
5. After installation, remove the transportation clasp attached to the large openings.

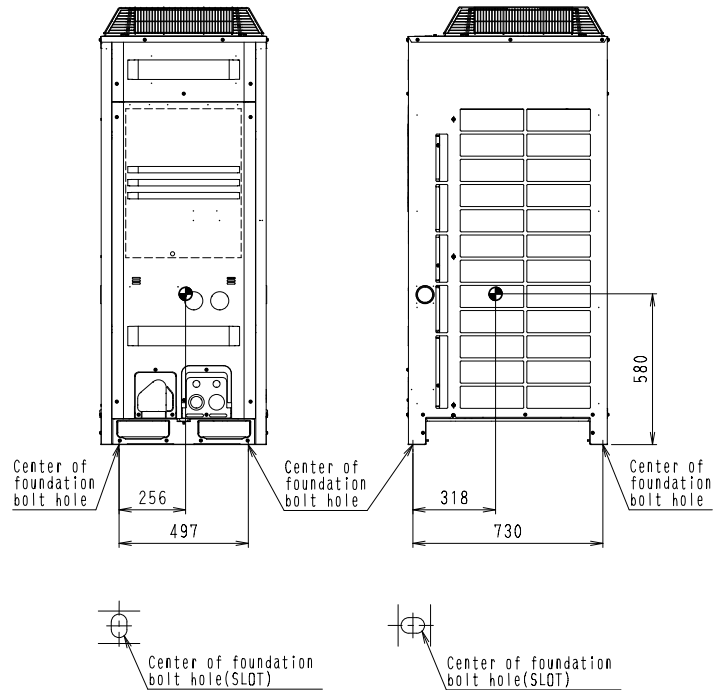


### Note

- Use belt sling of 20mm width or less which adequately bears the weight of the product.
- Apply a filler cloth on a fork to prevent coating of the bottom frame from coming off and rust from occurring when bringing in the unit with anti-corrosion treatment type using a forklift.

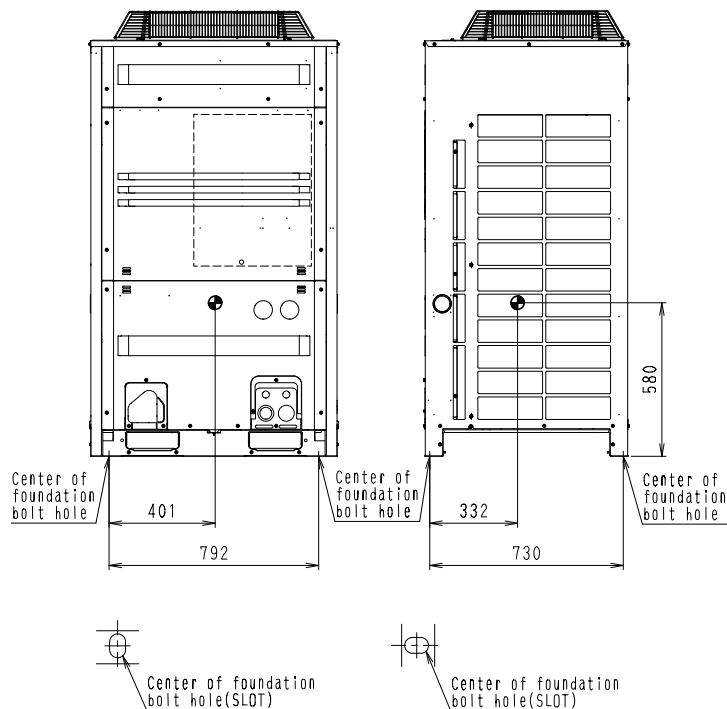
## 2. Installation of Outdoor Units

Center of Gravity : ●  
RXQ5P



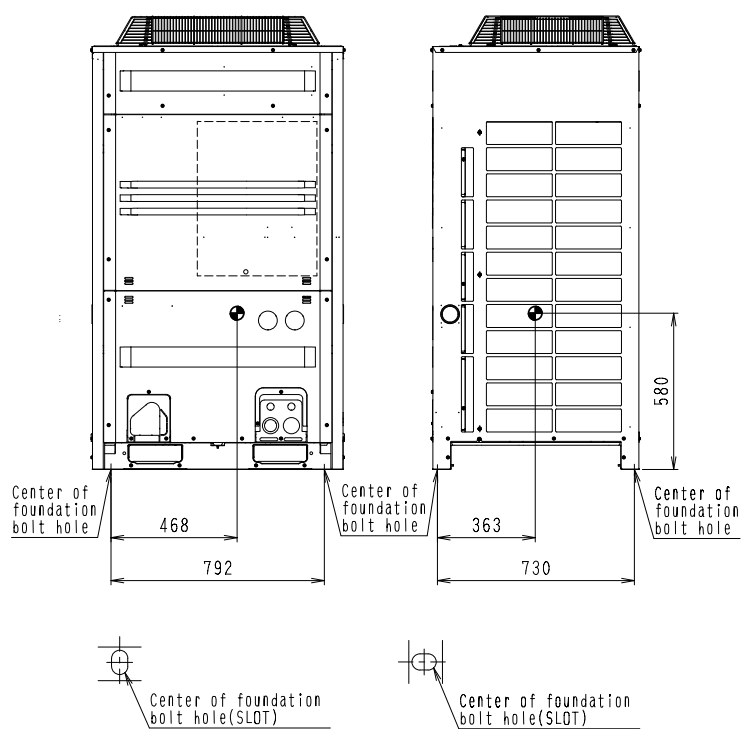
4D052145A

RXQ8P



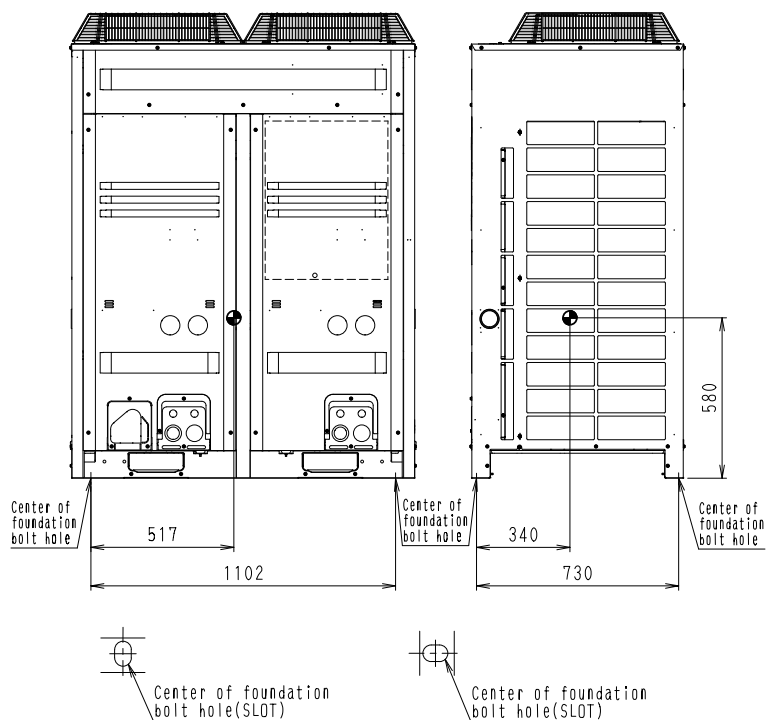
4D052146C

## RXQ10P



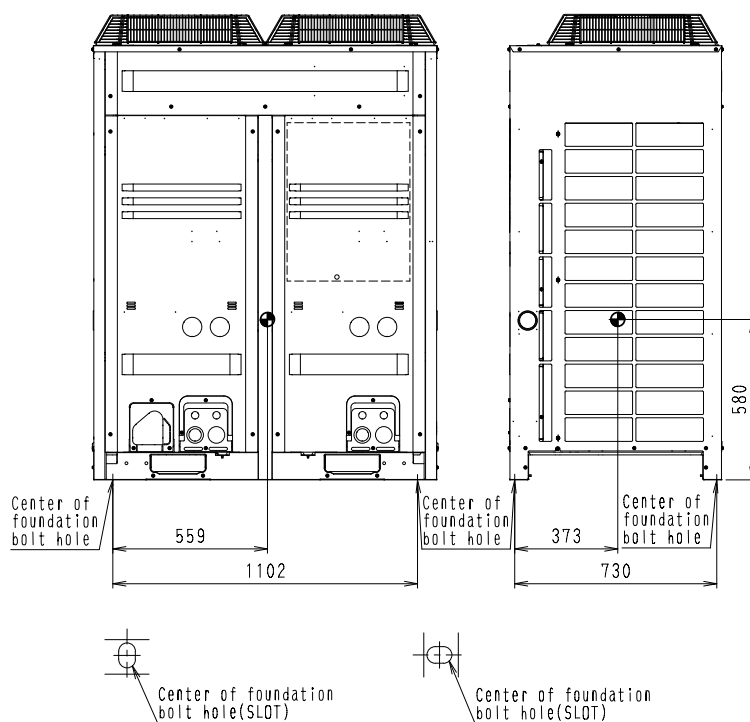
4D052147C

## RXQ12P



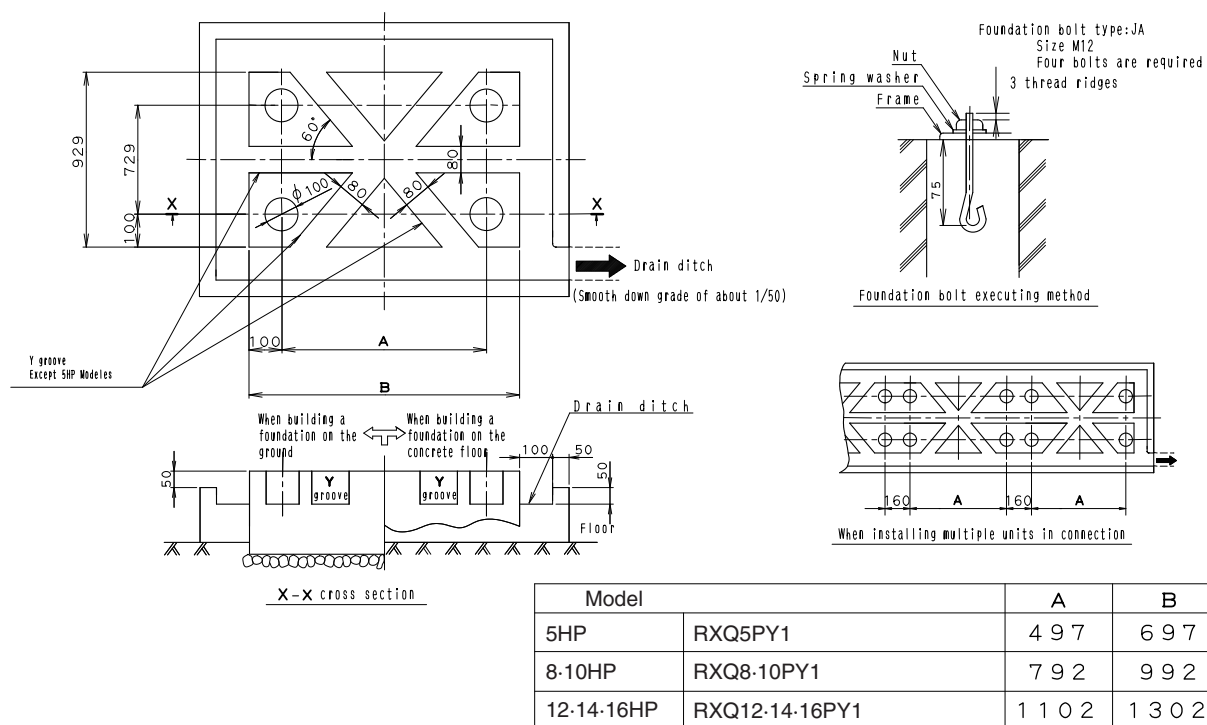
4D052148C

## RXQ14, 16, 18P



4D052572C

## Foundation of Units



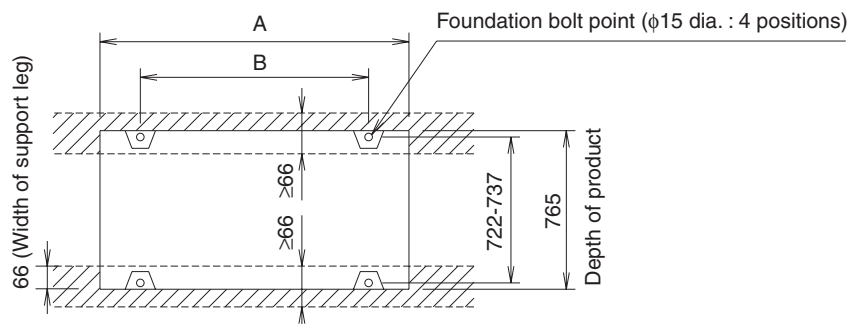
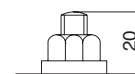
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**Notes:**

1. The proportions of cement : sand : gravel for the concrete shall be 1 : 2 : 4, and ten reinforcement bars that their diameter are 10mm, (approx. 300mm intervals) shall be placed.
2. The surface shall be finished with mortar. The corner edges shall be chamfered.
3. When the foundation is built on a concrete floor, rubble is not necessary. However, the surface of the section on which the foundation is built shall have rough finish.
4. A drain ditch shall be made around the foundation to thoroughly drain water from the equipment installation area.
5. When installing the equipment on a roof, the floor strength shall be checked, and water-proofing measures shall be taken.
6. Y groove unnecessary for 5HP Models.
7. When selecting the piping from the bottom, provide the height 200mm or more from a base.

**Bolt Pitch**

- Make sure the unit is installed level on a sufficiently strong base to prevent vibration and noise.
- Secure the unit to its base using foundation bolts. (Use four commercially available M12-type foundation bolts, nuts, and washers.)
- The foundation bolts should be inserted 20 mm.
- Make sure the base under the unit extended more than 765mm behind the unit.
- The height of the base should be at least 150mm from the floor.
- The unit must be installed on a solid longitudinal foundation (steelbeam frame or concrete) as indicated in figure.

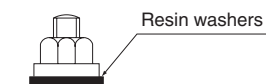


Shape of outdoor unit's support leg and foundation bolt positions

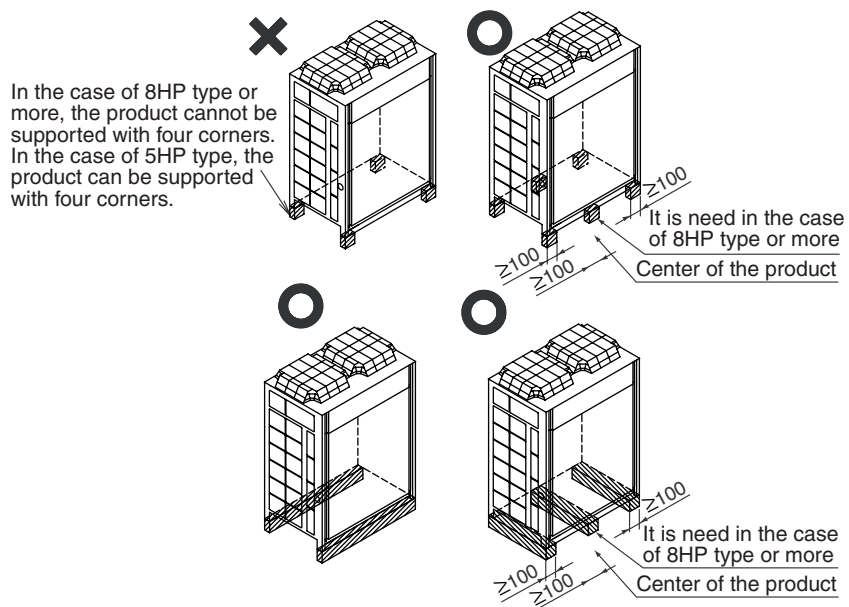
Model		A	B
5HP	RXQ5PY1	635	497
8-10HP	RXQ8-10PY1	930	792
12-14-16HP	RXQ12-14-16PY1	1240	1102

**Note**

- When installing on a roof, make sure the roof floor is strong enough and be sure to water-proof all work.
- Make sure the area around the machine drains properly by setting up drainage grooves around the foundation. Drain water is sometimes discharged from the outdoor unit when it is running.
- For anti-corrosion type use nuts with resin washers. If the paint on nut connections comes off, the anti-corrosion effect may decrease.



## Do not Use Stands to Support The Corners



### 3. REFNET Pipe System

#### 3.1 Layout Example

Use of the particular branch fitting appropriate to each individual unit type not only permits the pipes to be laid with ease but also increases the reliability of the system as a whole.

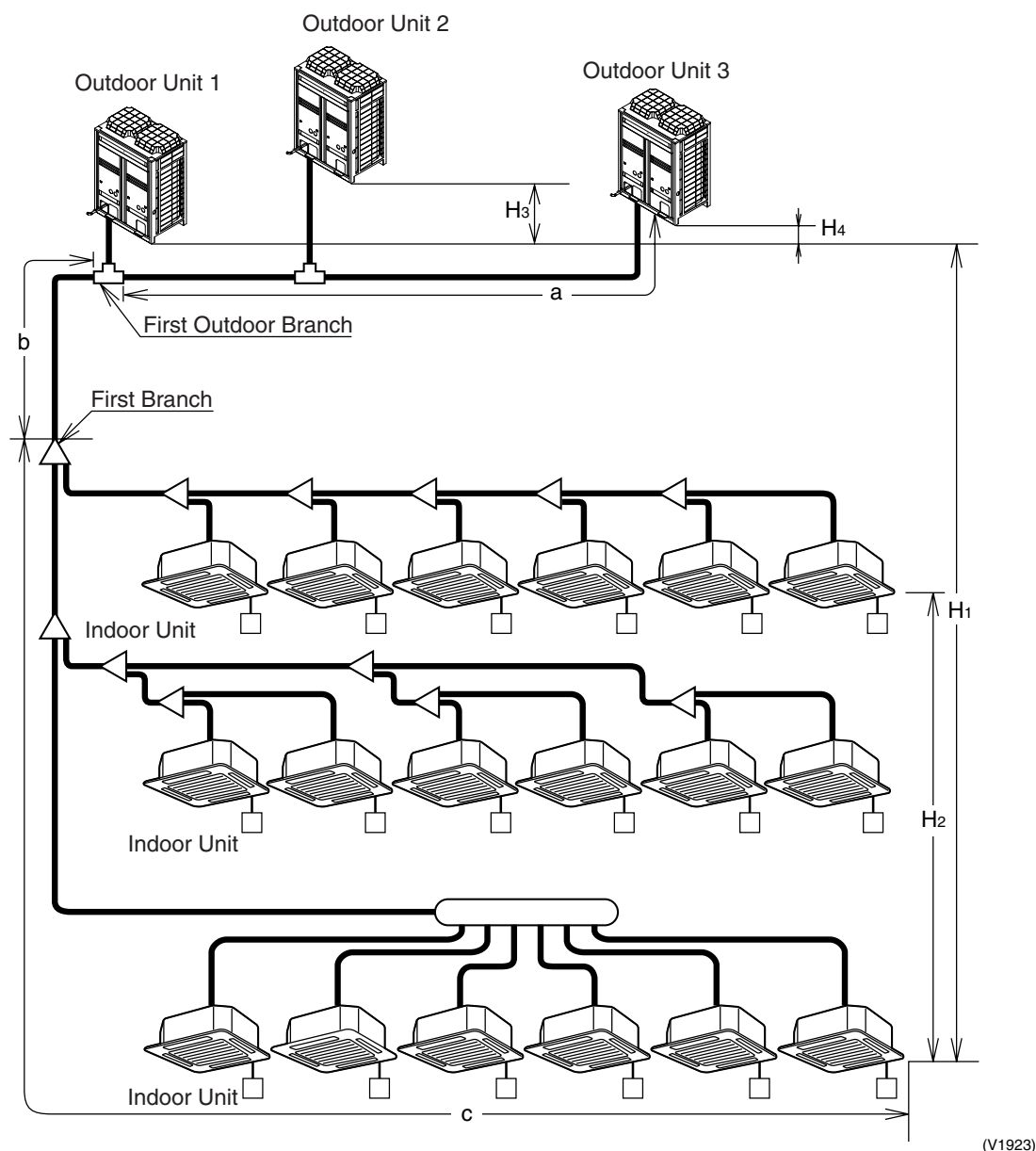
Type of fitting	Sample systems
Line branch fitting (Pipes containing REFNET joints only)	<p>(V2358)</p>
Header branch fitting (Piping consists of REFNET headers only)	<p>(V2359)</p>
Mixed branch fittings (Piping including both headers and joints)	<p>(V2360)</p>

Units can be added by connecting them directly to the REFNET header or REFNET joint. Further branches cannot be included in the system below the REFNET header branch.

#### Notes

1. When the capacity ratio of the indoor system to the outdoor unit is more than 100% and when all the indoor units are in operation at the same time then the rated capacity of each unit will be somewhat reduced.
2. Special purpose REFNET pipe components must be used for all the pipe work. For further details concerning choice of components, types of components, etc.

## 3.2 Max. Refrigerant Piping Length



### ■ Max. Refrigerant Piping Length (Actual Piping Length)

	First outdoor Branch ~ Outdoor units [a]	First Branch ~ Indoor Units [c]	Outdoor Units ~ Indoor Units [b+c]
Max. Refrigerant Piping Length (m)	10m or less than 10m	40m or less than 40m (Refer to Page 527, 528 Note 2 in case of up to 90m)	165m or less than 165m

### ■ Total Extension length

**Total Piping length from outdoor unit to all indoor units ≤ 1000m**

### ■ Max. Level Difference

	Outdoor Units ~ Indoor Units [H <sub>1</sub> ]	Between the Indoor Units [H <sub>2</sub> ]	Between the Outdoor Units [H <sub>3</sub> , H <sub>4</sub> ]
Max. Level Difference (m)	50m or less than 50m (Note 3) 90m or less than 90m (Note 4)	15m or less than 15m	5m or less than 5m

### Notes:

1. Be sure to use a REFNET Piping Kit for the branch of piping.
2. A Branch Part can not be installed to the down flow of the REFNET Header.
3. If the outdoor unit is located under the indoor unit, the level difference is a maximum of 40m in case of RXYQ5P.
4. Available on request if the outdoor unit is above.

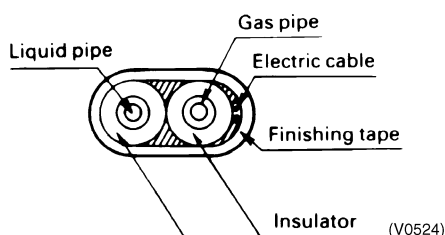
### 3.3 Field Refrigerant Piping

#### 1. The following materials should be used for all refrigerant piping.

- Materials: Deoxidized phosphorous seamless copper pipe (for external diameters of 25.4mm or more, C1220T-0 for the rest) or equivalent

#### 2. The tips for insulation

- Gas piping must be insulated.
- Be sure to insulate the liquid-side and gas-side piping for the inter-unit piping and the refrigerant branch kits and always use 18-type or better insulation for the oil pressure equalizer.
- Materials: Glass fiber or heat resistant polyethylene foam.  
Thickness: 10mm or more  
Heat resistance: Gas pipe : 120°C or more / Liquid pipe : 70°C or more
- If you think the humidity around the cooling piping might exceed 30°C and RH80%, reinforce the insulation on the cooling piping (at least 20mm thick). Condensation might form on the surface of the insulation.
- Insulation of both liquid and gas pipe

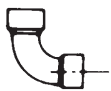




#### CAUTION

Be sure to size up the main gas line in the connecting piping of the suction gas piping if the equivalent length of the piping between the indoor and outdoor units exceeds 90m. In order to minimize the reduction of capacity caused by the pressure drop, the refrigerant pipe size may be sized up.

#### 3. Equivalent Piping Length of Joints and Header (Reference)

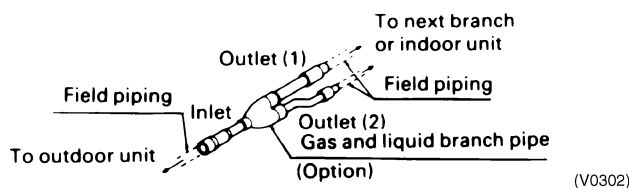
(Unit: mm)

Pipe Size	φ6.4	φ9.5	φ12.7	φ15.9	φ19.1	φ22.2	φ25.4	φ31.8	φ34.9	φ38.1	φ41.3
L Joints 	0.16	0.18	0.20	0.25	0.35	0.40	0.45	0.55	0.60	0.65	0.75
REFNET Joint 	0.5										
REFNET Header 	1.0										

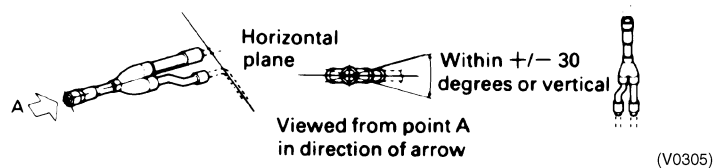
## 3.4 REFNET Joints and Headers

### 3.4.1 REFNET Joints

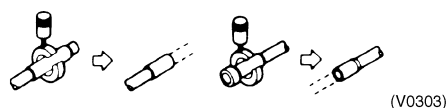
For gas and liquid branch pipes



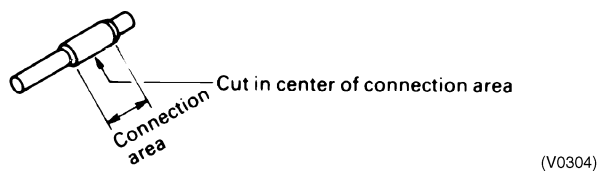
- Make sure that all branch pipes are fitted such that they branch either horizontally or vertically.



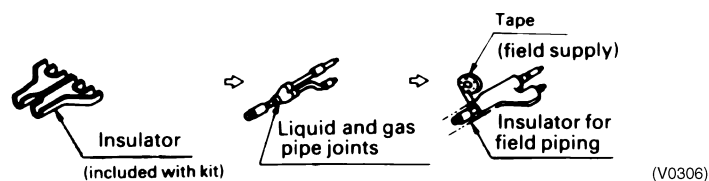
- When the size of the selected field piping is different from that of branch pipe then the connecting section should be cut with a pipe cutter as shown in the figure below.



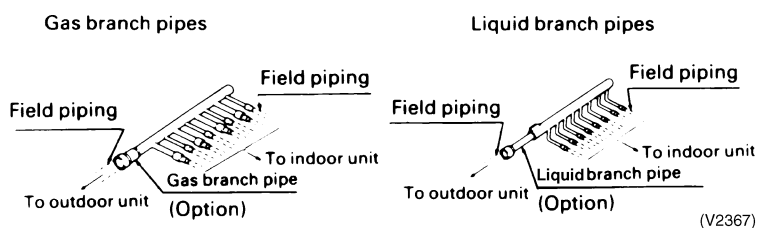
- When you are cutting an inlet or outlet pipe with a pipe cutter make sure that you make the cut in the center of the connection area.



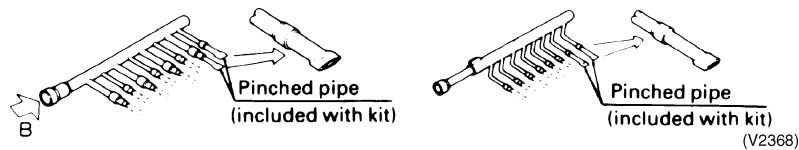
- Branch pipes must be insulated in accordance with the handbook which comes with each kit.



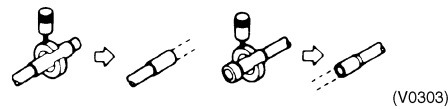
### 3.4.2 REFNET Header



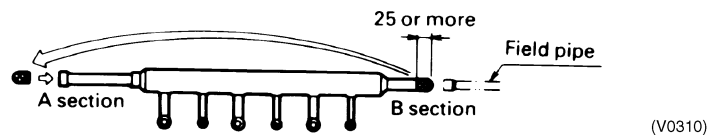
- When the number of indoor units to be connected to the branch pipes is less than the number of branch pipes available for connection then cap pipes should be fitted to the surplus branches.



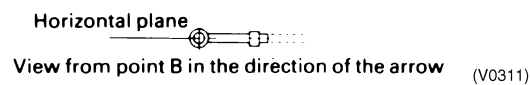
- When the size of the selected field piping is different from that of branch pipe then the connecting section should be cut with a pipe cutter as shown in the figure below.



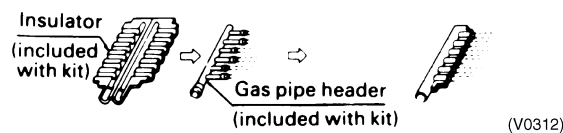
- When field piping is connected to the B section of the inlet/outlet pipe on the outdoor unit side of the liquid pipe header.
- Cut the B section with a pipe cutter as shown below and connect it to the A section.
- Connect the flared section of the field pipe to the B section.



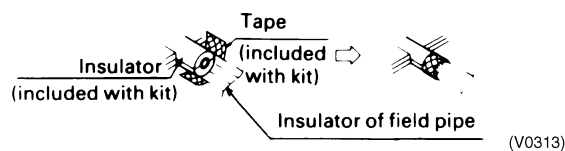
- Fit the branch pipe so that the branch lies in a horizontal plane.



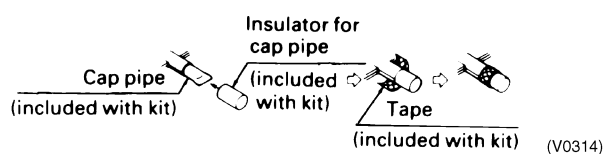
- The branch pipe must be insulated in accordance with the instruction manual which comes with each kit.
1. Use the insulator included in the kit to insulate the header.



2. Joints between insulators included in the kit and those already applied to the field piping should be sealed with the tape which is also included in each kit.



3. Any cap pipes should also be insulated using the insulator provided with each kit and then taped as described above.

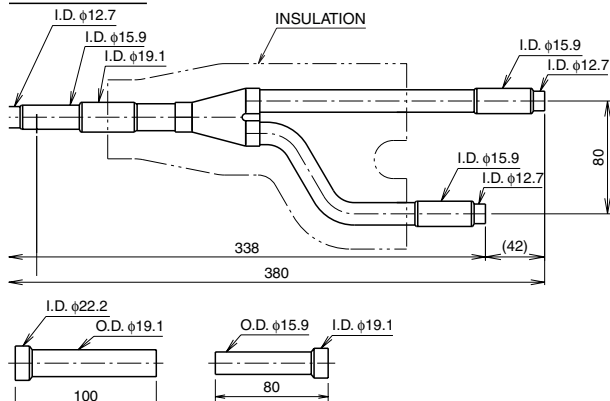


## 4. REFNET Joint and Header

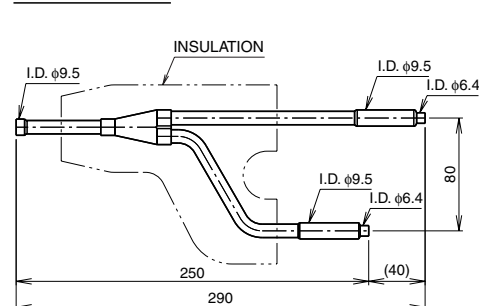
### 4.1 REFNET Joint (Branch Kit)

#### KHRP26A22T

GAS SIDE JOINT



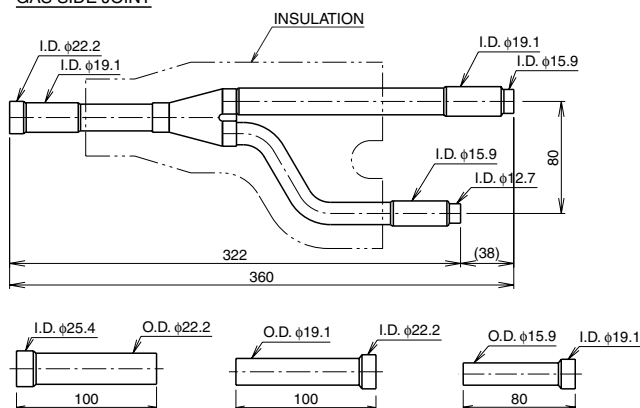
LIQUID SIDE JOINT



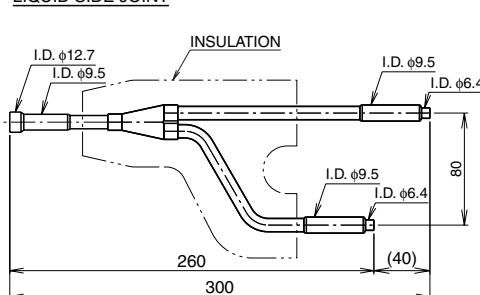
C : D3K05234A

#### KHRP26A33T

GAS SIDE JOINT



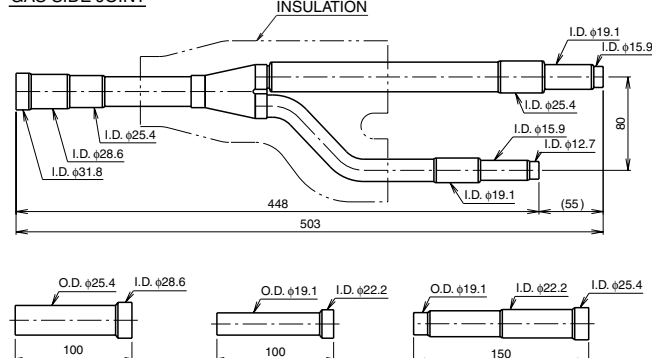
LIQUID SIDE JOINT



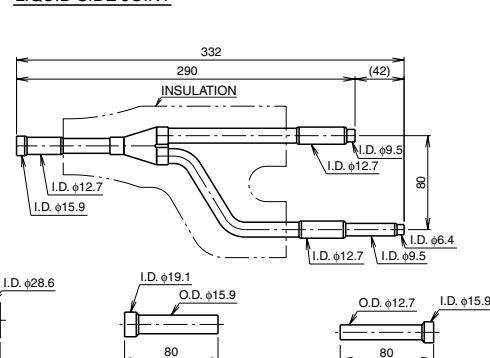
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#### KHRP26A72T

GAS SIDE JOINT



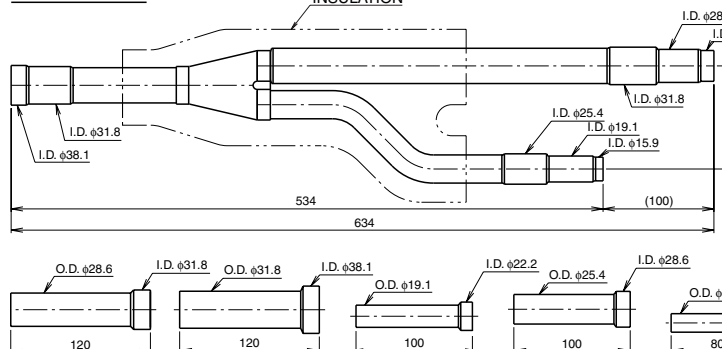
LIQUID SIDE JOINT



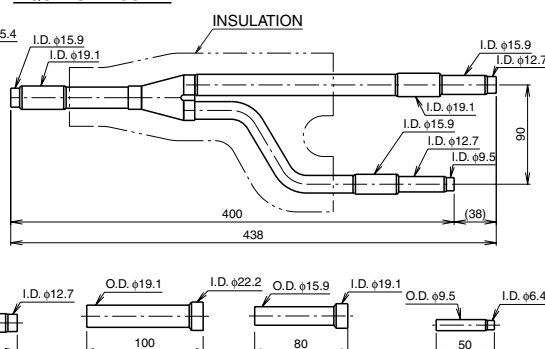
C : D3K05236A

#### KHRP26A73T

GAS SIDE JOINT



LIQUID SIDE JOINT

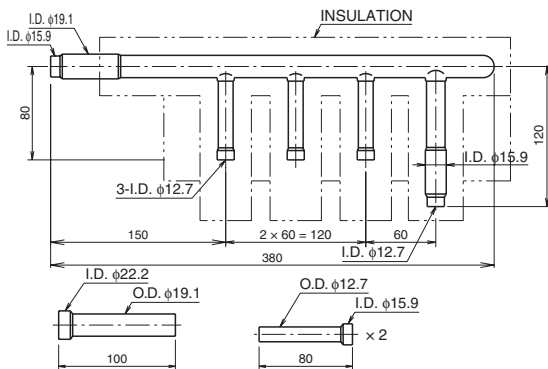


C : D3K05237A

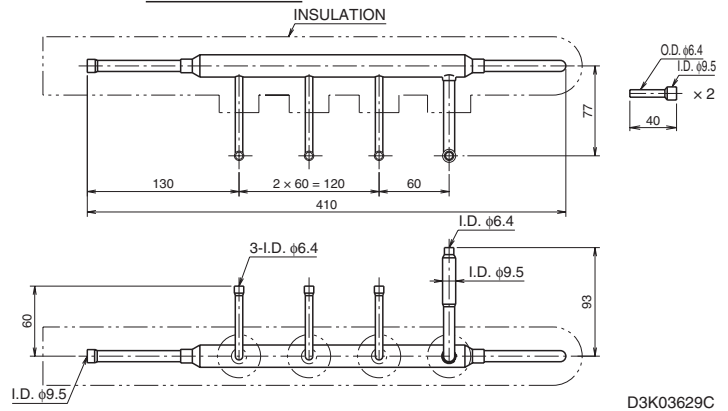
## 4.2 REFNET Header (Branch Kit)

### KHRP26M22H

#### GAS SIDE JOINT



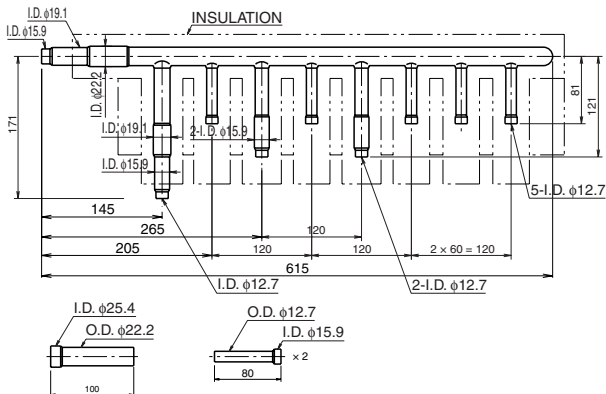
#### LIQUID SIDE JOINT



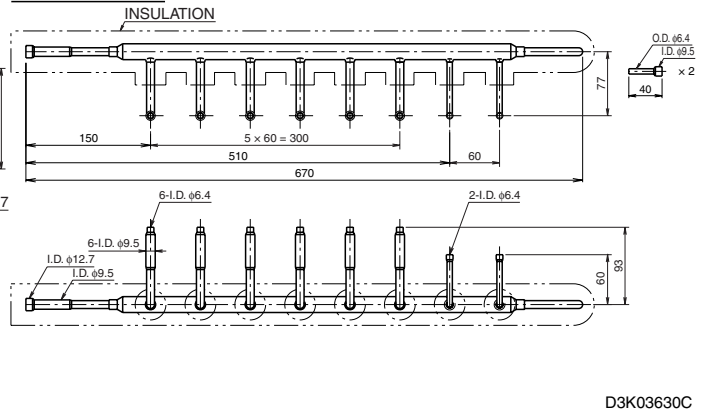
D3K03629C

### KHRP26M33H

#### GAS SIDE JOINT



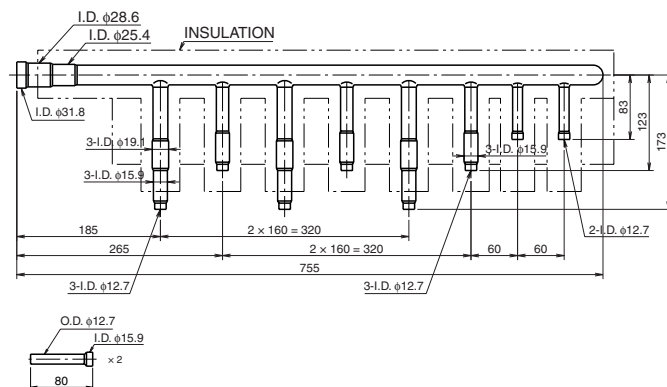
#### LIQUID SIDE JOINT



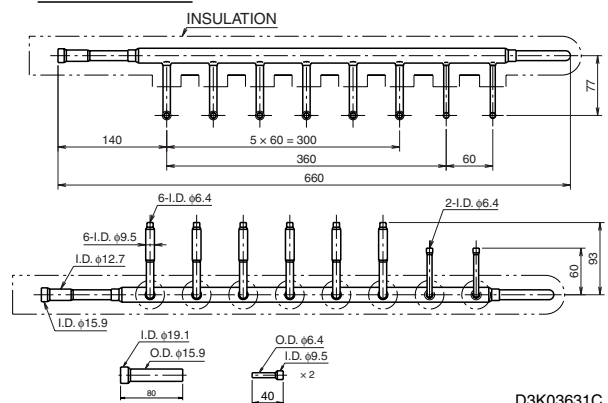
D3K03630C

### KHRP26M72H

#### GAS SIDE JOINT



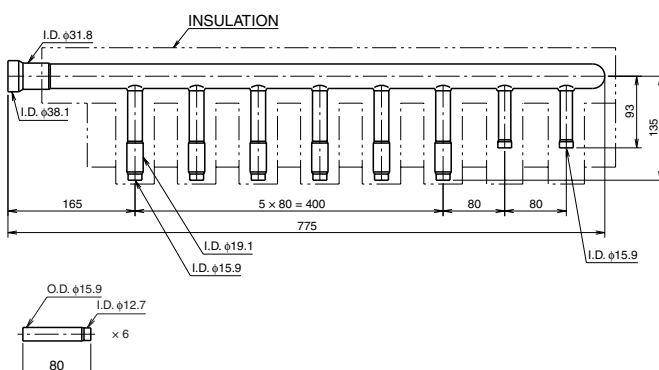
#### LIQUID SIDE JOINT



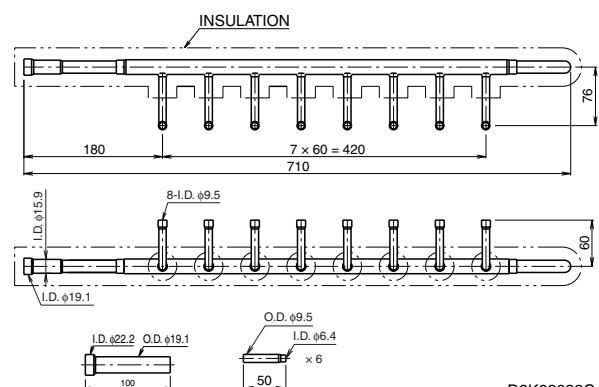
D3K03631C

### KHRP26M73H

#### GAS SIDE JOINT



#### LIQUID SIDE JOINT



D3K03632C

### 4.3 Reducer

## PIPE SIZE REDUCER (For R-410A)

KHRP26M73TP • 73HP  
KHRP25M72TP • 73TP • 72HP

#### ■ THIS KIT INCLUDES THE FOLLOWING PARTS.

	PIPE SIZE REDUCER①	PIPE SIZE REDUCER②	PIPE SIZE REDUCER③	PIPE SIZE REDUCER④	PIPE SIZE REDUCER⑤
SHAPE					
QUANTITY	KHRP26M73TP	1 pc.	1 pc.	2 pc.	—
	KHRP26M73HP	1 pc.	—	1 pc.	—
	KHRP25M72TP	—	—	1 pc.	1 pc.
	KHRP25M72HP	—	—	—	1 pc.
	KHRP25M73TP	1 pc.	1 pc.	3 pc.	1 pc.

#### ■ THIS KIT IS THE REDUCER OF THE BRANCH PIPING KIT(REFNET JOINT • HEADER). CHECK THE PROPER MODEL OF THE BRANCH PIPING KIT.

KIT NAME	BRANCH PIPING KIT
KHRP26M73TP	KHRP26M73T(GAS SIDE)
KHRP26M73HP	KHRP26M73H(GAS SIDE) • KHRP25M73H(SUCTION GAS SIDE)
KHRP25M72TP	KHRP25M72T(DISCHARGE GAS SIDE)
KHRP25M72HP	KHRP25M72T(DISCHARGE GAS SIDE)
KHRP25M73TP	KHRP25M73T(SUCTION, DISCHARGE SIDE)

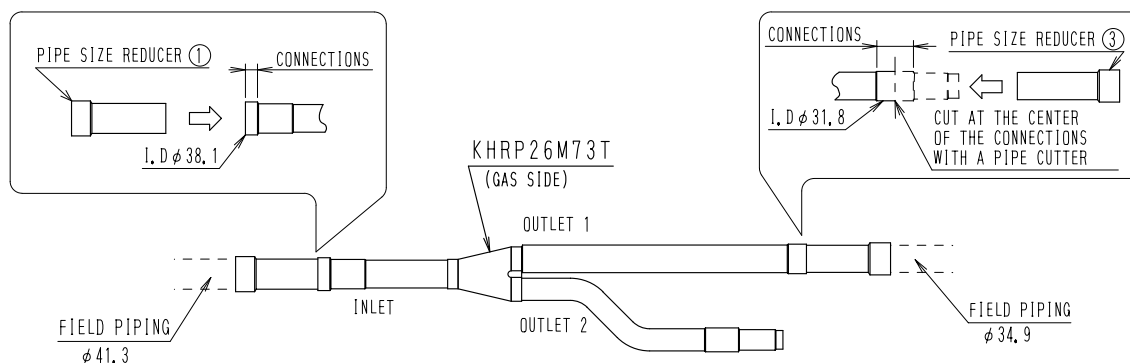
### INSTALLATION PROCEDURE

REFER TO THE INSTALLATION MANUAL OF  
THE BRANCH PIPING KIT.

#### ■ JOINT SIZE ARE AS FOLLOWS.

PIPE SIZE REDUCER①	PIPE SIZE REDUCER②	PIPE SIZE REDUCER③
PIPE SIZE REDUCER④	PIPE SIZE REDUCER⑤	

- (1) Select the field piping size according to the installation manual of the outdoor unit.
  - (2) Connect the PIPE SIZE REDUCER suitable for the field piping size to the branch piping kit.
- ex.) Connect the reducers to the branch piping kit, KHRP26M73T.  
• For inlet piping size is  $\phi 41.3$  and outlet 1 piping size is  $\phi 34.9$ .



3P113129A

## 4.4 Outdoor Unit Multi Connection Piping Kit

BHFP22P100-151

### VRV III Series

Please be sure to read before installation and follow the instructions carefully when performing installation work.

1P173261-1A

#### Outdoor unit Multi Connection Piping Kit Installation Manual

BHFP22P100 • BHFP22P151

**Component parts** ■ This kit contains the following parts. <Do not throw away any of the accessories until installation is complete.>

Kit name	Gas-side joint	Liquid-side joint	SHAPE		Insulating tube for gas pipe	Insulating tube for liquid pipe
BHFP22P100	(1) 1PC	(1) 1PC	(1) 1PC	(2) 1PC	Big 1PC	Small 1PC
BHFP22P151	(1) 1PC	(1) 1PC	(1) 1PC	(2) 1PC	Big 2PC	Small 2PC

**Selection Procedure**

Number of outdoor units connected	2 units	3 units
Outdoor unit Multi Connection Piping Kit	BHFP22P100	BHFP22P151

• 2 or 3 outdoor units can be connected.  
• There are restrictions on the combination and the installation order of outdoor units, so please refer to "the Engineering Data of VRV III" and "the installation manual" (attached sheet of outdoor unit) for details.

**Field supply parts** ■ The following parts are needed to connect this kit and are not included.

Name	Q'ty	Selection Procedure
Insulation for piping	1set	See the "Connecting Pipe Sizes and location of cutting the joint" for details on the necessary size.
Elbow	1PC	Prepare a gas pipe diameter for the upper outdoor unit as listed in "Connecting Pipe Sizes and location of cutting the joint."
Tape	1set	For Insulation materials

**Caution**

- Quantity and selection procedure of elbow only applies to a front or bottom connection.
- For a lower front connection, the quantity and selection procedure are different, so please refer to the instructions for a lower front connection.
- A joint for the same diameter pipes is needed only for a bottom connection.
- See the instructions for the bottom connection for details on quantity and specifications.
- The min. thickness of the pipes in this manual shows the requirements of Japanese High Pressure Gas Control Law (No. 3003).
- And the temper grade (O, 1/2H) shows the material type of JIS H 3300. The thickness and material shall be selected in accordance with local code for the design pressure 4.0MPa(40bar).

Temper grade	O type	1/2H type
Copper tube O, 1/2H	φ6.4, φ9.5, φ12.7, φ15.9, φ19.1, φ22.2, φ25.4, φ28.6, φ31.8, φ34.9, φ38.1, φ41.3	φ6.4, φ9.5, φ12.7, φ15.9, φ19.1, φ22.2, φ25.4, φ28.6, φ31.8, φ34.9, φ38.1, φ41.3
Copper tube M, T (Minimum requirement)	0.80, 0.80, 0.80, 0.80, 0.90, 0.80, 0.88, 0.90, 1.10, 1.21, 1.32, 1.43	

**Caution** ■ Please be sure to read this manual before installation and follow the instruction carefully when performing installation work.  
• See the outdoor unit's installation manual for outdoor unit installation.  
• Installation of interconnecting piping between the outdoor and indoor units, REFNET joint or REFNET header will be needed separately.

**To the piping installer** When installing this kit, please apply the following restrictions.

**Restrictions on Installing Multi Connection Piping Kit**

- Install the joint horizontally so that the caution label attached to joint comes to the top. Do not tilt the joint more than ±15°. (See Fig. 1). In addition, do not install the joint vertically. (See Fig. 2)
- Make sure the piping up to the joint is straight for more than 500mm. Do not use the field piping within this range. If a straight field piping more than 1200mm is connected, more than 500mm of straight section can be ensured. (See Fig. 3)
- Improper installation may lead to malfunction of the outdoor unit.

Fig. 1 Caution label  
Fig. 2  
Fig. 3 Field piping (More than 1200mm of length) More than 500mm of straight section

**Installation examples**

• The figure at the lower shows a typical front connection. Make sure to follow the installation restrictions and carry out installation taking the field requirements into consideration.  
• This manual explains the front connection (see construction 1).  
• For 3-unit installation on ex. of construction 5 and 6, in some cases the reducers (5), (6) or (10) for gas piping and the reducers (2) and (3) for liquid piping may be used on the 1st joint (section shown with  $\triangle$ ). See the figure at the right for details of connection.  
• When the size of the gas-side pipe between the gas-side joint (1) and gas-side joint (2) on the 3-units system is φ12.7, liquid-side reducer (3) will be used.  
• When the size of the liquid-side pipe between the liquid-side joint (1) and liquid-side joint (2) on the 3-units system is φ12.7, liquid-side reducer (3) will be used.  
• And when the size of main pipe is φ15.9, liquid-side reducer (4) will be used.  
• See the figure at the right for details of connection.

**FOR BHFP22P100**

**FOR BHFP22P151**

Ex. of construction 1, 2, 3, 4, 5, 6

### BHFP22P100 Installation Instructions

**Caution** There are some restrictions on the interconnecting piping between the outdoor units. See the installation manual attached to the outdoor units and make sure to carry out proper piping. If the piping restrictions are not observed, it may result in malfunction of the unit.

**Connecting pipe sizes and location of cutting the joint** Select cutting point of a joint or a reducer which is suitable for the size of the interconnecting pipes determined according to the table below and cut it with a pipe cutter.

**Main pipe**

• Select the pipe size according to the total capacity of outdoor unit.

Outdoor unit total capacity type	Gas pipe	Liquid pipe
16HP	φ28.6X0.99[1/2H]	φ12.7X0.80[0]
18-22HP	φ28.6X0.99[1/2H]	φ15.9X0.99[0]
24HP	φ34.9X1.21[1/2H]	φ15.9X0.99[0]
26-34HP	φ34.9X1.21[1/2H]	φ19.1X0.80[1/2H]
36HP	φ41.3X1.43[1/2H]	φ19.1X0.80[1/2H]

**Outdoor unit A** **Outdoor unit B**

**Cutting procedure**

• Use pipe cutter for cutting.  
• Cut near the center of the connection area.

• When updating the main pipe, use the gas-side reducer (2).  
• If the pipe size of φ15.9 or larger is used, the O material may be insufficient to withstand the specified pressure. Therefore, make sure to use the 1/2H material with thickness of 1.0mm or more. When using the O material for the pipe size of φ15.9, a thickness of 1.2 or more is required. In this case, the connection must be brazed.

### 1 Installation examples Procedure for Front Connection

**1-1 Exterior view**

**1-2 Finished dimensions**

• For installations where the A dimensions exceed 250mm, extend the field supply interconnecting pipe between the joint and the outdoor unit.

**2 Connection of gas and liquid pipes**

**2-1 Cutting the field supply gas pipes**

• Cut the pipes according to Table 1.  
**Caution** ■ This table shows the case when the A dimensions shown in 1-2 Finished dimensions is 250mm. If the A dimensions exceed 250mm, see Table 1 and adjust the dimensions of the gas pipe 1 and 2.  
• The A dimensions of the gas pipe 2 in Table 1 show those when the field supply elbows have B dimension in Table 2. If the B dimension is not same with Table 2, see Table 1 and 2, and adjust them accordingly.

**Table 1**

Model type	Gas pipe 1 (field supply)	Gas pipe 2 (field supply)
8HP	75	287
10HP	81	257
12-18HP	125	223

**Table 2**

Model type	Elbow (field supply)
8HP	17
10HP	23
12-18HP	29

**2-2 Connection of pipes**

• Connect the gas and liquid pipes as shown in the figure at the right. When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1), and then connect the gas-side joint (2) and the liquid-side joint (2).  
• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.  
• Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A).

View A

• (Attached to the outdoor unit) Liquid-side accessory pipe Assy (1) (As per Table 2)  
• (Attached to the outdoor unit) Gas-side accessory pipe Assy (1)  
• (Attached to the outdoor unit) Liquid-side accessory pipe Assy (1)  
• (Attached to the outdoor unit) Gas-side accessory pipe Assy (1)

• Refer to the main pipe of "Connecting pipe sizes and location of cutting the joint" in BHFP22P100 Installation Instructions when cutting.  
• Refer to the pipe between the Outdoor unit Multi Connection Piping Kit and the outdoor unit of "Connecting pipe sizes and location of cutting the joint" in BHFP22P100 Installation Instructions when cutting.

Gas pipe 1 (field supply)  
Liquid pipe (field supply)  
Gas pipe 2 (field supply)  
Liquid pipe (field supply)

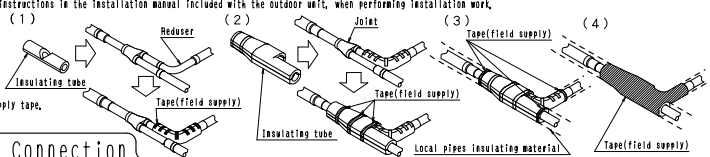
### ③ The work after the kit is connected

#### Connection of piping between the outdoor unit and the indoor unit

##### Air tight test

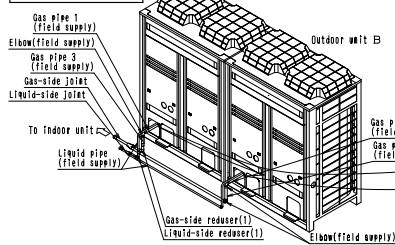
##### Insulation of joints

- (1) Fit the insulation to the reducer and temporarily keep it in place with tape.
- (2) Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces. (See the figure at the right.)
- (3) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
- (4) Wrap the tape around the insulation attached to the joint without leaving a gap. (See the section shown in the figure at the right.)



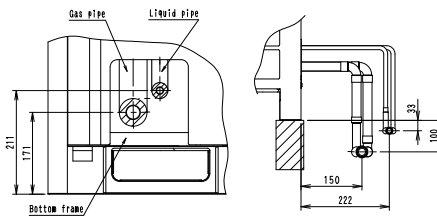
### ① Installation examples Procedure for Lower Front Connection

#### 1-1 Exterior view



#### 1-2 Finished dimensions

- A standard installation has the following dimensions.
- When the dimensions exceed the standard installation, extend the pipes between the outdoor unit and the joint(field supply).



### ② Connection of gas and liquid pipes

#### 2-1 Cutting the field supply gas pipe 1 to 4

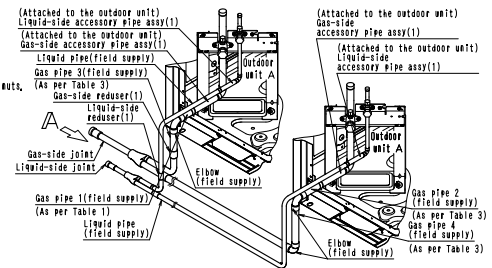
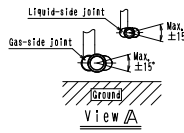
- Cut the pipes according to Table 3

**Caution** The L dimensions of the gas pipe 1 to 4 in Table 3 show those when the field supply elbows have B dimension in Table 2 shown in procedure for front connection. 2 Connection of gas and liquid pipes. If the B dimensions are not same with Table 2, see Table 2 and 3, and adjust them accordingly.

Model type	Gas pipe 1 (field supply) L (mm)	Gas pipe 2 (field supply) L (mm)	Gas pipe 3 (field supply) L (mm)	Gas pipe 4 (field supply) L (mm)
8HP	130	165	59	237
10HP	100	135	83	225
12-18HP	66	101	149	213

#### 2-2 Connection of pipes

- Connect the gas and liquid pipes as shown in the figure at the right. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1).)
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the View A).



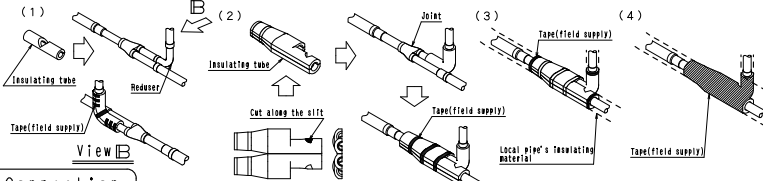
### ③ The work after the kit is connected

#### Connection of piping between the outdoor unit and the indoor unit

##### Air tight test

##### Insulation of joints

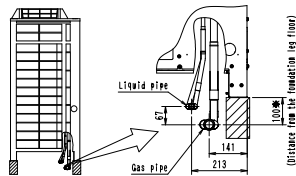
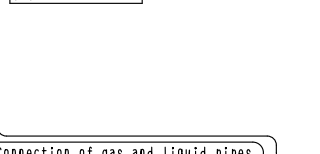
- (1) Fit the insulation to the reducer and temporarily keep it in place with tape.
- (2) Cut insulating tube along the slit. (See the figure at the right.)
- (3) Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces.
- (4) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
- (5) Wrap the tape around the insulation attached to the joint without leaving a gap. (See the section shown in the figure at the right.)



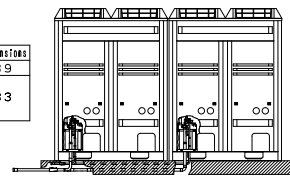
### ① Installation examples Procedure for Bottom Connection

**Caution** This installation is only possible if there is enough space to perform brazing and racking underneath the outdoor unit. If a centralized drain pan kit and/or vibration proof base are used, the dimensions marked with \* in the figure below will vary, so see the table below and determine the length of the field pipes.

#### 1-1 Exterior view



Separately-sold item also used	Dimensions
Central drain pan kit	139
Vibration absorption stand	233
Vibration absorption stand+ central drain pan kit	233



### ② Connection of gas and liquid pipes

#### 2-1 Cutting the field supply gas pipe 1 and 2, and the Gas-side accessory pipe(3) attached to the outdoor unit

- Cut the pipes according to Table 4 or 5.

**Caution** The "L" dimensions of the gas pipe 1 in Table 4 and the gas pipe 2 in Table 5 are identical to the "B" dimensions in Table 2, those of "field supply elbows" shown in the procedure of front connection, which are equivalent to "straight size joint" with stopper. If the "B" dimensions are not identical to table 2 or "straight size joint" is with stopper, adjust them as table 2, 4 and 5 show.

#### 2-2 Connection of pipes

- Remove the knockout plate on the bottom frame. (See the installation manual attached to the outdoor unit)
- Connect the gas and liquid pipes as shown in the figure below. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1).)
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the View A).
- Connect the liquid side reducer(1) tilting approx. 10° and bend the field supplied liquid pipe up to the stop valve as shown in the figure below. (See the View A).
- Caution** If the liquid side reducer is connected vertically without bending the liquid pipes, the insulation will not fit.

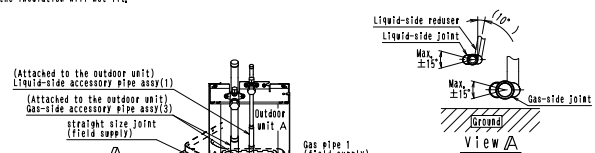


Table 4 (For Outdoor unit A Side)

Model type	Gas-side accessory pipe(3) B (mm)			Cutting position	Gas pipe 1 (field supply) L (mm)		
	For 100	For 139	For 233		For 100	For 139	For 233
8HP	102	63	48		79		
10HP	72	33	25		86		
12HP	0 (no cutting)	53	0 (no cutting)		92	133	
18HP	0 (no cutting)		0 (no cutting)				

Table 5 (For Outdoor unit B Side)

Model type	Gas-side accessory pipe(3) B (mm)			Cutting position	Gas pipe 2 (field supply) L (mm)		
	For 100	For 139	For 233		For 100	For 139	For 233
8HP	0 (no cutting)	0 (no cutting)	0 (no cutting)		76	115	209
10HP	18	0 (no cutting)	0 (no cutting)		88	109	203
12HP	0	0 (no cutting)	0 (no cutting)		96	103	197
18HP	32	0 (no cutting)	0 (no cutting)				

continue to reverse side

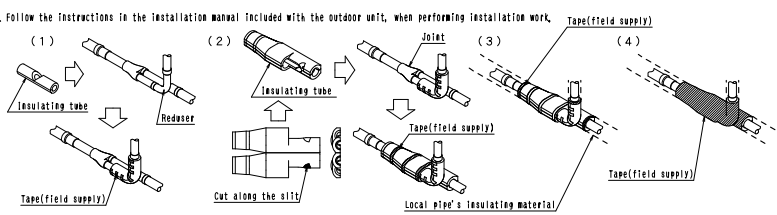
### ③ The work after the kit is connected

#### Connection of piping between the outdoor unit and the indoor unit

##### Air tight test

##### Insulation of joints

- (1) Fit the insulation to the reducer and temporarily keep it in place with tape.
- (2) Cut insulating tube along the slit. (See the figure at the right.)
- (3) Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces.
- (4) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
- (5) Wrap the tape around the insulation attached to the joint without leaving a gap. (Hatched section shown in the figure at the right.)



### BHPF22P151 Installation Instructions



There are some restrictions on the interconnecting piping between the outdoor units. See the installation manual attached to the outdoor units and make sure to carry out proper piping. If the piping restrictions are not observed, it may result in malfunction of the unit.

#### Connecting Pipe Sizes and location of cutting the joint

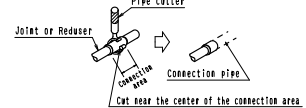
Select cutting point of a joint or a reducer which is suitable for the size of the interconnecting pipes determined according to the table below and cut it with a pipe cutter.

<p>Pipe between outdoor unit Multi Connection Piping Kit</p> <p>● Select the pipe size according to the total capacity of the outdoor unit (unit B, C).</p> <p>Main pipe</p> <p>● Select the pipe size according to the total capacity of the outdoor unit to be connected upstream (unit A, B, C).</p>		(units: mm)	
Outdoor unit total capacity (unit A, B, C) or the total capacity of the outdoor unit to be connected upstream (unit B, C)		Pipe size (O.D. x Min. thickness (temper grade))	
		Gas Pipe	Liquid pipe
18HP	φ28.6X0.99(VZH)	φ12.7X0.80(O)	
18~22HP	φ28.6X0.99(VZH)	φ12.7X0.80(O)	
24HP	φ34.9X1.2(VZH)	φ15.9X0.99(O)	
26~34HP	φ34.9X1.2(VZH)	φ15.9X0.99(O)	
36HP~	φ41.3X1.43(VZH)	φ19.1X0.80(VH)	

Pipe between the outdoor unit Multi Connection Piping Kit and the outdoor unit	
Outdoor unit capacity type	Pipe size (O.D. x Min. thickness (temper grade))
8HP	φ19.1X0.80(VH)
10HP	φ22.2X0.80(VH)
12~16HP	φ28.6X0.99(VZH)
18HP	φ28.6X0.99(VZH)

#### Cutting procedure

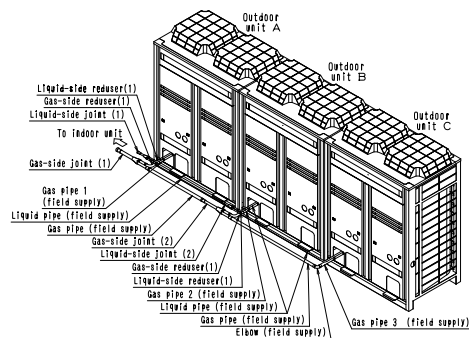
- Use pipe cutter for cutting.



### ① Installation examples

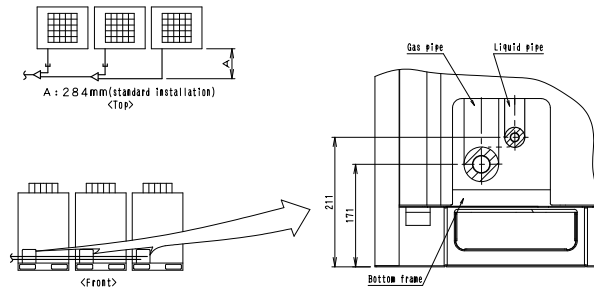
#### Procedure for Front Connection

##### 1-1 Exterior view



##### 1-2 Finished dimensions

For installations where the A dimensions exceed 284 mm, extend the field supply interconnecting pipe between the joint and the outdoor unit.



### ② Connection of gas and liquid pipes

#### 2-1 Cutting the field supply gas pipes

- Cut the pipes according to Table 6.

**Caution** This Table shows the case when the A dimensions shown in "1-2 Finished dimensions" is 284mm. If the A dimensions exceed 284mm, see Table 6 and adjust the dimensions of the gas pipe 1 and 2 and 3.

The dimensions of the gas pipe 3 in Table 6 show those when the field supply elbows have B dimension in Table 2 shown in BHPF22P151 Installation Instruction, 2 connection of gas and liquid pipes.

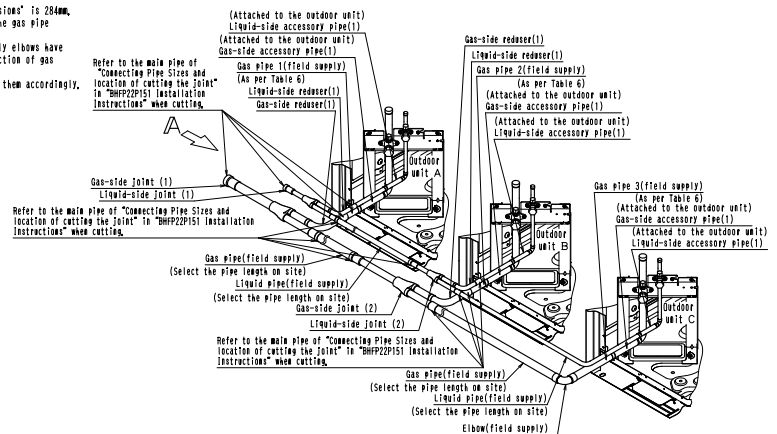
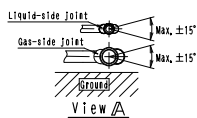
If the B dimensions are not same with Table 2, see Table 2 and 6, and adjust them accordingly.

Table 6

Model type	Gas pipe 1 (field supply) L (mm)	Gas pipe 2 (field supply) L (mm)	Gas pipe 3 (field supply) L (mm)
8HP	51	69	282
10HP	57	75	252
12~18HP	101	119	218

#### 2-2 Connection of pipes

- Connect the gas and liquid pipes as shown in the figure at the right. When connecting the pipes, first connect the gas-side joint and the gas-side reducer(1), the liquid-side joint and the liquid side reducer(1).
- See "1-2 Finished dimensions" for the location(height) of the joint.
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A).



### ③ The work after the kit is connected

#### Connection of piping between the outdoor unit and the indoor unit

##### Air tight test

##### Insulation of joints

- See "The work after the kit is connected" for a front connection in "BHPF22P151 Installation Instructions."

Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

# 1 Installation examples Procedure for Lower Front Connection

### 1-1 Exterior view

### 1-2 Finished dimensions

• A standard installation has the following dimensions.  
• When the dimensions exceed the standard installation, extend the pipes between the outdoor unit and the joint, (field supply)

### 2-1 Cutting the field supply gas pipes

• Cut the pipes according to Table 7.  
**Caution** The L dimensions of the gas pipe 1 to 5 in Table 7 show those when the field supply elbows have B dimension. In Table 2 shown in BHP22P100 Installation Instruction, 2 Connection of gas and liquid pipes and the field supply joint for the same diameter pipes are without stopper.  
If the B dimensions are not same with Table 2 or the joint for the same diameter pipes have stopper, see Table 2 and 7, and adjust them accordingly.

Model type	Gas pipe 1 (field supply) L (mm)	Gas pipe 2 (field supply) L (mm)	Gas pipe 3 (field supply) L (mm)
8HP	130	147	182
10HP	100	117	152
12-18HP	66	83	118

Model type	Gas pipe 4 (field supply) L (mm)	Gas pipe 5 (field supply) L (mm)
8HP	59	237
10HP	83	225
12-18HP	149	213

### 2-2 Connection of pipes

• Connect the gas and liquid pipes as shown in the figure at the left.  
• When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1).  
• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.  
• Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the View A).

**View A**  
Max. ±15°  
Max. ±15°

### 3 The work after the kit is connected

**Connection of piping between the outdoor unit and the indoor unit**  
Air tight test

Follow the instructions in the installation manual included with the outdoor unit, when performing the installation work.

**Insulation of joints**  
• See "The work after the kit is connected" for a lower front connection of "BHP22P100 Installation Instructions."

### 1 Installation examples Procedure for Bottom Connection

**Caution** This installation is only possible if there is enough space to perform brazing and racking underneath the outdoor unit. If a centralized drain pan kit and/or vibration proof base are used, the dimensions marked with \* in the figure below will vary, so see the table below and determine the length of the field pipes.

#### 1-1 Exterior view

Separately-held item also used	Dimensions
Central drain pan kit	139
Vibration absorption stand	233
Vibration absorption stand+central drain pan kit	

### 2-1 Cutting the field supply gas pipe 1 and 2, and the Gas-side accessory pipe (3) attached to the outdoor unit

• Cut the pipes according to Table 8 or 9.  
**Caution** The "L" dimensions of the gas pipe 1 in Table 8 and the gas pipe 2 in Table 9 are identical to the "B" dimensions in table 2, those of "field supply elbows" shown in the procedure of front connection, which are equivalent to "straight size joint" without stopper.  
If the "B" dimensions are not identical to table 2 or "straight size joint" with stopper, adjust them as table 2, 8 and 9 show.

Model type	Gas-side accessory pipe (3) B (mm)			Gas pipe 1 (field supply) L (mm)
	For 100	For 139	For 233	
8HP	102	63	48	79
10HP	72	33	25	86
12HP	0 (no cutting)	53	0 (no cutting)	92
18HP	0 (no cutting)	0 (no cutting)	0 (no cutting)	133

Model type	Gas-side accessory pipe (3) B (mm)			Gas pipe 2 (field supply) L (mm)
	For 100	For 139	For 233	
8HP	0 (no cutting)	0 (no cutting)	0 (no cutting)	76
10HP	18	0 (no cutting)	0 (no cutting)	88
12HP	32	0 (no cutting)	0 (no cutting)	96
18HP	0 (no cutting)	0 (no cutting)	0 (no cutting)	103

### 2-2 Connection of pipes

• Remove the knockout plate on the bottom frame.  
• (See the installation manual attached to the outdoor unit)  
• Connect the gas and liquid pipe as shown in the figure below. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1).)  
• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.  
• Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the View A).  
• Connect the liquid side reducer (1) tilting upward, 10°, and bend the field supplied liquid pipe up to the stop valve as shown in the figure below. (See the View A).  
**Caution** If the liquid side reducer is connected vertically without bending the liquid pipes, the insulation will not fit.

**View A**  
Max. ±15°  
Max. ±15°

### 3 The work after the kit is connected

**Connection of piping between the outdoor unit and the indoor unit**  
Air tight test

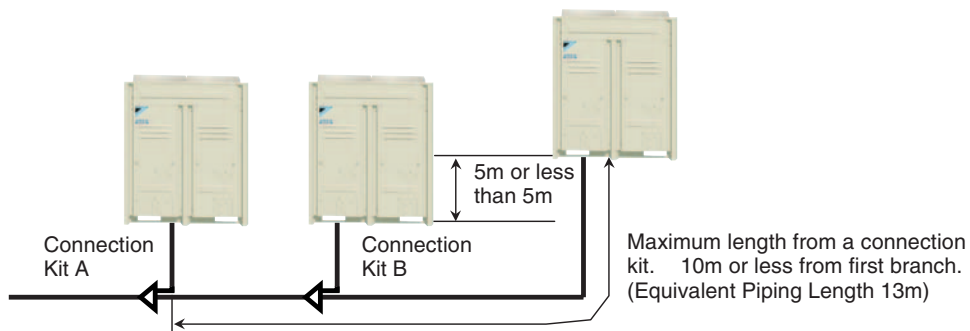
Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

**Insulation of joints**  
• See "The work after the kit is connected" for a front connection in "BHP22P100 Installation Instructions."

### 15

## 5. Piping Installation Point

### 5.1 Piping Installation Point



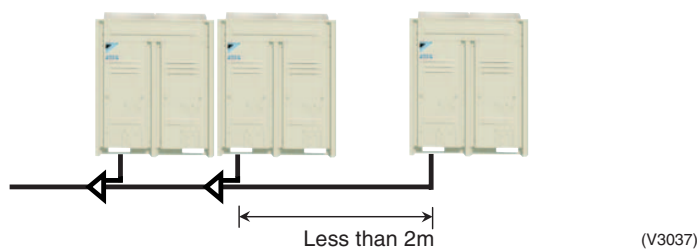
Since there is a possibility that oil may be collected on a stop machine side, install piping between outdoor units to go to level or go up to an outdoor unit, and to make a slope.

(V3036)

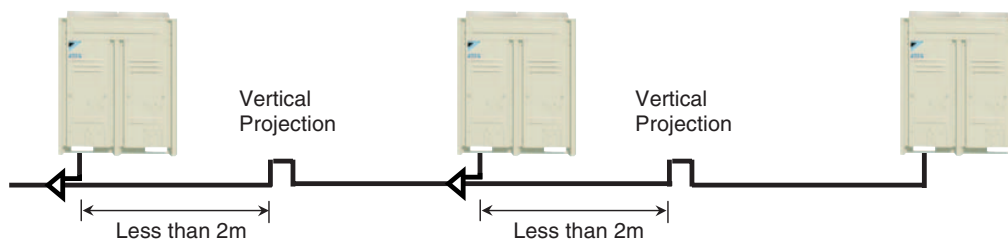
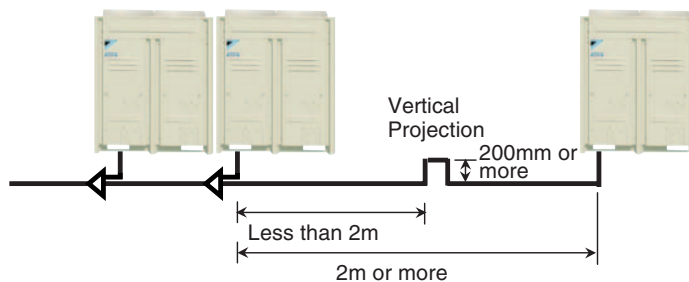
The projection part between multi connection piping kits

When the piping length between the multi connection kits or between multi connection kit and outdoor unit is 2m or more, prepare a vertical projection part (200mm or more as shown below) only on the gas pipe line location less than 2m from multi connection kit.

In the case of 2m or less

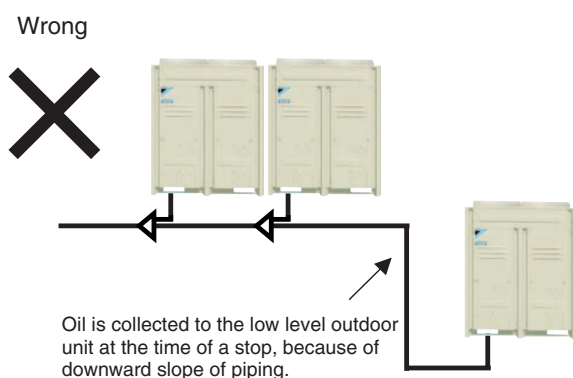


In the case of 2m or more

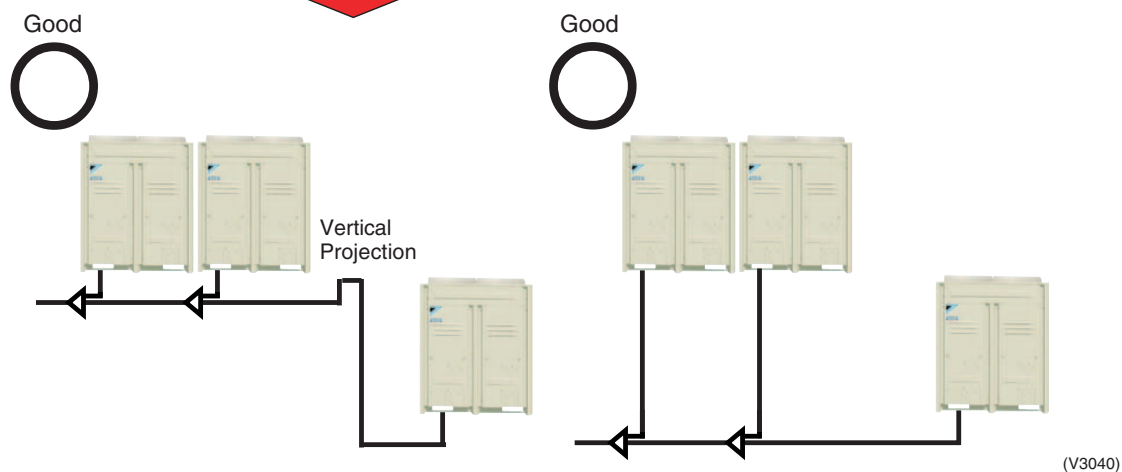


(V3038)

## 5.2 The Example of a Wrong Pattern



The example of installation on which oil is not collected.



Max. allowable Piping Length	Outdoor Unit - Multi Connection Piping Kit	Actual piping length 10m or less, equivalent length 13m or less
	Multi Connection Piping Kit - Indoor Unit	Actual piping length 165m or less, equivalent length 190m or less, the total extension 1000m or less
	REFNET Joint - Indoor Unit	Actual piping length 40m or less (Refer to Page 527, 528 Note 2 in case of up to 90m)
Allowable Level Difference	Outdoor Unit - Outdoor Unit	5m or less
	Outdoor Unit - Indoor Unit	50m or less ★ 90m or less (when an outdoor unit is lower than indoor units: 40m or less in case of RXQ5P)
	Indoor Unit - Indoor Unit	15m or less

Note: ★ Available on request if the outdoor unit is above.

## 6. Refrigerant Piping

### Note

- All field piping must be installed by a licensed refrigeration technician and must comply with relevant local and national regulations.
- After piping work is complete, do not under any circumstances open the shutoff valve until “7. Field Wiring” and “10. Checking of Device and Installation Conditions” are complete.
- Do not use flux when brazing the refrigerant piping. Use the phosphor copper brazing filler metal (BCuP-2: JIS Z 3264/B-Cu93P-710/795: ISO 3677) which does not require flux.  
(Flux has extremely harmful influence on refrigerant piping systems. For instance, if the chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will damage the refrigerant oil.)

### 6.1 Selection of Piping Material and Refrigerant Branching Kit

- Use only pipes which are clean inside and outside and which do not accumulate harmful sulfur, oxidants, dirt, cutting oils, moisture, or other contamination. (Foreign materials inside pipes including oils for fabrication must be 30mg/10m or less.)
- Use the following items for the refrigerant piping.

**Material:** Joint less phosphor-deoxidized copper pipe

**Size:** See “6-5 Example of Connection” to determine the correct size.

**Thickness:** Select a thickness for the refrigerant piping which complies with national and local laws.

For R-410A, the design pressure is 4.0 MPa (40-bar).

The minimum thickness of piping according to Japan's High-Pressure Gas Safety Law (as of January 2003) is shown below.

Types (O type, 1/2H type) in the table indicate the material types specified in JIS H 3300.

(unit: mm)

Temper grade	O type			
outer diameter	φ6.4	φ9.5	φ12.7	φ15.9
smallest thickness	0.80	0.80	0.80	0.99

(unit: mm)

Temper grade	1/2H type							
outer diameter	φ19.1	φ22.2	φ25.4	φ28.6	φ31.8	φ34.9	φ38.1	φ41.3
smallest thickness	0.80	0.80	0.88	0.99	1.10	1.21	1.32	1.43

- For piping work, follow the maximum tolerated length, difference in height, and length after a branch indicated in the “6-5 Example of connection”.
- A refrigerant branching kit (sold separately) is needed for piping branches and connection of piping between outdoor unit (in case of multi system).  
Use only separately sold items selected specifically according to the refrigerant branch kit selection in the “6-5 Example of connection”.

### 6.2 Protection Against Contamination when Installing Pipes

Protect the piping to prevent moisture, dirt, dust, etc. from entering the piping.

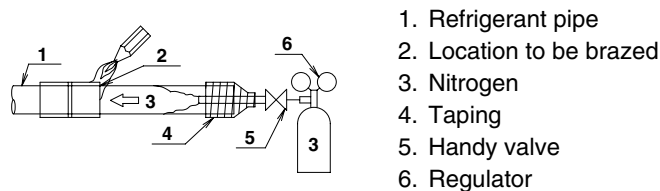
Place	Installation period	Protection method
Outdoor	More than a month	Pinch the pipe
	Less than a month	Pinch or tape the pipe
Indoor	Regardless of the period	

### Note

Exercise special caution to prevent dirt or dust when passing piping through holes in walls and when passing pipe edges to the exterior.

### 6.3 Pipe Connection

- Be sure to perform nitrogen permutation or nitrogen blow when brazing. (**Refer to next figure**)  
Brazing without performing nitrogen permutation or nitrogen blow into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.



1. The pressure regulator for the nitrogen released when doing the brazing should be set to 0.02 MPa (about 0.2kg/cm<sup>2</sup>: Enough to feel a slight breeze on your cheek).

**Note**

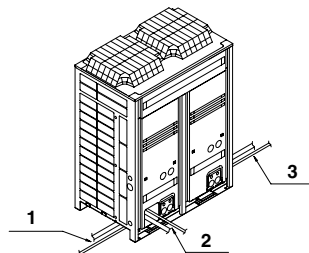
Do not use anti-oxidants when brazing the pipe joints.  
Residue can clog pipes and break equipment.

## 6.4 Connecting the Refrigerant Piping

- (1) Direction to bring out the pipes

The local interunit piping can be connected either forward or to the sides (taken out through the bottom) as shown in next figure.

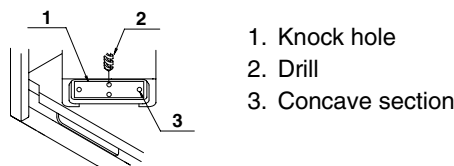
(When passing out through the bottom, use the knock hole in the bottom frame.)



1. Left-side connection
2. Front connection
3. Right-side connection

### Precautions when knocking out knock holes

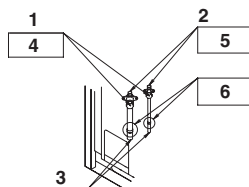
- Open knock hole in the base frame by drilling the 4 concave around it with a 6mm bit. (Refer to next figure)



- Be sure to avoid damaging the casing
- After knocking out the holes, we recommend you paint the edges and areas around the edges using the repair paint to prevent rusting.
- When passing electrical wiring through the knock holes, remove any burrs and protect the wiring with a conduit or bushings, making sure not to damage the wiring.

- (2) Removing Pinch Piping

- When connecting refrigerant piping to an outdoor unit, remove the pinch piping. (Refer to next figure)
- Pinch piping should be removed using the procedure in next figure.



1. Shutoff valve (liquid side - gas side)
2. Service port
3. Pinch piping
4. Procedure 1:  
Confirm the shutoff valve is closed.
5. Procedure 2:  
Connect a charge hose to the service port of the liquid side and gas side shutoff valves and remove the gas from the pinch piping.
6. Procedure 3:  
After removing the gas from the pinch piping, dissolve the brazing using a burner and remove the pinch piping.

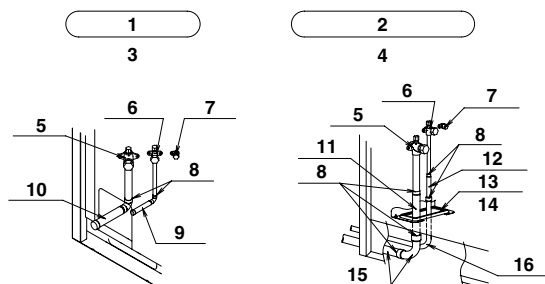
**Caution**

After removing the gas, remove the pinch piping.

Any gas remaining inside may blow off the pinch piping when you dissolve the brazing, causing damage.

### (3) Connecting refrigerant piping to outdoor units

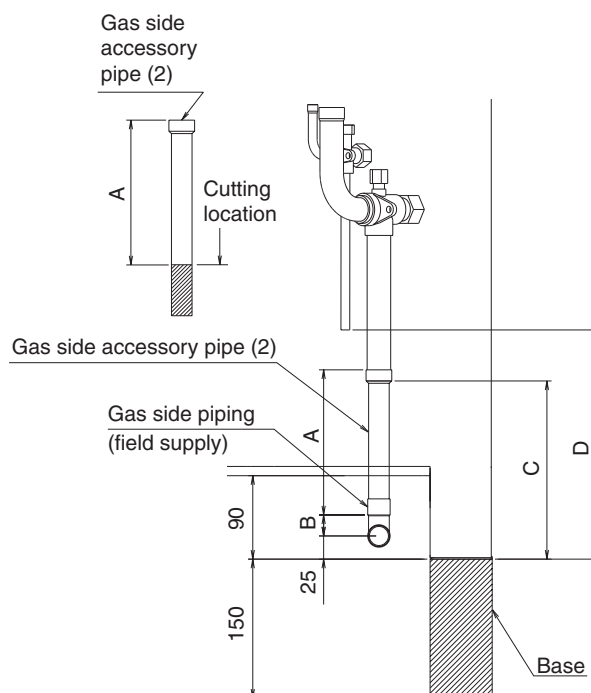
#### <In case of single system: 5-18HP type>



1. If connected to the front
2. When connected at lateral side (bottom)
3. Remove the shutoff valve cover to connect.
4. Remove the knock hole on the bottom frame and route the piping under the bottom frame.
5. Gas side shutoff valve
6. Liquid side shutoff valve
7. Refrigerant charge port
8. Brazing
9. Liquid side accessory pipe (1)
10. Gas side accessory pipe (1)
11. Gas side accessory pipe (2)
12. Liquid side accessory pipe (2)
13. Knockout hole
14. Punch the knock hole.
15. Gas side piping (field supply)
16. Liquid side piping (field supply)

#### Processing the Gas side accessory pipe (2)

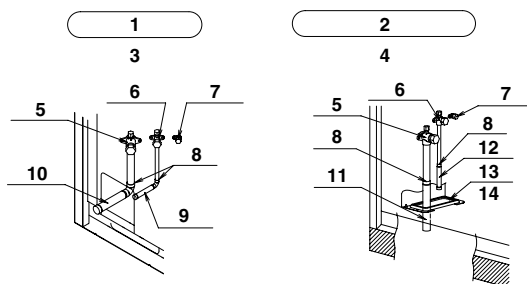
Only in case of connecting at lateral side, cut the Gas side accessory pipe (2) referring the figure below.



(mm)

Model	A	B	C	D
5HP type	166	16	199	246
8HP type	156	17	188	247
10HP type	156	23	192	247
12HP type	150	29	192	247
14-16-18HP type	150	29	192	251

**<In case of multi system: RX(Y)Q20-54HP type>**



1. If connected to the front
2. When connected at lateral side (bottom)
3. Remove the shutoff valve cover to connect.
4. Remove the knock hole on the bottom frame and route the piping under the bottom frame.
5. Gas side shutoff valve
6. Liquid side shutoff valve
7. Refrigerant charge port
8. Brazing
9. Liquid side accessory pipe (1)
10. Gas side accessory pipe (1)
11. Gas side accessory pipe (2)
12. Liquid side accessory pipe (2)
13. Knockout hole
14. Punch the knock hole.

**Note**

**<Connecting Refrigerant Piping>**

- When connecting the piping on site, be sure to use the accessory piping.
- Make sure the onsite piping does not come into contact with other piping or the bottom frame or side panels of the unit.

**<Multi Systems>**

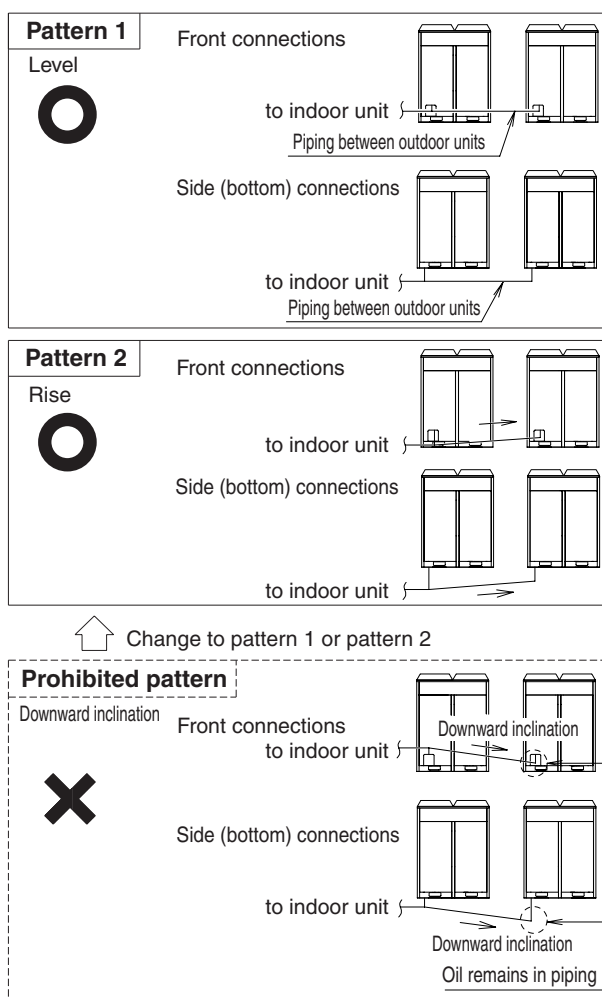
- The 5HP type cannot be used as an independent unit in a multi system.
- The Outdoor unit multi connection piping kit (sold separately) is needed when connecting piping between outdoor units.

Refer to the installation manual that comes with the kit when doing this piping work.

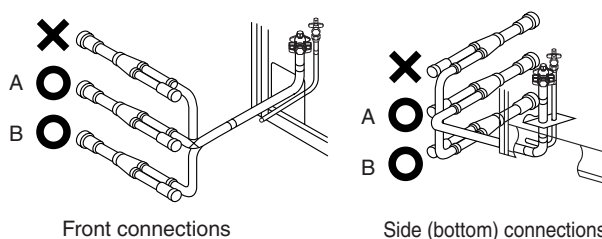
## (4) Precautions when connecting piping between outdoor units (In case of multi system)

The Outdoor unit multi connection piping kit (sold separately) is needed to connect piping between outdoor units in multi system. Only proceed with piping work after considering the limitations on installation listed here, always referring to the kit's installation manual.

1. The piping between outdoor units must be installed level (Pattern 1) or with a rise (Pattern 2). Otherwise oil may pool in the pipes.



2. To avoid the risk of oil detention in the stopping unit, always connect the shutoff valve and the piping between outdoor units as shown in the figure A or figure B.

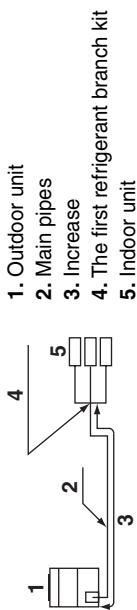


## 6.5 Example of Connection

Example of connection (Connection of 8 indoor units) (+1) → (+) indicate the Outdoor unit multi connection piping kit (+2) In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.		Example refrigerant branch using REFNET joint		Example refrigerant branch using REFNET joint and REFNET header		Example refrigerant branch using REFNET header																			
Single outdoor system	Multi outdoor system																								
		Pipa length between outdoor (+2) and indoor units ≤ 165m Example unit [8] : a + b + c + d + e + f + g + h ≤ 165m Equivalent pipe length between outdoor (+2) and indoor units ≤ 190m (assume equivalent pipe length of REFNET joint to be 0.3m, that of REFNET header to be 1m, calculation purposes) (See Note 1 - Next page) Total pipe length from outdoor unit (+2) to all indoor units ≤ 1000m Pipa length between outdoor unit and Outdoor unit multi connection piping kit ≤ 10m. Equivalent length between outdoor unit and Outdoor unit multi connection piping kit ≤ 13m Difference in height between outdoor and indoor units (H1) ≤ 50m (Max. 40m if the outdoor unit is below in case of SHP type). (≤ 30m if the outdoor unit is below in case of 8-54HP type) Difference in height between indoor units (H2) ≤ 15m Difference in height between outdoor unit (H3) ≤ 5m Pipa length from first refrigerant branch kit (other than REFNET joint or REFNET header) to indoor unit ≤ 40m (See Note 2 - Next page) Example unit [8] : b + c + d + e + f + g + h ≤ 40m Example unit [8] : b + h ≤ 40m, unit [8] : f + h ≤ 40m		Pipa length between outdoor (+2) and indoor units ≤ 165m Example unit [8] : a + b + h ≤ 165m, unit [8] : a + i + k ≤ 165m Equivalent pipe length between outdoor (+2) and indoor units ≤ 190m (assume equivalent pipe length of REFNET joint to be 0.3m, that of REFNET header to be 1m, calculation purposes) (See Note 1 - Next page) Total pipe length from outdoor unit (+2) to all indoor units ≤ 1000m Pipa length between outdoor unit and Outdoor unit multi connection piping kit ≤ 10m. Equivalent length between outdoor unit and Outdoor unit multi connection piping kit ≤ 13m Difference in height between outdoor and indoor units (H1) ≤ 50m (Max. 40m if the outdoor unit is below in case of SHP type). (≤ 30m if the outdoor unit is below in case of 8-54HP type) Difference in height between indoor units (H2) ≤ 15m Difference in height between outdoor unit (H3) ≤ 5m Pipa length from first refrigerant branch kit (other than REFNET joint or REFNET header) to indoor unit ≤ 40m (See Note 2 - Next page) Example unit [8] : b + c + d + e + f + g + h ≤ 40m Example unit [8] : b + h ≤ 40m, unit [8] : f + h ≤ 40m		Pipa length between outdoor (+2) and indoor units ≤ 165m Example unit [8] : a + b + h ≤ 165m, unit [8] : a + i + k ≤ 165m Equivalent pipe length between outdoor (+2) and indoor units ≤ 190m (assume equivalent pipe length of REFNET joint to be 0.3m, that of REFNET header to be 1m, calculation purposes) (See Note 1 - Next page) Total pipe length from outdoor unit (+2) to all indoor units ≤ 1000m Pipa length between outdoor unit and Outdoor unit multi connection piping kit ≤ 10m. Equivalent length between outdoor unit and Outdoor unit multi connection piping kit ≤ 13m Difference in height between outdoor and indoor units (H1) ≤ 50m (Max. 40m if the outdoor unit is below in case of SHP type). (≤ 30m if the outdoor unit is below in case of 8-54HP type) Difference in height between indoor units (H2) ≤ 15m Difference in height between outdoor unit (H3) ≤ 5m Pipa length from first refrigerant branch kit (other than REFNET joint or REFNET header) to indoor unit ≤ 40m (See Note 2 - Next page) Example unit [8] : b + c + d + e + f + g + h ≤ 40m Example unit [8] : b + h ≤ 40m, unit [8] : f + h ≤ 40m																			
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## \*Note 1

When the equivalent pipe length between outdoor and indoor units is 90m or more, the size of main pipes (both gas-side and liquid-side) must be increased. Depending on the length of the piping, the capacity may drop, but even in such case it is able to increase the size of main pipes.



## ■ Diameter of above case

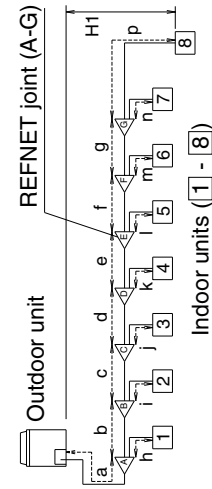
Model	Gas	Liquid	Model	Gas	Liquid	Model	Gas	Liquid	Model	Gas	Liquid
RX(Y)Q5 Type	φ19.1	Not Increased	RX(Y)Q20 Type	φ31.8*	φ19.1	RX(Y)Q34 Type	φ38.1*	φ22.2	RX(Y)Q48 Type	Not Increased	φ22.2
RX(Y)Q8 Type	φ22.2	φ12.7	RX(Y)Q22 Type	φ31.8*	φ19.1	RX(Y)Q36 Type	Not Increased	φ22.2	RX(Y)Q50 Type	Not Increased	φ22.2
RX(Y)Q10 Type	φ25.4*	φ12.7	RX(Y)Q24 Type	Not Increased	φ19.1	RX(Y)Q38 Type	Not Increased	φ22.2	RX(Y)Q52 Type	Not Increased	φ22.2
RX(Y)Q12 Type	Not Increased	φ15.9	RX(Y)Q26 Type	φ38.1*	φ22.2	RX(Y)Q40 Type	Not Increased	φ22.2	RX(Y)Q54 Type	Not Increased	φ22.2
RX(Y)Q14 Type	Not Increased	φ15.9	RX(Y)Q28 Type	φ38.1*	φ22.2	RX(Y)Q42 Type	Not Increased	φ22.2			
RX(Y)Q16 Type	φ31.8*	φ15.9	RX(Y)Q30 Type	φ38.1*	φ22.2	RX(Y)Q44 Type	Not Increased	φ22.2			
RX(Y)Q18 Type	φ31.8*	φ19.1	RX(Y)Q32 Type	φ38.1*	φ22.2	RX(Y)Q46 Type	Not Increased	φ22.2			

\*If available on the site, use this size. Otherwise, it can not be increased.

## \*Note 2

Allowable length after the first refrigerant branch kit to indoor units is 40 m or less, however it can be extended up to 90 m if all the following conditions are satisfied. (In case of "Branch with REFNET joint")

Required Conditions	Example Drawings
1. It is necessary to increase the pipe size between the first branch kit and the final branch kit. (Reducers must be procured on site)	<p>8] <math>b + c + d + e + f + g + p \leq 90</math> m</p> <p>increase the pipe size as follows</p> <p><math>\phi 9.5 \rightarrow \phi 12.7</math>   <math>\phi 15.9 \rightarrow \phi 19.1</math>   <math>\phi 22.2 \rightarrow \phi 25.4^*</math>   <math>\phi 34.9 \rightarrow \phi 38.1^*</math></p> <p><math>\phi 12.7 \rightarrow \phi 15.9</math>   <math>\phi 19.1 \rightarrow \phi 22.2</math>   <math>\phi 28.6 \rightarrow \phi 31.8^*</math></p>
2. For calculation of Total extension length, the actual length of above pipes must be doubled. (except main pipe and the pipes that are not increased)	<p><math>a + b \times 2 + c \times 2 + d \times 2 + e \times 2 + f \times 2 + g \times 2</math></p> <p><math>+ h + i + j + k + l + m + n + p \leq 1000</math> m</p>
3. Indoor unit to the nearest branch kit $\leq 40$ m	<p><math>h, i, j, \dots, p \leq 40</math> m</p>
4. The difference between [Outdoor unit to the farthest indoor unit] and [Outdoor unit to the nearest indoor unit]	<p>The farthest indoor unit 8]</p> <p>The nearest indoor unit 1]</p> <p><math>(a + b + c + d + e + f + g + p) - (a + h) \leq 40</math> m</p>



\*If available on the site, use this size. Otherwise it can not be increased.

## \*Note 3

If the pipe size above the REFNET header is φ34.9 or more, KHRP26M73HP is required.

## 7. Field Wiring



### Caution

- All field wiring and components must be installed by a licensed electrician and must comply with relevant local and national regulations.
- Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.
- Never install a phase advancing capacitor. As this unit is equipped with an inverter, installing a phase advancing capacitor will not only deteriorate power factor improvement effect, but also may cause capacitor abnormal heating accident due to high-frequency waves.
- Only proceed with wiring work after blocking off all power.
- Always ground wires in accordance with relevant local and national regulations.
- This machine includes an inverter device. Connect earth and leave charge to eliminate the impact on other devices by reducing noise generated from the inverter device and to prevent leaked current from being charged in the outer hull of the product.
- Do not connect the ground wire to gas pipes, sewage pipes, lightning rods, or telephone ground wires.  
**Gas pipes:** can explode or catch fire if there is a gas leak.  
**Sewage pipes:** no grounding effect is possible if hard plastic piping is used.  
**Telephone ground wires and lightning rods:** dangerous when struck by lightning due to abnormal rise in electrical potential in the grounding.
- Be sure to install an earth leakage circuit breaker.  
 This unit uses an inverter, so install the earth leakage circuit breaker that be capable of handling high harmonics in order to prevent malfunctioning of the earth leakage circuit breaker itself.
- Earth leakage circuit breaker which are especially for protecting ground-faults should be used in conjunction with main switch or fuse for use with wiring.

### Note

- Electrical wiring must be done in accordance with the wiring diagrams and the description herein.
- Do not operate until refrigerant piping work is completed.  
 (If operated before complete the piping work, the compressor may be broken down.)
- Never remove thermistor, sensor or etc. when connecting power wiring and transmission wiring.  
 (If operated with thermistor, sensor or etc. removed, the compressor may be broken down.)
- This product have reversed phase protection detector that only works when the power is turned on. If there exists black out or the power goes on and off which the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.
- Attach the power wire securely. Introducing power with a missing N-phase or with a mistaken N-phase will break the unit.
- Never connect the power supply in reversed phase.  
 The unit can not operate normally in reversed phase.  
 If you connect in reversed phase, replace two of the three phases.
- Make sure the electrical unbalance ratio is no greater than 2%. If it is larger than this, the unit's life span will be reduced.  
 If the ratio exceeds 4%, the unit will shut down and an malfunction code will be displayed on the indoor remote controller.
- Connect the wire securely using designated wire and fix it with attached clamp without applying external pressure on the terminal parts (terminal for power wiring, terminal for transmission wiring and earth terminal).

### 7.1 Power Circuit, Safety Device, and Cable Requirements

- A power circuit (see the following table) must be provided for connection of the unit. This circuit must be protected with the required safety devices, i.e. a main switch, a slow blow fuse on each phase and an earth leakage circuit breaker.
- When using residual current operated circuit breakers, be sure to use a high-speed type (1 second or less) 200mA rated residual operating current.
- Use copper conductors only.
- Use insulated wire for the power cord.
- Select the power supply cable type and size in accordance with relevant local and national regulations.
- Specifications for local wiring are in compliance with IEC60245.
- Use wire type H05VV when protected pipes are used.  
 Use wire type H07RN-F when protected pipes are not used.

50Hz

( ): High COP Series

Model Name		Phase and frequency	Voltage	Minimum circuit amp.		Recommended fuses	
Normal	High COP			Normal	High COP	Normal	High COP
RXQ5PY1		φ 3, 50Hz	380-415V	11.9A		15A	
RXQ8PY1		φ 3, 50Hz	380-415V	18.5A		25A	
RXQ10PY1		φ 3, 50Hz	380-415V	21.6A		25A	
RXQ12PY1		φ 3, 50Hz	380-415V	22.7A		25A	
RXQ14PY1		φ 3, 50Hz	380-415V	31.5A		35A	
RXQ16PY1	(RXQ16PHY1)	φ 3, 50Hz	380-415V	31.5A	(37.0A)	35A	(50A)
RXQ18PY1	(RXQ18PHY1)	φ 3, 50Hz	380-415V	32.5A	(40.1A)	40A	(50A)
RXQ20PY1		φ 3, 50Hz	380-415V	41.2A		50A	
RXQ22PY1		φ 3, 50Hz	380-415V	44.3A		50A	
RXQ24PY1	(RXQ24PHY1)	φ 3, 50Hz	380-415V	50.0A	(55.5A)	60A	(70A)
RXQ26PY1	(RXQ26PHY1)	φ 3, 50Hz	380-415V	51.0A	(58.6A)	60A	(70A)
RXQ28PY1	(RXQ28PHY1)	φ 3, 50Hz	380-415V	54.1A	(59.7A)	60A	(70A)
RXQ30PY1	(RXQ30PHY1)	φ 3, 50Hz	380-415V	55.2A	(62.8A)	70A	(70A)
RXQ32PY1	(RXQ32PHY1)	φ 3, 50Hz	380-415V	63.0A	(63.9A)	70A	(80A)
RXQ34PY1	(RXQ34PHY1)	φ 3, 50Hz	380-415V	64.0A	(67.0A)	80A	(80A)
RXQ36PY1	(RXQ36PHY1)	φ 3, 50Hz	380-415V	65.0A	(68.1A)	80A	(80A)
RXQ38PY1	(RXQ38PHY1)	φ 3, 50Hz	380-415V	73.7A	(76.9A)	90A	(90A)
RXQ40PY1	(RXQ40PHY1)	φ 3, 50Hz	380-415V	81.5A	(76.9A)	90A	(90A)
RXQ42PY1	(RXQ42PHY1)	φ 3, 50Hz	380-415V	82.5A	(77.9A)	100A	(90A)
RXQ44PY1	(RXQ44PHY1)	φ 3, 50Hz	380-415V	83.5A	(85.7A)	100A	(100A)
RXQ46PY1	(RXQ46PHY1)	φ 3, 50Hz	380-415V	86.6A	(86.7A)	100A	(100A)
RXQ48PY1	(RXQ48PHY1)	φ 3, 50Hz	380-415V	87.7A	(94.5A)	100A	(110A)
RXQ50PY1	(RXQ50PHY1)	φ 3, 50Hz	380-415V	96.5A	(95.5A)	110A	(110A)
RXQ52PY1		φ 3, 50Hz	380-415V	96.5A		110A	
RXQ54PY1		φ 3, 50Hz	380-415V	97.5A		110A	

**Note**

The above table indicates power specifications for standard combinations.

If using anything other than the above combinations like PH Series in a multi system, calculate using the following procedure.

Minimum circuit amp value: add the minimum circuit amp values for each independent unit

Recommended fuse capacity: select the fuse capacity with the next higher value of the calculated minimum circuit amp. multiplied by 1.1.

Ex: Combining the RXQ30PHY1 using RXQ8PY1, RXQ10PY1, and RXQ12PY1.

Minimum circuit amp. of the RXQ8PY1 in table above = 18.5 A

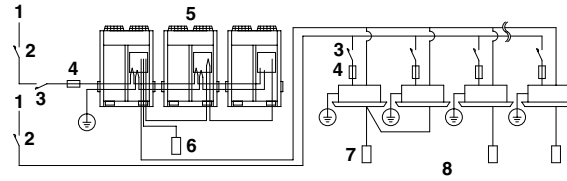
Minimum circuit amp. of RXQ10PY1 in table above = 21.6 A

Minimum circuit amp. of RXQ12PY1 in table above = 22.7 A

Accordingly, the minimum circuit amp. of the RXQ30PHY1 = 18.5 + 21.6 + 22.7 = 62.8 A

Multiplying the result above by 1.1 ( $62.8 \times 1.1$ ) = 69.1 A, so the recommended fuse capacity would be 70 A.

## 7.2 Wiring Connection Example for Whole System



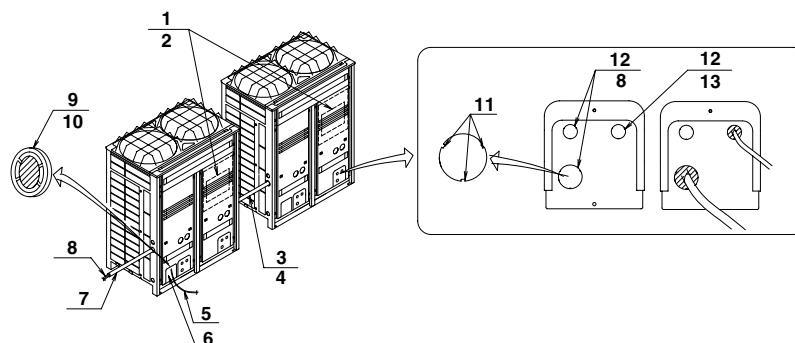
1. Power supply
2. Main switch
3. Earth leakage circuit breaker
4. Fuse
5. Outdoor unit
6. COOL/HEAT selector (except RXQ-P)
7. Remote controller
8. Indoor unit

### Note

- Make sure the weak electric wiring (i.e. for the remote controller, between units, etc.) and the power wiring do not pass near each other, keeping them at least 50 mm apart. Proximity may cause electrical interference, malfunctions, and breakage.
- Be sure to connect the power wiring to the power wiring terminal block and secure it as described in “**7-5 Power Wiring Connection Procedure**”.
- Transmission wiring should be secured as described in “**7-4 Transmission Wiring Connection Procedure**”.
- Secure wiring with clamp such as insulation lock ties to avoid contact with piping.
- Shape the wires to prevent the structure such as the EL. COMPO. BOX lid deforming. And close the cover firmly.
- 5HP type can not compose multi system.

## 7.3 Leading Wire Procedure

- The power wiring and ground wiring are passed out from the power wiring hole on the sides, the front (knock hole) or the bottom frame (knock hole).
- The transmission wiring is passed out from the wiring hole (knock hole) on the front of the unit or from a piping hole.



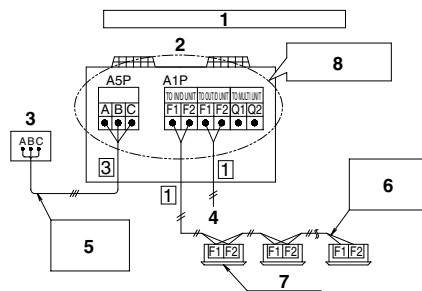
1. Electrical wiring diagram
2. On the back of the EL.COMPO. BOX lid.
3. Power wiring, ground wiring (inside conduit)
4. (When the wiring is routed out through the side panel.)
5. Transmission wiring
6. Pipe opening
7. Conduit
8. For power wiring and ground wiring
9. Through cover
10. Cut off the shaded zones before use.
11. Burr
12. Knockout hole
13. For transmission wiring

### Note

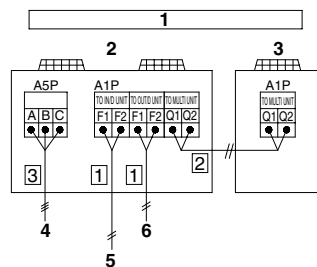
- Open the knock holes with a hammer or the like.
- After knocking out the holes, we recommend you paint the edges and areas around the edges using the repair paint to prevent rusting.
- When passing wiring through the knock holes, remove burrs around the knock holes and protect the wiring with protective tape. **(Refer to figure \*)**
- If small animals might enter the unit, block off any gaps (hatching parts in figure 20) with material (field supply).

## 7.4 Transmission Wiring Connection Procedure

- Referring to next two figures connect the transmission wiring between outdoor unit and indoor unit, outdoor unit and outdoor unit of other system, outdoor unit and outdoor unit of same system (only multi system) or to COOL/HEAT selector.



1. Connection example for single system
2. Outdoor unit
3. COOL/HEAT selector (except RXQ-P)
4. To outdoor unit of other system
5. Match up terminal symbols. (Has polarity)
6. Use duplex wires
7. Indoor unit
8. Never connect the power wire



1. Connection example for multi system
2. Outdoor unit A (Master unit)
3. Outdoor unit B (Sub unit)
4. COOL/HEAT selector (except RXQ-P)
5. To indoor unit
6. To outdoor unit of other system

- All transmission wiring is to be procured on site. All wiring should use sheathed vinyl cord 0.75-1.25 mm<sup>2</sup> or cable (duplex). (Triplex only for the COOL/HEAT selector.)
- Transmission wiring should be done within the following limitations.

If they are exceeded, transmission problems may occur. (About the symbol ① ~ ③, see previous two figures.)

### ① Between outdoor unit and indoor unit

Between outdoor unit and outdoor unit of other systems

Max. wiring length : 1,000 m

Max. total wiring length : 2,000 m

Max. no. of branches : 16

[Note]

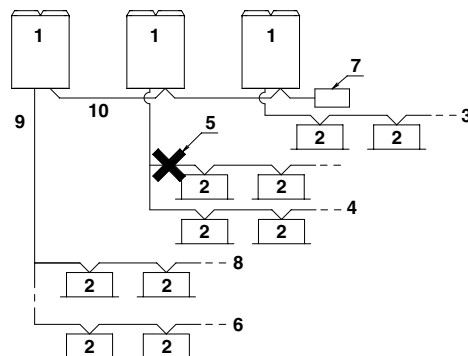
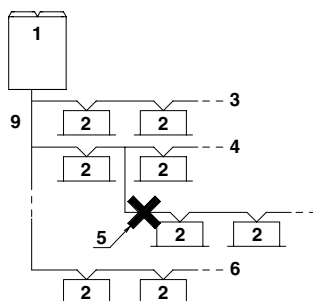
No branch is allowed after branch

(See next figure)

Max. no. of outdoor units of other system

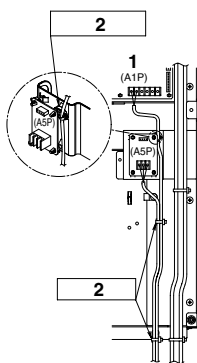
that can be connected

: 10



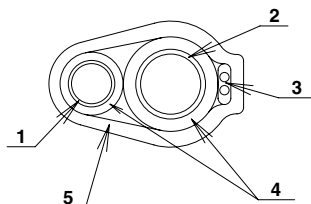
1. Outdoor unit
2. Indoor unit
3. Branch line 1
4. Branch line 2
5. No branch is allowed after branch
6. Main line
7. Central remote controller, etc.
8. Branch line 3
9. Transmission wiring between outdoor unit and indoor unit
10. Transmission wiring between outdoor unit and outdoor unit

- 2 Between outdoor unit and outdoor unit of same system  
(Only for multi system)  
Max. wiring length : 30 m
- 3 Transmission wiring to COOL/HEAT selector  
Max. wiring length : 500 m
- The transmission wiring inside the EL.COMPO.BOX should be secured using the clamp (1) as shown in next figure.



1. In the EL.COMPO.BOX
2. Retain to the EL.COMPO.BOX with the accessory clamp (1).

- Outside the units, the transmission wiring must be finished simultaneously with the local refrigerant piping, and wound with tape (field supply) as shown in next figure.



1. Liquid pipe
2. Gas pipe
3. Transmission wiring
4. Insulation material
5. Finishing tape

- For multi system:
  1. Transmission wiring between outdoor units in the same piping system must be connected to terminals Q1 and Q2 (TO MULTI UNIT).  
Connecting the wires to the F1, F2 (TO OUT/D UNIT) terminals results in system malfunction.
  2. Wiring to other systems should be connected to terminals F1 and F2 (TO OUT/D UNIT) on the PC-board of the master unit. The outdoor unit that connected transmission wiring to indoor unit is the master unit. The others are sub unit.

**Caution**

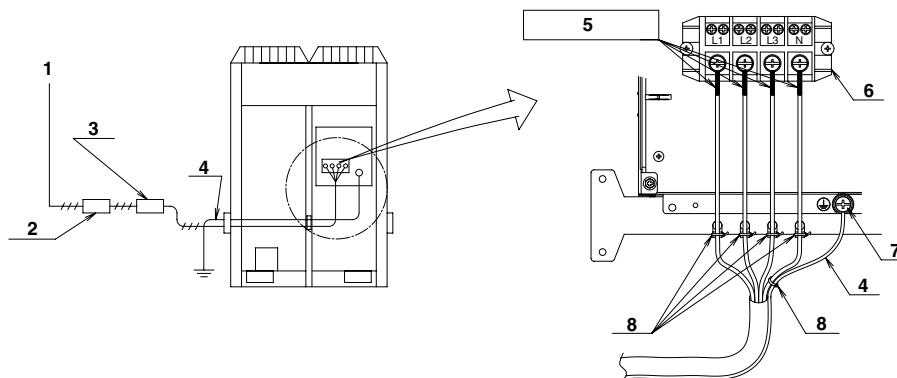
- Do not connect the power wiring to terminals for the transmission wiring. Doing so would destroy the entire system.
- When connecting wires to the terminal block on the PC-board, too much heat or tightening could damage the PC-board. Attach with care.

See the table below for the tightening torque of the transmission wiring terminals.

Screw size	Tightening torque (N · m)
M3 (A5P)	0.53 - 0.63
M3.5 (A1P)	0.80 - 0.96

## 7.5 Power Wiring Connection Procedure

Be sure to connect the power supply wiring to the power supply terminal block and hold it in place using the included clamp as shown in the next figure.



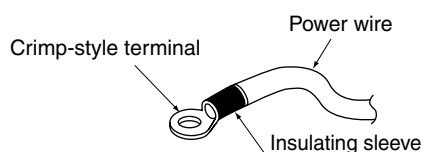
1. Power supply (3N~50Hz 380-415V)
2. Earth leakage circuit breaker
3. Branch switch, Overcurrent breaker
4. Ground wire
5. Attach insulation sleeves
6. Power supply terminal block
7. Ground terminal
8. Clamp (1) (accessory)

- The L1, L2, L3 and N phases of the power wiring should be secured separately to the hook using the included clamp (1).
- The ground wiring should be bound to the power wiring using the included clamp (1) to prevent outside force from being applied to the terminal area.
- Wire so that the ground wiring does not come into contact with the compressor lead wiring. If they touch, this may have an adverse effect on other devices.



### Caution

- Be sure to use crimp-style terminal with insulating sleeves for connections. (See the figure below.)

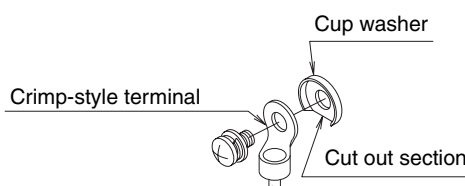


- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will strip the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.

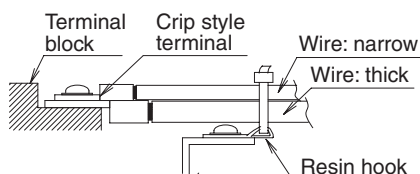
See the following table for the tightening torque of the terminal screws.

Screw size	Tightening torque (N · m)
M8 Power terminal, ground terminal	5.5~7.3

- When pulling the ground wire out, wire it so that it comes through the cut out section of the cup washer. (See the figure below.) An improper ground connection may prevent a good ground from being achieved.

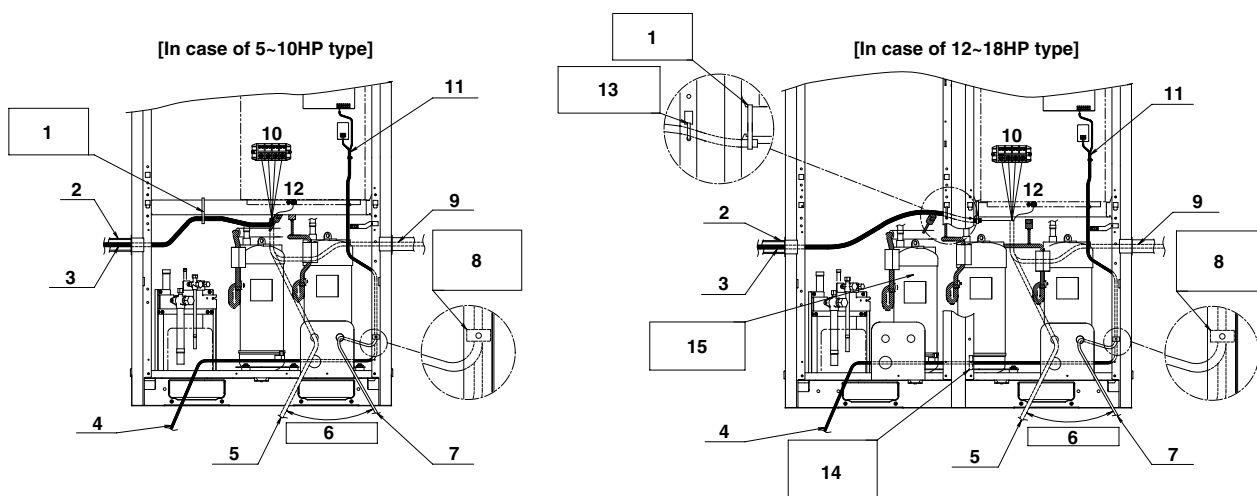


- When two wires are connected to a single terminal, connect them so that the rear sides of the crimp contacts face each other. Also, make sure the thinner wire is on top, securing the two wires simultaneously to the resin hook using the included clamp (1).



## 7.6 Procedure for Wiring Inside Units

- Referring to next figure, secure and wire the power and transmission wiring using the included clamp (1), (2), and (3).



- Retain with accessory clamp (3).
- Electric conduit
- When routing out the power/ground wires from the left side.
- When routing out the transmission wiring from the opening for piping.
- When routing out the power/ground wires from the front.
- Clear over 50 mm.
- When routing out the transmission wiring from the knockout hole.
- Retain to the back of the column support with the accessory clamp (2).
- When routing out the power/ground wires from the right side.
- Power wiring
- Transmission wiring
- Ground wire
- Secure to the back side of the support beam using the accessory clamp (1).
- Retain to the back of the column support with the accessory clamp (2).
- When wiring, exercise sufficient caution not to detach the acoustic insulators from the compressor.



### Caution

- The transmission wiring must be at least 50 mm away from the power wiring.
- Make sure all wiring do not contact to the pipes (hatching parts in the previous figure).
- After wiring work is completed, check to make sure there are no loose connections among the electrical parts in the EL.COMPO.BOX.

## 8. Air Tight Test and Vacuum Drying

### Note

- Always use nitrogen gas for the airtightness test.
- Absolutely do not open the shutoff valve until the main power circuit insulation measurement has been completed. (measuring after the shutoff valve is opened will cause the insulation value to drop.)

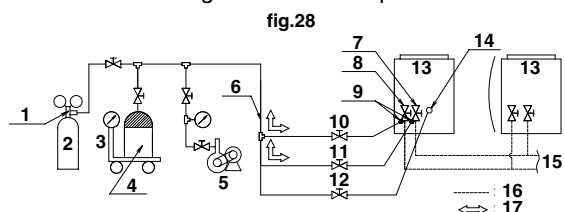
### 8.1 Preparations

#### <Needed tools>

Gauge manifold Charge hose valve	<ul style="list-style-type: none"> <li>• To prevent entry of any impurities and insure sufficient pressure resistance, always use the special tools dedicated for R-410A.</li> <li>• Use charge hose that have pushing stick for connecting to service port of shutoff valves or refrigerant charge port.</li> </ul>
Vacuum pump	<ul style="list-style-type: none"> <li>• The vacuum pump for vacuum drying should be able to lower the pressure to <math>-100.7\text{kPa}</math> (5 Torr <math>-755\text{mm Hg}</math>).</li> <li>• Take care the pump oil never flow backward into the refrigerant pipe during the pump stops.</li> </ul>

#### <The system for air tight test and vacuum drying>

- Referring to figure 28, connect an nitrogen tank, refrigerant tank, and a vacuum pump to the outdoor unit. The refrigerant tank and the charge hose connection to refrigerant charge port or the valve A, C in figure 28 are needed in “11. Additional Refrigerant Charge and Check Operation”.
- The shutoff valve and valve A~C in next figure should be open or closed as shown in the table below.

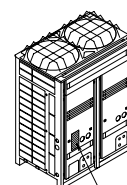


1. Gauge manifold
2. Nitrogen
3. Measuring device
4. R-410A tank (with siphon)
5. Vacuum pump
6. Charge hose
7. Liquid side shutoff valve
8. Gas side shutoff valve
9. Shutoff valve service port
10. Valve B
11. Valve C
12. Valve A
13. Outdoor unit
14. Refrigerant charge port
15. To indoor unit
16. Interunit pipings
17. Refrigerant flow

State of valve A, B and C and shutoff valves	Valve			shutoff valve	
	A	B	C	Liquid side	Gas side
Air tight test, Vacuum drying (Close valve A and shutoff valves certainly. Otherwise the refrigerant in the unit are released.)	Close	Open	Open	Close	Close

### Note

- The airtightness test and vacuum drying should be done using the liquid side and gas side shutoff valve service ports.  
See the [R-410A] Label attached to the front plate of the outdoor unit for details on the location of the service port (see figure at right).
- See [Shutoff valve operation procedure] in “11-1 Before Working” for details on handling the shutoff valve.
- The refrigerant charge port is connected to unit pipe.  
When shipped, the unit contains the refrigerant, so use caution when attaching the charge hose.



[R-410A] Label

## 8.2 Air Tight Test and Vacuum Drying Method

After finished piping work, carry out air tight test and vacuum drying.

### <Air tight test>

Pressurize the liquid and gas pipes to 4.0MPa (40bar) (do not pressurize more than 4.0MPa (40bar)). If the pressure does not drop within 24 hours, the system passes the test.

If there is a pressure drop, check for leaks, make repairs, and perform the airtight test again.

### <Vacuum drying>

Evacuate the system from the liquid and gas pipes by using a vacuum pump for more than 2 hours and bring the system to  $-100.7\text{kPa}$  or less. After keeping the system under that condition for more than 1 hour, check if the vacuum gauge rises or not. If it rises, the system may either contain moisture inside or have leaks.

### Note

**If moisture might enter the piping, follow below.**

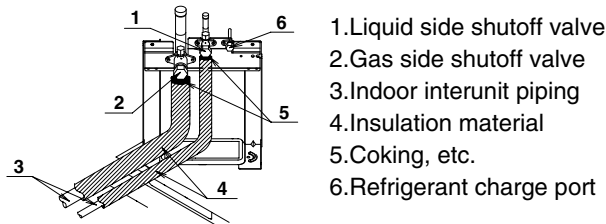
**(i.e., if doing work during the rainy season, if the actual work takes long enough that condensation may form on the inside of the pipes, if rain might enter the pipes during work, etc.)**

1. After performing the vacuum drying for two hours, pressurize to  $0.05\text{ MPa}$  (i.e., vacuum breakdown) with nitrogen gas, then depressurize down to  $-100.7\text{ kPa}$  for an hour using the vacuum pump (vacuum drying).
2. If the pressure does not reach  $-100.7\text{ kPa}$  even after depressurizing for at least two hours, repeat the vacuum breakdown - vacuum drying process.

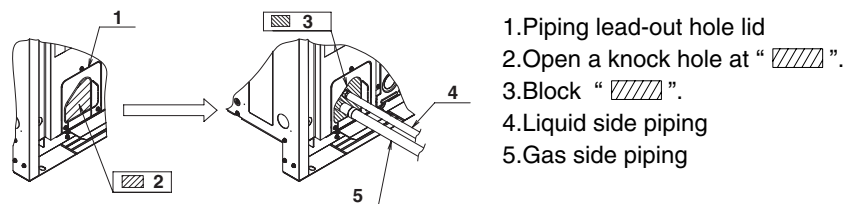
After vacuum drying, maintain the vacuum for an hour and make sure the pressure does not rise by monitoring with a vacuum gauge.

## 9. Pipe Insulation

- Insulation of pipes should be done after performing “8. Air Tight Test and Vacuum Drying”.
- Always insulate the liquid side piping and gas side piping in the interunit piping and refrigerant branching kit. Failing to insulate the pipes could cause leaking or burns. (The gas side piping can reach temperatures of 120°C. Be sure the insulation used can withstand such temperatures.)
- Reinforce the insulation on the refrigerant piping according to the installation environment. Condensation might form on the surface of the insulation.
  - Ambient temperature: 30°C, humidity: 75% to 80% RH: min. thickness: 15 mm.
  - If the ambient temperature exceeds 30°C and the humidity 80% RH, then the min. thickness is 20 mm.
- If there is a possibility that condensation on the shutoff valve might drip down into the indoor unit through gaps in the insulation and piping because the outdoor unit is located higher than the indoor unit, etc., this must be prevented by caulking the connections, etc.



- The piping lead-out hole lid should be attached after opening a knock hole.
- If small animals and the like might enter the unit through the piping lead-out hole, close the hole with blocking material (procured on site) after completion of “11. Additional Refrigerant Charge and Check Operation”.



### Note

- After knocking out the holes, we recommend you remove burrs in the knock holes (see previous figure) and paint the edges and areas around the edges using the repair paint.

## 10. Checking of Device and Installation Conditions

Be sure to check the followings.

### For those doing electrical work

1. Make sure there is no faulty transmission wiring or loosening of a nut.  
See “7-4 Transmission Wiring Connection Procedure”.
2. Make sure there is no faulty power wiring or loosening of a nut.  
See “7-5 Power Wiring Connection Procedure”.
3. Has the insulation of the main power circuit deteriorated?
  - Measure the insulation and check the insulation is above regular value in accordance with relevant local and national regulations.

### For those doing pipe work

1. Make sure piping size is correct.  
See “6-1 Selection of Piping Material and Refrigerant Branching Kit”.
2. Make sure insulation work is done.  
See “9. Pipe Insulation”.
3. Make sure there is no faulty refrigerant piping.  
See “6. Refrigerant Piping”.

# 11. Additional Refrigerant Charge and Check Operation

The outdoor unit is charged with refrigerant when shipped from the factory, but depending on the size and length of the piping when installed, it may require additional charging.

For charging the additional refrigerant, follow the procedure in this chapter.

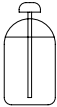

And then carry out the check operation.

**Note: Total amount of refrigerant should be 100 kg or less**

## 11.1 Before Working

### [About the refrigerant tank]

Check whether the tank has a siphon pipe before charging and place the tank so that the refrigerant is charged in liquid form. (See the figure below.)

With siphon pipe	
	Stand the tank upright and charge. (The siphon pipe goes all the way inside, so the tank does not need be put upside-down charge in liquid form.)
Other tanks	
	Stand the tank upside-down and charge.



### Caution

- Always use the proper refrigerant (R-410A). If charged with the refrigerant containing an improper material, it may cause an explosion or accident.
- R-410A is a mixed refrigerant, so charging it as a gas will cause the refrigerant composition to change, which may prevent normal operation.

### [Shutoff valve operation procedure]

When operating the shutoff valve, follow the procedure instructed below.

- Do not open the shutoff valve until “**10. Checking of Device and Installation Conditions**” are completed. If the shutoff valve is left open without turning on the power, it may cause refrigerant to buildup in the compressor, leading insulation degradation.
- Be sure to use the correct tools.  
The shutoff valve is not a back-seat type. If forced it to open, it might break the valve body.
- When using a service port, use the charge hose.
- After tightening the cap, make sure no refrigerant gas is leaking.

### [Tightening torque]

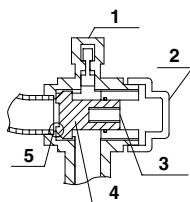
The sizes of the shutoff valves on each model and the tightening torque for each size are listed in the table below.

<Size of Shutoff Valve>

	5HP type	8HP type	10HP type	12HP type	14HP type	16HP type	18HP type
Liquid side shutoff valve	φ 9.5 The 12HP type corresponds to the 12.7-diameter onsite piping using the included piping.				φ 12.7 The 18HP type corresponds to the 15.9-diameter onsite piping using the accessory pipe		
Gas side shutoff valve	φ 15.9	φ 19.1	φ 25.4 The 10HP type corresponds to the 22.2-diameter onsite piping using the accessory pipe. The 12 ~ 18HP type corresponds to the 28.6-diameter onsite piping using the accessory pipe.				

## &lt;Tightening torque&gt;

Shutoff valve size	Tightening torque N·m (Turn clockwise to close)			
	Shaft (valve body)		Cap (valve lid)	Service port
φ 9.5	5.4 - 6.6	Hexagonal wrench 4 mm	13.5 - 16.5	11.5 - 13.9
φ 12.7	8.1 - 9.9		18.0 - 22.0	
φ 15.9	13.5 - 16.5	Hexagonal wrench 6 mm	22.5 - 27.5	
φ 19.1	27.0 - 33.0	Hexagonal wrench 8 mm		
φ 25.4				



1. Service port
2. Cap
3. Hex holes
4. Shaft (valve body)
5. Seal section

**[To open]**

1. Remove the cap and turn the shaft counterclockwise with the hexagon wrench (JISB4648).
2. Turn it until the shaft stops.
3. Make sure to tighten the cap securely.  
(For the tightening torque, refer to the item <Tightening Torque>.)

**[To close]**

1. Remove the cap and turn the shaft clockwise with the hexagon wrench (JISB4648).
2. Securely tighten the valve until the shaft contacts the main body seal.
3. Make sure to tighten the cap securely.  
(For the tightening torque, refer to the item <Tightening Torque>.)

**[How to Check How Many Units are Connected]**

It is possible to find out how many indoor or outdoor unit in the system are turned on by operating the push button on the PC board (A1P) of outdoor unit (In case of multi system master unit).

Follow the procedure below to check how many indoor or outdoor units are turned on.

(LED display: ● ...OFF ☀ ...ON ⚡ ...Blinking * ...Uncertain)		LED display						
		H1P	H2P	H3P	H4P	H5P	H6P	H7P
(1) Press the MODE button (BS1) once, and set the MONITOR MODE (H1P: Blinking).		⚡	●	●	●	●	●	●
(2) Press the SET button (BS2) the number of times until the LED display matches that at right.	For checking the number of outdoor units: eight times	⚡	●	●	☀	●	●	●
	For checking the number of indoor units: five times	⚡	●	●	●	☀	●	☀
(3) Press the RETURN button (BS3) and read the number of units from the display of H2P through H7P. [Reading Method] The display of H2P through H7P should be read as a binary number, with ⚡ standing for "1" and ● standing for "0".		⚡	*	*	*	*	*	*
<p>Ex: For the LED display at right, this would be "0 1 0 1 1 0", which would mean 22 units are connected.</p> <p><math>32 \times 0 + 16 \times 1 + 8 \times 0 + 4 \times 1 + 2 \times 1 + 1 \times 0 = 22</math> units</p> <p>Note: "000000" indicates 64 units.</p>		⚡	●	⚡	●	⚡	⚡	●
(4) Press the MODE button (BS1) once. This returns to <b>Setting Mode 1</b> (default).		●	●	☀	●	●	●	●

**Note**

Press the "MODE button" (BS1) if you get confused while operating.  
This returns to **Setting Mode 1** (default).

## 11.2 Procedure of Adding Refrigerant Charging and Check Operation



### Warning



### Electric Shock Warning

- Make sure to close the EL. COMPO. BOX lid before turning on the power when performing the refrigerant charging operation.
- Perform the setting on the PC-board (A1P) of the outdoor unit and check the LED display after the power is on via the inspection door which is in the EL. COMPO. BOX lid.
- Use an insulated rod to operate the push buttons via the EL. COMPO. BOX's inspection door.  
There is a risk of electric shock if you touch any live parts, since this operation must be performed with the power on.



### Caution

- Make sure to use the protect tool (protective gloves and goggles) when charging the refrigerant.
- Due to a danger of liquid hammer, the refrigerant must not be charged over the allowable maximum amount when charging the refrigerant.
- Do not perform the refrigerant charging operation under working for the indoor unit.
- When opening the front panel, make sure to take caution to the fan rotation during the working.  
After the outdoor unit stops operating, the fan may keep rotation for a while.

### Note

- If operation is performed within 12 minutes after the indoor and outdoor units are turned on, H2P will be lit on and the compressor will not operate.
- In order to ensure uniform refrigerant distribution, it may take up to around 10 minutes for the compressor to start up after the unit starting operating. This is not a malfunction.

#### <About refrigerant charging>

- The refrigerant charge port is connected to the piping inside the unit.  
When the unit is shipped from the factory, the unit's internal piping is already charged with refrigerant, so be careful when connecting the charge hose.
- After adding the refrigerant, make sure to close the lid of the refrigerant charging port.  
The tightening torque for the lid is 11.5 to 13.9 Nm.
- See [Shutoff valve operation procedure] in chapter 11-1 for details on how to handle shutoff valves.
- When done or when pausing the refrigerant charging operation, close the valve of the refrigerant tank immediately. If the tank is left with the valve open, the amount of refrigerant which is properly charged may be off the point. More refrigerant may be charged by any remaining pressure after the machine is stopped.

#### <About check operation>

- Make sure to perform the check operation after installation. Otherwise, the malfunction code "U3" will be displayed and normal operation cannot be performed.  
And the failure of "Check of miswiring" may also cause abnormal operation. Performance may drop due to the failure of "Judgment of piping length".
  - Check operation must be performed for each refrigerant piping system.  
Checking is impossible if plural systems are being done at once.
  - The individual problems of indoor units can not be checked.  
About these problems check by test run after the check operation is completed. (See chapter 13)
  - The check operation cannot be performed in recovery or other service modes.
1. Make sure the following works are complete in accordance with the installation manual.
    - Piping work
    - Wiring work
    - Air tight test
    - Vacuum drying
    - Installation work for indoor unit
  2. Calculate the "additional charging amount" using "How to calculate the additional refrigerant to be charged" in "**6-5 Example of Connection**".

3. Open the valve C (See the figure 31. The valve A, B and the liquid and gas side shutout valve must be left closed), and charge the refrigerant of the “additional charging amount” from the liquid side shutout valve service port. If the “additional charging amount” was charged fully, close the valve C and go to step 5. If the “additional charging amount” was not charged fully, go to step 4.

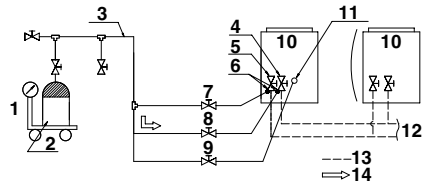


fig. 31

- |                               |                             |
|-------------------------------|-----------------------------|
| 1. Measuring device           | 8. Valve C                  |
| 2. R-410A tank (with siphon)  | 9. Valve A                  |
| 3. Charge hose                | 10. Outdoor unit            |
| 4. Liquid side shutoff valve  | 11. Refrigerant charge port |
| 5. Gas side shutoff valve     | 12. To indoor unit          |
| 6. Shutoff valve service port | 13. Field pipings           |
| 7. Valve B                    | 14. Refrigerant flow        |

4. Perform the refrigerant charging operation following [Refrigerant charging operation procedure] as shown below, and charge the remaining refrigerant of the “additional charging amount”. For performing the refrigerant charging operation the push button on the PC-board (A1P) of outdoor unit (In case of multi system master unit) are use. (See the figure 32) In addition, the refrigerant are charged from the refrigerant charge port via the valve A. (See the figure 33)
- For operating the push button and opening and closing the valve, follow the work procedure.

**Note**

The refrigerant will be charged about 22kg in one hour at outdoor temp. 30°C DB (6kg at 0°C DB). If you need to speedup in case of multi system, connect the refrigerant tanks to each outdoor unit as shown in the figure 33.

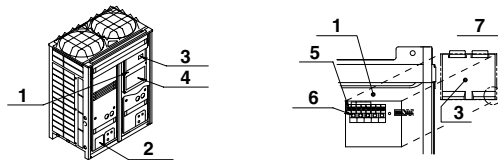


fig. 32

- |                               |                                               |
|-------------------------------|-----------------------------------------------|
| 1. EL.COMPO.BOX lid           | 5. LED (H1~8P)                                |
| 2. Pipe intake                | 6. Push button (BS1-5)                        |
| 3. Inspection door            | 7. Lift the protruding part to open the cover |
| 4. Label “Service Precaution” |                                               |

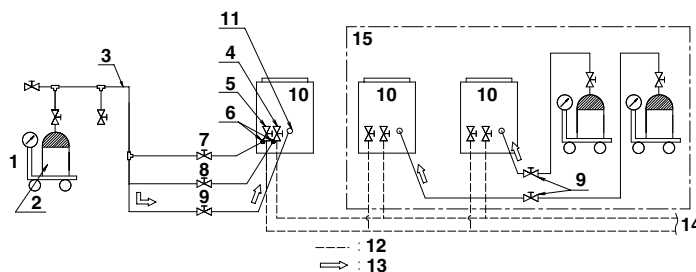


fig. 33

- |                               |                                                     |
|-------------------------------|-----------------------------------------------------|
| 1. Measuring device           | 9. Valve A                                          |
| 2. R-410A tank (with siphon)  | 10. Outdoor unit                                    |
| 3. Charge hose                | 11. Refrigerant charge port                         |
| 4. Liquid side shutoff valve  | 12. Field piping                                    |
| 5. Gas side shutoff valve     | 13. Refrigerant flow                                |
| 6. Shutoff valve service port | 14. To indoor unit                                  |
| 7. Valve B                    | 15. In case of multi system if you need to speedup. |
| 8. Valve C                    |                                                     |

**[Refrigerant Charging Operation Procedure]**

- (1) Open the liquid and gas side shutoff valves (The valve A~C must be closed. The valve A~C means the valves in the figure 33.)

**[Display of normal system]**

LED display (Default status of shipped)		SERV. MONI- TOR	MODE	TEST/ HWL	C/H SELECTOR			L.N.O.P	DEMA- ND	MULTI
					IND	MASTER	SLAVE			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single system		●	●	●	☀	●	●	●	●	●
Multi system(*)	Master unit	●	●	●	☀	●	●	●	●	☀
	Sub unit 1	●	●	●	●	●	●	●	●	●
	Sub unit 2	●	●	●	●	●	●	●	●	●

LED display: ● ...OFF, ☀ ...ON, ● ...Blinking

(\*)How to distinguish the master unit, sub unit 1, and sub unit 2 in the multi system.

Method 1: By the H8P (MULTI) LED display

☀ (ON): Master unit	● (Blinking): Sub unit 1	● (OFF): Sub unit 2
---------------------	--------------------------	---------------------

Method 2: By the transmission wiring to indoor unit

Transmission wiring is connected: Master unit
Transmission wiring is not connected : Sub unit 1 or Sub unit 2

- (2) If necessary, set the field setting by using the dip switch on the outdoor unit PC-board (A1P).  
(For how to set, see “12-1 Onsite Settings With the Power Off”)
- (3) • Close the EL. COMPO. BOX lid and all front panel except on the side of the EL. COMPO. BOX (\*1) and turn the power to the outdoor unit and all connected indoor units. (\*2)  
• After H2P stop blinking (about 12 minutes after turning on the power), check LED displays as shown in the table [Display of normal system] and the system is normal state.  
If H2P is blinking, check the malfunction code in the remote controller, and correct the malfunction in accordance with [Remote controller display malfunction code] in step 5.
- (\*1)Lead the refrigerant charge hose etc. from the pipe intake. All front panels must be closed at the procedure (9).
- (\*2)• If you perform the refrigerant charging operation within the refrigerant system that have the power off unit, the operation cannot finish properly.  
For confirming the number of the outdoor and indoor units with the power on, see [How to check how many units are connected] in chapter 11-1. In case of a multi system, turn on the power to all outdoor units in the refrigerant system.  
• To energize the crankcase heater, make sure to turn on for 6 hours before starting operation.
- (4) Start the additional refrigerant charge operation.  
(About the system settings for additional refrigerant charge operation, refer to the [Service Precaution] label attached on the EL. COMPO. BOX lid in the outdoor unit.)  
Open valve A immediately after starting the compressor.
- (5) Close the valve A if the “additional charging amount” of refrigerant was charged, and push the RETURN button (BS3) once.
- (6) Record the charging amount on the accessory “REQUEST FOR THE INDICATION” label and attach it to the back side of the front panel.
5. After completing the additional refrigerant charging perform the check operation following below.

**Note**

- For check operation, the following work will be performed.
  - Check of shutoff valve opening
  - Check of miswiring
  - Judgment of piping length
  - Check of refrigerant overcharge
- It takes about 40 minutes to complete the check operation.

**[Check Operation Procedure]**

- (1) Make the onsite setting as needed using the dip switches on the outdoor unit PC-board (A1P) with the power off (See “12-1 Onsite Settings With the Power Off”)
- (2) Close the EL. COMPO. BOX lid and all front panels except as the side of the EL. COMPO. BOX and turn on the power to the outdoor unit and all connected indoor units. (Be sure to turn the power on at least 6 hours before operation in order to have power running to the crank case heater.)
- (3) Check the LED display on the outdoor unit PC-board (A1P) is as shown in the table below and transmission is normal.

LED display (Default status of shipped)	SERV. MONI- TOR	MODE	TEST/ HWL	C/H SELECTOR			L.N.O.P	DEMA- ND	MULTI
				IND	MASTE R	SLAVE			
	HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single system									
Multi system(*)	Master unit								
	Sub unit 1								
	Sub unit 2								

LED display: ● ...OFF, ☀ ...ON, ...Blinking

(\*)How to distinguish the master unit, sub unit 1, and sub unit 2 in the multi system.

Method 1: By the H8P (MULTI) LED display

(ON): Master unit	(Blinking): Sub unit 1	(OFF): Sub unit 2
-------------------	------------------------	-------------------

Method 2: By the transmission wiring to indoor unit

Transmission wiring is connected: Master unit
Transmission wiring is not connected : Sub unit 1 or Sub unit 2

- (4) Make the onsite settings as needed using the push button (BS1-BS5) on the outdoor unit PC board (A1P) with the power on. (See “12-2 Onsite Settings With the Power On”)
- (5) Perform the check operation following the Check Operation Method of the [Service Precautions] label on the EL. COMPO. BOX lid. The system operation for about 40 minutes and automatically stops the check operation. If the malfunction code is not displayed in the remote controller after the system stop, check operation is completed. Normal operation will be possible after 5 minutes. If the malfunction code is displayed in the remote controller, correct the malfunction following [Remote controller displays malfunction code] and perform the check operation again.

**[Remote controller displays malfunction code]**

Malfunction code	Installation error	Remedial action
E3, E4 F3, F6 UF	The shutoff valve of the outdoor unit is left closed.	Open the shutoff valve.
U1	The phases of the power to the outdoor unit is reversed.	Exchange two of the three phases (L1, L2, L3) to make a proper connection.
U1 U4 LC	No power is supplied to an outdoor or indoor unit (including phase interruption).	Make sure the power source wire is properly connected to the outdoor unit and revise if necessary.
UF	There is conflict on the connection of transmission wiring in the system.	Check if the refrigerant piping line and the transmission wiring are consistent with each other.
E3 F6 UF	Refrigerant overcharge.	Recalculate the additional amount refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
E4 F3	Insufficient refrigerant.	<ul style="list-style-type: none"> <li>Check if the additional refrigerant charge has been finished correctly.</li> <li>Recalculate the additional amount refrigerant from the piping length and add the adequate amount.</li> </ul>
U7, U4 UF, UH	If the outdoor unit terminal is connected when there is one outdoor unit installed.	Remove the line from the outdoor multi terminals (Q1 and Q2).

If any malfunction codes other than the above are displayed, check the service manual for how to respond.

## 12. Onsite Settings

### Note

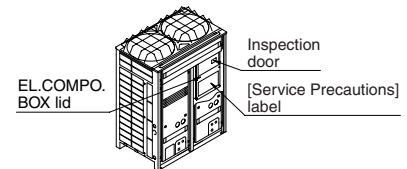
In the case of a multi system, all onsite settings should be made on the master unit. Settings made on sub units are invalid.

The outdoor unit to which the indoor unit transmission wire are connected is the master unit, and all other units are sub units.

### 12.1 Onsite Settings with the Power Off

If the COOL/HEAT selector was connected to the outdoor unit in "7. FIELD WIRING", set the dip switch (DS1) on the outdoor unit PC-board (A1P) to "ON" (it is set to "OFF" when shipped from the factory).

For the position of the dip switch (DS1), see the "Service Precautions" label (see at right) which is attached to the EL. COMPO. BOX lid.



### **Warning** **Electric Shock Warning**

Never perform with the power on.

There is a serious risk of electric shock if any live part is touched.

### 12.2 Onsite Settings with the Power On

Use the push button switches (BS1 through BS5) on the outdoor unit PC-board (A1P) to make the necessary onsite settings.

See the "Service Precautions" label on the EL. CONPO. BOX lid for details on the positions and operating method of the push button switches and on the onsite setting.

Make sure to record the setting on the accessory "REQUEST FOR THE INDICATION" label.

### **Warning** **Electric Shock Warning**

Use an insulated rod to operate the push buttons via the inspection door of EL. COMPO. BOX lid.

There is a risk of electric shock if you touch any live parts, since this operation must be performed with the power on.

## 13. Test Run

### 13.1 Before Test Run

- Make sure the following works are completed in accordance with the installation manual.
  - Piping work
  - Wiring work
  - Air tight test
  - Vacuum drying
  - Additional refrigerant charge
- Check that all work for the indoor unit are finished and there are no danger to operate.

### 13.2 Test Run

After check operation is completed, operate the unit normally and check the following.

- (1) Make sure the indoor and outdoor units are operating normally.
- (2) Operate each indoor unit one by one and make sure the corresponding outdoor unit is also operating.
- (3) Check to see if cold (or hot) air is coming out from the indoor unit.
- (4) Push the fan direction and strength buttons on the remote controller to see if they operate properly.

#### Note

- Heating is not possible if the outdoor temperature is 24°C or higher. Refer to the Operation manual.
- If a knocking sound can be heard in the liquid compression of the compressor, stop the unit immediately and then energize the crank case heater for a sufficient length of time before restarting the operation.
- Once stopping, the compressor will not restart in about 5 minutes even if the On/Off button of the remote controller is pushed.
- When the system operation is stopped by the remote controller, the outdoor units may continue operating for further 5 minutes at maximum.
- The outdoor unit fan may rotate at low speeds if the Night-time low noise setting or the External low noise level setting is made, but this is not a malfunction.

### 13.3 Checks after Test Run

**Perform the following checks after the test run is complete.**

- Record the contents of field setting.
  - Record them on the accessory “REQUEST FOR THE INDICATION” label.
  - And attach the label on the back side of the front panel.
- Record the installation date.
  - Record the installation date on the accessory “REQUEST FOR THE INDICATION” label in accordance with the IEC60335-2-40.

#### Note

And attach the label on the back side of the front panel.

After the test run, when handing the unit over to the customer, make sure the EL.COMPO.BOX lid, the inspection door, and the unit casing are all attached.

# 14. Caution for Refrigerant Leaks

(Points to note in connection with refrigerant leaks)

## Introduction

**The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.**

The VRV System, like other air conditioning systems, uses R-410A as refrigerant. R-410A itself is an entirely safe non-toxic, non-combustible refrigerant. Nevertheless care must be taken to ensure that air conditioning facilities are installed in a room which is sufficiently large. This assures that the maximum concentration level of refrigerant gas is not exceeded, in the unlikely event of major leak in the system and this in accordance to the local applicable regulations and standards.

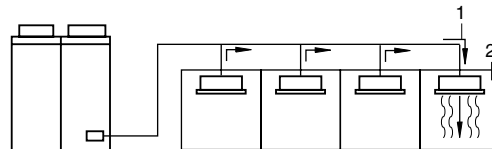
## Maximum concentration level

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is  $\text{kg/m}^3$  (the weight in kg of the refrigerant gas in  $1\text{m}^3$  volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.

In Australia the maximum allowed concentration level of refrigerant to a humanly space is limited to  $0.35\text{kg/m}^3$  for R-407C and  $0.44\text{kg/m}^3$  for R-410A.



1. direction of the refrigerant flow
2. room where refrigerant leak has occurred (outflow of all the refrigerant from the system)

**Pay a special attention to the place, such as a basement, etc. where refrigerant can stay, since refrigerant is heavier than air.**

## Procedure for checking maximum concentration

Check the maximum concentration level in accordance with steps 1 to 4 below and take whatever action is necessary to comply.

1. Calculate the amount of refrigerant (kg) charged to each system separately.

amount of refrigerant in a single unit system (amount of refrigerant with which the system is charged before leaving the factory)	+	additional charging amount (amount of refrigerant added locally in accordance with the length or diameter of the refrigerant piping)	=	total amount of refrigerant (kg) in the system
-----------------------------------------------------------------------------------------------------------------------------------	---	--------------------------------------------------------------------------------------------------------------------------------------	---	------------------------------------------------

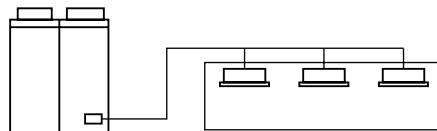
## Note

- Where a single refrigerant facility is divided into 2 entirely independent refrigerant systems then use the amount of refrigerant with which each separate system is charged.

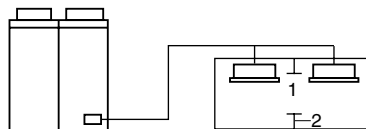
2. Calculate the smallest room volume ( $\text{m}^3$ )

In case like the following, calculate the volume of (A), (B) as a single room or as the smallest room.

**A.** Where there are no smaller room divisions



**B.** Where there is a room division but there is an opening between the rooms sufficiently large to permit a free flow of air back and forth.



1. opening between rooms
2. partition

(Where there is an opening without a door or where there are openings above and below the door which are each equivalent in size to 0.15% or more of the floor area.)

3. Calculating the refrigerant density using the results of the calculations in steps 1 and 2 above.

$$\frac{\text{total volume of refrigerant in the refrigerant system}}{\text{size (m}^3\text{) of smallest room in which there is an indoor unit installed}} \leq \text{maximum concentration level (kg/m}^3\text{)}$$

If the result of the above calculation exceeds the maximum concentration level then make similar calculations for the second then third smallest room and so until the result falls short of the maximum concentration.

4. Dealing with the situations where the result exceeds the maximum concentration level.

Where the installation of a facility results in a concentration in excess of the maximum concentration level then it will be necessary to revise the system. Please consult your Daikin supplier.

## 15. External Static Pressure Setting

### How to set the unit to high ESP.

- (1) Standard external static pressure for VRVIII is 3mm H<sub>2</sub>O (29.4Pa).
- (2) High external static pressure of 8mm H<sub>2</sub>O (78.4Pa) is available by field setting as shown below.

**In this case a kind of sound proof device should be considered because of increasing the operation sound.**

Set the unit along the operation name plate attached to the face of the switch box.

**Service Precautions** (Touch the noncoating metal part (Ex. standard type: the EL, COMPO, BOX cover, anti-corrosion treatment types: the fixing bolt of EL, COMPO, BOX) to eliminate static electricity before performing service.)

#### Field setting

If required, carry out the field setting according to the following instructions. For details, see the service manual.

##### 1. How to operate

- The DIP switch must be operated before shutting the EL, COMPO, BOX cover, which the power supply must be shut off.
- For operating the push button switch, open the inspection door as shown in the right figure with the power supply turned on, and use a resin ballpoint or non-conducting object. After the work is finished, make sure to shut the inspection door.

##### 2. Setting by the DIP switch

Setting item

No.	Setting content	Set point
DS1-1	Setting of COOL/HEAT changeover.	ON OFF(Factory set)
DS1-2~4	These are not used.	
DS2-1~4	Do not change the factory setting(OFF).	

##### Function and method of COOL/HEAT changeover

###### 〔Function〕

This setting should be carried out only when the changeover of operation mode(COOL/HEAT) is set by the COOL/HEAT selector (optional accessory) installed in the outdoor unit.

###### 〔Method〕

Connect the COOL/HEAT selector to the terminal A, B, C on the PC board (A5P) of the outdoor unit. (connect the terminals with polarity and match the same symbol.) and change the DS1-1 to ON.

##### 3. Setting by the push button switch (BS1-5)

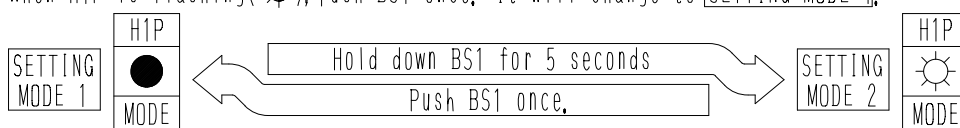
Function of the push button switch (on the PC board of the outdoor unit (A1P))

TEST:		C/H SELECTOR						LED display: ...Light OFF ...Light ON ...Flashing	
H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P		
MODE	HWL:	IND	MASTER	SLAVE	L, N, Q, P	DEMAND	MULTI		
MODE: BS1	SET: BS2	RETURN: BS3	TEST: BS4	RESET: BS5					





• The LED display on the left shows the factory setting of the single outdoor system.  
 • If you get confused in the setting process, push the MODE button (BS1). Then it will return to initial state (SETTING MODE 1).  
 For resetting the address when the wiring is changed or an additional indoor unit is installed  
 For check operation  
 For changing the field setting  
 For changing the setting mode

##### Changing the setting mode

The setting mode can be changed by the MODE button (BS1) according to the following procedure. When H1P is flashing() , push BS1 once. It will change to [SETTING MODE 1].





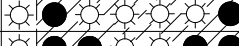
















## SETTING MODE 1(H1P is light OFF): Cool/Heat selection setting








Setting procedure	Details of setting	LED display and its points  H1P H2P H3P H4P H5P H6P H7P
Push the SET button (BS2) and adjust the LED display to either of those shown on the right.	When setting Cool/Heat selection for each outdoor system individually, (Factory setting)	
	For the master unit, when setting Cool/Heat selection for multiple system together(*1)	
	For the slave unit, when setting Cool/Heat selection for multiple system together(*1)	
Push the RETURN button (BS3), (The setting is defined.)		Flashing → Light ON

## SETTING MODE 2 (H1P is light ON)

Setting of the following items ① to ⑧ can be carried out.  
(See the service manual for setting other than the below.)

Setting procedure	Details of setting • set point	LED display and its points  H1P H2P H3P H4P H5P H6P H7P
① Push the SET button (BS2) and adjust the LED display to the example shown on the right according to the required mode(① ~ ⑧).	① Check operation (Without initial refrigerant decision)	
	② Additional refrigerant charging operation setting	
	③ Refrigerant recovery operation/Evacuation mode setting	
	④ Night-time low noise setting	
	⑤ External low noise level setting(*1)	
	⑥ Demand level setting(*1)	
	⑦ External low noise demand setting(*1)	
	⑧ High static pressure setting	
② Push the RETURN button (BS3), (The present setting will be indicated.)		Either of ③
③ Push the SET button (BS2) and adjust the LED display to the example shown on the right according to the required mode. *2 For ① and ⑤, lower noise operation can be carried out by "level 2" than by "level 1", and by "level 3" than by "level 2". For ⑥, more power consumption can be saved by "level 2" than by "level 3", and by "level 1" than by "level 2". For details, see the service manual.	For ①, ②, ON	
	③, ⑦, ⑧ OFF(Factory set)	
	For ④ (*2) OFF(Factory set)	
	Level 1	
	Level 2	
	Level 3	
	For ⑤ and ⑥ (*2) Level 1	
	Level 2(Factory set)	
	Level 3	
④ Push the RETURN button (BS3) (The setting in ③ is defined.)		Flashing → Light ON
⑤ Push the RETURN button (BS3) again, (The system start the operation according to the setting.)		

## Confirmation of setting The following items can be confirmed by the SETTING MODE 1

Confirming items	Details for LED display	LED display and its points  H1P H2P H3P H4P H5P H6P H7P
The present operating state	●:Normal ☉:Malfunction ☼:Under preparation or under check operation	
Cool/Heat selection setting	When setting Cool/Heat selection for each outdoor system individually, (Factory setting)	
	For the master unit, when setting Cool/Heat selection for multiple system together,	
	For the slave unit, when setting Cool/Heat selection for multiple system together,	
Low noise level setting state	●:Under normal operation (Factory setting) ☼:Under low noise operation	
Demand setting state	●:Under normal operation (Factory setting) ☼:Under demand operation	

C: 2P175033D

### Caution for the inspection door

Shut the inspection door after service is finished.  
(Otherwise, it may cause malfunction by such as intrusion of water or foreign materials.)

### Caution when performing service inside the EL, COMPO. BOX

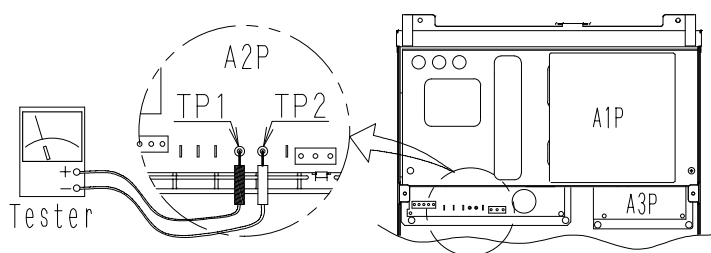


## WARNING



## Caution to ELECTRIC SHOCK

1. Do not open the EL, COMPO. BOX cover for 10 minutes after the power supply is turned off.
2. Measure the voltage between terminals on the terminal block for power supply with a tester and confirm that the power supply is shut off.  
In addition, measure the points shown below with a tester and confirm that the voltage of the capacitor in the main circuit is less than DC50V.
3. To prevent a damage of the PC board, touch the noncoating metal part and make sure to eliminate static electricity before pulling out or plugging in the connector.
4. The Work must be started after pulling out the junction connector X1A, X2A, X3A, X4A(X3A and X4A is for Q12~18type only) for the fan motor in the outdoor unit and be careful not to touch the live parts.  
(If the fan rotates by strong wind, it may cause storage of electricity)  
(in the capacitor in the main circuit and electric shock.)
5. After the service is finished, plug in the junction connector.  
(Otherwise, Error code「E7」will be displayed in the remote controller, and normal operation will not be performed.  
(For details, see the "Wiring Diagram" labeled on the back of the EL, COMPO, BOX. lid.)




### Caution for Multi connecting system (Except RZYQ type)

All the settings must be made by the master unit. Setting by the slave unit is not effective.

#### 【How to identify master or slave】

- The master unit is the outdoor unit connected to the transmission wiring to the indoor units, and the others are the slave units.
- The system status can be checked on LED display on the PC board (A1P) of the outdoor unit as shown on the right table.

	LED display and its points 							
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Master	●	●	●	●	●	●	●	●
Slave 1	●	●	●	●	●	●	●	●
Slave 2	●	●	●	●	●	●	●	●

### Caution for piping work and additional refrigerant charge

This unit uses R410A as a refrigerant, so keep the following points.

- Use the charging hose and gauge manifold designed exclusive use R410A in order to withstand the pressure and prevent impurities (such as SUNISO oil) from mixing into.
- Carry out a nitrogen blow when brazing.
- Perform the air tightness and the vacuum drying certainly. (The air tightness test pressure: 4.0 MPa)
- Charge the additional refrigerant in liquid state.

2P175033D

Service mode operation method	<ul style="list-style-type: none"> <li>• After turning on the power supply, the unit cannot start until the LED H2P goes off (for maximum 12 minutes).</li> <li>• Do not shut off the power and do not reset the SETTING MODE 2 when evacuating or recovering the refrigerant. (The expansion valves will close and the system can not be evacuated or recovered the refrigerant.)</li> </ul>
<p>[Evacuation method] (This evacuation is required only when performing after service.)</p> <ol style="list-style-type: none"> <li>① When the unit is at standstill and under the SETTING MODE 2, set the ㉔ Refrigerant recovery /Evacuation mode to on. The expansion valves in the indoor and outdoor units will be opened completely. H1P will light up, and "Test operation" and "Under centralized control" will be displayed in the remote controller. The operation will be rejected.</li> <li>② Evacuate the system with a vacuum pump.</li> <li>③ After completed, push the MODE button (BS1) and reset the SETTING MODE 2.</li> </ol>	

[Refrigerant recovery operation method] (Make sure to use a refrigerant reclaimer).

- ① When the unit is at standstill and under the SETTING MODE 2, set the ③ Refrigerant recovery / Evacuate mode to ON. The expansion valves in the indoor and outdoor units will be opened completely. H1P will light up and "Test operation" and "Under centralized control" will be displayed in the remote controller. The operation will be rejected.
- ② Recover the refrigerant by a refrigerant reclaimer.
- ③ After completed, push the mode button (BS1) and reset the SETTING MODE 2.

Display in the remote controller	The work contents	
PA, PH, PC (Replace Cylinder)	Close the valve A and replace empty cylinder to the new cylinder. After then open the valve A again. (The outdoor unit do not stop the operation.) The display shows the outdoor unit that the cylinder is empty as follows. PA---Master unit / PH---Sub unit 1 / PC---Sub unit 2 / Flashing PA, PH and(or) PC---All flashing unit.	
P8 (Recharge Operation)	Push the MODE button(BS1) once. And operate the automatic refrigerant charge from the procedure 1 again.	
P2 (Charge Hold)	<p>The operation was hold due to abnormal system. Check the below items.</p> <ul style="list-style-type: none"> <li>• Check if the gas-side shutoff valve is opened completely.</li> <li>• Check if the valve of the refrigerant cylinder and the valve A are opened.</li> <li>• Check if the air inlet and outlet of the indoor unit are not closed by an obstruction.</li> <li>• Check if the indoor temp. is not under 20°CDB.</li> </ul>	<p>After correcting the abnormality, push the MODE button (BS1) and restart the automatic refrigerant charge from procedure 1 again.</p>
* (Abnormal Stop)	Confirm the malfunction code by the remote controller, and correct the abnormality by following the "Remote controller displays malfunction code" of "13-2 Check operation" in the installation manual.	



Take care to rotating fan in case of Recharge Operation, Charge Hold and Abnormal Stop. The fan may stay rotating for some time though the outdoor unit stops the operation.

Additional refrigerant charging method	
<p>① Shut off the power supply. After the refrigerant is charged, turn on the power for the indoor units and the outdoor unit.</p> <p>② Open the gas-side shutoff valve completely. Close the liquid-side shutoff valve completely. (If the liquid-side shutoff valve is opened, the refrigerant cannot be charged.)</p> <p>③ While the unit is at standstill, and under the SETTING MODE 2(H2P: Light ON), set the ③ additional refrigerant charging operation to ON. (Then, the operation will start automatically, H2P will flash and "Test operation" and "Under centralized control" will be displayed in the remote controller.)</p> <p>④ Once the required amount of refrigerant is charged, push the RETURN button (BS3), and stop the operation. (The operation will stop automatically within 30 minutes. If it cannot be finished charge, restart the operation. If the operation stops immediately after restart, it may be over-charged. In this case, stop charging refrigerant and check the added amount again.)</p> <p>⑤ Remove the charge hose and, make sure to open the liquid side shutoff valve immediately. (Otherwise, the piping may be damaged due to liquid seal.)</p>	<p>If all refrigerant cannot be charged when the outdoor unit is at standstill, charge the additional refrigerant by this operation. Otherwise, it may cause malfunction.</p>

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## Check operation method

Make sure to open the gas-side and liquid-side shutoff valve before starting operation.

- The following items are checked automatically by the check operation.
  - Check of miswiring
  - Check of the shutoff valve opening
  - Check of refrigerant overcharge
  - Automatic judgment of piping length
  - Check of refrigerant initial state(※1)
- Make sure to carry out the check operation after the first installation. Otherwise, the malfunction code "U3" will be displayed in the remote controller and normal operation cannot be carried out. When the check operation is finished normally, normal operation can be carried out after 5 minutes.
- For Multi system, check the setting and result on the master unit.  
(See **["Caution for Multi connecting system"]** )
- The abnormality of each indoor unit cannot be checked. After the check operation is finished, check the indoor units individually by normal operation using the remote controller.

### 【 Operation procedure 】

- ① To protect the compressor, make sure to turn on the power supply for 6 hours before stating operation.  
(After turning on the power supply, the unit cannot start the operation until the H2P LED goes off.)  
(maximum 12 minutes)
- ② Push the MODE button(BS1) once, and set to the SETTING MODE 1(H1P: light OFF)
- ③ Push the TEST button(BS4) for 5 seconds or more. Then the unit will start the check operation.
  - The check operation is automatically carried out in a cooling mode. H2P will flash up and "Test operation" and "Under centralized control" will be displayed in the remote controller.
  - It may take 10 minutes to bring the state of refrigerant uniform before the compressor starts.
  - During the check operation, the refrigerant running sound or the magnetic sound of a solenoid valve may become loud during operation. And the LED display may change, but these are not malfunctions.
  - During the check operation, it is impossible to stop the unit from the remote controller. When discontinue the operation, push the RETURN button (BS3). The system will stop after behind operation for 30 seconds.
- ④ Close the front panel. (Otherwise, it may cause a misjudgment.) It will stop automatically after operating about 3 hours(※1).
- ⑤ Check the operation results by the outdoor unit LED display. (See the table shown below.)

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Normal finish	●	●	☀	●	●	●	●
Abnormal finish	●	☀	☀	●	●	●	●

- (※1) • The check of refrigerant state will operate automatically only when the system is additionally charged by the automatic refrigerant charging operation. If the check of refrigerant state is not operated, the refrigerant leakage detecting function cannot be used when performing the service.
- It takes about 3 hours (If outdoor temp. is low, about 4 hours) to check the refrigerant initial state. Perform the check operation by "A Check operation(Without initial refrigerant decition)" of the service mode, even if the additional refrigerant was charged by the automatic charging operation, when reducing the time of the check operation without using the refrigerant leakage detecting function in the service.
  - In the case of the below, the system cannot operate the check of refrigerant initial state, even if the additional refrigerant was charged by the automatic charging operation.

■ Out of the operation range(Outdoor :less than 0℃DB, more than 43℃DB/Indoor :less than 20℃DB, more than 32℃DB)

■ Forced OFF during check operation

In this case, after performing the check operation, normal operation is possible although abnormal code "U3" is displayed in the indoor remote controller.

However, the refrigerant leakage detecting function cannot be operated. If it is required, perform the check operation again, and finish the initial refrigerant amount judgment.

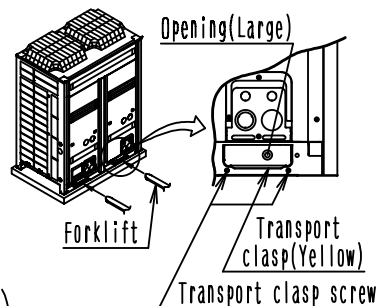
### 【 Measure for abnormal finish 】

- ① Confirm the malfunction code by the remote controller, and correct the abnormality.  
(For how to correct the abnormality, see the installation manual.)
- ② After correcting the abnormality, push the RETURN button (BS3) and reset the malfunction code.
- ③ Carry out the check operation again and confirm that the abnormality is properly corrected.

2P175034E

**To Installers**1. When carrying the unit

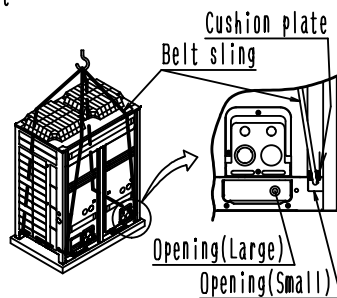
- If a forklift is used for carrying the unit, put the forklift arms into the large openings on the bottom of the unit.
- ✳ In order not to damage the coating of the bottom frame, put rags on the forklift arms. (Otherwise rustproofing effect will be lost.)



- After installation, remove the transport clasps attached to the large openings.

2. When lifting the unit

- Put the belt slings into the small openings. (For 5HP unit, into the large openings)
- Lift the unit with 2 belts of the at least 8m long.
- Put cushioning plates or rags where the slings contact the casing.

3. Electrical work

- To prevent electric shock and fire accident, be sure to perform grounding and install an earth leak breaker.
- Electrical work must be carried out by a licensed electrician in accordance with local and national regulations.

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**To Service Person****⚠ WARNING ⚠ Caution to electric shock**

- Beware the fan running when inspect.
- Do not touch the charged parts when inspect.

Check the system status on LED(H2P) on the PC board(A1P) from inspection door on the EL, COMPO, BOX cover.

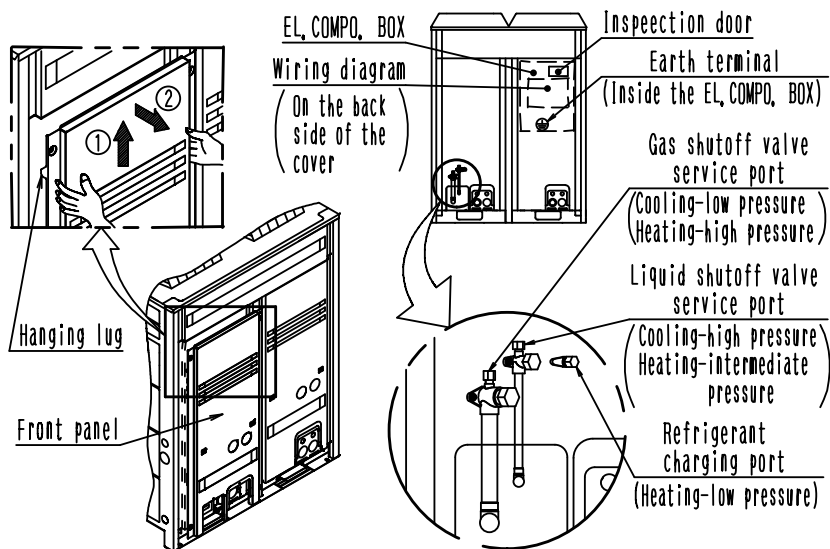
LED display shows;

TURNING OFF...Normal TURNING ON...Abnormal FLASHING...Under preparation

(For multi system, check the PC board of the master unit.  
(The master unit is the outdoor unit connected to the transmission wiring to the indoor units.

**To All handlers**

- For removing the front panel, lift the panel a little(①), and pull the panel towards you(②).
- For the location of the EL, COMPO, BOX and the service port, see as shown below on the right.



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# Part 7

## Control

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# 1. Option List of Controllers

## Operation Control System Optional Accessories

No.	Type			FXCQ-M	FXFQ-M	FXKQ-MA	FXDQ-P FXDQ-N(A)	FXUQ-MA	FXSQ-M	FXMQ-MA	FXHQ-MA	FXAQ-MA	FXLQ-MA FXNQ-MA
1	Remote controller	Wireless	C/O	BRC7C67	BRC7E65	BRC4C63	BRC4C64	BRC7C529W	BRC4C64		BRC7E66	BRC7E619	BRC4C64
		Wired		BRC1C62									
2	Wired remote controller with weekly schedule timer			BRC1D61									
3	Simplified remote controller			—			Note 8 BRC2C51	—	Note 8 BRC2C51		—		Note 8 BRC2C51
4	Remote controller for hotel use			—			BRC3A61	—	BRC3A61		—		BRC3A61
5	Adaptor for wiring			* KRP1B61	* KRP1B59	KRP1B61	* KRP1B56	—	KRP1B61		KRP1C3	—	KRP1B61
6-1	Wiring adaptor for electrical appendices (1)			* KRP2A61	* KRP2A62	KRP2A61	* KRP2A53	* KRP2A62	KRP2A61		* KRP2A62	* KRP2A61	KRP2A61
6-2	Wiring adaptor for electrical appendices (2)			* KRP4A51	* KRP4A53	KRP4A51	* KRP4A54	* KRP4A53	KRP4A51		* KRP4A52	* KRP4A51	KRP4A51
7	Remote sensor			KRCS01-1	—		KRCS01-1						
8	Installation box for adaptor PC board			Note 2, 3 KRP1B96	Note 2, 3 KRP1D98	—	Note 4, 6 KRP1B101	KRP1B97	Note 5 KRP4A91	—	Note 3 KRP1C93	Note 2, 3 KRP4A93	—
9	Central remote controller			DCS302CA61									
9-1	Electrical box with earth terminal (3 blocks)			KJB311A									
10	Unified ON/OFF controller			DCS301BA61									
10-1	Electrical box with earth terminal (2 blocks)			KJB212A									
10-2	Noise filter (for electromagnetic interface use only)			KEK26-1									
11	Schedule timer			DST301BA61									
12	External control adaptor for outdoor unit (Must be installed on indoor units)			* DTA104A61	* DTA104A62	DTA104A61	* DTA104A53	—	DTA104A61		* DTA104A62	* DTA104A61	DTA104A61
13	Interface adaptor for SkyAir-series			—	—	—	—	Note 7 DTA102A52	—	—	—	—	—

### Note:

1. Installation box (No.8) is necessary for each adaptor marked \*.
2. Up to 2 adaptors can be fixed for each installation box.
3. Only one installation box can be installed for each indoor unit.
4. Up to 2 installation boxes can be installed for each indoor unit.
5. Installation box (No. 8) is necessary for second adaptor.
6. Installation box (No. 8) is necessary for each adaptor.
7. This adaptor is required when connecting with optional controller for centralized control.
8. BRC2A51 is also available.

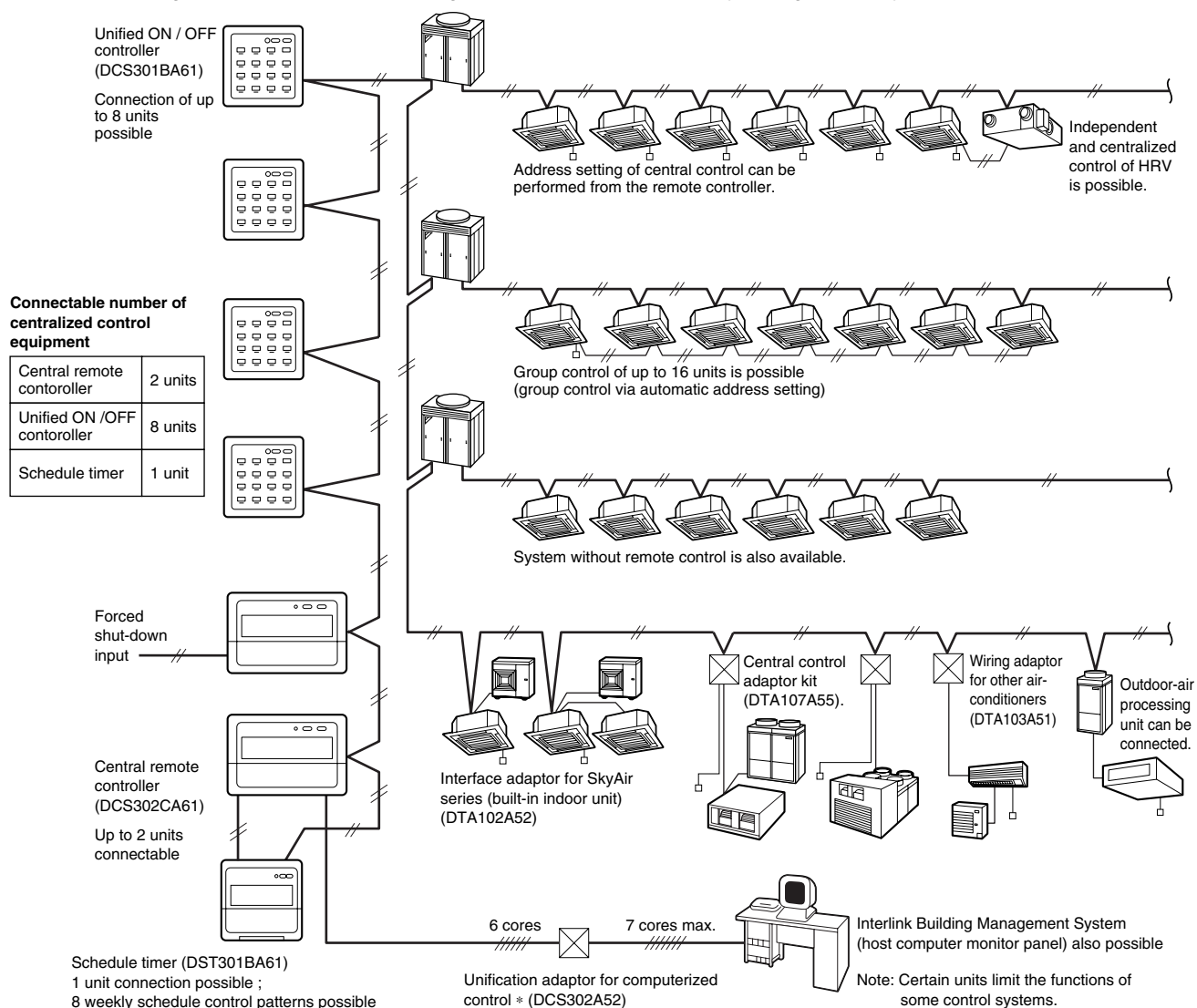
### Various PC Boards

No.	Part name	Model No.	Function
1	Adaptor for wiring	KRP1B56 KRP1B57 KRP1B59 KRP1B61 KRP1C3	■ PC board when equipped with auxiliary electric heater in the indoor unit.
2	DIII-NET Expander Adaptor	DTA109A51	■ Up to 1,024 units can be centrally controlled in 64 different groups. ■ Wiring restrictions (max. length: 1,000 m, total wiring length: 2,000 m, max. number of branches: 16) apply to each adaptor.

## 2. DAIKIN Building Air Conditioning Control System (D-BACS)

### 2.1 System Configuration (Central Remote Controller)

- Up to 64 groups of indoor units (128 units) can be centrally controlled.
- Optional controllers for centralized control can be combined freely, and system can be designed in accordance with building scale and purpose.
- System integration with various air-conditioning peripheral equipment such as HRV (Heat Reclaim Ventilation) is easy.
- Wiring can be run up to a total length of 2 km, and adapts easily to large-scale system expansion.



No.	Part Name	Model No.	Function
1	Central Remote Controller	DCS302CA61	Up to 64 groups of indoor units (128 units) can be connected, and on/off, temperature setting and monitoring can be accomplished individually or simultaneously. Connectable up to 2 sets into one system.
2	Unified ON/OFF Controller	DCS301BA61	Up to 16 groups of indoor units (128 units) can be turned, on/off individually or simultaneously, and operation and malfunction can be displayed. Can be used in combination with up to 8 controllers.
3	Schedule Timer	DST301BA61	Programmed time weekly schedule can be controlled by unified control for up to 64 groups of indoor units (128 units). Can turn units on/off twice per day.
4	Unification Adaptor for Computerized Control	* DCS302A52	Used to combine host computer monitor panel and central remote controller (on/off, display).
5	Interface Adaptor for SkyAir Series	* DTA102A52	Used to connect SkyAir series with optional controllers for centralized control.
6	Wiring Adaptor for Other Air-Conditioner	* DTA103A51	Used to connect with other air-conditioners other than VRV system or SkyAir series with optional controllers for centralized control.

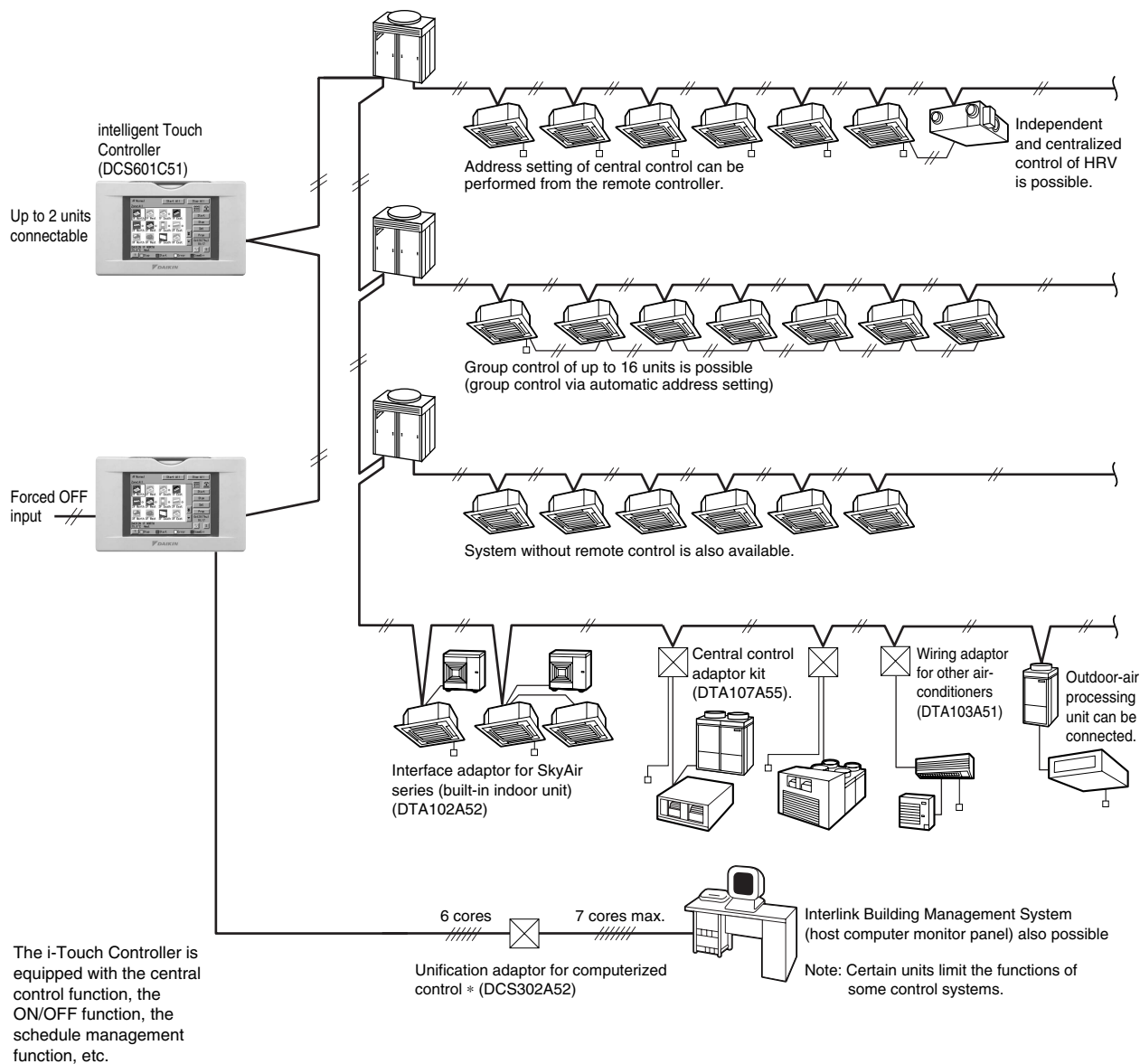
**Note:**

Installation box for \* adaptor must be procured on site.

## 2.2 System Configuration (intelligent Touch Controller)

- This controller is a central remote controller offering higher functions than those of the previous central remote controller DCS302CA61, and easier operation.

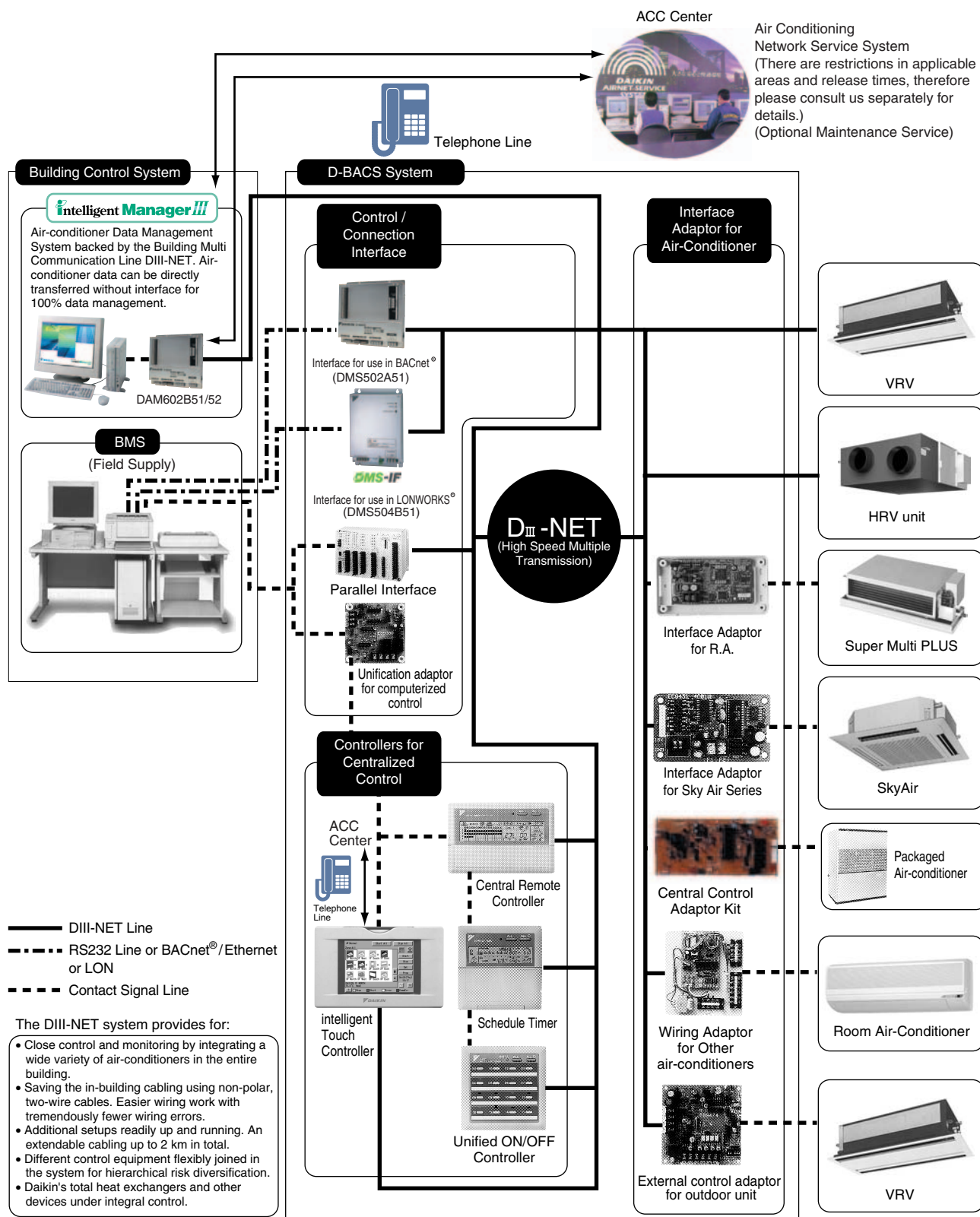
Up to 64 groups of indoor units may be connected to 1 unit of this controller.



No.	Part Name	Model No.	Function
1	intelligent Touch Controller	DCS601C51	Up to 64 groups of indoor units (128 units) can be connected, and on/off, temperature setting and monitoring can be accomplished individually or simultaneously. Connectable up to 2 sets into one system.

## 2.3 System Configuration

**By combining the various control equipment flexibly, you can construct the sophisticated central control system to meet any size and design of the building.**



### Caution

Control functions may be different from model to model.

For trouble-free control systems, it is advisable to discuss your projects at hand. Please contact us at your planning stage.

(V2299)

## System Configuration

No.	Part name	Model No.	Function
1	Central remote controller	DCS302CA61	■ Up to 64 groups of indoor units (128 units) can be connected, and ON/OFF, temperature setting and monitoring can be accomplished individually or simultaneously. Connectable up to "2" controllers in one system.
2	Unified ON/OFF controller	DCS301BA61	■ Up to 16 groups of indoor units (128 units) can be turned, ON/OFF individually or simultaneously, and operation and malfunction can be displayed. Can be used in combination with up to 8 controllers.
3	Schedule timer	DST301BA61	■ Programmed time weekly schedule can be controlled by unified control for up to 64 groups of indoor units (128 units). Can turn units ON/OFF twice per day.
4	Unification adaptor for computerized control	*DCS302A52	■ Interface between the central monitoring board and central control units
5	Interface adaptor for SkyAir-series	*DTA102A52	■ Adaptors required to connect products other than those of the VRV System to the high-speed DIII-NET communication system adopted for the VRV System. ■ To use any of the above optional controllers, an appropriate adaptor must be installed on the product unit to be controlled.
6	Central control adaptor kit	*DTA107A55	
7	Wiring adaptor for other air-conditioner	*DTA103A51	
8	DIII-NET Expander adaptor	DTA109A51	■ Up to 1,024 units can be centrally controlled in 64 different groups. ■ Wiring restrictions (max. length : 1,000m, total wiring length : 2,000m, max. number of branches : 16) apply to each adaptor.
9	Mounting plate	KRP4A92	■ Fixing plate for DTA109A51

### Note:

Installation box for \* adaptor must be procured on site.

## Building Management System

No.	Part name				Model No.	Function
1	intelligent Touch Controller	basic	Hardware	intelligent Touch Controller	DCS601C51	• Air-Conditioning management system that can be controlled by a compact all-in-one unit.
1-1		Option	Hardware	DIII-NET plus adaptor	DCS601A52	• Additional 64 groups (10 outdoor units) is possible.
1-2			Software	P.P.D.	DCS002C51	• P.P.D.: Power Proportional Distribution function
1-3				Web	DCS004A51	• Monitors and controls the air conditioning system using the Internet and Web browser application on a PC.
1-4	Electrical box with earth terminal (4blocks)				KJB411A	• Wall embedded switch box.
2	intelligent Manager III		Number of units to be connected	128 units	DAM602B52	Air conditioner management system (featuring minimized engineering) that can be controlled by personal computers.
				256 units	DAM602B51	
				512 units	DAM602B51x2	
				768 units	DAM602B51x3	
				1024 units	DAM602B51x4	
2-1	intelligent Manger III	Option	Software	P.P.D	DAM002A51	• P.P.D.: Power Proportional Distribution function.
				ECO.	DAM003A51	Software for energy-saving control.
2-2	Communication Line	Optional DIII Ai unit			DAM101A51	Analog input for "sliding temperature" function (to reduce cold shock) for intelligent Manager III.
3		*2 Interface for use in BACnet®			DMS502A51	Interface unit to allow communications between VRV and BMS. Operation and monitoring of air-conditioning systems through BACnet® communications.
3-1		Optional DIII board			DAM411A1	Expansion kit, installed on DMS502A51, to provide 3 more DIII-NET communication ports. Not usable independently.
3-2		Optional Di board			DAM412A1	Expansion kit, installed on DMS502A51, to provide 16 more wattmeter pulse input points. Not usable independently.
4		*3 Interface for use in LONWORKS®			DMS504B51	Interface unit to allow communications between VRV and BMS. Operation and monitoring of air-conditioning systems through LONWORKS® communication.
5	Contact/Analog signal	Parallel interface	Basic unit		DPF201A51	Enables ON/OFF command, operation and display of malfunction; can be used in combination with up to 4 units.
6			Temperature measurement units		DPF201A52	Enables temperature measurement output for 4 groups; 0-5VDC.
7			Temperature setting units		DPF201A53	Enables temperature setting input for 16 groups; 0-5VDC.
8		Unification adaptor for computerized control			DCS302A52	Interface between the central monitoring board and central control units
9-1		Wiring adaptor for electrical appendices (1)			KRP2A53, 61, 62	Simultaneously controls air-conditioning control computer and up to 64 groups of indoor units.
9-2		Wiring adaptor for electrical appendices (2)			KRP4A51-54	To control the group of indoor units collectively, which are connected by the transmission wiring of remote controller.
13		External control adaptor for outdoor unit (Must be installed on indoor units.)			DTA104A53, 61, 62	Cooling/Heating mode change over. Demand control and Low noise control are available between the plural outdoor units.

### Note:

\*1. PPD does not support Connection Unit Series.

\*2. BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

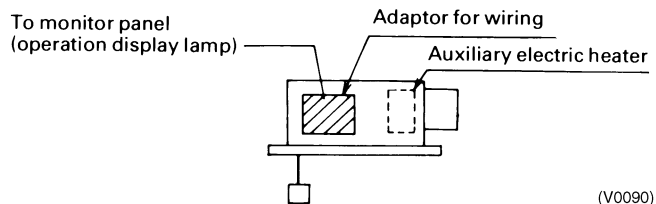
\*3. LONWORKS® is a registered trade mark of Echelon Corporation.

## 2.4 Various PC Boards

Besides the central control system and building control system of the previous page, you can enhance control function by mounting various PC boards on indoor and outdoor units.

### ■ Adaptor for Wiring

The model of adaptor for wiring depends on the type of indoor unit.

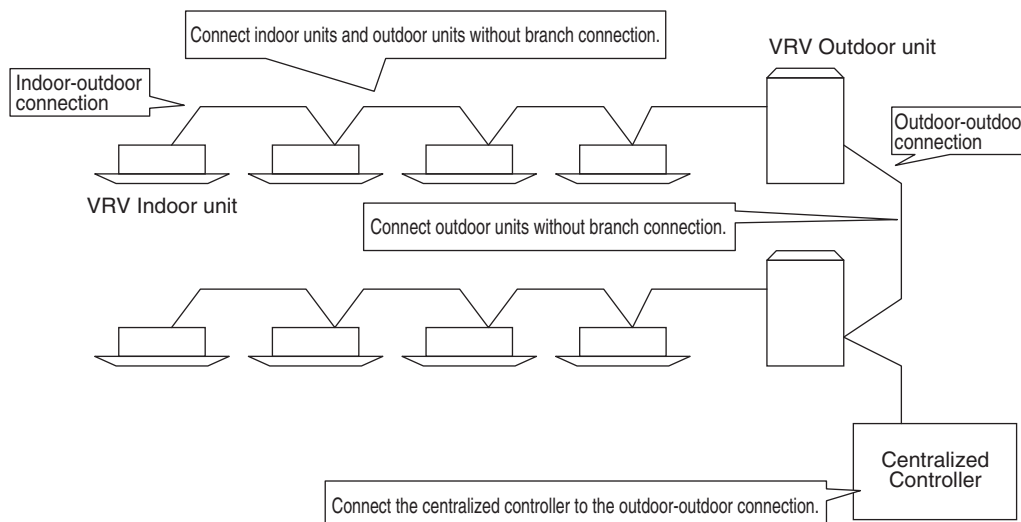


Part Name	Model No.	Function
Adaptor for Wiring	KRP1B56, 57, 59, 61 KRP1C3	PC board when equipped with auxiliary electric heater or humidifier in the indoor unit.

## 2.5 DIII Net Design Standard

### 2.5.1 Wiring Methods (You can Select from the Following 3 Types of Wiring.)

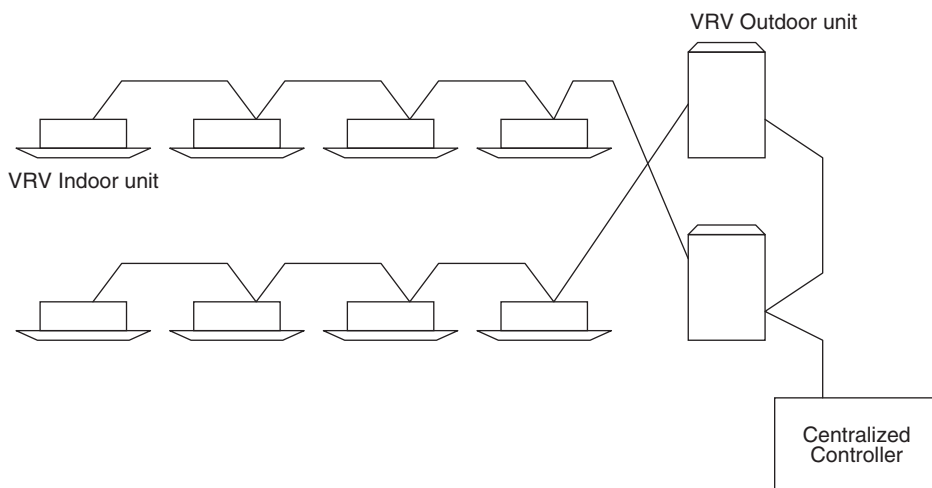
[Example 1]



#### Note

Be sure to have indoor-outdoor control wiring and that of refrigerant system coincide. Crossed wiring will cause malfunctioning.

[BAD Example]



### 2.5.2 Connection Method

- Connect VRV indoor units and outdoor units without branch connection. (indoor-outdoor connection)
- Connect VRV outdoor units without branch connection. (outdoor-outdoor connection)

### [Example 1]

- Here we define as branch line, which is diverged from the main line and also define as sub-branch line, which is diverged from the branch line.

- When the central remote controller are connected to the control wiring between the outdoor units.

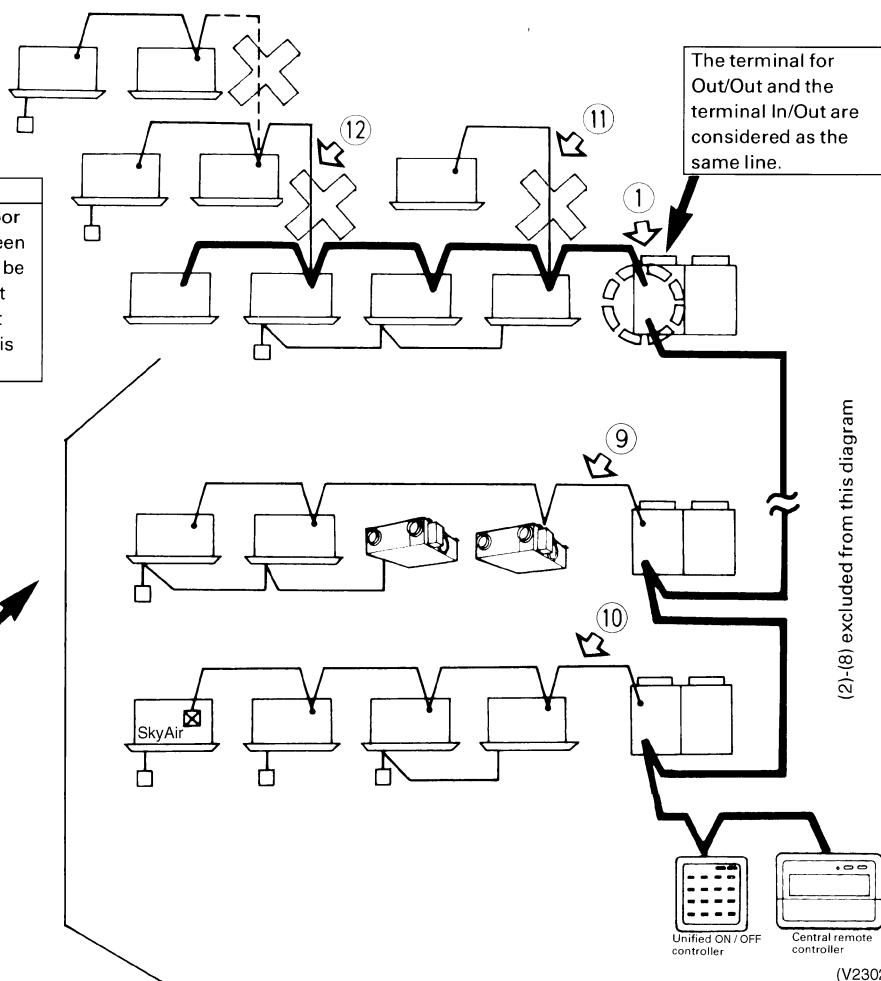
- line: Main line
- line: Branch line
- line: Sub-branch line
- ①~⑫ : Branch no.

#### How to count the branch wiring

The control wiring between outdoor units and the control wiring between indoor unit and outdoor unit shall be considered as main line (We count this as no.1 branch), and we count the branch line to no.②-⑫, which is diverged from the main line.

#### No sub-branch line

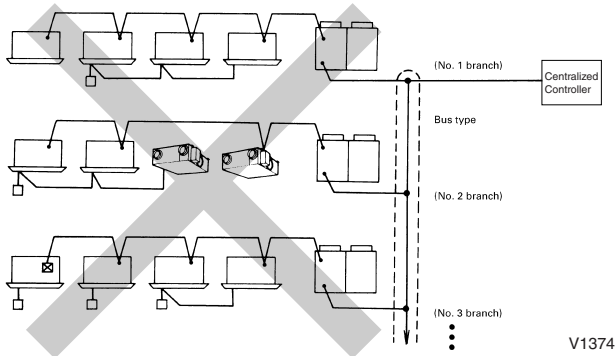
You cannot diverge the wiring from the branch line. Be sure to connect the unit by series wiring. (Never diverge the wiring from the branch line, which may causes the malfunction of the transmission.)  
The terminal for Out/Out and the terminal In/Out are considered as the same line.



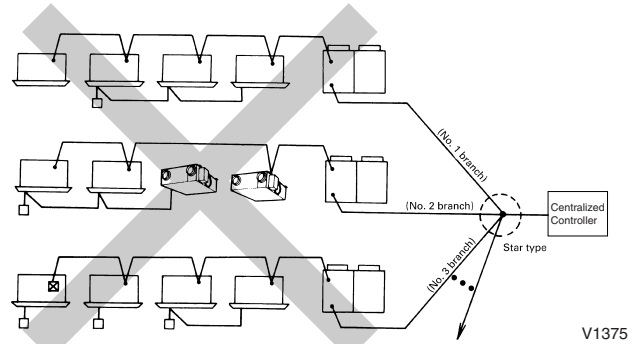
#### Caution

As shown above, the central remote controllers should be connected to the wiring between the outdoor units, wherever possible. (If connected to the control wiring between indoor unit and the outdoor unit, it may not be able to control the units even on the normal circuit if the circuit connected to the central controller is out of order.)

[Example 2]



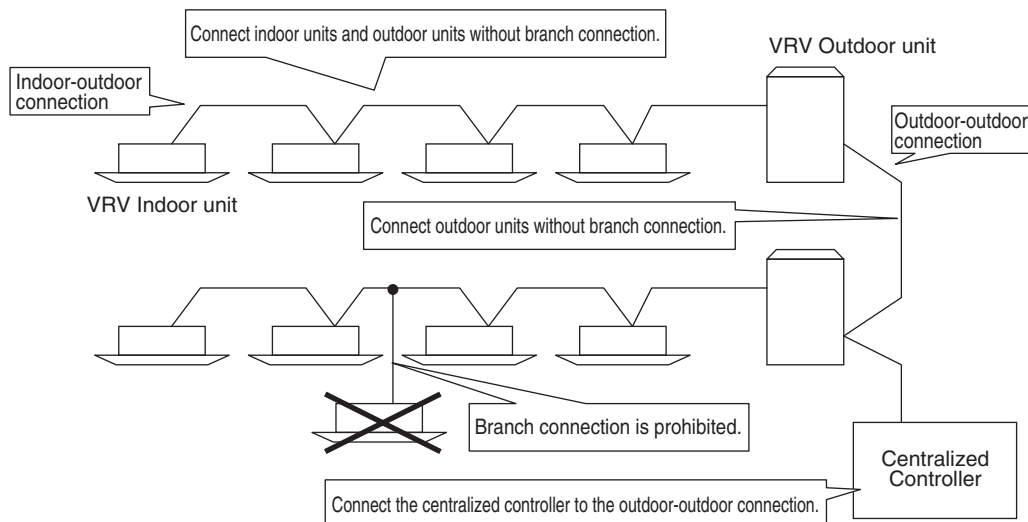
[Example 3]

**Caution**

[Reason]

Communication problems could occur.

[Example 4]

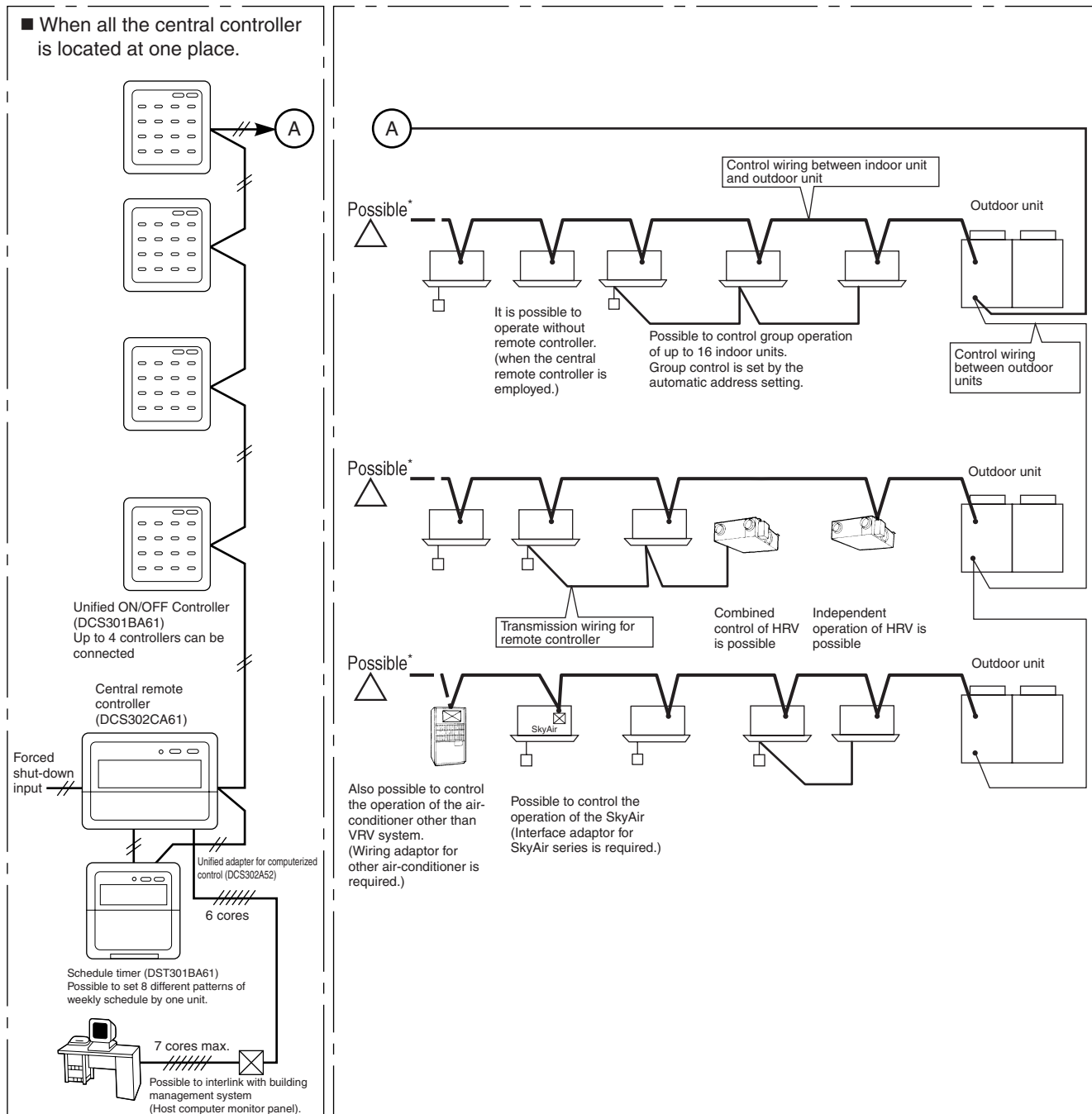


## 2.5.3 Wiring Example

### Example of Control Wiring

- Be sure to connect the wiring of the central controller to control wiring between outdoor units.
- When wiring connections are made between indoor and outdoor units, there may be cases where control over normal systems may become impossible if one of the connected systems should happen to fail.
- Be sure to prevent the connection of three wires on the same terminal.

<Pattern 1>



### The advantages when the central controller are connected to A.

- If the central controllers are connected to A, it is still possible to have a central control, even if the power supply of other circuit connected to the central controller is shut-off. (even if the power is shut off due to long vacation etc.)

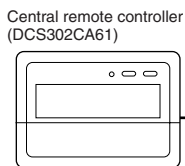
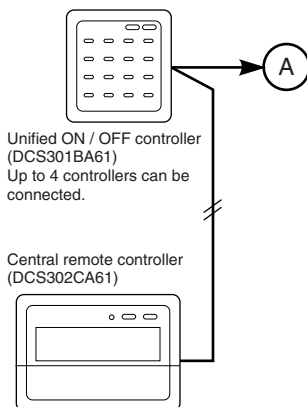
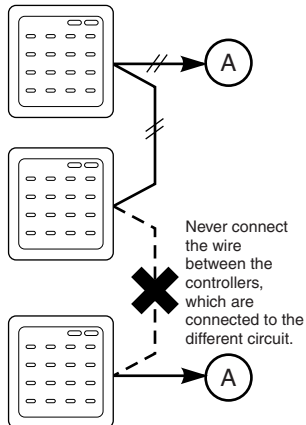


### Caution\*

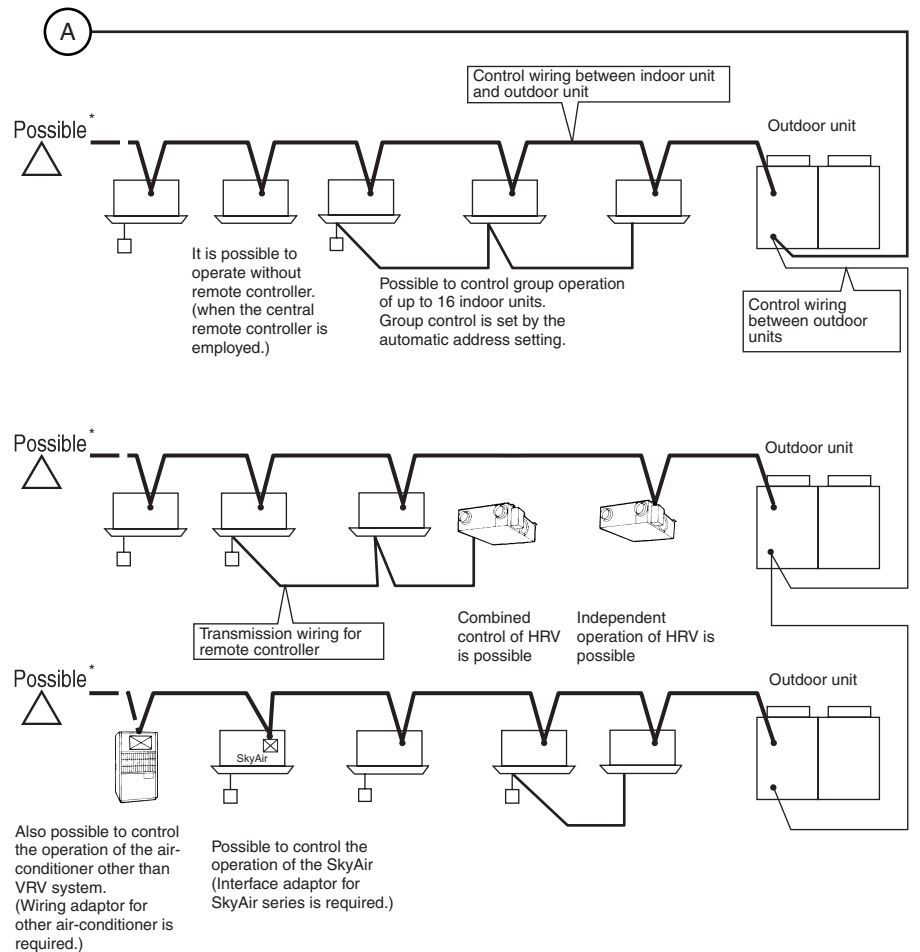
1. If connection is made to △ "Possible," and the connected system should happen to fail, control over even normal systems may become impossible.
2. A communication error may occur in the P.572 cases.

## &lt;Pattern 2&gt;

■ When the central controllers are located at several places.



The schedule timer, unified adapter for computerized control and etc. can be connected the same as in Pattern 1.



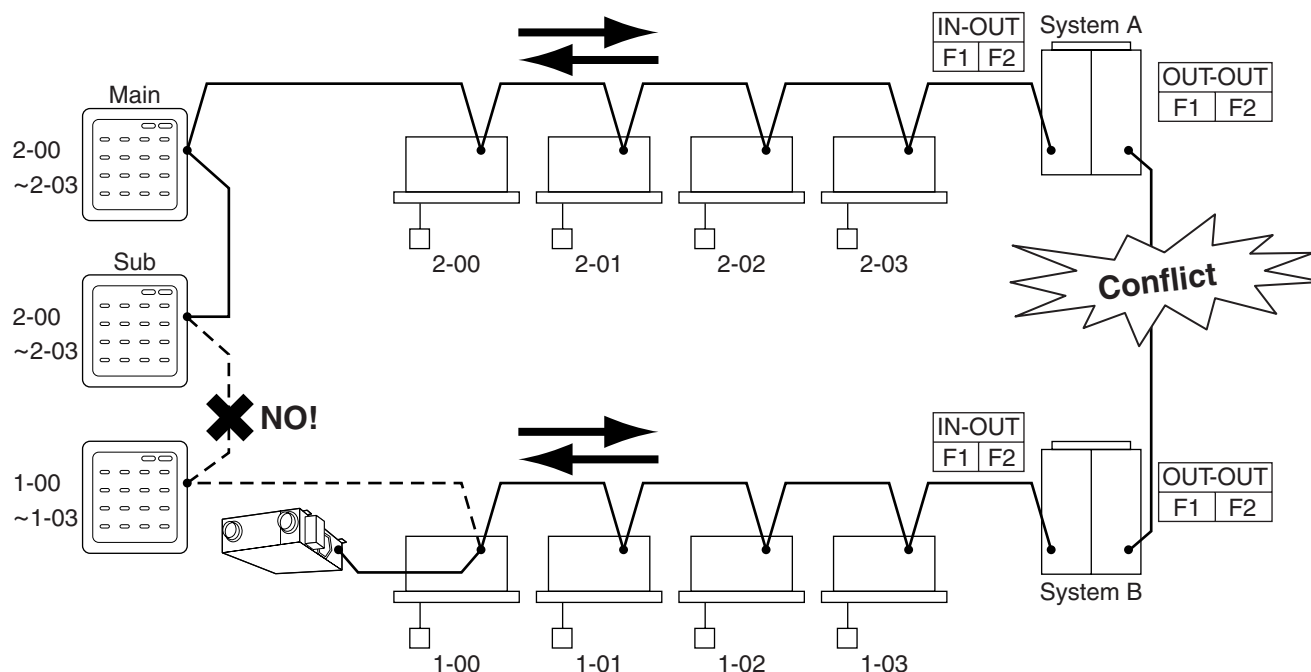
**The advantages when the central controller are connected to A.**

- If the central controllers are connected to A, it is still possible to have a central control, even if the power supply of other circuit connected to the central controller is shut-off. (even if the power is shut off due to long vacation etc.)



**Caution\***

1. If connection is made to △ "Possible," and the connected system should happen to fail, control over even normal systems may become impossible.
2. A communication error may occur in the following cases.



## 2.5.4 Number of Connectable Units

	Central Control Equipment	Indoor Unit	Outdoor Unit	Other Adaptors
Target Controller (Max. Number)	<ul style="list-style-type: none"> <li>Intelligent Manager III (1 unit)</li> <li>Intelligent Touch Controller (2 units) (Note 1)</li> <li>Central remote controller (2 units) (Note 1)</li> <li>Unified ON/OFF controller (8 units) (Note 1)</li> <li>Schedule timer (1 unit)</li> <li>Interface for use in BACnet® (1 unit)</li> <li>Interface for use in LonWORKS® (1 unit)</li> <li>Parallel interface (4 units)</li> </ul>	<ul style="list-style-type: none"> <li>VRV system</li> <li>SkyAir series (Interface adaptor for SkyAir is required.)</li> <li>HRV unit</li> <li>Packaged air-conditioner (FD, UAT, etc.) (Wiring adaptor for other air-conditioner is required.)</li> <li>Room air-conditioner (Wiring adaptor for other air-conditioner is required.)</li> <li>BS unit (Note 3)</li> <li>Wiring adaptor</li> </ul>	Outdoor unit for VRV system	<ul style="list-style-type: none"> <li>External control adaptor for outdoor unit</li> <li>Wiring adaptor for electrical appendices (1)</li> <li>Dio / Di unit</li> </ul>
Number of Units	(Note 2)	Up to 128 units (Note 5)	Up to 10 units (Note 4)	Up to 10 units

### Note:

- When you have a 2 central control system (to control one system from 2 central locations), 2 intelligent Touch Controllers, 4 central remote controllers and 16 unified ON/OFF controllers can be connected. However, a maximum of 128 units can only be controlled.
- When you connect 8 or more central control equipment, it is required to satisfy the following conditions. (The following conditions are not required to be considered when the number of controller is 7 or less.)

- Central control equipment + Indoor units + Outdoor units + other adaptors ≤ 160 units
- Central Conversion number of central control equipment (\*) + Indoor units + Outdoor units + other adaptors ≤ 200 units

(Note: (\*) is converted one central control equipment except unified ON/OFF controller as 10 units.)

- When BS unit is installed, BS unit is not counted in the number. However, the indoor units after BS unit should be counted.
- The outdoor unit is limited up to a maximum of 10 units, and also the number of function units is also limited up to 5. However, if the sequential start setting is possible, up to 10 function units can be connected.
- When the parallel interface is connected, the number of indoor units are limited up to 64 groups (128 units). When you judge whether the number of the connectable units is possible, refer to the flow chart on the next page.

## 2.5.5 Flow Chart to Determined the Number of Units to Connected

### CHECK SHEET FOR NUMBER OF UNIT IN ONE SYSTEM

Centralized controller	Qty	Y/N
Central remote controller (Note 1)		
intelligent Touch Controller (Note1)		
Unified ON/OFF controller		
Schedule timer		
Interface for use in BACnet® (Note 3)		
Parallel interface		
<b>Total</b>		

Indoor unit	Qty	Y/N
VRV		
SkyAir with adaptor		
HRV(VAM)		
Wiring adaptor for other air conditioner		
BS unit (Note 2)		
Optional DIII Ai unit		
Di unit	8×	
Dio unit	4×	
<b>Total</b>		

Outdoor unit	Qty	Y/N
RXQ-P		
<b>Total</b>		

Other adaptors	Qty	Y/N
External control adaptor for outdoor unit		
Wiring adaptor for electrical appendices		
<b>Total</b>		

$\leq 2$   
 $\leq 2$   
 $\leq 8$   
 $\leq 1$   
 $\leq 1$   
 $\leq 4$   
 $\leq 7$   
 $\geq 8$

$\times 10$   
 $\times 10$   
 $\times 1 (A)$   
 $\times 10$   
 $\times 10$   
 $\times 10$   
 $=$   
 $=$   
 $=$   
 $=$   
 $=$   
 $=$

$\leq 128$   
 $\leq 10 (B)$   
 $\leq 10$

$\boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}} \leq 200$

(V2304)

#### Note 1:

Condition

(A) means;

■ Central control equipment + Indoor units + Outdoor units + other adaptors  $\leq 160$  units

■ Conversion number of central control equipment + Indoor units + Outdoor units + other adaptors  $\leq 200$  units

(B) means;

In case of connecting to DIII NET

■ Outdoor units must be counted to one system even in case of including 3 units. (Master + Master + Master = One system)

■ The outdoor units connected by terminal Ex. Q1, Q2 (excepting terminal F<sub>1</sub>, F<sub>2</sub>) are regarded as one system.

#### Note 2:

- When one system is to be controlled from two locations, up to two intelligent Touch Controller (In case of combining the intelligent Touch Controller and Central Remote Controller, it is restricted to combine two Controllers in total), four Central Remote Controller and 16 unified ON/OFF Controller can be connected. However, the maximum number of units that can be controlled is 128.
- When a BS unit is used, the indoor units used in its downstream are not counted.
- One port of one Interface for use in BACnet® can have up to 64 groups (64 master indoor units with address). In case of adopting group controlling, the circuit covered by the data station can have up to 128 indoor units including main and sub units.

## 3. Control System

### 3.1 Various Control by Liquid Crystal Remote Controller

For more effective localized environmental control Daikin offers various control systems such as single or double remote control or centralized control. This enables the construction of a variety of operational control systems which can be adapted for various uses from remote control to building automation.

Control Method	Objective / Use	Unit Name and Model	Function	Standard Number of Units	
Control by Remote Controller	Local operation of remote controller	Example of typical use			
	Remote operation of remote controller	For control from distant place		1 remote controller controls 1 indoor unit	
	2 remote control	For control from 2 places (distant or local)		2 remote controllers control 1 indoor unit	
	Group control *1	For the control of plural indoor units on a floor at the same time		1 remote controller controls up to 16 indoor units simultaneously	
	*1 Group control by 2 remote controllers	For above control from distant place.		2 remote controllers control up to 16 indoor units from 2 different places simultaneously	
	Forced OFF command from outside	Forced OFF for forgetting to turn equipment off, or in times of an emergency.		Same as the number of units controlled by remote controller	
	Combining control by remote controller	Operation of other equipment combined with the operation of indoor unit		Same as the number of units controlled by remote controller	

**BRC1C62**



\*2 **BRC2C51**



Connected to indoor units

- For group control it is connected to 1 unit out of the group
- In the case of control by 2 remote controllers both controllers are connected to the indoor unit

#### Operational functions

- Start/Stop (ON/OFF)
- Operation Mode Selection
- Temperature setting
- Timer setting (Settings in units of 1 hour up to a maximum of 72 hours)

- Air flow setting
- Air flow direction adjustment (Swing flap)
- Ventilation Mode Selection
- Ventilation Air flow Selection

#### Indication function

- Operating display
- Program dry function display
- Defrost/Hot start display
- Filter sign
- Temperature setting display
- Timer display
- Air flow display
- Abnormal operation display


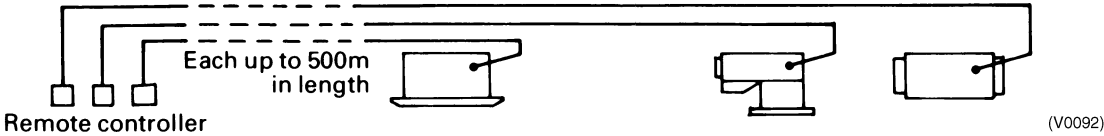
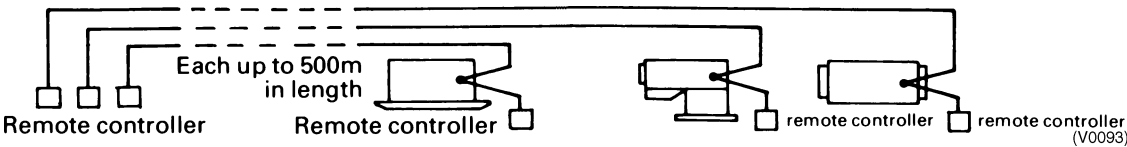
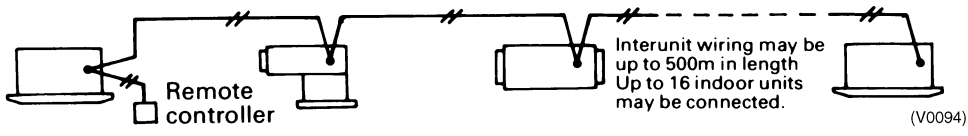
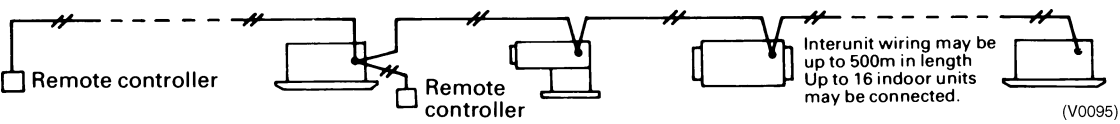
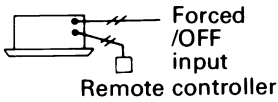
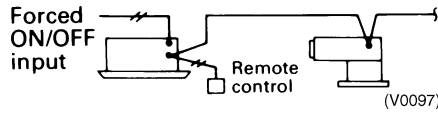

\* In case of group control all the indoor units in the system are set to the same value and each unit is controlled individually by its internal thermostat. (Not by the thermostat equipped in remote controller) In command case of double remote control the last command priority. (Selection between main and sub controller is essential)








- Forcibly stops indoor unit operation by command from outside.
- During remote controller group control, input a command from outside to any one of the indoor units.

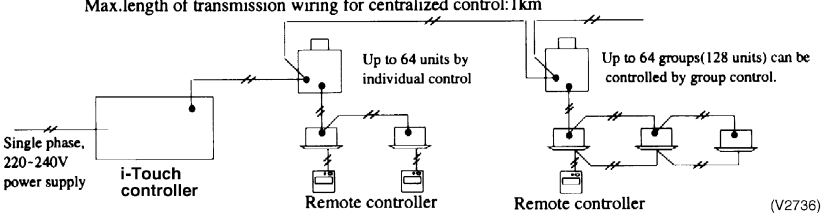
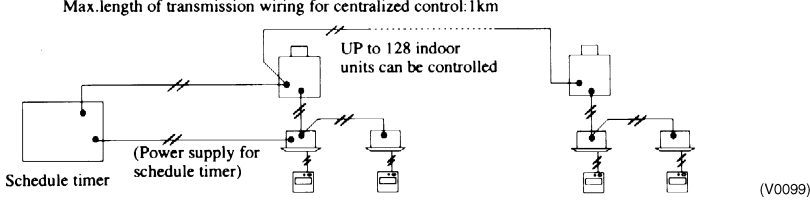
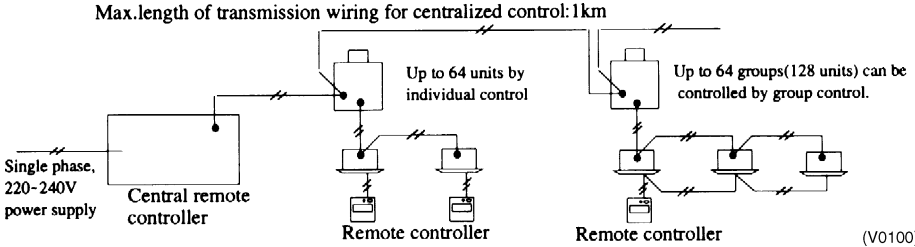
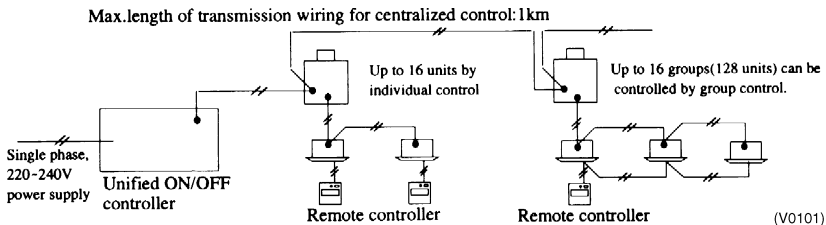
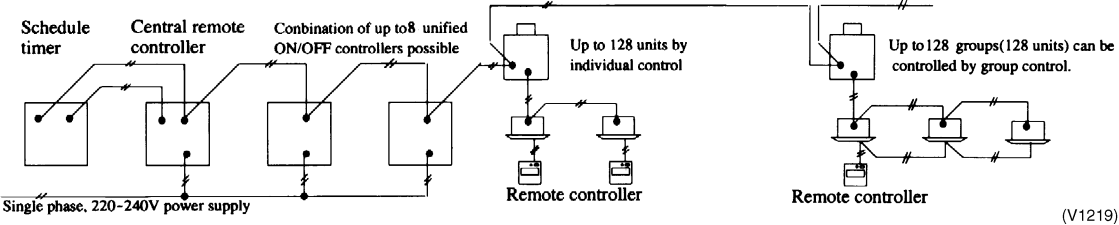
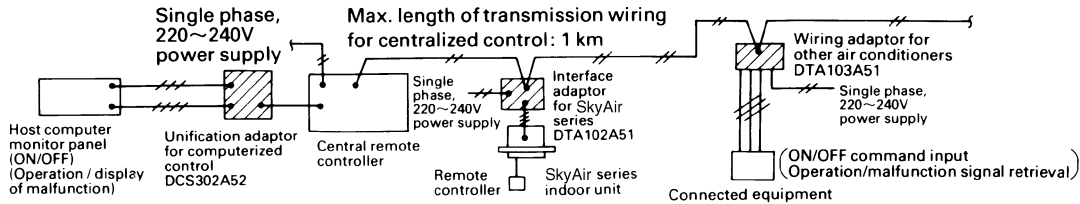
- Operates HRV in accordance with indoor unit operation.
- In case of group control the thermostat equipped in remote controller is not available.

\*1 In case of group control, the remote controller used as master control must be selected with auto-swing function (BRC1A61). When the group has cassette (FXC (Q)), FXF (Q) or ceiling suspended (FXH (Q)) or cassette corner (FXK (Q)) or wall mounted (FXA (Q)) models.

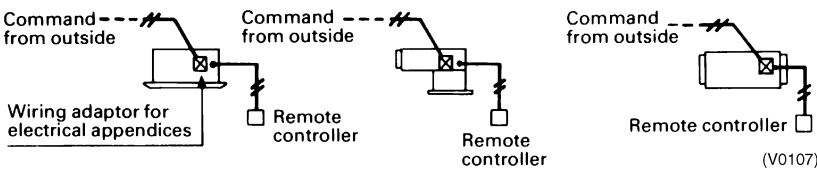
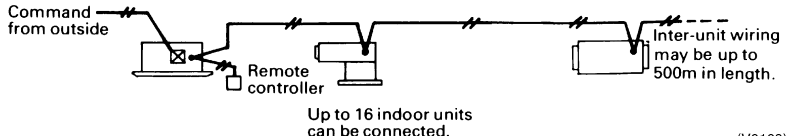
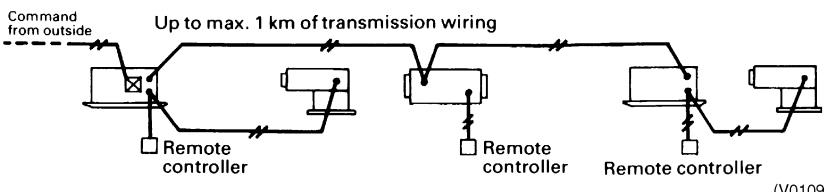
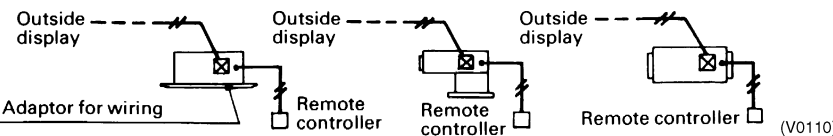
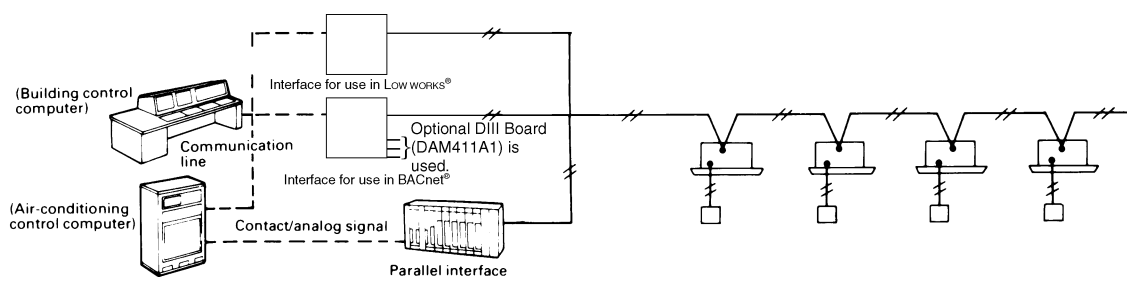
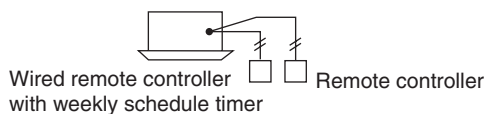
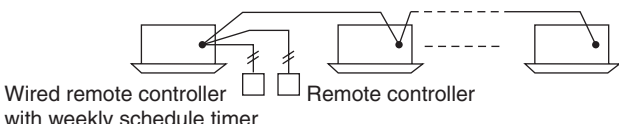
\*2 In case of using BRC2A51 (Simplified Remote Controller) to Heat Recovery Series, be sure not to use this independently. Use with other remote controllers (BRC1A51 · 52, BRC1C62 or KRC19-26A or DCS302A51).

	Outline of System	Relevant Page Number
	 <p>Remote controller      Remote controller      remote controller</p> <p>(V0091)</p>	588
	 <p>Remote controller      Each up to 500m in length</p> <p>(V0092)</p>	588
	 <p>Remote controller      Remote controller      remote controller      remote controller</p> <p>Each up to 500m in length</p> <p>(V0093)</p>	588
	 <p>Remote controller      Interunit wiring may be up to 500m in length Up to 16 indoor units may be connected.</p> <p>(V0094)</p>	589
	 <p>Remote controller      Remote controller      Interunit wiring may be up to 500m in length Up to 16 indoor units may be connected.</p> <p>(V0095)</p>	589
	<div><div><p>● For local operation of remote controller</p><p>Forced /OFF input      Remote controller</p></div><div><p>● For group control</p><p>Forced ON/OFF input      Remote control</p><p>(V0097)</p></div></div>	589
	<div><p>● For HRV system</p><p>Remote controller      HRV</p><p>(V0098)</p></div>	589

Control Method	Objective / Use	Unit Name and Model	Function	Standard Number of Units	
Central Control	intelligent Touch Controller	<b>DCS601C51</b> 	<ul style="list-style-type: none"> <li>■ Adds various functions other than the functions of existing central remote controller.</li> <li>■ Scheduled operation and function to distribute electricity proportionally.</li> <li>■ Simple handling through a large sized liquid crystal display.</li> <li>■ Adopts a touch-panel</li> <li>■ Twin centralized control function</li> <li>■ AIR-NET Service (optional-failure prediction)</li> <li>■ Auto Heat/Cool Change Over</li> <li>■ Temperature Limitation</li> </ul>	Controls up to 64 groups (Max. 128 indoor units) with one i-touch Controller.	
	Schedule timer	<b>DST301BA61</b> 	<ul style="list-style-type: none"> <li>■ ON/OFF time can be set by units of day, hour and minute; ON/OFF pattern can be set by time zone of twice per day in accordance with application.</li> </ul>	Simultaneously controls 64 groups with one schedule timer. Max. 128 units	
	Central remote controller	<b>DCS302CA61</b> 	<p>64 groups (zones) of indoor units can be controlled individually same as LCD Remote controller.</p> <ul style="list-style-type: none"> <li>■ Max.64 groups (128 indoor units controllable)</li> <li>■ Max. 128 groups (128 indoor units) are controllable by using 2 central remote controllers, which can control from 2 different places.</li> <li>■ Zone control</li> <li>■ Malfunction code display</li> <li>■ Max. wiring length 1,000 m (Total : 2,000 m)</li> <li>■ Combination with Unified ON/OFF controller, schedule timer and BMS system</li> <li>■ Airflow volume and direction can be controlled individually for indoor units in each group operation.</li> <li>■ Ventilation volume and mode can be controlled for Heat Reclaim Ventilation (HRV).</li> <li>■ Up to 4 Operation/Stop pairs can be set per day by connecting a schedule timer.</li> </ul>	Controls up to 64 groups of indoor units with one central remote controller. Max. 128 units	
	Unified ON/OFF controller	<b>DCS301BA61</b> 	<ul style="list-style-type: none"> <li>■ Double central control function</li> <li>■ Indoor unit ON/OFF control</li> <li>■ Individual/unified operation</li> <li>■ Remote controller operation rejected command (Central remote controller given priority when used in combination with central remote controller.)</li> <li>■ Sequential start function</li> </ul>	Controls up to 16 groups of indoor units with one unified ON/OFF controller. Max. 128 units	
	<ul style="list-style-type: none"> <li>■ Schedule timer</li> <li>■ Central remote controller</li> <li>■ Unified ON/OFF controller</li> </ul>	<b>DST301BA61</b>  <b>DCS302CA61</b>  <b>DCS301BA61</b> 	<ul style="list-style-type: none"> <li>■ Respective functions of schedule timer, central remote controller and unified ON/OFF controller are possible. (Control mode of central remote controller is given priority for operation of remote controller for indoor unit.)</li> <li>■ Sequential start function</li> </ul>	Controls up to 128 groups (Max. 128 indoor units) with one schedule timer, two central remote controller and eight unified ON/OFF controllers.	
	Adaptor for connection with optional controllers for centralized control	<ul style="list-style-type: none"> <li>■ Unification adaptor for computerized control <b>DCS302A52</b></li> <li>■ Interface adaptor for SkyAir series <b>DTA102A52</b></li> <li>■ Wiring adaptor for other air conditioners <b>DTA103A51</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Unification adaptor for computerized control allows you to simultaneously turn indoor units connected to the central remote controller on or off or display at the central monitor panel, etc.</li> <li>■ Interface adaptor for SkyAir series, wiring adaptor for other air conditioners and wiring adaptor for 'H' indoor unit are for connection of optional controllers for centralized control.</li> </ul>	<ul style="list-style-type: none"> <li>■ Simultaneously controls by one unification adaptor for computerized control, all indoor units connected to a central remote controller.</li> <li>■ Controls one indoor unit by one interface adaptor for SkyAir series, wiring adaptor for other air conditioners, and wiring adaptor for 'G(J)' indoor unit.</li> </ul>	

	Outline of System	Relevant Page Number
	<p>Max.length of transmission wiring for centralized control:1km</p>  <p>Single phase, 220-240V power supply</p> <p>i-Touch controller</p> <p>Up to 64 units by individual control</p> <p>Remote controller</p> <p>Up to 64 groups(128 units) can be controlled by group control.</p> <p>Remote controller</p> <p>(V2736)</p>	641
	<p>Max.length of transmission wiring for centralized control:1km</p>  <p>Schedule timer</p> <p>(Power supply for schedule timer)</p> <p>UP to 128 indoor units can be controlled</p> <p>(V0099)</p>	630
	<p>Max.length of transmission wiring for centralized control:1km</p>  <p>Single phase, 220-240V power supply</p> <p>Central remote controller</p> <p>Up to 64 units by individual control</p> <p>Remote controller</p> <p>Up to 64 groups(128 units) can be controlled by group control.</p> <p>Remote controller</p> <p>(V0100)</p>	595
	<p>Max.length of transmission wiring for centralized control:1km</p>  <p>Single phase, 220-240V power supply</p> <p>Unified ON/OFF controller</p> <p>Up to 16 units by individual control</p> <p>Remote controller</p> <p>Up to 16 groups(128 units) can be controlled by group control.</p> <p>Remote controller</p> <p>(V0101)</p>	622
	<p>Max.length of transmission wiring for centralized control:1km</p>  <p>Schedule timer</p> <p>Central remote controller</p> <p>Combination of up to 8 unified ON/OFF controllers possible</p> <p>Single phase, 220-240V power supply</p> <p>Up to 128 units by individual control</p> <p>Remote controller</p> <p>Up to 128 groups(128 units) can be controlled by group control.</p> <p>Remote controller</p> <p>(V1219)</p>	638
	<p>Max. length of transmission wiring for centralized control: 1 km</p>  <p>Single phase, 220-240V power supply</p> <p>Host computer monitor panel (ON/OFF) (Operation / display of malfunction)</p> <p>Unification adaptor for computerized control DCS302A52</p> <p>Central remote controller</p> <p>Single phase, 220-240V power supply</p> <p>Remote controller</p> <p>SkyAir series indoor unit</p> <p>Interface adaptor for SkyAir series DTA102A51</p> <p>Wiring adaptor for other air conditioners DTA103A51</p> <p>Single phase, 220-240V power supply</p> <p>Connected equipment</p> <p>(ON/OFF command input, Operation/malfunction signal retrieval)</p> <p>(V2260)</p>	675 692 707

Control Method	Objective / Use	Unit Name and Model	Function	Standard Number of Controllers	
Remote Control	Wiring adaptor for electrical appendices (2)	<ul style="list-style-type: none"> <li>With remote temperature setting</li> </ul> <p>(V0104)</p> <p><b>KRP4A51</b> <b>KRP4A52</b> <b>KRP4A53</b> <b>KRP4A54</b> Built into indoor unit</p>	<ul style="list-style-type: none"> <li>Normally open or momentary open type contactor</li> <li>12~24 VDC or no-voltage</li> <li>Various control methods available by mode select switch</li> <li>Voltage, no-voltage selector switch</li> <li>Alarm and operation display signal (no-voltage)</li> <li>Selector switch of zone/individual of alarm display</li> <li>Remote temperature setting (resistance input of 0~135Ω)</li> <li>Selector switch for remote controller temperature setting enable/inhibit</li> </ul> <p>* For group unified control, the setting becomes the same for all connected indoor units, and each indoor unit is controlled individually by built-in thermostat.</p>	1 PC board controls 1 indoor unit.	
	Wiring adaptor for electrical appendices (1)	<ul style="list-style-type: none"> <li>With remote temperature setting</li> </ul> <p>(V0105)</p> <p><b>KRP2A53</b> <b>KRP2A61</b> <b>KRP2A62</b> Built into indoor unit</p>	<ul style="list-style-type: none"> <li>In case of using wiring adaptor for Electrical Appendices (2), the control by 2 remote controller is not available.</li> </ul>	1 PC board simultaneously controls 1 group of indoor units (max. 16 units).	
Wiring Modification	Adaptor for wiring	<p>(V0106)</p> <p>Built into indoor unit <b>KRP1B56</b>, <b>57</b>, <b>59</b>, <b>61</b> <b>KRP1C3</b></p>	<ul style="list-style-type: none"> <li>Required when electric heater optional accessory has been added.</li> <li>Operation display signal and compressor operation signal are supplied.</li> </ul>	1 adaptor controls the electric heater.	
Building Control System		<p>Building control computer, air-conditioning control computer and control system for air-conditioning are carried out by communication and contact signal.</p> <ul style="list-style-type: none"> <li>Interface for use in BACnet®</li> <li><b>DMS502A51</b></li> <li>Optional DIII board</li> <li><b>DAM411A1</b></li> <li>Optional Di Board</li> <li><b>DAM412A1</b></li> <li>Parallel interface</li> <li><b>DPF201A51</b>, <b>52</b>, <b>53</b></li> <li>Interface for use in LONWORKS®</li> <li><b>DMS504B51</b></li> </ul>	<ul style="list-style-type: none"> <li>Interface for use in BACnet®</li> <li>Interface unit to allow communications between VRV and BMS.</li> <li>Parallel interface</li> <li>Carries out operation and monitoring function of each indoor unit by contact and analog signal.</li> <li>Interface for use in LONWORKS®</li> <li>The LON Gateway functions as the interface for a building monitoring system and cannot be installed on the DIII-NET along with following equipment / devices that have similar functions.</li> </ul>	<p>Interface for use in BACnet® : Up to 256 indoor units (256groups)</p> <p>When the option DIII board is used</p> <p>Parallel Interface, Interface for use in LONWORKS® Up to 64 indoor units (64 groups)</p>	
Scheduled Control	Wired remote controller with weekly schedule timer	<p><b>BRC1D61</b></p>	<ul style="list-style-type: none"> <li>Includes ventilation mode and airflow rate switching, the main functions of HRV series.</li> <li>24-hour clock function (1-hour backup for power failures)</li> <li>Programming function for each day of week.</li> <li>Scheduling possible of start/stop and temperature limit (5 settings/day)</li> <li>Programming can be enabled or disabled.</li> <li>Copy function for programmed schedules.</li> </ul>	One indoor unit control by one wired remote controller with weekly schedule timer	
				Max. 16 groups under simultaneous control by one wired remote controller with weekly schedule timer	

	Outline of System	Relevant Page Number
	<p>■ Individual Control (Controls Indoor Units Individually.)</p> <p>● Individual control (Controls indoor units individually.)</p>  <p>(V0107)</p>	
	<p>■ Group Unified Control (Controls group controlled indoor units all at once and simultaneously.)</p> <p>● Group unified control (Controls group controlled indoor units all at once and simultaneously.)</p>  <p>(V0108)</p>	686
	<p>■ Zone Unified Control (Unified, simultaneous control of up to 64 groups of group controlled indoor units consisting of up to 16 units each.)</p> <p>● Zone unified control (Unified, simultaneous control of up to 64 groups of group controlled indoor units consisting of up to 16 units each.)</p>  <p>(V0109)</p>	679
	 <p>(V0110)</p>	717 719
		580 585
	 <p>Wired remote controller with weekly schedule timer Remote controller</p>	
	 <p>Wired remote controller with weekly schedule timer Remote controller</p> <p>* Be sure to provide a master remote controller. This scheduled operation cannot be used in both cases at control by two remote controllers and at the connection of a group remote control adaptor.</p>	655

## 3.2 Building Control System Introduction

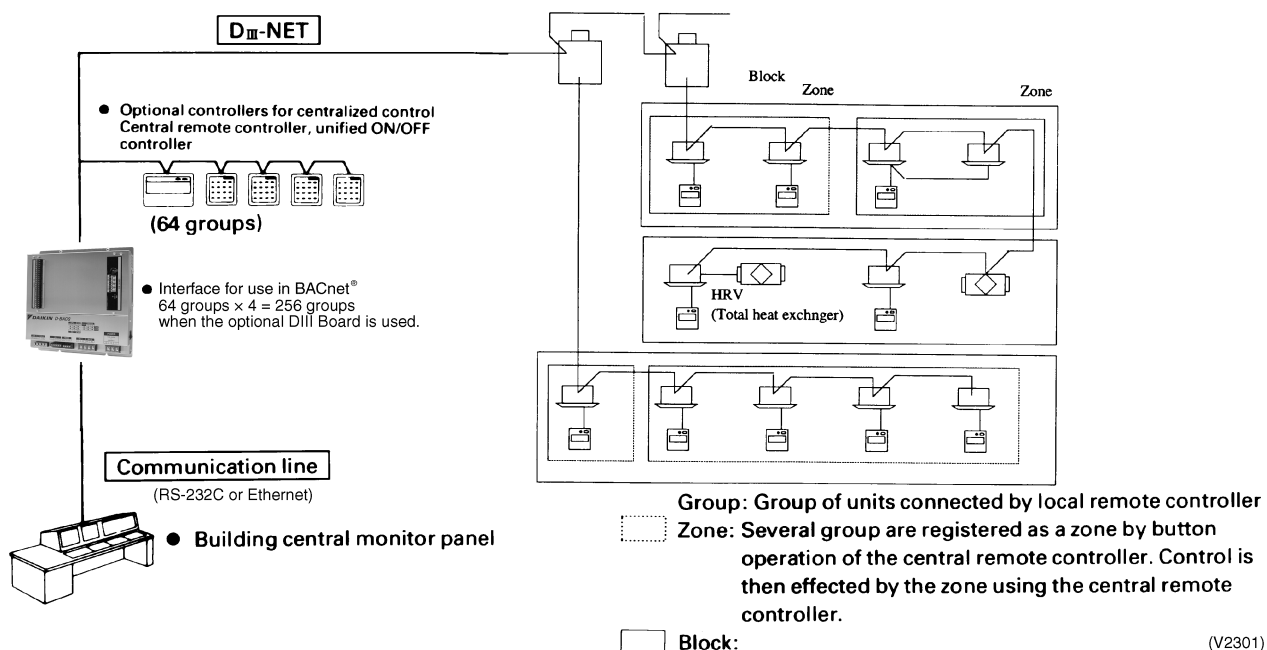
High-speed transmission type air-conditioning control system D-BACS (DAIKIN Building Air-conditioning Control System) networks up to 64 groups of indoor units (128 units). There is a complete line up of variegated control equipment for D-BACS, such as parallel interface, or a master station that can directly access a building control computer via a communication line. Changing control function to a component configuration makes D-BACS a central control system that can be flexibly combined with other equipment, which can respond to various air-conditioning control needs such as application, conditions and scale.

### 3.2.1 Interface for use in BACnet®

This system sets the control configuration and controls air-conditioning equipment, monitors system status and possesses a system backup function.

#### ■ Control configuration setting function for air-conditioning equipment

System Outline



Name	Functions
Interface for use in BACnet® (DMS502A51)	Interface unit to allow communications between VRV and BMS. Operation and monitoring of air-conditioning systems through BACnet® communications.
Optional DIII board (DAM411A1)	Expansion kit, installed on the DMS502A51, to provide 3 more DIII-NET communication ports. Not usable independently.
Optional Di Board (DAM412A1)	Expansion kit, installed on the DMS502A51, to provide 16 more wattmeter pulse input points. Not usable independently.
Central Remote Controller (DCS302CA61)	Functions as a backup if the building control systems fails.
Unified ON / OFF Controller (DCS301BA61)	Central control panel for simple operation by ON/OFF switch and LED display. Also functions as a backup just as with the central remote controller.
Local Remote Controller (BRC1C62)	Provided in each room. Used for operating, setting and monitoring air-conditioning equipment.

#### Note:

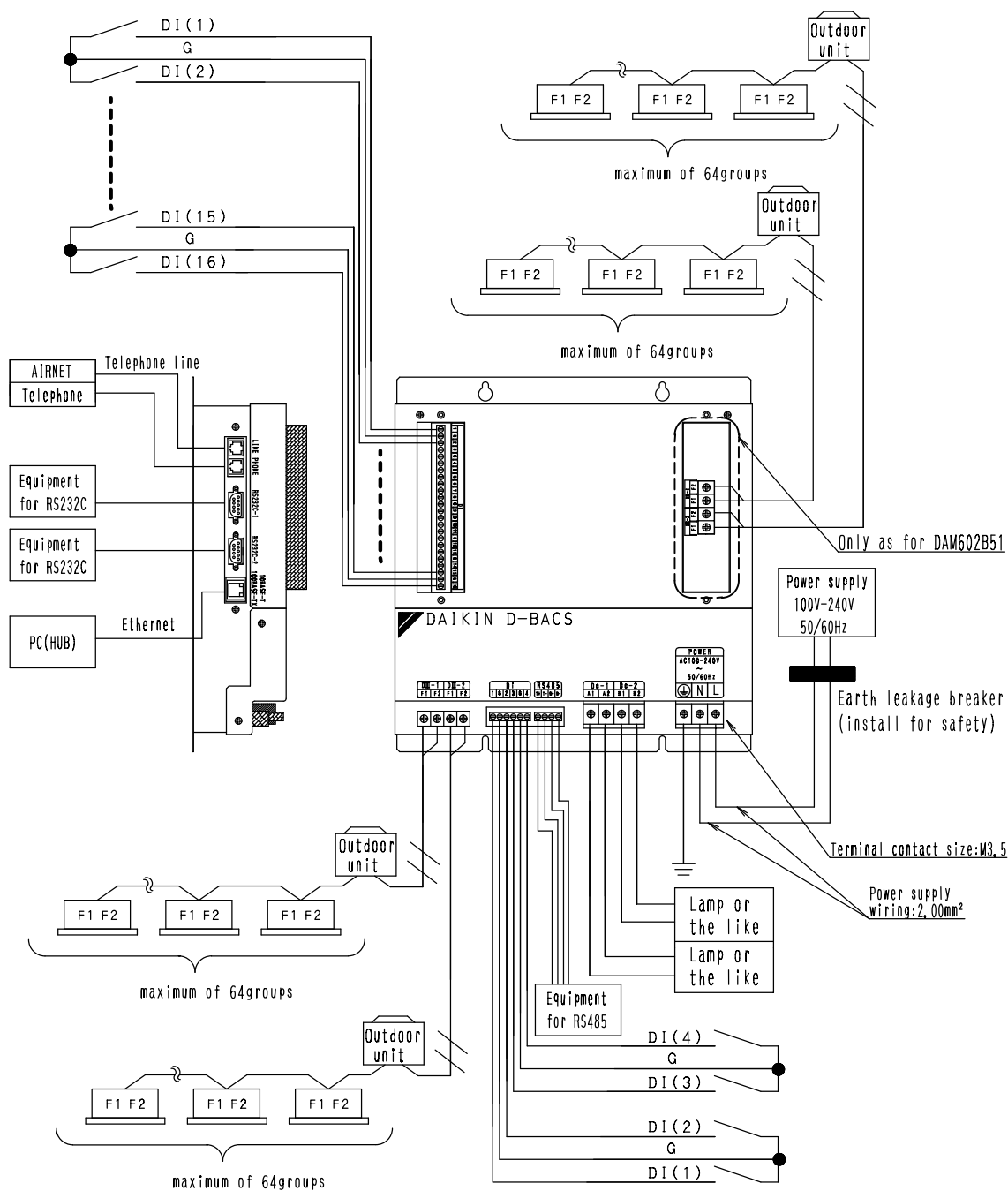
1. A group consists of several indoor units that can be started or stopped simultaneously. As shown in the figure above, a group consists of several indoor units wired to the same remote controller. For units without a remote controller, each unit is treated as a group.
2. Several groups are registered as a zone with the central remote controller. By pushing 1 button of the central remote controller, all groups within the same zone can be turned on or off simultaneously.

Building management 1 system controls and monitors air-conditioning equipment by the block. A block consists of 1 or more groups (max. 16), and can be set without regard for the zones mentioned above. You must, however, take the following things into consideration.

- (1) If the air-conditioning mode is switched, as a premise, permission for cool/heat selection for indoor units (by remote controller or central remote controller) must be designated within the program.
- (2) Program status is basically monitored by observing the data of a representative unit. The contents which can be monitored are therefore restricted if the representative unit is designated as an adaptor, etc.

Block registration is accomplished through signal transmission from the building control system to the cooler-conditioning system. Because configuration can be changed while receiving power even after operating, maintenance from the maker of the air-conditioning equipment is not required when changing the configuration.

### 3.2.2 Wiring Diagram



C: 1P191170C

### 3.2.3 Air-Conditioning Equipment and Possible Functions

Function	VRV System	Hi Sky Multi	Sky Air (adapter for Sky Air connection)	Duct-connected type air conditioner (central control adapter)	HRV	Room air conditioners (general- purpose adapter)
Start/stop operation and monitoring	○	○	○	○	○	○
Air-conditioner malfunction notification	○	○	○	○	○	○
Room temperature monitoring	○	○	○	○	×	×
Temperature setting and monitoring	○	○	○	○	×	×
Air-conditioning mode setting and monitoring	○	○	○	○	×	×
Remote-control mode setting and monitoring	○	○	○	○	○	×
Filter sign monitoring and reset	○	○	○	×	○	×
Thermostat status monitoring	○	○	○	×	×	×
Compressor operation status monitoring	○	○	○	×	×	×
Indoor fan operation status monitoring	○	○	○	×	○	×
Heater operation status monitoring	○	○	○	×	×	×
Humidifier operation status monitoring	○	○	○	×	×	×
Air direction setting and monitoring	○	○	○	×	×	×
Air flow rate setting and monitoring	○	○	○	×	△Monitoring only	×
Forced thermostat disable setting and monitoring	○*	○	○	×	×	×
Energy saving (set temperature shift)	○	○	×	×	×	×
Accumulated power	○	○	△	×	△	×

**Note:**

1. \*When set at the unit, the status is not notified to upper devices and cannot be monitored from them.
2. △ : Available for certain models only.
3. The meaning of ○, × are as follows  
 ○ : Possible Functions  
 × : Impossible Functions

### 3.2.4 Central Control Equipment Combinations

The table below shows which combinations of central control equipment are possible and which are not.

	Central Remote Controller	Unified ON / OFF Controller	Schedule Timer	Wiring Adaptor for Electrical Appendices	Parallel Interface	Interface for use in BACnet®	intelligent Manager
Central Remote Controller	— *4	○	○	×	○	○	○
Unified ON/OFF Controller	○	— *3	○	×	○	○	○
Schedule Timer *1	○	○	—	×	×	×	×
Wiring Adaptor for Electrical Appendices	×	×	×	—	×	×	×
Parallel Interface	○	○	×	×	— *2	×	×
Interface for use in BACnet®	○	○	×	×	×	—	×
intelligent Manager	○	○	×	×	×	×	—

\*1 The schedule timer cannot be used by itself. Use in combination with the central remote controller or unified ON / OFF controller.

\*2 May be used in combination if control range differs (up to 4 units).

\*3 May be used in combination if control range differs (up to 8 units: Up to 16 units in the double central control mode).

\*4 May be used in combination if control range differs (up to 2 units: Up to 4 units in the double central control mode).

5 The meaning of ○, ×, — are as follows

○: Possible Functions

×: Impossible Functions

—: No Functions

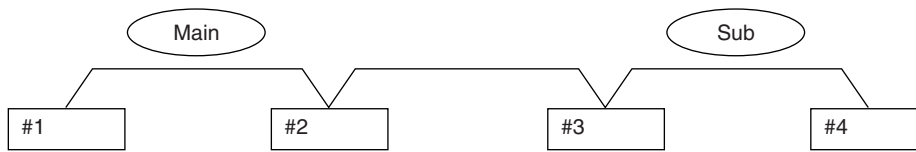
■ If using in combination with central control equipment, the relation between them is last command priority.

■ If using in combination with central control equipment, the remote control mode is decided by the setting of the highest priority item in the priority rank shown in the table below.

#### Priority Ranking of Remote Control Mode Settings

	Interface for use in BACnet®	Parallel Interface	Central Remote Controller	intelligent Touch Controller	Unified ON/OFF Controller	Schedule Timer
Priority Ranking	1	1	2	2	3	4

### 3.2.5 Intelligent Touch Controller and Central Control Equipments Combinations

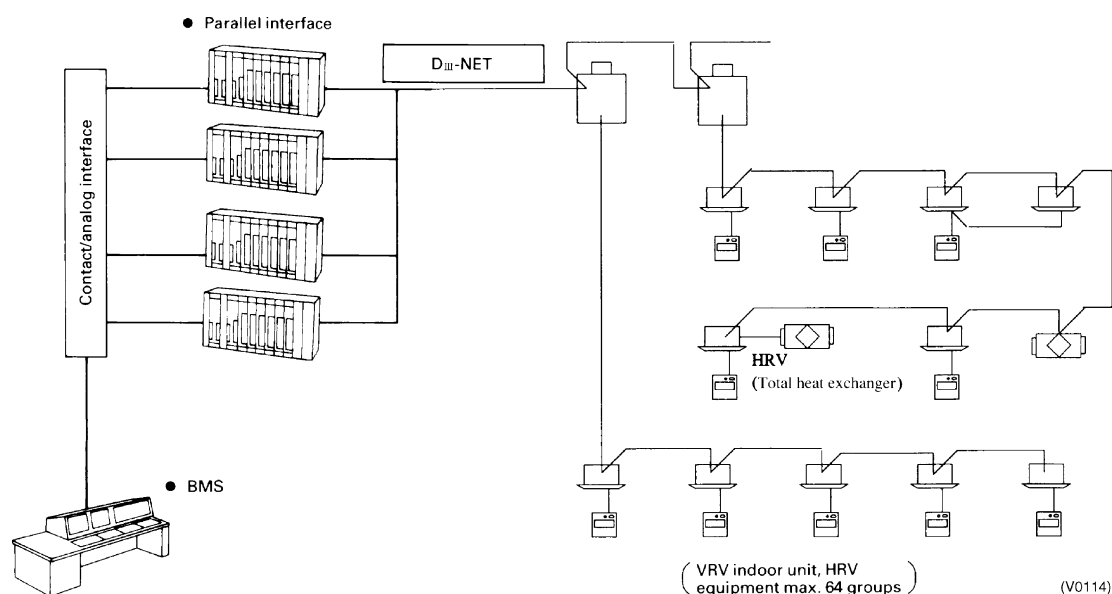


Combination	#1		#2		#3		#4	
	1-00~4-15	Main/ Sub	5-00~5-15	Main/ Sub	1-00~4-15	Main/ Sub	5-00~5-15	Main/ Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Possible	Central Remote Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Possible	Central Remote Controller	Main	—	—	Central Remote Controller	Sub	—	—
Possible	intelligent Touch Controller	Main	—	—	intelligent Touch Controller	Sub	—	—
Possible	Central Remote Controller	Main	—	—	intelligent Touch Controller	Sub	—	—
Possible	intelligent Touch Controller	Main	—	—	Central Remote Controller	Sub	—	—
Possible	Central Remote Controller	Main	—	—	—	—	—	—
Possible	intelligent Touch Controller	Main	—	—	—	—	—	—

### 3.2.6 Parallel Interface

You can easily connect host systems such as a building management system, various control systems, tenant management system, etc. to VRV system.

#### System Outline



#### Parallel Interface Outline

- On/off command, status monitoring (contact signal) and room temperature setting, indoor unit suction temperature measurement (analog signal), filter sign monitoring and Unified operation (off) can be carried out by host system.
- You can designate whether operation by local remote controller will be accepted or rejected for each parallel interface.  
(You may select from among central priority, last command priority and remote controller operation rejection.)
- On/off command, status monitoring and room temperature setting can be set for 16 groups individually.
- Suction temperature measurement only is selected for any 4 of 16 groups.
- Units can be increased by units of 16 groups each within the same central control system, and 64 groups can be controlled when a maximum of 4 units are connected.

#### Connection Functions with Host System

The functions when connected with a host system via parallel interface are given below.

##### ■ Functions

Function	Host System	Data Direction	Parallel Interface Processing
Operation/ Setting	On/Off Operation	→	On/off command is detected and sent to applicable group of indoor units.
	Forced Off Operation	→	Off command is detected and all indoor units on the same line are turned off.
	Temperature Setting Control	→	Alteration of the temperature setting is detected, and if within the range of 1.6 to 3.2V, the command is sent to applicable group of indoor units. Setting by local remote controller or central remote controller is impossible when in this range only. ("Central Control" is displayed on the local remote controller.)
Monitoring	On/Off Status (Note 1)	←	Present status is output when change in group status is detected.
	Normal/Error Status (Note 1)	←	Present status is output when change in group status is detected.
	Filter Sign	←	Present status is output when at least 1 group among the control target groups is lit.
	Indoor Unit Suction Temperature	←	Measurement value of suction air temperature is constantly output. If there is a sub unit, the measurement value for the main unit is output.

#### Note:

1. The various output conditions are as follows.

On: At least 1 air-conditioner in the group is operating.

Off: All air-conditioners in the group are turned off.

Error: An error has occurred for at least 1 air-conditioner in the group.

Normal: All air-conditioners in the group are operating normally.

### 3.3 Specifications of the Control Wiring

Be sure to use either 2-core sheathed vinyl cord or cable as mentioned below.

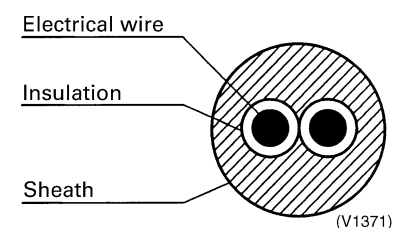
(Example : In case of Japanese JIS)

- |                                                     |         |          |
|-----------------------------------------------------|---------|----------|
| ■ Vinyl cab tire round cord                         | VCTF    | JISC3306 |
| ■ Vinyl insulated, vinyl sheathed cable for control | CVV     | JISC3401 |
| ■ Round vinyl sheathed cable for control            | CVS     | JISC3401 |
| ■ Round vinyl insulated, vinyl sheathed cable       | VVR     | JISC3342 |
| ■ 600V vinyl cab tire cable                         | VCT     | JISC3312 |
| ■ Polyethylene insulated vinyl sheathed cable       | CPEV(*) |          |
| ■ Mesh insulated cable                              | MVVS(*) |          |

\* When the shield wire is used, be sure to ground the one side of the shield wire.

\* Do not use the shield wire with other type of wire in the same system.

<Example>Section of cord



#### <Cautions>

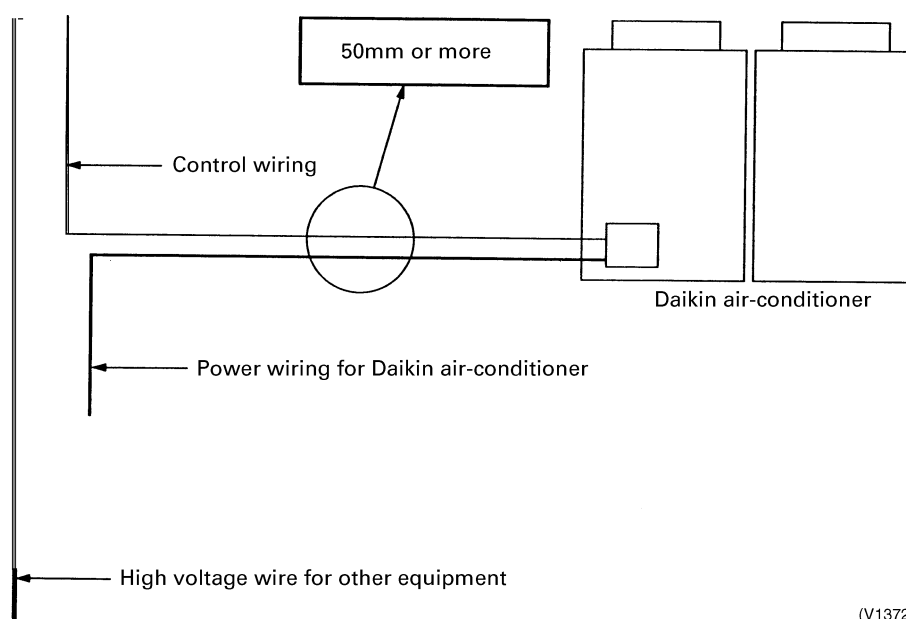
1. Never use a 3 or more core of cord or cable.
2. The size of wire should be 0.75~1.25mm<sup>2</sup>.
3. Never bundle the cable or cord of transmission line.
4. Be sure to keep the transmission wiring distant from power wiring as shown below to prevent electrical noise.

Capacity of power wiring		Distance between Power wiring and control wiring	
		Daikin air-conditioner (*1)	Other air-conditioners
220V or less	10A or less	50mm or more (*2)	300mm or more
	50A or less		500mm or more
	100A or less		1000mm or more
	100A or more		1500mm or more

#### Note:

1. \*1 .....VRV system, SkyAir series and other air-conditioner.
2. \*2 .....VRV system or other Daikin air-conditioner produces less electrical noise, so that the distance of 50mm or more is sufficient.
3. For control wiring, never use the shield wire together with other sheathed vinyl cord in the same system, which may cause the malfunction in transmission.

#### [Example]



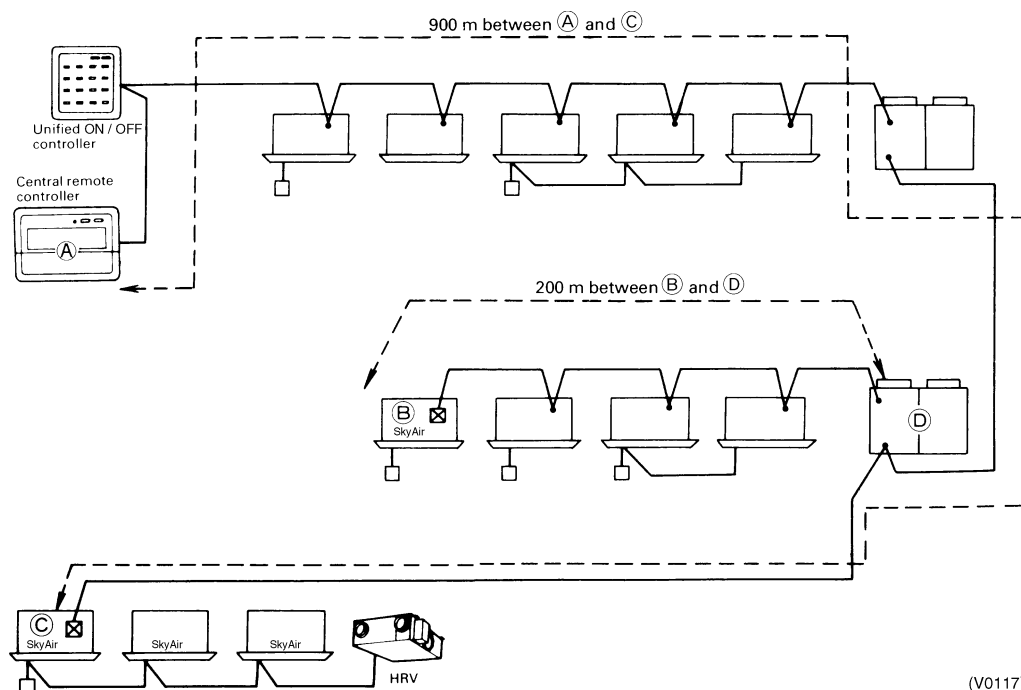
### 3.4 Length of Transmission Wiring

The super wiring system, which integrates the control wiring between indoor unit and outdoor unit and the transmission wiring to the central controllers into one common wiring, should satisfy the following limitation.

The longest extension of wiring: Not exceeding 1000m

Total length of wiring: Not exceeding 2000m

#### 3.4.1 Example of Wiring



- In the above system, the longest extension of wiring is 900m between (A) and (C), which satisfies the limit of 1000m. And the total length is 1100m, that is the total of 900m between (A) and (C) and 200m between (B) and (C), which also satisfies the limit of 2000m. The central controller functions properly, only when both the longest extension and the total length of wiring satisfies the limitation, as shown above.



#### Caution

When designing the system, be sure to check both the longest extension and the total length of wiring. If it exceeds the limitation, there is no other way but to split into several systems.

## 4. Control Devices

### 4.1 <BRC1C62> Wired Remote Controller

You can construct a versatile control system that can respond to various applications by taking advantage of the optional accessory liquid crystal remote controller for indoor units.

Remote controller wiring for transmission for a simplified remote controller (BRC2C51 (BRC2A51), BRC3A61) is the same as that of a standard remote controller (BRC1C62). Because the functions of the simplified remote controller are limited, we recommend using in combination with a central remote controller.

#### 4.1.1 Appearance and Functions

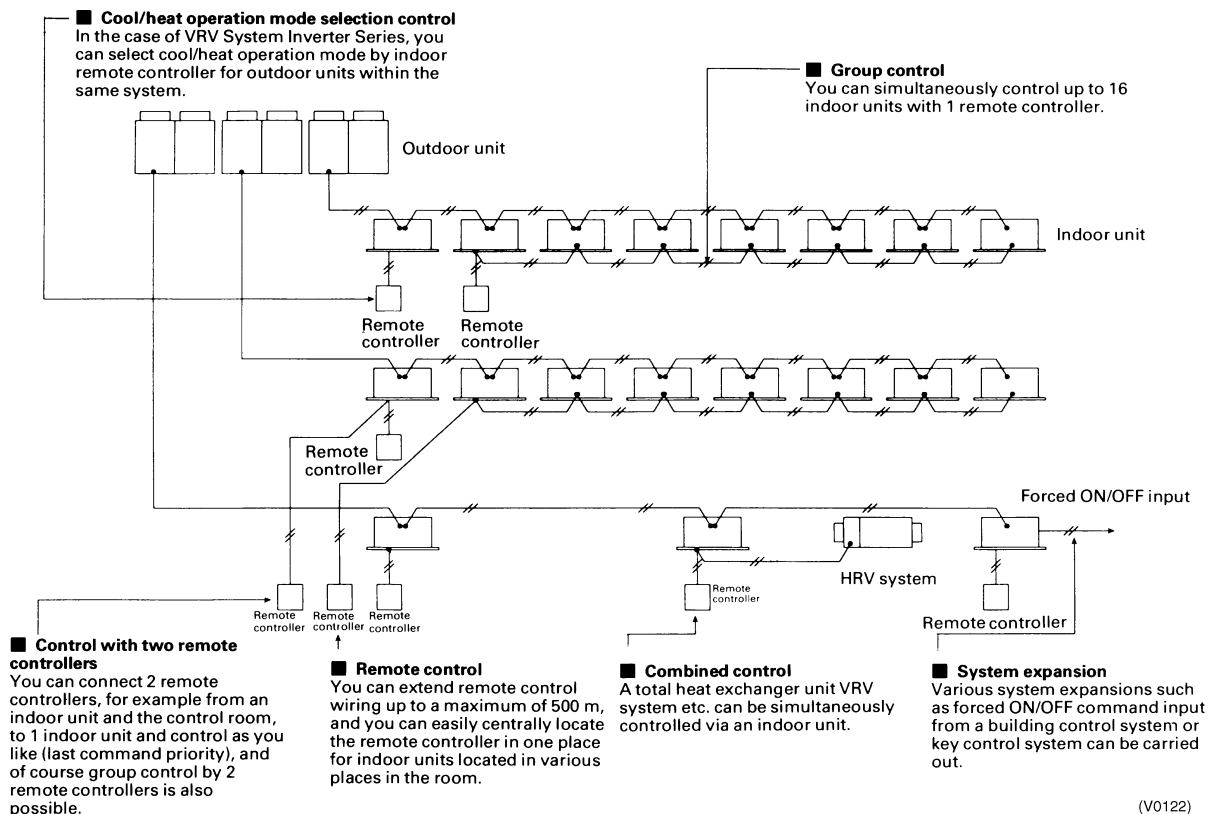


- Large liquid crystal screen displays complete operating status.
- Digital display lets you set temperature in 1°C units.
- Lets you individually program by timer the respective times for operation start and stop within a maximum of 72 hours.
- Equipped with a thermostat sensor in the remote controller that makes possible more comfortable room temperature control.
- Monitors room temperature and preset temperature by microcomputer, and can select cool/heat operation mode automatically. (VRV System Heat Recovery Series only)
- Enables you to select cool / heat / fan operation mode with the indoor remote controller of your choice without using the cool / heat selector. (VRV System Inverter series, Heat Recovery series, Plus series)
- Constantly monitors malfunctions in the system for 40 items, and is equipped with a "self-diagnosis function" that lets you know by message immediately when a malfunction occurs.
- Lets you carry out various field settings by remote controller.
- Ventilation mode change over and ventilation air flow switch for HRV.

#### Note: For connection unit series

- \* If indoor units from the Connection unit series are connected within a single refrigerant system to indoor units from any other series, cooling/heating switchover will not be possible using the remote controller of the Connection unit series indoor units. However, if the remote controller of an indoor unit from the other series is set as a master remote controller, cooling/heating switchover will be possible.
- \* If all indoor units are from the Connection unit series, an outdoor unit Cool/Heat selector will be needed to enable cooling/heating switchover.
- \* In case of Heat Recovery System  
Cooling/Heating changeover is possible when connecting with BS unit.

#### 4.1.2 Example of Control by Remote Controller

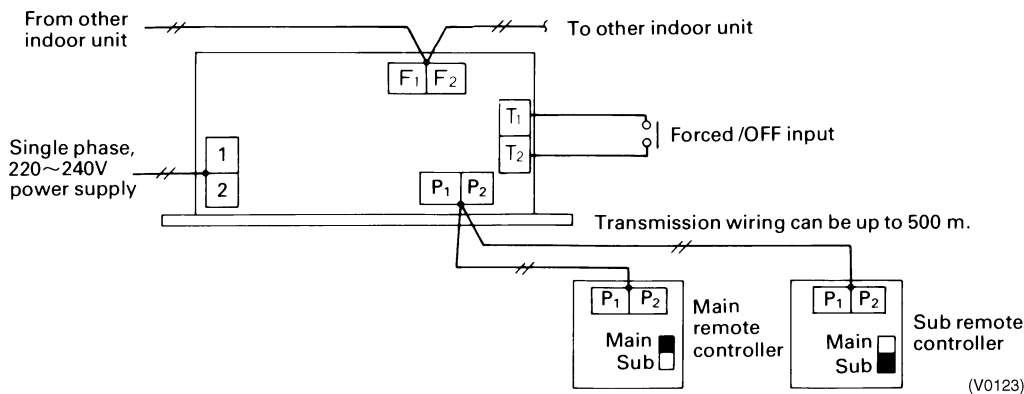


(V0122)

### 4.1.3 2 Remote Controllers

#### 1 indoor unit is controlled by 2 remote controllers from 2 separate locations

This is a convenient system for when you want to operate an indoor unit in the reception room from the office, for example, or finely operate an indoor unit from a local or remote location. (The same applies to other types of indoor units.)



- Operation control mode of the indoor unit is last command priority.
- Remove the front panel of the remote controller and set the main/sub changeover switch on the PC board to "main" for the main remote controller, and to "sub" for the sub remote controller.

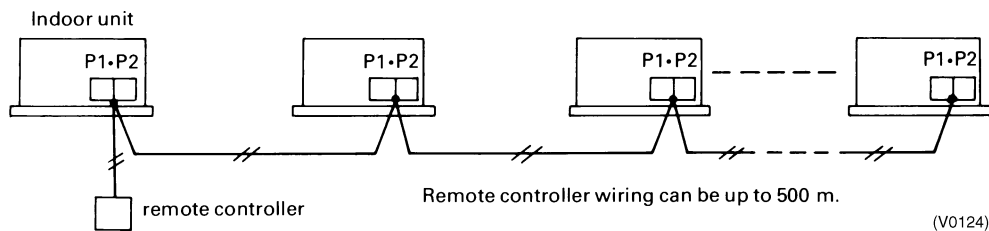
**Note:**

The remote controller is equipped with a thermostat sensor. If the main and sub remote controllers are mounted in separate rooms, set the main remote controller so that the thermostat sensor in the remote controller is not used.

### 4.1.4 Group Control

#### Simultaneous control of up to 16 units with a single remote controller

This is a convenient system for when you want to simultaneously control several indoor units with the same settings for air conditioning a wide, single floor.



- Wiring for remote controller group control has no polarity, P<sub>1</sub> and P<sub>2</sub> can be switched.
- All indoor units within the group have the same setting, and each indoor unit is controlled individually by its own built-in thermostat.
- Because automatic address is used, address does not have to be set by remote controller for group control.

**Note:**

- Only remote controller wiring is shown.
- For Connection unit series  
Although group control in Connection unit series is possible, however, group control with other series is impossible.

### 4.1.5 Remote Control

#### Enables forced OFF or ON/OFF control of indoor unit by input from outside.

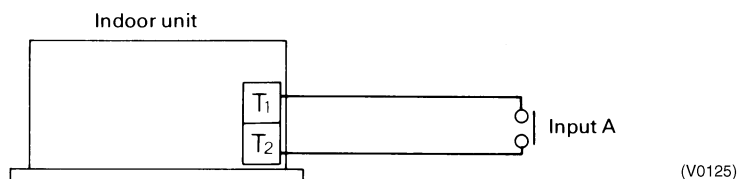
Indoor units can be started or stopped by building control or key control system.

**Notes**

- FXUQ-M(A) : Optional Accessory (Remote ON/OFF, forced OFF <EKRORO> is required.)

### 1. Wiring method and specifications

- Remote control can be carried out by connecting input from outside to terminals T<sub>1</sub> and T<sub>2</sub> of the terminal block (for remote controller transmission wiring).



### 2. Contents of operation

- Operation is as given in the table on the right for input A of forced OFF and ON/OFF control.

### 3. How to select forced OFF and ON/OFF control

- Select input by remote controller after turning on the power supply.
- Set to the field set mode by remote controller.
- After entering the field set mode, select mode No. 12, set the first code No. to "1," and set the second code No. to "01" for forced OFF, or to "02" for ON/OFF control.  
(Factory setting is set to forced OFF.)

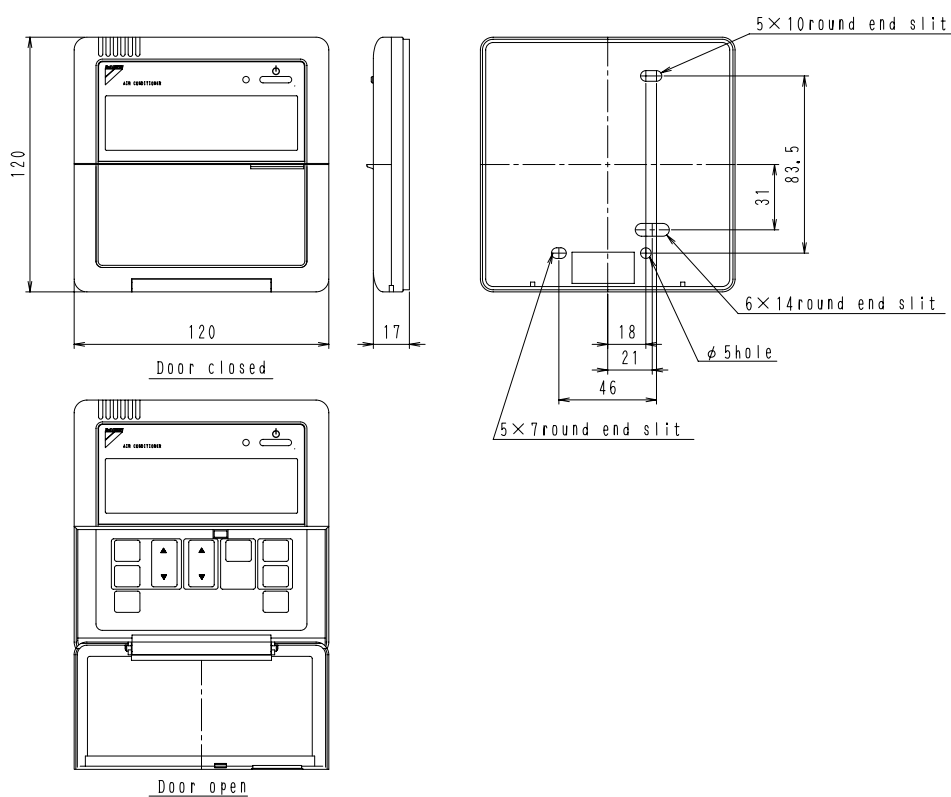
Wiring specifications	Sheathed vinyl cord or cable (2 wire)
Wiring thickness	0.75~1.25 mm <sup>2</sup>
Wiring length	Max. 100 m
Outside contact specifications	Contact that guarantees minimum applicable capacity of 15 VDC, 10mA
For forced OFF	
Forced OFF (remote controller rejection) by input A "ON"	Operate by switching input A from "OFF" to "ON"
Remote controller acceptance by input A "OFF"	Operate by switching input A from "ON" to "OFF"
For ON/OFF control	

## 4.1.6 Dimensions

### BRC1C62

For FXC(Q), FXF(Q), FXK(Q), FXD(Q), FXS(Q), FXM(Q), FXH(Q), FXA(Q), FXL(Q), FXUQ-M(A)

Unit (mm)



DU820-226

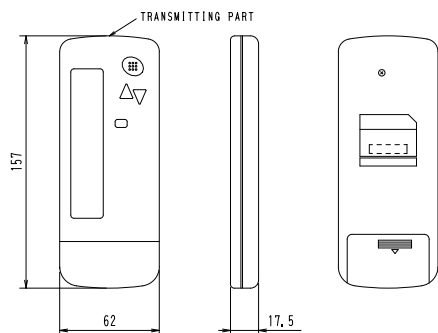
## 4.2 Wireless Remote Controller / Receiver

### FXCQ

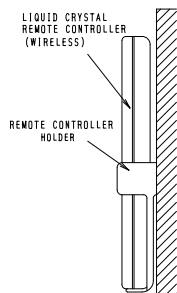
#### BRC7C67 ... For Cooling Only

Unit (mm)

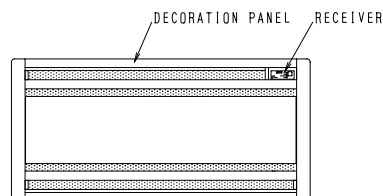
##### • REMOTE CONTROLLER DIMENSIONS



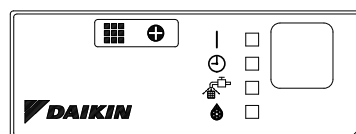
##### • REMOTE CONTROLLER HOLDER INSTALLATION PROCEDURE <INSTALLATION TO WALL SURFACE>



##### • RECEIVER INSTALLATION PROCEDURE



##### • RECEIVER DETAIL



##### • WIRELESS REMOTE CONTROLLER KIT FOR EACH DECORATION PANEL

WIRELESS REMOTE CONTROLLER KIT	DECORATION PANEL	
BRC7C62 BRC7C67	BYBC32GJW1	BYBC32G-W1
	BYBC50GJW1	BYBC50G-W1
	BYBC63GJW1	BYBC63G-W1
	BYBC125GJW1	BYBC125G-W1

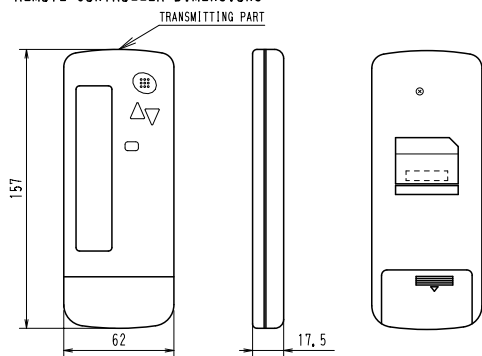
3D007588A

### FXFQ

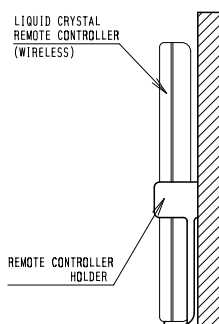
#### BRC7E65 ..... For Cooling Only

Unit (mm)

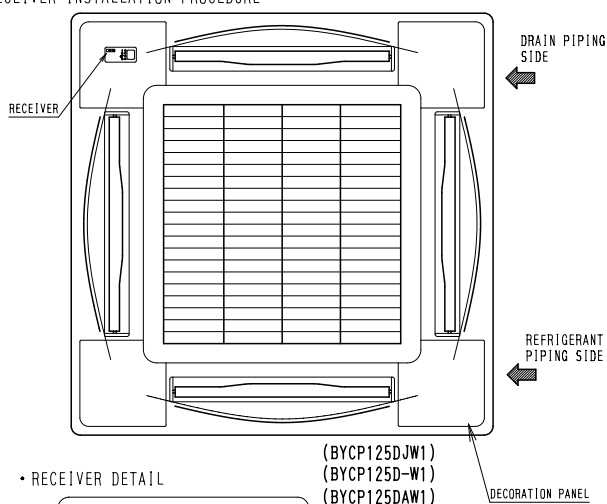
##### • REMOTE CONTROLLER DIMENSIONS



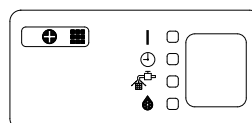
##### • REMOTE CONTROLLER HOLDER INSTALLATION PROCEDURE <INSTALLATION TO WALL SURFACE>



##### • RECEIVER INSTALLATION PROCEDURE



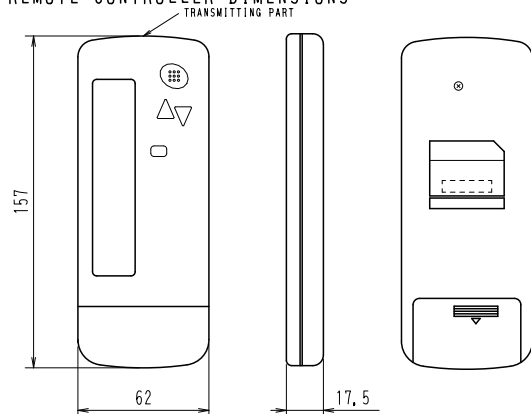
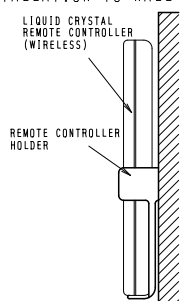
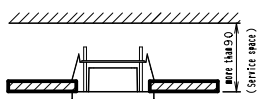
##### • RECEIVER DETAIL



##### • WIRELESS REMOTE CONTROLLER KIT FOR EACH DECORATION PANEL

WIRELESS REMOTE CONTROLLER KIT	DECORATION PANEL	
BRC7E51W BRC7EA51W	BYCP125DJW1	BYCP125DAW1
BRC7E61W	BYCP125D-W1	
BRC7E65		

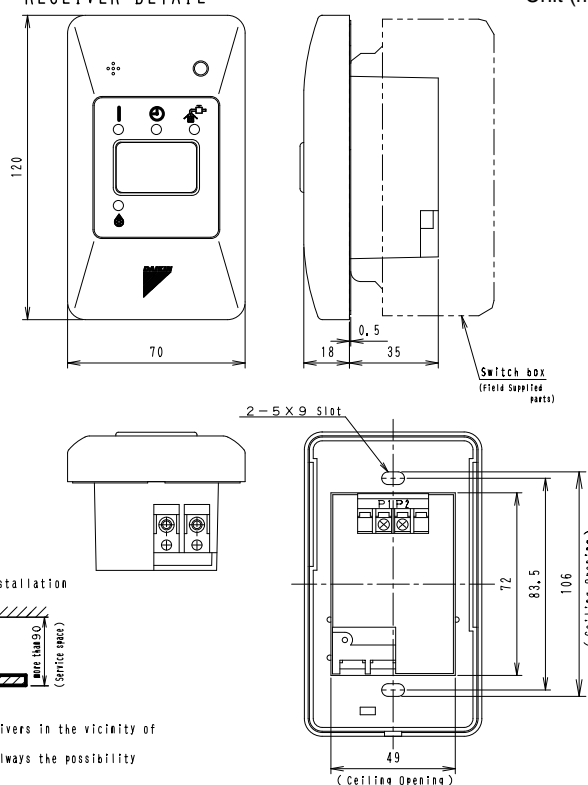
3D034088A

**FXDQ, FXSQ, FXMQ, FXLQ, FXNQ**  
**BRC4C64 ... For Cooling Only**
**• REMOTE CONTROLLER DIMENSIONS**

**• REMOTE CONTROLLER HOLDER  
INSTALLATION PROCEDURE**  
 <INSTALLATION TO WALL SURFACE>

**• Service space for ceiling installation**


**NOTE** Do not install more than 3 receivers in the vicinity of one another. With 4 or more units, there is always the possibility of malfunction.

**FXKQ**  
**BRC4C63 ... For Cooling Only**
**• RECEIVER DETAIL**

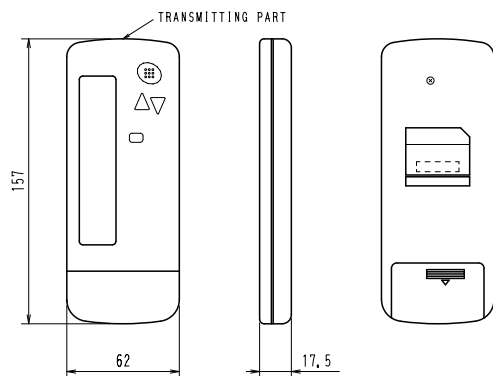
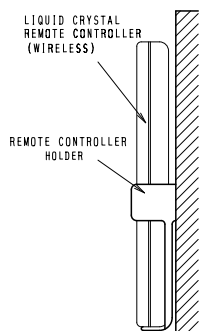
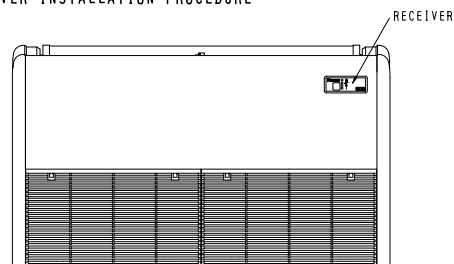
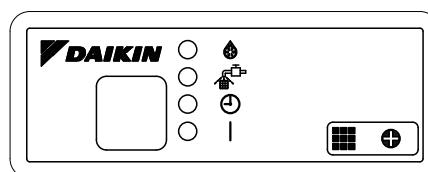
Unit (mm)



3D007898A

**FXHQ**
**BRC7E66 ..... For Cooling Only**
**• REMOTE CONTROLLER DIMENSIONS**

Unit (mm)

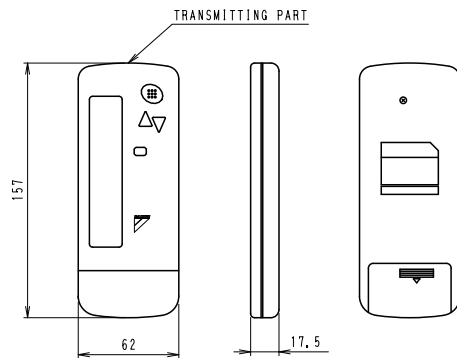

**• REMOTE CONTROLLER HOLDER  
INSTALLATION PROCEDURE**  
 <INSTALLATION TO WALL SURFACE>

**• RECEIVER INSTALLATION PROCEDURE**

**• RECEIVER DETAIL**


3D028963B

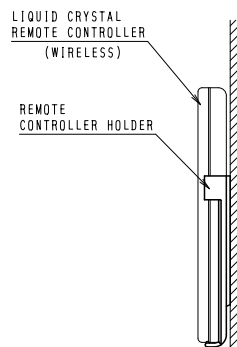
## FXAQ

## BRC7E619 ... For Cooling Only

## • REMOTE CONTROLLER DIMENSIONS

• REMOTE CONTROLLER HOLDER  
INSTALLATION PROCEDURE

&lt; INSTALLATION TO WALL SURFACE &gt;

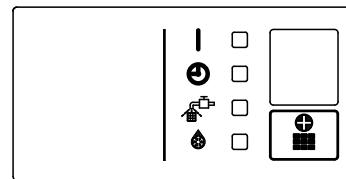


## • RECEIVER INSTALLATION PROCEDURE

Unit (mm)



## • RECEIVER DETAIL



## • WIRELESS REMOTE CONTROLLER KIT

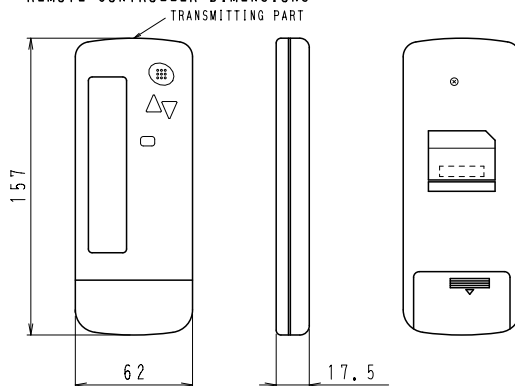
WIRELESS REMOTE CONTROLLER KIT		INDOOR UNIT
BRC7E618	BRC7EA618 (For H/P)	FXA ~ LVE (C)
BRC7E619	BRC7EA619 (For C/O)	

3D034905B

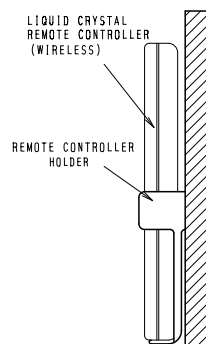
## FXUQ

## BRC7C529W.. For Cooling Only

## • REMOTE CONTROLLER DIMENSIONS

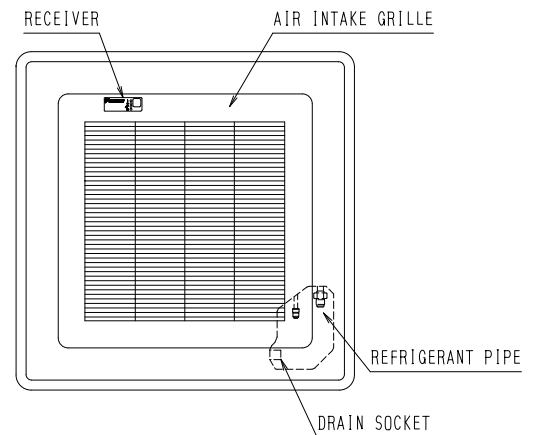
• REMOTE CONTROLLER HOLDER  
INSTALLATION PROCEDURE

&lt; INSTALLATION TO WALL SURFACE &gt;



## • RECEIVER INSTALLATION PROCEDURE

Unit (mm)



## • RECEIVER DETAIL

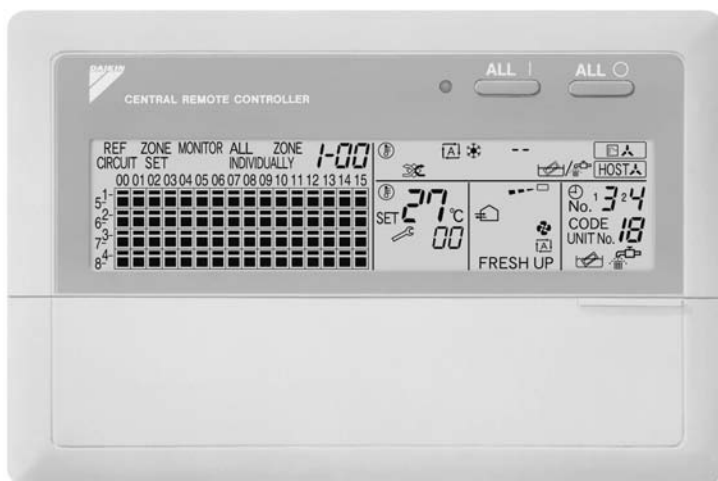


## • WIRELESS REMOTE CONTROLLER KIT FOR EACH INDOOR UNIT

INDOOR UNIT	WIRELESS REMOTE CONTROLLER KIT	
	HEAT PUMP SYSTEM	COOLING ONLY SYSTEM
FUY71 • 100 • 125FJV1	BRC7C528W BRC7CA528W	BRC7C529W BRC7CA529W

3D014035A

### 4.3 <DCS302CA61> Central Remote Controller



64 groups (zones) of indoor units can be controlled individually same as LCD Remote controller.

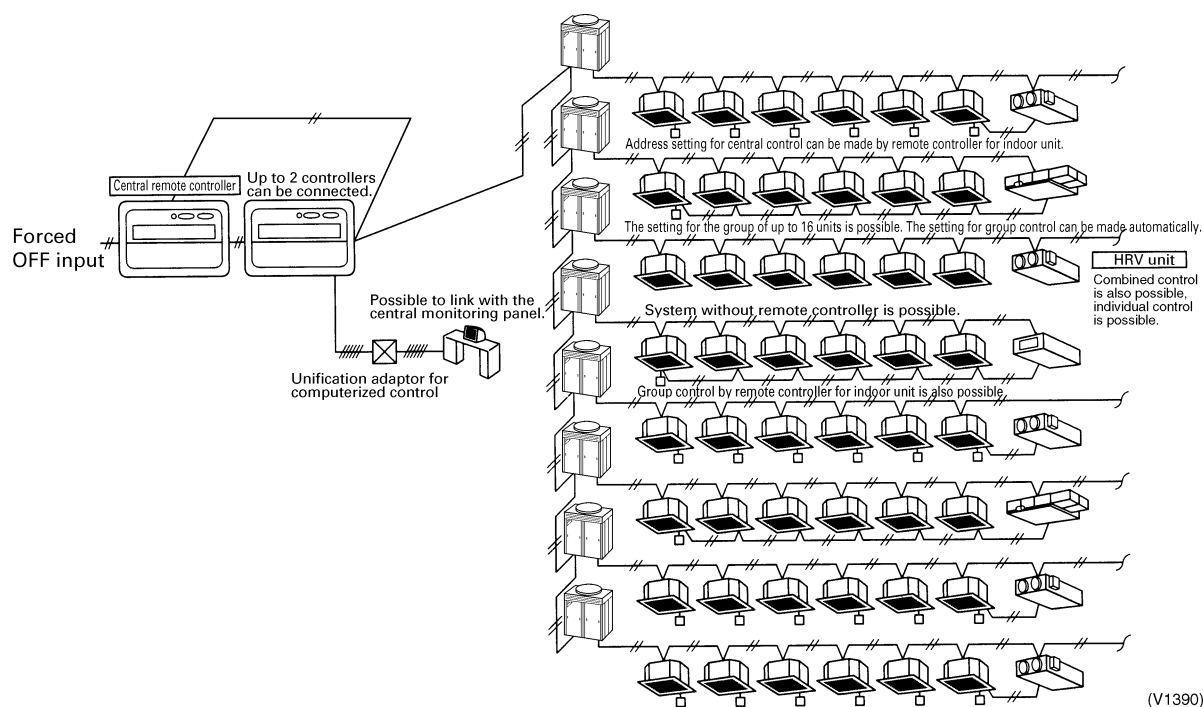
- Max.64 groups (128 indoor units controllable)
- Max. 128 groups (128 indoor units) are controllable by using 2 central remote controllers, which can control from 2 different places.
- Zone control
- Malfunction code display
- Max. wiring length 1,000 m (Total : 2,000 m)
- Combination with Unified ON/OFF controller, schedule timer and BMS system
- Airflow volume and direction can be controlled individually for indoor units in each group operation.
- Ventilation volume and mode can be controlled for Heat Reclaim Ventilation (HRV).
- Up to 4 Operation/Stop pairs can be set per day by connecting a schedule timer.

#### 4.3.1 Applied Model

	Applied model	Remark
VRV system	VRV III series, VRV II series, VRV III-S series, VRV II-S series	
	VRV PLUS series	
	VRV Inverter "K" series	
	VRV Heat recovery system	
	VRV-W II	Water Cooled VRV
	SkyAir series	Interface adaptor for SkyAir series is required for each indoor unit.
	Room air-conditioner	Wiring adaptor for other air-conditioning is required for each indoor unit.
	Other air-conditioner	Wiring adaptor for other air-conditioning is required for each indoor unit.
	HRV unit	

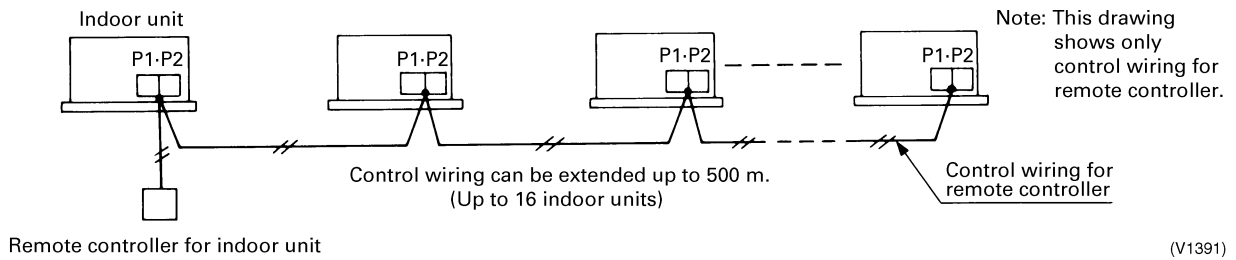
#### 4.3.2 System Configuration

##### System Outline



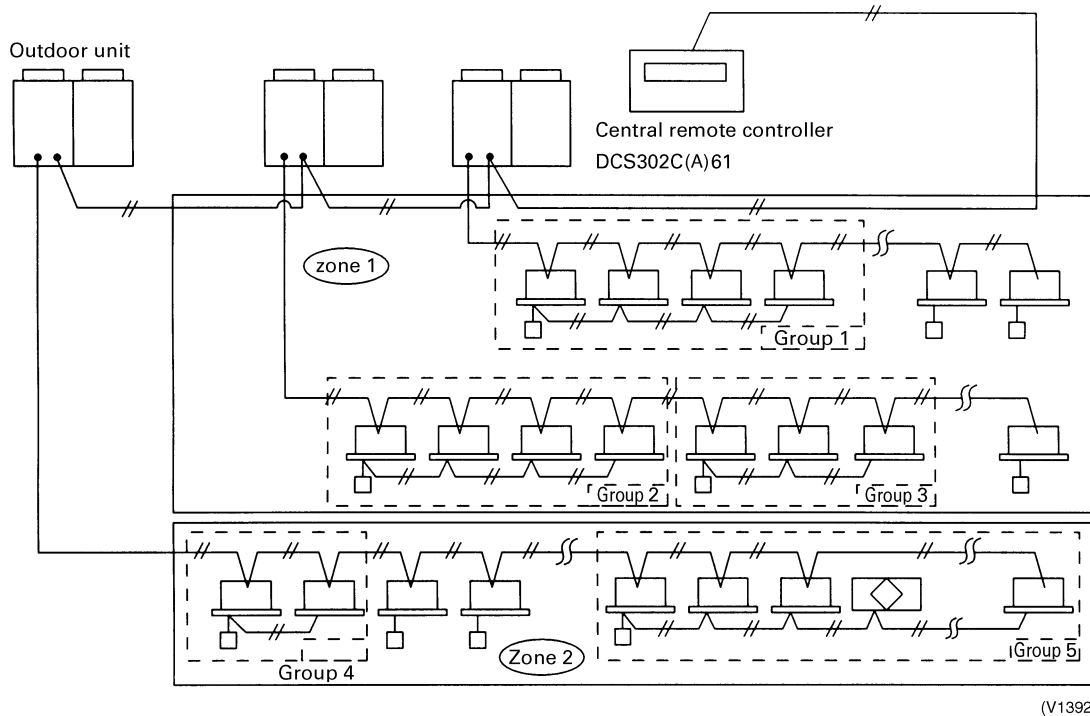
## System Configuration (Group / Zone Control)

### ■ Group control



- The group means the indoor units connected by the same control wiring for remote controller (connected to terminal P1 and P2) and all the unit in group have “the same setting” and “the same operation”.
- The indoor units in the group are controlled by the remote controller for indoor unit.
- The number of indoor units in one group is up to 16 units.

### ■ Zone control



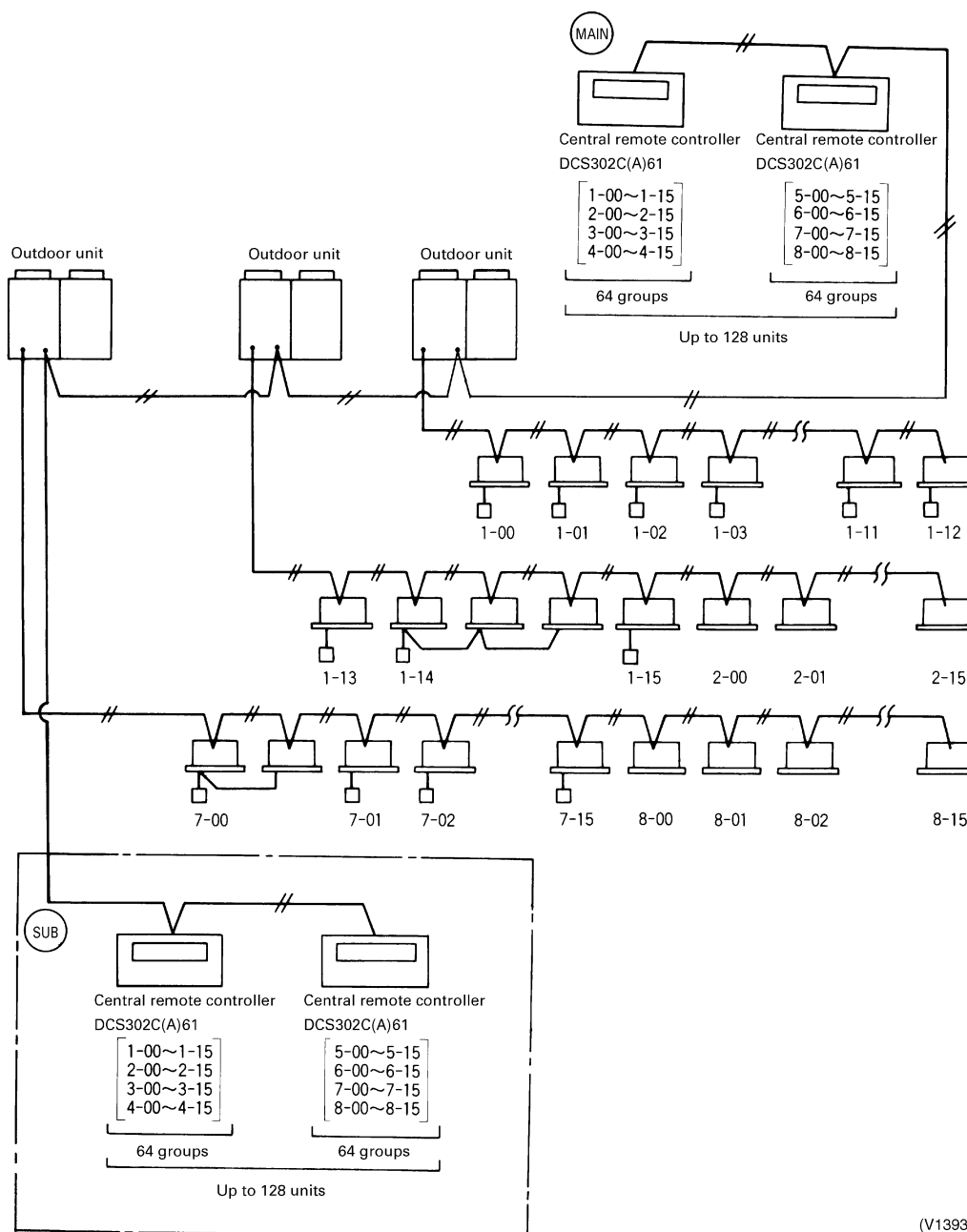
- The zone means the indoor units connected by the same control wiring for central remote controller (connected to terminal F1 and F2) and all the unit in zone have “the same setting”.
- The zone control of the indoor unit is operated by the central remote controller.
- From 1 up to 64 zones can be controlled by the central remote controller.
- The number of groups you can set in one zone is from 1 up to 64 groups.
- Up to 16 units can be set in one group, and up to 64 groups (up to 128 units) can be connected.

### System Configuration (Control by 2 central remote controllers)

- Up to 128 indoor units can be connected in one system.
- 2 or 4 central remote controllers are required. It is possible to control the same unit from 2 locations.
- Up to 16 unified ON/OFF controllers can be connected. (8 controllers × 2 locations)
- One schedule timer can be connected.

#### Note:

1. Electrical power should be supplied to each central remote controller. (Single phase 100~240V)
2. When you control by 2 central remote controllers, be sure to set SS3 by the initial setting.



#### Note:

The following setting cannot be made by the sub side. Be sure to set by the main side.

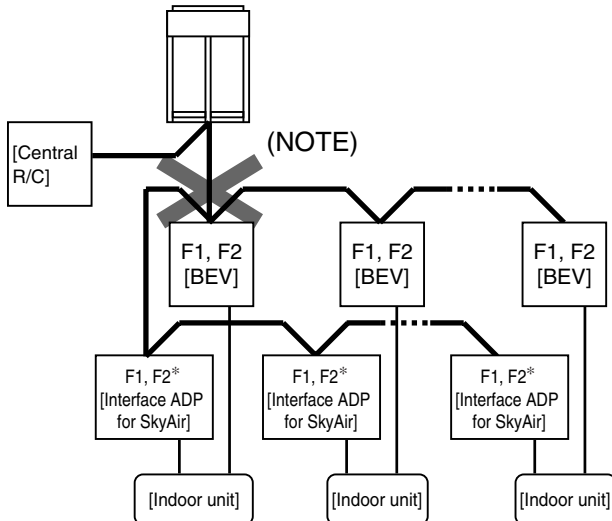
- Operation code setting
- Combined operation between indoor unit and HRV unit.

### Caution for wiring of BEV unit system with Central Remote Controller

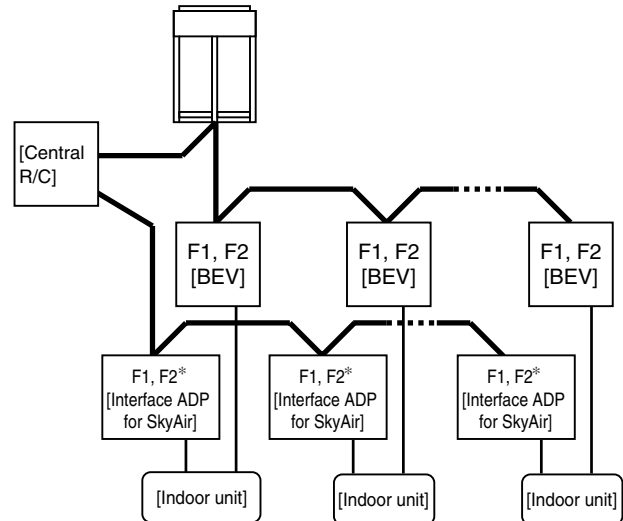
When the BEV unit system, such as FXAQ/FXLQ-M(A)V1, FXUQ-M(A)V1, and FUYP-BV1 are connected to the Central Remote Controller, the wiring becomes more complicated than that of general VRV system.

Please take care as follows when wiring.

**[NG Example]**



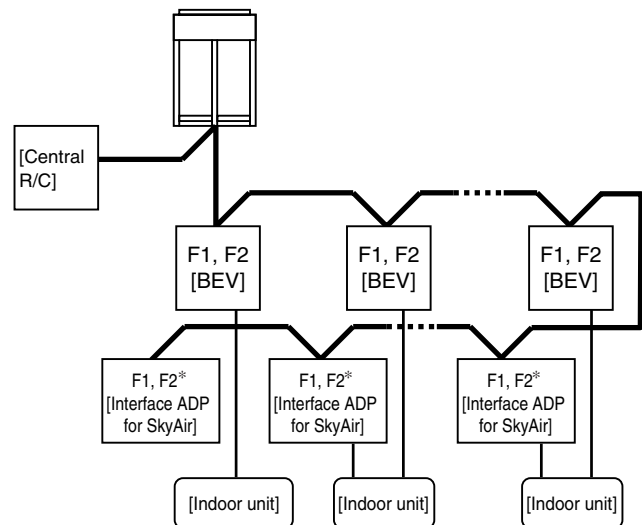
**[Wiring Example (1)]**



#### (NOTES)

1. When 3 or more wirings are branched from the same terminal block, use a relaying terminal block of field supply.
2. In the Wiring Example (1) and (2), 3 wires are not connected on the same terminal block.
3. \* FXAQ-M(A) : Interface adapter for SkyAir series is not necessary.  
Interface adapter for SkyAir is required when connecting with optional controller for centralized control.
4. Address setting is required for only indoor units (ADP connection) when BEV units are controlled by Central Remote Controller. Therefore, BEV connected indoor units are controlled under the number of indoor units like standard indoor unit.  
(BEV is not counted as an indoor unit.)  
With respect to the limitation to the number of units connected, please count it as the number of indoor units.

**[Wiring Example (2)]**



### 4.3.3 Specifications / Dimensions

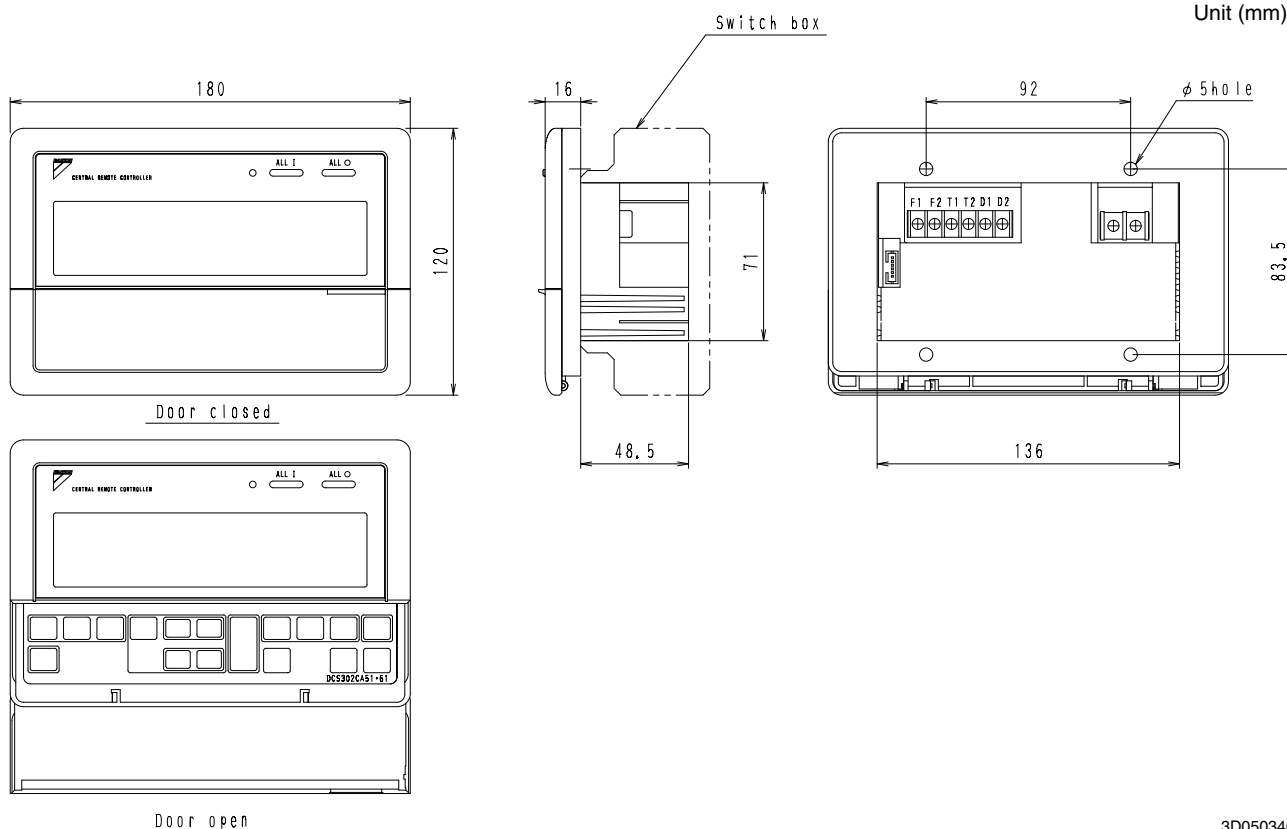
#### Specifications

	DCS302CA61
Power supply voltage / frequency	AC100~240V $\pm 10\%$ 50/60Hz
Power consumption	Max. 8W
Setting data backup	Non-volatile memory (Data preserved semi-permanently)
Effects of instantaneous power failure	No effect for 20 mili-sec. or less
Forced OFF input Operation on the local side cannot be carried out during forced OFF input.	<ul style="list-style-type: none"> <li>■ No-voltage normal open contact</li> <li>■ Micro-current contact capable of handling 16VDC and approx. 10mA.</li> <li>■ Max. 150 m cable length</li> </ul>
Power supply for schedule timer	Power can be supplied to schedule timer. (Max. 1 unit)
Operating ambient temperature /humidity condition	-5~40 °C, 95% RH or less (no condensation)
Size (width × height × depth)	180×120×64.5 mm exposed portion of front panel : 16 mm
Weight (Mass)	Approx. 420 g

#### Dimensions

##### DCS302CA61

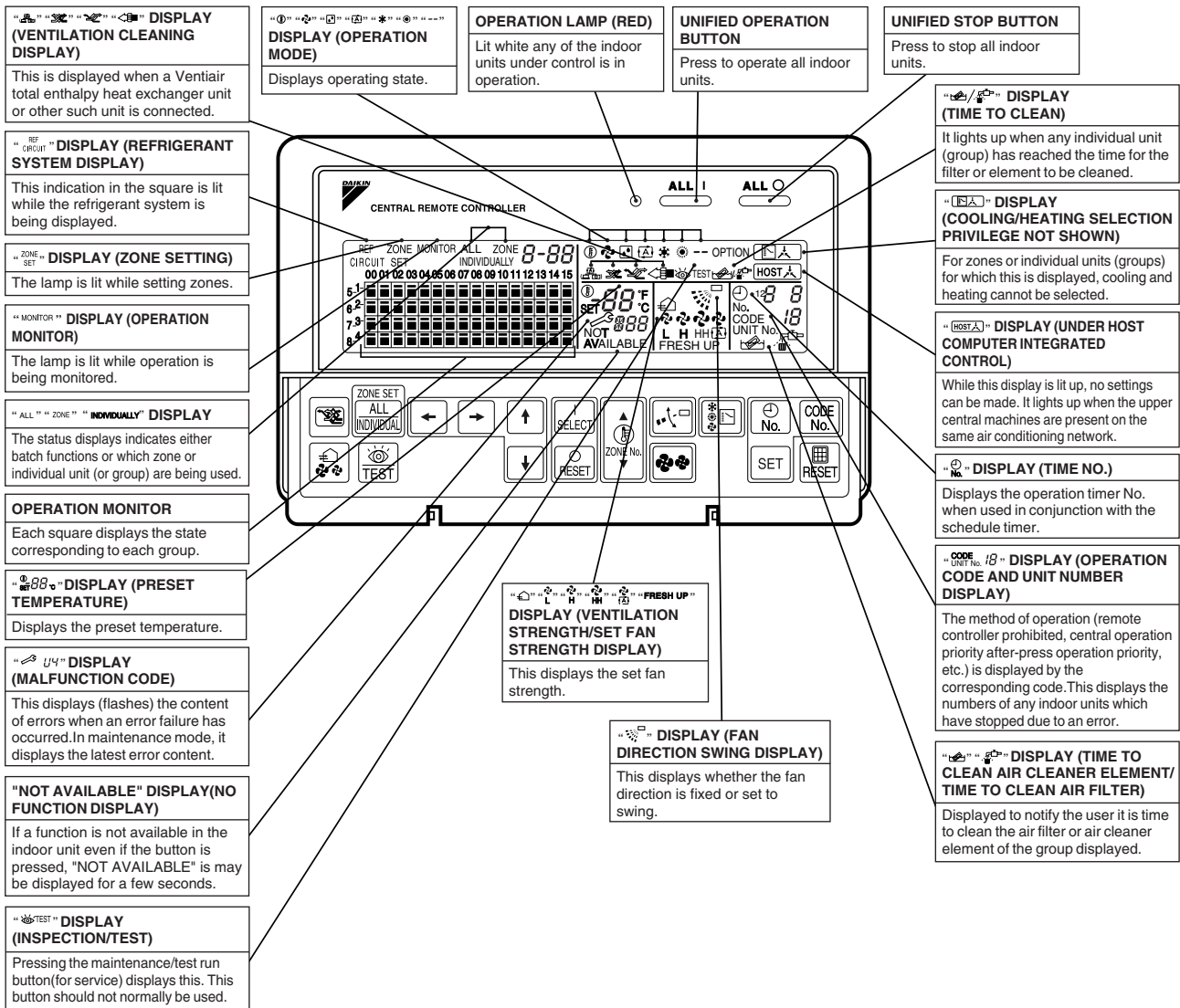
Unit (mm)



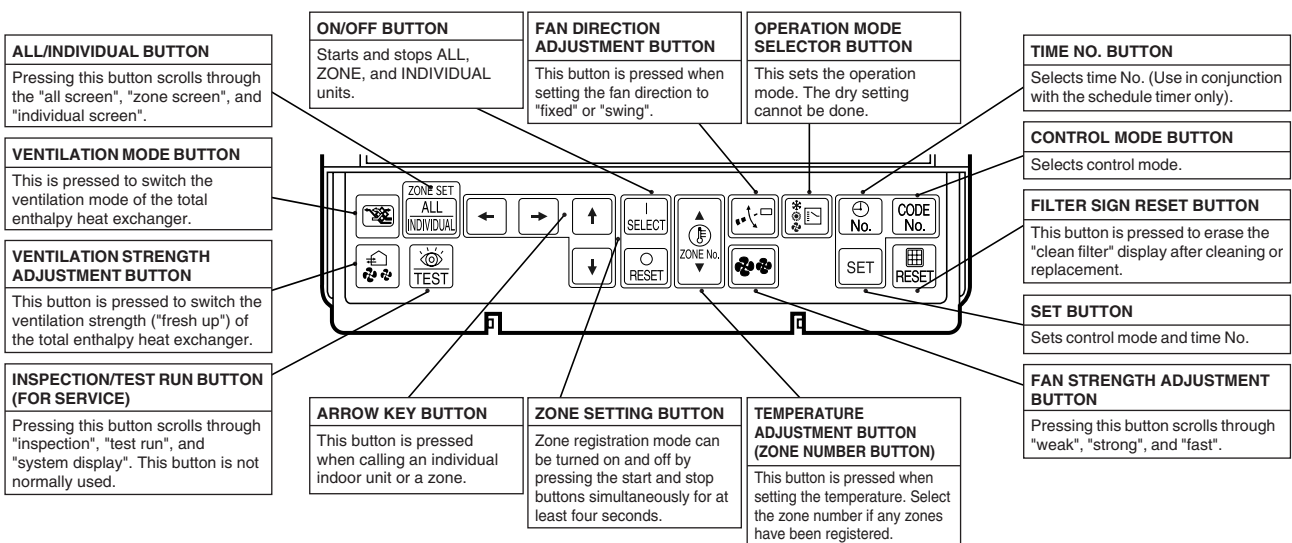
3D050340

### 4.3.4 Names and Functions of Operating Part

#### ■ Display part DISPLAY (OPERATION MODE) Displays operating state.



#### ■ Control Section



### 4.3.5 Description of Functions

#### Individual Screen, all Screen, Zone Screen

This controller can perform operations in the individual screen, all screen, or zone screen.

- Individual screen  
The individual screen is used when performing group operations.
- All screen  
The all screen is used when performing operations for all units at once.
- Zone screen  
The zone screen is used when performing zone operations.

#### Basic functions

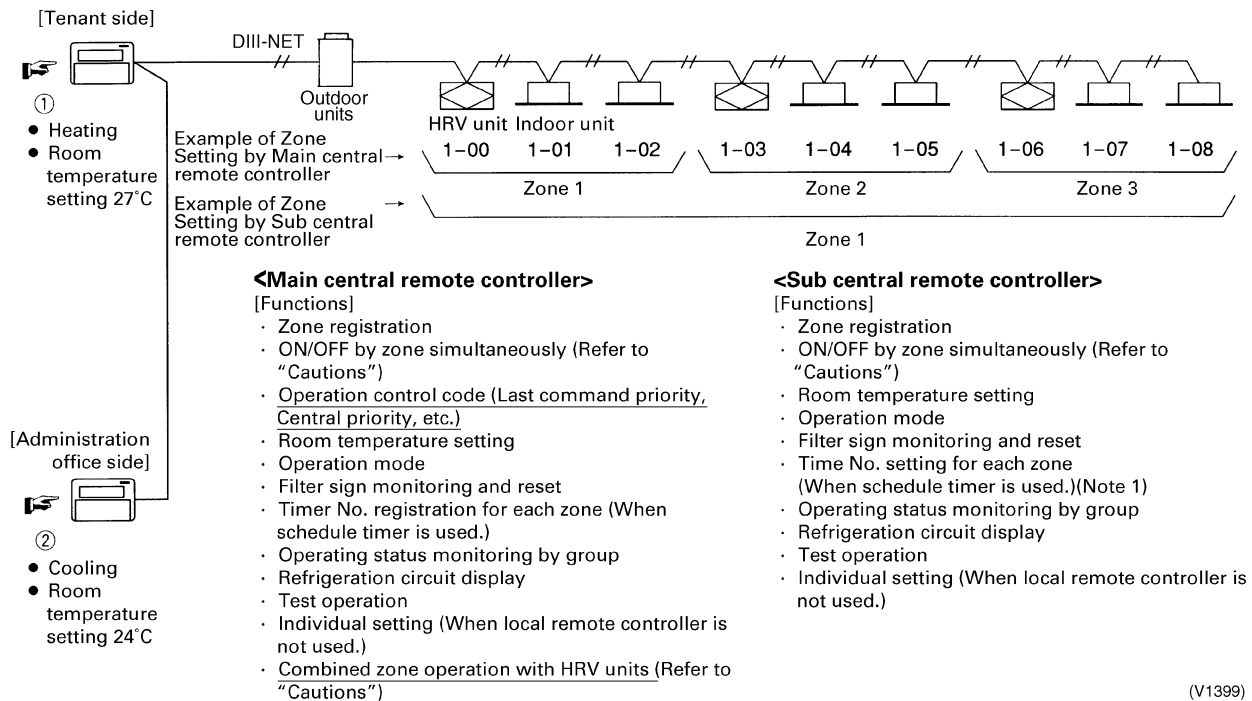
	Descriptions of outline
Individual/Zone control	Up to 64 groups (Max. 128 units and max. 16 units per group) of indoor units and HRV units can be controlled by individually or by zone.
Unified ON/OFF	ON/OFF can be set for each zone, and can be controlled simultaneously for entire system by push button or by contact signal from outside.
Malfunction code display	The status of each group is always displayed, such as ON/OFF, error, etc. If the error occurs, it displays the contents of error by malfunction code through the self-diagnosis function.
Connection of unification adaptor for computerized control	By connecting the unification adaptor for computerized control (option), it can be linked with the central monitoring panel and etc. by contact signal, which enables you to operate ON/OFF simultaneously or monitor the operating status.
Remote control acceptance/rejection	It is possible to restrict the function of local remote controller. (Only ON operation rejection, or ON/OFF operation rejection)
2 central controllers	By connecting two central remote controllers, the same air-conditioner can be controlled from 2 locations (By tenant or administration office.)

#### Zone control functions

	Descriptions of outline
Zone control	The zone function is a function to control one or more group of air-conditioner, and the operation setting such as ON/OFF etc. can be made by zone.
Up to 64 zones	Up to 64 zones (64 groups for each zone) can be set. However, the group setting spreading over the plural zone cannot be set.
Zone register	When the power is supplied first time, each group is registered in each respective zone. If you can simply register the several groups in the same zone by switch, so that you can have simultaneous operation of the units in that zone immediately. (The operation of temperature setting and etc. is also controlled by zone simultaneously.)
Zone setting	By adding the zone setting function (Zone "0") from the central remote controller, you can set the same setting for all the zone registered by single operation.
ON/OFF control of zone	For example, if there are three groups in one room and if you register these three groups as one zone, you can operate these three groups simultaneously by single operation (ON/OFF, temperature setting etc.). You still can operate each group individually by local remote controller.
Maintaining zone setting	Even if the power is turned off, the zone configurations set are maintained semi-permanently. (saved in non-volatile memory)
Cool/Heat changeover by zone	The cool/heat changeover can be made by zone. However, it is required to have a master group for Cool/Heat changeover in that zone.
Batch operation	The same setup is possible at one operation to all the groups registered on the "All" screen.
No local remote controller	Even if there is no local remote controller, you can still perform the same operation. There is no problem even if no remote controller is connected. (However, in this case, each one air-conditioner consists of one group.)
Combination with other controllers	You can also combine with a unified ON/OFF controller and a schedule timer. (Refer to the system configuration for details.)
Connection to central monitoring panel	You can also combine with an Interface for use in BACnet® and a data station in order to connect to the central monitoring panel. A parallel interface can also be connected.

## Control with Two Central Remote Controllers

The central remote control equipment is newly designed to "B" type, which has been added with a new control function for 2 central remote controllers. However, be sure that the relation between Main/Sub of the central remote controller is different from those of local remote controllers.



### Note:

Be sure that if timer No. is registered by the sub central remote controller, [Timer mode acceptance for local remote controller (mode no. 8,9,18, and 19)] for the same units set by the Main remote controller becomes meaningless (operates when time comes.).

### <Explanation of the above figure>

If you operate the central remote controller in the sequence of ① and ②, the indoor unit is set for cooling / temperature setting 24°C.

However, the display of zone setting of the master remote controller remains at heating / temperature setting at 27°C.

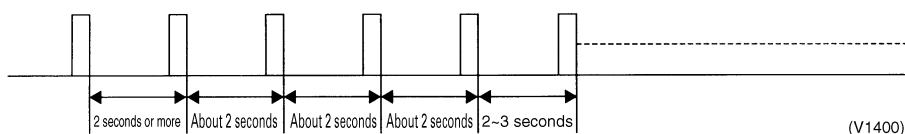
### <Cautions>

- Operation code cannot be set by the sub central remote controller.
- Combined zone operation can only be set by zone registration of the main central remote controller.
- Both main and sub central remote controller are operated by a Last priority command for the functions other than the above.

However, the display on the central remote controller cannot be changed by each other. (On the display for the group, you can monitor the present operation status.)

## Sequential Start

<Operation command from central control equipment>



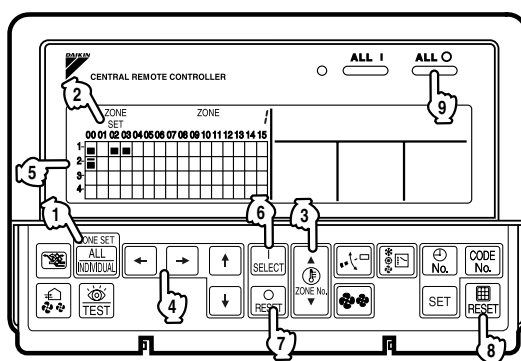
Each unit operates in sequence. For example, if you set the simultaneous operation by the central remote controller, which controls 1-00 ~ 4-15 and 5-00 ~ 8-15 groups, two outdoor units start simultaneously.

## Registering Zone

It is possible to set multiple groups as one zone and control each zone separately.

No zones are registered when the unit is shipped from the factory.

Zone registration can be done in the individual screen, all screen, or zone screen.



### Registration

1. Pressing the "ALL/INDIVIDUAL" button for four seconds. Displays ZONE SET.  
Zone Number 1 will be displayed, and if there are any groups already registered in the displayed zone, a "■" will light up on the operation monitor.
2. Select the Zone Number to be registered using the "ZONE NUMBER" button.  
Keeping the button pressed down will move it rapidly.
3. "to the group you wish to register using the arrow keys.  
Keeping the button pressed down will move it rapidly.
4. Press the "SELECT" button to register that group to the zone.  
The "■" display lights up on all the selected units.  
 Pressing the "RESET" button removes the group from that zone, and "■" goes off.  
Repeat steps 3 and 4 until all the units you wish to register to the zone have been added.

2

ZONE SET

ZONE

!

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
1-	■		■	■												
2-	■															
3-																
4-																

In this example, a screen is shown with units 1-00, 1-02, 1-03, and 2-00 registered to Zone Number 1.

5. Repeat steps 2 to 4 to register to the next zone.
6. Once zone registration is complete, press the "ALL/INDIVIDUAL" button to turn off "ZONE SET" display and return to the individual screen.

The display returns to the normal screen if nothing is done for one minute when in zone registration mode.

### (NOTE)

- It is impossible to register one group to several different zones.  
If this is done, the last zone registered to will be valid.

### Batch deletion of zone registration

1.  Pressing the "ALL ○" for at least four seconds while  pressing the "FILTER SIGN RESET" button when  "ZONE SET" is displayed will delete all zone registrations.

The zone registrations for all units will be lost.

3P124623-3A

### Zone setting

Set the screen of [Zone 0] on the display, and if you set the following mode, you can set to the all zone registered on the central remote controller by one operation.

- Operation mode
- Control mode
- Room temperature setting
- Time NO.

### Display of "NOT AVAILABLE"

If indoor units are not available for functions subject to control even when attempting to operate these functions from DCS302C(A)61, the system will display this "NOT AVAILABLE" message.

This message is displayed for a period of approximately two seconds. However, if any button corresponding to functions not available while the "NOT AVAILABLE" is displayed, it will be displayed for a period of another approximately two seconds.

The following section shows the conditions for this display.

On the Individual screen,

When the indoor unit is chosen, "NOT AVAILABLE" will be displayed if the "VENTILATION MODE", "VENTILATION STRENGTH" button is pushed.

When the HRV unit is chosen, "NOT AVAILABLE" will be displayed if the "OPERATION MODE SELECTOR", "FAN DIRECTION ADJUSTMENT" "FAN STRENGTH ADJUSTMENT" "TEMPERATURE ADJUSTMENT (ZONE NUMBER)" button is pushed.

When an indoor without FAN DIRECTION, FAN STRENGTH is chosen, "NOT AVAILABLE" will be displayed if "FAN DIRECTION", "FAN STRENGTH" button is pushed.

When a HRV without VENTILATION MODE, VENTILATION STRENGTH is chosen, "NOT AVAILABLE" will be displayed if "VENTILATION MODE", "VENTILATION STRENGTH" button is pushed.

On the Zone screen and All screen, the FAN DIRECTION ADJUSTMENT, FAN STRENGTH ADJUSTMENT, VENTILATION MODE, and VENTILATION STRENGTH buttons are disabled.

Pressing any of these buttons will display the "NOT AVAILABLE" message on the screen.

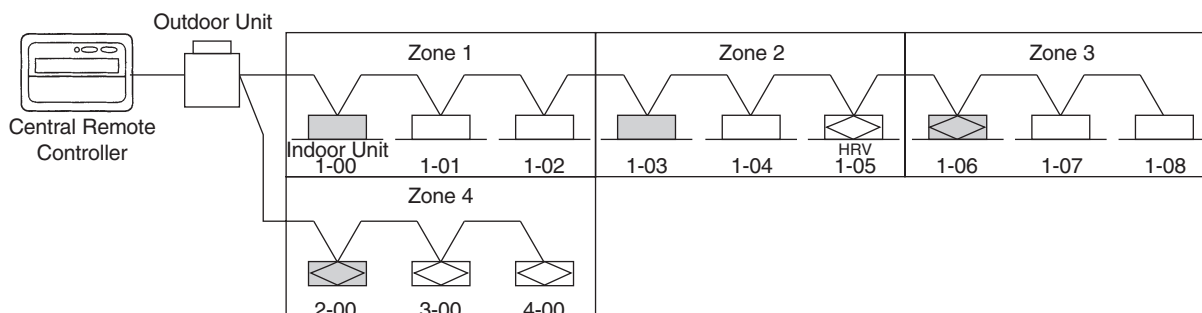
With the Schedule Timer not connected, even if the "Timer No." button is pressed, the "NOT AVAILABLE" message will not be displayed.

While in double central control function, even if the OPERATION CODE button is pressed, the "NOT AVAILABLE" message will not be displayed.

## Monitor in zone unit

Operating and monitoring the system even in group or zone unit has become enabled from the DCS302C(A)61. Monitoring in zone unit is conducted taking an indoor unit with a lower address within the zone as the Main Indoor Unit.

For monitoring the zone settings: The following screens are displayed.



	Main Indoor Unit	Operation Code Timer No.	Temp. Display	Operation Mode	Ventilation Mode
Zone 1	1-00	1-00	1-00	1-00	N/A
Zone 2	1-03	1-03	1-03	1-03	1-05
Zone 3	1-06	1-06	1-07	1-07	1-06
Zone 4	2-00	2-00	N/A	N/A	2-00

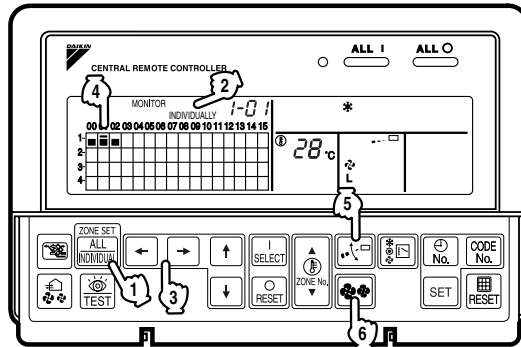
If the system is operated on the Zone screen, one and the same setting will be made on all indoor units registered with the zone.

On the Zone screen, ventilation mode is only monitored. In order to change ventilation mode, be sure to use the Individual screen.

On the Batch screen, operating and monitoring is also enabled, thus monitoring an indoor unit with a lower address within the scope of control.

## Changing the Fan Direction and Fan Strength

This changes the fan direction and strength settings in the air conditioner.  
Changing the fan direction and strength is done in the individual screen.



### [Registration]

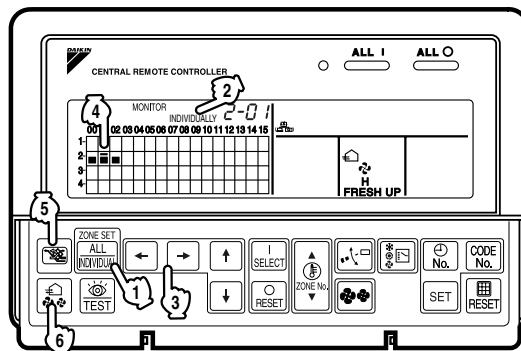
1. Press the "ALL/INDIVIDUAL button" to enter the individual screen.  
The unit will enter the individual screen automatically if nothing is done for one minute.
2. Using the arrow keys, move the " " to select the units to fan direction adjustment or fan strength adjustment.  
Keeping the button pressed down will move it rapidly.
3. Press the "FAN DIRECTION ADJUSTMENT" button.  
This sets "fixed" or "swing" for the fan direction.  
 Press the "FAN STRENGTH ADJUSTMENT" button.  
Pressing this button scrolls through " ", " " and " ".  
Depending on the indoor unit, only " " and " " may be available.

The functions included in the indoor units may vary. Pressing a button for a function which is not available will cause "NOT AVAILABLE" to be displayed.

3P124623-3A

## Changing the Ventilation Mode and Ventilation Strength






This changes the ventilation mode and strength settings in the total enthalpy heat exchanger.  
Changing the ventilation mode and strength is done in the individual screen.



### [Registration]

1. Press the "ALL/INDIVIDUAL button" to enter the individual screen.  
The unit will enter the individual screen automatically if nothing is done for one minute.
2. Using the arrow keys, move the " " to select the units to ventilation mode or ventilation strength adjustment.  
Keeping the button pressed down will move it rapidly.
3. Press the "VENTILATION MODE" button.  
It will scroll through " " → " " → " " → " " .

 Press the "VENTILATION STRENGTH ADJUSTMENT" button.

It will scroll through "  " → "  " → "  " → "  " → "  " .  
FRESH UP FRESH UP L

The fresh up function may not be available depending on the connected unit model.

The functions included in the indoor units may vary. Pressing a button for a function which is not available will cause "NOT AVAILABLE" to be displayed.

#### ■ Ventilation Mode and Amount

If these are changed using the remote controller depending on the unit model, they cannot be displayed on the central remote controller.

To monitor the ventilation mode and amount, check the values on the remote controller.

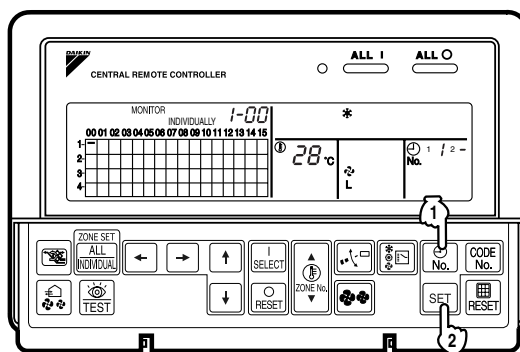
3P124623-3A

### Timer Number Setting

(Only when used with the schedule timer)

Using this together with the schedule timer makes it possible to set on and off times four times a day.

4 times of ON/OFF time can be set up per day. Because, two settings of ON/OFF time are possible to one Schedule Timer and two Schedule Timers can be registered into a Central Remote Controller.

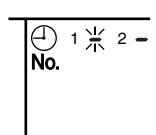


#### [Registration]

1.  Pressing the "TIMER NO." button causes the number set for timer number 1 to blink.

If no timer setting has been made " - " will be displayed. Select the desired timer number by pressing the

 "TIMER NO." button.

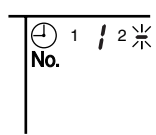


2.  Once the desired timer number is displayed, press the "SET" button.

Press the  "SET" button within 10 seconds after the timer number is displayed.

The display will return to how it was after 10 seconds.


The display for timer number 1 will stop blinking and then timer number 2 will start blinking.



3.  Select the desired timer number by pressing the "TIMER NO." button.

Once the desired timer number is displayed,  press the "SET" button.

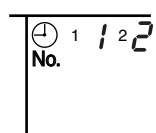
The display for timer number 2 will stop blinking.

The "  " display will disappear after 3 seconds.

Select " - " in the timer number when you do not wish to set a timer number.

It is possible to set only one timer number.

(The times for turning the unit(s) on and off twice a day can be set with a single timer number.)



**■ Timer Number Setting**

Group control: select the unit in the individual screen and set the timer number.

Batch control: set the timer numbers for all connected units.

Zone control: set the timer numbers for all zone-registered units.

Call up the zones which you wish to set in the zone screen and set the timer numbers.

**■ Since the timer number will be set to after-press priority, the timer number in the last screen set will be valid for the connected units.****Example 1**

Setting timer number 1 for unit 1-00 to "1" and timer number 2 to "2" in the individual screen and then setting timer number 1 to "3" and timer number 2 to "4" in the batch screen causes the timer numbers for all units to be set, so timer number 1 for unit 1-00 will be "3" and timer number 2 will be "4".

**Example 2**

To prevent leaving units on, timer number 1 is set to "5" in the batch screen.

Setting timer number 1 in zone number 1 to "-" in the zone screen after that will change the timer number for zone number 1, so the setting to prevent leaving the units on will be lost for zone number 1 only.

If a timer number is set incorrectly by accident, redo the setting in the desired screen.

**■ What happens when the timer number on time and off time are set to the same time**

When the on time and off time are set to the same time for the same timer number, operation does not change.

When the on time and off time are set to the same time for different timer numbers, the off time is given priority.

When using timer operation, make sure the times do not overlap when setting the program of the schedule timer.

3P124623-3A

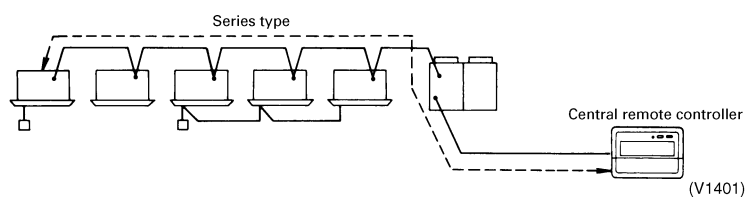
## 4.3.6 Wiring Instructions

### Wiring instructions

For control wiring of DIII-NET, you can select from the following 3 types of wiring methods.

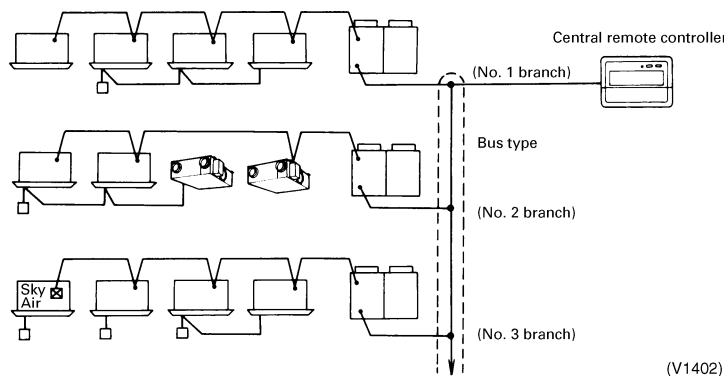
#### 1. Series method :

Wiring is connected by a single line from the central controller.



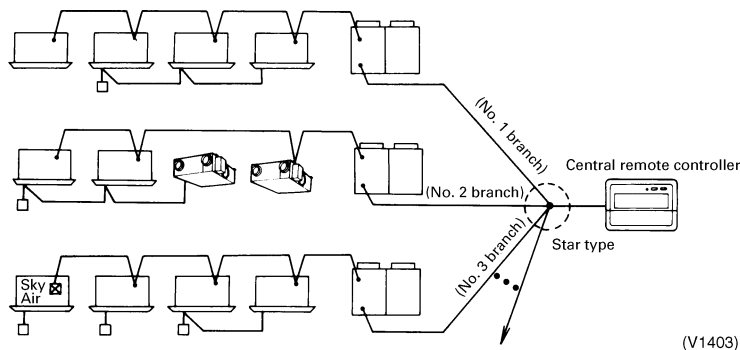
#### 2. Bus method :

Up to 16 branches is possible. Never diverge the sub-branches from the branch line.



#### 3. Star method :

Up to 16 branches is possible. Never diverge the sub-branches from the branch line.



### Specifications of transmission wiring

Be sure to use either 2-core sheathed vinyl cord or cable as mentioned below. The size of wire should be selected in the range of 0.75~1.25 mm<sup>2</sup>.

■ Vinyl cab tire round cord	VCTF	JISC 3306
■ Vinyl insulated, vinyl sheathed cable for control	CVV	JISC 3401
■ Round vinyl sheathed cable for control	CVS	JISC 3401
■ 600V vinyl cab tire cable	VCT	JISC 3312
■ Polyethylene insulated vinyl sheathed cable (*)	CPEV	
■ Mesh insulated cable (*)	MVVS	

\* When the shield wire is used, be sure to ground the one side of the shield wire.

#### <Length of control wiring>

Between central remote controller and air-conditioner

Maximum extension : 1,000 m, Total length : 2,000 m (\*)

\* When you have branches, be sure to make a total length of all the branch.








### 4.3.7 Instructions for Initial Setting

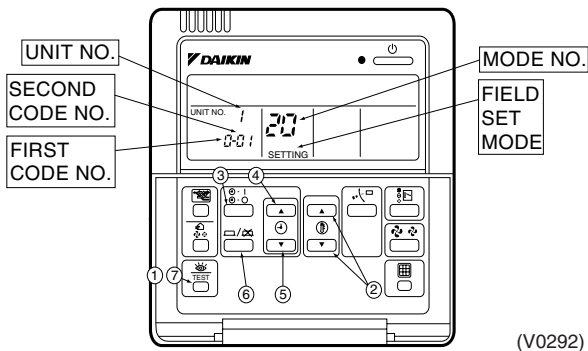
#### Group No. Setting for Central Control Equipment

Group No. should be set for each group by the remote controller for indoor unit, when you operate the system with central remote controller and unified ON/OFF controller. (For the same control group, set only one of the unit.)

##### ■ Remote controller for indoor unit

##### ■ Procedure to set the group No. for central control by remote controller for indoor unit.

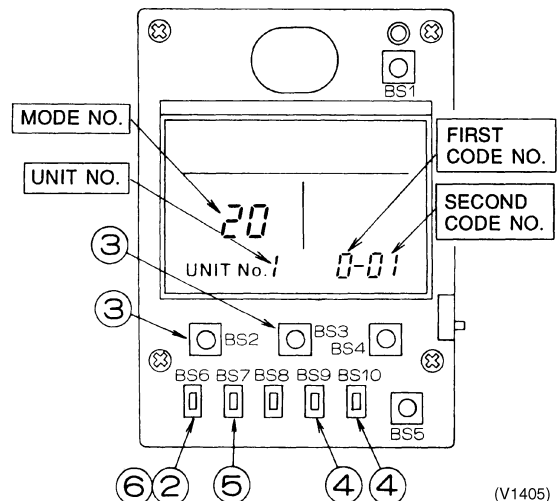
1. When in the normal mode, press the “ TEST” button for a minimum of four seconds, and the FIELD SET MODE is entered.
2. Select the desired MODE NO. with the “ ” button (②).
3. During group control, when setting by each indoor unit (mode No. 20, 22 and 23 have been selected), push the “ ” button (③) and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
4. Push the “ ” upper button (④) and select FIRST CODE NO.
5. Push the “ ” lower button (⑤) and select the SECOND CODE NO.
6. Push the “ ” button (⑥) once and the present settings are SET.
7. Push the “ TEST” button (⑦) to return to the NORMAL MODE.



##### ■ Simplified remote controller

##### ■ Group No. setting by simplified remote controller.

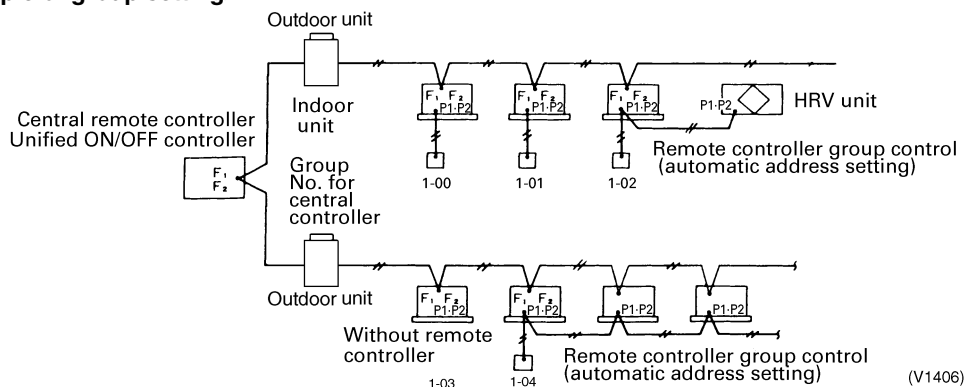
1. Remove the cover of remote controller.
2. While in normal mode, press the [BS6] BUTTON (field set) to enter the FIELD SET MODE.
3. Select the mode No. [00] with [BS2] BUTTON (temperature setting ▲) and [BS3] BUTTON (temperature setting ▼).
4. Select the group No. with [BS9] BUTTON (set A) and [BS10] BUTTON (set B). (Group Nos. increase in the order of 1-00, 1-01.....1-15, 2-00,.....4-15. However, the unified ON/OFF controller displays only group No. set within the range of control.)
5. Press [BS7] BUTTON (set/cancel) to set group No.
6. Press [BS6] BUTTON (field set) to return to the NORMAL MODE.



#### <Cautions>

- Even in the system without remote control, connect the remote controller once to set group No. for central control equipment and remove the remote controller after setting.
- When you set the group No., be sure to supply the power to the central remote controller, the unified ON/OFF controller and the indoor unit.

#### <Example of group setting>



#### Cautions

When the power is supplied, all the display appears once on the remote controller and then the display changes to

[88] for about one minute and during that time the remote controller does not function. However, this is not a malfunction of remote controller.

---

### **Control Mode Setting by Remote Controller (Field Setting)**

The control mode defines the function of local remote controllers to handle various types of control and applications. Function can be defined by conditions and combinations of local remote control operations such as ON/OFF etc. (See table below.)

Operation can always carried out from the central remote controller. (Except when connected to the central monitoring panel.)

#### **■ Description of Control Mode**

The following 5 operation control modes and 20 modes combined with temperature and operation mode setting by the remote controller are set and display by the control mode of 0 through 19.

##### **Remote Control Rejection**

For when you want to turn on/off using central remote controller only.

(On/off cannot be carried out by remote controller.)

##### **Remote controller Off Only Accepted**

For when you want to turn on only by the central remote controller, and turn off only by local remote controller.

##### **Central Priority**

For when you want to turn on only by the central remote controller, and during the set time, turn on/off freely by local remote controller.

##### **Individual Priority (Last Command Priority)**

For when you want to turn on/off by both central remote controller and local remote controller.

##### **Remote Controller Permission Timer**

For when you want to turn on/off by local remote controller during set time, but you do not want to start operation from the central remote controller at the programmed time of system start.

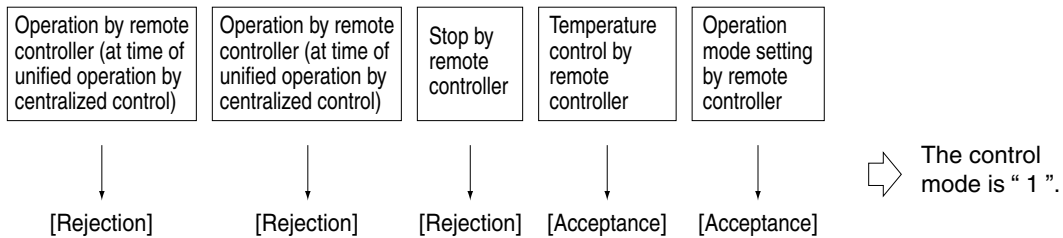
##### **Note:**

The control mode consists of numbers 0 through 19, but only 0 through 9 are usually set.

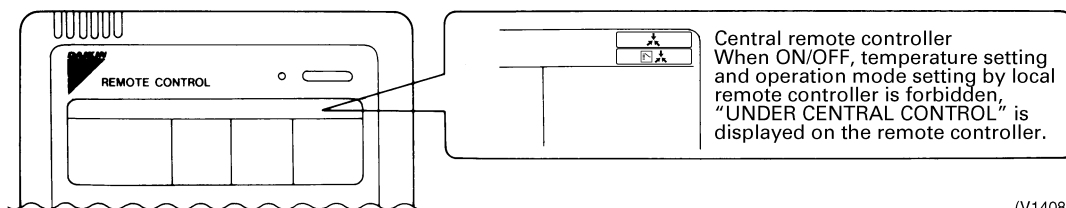
### 4.3.8 Selection of Control Mode No.

Select whether to accept or to reject the operation from the remote controller regarding the operation, stop, temperature setting and operation mode setting, respectively, and determine the particular control mode from the right most column of the table below.

(Example)



Operation mode	Control by remote controller					Control mode	
	Operation		Stop	Temperature control	Operation mode setting		
	Unified operation, individual operation by central remote controller, or operation controlled by timer	Unified stop, individual stop by central remote controller, or timer stop					
ON/OFF control impossible by remote controller	<u>Rejection</u> (Example)		<u>Rejection</u> (Example)	Rejection	Acceptance	0	
					Rejection	10	
			<u>Rejection</u> (Example)		<u>Acceptance</u> (Example)	<u>Acceptance</u> (Example)	1 (Example)
						Rejection	11
Only OFF control possible by remote controller	Acceptance	Rejection			Acceptance	2	
					Rejection	12	
		Acceptance			Acceptance	3	
					Rejection	13	
Centralized		Rejection			Acceptance	4	
					Rejection	14	
Acceptance		Acceptance			Acceptance	5	
					Rejection	15	
	Rejection	Acceptance			6		
		Rejection			16		
	Acceptance	Acceptance			7		
		Rejection			17		
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Rejection (During timer at OFF position)	Rejection	Acceptance	8		
Rejection				18			
			Acceptance	Acceptance	9		
				Rejection	19		



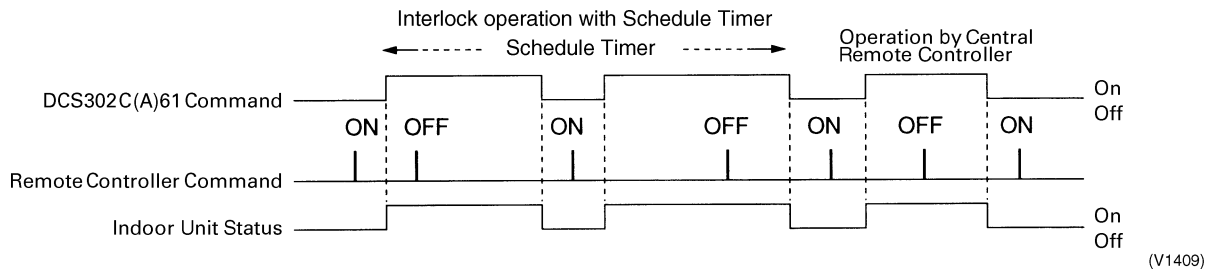
(V1408)

C : 3P171361-1

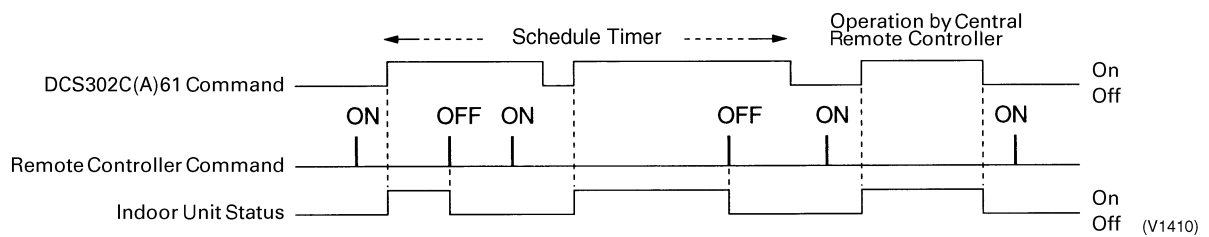
### ■ Timing Chart for Each Control Mode No. (VRV system)

Timing charts for scheduled operation and remote controller control for each control mode No. as follows.

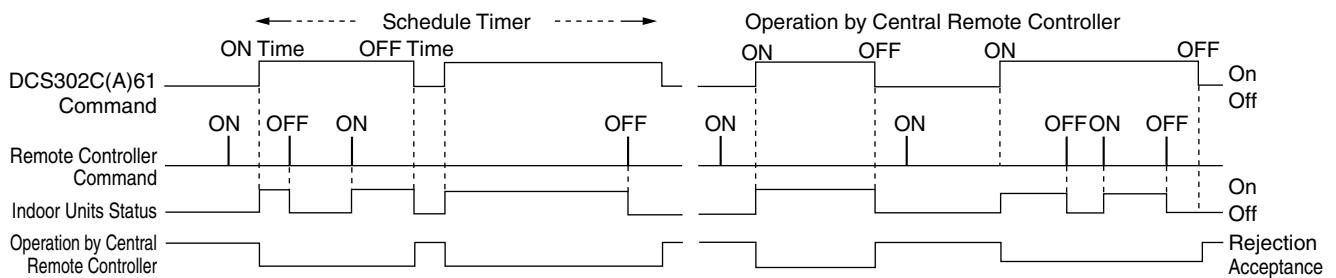
#### 1. Remote controller rejection (Code No. 0, 1, 10, 11)



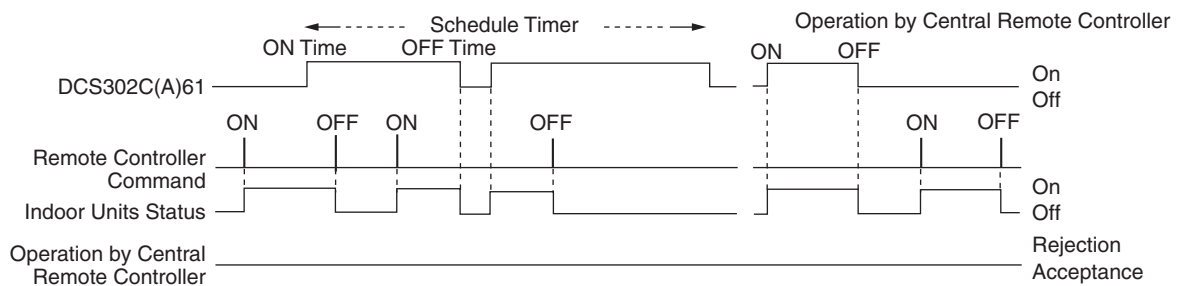
#### 2. Remote controller off only accepted (Code No. 2, 3, 12, 13)



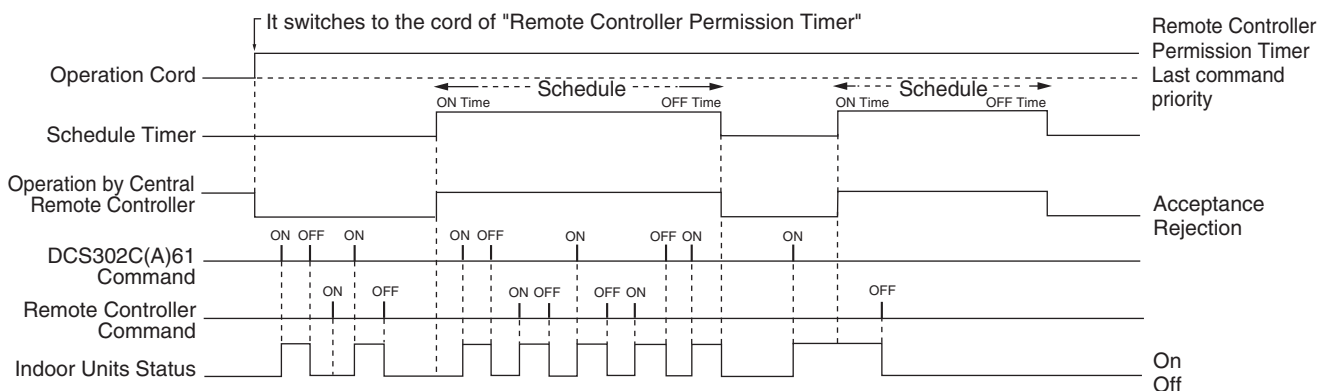
#### 3. Central priority (Code No. 4, 5, 14, 15)



#### 4. Individual priority (Last command priority) (Code No. 6, 7, 16, 17)



#### 5. Remote controller permission timer (Code No. 8, 9, 18, 19)



\* Operation by remote controller is the same as central priority.

### 4.3.9 Initial Setting

Setting (1) through (3) are initialized when power is turned ON, therefore complete settings BEFORE activating the power.

(The positions of connectors and switches used for settings in this section are shown in Fig. 1.)

#### (1) Connector for setting master controller (X1A) (Provided with connector at factory set)

- When using only 1 central remote controller, do not disconnect the connector for setting master controller. (Use the unit with the connector in the state in which it was delivered.)
- When using multiple central remote controllers, or using the central remote controller in conjunction with the optional controllers for centralized control, makes settings as indicated in the below table.

Pattern of Connection of Optional Controllers for Centralized Control			Connector for Setting Master Controller (X 1A) Setting		
Central Remote Controller	Unified ON/OFF Controller	Schedule Timer	Central Remote Controller	Unified ON/OFF Controller	Schedule Timer
1 to 4	—	—	Set one to "Used" and all the rest to "Not used".	—	—
	1 to 16	—		Set all to "Not used".	—
	—	1		—	"Not used"
		1			"Not used"

(Remove this connector when using this controller in conjunction with power consumption counting unit, parallel interface, and data station.)

#### (2) Address setting

Two central remote controllers can be used as shown in "SYSTEM CONFIGURATION" to control anywhere up to a max. 128 groups of indoor units. In this case, group address must be set. This is done with the switch for setting each address (SS3).

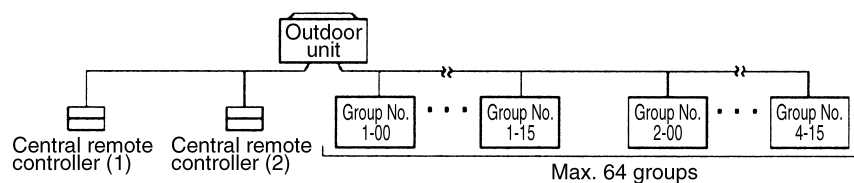
Setting of SS3 switch	Control range of indoor units
Control range setting 5-00 1-00 ~8-15 ~4-15	When controlling indoor units of Group No. 1-00~4-15

Setting of SS3 switch	Control range of indoor units
Control range setting 5-00 1-00 ~8-15 ~4-15	When controlling indoor units of Group No. 5-00~8-15

(V1414)

#### (3) MAIN/SUB changeover switch setting

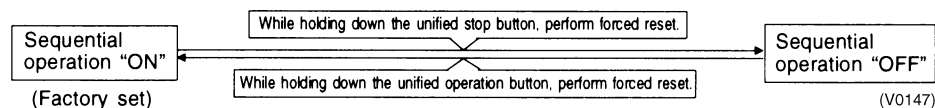
With two central remote controllers, centralized control (indoor units) is possible from different locations. In this kind of set-up, it is necessary to set the MAIN/SUB changeover switch.



One of the two central remote controllers (1) · (2) is set to "MAIN" while the other is set to "SUB"

#### (4) Setting of the sequential operation function

The central remote controller is equipped with a sequential operation function that sequentially turns indoor units on in 2-second intervals during unified operation. (Sequential operation is factory set to "ON.") To switch sequential operation ON or OFF, set as follows.



(V0147)

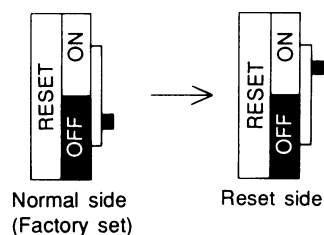
#### Note:

The sequential operation function is designed to reduce the load on the power supply equipment, but does not guarantee that compressors will not be started simultaneously. You cannot therefore count on a capacity reduction effect by power supply equipment breaker selection.

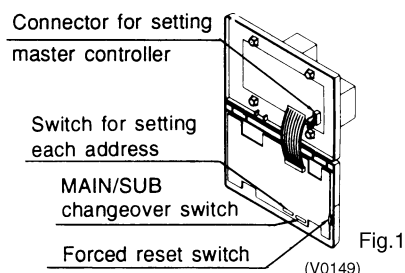
**(5) Forced reset switch**

When changing the setting of the connector for setting master controller, etc., you can reset simply by setting it to the reset side once and returning to the normal side, without turning the power OFF.

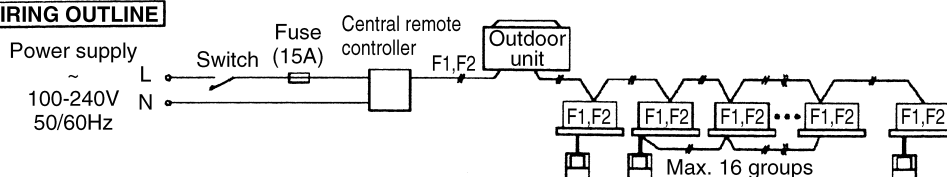
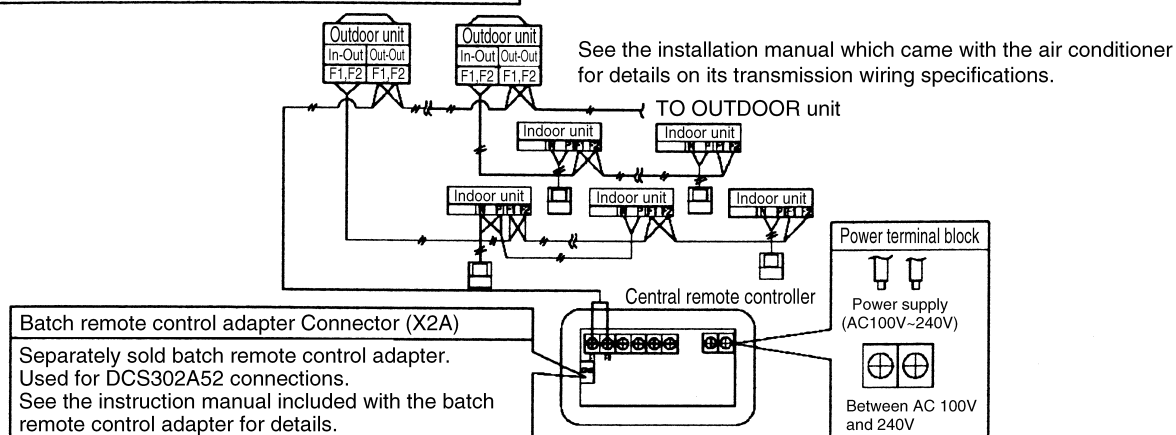
(For normal operation, set the switch to the normal side.)



(V0148)



C: 2P162816

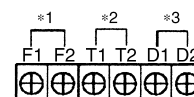
**4.3.10 Electric Wiring****WIRING OUTLINE****WIRING TO THE INDOOR UNIT AND OUTDOOR UNIT****Wiring specifications**

Power supply wiring	2mm <sup>2</sup>
Transmission wiring for control	0.75-1.25 mm <sup>2</sup> sheathed vinyl cord or cable (balanced type) - maximum length 1000 m (total overall wiring length 2000 m)

Wire the indoor units to the outdoor units and between all power, indoor units, and remote controllers. See the instruction manual included with the indoor and outdoor units for details.

**CONTROL TERMINAL STRIP**

- \*1 For connecting indoor unit (F1, F2)
- \*2 Forced OFF input (T1, T2)  
None of the indoor units connected to the forced OFF input contact (non-voltage contact with minimal current) will operate when it is shut off.  
Use only contactors which guarantee the minimum applicable load DC 16V, 10mA.  
T1 DC16V T2 NOTE) Use instantaneous contactor of over 200m sec. energizing time, when necessary.
- \*3 For schedule timer (D1, D2)  
Power can be supplied to the schedule timer (DST301BA51-61) separately sold. For details, refer to the installation manual of the schedule timer.  
Wire \*2 and \*3 only when necessary.

**Note:**

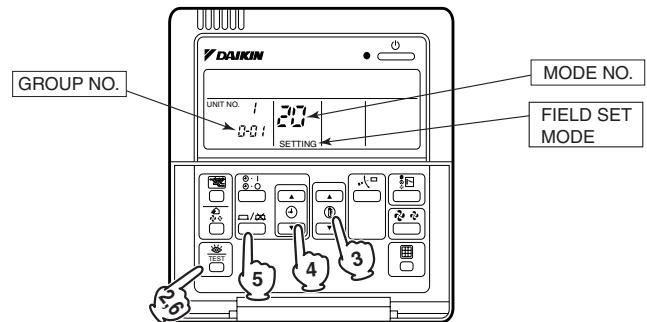
Do not connect the power supply wiring (100 to 240V) to the control terminal strip. If connected by mistake, it may damage or burn electrical parts of optional controllers for centralized control and indoor unit. It may result in serious danger. Be sure to check wirings before turning the power ON.

C: 2P162816

### 4.3.11 Setting Group No. for Centralized Control

Set the group number of each group of the indoor unit from the remote controller. (In case of no remote controller, also connect the remote controller and set the group No. Then, remove the remote controller.)

1. Turn ON the power of the indoor unit and unified ON/OFF controller. (Unless the power is ON, no setting can be made.)  
Check that the installation and electrical wiring are correct before turning the power supply ON. When the power supply is turned ON, all LCD appear once and the unit may not accept the operation for about one minute with the display of "HOST" flashing (an interval of ON, ON, and OFF).
2. While in the normal mode, hold down the "TEST" button for a minimum of 4 seconds.  
The remote controller will enter the FIELD SET MODE.
3. Select the MODE No. "00" with the "MODE" button.
4. Use the "GROUP" button to select the group No. for each group.  
(Group numbers increase in the order of 1-00, 1-01, ...1-15, 2-00, ... 8-15.)
5. Press "SET" to set the selected group No.
6. Press "TEST" to return to the NORMAL MODE.



**Note:**

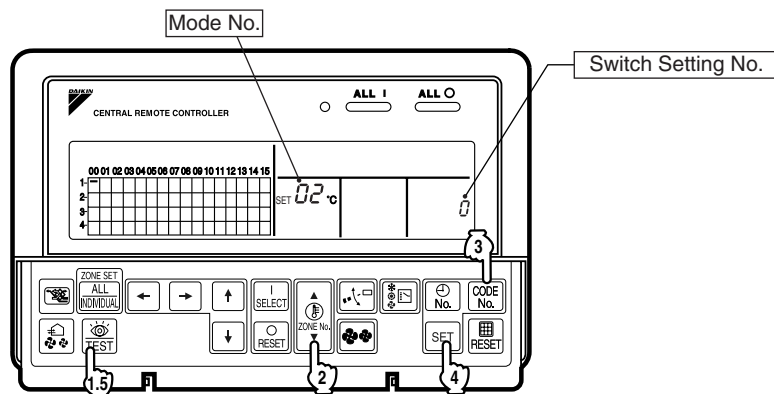
- For simplified remote controller, see the installation table.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

**NOTICE**

Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

### 4.3.12 Special Function Settings

Special functions on the central control system can be changed while in FIELD SETTING mode.



**Setting Procedure**

1. Press and hold the INSPECTION/TEST RUN button for a period of four seconds or more to set the system to FIELD SETTING mode.
2. Use the TEMPERATURE ADJUSTMENT button to select a desired Mode No.  
▲ : Press to increase the Mode No. ▼ : Press to decrease the Mode No.
3. Press the CONTROL MODE (CODE No.) button to select a "Switch Setting No.".
4. Press the SET button to determine the content of the setting changed.  
Upon determination, the blinking the "Switch Setting No." will turn ON.
5. Press the INSPECTION/TEST RUN button to return the system to NORMAL mode.  
In this case, power supply is not needed to turn ON again.

Example: In case of no restriction items from the sub central remote controller while in double central control, make setting of the Mode No. to "02" and the Switch Setting No. to "0".

#### Setting Contents and Setting No.

Mode No.	Setting contents	No. of setting switch										
		0				1		2				
00	Setting of sequential operation function	NO				<u>YES</u>		—				
01	Setting of refresh function	NO				<u>YES</u>		—				
02	Setting of restriction items from sub central remote controller while in double central control function	Disabled				<u>Enabled</u>		—				
03	Setting of area designation for forced OFF (Operation with T1 and T2 entered)	<u>Forced OFF all within the scope of control</u>				Forced OFF only within the scope of control		Forced thermostat OFF with the scope of control				
04	LED contrast tuning	1	2	3	4	5		6	7	8	9	10
		← Low				Factory default		→ High				

Items indicated by boldface represent the factory set for the No. of Switch Setting.

Do not make setting of any items not listed in the table above.

#### ■ Refresh function

This function is used to automatically send "OPERATION MODE" and "TEMPERATURE SETTING" from the central control system while in operation. In order to disable the refresh function, set the "No. of Switch Setting" to "0".

#### ■ Restriction items from sub central remote controller while in double central control function

While in double central control function, no settings of zone interlock and operation code can be made from the sub central remote controller. In order to disable the refresh function from the sub central remote controller, set the "No. of Switch Setting" to "0".

#### ■ Setting of area designation for forced OFF

- In order to stop all indoor units within the scope of control as a single unit using the entry of T1 and T2, set the "No. of Switch Setting" to "1".
- In order to stop all indoor units within the scope of control with forced thermostat OFF using the entry of T1 and T2, set the "No. of Switch Setting" to "2". With this parameter set to "2", no forced stop can be made on any indoor unit.

### 4.3.13 Refreshed Operation

Refreshed operation is the function to transmit setting of "Temperature control", "Temperature setting" automatically from DCS302CA61.

"Refreshed operation" is "ON" when shipped from the factory.

#### Factory Setting

Outdoor Units Systems	Indoor Units Mode
Cooling Mode	Cooling 28 °C
Fan Mode	Fan Operation

It depends on the setting of outdoor systems that an indoor unit setting is "Temperature control" or "Temperature setting"

#### ■ In case of Refreshed operation is "ON"

- When setting is changed by DCS302CA61, it operates by this setting from the next operation.  
If it sets up with 26 °C in cooling by DCS302CA61, "in the case of the equipment which has not carried out zone setting by a central remote controller, it operates from next with the mode of operation and preset temperature which were set up on the individual screen."  
In the case of the equipment which carried out zone setting, it operates from next with the mode of operation and preset temperature which were set up on the zone screen.  
(Priority is given over the mode of operation and preset temperature which were set up on the zone setting screen).  
When it sets up all at once, it operates from next with the mode of operation and preset temperature which were set up last time on the individual screen (Equipment which has not carried out zone registration), or the zone screen.  
If a setting change is made with 26 °C of cooling by a central remote controller on an individual screen (Equipment which has not carried out zone setting)" next operation will also be operated at 26 °C in cooling.  
(Even if it has changed into heating operation, fan only operation with wired or wireless remote control, it operates at 26 °C in cooling.)

- When zone registration is carried out by Central Remote Controller.

It operates from next time with the value set up in the zone.

When a zone 1 is set up with 20 °C of heating. (Refer to the system of the following figure.)

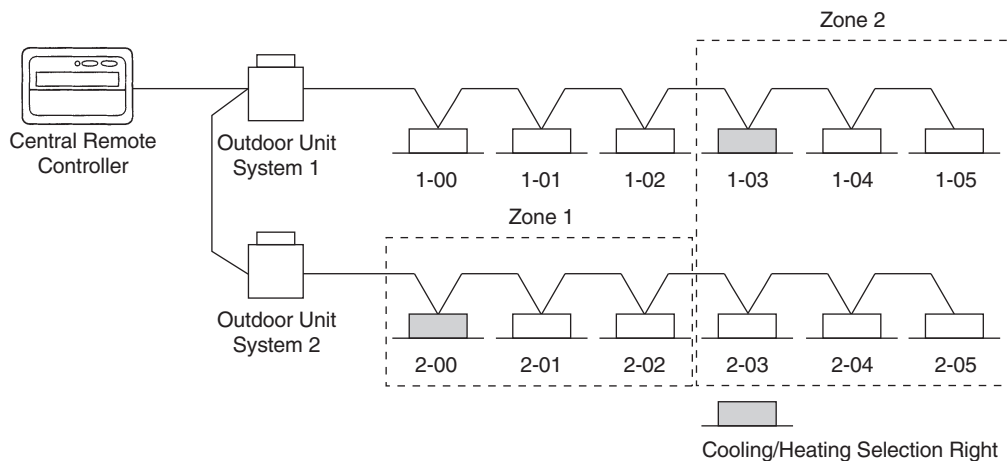
When controlled by Central Remote Controller, 3 indoor units registered into the zone 1 are operated by 20 °C of heating. Because priority is given to zone setting, even if it sets up 2-02 with 25 °C of heating on an individual screen from Central Remote Controller, 2-02 is operated at 20 °C.

- When there are two or more indoor units in a zone.

Because an operating mode depends on the outdoor unit, the operating mode of each indoor unit does not become the same setting.

When the outdoor unit system 1 is cooling, the outdoor unit system 2 is heating and it operates by the system of the following figure. Setting of a zone 2 is operated in heating mode, because 2-03, 2-04, and 2-05 do not have a cooling/heating selection right as for 26 °C of cooling, but temperature setting becomes 26 °C.

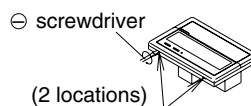
When you unify the operating mode of an indoor unit in the same zone, please set up a zone in the indoor unit of the same outdoor unit system.



## Installation

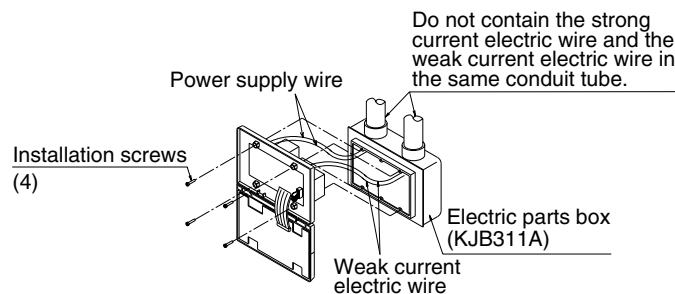
- (1) Open the upper part of remote controller.

Insert a ⊖ screwdriver (2 locations) into the recess between the upper part and the lower part of remote controller and twist the screwdriver lightly.

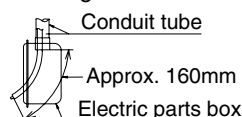


PC board is attached with both the upper and lower part of remote controller. Do not damage the board with the screwdriver.

- (2) Open the upper part of remote controller and install the Electric parts box with the attached installation screws (M4 × 16).



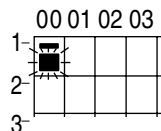
NOTE) Suitable length of the electric wire is about 160mm. (from electric parts box) If it is difficult to contain a long wiring, strip the sheathed part of the wiring.



### 4.3.14 Error diagnosing function

This central remote controller is provided with a diagnosing function, for when an indoor unit stops due to malfunction. In case of actuation of a safety device, disconnection in transmission wiring for control or failure of some parts, the operation lamp, inspection display and unit No. start to flash; then, the malfunction code is displayed. Check the contents of the display, and contact your DAIKIN dealer because the above signs can give you the idea on the trouble area.

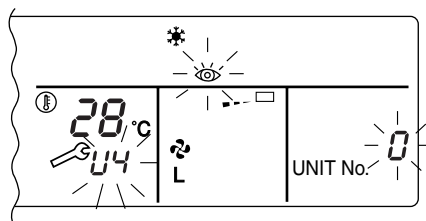
The display "■" flashes under the group No. where the indoor unit that has stopped due to malfunction.



#### [Registration]


1. Press the **ARROW KEY BUTTON** to call up the group that has stopped due to malfunction.

The unit No. the malfunction code is flashing because of an error failure.



Operation lamp	Maintenance display	Unit No.	Malfunction code	Error content
	●		<b>64</b>	Indoor air thermistor error
	●		<b>65</b>	Outdoor air thermistor error
	●		<b>68</b>	HVU error (Ventiair dust-collecting unit)
	●		<b>6A</b>	Dumper system error
			6A	Dumper system error + Thermistor error
	●		<b>6F</b>	Simple remote controller error
	●		<b>6H</b>	Door switch (Ventiair dust-collecting unit), relay harness fault (Ventiair dust-collecting/humidifier unit)
			94	Ventiair internal transmission error (between total enthalpy – fan unit)
			A0	Indoor unit · external safety device error
			A1	Indoor unit · BEV unit (Sky-Air connection unit) PC board assembly fault
	●		<b>A1</b>	Indoor unit · PC board assembly fault
			A3	Indoor unit · Drain level error (33H)
			A6	Indoor unit · Fan motor (51F) lock, overload
	●		<b>A7</b>	Indoor unit · Fan direction adjustment motor (MA) error
			A9	Indoor unit · BEV unit, electric expansion valve motor (20E) error
	●		<b>AF</b>	Indoor unit · Malfunctioning drain
	●		<b>AH</b>	Indoor unit · Dust-collector error
			AJ	Indoor unit · Insufficient capacity setting, address setting fault

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Operation lamp	Maintenance display	Unit No.	Malfunction code	Error content
			C4	Indoor unit · Liquid piping thermistor (Th2) Error (faulty connection, cut wire, short circuit, fault)
			C5	Indoor unit · BEV unit, gas piping thermistor (Th3) Error (faulty connection, cut wire, short circuit, fault)
			C9	Indoor unit · Intake air thermistor (Th1) Error (faulty connection, cut wire, short circuit, fault)
			CA	Indoor unit · Outlet air thermistor (Th4) Error (faulty connection, cut wire, short circuit, fault)
			<b>CJ</b>	Indoor unit · remote controller sensor error
			E0	Outdoor unit · Safety device operation
			E1	Outdoor unit · PC board assembly fault
			<b>E1</b>	Outdoor unit · PC board assembly fault
			E3	Outdoor unit · High-pressure switch fault
			E4	Outdoor unit · Low-pressure switch fault
			E9	Outdoor unit · Electric expansion valve motor (20E) error
			<b>EC</b>	Heat source unit · Intake water temperature inter-lock operation (fan operation)
			EF	Outdoor unit · Ice thermal storage unit error
			F3	Outdoor unit · Discharge piping temperature error
			<b>H3</b>	Outdoor unit · High-pressure switch operation
			H4	Outdoor unit · Low-pressure switch operation
			H9	Outdoor unit · Outdoor air thermistor (Th1) Error (faulty connection, cut wire, short circuit, fault)
			<b>H9</b>	Outdoor unit · Outdoor air thermistor (Th1) Error (faulty connection, cut wire, short circuit, fault)
			<b>HC</b>	Outdoor unit · Water temperature sensor system error
			<b>HF</b>	Ice thermal storage unit error, ice thermal storage controller error, error in outdoor unit during ice thermal storage operation
			HJ	Outdoor unit · water system fault
			J1	Outdoor unit · pressure sensor error
			J3	Outdoor unit · Discharge piping thermistor (Th3) Error (faulty connection, cut wire, short circuit, fault)
			<b>J3</b>	Outdoor unit · Discharge piping thermistor (Th3) Error (faulty connection, cut wire, short circuit, fault)
			J5	Outdoor unit · Intake piping thermistor (Th4) Error (faulty connection, cut wire, short circuit, fault)
			J6	Outdoor unit · Heat exchange thermistor (Th2) error
			<b>J6</b>	Outdoor unit · Heat exchange thermistor (Th2) error Error (faulty connection, cut wire, short circuit, fault)
			J7	Outdoor unit · Header thermistor (Th6) error
			JA	Outdoor unit · Discharge piping pressure sensor error
			JC	Outdoor unit · Intake piping pressure sensor error
			JF	Outdoor unit · Oil temperature sensor (Th5) system error
			<b>JH</b>	Outdoor unit · Oil temperature sensor (Th5) system error
			L0	Outdoor unit · Inverter system fault
			L4	Outdoor unit · Inverter cooler fault
			L5	Outdoor unit · Ground circuit for compressor motor, short circuit, or power unit short circuit

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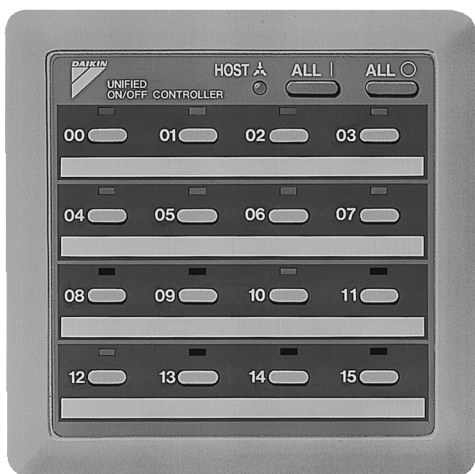
Operation lamp	Maintenance display	Unit No.	Malfunction code	Error content
			L6	Outdoor unit · Ground circuit for compressor motor, short circuit
			L8	Outdoor unit · Compressor overload, compressor motor wire disconnection
			L9	Outdoor unit · Compressor lock
			LA	Outdoor unit · Power unit error
			LC	Outdoor unit · Transmission error between inverter and outdoor control unit
or			M1	Central controller: PC board fault
or			M8	Transmission error between central controllers
or			MA	Central controller: Incorrect combination
or			MC	Central controller: Address setting fault
			<b>P0</b>	Insufficient gas (thermal storage)
			P1	Outdoor unit · Power voltage imbalance, phase loss
			P4	Outdoor unit · Power unit temperature sensor error
			<b>U0</b>	Pressure drop due to insufficient refrigerant, electric expansion valve fault, etc.
			U1	Reversed or lost phase
			U2	Power voltage error, momentary electrical stoppage
			U4	Transmission error between indoor unit/BEV unit and outdoor/BS unit, Transmission error between outdoor unit and BS unit
			U5	Transmission error between remote controller and indoor control unit
			U5	Remote controller board fault or remote controller setting fault
			U6	Transmission error between indoor units
			U7	Transmission error between outdoor units Transmission error between outdoor unit and ice thermal storage unit
			<b>U7</b>	Transmission error between outdoor units (cooling/heating batch, low-noise operation)
			U8	Transmission error between master remote controller and slave remote controller (slave remote controller error) Incorrect combination of indoor unit and remote controller within a single system (model)
			U9	Transmission error between indoor unit/BEV unit and outdoor unit within a single system Transmission error between BS unit and indoor unit/BEV unit and outdoor unit within a single system
			UA	Incorrect combination of indoor, BS, and outdoor units within a single system (model, number of units, etc.) Incorrect combination of indoor unit and remote controller (remote controller in question) BS unit connection position fault
			<b>UC</b>	Central control group numbers overlap
			UE	Transmission error between indoor unit and central controller
			UF	Unset system, incorrect settings between BEV unit and indoor unit
			UH	System fault

■ error codes (in outline font) do not display “maintenance” and the system will run, but please check the content of the display and contact your dealer.

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## 4.4 <DCS301BA61> Unified ON/OFF Controller

Turns up to 16 groups of indoor units (max. 128 units) on/off (operation/stop) by individual group or all at once, and lets you check display of operation/malfunction at the same time.

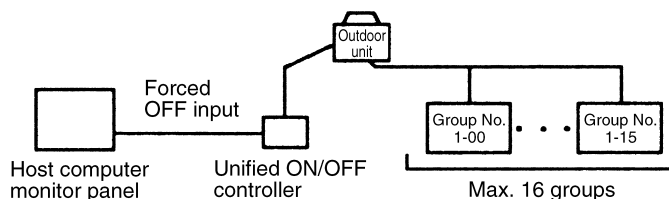


- For a maximum of 16 groups of indoor units (max. 128 units), unified operation/stop or individual operation/stop can be performed with this optional accessory. Also allows you check operation/error display at a glance.
- By combining with a central remote controller and schedule timer, you can construct a system that matches the size and use of the building.
- Up to 8 units connectable within 1 system.  
Up to 16 units in the double central control mode.
- Features thin design of a mere 16mm in thickness. (Uses JIS recessed box for 2.)
- Wiring can be up to 1km in length. Applicable wiring methods include bus and star in addition to crossover type.
- Can be used in combination with other D-BACS equipment.

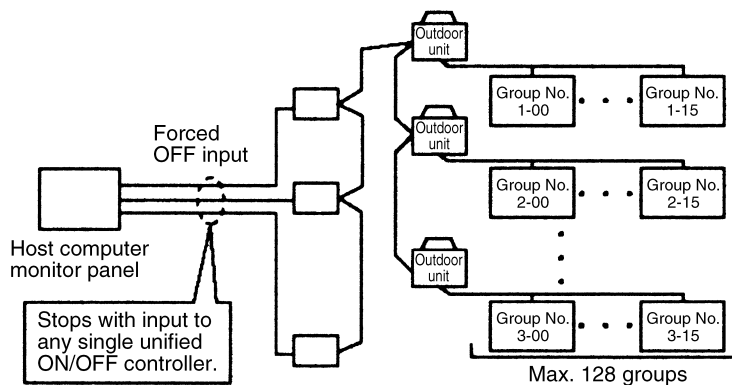
### 4.4.1 System Configuration

This unified ON/OFF controller enables individual and unified operation/stop for a maximum of 16 groups of indoor units. With 2 to 8 unified ON/OFF controllers, individual and unified control is possible with up to a maximum 128 groups of indoor units.

- When using 1 unified ON/OFF controller



- When using 2 to 8 unified ON/OFF controllers



(This optional accessory can not be used in conjunction with wiring adaptor for electrical appendices (optional accessory).)

**The groups of indoor units are as follows:**

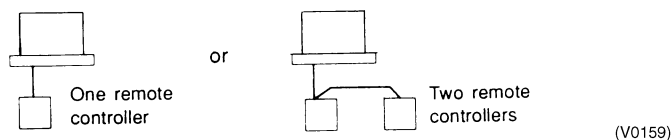
1. One indoor unit without remote controller



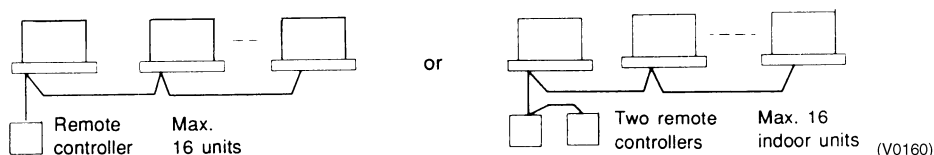
Without remote controller

(V0158)

2. One indoor unit controlled by one or two remote controllers



3. A maximum of 16 indoor units controlled in groups by one or two remote controllers



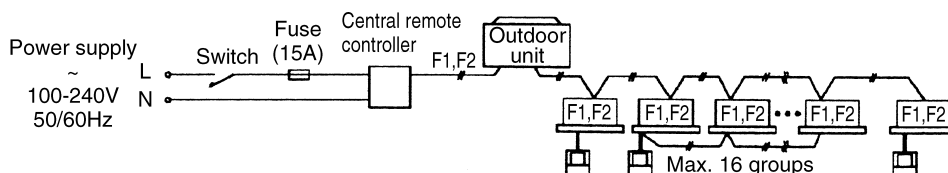
C: 1P162827

## 4.4.2 Electric Wiring

### General Instructions

- All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
- Use copper conductors only.
- All field wiring and components must be provided by licensed electrician.
- Unit shall be grounded in compliance with the applicable local and national codes.
- Fit the power supply wiring with a fuse and a switch.
- After wiring work, check power to the equipment shuts OFF when switch is shut OFF.

### Wiring Outline



### Wiring Specification

	Type	Size
Power Supply Wiring	H05VV-U3G	(Note 1)
Transmission Wiring	Sheathed Wire (2 wire) (Note 2)	0.75-1.25mm <sup>2</sup>

#### Notes:

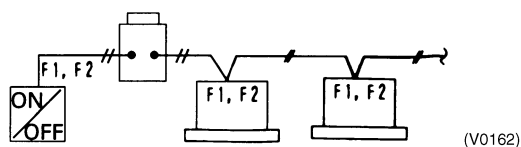
1. The size of power supply wiring must comply with the applicable national and local codes.
2. Allowable length of transmission wiring is as follows.  
Max. 1000m (Total wiring length: 2000m)

Connect the wiring between indoor and outdoor units, indoor/outdoor units and power supply, and indoor units and remote controllers.

For details, refer to the installation manuals of indoor and outdoor units.

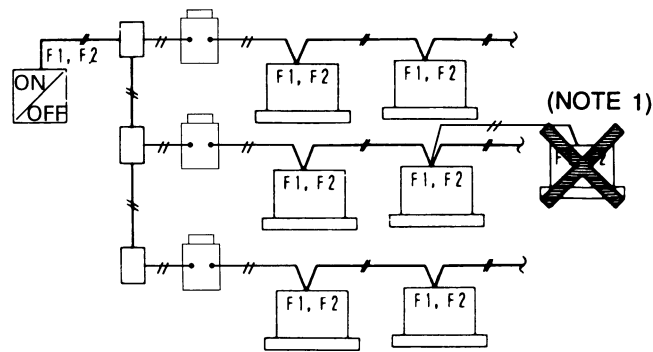
### Examples of Wiring for Transmission

1. Series Wiring



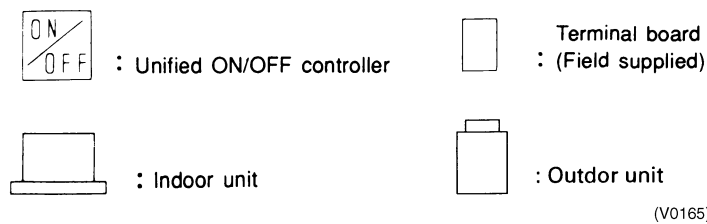
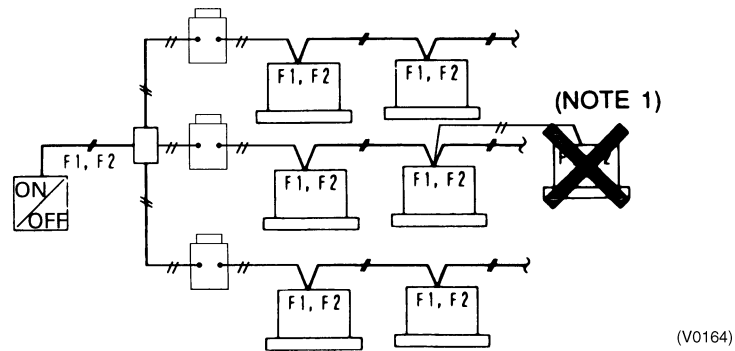
## 2. Bus Type Wiring (Can be branched up to 16 branches)

Example of 3 branches



## 3. Star Type Wiring (Can be branched up to 16 branches)

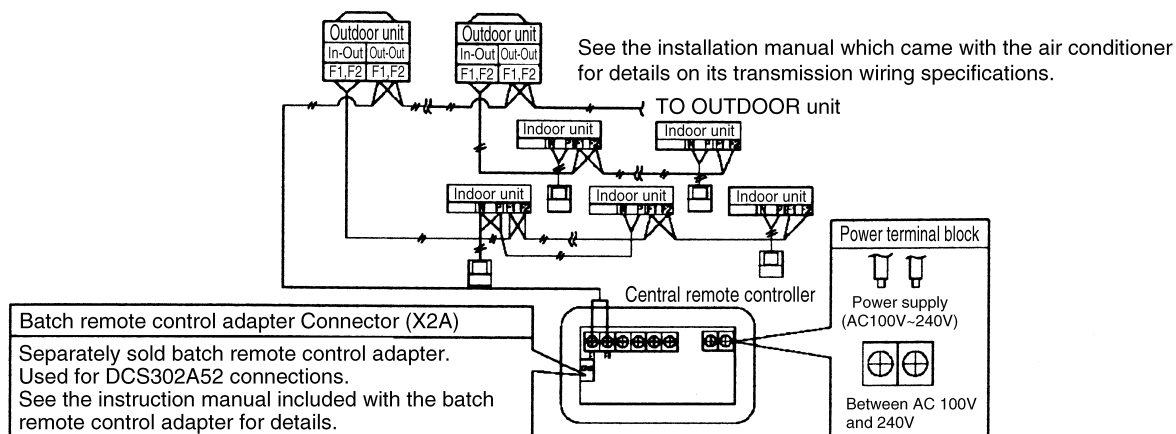
Example of 3 branches



### Note:

1. No branching is allowed after branching.
2. Use a relay terminal board (field supplied) to branch more than 3 control wires from the same terminal board.

## Wiring to the Indoor Unit and Outdoor Unit



### Wiring specifications

Power supply wiring	2mm <sup>2</sup>
Transmission wiring for control	0.75-1.25 mm <sup>2</sup> sheathed vinyl cord or cable (balanced type) - maximum length 1000 m (total overall wiring length 2000 m)

Wire the indoor units to the outdoor units and between all power, indoor units, and remote controllers. See the instruction manual included with the indoor and outdoor units for details.

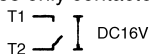
### CONTROL TERMINAL STRIP

\*1 For connecting indoor unit (F1, F2)

\*2 Forced OFF input (T1, T2)

None of the indoor units connected to the forced OFF input contact (non-voltage contact with minimal current) will operate when it is shut off.

Use only contactors which guarantee the minimum applicable load DC 16V, 10mA.

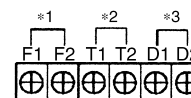


NOTE) Use instantaneous contactor of over 200m sec. energizing time, when necessary.

\*3 For schedule timer (D1, D2)

Power can be supplied to the schedule timer (DST301BA51-61) separately sold. For details, refer to the installation manual of the schedule timer.

Wire \*2 and \*3 only when necessary.



### Note:

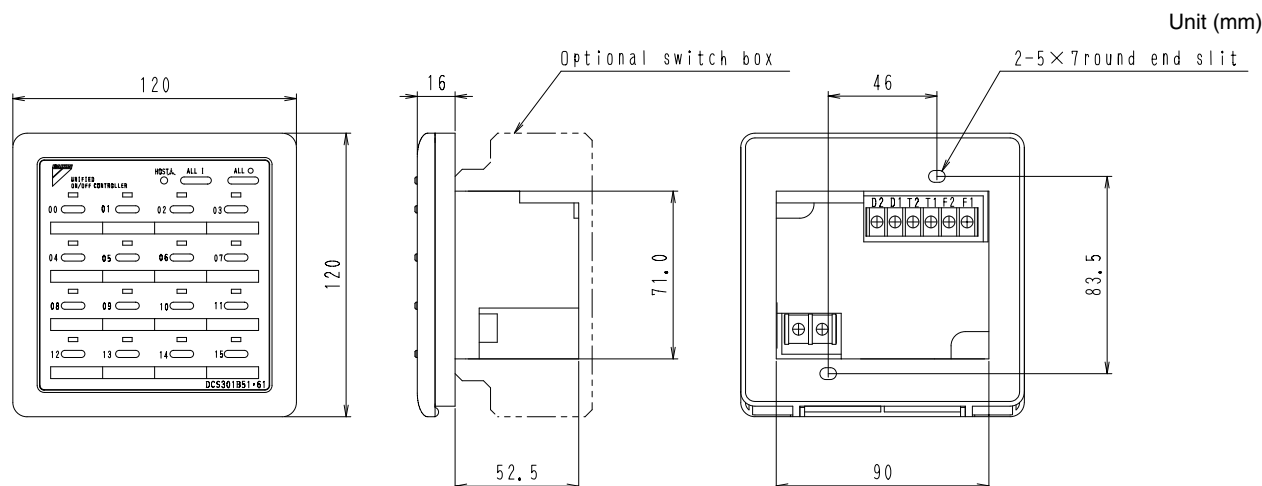
Do not connect the power supply wiring (100 to 240V) to the control terminal strip. If connected by mistake, it may damage or burn electrical parts of optional controllers for centralized control and indoor unit. It may result in serious danger. Be sure to check wirings before turning the power ON.

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## 4.4.3 Dimension

### Unified ON/OFF Controller

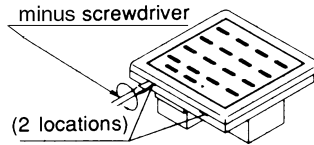
#### ■ DCS301B(A)61



3D050339

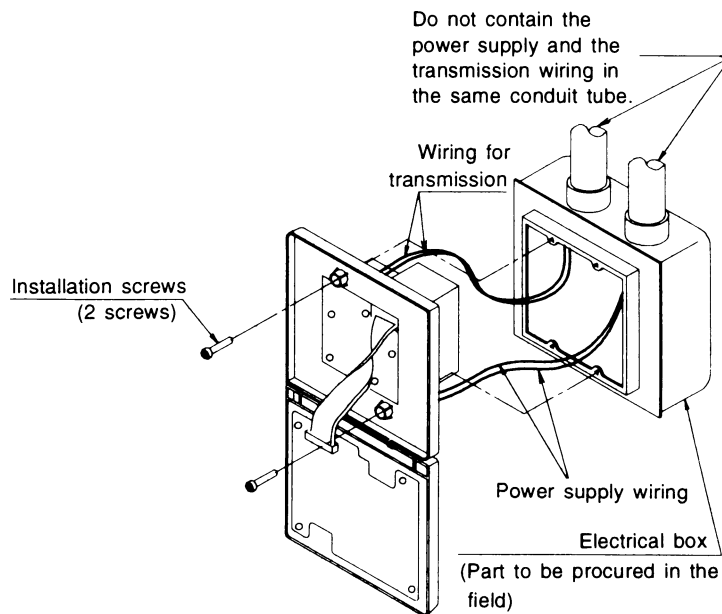
#### 4.4.4 Installation

1. Open the upper part of remote controller.  
Insert a minus screwdriver (2 locations) into the recess between the upper part and the lower part of remote controller and twist the screwdriver lightly.



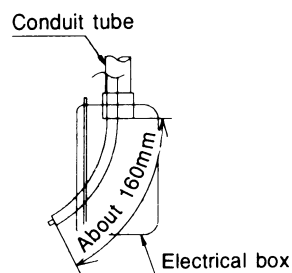
**PC board is attached with both the upper and lower part of remote controller. Do not damage the board with the screwdriver.**

2. Open the upper part of remote controller and install the electrical box (part to be procured in the field) with the attached installation screws (M4×16).



**Note:**

Suitable length of the electric wire is about 160mm from the inlet of the electrical box. If it is difficult to contain a long wiring, strip the sheathed part of the wiring.



(V0168)

C: 1P162827

## 4.4.5 Initial Setting

Setting 1. through 3. are initialized when power is turned ON, therefore complete settings before activating the power.

### 1. Connector for setting master controller (X1A) (Provided with connector at factory set)

- When using 1 unified ON/OFF controller, do not disconnect the connector for setting master controller. (Use the unit with the connector in the state in which it was delivered.)
- When using multiple unified ON/OFF controllers, or using the unified ON/OFF controller in conjunction with other optional controllers for centralized control, makes settings as indicated in the right table.

Pattern of connection of optional controllers for centralized control			Connector for setting master controller (X1A) Settings		
Unified ON/OFF Controller	Central Remote Controller	Schedule Timer	Unified ON/OFF Controller	Central Remote Controller	Schedule Timer
1 to 16	—	—	Set one to "Used" and all the rest to "Not used".	—	—
	1 to 4	—	Set all to "Not used".	(Note)	—
	—	1	Set one to "Used" and all the rest to "Not used".	—	"Not used"
	1 to 4	1	Set all to "Not used".	(Note)	"Not used"

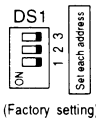
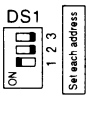
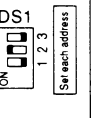

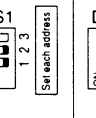
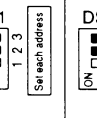
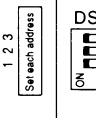
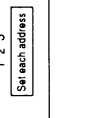
#### Note:

For instructions on how to set the connector for setting master controller on the central remote controller, see the installation manual provided with the central remote controller.

### 2. Switch for Setting Each Address (DS1)

These switches are used to set group control address.

Groups Nos. 1-00 through 1-15 are grouped in the same control group when the unit is shipped from the factory.

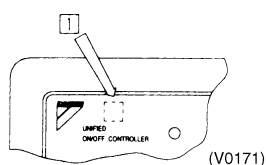
Each Address	1-00~1-15	2-00~2-15	3-00~3-15	4-00~4-15	5-00~5-15	6-00~6-15	7-00~7-15	8-00~8-15
DS1 setting								

(V0170)

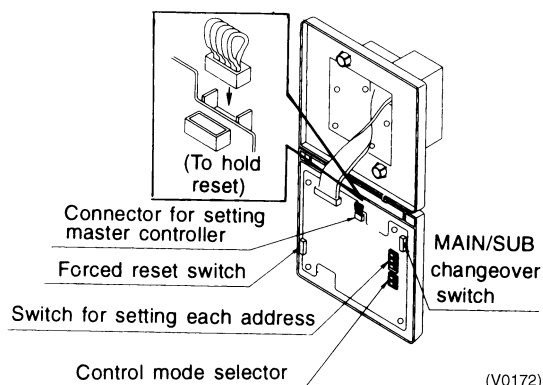
After setting, attach the number seal applicable to respective control range of the attached switch display sticker, as shown in the diagram below.

(Example)

In The Case of 1-00 to 1-15, Attach **1**.



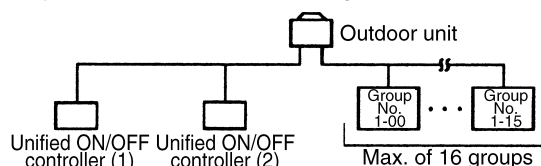
(V0171)



(V0172)

### 3. MAIN/SUB Changeover Switch Setting

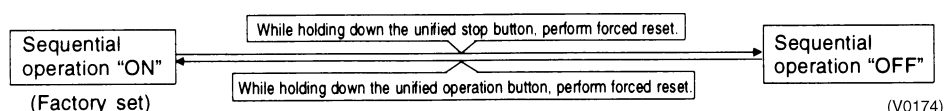
With two unified ON/OFF controllers, centralized control (indoor units) is possible from different locations. In this kind of set-up, it is necessary to set the MAIN/SUB changeover switch.



One of the two unified ON/OFF controllers (1) · (2) is set to “MAIN” while the other is set to “SUB”.

### 4. Setting of the Sequential Operation Function

The unified ON/OFF controller is equipped with a sequential operation function that sequentially turns indoor units on in 2-second intervals during unified operation. (Sequential operation is factory set to “ON.”) To switch sequential operation ON or OFF, set as follows.

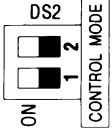
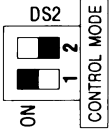
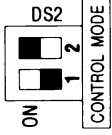
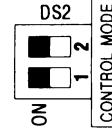


#### Note:

The sequential operation function is designed to reduce the load on the power supply equipment, but does not guarantee that compressors will not be started simultaneously. You cannot therefore count on a capacity reduction effect by power supply equipment breaker selection.

### 5. Control Mode Selector (DS2)

The following four patterns of control mode can be set.

Control Mode	Individual	Centralized	Timer Operation Possible by Remote Controller	ON/OFF Control Impossible by Remote Controller
Content	Operation/stop is controlled by both unified ON/OFF controller and remote controller.	After operated by unified ON/OFF controller, operation/stop is freely controlled by remote controller until stopped by unified ON/OFF controller.	When used in conjunction with schedule timer, operation/stop is controlled freely by remote controller during the set time but operation is not available when schedule timer is ON.	Operation/stop is controlled by unified ON/OFF controller only. (This unit can not be operated/stopped by remote controller.)
DS2 Setting	 (V0175) (Factory set)	 (V0176)	 (V0177)	 (V0178)

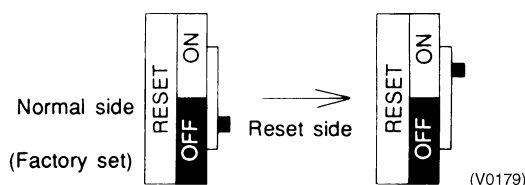
#### Note:

- “■” Indicates the position of switches.
- Set control mode before turning power supply ON.
- When used in conjunction with central remote controller, the control modes of the central remote controller has the priority.

### 6. Forced Reset Switch (SS1)






When changing the setting of the connector for setting master controller, etc., you can reset simply by setting it to the reset side once and returning to the normal side, without turning the power OFF.

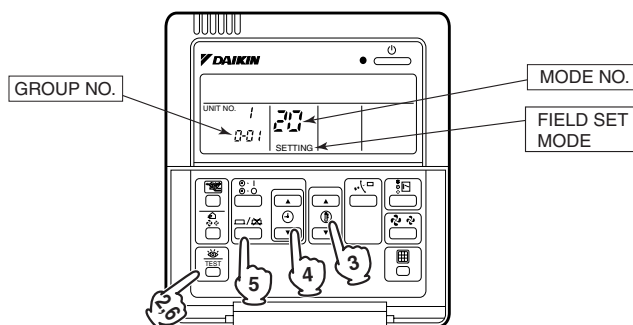
(For normal operation, set the switch to the normal side.)



### 4.4.6 Setting Group No. for Centralized Control

In order to conduct the central remote control using the central remote controller and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote controller. Make Group No. settings for central remote control using the operating remote controller.

1. While in normal mode, press and hold the  switch for a period of four seconds or more to set the system to "Field Setting Mode".
2. Select the MODE No. "00" with the " " button.
3. Use the " " button to select the group No. for each group.  
(Group numbers increase in the order of 1-00, 1-01, ... 1-15, 2-00, ... 4-15.)
4. Press " " to set the selected group No.
5. Press " " to return to the NORMAL MODE.



**Note:**


- For simplified remote controller, see the installation table.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

**NOTICE**


Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

### 4.4.7 Confirming Operation

Before starting test operation, supply power to the indoor units, outdoor units, and unified ON/OFF controller and press the ON/OFF button. If the operation lamp flashes, it indicates a malfunction in the indoor unit of the applicable group.

If the display of " " flashes, it indicates a malfunction in the optional controllers for centralized control. Check for such malfunctions.

**Notes:**

- For test operation of indoor and outdoor units, refer to the installation manual attached with the outdoor unit.
- After turning the power supply ON, if the unit does not accept operation for two minutes or more with the display of " " flashing, check the following points.
- Check that setting of the connector for setting master controller is correct.
- Check that the group No. for centralized control has been set.

1P162827

## 4.5 <DST301BA61> Schedule Timer

Enables you to connect and control weekly schedule for up to 128 indoor units all together.

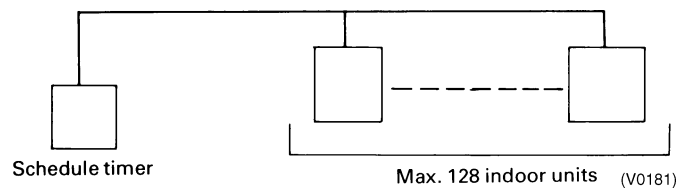


- Simultaneous control of up to 128 indoor units is managed by a week schedule.
- The start and stop time for twice a day can be set for the week in increments of 1 minute.
- By combining with a central remote controller and schedule timer, you can construct a system that matches the size and use of the building.
- If used together with a central remote controller, you can set up to 8 schedule patterns which can be distributed among zones as desired using the central remote controller.
- Is equipped with a compensation function for power failure up to 48 hours.
- Features thin design of a mere 16 mm in thickness. (Uses JIS recessed box for 2.)
- Wiring can be up to 1 km in length. Applicable wiring methods include bus and star in addition to crossover type.
- Can be used in combination with other D-BACS equipment.

### 4.5.1 System Configuration and Electric Wiring

With a schedule timer, you can set on/off time twice a day by units of 1 week for up to 128 indoor units.

#### ■ System Configuration



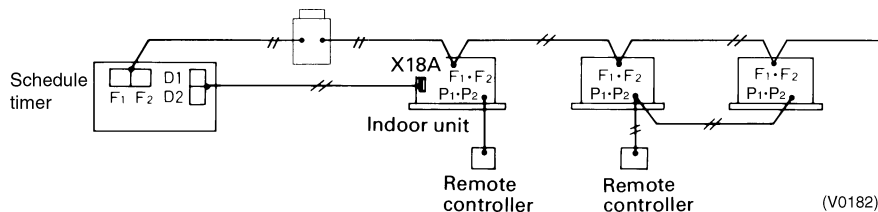
If using the schedule timer alone, you don't have to set the centralized control group No. for group control.

#### ■ Transmission Wiring

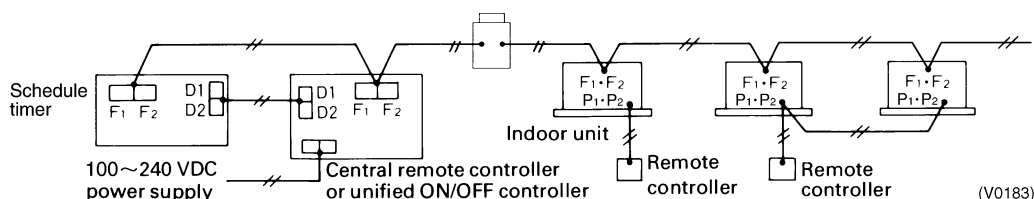
##### <Indoor Unit Wiring>

1. If using the schedule timer alone:

- For the schedule timer's power supply, connect the schedule timer (D1, D2) with the connector (X18A) on the indoor unit PC board by crimped style terminal with the attached electric wire.



2. If using in combination with other optional controllers for centralized control:



Transmission wiring for control: 0.75~1.25 mm<sup>2</sup> sheathed vinyl cord or cable (2 wire) ..... Max. 1,000 m  
(Total Max. 2,000 m)

#### <Transmission Wiring Connection Example>

1 series wiring, 2 bus wiring, and 3 star wiring are the same as with the central remote controller.

#### 4.5.2 Names and Functions (DST301BA61)

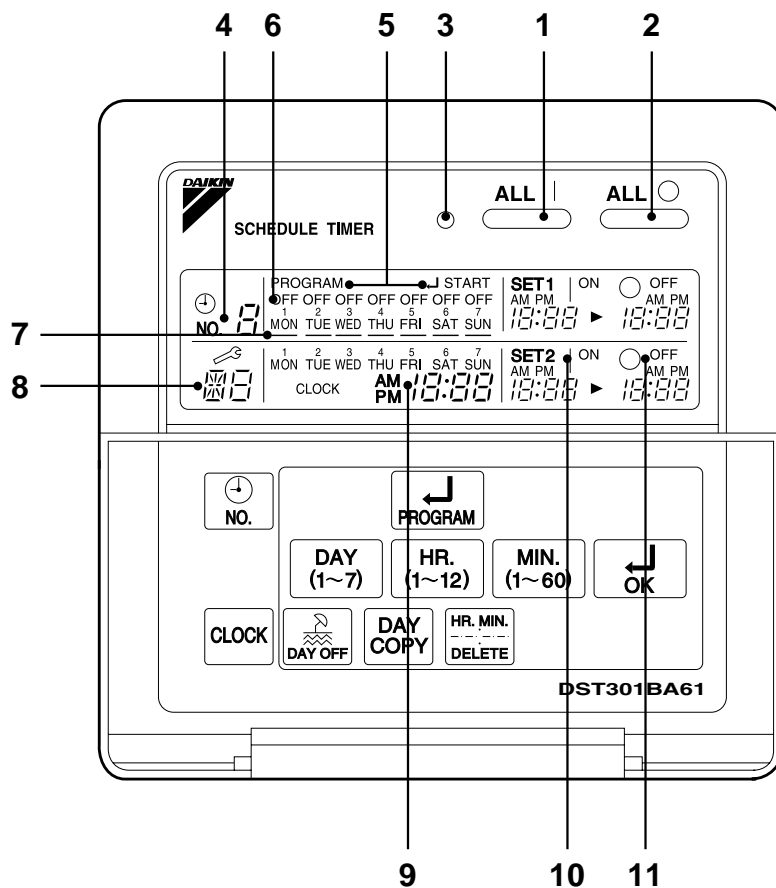


Fig. 1

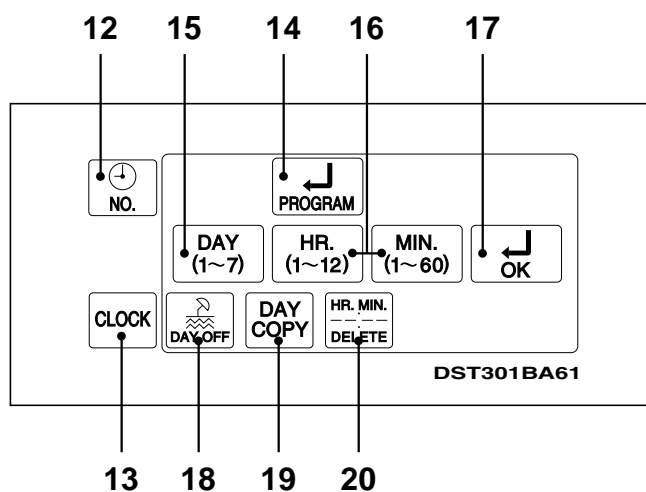


Fig. 2

### 4.5.3 Names and Functions of Operating Section (Fig. 1, 2)

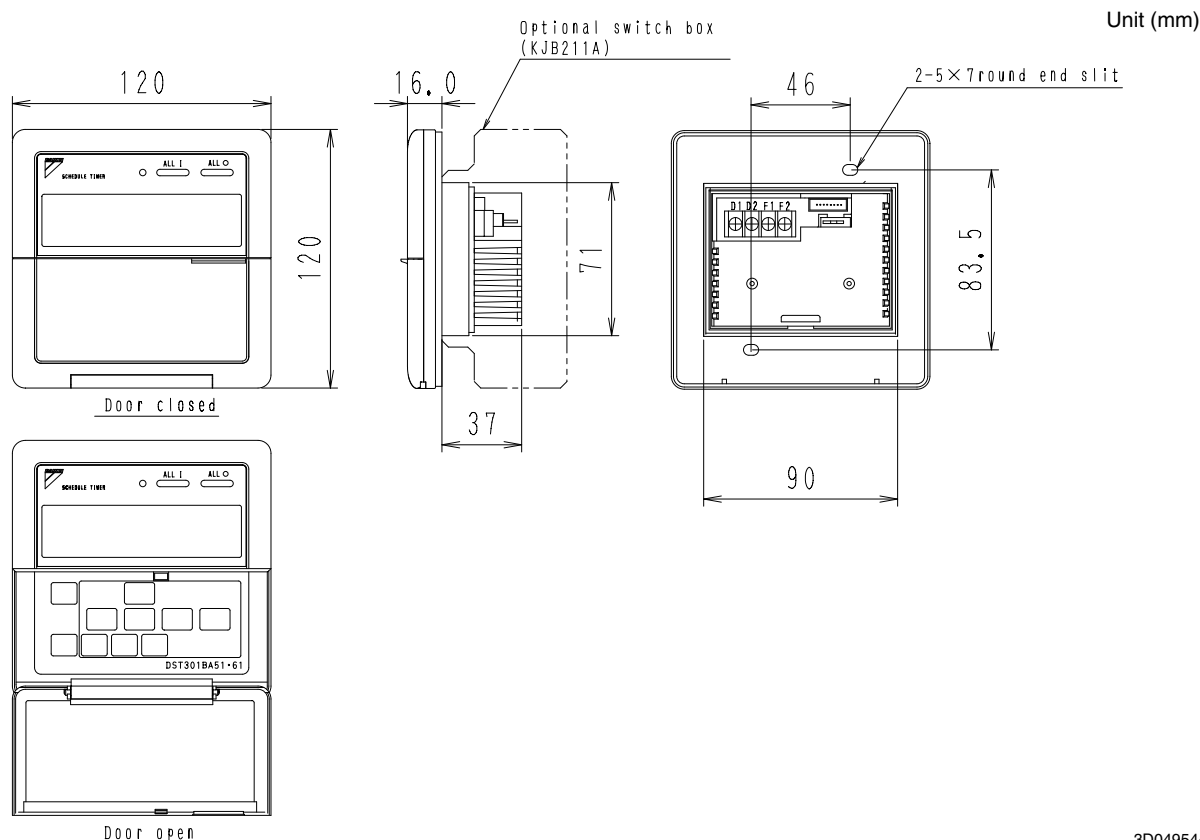
1	<b>UNIFIED OPERATION BUTTON</b> “ ALL   ”
	Press this button to perform the unified operation regardless of the No. of programmed time.
2	<b>UNIFIED STOP BUTTON</b> “ ALL ○ ”
	Press this button to perform the unified stop regardless of the No. of programmed time.
3	<b>OPERATION LAMP (RED)</b>
	The light turns on during the operation of the indoor unit.
4	<b>DISPLAY</b> “  NO. 8 ” (TIME NO.)
	Displays the time No. only when used in conjunction with the central remote controller.
5	<b>DISPLAY “PROGRAM  START.” (PROGRAMMING START)</b>
	The light turns on when the timer is programmed.
6	<b>DISPLAY “ OFF ” (HOLIDAY SETTING)</b>
	Lights above the day of the week set as holiday. The operation controlled by timer is not available on that day.
7	<b>DISPLAY “ — ” (SETTING OF DAYS OF A WEEK)</b>
	Flashes below the day of the week programmed.
8	<b>DISPLAY</b> “  ” (MALFUNCTION CODE)
	Displays the contents of malfunction during the stop due to malfunction.
9	<b>DISPLAY</b> “  MON TUE WED THU FRI SAT SUN CLOCK AM 12:58 PM 12:58 ” (PRESENT TIME)
	Displays the present day of the week and time.
10	<b>DISPLAY</b> “  ON AM PM 12:58 ” (PROGRAMMED TIME OF SYSTEM START)
	Displays the time programmed to start.
11	<b>DISPLAY</b> “  OFF AM PM 12:58 ” (PROGRAMMED TIME OF SYSTEM OFF)
	Displays the time programmed to stop.

12	<b>TIME NO. BUTTON</b> “  NO. ”
	Press this button to select time No..
13	<b>CLOCK ADJUSTING BUTTON</b> “  CLOCK ”
	Press this button to set the present time.
14	<b>PROGRAMMING START BUTTON</b> “  PROGRAM ”
	Press this button to set or check the No. of programmed time. Press it again after you are through with the program.
15	<b>BUTTON FOR SELECTING DAYS OF A WEEK</b> “  DAY (1~7) ”
	Press this button to select the day of the week.
16	<b>HOURLY/MINUTE BUTTON</b> “  HR. (1~12)  MIN. (1~60) ”
	Press this button to adjust the present time and the programmed time.
17	<b>TIMER ON BUTTON</b> “  OK ”
	Press this button to set the present time and the programmed time.
18	<b>HOLIDAY SETTING BUTTON</b> “  DAY OFF ”
	Press this button to set holidays.
19	<b>BUTTON FOR COPYING PROGRAM OF PREVIOUS DAY</b> “  DAY COPY ”
	Use this button to set the No. of programmed time same as that of the previous day.
20	<b>PROGRAM CANCELING BUTTON</b> “  HR. MIN. DELETE ”
	Use this button to set the programmed time to cancel. The display shows “ — ; — — ”.
(Note)	
1. Please note that all the displays in the figure appear for explanation purpose or when the cover is open.	

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## 4.5.4 Dimension

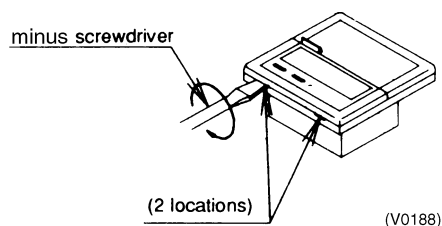
### Schedule Timer DST301BA61



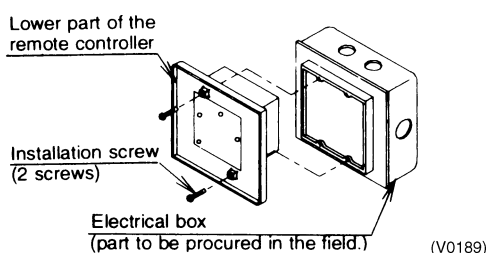
## 4.5.5 Installation and Initial Setting

### 1. Remove the upper part of the remote controller.

- Insert a minus screwdriver (2 locations) into the recess between the upper part and the lower part of the remote controller and twist the screwdriver lightly.  
(The PC board is attached with the upper part of the remote controller. Do not damage electric parts with a screwdriver, etc.)



- Attach the lower part to the electrical box (part to be procured in the field) with the provided installation screws. (Select a flat face as an installation place. Do not tighten the installation screws excessively not to damage the lower part of the remote controller.)



For part to be procured in the field electrical box, use KJB211A (optional accessory).

C: 3P162015A

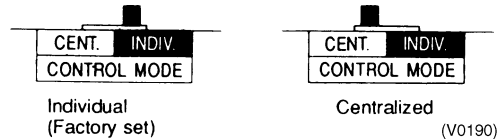
## 2. Initial Setting

### 1. Setting connector for individual use (X1A) (Factory set : OFF) (Set for individual use only)

- **For individual use of schedule timer**  
Insert the connector attached with the body case on the PC board.
- **For combined use with other optional controllers for centralized control**  
Do not change the factory setting.

### 2. Control mode selector (SS2) (Set for individual use only)

By changing the switch, setting mode of individual and centralized operation is available.



**Note:**

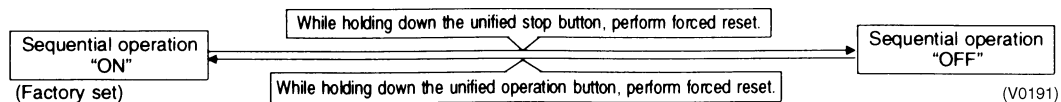
When used with other optional controllers, control mode of central remote controller and unified ON/OFF controller have the priority.

### 3. Setting of the sequential operation function

The schedule timer is equipped with a sequential operation function that sequentially turns indoor units on in 2-second intervals during unified operation.

(Sequential operation is factory set to "ON.")

To switch sequential operation ON or OFF, set as follows.

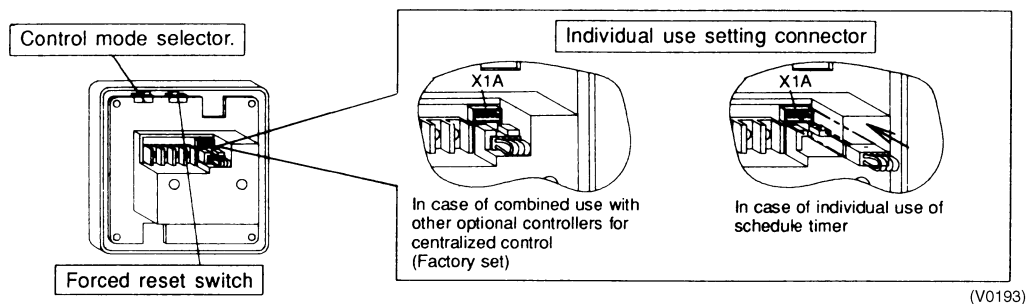
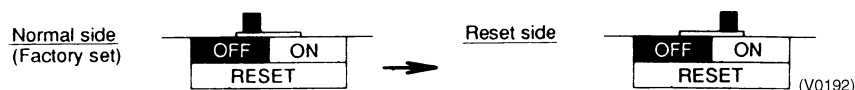


**Note:**

The sequential operation function is designed to reduce the load on the power supply equipment, but does not guarantee that compressors will not be started simultaneously. You cannot therefore count on a capacity reduction effect by power supply equipment breaker selection.

### 4. Forced Reset Switch (SS1)

When changing the setting of the connector for individual use, etc., the switch can be reset simply by setting it to the reset side once and returning to the normal side. This procedure enables to reset without turning off the power. (Set the normal side at normal operation.)

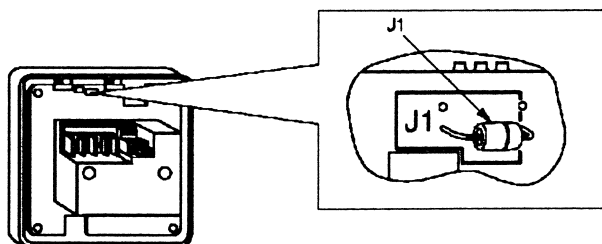


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### 5. Setting for special function

When you want to have a programmed operation of a part of indoor units by using only schedule timer, cut off J1 and supply the power again.

You can have a programmed operation of the indoor units set the address for central control by local remote controller.



### 3. Transmission Wiring

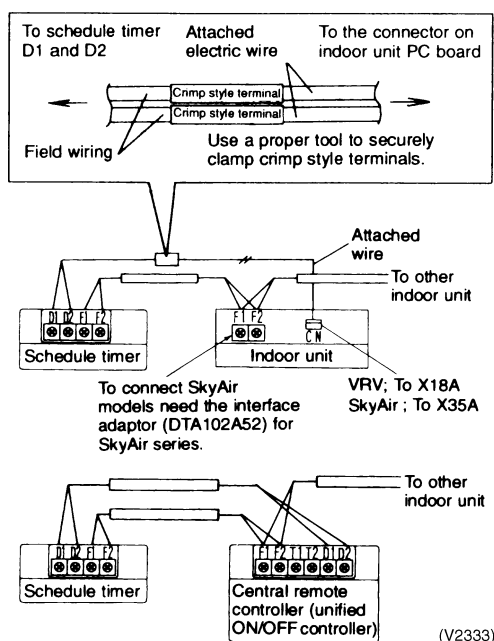
#### ■ In case of individual use of schedule timer

Connect terminals of the schedule timer (F1, F2) with terminals of the indoor unit (F1, F2). Connect terminals of the schedule timer (D1, D2) and the connector on the indoor unit PC board, using the attached electric wire and crimp style terminals.

Prevent the connection part of crimp style terminal from getting out of the electric parts box of indoor unit.

#### ■ In case of combined use with other optional controllers for centralized control

Connect terminals of the schedule timer (F1, F2, D1, D2) and the terminals of the central remote controller (or unified ON/OFF controller).



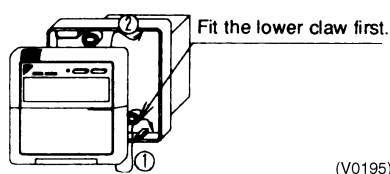
#### Wiring Specifications

	F1, F2	D1, D2
Wiring	Sheathed Wire (2 wire)	Sheathed Wire (2 wire)
Gauge	0.75-1.25mm <sup>2</sup>	0.75-1.25mm <sup>2</sup>
Length	Max. 1000m	Max. 150m

#### NOTES:






1. Electrical box and transmission wiring are not attached.
2. Do not touch the PC board with your hand.
3. Keep transmission wiring at least 50 mm away from power supply wiring to avoid malfunctions.

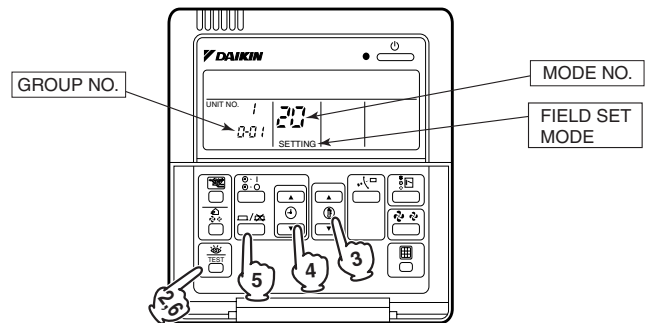
### 4. Install the Upper Part of the Remote Controller as before.



### 4.5.6 Setting Group No. for Centralized Control

In order to conduct the central remote control using the central remote controller and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote controller. Make Group No. settings for central remote control using the operating remote controller.

1. While in normal mode, press and hold the  switch for a period of four seconds or more to set the system to "Field Setting Mode".
2. Select the MODE No. "00" with the " " button.
3. Use the " " button to select the group No. for each group.  
(Group numbers increase in the order of 1-00, 1-01, ... 1-15, 2-00, ... 4-15.)
4. Press " " to set the selected group No.
5. Press " " to return to the NORMAL MODE.



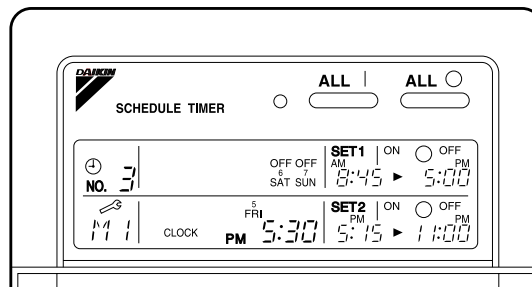
**Note:**

- For simplified remote controller, see the installation table.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

**NOTICE**

Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

### 4.5.7 Error Diagnosing Function



This schedule timer is provided with the malfunction diagnosing function. The malfunction code flashes if there occurs any malfunction in communication, etc. between and among the optional controllers for centralized control. In addition, the operation lamp also flashes if there occurs any malfunction in communication with the indoor unit. Check the contents of the display and contact your DAIKIN dealer because the signals give you the idea of the trouble area.

Operation lamp	Malfunction code	Contents of malfunction
Turn off	M1	Failure of PC board of schedule timer. <b>Fixes</b> The following causes are possible. Check each one. 1. PC board problems
Turn on or off	M8	Malfunction of transmission between each optional controllers for centralized control. <b>Fixes</b> Check all central devices which are connected (e.g., power supply, transmission wiring, etc.).
Turn on or off	MA	Improper combination of optional controllers for centralized control. <b>Fixes</b> The following causes are possible. Check each one. 1. Are all central devices combined correctly? 2. Is the master central connector attached to two or more central devices? 3. Are there 128 or more indoor units connected?
Turn on or off	MC	Address failure of schedule timer. <b>Fixes</b> The following causes are possible. Check each one. 1. Do the control range addresses in the central remote controller overlap? 2. Do the control range addresses in the on/off controller overlap? 3. Are there 2 or more schedule timers connected?
Flash	UE	Malfunction of transmission between indoor unit and optional controllers for centralized control. <b>Fixes</b> Inspect all indoor units which are displaying an error (e.g., power supply, transmission wiring, etc.).
Flash	—	Malfunction in indoor unit (Refer to the malfunction codes of the indoor remote controller, while also read the “CAUTION FOR SERVICING” attached to the indoor unit.)

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## 4.6 <DCS302CA61 / DCS301BA61 / DST301BA61>

### Combinations of Optional Controllers for Centralized Control

Besides using the various optional controllers for centralized control by themselves, a schedule timer or unified ON/OFF controller can be combined with and connected to the central remote controller. By devising a component system such as this, you can freely construct the ideal central control system according to use and scale.

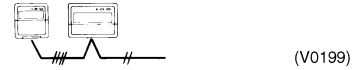
#### 4.6.1 System Example

##### ■ Unified ON/OFF controller



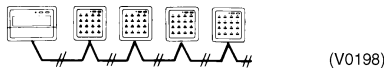
Connect a unified ON/OFF controller according to the number of indoor units. A network consisting of up to 16 groups×8 units=128 groups can be constructed using a single line.

##### ■ Schedule timer + central remote controller



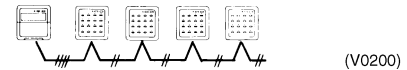
Lets you set up to 8 patterns of weekly schedule for turning air-conditioning equipment ON/OFF twice a day. Operates up to 128 groups of indoor units individually or by zone according to a programmed schedule.

##### ■ Central remote controller + unified ON/OFF controller

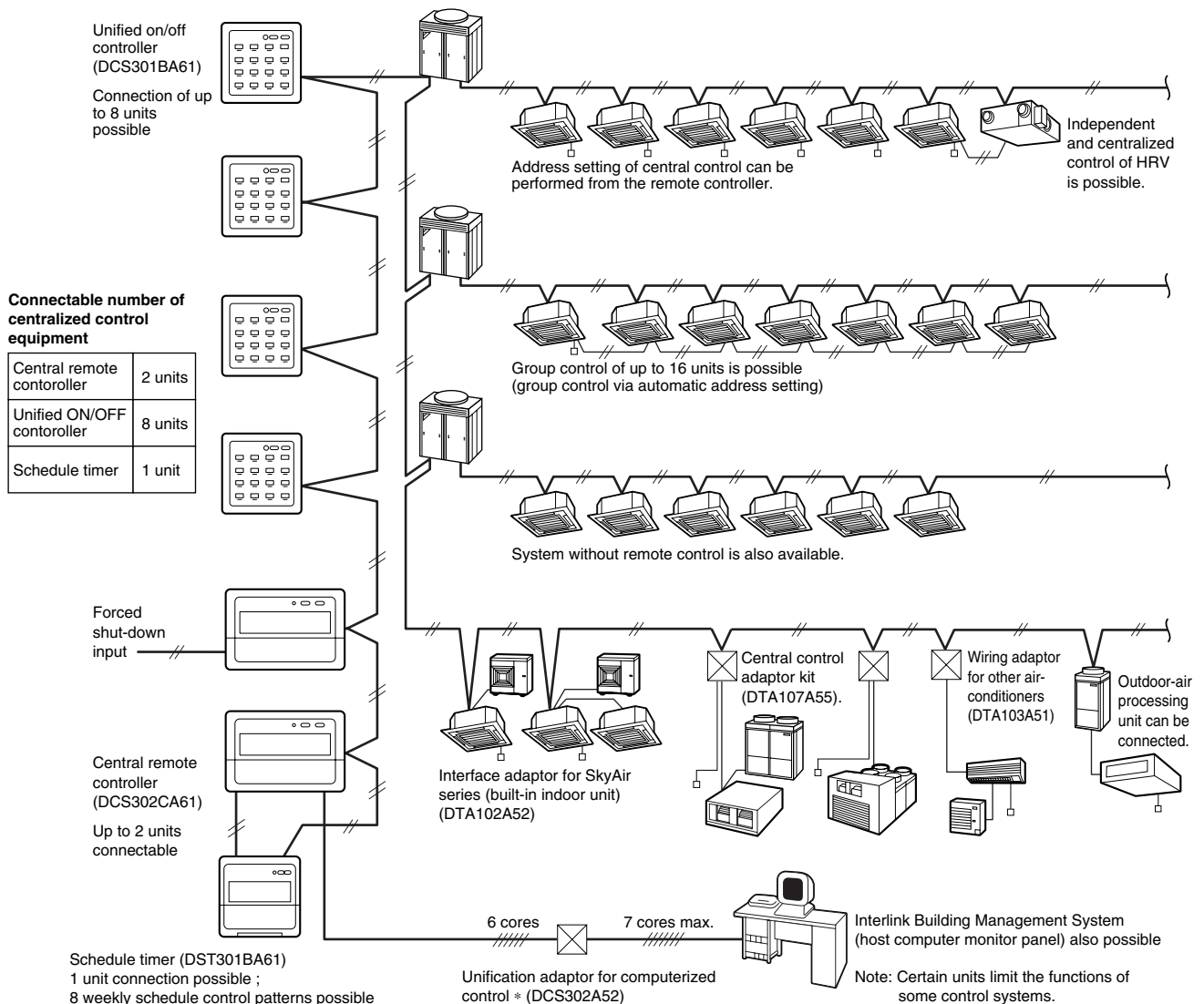


Combines the high functionality of a central remote controller and the easy operation of a unified ON/OFF controller. Centrally controls up to 128 groups of indoor units.

##### ■ Schedule timer + unified ON/OFF controller



Lets you set ON/OFF for twice a day. Operates up to 128 groups of indoor units all together according to a programmed schedule.



You can freely combine the central controllers within the limitation of the following number of each controller; 1~4 units of central remote controllers, one unit of schedule timer and 1~16 units of unified ON/OFF controllers. However, the maximum number of the indoor units to be controlled is 128 units for one system in any combination of the central controllers.

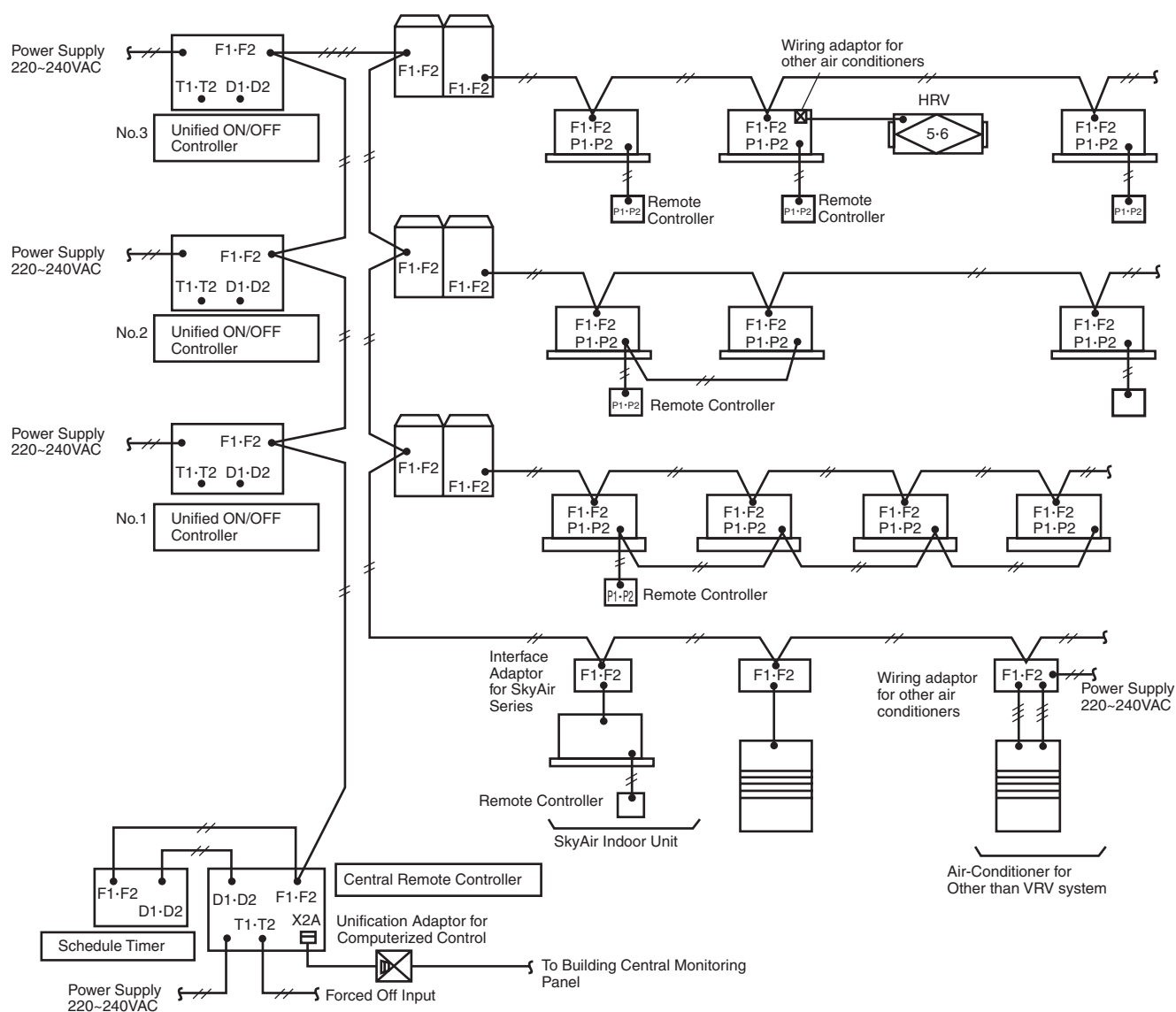
#### ■ Connection Pattern for Optional Controller for Centralized Control

Central Remote Controller DCS302CA61	Unified ON/OFF Controllers DCS301BA61	Schedule Timer DST301BA61
1~4	1~16	—
		1
	—	1

The maximum number of indoor units is based on one unit in each zone and is also under the double central control system.

## 4.6.2 Electric Wiring

### Combination of 1 Central Remote Controller, 1 Schedule Timer, 3 Unified ON/OFF Controllers



(V2317)

Note) Diagram with an outdoor unit omitted for air-conditioners for Sky Air installation.

### 4.6.3 Initial Settings for Central Control Equipment

#### 1. Central Remote Controller

- Leave the master control connector (X1A) connected.  
(Connected when shipped from the factory)  
The connector is to be connected to only 1 central line.
- Operation control setting  
Sets the priority ranking of control for the central remote controller and remote controller for indoor units.
- Zone setting  
Sets the zones when several groups are controlled as one group.

#### 2. Unified ON/OFF Controller (No.s 1, 2, and 3 in the figure above)

- Remove the master control connector (X1A).
- Control range setting switch (DS1)  
Sets the range of group No.s for each group of indoor units to be controlled by unified ON/OFF controllers no.1,2 and 3. 16 units (16 groups) can be set by 1 unified ON/OFF controller.
- Control mode switch (DS2)  
Sets priority ranking of control for unified ON/OFF controllers and remote controllers for indoor units. If using in combination with a central remote controller, the central remote controllers control mode is given priority.

#### 3. Schedule Timer

- Leave the setting connector for individual use (X1A) disconnected. (Disconnected when shipped from the factory)
- Control mode switch (SS2)  
Sets the priority ranking of control for the schedule timer and remote controllers for indoor units. If using in combination with a central remote controller, the central remote controllers control mode is given priority.

### 4.6.4 Group No. Setting for Central Control

#### 1. Setting by Remote Controller for Indoor Units

- Sets group No.s in local setting mode by remote controller. (Group No.s are 1-00~1-15, 2-00~2-15 up to 8-00~8-15)

#### 2. Adaptor PC Board Setting

Sets group No. setting switches RS1 and RS2 for central control on PC board when using an interface adaptor for SkyAir series, or wiring adaptor for other air-conditioners.

RS1 (Upper): 1~4 (1~8 in case of interface adaptor for SkyAir Series)

RS2 (Lower): 0~F

## 4.7 <DCS601C51> intelligent Touch Controller

### 4.7.1 Feature

This controller is a central remote controller offering higher functions than those of the previous controller DCS302C(A)61, and easier operation.

Up to 64 groups of indoor units may be connected to 1 unit of this controller.



This controller aims to be a product positioned between the current central controlling device (central controller DCS302CA61) and the controller D-BIPS for large scale buildings (in both the viewpoints of application area and functional grade), and is a central controller most suitable for middle and small size buildings.

#### < Products Features >

##### 1. High Level Functions

- Annual schedule control
- Electricity proportional distribution function (option)
- Air net function (DCS601C51 only)

##### 2. Easy Operation

- Color liquid crystal
- Icon display
- Touch panel application
- Air conditioner name and zone name input available

##### 3. D-III NET × 1 line (64 units)

##### 4. Saving expenses

- Controlling personnel not required (saving control expenses)
- Energy saving schedule
- Functions equal to those of a compact monitor panel

(V2318)

#### ■ Operation Menu

intelligent Touch Controller is capable of starting/stopping of the operation by the group or zone. Collective starting/stopping is also available.

#### ■ Air Conditioner Detail Setup

Temperature setting, switching between temperature control modes, switching of speed and direction of wind and remote control mode setting are available by the group, by the zone or collectively.

#### ■ Monitoring of Various Information on Indoor Units

Information on operation such as the operation mode and temperature setting of the indoor units, maintenance information including the filter or element cleaning sign, troubleshooting information such as error codes can be displayed by the group or the zone.

#### ■ Diversified Operation Modes

Operation can be controlled both with the main unit and the remote control to provide diversified operation management. Setting with the main unit allows the following remote control settings by the group, by the zone or collectively:

##### 1. Start/Stop

:(Remote control) Inhibited  
:(Remote control) Permitted  
:Priority

##### 2. Operation Mode

:(Remote control) Inhibited  
:(Remote control) Permitted

##### 3. Temperature Setting

:(Remote control) Inhibited  
:(Remote control) Permitted

#### ■ Zone Control Simplifying Complicated Setting Operations

Up to 64 groups can be controlled with the intelligent Touch Controller.

More than one group can be consolidated into a zone, which can be registered, to allow the following settings by the zone. This eliminates the need for repeating the same setting operation for each group. Function to allow collective setting for all groups is also available.

- Start/stop
- Temperature setting
- Switching between operation modes
- Setting of direction and fan speed
- Disabling/enabling the remote control

#### ■ Detailed Scheduled Operation Control

The intelligent Touch Controller allows detailed scheduled operation by the group, by the zone or collectively. Up to 8 options for annual schedule can be set. Each schedule can include four types of plans : for Monday, Tuesday... Sunday, Special day 1~10, Special days 1 and Special days 2. Each of the plans allows setting of up to 16 operations.

#### ■ Handy Automated Control

The intelligent Touch Controller can do the following.

- Change Over Settings : automatically switches between cooling and heating according to the room temperature.
- Temperature Limit Setting : prevents the temperature from rising too high or too low in unmanned rooms.
- Heating Optimization Settings : stops uncomfortable hot air from blowing when the heating the thermo is off.

## 4.7.2 System Overview

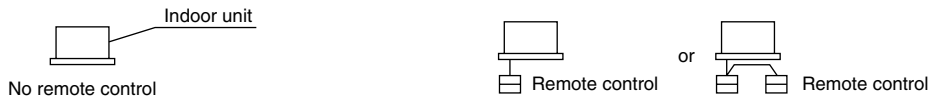
This intelligent Touch Controller is capable of controlling/monitoring up to 64 groups of indoor units (hereafter “groups”).

The main functions of the intelligent Touch Controller include:

1. Collective starting/stopping of operation of the indoor units connected to the intelligent Touch Controller.
2. Starting/stopping of operation, temperature setting, switching between temperature control modes and enabling/disabling of operation with the hand-held remote control by zone or group.
3. Scheduling by zone or group.
4. Monitoring of the operation status by zone or group.
5. Display of the air conditioner operation history.
6. Compulsory contact stop input from the central monitoring panel (non-voltage, normally-open contact).
7. Power distribution of the air conditioners. (With the optional DCS002C51)
8. Control and Monitoring of air conditioner with personal computer by the Controller (with the optional DCS004A51).

\* A group of indoor units include:

- ① One indoor unit without a remote control.      ② One indoor unit controlled with one or two remote controls.

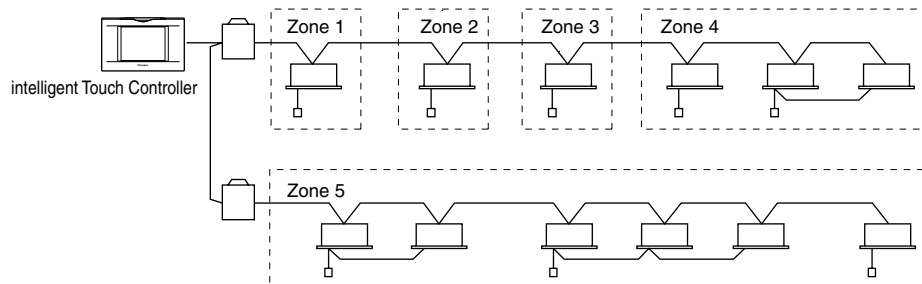


- ③ Up to 16 indoor units controlled with one or two remote controls.



\* Zone control with the intelligent Touch Controller

\* Zone control, which allows collective settings for more than one group, is available with the intelligent Touch Controller, which facilitates the setting operations.

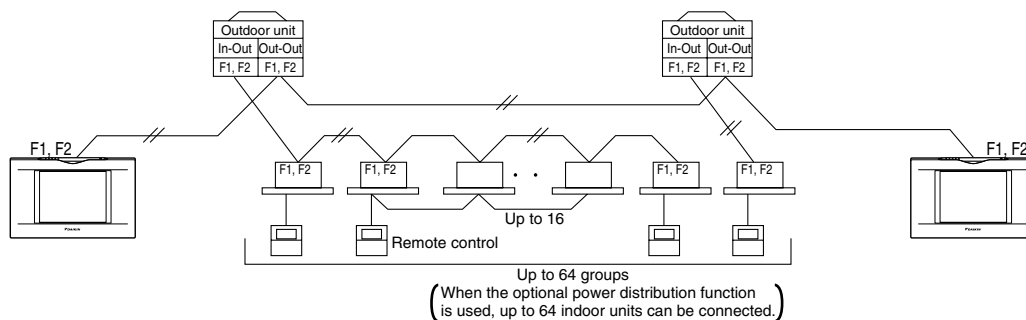


- One setting makes the same setting for all of the units in one zone.
- Up to 128 zones can be set with one intelligent Touch Controller.  
(The maximum number of groups in one zone is 64.)
- Groups can be zoned at will with the intelligent Touch Controller.
- Units in one group can be divided into more than one zone.

3P073677-12R

## 4.7.3 Double intelligent Touch Controllers

Using two intelligent Touch Controllers allows central control of indoor units from different places.



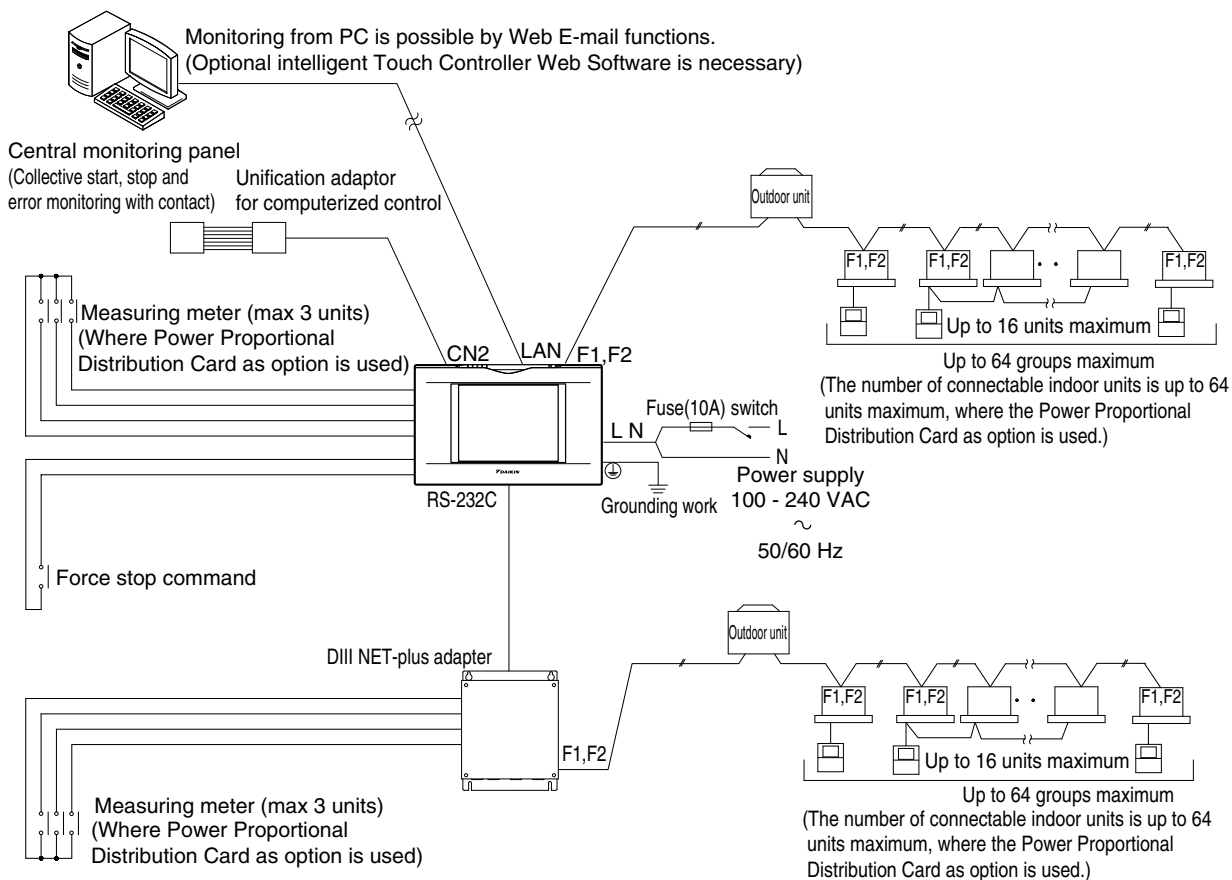
**Note**

- For combination and settings for double intelligent Touch controllers, be sure to consult the vendor.

(V3017)

## 4.7.4 Options

Connecting Unification adaptor allows using the contact for normal and abnormal operation signal and collective start/stop with a contact. For details, contact the vendor you purchased the product from. Also, by connecting DIII NET-plus adapter, it is possible to operate and monitor the indoor units of 64 groups (intelligent Touch Controller plus DIII NET-plus adapter-128 groups in total) additionally.



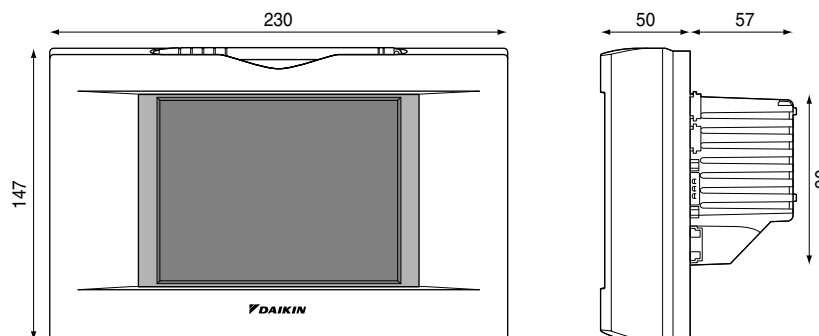
3P073677-12R

## 4.7.5 Specification

### Specification

Power		AC100 - 240V 50/60Hz
Power consumption		10 W maximum
Force stop input		Normally-open contact Contact current approximately 10 mA
Operating temperature range	Ambient temperature	0°C~40°C
	Ambient humidity	85%RH (Non condensing)
Storage temperature range	Ambient temperature	-10°C~50°C
	Ambient humidity	85%RH (Non condensing)
Size		230×147×107 (W×H×D)
Weight (Mass)		1.2kg

### Dimension

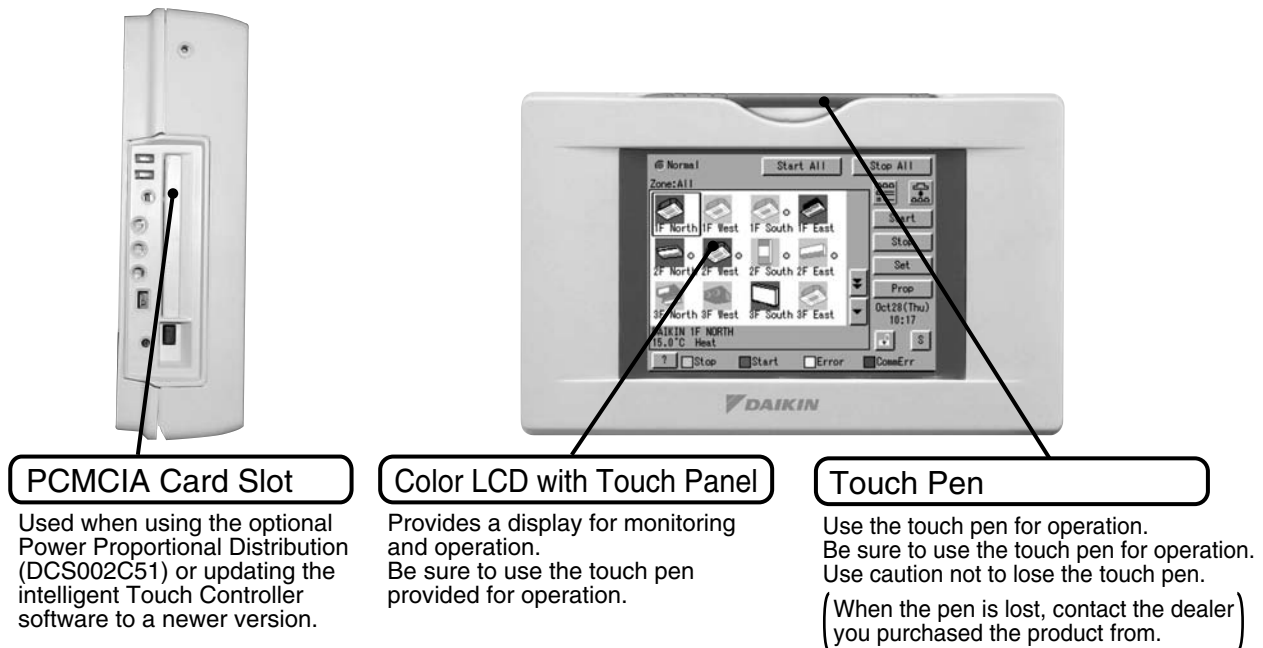


The specification and appearance of the product may be modified for improvement without prior notice.

C : 3P073677-12R

## 4.7.6 Part Names and Functions

### Front and Side View

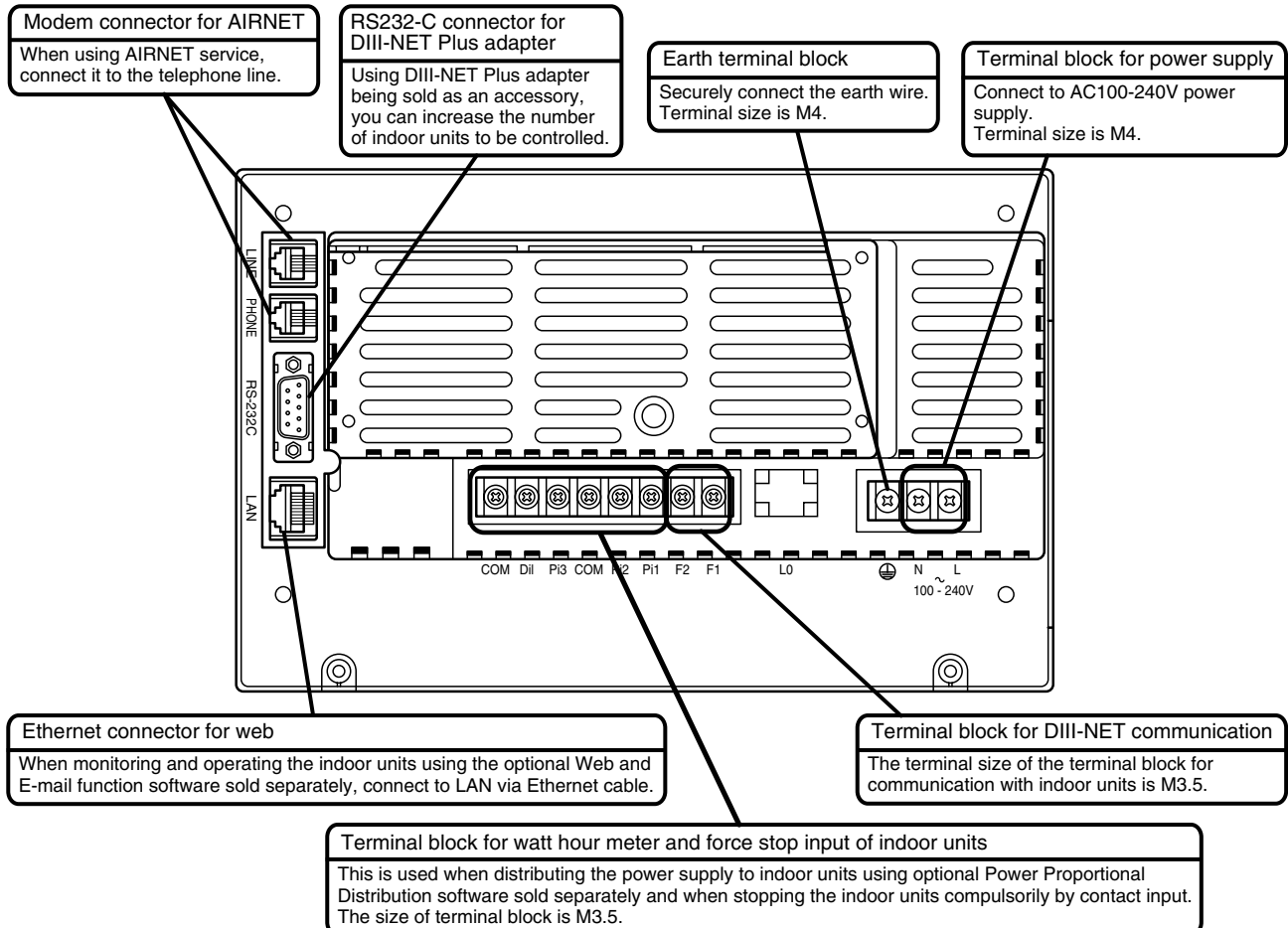


#### NOTE

- Be sure to use the touch pen for operation of the touch panel of the intelligent Touch Controller.  
Operating with an object other than the touch pen provided may cause damage and failure.

3P073677-12R

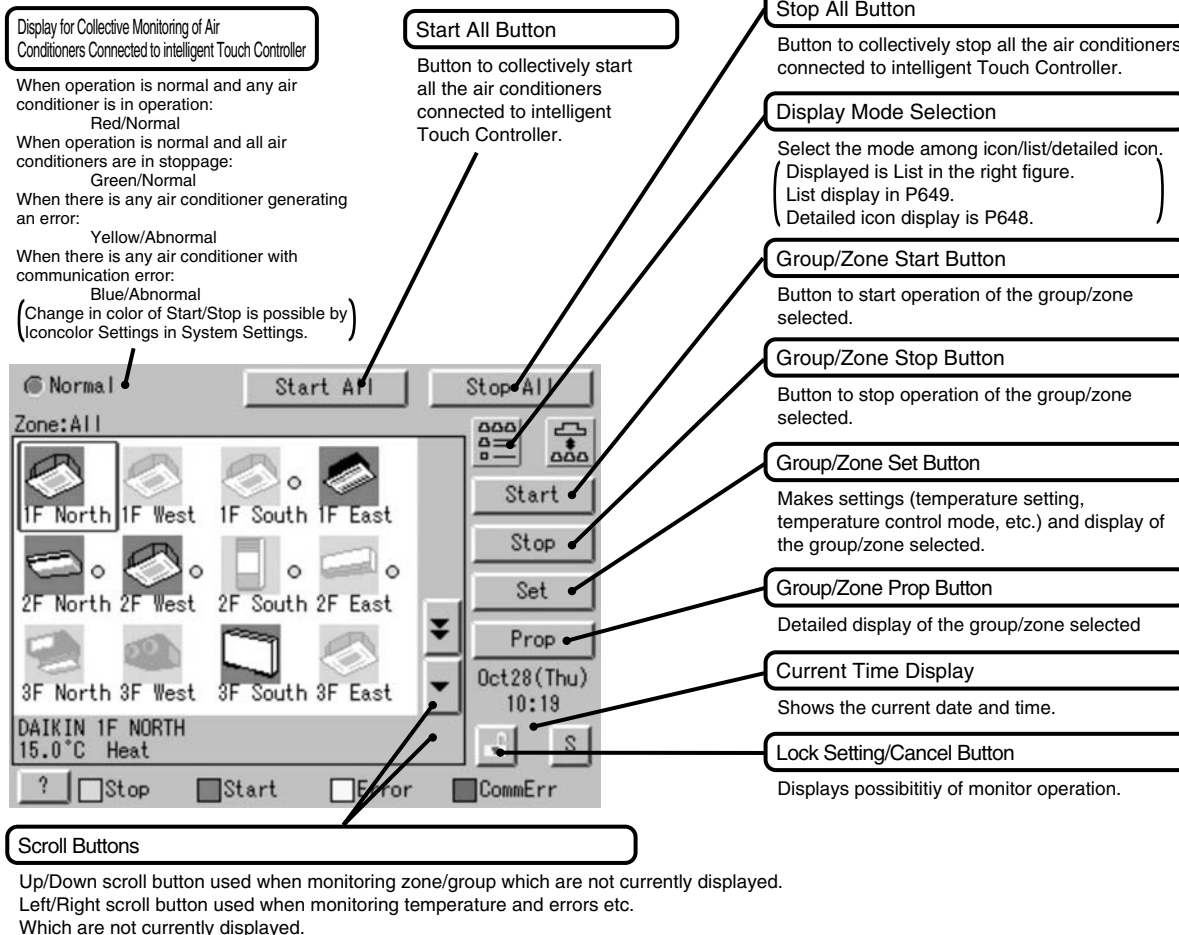
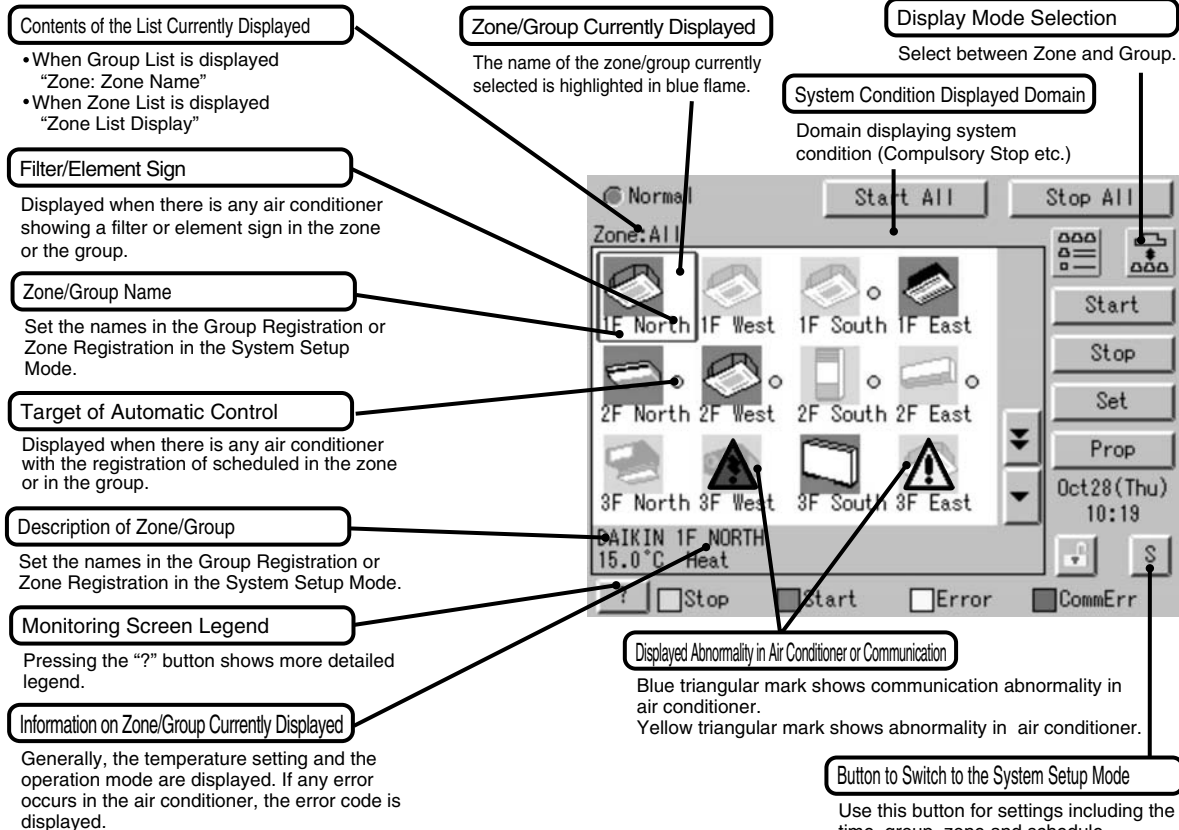
## 4.7.7 Terminals on the Back of intelligent Touch Controller

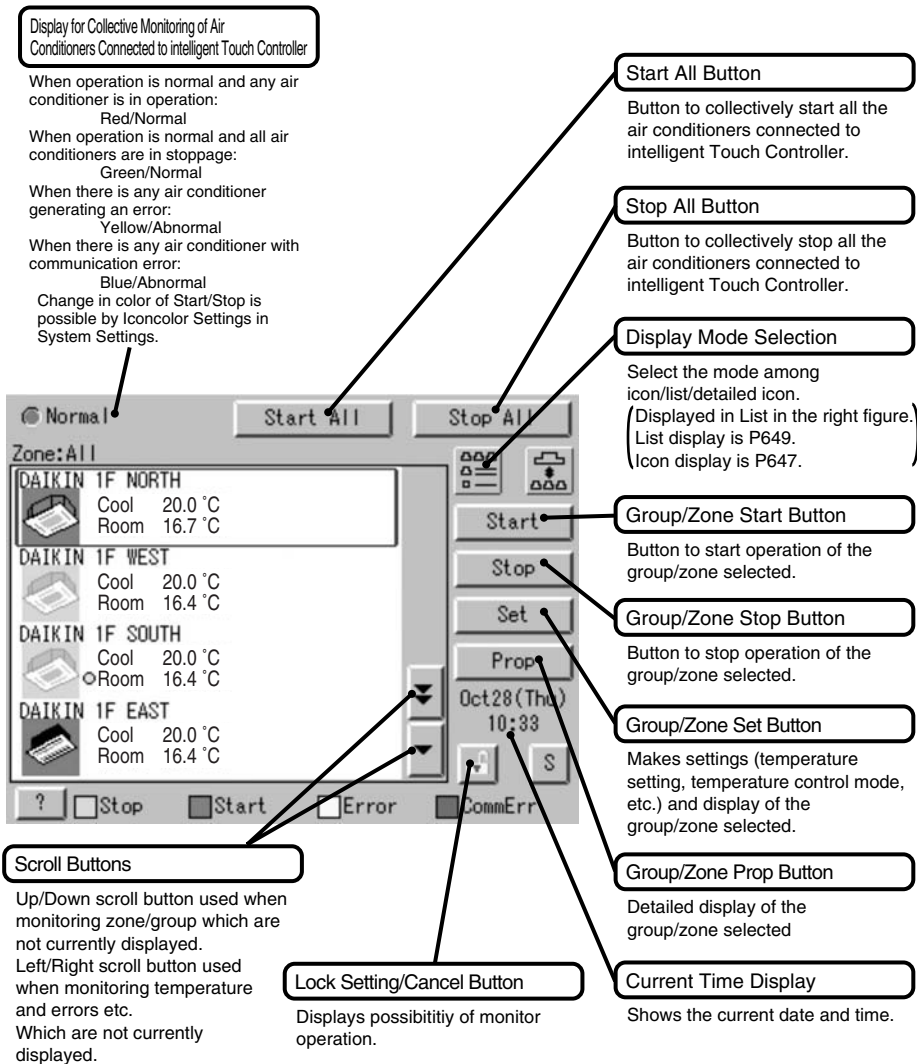
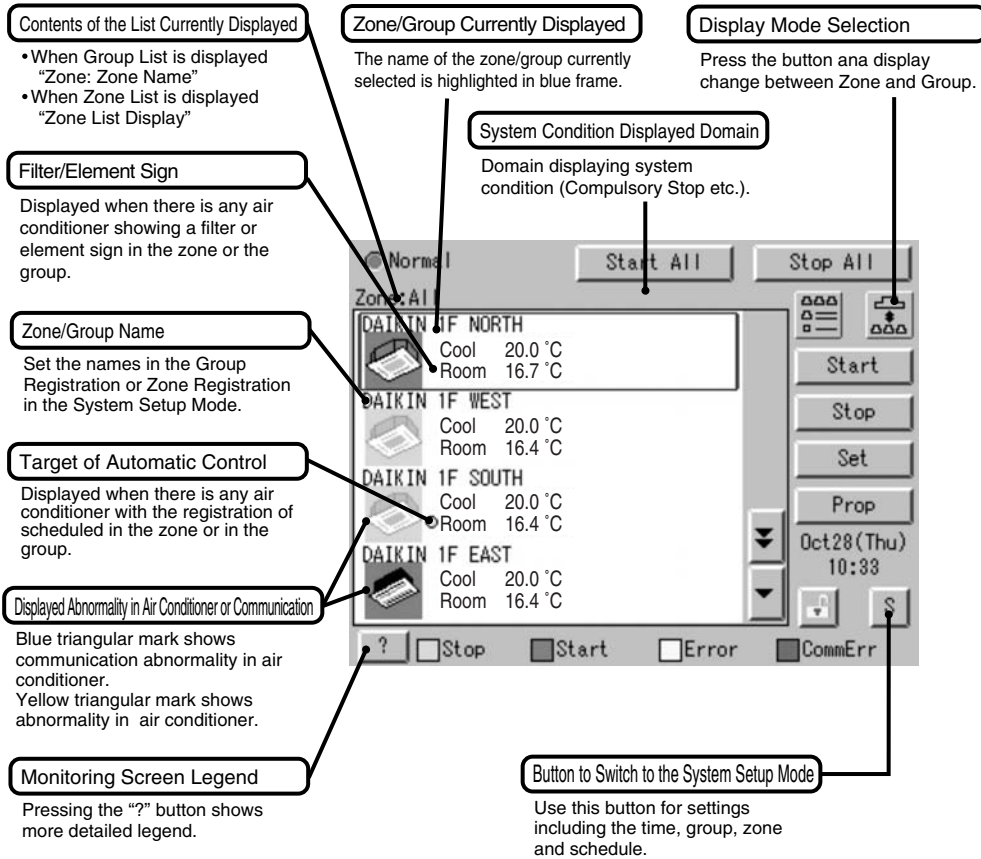


3P073677-12R

## 4.7.8 Part Names on the Monitoring Screen and the Functions

### Icon





## List

## Contents of the List Currently Displayed

- When Group List is displayed  
"Zone: Zone Name"
- When Zone List is displayed  
"Zone List"

## Zone/Group Name

Set the names in the Group Registration or Zone Registration in the System Setup Mode.

## Target of Automatic Control

Displayed when there is any air conditioner with the registration of scheduled in the zone or in the group.

## Filter/Element Sign

Displayed when there is any air conditioner showing a filter or element sign in the zone or the group.

## Monitoring Screen Legend

Pressing the "?" button shows more detailed legend.

## Zone/Group Currently Displayed

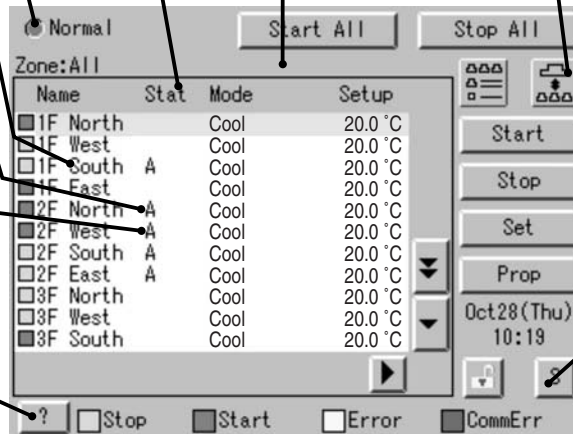
The name of the zone/group currently selected is highlighted in light-blue.

## Display Mode Selection

Press the button and display change between Zone and Group.

## System Condition Displayed Domain

Domain displaying system condition (Compulsory Stop etc.)



## Button to Switch to the System Setup Mode

Use this button for settings including the time, group, zone and schedule.

## Display for Collective Monitoring of Air Conditioners Connected to intelligent Touch Controller

When operation is normal and any air conditioner is in operation:

Red/Normal

When operation is normal and all air conditioners are in stoppage:

Green/Normal

When there is any air conditioner generating an error:

Yellow/Abnormal

When there is any air conditioner with communication error:

Blue/Abnormal

(Change in color of Start/Stop is possible by Iconcolor Settings in System Settings.)

## Start All Button

Button to collectively start all the air conditioners connected to intelligent Touch Controller.

## Stop All Button

Button to collectively stop all the air conditioners connected to intelligent Touch Controller.

## Display Mode Selection

Select the mode among icon/list/detailed icon.  
(Displayed in List in the right figure.)  
Icon display is P647.  
Detailed icon display is P648.

## Group/Zone Start Button

Button to start operation of the group/zone selected.

## Group/Zone Stop Button

Button to stop operation of the group/zone selected.

## Group/Zone Set Button

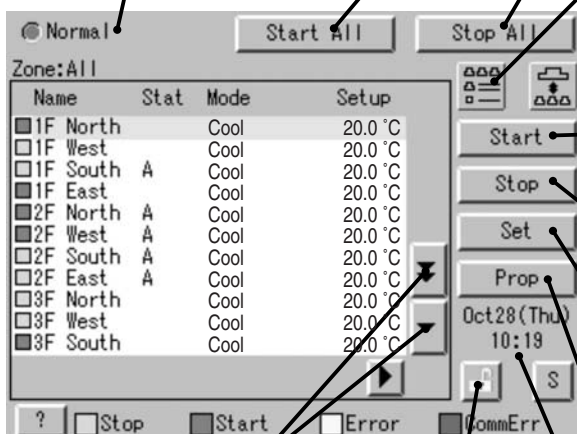
Makes settings (temperature setting, temperature control mode, etc.) and display of the group/zone selected.

## Group/Zone Prop Button

Detailed display of the group/zone selected

## Current Time Display

Shows the current date and time.



## Scroll Buttons

Up/Down scroll button used when monitoring zone/group which are not currently displayed.  
Left/Right scroll button used when monitoring temperature and errors etc.  
Which are not currently displayed.

## Lock Setting/Cancel Button

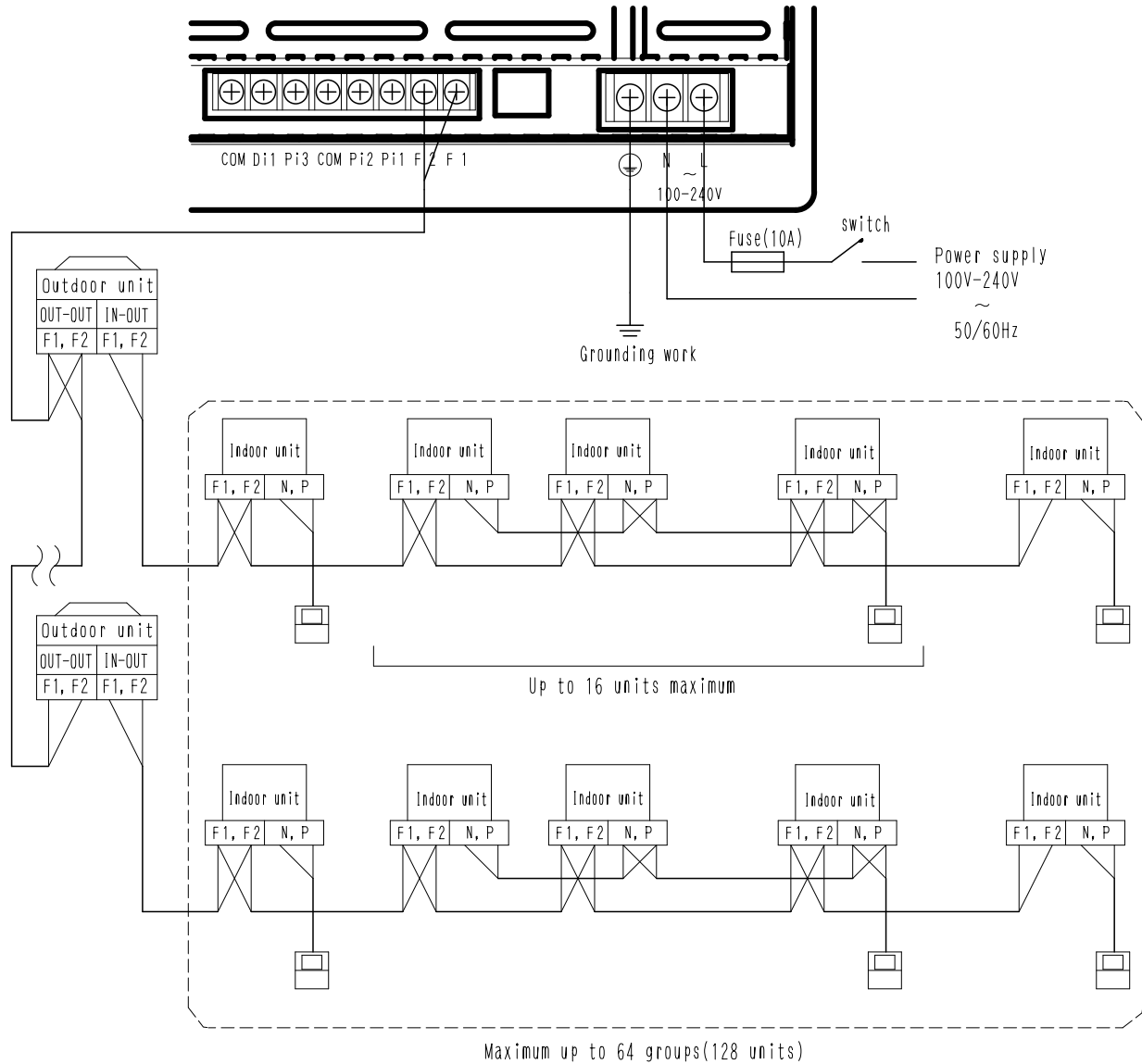
Displays possibility of monitor operation.

### 4.7.9 System Wiring

When wiring, cut off the power supply (using a local switch) and do not apply power until all work has been finished.

Wiring for power supply and Connecting wiring for DIII-NET communication of indoor units

In order to perform centralized control of indoor units using this controller, connect the power wiring to terminals L and N, earth wire to earth terminal (⏏) and connecting wiring for DIII-NET communication of air-conditioner (indoor unit and outdoor unit) to terminals F1 and F2 respectively as shown in the sketch below.



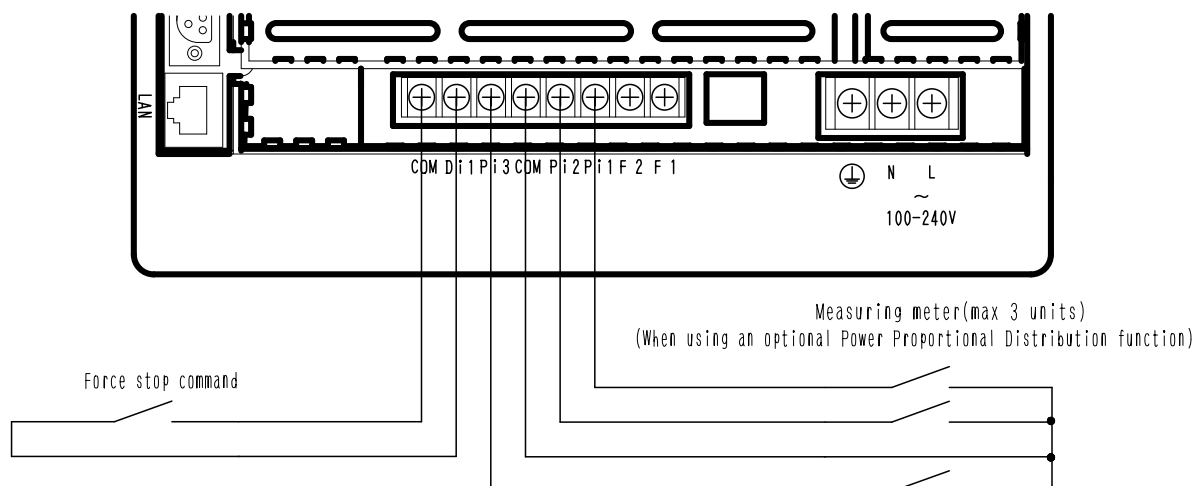
Power cable wiring	1. 25mm <sup>2</sup>
Fuse	10A
Connecting wiring for DⅢ- NET communication of indoor and outdoor units	0.75 - 1.25 mm <sup>2</sup> vinyl cord or cable with sheath (2 wire) ---Up to 1000 m maximum (wiring length -- up to 2000 m maximum) (When shield cable is used, the wiring length is available up to 1500m.) For the type of electric wire, refer to the design guide.

- << CAUTION >>

- CAUTION**
- Don't fail to perform installation of Grounding work. Don't connect the grounding wire to any of gas pipe, city water pipe, lightning rod, and telephone grounding wire.
  - Don't turn ON the power supply (front switch) until all the works are complete.
  - The connecting wiring for communication of indoor and outdoor units is a connecting wiring for the control. Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
  - Don't connect the power cable to F1, F2 terminal blocks. Wrong connection to these terminal blocks could result in damage and burning of the centralized control devices and of the electric parts of the indoor and outdoor units. This is very hazardous. Check each wired cable once more before turning ON the power switch.

### Wiring for force stop input and for electric power distribution

In order to stop the air-conditioner through force stop input, connect the wiring for force stop input to the terminals Di1 and COM as shown in the sketch below.  
In addition, in order to calculate the electric energy using optional Power Proportional Distribution software, connect the wiring for electric energy to the terminals Pi and COM as shown in the sketch below.



Wiring for force stop input	<ul style="list-style-type: none"> <li>• 0.75 - 1.25 mm<sup>2</sup> vinyl cord or cable with sheath (2 wire) -- up to 150m maximum</li> <li>• When FORCE-STOP INPUT is kept ON, the indoor units connected thereto are unable to be operated because they are force-stopped.</li> <li>• Use a contact which can guarantee minimum application load DC16V and 10mA.</li> <li>• Use an instantaneous contact of 200msec or more in current feed time, where required.</li> </ul>
Meter wiring for power distribution(option)	<ul style="list-style-type: none"> <li>• 0.75 - 1.25 mm<sup>2</sup> vinyl cord or cable with sheath (2 wire) -- up to 150m maximum</li> <li>• The number of connectable indoor units is up to 64 units maximum, where the Power Proportional Distribution Card as option is used.</li> <li>• The measuring meters to be connected must meet the requirements specified below. <ul style="list-style-type: none"> <li>• To be a measuring meter with pulse oscillator, (pulse/kwh)</li> <li>• Pulse band of 100msec or mores</li> <li>• Measuring meter which uses semiconductor relay for pulse output and outputs pulses from non-voltage contact</li> </ul> </li> </ul>

### ◀ CAUTION ▶

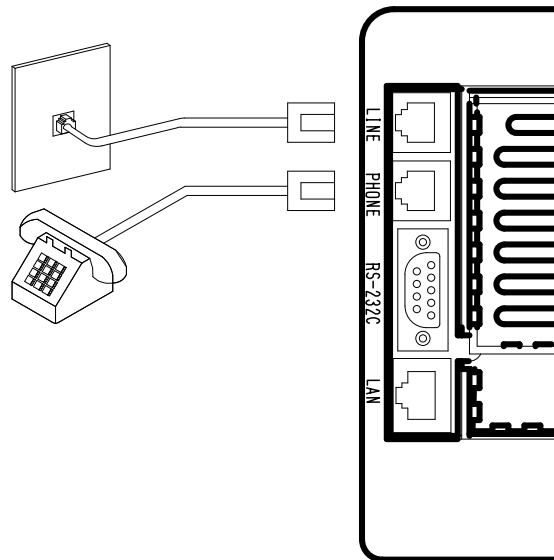
- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- Terminals COM are inter-connected. Connecting to either one is allowed, but the number of cables connectable to one terminal is limited to 2 pieces.
- Don't connect the power cable to Pi, Di, COM terminal blocks. Wrong connection to these terminal blocks could result in damage and burning of the centralized control devices and of the electric parts of the indoor and outdoor units. This is very hazardous. Check each wired cable once more before turning ON the power switch.

### Connection to public telephone line

Connect to the telephone line in order to monitor the air-conditioner via AIRNET service. Connect to modular cable from the public telephone line to the upper connector with a stamping of LINE, and connect the modular cable of the telephone to the lower connector with a stamping of PHONE, as shown in the sketch below.

#### < CAUTION >

- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- When using AIRNET service, it is necessary to use a separate modem specified by us and enter into Maintenance Agreement with charge.

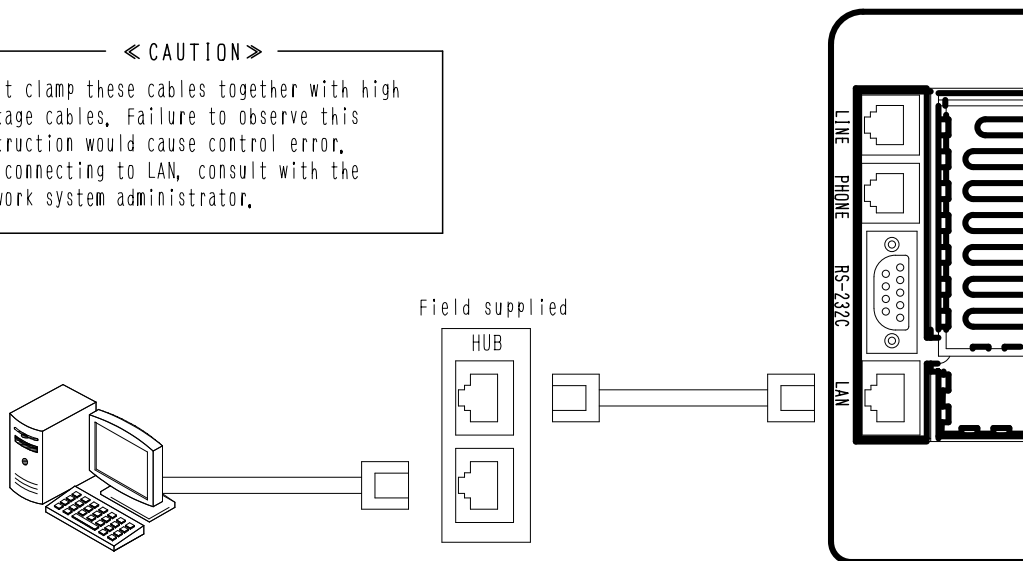


### Connection to LAN

In order to monitor/control the air-conditioner using optional Web and E-mail function software sold separately, use a UTP cable to connect to LAN. Connect the UTP cable to the Ethernet connector with a stamping of LAN.

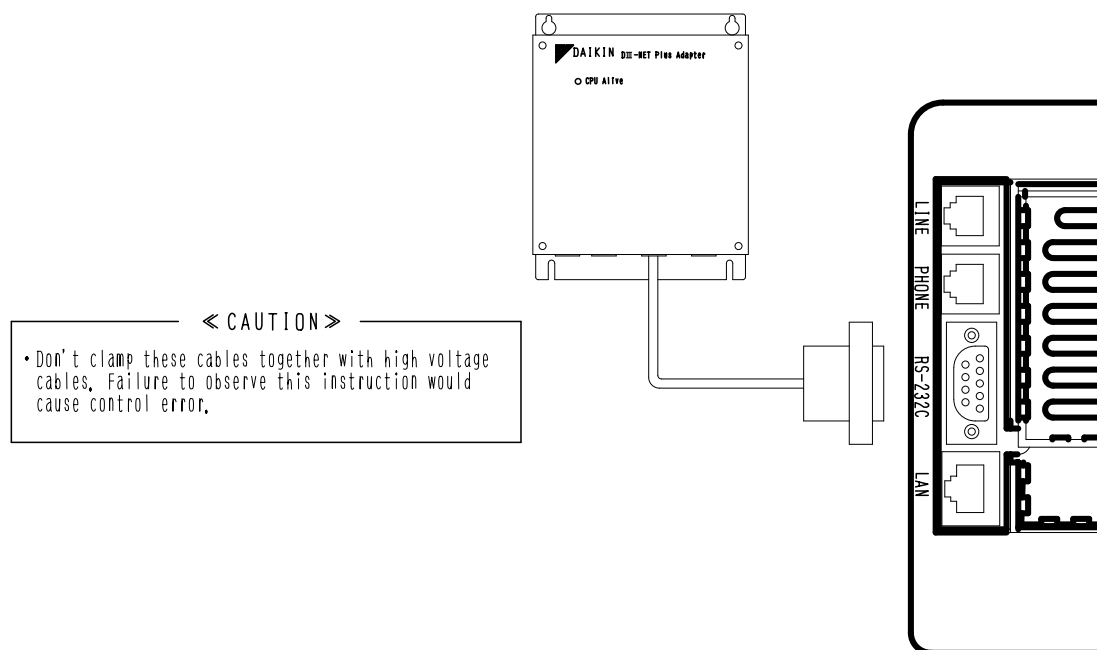
#### < CAUTION >

- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- For connecting to LAN, consult with the network system administrator.



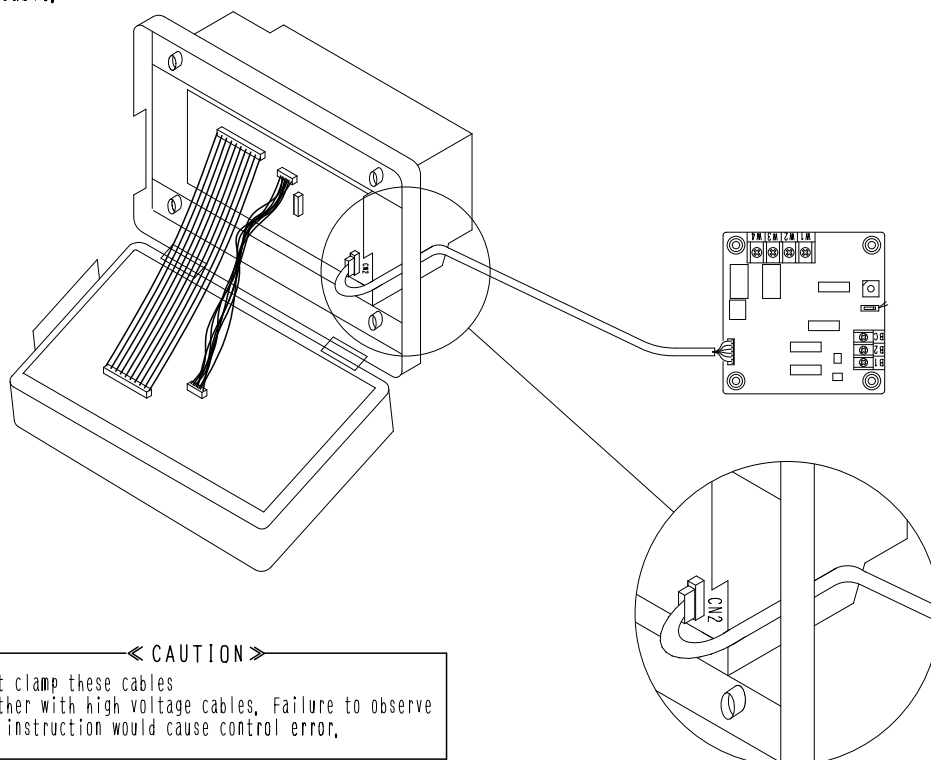
### DIII-NET Plus adaptor connection

In order to increase the number of indoor units to be controlled, connect DIII-NET Plus adaptor using RS232-C cable attached to the adaptor.  
For details, refer to the installation manual of DIII-NET Plus adaptor.



### Connection for Unification Adaptor

In order to perform total start and stop/situation monitoring from central supervisory board, etc., connect a Unification Adaptor sold separately.  
As shown in the sketch below, open the controller and connect the cable from the Unification Adaptor to CN2 connector located on the printed board on the lower case.  
If you route the cable in the cable guide groove on the lower case, you can make a smart connection without any slack of the cable.



## 4.7.10 <DCS002C51> Power Proportional Distribution Card

### Function and Outline

Power Proportional Distribution Card, in combination with an existing intelligent Touch Controller, enables to proportionally calculate and display electricity amount used by air conditioner per indoor unit.

### Main Functions

Power proportional distribution results data can be saved for 12 months. (max. 12 months and 30 days)

- Per intelligent Touch Controller, power proportional distribution can be calculated for 64 indoor units at maximum.
- When DIII-NET Plus Adaptor is connected, power proportional distribution can be calculated for more 64 indoor units at maximum (a total of 128).
- 3 Electric power meters at maximum can be connected to an intelligent Touch Controller.
- When DIII-NET Plus Adaptor is connected, more 3 Electric power meters at maximum (a total of 6) can be connected.
- Power proportion distribution results data can be saved into a PCMCIA card.

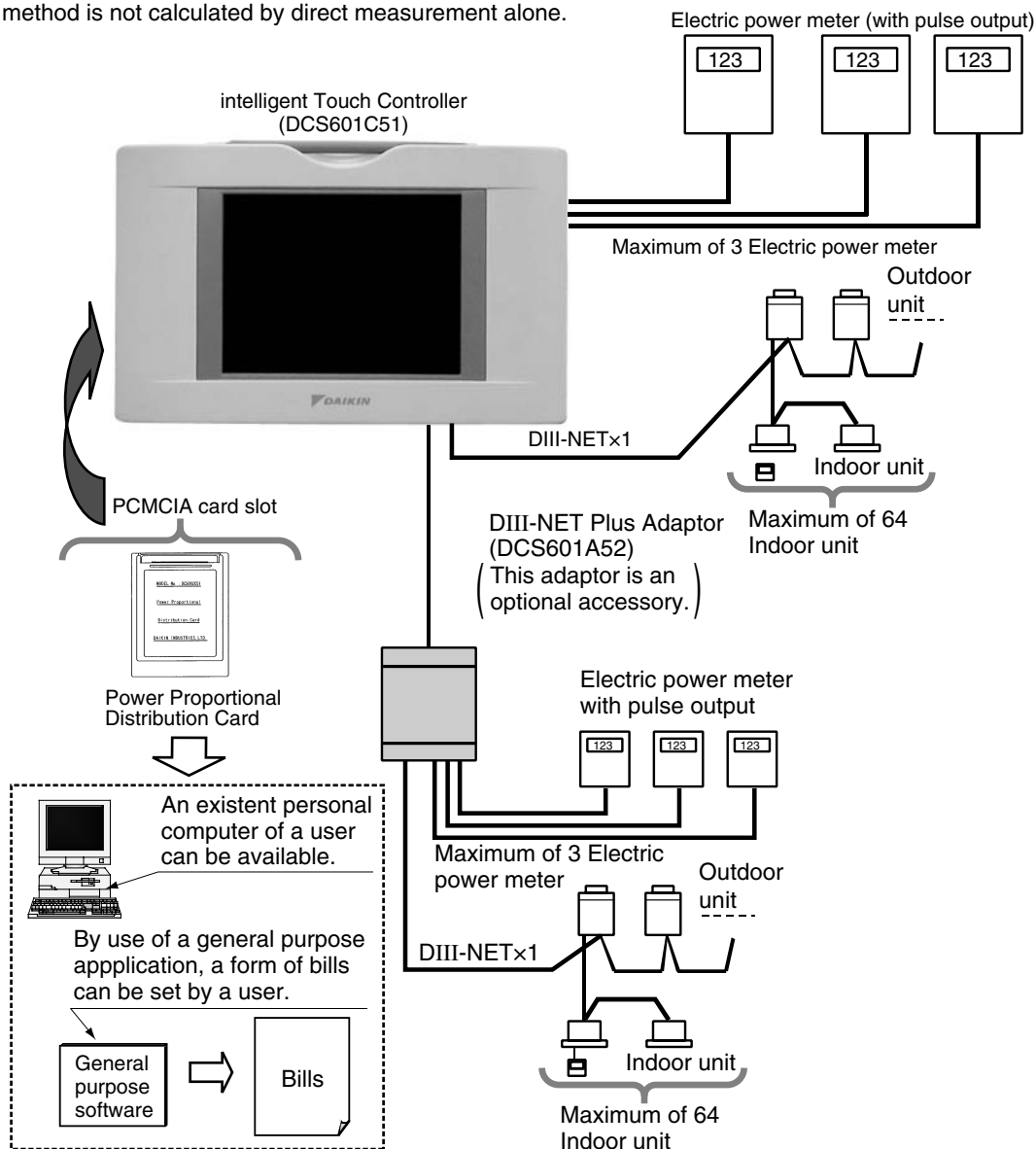
Data is saved CSV format generally applied to personal computers, so bills can be issued by use of a general purpose table calculation software package in easy manners.

(A personal computer and a general purpose table calculation software package can be available separately.)

### Precautions

This system calculates electricity consumptions by size of indoor units, run time, expansion valves open gap, suction rate and the number of pulses from the power meters installed at the Outdoor Units.

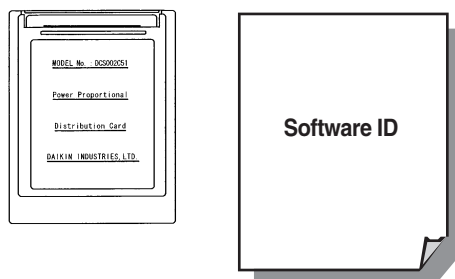
This method is not calculated by direct measurement alone.



EM04A056

## Checking Attachments

Power Proportional Distribution Card includes the following attachments.



EM04A056

## How to Connect

To activate the power proportional distribution function, it is necessary to set the program by use of the attached PCMCIA card and carry out a trial operation. Before use, consult your supplier.

EM04A056

## 4.7.11 <DCS004A51> Web Software

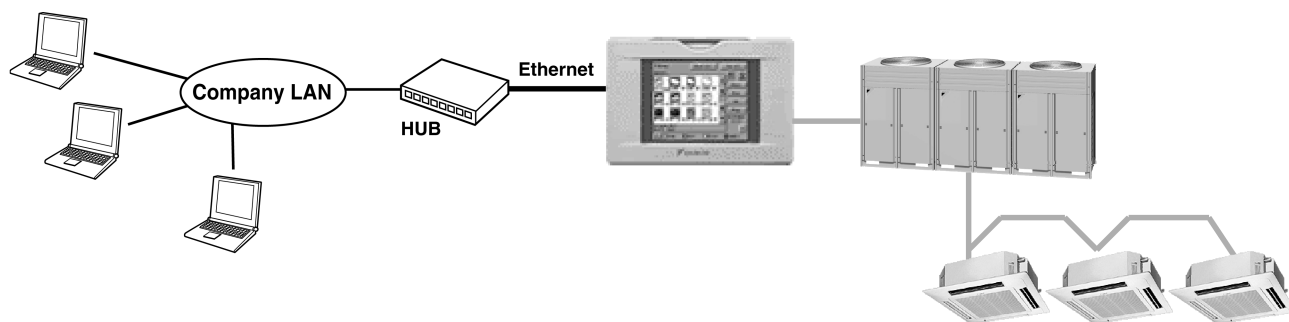
### Functions and Outline

Using this software enables you to operate and monitor air conditioners linked to the intelligent Touch Controller on the Windows PC, which is connected with the intelligent Touch Controller and the Ethernet communication (LAN).

- \* The intelligent Touch Controller functions as a Web server to visit the Website of the intelligent Touch Controller through the Internet Explorer, which is incorporated in the PC like as its standard software, thus making it possible to operate and monitor the air conditioners.

Furthermore, through the use of a mail server, if a malfunction occurs in any of the air conditioners which are linked to the intelligent Touch Controller, it will be able to transmit mails to a pre-assigned address to alert you to the malfunction.

For further information, contact our sales representatives.



## Web Interface of the intelligent Touch Controller

### Permissions: Privileges Given to Each Login Name

There are two categories of login users: General User who can perform basic operations via the web interface and Administrator who can setup the system and change system settings.

### Two Display Modes

You can select the display mode from two modes during login process: the Basic mode which provides a simple and easy-to-use interface and the Advanced mode which allows you to use advanced setting options.

### Start/Stop Operation

You can start or stop all the devices in a group, a zone, or multiple zones at a time.

### Advanced Settings for Air Conditioners

You can set temperature, operation modes, direction of air flow, air volume, and remote controller mode of all devices in a group, a zone, or multiple zones.

### Various Operation Modes

You can operate devices from a web interface, the intelligent Touch Controller console, or a local remote controller. Also the Administrator can permit or prohibit remote controller operations of devices in a specified group or zone using the web interface.

### User Administration

The Administrator can register or delete General Users, who can operate air conditioners via the web interface, and set/change his/her own password and General Users' password.

### Scheduling Function

The Administrator can precisely schedule operations for a specific group or zone of devices. Weekly schedule and 10 extra schedules can be created.

EM04A057

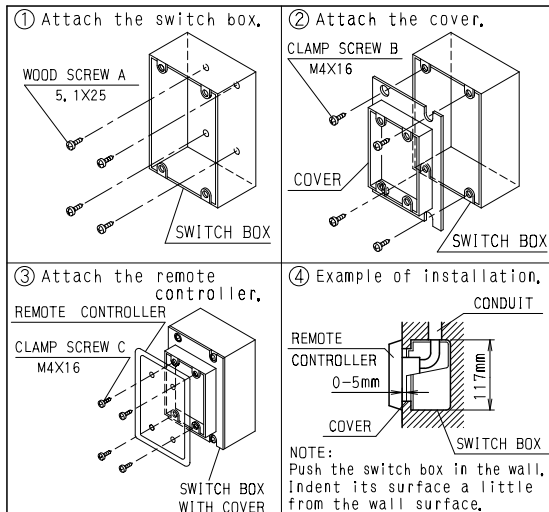
## 4.7.12 <KJB411A> Optional Switch Box

### INSTALLATION POINT OF SWITCH BOX

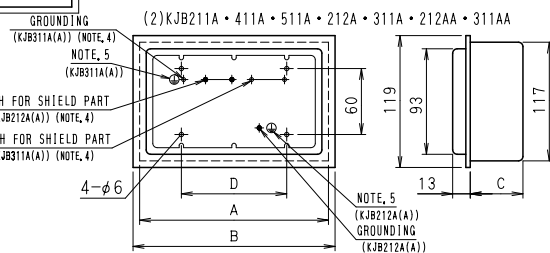
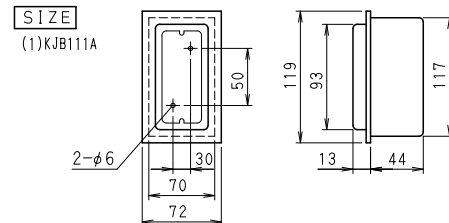
**PARTS** • Check the parts according to the list shown below.

NAME	SWITCH BOX	COVER	WOOD SCREW A (5.1×25)	CLAMP SCREW B (M4×16)	EARTH SCREW (M4×12)	C-CUP WASHER	LABEL FOR EARTH
KJB111A	1	1	2	2	—	—	—
KJB211A	1	1	4	4	—	—	—
KJB411A	1	1	4	4	—	—	—
KJB511A	1	1	4	4	—	—	—
KJB212A(A)	1	1	4	4	3	2	1
KJB311A(A)	1	1	4	4	3	3	1
SHAPE							

### INSTALLATION



KJB111A • 211A • 411A • 511A  
212A • 311A • 212AA • 311AA



MODEL	SIZE (mm)			
	A	B	C	D
KJB211A	136	138	44	70
KJB411A	228	230	54	155
KJB511A	274	276	54	200
KJB212A(A)	136	138	44	70
KJB311A(A)	182	184	44	110

- Fig. 1**
- NOTES:**
- Refer to the installation of each remote controller.
  - Do not bind the lead wires for switch box with the power cord and the link wiring. This may cause erratic operation.
  - The remote controller and the clamp screw C are one kit. They are sold separately and attach to the switch box.
  - Ground the shield part of shielded wire or earth wire (only KJB311A(A)) as shown in the Fig. 1.
  - Stick the label for earth attached to the equipment.

3PA34878C

## 4.8 <BRC1D61> Wired Remote Controller with Weekly Schedule Timer

Adds new, advanced functions to those of the wired remote controller.



BRC1D61

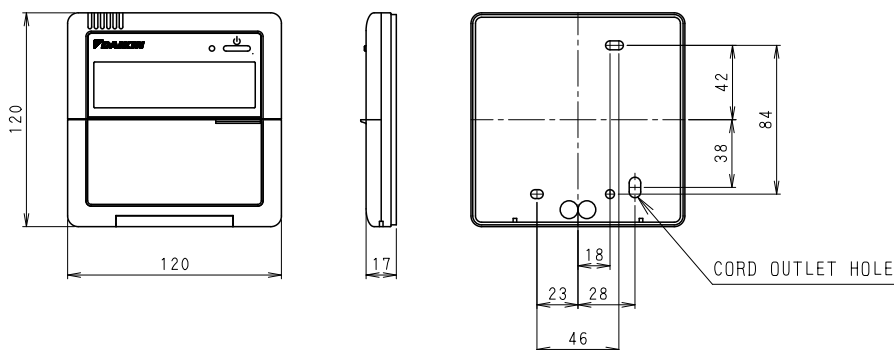
- Includes ventilation mode and airflow rate switching, the main functions of HRV series.
- 24-hour clock function (1-hour backup for power failures).
- Programming function for each day of week.
- Scheduling possible of start/stop and temperature limit (5 settings/day).
- Programming can be enabled or disabled.
- Copy function for programmed schedules.

### 4.8.1 Dimension

#### Wired Remote Controller with Weekly Schedule Timer BRC1D61(9)

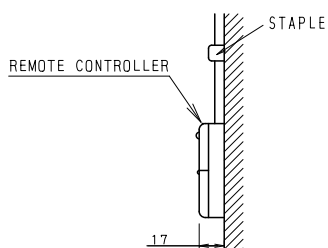
Unit (mm)

##### • REMOTE CONTROLLER DIMENSIONS

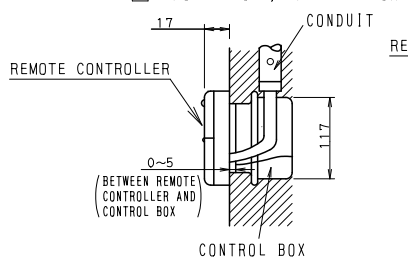


##### • INSTALLATION METHOD

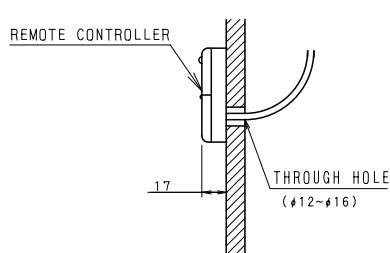
△ EXPOSED BODY, EXPOSED CORD



□ EXPOSED BODY, EMBEDDED CORD



□ EXPOSED BODY, EMBEDDED CODE



NOTE)1, REMOTE CONTROLLER CORD AND STAPLE ARE NOT ATTACHED, THEY ARE FIELD SUPPLIED PARTS,

##### • SPECIFICATIONS OF CORD

	FOR AUSTRALIA	FOR OTHER COUNTRIES
TYPE	SHIELD WIRE (INSULATED THICKNESS:1mm OR MORE)	VINYL CORD WITH SHEATH OR CABLE (INSULATED THICKNESS:1mm OR MORE)
SIZE	0.75~1.25mm <sup>2</sup>	
TOTAL LENGTH	500m	

3D048117

## 4.8.2 Features and Functions

The BRC1D61 is a state of the art remote controller that offers full control over your installation.

### 1 BASIC REMOTE CONTROLLER

The basic remote controller functions are:

- ON/OFF,
- operation mode change-over,
- temperature adjustment,
- air volume adjustment
- air flow direction adjustment.

### 2 CLOCK FUNCTION

The clock functions are:

- 24 hours real time clock,
- day of the week indicator.

### 3 SCHEDULE TIMER FUNCTION

The schedule timer functions are:

- a maximum of 5 actions can be programmed for each day of the week (totalling 35 actions),
- schedule timer can be enabled/disabled at any time,
- linked to a set temperature or a LIMIT operation or an OFF operation,
- "last command" overrules previous command until next scheduled command.

### 4 LIMIT OPERATION

Limit operation provides thermostat control within the range of the set minimum and maximum temperature.

The minimum temperature setting will trigger heating, the maximum temperature setting will trigger cooling.

### 5 LEAVE HOME

The leave home function prevents the room temperature from dropping when the occupants are out for a longer period. If the room temperature drops below 10°C, heating is started automatically. As soon as 15°C is reached, the controller returns to its original status.

### 6 BUTTON PERMISSION LEVEL

Three hierarchical permission levels can be set to limit the user action.

3P107422-3D

### 4.8.3 Names and Functions

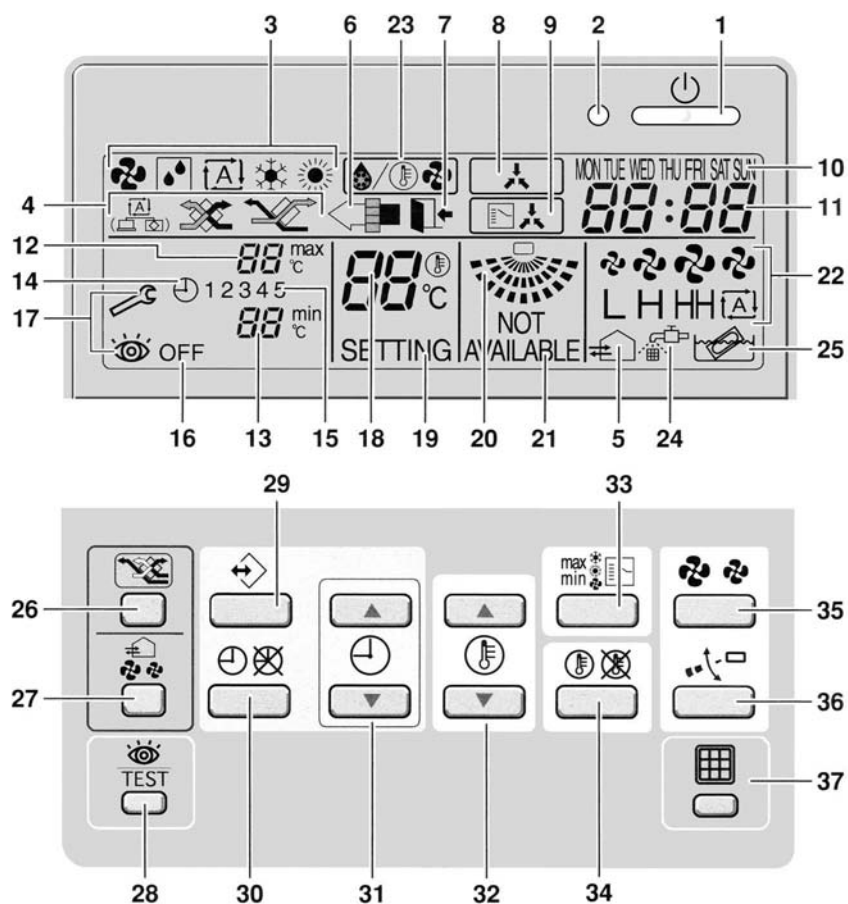


Figure 1

3P107422-3D

#### 4.8.4 Name and Function of Switches and Icons (Refer to figure 1)

##### 1 ON/OFF BUTTON

Press the ON/OFF button to start or stop the system.

##### 2 OPERATION LAMP

The operation lamp lights up during operation or blinks if a malfunction occurs.

##### 3 OPERATION MODE ICON

These icons indicate the current operation mode (FAN, DRY, AUTOMATIC, COOLING, HEATING).

##### 4 VENTILATION MODE ICON



These icons indicate the current ventilation mode (HRV only) (AUTOMATIC, HEAT EXCHANGE, BYPASS).

##### 5 VENTILATION ICON

The ventilation icon appears when the ventilation is adjusted with the ventilation amount button (HRV only). Simultaneously, the ventilation amount is indicated by the fan speed icon (see 22).

##### 6 AIR CLEANING ICON

This icon indicates that the air cleaning unit (option) is operational.

##### 7 LEAVE HOME ICON

The leave home icon shows the status of the leave home function.

ON	Leave home is enabled
FLASHING	Leave home is active
OFF	Leave home is disabled

##### 8 EXTERNAL CONTROL ICON

This icon indicates that another controller with higher priority is controlling or disabling your installation.

##### 9 CHANGE-OVER UNDER CENTRALISED CONTROL ICON

This icon indicates that the change-over of the installation is under centralised control assigned to another indoor unit or optional cool/heat selector connected to the outdoor unit (= master remote controller).

##### 10 DAY OF THE WEEK INDICATOR

MON TUE WED THU FRI SAT SUN

The day of the week indicator shows the current week day (or the set day when reading or programming the schedule timer).

##### 11 CLOCK DISPLAY

The clock display indicates the current time (or the action time when reading or programming the schedule timer).

##### 12 MAXIMUM SET TEMPERATURE

The maximum set temperature indicates the maximum set temperature when in limit operation.

##### 13 MINIMUM SET TEMPERATURE

The minimum set temperature indicates the minimum set temperature when in limit operation.

##### 14 SCHEDULE TIMER ICON

This icon indicates that the schedule timer is enabled.

##### 15 ACTION ICONS 1 2 3 4 5

These icons indicate the actions for each day of the schedule timer.

##### 16 OFF ICON OFF

This icon indicates that the OFF action is selected when programming the schedule timer.

##### 17 INSPECTION REQUIRED

These icons indicate that inspection is required. Consult your installer.

##### 18 SET TEMPERATURE DISPLAY

This indicates the current set temperature of the installation (not shown in LIMIT operation or in FAN or DRY mode).

##### 19 SETTING SETTING

Not used, for service purposes only.

##### 20 AIR FLOW DIRECTION ICON

This icon indicates the air flow direction (only for installations with motorised air flow flaps).

##### 21 NOT AVAILABLE

NOT AVAILABLE is displayed whenever a non-installed option is addressed or a function is not available.

##### 22 FAN SPEED ICON

This icon indicates the set fan speed.

##### 23 DEFROST/HOTSTART MODE ICON

This icon indicates that the defrost/hotstart mode is active.

##### 24 AIR FILTER CLEANING TIME ICON

This icon indicates the air filter must be cleaned. Refer to the manual of the indoor unit.

##### 25 ELEMENT CLEANING TIME ICON

This icon indicates the element must be cleaned (HRV only).

##### 26 VENTILATION MODE BUTTON

The ventilation mode button operates the HRV; refer to the HRV manual for more details.

27 VENTILATION AMOUNT BUTTON 

This button sets the ventilation amount; refer to the HRV manual for more details.

28 INSPECTION/TEST OPERATION BUTTON 

Not used, for service purposes only.

29 PROGRAMMING BUTTON 

This button is a multi-purpose button.

Depending on the previous manipulations of the user, the programming button can have various functions.

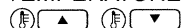
30 SCHEDULE TIMER BUTTON 

This button enables or disables the schedule timer.

31 TIME ADJUST BUTTON  

These buttons are used to adjust the clock or, when in programming mode, to adjust the programmed action time. Both buttons have an auto-repeat function.

## 32 TEMPERATURE ADJUST BUTTONS



These buttons are used to adjust the current setpoint or, when in programming mode, to adjust the programmed setpoint temperature (step = 1°C). Both buttons are also used to adjust the day of the week.

## 33 OPERATION CHANGE/MIN-MAX BUTTON




This button is a multi-purpose button. Depending on the previous manipulations of the user, it can have following functions:

- 1 select the operation mode of the installation (FAN, DRY, AUTOMATIC, COOLING, HEATING)
- 2 toggle between minimum temperature and maximum temperature when in limit operation

34 SETPOINT/LIMIT BUTTON 

This button toggles between setpoint, limit operation or **OFF** (programming mode only).

35 FAN SPEED BUTTON 

This button toggles between L (Low), H (High), HH (very High),  (Automatic).

## 36 AIR FLOW DIRECTION ADJUST BUTTON



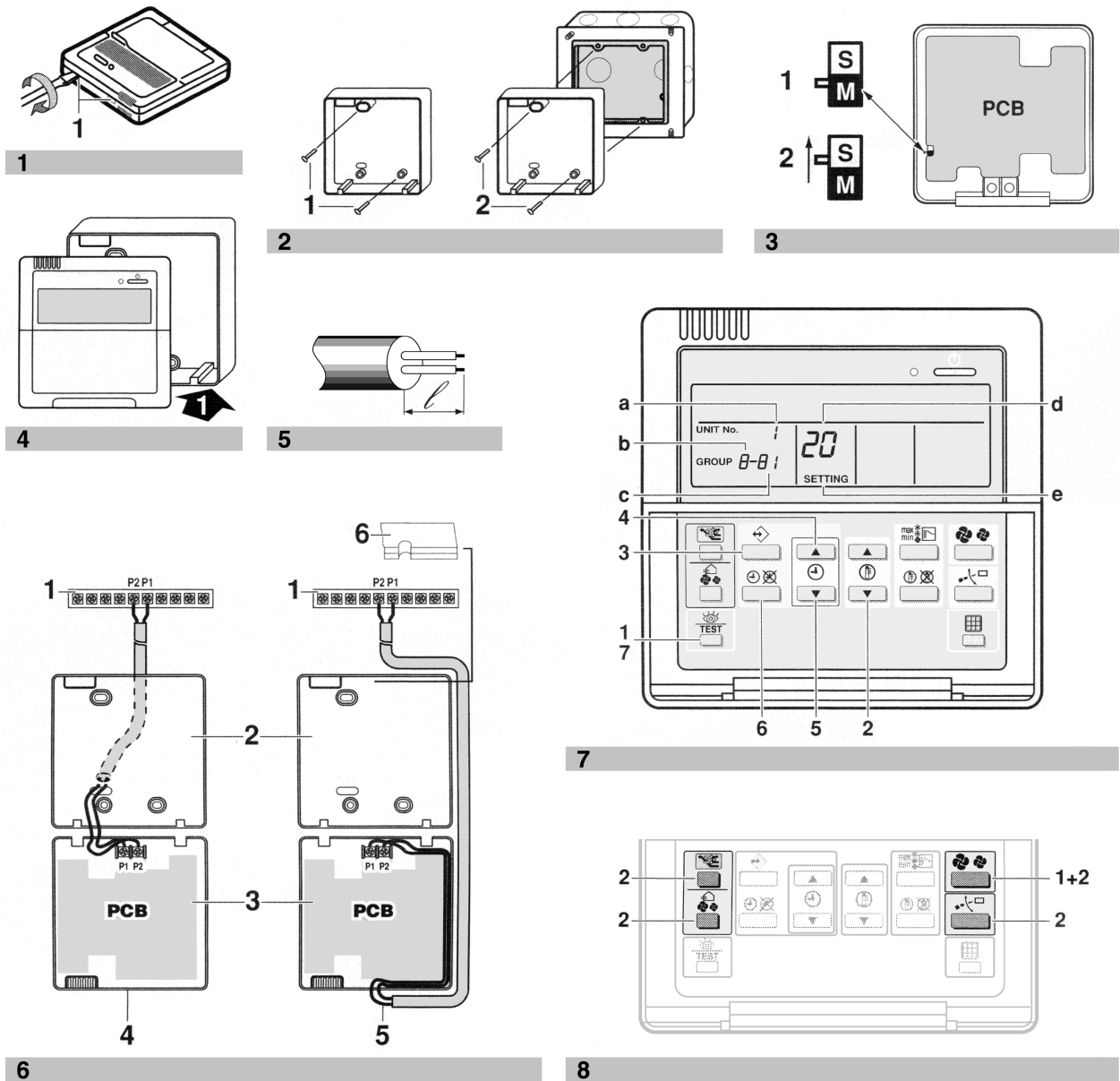
This button enables to adjust the air flow direction.

37 AIR FILTER CLEANING TIME ICON RESET BUTTON 

This button is used to reset the air filter cleaning time icon.

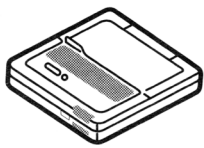






3P107422-3D

## 4.8.5 Installation



3P107422-4D

The kit includes the following parts:

Remote controller	Wood screws
	 
Wall plugs	Machine screws
 	 

### 1. Remove the upper part of remote controller (Refer to figure 1)

Insert a minus screwdriver into the slots (1) in the lower part of the remote controller (2 places), and remove the upper part of the remote controller.



The PC board is mounted in the upper part of the remote controller. Be careful not to damage the board with the minus screwdriver.

### 2. Fasten the remote controller (Refer to figure 2)

- 1 for exposed mounting, fasten with the two included wood screws (Ø4x30) and plugs.
- 2 for flush-mounting, fasten with the two included machine screws (M4x16).

For the field supplied switch box, use optional accessory KJB111A or KJB211A.

#### NOTE



Choose the flattest place possible for the mounting surface. Be careful not to distort the shape of the lower part of the remote controller by overtightening the mounting screws.

### 3. Wire the indoor unit (Refer to figure 6)

- 1 indoor unit
- 2 lower part of the remote controller
- 3 upper part of the remote controller
- 4 wired from the rear
- 5 wired from the top
- 6 notch the part for the wiring to pass through with nippers, etc.

Connect the terminals on top of the upper part of the remote controller (P1, P2), and the terminals of the indoor unit (P1, P2). (P1 and P2 do not have polarity.)

#### NOTE



When wiring, run the wiring away from the power supply wiring in order to avoid receiving electric noise (external noise).

### Wiring specifications

Wiring type	Size
2 wire	0.75–1.25 mm <sup>2</sup>

#### NOTE



Peel the shield for the part that has to pass through the inside of the remote controller case (✓). Refer to figure 5.

### 4. Reattach the upper part of the remote controller



Be careful not to pinch the wiring when attaching.

Refer to figure 4:

First begin fitting from the clips at the bottom.

#### NOTE



1. The switch box and wiring for connection are not included.
2. Do not directly touch the PC board with your hand.

### If controlling one indoor unit or one group of indoor units with two remote controllers

Change the MAIN/SUB changeover switch setting as described below (Refer to figure 3).

- 1 Main remote controller (factory set)
- 2 Sub remote controller

Set one remote controller to "main", and the other to "sub".

#### NOTE



1. If controlling with one remote controller, be sure to set it to "main".
2. Set the remote controller before turning the power supply on.



"88" is displayed for about one minute when the power supply is turned on. During this time the remote controller can not be operated.

## 5. Permission level function

- If required, you can limit the user action by restricting the number of operable buttons. Refer to the chapter "Field settings".

Level	Operable buttons
1	All
2	<ul style="list-style-type: none"> <li>• on/off button</li> <li>• schedule timer button</li> <li>• temperature adjust button</li> <li>• operation change/MIN-MAX button</li> <li>• fan speed button</li> <li>• air flow direction adjust button</li> </ul>
3	<ul style="list-style-type: none"> <li>• on/off button</li> <li>• temperature adjust button</li> <li>• fan speed button</li> </ul>

- For switching between level 1 permission and the selected level in service, proceed as follows:

- 1 Keep the fan speed button "  " pressed,
- 2 and press the 3 other indicated keys simultaneously while keeping the fan speed button "  " pressed.

Refer to figure 8.

- If you want to limit the user action on the remote controller to be defined as "sub", start with only connecting this controller to the unit. Make sure that this controller is set to "main" (factory set) first, change the permission level to the setting you prefer and only then set the remote controller to "sub".

You can now proceed with connecting the remote controller to be defined as "main".








## 6. Field settings

If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.

Refer to figure 7.

- a Unit NO
- b First Code NO
- c Second Code NO
- d Mode NO
- e Field set mode

## Procedure (Refer to figure 7)

- 1 When in the normal mode, press the "  " button for a minimum of four seconds, and the FIELD SET MODE is entered.
- 2 Select the desired MODE NO. with the "  " button.
- 3 During group control, when setting by each indoor unit (mode No. 20, 21, 22 and 23 have been selected), push the "  " button and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
- 4 Push the "  " upper button and select FIRST CODE NO.
- 5 Push the "  " lower button and select the SECOND CODE NO.
- 6 Push the "  " button once and the present settings are SET.
- 7 Push the "  " button to return to the NORMAL MODE.

## Example

If during group setting and the time to clean the air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10", FIRST CODE NO. to "0", and SECOND CODE NO. to "02".

### NOTE



1. Setting is carried out in the group mode, however, if the mode number inside the parentheses is selected, indoor units can also be set individually.
2. The SECOND CODE number is set to "01" when shipped from the factory.
3. Do not make any settings not given in the table.
4. Not displayed if the indoor unit is not equipped with that function.
5. When returning to the normal mode, "88" may be displayed in the LCD in order for the remote controller to initialize itself.
6. It is not possible to change field settings on the remote controller that is set to "sub".

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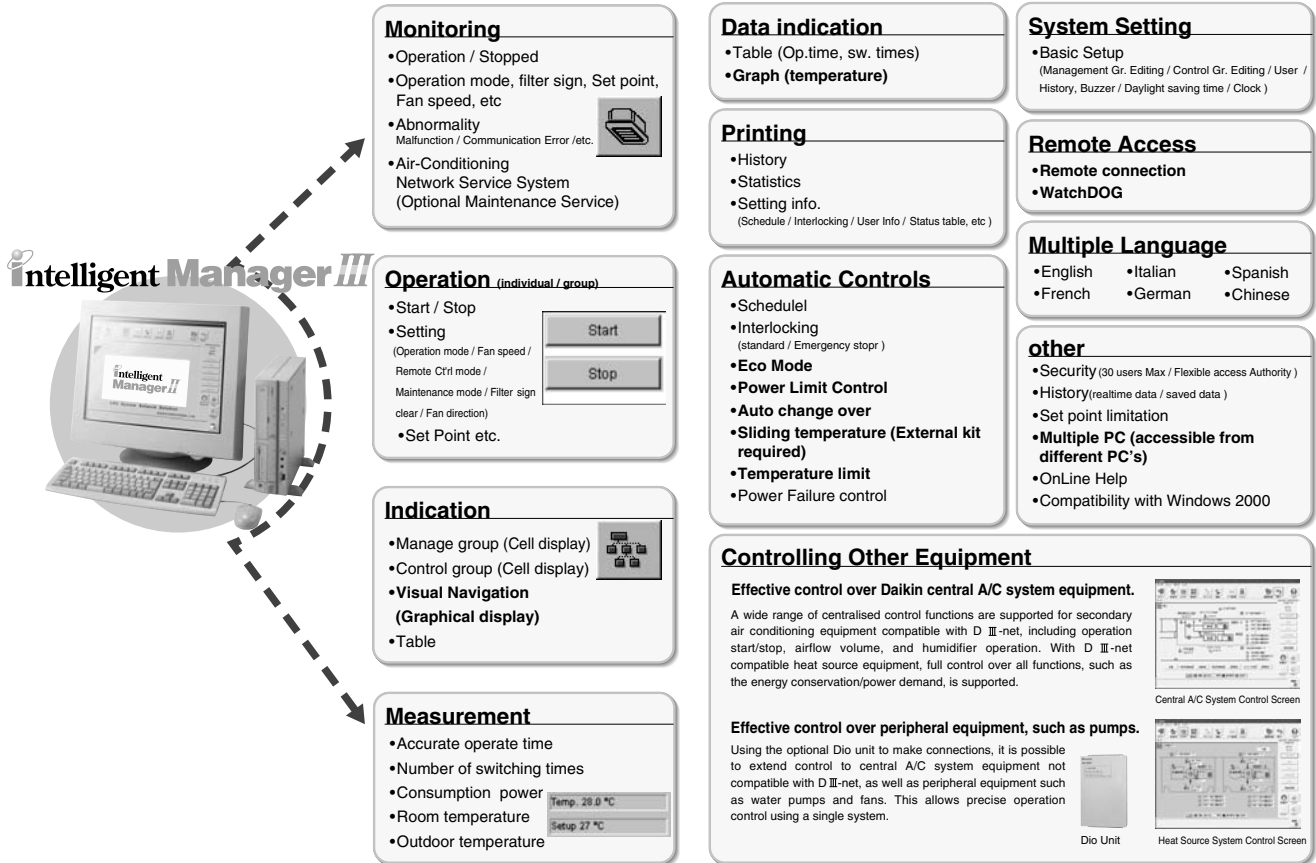
Mode No. Note 1	FIRST CODE NO.	Description of setting		SECOND CODE NO. Note 2					
				01	02	03	04		
10(20)	0	Filter Contamination - Heavy/Light (Setting for spacing time of display time to clean air filter) (Setting for when filter contamination is heavy, and spacing time of display time to clean air filter is to be halved)	Ultra long life filter	Light	Approx. 10.000 hrs.	Heavy	Approx. 5.000 hrs.	—	—
			Long life filter		Approx. 2.500 hrs.		Approx. 1.250 hrs.		
			Standard filter		Approx. 200 hrs.		Approx. 100 hrs.		
	1	Long-life filter type (setting of filter sign indication time). (Change setting when ultra-long filter is installed)			Long-life filter	Ultra-long life filter	—	—	
	2	Thermostat sensor in remote controller			Use	Not use	—	—	
3	Spacing time of display time to clean air filter count (setting for when the filter sign is not to be displayed)			Display	Do not display	—	—		
11(21)	0	Setting number of connected Sky Air simultaneous operation system indoor units (setting for simultaneous operations system)			Pair	Twin	Triple	Double twin	
12(22)	1	ON/OFF input from outside (setting for when forced ON/OFF is to be operated from outside).			Forced OFF	ON/OFF operation	—	—	
	2	Thermostat differential changeover (setting for when using remote sensor).			1°C	0.5°C	—	—	
13(23)	0	High air outlet velocity (for high ceiling applications).			≤2.7 m	>2.7≤3.0 m	>3.0≤3.5 m	—	
	1	Selection of air flow direction (setting for when a blocking pad kit has been installed).			4-way flow	3-way flow	2-way flow	—	
	3	Selection of air flow function (setting for when using a decoration panel for outlet).			Equipped	Not equipped	—	—	
	4	Air flow direction range setting.			Upper	Normal	Lower	—	
	6	Setting the external static pressure (setting according to the connected duct resistance) (for FHYK, follow the high ceiling setting)			Normal (Normal)	High static pressure (High ceiling)	Low static pressure —	—	
15(25)	3	Drain pump operation with humidifying.			Equipped	Not equipped	—	—	
1b	0	Permission level setting			Level 2	Level 3	—	—	
	1	Leave home function			Not permitted	Permitted	—	—	
	2	Thermostat sensor in remote controller (for limit operation and leave home function only)			Use	Not use	—	—	

3P107422-4D

## 4.9 <DAM602B51 / DAM602B52> intelligent Manager III

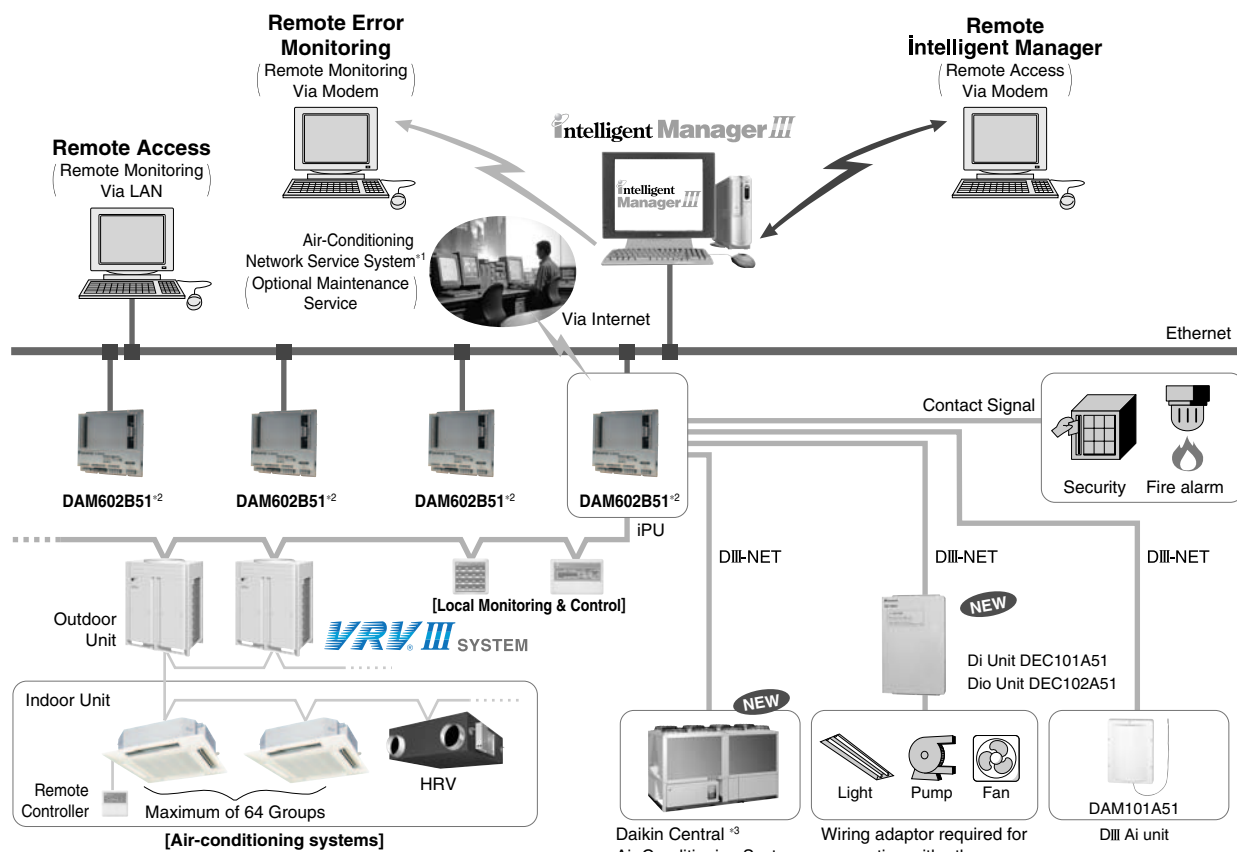
Even if an air conditioning system possesses an excellent energy efficient profile, this is meaningless unless its operation is appropriately managed. Precise operation management is the key to getting the most out of an energy efficient system. The intelligent Manager II is Daikin's energy-efficient air conditioning management system. It maximizes the performance and characteristics of air conditioning systems and further improves upon existing energy efficiency. What we have prepared for you is a highly sophisticated that only Daikin, the air conditioning specialist, could have made possible.

### Functions and System



## 4.9.1 System Image

### ■ An Overview of the intelligent Manager III System



\*1 There are restrictions in applicable areas and release times, therefore please consult us separately for details.

\*2 Model no varies upon the system size.

\*3 Interfacing requirements vary depending on model, and some systems may not be suitable. Please contact your distributor for details.

## 4.9.2 Series and Components

### ■ The intelligent Manager III Series and its Components

Products name *1	IM-128	IM-256	IM-512	IM-768	IM-1024
Max number indoor units	128	256	512	768	1024
Max number outdoor units	20	40	80	120	160
PC, UPS, etc.	Local Procurement				
Hardware model name *2	DAM602B52	DAM602B51x1	DAM602B51x2	DAM602B51x3	DAM602B51x4
PPD (Power Proportional Distribution) *3	Yes *2				

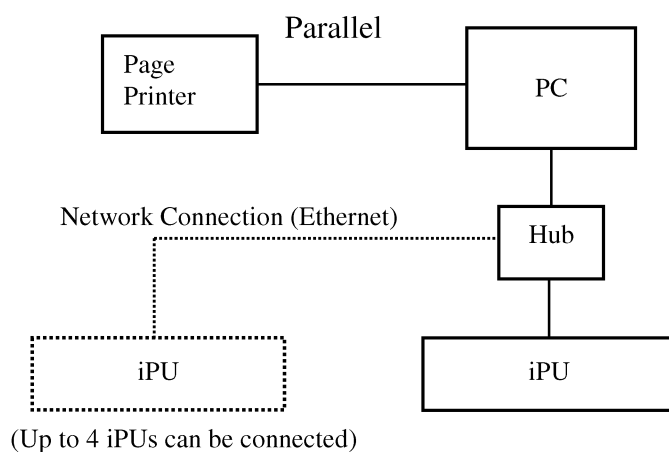
\*1 Products name is recognized as an order number. This includes hardware, software and field engineering work as a package.

\*2 kWh meters to be locally supplied.

\*3 With the PPD system, data is transferred from the indoor units and compared with reference data on the standard power consumption of air conditioning equipment under normal conditions.

The results are used to estimate the power consumption of each indoor unit. Note, however, that this measurement method is exclusive to Daikin and has no legal basis.

### 4.9.3 Wiring Image



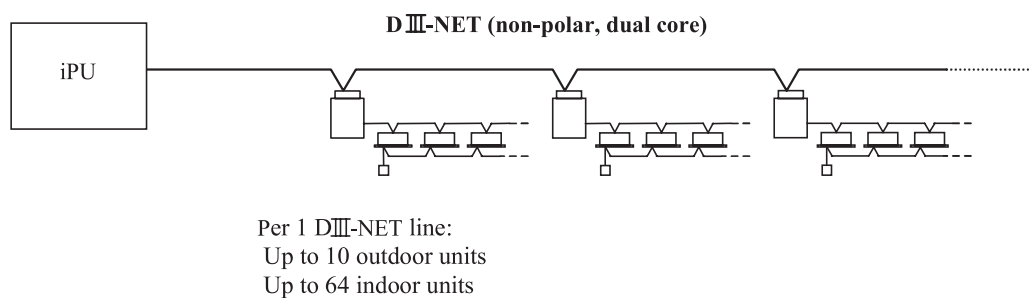
#### <Use of Printers>

1. Standard Setting: With only the page printer: Parallel port connection
  - Printing of daily, monthly, annual reports and cost calculations: Automatically prints at the set time
  - Display of errors and changes of states etc.: Printer at error or at determined build up of data, or freely.
2. 2 Units of Page Printer and Line Printer (Optional)
  - \* Page printer: Network connection
  - Daily, monthly, annual reports: Automatically prints at the set time
  - Cost calculation

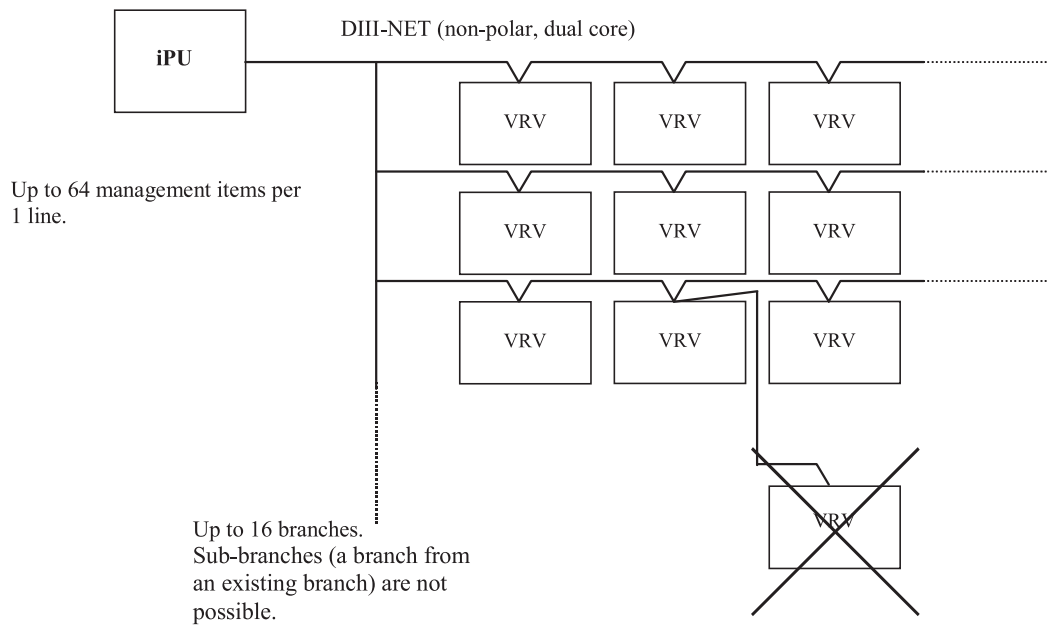
#### Connecting to iPU

Wiring varies according to the equipment to be connected, as shown below.

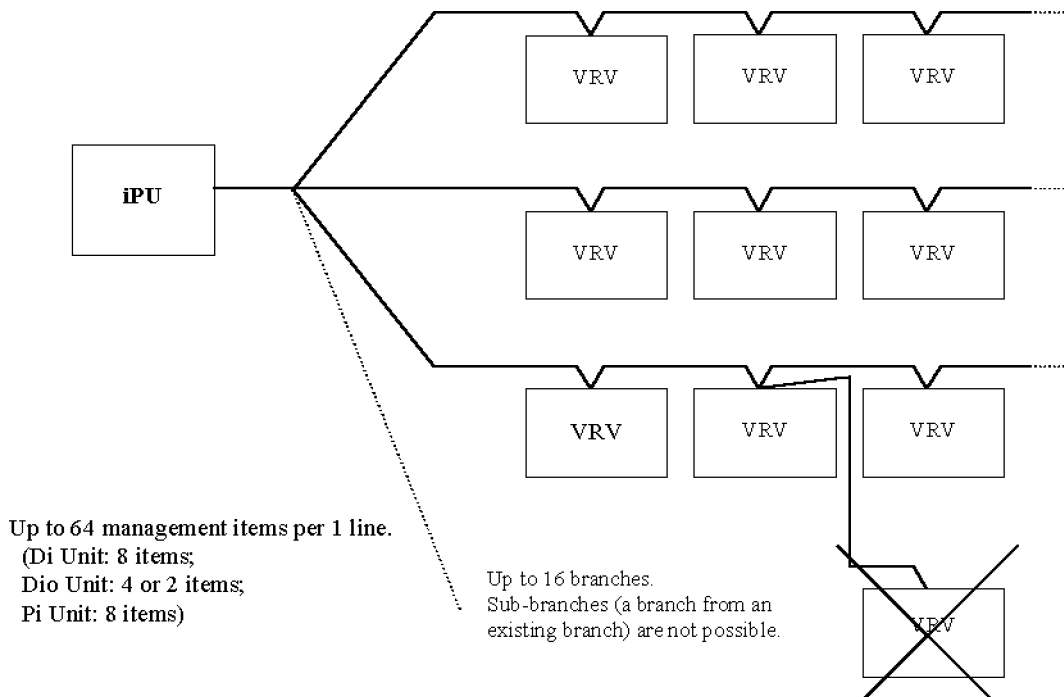
\* DIII-NET Compatible Air Conditioners



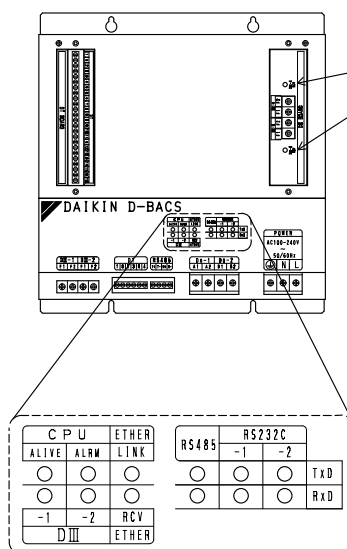
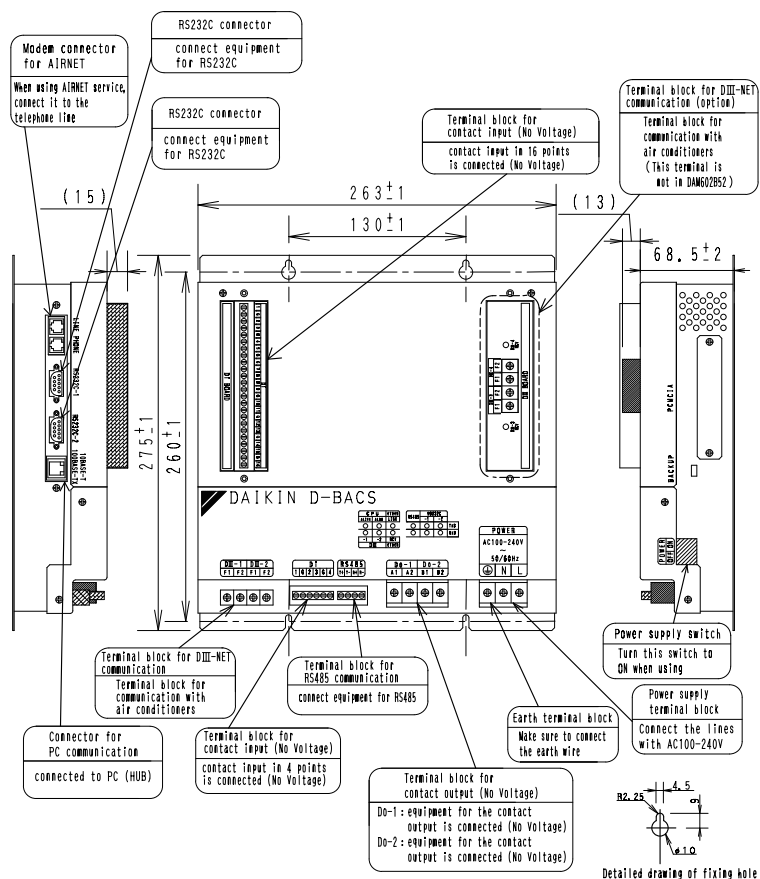
## (1) Bus Method



## (2) Star Method



## 4.9.4 Wiring Diagram

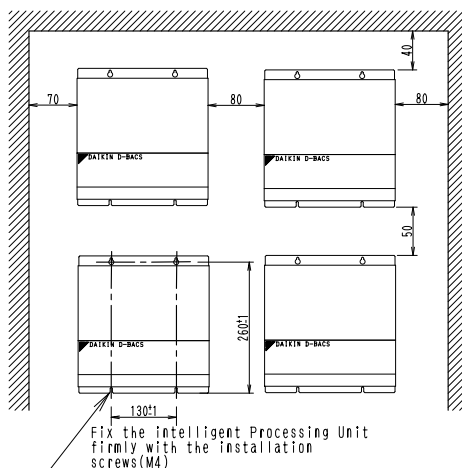


CPU ALIVE	It flashes when the unit is normal operation,
CPU ALRM	It flashes when the unit is abnormal operation,
DIII-1	It flashes when it receives/transmits data from/to the equipment connected with DIII-1 such as air conditioners
DIII-2	It flashes when it receives/transmits data from/to the equipment connected with DIII-2 such as air conditioners
Ether RCV	It flashes when it receives data to PC
Ether Link	It lights when the 10BASE-T cable or 100BASE-TX cable is connected
RS485(TxD)	It flashes when it transmits data to Corresponding equipment
RS485(RxD)	It flashes when it receives data to Corresponding equipment
RS232C-1(TxD)	It flashes when it transmits data to Corresponding equipment
RS232C-1(RxD)	It flashes when it receives data to Corresponding equipment
RS232C-2(TxD)	It flashes when it transmits data to Corresponding equipment
RS232C-2(RxD)	It flashes when it receives data to Corresponding equipment

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## Required Installation Space

Keep the minimum amount of space indicated in the below drawing from walls, and between units when installed in series.



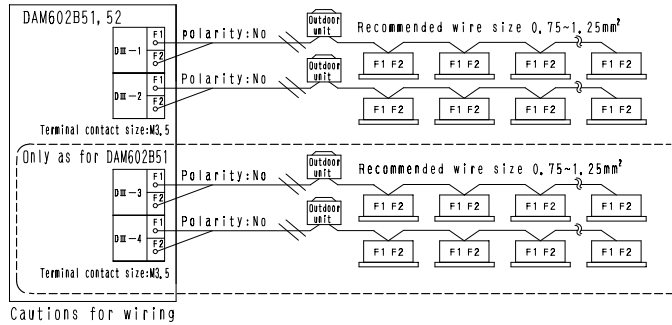
1P177851A

## 4.9.5 Electric Wiring Connection

Don't fail to turn OFF the indoor unit power switch before installing Intelligent Processing Unit.  
Failure to observe this instruction could result in electric shock.

■ Everything relating with field wiring must be supplied in the field.

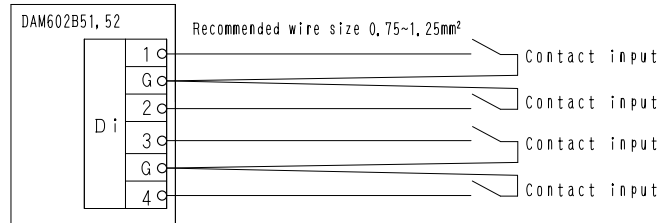
### ● DIII-NET wiring



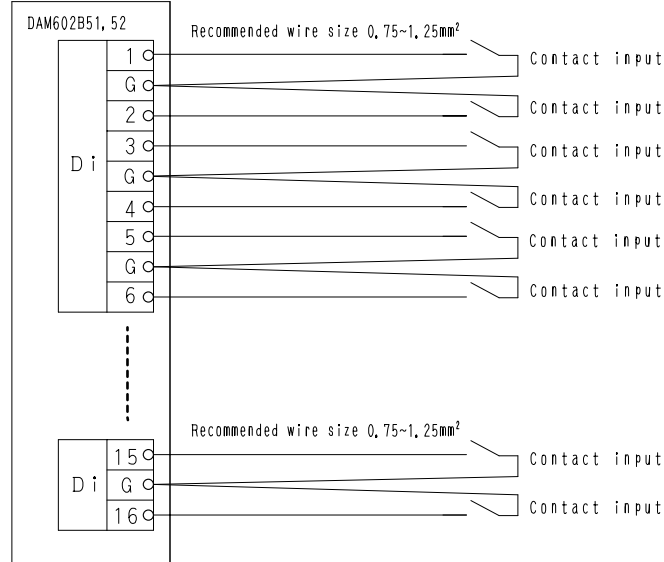
1. Do not use multicore cables with three or more cores
2. Use wires of sizes between  $0.75\text{mm}^2$  and  $1.25\text{mm}^2$
3. Do not bind the wire for DIII-NET
4. Wirings for DIII-NET must be isolated from the power lines
5. Wire length: Max 1000m

### ● No voltage contact input wiring

#### ● Di wiring



#### ● Di BOARD wiring

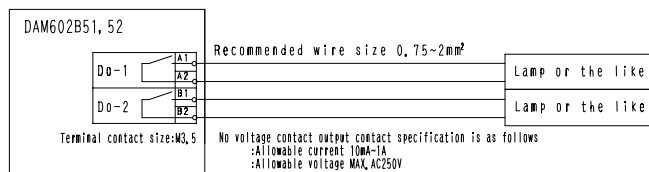


Cautions for wiring

1. The input are all the no voltage contact
2. Use a contact which can guarantee minimum application load DC16V and 10mA
3. Do not use multicore cables with three or more cores
4. Use wires of sizes between  $0.75\text{mm}^2$  and  $1.25\text{mm}^2$
5. Do not bind the wire for control
6. Wirings for control must be isolated from the power lines
7. Terminals G are inter-connected. Connecting to either one is allowed, but the number of cables connectable to one terminal is limited to 2 pieces
8. Wire length: Max 150m
9. Terminal Screw: Flat-blade screw (Do not use Phillips screwdriver)  
Acceptable recommendation tool: Flat-blade screwdriver  
(width : 3mm  
thickness : 0.5mm)

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### ● No voltage contact output wiring

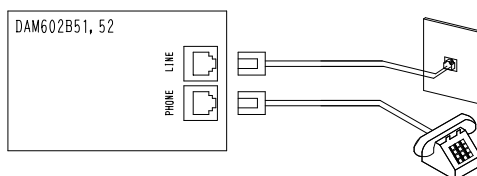


#### Cautions for wiring

1. Do not use multicore cables with three or more cores
2. Use wires of sizes between 0.75mm<sup>2</sup> and 2mm<sup>2</sup>
3. Do not bind the wire for control
4. Wirings for control must be isolated from the power lines
5. Wire length:Max 150m

### ● Connection to public telephone line

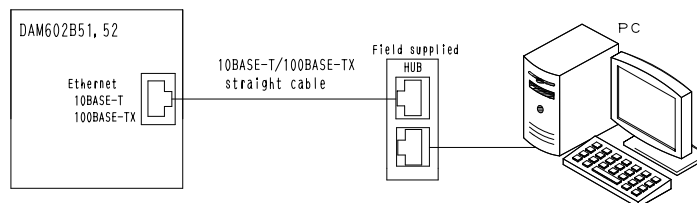
Connect to the telephone line in order to monitor the air-conditioner via AIRNET service. Connect to modular cable from the public telephone line to the upper connector with a stamping of LINE, and connect the modular cable of the telephone to the lower connector with a stamping of PHONE, as shown in the sketch below.



#### Cautions for wiring

1. Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
2. When using AIRNET service, it is necessary to use a separate modem specified by us and enter into Maintenance Agreement with charge.

### ● Ethernet communication wiring



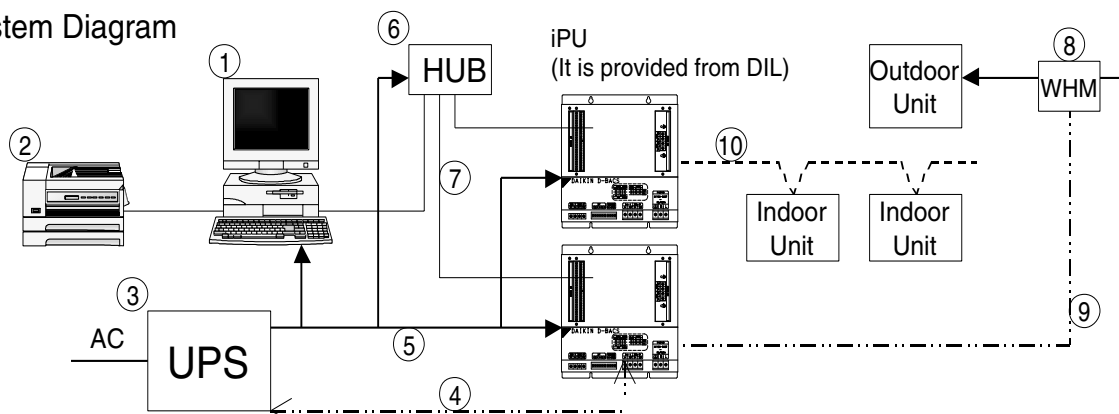
#### Cautions for wiring

Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.

## 4.9.6 System Architecture

### ■ Requirement Spec and the Recommendation of Other Equipment

System Diagram



	Requirement Specifications	Recommendations	Remarks
PC	<p>① [Hardware]            CPU : Pentium 300MHz minimum,            500MHz or above recommended            Memory : 64MB or above            HDD : 4GB minimum, 8GB or above            Keyboard/Mouse            Network : 10Base/T            SVGA (800×600)            Monitor (15',17')            Sound &amp; Speaker</p> <p>[Software]            Windows NT 4.0 (SP4)            Windows 2000            Windows XP</p> <p>[Other equip.]            LBP (not indispensable.)            - It must be supported by WindowsNT.            - Require A4 size paper</p>	<p>We recommend makers such as IBM, Compaq or Dell, etc.</p> <p>We recommend makers such as HP, Canon, etc.</p>	In the case of an alternative maker, correct operation should be checked before shipment.
UPS	<p>③ Capacity : 200-250W / 20min            Voltage : as required on the field</p> <p>④ Control Signals            - Power failure signal (from UPS)            - UPS shutdown signal (to UPS)</p> <p>⑤ AC power lines</p>	<p>APC            SU700, SU1000 Series            + Relay I/O module(AP9610)</p>	
Network Equip.	<p>⑥ Multi-port HUB (4 or more ports)            10Base/T cables (category 5)</p> <p>⑦ A required distance and a number</p>	<p>We recommend makers such as 3com, etc.</p> <p>The cable for networks is required.</p>	Hub should be used even when one iPU is connected to PC.
WHM	<p>⑧ 1pulse / 1kWh output is required.</p> <p>⑨ WHM - iPU connection cable</p>	<p>As specified in the D-BACS system design guide.</p> <ul style="list-style-type: none"> <li>• 1 pulse to 1kW or 10kW pulse width must be within 40-400m/sec.</li> <li>• Output relay must be mercury or electronic type only.</li> <li>• No voltage output.</li> </ul>	Required for power-proportional-division.
other	⑩ D3network cables	As specified in the D-BACS system design guide.	

## 4.9.7 Functions

### ■ Local Functions

Item	Description
Monitoring	Operation status monitoring for a maximum of 1,024 indoor units(160 outdoor units), when 4 iPUs are connected;* Air Conditioning Network Service System: Air conditioner failure prediction (optional); Continuous operation time monitoring (per management point); Power failure monitoring
Control, Operation, and Settings	Login setting; Individual control; group switching/ setting of control group (200 groups); Schedule control (200 programs); Fire emergency stop control (32 programs); Power failure/ release control (selected from 5 power restoration modes); Air conditioner centralized control
Display	Management point name/icon/list display; Control group list display; Screen scroll function; Operation time display; Integrated switching number display; History display (malfunctions, alarms, control)
Measurements	Operation time integration; Switching number integration; Meter reading (through Pi port on iPU); Power proportional reading
Management	Operational history management; Generation of daily, monthly and yearly reports; VRV power proportional distribution
Data Storage/ Report	Print output; Data storage
Warning	Emergency signal input

\*If exceeding the stated number of outdoor units, DIII-NET Expander Adapter <DTA109A51> allows easy system connection as long as restrictions are observed.

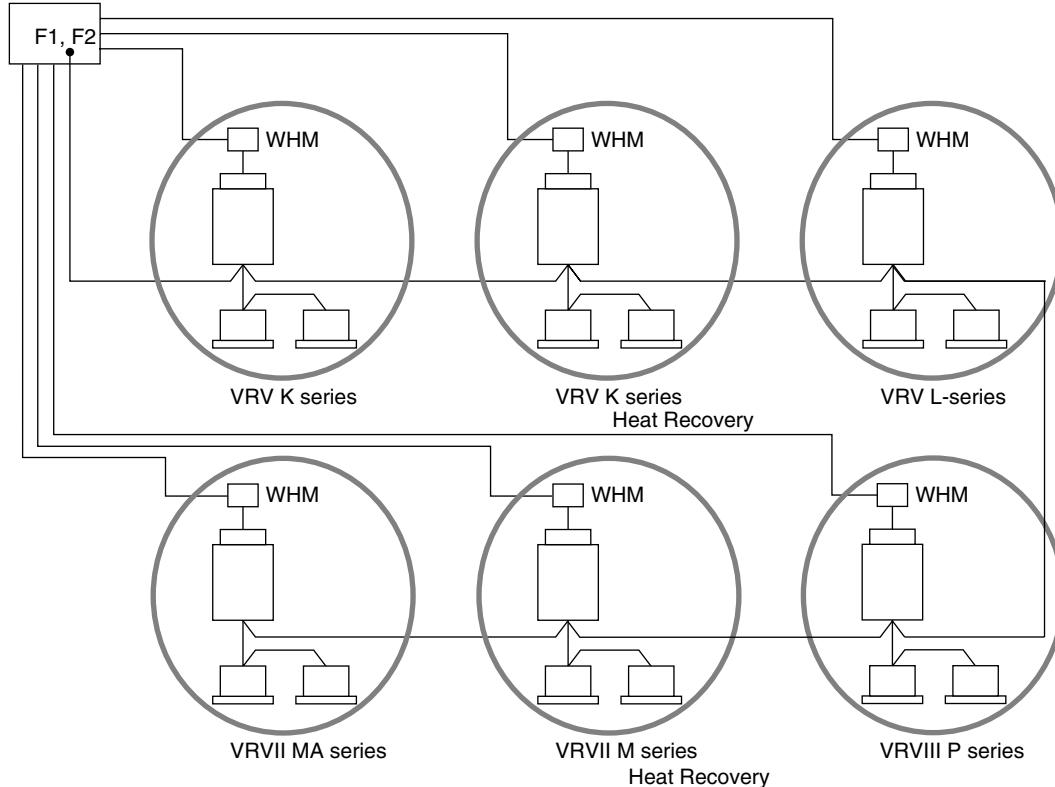
#### 4.9.8 Power Proportional Distribution

##### ■ Points to be noted for Power Proportional Distribution (PPD)

When implementing PPD using i-touch-Controller and i-Manager, or in case of any mixture of heat recovery or energy saving type, please install a watt hour meter (WHM) in a separate system.

In addition, please calculate the proportional distribution for each VRV-series by setting power group during a test run.

i-Manager, i-touch-Controller (Max 3 WHM)



##### ■ Subject Model

DCS601C51	intelligent touch Controller
DCS002C51	P.P.D. Card
DAM602B51, 52	intelligent Manager
DAM002A51	P.P.D Software for intelligent Manager

##### ■ Reason

Such equipments as i-touch-Controller implementing PPD cannot distinguish heat recovery type from energy saving type to which they are connected. Therefore, if the capacity of each indoor unit is the same, the result of proportional distribution becomes the same as that of other VRV.

(No effect of energy saving is reflected on the calculation result.)

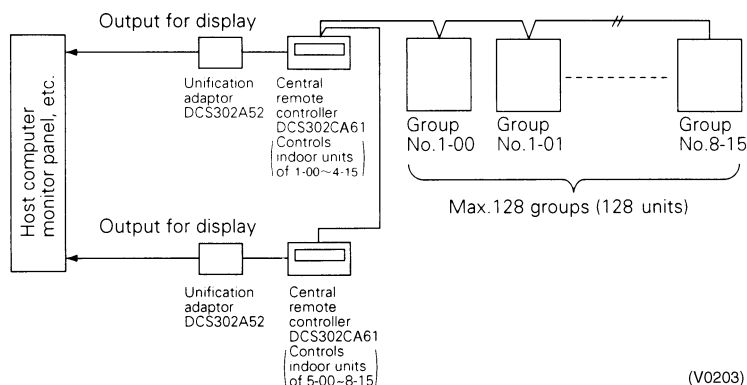
## 5. Adaptor

### 5.1 <DCS302A52> Unification Adaptor for Computerized Control

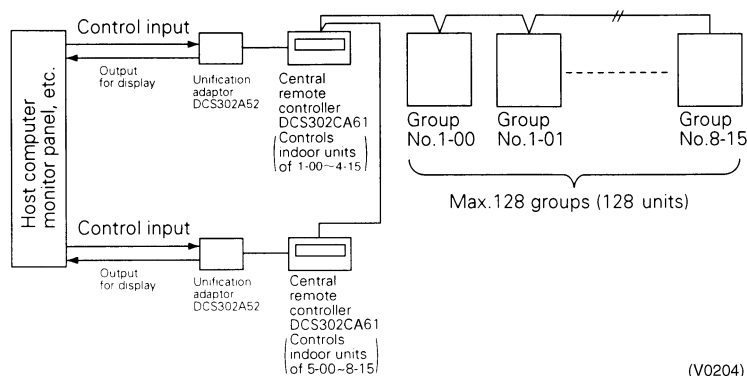
#### 5.1.1 Function

When connected to the central remote controller, this kit enables unified display (operation/malfunction) and unified control (operation/stop).

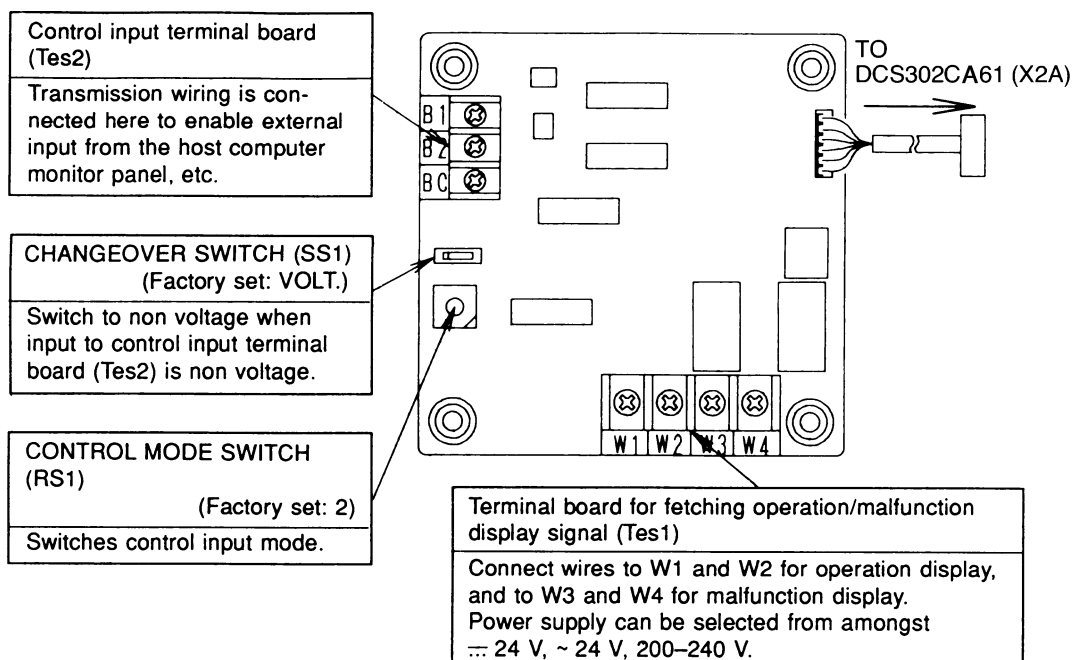
##### 1. Unified Display



##### 2. Unified Control

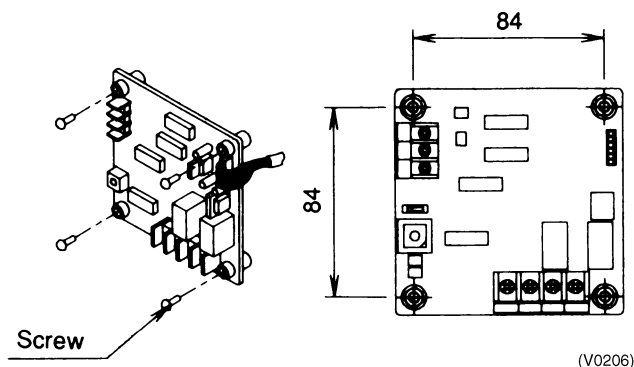


#### 5.1.2 Names of Parts and Function



### 5.1.3 Installation

- Securely install the adaptor inside the electric panel box (field supplied) with the 4 attached screws.
- Install the adaptor in a place within 5 m from the central remote controller to enable cable connection.



#### Note

1. Do not damage the PC board with your screwdriver, etc.
2. Install the adaptor inside an electric panel box to protect from electromagnetic waves and dust.

### 5.1.4 Electric Wiring Work and Initial Setting

First, wire between the indoor and outdoor units, and between each unit and the power supply source. Then, wire between the indoor unit and remote controller. Finally, check operation is normal.

**For details, refer to the installation manuals for the indoor and outdoor units.**

Next, wire between the indoor unit and the central remote controller. Then, wire the central remote controller to the power supply source and make the necessary settings. Finally, check operation is normal.

**For details, refer to the installation manuals for the central remote controller.**

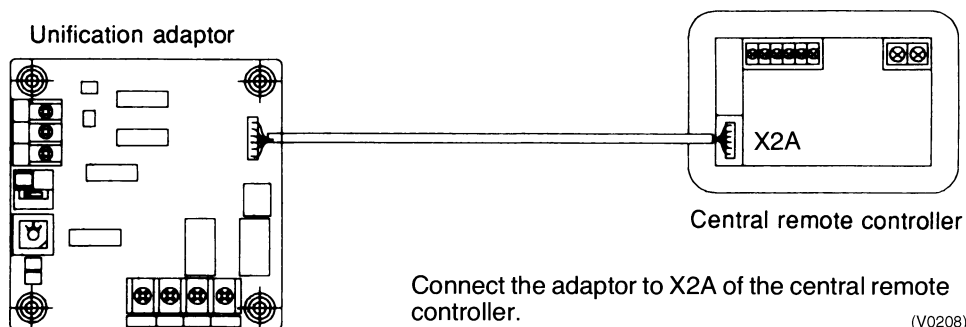
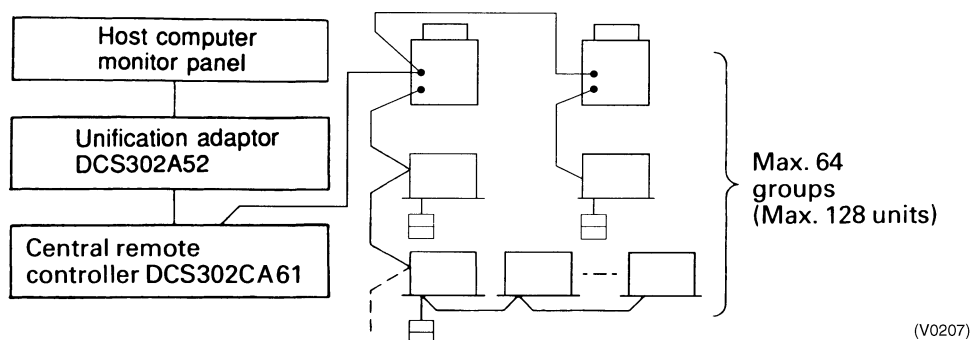
Wire between the unification adaptor for computerized control and the central remote controller.

**Refer to WIRING TO THE CENTRAL REMOTE CONTORLLER**

Set the CHANGE OVER SWITCH and CONTROL MODE SWITCH. And, wire to the host computer monitor panel or other external input device.

**Refer to WIRING TO EXTERNAL INPUT DEVICES**

#### <Wiring to The Central Remote Controller>



## <Wiring to External Input Devices>

(Wire specifications)

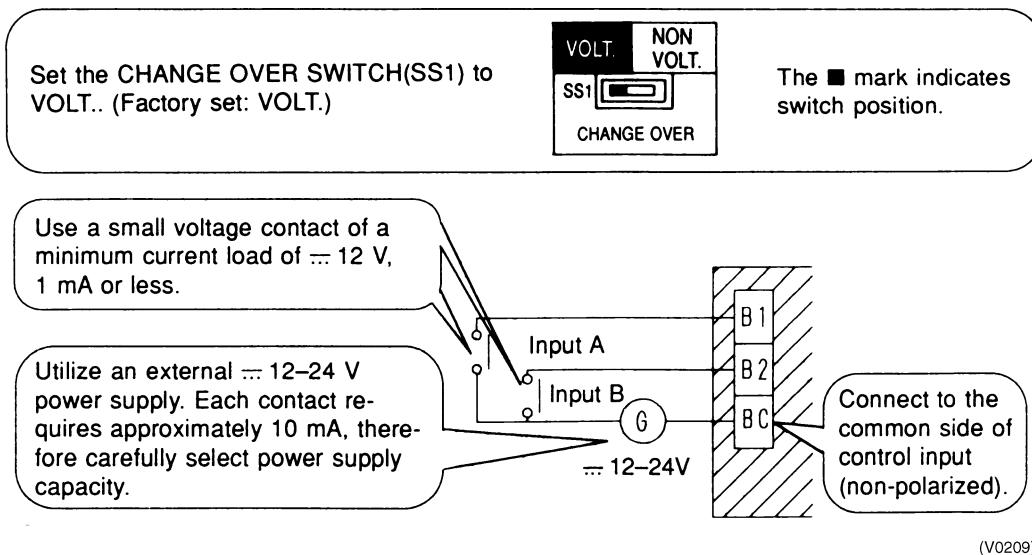
0.75-1.25 mm<sup>2</sup> gauge sheathed vinyl cord or cable (2-wire)

Max. length: 150 m

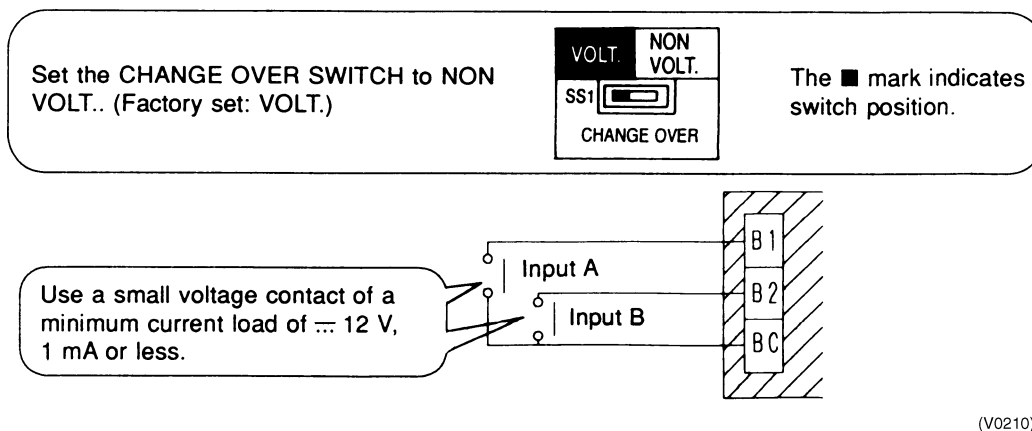
### 1. Control Input (Unified Operation/Stop)

Wire as explained here following, depending on whether input carries a voltage (VOLT.) or not (NON VOLT.).

(1) Input with Voltage



(2) Input with Non Voltage

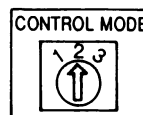


2PA53489

## 2. Control Mode Switch (RS1) Setting

Control mode can be selected from input A and B at this switch on the PC board adaptor.

(Factory set: 2)



(V0211)

(1) For Normal Operation by Input A

Position	Input A
2	OFF → ON: Unified Operation
	ON → OFF: Unified Stop

■ Input B can be disregarded.

(2) For Instantaneous Operation by Input A and B

(Use an instantaneous input of 400 milli-sec. or more at ON time.)

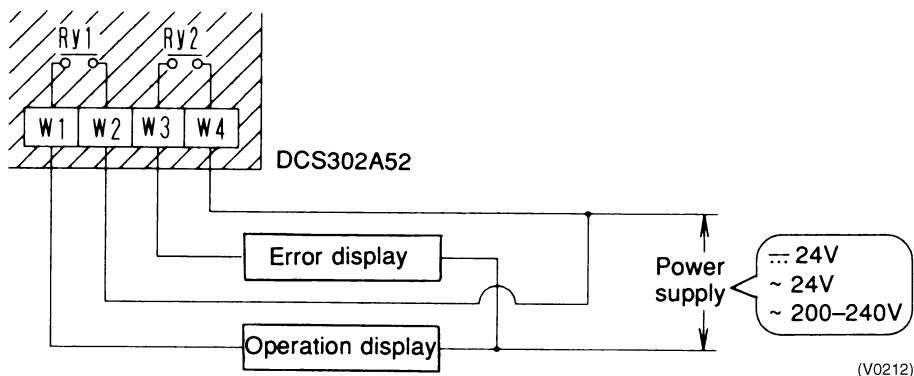
Position	Input A	Input B
3	On: Unified Operation	ON: Unified Stop

(3) Do not set the switch to position 1. This switch can be set at any time.

## 3. Fetching the Display Signal

Terminals W1 - W4 are non voltage contacts used in normal operation to output operation display (W1 and W2) and malfunction display (W3 and W4) signals.

(The allowable current per contact is 10 mA - 3A.)



(V0212)

### Note:

When using a 200-240 V power supply, keep power supply wiring away from wiring of input side.

Output conditions are indicated as below.

When Ry1 and Ry2 are OFF	When only Ry1 is ON	When only Ry2 is ON
All indoor units are stopped.	No error has occurred with the indoor units, and at least 1 unit is operating.	At least 1 unit has stopped operating due to malfunction, or a communications error has occurred between the central remote controller and the indoor unit.

2PA53489

## 5.2 <KRP2A61 / KRP2A62 / KRP2A53>

### Wiring Adaptor for Electrical Appendices (1)

#### 5.2.1 System Configuration

The KRP2A61-62 enables operation by remote control (ON/OFF control, temperature setting, operation display, error display). With it, the following system can be built. Note however that the adaptor cannot be used with other optional controllers for centralized control.

##### 1. Zone Control

(Unified control of a max. 64 groups of a max. 16 indoor units each. But, the max. of indoor units is 128.)

This system requires the following parts.

- Wiring Adaptor for Electrical Appendices (1)  
... KRP2A61 or KRP1C62
- Remote controller switches (For control)

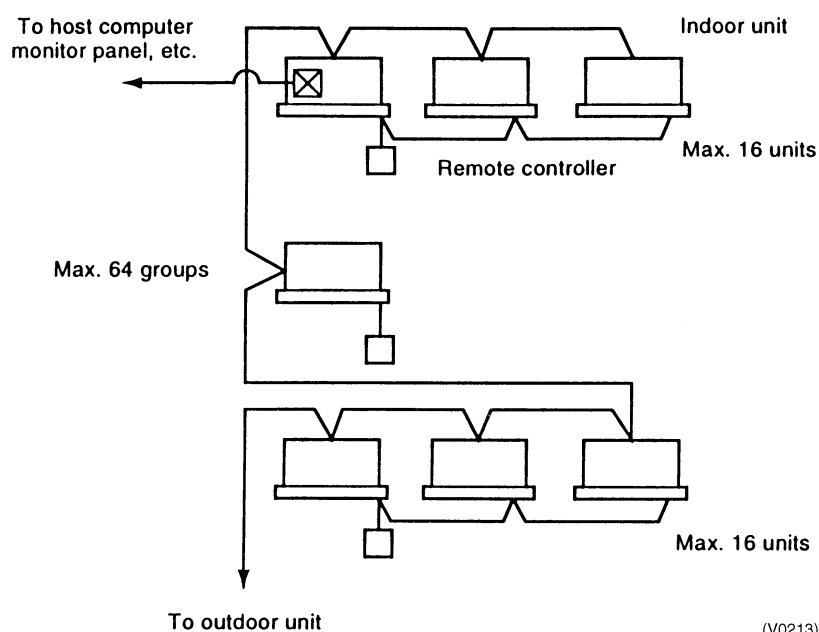
...BRC1C62  
BRC2A51  
BRC3A61

} Per group

(Ex.) Zone control for 8 FXC63LVE units (control groups of 4, 3 and 1)

KRP2A61×1 kit  
BRC1C62×3 kits

} 1 set required for each group.

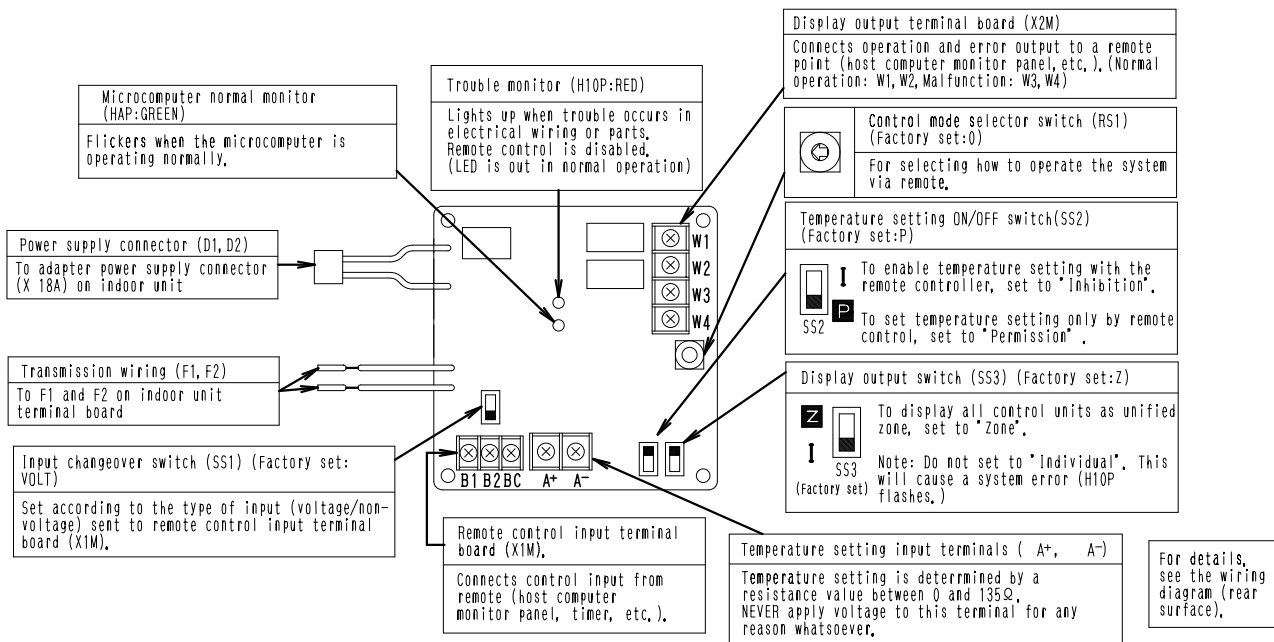


#### Note:

1. Individual indoor units connected to the centralized line cannot be displayed individually.
2. For wiring adaptor for electrical appendices (2) <KRP4A51, 52, 53, 54>, refer to page 686.

C : 1PA63641G

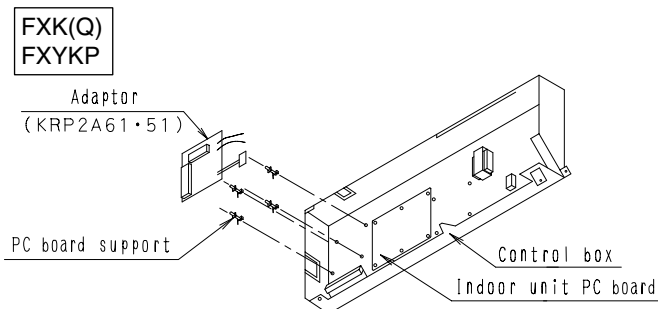
## 5.2.2 Names of Parts and Functions



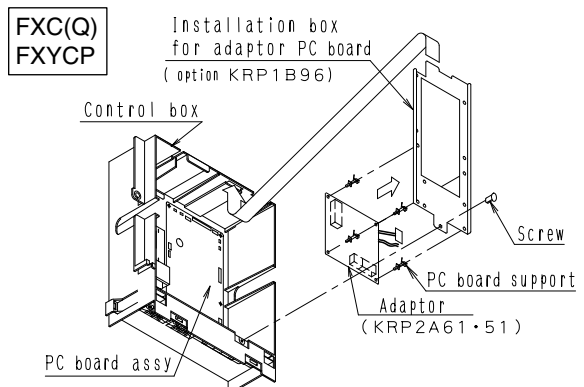
1PA63641G

## 5.2.3 Installation

### Ceiling Mounted Cassette Corner Type

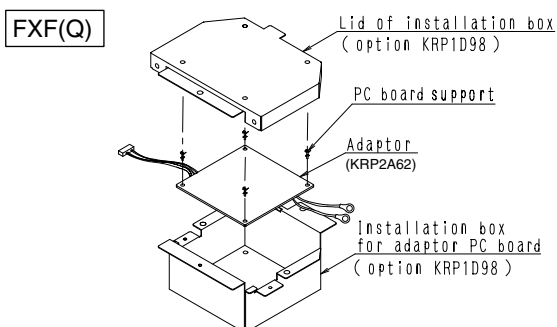


### Ceiling Mounted Cassette Type (Double-Flow)



NOTE :Installation box for adaptor PC board is required to install the adaptor.

### Ceiling Mounted Cassette Type (Multi-Flow)

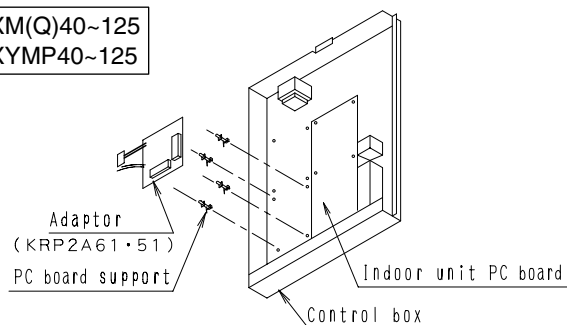


NOTE) Installation box for adaptor PC board is required to install the adaptor.  
• Mount adaptor PC board on the lid of installation box with PC board supports attached to the adaptor.

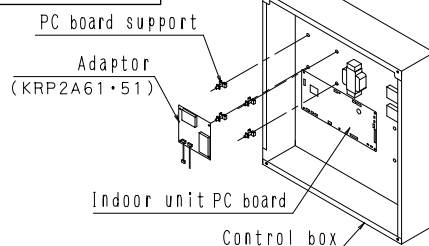
C : 1PA63641G

### Ceiling Mounted Duct Type

FXM(Q)40~125  
FXYP40~125



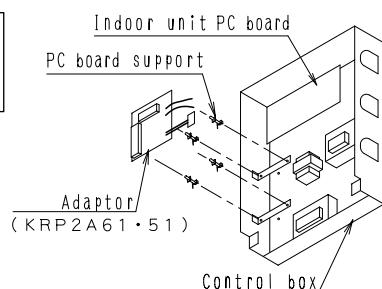
FXM(Q)200 · 250  
FXYP200 · 250



### Ceiling Mounted Built-In Type

#### Ceiling Mounted Built-In Type (Rear Suction)

FXS(Q)  
FXYSP  
FXYB

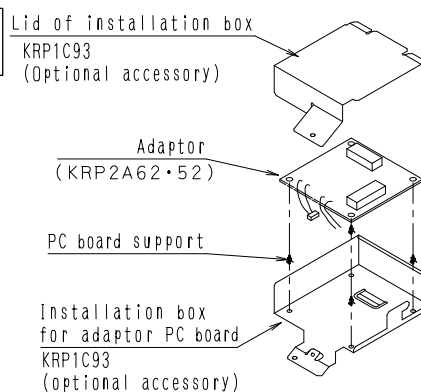


#### Note :

Installation box is necessary for second adaptor (FXS (Q)) .

### Ceiling Suspended Type

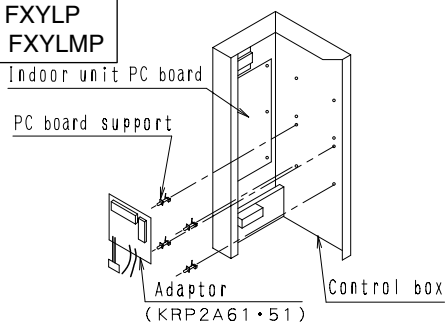
FXH(Q)  
FXYHP



NOTE : Installation box for adaptor PC board is required to install the adaptor.

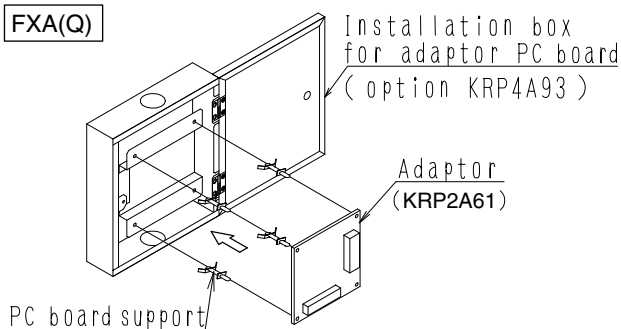
### Floor Standing Type

FXL(Q), FXYLP  
FXN(Q), FXYLMP



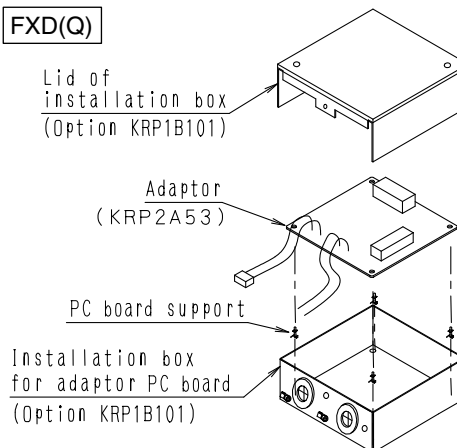
### Wall Mounted Type

FXA(Q)



### Slim Ceiling Mounted Duct Type

FXD(Q)



NOTE : Installation box for adaptor PC board is required to install the adaptor.

## 5.2.4 Electric Wiring Work

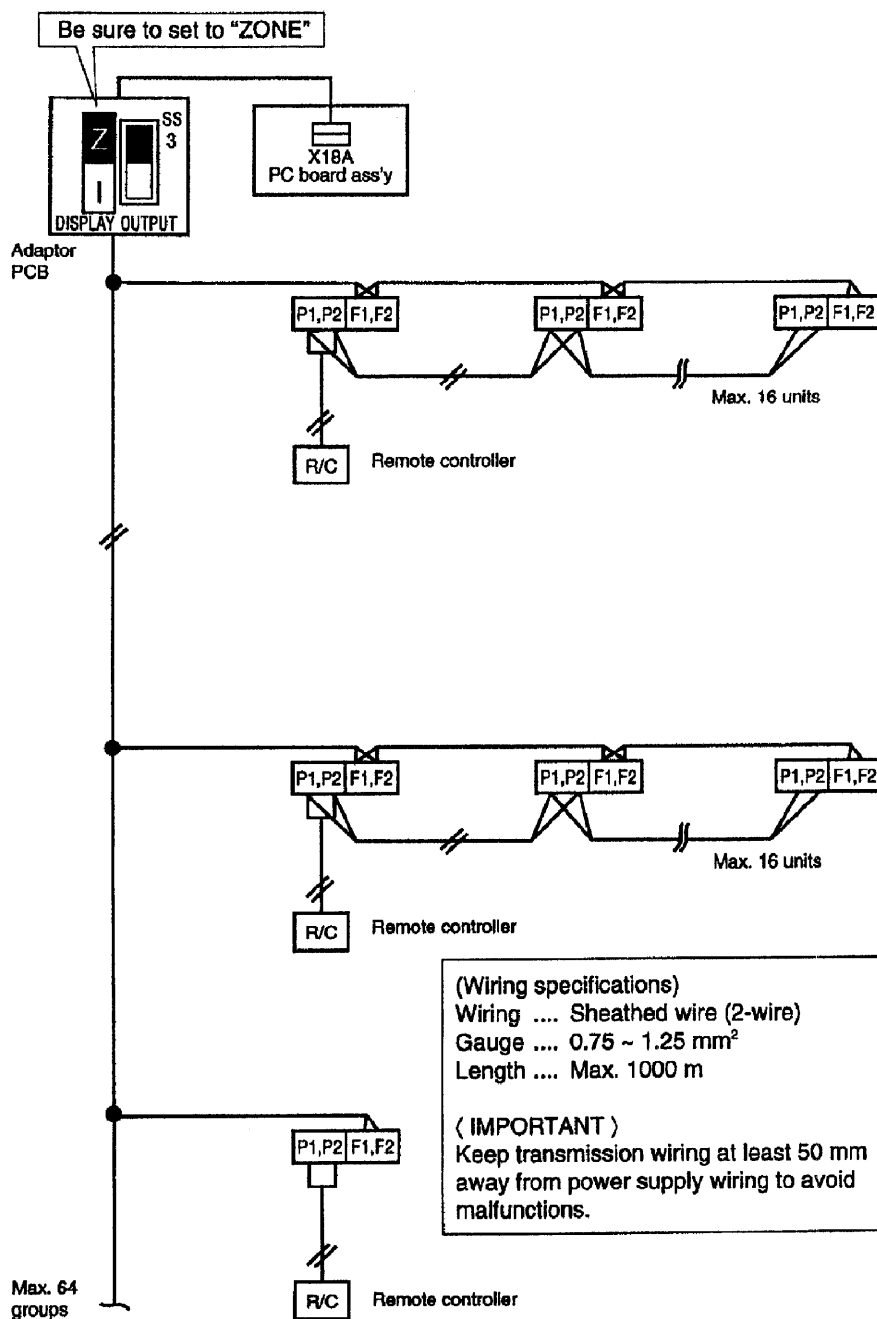
1. First, wire between the indoor and outdoor units, then to the separate power sources, and between the indoor units and the remote controllers. Then, check wiring is correct. (If wanting group control by remote controller, check transmission wiring.) For details, see the installation manual of the indoor and outdoor units.
2. Next, wire between the wiring adaptor for electrical appendices (1) and the indoor units. For details, see **Wiring to indoor units**.
3. Finally, wire between external units such as the host computer monitor panel, and make the necessary settings. For details, see **Wiring to external units (host computer monitor panel)**.

### Note:

It is not necessary to set address No. for centralized control.  
(Setting is automatic.)

## Wiring to Indoor Units

### 1. For Zone Control



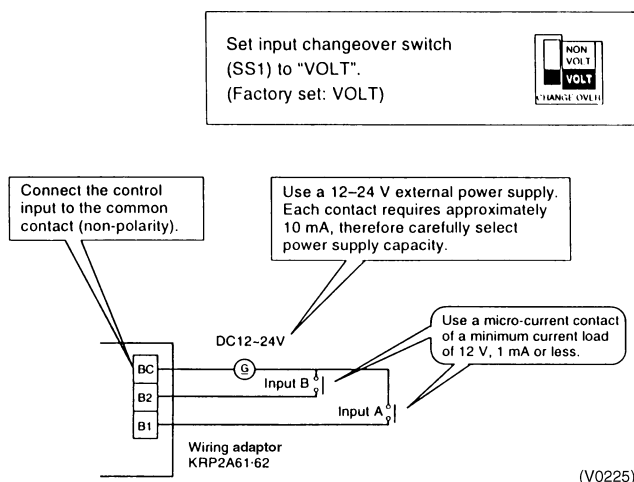
## 5.2.5 Wiring to External Units (Host Computer Monitor Panel)

### 1. Remote Control Input (Operation Control)

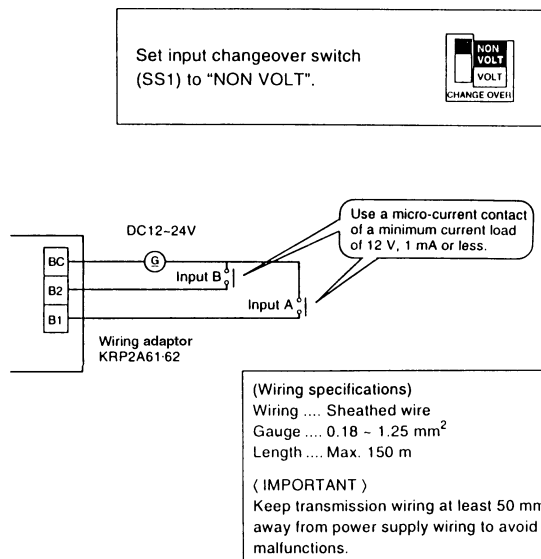
Wire as described below. Wiring differs depending on whether using a voltage or non-voltage input.

■ For voltage input

■ For non-voltage input



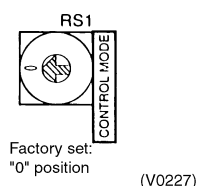
(V0225)



(V0226)

### 2. Setting Control Mode Selector Switch (RS1)

Using control mode selector switch (RS1), select the control mode as described below.



(V0227)

#### (1) When operating with only individual display function

Position	Function
0	Individual Display (Input Ignored)

#### (2) When operating with constant input from A

Position	Function	Contents when input A is ON	Contents when input A is OFF
1	Remote controller rejection	Operation (remote controller is normally rejected)	Stop + remote controller rejection
2	Central priority	Operation + remote controller accepted	
3	Stop by remote controller acceptable	Operation + stop by remote controller acceptable (No operation by the remote controller)	
4	Remote controller acceptance/rejection	Remote controller acceptance only (No operation by the remote location)	

#### Note:

- Input B is for forced-OFF. When ON, stop + remote controller is rejected, and input A is ignored. When OFF, even if A is ON, the contents of when input A is ON, are not achieved. Input A must therefore be re-input.

C : 1PA63642B

**(3) When operating with momentary input from A**  
**(Use a momentary input of ON time 200 milli-sec. or longer.)**

Position	Function	Contents of Input A	Function of Input B
5	Remote Controller Rejected	Stop for ON while operating, Operate for ON while stopping	Input B will be forced stop function (When ON, stop + remote controller is rejected, input A is ignored.)
6	Last Command Priority	Stop for ON while operating, Operate for ON while stopping (Remote controller is normally accepted.)	

■ For demand control from input B

Position	Function when input A is ON	Function when input B is ON
C	Remote controller rejected (Same as position "5")	Forced thermostat OFF command
D		Forced temperature shift command
E	Last command priority (Same as position "6")	Forced thermostat OFF command
F		Forced temperature shift command

■ Forced thermostat OFF command

Forces indoor unit to operate the fan only.

■ Forced temperature shift command

The indoor unit operates at 2°C higher (cooling) or 2°C lower (heating) than the set temperature.

**Note:**

- In zone control, operation is displayed as long as one indoor unit is running. When in the last command priority mode, some units are not operating while ON.
- In such case, even if input A is ON, the unit and all other units in the same zone will stop.

**(4) When operating with dual momentary inputs from A and B (Use a momentary input of 200 milli-sec. or longer.)**

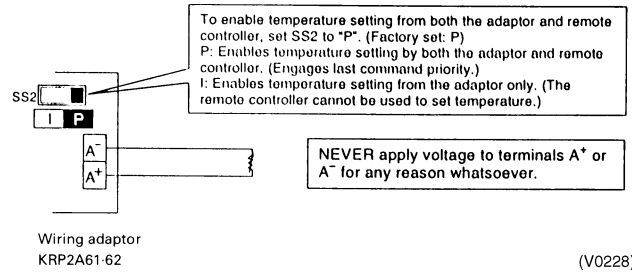
Position	Function	Contents when Input A is ON	Contents when Input A is OFF
7	Remote Controller Rejection	Operation (remote controller is normally rejected)	Stop + remote controller rejection
8	Central Priority	Operation + remote controller accepted	
9	Stop by Remote Controller Acceptable	Operation + stop by remote controller acceptable (No operation by the remote controller)	
A	Remote Controller Acceptance/Rejection	Remote controller acceptance only (No operation by the remote location)	Stop (remote controller normally accepted)
B	Last Command Priority	Operation (remote controller is normally accepted)	

**Note:**

- Doing constant input A with position 7-A, it will be forced OFF function (input A is ignored).
- Constant input cannot use for input B with position B.

1PA63642B

### 3. Temperature Setting Input



Temperature setting corresponds to resistance values in the range of 0 to 135Ω. Their relationship is as shown below.

Temperature Setting (°C)	16	17	18	19	20	21	22	23	24
Resistance (Ω)	0.0~3.4	5.0~11.6	13.8~20.0	22.4~28.4	31.0~36.4	39.4~44.8	48.2~52.8	56.6~61.2	65.2~69.4

Temperature Setting (°C)	25	26	27	28	29	30	31	32
Resistance (Ω)	73.8~77.8	82.4~85.8	91.0~94.0	99.4~102.2	108.6~110.4	117.2~119.2	125.8~127.4	134.2~140.0

**Note:**

Wiring resistance included in above figures.

(Wiring specifications)

Wiring ... Sheathed wire

Gauge ... 1.25~2.00 mm<sup>2</sup>

Length ... Max. 70 m

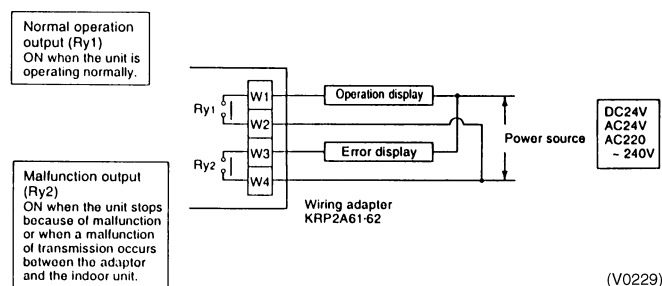
**(IMPORTANT)**

**Keep transmission wiring at least 50 mm away from power supply wiring to avoid malfunctions.**

### 4. Canceling Display Signals

Operation output terminals (W1 and W2) and malfunction output terminals (W3 and W4) are non-voltage constant contact output.

(Allowed electric current per contact is between 10 mA and 3 A.)



**Note:**

If using a 220~240V power supply, keep transmission wiring at least 50 mm away from incoming power supply wiring.

Output System	Both Ry1 and Ry2 OFF	Ry1 only ON	Ry2 only ON
Zone control	All zones OFF	At least one unit running normally, no malfunction	Even 1 unit stopped due to malfunction or malfunction of transmission between adaptor and indoor unit

Display output is described by system in the below table.

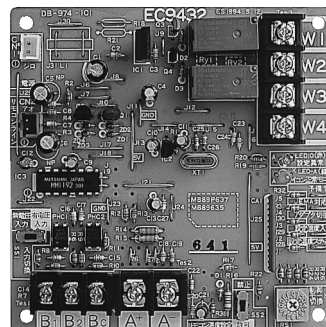
**Note:**

If rewiring F1 and F2 after running the system, turn ON power for 5 minutes, then turn it OFF and ON again. Changes to wiring can sometimes disable control from the wiring adaptor.

## 5.3 <KRP4A51 / KRP4A52 / KRP4A53 / KRP4A54> Wiring Adaptor for Electrical Appendices (2)

### 5.3.1 Outline / Features

This adaptor is an interface required to connect the indoor unit with the central monitoring panel. And by installing this adaptor in the indoor unit, it enables you to have various remote controls (ON/OFF, temperature setting, operation status display and malfunction display). One adaptor can control simultaneously the group of units (Max. 16 units) connected to the remote control wiring line (P1, P2).



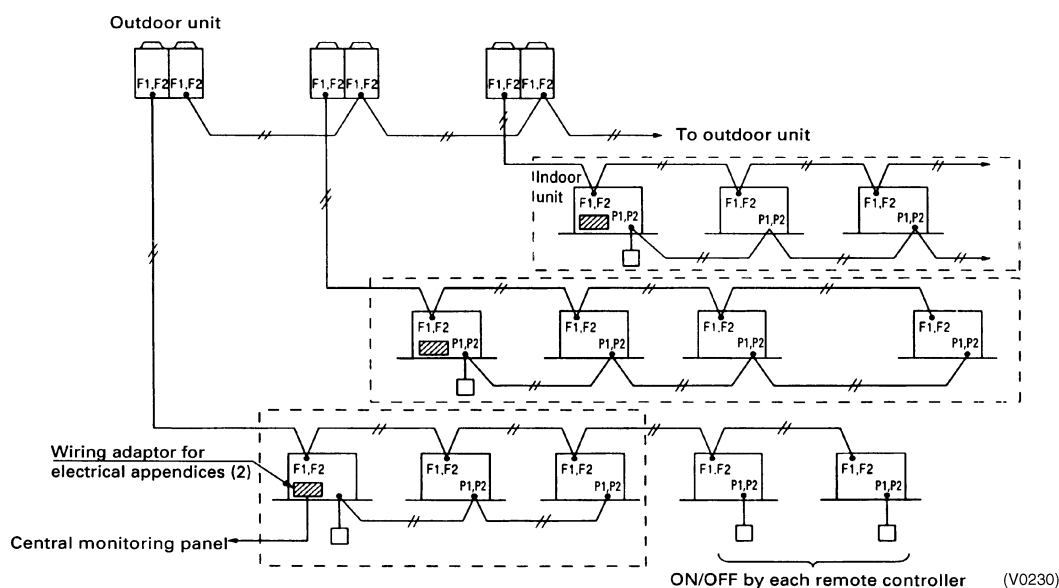
**Note:**

1. This adaptor cannot be used together with central control equipment and data station.
2. The model of adaptor differs according to the type of indoor unit to be installed.



### 5.3.2 Applied Model

Applied Model	Remark	Applied Model	Remark	Note
VRV Plus Series	○	SkyAir Series	○	
VRV Inverter "K(A)" "K(U)" Series	○	Room Air-Conditioner	×	
VRV Heat Recovery Series	○	Other Air-Conditioner	×	
VRV II Series	○	HRV Unit	○	BRC1B61, 62 etc. are required.

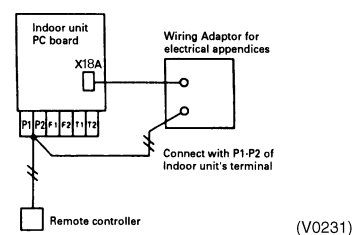
### 5.3.3 System Configuration



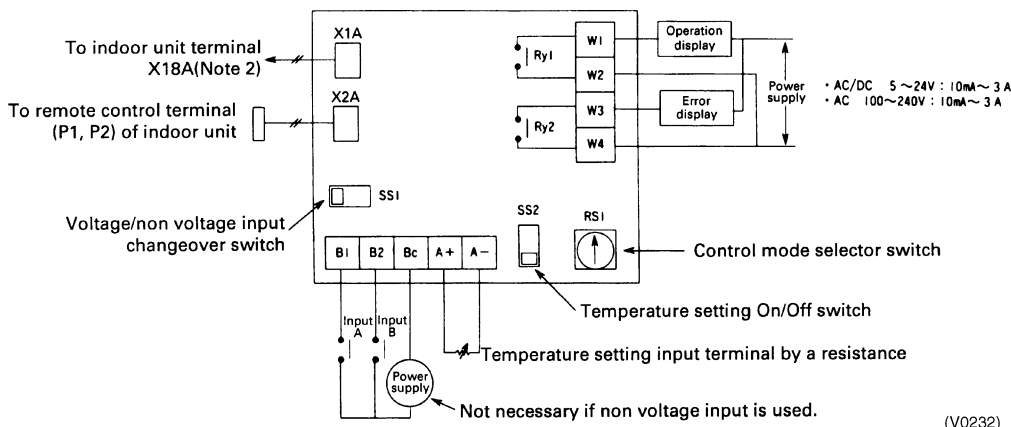
**Note:**

1. Marked  shows wiring adaptor for electrical appendices.
2. Marked  indicates the same control range.
3. The wiring adaptor for electrical appendices (2) can control simultaneously the group of the units (Max. 16 units) connected to the remote control wiring line (P1, P2). In another words, all the units connected between P1 and P2 terminal have the same control.

■ Point of wiring



### 5.3.4 Names and Functions of Operating Part



(V0232)

**Note:**

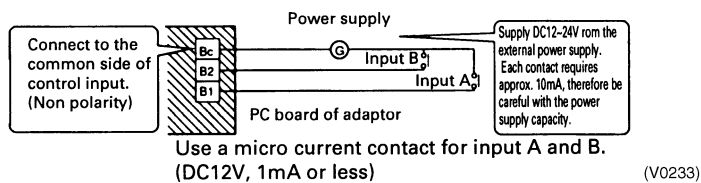
1. This is valid only for the indoor unit, which has a temperature setting function.
2. Terminal No. X18A is for the indoor unit of VRV system. For SkyAir series and other air-conditioner, connect to the relevant terminal for each units.

### 5.3.5 Input/Output for External Control

1. Depending on whether [voltage input] or [non voltage input], connect the wiring as shown below.

■ **Input with Voltage.**

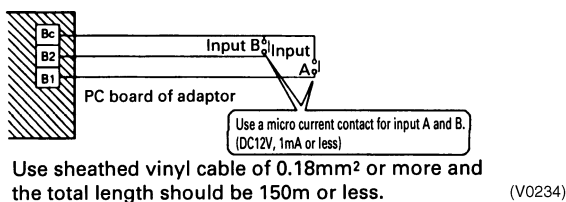
Set the Voltage/Non voltage changeover switch (SS1) to VOLT.



(V0233)

■ **Input with No Voltage.**

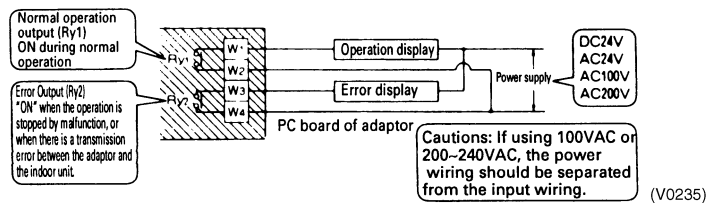
Set the Voltage/Non voltage changeover switch (SS1) to NON VOLT.



(V0234)

### 2. Display Signal Retrieval (Output)

The normal operation output terminals (W1, W2) and error output terminals (W3, W4) are non-voltage output contacts. (Permissive current is 10mA~3A per contact.)

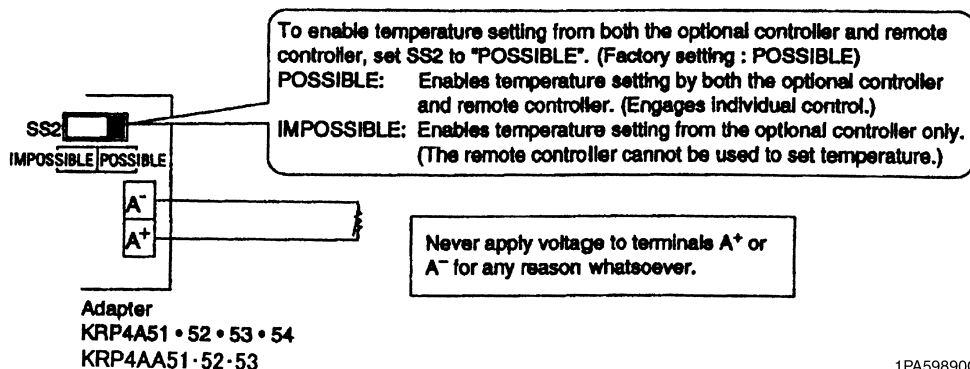


(V0235)

Output is as given below.

Output System	Both Ry1 and Ry2 is OFF.	Only Ry1 is ON.	Only Ry2 is ON.
Group control	OFF	All normal operation	At least one unit is stopped due to error or transmission error between the adaptor and the indoor unit.

### 3. Temperature Setting Input



1PA59890C

Temperature setting corresponds to resistance values in the range of 0 to 135Ω.

Their relationship is as shown below.

Relation between the setting temperature and the resistance are as follows.

Setting temperature (°C)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Resistance (Ω)	0.0 ~ 3.4	5.0 ~ 11.6	13.8 ~ 20.0	22.4 ~ 28.4	31.0 ~ 36.4	39.4 ~ 44.8	48.2 ~ 52.8	56.6 ~ 61.2	65.2 ~ 69.4	73.8 ~ 77.8	82.4 ~ 85.8	91.0 ~ 94.0	99.4 ~ 102.2	108.6 ~ 110.4	117.2 ~ 119.2	125.8 ~ 127.4	134.2 ~ 140.0

**Note:**

- The value of resistance includes the resistance of wiring.
- The setting temperature is limited within the setting range of indoor unit. If you set the temperature outside of the range by the adaptor, it controls at the nearest setting range.

#### Setting of Control Mode Selector Switch (RS1)

Position	Functions	Description of Operation by Input Mode A and B	
		Input A (Between B1~Bc)	Input B (Between B2~Bc)
0	Input Ignored	—	—
1	Remote Control Rejection	Start at ON, and stop at OFF	Stop at ON (remote control rejection), Input A acceptance at OFF
2	Central Priority	Start at ON (remote control acceptance), stop at OFF (remote control rejection)	
3	Remote Control Acceptance/ Rejection	The same as position 1 (Only stop is accepted by remote controller)	
4	Remote Control Acceptance/ Rejection, OFF	Start at ON (remote control acceptance), stop at OFF (remote control rejection)	
5	Remote Control Rejection	Start/Stop (Repeats)	Stop at ON remote control acceptance), start at OFF (remote control rejection)
6	Last Command Priority	The same as position 5 (remote control acceptance all the time)	
7	Remote Control Rejection	Start at ON	Stop at ON.
8	Last Command Priority	Start at ON (remote control acceptance)	Stop at ON (remote control rejection)
9	Remote Control OFF Acceptance	The same as position 7 (Only stop is accepted by remote controller)	The same as position 7
A	Remote Control Acceptance/ Rejection, OFF	Start at ON (remote control acceptance)	Stop at ON (remote control rejection)
B	Last Command Priority	The same as position 7 (remote control acceptance all the time)	The same as position 7
C	Position 5 + Energy Saving Control	The same as position 5	Forced thermostat OFF at ON
D	Position 5 + Temperature Set-Back		Setting temperature shift command at ON
E	Position 6 + Energy Saving Control	The same as position 6	Forced thermostat OFF at ON
F	Position 6 + Temperature Set-Back		Setting temperature shift command at ON

**Note:**

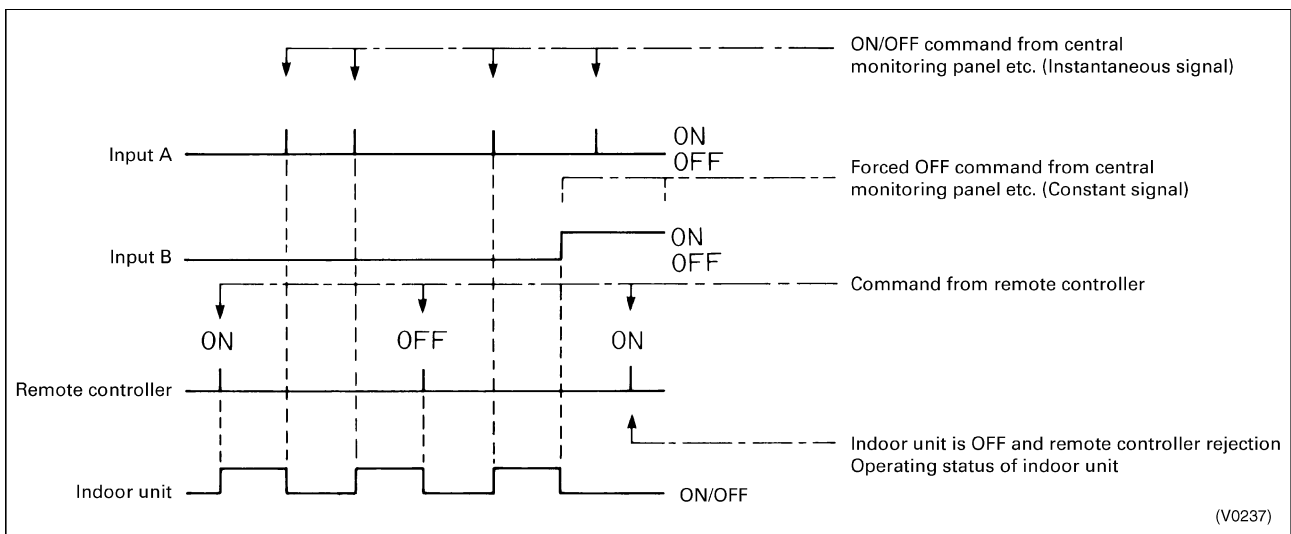
1. When constant input is used for input B at position 7~A, the system is shut-down forcibly (Ignored input A).  
Constant input cannot be used for input B at position B.
2. Refer to the followings for the outline of above functions.

### ■ Description of Functions (Outline)

- |                                                    |                                                                                                                                                                                                         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Remote Control Rejection .....                  | For when you want to turn ON/OFF only by central remote controller. (ON/OFF cannot be controlled by remote controller for indoor unit.)                                                                 |
| 2. Remote controller OFF Only Accepted .....       | For when you want to turn ON only by the central remote controller, and turn OFF only by remote controller for indoor unit.                                                                             |
| 3. Central Priority .....                          | For when you want to turn ON only by the central remote controller, and during the set time, turn ON/OFF freely by remote controller for indoor unit.                                                   |
| 4. Individual Priority (Last command priority) ... | For when you want to turn ON/OFF by both central remote controller and remote controller for indoor unit.                                                                                               |
| 5. Remote Controller Permission Timer .....        | For when you want to turn ON/OFF by remote controller for indoor unit during set time, and you want to start the operation by remote controller for indoor unit at the programmed time of system start. |

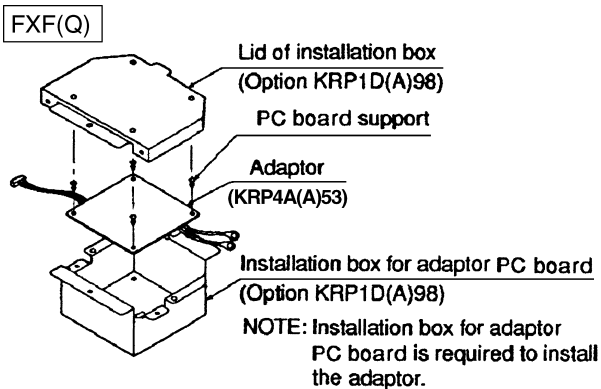
**<Example when the control mode selector switch is set at position 6>**

The following is the time chart for the command by remote controller and the indoor unit against input signal.



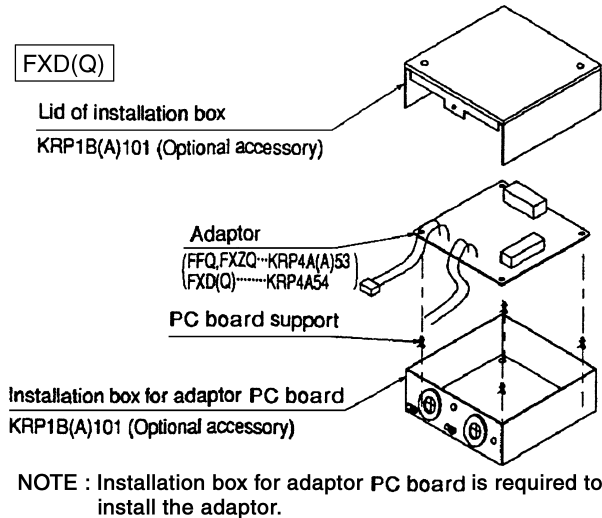
### 5.3.6 Instruction for Installation

#### Ceiling Mounted Cassette Type (Multi-Flow)

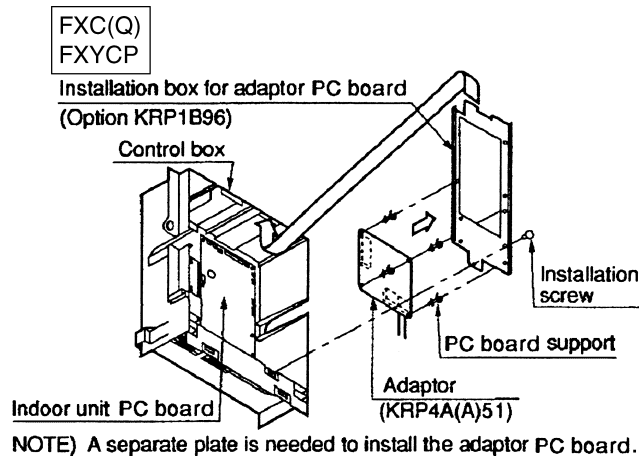


#### Slim Ceiling Mounted Duct Type

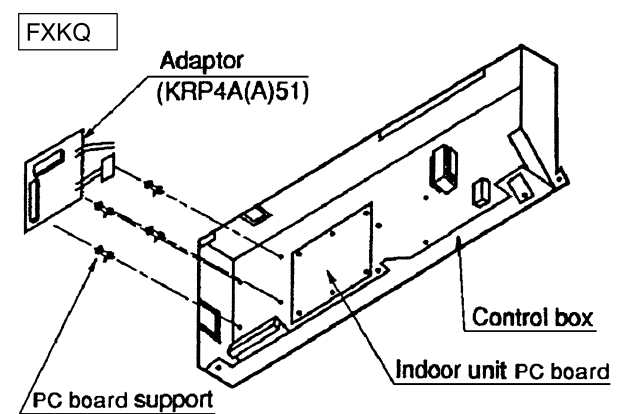
#### Ceiling Mounted Cassette Type (Multi-Flow) 600×600



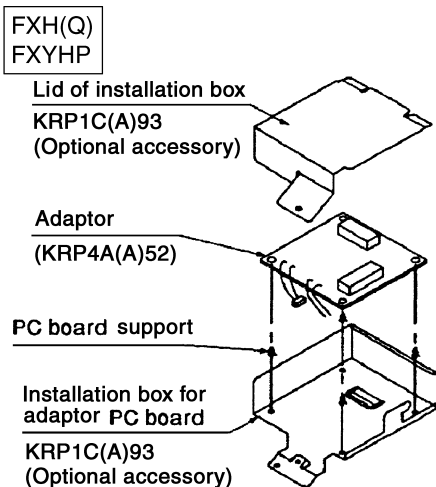
#### Ceiling Mounted Cassette Type (Double-Flow)



#### Ceiling Mounted Cassette Corner Type



#### Ceiling Suspended Type

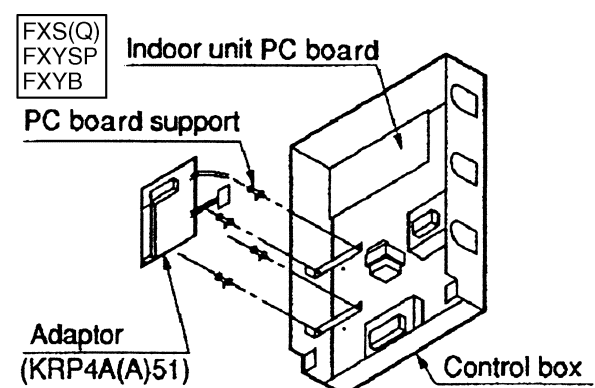


NOTE : Installation box for adaptor PC board is required to install the adaptor.

#### Note:

The above shows the installation for VRV indoor unit. For the SkyAir series and other air-conditioner, it may be different from the ones showed above and refer to its engineering data for the details.

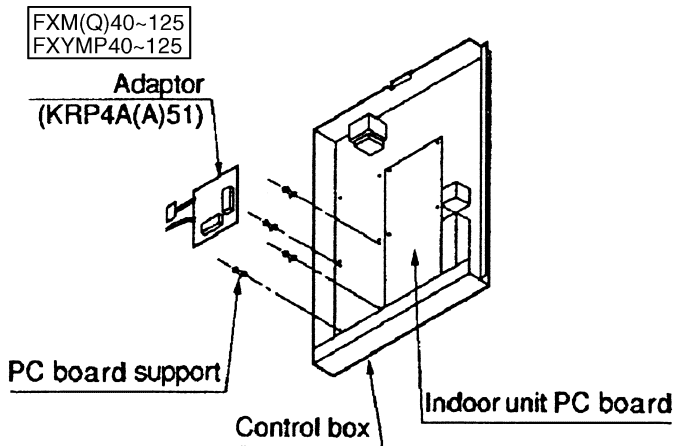
#### Ceiling Mounted Built-In Type



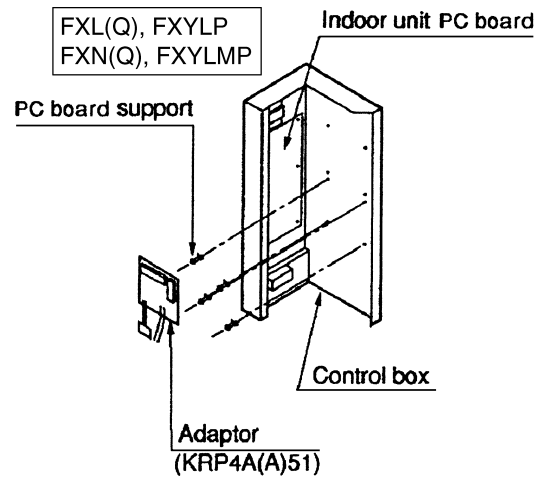
#### Note :

Installation box is necessary for second adaptor (FXS) .

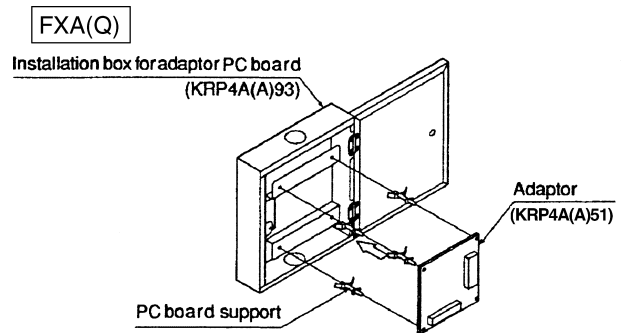
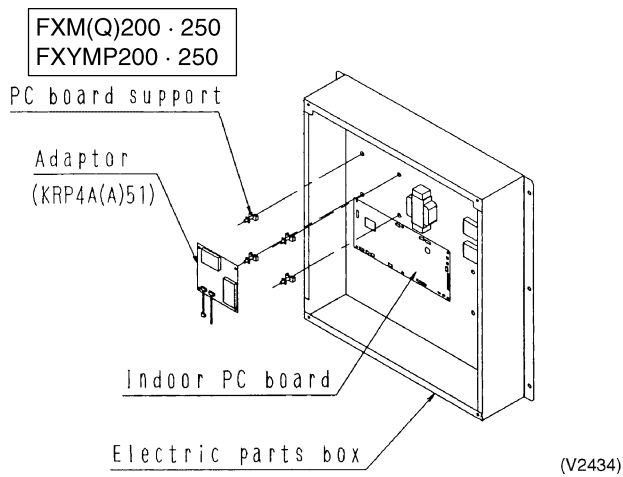
## Ceiling Mounted Duct Type



## Floor Standing Type



## Wall Mounted Type

**Note:**

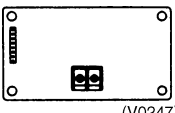

The above shows the installation for VRV indoor unit. For the SkyAir series and other air-conditioner, it may be different from the ones showed above and refer to its engineering data for the details.

C : 1PA59889H

## 5.4 <DTA102A52> Interface Adaptor for SkyAir Series

### 5.4.1 Accessories

Check if the following accessories are included in the kit.

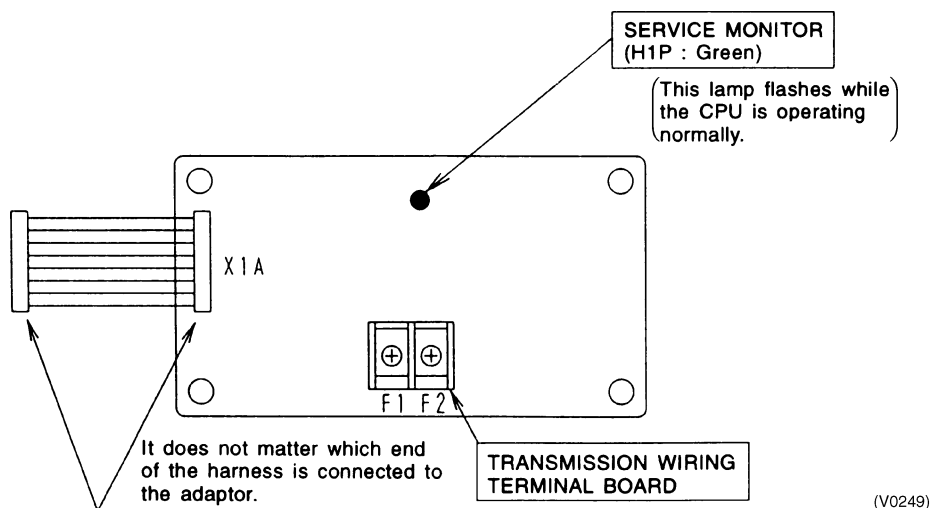
Adaptor	Relay Harness
 (V0247)	 (V0248)

PC Board Support	x 4
Tie Wrap	x 2
Installation Manual	x 1

### 5.4.2 System Outline

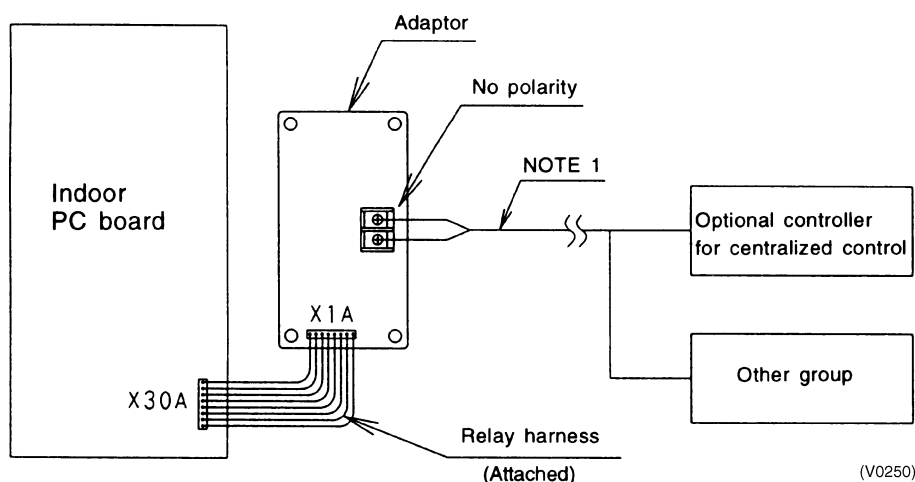
- By connecting this kit to an optional controller for centralized control, all units of the SkyAir Series in the system can be controlled as a group from the optional controller.
- One kit must be installed onto the master unit of each group.

### 5.4.3 Names of Parts and Function



### 5.4.4 Electric Wiring

- Wire this kit as described below.
- Make sure wires to units do not pass over the PC board when wiring.



**Note:**

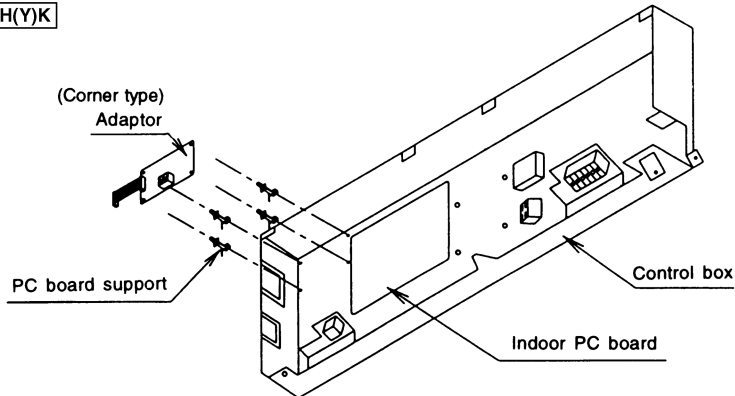
1. Wiring specifications ... Use a 0.75 - 1.25 mm<sup>2</sup> sheathed vinyl cord or cable (2 wire).
2. For details on compatible systems and how to connect to optional controllers, see the instruction manual of the optional controller and technical reference materials.

### 5.4.5 Installation

- Installation differs according to models as shown below.
- Do not bundle low and high voltage wires together.
- Bundle any excess wires with the attached tie wraps so as to keep loose wirings off the indoor unit PC board.

#### Ceiling Mounted Cassette Corner Type

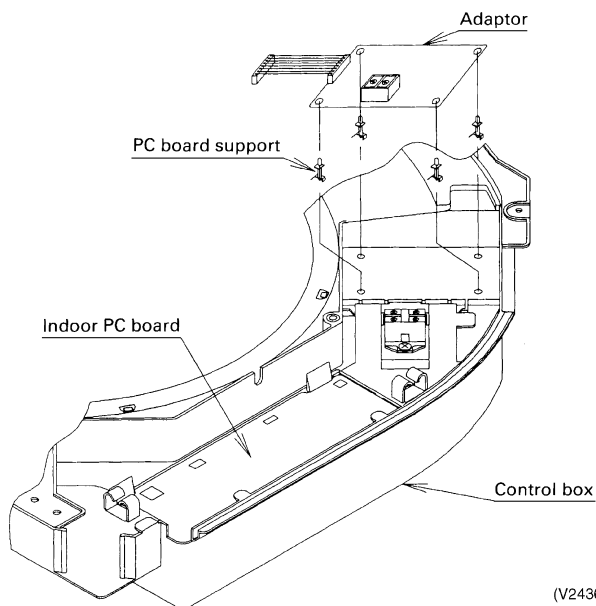
FH(Y)K



(V2435)

#### Ceiling Mounted Cassette Type (Multi-Flow)

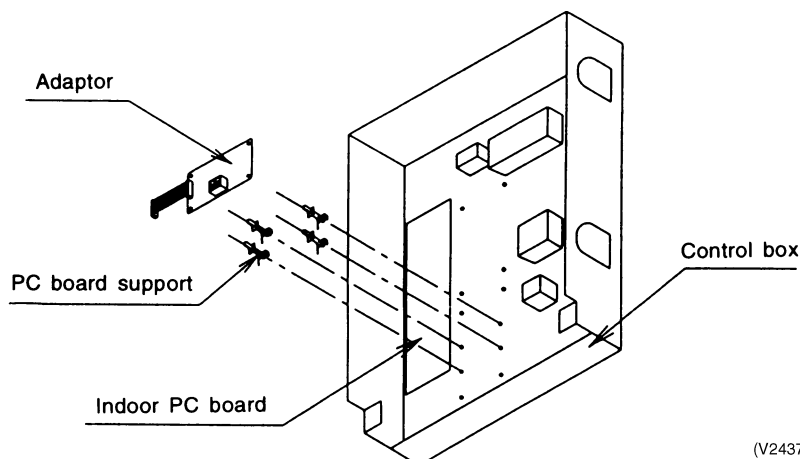
FH(Y)C~K



(V2436)

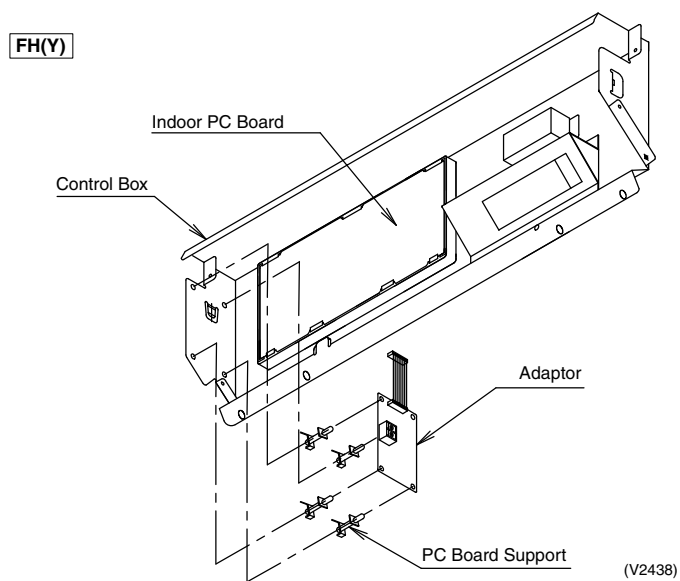
#### Ceiling Mounted Built-In Type

FH(Y)B

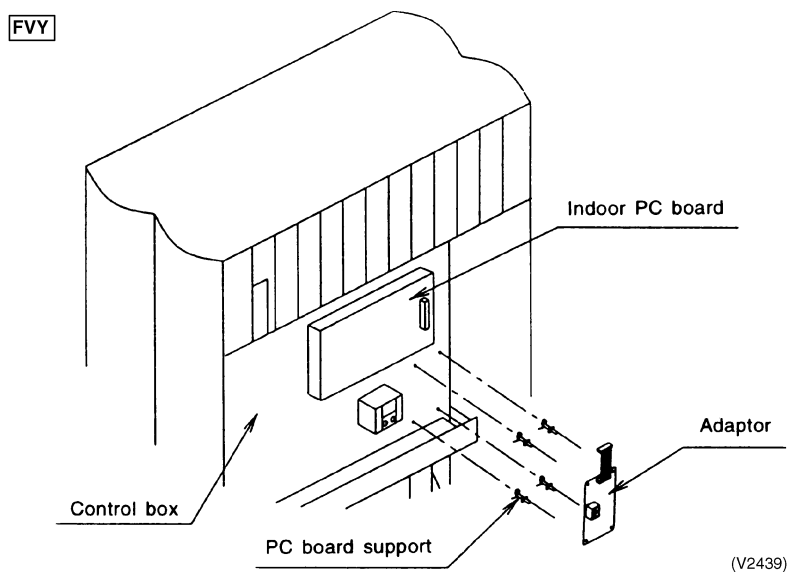


(V2437)

---

**Ceiling Suspended Type**

---

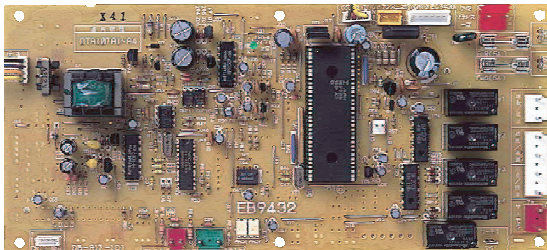
**Floor Standing Type**

C : 1PA59896

## 5.5 <DTA107A55> Central Control Adaptor Kit

### Function

This adaptor is an interface that is necessary in interconnecting the central control system (central controller, ON/OFF controller and schedule timer) and the packaged air-conditioners. In combination with the central control devices, the interface provides for collective start/stop, timer-controlled run, remote control enable/disable and other operation modes as well as run status displays. The adaptor is also required in setting up the remote controller for the packaged air-conditioners.



Central control adaptor kit  
DTA107A55

## ELECTRIC WIRING

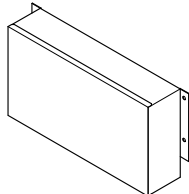
### GENERAL INSTRUCTIONS

- All wiring, components and materials to be procured on site must comply with the applicable local and national codes.
- Use copper conductors only.
- All field wiring and components must be provided by licensed electrician.
- Unit shall be grounded in compliance with the applicable local and national codes.
- After wiring work, check power to the equipment shuts OFF when switch is shut OFF.

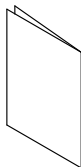
## COMPONENTS

Check the following components are included in this optional accessory before installation.

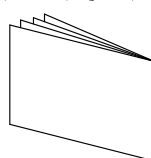
CONTROL BOARD BOX



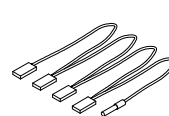
OPERATION MANUAL



INSTALLATION MANUAL



WIRE HARNESS



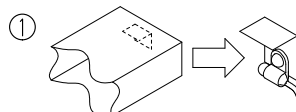
Give to the customer this OPERATION MANUAL certainly.

## INSTALLATION

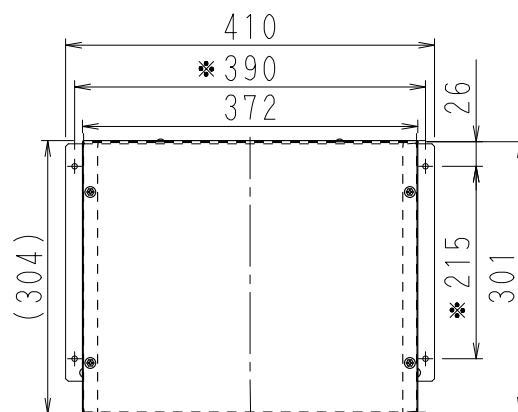
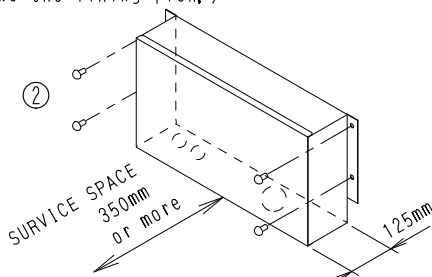
Deside the situation of Control Board Box.  
It is affected the situations of the thermistor.

The length of lead wire - Thermistor: 2.5m

- ① Install the thermistor (in the control board box) at the inlet duct or the suction grille.  
Use the kit: remote sensor (KRCS01-1), if you need the longer length than it. (Can use it until 12m.)
- ② Install the control board box on the wall or the pillar.  
Make sure the wire inlet is at the bottom of the box.  
Use 4 bolts (M5) for fixing the box.  
Install the box in the indoor side.  
( Example: Set it in the ceiling or in the room. )  
Do not install the box in the air conditioner.  
Fixing situation : See right Fig. (Height: 125mm)  
( \* shows the fixing pitch, )



Example: Set the thermistor into the inlet duct and clamped by resin clamp and fix plate.



## ELECTRIC WIRING

### GENERAL INSTRUCTIONS

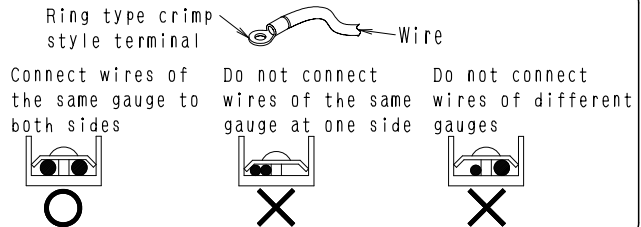
- All wiring, components and materials to be procured on site must comply with the applicable local and national codes.
- Use copper conductors only.
- All field wiring and components must be provided by licensed electrician.
- Unit shall be grounded in compliance with the applicable local and national codes.
- After wiring work, check power to the equipment shuts OFF when switch is shut OFF.

### ⚠ WARNING

Use ring type crimp style terminal for connection to power supply terminal block.

If is not used, satisfy the following conditions:

- Do not connect wires of different gauge to the same power supply terminal.  
(Looseness in the connection may cause overheating.)
- When connecting wires of the same gauge, connect them according to the righthand figure.



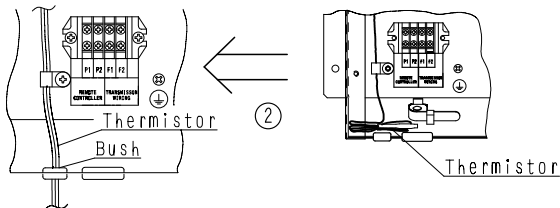
### Wiring specification

Use the wire shown right for between the unit and the control board box.

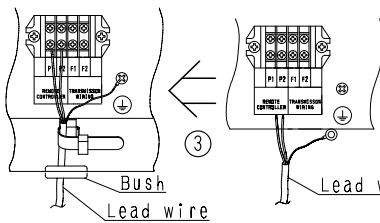
Type	Size
UL1015 AWG18 equivalent	0.75mm <sup>2</sup> each

Connect the wiring between indoor and outdoor units, central controllers and remote controller. For details, refer to the installation manual of them.

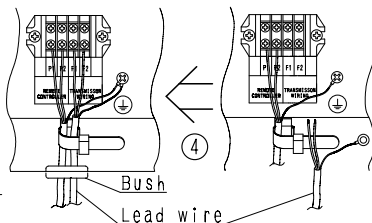
- ① Remove the cover of the control board box, after setting it. (Parts situation is shown right Fig.)
- ② Install the thermistor through the bush.  
(It is in the control board box. See below Fig.)



- ③ Connect the read wires of Remote Controller.  
(See the below Fig.)  
Ground the shield of the cords to the control board box.



- ④ Connect the read wires of Central Control Unit.  
(See the below Fig.)  
Ground the shield of the cords to the control board box.

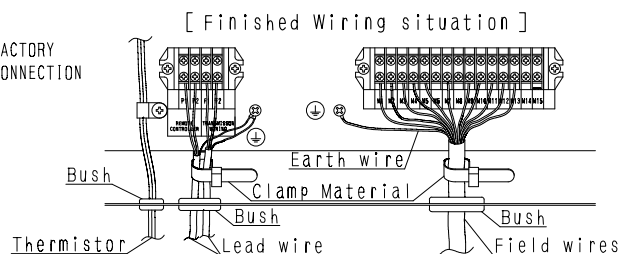


- ⑥ Change the connection of transformer according to the right table.  
(Especially for Y1 Model.)

VOLTAGE		TERMINAL
PRIMARY	SECONDARY	
220V	200V	*U-V1
230V	200V	U-V2
240V	200V	U-V3

Clamp these wires by clamp materials certainly.  
(Clamp the earth wire.) (See right Fig.)  
Do not clamp the high voltage wires (Field wires) and the low voltage wires (Lead wire and Thermistor) both inside and outside of the control board box.

\* FACTORY CONNECTION



### NOTE

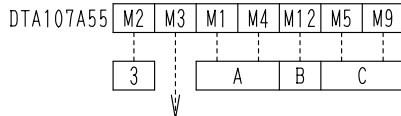
- Prepare the remote controller (BRC1A62). [BRC1A52 is also OK.]  
REASON: The remote controller is needed per each kit for setting the address.

2P042157

## CONNECTION OF THE TERMINAL

Connect between the air conditioner and DTA107A55 shown below.

### In case of FD03~05K



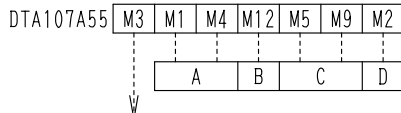
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

See below for connecting the terminal "M3". (The Output of alarm signal)

About these models, we can only output the alarm signal of indoor fan motor.

Connect the wiring between the terminal "M3" and the terminal "96" of magnetic contactor of indoor fan motor(K1M).

### In case of FD06~10K



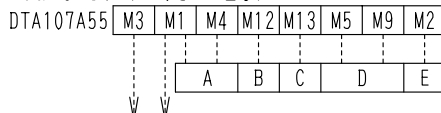
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Use the attached wire harness and change from the wire to it. The wire is connected between K1R(5), K1R(7), K2R(7), and K3R(5). [ ( ) is shown the terminal. ]

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

### In case of FD15 • 20K



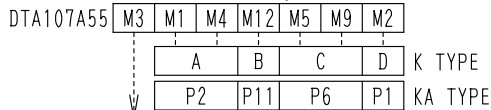
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Connect the wiring between the terminal "M1" and the terminal "6" of K4R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K4R(magnetic relay).

### In case of UAT06~10K, UAT06~12KA



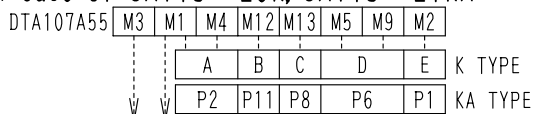
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Use the attached wire harness and change from the wire to it. The wire is connected between K1R(5), K1R(7), K2R(7), and K3R(6). [ ( ) is shown the terminal. ]

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

### In case of UAT15 • 20K, UAT15~21KA



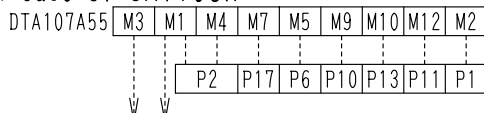
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Connect the wiring between the terminal "M1" and the terminal "6" of K3R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K3R(magnetic relay).

### In case of UATY06K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

See below for connecting the terminal "M3". (The Output of alarm signal)

In case of Y1, connect the wiring between the terminal "M1" and the terminal "5" of K2R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "3" of K2R(magnetic relay).

In case of Y19, connect the wiring between the terminal "M3" and the terminal "8" of K4R(magnetic relay).

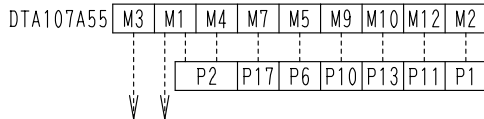
In case of TAL and YAL, use the attached wire harness and change from the wire to it.

The wire is connected between K1R(6), K1R(7), K2R(7), and K3R(6). [ ( ) is shown the terminal. ]

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

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## In case of UATY08~12K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. (Refer to the wiring diagram of the air conditioner.)

See below for connecting the terminal "M3". (The Output of alarm signal)

In case of Y1, connect the wiring between the terminal "M1" and the terminal "5" of K2R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "3" of K2R(magnetic relay).

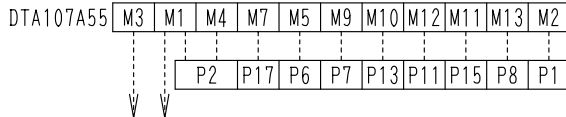
In case of Y19, connect the wiring between the terminal "M3" and the terminal "8" of K4R(magnetic relay).

In case of TAL and YAL, use the attached wire harness and change from the wire to it.

The wire is connected between K1R(5), K1R(7), K2R(7), and K3R(5). ( ) is shown the terminal. )

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

## In case of UATY15~21K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. (Refer to the wiring diagram of the air conditioner.)

See below for connecting the terminal "M3". (The Output of alarm signal)

In case of Y1, connect the wiring between the terminal "M1" and the terminal "6" of K2R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K2R(magnetic relay).

In case of Y19, connect the wiring between the terminal "M3" and the terminal "8" of K4R(magnetic relay).

In case of TAL and YAL, connect the wiring between the terminal "M1" and

the terminal "6" of K14R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K14R(magnetic relay).

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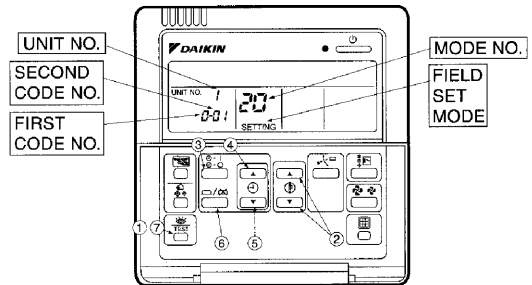
## FIELD SETTING

(If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.)

## Procedure

- When in the normal mode, press the "TEST" button for a minimum of four seconds, and the FIELD SET MODE is entered.
- Select the desired MODE NO. with the "MODE" button.
- During group control, when setting by each indoor unit (mode No. 20, 21 and 23 have been selected), push the "UNIT NO." button and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
- Push the "UP" upper button and select FIRST CODE NO.
- Push the "DOWN" lower button and select the SECOND CODE NO.
- Push the "SET" button once and the present settings are SET.
- Push the "TEST" button for about one second to return to the NORMAL MODE.

(Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10," FIRST CODE NO. to "0," and SECOND CODE NO. to "02."



NOTES) 1. Setting is carried out in the group mode, however, set the mode number inside the ( ) for individual setting of each indoor unit or confirmation after setting.

- The SECOND CODE number is set to "01" when shipped from the factory. However for the following cases it is set to "02"
- Air flow direction range setting.
- Do not make any settings not given in the table on the left.
- Not displayed if the indoor unit is not equipped with that function.
- When returning to the normal mode, "88" may be displayed in the LCD in order for the remote controller to initialize itself.

Mode No. Note 1	FIRST CODE NO.	Description of Setting	SECOND CODE No. Note 2		
			01	02	03
10(20)	0	Filter Contamination - Heavy/Light (Setting for spacing time of display time to clean air filter) (Setting for when filter contamination is heavy, and spacing time to clean air filter is to be halved)	Ultra-long-life type Approx. 10,000 hours Long-life type Approx. 2,500 hours Standard type Approx. 200 hours	Light Approx. 5,000 hours Heavy Approx. 1,250 hours Approx. 100hours	—
	1	Long-life filter type (Setting of filter sign indication time) (Change setting when Ultra-long-life filter is installed)	Long-life filter	Ultra-long-life filter (1)	—
	3	Spacing Time of Display Time to Clean Air Filter Count (Setting for when the filter sign is not to be displayed)	Display	Do Not Display	—
11(21)	0	Setting Number of Connected Skyair Simultaneous Operation System Indoor Units (Setting for Simultaneous Operation System)	Pair	Twin	—
13(23)	0	High Ceiling Setting (Setting for when installed in a Ceiling higher than 2.7m)	Normal	High Ceiling 1	High Ceiling 2
	1	Selection of Air Flow Direction (Setting for when a blocking pad kit has been installed)	F	T	W
	3	Air Flow Direction Adjust Function (To be set when decoration panel for air outlet is installed)	Equipped	No Equipped	—
	4	Air Flow Direction Range Setting	Upper	Normal	Lower
	6	Setting the External Static Pressure (Setting according to the connected duct resistance) (For FHYK, follow the High Ceiling Setting)	Normal (Normal)	High Static Pressure (High Ceiling)	Low Static Pressure —

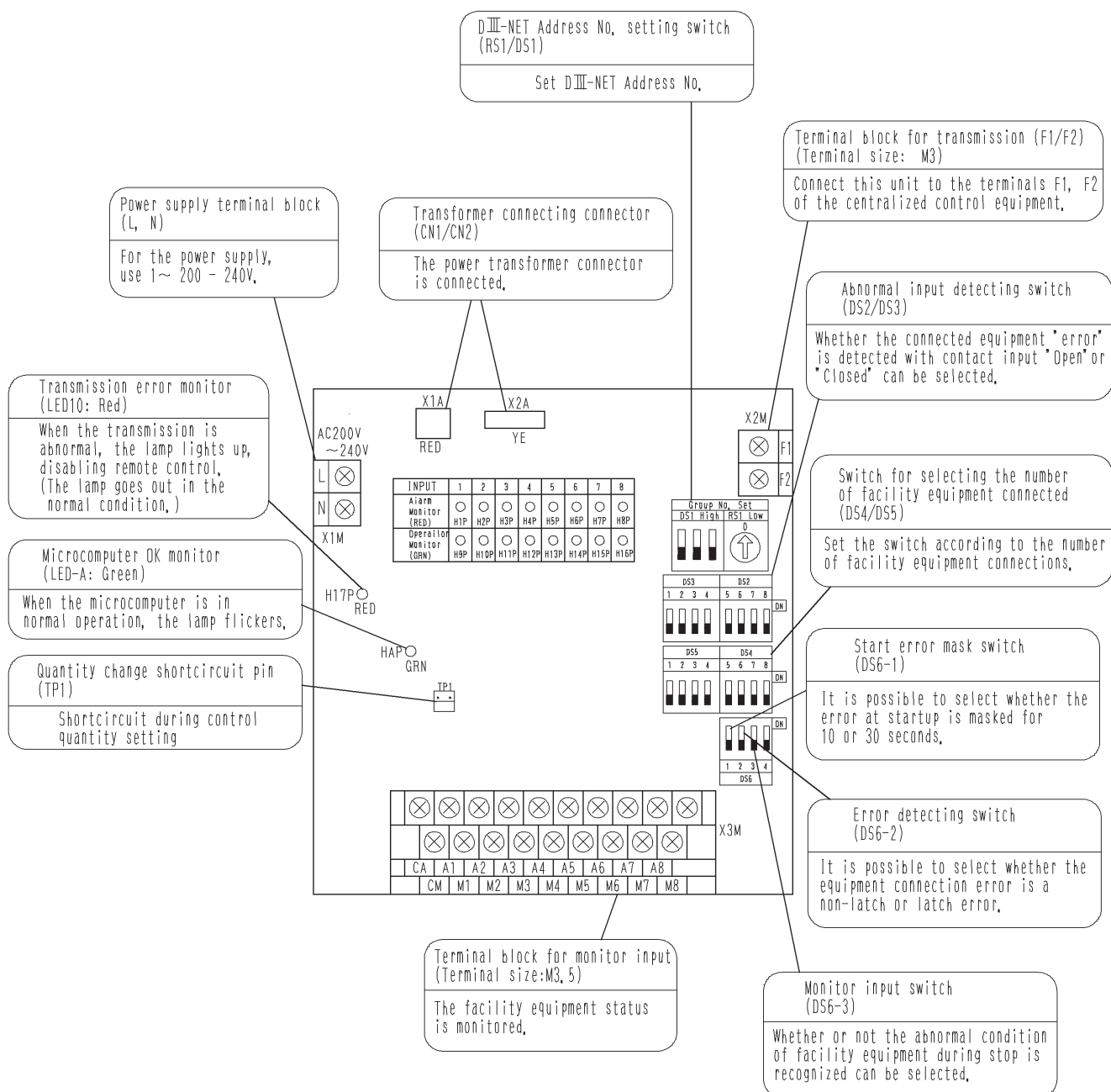
2P068938

## 5.6 Di Unit (DEC101A51)

### Appearance

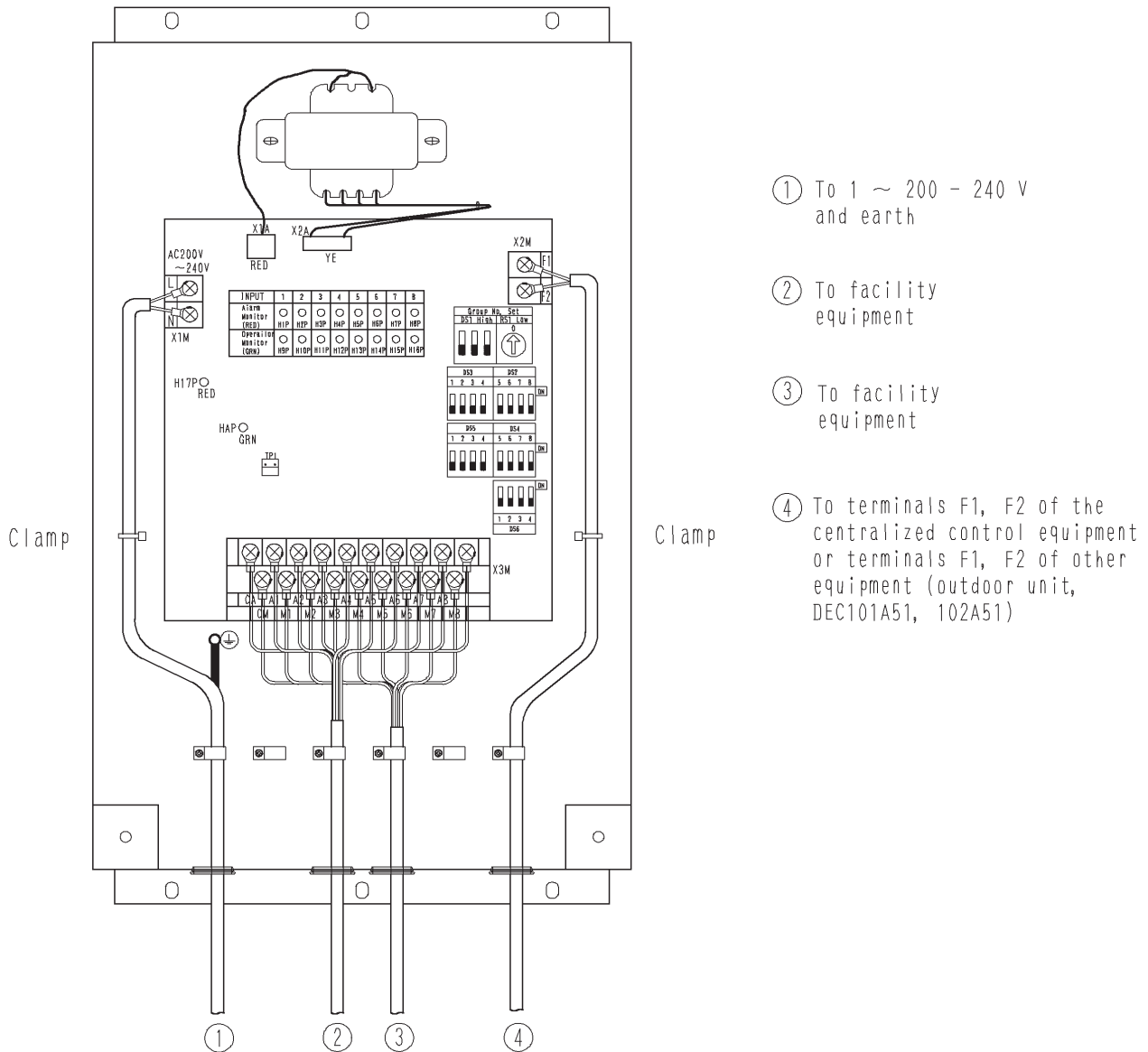


Di Unit  
DEC101A51



### Wiring Lead-In

For wiring connection, remove the front panel (secured with 2 screws) of this equipment. Upon completion of operation given in this paragraph and "⑥ Initial Setting" below, close the front panel with the screws described above.



- (1) Wire connections and wire clamping should be as shown in the figure above.
- (2) No simultaneous clamping is allowed for high-voltage wiring (power supply wiring (L/N) & earth wiring), low-voltage wiring <Communication wiring (F1/F2), operation input wiring (CM, M1 to 8) and abnormal input wiring (CA, A1 to 8)> since malfunctioning may result. Also, in case where the wirings described above are routed in parallel, be sure to connect the wirings at least 50 mm apart from the other.

## Specifications

		Di board
Input contacts		16 points. 8 pairs based on a pair of On/Off input and abnormality input
		* Contact information(On/Off, Abnormality ) is transmitted to intelligent Touch Controller / intelligent Manager III through DIII-Net communication.
Installation method		Indoor installation
Power supply		To be supplied from outside
Rating		AC200-240V, 50/60Hz
Applied Standard		Safety standard: IEC730, EMC standard: CISPR22-A (EMI), CISPR24 (EMS)
Environment for use	Ambient temperature	−15 to 60 °C
	Ambient humidity	95%RH or less (no condensation)
Environment for storage	Ambient temperature	−20 to 60 °C
	Ambient humidity	95%RH or less (no condensation)

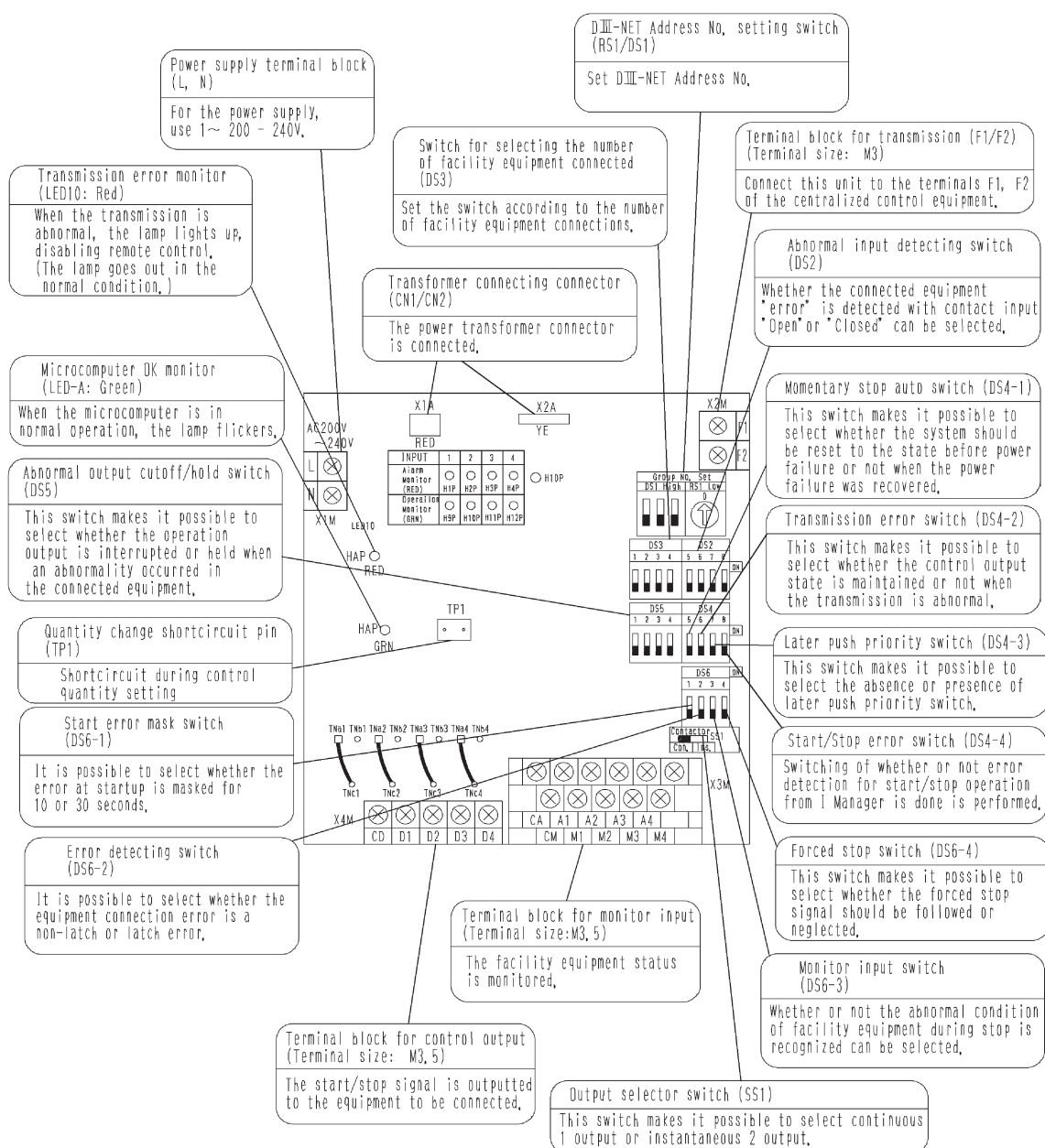
## 5.7 Dio Unit (DEC102A51)

### Appearance

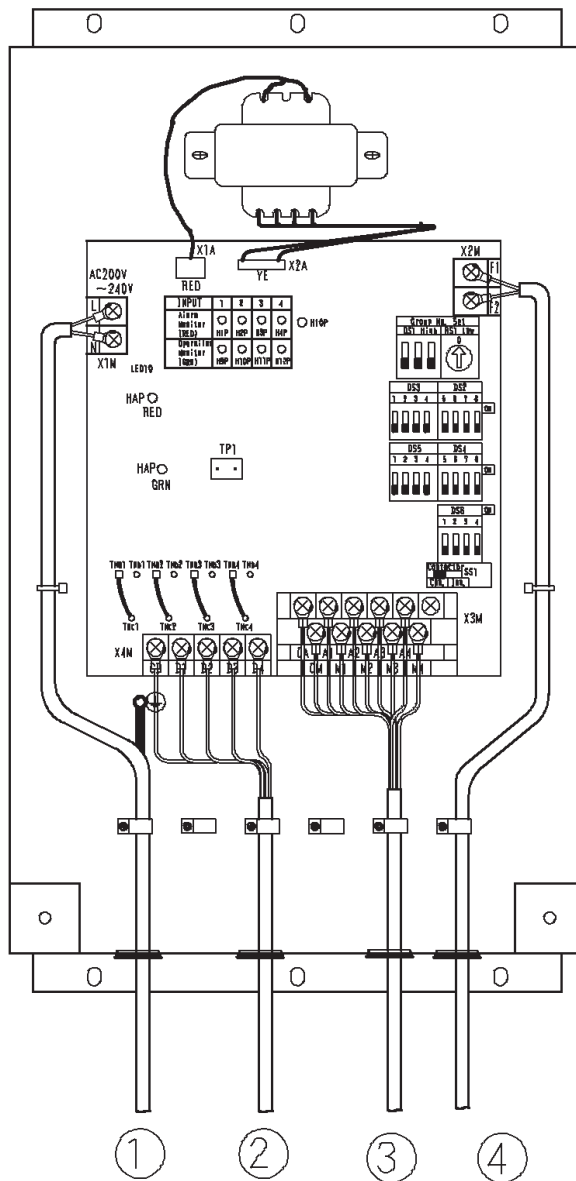


Dio Unit  
DEC102A51

The figure below shows the printed circuit board built in this equipment.



## Wiring Lead-In



No simultaneous clamping is allowed for high-voltage wiring <power supply wiring (L/N), earth wiring, relay output wiring (CD, D1 to 4)>, low-voltage wiring <communication wiring (F1/F2), operation input wiring (CM, M1 to 4) and abnormal input wiring (CA, A1 to 4)> since malfunctioning may result. Also, in case where the wirings described above are routed in parallel, be sure to connect the wirings at least 50 mm apart from the other.

- ① To 1  $\phi$  200 - 240 V and earth
- ② To facility equipment
- ③ To facility equipment
- ④ To terminals F1, F2 of the centralized control equipment or terminals F1, F2 of other equipment (outdoor unit, DEC101A51, 102A51)

## Specifications

		Dio board
Input contacts		8 points. 4 pairs based on a pair of On/Off input and abnormality input
		* Contact information(On/Off, Abnormality ) is transmitted to intelligent Manager III through DIII-Net communication.
Output contacts		4 points. In case of normally output, 4 units are controllable. In case of instantaneous output, 2 units are controllable.
		* From intelligent Touch Controller / intelligent Manager III, On/Off and control of the equipment with the external contacts are possible through DIII-NET communication.
Installation method		Indoor installation
Power supply		To be supplied from outside
Rating		AC200-240V, 50/60Hz
Applied Standard		Safety standard: IEC730, EMC standard: CISPR22-A (EMI), CISPR24 (EMS)
Environment for use	Ambient temperature	-15 to 60 °C
	Ambient humidity	95%RH or less (no condensation)
Environment for storage	Ambient temperature	-20 to 60 °C
	Ambient humidity	95%RH or less (no condensation)

Output specs: Voltage free 'a' contact

Voltage specs	Maximum current	Minimum current
AC200-240V	1.5 A (resistance load)	10mA
DC5-24V	2.0 A (resistance load)	10mA

Input specs: Voltage free 'a' contact

Micro current load contact input (DC12V, 1 mA or less)

Wiring length: 150 m

## 5.8 Ai Unit (DAM101A51)

### Descriptions

Connecting and clamping the wiring (Be sure not to force screws. This may break them.)

Names and functions of each part

DⅢ-NET Communication Terminal block (X2M) (Terminal size M3) Always use round pressure terminals for wiring. (No polarity)

Multi-purpose connector (X2A) See 2-3 for wiring method. (With polarity)

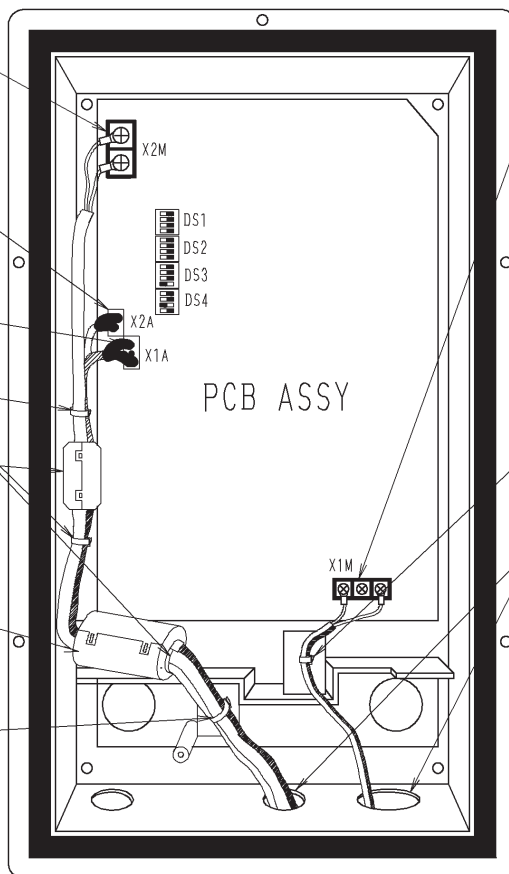
Outside air thermistor connector (X1A) (Use the included thermistor.)

Secure using the included clamping material.

Only secure the DⅢ-NET communication line using the included ferrite core (small).

Secure the DⅢ-NET communication line, outdoor temperature thermistor, and multi-purpose sensor lines using the included ferrite core.

Secure the DⅢ-NET communication line, outdoor temperature thermistor, and multi-purpose sensor lines using the included clamp material with snaps.



Power supply AC 200-240V Terminal block (X1M) (Terminal size M3) Do not connect anything to the middle of the three terminals. Always use round pressure terminals.

Secure the power line using the included clamping material with snaps.

1. Knock this part from outside the case using a screwdriver handle.
2. Attach the included hole bushing to the knocked out hole. There are large and small hole bushings, so choose one that is the right size.
3. As shown in the figure above, pull the power wiring through the right hole and the other wiring through the left hole.

#### 2-3. How to connect the multi-purpose sensors and settings

Other than the supplied outdoor temperature sensor, it is also possible to connect other brand multi-purpose sensors to the device.

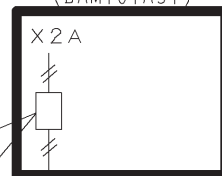
This section describes the wiring when connecting the multi-purpose sensors. (If you are not using the multi-purpose sensors, do not perform the wiring connection to connector X2A.)

Use sensors with an output of DC 0~5V. Wire as shown in the diagram. (The sensors and extension wiring should be procured locally.)

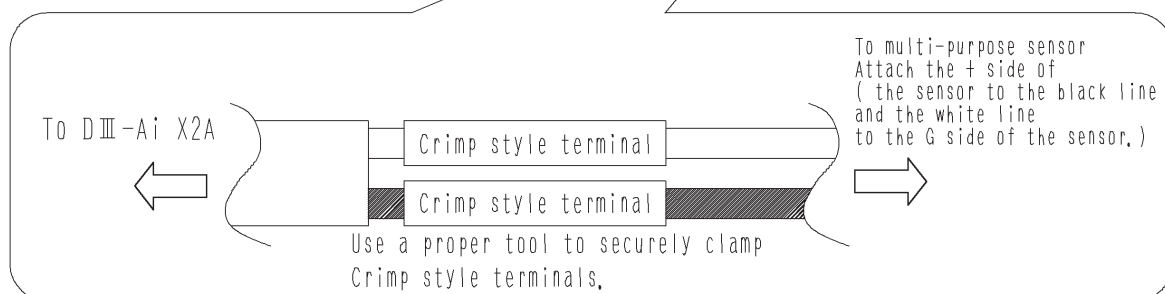
An extension harness is required as the included harness is only 10cm long. Pressure tools are needed when extending the harness.

When connecting multi-purpose sensors, it will be necessary to cut the jumper line in the printed board assembly in the device and change the dipswitch settings. (See ② and ③ in 2-5 for settings.)

DⅢ-Ai (DAM101A51)



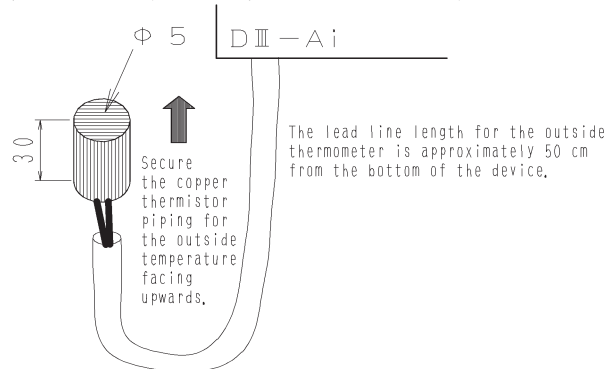
Multi-purpose sensor (DC0~5V)



## 2-4. Attaching the outside temperature sensor

Securing the sensor

Always secure the sensor downwards as shown in the diagram. Install in a well-ventilated location where the unit will not be subject to direct rain or sunlight. (If the unit receives direct sunlight, it might detect a temperature higher than the actual temperature.)

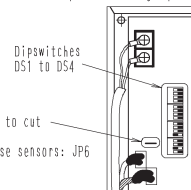


## 2-5. Setting the dipswitches and cutting the jumper line

Meaning of each dipswitch and jumper line

Number	Meaning
DS1	DIII-NET Communication address last digit
DS2	DIII-NET Communication address first digit
DS3	Enabling and disabling the sensor
DS4	Switching sensor uses
JP6	When using multi-purpose sensors, cut the main jumper line.

Dipswitch and jumper location



## ① DS1 and DS2 (DIII-NET communication address) settings

Setting DS1 and DS2\* sets the DIII-NET communication address.

Set the DIII-NET communication address between 1-00 and 4-15.

Normally only one address is used per unit. The factory default is 1-00.

However, when using the settings below in ② to use multi-purpose sensors, two addresses are used per unit. (For example, if the address is set to 2-10 using the DS1 and DS2 settings, 2-10 and 2-11 are thereby used and cannot be set on other AC units.)

If the setting is for using the multi-purpose sensors, do not set DS1 and DS2 to 4-15. The multi-purpose sensor detection data cannot be properly monitored by I-Manager.)

Dipswitch settings for each address

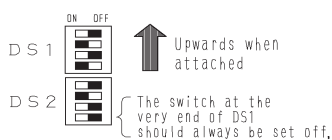
* 2	0 0	0 1	0 2	0 3	...	1 3	1 4	1 5
DS 1								

DIII-NET Address \* 1 — \* 2

Ex: 3-10

* 1	1	2	3	4
DS 2				

The "■" symbol indicates switch knob position.



## ② DS3 and DS4 (sensor-related) settings

DS3 should only have its setting changed if locally-procured sensors are being used.

When using locally procured sensors, set the third switch from the front on.

(The factory default settings are for not using multi-purpose sensors.)

NB: When using multi-purpose sensors, cut the jumper line ③ at the same time as the settings are being done.

There is no need to change the factory default setting for DS4.

DS 3		It should always be OFF.
		It should always be ON.
		When using multi-purpose sensors it should always be ON.
DS 4		It should always be OFF.
		It should always be ON.
		It should always be OFF.
		It should always be ON.

The "■" symbol indicates switch knob position.

The following settings should be done for the factory default DS1 to DS4 settings.

DS 1		Set to address 1-00
DS 2		
DS 3		OFF (Set not to use multi-purpose sensors.)
DS 4		OFF

The "■" symbol indicates switch knob position.

## ③ Cutting JP6

When using multi-purpose sensors, cut jumper JP6 on the printed board using nippers, etc.

\*: When using multi-purpose sensors, set DS3 at the same time as these settings are being done.

\*: Be sure to get rid of line cuttings when cutting the jumper. Failing to remove them may cause the printed board to malfunction.

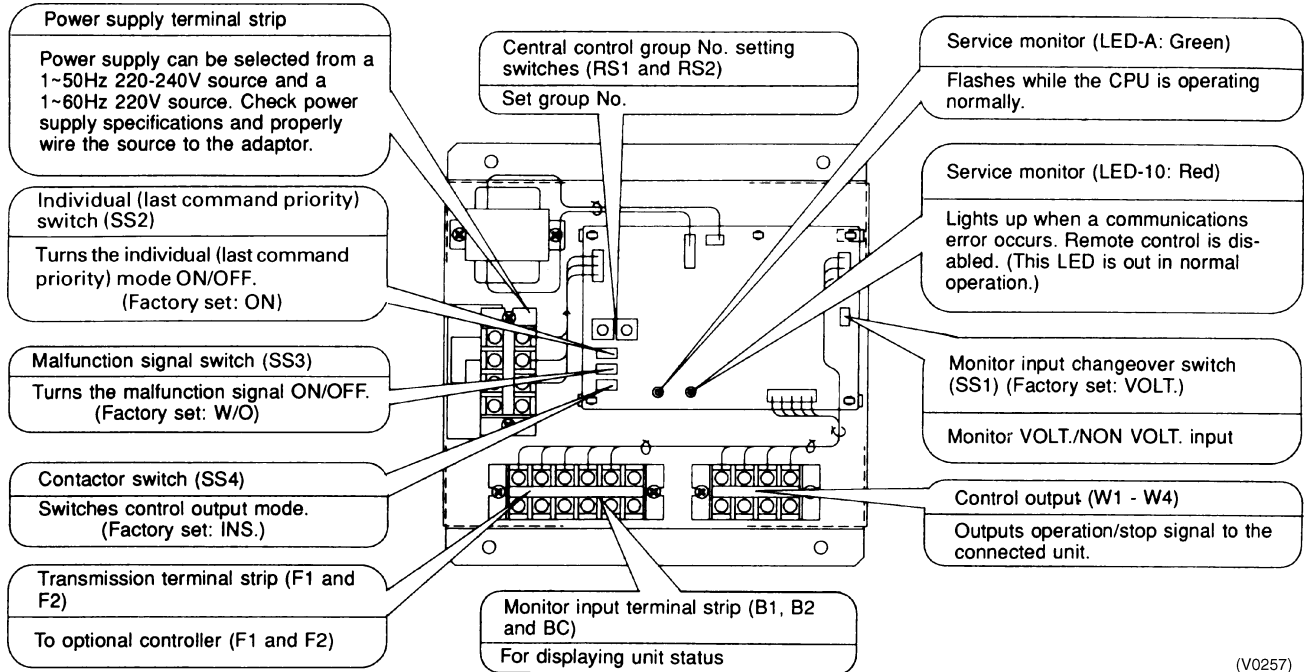
2-6. Once all settings are complete, Replace the removed cover in 2-1 using the screws.

## 5.9 <DTA103A51> Wiring Adaptor for Other Air Conditioners

### 5.9.1 Function

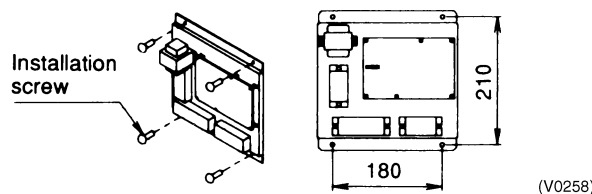
This kit contains an I/O interface adaptor for optional controller for centralized control, used when there is a non-connectable air conditioner. When connected to the central control line, this adaptor enables operation/stop and display of operation/error monitors from the optional controller.

### 5.9.2 Names of Parts and Function



### 5.9.3 Installation

Securely install the adaptor with the attached installation screw.



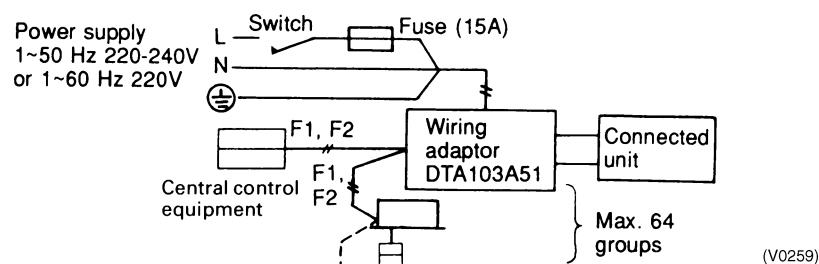
**Note:**

Install the adaptor inside a control box of outer dimensions: 230W × 230D × 60H.

Supply a control box at site with outer dimensions equal to or larger than those shown below. 230W × 230D × 60H.

### 5.9.4 Electric Wiring Work <Wiring Requirements>

1. Wire between the adaptor and central control equipment (F1, F2)
2. Wire to the connected units and set all switches. ... For details, refer to WIRING TO CONNECTED UNITS.
3. Wire to the power supply. ... For details, refer to POWER SUPPLY WIRING.



## <General Instructions>

- All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
- Use copper conductors only.
- All field wiring and components must be provided by licensed electrician.
- Unit shall be grounded in compliance with the applicable local and national codes.
- Fit the power supply wiring with a fuse and a switch.
- After wiring work, check power to the equipment shuts OFF when the switch is shut OFF.

## <Wiring Specification>

	Type	Size
Power Supply Wiring	H05VV-U3G	(Note 1)
Transmission Wiring	(Note 2)	0.75 - 1.25 mm <sup>2</sup>

### Note:

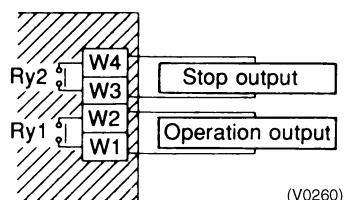
1. Select the size in electric wire in accordance with the local and national standards.
2. You can use the shielded wire, sheathed vinyl cord or cable (2 conductors). See the installation manual of the optional controllers for centralized control to be connected for further details.

## <Wiring to Connected Units>

### Control Output

Terminals W1 - W4 are non voltage contacts used in normal operation to output operation display (W1 and W2) and error display (W3 and W4) signals.

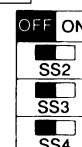
Ry1 and Ry2 Contact Specifications		
Voltage	Max. current	Min. Current
1~50Hz 220-240V 1~60Hz 220V	2A	1mA
… 5-24V	3A	1mA



### Setting by switch ON/OFF

	SETTING	OFF	ON
SS2	INDIVIDUAL (last command priority)	ON	OFF
SS3	MAL. SIGNAL	W/O	W
SS4	CONTACTOR	INS.	CON.

The figure on the right shows the factory set switch positions.



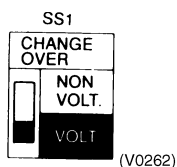
(V0261)

Output modes include instantaneous output and constant output. Mode is changed at the contactor switch (SS4). (Factory set: INS)

C : 2PA53853

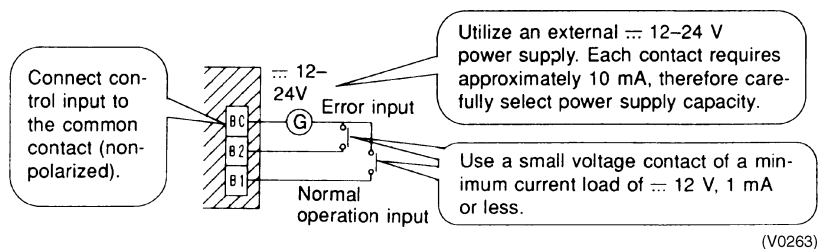
## Monitor Input

Wire as explained here following, depending on whether input carries a voltage (VOLT.) or not (NON VOLT.). Make the VOLT/NON VOLT. setting at the monitor input changeover switch (SS1).



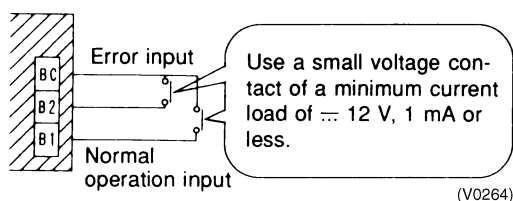
(For Voltage Charged Input)

Set the monitor input changeover switch to VOLT. (Factory set: VOLT.)



(For Non Voltage Input)

Set the monitor input changeover switch to NON VOLT. (Factory set: VOLT.)



- ① Switch the malfunction signal switch (SS3) according to needs (Factory set: W/O [OFF]). Set the switch to W (ON) to display errors even if no operation feedback from the indoor unit is available, for example, when power to the indoor unit is OFF. Together, set the individual switch (SS2) to OFF (ON).

### Note:

- This switch is ineffective when SS2 is set to ON (OFF).
- The optional controller display will change, as shown on the right, depending on the monitor input state and the malfunction signal switch (SS3) setting.
- After switching the optional controller from stop to operation, it will take from 10 to 30 seconds before the optional controller display will indicate an error.

(SS3) Malfunction Signal	Optional Controller Display at Command Output		
	Monitor Input State		
	Operation Input ON	Operation Input OFF	Error Input ON
W	Operation Display	Error (A1 Display)	Error (A1 Display)
W/O		Operation Display	

2PA53853

- ② Set the group No. at the central control group No. setting switches (RS1 and RS2). Refer to the below table to set group No. Group No. increases in the order of 1-00, 1-01 ... 1-15, 2-00, ... 4-15. Refer to the installation manual of the optional controller.

RS1 Switch Setting and Upper Group No. Position

Position	0	1	2	3	4	5	6	7	8	9
Group No.	—	1	2	3	4	—	—	—	—	—

RS2 Switch Setting and Lower Group No. Position

Position	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Group No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15

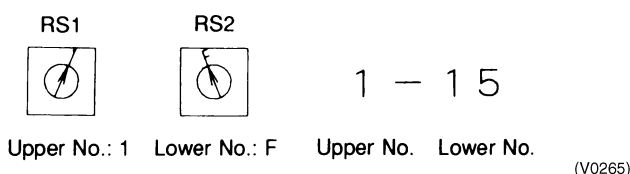
### Make Settings before Turning ON The Power.

#### Note:

Group number need not be set on this adaptor during individual use with either a wiring adaptor for electrical appendices or a schedule timer. Setting is automatic.

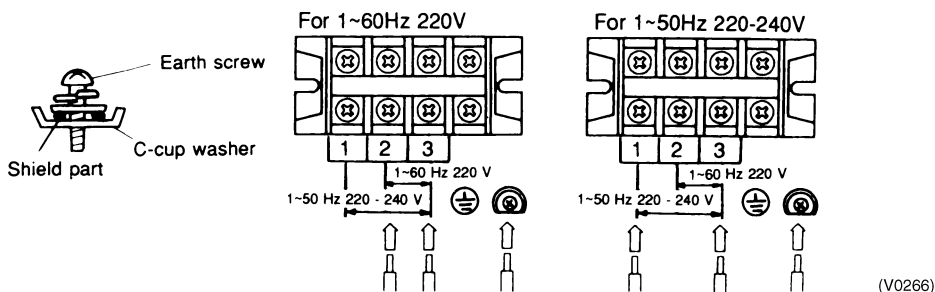
Ex. Setting group No. 1-15

First and second group No.s are indicated as below.



## Power Supply Wiring

Power supply can be selected from a 1~50 Hz 220-240V source and a 1~60 Hz 220V source. Check power supply specifications and properly wire the source to the adaptor.



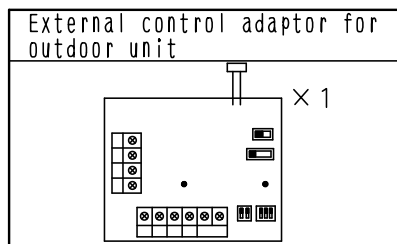
#### Note:

- Ground wires as shown in the figure on the right.
- The adaptor may malfunction or be damaged if improperly wired.
- The fuse is designed for short-circuit protection (Overcurrent protection). Therefore, it may not offer sufficient protection against improper voltage.

2PA53853

## 5.10 <DTA104A61 / DTA104A62 / DTA104A53> External Control Adaptor for Outdoor Unit (Must be Installed on Indoor Units)

**Accessories** Check the following accessories are included in the kit before the installation.



PC board support	× 4
Clamp	× 3
Installation manual	× 8

- NOTES**
- The kit type (DTA104A61 • 51 type, DTA104A62 • 52 type, DTA104A53 type) varies according to air conditioner model.
  - The installation box for adaptor PCB are required with the following air conditioner models.
 

FXC(Q), FXYCP .....	KRP1B96
FXF(Q) .....	KRP1D98
FXH(Q), FXYHP .....	KRP1C93
FXA(Q) .....	KRP4A93
FXD(Q) .....	KRP1B101

### 1 General description of system

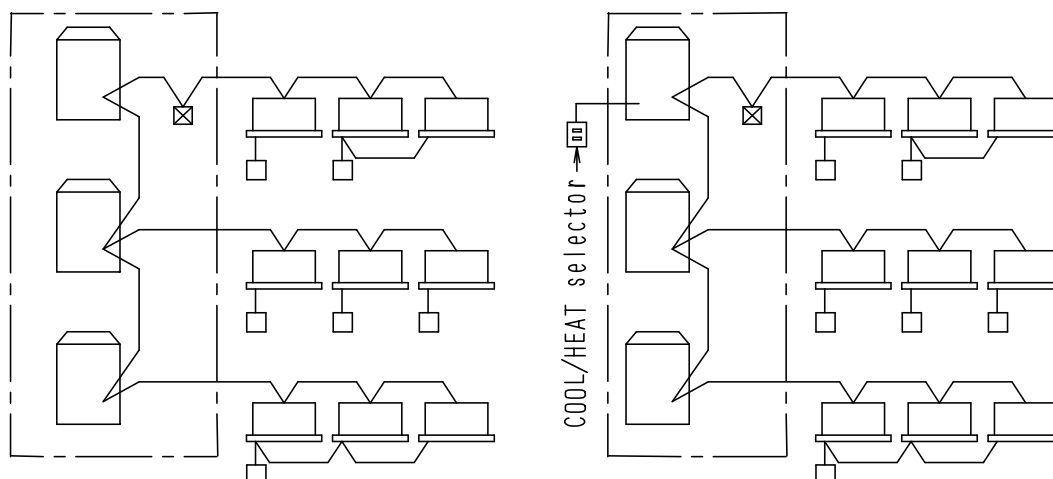
With the external control adaptor, outdoor units are controlled as follows.

1. Operation mode (COOL/HEAT/FAN) is switched simultaneously for more than one outdoor unit.

- If switching operation mode by indoor unit remote controller or COOL/HEAT selector.
- Except RSEY(P)~KJ

☒ External control adaptor for outdoor unit

□ Indoor unit remote controller

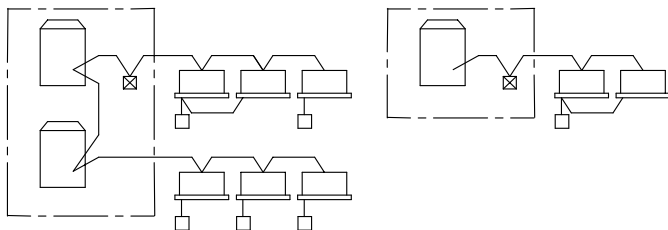


You can simultaneously switch operation mode for outdoor units in [ ] .

C : 1PA63164D

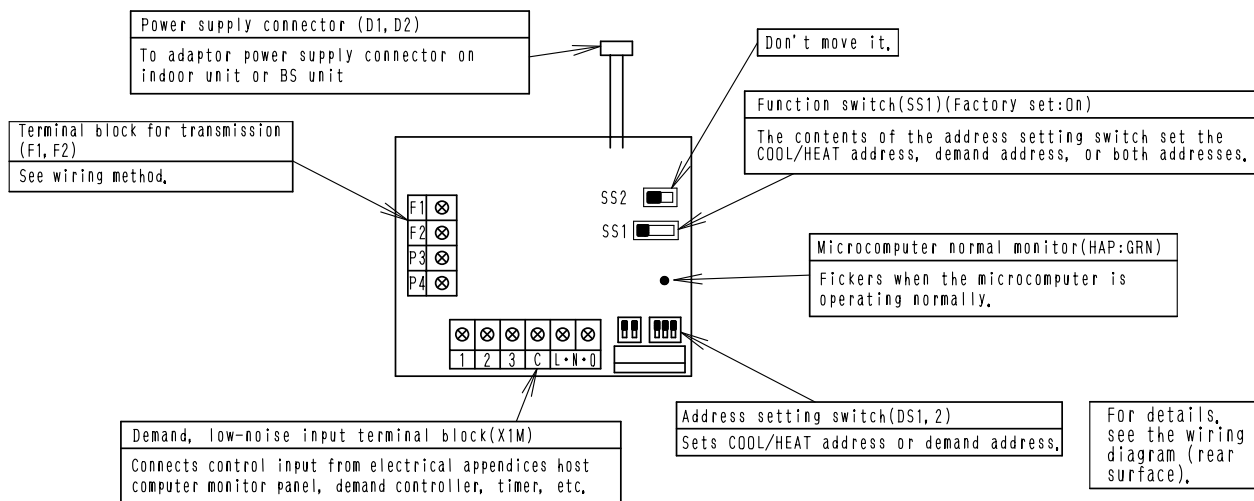
2. Demand control and low-noise control are executed simultaneously for more than one outdoor unit,

- Except RSEY(P)~KJ



Demand control and low-noise control are executed simultaneously for outdoor units in [ ]

## 2 Names of parts and functions

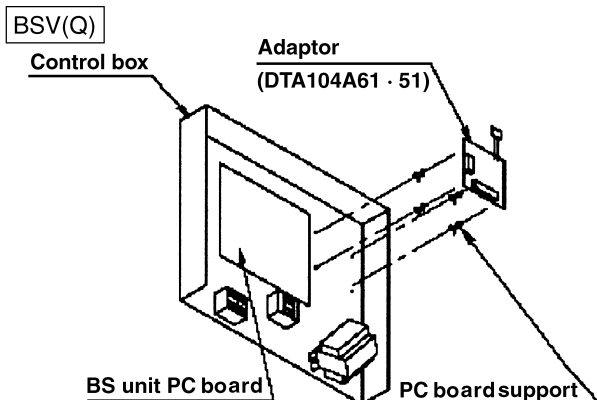


C: 1PA63164D

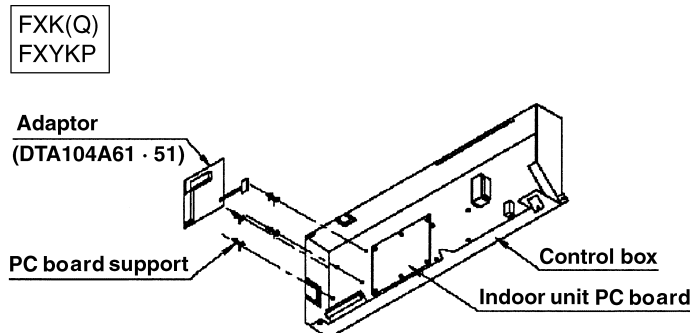
## 3 Installation

- Install the adaptor inside the control box of indoor unit of same refrigerant circuit.
- If installing on a BS unit, install the adaptor inside the control box of the BS unit.

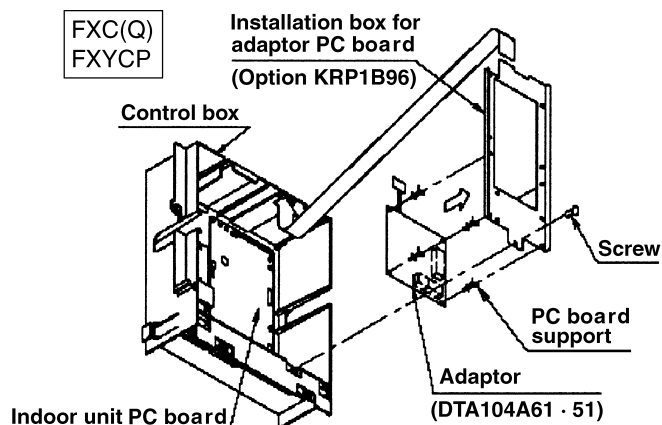
### BS Unit



### Ceiling Mounted Cassette Corner Type

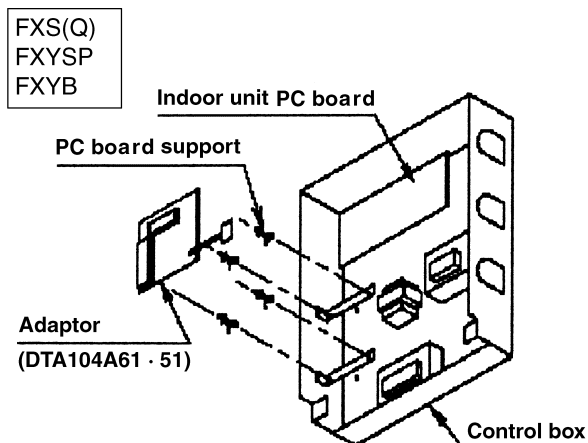


## Ceiling Mounted Cassette Type (Double-Flow)

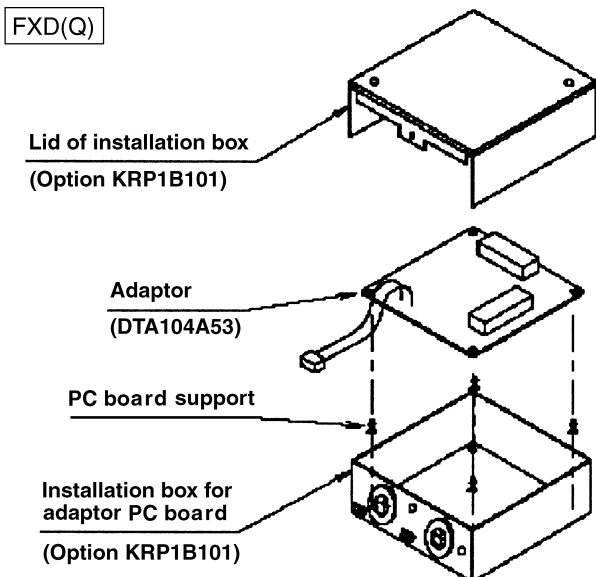


NOTE : Installation box for adaptor PC board is required to install the adaptor.

## Ceiling Mounted Built-In Type

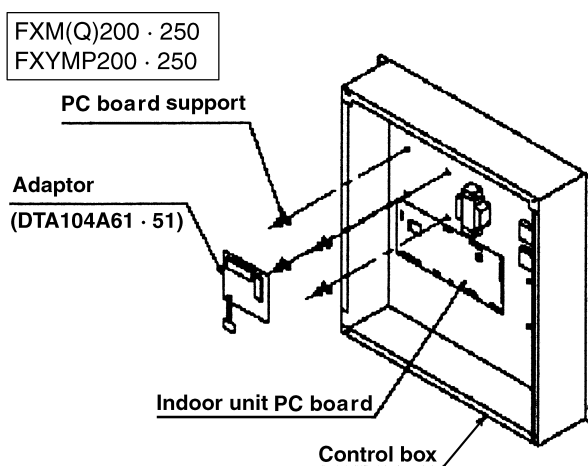
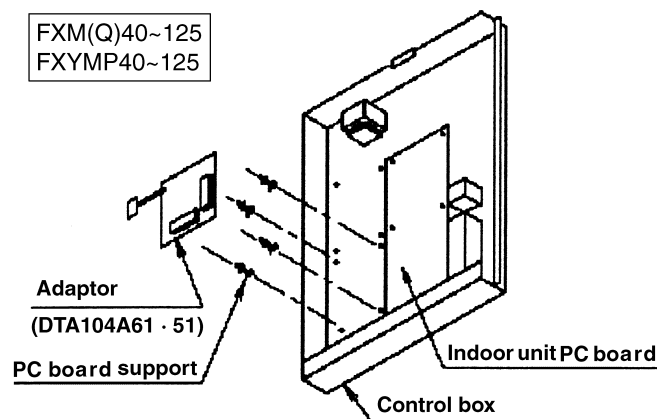


## Slim Ceiling Mounted Duct Type



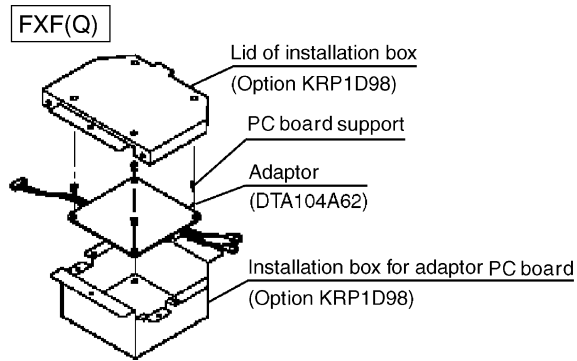
NOTE : Installation box for adaptor PC board is required to install the adaptor.

## Ceiling Mounted Duct Type



C : 1PA63164D

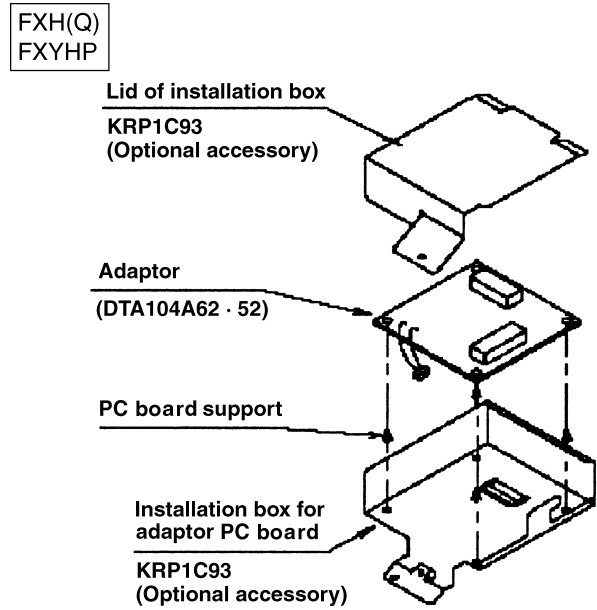
### Ceiling Mounted Cassette Type (Multi-Flow)



**Note:**

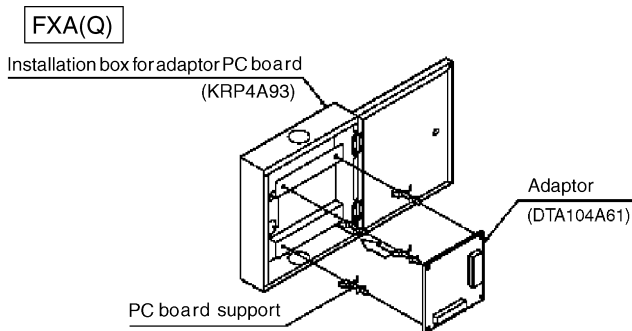
Installation box for adaptor PC board is required to install the adaptor.

### Ceiling Suspended Type

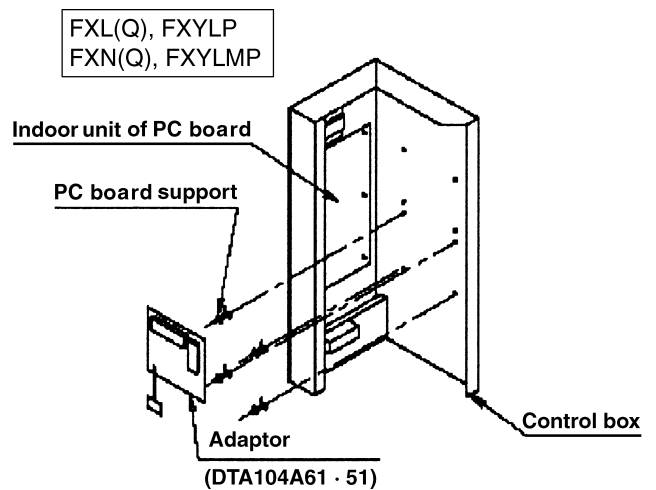


NOTE : Installation box for adaptor PC board is required to install the adaptor.

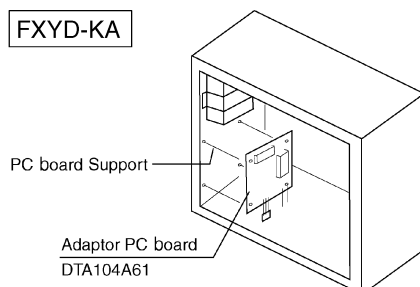
### Wall Mounted Type



### Floor Standing Type



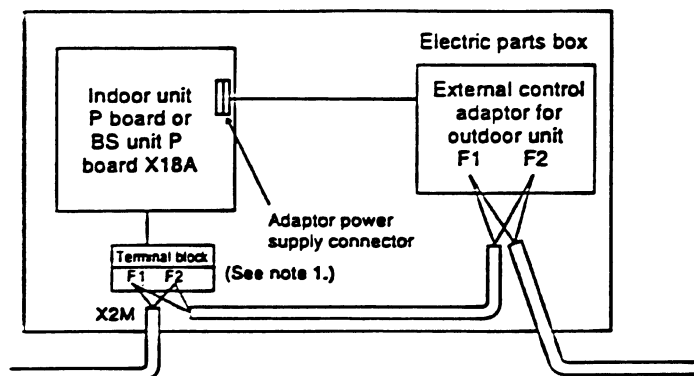
### Ceiling Mounted Duct Type



C : 1PA63164D

## 4 Electrical wiring

- ① Connect the power supply wiring from the adaptor to the adaptor power supply connector on the PCB of the Indoor unit or BS unit.
- ② Connect the transmission wiring to the various terminal blocks, and to the F1 and F2 terminals on the PCB. (Use double-core wiring with no polarity.)
- ③ Using the attached wiring ties, clamp the transmission wiring to weak field wiring, etc.



Note 1: If mounting on a BS unit, connect the BS unit's terminal block (F1 and F2, indoor unit side) with F1 and F2 of the adaptor.

### NOTES

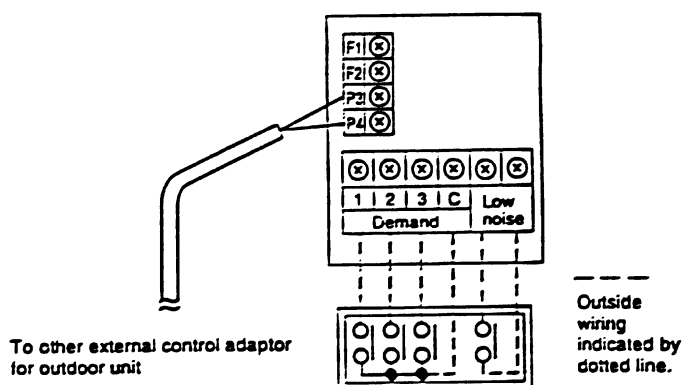
- (Transmission wiring specifications)

Sheathed wire  
(2 wire)  
0.75 - 1.25 mm<sup>2</sup>

- (Transmission wiring length)

Malfunction of transmission may occur if the following limits are exceeded.  
(Total wiring length: Max. 1000 m)  
(No. of branches: Max. 16)

- ④ If carrying out demand or low-noise input, connect the adaptor's terminals as shown below.



Host computer monitor panel or demand controller

(V0272)

**[Input signal]**

Constant a contact

Input current is approx. 10 mA per contact.

For the relay contact, use a weak current contact.

**[Outside wiring specifications]**

Recommended wiring: 0.75-2 mm<sup>2</sup> sheathed wire

Wiring length: Within 150 m

Keep a minimum 50 mm from power supply wiring to prevent malfunction.

**Demand input terminal**

Short circuit between (Demand 1) - (C)...As a guideline, demand should be about 70%.

Short circuit between (Demand 2) - (C)...As a guideline, demand should be about 40%.

Short circuit between (Demand 3) - (C)...Forced thermo OFF

**Low-noise input terminal**

When terminals are short-circuited during cooling, capacity save (outdoor unit fan low-speed turn, compressor frequency control) is carried out.

use only at night when load is slight.

**How to set demand control in the field**

1. Outdoor unit field setting

- Setting mode 1...Turn ON low noise control as explained in the outdoor unit's service manual.
- Setting mode 2...Match low noise and demand addresses to the external control adaptor address.

2. External control adaptor settings

■ Function switch (SS1)

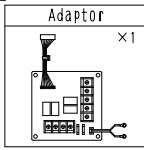
Set SS1 to either "BOTH" or "DE".

■ Address setting switch (DS1,DS2)

Match DS1 and DS2 to the low noise and demand addresses of the outdoor unit.

## 5.11 <KRP1B61 / KRP1B56 / KRP1B59> Adaptor for Wiring

**Accessories** Check if the following accessories are included in the kit.

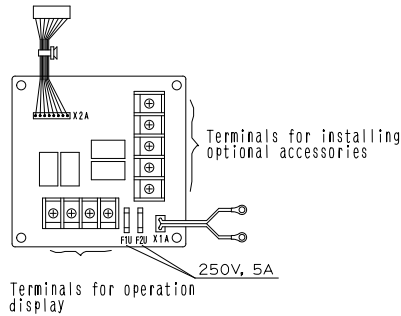


PC board support	×4
Clamp	×3
Installation manual	×1

**Notes**

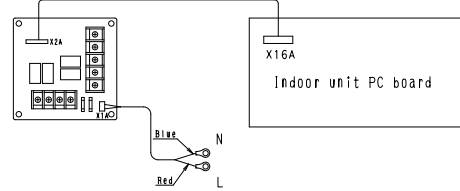
- Kits vary according to applicable models.
- A special adaptor fixing plate and box are required for the following models.  
FXCQ, FXYC, FXYCP . . . . KRP1B96  
FXYP . . . . . KRP1C98

### 1 NAMES OF PARTS



### 2 ELECTRIC WIRING

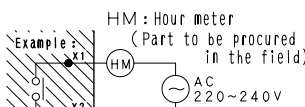
- Refer to the WIRING DIAGRAM attached to the indoor unit before attempting to wire.  
(Make sure wires to units do not pass over the PC board when wiring.)
- Wire the adaptor to the indoor unit as shown below.



#### ① Fetching the operation display signal

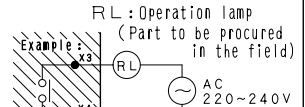
- Attaching an hour meter

Output is generated at the contact while the compressor is running.



- Fan ON display

Output is generated at the contact while the fan is running.



#### ② If optional accessories are installed (auxiliary electric heater, humidifier)

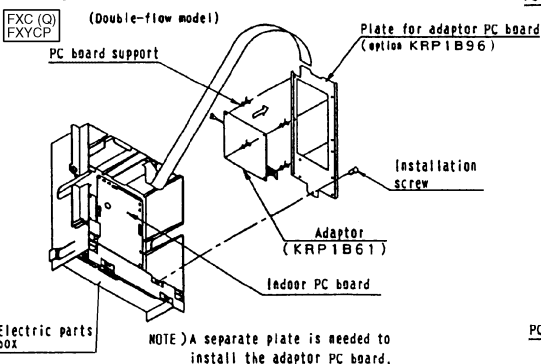
- Wire correctly in accordance with the attached installation manual.
- Refer to the wiring diagram applied to the indoor unit when running electric wiring.

### 3 INSTALLATION

- Installation differs according to models as shown below.
- Do not bundle low and high voltage wires together.
- Bundle any excess wires with the attached clamps so as to keep loose wirings off the indoor unit PC board.

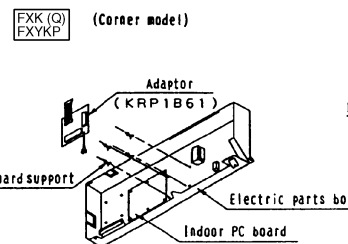
#### <Ceiling mounted cassette type>

FXC (Q)  
FXYCP



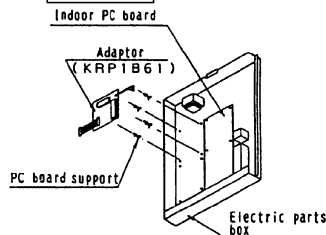
#### <Ceiling mounted cassette type>

FXK (Q)  
FXYP



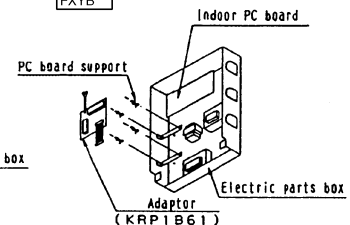
#### <Ceiling mounted duct type>

FXM (Q) 40-125  
FXYP40-125



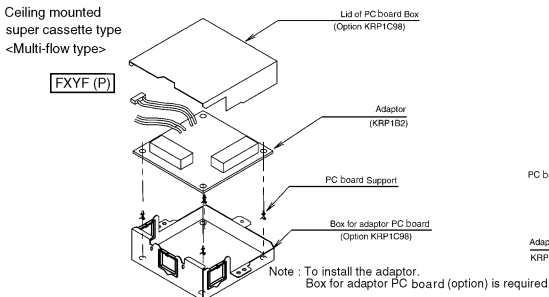
#### <Ceiling mounted built-in type>

FXS (Q)  
FXYP  
FXYP



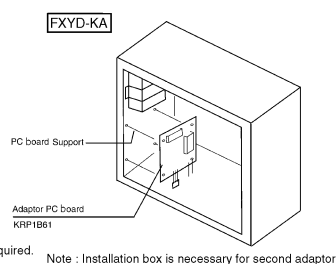
#### Ceiling mounted super cassette type <Multi-flow type>

FXYP (P)



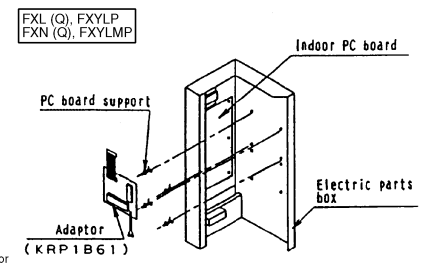
#### <<Ceiling-mounted low silhouette duct type>>

FXYP-KA



#### <Floor-standing type>

FXL (Q), FXYLP  
FXN (Q), FXYLP



## Adaptor for wiring installation manual

KRP1B51·54·56·57·59 KRP1BA54·57·59

### Accessories

Check if the following accessories are included in the kit.

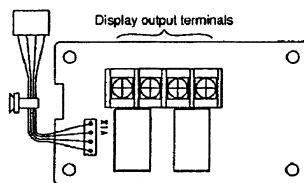
Adaptor x 1	PCB support x 4
	Clamp x 3
	Installation manual x 1

### NOTE

- Kits vary according to applicable models.
- A special adaptor fixing plate and box are required for the following models.
 

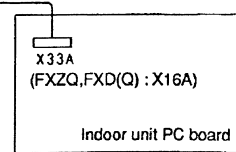
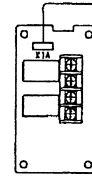
FHYCP-D, FXF(Q)	KRP1D98 · KRP1DA98
FH(Y)C(P)-B	KRP1C98 · KRP1CA98
FH(Y)C-K	KRP1B98
FH(Y)(P), FHQ, FXHQ	KRP1C93 · KRP1CA93
FV(Y)	KRP4A95
FFQ, FXZQ, FXD(Q)	KRP1B101 · KRP1BA101

## 1 NAMES OF PARTS



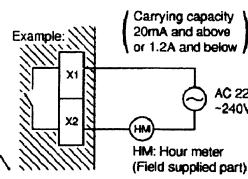
## 2 ELECTRIC WIRING

- Refer to the WIRING DIAGRAM attached to the indoor unit before attempting to wire. [Make sure wires to units do not pass over the PC board when wiring]
- Wire the adaptor to the indoor unit as described below.



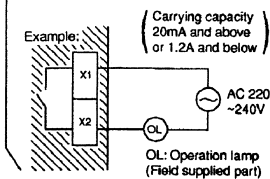
- Fetching the operation display signal
- Attaching an hour meter

Output is generated at the contact while the compressor is running.



- Fan ON display

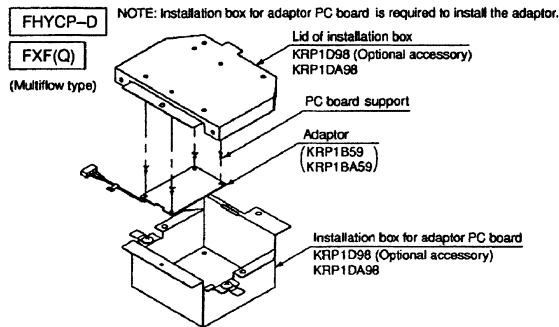
Output is generated at the contact while the fan is running.



## 3 INSTALLATION

- Installation differs according to models as shown below. Do not bundle low and high voltage wires together.
- Bundle any excess wires with the attached tie wraps so as to keep loose wirings off the indoor unit PC board.

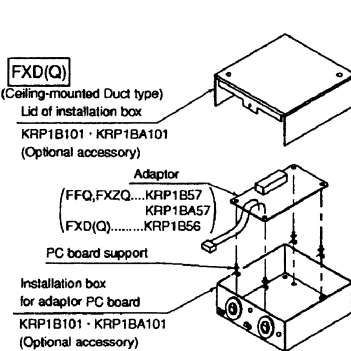
### « Ceiling-mounted cassette type »



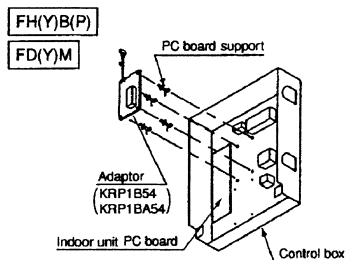
### « Ceiling-mounted cassette type »

#### « Ceiling-mounted Duct type »

- NOTE: Installation box for adaptor PC board is required to install the adaptor.

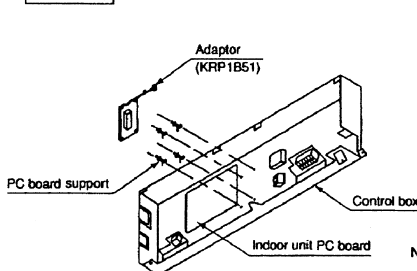


### « Ceiling-mounted built-in type » « Duct type »

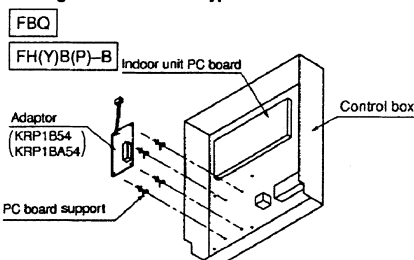


### « Ceiling-mounted cassette type »

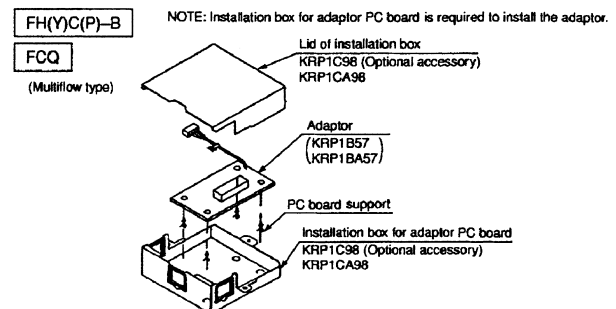
- NOTE: Installation box for adaptor PC board is required to install the adaptor.



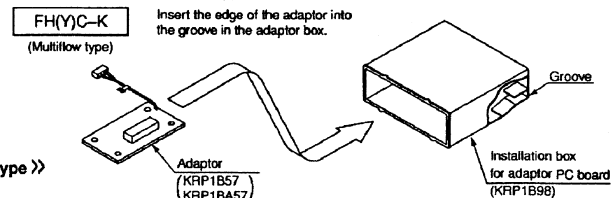
### « Ceiling-mounted built-in type »



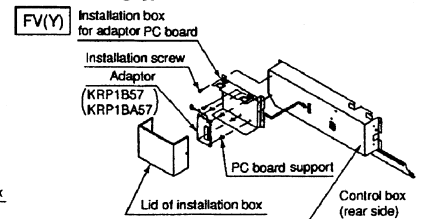
### « Ceiling-mounted cassette type »



### « Ceiling-mounted cassette type »

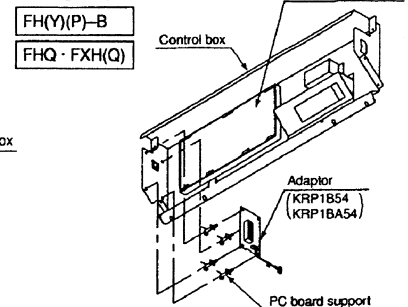


### « Floor-standing type »



- NOTE: Installation box for adaptor PC board is required to install the adaptor.

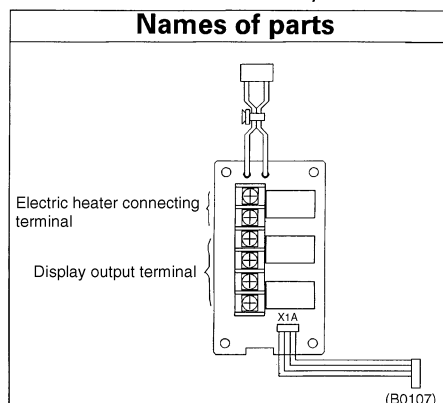
### « Ceiling suspended type »



## 5.12 <KRP1C3> Adaptor for Wiring

### 1. Contents of kit

Prior to installation check whether you have the complete kit of parts as shown below including the installation manual.

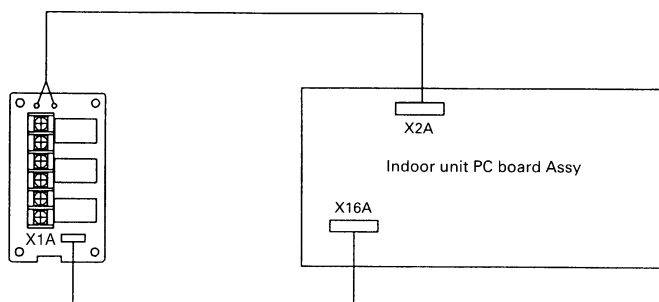


Plastic strap	3 pieces
Installation manual	1 piece
PC board Support *	4 piece

\* for Ceiling Suspended Type

### 2. Electrical wiring

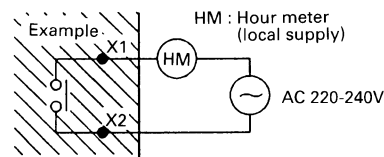
- Refer to the wiring diagram of the indoor unit for its wiring connection. (Make sure all the wiring to the unit should not go over the PC board.)
- Connect the wiring to the indoor unit as shown below.



① To detect the operation display signal

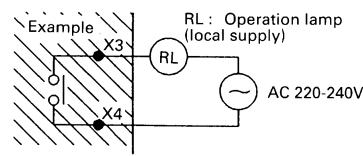
- Installation of the watt-hour meter

Output signal to detect the operation of the compressor



- The fan display signal

Output signal to detect the operation of the fan



② In case the electric heater is installed

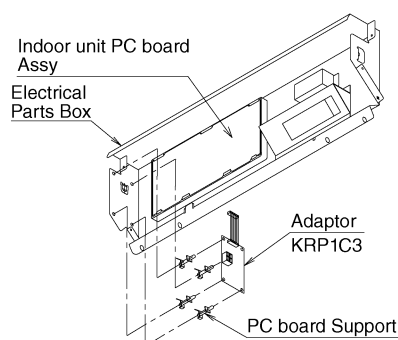
- Connect the wiring properly according to the installation manual included in the kit.
- Refer to the wiring diagram of the indoor unit for its wiring connection.

### 3. Installation

- Never bundle high and low voltage wiring together.
- Be sure to bundle the excess wiring with the attached plastic strap so as to keep the loose wiring off the indoor unit PC board.

< Ceiling Suspended Type >

FXH(Q)



(V2443)

JC : 2PA58148A

## 5.13 <KRCS01-1> Remote Sensor

The built-in temperature control thermistor of the indoor unit is mounted in the intake port of the main body. Some difference can occur between the temperature setting of the built-in thermistor and the actual indoor temperature. In such case, remove the thermistor from the indoor unit and remount it near the living area so that the remote sensor can sense the temperature of the living area.

### Models for remote sensor application

This kit can be used for all indoor units in the Skyair series and the VRV series.

Examples:

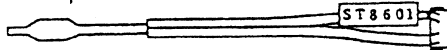
Skyair: FHYC

VRV: FXYC

If you are unsure if this kit can be used with your particular indoor unit, check the type of thermistor (inlet air temperature sensor).

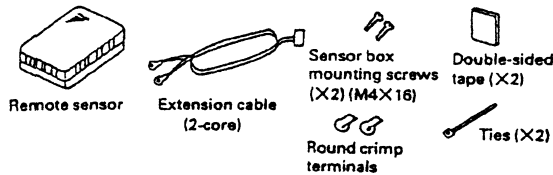
The type of thermistor is ST8601.

It is shaped as shown below.



#### <1> Kit components

This kit includes the following components.



#### <2> Mounting

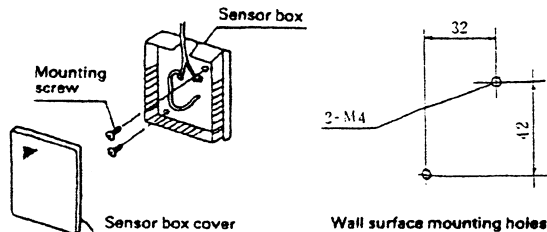
##### i) Selecting the mounting position

The remote sensor incorporates a thermistor to sense the temperature. Select mounting position carefully on the basis of the following considerations.

- ① A location with an average temperature for the room being air conditioned
- ② Out of direct sunlight
- ③ Away from the influence of other heat sources
- ④ Not directly exposed to the outlet air from the air conditioner
- ⑤ Not directly exposed to the air entering the room when a door is opened.

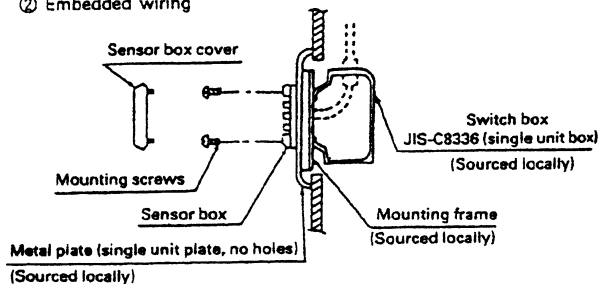
##### ii) Mounting

##### ① Surface mounting

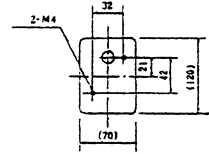


- Break out the wiring hole tabs in the sensor box using nippers or a similar tool.
- Screw the sensor box securely to the wall surface. (2 points)
- Wire to the electronic control unit in the indoor unit by first removing the existing thermistor (inlet air temperature sensor) and connecting the extension cable in its place.  
(The existing thermistor is no longer required.)

##### ② Embedded wiring



- Make sensor box mounting holes in a metal plate (sourced locally) as shown on the right. Screw the sensor box firmly into position.

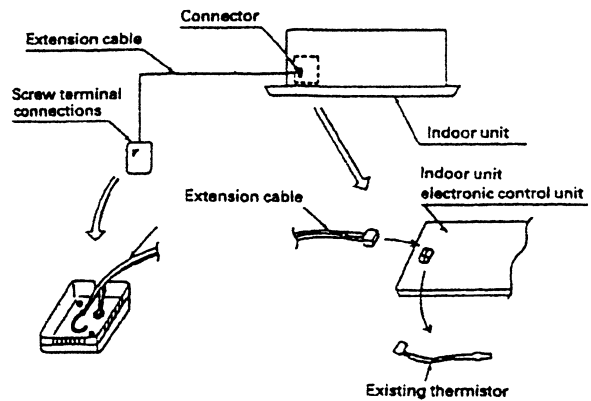


Metal plate holes machined locally

**Warning:** Make sure not to cover the air holes in the sensor box.

#### <3> Wiring guide

Use the extension cable provided to wire from the remote sensor to the electronic control unit in the indoor unit.



- Wire to the electronic control unit in the indoor unit by first removing the existing thermistor (inlet air temperature sensor) and connecting the extension cable in its place.  
(The existing thermistor is no longer required.)
- The position of the thermistor used for sensing the inlet air temperature is different according to the type of indoor unit. Check the wiring diagram for the indoor unit to make sure that you do not accidentally remove the wrong wiring.
- In the indoor unit switchbox, use the same wiring clamps for the extension cable as were used for the existing thermistor.
- If the extension cable is far too long, cut it to the appropriate length, strip the coating and fit the round crimp terminals provided. (Do not cut the cable at the connector end.)
- Push the sensor box cover onto the sensor box.

#### <Cautions for wiring>

#### Removing the sensor box cover



Remove the cover from the sensor box using a flat screwdriver inserted in the slot in the sensor box and the cutout in the upper case.

(Under normal circumstances, do not remove the cover from the sensor box.)

1. Install the extension cable so that it will not be affected by nearby power cables or similar sources of noise.  
(Noise may cause malfunctioning.)
2. Make sure that wiring connections are correct and secure.  
Poor contact at the connections may mean that the room temperature is sensed incorrectly and cause problems.

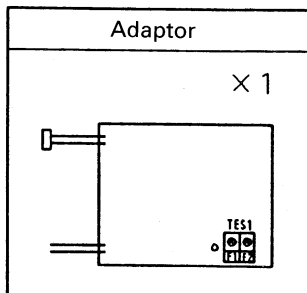
#### <4> Operation test after mounting the sensor

Conduct operation tests of cooling and heating after mounting the sensor and completing the wiring.

## 5.14 <DTA109A51> DIII NET Expander Adaptor

### Accessories

Check the following accessories are included in the kit before the installation



PC board support	× 4
Clamp	× 3
Installation Manual	× 1

### NOTE

This adaptor does not apply to salt damage resistance.

### 1 General description of system

The adaptor allows easy system expansion as long as restrictions are observed.

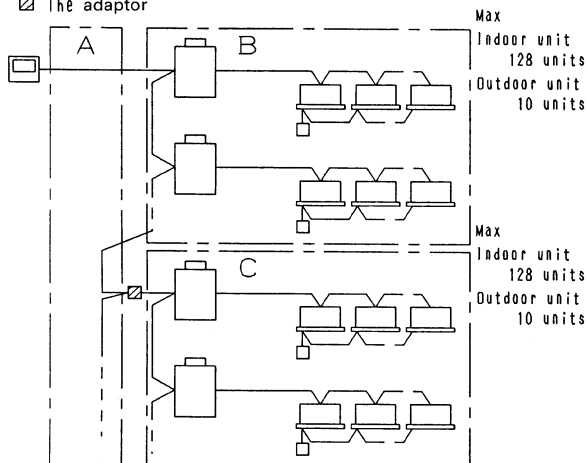
1. The below systems can be controlled on the Super Wiring System when using the adaptor.

(1) Up to 1024 units can be centrally controlled in 64 different groups.

(With 2 central remote controllers, up to 1024 units can be controlled in 128 groups.

Restrictions on the number of units that can be connected to the Super Wiring System apply to each adaptor.

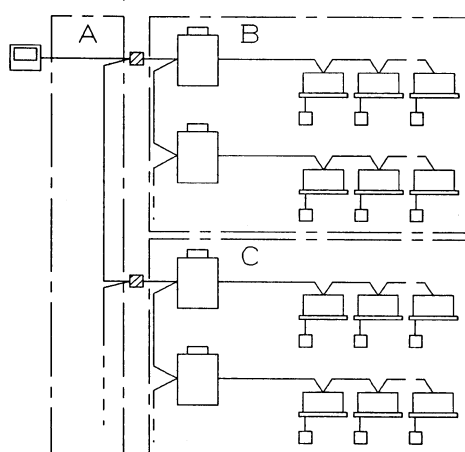
☑ The adaptor



A maximum of 128 indoor units and 10 outdoor units can be connected in each group B and C.

(2) Wiring restrictions (max. length: 1000m, total wiring length: 2000m, max. number of branches: 16) apply to each adaptor.

☑ The adaptor



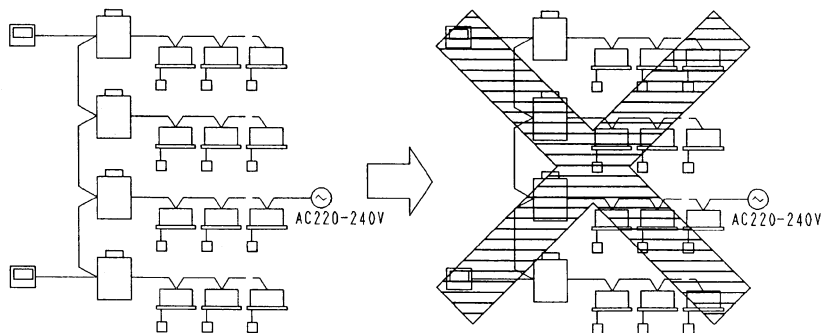
Each group A, B and C can have a maximum wiring length of 1000m, total wiring length of 2000m and a maximum 16 branches.

(V0285)

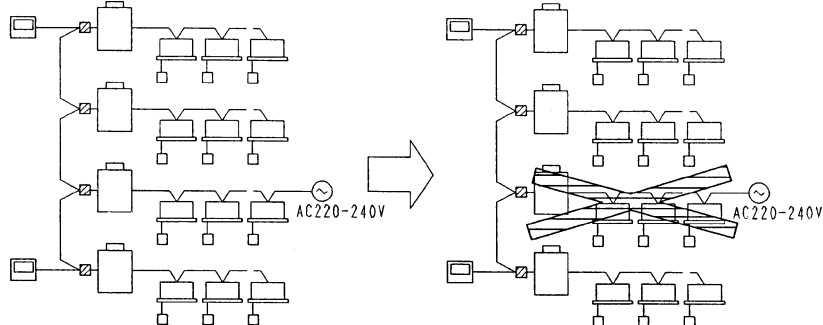
1P013360

(3) Setups risky for centralized control systems are possible.

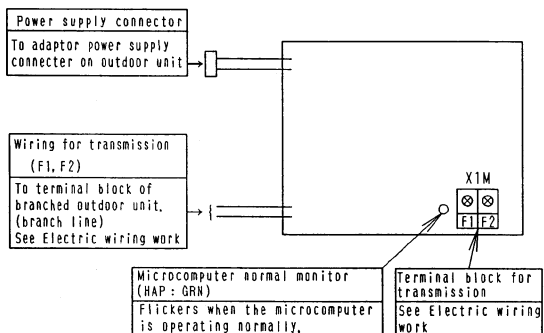
**Conventional System** Misswiring such as apply 220-240V to circuits could possibly shut down the entire system.



**With the adaptor** Should trouble occur, only units below the adaptor are shut down. Thus, it is possible to avoid a total system shutdown.



## 2 Names of parts and functions

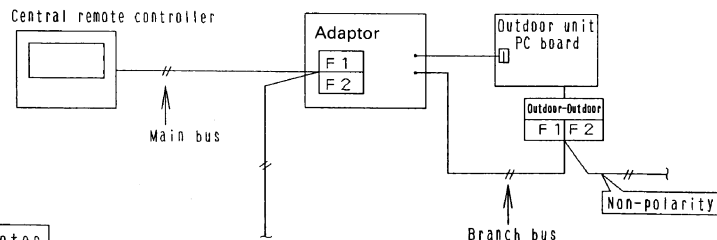


(V0286)

1P013360

### ③ Electric wiring work

- (1) Connect the wire from the adaptor to the adaptor power connector on the outdoor unit's PC board.  
(For connector No.s, see the electric wiring diagrams for the indoor and function units.)
- (2) Connect transmission wires between outdoor units (Outdoor-Outdoor terminal board).
- (3) Wire transmission wires to terminal boards as shown below.

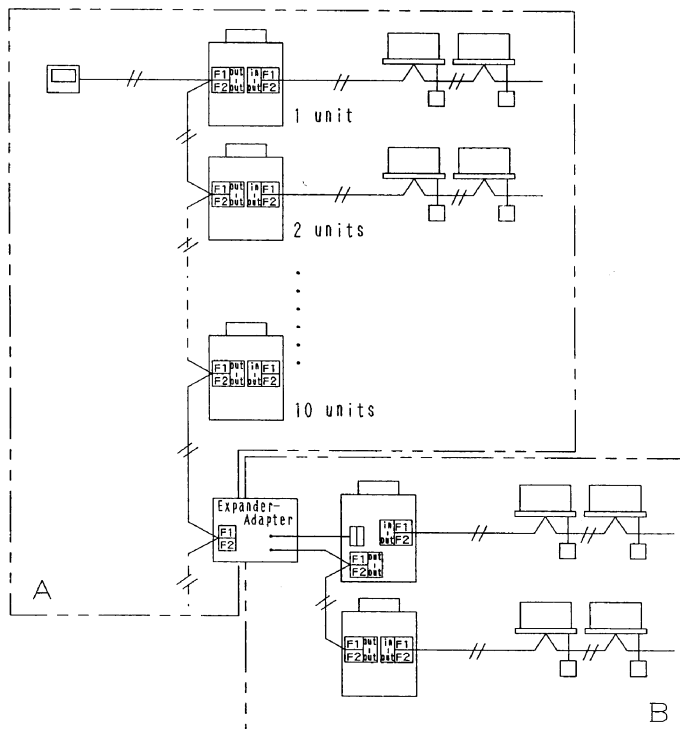


#### Notes

- (Transmission wiring specifications)
- 0.75~1.25mm<sup>2</sup> sheathed wire (2 wire).
- (Transmission wiring length)
- Observe the following limits on transmission wires. The limits apply to each adaptor. If you exceed the limits, it may cause malfunction.
- (Total length: 2000m)  
(Max. length: 1000m)  
(Max. number of branches: 16)
- At least one outdoor unit and one optional controller for centralized control are required for every main bus and branch bus.
  - Up to 8 adaptors can be connected in one system.
  - Do not locate adaptors downstream of other adaptors (i.e. : on a branch bus).
  - If not used with a central control device, the expander adaptor cannot be used with the wiring adaptor for electrical appendices (KRP2A) or the schedule timer (DST301B51).
  - The external control adaptor for outdoor units controls group cooling and demand for each adaptor. (Anything beyond the expansion control falls outside the control domain.)
  - Do not turn the system ON/OFF rapidly from the optional controller for centralized control. This can cause temporary erroneous displays.
  - Sequential starts is controlled by each expander adaptor.

### ④ Wiring example

System with more than 10 outdoor units.

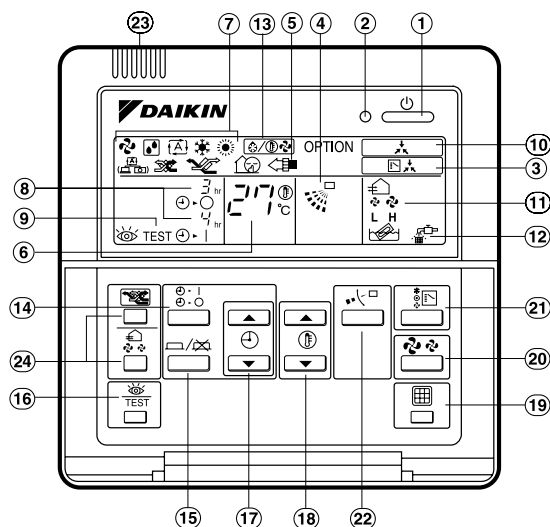


Note Wiring restrictions (see "Electric wiring work") apply to each group A and B.

## 6. Control Functions

### 6.1 <BRC1C62> Wired Remote Controller

#### 6.1.1 Name and Function



C : 3P171361-1

Wired Remote Controller	Type	Model
		R-410A
BRC1C62	Ceiling Mounted Cassette Type (Double-Flow)	FXCQ
	Ceiling Mounted Cassette Type (Multi-Flow)	FXFQ
	Ceiling Mounted Cassette Corner Type	FXKQ
	Ceiling Suspended Type	FXHQ
	Wall Mounted Type	FXAQ
	Ceiling Suspended Cassette Type	FXUQ
	Slim Ceiling Mounted Duct Type	FXDQ
	Ceiling Mounted Duct Type (Low Silhouette Type)	—
	Ceiling Mounted Built-In Type	FXSQ
	Ceiling Mounted Built-In Type (Rear Suction)	—
	Ceiling Mounted Duct Type	FXMQ
	Floor Standing Type	FXLQ
	Concealed Floor Standing Type	FXNQ

#### Notes

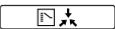
1 : BRC1C62...Kits for General Market

**1. On/off button**

Press the button and the system will start. Press the button again and the system will stop.

**2. Operation lamp (red)**

The lamp lights up during operation.

**3. Display “” (changeover under control)**

It is impossible to changeover heat/cool with the remote controller which display this icon.

**4. Display “” (air flow flap)****5. Display “ OPTION ” (ventilation/air cleaning)**

This display shows that the ventilation unit are in operation. (these are optional accessories)

**6. Display “ ” (set temperature)**

This display shows the temperature you have set.

**7. Display “ ” “ ” “ ” “ ” “ ” (operation mode)**

This display shows the current operation mode.

**8. Display “ ” (programmed time)**

This display shows the programmed time of the system start or stop.

**9. Display “ TEST ” (inspection/test operation)**

When the inspection/test operation button is pressed, the display shows the mode in which the system actually is.

**10. Display “ ” (under centralized control)**

When this display shows, the system is under centralized control. (This is not a standard specification.)

**11. Display “ ” (fan speed)**

This display shows the fan speed you have selected.

**12. Display “ ” (time to clean air filter)****13. Display “ ” (defrost/hot start)****14. Timer mode start/stop button****15. Timer on/off button****16. Inspection/test operation button**

This button is only used by qualified service persons for maintenance purposes.

**17. Programming time button**

Use this button for setting the programming start and/or stop time.

**18. Temperature setting button**

Use this button for setting the desired temperature.

**19. Filter sign reset button**

Refer to the operation manual of indoor unit.

**20. Fan speed control button**

Press this button to select the fan speed of your preference.

**21. Operation mode selector button**

Press this button to select the operation mode of your preference.

**22. Air flow direction adjust button****23. Thermistor**

It sense the room temperature around the remote controller.

**24. These button are used when the ventilation unit are installed (These are optional accessories)**

Refer to the operation manual of the ventilation unit.

- In contradistinction to actual operating situations, the display on figure 1 shows all possible indications.
  - Above figure shows the remote controller which is opened the cover.
  - If that particular function is not available, pressing the button may display the words “NOT AVAILABLE” for a few seconds.
- When running multiple units simultaneously the “NOT AVAILABLE” message will only be appear if none of the indoor units is equipped with the function. If even one unit is equipped with the function, the display will not appear.

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## 6.1.2 Field Setting

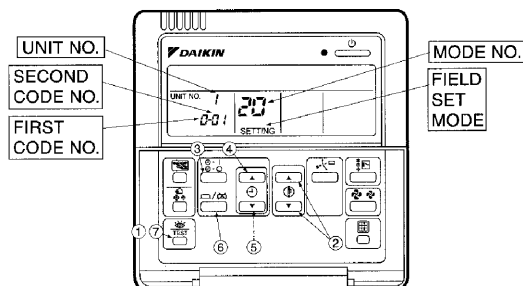
### FIELD SETTING

(If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.)

#### Procedure

- ① When in the normal mode, press the "TEST" button for a minimum of four seconds, and the FIELD SET MODE is entered.
- ② Select the desired MODE NO. with the "MODE" button.
- ③ During group control, when setting by each indoor unit (mode No. 20, 21 and 23 have been selected), push the "UNIT NO." button and select the INDOOR UNIT NO to be set. (This operation is unnecessary when setting by group.)
- ④ Push the "FIRST CODE NO." upper button and select FIRST CODE NO.
- ⑤ Push the "SECOND CODE NO." lower button and select the SECOND CODE NO.
- ⑥ Push the "SET" button once and the present settings are SET.
- ⑦ Push the "TEST" button for about one second to return to the NORMAL MODE.

(Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10," FIRST CODE NO. to "0," and SECOND CODE NO. to "02."



NOTES) 1. Setting is carried out in the group mode, however, set the mode number inside the ( ) for individual setting of the each indoor unit or confirmation after setting.

2. The SECOND CODE number. is set to "01" when shipped from the factory.

However for the following cases it is set to "02"

- Air flow direction range setting.

3. Do not make any settings not given in the table on the left.

4. Not displayed if the indoor unit is not equipped with that function.

5. When returning to the normal mode, "00" may be displayed in the LCD in order for the remote controller to initialize itself.

Mode No. Note 1	FIRST CODE NO.	Description of Setting		SECOND CODE No. Note 2		
				01	02	03
10(20)	0	Filter Contamination - Heavy/Light (Setting for spacing time of display time to clean air filter) (Setting for when filter contamination is heavy, and spacing time to clean air filter is to be halved)	Ultra-long-life type Long-life type Standard type	Approx. 10,000 hours Approx. 2,500 hours Approx. 200 hours	Approx. 5,000 hours Heavy Approx. 1,250 hours Approx. 100hours	—
	1	Long-life filter type (Setting of filter sign indication time) (Change setting when Ultra-long-life filter is installed)		Long-life filter	Ultra-long-life filter (1)	—
	3	Spacing Time of Display Time to Clean Air Filter Count (Setting for when the filter sign is not to be displayed)		Display	Do Not Display	—
11(21)	0	Setting Number of Connected Skyair Simultaneous Operation System Indoor Units (Setting for Simultaneous Operation System)		Pair	Twin	—
13(23)	0	High Ceiling Setting (Setting for when installed in a Ceiling higher than 2.7m)		Normal	High Ceiling 1	High Ceiling 2
	1	Selection of Air Flow Direction (Setting for when a blocking pad kit has been installed)		F	T	W
	3	Air Flow Direction Adjust Function (To be set when decoration panel for air outlet is installed)		Equipped	No Equipped	—
	4	Air Flow Direction Range Setting		Upper	Normal	Lower
	6	Setting the External Static Pressure (Setting according to the connected duct resistance) (For FHYK, follow the High Ceiling Setting)		Normal (Normal)	High Static Pressure (High Ceiling)	Low Static Pressure —

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**Notes:**






- Setting is carried out in the group mode. however, if the mode number inside the parentheses is selected, indoor units can also be set individually.
- The SECOND CODE number is set to " " when shipped from the factory.
- Not displayed if the indoor unit is not equipped with that function.
- When returning to the normal mode. "88" may be displayed in the LCD in order for the remote controller to initialize itself.
- \* : Setting the static pressure selection for FXD (Q)

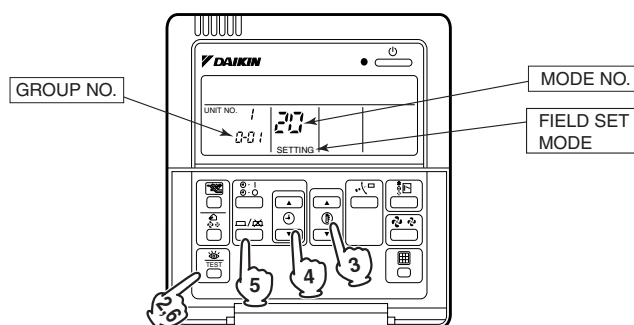
	SECOND CODE NO.	
	01 (Factory Setting)	02 (High Static Pressure Setting)
FXD	20 Pa	49 Pa
FXDQ	15 Pa	44 Pa

### 6.1.3 Setting Group No. for Centralized Control

In order to conduct the central remote control using the central remote controller and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote controller.

Make Group No. settings for central remote control using the operating remote controller.

- While in normal mode, press and hold the  switch for a period of four seconds or more to set the system to "Field Setting Mode".
- Select the MODE No. "00" with the  button.
- Use the  button to select the group No. for each group.  
(Group numbers increase in the order of 1-00, 1-01, ... 1-15, 2-00, ... 4-15.)
- Press  to set the selected group No.
- Press  to return to the NORMAL MODE.

**Note:**


- For simplified remote controller, see the following.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

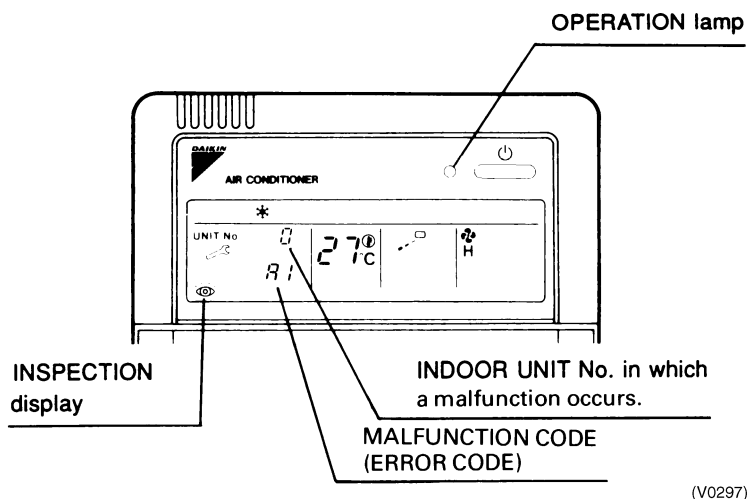
**NOTICE**

Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

## 6.1.4 Trouble Shooting

**1. If one of the following malfunctions occurs, take the measures shown below and contact your Daikin dealer. The system must be repaired by a qualified service person.**

- If a safety device such as a fuse, a breaker, or an earth leakage breaker frequently actuates, or ON/OFF switch does not properly work.  
**Measure:** Stop the system.
- If water leaks from unit.  
**Measure:** Stop the system.
- If the display “” (INSPECTION), “UNIT No.”, and the OPERATION lamp flash and the “MALFUNCTION CODE (ERROR CODE)” appears.



(V0297)


**Measure:** Notify your Daikin dealer and inform him/her of the display.

**2. If the system does not properly operate except for the above mentioned case, and none of the above mentioned malfunctions is evident, investigate the system according to the following procedures.**

**1. If the system does not operate at all.**


- Check if there is a power failure.  
If power failure occurs during operation, the system automatically restarts immediately after the power supply recovers.

**2. The system goes into FAN OPERATION, but as soon as it goes into HEATING or COOLING OPERATION, the system stops**

- Check if the air inlet or outlet of outdoor or indoor unit is blocked by obstacles.
- Check if the remote controller display shows “” (TIME TO CLEAN AIR FILTER). Ask a qualified service person to clean the air filters.

**3. The system operates but it does not sufficiently cool or heat.**

Check the below matters.

- If the thermostat setting is too high or too low.
- If the air inlet or outlet of the indoor or the outdoor unit is blocked with obstacles.
- If the doors or the windows are open.
- If the FAN SPEED button is set to LOW SPEED “”.
- If there are too many occupants in the room during cooling operation.
- If the heat source of the room is excessive.
- If direct sunlight enters the room.

## 6.1.5 Display of Malfunction (Error) Codes

### 1. Diagnosis by liquid crystal display of remote controller

When the operation is stopped due to trouble, " " and error code are displayed. In such a case, diagnosis the fault contents by using the table below, the unit No. is displayed at group controlling, which makes it possible to know the indoor unit No. which is in trouble.

### 2. Diagnosis by monitor of micro computer [LED-A (GREEN)]

LED: Flickering — Normal      LED: ON or OFF — Error

### 3. Diagnosis by monitor of connection between indoor and outdoor/BS unit (LED 10 (Red) on indoor printed circuit board)

LED: OFF — Normal      LED: ON — Error (connecting wiring failure)

#### LIST OF MALFUNCTION (ERROR) CODES

Div.	Error codes	Error contents	Div.	Error codes	Error contents
Indoor unit error	A0	Operation of protective unit	Outdoor unit error	L0	Inverter error
	A1	Printed circuit board error		L4	Inverter cooling error
	<b>A1</b>	Printed circuit board error		L5	Short-circuit in compressor motor, short-circuit in power unit
	A3	Drain level (33H) error		L6	Short-circuit in compressor motor, short-circuit
	A6	Fan motor locking, overload		L8	Over load in compressor, disconnection compressor motor
	<b>A7</b>	Swing flap motor (MIS) error		L9	Locking in compressor
	A9	Electronic expansion valve drive unit (Y1E) error		LA	Power unit error
	<b>AF</b>	Drain level (33H) error (Indoor unit is stopping)		LC	Transmission error between inverter and outdoor unit
	AJ	Capacity setting error		P1	Voltage unbalance, open phase
	C4	Liquid pipe thermistor (R2T) error		P4	Power unit temperature sensor error
	C5	Gas pipe thermistor (R3T) error	System error	<b>U0</b>	Pressure drop due to insufficient refrigerant electronic expansion valve
	C9	Suction air thermistor (R1T) error		U1	Reverse phase, open phase
	<b>CJ</b>	Remote controller thermistor error		U2	Voltage error, instantaneous power interruption
Outdoor unit error	E0	Operation of protective unit		U4	Transmission error between indoor unit and outdoor/BS unit
	E1	Printed circuit board error		U5	Transmission error between remote controller and indoor unit
	<b>E1</b>	Printed circuit board error		U5	Printed circuit board error or setting error of remote controller
	E3	Operation of high pressureswitch		U7	Transmission error between outdoor units
	E4	Operation of low pressureswitch		<b>U7</b>	Transmission error between outdoor units(unified cooling/heating, low noise operation)
	E9	Electronic expansion valve drive unit (Y1E) error		U8	Transmission error between main remote controller and sub remote controller
	F3	Discharge pipe temperature error		U9	Transmission error between another indoor unit and outdoor unit within same system
	<b>H3</b>	High pressure switch error		U A	Combination error of indoor unit/BS unit/outdoor unit (model No, etc)
	H4	Operation of low pressureswitch			Combination error of indoor unit/remote controller
	H9	Outdoor air thermistor (R1T) error			Connected location error of BS unit
	<b>H9</b>	Outdoor air thermistor (R1T) error		<b>UC</b>	Address duplication of central remote controller
	J1	Pressure sensor error		UE	Transmission error between indoor unit and central remote controller
	J3	Discharge pipe thermistor (R3T) error		UF	Wiring circuit does not correspond to refrigerant circuit
	<b>J3</b>	Discharge pipe thermistor (R3T) error		UH	Miss wiring
	J5	Suction pipe thermistor (R4T) error			
	J6	Heat exchanger's thermistor (R2T) error			
	<b>J6</b>	Heat exchanger's thermistor (R2T) error			
	JA	Discharge pipe pressure sensor error			
	JC	Suction pipe pressure sensor error			
	<b>JH</b>	Oil thermistor error			

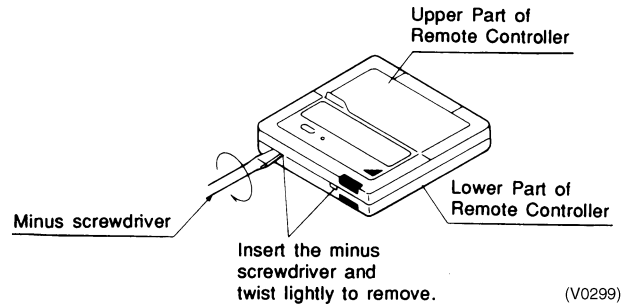
As for error codes blanked with white, be sure to check and repair, though system may be operated without displaying " " (V0298)

## 6.1.6 Remote Controller Mounting Instructions

### 1. Remove the Upper Part of Remote Controller

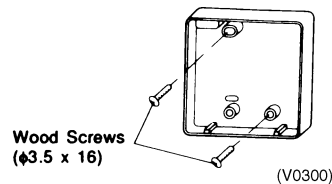
Insert minus screwdriver into the slots in the lower part of remote controller (2 places), and remove the upper part of remote controller.

**The PC board is mounted in the upper part of remote controller. Be careful not to damage the board with the minus screwdriver.**

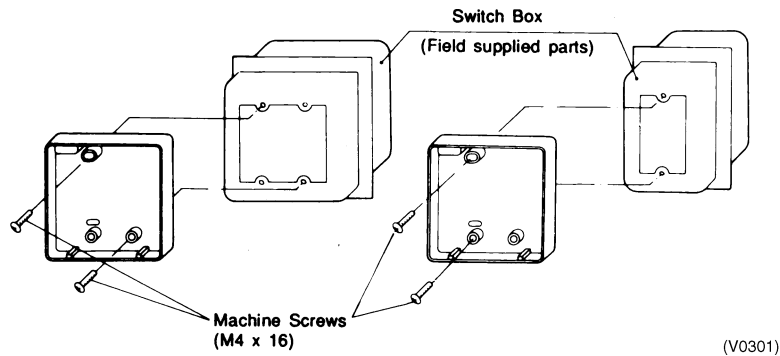


### 2. Fasten the Remote Controller

1. For exposed mounting, fasten with the included wood screws (2).



2. For flush-mounting, fasten with the included machine screws (2).



For the field supplied switch box, use optional accessories KJB111A or KJB211A.

**Note:**

Choose the flattest place possible for the mounting surface. Be careful not to distort the shape of the lower part of remote controller by over-tightening the mounting screws.

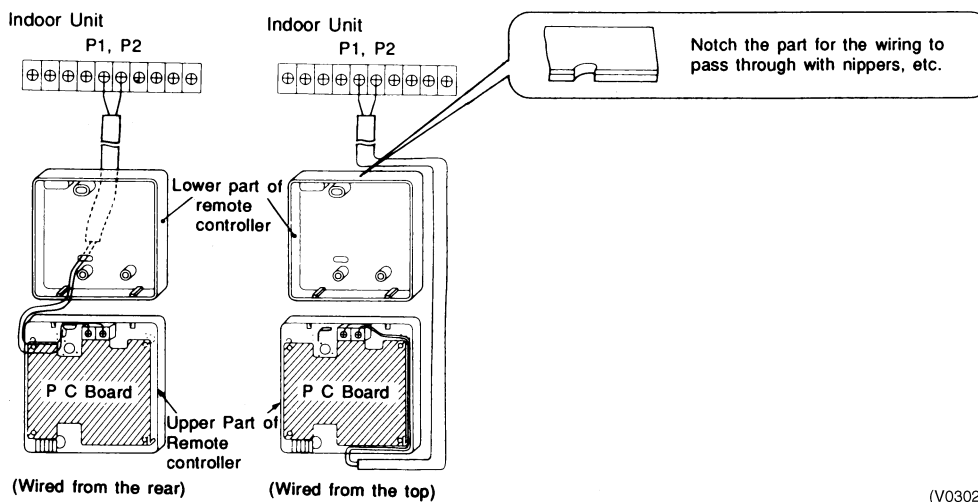
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### 3. Wire the Indoor Unit

Connect the terminals on top of the upper part of remote controller (P1, P2), and the terminals of the indoor unit (P1, P2). (P1 and P2 do not have polarity.)

**Note:**

When wiring, run the wiring away the power supply wiring in order to avoid receiving electric noise (external noise).

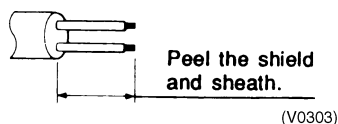


### Wiring Specifications

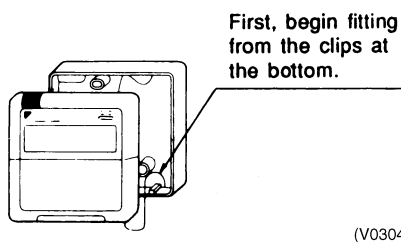
Wiring Type	Sheathed Wire (2 wire)
Size	0.75 - 1.25 mm <sup>2</sup>

**Note:**

1. Peel the shield and sheath for the part that is to pass through the inside of the remote controller case, as shown in the figure below.



2. Treat the terminal for the wire to be connected to the remote controller so the shielded part doesn't touch any other part.



### 4. Reattach the Upper Part of Remote Controller

Be careful not to pinch the wiring when attaching.

**Note:**

1. The switch box and wiring for connection are not included.
2. Do not directly touch the PC board with your hand.

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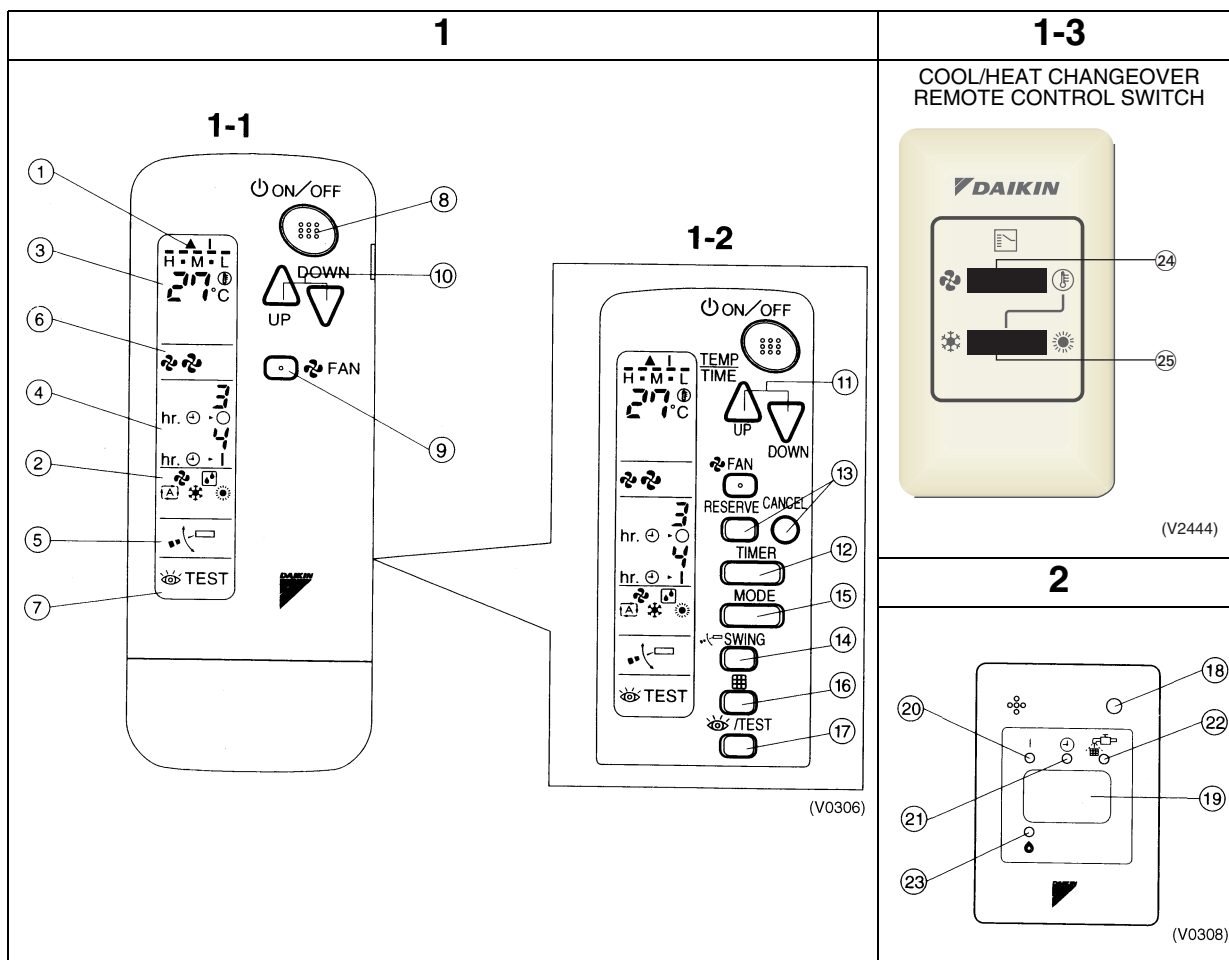
## 6.2 <BRC4C, 7C, 7E> Wireless Remote Controller

### 6.2.1 Applied Model

Signal receiver of indoor units	Model Name	Applied Model	Signal receiver for Local	Model Name	Applied Model
	BRC7E65	Ceiling Mounted Cassette (Multi-Flow) Type		BRC4C64	The same series as for BRC1A62. (Cooling only)
	BRC7C67	Ceiling Mounted Cassette (Double-Flow) Type		BRC4C63	The same series as for BRC1A61. (Cooling only)
	BRC7E66	Ceiling Suspended Type			
	BRC7E619	Wall Mounted Type			
	BRC7C529W	Ceiling Suspended Cassette Type (Connection Unit Series)			


















### 6.2.2 Part Names and Functions

Remote Controller Combination Kit Name (Main Unit + Signal Receiver)	Remote Controller Kit Name (Main Unit)
BRC7E65 BRC7C67 BRC7E619 BRC7E66 BRC4C63	BRC4C153
BRC4C64	BRC4C154



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## NAMES AND FUNCTIONS OF THE OPERATING SECTION

①	<b>DISPLAY “▲” (SIGNAL TRANSMISSION)</b>	⑭	<b>AIR FLOW DIRECTION ADJUST BUTTON</b>
	This lights up when a signal is being transmitted.		
②	<b>DISPLAY “” “” “” “” “” (OPERATION MODE)</b>	⑮	<b>OPERATION MODE SELECTOR BUTTON</b>
	This display shows the current OPERATION MODE. For straight cooling type, “  ” (Auto) and “  ” (Heating) are not installed.		Press this button to select OPERATION MODE.
③	<b>DISPLAY “” (SET TEMPERATURE)</b>	⑯	<b>FILTER SIGN RESET BUTTON</b>
	This display shows the set temperature.		Refer to the section of MAINTENANCE in the operation manual attached to the indoor unit.
④	<b>DISPLAY “” (PROGRAMMED TIME)</b>	⑰	<b>INSPECTION/TEST OPERATION BUTTON</b>
	This display shows PROGRAMMED TIME of the system start or stop.		This button is used only by qualified service persons for maintenance purposes.
⑤	<b>DISPLAY “” (AIR FLOW FLAP)</b>	⑱	<b>EMERGENCY OPERATION SWITCH</b>
			This switch is readily used if the remote controller does not work.
⑥	<b>DISPLAY “” “” (FAN SPEED)</b>	⑲	<b>RECEIVER</b>
	The display shows the set fan speed.		This receives the signals from the remote controller.
⑦	<b>DISPLAY “/TEST” (INSPECTION/TEST OPERATION)</b>	⑳	<b>OPERATING INDICATOR LAMP (Red)</b>
	When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.		This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.
⑧	<b>ON/OFF BUTTON</b>	㉑	<b>TIMER INDICATOR LAMP (Green)</b>
	Press the button and the system will start. Press the button again and the system will stop.		This lamp stays lit while the timer is set.
⑨	<b>FAN SPEED CONTROL BUTTON</b>	㉒	<b>AIR FILTER CLEANING TIME INDICATOR LAMP (Red)</b>
	Press this button to select the fan speed, HIGH or LOW, of your choice.		Lights up when it is time to clean the air filter.
⑩	<b>TEMPERATURE SETTING BUTTON</b>	㉓	<b>DEFROST LAMP (Orange)</b>
	Use this button for SETTING TEMPERATURE (Operates with the front cover of the remote controller closed.)		Lights up when the defrosting operation has started.
⑪	<b>PROGRAMMING TIMER BUTTON</b>	㉔	<b>FAN/AIR CONDITIONING SELECTOR SWITCH</b>
	Use this button for programming “START and/or STOP” time. (Operates with the front cover of the remote controller opened.)		Set the switch to “  ” (FAN) for FAN and “  ” (A/C) for HEAT or COOL.
⑫	<b>TIMER MODE START/STOP BUTTON</b>	㉕	<b>COOL/HEAT CHANGEOVER SWITCH</b>
			Set the switch to “  ” (COOL) for COOL and “  ” (HEAT) for HEAT.
⑬	<b>TIMER RESERVE/CANCEL BUTTON</b>		
		(NOTE)	

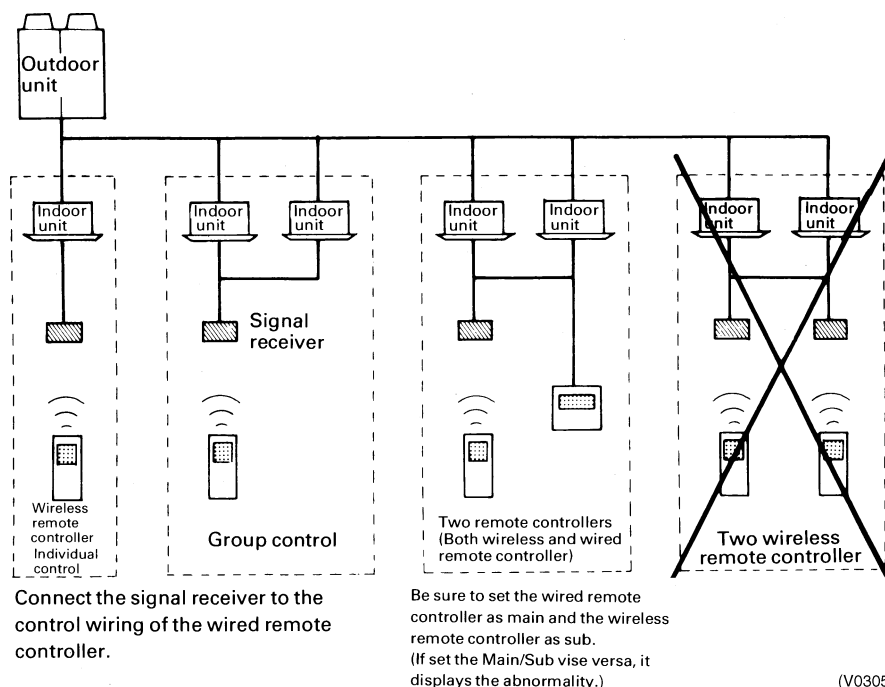
(NOTE)

- For the sake of explanation, all indications are shown on the display in Figure 1 contrary to actual running situations.
- Fig. 1-2 shows the remote controller with the front cover opened.
- Fig. 1-3 shows this remote controller can be used in conjunction with the one provided with the VRV system.
- If the air filter cleaning time indicator lamp lights up, clean the air filter as explained in the operation manual provided with the indoor unit. After cleaning and reinstalling the air filter, press the filter sign reset button on the remote controller. The air filter cleaning time indicator lamp on the receiver will go out.

(V0309)

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### 6.2.3 Example of the System by Wireless Remote Controller



When you use two remote controllers, be sure to set the wired remote controller of indoor unit as Main.

It is not possible to use two wireless remote controller.

The wiring between the separate type signal receiver and the indoor unit should not exceed 200 m.

### 6.2.4 Functional Comparison between Wired and the Wireless Remote Controller

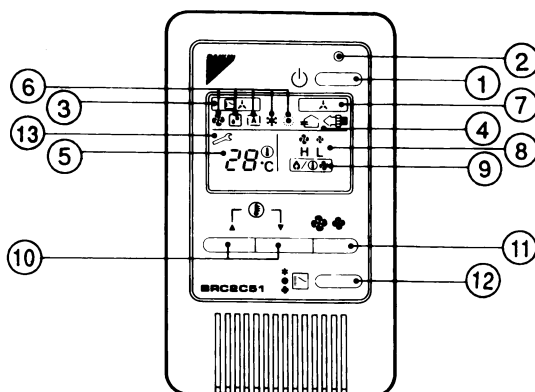
Function/Display	Wired Remote Controller	Wireless Remote Controller
Operation Lamp	LED on The Remote Controller	LED on The Signal Receiver
ON/OFF BUTTON	"On" and "Off" is repeated each time you press the button.	
OPERATION MODE SELECTOR BUTTON	Operation mode can be changed by this button. However, if the unit is under the control of central remote controller, the operation mode cannot be changed.	Operation mode can be changed by this button. However, if the unit is under the control of the central controller, the operation mode cannot be changed, though the display on the remote control is changed.
AIR FLOW DIRECTION ADJUST BUTTON	The position of the flaps can be set by this button by looking at the display on the LCD.	The position of the flaps can be set by this button by looking at the position of the flaps of the unit.
Filter Sign Reset Button	Filter sign can be reset by this button after cleaning the air filter.	Filter sign can be reset by this button after cleaning the air filter. It is displayed on the LCD of the signal receiver.














- The operation and the setting by other operational button (Temperature setting, fan speed control, timer, inspection/test operation, and group No. setting) are the same for both wireless and wired remote controller.

Function/Display	Wired Remote Controller	Wireless Remote Controller
■ Display of "TIME TO CLEAN AIR FILTER"	Displayed on the LCD of remote controller	Displayed on the LED of the signal receiver
Display of "VENTILATION"	This display is shown when HRV is in operation.	—
Display of "DEFROST/HOT START"	This display is shown when the unit is in defrost/hot start operation	Displayed on the LED of the receiver.
Display of "UNDER CENTRALIZED CONTROL"	This display is shown when the system is under centralized control.	There is no display, but it notifies by the buzzer.
Display of "CHANGEOVER UNDER CENTRALIZED CONTROL"	This display is shown when the remote controller cannot changeover heat/cool.	No display (It alerts by the buzzer that the operation mode cannot be changed.)
Thermostat on the Remote Controller	Yes	No
Ventilation Mode	Yes	No

## 6.3 <BRC2C51 (BRC2A51)> Simplified Remote Controller

### 6.3.1 Name and Function



REMOTE CONTROLLER: NAME AND FUNCTION OF EACH SWITCH AND DISPLAY			DISPLAY "  " (UNDER CENTRALIZED CONTROL)
①	<b>ON/OFF BUTTON</b>	⑦	When this display shows, the system is UNDER CENTRALIZED CONTROL. (This is not a standard specification)
	Press the button and the system will start. Press the button again and the system will stop.		
②	<b>OPERATION LAMP (RED)</b>	⑧	<b>DISPLAY "  " (FAN SPEED).</b>
	The lamp lights up during operation. Blinks in case of stop due to malfunction.		The display shows the fan speed: "HIGH" or "LOW".
③	<b>DISPLAY "  " (CHANGEOVER UNDER CONTROL)</b>	⑨	<b>DISPLAY "  " (DEFROST/ HOT START)</b>
	It is impossible to changeover heat/cool with the remote controller when it shows this display. (As for details, see "SETTING OF MASTER REMOTE CONTROLLER" in the operation manual attached to the indoor unit.)		Indicates that defrost or hot start (during which the fan is stopped till the temperature of air supply rises enough at the start of a heating run) is progress.
④	<b>DISPLAY "  OPTION " (VENTILATION)</b>	⑩	<b>TEMPERATURE SETTING BUTTON</b>
	This display shows that the total heat exchanger (HRV) are in operation.		Use this button for SETTING TEMPERATURE of the thermostat. ▲ ; Each press raises the set temperature by 1°C. ▼ ; Each press lowers the set temperature by 1°C. The variable temperature range is 16°C to 32°C.
⑤	<b>DISPLAY " 28.0°C " (SET TEMPERATURE)</b>	⑪	<b>FAN SPEED CONTROL BUTTON</b>
	This display shows the set temperature. Only given during a cooling or heating operation.		Press this button to select the fan speed, HIGH or LOW, of your choice.
⑥	<b>DISPLAY "  " "  " "  " "  " "  " (OPERATION MODE)</b>	⑫	<b>OPERATION MODE SELECTOR BUTTON</b>
	This display shows current OPERATION MODE. "  " is not available with outdoor units specially designed for cooling only. "  " is reserved only for outdoor units capable of heat recovery.		Press this button to select OPERATION MODE.
		⑬	<b>DISPLAY "  " (MALFUNCTION)</b>
			Indicates malfunction and blinks if the unit stops operating due to malfunction. (As for details, see "TROUBLE SHOOTING" in the operation manual attached to the indoor unit.)
			For the sake of explanation, all indications are shown in the figure above contrary to actual running situations.

#### Note:

1. Following functions are not including in this controller.

- Auto swing function.
- Timer setting function.
- Display of time to clean air filter.

2. For setting, refer to page 736.

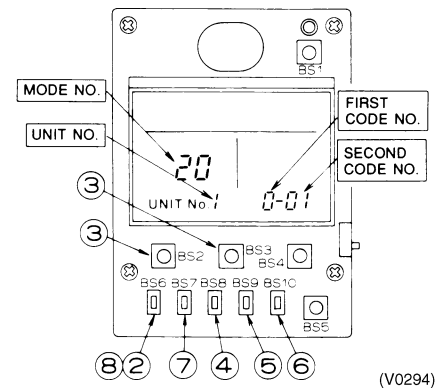
3. For BRC2C51

- Equipped with a thermostat sensor in the remote controller that makes possible more comfortable room temperature control.
- Complied with the RoHS directive.

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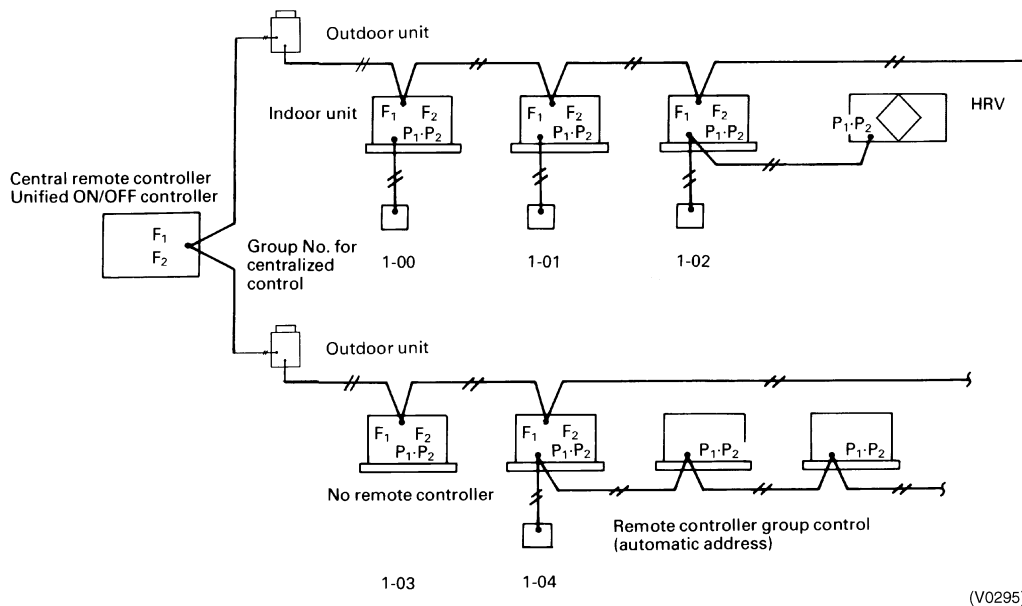
### 6.3.2 Setting Procedure

1. Remove the upper part of remote controller.
  2. When in the normal mode, press the [BS6] BUTTON (②) (field set), and the FIELD SET MODE is entered.
  3. Select the desired MODE No. with the [BS2] BUTTON (③) (temperature setting ▲) and the [BS3] BUTTON (③) (temperature setting ▼).
  4. During group control, when setting by each indoor unit (mode No. 20, 22, and 23 have been selected), push the [BS8] (④) BUTTON (unit No.) and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
  5. Push the [BS9] BUTTON (⑤) (set A) and select FIRST CODE NO.
  6. Push the [BS10] BUTTON (⑥) (set B) and select SECOND CODE NO.
  7. Push the [BS7] BUTTON (⑦) (set/cancel) once and the present settings are SET.
  8. Push the [BS6] BUTTON (⑧) (field set) to return to the NORMAL MODE.
- (Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10", FIRST CODE NO. to "0", and SECOND CODE NO. to "02".



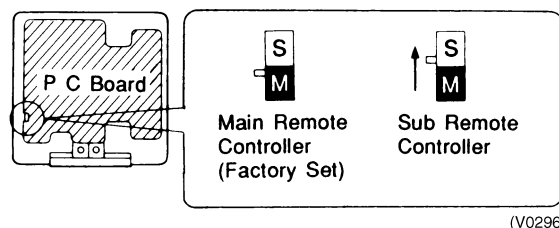
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- If not using any remote controllers, connect a remote controller for group No. setting, set the group No. for centralized control, and then disconnect the remote controller after setting.
- Group No. setting example



#### <If controlling one indoor unit with two remote controllers>

Change the MAIN/SUB changeover switch setting as described below.

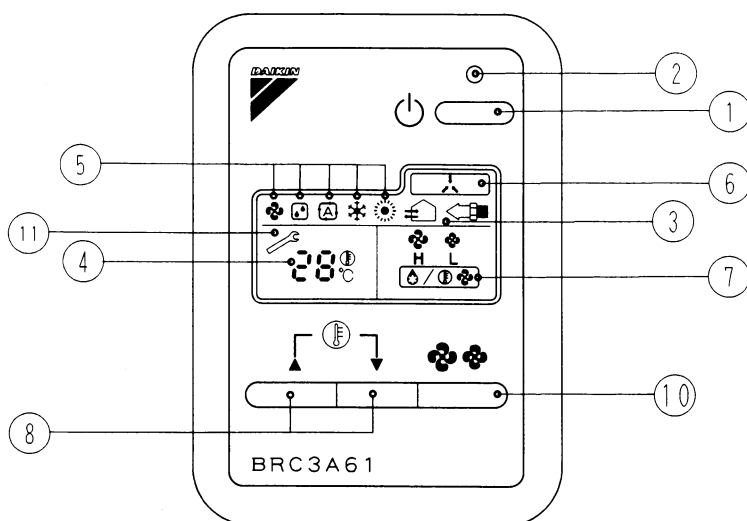


Set one remote controller to "main", and the other to "sub".

#### Note:

- If controlling with one remote controller, be sure to set it to "main".
- Set the remote controller before turning power supply on.

## 6.4 <BRC3A61> Remote Controller for Hotel Use



REMOTE CONTROLLER: NAME AND FUNCTION OF EACH SWITCH AND DISPLAY			
①	ON/OFF BUTTON	⑦	DISPLAY'  H  L  ' (FAN SPEED)
	Press the button and the system will start. Press the button again and the system will stop.		The display shows the fan speed: 'HIGH' or 'LOW'.
②	OPERATION LAMP(RED)	⑧	DISPLAY'  /   ' (DEFROST/HOT START)
	The lamp lights up during operation. Blinks in case of stop due to malfunction.		Indicates that defrost or hot start (during which the fan is stopped till the temperature of air supply rises enough at the start of a heating run) is progress.
③	DISPLAY'   OPTION' (VENTILATION/AIR CLEANING)	⑨	TEMPERATURE SETTING BUTTON
	This display shows that the total heat exchange are in operation. (This is optional accessory)		Use this button for SETTING TEMPERATURE of the thermostat. ▲: Each press raises the set temperature by 1℃ ▼: Each press lowers the set temperature by 1℃ The variable temperature range is 16℃ to 32℃
④	DISPLAY' 28℃ ' (SET TEMPERATURE)	⑩	FAN SPEED CONTROL BUTTON
	This display shows the set temperature. Only given during a cooling or heating operation.		Press this button to select the fan speed, HIGHT or LOW, of your choice.
⑤	DISPLAY'  ' '  ' '  ' '  ' '  ' ' (OPERATION MODE)	⑪	DISPLAY'  ' (MALFUNCTION)
	This display shows current OPERATION MODE. '  ' is not available whis outdoor units specially designed for cooling only. '  ' is reserved only for outdoor units capable of heat recovery.		Indicates malfunction and blinks if the unit stops operating due to malfunction. (As for details, see 'TROUBLE SHOOTING' in the operation manual attached to the indoor unit or the outdoor unit.)
⑥	DISPLAY'  ' (UNDER CENTRALIZED CONTROL)		
	When this display shows, the system is UNDER CENTRALIZED CONTROL (This is not a standard specification)		
(NOTE)			
<ul style="list-style-type: none"><li>• For the sake of explanation, all indications are shown in the figure above contrary to actual running situations.</li><li>• This remote controller does not have "AIR FLOW DIRECTION ADJUST BUTTON." Don't operate the flap adjusting air flow direction by your hand. (FXF, FXC, FXH, FXA, FXK)</li></ul>			

C: 3PA61137



# Part 8

## Guide Specifications

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# 1. Guide Specifications

## 1.1 Guide Specifications

### General

Unit shall be air cooled, split type multi-system air conditioner consisting of one outdoor unit and plural indoor units, each having capability to cool independently for the requirements of the rooms.

Up to 11 different type and 0.8-10HP capacity indoor units can be connected to one refrigerant circuit and controlled individually.

Compressor shall be equipped with inverter controller, and capable of changing the rotating speed to follow variations in cooling load.

Outdoor unit shall be suitable for mix-match connection of following models.

- Ceiling Mounted Cassette Type (Double Flow)
- Ceiling Mounted Cassette Type (Multi Flow)
- Ceiling Mounted Cassette Corner Type
- Slim Ceiling Mounted Duct Type
- Ceiling Mounted Built-In Type
- Ceiling Mounted Duct Type
- Ceiling Suspended Type
- Wall Mounted Type
- Floor Standing Type
- Concealed Floor Standing Type
- Ceiling Suspended Cassette Type (Connection Unit Series)

- Refrigerant : R-410A

### 1.1.1 P Series Outdoor Unit

The refrigerant piping shall be extended up to 165m with 90m (★1) level difference without any oil traps.

- Air conditioner shall operate continuously at the ambient temperature of -5°C in cooling (Operative Range: -20°C).

Both indoor unit outdoor unit are assembled, tested, and charged with refrigerant at the factory.

★1: The value is based on the case where the outdoor unit is located under the indoor unit, except for RXQ5P.

### Outdoor Unit

The outdoor unit shall be a factory assembled unit housed in a sturdy weatherproof casing constructed from rust-proofed mild steel panels coated with a baked enamel finish.

- The outdoor unit shall have two (three) scroll compressors and be able to operate even in case that one of compressors is out of order.  
The Outdoor unit of 5HP-8HP shall have one scroll compressor.
- The connectable range of indoor units shall be from 0.8 to 10HP with all outdoor units.
- The noise level shall not be more than 54 dB(A) (in case of 5HP) at normal operation measured horizontally 1m away and 1.5m above ground.  
The outdoor unit shall be modular in design and should be allowed for side by side installation.

### Compressor

The compressor shall be of highly efficient hermetic scroll type and equipped with inverter control capable of changing the speed in accordance to the cooling load requirement.

- The outdoor unit shall have the multi-step of capacity control to meet load fluctuation and indoor unit individual control.

### Heat Exchanger

The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminium fins to form a cross fin coil.

- The aluminium fins shall be covered by anti-corrosion resin film.

### Refrigerant Circuit

The refrigerant circuit shall include liquid and gas shut off valves and a solenoid valves.

All necessary safety devices shall be provided to ensure the safety operation of the system.

**Safety Devices**

The following safety devices shall be part of the outdoor unit.

High Pressure Switch, Overload Relay, Inverter Overload Protector, Fusible Plugs.

**Oil Recovery System**

Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigerant piping.

**1.1.2 Indoor Units**

Each indoor unit shall be of the Ceiling Mounted Cassette Type (Double Flow), or Ceiling Mounted Cassette Type (Multi Flow), or Ceiling Mounted Cassette Corner Type, or Slim Ceiling Mounted Duct Type, or Ceiling Mounted Built-In Type, or Ceiling Mounted Duct Type, or Ceiling Suspended Type, or Wall Mounted Type, or Floor Standing Type, or Concealed Floor Standing Type, or Ceiling Suspended Cassette Type (Connection Unit Series). It shall have electronic control valve which control refrigerant flow rate in respond to load variations of the room. The fan shall be of the dual suction multi blade type and statically and dynamically balanced to ensure low noise and vibration free operation.

- The address of the indoor unit shall be set automatically in case of individual and group control.
- In case of centralized control, it shall be set by liquid crystal remote controller.

**Control**

Computerized PID control shall be used to maintain a correct room temperature.

Unit shall be equipped with a self-diagnosis for easy and quick maintenance and service.

The LCD (Liquid Crystal Display) remote controller shall memorize the latest malfunction code for easy maintenance.

- It shall be able to control up to 16 indoor units and change fan speed and angle of swing flap individually in the group.

**Central Remote Controller (Option)**

A multi-functional centralized controller (central remote controller) shall be supplied as optional accessory.

- It shall be able to control up to 64 zones of 64 groups (each group consists of Max. 16 units) or 128 No.s of indoor units with the following functions.
  - a) Temperature setting for each zone, or group, or indoor unit.
  - b) On / off as a zone or individual unit.
  - c) Indication of operating condition.
  - d) Select one of 10 operation modes for each zone.
- The controller shall have wide screen liquid crystal display and can be wired by a non-polar 2-wire transmission cable to a distance of 1 km away from the indoor unit.

**Unified ON / OFF Controller (Option)**

Unified ON / OFF controller shall be supplied as optional accessory.

It shall be able to control up to 16 groups (each group consists of Max. 16 indoor units) or 128 No.s of indoor units with the following functions.

- a) On/off as a zone or individual unit.
- b) Indication of operation condition of each group.
- c) Select one of 4 operation modes.

It shall be wired by a non-polar 2-wire transmission cable to a distance of 1 km away from indoor unit.

**Schedule Timer (Option)**

A schedule timer shall be supplied as optional accessory.

- It shall be able to set operation schedule of up to 128 No.s of indoor units.  
The operation schedule shall include twice on/off a day and holiday.
- It shall be able to set 8 pattern of schedule combined with centralized controller.

**Intelligent Touch Controller (Option)**

Air-Conditioning management system that can be controlled by a compact all-in-one unit.

**Intelligent Manager (Option)**

Air conditioner management system (featuring minimized engineering) that can be controlled by personal computers.

## 2. Caution for Refrigerant Leaks

### 2.1 Introduction

Points to note in connection with refrigerant leaks

**The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.**

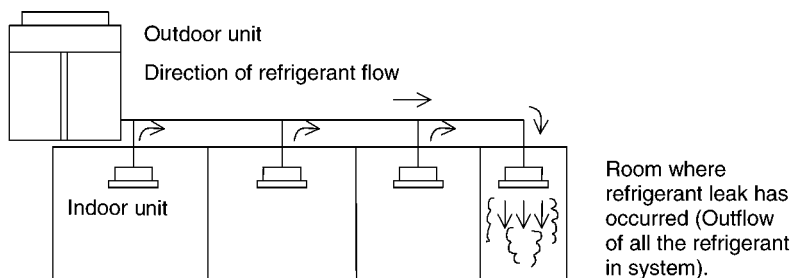
#### Maximum Concentration Level

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is  $\text{kg/m}^3$  (the weight in kg of the refrigerant gas in  $1\text{m}^3$  volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.

In Australia the maximum allowed concentration level of refrigerant to a humanly space is limited to  $0.35 \text{ kg/m}^3$  for R-407C, and  $0.44 \text{ kg/m}^3$  for R-410A.

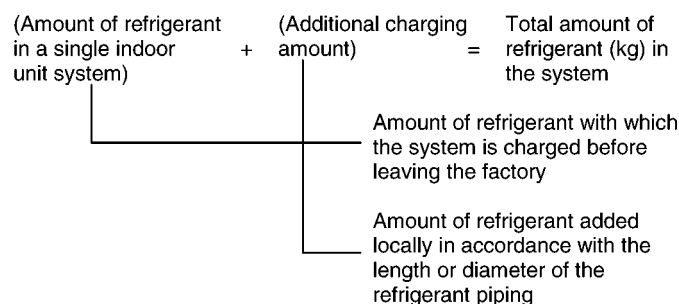


**Pay special attention to the place, such as a basement, etc., where refrigerant can stay, since refrigerant is heavier than air.**

## 2.2 Procedure for Checking Dangerous Concentration

Check the Dangerous concentration in accordance with steps (1)-(4) below and take whatever action is necessary.

### Step1: Calculate the amount of refrigerant (kg) charged to each system separately.



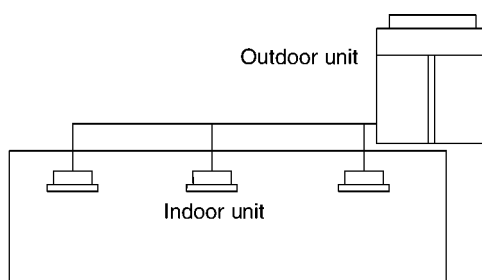
#### Note:

Where a single refrigerant facility is divided onto 2 entirely independent refrigerant systems then use the amounts of refrigerant with which each separate system of charged.

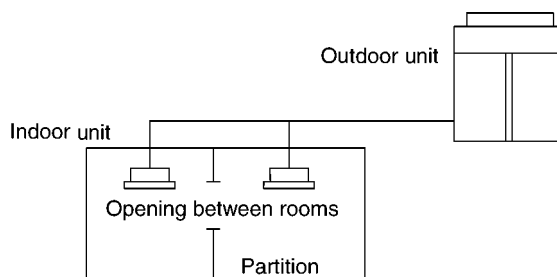
### Step 2: Calculate the smallest room volume (m<sup>3</sup>)

In a case like the following calculate the volume of (a), (b) as a single room or as the smallest room.

(a) Where there are no smaller room divisions.

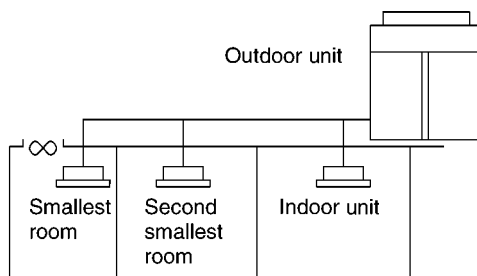


(b) Where there is a room division but there is an opening between the rooms sufficiently large to permit a free flow of air back and forth.



(Where there is an opening without a door or where there are openings above and below the door which are each equivalent in size to 0.15% or more of the floor area.)

(c) Where there is a gas leak detection alarm device linked to a mechanical ventilator in the smallest room then the next smallest room will become the measurement target.



**Step 3: Calculate the refrigerant density using the results of the calculations in Step (1) and (2) above.**

Total volume of refrigerant  
in the refrigerant system

\_\_\_\_\_  
=< Dangerous concentration (kg/m<sup>3</sup>)

Size (m<sup>3</sup>) of the smallest room in  
which there is an indoor unit  
installed

in the case of: R-407C = 0.35kg/m<sup>3</sup>, R-410A = 0.44kg/m<sup>3</sup>

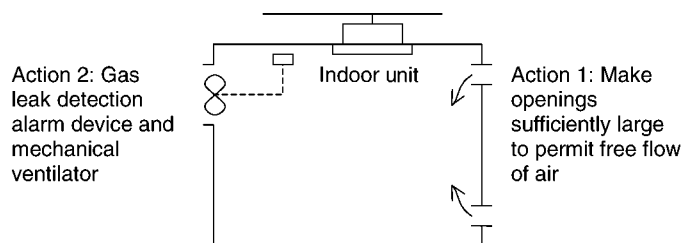
If the result of the above calculation exceeds the dangerous concentration level then make similar calculations for the second then third smallest room and so on until the result falls short of the concentration level.

**Step 4: Dealing with situations where the result exceeds the dangerous concentration level.**

Where the installation of a facility results in a concentration in excess of the dangerous concentration level then it may be necessary to revise the system design to some extent or else take one of the following courses of action.

Action 1: Making openings which will allow the air to flow freely into the room. Make openings above and below the door which are each equivalent in size to 0.15% or more of the floor area or make a doorless opening.

Action 2: Fit a mechanical ventilator linked to a gas leak detection alarm device.



Note:

This precaution shows the requirement of EN.  
The precaution should be followed in accordance with local code.

## 3. Safety Devices Setting

### 3.1 Indoor Units

	Safety devices	20	25	32	40	50	63	80(71)	100	125(160)	200	250
FXCQ-MVE	PC board fuse	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	—	250V 5A	—	—
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:145±5 (ON:94±15)	OFF:145±5 (ON:94±15)	—	OFF:145±5 (ON:94±15)	—	—
	Drain pump thermal fuse	169	169	169	169	169	169	169	—	169	—	—
FXFQ-MVE	PC board fuse	—	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	—	—
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	—	—	—	—	—	—	—	—	—
	PC board fuse	—	250V 5A	250V 5A	250V 5A	—	250V 5A	—	—	—	—	—
FXKQ-MAVE	Fan motor thermal fuse	—	146±3	146±3	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	—	OFF:120±5 ON:105 or less	—	OFF:120±5 ON:105 or less	—	—	—	—	—
	Drain pump thermal fuse	—	145	145	145	—	145	—	—	—	—	—
	PC board fuse	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	250V 5A	—	—	—	—	—
FXDQ-PVE(T) FXDQ-NAVE(T)	Fan motor thermal protector	OFF:130±5 (ON:83±15)	OFF:130±5 (ON:83±15)	OFF:130±5 (ON:83±15)	OFF:130±5 (ON:83±15)	OFF:130±5 (ON:83±15)	OFF:130±5 (ON:83±15)	—	—	—	—	—
	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:145±5 (ON:94±15)	OFF:145±5 (ON:94±15)	OFF:145±5 (ON:94±15)	—	—
FXSQ-MVE	Drain pump thermal fuse	169	169	169	169	169	169	169	169	169	—	—
	PC board fuse	—	—	—	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:135±5 (ON:86±15)	OFF:145±5 (ON:94±15)	OFF:145±5 (ON:94±15)	OFF:145±5 (ON:94±15)	—	—
FXMQ-MAVE	Drain pump thermal fuse	169	169	169	169	169	169	169	169	169	—	—
	PC board fuse	—	—	—	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	—	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)	OFF:135±8 (ON:87±15)
FXHQ-MAVE	PC board fuse	—	—	250V 5A	—	—	250V 5A	—	250V 5A	—	—	—
	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	OFF:130±5 ON:80±20	—	—	OFF:130±5 ON:80±20	—	OFF:130±5 ON:80±20	—	—	—
	PC board fuse	250V 3A	250V 3A	250V 3A	250V 3A	250V 3A	250V 3A	—	—	—	—	—
FXAQ-MAVE	Fan motor thermal fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	—	—	—	—	—	—	—	—	—
	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—	—	—	—
	Fan motor thermal protector	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	—	—	—	—	—
FXLQ-MAVE	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—	—	—	—
	Fan motor thermal protector	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	—	—	—	—	—
	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—	—	—	—
	Fan motor thermal protector	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	—	—	—	—	—
FXNQ-MAVE	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—	—	—	—
	Fan motor thermal protector	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	—	—	—	—	—
	PC board fuse	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	250V 10A	—	—	—	—	—
	Fan motor thermal protector	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	OFF:135±10 ON:120 or less	—	—	—	—	—
FXUQ-MAV1	PC board fuse	—	—	—	—	—	—	OFF:130±5	OFF:130±5	OFF:130±5	—	—
	Fan motor thermal protector	—	—	—	—	—	—	—	—	—	—	—
	PC board fuse	—	—	—	—	—	—	—	—	—	—	—
	Fan motor thermal protector	—	—	—	—	—	—	—	—	—	—	—

### 3.2 Outdoor Units

Safety Devices		RXQ5PY1	RXQ8PY1	RXQ10PY1	RXQ12PY1	RXQ14PY1	RXQ16PY1	RXQ18PY1
PC board fuse	A1P	250V, 10A						
	A4P	250V, 5A						
High pressure switch		OFF 4.0 <sup>+0</sup> <sub>-0.12</sub> MPa ON 3.0±0.15MPa						
Over current relay (Comp)	M2C	—	15.0A					
	M3C	—				15.0A		
Overload Protector	M1C	13.5A						
	M1F	0.9A	1.3A			1.8A		

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**Warning**

- Daikin Industries, Ltd.'s products are manufactured for export to numerous countries throughout the world. Daikin Industries, Ltd. does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

### Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.



JMI-0107



JQA-1452

#### About ISO 9001

ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the "design, development, manufacture, installation, and supplementary service" of products manufactured at the plant.



EC99J2044

#### About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited compliance organisation as having an appropriate programme of environmental protection procedures and activities to meet the requirements of ISO 14001.

### Dealer

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