

Service Manual

VRV II-S

R22 Heat Pump / Cooling Only



VRV® II-S R22 Heat Pump / Cooling Only

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



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1. Introduction








1.1 Safety Cautions

Cautions and Warnings


- Be sure to read the following safety cautions before conducting repair work.
- The caution items are classified into “ **Warning**” and “ **Caution**”. The “ **Warning**” items are especially important since they can lead to death or serious injury if they are not followed closely. The “ **Caution**” items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.
- About the pictograms
 - △ This symbol indicates an item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.
 - This symbol indicates a prohibited action.
The prohibited item or action is shown inside or near the symbol.
 - This symbol indicates an action that must be taken, or an instruction.
The instruction is shown inside or near the symbol.
- After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates normally, and explain the cautions for operating the product to the customer




1.1.1 Caution in Repair



 Warning	
<p>Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for a repair. Working on the equipment that is connected to a power supply can cause an electrical shock. If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment.</p>	
<p>If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas. The refrigerant gas can cause frostbite.</p>	
<p>When disconnecting the suction or discharge pipe of the compressor at the welded section, release the refrigerant gas completely at a well-ventilated place first. If there is a gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it can cause injury.</p>	
<p>If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames.</p>	
<p>The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. Be sure to discharge the capacitor completely before conducting repair work. A charged capacitor can cause an electrical shock.</p>	
<p>Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug. Plugging or unplugging the power cable plug to operate the equipment can cause an electrical shock or fire.</p>	

 Caution	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock.	
Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury.	
Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor.	
Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency.	





1.1.2 Cautions Regarding Products after Repair



 Warning	
Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire.	
When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment. If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury.	
Be sure to install the product correctly by using the provided standard installation frame. Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury.	For integral units only
Be sure to install the product securely in the installation frame mounted on a window frame. If the unit is not securely mounted, it can fall and cause injury.	For integral units only
Be sure to use an exclusive power circuit for the equipment, and follow the technical standards related to the electrical equipment, the internal wiring regulations and the instruction manual for installation when conducting electrical work. Insufficient power circuit capacity and improper electrical work can cause an electrical shock or fire.	

 Warning	
Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections can cause excessive heat generation or fire.	
When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable.	
Do not mix air or gas other than the specified refrigerant in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

 Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If a combustible gas leaks and remains around the unit, it can cause a fire.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water can enter the room and wet the furniture and floor.	For integral units only

1.1.3 Inspection after Repair





 Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet all the way. If the plug has dust or loose connection, it can cause an electrical shock or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires can cause an electrical shock, excessive heat generation or fire.	
Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances, since it can cause an electrical shock, excessive heat generation or fire.	

 Caution	
Check to see if the parts and wires are mounted and connected properly, and if the connections at the soldered or crimped terminals are secure. Improper installation and connections can cause excessive heat generation, fire or an electrical shock.	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame can cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding can cause an electrical shock.	
Be sure to measure the insulation resistance after the repair, and make sure that the resistance is 1 Mohm or higher. Faulty insulation can cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage can cause the water to enter the room and wet the furniture and floor.	

1.1.4 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

1.1.5 Using Icons List

Icon	Type of Information	Description
 Note:	Note	A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 Caution	Caution	A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, lose data, get an unexpected result or has to restart (part of) a procedure.
 Warning	Warning	A “warning” is used when there is danger of personal injury.
	Reference	A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

1.2 PREFACE

Thank you for your continued patronage of Daikin products.

This is the new service manual for Daikin's Year 2004 VRVII-S series Heat Pump / Cooling Only System.

Daikin offers a wide range of models to respond to building and office air conditioning needs. We are confident that customers will be able to find the models that best suit their needs.

This service manual contains information regarding the servicing of VRVII-S series Heat Pump / Cooling Only System.

Jan. 2004

After Sales Service Division

Part 1

General Information

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1. Model Names of Indoor/Outdoor Units

Indoor Units

Type		Model Name									Power Supply
Ceiling Mounted Cassette Type (Double Flow)	FXC	20L	25L	32L	40L	50L	63L	80L	—	125L	VE
Ceiling Mounted Cassette Type (Multi Flow)	FXF	—	25L	32L	40L	50L	63L	80L	100L	125L	
Ceiling Mounted Cassette Corner Type	FXK	—	25L	32L	40L	—	63L	—	—	—	
Slim Ceiling Mounted Duct Type	FXD	20M	25M	32M	40M	50M	63M	—	—	—	
Ceiling Mounted Low Silhouette Duct Type	FXYD	20KA	25KA	32KA	40KA	50KA	63KA	—	—	—	
Ceiling Mounted Built-In Type	FXS	20L	25L	32L	40L	50L	63L	80L	100L	125L	
Ceiling Mounted Built-In (Rear Suction) Type	FXYB	20K	25K	32K	40K	50K	63K	80K	100K	125K	V1
Ceiling Mounted Duct Type	FXM	—	—	—	40L	50L	63L	80L	100L	125L	VE
Ceiling Suspended Type	FXH	—	—	32L	—	—	63L	—	100L	—	
Wall Mounted Type	FXA	20L	25L	32L	40L	50L	63L	—	—	—	
Floor Standing Type	FXL	20L	25L	32L	40L	50L	63L	—	—	—	
Concealed Floor Standing Type	FXN	20L	25L	32L	40L	50L	63L	—	—	—	

VE: 1φ, 220V~240V, 50Hz

1φ, 220V, 60Hz

V1: 1φ, 220V~240V, 50Hz

Outdoor Units (Inverter Series)

Series	Model Name			
Heat Pump	RXYM	4M	5M	6M
Cooling Only	RXM	4M	5M	6M

Power Supply







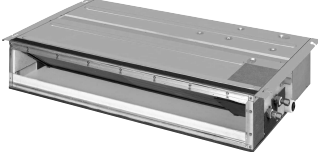

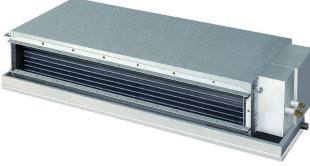
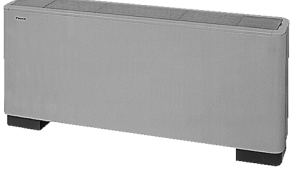
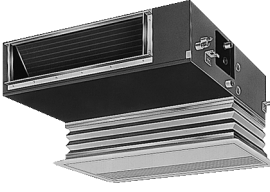
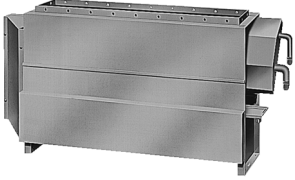
RX(Y)M4·5·6MVM : 1φ, 220~230V, 50Hz

RXYM4·5·6MVMT : 1φ, 220V, 60Hz



2. External Appearance

2.1 Indoor Units

<p>Ceiling mounted cassette type (Double flow)</p> <p>FXC20L FXC25L FXC32L FXC40L FXC50L FXC63L FXC80L FXC125L</p> 	<p>Ceiling mounted built-in type -rear suction type -</p> <p>FXYB20K FXYB25K FXYB32K FXYB40K FXYB50K FXYB63K FXYB80K FXYB100K FXYB125K</p> 
<p>Ceiling mounted cassette type (Multi flow)</p> <p>FXF25L FXF32L FXF40L FXF50L FXF63L FXF80L FXF100L FXF125L</p> 	<p>Ceiling mounted duct type</p> <p>FXM40L FXM50L FXM63L FXM80L FXM100L FXM125L</p> 
<p>Ceiling mounted cassette corner type</p> <p>FXK25L FXK32L FXK40L FXK63L</p> 	<p>Ceiling suspended type</p> <p>FXH32L FXH63L FXH100L</p> 
<p>Slim ceiling mounted duct type</p> <p>FXD20M FXD25M FXD32M FXD40M FXD50M FXD63M</p> 	<p>Wall mounted type</p> <p>FXA20L FXA25L FXA32L FXA40L FXA50L FXA63L</p> 
<p>Ceiling mounted low silhouette duct type</p> <p>FXYD20KA FXYD25KA FXYD32KA FXYD40KA FXYD50KA FXYD63KA</p> 	<p>Floor standing type</p> <p>FXL20L FXL25L FXL32L FXL40L FXL50L FXL63L</p> 
<p>Ceiling mounted built-in type</p> <p>FXS20L FXS25L FXS32L FXS40L FXS50L FXS63L FXS80L FXS100L FXS125L</p> 	<p>Concealed floor standing type</p> <p>FXN20L FXN25L FXN32L FXN40L FXN50L FXN63L</p> 

3. Capacity Range

Outdoor Units

Capacity Range	4HP	5HP	6HP
RX (Y) M	4M	5M	6M
No of Indoor Units to be Connected	6	8	9
Total Capacity Index of Indoor Units to be Connected	50~130	62.5~162.5	70~182

Indoor Units

Capacity Range		0.8 HP	1 HP	1.25 HP	1.6 HP	2 HP	2.5 HP	3 HP	3.2 HP	4 HP	5 HP
Capacity Index		20	25	31.25	40	50	62.5	71	80	100	125
Ceiling Mounted Cassette Type (Double Flow)	FXC	20L	25L	32L	40L	50L	63L	—	80L	—	125L
Ceiling Mounted Cassette Type (Multi Flow)	FXF	—	25L	32L	40L	50L	63L	—	80L	100L	125L
Ceiling Mounted Cassette Corner Type	FXK	—	25L	32L	40L	—	63L	—	—	—	—
Slim Ceiling Mounted Duct Type	FXD	20M	25M	32M	40M	50M	63M	—	—	—	—
Ceiling Mounted Low Silhouette Duct Type	FXYD	20KA	25KA	32KA	40KA	50KA	63KA	—	—	—	—
Ceiling Mounted Built-In Type	FXS	20L	25L	32L	40L	50L	63L	80L	100L	125L	—
Ceiling Mounted Built-In (Rear Suction) Type	FXYB	20K	25K	32K	40K	50K	63K	—	80K	100K	125K
Ceiling Mounted Duct Type	FXM	—	—	—	40L	50L	63L	—	80L	100L	125L
Ceiling Suspended Type	FXH	—	—	32L	—	—	63L	—	—	100L	—
Wall Mounted Type	FXA	20L	25L	32L	40L	50L	63L	—	—	—	—
Floor Standing Type	FXL	20L	25L	32L	40L	50L	63L	—	—	—	—
Concealed Floor Standing Type	FXN	20L	25L	32L	40L	50L	63L	—	—	—	—

Part 2

Specifications

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1. Specifications

1.1 Outdoor Units

1.1.1 Heat Pump 50Hz <RXYM-M>

Model Name			RXYM4MVM	RXYM5MVM
★1 Cooling Capacity	kcal / h		9,600	12,000
	Btu / h		38,200	47,700
	kW		11.2	14.0
★2 Heating Capacity	kcal / h		10,700	13,700
	Btu / h		42,600	54,600
	kW		12.5	16.0
Casing Color			Ivory White	Ivory White
Dimensions: (HxWxD)		mm	1,345x900x320	1,345x900x320
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m ³ /h	19.36	19.36
	Number of Revolutions	r.p.m	6,480	6,480
	Motor Output×Number of Units	kW	2.5×1	3.0×1
Starting Method			Direct on line	Direct on line
Fan	Type		Propeller Fan	Propeller Fan
	Motor Output	W	70	70
	Air Flow Rate	m ³ /min	106	106
	Drive		Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)
Machine Weight		kg	130	130
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse	High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse
Defrost Method			Reverse cycle defrosting	Reverse cycle defrosting
Capacity Control		%	24~100	24~100
Refrigerant	Refrigerant Name		R22	R22
	Charge	kg	5.7	5.7
	Control		Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			SUNISO 4GSDID-K	SUNISO 4GSDID-K
	Charge Volume	L	1.5	1.5
Standard Accessories			Installation Manual, Operation Manual, Clamps	Installation Manual, Operation Manual, Clamps
Drawing No.			4D044930	

- Notes:**
- ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.
 - ★2 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Model Name			RXYM6MVM
★1 Cooling Capacity	kcal / h		13,300
	Btu / h		52,900
	kW		15.5
★2 Heating Capacity	kcal / h		15,400
	Btu / h		61,400
	kW		18.0
Casing Color			Ivory White
Dimensions: (HxWxD)		mm	1,345x900x320
Heat Exchanger			Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type
	Piston Displacement	m ³ /h	19.36
	Number of Revolutions	r.p.m	6,480
	Motor Output×Number of Units	kW	3.5×1
	Starting Method		Direct on line
Fan	Type		Propeller Fan
	Motor Output	W	70
	Air Flow Rate	m ³ /min	106
	Drive		Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)
Machine Weight		kg	130
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse
Defrost Method			Reverse cycle defrosting
Capacity Control		%	24~100
Refrigerant	Refrigerant Name		R22
	Charge	kg	5.7
	Control		Electronic Expansion Valve
Refrigerator Oil			SUNISO 4GSDID-K
	Charge Volume	L	1.5
Standard Accessories			Installation Manual, Operation Manual, Clamps
Drawing No.			4D044930

- Notes:**
- ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.
 - ★2 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

1.1.2 Heat Pump 60Hz <RXYM-M>

Model Name			RXYM4MVMT	RXYM5MVMT
★1 Cooling Capacity	kcal / h		9,600	12,000
	Btu / h		38,200	47,700
	kW		11.2	14.0
★2 Heating Capacity	kcal / h		10,700	13,700
	Btu / h		42,600	54,600
	kW		12.5	16.0
Casing Color			Ivory White	Ivory White
Dimensions: (HxWxD)		mm	1,345x900x320	1,345x900x320
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m³/h	19.36	19.36
	Number of Revolutions	r.p.m	6,480	6,480
	Motor OutputxNumber of Units	kW	2.5x1	3.0x1
	Starting Method		Direct on line	Direct on line
Fan	Type		Propeller Fan	Propeller Fan
	Motor Output	W	70	70
	Air Flow Rate	m³/min	106	106
	Drive		Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)
Machine Weight		kg	130	130
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse	High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse
Defrost Method			Reverse cycle defrosting	Reverse cycle defrosting
Capacity Control		%	24~100	24~100
Refrigerant	Refrigerant Name		R22	R22
	Charge	kg	5.7	5.7
	Control		Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			SUNISO 4GSDID-K	SUNISO 4GSDID-K
	Charge Volume	L	1.5	1.5
Standard Accessories			Installation Manual, Operation Manual, Clamps	Installation Manual, Operation Manual, Clamps
Drawing No.			4D044931	

- Notes:**
- ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.
 - ★2 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae
kcal/h=kWx860
Btu/h=kWx3414
cfm=m³/minx35.3

Model Name			RXYM6MVMT
★1 Cooling Capacity	kcal / h		13,300
	Btu / h		52,900
	kW		15.5
★2 Heating Capacity	kcal / h		15,400
	Btu / h		61,400
	kW		18.0
Casing Color			Ivory White
Dimensions: (HxWxD)		mm	1,345x900x320
Heat Exchanger			Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type
	Piston Displacement	m ³ /h	19.36
	Number of Revolutions	r.p.m	6,480
	Motor Output×Number of Units	kW	3.5×1
	Starting Method		Direct on line
Fan	Type		Propeller Fan
	Motor Output	W	70
	Air Flow Rate	m ³ /min	106
	Drive		Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)
Machine Weight		kg	130
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse
Defrost Method			Reverse cycle defrosting
Capacity Control		%	24~100
Refrigerant	Refrigerant Name		R22
	Charge	kg	5.7
	Control		Electronic Expansion Valve
Refrigerator Oil			SUNISO 4GSDID-K
	Charge Volume	L	1.5
Standard Accessories			Installation Manual, Operation Manual, Clamps
Drawing No.			4D044931

- Notes:**
- ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.
 - ★2 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

1.1.3 Cooling Only 50Hz <RXM-M>

Model Name			RXM4MVM	RXM5MVM
★1 Cooling Capacity	kcal / h		9,600	12,000
	Btu / h		38,200	47,700
	kW		11.2	14.0
Casing Color			Ivory White	Ivory White
Dimensions: (H×W×D)		mm	1,345×900×320	1,345×900×320
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	
	Piston Displacement	m ³ /h	19.36	19.36
	Number of Revolutions	r.p.m	6,480	6,480
	Motor Output×Number of Units	kW	2.5×1	3.0×1
	Starting Method		Direct on line	
Fan	Type		Propeller Fan	
	Motor Output	W	70	70
	Air Flow Rate	m ³ /min	106	106
	Drive		Direct Drive	
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)
Machine Weight		kg	130	130
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse	High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse
Capacity Control		%	24~100	24~100
Refrigerant	Refrigerant Name		R22	
	Charge	kg	5.7	5.7
	Control		Electronic Expansion Valve	
Refrigerator Oil			SUNISO 4GSDID-K	
	Charge Volume	L	1.5	1.5
Standard Accessories			Installation Manual, Operation Manual, Clamps	Installation Manual, Operation Manual, Clamps
Drawing No.			4D044932	

Notes: ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Model Name		RXM6MVM	
★1 Cooling Capacity	kcal / h	13,300	
	Btu / h	52,900	
	kW	15.5	
Casing Color		Ivory White	
Dimensions: (H×W×D)		mm	1,345×900×320
Heat Exchanger		Cross Fin Coil	
Comp.	Type		Hermetically Sealed Scroll Type
	Piston Displacement	m ³ /h	19.36
	Number of Revolutions	r.p.m	6,480
	Motor Output×Number of Units	kW	3.5×1
	Starting Method		Direct on line
Fan	Type		Propeller Fan
	Motor Output	W	70
	Air Flow Rate	m ³ /min	106
	Drive		Direct Drive
Connecting Pipes	Liquid Pipe	mm	φ9.5 (Flare Connection)
	Gas Pipe	mm	φ19.1 (Flare Connection)
Machine Weight		kg	130
Safety Devices		High Pressure Switch, Fan Driver Overload Protector, Inverter Overload Protector, Fusible Plugs, Fuse	
Capacity Control		%	24~100
Refrigerant	Refrigerant Name		R22
	Charge	kg	5.7
	Control		Electronic Expansion Valve
Refrigerator Oil			SUNISO 4GSDID-K
	Charge Volume	L	1.5
Standard Accessories		Installation Manual, Operation Manual, Clamps	
Drawing No.		4D044932	

Notes: ★1 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5m, level difference : 0m.

Conversion Formulae

kcal/h=kW×860 Btu/h=kW×3414 cfm=m ³ /min×35.3
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1.2 Indoor Units

Ceiling Mounted Cassette Type (Double-flow)

Model		FXC20LVE	FXC25LVE	FXC32LVE	FXC40LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	2,000	2,500	3,150	4,000	
	Btu/h	7,900	9,900	12,500	15,900	
	kW	2.3	2.9	3.7	4.7	
★2 Cooling Capacity (19.0°CWB)	kW	2.2	2.8	3.6	4.5	
★3 Heating Capacity	kcal/h	2,200	2,800	3,400	4,300	
	Btu/h	8,500	10,900	13,600	17,000	
	kW	2.5	3.2	4.0	5.0	
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (HxWxD)		mm	305x780x600	305x780x600	305x995x600	
Coil (Cross Fin Coil)	RowsxStagesxFin Pitch	mm	2x10x1.5	2x10x1.5	2x10x1.5	
	Face Area	m ²	2x0.100	2x0.100	2x0.145	
Fan	Model		D17K2AA1	D17K2AB1	D17K2AB1	2D17K1AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output x Number of Units	W	10x1	15x1	15x1	20x1
	Air Flow Rate (H/L)	m ³ /min	7/5	9/6.5	9/6.5	12/9
		cfm	247/177	318/230	318/230	424/318
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Machine Weight		kg	26	26	26	31
★5 Sound Level (HL) (220V)		dBA	32/27	34/28	34/28	34/29
Safety Devices		Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	
Decoration Panels (Option)	Model		BYBC32G-W1	BYBC32G-W1	BYBC32G-W1	BYBC50G-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (HxWxD)	mm	53x1,030x680	53x1,030x680	53x1,030x680	53x1,245x680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8	8	8	8.5
Standard Accessories		Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	
Drawing No.		3D034244A				

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kWx860
Btu/h=kWx3414
cfm=m ³ /minx35.3

Ceiling Mounted Cassette Type (Double-flow)

Model		FXC50LVE	FXC63LVE	FXC80LVE	FXC125LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	5,000	6,300	8,000	12,500	
	Btu/h	19,900	25,000	31,800	49,600	
	kW	5.8	7.3	9.3	14.5	
★2 Cooling Capacity (19.0°CWB)	kW	5.6	7.1	9.0	14.0	
★3 Heating Capacity	kcal/h	5,400	6,900	8,600	13,800	
	Btu/h	21,500	27,300	34,100	54,600	
	kW	6.3	8.0	10.0	16.0	
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	305×995×600	305×1,180×600	305×1,670×600	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.5	2×10×1.5	2×10×1.5	
	Face Area	m ²	2×0.145	2×0.184	2×0.287	
Fan	Model		2D17K1AA1	2D17K2AA1VE	3D17K2AA1	3D17K2AB1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	20×1	30×1	50×1	85×1
	Air Flow Rate (H/L)	m ³ /min	12/9	16.5/13	26/21	33/25
		cfm	424/318	582/459	918/741	1,165/883
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	
Piping Connections	Liquid Pipes	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	φ19.1 (Flare Connection)
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Machine Weight	kg	32	35	47	48	
★5 Sound Level (H/L)	dBA	34/29	37/32	39/34	44/38	
Safety Devices		Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	
Decoration Panels (Option)	Model		BYBC50G-W1	BYBC63G-W1	BYBC125G-W1	BYBC125G-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	53×1,245×680	53×1,430×680	53×1,920×680	53×1,920×680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8.5	9.5	12	12
Standard Accessories		Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	
Drawing No.		3D034244A				

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Cassette Type (Multi-flow)

Model		FXF25LVE	FXF32LVE	FXF40LVE	FXF50LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	2,500	3,150	4,000	5,000	
	Btu/h	9,900	12,500	15,900	19,900	
	kW	2.9	3.7	4.7	5.8	
★2 Cooling Capacity (19.0°CWB)	kW	2.8	3.6	4.5	5.6	
★3 Heating Capacity	kcal/h	2,800	3,400	4,300	5,400	
	Btu/h	10,900	13,600	17,000	21,500	
	kW	3.2	4.0	5.0	6.3	
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm 246×840×840	246×840×840	246×840×840	246×840×840	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm 2×8×1.2	2×8×1.2	2×8×1.2	2×8×1.2	
	Face Area	m ² 0.363	0.363	0.363	0.363	
Fan	Model		QTS46D14M	QTS46D14M	QTS46D14M	QTS46D14M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	30×1	30×1	30×1	30×1
	Air Flow Rate (H/L)	m ³ /min	13/10	13/10	15/11	16/11
		cfm	459/353	459/353	530/388	565/388
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Polyurethane Form	Polyurethane Form	Polyurethane Form	Polyurethane Form	
Piping Connections	Liquid Pipes	mm φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	
	Gas Pipes	mm φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	
	Drain Pipe	mm VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight		kg 24	24	24	24	
★5 Sound Level (H/L) (220V)(cooling)		dBA 30/27	30/27	31/27	32/27	
Safety Devices		Fuse	Fuse	Fuse	Fuse	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 : K or M Series R407C ; K or L Series	R22 : K or M Series R407C ; K or L Series	R22 : K or M Series R407C ; K or L Series	R22 : K or M Series R407C ; K or L Series	
Decoration Panels (Option)	Model		BYCP125D-W1	BYCP125D-W1	BYCP125D-W1	BYCP125D-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	45×950×950	45×950×950	45×950×950	45×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories		Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.				
Drawing No.		3D034210A				

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Cassette Type (Multi-flow)

Model		FXF63LVE	FXF80LVE	FXF100LVE	FXF125LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	6,300	8,000	10,000	12,500	
	Btu/h	25,000	31,800	39,700	49,600	
	kW	7.3	9.3	11.6	14.5	
★2 Cooling Capacity (19.0°CWB)	kW	7.1	9.0	11.2	14.0	
★3 Heating Capacity	kcal/h	6,900	8,600	10,800	13,800	
	Btu/h	27,300	34,100	42,700	54,600	
	kW	8.0	10.0	12.5	16.0	
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	246×840×840	246×840×840	288×840×840	288×840×840
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.2	2×10×1.2	2×12×1.2	2×12×1.2
	Face Area	m ²	0.454	0.454	0.544	0.544
Fan	Model		QTS46D14M	QTS46D14M	QTS46C17M	QTS46C17M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	30×1	30×1	120×1	120×1
	Air Flow Rate (H/L)	m ³ /min	18.5/14	20/15	26/21	30/24
		cfm	653/494	706/530	918/741	1,059/847
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Polyurethane Form	Polyurethane Form	Polyurethane Form	Polyurethane Form	
Piping Connections	Liquid Pipes	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Machine Weight	kg	25	25	29	29	
★5 Sound Level (H/L)(cooling)	dBA	33/28	36/31	39/33	42/36	
Safety Devices		Fuse	Fuse	Fuse	Fuse	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	
Decoration Panels (Option)	Model		BYCP125D-W1	BYCP125D-W1	BYCP125D-W1	BYCP125D-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	45×950×950	45×950×950	45×950×950	45×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories		Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation manual, Installation manual, Paper pattern for installation, Drain hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	
Drawing No.		3D034210A				

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Cassette Corner Type

Model		FXK25LVE	FXK32LVE	FXK40LVE	FXK63LVE		
★1 Cooling Capacity (19.5°CWB)	kcal/h	2,500	3,150	4,000	6,300		
	Btu/h	9,900	12,500	15,900	25,000		
	kW	2.9	3.7	4.7	7.3		
★2 Cooling Capacity (19.0°CWB)	kW	2.8	3.6	4.5	7.1		
★3 Heating Capacity	kcal/h	2,800	3,400	4,300	6,900		
	Btu/h	10,900	13,600	17,000	27,300		
	kW	3.2	4.0	5.0	8.0		
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate		
Dimensions: (HxWxD)		mm 215x1,110x710	215x1,110x710	215x1,110x710	215x1,310x710		
Coil (Cross Fin Coil)	RowsxStagesxFin Pitch	mm 2x11x1.75	2x11x1.75	2x11x1.75	3x11x1.75		
	Face Area	m ² 0.180	0.180	0.180	0.226		
Fan	Model		3D12H1AN1V1	3D12H1AN1V1	3D12H1AP1V1	4D12H1AJ1V1	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output x Number of Units		W 15x1	15x1	20x1	45x1	
	Air Flow Rate (H/L)	50Hz	m ³ /min	11/9	11/9	13/10	18/15
			cfm	388/318	388/318	459/353	635/530
		60Hz	m ³ /min	11/8.5	11/8.5	13/10	18/13
cfm			388/300	388/300	459/353	635/459	
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive		
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating		
Sound Absorbing Thermal Insulation Material		Polyethylene Foam	Polyethylene Foam	Polyethylene Foam	Polyethylene Foam		
Piping Connections	Liquid Pipes	mm φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)		
	Gas Pipes	mm φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)		
	Drain Pipe	mm VP25 (External Dia. 32) (Internal Dia. 25)	VP25 (External Dia. 32) (Internal Dia. 25)	VP25 (External Dia. 32) (Internal Dia. 25)	VP25 (External Dia. 32) (Internal Dia. 25)		
Machine Weight		kg 31	31	31	34		
★5 Sound Level (H/L) (220V)		dBA 38/33	38/33	40/34	42/37		
Safety Devices		Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor		
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve		
Connectable Outdoor Units		R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series		
Decoration Panels (Option)	Model		BYK45FJW1	BYK45FJW1	BYK45FJW1	BYK71FJW1	
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	
	Dimensions: (HxWxD)		mm 70x1,240x800	70x1,240x800	70x1,240x800	70x1,440x800	
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	
	Weight		kg 8.5	8.5	8.5	9.5	
Standard Accessories		Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Air Outlet Blocking Pad.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Air Outlet Blocking Pad.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Air Outlet Blocking Pad.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Air Outlet Blocking Pad.		
Drawing No.		3D037070					

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kWx860
Btu/h=kWx3414
cfm=m ³ /minx35.3

Slim Ceiling Mounted Duct Type

Model			FXD20MVE	FXD25MVE	FXD32MVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		2,000	2,500	3,150
	Btu/h		7,900	9,900	12,500
	kW		2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)	kW		2.2	2.8	3.6
★3 Heating Capacity	kcal/h		2,200	2,800	3,400
	Btu/h		8,500	10,900	13,600
	kW		2.5	3.2	4.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	200×900×620	200×900×620	200×900×620
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.5	2×12×1.5	2×12×1.5
	Face Area	m ²	0.176	0.176	0.176
Fan	Model		—		
	Type		Sirocco Fan		
	Motor Output × Number of Units	W	62×1		
	Air Flow Rate (H/L)	m ³ /min	9.5/7.5		
	External Static Pressure	Pa	49-20 ★4		
	Drive		Direct Drive		
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
Air Filter			— ★6	— ★6	— ★6
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight		kg	25		
★5 Sound Level (H/L)		dBA	33/29		
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.	Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.	Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.
Drawing No.			3D044731		

Notes:

- ★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m (Horizontal).
- ★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
- ★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 External static pressure is changeable to set by the remote controller this pressure means "High static pressure - Standard static pressure".
- ★5 The operation sound levels are the conversion values in anechoic chamber. In practice, the sound tend to be larger than the specified values due to ambient noise or reflections.
When the place of suction is changed to the bottom suction, the sound level will increase by approx, 5dBA.
- ★6 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.
- ★7 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Slim Ceiling Mounted Duct Type

Model			FXD40MVE	FXD50MVE	FXD63MVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		4,000	5,000	6,300
	Btu/h		15,900	19,900	25,000
	kW		4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)	kW		4.5	5.6	7.1
★3 Heating Capacity	kcal/h		4,300	5,400	6,900
	Btu/h		17,000	21,500	27,300
	kW		5.0	6.3	8.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	200×900×620	200×900×620	200×1100×620
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×12×1.5	3×12×1.5	3×12×1.5
	Face Area	m ²	0.176	0.176	0.227
Fan	Model		—		
	Type		Sirocco Fan		
	Motor Output × Number of Units	W	62×1	130×1	130×1
	Air Flow Rate (H/L)	m ³ /min	10.5/8.5	12.5/10.0	16.5/13.0
	External Static Pressure	Pa	49-20 ★4	49-20 ★4	49-20 ★4
	Drive		Direct Drive		
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
Air Filter			— ★6	— ★6	— ★6
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight	kg		26	27	31
★5 Sound Level (H/L)	dBA		34/30	35/31	36/32
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.	Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.	Operation Manual, Installation Manual, Warranty, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate Screws for Duct Flanges.
Drawing No.			3D044731		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 External static pressure is changeable to set by the remote controller this pressure means "High static pressure - Standard static pressure".
- ★5 The operation sound levels are the conversion values in anechoic chamber. In practice, the sound tend to be larger than the specified values due to ambient noise or reflections.
When the place of suction is changed to the bottom suction, the sound level will increase by approx, 5dBA.
- ★6 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.
- ★7 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Low Silhouette Duct Type

★6 Model			FXD20KAVE	FXD25KAVE	FXD32KAVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		2,000	2,500	3,150
	Btu/h		7,900	9,900	12,500
	kW		2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)	kW		2.2	2.8	3.6
★3 Heating Capacity	kcal/h		2,200	2,800	3,400
	Btu/h		8,500	10,900	13,600
	kW		2.5	3.2	4.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	260×900×580	260×900×580	260×900×580
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.75	2×10×1.75	2×10×1.75
	Face Area	m ²	0.147	0.147	0.147
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	45×1	45×1	45×1
	Air Flow Rate (H/L)	m ³ /min	12/11	12/11	12/11
		cfm	424/388	424/388	424/388
	External Static Pressure	Pa	49	49	49
	Drive			Direct Drive	Direct Drive
Temperature Regulator			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Form Polyethylene	Form Polyethylene	Form Polyethylene
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	in.	3/4B	3/4B	3/4B
Machine Weight	kg	23	23	23	
★5 Sound Level (H/L)	dBA	38/35	38/35	38/35	
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series	R22 : K or M Series	R22 : K or M Series
Standard Accessories			Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.	Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.	Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.
Drawing No.			C : 3D024660		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.
When the place of suction is changed to the bottom suction, the sound level will increase by approx. 5 dBA.
- ★6 Model name for other country

For General Country	FXD20KAVE	FXD25KAVE	FXD32KAVE
For Thailand	FXD20KVES	FXD25KVES	FXD32KVES

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Low Silhouette Duct Type

★6 Model			FXD40KAVE	FXD50KAVE	FXD63KAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	15,900	19,900	25,000
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,000	21,500	27,300
		kW	5.0	6.3	8.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	260×900×580	260×1,300×580	260×1,300×580
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×10×1.75	2×10×1.75	3×10×1.75
	Face Area	m ²	0.147	0.231	0.231
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	45×1	65×1	65×1
	Air Flow Rate (H/L)	m ³ /min	12/11	17/15	17/15
		cfm	424/388	600/530	600/530
	External Static Pressure	Pa	49	49	49
Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Form Polyethylene	Form Polyethylene	Form Polyethylene
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	in.	3/4B	3/4B	3/4B
Machine Weight	kg	24	31	32	
★5 Sound Level (H/L)	dBA	38/35	41/38	41/38	
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series	R22 : K or M Series	R22 : K or M Series
Standard Accessories			Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.	Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.	Operation Manual, Installation Manual, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws for Duct Flanges.
Drawing No.			C : 3D024660		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.
When the place of suction is changed to the bottom suction, the sound level will increase by approx. 5 dBA.
- ★6 Model name for other country

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

For General Country	FXD40KAVE	FXD50KAVE	FXD63KAVE
For Thailand	FXD40KVES	FXD50KVES	FXD63KVES

Ceiling Mounted Built-in Type

Model			FXS20LVE	FXS25LVE	FXS32LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h		2,000	2,500	3,150	
	Btu/h		7,900	9,900	12,500	
	kW		2.3	2.9	3.7	
★2 Cooling Capacity (19.0°CWB)	kW		2.2	2.8	3.6	
★3 Heating Capacity	kcal/h		2,200	2,800	3,400	
	Btu/h		8,500	10,900	13,600	
	kW		2.5	3.2	4.0	
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)			mm 300×550×800	300×550×800	300×550×800	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.088	0.088	0.088	
Fan	Model		D18H3A	D18H3A	D18H3A	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	50×1	50×1	50×1	
	Air Flow Rate (H/L)	(50Hz)	m ³ /min	9/6.5	9/6.5	9.5/7
		(60Hz)	m ³ /min	9/6.5	9/6.5	9.5/6.5
	★4 Static external pressure	(50Hz)	Pa	88-39-20	88-39-20	64-39-15
		(60Hz)	Pa	73-24-10	73-24-10	86-42-10
Drive			Direct Drive	Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight		kg	30	30	30	
★7 Sound Level (H/L) (220V)		dBA	37/32	37/32	38/32	
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit			R22 : K or M Series, R407C : K or L Series	R22 : K or M Series, R407C : K or L Series	R22 : K or M Series, R407C : K or L Series	
Decoration Panel (Option)	Model		BYBS32DJW1	BYBS32DJW1	BYBS32DJW1	
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	
	Dimensions: (H×W×D)	mm	55×650×500	55×650×500	55×650×500	
	Weight	kg	3	3	3	
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	
Drawing No.			3D036931			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard -Low static pressure".
- ★5 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- 6 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★7 Operation sound is measured in an anechoic chamber.

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Built-in Type

Model			FXS40LVE	FXS50LVE	FXS63LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h		4,000	5,000	6,300	
	Btu/h		15,900	19,900	25,000	
	kW		4.7	5.8	7.3	
★2 Cooling Capacity (19.0°CWB)	kW		4.5	5.6	7.1	
★3 Heating Capacity	kcal/h		4,300	5,400	6,900	
	Btu/h		17,000	21,500	27,300	
	kW		5.0	6.3	8.0	
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)			mm 300×700×800	300×700×800	300×1,000×800	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.132	0.132	0.221	
Fan	Model		D18H2A	D18H2A	2D18H2A	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	65×1	85×1	125×1	
	Air Flow Rate (H/L)	(50Hz)	m ³ /min	11.5/9	15/11	21/15.5
		(60Hz)	m ³ /min	11.5/9	15/11	21/14
	★4 Static external pressure	(50Hz)	Pa	88-49-20	88-59-29	88-49-20
		(60Hz)	Pa	88-29-10	88-41-10	122-66-10
Drive			Direct Drive	Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight		kg	30	31	41	
★7 Sound Level (H/L)		dBA	38/32	41/36	42/35	
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit			R22 : K or M Series, R407C : K or L Series	R22 : K or M Series, R407C : K or L Series	R22 : K or M Series, R407C : K or L Series	
Decoration Panel (Option)	Model		BYBS45DJW1	BYBS45DJW1	BYBS71DJW1	
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	
	Dimensions: (H×W×D)	mm	55×800×500	55×800×500	55×1,100×500	
	Weight	kg	3.5	3.5	4.5	
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	
Drawing No.			3D036931			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard -Low static pressure".
- ★5 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- 6 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★7 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Built-in Type

Model		FXS80LVE		FXS100LVE		FXS125LVE		
★1 Cooling Capacity (19.5°CWB)	kcal/h	8,000		10,000		12,500		
	Btu/h	31,800		39,700		49,600		
	kW	9.3		11.6		14.5		
★2 Cooling Capacity (19.0°CWB)	kW	9.0		11.2		14.0		
★3 Heating Capacity	kcal/h	8,600		10,800		13,800		
	Btu/h	34,100		42,700		54,600		
	kW	10.0		12.5		16.0		
Casing		Galvanized Steel Plate		Galvanized Steel Plate		Galvanized Steel Plate		
Dimensions: (H×W×D)		mm		300×1,400×800		300×1,400×800		
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm		3×14×1.75		3×14×1.75		
	Face Area	m ²		0.338		0.338		
Fan	Model		3D18H2A		3D18H2A		3D18H2A	
	Type		Sirocco Fan		Sirocco Fan		Sirocco Fan	
	Motor Output × Number of Units		W		225×1		225×1	
	Air Flow Rate (H/L)	(50Hz)	m ³ /min		27/21.5		28/22	
		(60Hz)	m ³ /min		27/20.5		28/21	
	★5 Static external pressure	(50Hz)	Pa		113-82		107-75	
		(60Hz)	Pa		147-92		136-83	
Drive		Direct Drive		Direct Drive		Direct Drive		
Temperature Control		Microprocessor Thermostat for Cooling and Heating		Microprocessor Thermostat for Cooling and Heating		Microprocessor Thermostat for Cooling and Heating		
Sound Absorbing Thermal Insulation Material		Glass Fiber		Glass Fiber		Glass Fiber		
Air Filter		Resin Net (with Mold Resistant)		Resin Net (with Mold Resistant)		Resin Net (with Mold Resistant)		
Piping Connections	Liquid Pipes	mm		φ9.5 (Flare Connection)		φ9.5 (Flare Connection)		
	Gas Pipes	mm		φ15.9 (Flare Connection)		φ19.1 (Flare Connection)		
	Drain Pipe	mm		VP25 (External Dia. 32 Internal Dia. 25)		VP25 (External Dia. 32 Internal Dia. 25)		
Machine Weight		kg		51		52		
★7 Sound Level (H/L)		dBA		43/37		43/37		
Safety Devices		Fuse, Thermal Protector for Fan Motor		Fuse, Thermal Protector for Fan Motor		Fuse, Thermal Protector for Fan Motor		
Refrigerant Control		Electronic Expansion Valve		Electronic Expansion Valve		Electronic Expansion Valve		
Connectable outdoor unit		R22 : K or M Series, R407C : K or L Series		R22 : K or M Series, R407C : K or L Series		R22 : K or M Series, R407C : K or L Series		
Decoration Panel (Option)	Model		BYBS125DJW1		BYBS125DJW1		BYBS125DJW1	
	Panel Color		White (10Y9/0.5)		White (10Y9/0.5)		White (10Y9/0.5)	
	Dimensions: (H×W×D)		mm		55×1,500×500		55×1,500×500	
	Weight		kg		6.5		6.5	
Standard Accessories		Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.		Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.		Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.		
Drawing No.		3D036931						

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard -Low static pressure".
- ★5 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- 6 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★7 Operation sound is measured in an anechoic chamber.

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Built-in (Rear Suction Type)

Model			FXYP20KV1	FXYP25KV1	FXYP32KV1	
★1 Cooling Capacity (19.5°CWB)	kcal/h		2,000	2,500	3,150	
	Btu/h		7,900	9,900	12,500	
	kW		2.3	2.9	3.7	
★2 Cooling Capacity (19.0°CWB)	kW		2.2	2.8	3.6	
★3 Heating Capacity	kcal/h		2,200	2,800	3,400	
	Btu/h		8,500	10,900	13,600	
	kW		2.5	3.2	4.0	
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	300×550×800	300×550×800	300×550×800	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.088	0.088	0.088	
Fan	Model		D18H3AA1V1	D18H3AA1V1	D18H3AA1V1	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	50×1	50×1	50×1	
	Air Flow Rate (H/L)	m ³ /min		9/6.5	9/6.5	9/6.5
		cfm		318/230	318/230	318/230
	★4 External Static Pressure	Pa		88-39-20	88-39-20	88-39-20
Drive			Direct Drive	Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight		kg	30	30	30	
★6 Sound Level (H/L) (220V)	dBA		27/23	27/23	27/23	
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit			R22 : K or M Series	R22 : K or M Series	R22 : K or M Series	
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	
Drawing No.			C : 3D023749			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard-Low static pressure".
- 5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★6 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Built-in (Rear Suction Type)

Model			FXYB40KV1	FXYB50KV1	FXYB63KV1	
★1 Cooling Capacity (19.5°CWB)	kcal/h		4,000	5,000	6,300	
	Btu/h		15,900	19,900	25,000	
	kW		4.7	5.8	7.3	
★2 Cooling Capacity (19.0°CWB)	kW		4.5	5.6	7.1	
★3 Heating Capacity	kcal/h		4,300	5,400	6,900	
	Btu/h		17,000	21,500	27,300	
	kW		5.0	6.3	8.0	
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	300×700×800	300×700×800	300×1,000×800	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.132	0.132	0.221	
Fan	Model		D18H2AC1V1	D18H2AB1V1	2D18H2AB1V1	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	65×1	85×1	125×1	
	Air Flow Rate (H/L)	m ³ /min		11.5/9	14/10	19/14
		cfm		406/318	494/353	671/494
	★4 External Static Pressure	Pa		88-49-20	88-49-20	88-49-20
Drive			Direct Drive	Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight	kg		30	31	41	
★6 Sound Level (H/L)	dBA		28/24	30/25	32/25	
Safety Devices			Fuse Thermal Protector for Fan Motor	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor	
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit			R22 : K or M Series	R22 : K or M Series	R22 : K or M Series	
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	
Drawing No.			C : 3D023749			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- 5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★6 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Built-in (Rear Suction Type)

Model			FXYP80KV1	FXYP100KV1	FXYP125KV1	
★1 Cooling Capacity (19.5°CWB)	kcal/h		8,000	10,000	12,500	
	Btu/h		31,800	39,700	49,600	
	kW		9.3	11.6	14.5	
★2 Cooling Capacity (19.5°CWB)	kW		9.0	11.2	14.0	
★3 Heating Capacity	kcal/h		8,600	10,800	13,800	
	Btu/h		34,100	42,700	54,600	
	kW		10.0	12.5	16.0	
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	300×1,400×800	300×1,400×800	300×1,400×800	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.338	0.338	0.338	
Fan	Model		3D18H2AH1V1	3D18H2AH1V1	3D18H2AG1V1	
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	135×1	135×1	225×1	
	Air Flow Rate (H/L)	m ³ /min		27/20	27/20	35/24
		cfm		953/706	953/706	1,236/847
	★4 External Static Pressure	Pa		88-49	88-49	88-49
Drive			Direct Drive	Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	
Piping Connections	Liquid Pipes	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	
	Gas Pipes	mm	φ15.9 (Flare Connection)	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)	
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	
Machine Weight	kg		51	51	52	
★6 Sound Level (H/L)	dBA		32/27	32/27	34/27	
Safety Devices			Thermal Fuse for Fan Motor	Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit			R22 : K or M Series	R22 : K or M Series	R22 : K or M Series	
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Sealing Pads, Clamps, Fuses, Screws, Washers.	
Drawing No.			C : 3D023749			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure Standard".
- 5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
- ★6 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Mounted Duct Type

Model		FXM40LVE	FXM50LVE	FXM63LVE	FXM80LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	4,000	5,000	6,300	8,000	
	Btu/h	15,900	19,900	25,000	31,800	
	kW	4.7	5.8	7.3	9.3	
★2 Cooling Capacity (19.0°CWB)	kW	4.5	5.6	7.1	9.0	
★3 Heating Capacity	kcal/h	4,300	5,400	6,900	8,600	
	Btu/h	17,000	21,500	27,300	34,100	
	kW	5.0	6.3	8.0	10.0	
Casing		Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	
Dimensions: (H×W×D)		mm	390×720×690	390×720×690	390×720×690	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×2.0	3×16×2.0	3×16×2.0	
	Face Area	m ²	0.181	0.181	0.181	
Fan	Model		D11/2D3AB1VE	D11/2D3AB1VE	D11/2D3AA1VE	2D11/2D3AG1VE
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	100×1	100×1	160×1	270×1
	Air Flow Rate (H/L)	m ³ /min	14/11.5	14/11.5	19.5/16	29/23
		cfm	494/406	494/406	688/565	1,024/812
	External Static Pressure	Pa	157/157-118/108 ★4	157/157-118/108 ★4	157/160-108/98 ★4	157/172-98/98 ★4
Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Glass Fiber	Glass Fiber	Glass Fiber	Glass Fiber	
Air Filter		★5	★5	★5	★5	
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Machine Weight	kg	44	44	45	62	
★7 Sound Level (H/L)	dBA	39/35	39/35	42/38	43/39	
Safety Devices		Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series	
Standard Accessories		Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	
Drawing No.		3D034584A				

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- ★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- ★5 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.
- ★6 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★7 Operation sound is measured in an anechoic chamber.

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Ceiling Mounted Duct Type

Model			FXM100LVE	FXM125LVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		10,000	12,500
	Btu/h		39,700	49,600
	kW		11.6	14.5
★2 Cooling Capacity (19.0°CWB)	kW		11.2	14.0
★3 Heating Capacity	kcal/h		10,800	13,800
	Btu/h		42,700	54,600
	kW		12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	390×1,110×690	390×1,110×690
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×2.0	3×16×2.0
	Face Area	m ²	0.319	0.319
Fan	Model		2D11/2D3AG1VE	2D11/2D3AF1VE
	Type		Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	270×1	430×1
	Air Flow Rate (H/L)	m ³ /min	29/23	36/29
		cfm	1,024/812	1,271/1,024
	External Static Pressure	Pa	157/172-98/98 ★4	191/245-152/172 ★4
Drive		Direct Drive	Direct Drive	
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber
Air Filter			★5	★5
Piping Connections	Liquid Pipes	mm	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ19.1 (Flare Connection)	φ19.1 (Flare Connection)
	Drain Pipe	mm	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Machine Weight		kg	63	65
★7 Sound Level (H/L)		dBA	43/39	45/42
Safety Devices			Fuse, Thermal Fuse for Fan Motor	Fuse, Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R22 ; K or M Series R407C ; K or L Series	R22 ; K or M Series R407C ; K or L Series
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.
Drawing No.			3D034584A	

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- ★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".
- ★5 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.
- ★6 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★7 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Ceiling Suspended Type

Model		FXH32LVE	FXH63LVE	FXH100LVE	
★1 Cooling Capacity (19.5°CWB)	kcal/h	3,150	6,300	10,000	
	Btu/h	12,500	25,000	39,700	
	kW	3.7	7.3	11.6	
★2 Cooling Capacity (19.0°CWB)	kW	3.6	7.1	11.2	
★3 Heating Capacity	kcal/h	3,400	6,900	10,800	
	Btu/h	13,600	27,300	42,700	
	kW	4.0	8.0	12.5	
Casing Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	
Dimensions: (H×W×D)		mm 195×960×680	mm 195×1,160×680	mm 195×1,400×680	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm 2×12×1.75	mm 3×12×1.75	mm 3×12×1.75	
	Face Area	m ² 0.182	m ² 0.233	m ² 0.293	
Fan	Model		3D12K1AA1	4D12K1AA1	3D12K2AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	62×1	62×1	130×1
	Air Flow Rate (H/L)	m ³ /min	12/10	17.5/14	25/19.5
		cfm	424/353	618/494	883/688
Drive		Direct Drive	Direct Drive	Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		Glass Wool	Glass Wool	Glass Wool	
Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	
Piping Connections	Liquid Pipes	mm φ6.4 (Flare Connection)	mm φ9.5 (Flare Connection)	mm φ9.5 (Flare Connection)	
	Gas Pipes	mm φ12.7 (Flare Connection)	mm φ15.9 (Flare Connection)	mm φ19.1 (Flare Connection)	
	Drain Pipe	mm VP20 (External Dia. 26 Internal Dia. 20)	mm VP20 (External Dia. 26 Internal Dia. 20)	mm VP20 (External Dia. 26 Internal Dia. 20)	
Machine Weight		kg 24	kg 28	kg 33	
★5 Sound Level (H/L)		dBA 36/31	dBA 39/34	dBA 45/37	
Safety Devices		Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	
Refrigerant Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	
Connectable outdoor unit		R22 ; K or M Series, R407C ; K or L Series	R22 ; K or M Series, R407C ; K or L Series	R22 ; K or M Series, R407C ; K or L Series	
Standard Accessories		Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers, Flare Nut.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers.	
Drawing No.		3D035297			

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Wall Mounted Type

Model			FXA20LVE	FXA25LVE	FXA32LVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		2,000	2,500	3,150
	Btu/h		7,900	9,900	12,500
	kW		2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)	kW		2.2	2.8	3.6
★3 Heating Capacity	kcal/h		2,200	2,800	3,400
	Btu/h		8,500	10,900	13,600
	kW		2.5	3.2	4.0
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	290×795×230	290×795×230	290×795×230
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×14×1.4	2×14×1.4	2×14×1.4
	Face Area	m ²	0.161	0.161	0.161
Fan	Model		—		
	Type		Cross Flow Fan		
	Motor Output × Number of Units	W	40×1		
	Air Flow Rate (H/L)	m ³ /min	7.5/4.5		
		cfm	265/159		
Drive		Direct Drive			
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	mm	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)
Machine Weight		kg	11		
★5 Sound Level (H/L)		dBA	35/29		
Safety Devices			Fuse		
Refrigerant Control			Electronic Expansion Valve		
Connectable outdoor unit			R22:K or M Series R407C:K or L Series		
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.		
Drawing No.			3D034904A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Wall Mounted Type

Model			FXA40LVE	FXA50LVE	FXA63LVE
★1 Cooling Capacity (19.5°CWB)	kcal/h		4,000	5,000	6,300
	Btu/h		15,900	19,900	25,000
	kW		4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)	kW		4.5	5.6	7.1
★3 Heating Capacity	kcal/h		4,300	5,400	6,900
	Btu/h		17,000	21,500	27,300
	kW		5.0	6.3	8.0
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	290×1,050×230	290×1,050×230	290×1,050×230
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×14×1.4	2×14×1.4	2×14×1.4
	Face Area	m ²	0.213	0.213	0.213
Fan	Model		—		
	Type		Cross Flow Fan		
	Motor Output × Number of Units	W	43×1		
	Air Flow Rate (H/L)	m ³ /min	12/9		
		cfm	424/318		
Drive		Direct Drive			
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene	Foamed Polystyrene / Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	mm	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)
Machine Weight		kg	14		
★5 Sound Level (H/L)		dBA	39/34		
Safety Devices			Fuse		
Refrigerant Control			Electronic Expansion Valve		
Connectable outdoor unit			R22:K or M Series R407C:K or L Series		
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.		
Drawing No.			3D034904A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Floor Standing Type

Model			FXL20LVE	FXL25LVE	FXL32LVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,150
		Btu/h	7,900	9,900	12,500
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	600×1,000×222	600×1,000×222	600×1,140×222
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m ²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Air Flow Rate (H/L)	m ³ /min	7/6	7/6	8/6
		cfm	247/212	247/212	282/212
Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	mm	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)
Machine Weight		kg	25	25	30
★5 Sound Level (H/L)		dBA	35/32	35/32	35/32
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.
Drawing No.			3D034576A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Floor Standing Type

Model			FXL40LVE	FXL50LVE	FXL63LVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	15,900	19,900	25,000
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,000	21,500	27,300
		kW	5.0	6.3	8.0
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	600×1,140×222	600×1,420×222	600×1,420×222
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m ²	0.200	0.282	0.282
Fan	Model		2D14B13	2D14B20	2D14B20
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	25×1	35×1	35×1
	Air Flow Rate (H/L)	m ³ /min	11/8.5	14/11	16/12
		cfm	388/300	494/388	565/424
Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	mm	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)
Machine Weight	kg	30	36	36	
★5 Sound Level (H/L)	dBA	38/33	39/34	40/35	
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.
Drawing No.			3D034576A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Concealed Floor Standing Type

Model			FXN20LVE	FXN25LVE	FXN32LVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,150
		Btu/h	7,900	9,900	12,500
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	610×930×220	610×930×220	610×1,070×220
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m ²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Air Flow Rate (H/L)	m ³ /min	7/6	7/6	8/6
		cfm	247/212	247/212	282/212
Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)	φ6.4 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)	φ12.7 (Flare Connection)
	Drain Pipe	mm	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)
Machine Weight		kg	19	19	23
★5 Sound Level (H/L)		dBA	35/32	35/32	35/32
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.
Drawing No.			3D034577A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Concealed Floor Standing Type

Model			FXN40LVE	FXN50LVE	FXN63LVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	15,900	19,900	25,000
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,000	21,500	27,300
		kW	5.0	6.3	8.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	610×1,070×220	610×1,350×220	610×1,350×220
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m ²	0.200	0.282	0.282
Fan	Model		2D14B13	2D14B20	2D14B20
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	25×1	35×1	35×1
	Air Flow Rate (H/L)	m ³ /min	11/8.5	14/11	16/12
		cfm	388/300	494/388	565/424
Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber / Urethane Foam	Glass Fiber / Urethane Foam	Glass Fiber / Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes	mm	φ6.4 (Flare Connection)	φ9.5 (Flare Connection)	φ9.5 (Flare Connection)
	Gas Pipes	mm	φ12.7 (Flare Connection)	φ15.9 (Flare Connection)	φ15.9 (Flare Connection)
	Drain Pipe	mm	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)	φ21 O.D (Vinyl Chloride)
Machine Weight		kg	23	27	27
★5 Sound Level (H/L)		dBA	38/33	39/34	40/35
Safety Devices			Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor	Fuse, Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series	R22 : K or M Series R407C : K or L Series
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.
Drawing No.			3D034577A		

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 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
- 4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
- ★5 Operation sound is measured in an anechoic chamber.

Conversion Formulae
kcal/h=kW×860
Btu/h=kW×3414
cfm=m ³ /min×35.3

Part 3

List of Electrical and Functional Parts

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1. List of Electrical and Functional Parts

1.1 Outdoor Unit

Item	Name		Symbol	Model			Remark (PCB terminal)
				4HP	5HP	6HP	
Compressor	Inverter	Type	M1C	JT100FBVD@3 3.2kW			Relay A2P×201A
		Output					
	Crankcase heater (INV)		E1HC	33W			A1P×6A
Fan motor	Motor		M1F-M2F	0.07kW			—
	Over-current relay		—	3.2A			—
Functional parts	Electronic expansion valve (Main)	Cooling	Y1E	2000pls			A1P×26A
		Heating		PI control			
	Electronic expansion valve (Subcool)	Cooling	Y2E	PI control			A1P×28A
		Heating		0pls			
	Solenoid valve (Hot gas)		Y1S	TEV1620DQ2			A1P×2A
	Solenoid valve (Receiver gas charge)		Y2S	VPV-603D			A1P×3A
	4 way valve		Y3S	STF-0404Z			A1P×15A
Pressure-related parts	Pressure switch (INV)		S1PH	ACB-DB184 ON: 2.7+0/-0.1MPa OFF: 1.9±0.15MPa			A2P×60A
	Fusible plug		—	FPGH-3D 70~75°C			—
	Pressure sensor (HP)		S1NPH	PS8050A 0~0.33MPa			A1P×46A
	Pressure sensor (LP)		S1NPL	PS8050A —0.05~0.98MPa			A1P×45A
Thermistor	Main PCB	For outdoor air	R1T	3.5~360kΩ			A1P×44A
		For suction pipe	R2T	3.5~360kΩ			A1P×37A 1-2Pin
		For discharge pipe	R3T	3.5~400kΩ			A1P×34A 1-2Pin
		For heat exchanger	R4T	3.5~360kΩ			A1P×37A 3-4Pin
		For subcooling heat exchanger	R5T	3.5~360kΩ			A1P×37A 5-6Pin
Others	Fuse (A3P)		F1U	AC250V 6.3A Time lag fuse			—

1.2 Indoor Unit

Parts Name		Symbol	Model								Remark
			FXF25 LVE	FXF32 LVE	FXF40 LVE	FXF50 LVE	FXF63 LVE	FXF80 LVE	FXF100 LVE	FXF125 LVE	
Remote Controller	Wired Remote Controller		BRC1A61								Option
	Wireless Remote Controller		H/P BRC7E61W, C/O BRC7E65								Option
Motors	Fan Motor	M1F	DC380V 30W 8P					DC 380V 120W 8P			
	Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PLD-12230DM Thermal Fuse 145°C								
	Swing Motor	M1S	MP35HCA[3P007482-1] Stepping Motor DC16V								
Thermistors	Thermistor (Suction Air)	R1T	In PCB A4P or wired remote controller								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-5 φ8 L1000 20kΩ (25°C)								
	Thermistor (Heat Exchanger)	R2T	ST8602A-5 φ6 L1000 20kΩ (25°C)								
Others	Float Switch	S1L	FS-0211B								
	Fuse	F1U	250V 5A φ5.2								
	Thermal Fuse	TFu	—								
	Transformer	T1R	—								

Parts Name		Symbol	Model								Remark
			FXC 20LVE	FXC 25LVE	FXC 32LVE	FXC 40LVE	FXC 50LVE	FXC 63LVE	FXC 80LVE	FXC 125LVE	
Remote Controller	Wired Remote Controller		BRC1A61								Option
	Wireless Remote Controller		H/P BRC7C62, C/O BRC7C67								Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz								
			1φ10W	1φ15W	1φ25W	1φ30W	1φ50W	1φ85W			
			Thermal Fuse 152°C Thermal protector 130°C		—	Thermal protector 135°C : OFF 87°C : ON					
	Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PJV-1403 Thermal Fuse 169°C								
	Swing Motor	M1S	MT8-L[3PA07509-1] AC200~240V								
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 φ4 L1250 20kΩ (25°C)								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 φ8 L1250 20kΩ (25°C)								
	Thermistor (Heat Exchanger)	R2T	ST8602A-5 φ6 L1000 20kΩ (25°C)								
Others	Float Switch	S1L	FS-0211B								
	Fuse	F1U	250V 5A φ5.2								
	Transformer	T1R	TR22H21R8								

Parts Name		Symbol	Model				Remark
			FXK 25LVE	FXK 32LVE	FXK 40LVE	FXK 63LVE	
Remote Controller	Wired Remote Controller		BRC1A61				Option
	Wireless Remote Controller		H/P BRC4C61, C/O BRC4C63				
Motors	Fan Motor	M1F	AC 220~240V 50Hz				
			1φ15W 4P		1φ20W 4P	1φ45W 4P	
			Thermal Fuse 146°C		Thermal protector 120°C : OFF 105°C : ON		
	Drain Pump	M1P	AC 220-240V (50Hz) PLD-12200DM Thermal Fuse 145°C				
Swing Motor	M1S	MP8-L [3PA07312-1] AC200~240V					
Thermistors	Thermistor (Suction Air)	R1T	ST8601-13 φ4 L630 20kΩ (25°C)				
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-7 φ8 L1600 20kΩ (25°C)				
	Thermistor (Heat Exchanger)	R2T	ST8602A-7 φ6 L1600 20kΩ (25°C)				
Others	Float Switch	S1L	FS-0211B				
	Fuse	F1U	250V 5A φ5.2				
	Transformer	T1R	TR22H21R8				

Parts Name		Symbol	Model						Remark
			FXD 20MVE	FXD 25MVE	FXD 32MVE	FXD 40MVE	FXD 50MVE	FXD 63MVE	
Remote Controller	Wired Remote Controller		BRC1C611						Option
	Wireless Remote Controller		BRC4C623						Option
Motors	Fan Motor	M1F	AC220~240V/220V 50/60Hz						
			1 φ62W			1 φ130W			
			Thermal Protector 130±5°C						
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 φ4 L250 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-4 φ8 L800 20kΩ (25°C)						
	Thermistor (Heat Exchanger)	R2T	ST8602-4 φ6 L800 20kΩ (25°C)						
Others	Fuse	F1U	250V 5A						
	Transformer	T1R	TR22H21R8						

Parts Name		Symbol	Model						Remark
			FXYD20 KAVE	FXYD25 KAVE	FXYD32 KAVE	FXYD40 KAVE	FXYD50 KAVE	FXYD63 KAVE	
Remote Controller	Wired Remote Controller		BRC1A62						Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64						Option
Motors	Fan Motor	M1F	AC 220~240V/220V 50/60Hz						
			1φ45W			1φ65W			
			Thermal Protector 135°C						
Thermistors	Thermistor (Suction Air)	R1T	ST8601-2 φ4 L400 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-2 φ8 L400 20kΩ (25°C)						
	Thermistor (Heat Exchanger)	R2T	ST8602-2 φ6 L400 20kΩ (25°C)						
Others	Float Switch	33H	FS-0211						
	Fuse	F1U	250V 10A φ5.2						
	Transformer	T1R	TR22M21R8						

Parts Name		Symbol	Model									Remark
			FXS 20LVE	FXS 25LVE	FXS 32LVE	FXS 40LVE	FXS 50LVE	FXS 63LVE	FXS 80LVE	FXS 100LVE	FXS 125LVE	
Remote Controller	Wired Remote Controller		BRC1A62									Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64									
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1 ϕ 50W			1 ϕ 65W	1 ϕ 85W	1 ϕ 125W	1 ϕ 225W			
	Drain Pump	M1P	Thermal Fuse 152°C						Thermal protector 135°C : OFF 87°C : ON			
Thermistors	Thermistor (Suction Air)	R1T	AC220-240V (50Hz) PJV-1403 Thermal Fuse 169°C									
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8601-4 ϕ 4 L800 20k Ω (25°C)									
	Thermistor (Heat Exchanger)	R2T	ST8605-7 ϕ 8 L1600 20k Ω (25°C)									
Others	Float Switch	S1L	ST8602A-6 ϕ 6 L1250 20k Ω (25°C)									
	Fuse	F1U	FS-0211B									
	Transformer	T1R	250V 5A ϕ 5.2									
			TR22H21R8									

Parts Name		Symbol	Model									Remark
			FXYB 20KV1	FXYB 25KV1	FXYB 32KV1	FXYB 40KV1	FXYB 50KV1	FXYB 63KV1	FXYB 80KV1	FXYB 100KV1	FXYB 125KV1	
Remote Controller	Wired Remote Controller		BRC1A62									Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64									Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1 ϕ 50W			1 ϕ 65W	1 ϕ 85W	1 ϕ 125W	1 ϕ 135W		1 ϕ 225W	
	Motor for Drain Pump	M1P	Thermal Fuse 152°C									
Thermistors	Thermistor (Suction Air)	R1T	AC220-240V Thermal Fuse 169°C									
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8601-4 ϕ 4 L800 20k Ω (25°C)									
	Thermistor (Heat Exchanger)	R2T	ST8605-7 ϕ 8 L1600 20k Ω (25°C)									
Others	Float Switch	33H	ST8602-6 ϕ 6 L1250 20k Ω (25°C)									
	Fuse	F1U	FS-0211									
	Transformer	T1R	250V 10A ϕ 5.2									
			TR22M21R8									

Parts Name		Symbol	Model						Remark
			FXM 40LVE	FXM 50LVE	FXM 63LVE	FXM 80LVE	FXM 100LVE	FXM 125LVE	
Remote Controller	Wired Remote Controller		BRC1A62						Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64						
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1 ϕ 100W		1 ϕ 160W	1 ϕ 270W	1 ϕ 430W		
	Capacitor for Fan Motor	C1R	Thermal protector 135°C : OFF 87°C : ON						
Thermistors	Thermistor (Suction Air)	R1T	5 μ F-400V						
	Thermistor (for Heat Exchanger High Temp.)	R3T	7 μ F 400V						
	Thermistor (Heat Exchanger)	R2T	10 μ F 400V						
Others	Float switch	S1L	8 μ F 400V						
	Fuse	F1U	OPT10N						
	Transformer	T1R	250V 10A ϕ 5.2						
			TR22H21R8						

Parts Name		Symbol	Model			Remark
			FXH 32LVE	FXH 63LVE	FXH 100LVE	
Remote Controller	Wired Remote Controller		BRC1A61			Option
	Wireless Controller		H/P BRC7E63W, C/O BRC7E66			
Motors	Fan Motor	M1F	AC 220~240V/220V 50Hz/60Hz			
			1φ63W		1φ130W	
			Thermal protector 130°C : OFF 80°C : ON			
	Capacitor for Fan Motor	C1R	3.0μF-400V		9.0μF-400V	
Swing Motor	M1S	MT8-L[3P058751-1] AC200~240V				
Thermistors	Thermistor (Suction Air)	R1T	ST8601A-1 φ4 L250 20kΩ (25°C)			
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 φ8 L = 1250 20kΩ (25°C)			
	Thermistor (Heat Exchanger)	R2T	ST8602A-6 φ6 L = 1250 20kΩ (25°C)			
Others	Fuse	F1U	250V 5A φ5.2			
	Transformer	T1R	TR22H21R8			

Parts Name		Symbol	Model					Remark
			FXA 20LVE	FXA 25LVE	FXA 32LVE	FXA 40LVE	FXA 50LVE	
Remote Controller	Wired Remote Controller		BRC1A61					Option
	Wireless Remote Controller		H/P BRC7E618, C/O BRC7E619					Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz					
			1φ40W		1φ43W			
	Swing Motor	M1S	MP24[3SB40333-1] AC200~240V		MSFBC20C21 [3SB40550-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-2 φ4 L400 20kΩ (25°C)					
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-2 φ8 L400 20kΩ (25°C)					
	Thermistor (for Heat Exchanger)	R2T	ST8602-2 φ6 L400 20kΩ (25°C)					
Others	Float Switch	S1L	OPTION					
	Fuse	F1U	250V 5A φ5.2					

Parts Name		Symbol	Model					Remark
			FXL 20LVE	FXL 25LVE	FXL 32LVE	FXL 40LVE	FXL 50LVE	
Remote Controller	Wired Remote Controller		BRC1A62					Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64					
Motors	Fan Motor	M1F	AC 220~240V 50Hz					
			1 ϕ 15W	1 ϕ 25W	1 ϕ 35W			
	Capacitor for Fan Motor	C1R	Thermal protector 135°C : OFF 120°C : ON					
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 ϕ 4 L1250 20k Ω (25°C)					
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-9 ϕ 8 L2500 20k Ω (25°C)					
	Thermistor (for Heat Exchanger)	R2T	ST8602A-9 ϕ 6 L2500 20k Ω (25°C)					
Others	Fuse	F1U	AC250V 10A					
	Transformer	T1R	TR22H21R8					

Parts Name		Symbol	Model					Remark
			FXN 20LVE	FXN 25LVE	FXN 32LVE	FXN 40LVE	FXN 50LVE	
Remote Controller	Wired Remote Controller		BRC1A62					Option
	Wireless Remote Controller		H/P BRC4C62, C/O BRC4C64					
Motors	Fan Motor	M1F	AC 220~240V 50Hz					
			1 ϕ 15W	1 ϕ 25W	1 ϕ 35W			
	Capacitor for Fan Motor	C1R	Thermal protector 135°C : OFF 120°C : ON					
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 ϕ 4 L1250 20k Ω (25°C)					
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-9 ϕ 8 L2500 20k Ω (25°C)					
	Thermistor (for Heat Exchanger)	R2T	ST8602A-9 ϕ 6 L2500 20k Ω (25°C)					
Others	Fuse	F1U	AC250V 10A					
	Transformer	T1R	TR22H21R8					

Part 4

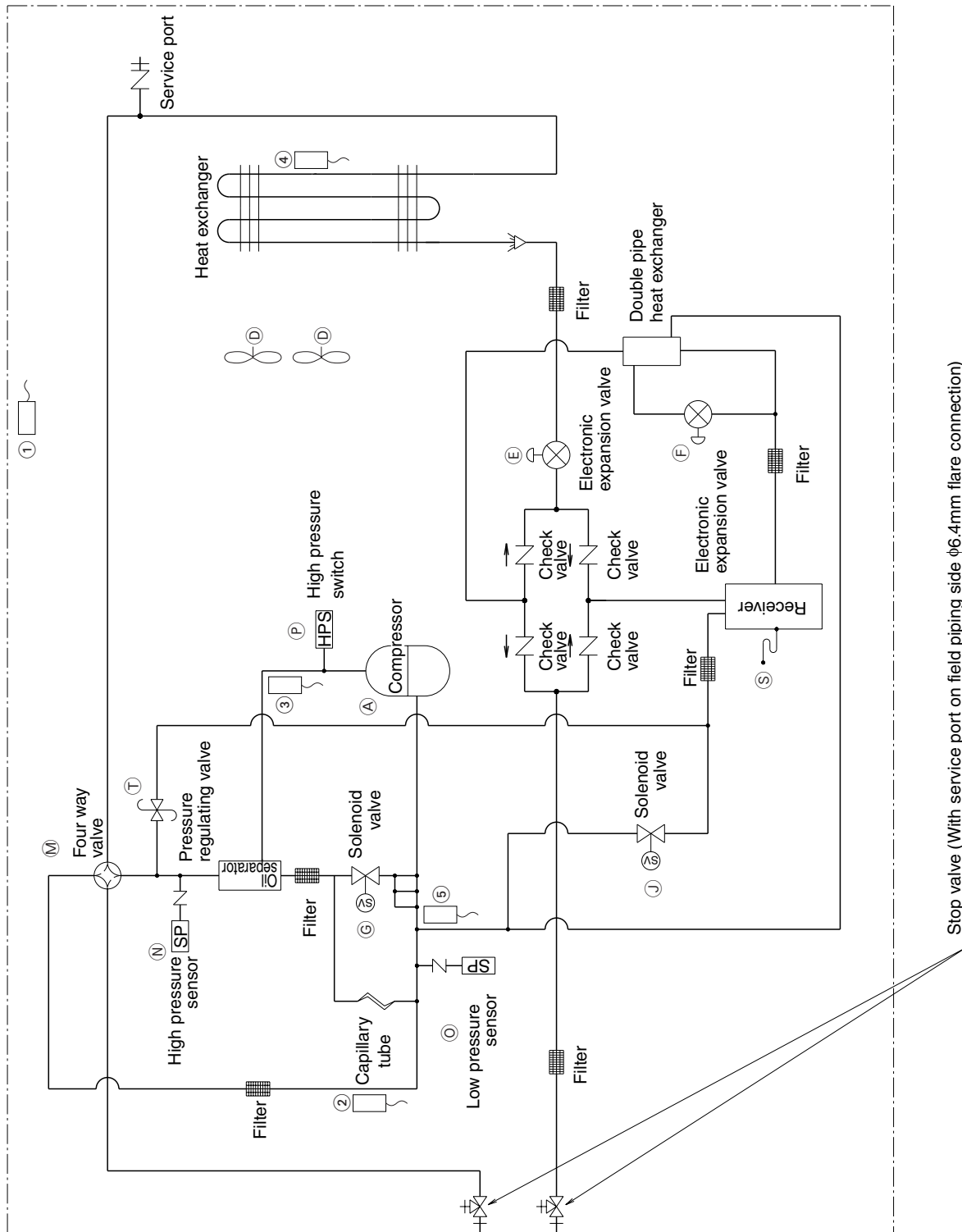
Refrigerant Circuit

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1. Refrigerant Circuit

1.1 RX (Y) M4-5-6M

No. in refrigerant system diagram	Symbol	Name	Major Function
A	M1C	Inverter compressor (INV)	Inverter compressor is operated on frequencies between 52 Hz and 210 Hz by using the inverter. 20 steps
D	M1F M2F	Inverter fan	Since the system is of air heat exchanging type, the fan is operated at 8-step rotation speed by using the inverter.
E	Y1E	Electronic expansion valve (Main: EV1)	While in heating operation, PI control is applied to keep the outlet superheated degree of air heat exchanger constant.
F	Y2E	Electronic expansion valve (Subcool: EV2)	PI control is applied to keep the outlet superheated degree of subcooling heat exchanger constant.
G	Y1S	Solenoid valve (Hot gas: SVP)	Used to prevent the low pressure from transient falling.
J	Y2S	Solenoid valve (Receiver gas discharging: SVG)	Used to collect refrigerant to receiver.
M	Y3S	Four way valve	Used to switch the operation mode between cooling and heating.
N	S1NPH	High pressure sensor	Used to detect high pressure.
O	S1NPL	Low pressure sensor	Used to detect low pressure.
P	S1PH	HP pressure switch (For INV compressor)	In order to prevent the increase of high pressure when a malfunction occurs, this switch is activated at high pressure of 2.8 MPa or more to stop the compressor operation.
S	—	Fusible plug	In order to prevent the increase of pressure when abnormal heating is caused by fire or others, the fusible part of the plug is molten at a temperature of 70 to 75°C to release the pressure into the atmosphere.
T	—	Pressure regulating valve 1 (Receiver to discharge pipe)	This valve opens at a pressure of 1.5 to 2.0 MPa for prevention of pressure increase, thus resulting in no damage of functional parts due to the increase of pressure in transportation or storage.
1	R1T	Thermistor (Outdoor air: Ta)	Used to detect outdoor temperature, correct discharge pipe temperature, and others.
2	R2T	Thermistor (Suction pipe: Ts)	used to detect suction pipe temperature, keep the suction superheated degree constant in heating operation, and others.
3	R3T	Thermistor (INV discharge pipe: Tdi)	used to detect discharge pipe temperature, make the temperature protection control of compressor, and others.
4	R4T	Thermistor (Heat exchanger deicer: Tb)	Used to detect liquid pipe temperature of air heat exchanger, determine defrosting operation, and others.
5	R5T	Thermistor (Subcooling heat exchanger gas pipe: Tsh)	Used to detect gas pipe temperature on the evaporation side of subcooling heat exchanger, keep the superheated degree at the outlet of subcooling heat exchanger constant, and others.

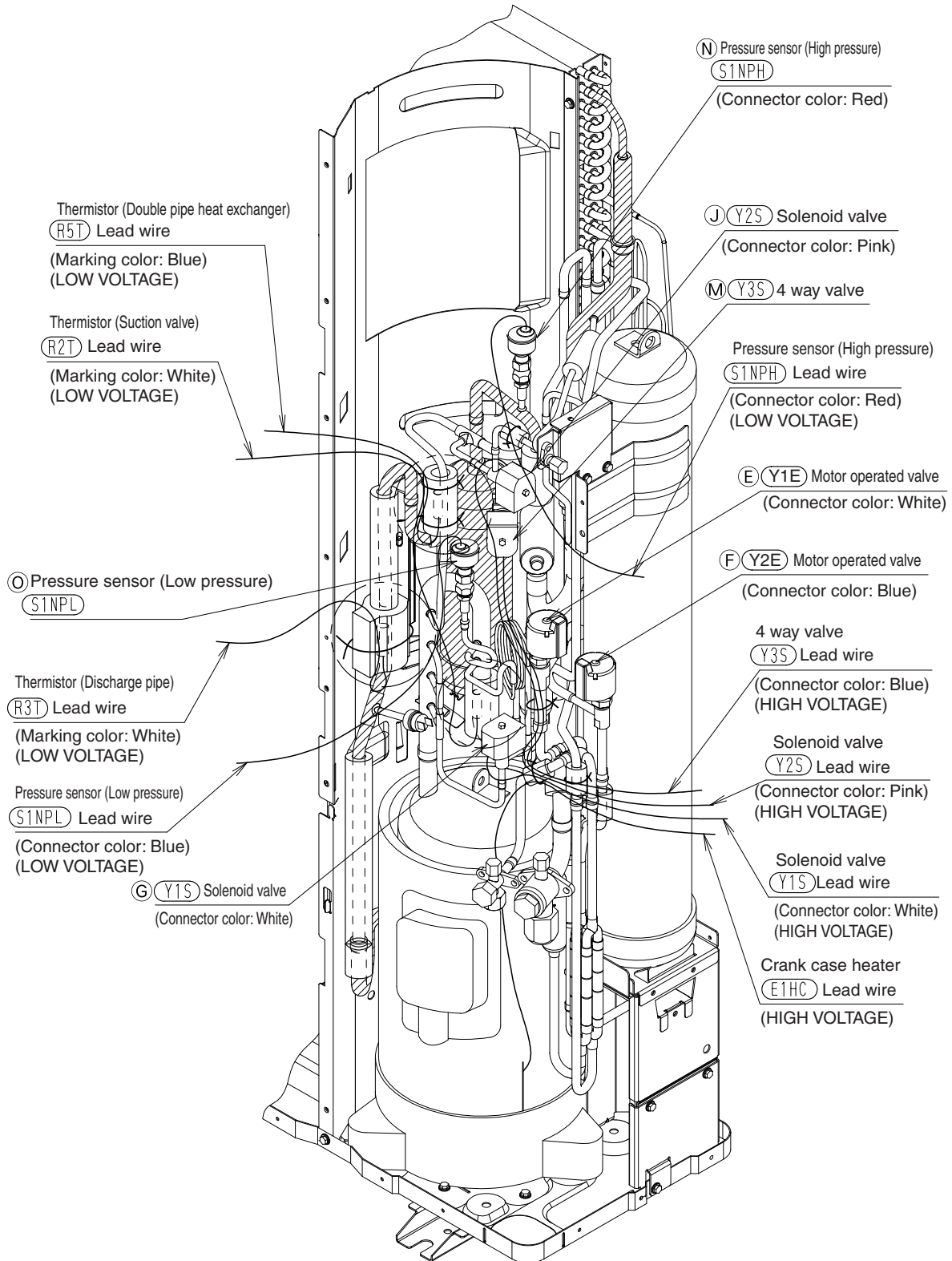


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2. Functional Parts Layout

2.1 RX (Y) M4.5-6M

Birds-eye view



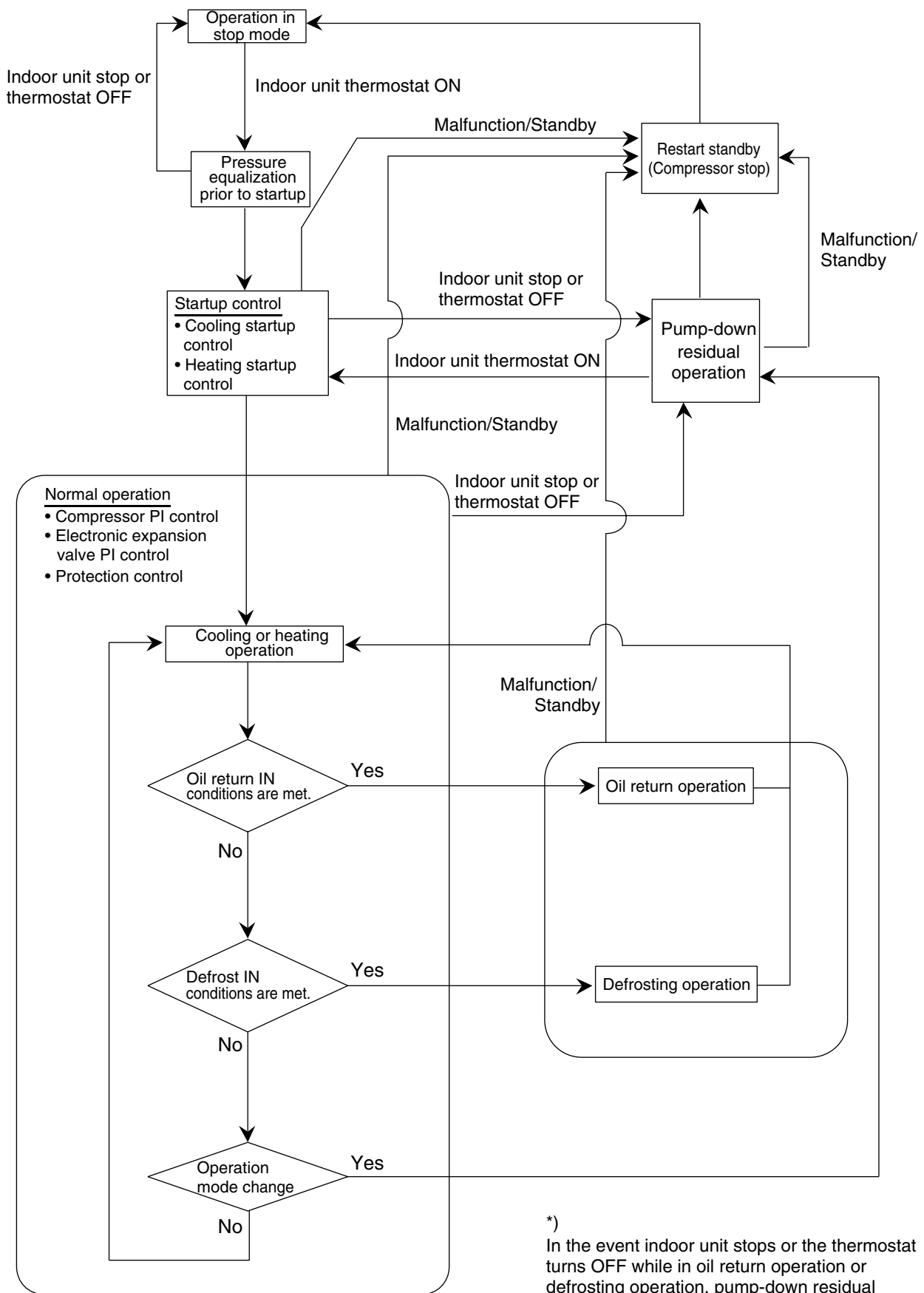
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Part 5

Function

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1. Operation Mode



*)
 In the event indoor unit stops or the thermostat turns OFF while in oil return operation or defrosting operation, pump-down residual operation is performed on completion of the oil return operation or defrosting operation.

(V3152)

2. Basic Control

2.1 Normal Operation

■ Cooling Operation

Actuator	Operation	Remarks
Compressor	Compressor PI control	Used for high pressure protection control, low pressure protection control, discharge pipe temperature protection control, and compressor operating frequency upper limit control with inverter protection control.
Outdoor unit fan	Cooling fan control	—
Four way valve	OFF	—
Main electronic expansion valve (EV1)	2000 pls	—
Subcooling electronic expansion valve (EV2)	PI control	—
Hot gas bypass valve (SVP)	OFF	This valve turns on with low pressure protection control.
Receiver gas discharging valve (SVG)	OFF	—

■ Heating Operation

Actuator	Operation	Remarks
Compressor	Compressor PI control	Used for high pressure protection control, low pressure protection control, discharge pipe temperature protection control, and compressor operating frequency upper limit control with inverter protection control.
Outdoor unit fan	STEP8	The fan step changes to STEP1 with high pressure > 22.0k.
Four way valve	ON	—
Main electronic expansion valve (EV1)	PI control	—
Subcooling electronic expansion valve (EV2)	0 pls	—
Hot gas bypass valve (SVP)	OFF	This valve turns on with low pressure protection control.
Receiver gas discharging valve (SVG)	OFF	—

★Heating operation is not functional at an outdoor air temperature of 24°CDB or more.

2.2 Compressor PI Control

Compressor PI Control

Carries out the compressor capacity PI control to maintain Te at constant during cooling operation and Tc at constant during heating operation to ensure stable unit performance.

[Cooling operation]

Controls compressor capacity to adjust Te to achieve target value (TeS).

Te : Low pressure equivalent saturation temperature (°C)

Te setting (Set in Set-up mode 2)

L	M (Normal) (factory setting)	H
3	6	9

TeS : Target Te value
(Varies depending on Te setting, operating frequency, etc.)

[Heating operation]

Controls compressor capacity to adjust Tc to achieve target value (TcS).

Tc : High pressure equivalent saturation temperature (°C)

Tc setting

L	M (Normal) (factory setting)	H
43	46	49

TcS : Target Tc value
(Varies depending on Tc setting, operating frequency, etc.)

RX (Y) M4 · 5 · 6M

STEP	INV
1	52Hz
2	57Hz
3	62Hz
4	68Hz
5	74Hz
6	81Hz
7	88Hz
8	96Hz
9	104Hz
10	110Hz

STEP	INV
11	116Hz
12	124Hz
13	133Hz
14	143Hz
15	158Hz
16	165Hz
17	177Hz
18	189Hz
19	202Hz
20	210Hz

* Compressors may operate in a pattern other than those listed in above tables subject to the operating conditions.

2.3 Electronic Expansion Valve PI Control

Main Electronic Expansion Valve EV1 Control

Carries out the electronic expansion valve (Y1E) PI control to maintain the evaporator outlet superheated degree (SH) at constant during heating operation to make maximum use of the outdoor unit heat exchanger (evaporator).

$$SH = T_s - T_e$$

SH : Evaporator outlet superheated degree (°C)

T_s : Suction pipe temperature detected by thermistor R2T (°C)

T_e : Low pressure equivalent saturation temperature (°C)

The optimum initial value of the evaporator outlet superheated degree is 5°C, but varies depending on the discharge pipe superheated degree of inverter compressor.

Subcooling Electronic Expansion Valve EV2 Control

Makes PI control of the electronic expansion valve (Y2E) to keep the superheated degree (SH) of the outlet gas pipe on the evaporator side for the full use of the subcooling heat exchanger.

$$SH = T_{sh} - T_e$$

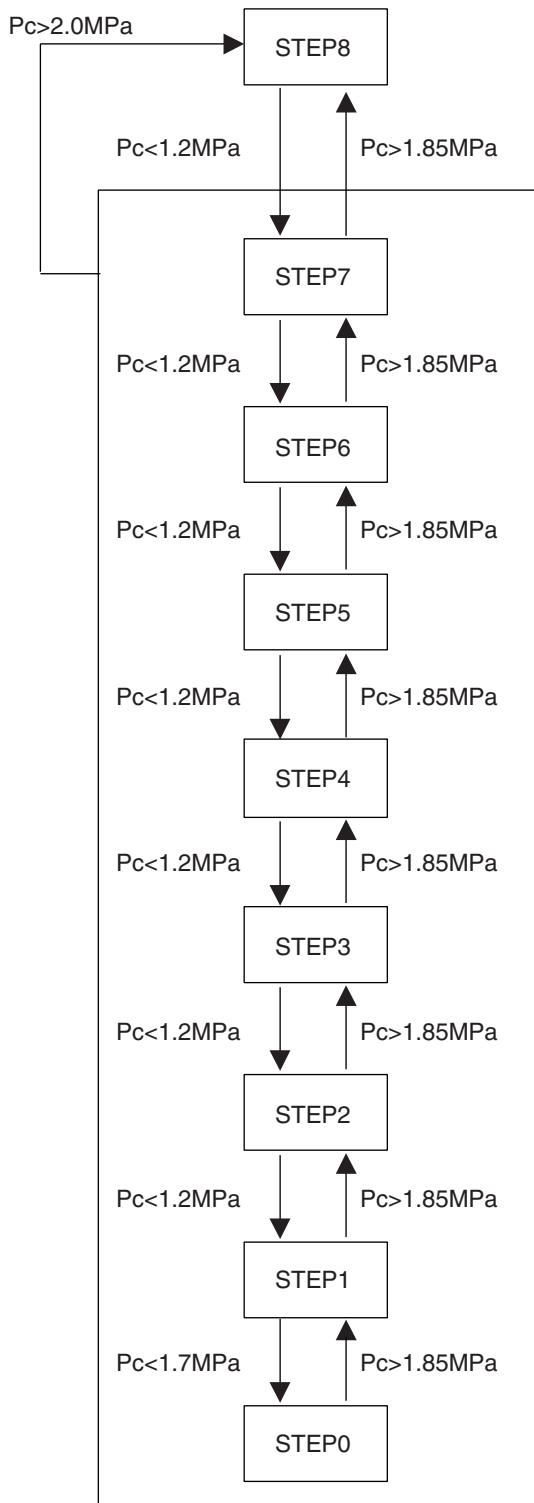
SH : Outlet superheated degree of evaporator (°C)

T_{sh} : Suction pipe temperature detected with the thermistor R5T (°C)

T_e : Low pressure equivalent saturation temperature (°C)

2.4 Cooling Operation Fan Control

In cooling operation with low outdoor air temperature, this control is used to provide the adequate amount of circulation air with liquid pressure secured by high pressure control using outdoor unit fan.



Pc: HP pressure sensor detection value

Fan Steps

Cooling	M1F	M2F
STEP0	0 rpm	0 rpm
STEP1	250 rpm	0 rpm
STEP2	400 rpm	0 rpm
STEP3	285 rpm	250 rpm
STEP4	360 rpm	325 rpm
STEP5	445 rpm	410 rpm
STEP6	545 rpm	510 rpm
STEP7	660 rpm	625 rpm
STEP8	850 rpm	815 rpm

Reference

Heating	M1F	M2F
STEP1	250rpm	0 rpm
STEP8	850 rpm	815rpm

There are 2 steps in heating operation.

(V3153)

3. Special Control

3.1 Startup Control

On activation, following control is performed to lighten load of the compressor by back liquid and the like. Also, the position of the four way valve is defined.

3.1.1 Startup Control in Cooling Operation

Actuator	Operation	Remarks
Compressor	Differential pressure control	Compressor operating frequency increases by 2 step / 20 sec until $P_c - P_e > 0.4$ MPa.
Outdoor unit fan	High pressure control	Initial fan speed is set to STEP 0. 1-step increase with $P_c > 1.85$ MPa 1-step decrease with $P_c < 1.2$ MPa
Four way valve	OFF	—
Main electronic expansion valve (EV1)	2000 pls	—
Subcooling electronic expansion valve (EV3)	0 pls	—
Hot gas bypass valve (SVP)	ON	—
Receiver gas discharging valve (SVG)	OFF	—
Ending conditions	or $\left[\begin{array}{l} \bullet 200 \text{ sec.} \\ \bullet P_c - P_e > 0.4 \text{ MPa} \\ \bullet 60 \text{ sec} \end{array} \right.$	

3.1.2 Startup Control in Heating Operation (H/P model only)

Actuator	Operation	Remarks
Compressor	Differential pressure control	Compressor operating frequency increases by 2 step / 20 sec until $P_c - P_e > 0.4$ MPa.
Outdoor unit fan	STEP8	—
Four way valve	ON	—
Main electronic expansion valve (EV1)	180 pls	—
Subcooling electronic expansion valve (EV3)	0 pls	—
Hot gas bypass valve (SVP)	ON	—
Receiver gas discharging valve (SVG)	OFF	—
Ending conditions	or $\left[\begin{array}{l} \bullet 200 \text{ sec.} \\ \bullet P_c - P_e > 0.4 \text{ MPa} \\ \bullet 60 \text{ sec} \end{array} \right.$	

3.2 Oil Return Operation

Oil flown from the compressor to the side of system is collected by oil-returning operation, in case of that oil in the compressor runs down.

3.2.1 Oil Return Operation in Cooling Operation

[Conditions to start]

The cooling oil-returning operation is started referring following conditions.

- Integrated amount of displaced oil
 - Timer
(After the power is turned on, integrated operating-time is 2 hours and subsequently every 8 hours.)
- In addition, integrated amount of displaced oil is derived from Tc, Te, and the compressor load.

Outdoor unit actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Upper limit control	124 Hz	52 Hz
Outdoor unit fan	Fan control	Fan control	Fan control
Four way valve	OFF	OFF	OFF
Main electronic expansion valve (EV1)	2000 pls	2000 pls	2000 pls
Subcooling electronic expansion valve (EV2)	SH control	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	ON	ON
Receiver gas discharging valve (SVG)	OFF	OFF	OFF
Ending conditions	2 min.	or { <ul style="list-style-type: none"> • 3 min. • $T_s - T_e < 5$ 	10 sec.

Indoor unit actuator		Cooling oil return operation
Fan	Thermostat ON unit	Set Air Volume
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve	Thermostat ON unit	Normal opening
	Stopping unit	200 pls
	Thermostat OFF unit	200 pls

3.2.2 Oil Return Operation in Heating Operation

[Conditions to start]

The heating oil-returning operation is started referring following conditions.

- Integrated amount of displaced oil
- Timer

(After the power is turned on, integrated operating-time is 2 hours and subsequently every 8 hours.)

In addition, integrated amount of displaced oil is derived from Tc, Te, and the compressor load.

Outdoor Unit Actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Upper limit control	124 Hz	1-step increase from 52 Hz to (Pc - Pe>0.4 MPa) time
Outdoor unit fan	STEP8	OFF	STEP8
Four way valve	ON	OFF	ON
Main electronic expansion valve (EV1)	SH control	2000 pls	180 pls
Subcooling electronic expansion valve (EV3)	0 pls	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	ON	ON
Receiver gas discharging valve (SVG)	ON	ON	OFF
Ending conditions	2 min.	or $\left[\begin{array}{l} \bullet 6 \text{ min.} \\ \bullet T_s - T_e < 5 \end{array} \right.$	or $\left[\begin{array}{l} \bullet 160 \text{ sec.} \\ \bullet P_c - P_e > 0.4 \text{ MPa} \end{array} \right.$

* From the preparing oil-returning operation to the oil-returning operation, and from the oil-returning operation to the operation after oil-returning, the compressor stops for 1 minute to reduce noise on changing of the four way valve.

Indoor unit actuator		Heating oil return operation
Fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve	Thermostat ON unit	512 pls
	Stopping unit	512 pls
	Thermostat OFF unit	512 pls

3.3 Defrosting Operation

The defrost operation is performed to solve frost on the outdoor unit heat exchanger when heating, and the heating capacity is recovered.

[Conditions to start]

The defrost operation is started referring following conditions.

- Outdoor heat exchanger heat transfer co-efficiency
- Temperature of heat-exchange (T_b)
- Timer (2 hours at the minimum)

In addition, outdoor heat-exchange co-efficiency is derived from T_c , T_e , and the compressor load.

Outdoor unit actuator	Defrost preparation operation	Defrost operation	Post Defrost operation
Compressor	Upper limit control	177 Hz	1-step increase from 52 Hz to ($P_c - P_e > 0.4$ MPa)
Outdoor unit fan	STEP8	OFF	STEP8
Four way valve	ON	OFF	ON
Main electronic expansion valve (EV1)	SH control	2000 pls	180 pls
Subcooling electronic expansion valve (EV3)	0 pls	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	ON	ON
Receiver gas discharging valve (SVG)	ON	ON	OFF
Ending conditions	2 min.	or [<ul style="list-style-type: none"> • 12 min. • $T_s > 11^\circ\text{C}$ 	or [<ul style="list-style-type: none"> • 160 sec. • $P_c - P_e > 0.4$ MPa

* From the preparing operation to the defrost operation, and from the defrost operation to the operation after defrost, the compressor stops for 1 minute to reduce noise on changing of the four way valve.

Indoor unit actuator		During defrost
Fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve	Thermostat ON unit	512 pls
	Stopping unit	512 pls
	Thermostat OFF unit	512 pls

3.4 Pump-down Residual Operation

When activating compressor, if the liquid refrigerant remains in the heat-exchanger, the liquid enters into the compressor and dilutes oil therein resulting in decrease of lubricity.

Therefore, the pump-down residual operation is performed to collect the refrigerant in the heat-exchanger when the compressor is down.

3.4.1 Pump-down Residual Operation in Cooling Operation

Actuator	Master unit operation
Compressor	124 Hz
Outdoor unit fan	Fan control
Four way valve	OFF
Main electronic expansion valve (EV1)	2000 pls
Subcooling electronic expansion valve (EV3)	0 pls
Hot gas bypass valve (SVP)	OFF
Receiver gas discharging valve (SVG)	ON
Ending conditions	or <ul style="list-style-type: none"> • 30 sec. • Pe<0.25 MPa • Td>110°C

3.4.2 Pump-down Residual Operation in Heating Operation (H / P model only)

Actuator	Master unit operation
Compressor	124 Hz
Outdoor unit fan	STEP8
Four way valve	ON
Main electronic expansion valve (EV1)	0 pls
Subcooling electronic expansion valve (EV3)	0 pls
Hot gas bypass valve (SVP)	OFF
Receiver gas discharging valve (SVG)	ON
Ending conditions	or <ul style="list-style-type: none"> • 30 sec. • Pe<0.25 MPa • Td>110°C

3.5 Restart Standby

Restart is stood by force to prevent frequent power-on/off and to equalize pressure in the refrigerant system.

Actuator	Operation	Remarks
Compressor	OFF	—
Outdoor unit fan	Ta>30°C: STEP4 Ta≤30°C: OFF	—
Four way valve	Keep former condition.	—
Main electronic expansion valve (EV1)	0 pls	—
Subcooling electronic expansion valve (EV3)	0 pls	—
Hot gas bypass valve (SVP)	ON	—
Receiver gas discharging valve (SVG)	OFF	—
Ending conditions	5 min.	—

3.6 Stopping Operation

Operation of the actuator when the system is down, is cleared up.

3.6.1 When System is in Stop Mode

Actuator	Operation
Compressor	OFF
Outdoor unit fan	OFF
Four way valve	Keep former condition.
Main electronic expansion valve (EV1)	0 pls
Subcooling electronic expansion valve (EV2)	0 pls
Hot gas bypass valve (SVP)	OFF
Receiver gas discharging valve (SVG)	OFF
Ending conditions	Indoor unit thermostat is turned ON.

3.7 Pressure Equalization Prior to Startup

Before activating the compressor, the activation load is lightened by equalization across the compressor. In addition, inverters turn on electricity and capacitors are charged.

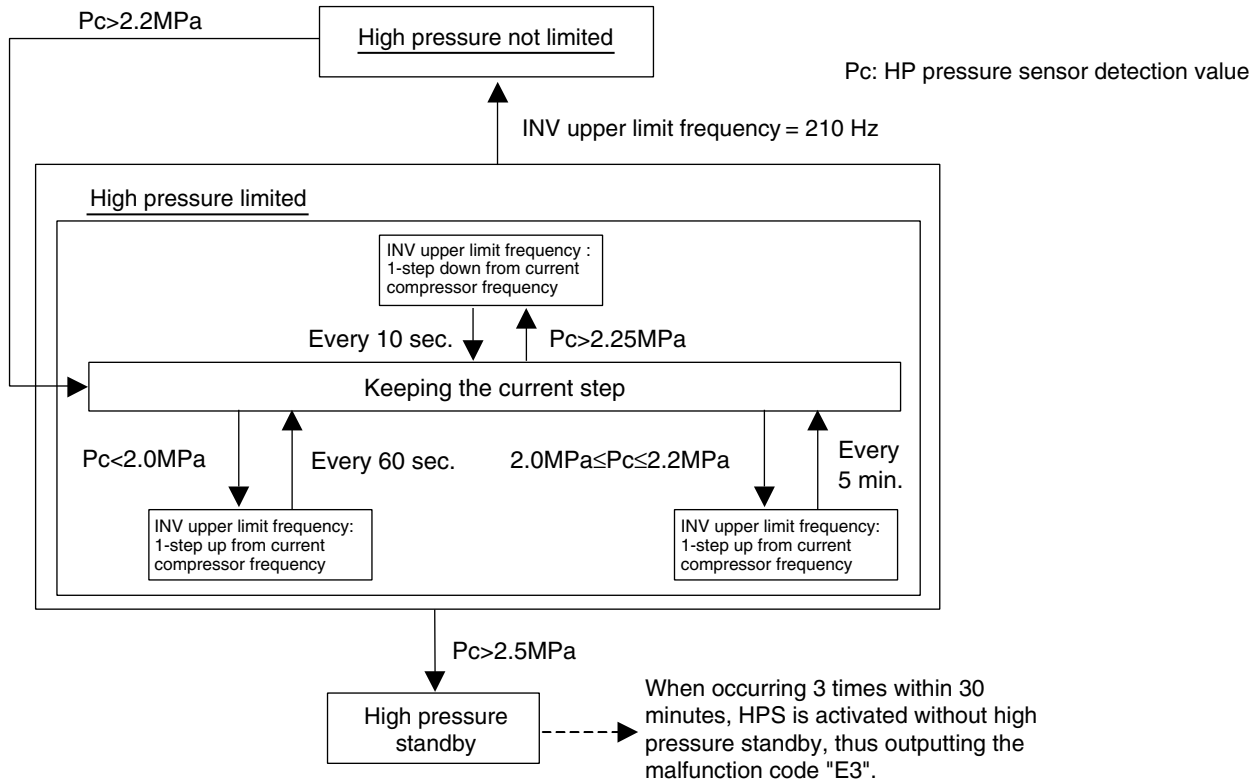
Actuator	Operation	Remarks
Compressor	OFF	—
Outdoor unit fan	Cooling:OFF Heating:STEP 4	—
Four way valve	Keep former condition.	—
Main electronic expansion valve (EV1)	0 pls	—
Subcooling electronic expansion valve (EV2)	0 pls	—
Hot gas bypass valve (SVP)	ON	—
Receiver gas discharging valve (SVG)	OFF	—
Ending conditions	or [<ul style="list-style-type: none"> • 3 min. • Pc-P_e<0.2 MPa 	—

4. Protection Control

4.1 High Pressure Protection Control

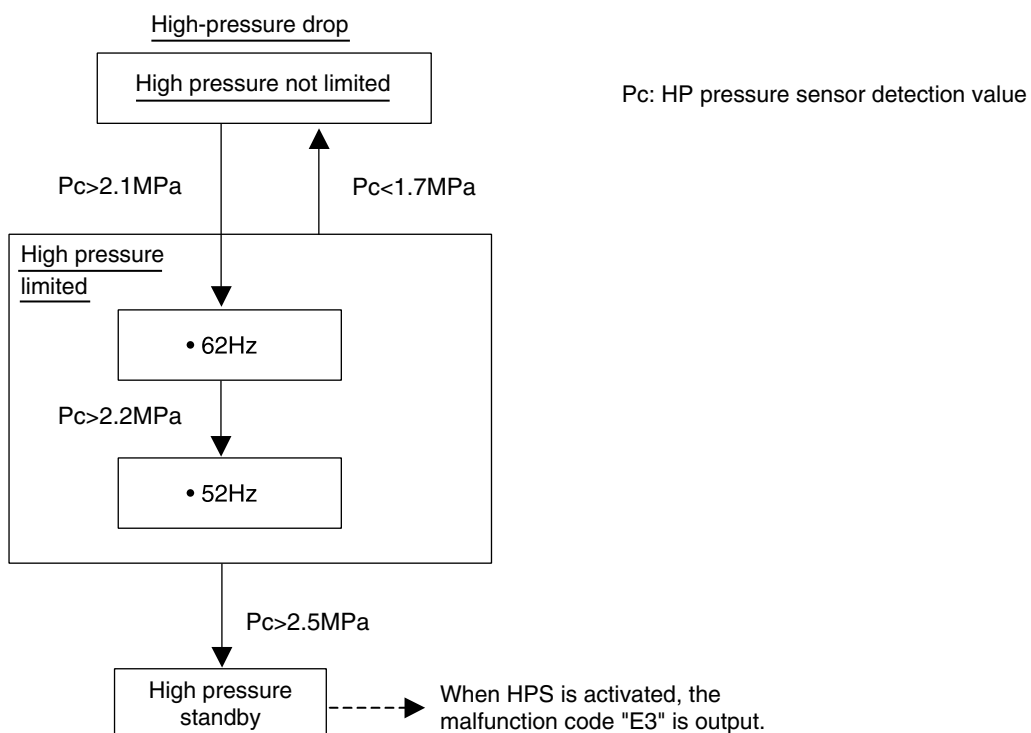
This high pressure protection control is used to prevent the activation of protection devices due to abnormal increase of high pressure and to protect compressors against the transient increase of high pressure.

[In cooling operation]



(V3154)

[In heating operation]

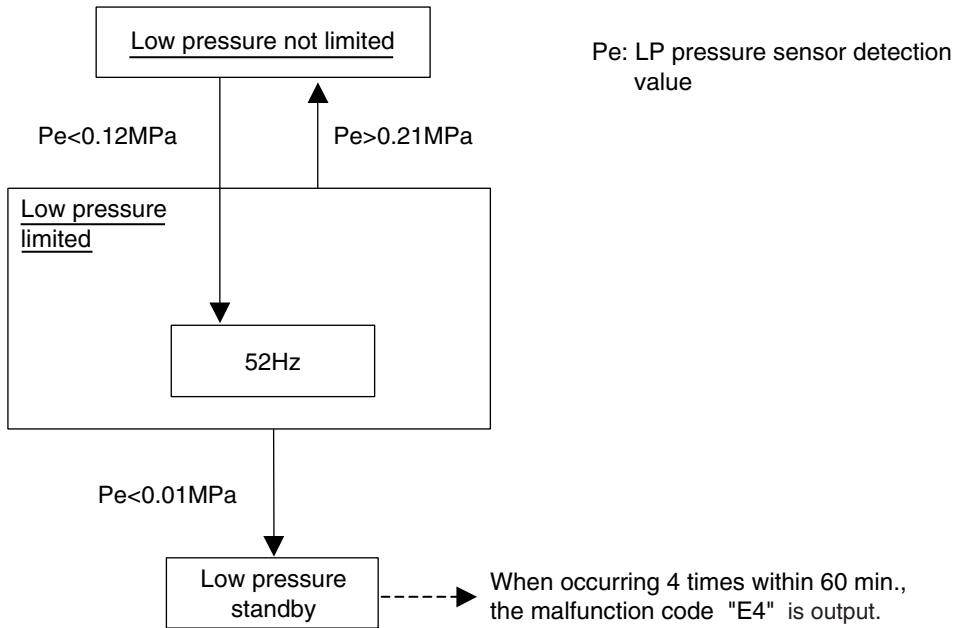


(V3155)

4.2 Low Pressure Protection Control

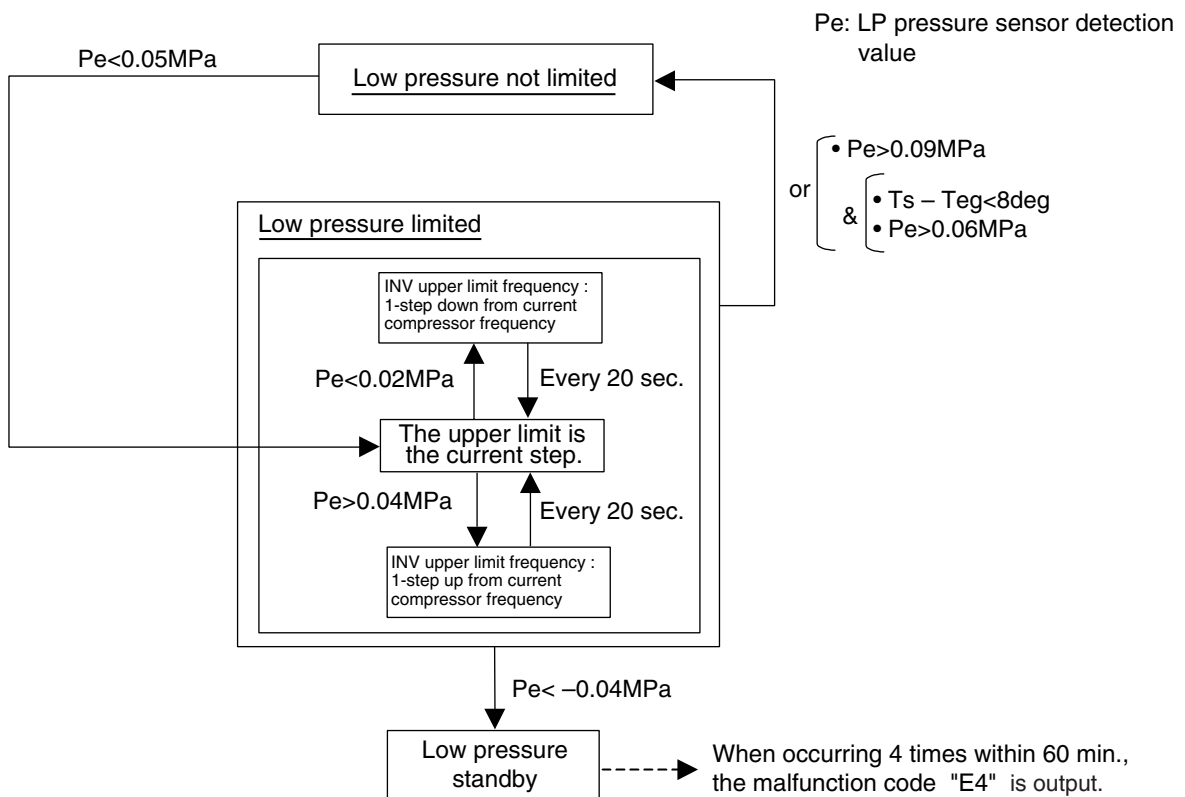
This low pressure protection control is used to protect compressors against the transient decrease of low pressure.

[In cooling operation]



(V3156)

[In heating operation]

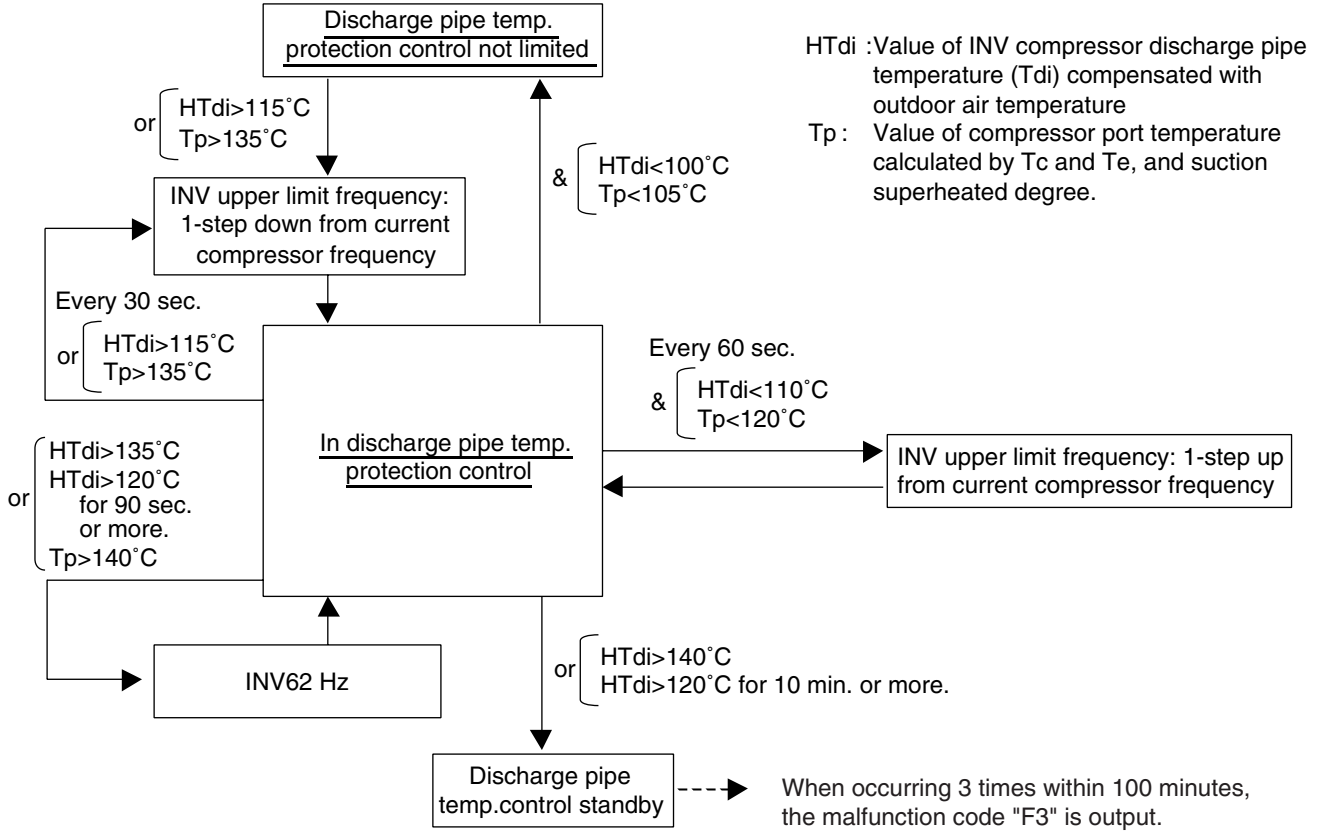


(V3157)

4.3 Discharge Pipe Protection Control

This discharge pipe protection control is used to protect the compressor internal temperature against a malfunction or transient increase of discharge pipe temperature.

[INV compressor]

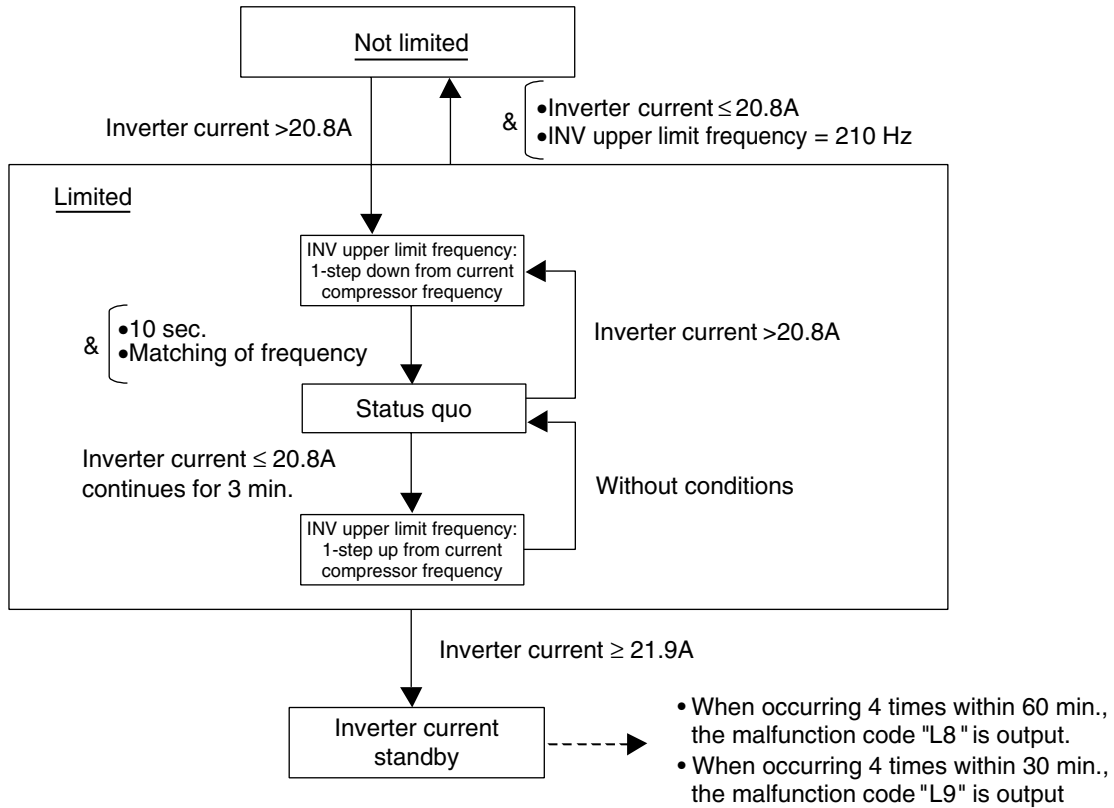


(V3158)

4.4 Inverter Protection Control

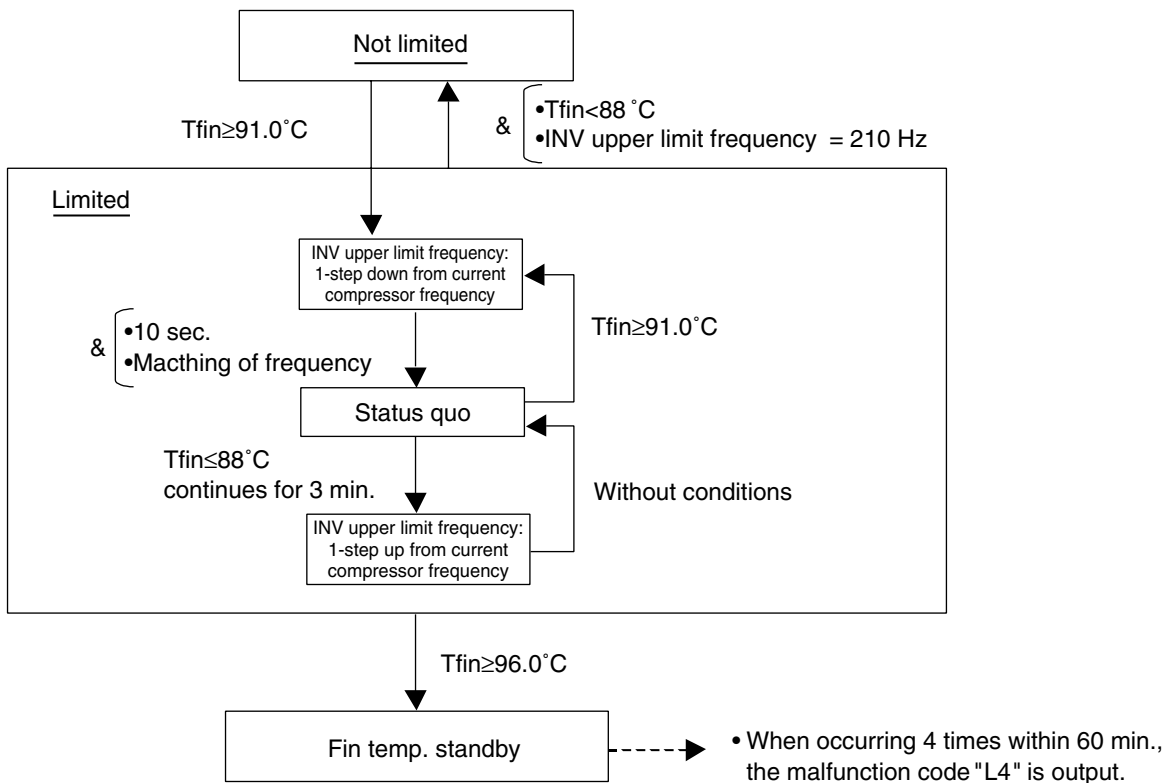
Inverter current protection control and inverter fin temperature control are performed to prevent tripping due to a malfunction, or transient inverter overcurrent, and fin temperature increase.

[Inverter overcurrent protection control]



(V3159)

[Inverter fin temperature control]



(V3160)

5. Other Control

5.1 Demand Operation

In order to save the power consumption, the capacity of outdoor unit is saved with control forcibly by using "Demand 1 Setting" or "Demand 2 Setting".

To operate the unit with this mode, additional setting of "Continuous Demand Setting" or external input by external control adaptor is required.

[Demand 1 setting]

Setting	Standard for upper limit of power consumption
Demand 1 setting 1	Approx. 60%
Demand 1 setting 2 (factory setting)	Approx. 70%
Demand 1 setting 3	Approx. 80%

[Demand 2 setting]

Setting	Standard for upper limit of power consumption
Demand 2 setting 2 (factory setting)	Approx. 40%

★ Other protection control functions have precedence over the above operation.

5.2 Heating Operation Prohibition

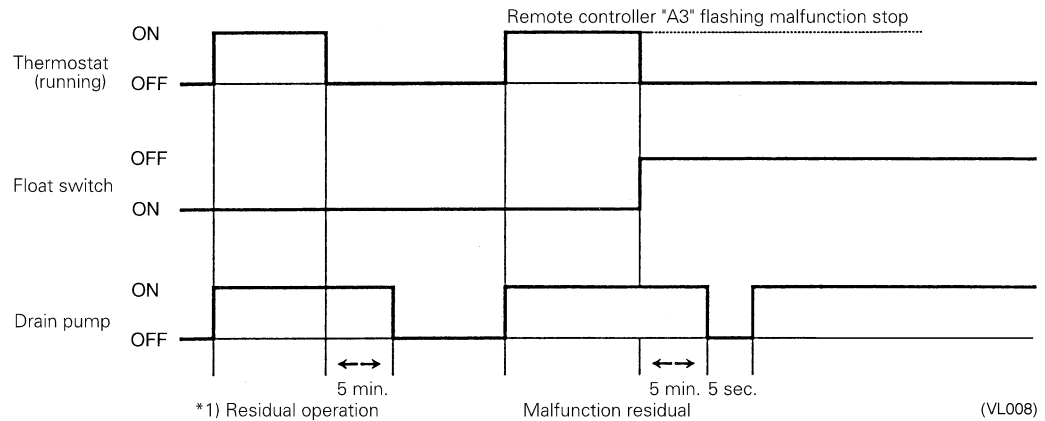
Heating operation is prohibited above 24°CDB outdoor air temperature.

6. Outline of Control (Indoor Unit)

6.1 Drain Pump Control

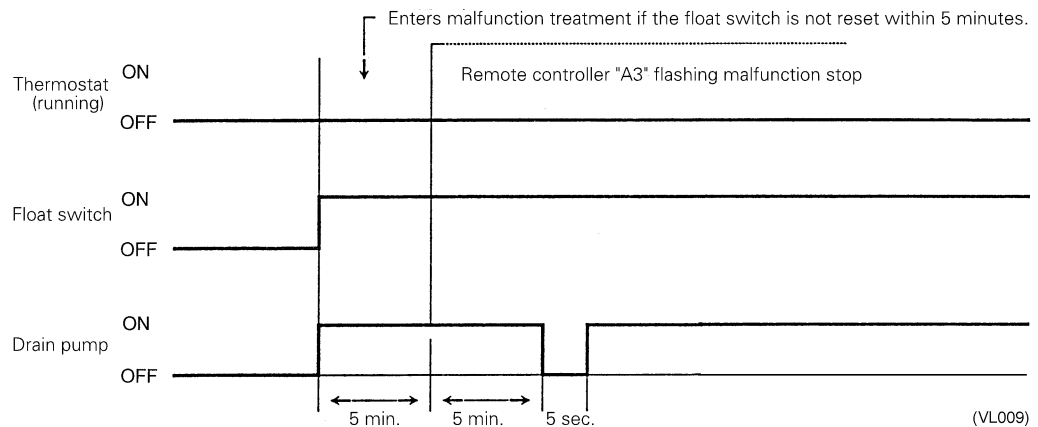
- The drain pump is controlled by the ON/OFF buttons (4 button (1) - (4) given in the figure below).

6.1.1 When the Float Switch is Tripped While the Cooling Thermostat is ON:

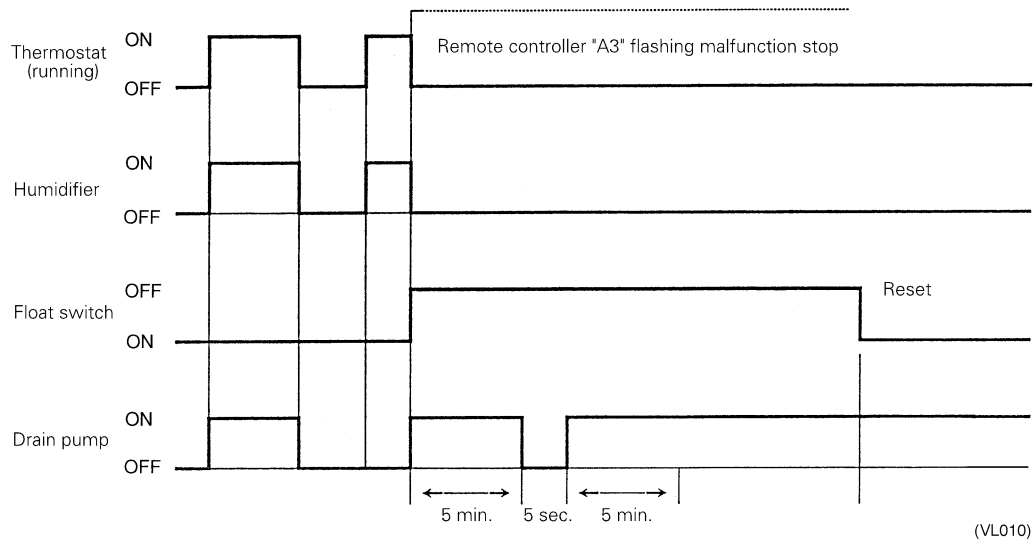


- * 1. The objective of residual operation is to completely drain any moisture adhering to the fin of the indoor unit heat exchanger when the thermostat goes off during cooling operation.

6.1.2 When the Float Switch is Tripped During Cooling OFF by Thermostat:

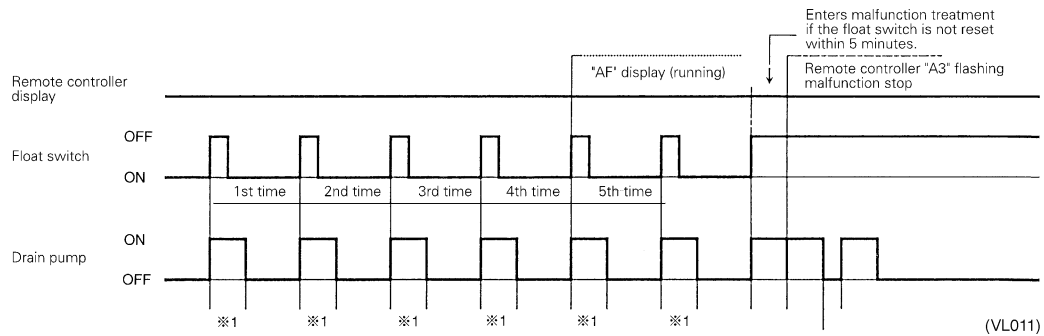


6.1.3 When the Float Switch is Tripped During Heating Operation:



During heating operation, if the float switch is not reset even after the 5 minutes operation, 5 seconds stop, 5 minutes operation cycle ends, operation continues until the switch is reset.

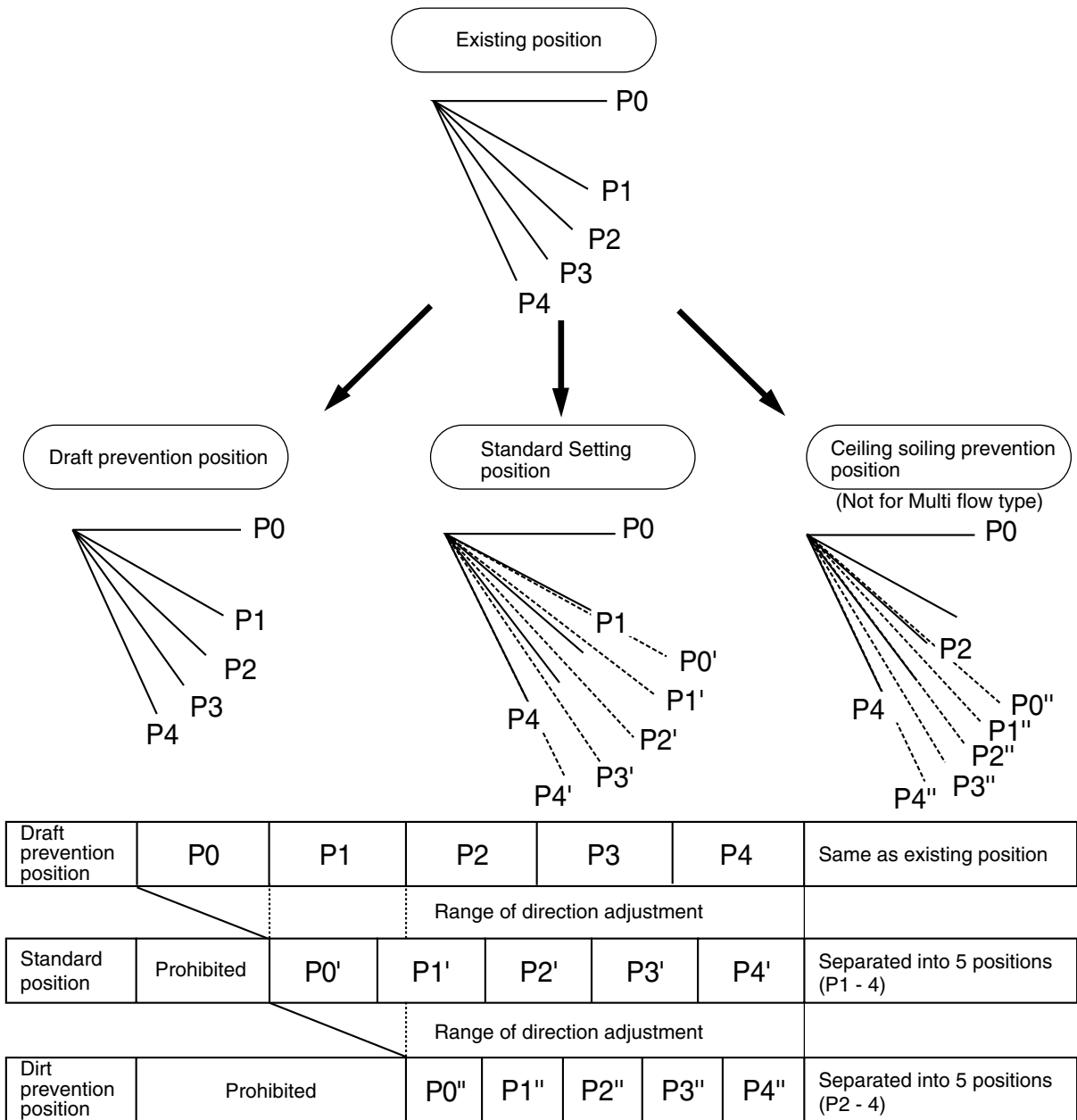
6.1.4 When the Float Switch is Tripped and "AF" is Displayed on the Remote Controller:



Note: If the float switch is tripped five times in succession, a drain malfunction is determined to have occurred. "AF" is then displayed as operation continues.

6.2 Louver Control for Preventing Ceiling Dirt

We have added a control feature that allows you to select the range of in which air direction can be adjusted in order to prevent the ceiling surrounding the air discharge outlet of ceiling mounted cassette type units from being soiled.



(VL012)

The factory set position is standard position.

6.3 Thermostat Sensor in Remote Controller

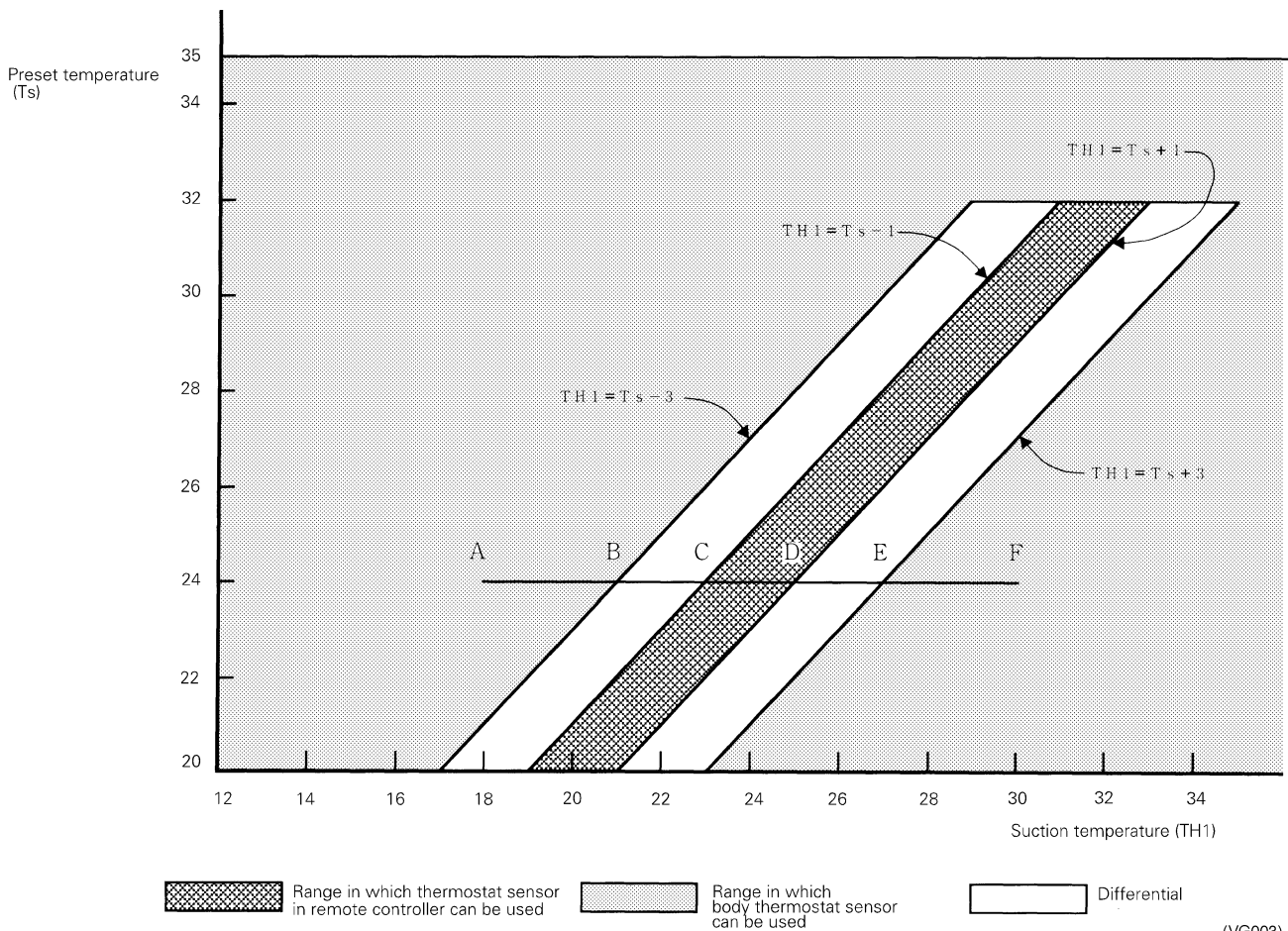
Temperature is controlled by both the thermostat sensor in remote controller and air suction thermostat in the indoor unit. (This is however limited to when the field setting for the thermostat sensor in remote controller is set to "Use.")



Note: When OA (outdoor air) is introduced to the air-conditioner with mixed into indoor air, the room temperature may fail to be preset temperature, since TS and TH1 do not enter the area of "use range of remote control thermostat." In such a case, put the remote sensor (optional accessory) in your room, and use it with setting "do not use remote control thermostat."

Cooling

If there is a significant difference in the preset temperature and the suction temperature, fine adjustment control is carried out using a body thermostat sensor, or using the sensor in the remote controller near the position of the user when the suction temperature is near the preset temperature.



■ Ex: When cooling

Assuming the preset temperature in the figure above is 24°C, and the suction temperature has changed from 18°C to 30°C (A → F):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 23°C (A → C).

Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C → E).

Body thermostat sensor is used for temperatures from 27°C to 30°C (E → F).

And, assuming suction temperature has changed from 30°C to 18°C (F → A):

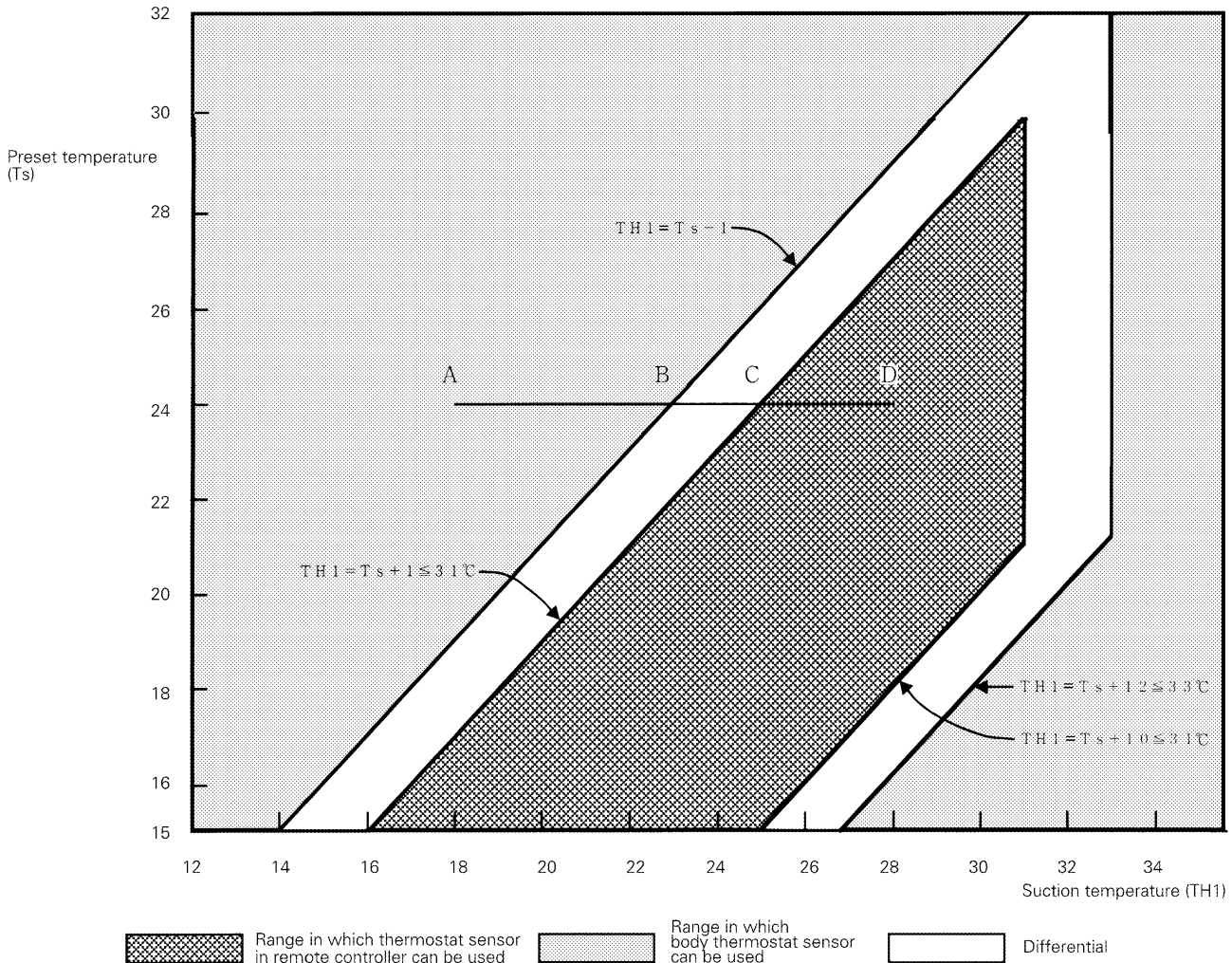
Body thermostat sensor is used for temperatures from 30°C to 25°C (F → D).

Remote controller thermostat sensor is used for temperatures from 25°C to 21°C (D → B).

Body thermostat sensor is used for temperatures from 21°C to 18°C (B → A).

Heating

When heating, the hot air rises to the top of the room, resulting in the temperature being lower near the floor where the occupants are. When controlling by body thermostat sensor only, the unit may therefore be turned off by the thermostat before the lower part of the room reaches the preset temperature. The temperature can be controlled so the lower part of the room where the occupants are doesn't become cold by widening the range in which thermostat sensor in remote controller can be used so that suction temperature is higher than the preset temperature.



(V2769)

■ **Ex: When heating**

Assuming the preset temperature in the figure above is 24°C, and the suction temperature has changed from 18°C to 28°C (A → D):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 25°C (A → C).

Remote controller thermostat sensor is used for temperatures from 25°C to 28°C (C → D).

And, assuming suction temperature has changed from 28°C to 18°C (D → A):

Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D → B).

Body thermostat sensor is used for temperatures from 23°C to 18°C (B → A).

6.4 Freeze Prevention

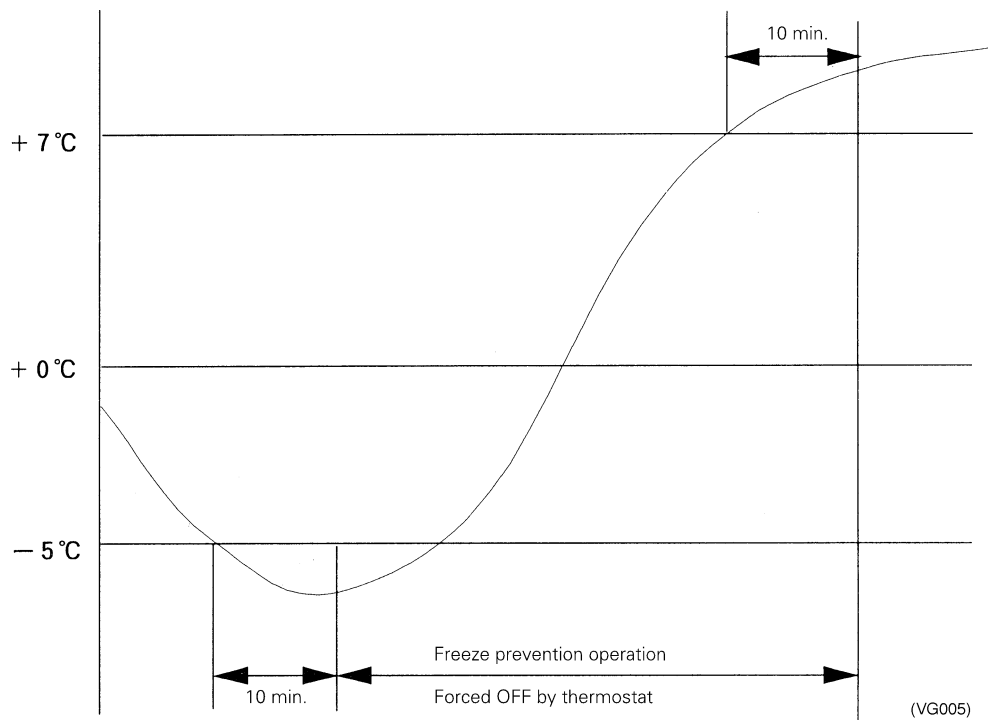
Freeze Prevention by Off Cycle (Indoor Unit)

When the temperature detected by liquid pipe temperature thermistor (R2T) of the indoor unit heat exchanger drops too low, the unit enters freeze prevention operation in accordance with the following conditions, and is also set in accordance with the conditions given below.

Conditions for starting freeze prevention: Temperature is -1°C or less for total of 40 min., or temperature is -5°C or less for total of 10 min.

Conditions for stopping freeze prevention: Temperature is $+7^{\circ}\text{C}$ or more for 10 min. continuously

Ex: Case where temperature is -5°C or less for total of 10 min.



6.5 View of Operations of Swing Flaps

Swing flaps work as following.

			Fan	Flap control			
				FXF	FXC FXK FXH	FXA	
Heating	Hot-start from defrosting	Swinging	OFF	Level	Level	Level	
		Setting the wind direction	OFF	Level	Level	Level	
	Defrosting	Swinging	OFF	Level	Level	Level	
		Setting the wind direction	OFF	Level	Level	Level	
	Thermostat is off	Swinging	LL	Level	Level	Level	
		Setting the wind direction	LL	Level	Level	Level	
	Hot-start from the state that the thermostat is off	Swinging	LL	Level	Level	Level	
		Setting the wind direction	LL	Level	Level	Level	
	Halt	Swinging	OFF	Level	Level	Level	
		Setting the wind direction	OFF	Level	Level	Level	
	Cooling	Thermostat of microcomputer-dry is on	Swinging	L ^{*1}	Swinging	Swinging	Swinging
			Setting the wind direction	L ^{*1}	Set up	Set up	Set up
Thermostat of microcomputer-dry is off		Swinging	OFF or L	Swinging	Swinging	Swinging	
		Setting the wind direction		Set up	Set up	Set up	
Cooling thermostat is off		Swinging	Set up	Swinging	Swinging	Swinging	
		Setting the wind direction	Set up	Set up	Set up	Set up	
Halt		Swinging	OFF	Level	Level	Level	
		Setting the wind direction	OFF	Set up	Level	Level	
Microcomputer is controlled (including the cooling state)		Swinging	L	Swinging	Swinging	Swinging	
		Setting the wind direction	L	Set up	Set up	Set up	

* 1. Only in FXF case, L or LL.

Part 6

Test Operation

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1. Test Operation

1.1 Procedure and Outline

Follow the following procedure to conduct the initial test operation after installation.

1.1.1 Check work prior to turn power supply on

Check the below items.

- Power wiring
- Control transmission wiring between units
- Earth wire



Check on refrigerant piping



Check on amount of refrigerant charge

- Is the power supply single-phase 220-230V / 50Hz or 220V / 60Hz?
- Have you finished a ductwork to drain?
- Have you detach transport fitting?
- Is the wiring performed as specified?
- Are the designated wires used?
- Is the grounding work completed?
 - Use a 500V megger tester to measure the insulation.
 - Do not use a megger tester for other circuits than 200-230V circuit.
- Are the setscrews of wiring not loose?
- Is the electrical component box covered with an insulation cover completely?

- Is pipe size proper? (The design pressure of this product is 2.8MPa.)
- Are pipe insulation materials installed securely?
 - Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)
- Are respective stop valves on liquid and gas line securely open?

- Is refrigerant charged up to the specified amount?
 - If insufficient, charge the refrigerant from the service port of stop valve on the liquid side with outdoor unit in stop mode after turning power on.
- Has the amount of refrigerant charge been recorded on "Record Chart of Additional Refrigerant Charge Amount"?

(V3161)

1.1.2 Turn power on

Turn outdoor unit power on.



Turn indoor unit power on.



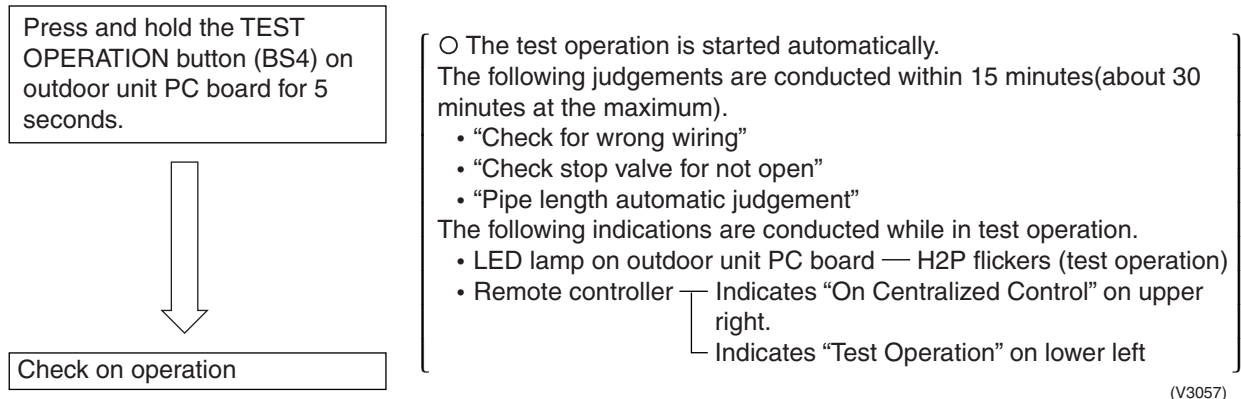
Carry out field setting on outdoor PC board

- Be sure to turn the power on 6 hours before starting operation to protect compressors.
- Close outside panels of the outdoor unit.

(V3056)

1.1.3 Check Operation

- * During check operation, mount front panel to avoid the misjudging.
- * Check operation is mandatory for normal unit operation.
(When the check operation is not executed, alarm code "U3" will be displayed.)



On completion of test operation, LED on outdoor unit PC board displays the following.
 H3P ON: Normal completion
 H2P and H3P ON: Abnormal completion → Check the indoor unit remote controller for abnormal display and correct it.

Malfunction code

In case of an alarm code displayed on remote controller:

Cause of trouble due to faulty installation work	Alarm code	Countermeasure
Closed stop valve of outdoor unit	E3 E4 F3 UF	Liquid side stop valve : Open Gas side stop valve : Open
Electric power for outdoor or indoor unit is not supplied. (Including open phase)	U4	Check that the power cable for outdoor unit is connected properly.
Incorrect wiring between units	UF	Check that the wiring between units corresponds correctly to refrigerant piping system.
Refrigerant overcharge	E3	Compute again optimum amount of refrigerant to be added based on the piping length, then, collect the excessive amount by using refrigerant collector to make the refrigerant amount proper.
Insufficient refrigerant	E4 F3	- Check that additional charging has been carried out. - Compute again the refrigerant amount to be added based on the piping length, and charge proper amount of refrigerant additionally.
Without the dedicated indoor unit	UA	Confirm the indoor unit, and if it is not the dedicated one, exchange it.
Wrong with the connection of wiring between units	UH	Confirm if wiring between units is connected to the P-panel (A1P) F1/F2 terminals (TO IN/D UNIT) on the outdoor unit correctly.

1.1.4 Confirmation on Normal Operation

- Conduct normal unit operation after the check operation has been completed.
(When outdoor air temperature is 24°CDB or higher, the unit can not be operated with heating mode. See the installation manual attached.)
- Confirm that the indoor/outdoor units can be operated normally.
(When an abnormal noise due to liquid compression by the compressor can be heard, stop the unit immediately, and turn on the crankcase heater to heat up it sufficiently, then start operation again.)
- Operate indoor unit one by one to check that the corresponding outdoor unit operates.
- Confirm that the indoor unit discharges cold air (or warm air).
- Operate the air direction control button and flow rate control button to check the function of the devices.

1.2 Operation When Power is Turned On

1.2.1 When Turning On Power First Time

The unit cannot be run for up to 12 minutes to automatically set the master power and address (indoor-outdoor address, etc.).

Status

Outdoor unit

Test lamp H2P Blinks

Can also be set during operation described above.

Indoor unit

If ON button is pushed during operation described above, the "UH" malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

1.2.2 When Turning On Power the Second Time and Subsequent

Tap the RESET(BS5) button on the outdoor unit PC board. Operation becomes possible for about 2 minutes. If you do not push the RESET button, the unit cannot be run for up to 10 minutes to automatically set master power.

Status

Outdoor unit

Test lamp H2P Blinks

Can also be set during operation described above.

Indoor unit

If ON button is pushed during operation described above, the operation lamp lights but the compressor does not operate. (Returns to normal when automatic setting is complete.)

1.2.3 When an Indoor Unit or Outdoor Unit Has Been Added, or Indoor or Outdoor Unit PC Board Has Been Changed

Be sure to push and hold the RESET button for 5 seconds. If not, the addition cannot be recognized. In this case, the unit cannot be run for up to 12 minutes to automatically set the address (indoor-outdoor address, etc.)

Status

Outdoor unit

Test lamp H2P ON

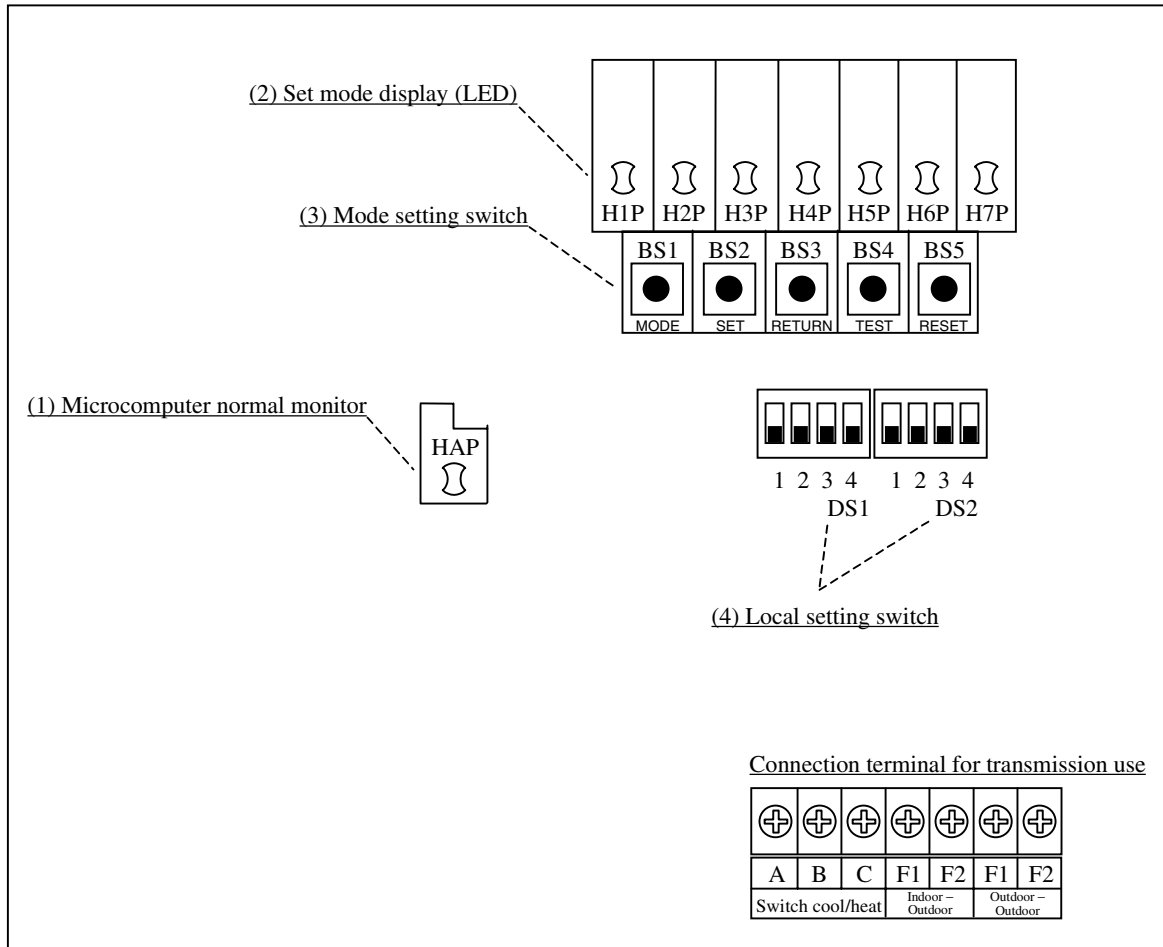
Can also be set during operation described above.

Indoor unit

If ON button is pushed during operation described above, the "UH" or "U4" malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

2. Outdoor Unit PC Board Layout

Outdoor unit PC board



(V3171)

- (1) Microcomputer normal monitor (LED Green)
This monitor blinks while in normal operation, and turns on or off when a malfunction occurs.
- (2) Set mode display (LED Orange)
LEDs display mode according to the setting.
- (3) Mode setting switch
Used to change mode.
- (4) Local setting switch
Used to make local settings.

3. Field Setting

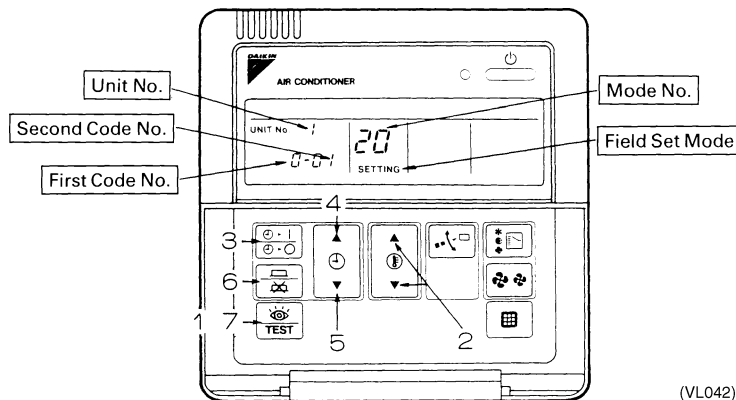
3.1 Field Setting from Remote Controller

Individual function of indoor unit can be changed from the remote controller. At the time of installation or after service inspection / repair, make the local setting in accordance with the following description.




Wrong setting may cause malfunction.

(When optional accessory is mounted on the indoor unit, setting for the indoor unit may be required to change. Refer to information in the option handbook.)





3.1.1 Wired Remote Controller <BRC1A61, 62>



(VL042)

1. When in the normal mode, push the  button for 4 seconds or more, and operation then enters the “field set mode.”
2. Select the desired “mode No.” with the  button.
3. During group control and you want to set by each individual indoor unit (when mode No. 20, 21, 22, 23, 25 has been selected), push the time mode  button and select the “indoor unit No.” to be set.

Note: This operation is not required when setting as a group.

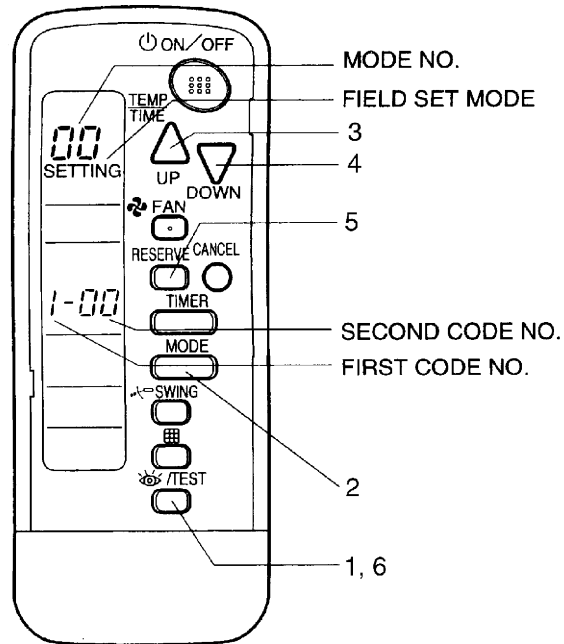
4. Push the  button and select the first code No.
5. Push the  button and select the second code No.
6. Push the timer  button one time and “define” the currently set contents.
7. Push the  button to return to the normal mode.

(Example)







When setting the filter sign time to “Filter Dirtiness-High” in all group unit setting, set the Mode No. to “10”, Mode setting No. to “0” and setting position No. to “02”.

3.1.2 Wireless Remote Controller - Indoor Unit

BRC7C type



(V2770)

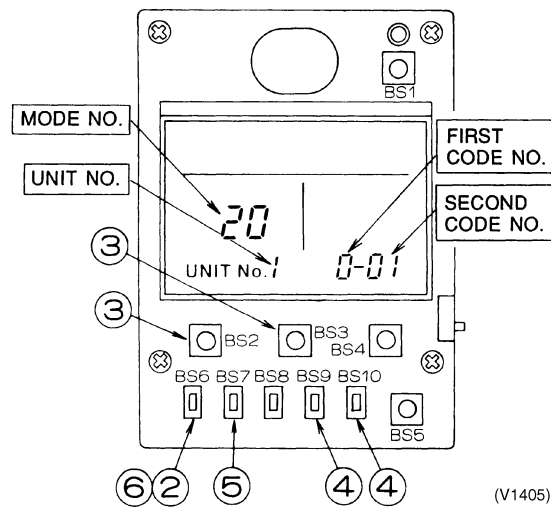
1. When in the normal mode, push the  button for 4 seconds or more, and operation then enters the "field set mode."
2. Select the desired "mode No." with the  button.
3. Pushing the  button, select the first code No.
4. Pushing the  button, select the second code No.
5. Push the timer  button and check the settings.
6. Push the  button to return to the normal mode.

(Example)

When setting the filter sign time to "Filter Dirtiness-High" in all group unit setting, set the Mode No. to "10", Mode setting No. to "0" and setting position No. to "02".

3.1.3 Simplified Remote Controller

BRC2A51



(V1405)

■ 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.

3.1.4 Setting Contents and Code No. – VRV Unit

VRV system indoor unit settings	Mode No. Note 2	Setting Switch No.	Setting Contents	Second Code No.(Note 3)								
				01		02		03		04		
10(20)	0		Filter contamination heavy/light (Setting for display time to clean air filter) (Sets display time to clean air filter to half when there is heavy filter contamination.)	Super 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	Long life filter		Super long life filter		—		—		
	2		Thermostat sensor in remote controller	Use		No use		—		—		
	3		Display time to clean air filter calculation (Set when filter sign is not to be displayed.)	Display		No display		—		—		
	12(22)	0		Optional accessories output selection (field selection of output for adaptor for wiring)	Indoor unit turned ON by thermostat				Operation output		Malfunction output	
		1		ON/OFF input from outside (Set when ON/OFF is to be controlled from outside.)	Forced OFF		ON/OFF control		—		—	
		2		Thermostat differential changeover (Set when remote sensor is to be used.)	1°C		0.5°C		—		—	
		3		OFF by thermostat fan speed	LL		Set fan speed		—		—	
4			Automatic mode differential (automatic temperature differential setting for VRV system heat recovery series cool/heat)	01:0	02:1	03:2	04:3	05:4	06:5	07:6	08:7	
5			Power failure automatic reset	Not equipped		Equipped		—		—		
13(23)	0		High air outlet velocity (Set when installed in place with ceiling higher than 2.7 m.)	N		H		S		—		
	1		Selection of air flow direction (Set when a blocking pad kit has been installed.)	F (4 directions)		T (3 directions)		W (2 directions)		—		
	3		Air flow direction adjustment (Set at installation of decoration panel.)	Equipped		Not equipped				—		
	4		Field set air flow position setting	Draft prevention		Standard		Ceiling Soiling prevention		—		
	5		Field set fan speed selection (fan speed control by air discharge outlet for phase control)	Standard		Optional accessory 1		Optional accessory 2		—		
15(25)	1		Thermostat OFF excess humidity	Not equipped		Equipped		—		—		
	2		Direct duct connection (when the indoor unit and heat reclaim ventilation unit are connected by duct directly.) *Note 6	Not equipped		Equipped		—		—		
	3		Drain pump humidifier interlock selection	Not equipped		Equipped		—		—		
	5		Field set selection for individual ventilation setting by remote controller	Not equipped		Equipped		—		—		
	6		Field set selection for individual ventilation setting by remote controller	Not equipped		Equipped		—		—		



- Notes:**
- Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
 - The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
 - Marked are factory set.
 - Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
 - “88” may be displayed to indicate the remote controller is resetting when returning to the normal mode.
 - If the setting mode to “Equipped”, heat reclaim ventilation fan conducts the fan residual operation by linking to indoor unit.

3.1.5 Applicable Range of Field Setting

Mode No.	Setting Switch No.	Setting Contents	Ceiling mounted cassette type			Slim ceiling mounted duct type	Ceiling mounted low silhouette duct type	Ceiling mounted built-in type
			Double flow	Multi flow	Corner type			
			FXC	FXF	FXK			
10 (20)	0	Filter sign	○	○	○	○	○	○
	1	Ultra long life filter sign	○	○	—	—	—	—
	2	Remote controller thermostat sensor	○	○	○	○	○	○
12 (22)	3	Set fan speed when thermostat OFF	○	○	○	○	○	○
13 (22)	0	Air flow adjustment Ceiling height	—	○	—	—	—	—
	1	Air flow direction	—	○	—	—	—	—
	3	Air flow direction adjustment (Down flow operation)	—	—	○	—	—	—
	4	Air flow direction adjustment range	○	○	○	—	—	—
	5	Field set fan speed selection	—	○	—	○*	—	—

Mode No.	Setting Switch No.	Setting Contents	Ceiling mounted built-in (Rear suction type)	Ceiling mounted duct type	Ceiling suspended type	Wall mounted type	Floorstanding type	Concealed Floorstanding type
			FXYB	FXM	FXH	FXA	FXL	FXN
10 (20)	0	Filter sign	○	○	○	○	○	○
	1	Ultra long life filter sign	—	—	—	—	—	—
	2	Remote controller thermostat sensor	○	○	○	○	○	○
12 (22)	3	Set fan speed when thermostat OFF	○	○	○	○	○	○
13 (22)	0	Air flow adjustment Ceiling height	—	—	○	—	—	—
	1	Air flow direction	—	—	—	—	—	—
	3	Air flow direction adjustment (Down flow operation)	—	—	—	—	—	—
	4	Air flow direction adjustment range	—	—	—	—	—	—
	5	Field set fan speed selection	—	—	—	—	—	—

* : FXD series ; static pressure selection.

3.1.6 Detailed Explanation of Setting Modes

Filter Sign Setting

If switching the filter sign ON time, set as given in the table below.

Set Time

Filter Specs. Setting	Mode No.	Setting Switch No.	Setting Position No.	Lighting interval of the filter sign (hours)		
				Standard	Long Life	Ultra Long Life Filter
Contamination Light	10(20)	0	01	200 hrs.	2,500 hrs.	10,000 hrs.
Contamination Heavy			02	100 hrs.	1,250 hrs.	5,000 hrs.

Fan Speed Changeover When Thermostat is OFF

By setting to "Set Fan Speed," you can switch the fan speed to the set fan speed when the heating thermostat is OFF.

* Since there is concern about draft if using "fan speed up when thermostat is OFF," you should take the setup location into consideration.

On warming, the priority is given to this over "airflow OFFSW on thermostat off".

© This is used to correspond with the improvement of the electrical collection capability.

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
12(22)	3	01	LL Fan Speed
		02	Set Fan Speed

Auto Restart after Power Failure Reset

For the air conditioners with no setting for the function (same as factory setting), the units will be left in the stop condition when the power supply is reset automatically after power failure reset or the main power supply is turned on again after once turned off. However, for the air conditioners with the setting, the units may start automatically after power failure reset or the main power supply turned on again (return to the same operation condition as that of before power failure).

For the above reasons, when the unit is set enabling to utilize "Auto restart function after power failure reset", utmost care should be paid for the occurrence of the following situation.



- Caution**
- 1. The air conditioner starts operation suddenly after power failure reset or the main power supply turned on again. Consequently, the user might be surprised (with question for the reason why).**
 - 2. In the service work, for example, turning off the main power switch during the unit is in operation, and turning on the switch again after the work is completed start the unit operation (the fan rotates).**

Air Flow Adjustment - Ceiling height

Make the following setting according to the ceiling height. The setting position No. is set to "01" at the factory.

■ In the Case of FXA, FXH

Mode No.	Setting Switch No.	Setting Position No.	Setting
13(23)	0	01	Wall-mounted type: Standard
		02	Wall-mounted type: Slight increase
		03	Wall-mounted type: Normal increase

■ In the Case of FXF25~80

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 2.7 m	Lower than 3.0 m	Lower than 3.5 m
		02	High Ceiling (H)	Lower than 3.0 m	Lower than 3.3 m	Lower than 3.8 m
		03	Higher Ceiling (S)	Lower than 3.5 m	Lower than 3.5 m	—

■ In the Case of FXF100~125

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 3.2 m	Lower than 3.6 m	Lower than 4.2 m
		02	High Ceiling (H)	Lower than 3.6 m	Lower than 4.0 m	Lower than 4.2 m
		03	Higher Ceiling (S)	Lower than 4.2 m	Lower than 4.2 m	—

Air Flow Direction Setting

Set the air flow direction of indoor units as given in the table below. (Set when optional air outlet blocking pad has been installed.) The second code No. is factory set to "01."

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
13 (23)	1	01	F : 4-direction air flow
		02	T : 3-direction air flow
		03	W : 2-direction air flow

Setting of Air Flow Direction Adjustment

Only the model FXK has the function.

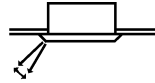
When only the front-flow is used, sets yes/no of the swing flap operation of down-flow.

Setting Table

Setting	Mode No.	First Code No.	Second Code No.
Down-flow operation: Yes	13 (23)	3	01
Down-flow operation: No			02

Setting of Air Flow Direction Adjustment Range

Make the following air flow direction setting according to the respective purpose.



(S2537)

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
13 (23)	4	01	Upward (Draft prevention)
		02	Standard
		03	Downward (Ceiling soiling prevention)

Air Flow Rate Switching at Discharge Grille for Field Air Flow Rate Switching

■ In the case of FXF

When the optional parts (high performance filter, oil guard filter, etc.) is installed, sets to change fan speed for securing air flow rate.

Follow the instruction manual for the optional parts to enter the setting numbers.

Setting of Static Pressure Selection

Only the model FXD has the function.







The second code No. is factory set to "01".

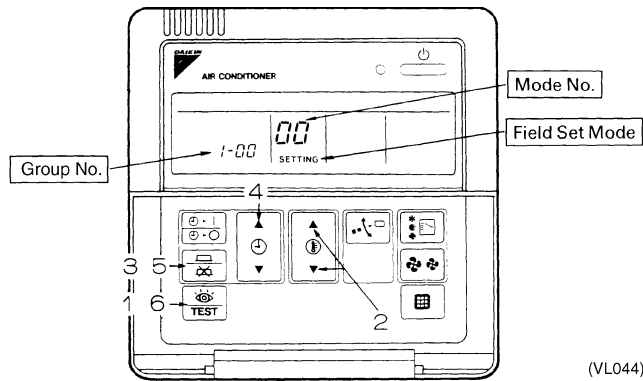
Setting Table

External Static Pressure Setting	Mode No.	First Code No.	Second Code No.
Standard (20Pa)	13 (23)	5	01
High Static Pressure Setting (49Pa)			02

3.1.7 Centralized Control Group No. Setting

BRC1A Type







- If carrying out centralized control by central remote controller or unified ON/OFF controller, group No. must be set for each group individually by remote controller.
 - Group No. setting by remote controller for centralized control
1. When in the normal mode, push the  button for 4 seconds or more, and operation then enters the “field setting mode.”
 2. Set mode No. “00” with the  button. *
 3. Push the  button to inspect the group No. display.
 4. Set the group No. for each group with the  button (The group No. increases in the manner of 1-00, 1-01, ..., 1-15, 2-00, ... 4-15. However, the unified ON/OFF controller displays only the group No. within the range selected by the switch for setting each address.)
 5. Push the timer  button to define the selected group No.
 6. Push the  button to return to the normal mode.



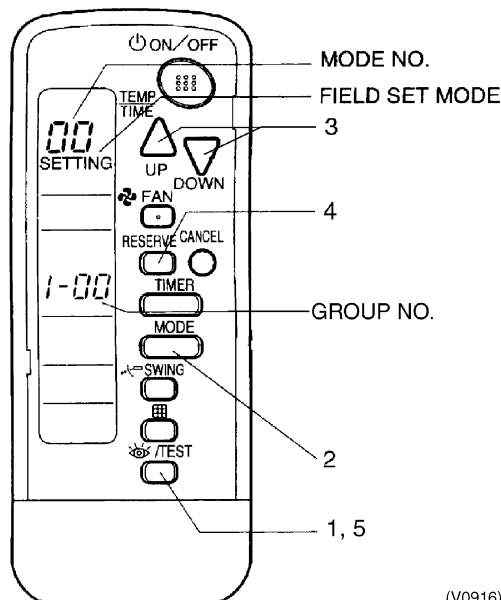
(VL044)

- Even if not using a remote controller, connect the remote controller when setting the group No., set the group No. for centralized control, and disconnect after making the setting.
- Set the group No. after turning on the power supply for the central remote controller, unified ON/OFF controller, and indoor unit.

BRC7C Type

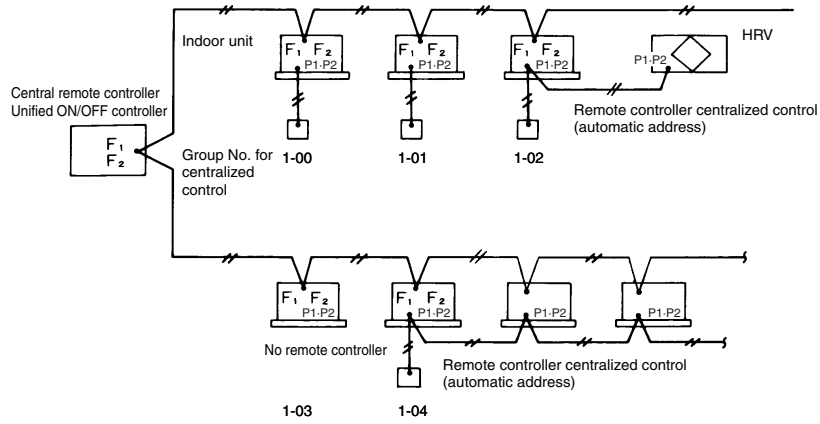
- Group No. setting by wireless remote controller for centralized control
1. When in the normal mode, push  button for 4 seconds or more, and operation then enters the “field set mode.”
 2. Set mode No. “00” with  button.
 3. Set the group No. for each group with   button (advance/backward).
 4. Enter the selected group numbers by pushing  button.
 5. Push  button and return to the normal mode.

BRC7C Type



(V0916)

Group No. Setting Example



(V3170)



Caution

When turning the power supply on, the unit may often not accept any operation while "88" is displaying after all indications were displayed once for about 1 minute on the liquid crystal display. This is not an operative fault.

3.1.8 Setting of Operation Control Mode from Remote Controller (Local Setting)

The operation control mode is compatible with a variety of controls and operations by limiting the functions of the operation remote controller. Furthermore, operations such as remote controller ON/OFF can be limited in accordance with the combination conditions. (Refer to information in the table below.)

Centralized controller is normally available for operations. (Except when centralized monitor is connected)

3.1.9 Contents of Control Modes

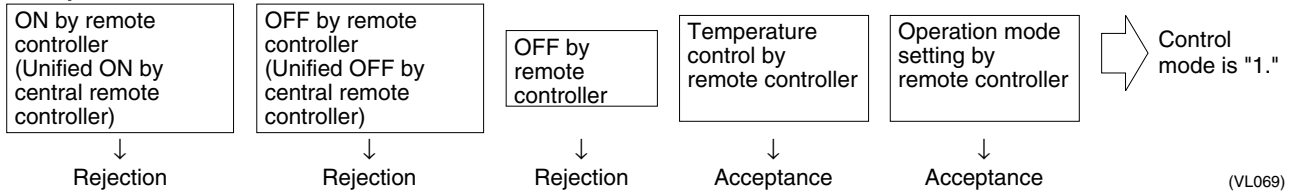
Twenty modes consisting of combinations of the following five operation modes with temperature and operation mode setting by remote controller can be set and displayed by operation modes 0 through 19.

- ◆ ON/OFF control impossible by remote controller
Used when you want to turn on/off by central remote controller only.
(Cannot be turned on/off by remote controller.)
- ◆ OFF control only possible by remote controller
Used when you want to turn on by central remote controller only, and off by remote controller only.
- ◆ Centralized
Used when you want to turn on by central remote controller only, and turn on/off freely by remote controller during set time.
- ◆ Individual
Used when you want to turn on/off by both central remote controller and remote controller.
- ◆ Timer operation possible by remote controller
Used when you want to turn on/off by remote controller during set time and you do not want to start operation by central remote controller when time of system start is programmed.

How to Select Operation Mode

Whether operation by remote controller will be possible or not for turning on/off, controlling temperature or setting operation mode is selected and decided by the operation mode given on the right edge of the table below.

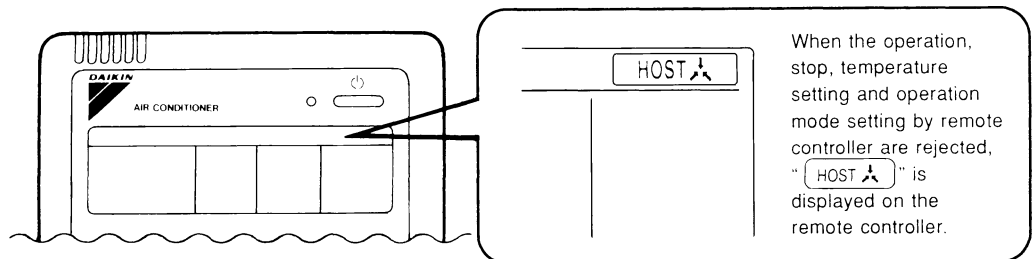
Example



Control mode	Control by remote controller					Control mode
	Operation		OFF	Temperature control	Operation mode setting	
	Unified operation, individual operation by central remote controller, or operation controlled by timer	Unified OFF, individual stop by central remote controller, or timer stop				
ON/OFF control impossible by remote controller	Rejection (Example)	Rejection (Example)	Rejection (Example)	Rejection	Acceptance	0
					Rejection	10
					Acceptance (Example)	1 (Example)
OFF control only possible by remote controller	Acceptance	Acceptance	Acceptance	Rejection	2	
				Acceptance	3	
				Rejection	13	
Centralized	Acceptance	Acceptance	Acceptance	Rejection	4	
				Rejection	14	
				Acceptance	5	
Individual	Acceptance	Acceptance	Acceptance	Rejection	15	
				Rejection	6	
				Acceptance	16	
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Rejection (During timer at OFF position)	Acceptance	Rejection	7 *1	
				Rejection	17	
				Acceptance	8	
				Rejection	9	
				Rejection	18	
				Acceptance	19	

Do not select "timer operation possible by remote controller" if not using a remote controller. Operation by timer is impossible in this case.

*1. Factory setting



(V3162)

3.2 Field Setting from Outdoor Unit

3.2.1 Setting by dip switches

The following field settings are made by dip switches on PC board.

Dipswitch		Setting item	Description
No.	Setting		
DS1-1	ON	Cool / Heat change over setting	Used to set cool / heat change over setting by remote controller equipped with outdoor unit.
	OFF (Factory set)		
DS1-2 ~DS1-4	ON	Not used	Do not change the factory settings.
	OFF (Factory set)		
DS2-1 ~4	ON	Not used	Do not change the factory settings.
	OFF (Factory set)		



Caution

DIP switch Setting after changing the main P.C.Board(A1P) to spare parts P.C.B.

When you change the main P.C.Board(A1P) to spare parts P.C.B., please carry out the following setting.

The spare parts P.C.B. is different from the P.C.B. on factory shipment above in a way of setting. When you exchange to the spare parts P.C.B., make sure that you change setting referring the following table.



DIP Switch Detail

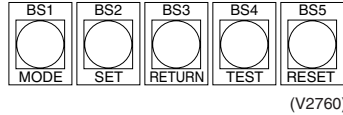
DS No.	Item	Contents																						
DS1-1	Cool/Heat change over setting	ON	The Cool/Heat change over setting is carried out by COOL/HEAT changeover remote controller fitted to outdoor unit.																					
		OFF	The Cool/Heat change over setting is not carried out by COOL/HEAT changeover remote controller fitted to outdoor unit.																					
DS1-2	Cooling only/Heat-pump setting	ON	Cooling only																					
		OFF	Heat-pump																					
DS1-3 DS1-4	Not used	Do not change the factory settings.																						
DS2-1	HP setting (Horse power)	The following setting is performed according to capability of the outdoor unit.																						
DS2-2		<table border="1"> <tr> <td></td> <td>4HP</td> <td>5HP</td> <td>6HP</td> </tr> <tr> <td>DS2-1</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>DS2-2</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>DS2-3</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>DS2-4</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>				4HP	5HP	6HP	DS2-1	ON	OFF	OFF	DS2-2	OFF	ON	OFF	DS2-3	OFF	OFF	ON	DS2-4	OFF	OFF	OFF
			4HP	5HP	6HP																			
		DS2-1	ON	OFF	OFF																			
		DS2-2	OFF	ON	OFF																			
DS2-3	OFF	OFF	ON																					
DS2-4	OFF	OFF	OFF																					
DS2-3	OFF	OFF	ON																					
DS2-4	OFF	OFF	OFF																					

■ **Setting by pushbutton switches**

The following settings are made by pushbutton switches on PC board.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
LED indication	●	●	○	●	●	●	●

(Factory setting)



There are the following three setting modes.

① **Setting mode 1 (H1P off)**

Initial status (when normal) : Also indicates during “abnormal”.

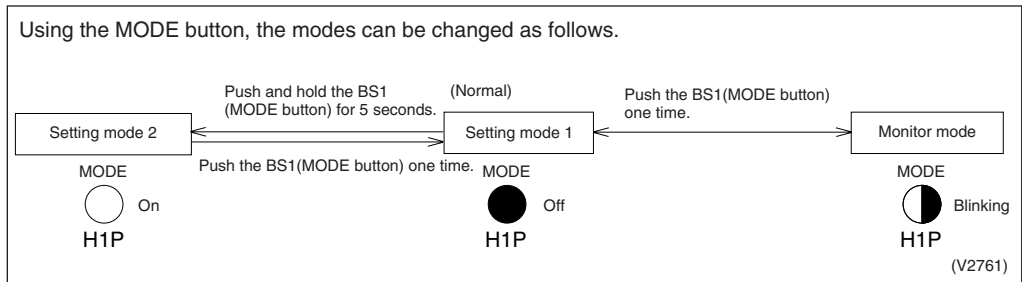
② **Setting mode 2 (H1P on)**

Used to modify the operating status and to set program addresses, etc. Usually used in servicing the system.

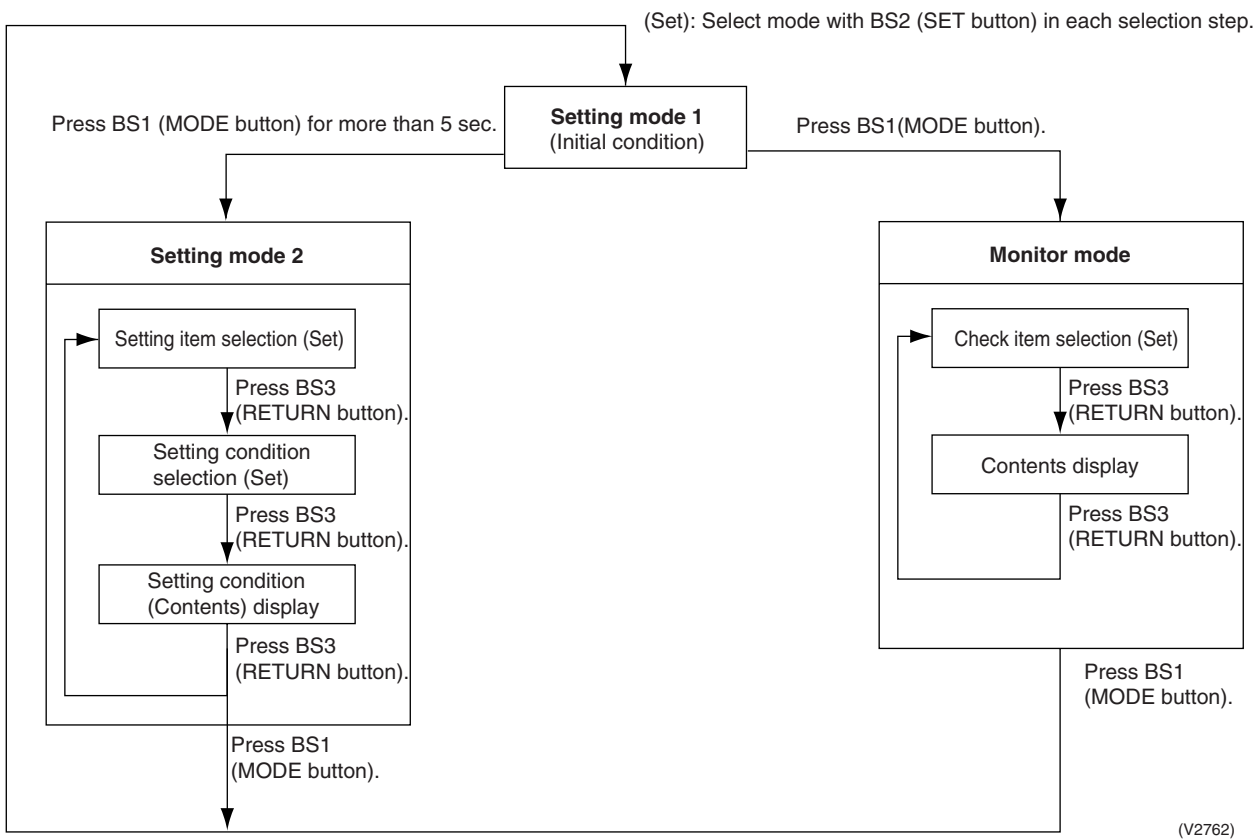
③ **Monitor mode (H1P blinks)**

Used to check the program made in Setting mode 2.

■ **Mode changing procedure**



■ **Mode changing procedure**



a. "Setting mode 1"

"Normally, "Setting mode 1" is set.
In case of other status, push MODE
button (BS1) one time and set to
"Setting mode 1".



* The current state is displayed.

Display for malfunction/preparing/test-run

Setting (displaying) item	LED display example						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Normal	●	●	○	●	●	●	●
Malfunction	●	○	○	●	●	●	●
Preparing/Test-run	●	◐	○	●	●	●	●

○ : ON
● : OFF
◐ : Blinking

b. "Setting mode 2"

Push and hold the MODE button (BS1) for 5 seconds and set to "Setting mode 2".

<Selection of setting items>

Push the SET button (BS2) and set the LED display to a setting item shown in the table on the right.
 ↓
 Push the RETURN button (BS3) and decide the item. (The present setting condition is blinked.)

<Selection of setting conditions>

Push the SET button (BS2) and set to the setting condition you want.
 ↓
 Push the RETURN button (BS3) and decide the condition.

Push the RETURN button (BS3) and set to the initial status of "Setting mode 2".

No.	Setting item	Description
5	Indoor unit forced fan H	Allows forced operation of indoor unit fan while unit is stopped. (H tap)
6	Indoor unit forced operation	Allows forced operation of indoor unit.
8	Te setting	Target evaporation temperature for cooling
9	Tc setting	Target condensation temperature for heating
10	Defrost changeover setting	Changes the temperature condition for defrost and sets to quick defrost or slow defrost.
21	Refrigerant collection mode setting	Sets to refrigerant collection mode.
22	Night-time low noise setting	Sets automatic nighttime low noise operation in a simple way. The operating time is based on "Starting set" and "Ending set".
26	Night-time low noise control starting setting	Sets starting time of nighttime low noise operation. (Nighttime low noise setting is also required.)
27	Night-time low noise control ending setting	Sets ending time of nighttime low noise operation. (Nighttime low noise setting is also required.)
29	Capacity precedence setting	If the capacity control is required, the low noise control is automatically released by this setting during carrying out low noise operation and nighttime low noise operation.
30	Demand setting 1	Changes target value of power consumption when demand control 1 is input.
32	Normal demand setting	Normally enables demand control 1 without external input. (Effective to prevent a problem that circuit breaker of small capacity is shut down due to large load.

* If you become unsure of how to proceed, push the MODE button (BS1) and return to setting mode 1.

(V2764)

No.	Setting item display							Setting condition display		
	Setting item	MODE H1P	TEST H2P	C/H selection			Low noise H6P			Demand H7P
				IND H3P	Master H4P	Slave H5P				
5	Indoor forced fan H	○	●	●	●	○	●	○	Normal operation	○ ● ● ● ● ● ● ○ *
									Indoor forced fan H	○ ● ● ● ● ● ● ○
6	Indoor forced operation	○	●	●	●	○	○	●	Normal operation	○ ● ● ● ● ● ● ○ *
									Indoor forced operation	○ ● ● ● ● ● ● ○
8	Te setting	○	●	●	○	●	●	●	High	○ ● ● ● ○ ● ●
									Normal	○ ● ● ● ● ● ○ ● *
									Low	○ ● ● ● ● ● ○
9	Tc setting	○	●	●	○	●	●	○	High	○ ● ● ● ○ ● ●
									Normal	○ ● ● ● ● ● ○ ● *
									Low	○ ● ● ● ● ● ○
10	Defrost setting	○	●	●	○	●	○	●	Quick defrost	○ ● ● ● ○ ● ●
									Normal	○ ● ● ● ● ● ○ ● *
									Slow defrost	○ ● ● ● ● ● ○
21	Refrigerant recovery mode setting	○	●	○	●	○	●	○	Refrigerant recovery: OFF	○ ● ● ● ● ● ○ *
									Refrigerant recovery: ON	○ ● ● ● ● ● ○
22	Night-time low noise setting	○	●	○	●	○	○	●	OFF	○ ● ● ● ● ● ○ *
									Level 1	○ ● ● ● ● ● ○
									Level 2	○ ● ● ● ● ● ○ ●
									Level 3	○ ● ● ● ● ● ○ ○
26	Night-time low noise operation start setting	○	●	○	○	●	○	●	About 20:00	○ ● ● ● ● ● ○
									About 22:00	○ ● ● ● ● ● ○ ● *
									About 24:00	○ ● ● ● ○ ● ●
27	Night-time low noise operation end setting	○	●	○	○	●	○	○	About 6:00	○ ● ● ● ● ● ○
									About 7:00	○ ● ● ● ● ● ○ ●
									About 8:00	○ ● ● ● ○ ● ● *
29	Capacity precedence setting	○	●	○	○	○	●	○	OFF	○ ● ● ● ● ● ○ *
									ON	○ ● ● ● ● ● ○
30	Demand setting 1	○	●	○	○	○	○	●	60 % demand	○ ● ● ● ● ● ○
									70 % demand	○ ● ● ● ● ● ○ ● *
									80 % demand	○ ● ● ● ○ ● ●
32	Continuous demand setting	○	○	●	●	●	●	●	OFF	○ ● ● ● ● ● ○ *
									ON	○ ● ● ● ● ● ○

c. Monitor mode

To enter the monitor mode, push the MODE button (BS1) when in "Setting mode 1".

<Selection of setting item>

Push the SET button (BS2) and set the LED display to a setting item.

<Confirmation on setting contents>

Push the RETURN button (BS3) to display different data of set items.

Push the RETURN button (BS3) and switches to the initial status of "Monitor mode".

No.	Setting item	LED display							Data display
		H1P	H2P	H3P	H4P	H5P	H6P	H7P	
0	Various settings	⓪	●	●	●	●	●	●	See below
5	Number of connected indoor units	⓪	●	●	●	○	●	○	Lower 6 digits
14	Contents of malfunction (the latest)	⓪	●	●	○	○	○	●	Malfunction code table
15	Contents of malfunction (1 cycle before)	⓪	●	●	○	○	○	○	
16	Contents of malfunction (2 cycle before)	⓪	●	○	●	●	●	●	
20	Contents of retry (the latest)	⓪	●	○	●	○	●	●	
21	Contents of retry (1 cycle before)	⓪	●	○	●	○	●	○	
22	Contents of retry (2 cycle before)	⓪	●	○	●	○	○	●	

Setting item 0 Display contents of "Various settings"

Defrost select setting	Short	⓪	●	●	●	○	●	●
	Medium	⓪	●	●	●	⓪	●	●
	Long	⓪	●	●	●	●	●	●
Te setting	H	⓪	●	●	●	●	○	●
	M	⓪	●	●	●	●	⓪	●
	L	⓪	●	●	●	●	●	●
Tc setting	H	⓪	●	●	●	●	●	○
	M	⓪	●	●	●	●	●	⓪
	L	⓪	●	●	●	●	●	●

* Push the MODE button (BS1) and returns to "Setting mode 1".

(V2765)

Push the SET button and match with the LEDs No. 1 - 15, push the RETURN button, and enter the data for each setting.

★ Data such as addresses and number of units is expressed as binary numbers; the two ways of expressing are as follows:

⓪	●	⓪	●	⓪	●
32	16	8	4	2	1

The No. 5 cool/heat unified address is expressed as a binary number consisting of the lower 6 digits. (0 - 63)

In ⓪ the address is 000110 (binary number), which translates to $4 + 2 = 6$ (base 10 number). In other words, the address is 6.

3.3 Detail of Setting Mode

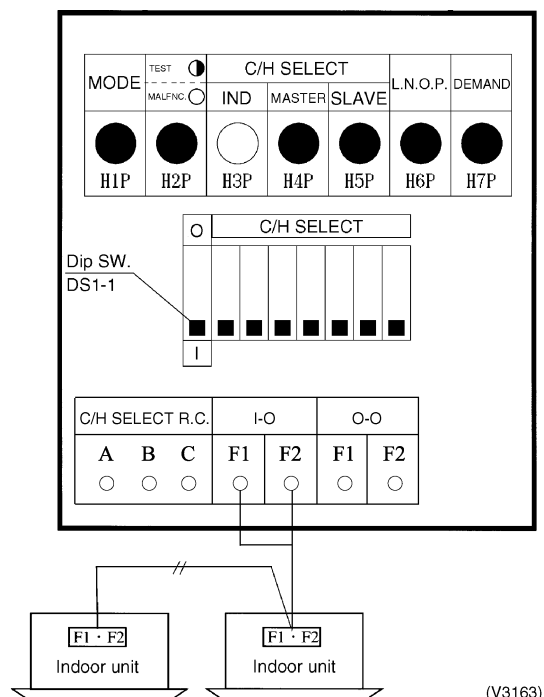
3.3.1 Cool / Heat Mode Switching

There are the following 2 cool/heat switching modes.

- ① Set cool/heat separately for each outdoor unit system by indoor unit remote controller.
- ② Set cool/heat separately for each outdoor unit system by cool/heat switching remote controller.

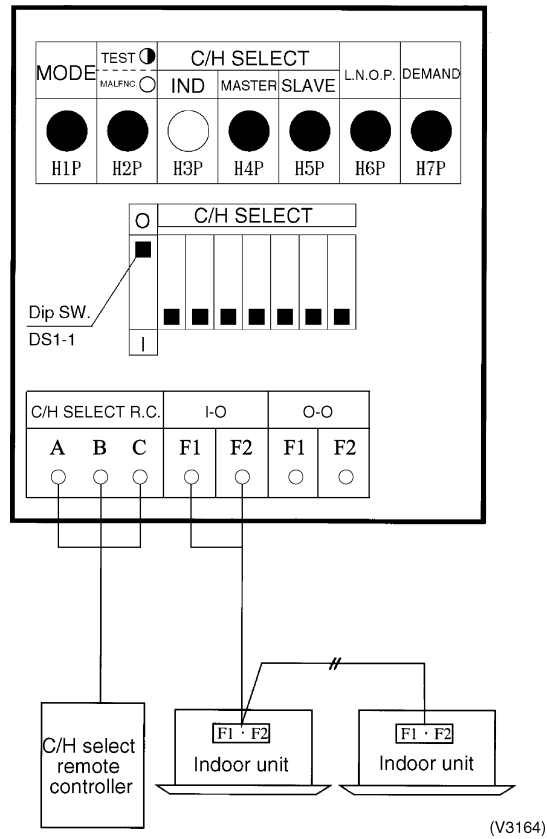
① Set Cool/Heat Separately for Each Outdoor System by Indoor Unit Remote Controller

- ◆ It does not matter whether or not there is outdoor - outdoor unit wiring.
- ◆ Set outdoor unit PC board DS1-1 to "indoor" (factory set).
- ◆ Set cool/heat switching to "individual" for "Setting mode 1" (factory set).



② Set Cool / Heat Separately for Each Outdoor Unit System by Cool/Heat Switching Remote Controller

- ◆ It does not matter whether or not there is outdoor - outdoor unit wiring.
- ◆ Set outdoor unit PC board DS1-1 to "outdoor" (factory set).
- ◆ Set cool/heat switching to "individual" for "Setting mode 1" (factory set).



3.3.2 Setting of **Low Noise Operation** and **Demand Operation**

Setting of Low Noise Operation

By connecting the external contact input to the low noise input of the outdoor unit external control adaptor (optional), you can lower operating noise by 2-3 dB.

A. When the low noise operation is carried out by external instructions (with the use of the outdoor unit external control adaptor)

1. Set "External low noise / Demand YES/NO setting" to "External low noise / Demand YES". (Set by Setting Mode 2)
2. Set "External low noise level setting" on the outdoor unit PCB, as the need arises. (Lower noise operation can be carried out by "Mode 2" than by "Mode 1", and by "Mode 3" than by "Mode 2".)
3. Set "Capacity precedence setting" on the outdoor unit PCB, as the need arises. (If set to "ON", when air conditioning load gets higher, the low noise instructions are neglected to switch to normal operation.) (Set by Setting Mode 2)

B. When the low noise operation is carried out automatically at night (The outdoor unit external control adaptor is not required)

1. Set "Night-time low noise setting" on the outdoor unit PCB. (Set by Setting Mode 2)
(Lower noise operation can be carried out by "Mode 2" than by "Mode 1", and by "Mode 3" than by "Mode 2".)
2. Set "Night-time low noise start setting" on the outdoor unit PCB, as the need arises. (Set by Setting Mode 2)
(Since the time is presumed in accordance with the outdoor temperature, the starting time is a target only.)
3. Set "Night-time low noise end setting" on the outdoor unit PCB, as the need arises. (Set by Setting Mode 2)
(Since the time is presumed in accordance with the outdoor temperature, the ending time is a target only.)
4. Set "Capacity precedence setting" on the outdoor unit PCB, as the need arises. (Set by Setting Mode 2)
(If set to "ON", when air conditioning load gets higher, the status is switched to normal operation even at night.)

Image of operation in the case of A

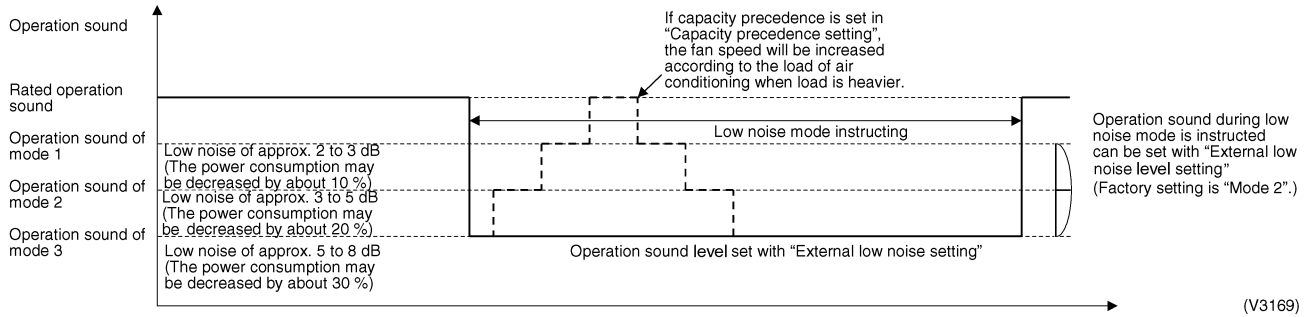


Image of operation in the case of B

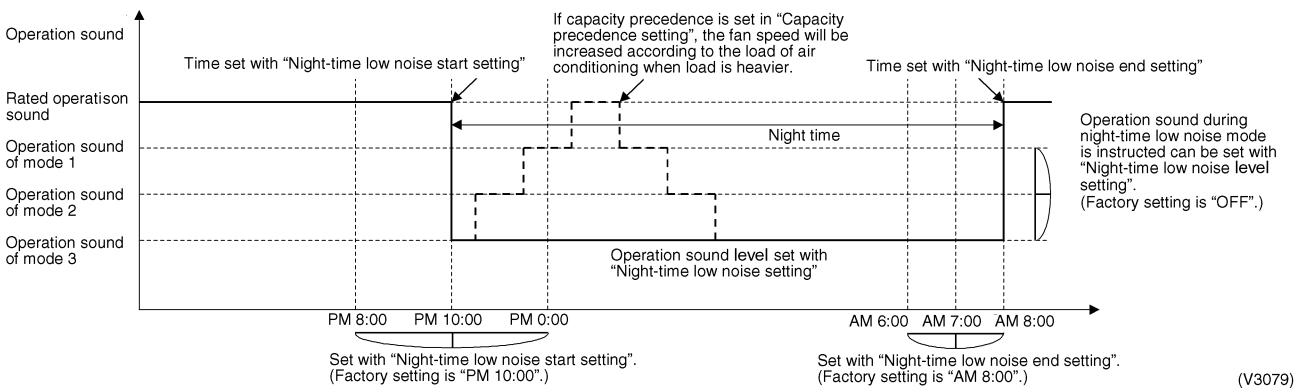
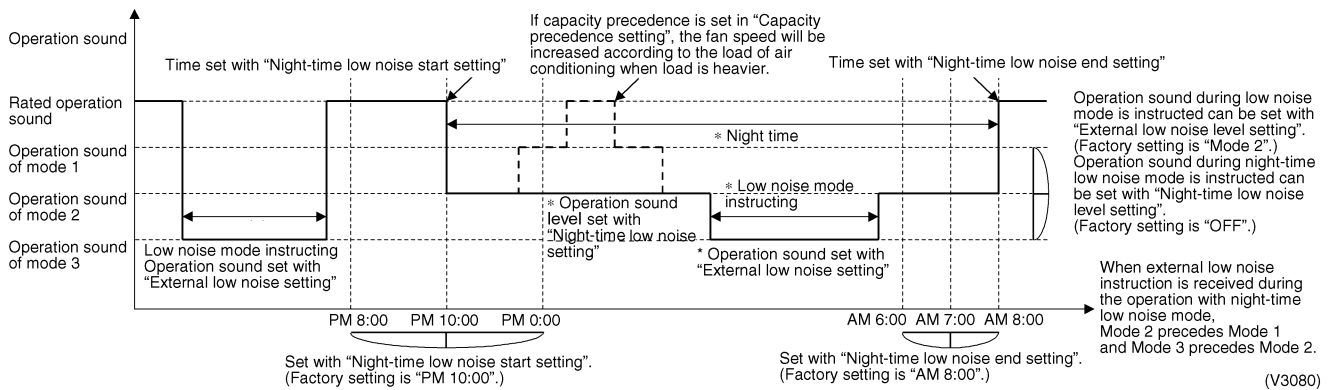


Image of operation in the case of A, B



Setting of Demand Operation

By connecting the external contact input to the demand input of the outdoor unit external control adaptor (optional), the power consumption of unit operation can be saved suppressing the compressor operating condition.

A. When the demand operation is carried out by external instructions (with the use of the outdoor unit external control adaptor).

- Set the "External low noise/Demand YES/NO setting" switch on the outdoor unit PCB to the "External low noise/Demand YES".
(Set by Setting Mode 2)
- Set the "Demand 1 level setting" on the outdoor unit PCB, as the need arises.
(During the demand level 1 instruction, the power consumption can be saved to 80 %, 70 % or 60 % of the rated value respectively.)

B. When the continuous demand operation is carried out. (Use of the outdoor unit external control adaptor is not required.)

- Set the "Continuous demand setting" on the outdoor unit PCB.
- If the "Continuous demand setting" is set to the "Continuous demand 1 fixing", set the "Demand 1 setting" on the outdoor unit PCB, as the need arises.
(During the continuous demand level 1 operation, the power consumption can be saved to 80 %, 70 % or 60 % of the rated value respectively.)

Image of operation in the case of A

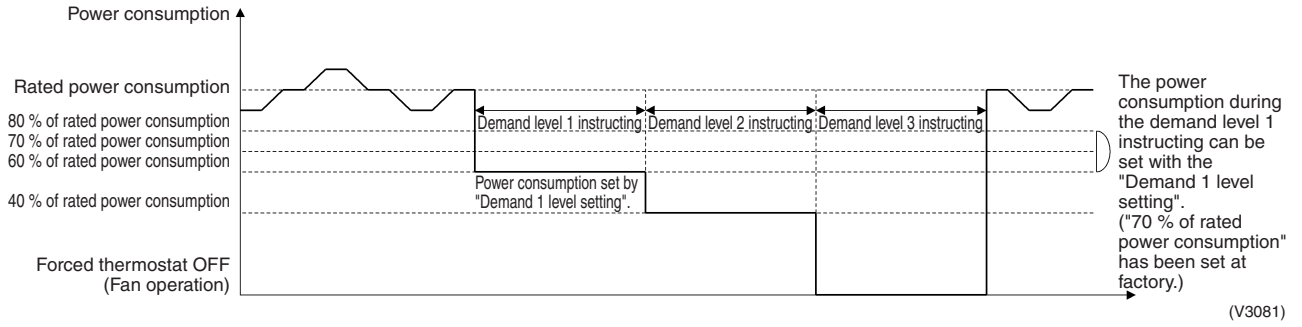


Image of operation in the case of B

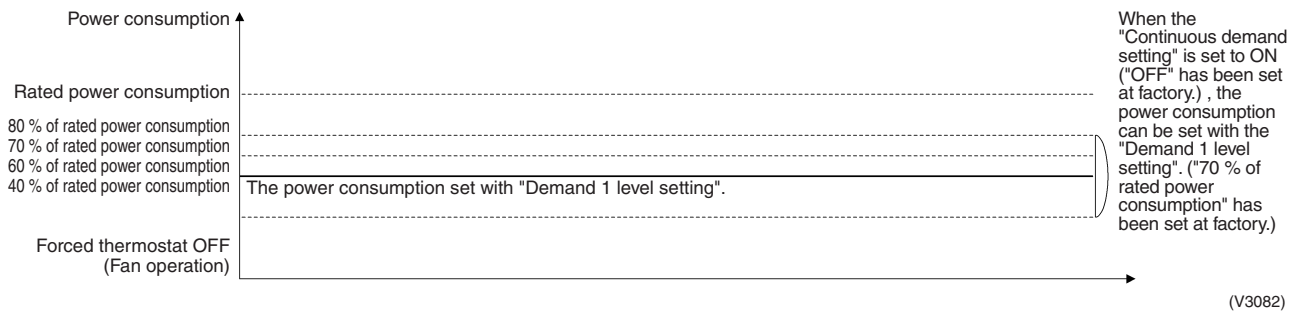
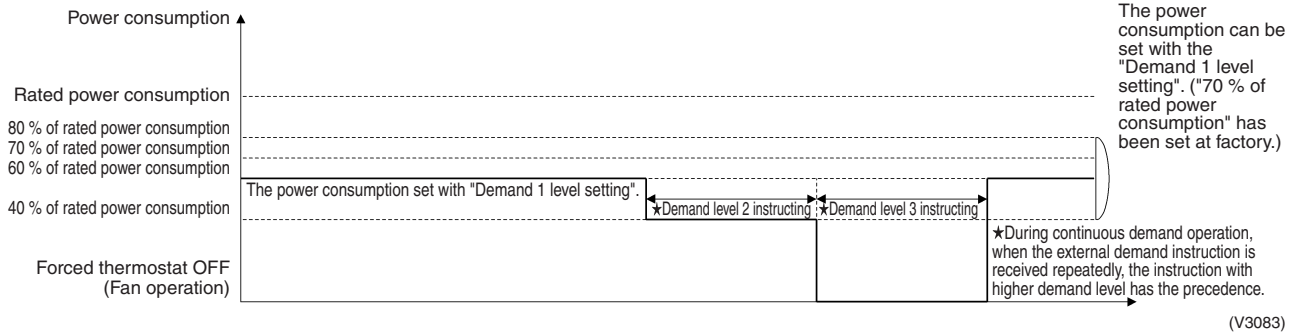


Image of operation in the case of A and B



Detailed Setting Procedure of Low Noise Operation and Demand Control

1. Setting mode 1 (H1P off)

- ① In setting mode 2, push the BS1 (MODE button) one time. → Setting mode 1 is entered and H1P lights off.
During the setting mode 1 is displayed, “In low noise operation” and “In demand control” are displayed.

2. Setting mode 2 (H1P on)

- ① In setting 1, push and hold the BS1 (MODE button) for more than 5 seconds. → Setting mode 2 is entered and H1P lights.
- ② Push the BS2 (SET button) several times and match the LED display with the Setting No. you want.
- ③ Push the BS3 (RETURN button) one time, and the present setting content is displayed.
→ Push the BS2 (SET button) several times and match the LED display with the setting content (as shown below) you want.
- ④ Push the BS3 (RETURN button) two times. → Returns to ①.
- ⑤ Push the BS1 (MODE button) one time. → Returns to the setting mode 1 and turns H1P off.

Setting No.	Setting contents	① Setting No. indication							② Setting No. indication							Setting contents	③ Setting contents indication (Initial setting)							
		H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P		H1P	H2P	H3P	H4P	H5P	H6P	H7P	
22	Night-time low noise setting	○	●	●	●	●	●	●	○	●	○	●	○	○	●	OFF (Factory setting)	○	●	●	●	●	●	●	●
																Mode 1	○	●	●	●	●	●	○	○
																Mode 2	○	●	●	●	●	○	○	○
																Mode 3	○	●	●	●	●	○	○	○
25	External low noise setting	○	●	○	○	●	●	○	○	●	○	○	●	○	Mode 1	○	●	●	●	●	○	○		
															Mode 2 (Factory setting)	○	●	●	●	○	○	○		
															Mode 3	○	●	●	●	○	○	○		
26	Night-time low noise start setting	○	●	○	○	●	○	●	○	●	○	○	●	○	PM 8:00	○	●	●	●	●	○	○		
															PM 10:00 (Factory setting)	○	●	●	●	○	○	○		
															PM 0:00	○	●	●	●	○	○	○		
27	Night-time low noise end setting	○	●	○	○	●	○	○	○	●	○	○	○	○	AM 6:00	○	●	●	●	○	○			
															AM 7:00	○	●	●	●	○	○	○		
															AM 8:00 (Factory setting)	○	●	●	●	○	○	○		
29	Capacity precedence setting	○	●	○	○	○	●	○	○	●	○	○	○	○	Low noise precedence (Factory setting)	○	●	●	●	○	○			
															Capacity precedence	○	●	●	●	○	○	○		
30	Demand setting 1	○	●	○	○	○	○	○	○	●	○	○	○	○	○	60 % of rated power consumption	○	●	●	●	○	○		
																70 % of rated power consumption (Factory setting)	○	●	●	●	○	○	○	
																80 % of rated power consumption	○	●	●	●	○	○	○	
32	Continuous demand setting	○	●	●	●	●	●	●	○	●	●	●	●	●	OFF (Factory setting)	○	●	●	●	○	○			
															Continuous demand 1 fixed	○	●	●	●	○	○	○		
12	External low noise / Demand setting	○	●	●	○	○	●	●	○	●	○	○	●	○	NO (Factory set)	○	●	●	●	○	○			
															YES	○	●	●	●	○	○	○		

Setting mode indication section

Setting No. indication section

Set contents indication section

3.3.3 Setting of Refrigerant Recovery Mode

When carrying out the refrigerant collection on site, fully open the respective expansion valve of indoor and outdoor units

Both the outdoor unit and the indoor unit are forbidden to operation.

[Operation procedure]

- ① In **setting mode 2** with units in stop mode, set “B Refrigerant Recovery / Vacuuming mode” to ON. The respective expansion valve of indoor and outdoor units are fully opened. (H2P turns to display “TEST OPERATION” (blinks), “TEST OPERATION” and “IN CENTRALIZED CONTROL” are displayed on the remote controller, and the operation is prohibited.
- ② Collect the refrigerant using a refrigerant recovery unit. (See the instruction attached to the refrigerant recovery unit for more detail.)
- ③ Press Mode button “BS1” once and reset “Setting Mode 2”.

3.3.4 Setting of Vacuuming Mode

In order to perform vacuuming operation at site, fully open the expansion valves of indoor and outdoor units to turn on some solenoid valves.
Both the outdoor unit and the indoor unit are forbidden to operation.

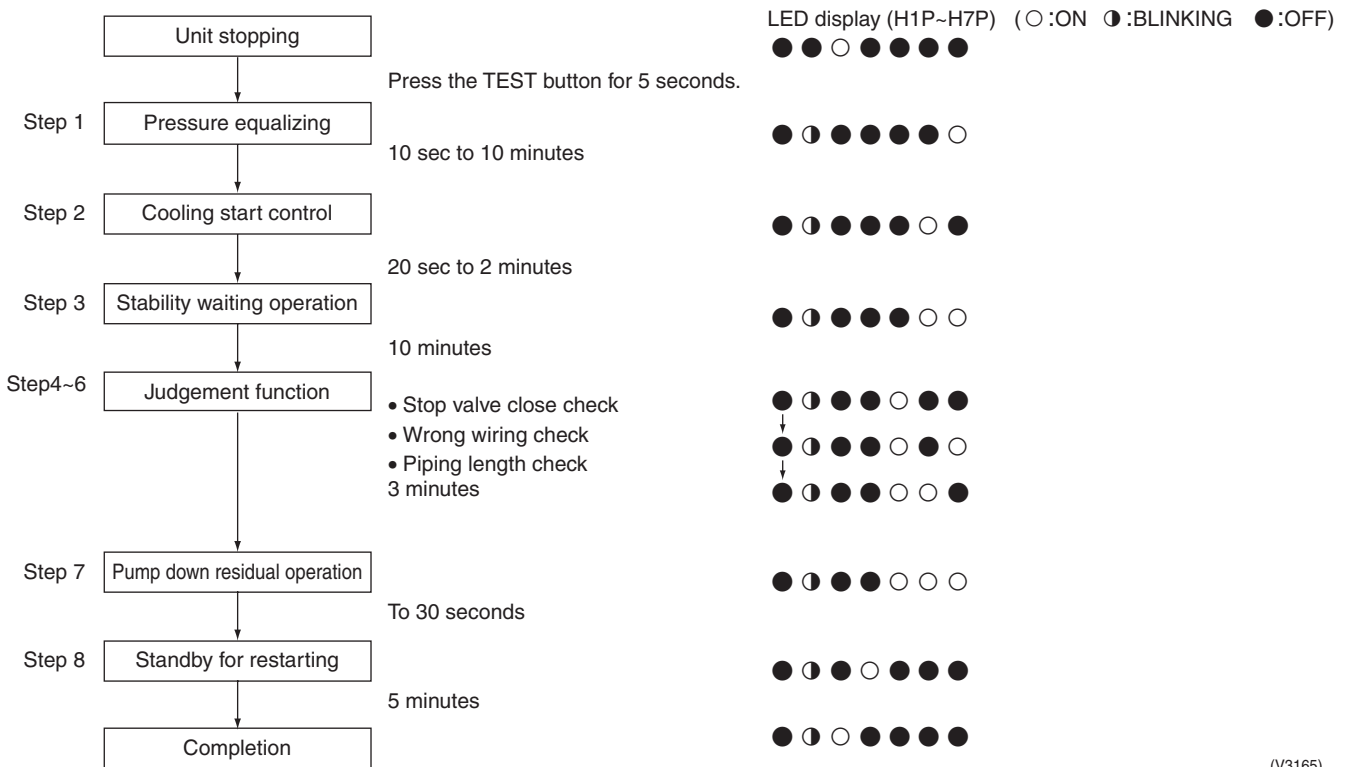
[Operating procedure]

- ① With **Setting Mode 2** while the unit stops, set (B) Refrigerant recovery / Vacuuming mode to ON. The expansion valves of indoor and outdoor units fully open and some of solenoid valves open.
(H2P blinks to indicate the test operation, and the remote controller displays “Test Operation” and “In Centralized control”, thus prohibiting operation.)
After setting, do not cancel “Setting Mode 2” until completion of Vacuuming operation.
- ② Use the vacuum pump to perform vacuuming operation.
- ③ Press Mode button “BS1” once and reset “Setting Mode 2”.

3.3.5 Check Operation

To prevent any trouble in the period of installation at site, the system is provided with a test operation mode enabling check for incorrect wiring, stop valve left in closed, and judgment of piping length.

CHECK OPERATION FUNCTION



(V3165)

Part 7

Troubleshooting

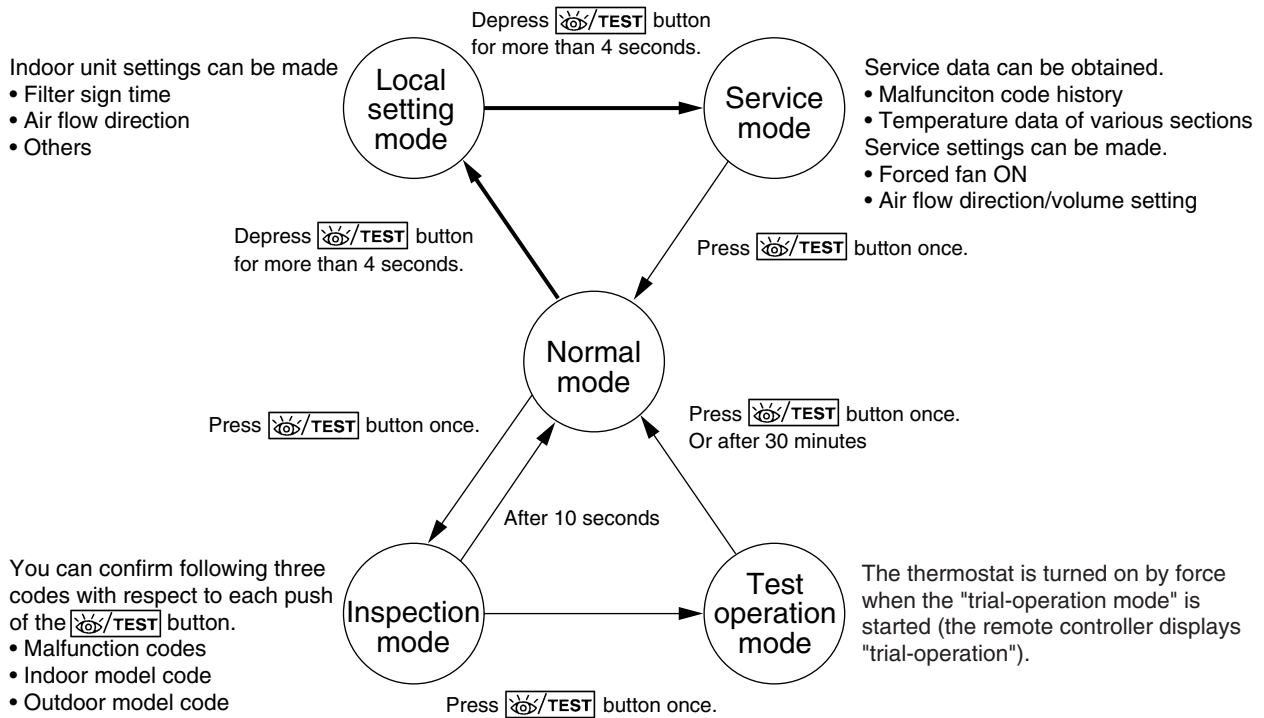
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1. Troubleshooting by Remote Controller

1.1 The INSPECTION / TEST Button

The following modes can be selected by using the  button on the remote control.

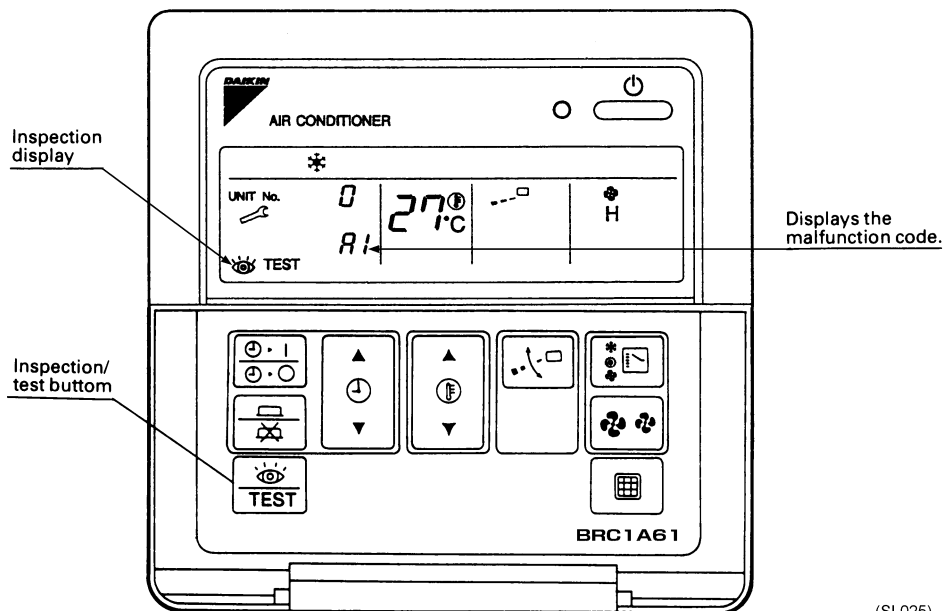


(V0815)

1.2 Self-Diagnosis by Wired Remote Controller

Explanation

If operation stops due to malfunction, the remote controller's operation LED blinks, and malfunction code is displayed. (Even if stop operation is carried out, malfunction contents are displayed when the inspection mode is entered.) The malfunction code enables you to tell what kind of malfunction caused operation to stop.



(SL025)

1.3 Self-Diagnosis by Wireless Remote Controller

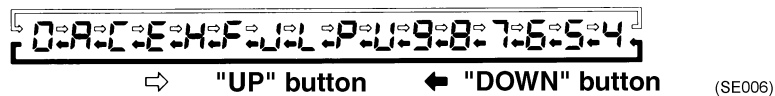
In the Case of BRC7C ~ Type

You can confirm the error code as following.

If equipment stops due to a malfunction, the operation indicating LED on the light reception section flashes.

The malfunction code can be determined by following the procedure described below. (The malfunction code is displayed when an operation error has occurred. In normal condition, the malfunction code of the last problem is displayed.)

1. Press the INSPECTION/TEST button to select "Inspection."
The equipment enters the inspection mode. The "Unit" indication lights and the Unit No. display shows flashing "0" indication.
 2. Set the Unit No.
Press the UP or DOWN button and change the Unit No. display until the buzzer (*1) is generated from the indoor unit.
*1 Number of beeps
3 short beeps : Conduct all of the following operations.
1 short beep : Conduct steps 3 and 4.
Continue the operation in step 4 until a buzzer remains ON. The continuous buzzer indicates that the malfunction code is confirmed.
Continuous beep : No abnormality.
 3. Press the MODE selector button.
The left "0" (upper digit) indication of the malfunction code flashes.
 4. Malfunction code upper digit diagnosis
Press the UP or DOWN button and change the malfunction code upper digit until the malfunction code matching buzzer (*2) is generated.
- The upper digit of the code changes as shown below when the UP and DOWN buttons are pressed.



*2 Number of beeps

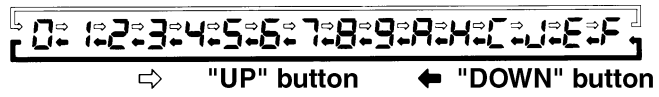
Continuous beep : Both upper and lower digits matched. (Malfunction code confirmed)

2 short beeps : Upper digit matched.

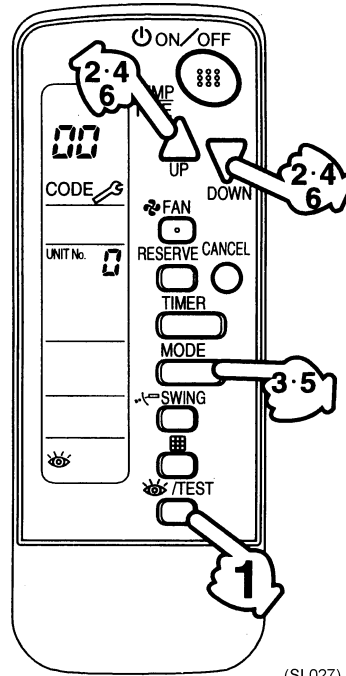
1 short beep : Lower digit matched.

5. Press the MODE selector button.
The right "0" (lower digit) indication of the malfunction code flashes.
6. Malfunction code lower digit diagnosis
Press the UP or DOWN button and change the malfunction code lower digit until the continuous malfunction code matching buzzer (*2) is generated.

- The lower digit of the code changes as shown below when the UP and DOWN buttons are pressed.

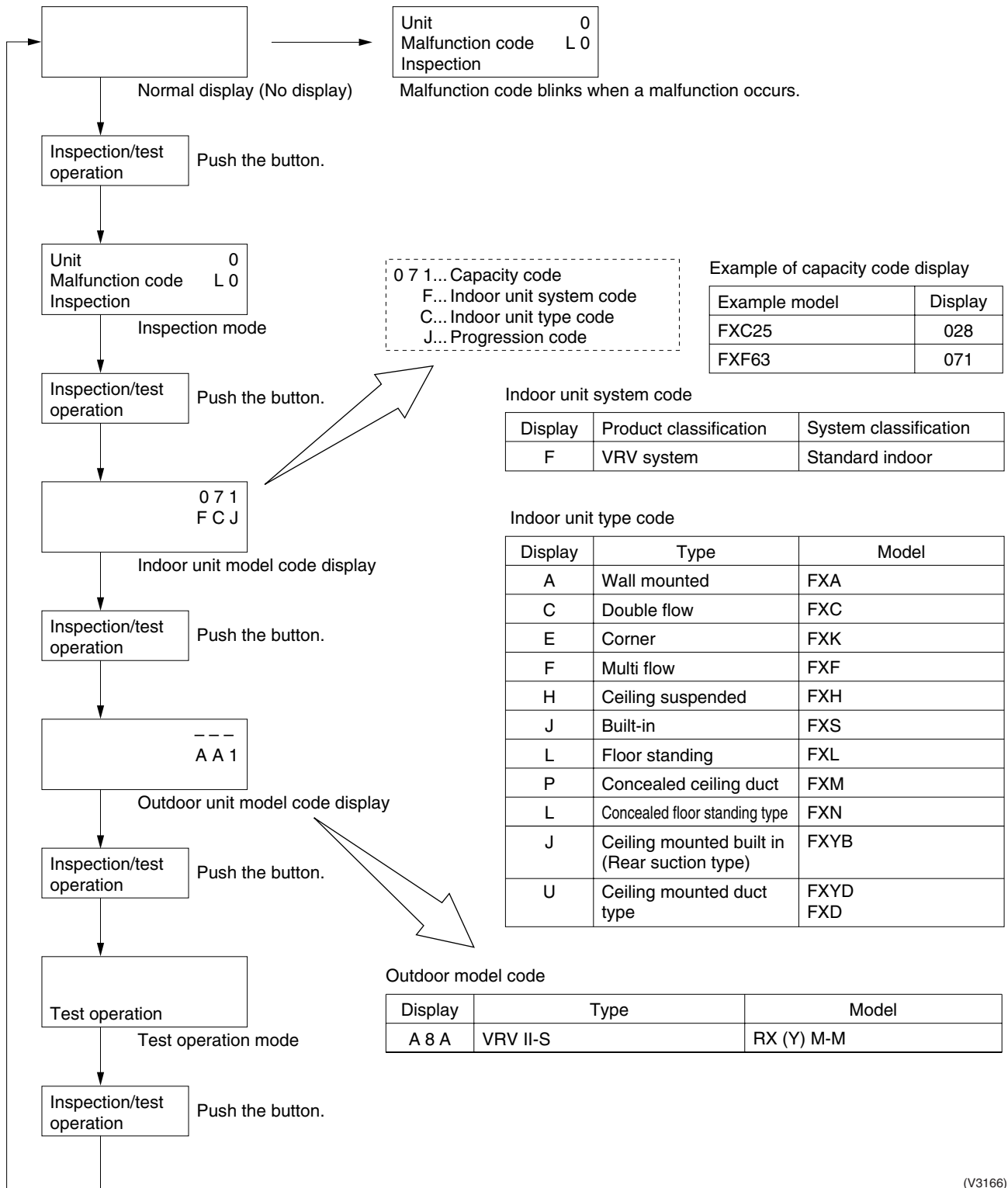


(SE007)




(SL027)

1.4 Operation of the Remote Controller's Inspection / Test Operation Button

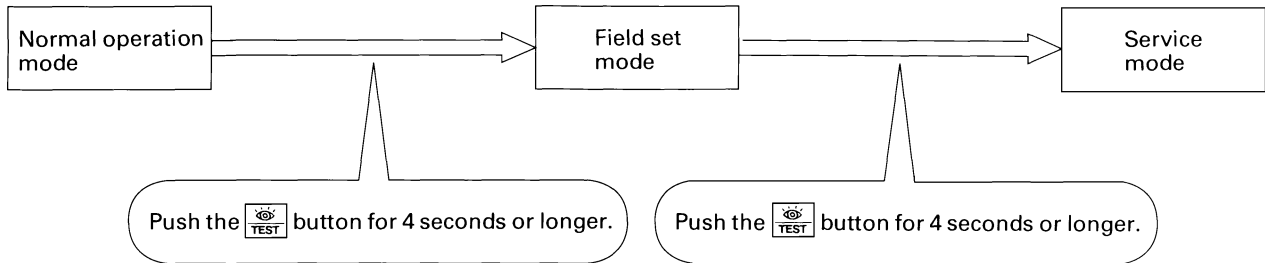


(V3166)

1.5 Remote Controller Service Mode

You can take “service data” and make a “service setting” in the service mode, with operating the  button on the remote controller.


How to Enter the Service Mode






(VF020)

Service Mode Operation Method


1. Select the mode No.

Set the desired mode No. with the  button.
(For wireless remote controller, Mode 43 only can be set.)

2. Select the unit No. (For group control only)


Select the indoor unit No. to be set with the time mode  . (For wireless remote controller,   button.)

3. Make the settings required for each mode.


In case of Mode 44, 45, push  button to be able to change setting before setting work. (LCD “code” blinks.)









For details, refer to the table in next page.

4. Define the setting contents. (Modes 44, 45)

Define by pushing the timer  button.
After defining, LCD “code” changes blinking to ON.

5. Return to the normal operation mode.

Push the  button one time.

Mode No	Function	Contents and operation method	Remote controller display example
40	Malfunction hysteresis display	<p>Display malfunction hysteresis.</p> <p>The history No. can be changed with the  button.</p>	<p>Unit 1 Malfunction code 40</p> <p>2-U4 Malfunction code</p> <p>History No: 1 - 9 1: Latest</p> <p>(VE007)</p>
41	Display of sensor and address data	<p>Display various types of data.</p> <p>Select the data to be displayed with the  button.</p> <p>Sensor data 0: Thermostat sensor in remote controller. 1: Suction 2: Liquid pipe 3: Gas pipe</p> <p>Address data 4: Indoor unit address 5: Outdoor unit address 6: BS unit address 7: Zone control address 8: Cool/heat group address 9: Demand / low noise address</p>	<p>Sensor data display</p> <p>Unit No. Sensor type</p> <p>1 1 2 7 41</p> <p>Temperature °C</p> <p>Address display</p> <p>Unit No. Address type</p> <p>1 8 1 41</p> <p>Address</p> <p>(VE008)</p>
43	Forced fan ON	<p>Manually turn the fan ON by each unit. (When you want to search for the unit No.)</p> <p>By selecting the unit No. with the  button, you can turn the fan of each indoor unit on (forced ON) individually.</p>	<p>Unit 1</p> <p>43</p> <p>(VE009)</p>
44	Individual setting	<p>Set the fan speed and air flow direction by each unit</p> <p>Select the unit No. with the time mode  button.</p> <p>Set the fan speed with the  button.</p> <p>Set the air flow direction with the  button.</p>	<p>Unit 1 Code 44</p> <p>1 3</p> <p>Fan speed 1: Low 3: High</p> <p>Air flow direction P0 - P4</p> <p>(VE010)</p>
45	Unit No. transfer	<p>Transfer unit No.</p> <p>Select the unit No. with the  button. Set the unit No. after transfer with the  button.</p>	<p>Present unit No.</p> <p>Unit 1 Code 45</p> <p>0 2 Unit No. after transfer</p> <p>(VE011)</p>

2. List of Malfunction Code

●: Blink ○: ON ●: OFF

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Referred
Indoor Unit	A0	●	●	●	Error of external protection device	122
	A1	●	●	●	PC board defect, E ² PROM defect	123
	A3	●	●	●	Malfunction of drain level control system (33H)	124
	A6	●	●	●	Fan motor (MF) lock, overload	126
	A7	○	●	●	Malfunction of swing flap motor (MA)	127
	A9	●	●	●	Malfunction of moving part of electronic expansion valve (20E)	129
	AF	○	●	●	Drain level about limit	131
	AJ	●	●	●	Malfunction of capacity setting	132
	C4	●	●	●	Malfunction of thermistor (R2T) for heat exchange (loose connection, disconnection, short circuit, failure)	133
	C5	●	●	●	Malfunction of thermistor (R3T) for gas pipes (loose connection, disconnection, short circuit, failure)	134
	C9	●	●	●	Malfunction of thermistor (R1T) for air inlet (loose connection, disconnection, short circuit, failure)	135
	CA	●	●	●	Malfunction of thermistor for air outlet (loose connection, disconnection, short circuit, failure)	
	CJ	○	○	○	Malfunction of thermostat sensor in remote controller	137
	Outdoor Unit	E1	●	●	●	PC board defect, E ² PROM defect
E3		●	●	●	Actuation of high pressure switch	139
E4		●	●	●	Actuation of low pressure switch	140
E5		●	●	●	Compressor motor lock	141
E6		●	●	●	Standard compressor lock or over current	—
E7		●	●	●	Malfunction of outdoor unit fan motor	142
E9		●	●	●	Malfunction of moving part of electronic expansion valve (Y1E~3E)	144
F3		●	●	●	Abnormal discharge pipe temperature	146
F6		●	●	●	Refrigerant overcharged	—
H3		○	●	●	Malfunction of High pressure switch	—
H4		●	●	●	Actuation of Low pressure switch	—
H7		●	●	●	Abnormal outdoor fan motor signal	—
H9		●	●	●	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	147
J2		●	●	●	Current sensor malfunction	—
J3		●	●	●	Malfunction of discharge pipe thermistor (R3T) (loose connection, disconnection, short circuit, failure)	148
J5		●	●	●	Malfunction of thermistor (R2T) for suction pipe (loose connection, disconnection, short circuit, failure)	149
J6		●	●	●	Malfunction of thermistor (R4T) for heat exchanger (loose connection, disconnection, short circuit, failure)	150
J7		●	●	●	Malfunction of header thermistor	—
J8		●	●	●	Malfunction of thermistor (R7T) for oil equalizing pipe. (loose connection, disconnection, short circuit, failure)	—
J9		●	●	●	Malfunction of receiver gas pipe thermistor (R5T)	151
JA	●	●	●	Malfunction of discharge pipe pressure sensor	152	
JC	●	●	●	Malfunction of suction pipe pressure sensor	153	
L0	●	●	●	Inverter system error	—	
L4	●	●	●	Malfunction of inverter radiating fin temperature rise	154	
L5	●	●	●	Inverter compressor motor grounding, short circuit	155	
L6	●	●	●	Compressor motor coil grounding on short circuit	—	
L8	●	●	●	Inverter current abnormal	156	
L9	●	●	●	Inverter start up error	157	

●: Blink ○: ON ●: OFF

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Referred
Outdoor Unit	LA	●	●	●	Malfunction of power unit	—
	LC	●	●	●	Malfunction of transmission between inverter and control PC board	158
	P1	●	●	●	Inverter over-ripple protection	—
	P4	●	●	●	Malfunction of inverter radiating fin temperature rise sensor	160
	PJ	●	●	●	Faulty combination inverter and fan driver, Malfunction of capacity setting	161
System	U0	○	●	●	Low pressure drop due to refrigerant shortage or electronic expansion valve failure	162
	U1	●	●	●	Reverse phase / open phase	—
	U2	●	●	●	Power supply insufficient or instantaneous failure	163
	U3	●	●	●	Check operation is not conducted.	165
	U4	●	●	●	Malfunction of transmission between indoor and outdoor units	166
	U5	●	●	●	Malfunction of transmission between remote controller and indoor unit	168
	U5	●	○	●	Failure of remote controller PC board or setting during control by remote controller	168
	U7	●	●	●	Malfunction of transmission between outdoor units	—
	U8	●	●	●	Malfunction of transmission between master and slave remote controllers (malfunction of slave remote controller)	169
	U9	●	●	●	Malfunction of transmission between indoor unit and outdoor unit in the same system	170
	UA	●	●	●	Excessive number of indoor units etc.	172
	UC	○	○	○	Address duplication of central remote controller	173
	UE	●	●	●	Malfunction of transmission between central remote controller and indoor unit	174 178
	UF	●	●	●	Refrigerant system not set, incompatible wiring / piping	176
UH	●	●	●	Malfunction of system, refrigerant system address undefined	177	
Centralized Control and Schedule Timer	UE	●	●	●	Malfunction of transmission between centralized remote controller and indoor unit	178
	M1	○ or ●	●	●	PC board defect	179
	M8	○ or ●	●	●	Malfunction of transmission between optional controllers for centralized control	180
	MA	○ or ●	●	●	Improper combination of optional controllers for centralized control	181
	MC	○ or ●	●	●	Address duplication, improper setting	183
Heat Reclaim Ventilation	64	○	●	●	Indoor unit's air thermistor error	—
	65	○	●	●	Outside air thermistor error	—
	68	○	●	●	Malfunction of HVU	—
	6A	○	●	●	Damper system alarm	—
	6A	●	●	●	Damper system + thermistor error	—
	6F	○	●	●	Malfunction of simple remote controller	—
	6H	○	●	●	Malfunction of door switch or connector	—
94	●	●	●	Internal transmission error	—	

The system operates for malfunction codes indicated in black squares, however, be sure to check and repair.

3. Malfunction Code Indication by Outdoor Unit PCB

<Monitor mode>

To enter the monitor mode, push the MODE button (BS1) when in "Setting mode 1".

<Selection of setting item>

Push the SET button (BS2) and set the LED display to a setting item.

<Confirmation of malfunction 1>

Push the RETURN button (BS3) once to display "First digit" of malfunction code.

<Confirmation of malfunction 2>

Push the SET button (BS2) once to display "Second digit" of malfunction code.

<Confirmation of malfunction 3>

Push the SET button (BS2) once to display "master or slave1 or slave2" and "malfunction location".

Push the RETURN button (BS3) and switches to the initial status of "Monitor mode".

* Push the MODE button (BS1) and returns to "Setting mode 1".

Detail description on the right.

Contents of malfunction		Malfunction code
Abnormal discharge pressure	HPS activated	E3
Abnormal suction pressure	Abnormal Pe	E4
Compressor lock	Detection of INV compressor lock	E5
Over load, over current, abnormal lock of outdoor unit fan motor	Instantaneous over current of DC fan motor	E7
	Detection of DC fan motor lock	
Malfunction of electronic expansion valve	EV1	E9
	EV2	
	EV3	
Faulty sensor of outdoor air temperature	Faulty Ta sensor	H9
Abnormal discharge pipe temperature	Abnormal Td	F3
Faulty sensor of discharge pipe temperature	Faulty Tdi sensor	J3
Faulty sensor of suction pipe temperature	Faulty Ts sensor	J5
Faulty sensor of heat exchanger temperature	Faulty Tb sensor	J6
Faulty sensor of subcool heat exchanger temperature	Faulty Tsh sensor	J9
Faulty sensor of discharge pressure	Faulty Pc sensor	JA
Faulty sensor of suction pressure	Faulty Pe sensor	JC
DC output over current	Inverter instantaneous over current	L5
	Electronic thermal switch	
	Electronic thermal switch 1	
	Electronic thermal switch 2	
	Out-of-step	
Stall prevention (Limit time)	Speed down after startup	L9
	Lightening detection	
	Stall prevention (Current increasing)	
	Stall prevention (Faulty startup)	
	Abnormal wave form in startup	
Out-of-step		
Transmission error between inverter and outdoor unit	Inverter transmission error	LC
Open phase / Power supply imbalance	Imbalance of inverter power supply voltage	P1
Faulty temperature sensor inside swith box	Faulty thermistor of inverter box	P3
Faulty temperature sensor of inverter radiation fin	Faulty thermistor of inverter fin	P4
Incorrect combination of inverter and fan driver	Incorrect combination of inverter and fan driver	PJ
Gas shortage	Gas shortage alarm	U0
Abnormal power supply voltage	Insufficient inverter voltage	U2
	Inverter open phase (phase T)	
	Charging error of capacitor in inverter main circuit	
Abnormal SP-PAM	Over voltage	
	Over current/Over voltage (Hard detection)	
Abnormal latch circuitry		
No implementation of test-run		U3
Transmission error between indoor and outdoor unit	I/O transmission error	U4
Transmission error of other system	Indoor unit system malfunction in other system or other unit of own system	U9
Erroneous on-site setting	Abnormal connection with excessive number of indoor units	UA
	Conflict of refrigerant type in indoor units	
Faulty system function	Incorrect wiring (Auto address error)	UH
Transmission error in accessory devices, conflict in wiring and piping, no setting for system	Malfunction of multi level converter, abnormality in conflict check	UF

Malfunction code	Confirmation of malfunction 1							Confirmation of malfunction 2							Confirmation of malfunction 3						
	LED1	LED2	LED3	LED4	LED5	LED6	LED7	LED1	LED2	LED3	LED4	LED5	LED6	LED7	LED1	LED2	LED3	LED4	LED5	LED6	LED7
E3	●	●	○	●	●	●	●	●	○	●	●	●	○	●	●	○	○	●	●	●	●
E4								●	○	●	●	●	○	●	●	○	○	●	●	●	●
E5								●	○	●	●	●	○	●	●	○	○	●	●	●	●
E7								●	○	●	●	●	○	●	●	○	○	●	●	●	●
E9								●	○	●	○	●	●	○	●	○	○	●	●	●	○
H9	●	●	○	●	○	●	●	●	○	●	○	●	○	●	○	○	○	●	●	●	●
F3	●	●	○	●	○	●	○	●	○	●	●	●	○	○	●	○	○	●	●	●	●
J3	●	●	○	●	○	○	●	●	○	●	●	○	○	●	○	○	○	●	●	●	○
J5								●	○	●	●	○	○	●	○	○	○	●	●	●	●
J6								●	○	●	●	○	○	●	○	○	○	●	●	●	●
J9								●	○	●	○	●	○	○	○	○	○	●	●	●	●
JA								●	○	●	○	○	○	○	○	○	○	●	●	●	●
JC								●	○	●	○	○	○	○	○	○	○	●	●	●	●
L5	●	●	○	●	○	○	○	●	○	●	○	○	○	○	○	○	○	●	●	●	●
L8								●	○	●	○	○	○	○	○	○	○	●	●	●	●
L9								●	○	●	○	○	○	○	○	○	○	●	●	●	●
LC								●	○	●	○	○	○	○	○	○	○	●	●	●	●
P1	●	●	○	○	●	●	●	●	○	●	●	○	○	○	○	○	○			●	●
P3								●	○	●	●	○	○	○	○	○	○			●	●
P4								●	○	●	○	○	○	○	○	○	○			●	●
PJ								●	○	●	○	○	○	○	○	○	○			●	●
U0	●	●	○	○	●	●	○	●	○	●	●	○	○	○	○	○	○	●	●	●	●
U2								●	○	●	●	○	○	○	○	○	○	●	●	●	●
U3								●	○	●	●	○	○	○	○	○	○	●	●	●	●
U4								●	○	●	○	○	○	○	○	○	○	●	●	●	●
U9								●	○	●	○	○	○	○	○	○	○	●	●	●	●
UA								●	○	●	○	○	○	○	○	○	○	●	●	●	●
UH								●	○	●	○	○	○	○	○	○	○	●	●	●	●
UF								●	○	●	○	○	○	○	○	○	○	●	●	●	●

○ : ON ● : Blink ● : OFF	Malfunction code 1st digit display section	○ : ON ● : Blink ● : OFF	Malfunction code 2nd digit display section	Master ● ● Slave 1 ● ● Slave 2 ● ●	Malfunction location
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(V3168)

4. Troubleshooting by Indication on the Remote Controller

4.1 "A0" Indoor Unit: Error of External Protection Device

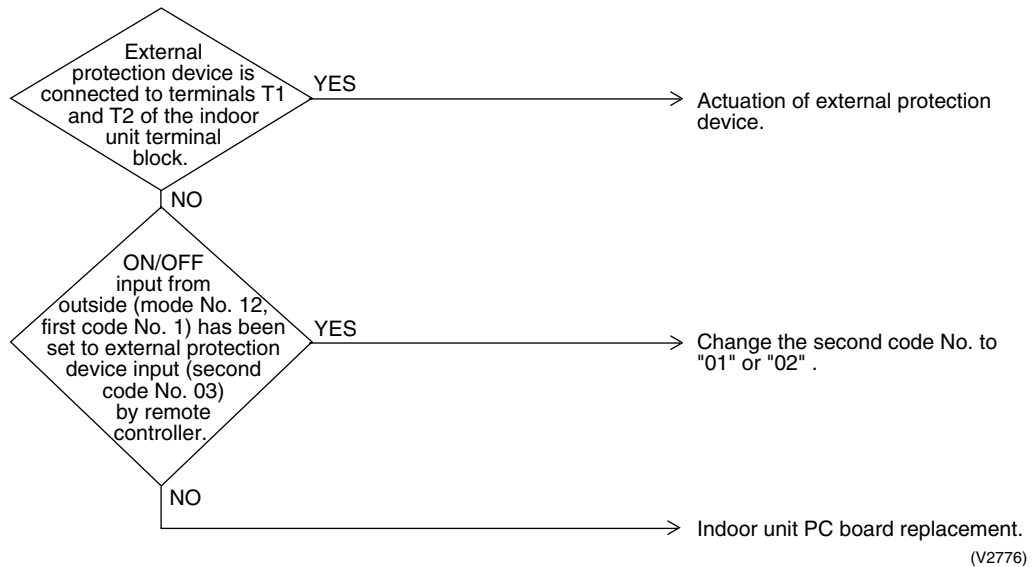
Remote Controller Display	A0
Applicable Models	All indoor unit models
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	<ul style="list-style-type: none"> ■ Actuation of external protection device ■ Improper field set ■ Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



4.2 “A1” Indoor Unit: PC Board Defect

Remote
Controller
Display

A1

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Check data from E²PROM.

Malfunction
Decision
Conditions

When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed
Causes

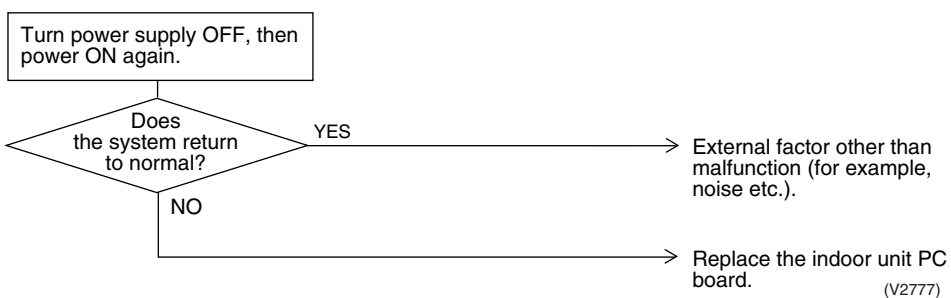
- Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



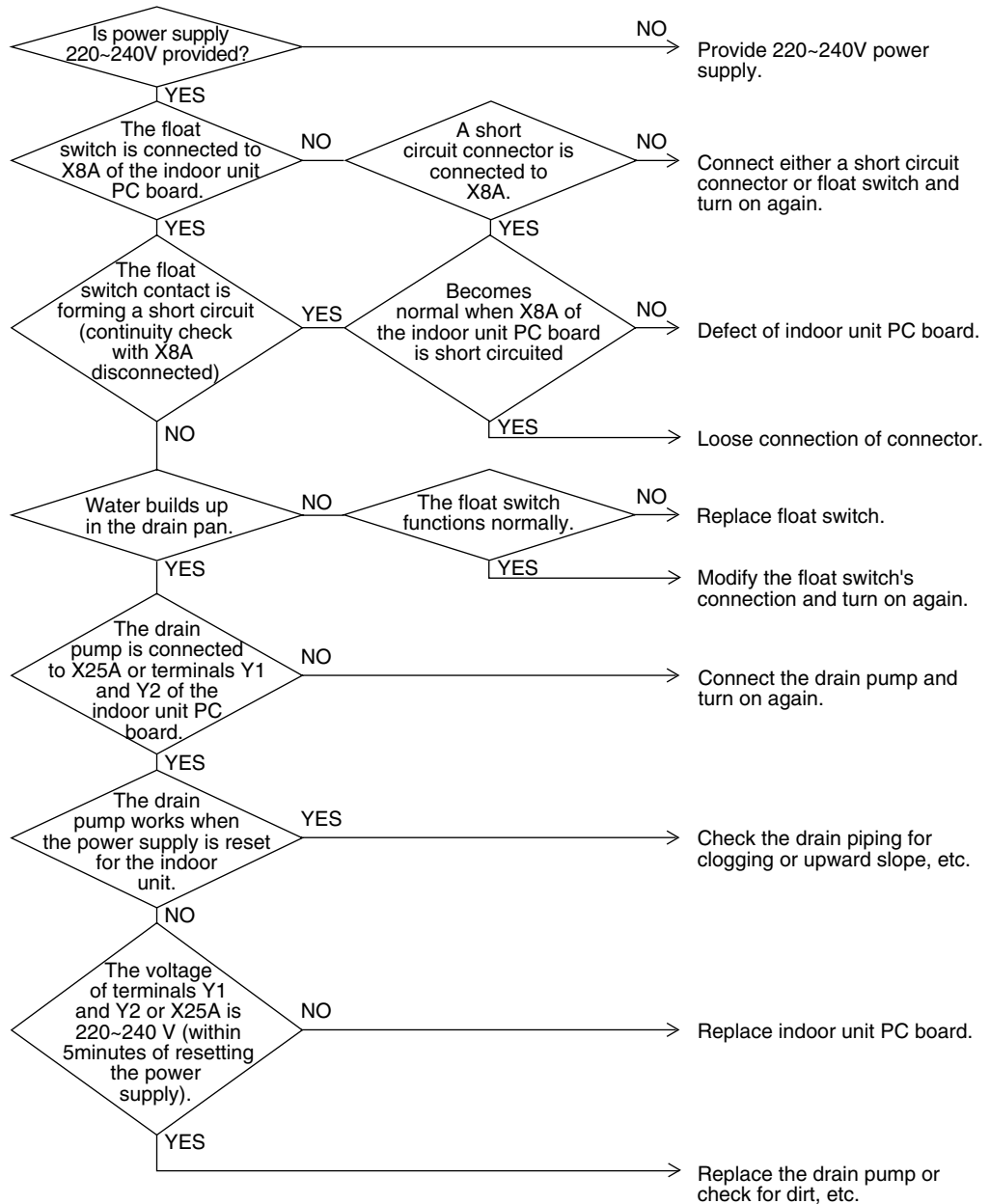
4.3 “R3” Indoor Unit: Malfunction of Drain Level Control System (33H)

Remote Controller Display	R3
Applicable Models	All indoor unit models
Method of Malfunction Detection	By float switch OFF detection
Malfunction Decision Conditions	When rise of water level is not a condition and the float switch goes OFF.
Supposed Causes	<ul style="list-style-type: none"> ■ 220~240V power supply is not provided ■ Defect of float switch or short circuit connector ■ Defect of drain pump ■ Drain clogging, upward slope, etc. ■ Defect of indoor unit PC board ■ Loose connection of connector

Troubleshooting

**Caution**

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2778)

4.4 “A6” Indoor Unit: Fan Motor (M1F) Lock, Overload

Remote Controller Display

A6

Applicable Models

All indoor unit models

Method of Malfunction Detection

Detection by failure of signal for detecting number of turns to come from the fan motor

Malfunction Decision Conditions

When number of turns can't be detected even when output voltage to the fan is maximum

Supposed Causes

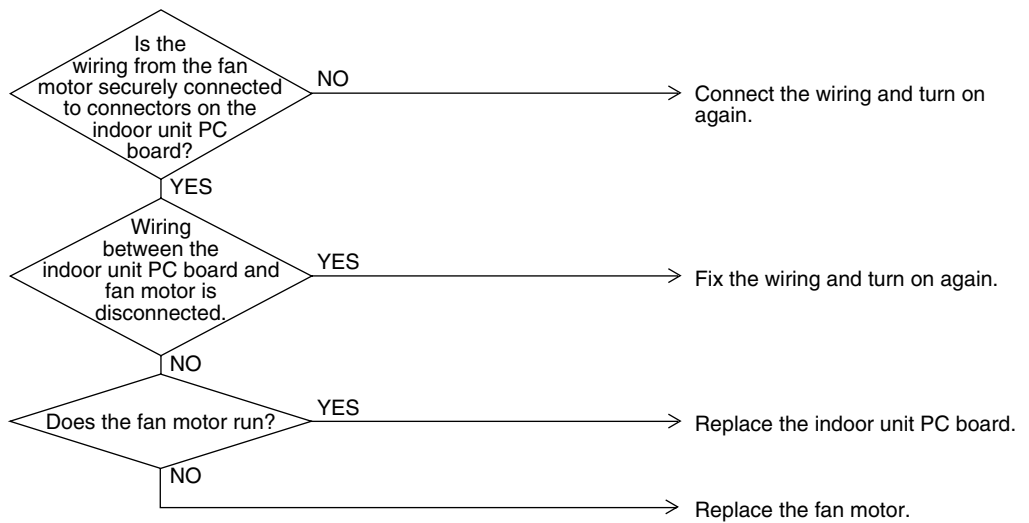
- Fan motor lock
- Disconnected or faulty wiring between fan motor and PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2779)

4.5 “A7” Indoor Unit: Malfunction of Swing Flap Motor (MA)

Remote
Controller
Display

A7

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Utilizes ON/OFF of the limit switch when the motor turns.

Malfunction
Decision
Conditions

When ON/OFF of the microswitch for positioning cannot be reversed even though the swing flap motor is energized for a specified amount of time (about 30 seconds).

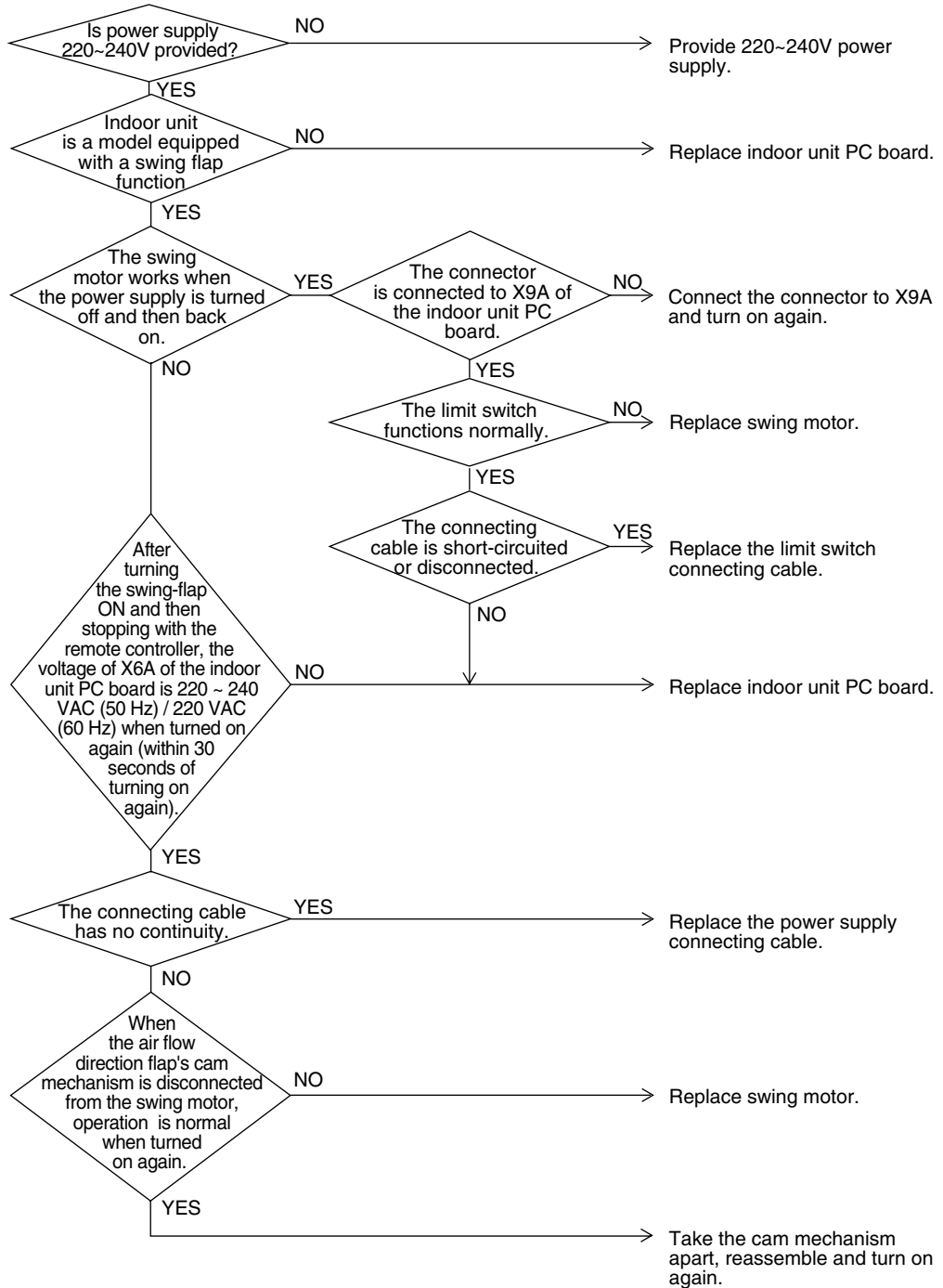
Supposed
Causes

- Defect of swing motor
- Defect of connection cable (power supply and limit switch)
- Defect of air flow direction adjusting flap-cam
- Defect of indoor unit PC board

Troubleshooting



Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2780)

4.6 “R9” Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (20E)

Remote
Controller
Display

R9

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

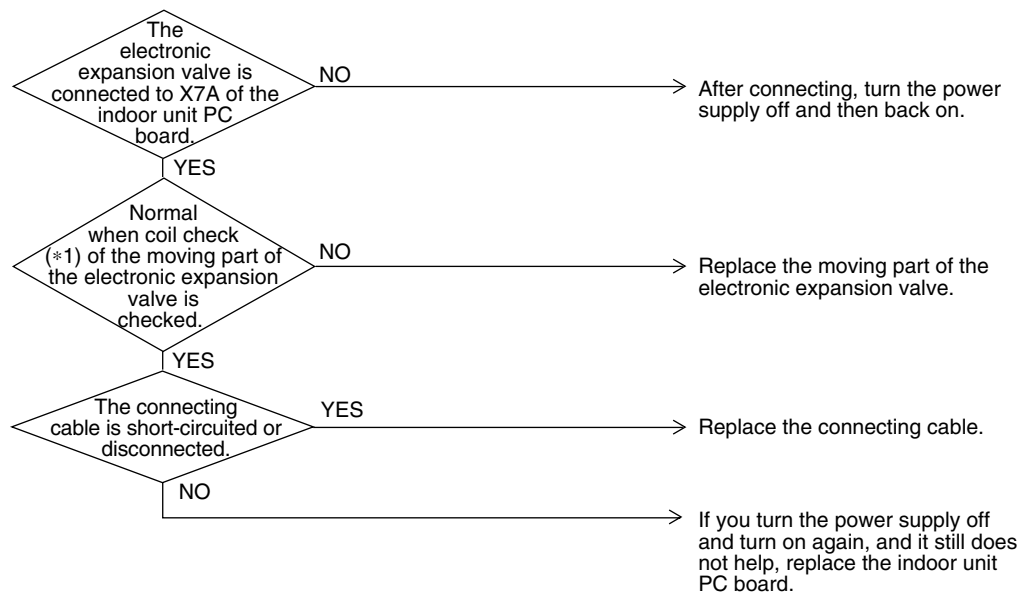
- Malfunction of moving part of electronic expansion valve
- Defect of indoor unit PC board
- Defect of connecting cable

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2781)

*1: Coil check method for the moving part of the electronic expansion valve
 Discount the electronic expansion valve from the PC board and check the continuity between the connector pins.

(Normal)

Pin No.	1. White	2. Yellow	3. Orange	4. Blue	5. Red	6. Brown
1. White		x	○ Approx. 300Ω	x	○ Approx. 150Ω	x
2. Yellow			x	○ Approx. 300Ω	x	○ Approx. 150Ω
3. Orange				x	○ Approx. 150Ω	x
4. Blue					x	○ Approx. 150Ω
5. Red						x
6. Brown						

○: Continuity

x: No continuity

4.7 “AF” Indoor Unit: Drain Level above Limit

Remote
Controller
Display

AF

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Water leakage is detected based on float switch ON/OFF operation while the compressor is in non-operation.

Malfunction
Decision
Conditions

When the float switch changes from ON to OFF while the compressor is in non-operation.

Supposed
Causes

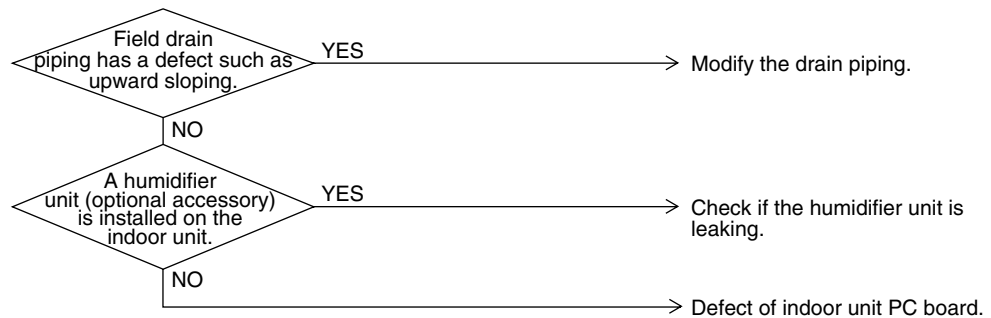
- Humidifier unit (optional accessory) leaking
- Defect of drain pipe (upward slope, etc.)
- Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2782)

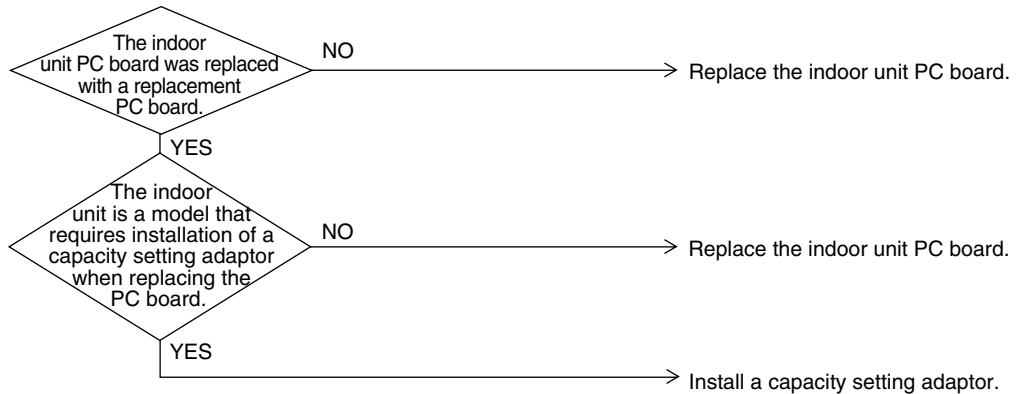
4.8 “RJ” Indoor Unit: Malfunction of Capacity Determination Device

Remote controller display	<i>RJ</i>
Applicable Models	All indoor unit models
Method of Malfunction Detection	Capacity is determined according to resistance of the capacity setting adaptor and the memory inside the IC memory on the indoor unit PC board, and whether the value is normal or abnormal is determined.
Malfunction Decision Conditions	<p>Operation and:</p> <ol style="list-style-type: none"> When the capacity code is not contained in the PC board's memory, and the capacity setting adaptor is not connected. When a capacity that doesn't exist for that unit is set.
Supposed Causes	<ul style="list-style-type: none"> ■ You have forgotten to install the capacity setting adaptor. ■ Defect of indoor unit PC board

Troubleshooting



Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2783)

4.9 “E4” Indoor Unit: Malfunction of Thermistor (R2T) for Heat Exchanger

Remote
Controller
Display

E4

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Malfunction detection is carried out by temperature detected by heat exchanger thermistor.

Malfunction
Decision
Conditions

When the heat exchanger thermistor becomes disconnected or shorted while the unit is running.

Supposed
Causes

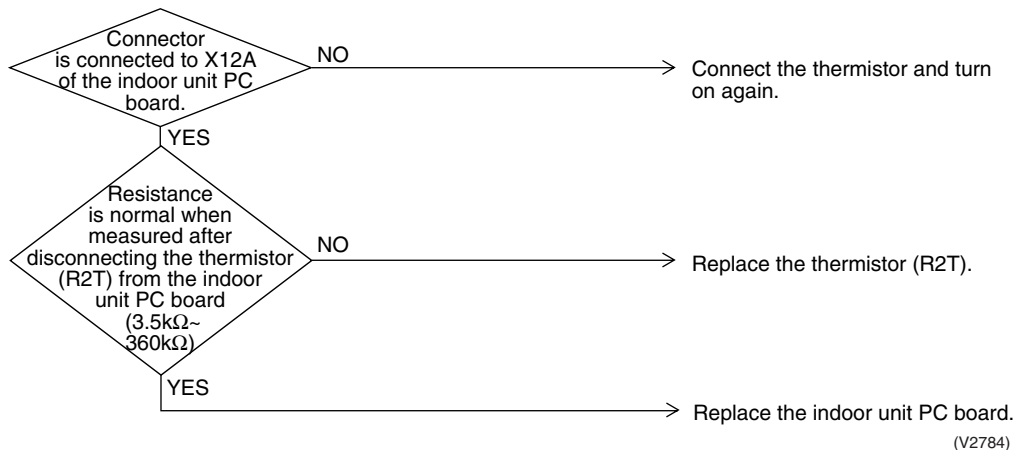
- Defect of thermistor (R2T) for liquid pipe
- Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2784)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.10 “E5” Indoor Unit: Malfunction of Thermistor (R3T) for Gas Pipes

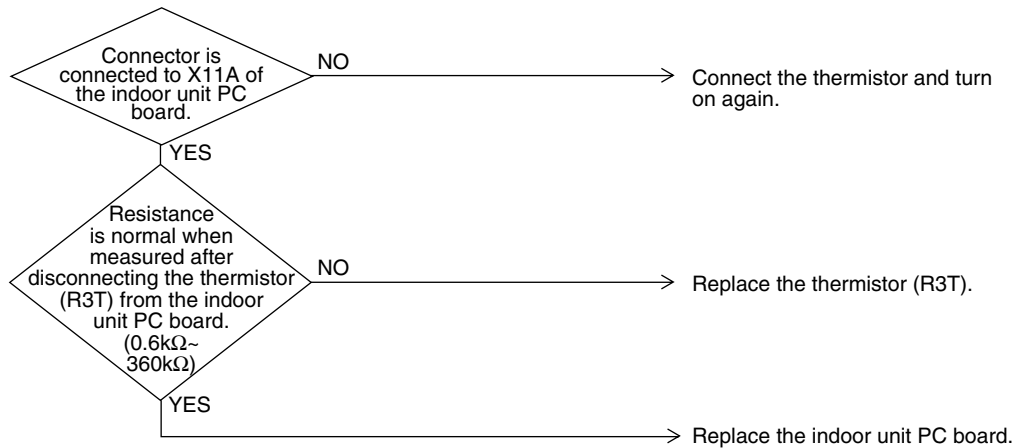
Remote Controller Display	E5
Applicable Models	All indoor unit models
Method of Malfunction Detection	Malfunction detection is carried out by temperature detected by gas pipe thermistor.
Malfunction Decision Conditions	When the gas pipe thermistor becomes disconnected or shorted while the unit is running.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of indoor unit thermistor (R3T) for gas pipe ■ Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2785)



* Refer to thermistor resistance / temperature characteristics table on P219.

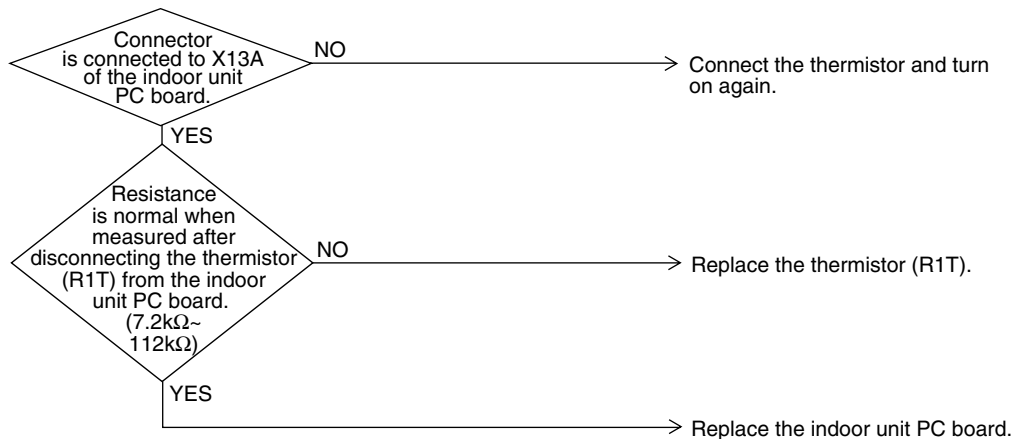
4.11 “C9” Indoor Unit: Malfunction of Thermistor (R1T) for Suction Air

Remote Controller Display	C9
Applicable Models	All indoor unit models
Method of Malfunction Detection	Malfunction detection is carried out by temperature detected by suction air temperature thermistor.
Malfunction Decision Conditions	When the suction air temperature thermistor becomes disconnected or shorted while the unit is running.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of indoor unit thermistor (R1T) for air inlet ■ Defect of indoor unit PC board

Troubleshooting


Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2786)




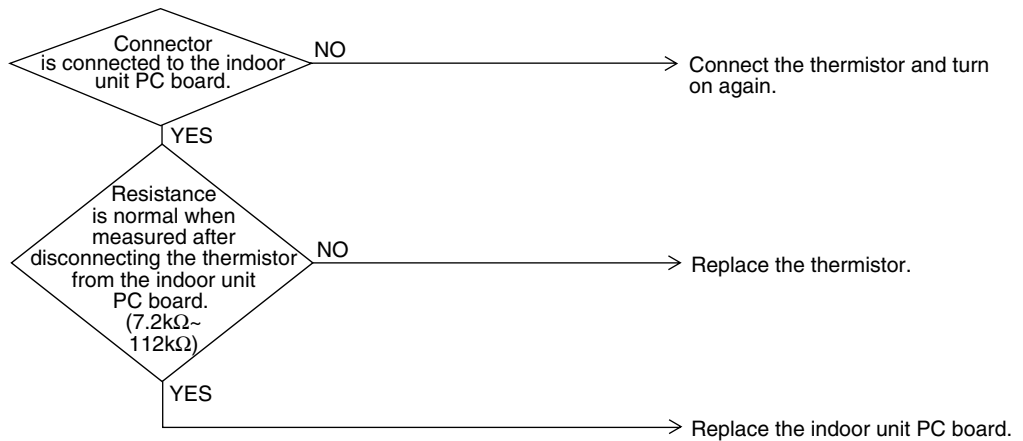
* Refer to thermistor resistance / temperature characteristics table on P219.

4.12 “CR” Indoor Unit: Malfunction of Thermistor for Discharge Air

Remote Controller Display	CR
Applicable Models	All indoor unit models
Method of Malfunction Detection	Malfunction detection is carried out by temperature detected by discharge air temperature thermistor.
Malfunction Decision Conditions	When the discharge air temperature thermistor becomes disconnected or shorted while the unit is running.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of indoor unit thermistor for air outlet ■ Defect of indoor unit PC board

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2786)



* Refer to thermistor resistance / temperature characteristics table on P219.

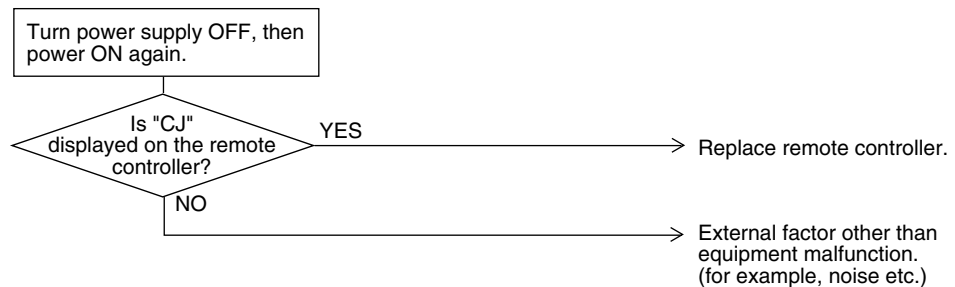
4.13 “CJ” Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller

Remote Controller Display	CJ
Applicable Models	All indoor unit models
Method of Malfunction Detection	Malfunction detection is carried out by temperature detected by remote controller air temperature thermistor. (Note1)
Malfunction Decision Conditions	When the remote controller air temperature thermistor becomes disconnected or shorted while the unit is running.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of remote controller thermistor ■ Defect of remote controller PC board

Troubleshooting


Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2787)



Note: In case of remote controller thermistor malfunction, unit is still operable by suction air thermistor on indoor unit.



* Refer to thermistor resistance / temperature characteristics table on P219.

4.14 “E1” Outdoor Unit: PC Board Defect

Remote
Controller
Display

E1

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Check data from E²PROM

Malfunction
Decision
Conditions

When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed
Causes

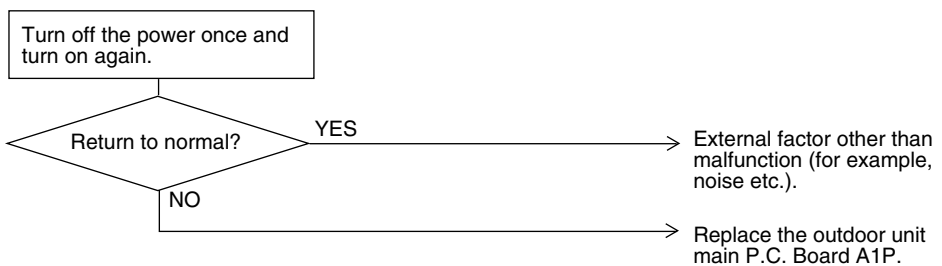
- Defect of outdoor unit PC board (A1P)

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3064)

4.15 “E3” Outdoor Unit: Actuation of High Pressure Switch

Remote
Controller
Display

E3

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Abnormality is detected when the contact of the high pressure protection switch opens.

Malfunction
Decision
Conditions

Error is generated when the HPS activation count reaches the number specific to the operation mode.

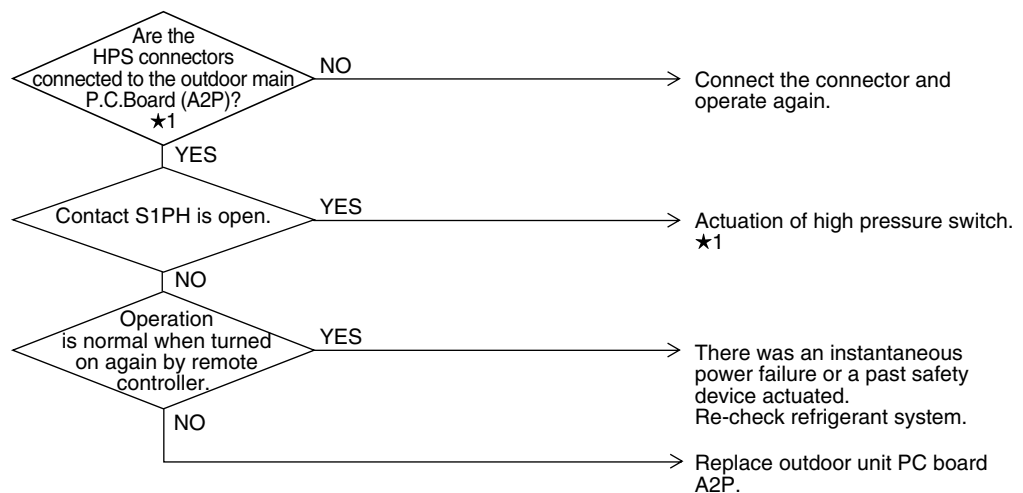
Supposed
Causes

- Actuation of outdoor unit high pressure switch
- Defect of High pressure switch
- Defect of outdoor unit PC board
- Instantaneous power failure
- Faulty high pressure sensor

Troubleshooting



Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



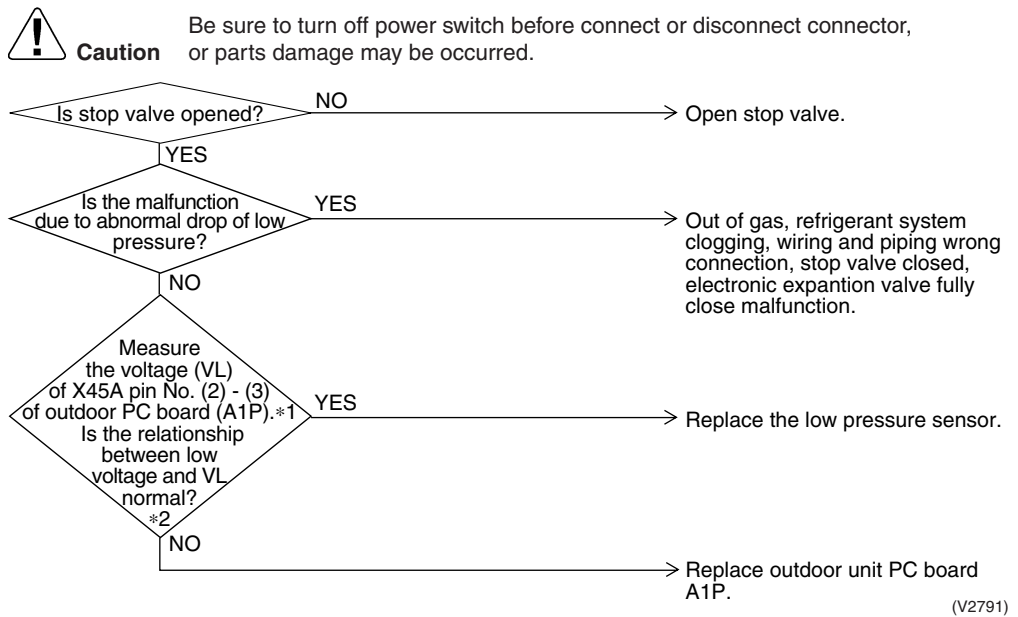
(V3065)

- ★1: Actuation of high pressure switch (HPS)
- Is the outdoor unit heat exchanger dirty?
 - Defect of outdoor fan
 - Is the refrigerant over-charged?
 - Faulty high pressure sensor

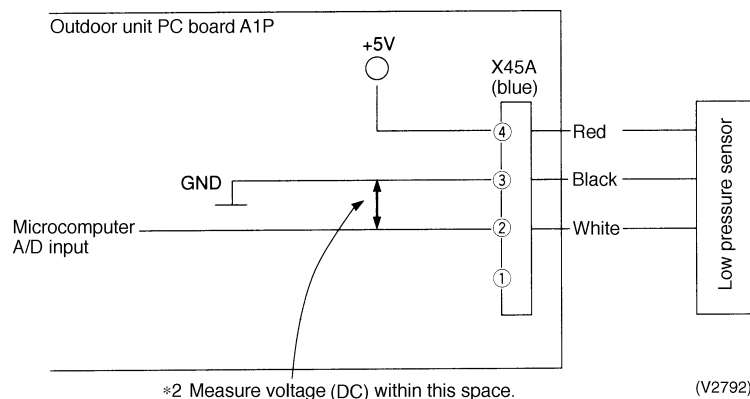
4.16 “E4” Outdoor Unit: Actuation of Low Pressure Switch

Remote Controller Display	E4
Applicable Models	All outdoor unit models
Method of Malfunction Detection	
Malfunction Decision Conditions	Error is generated when the low pressure is dropped under specific pressure.
Supposed Causes	<ul style="list-style-type: none"> ■ Abnormal drop of low pressure ■ Defect of low pressure sensor ■ Defect of outdoor unit PC board ■ Stop valve is not opened.

Troubleshooting



*1: Voltage measurement point



*2: Refer to pressure sensor, pressure / voltage characteristics table on P221.

4.17 “E5” Compressor Motor Lock

Remote
Controller
Display

E5

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Inverter PC board takes the position signal from UVWN line connected between the inverter and compressor, and detects the position signal pattern.

Malfunction
Decision
Conditions

The position signal with 3 times cycle as imposed frequency is detected when compressor motor operates normally, but 2 times cycle when compressor motor locks. When the position signal in 2 times cycle is detected.

Supposed
Causes

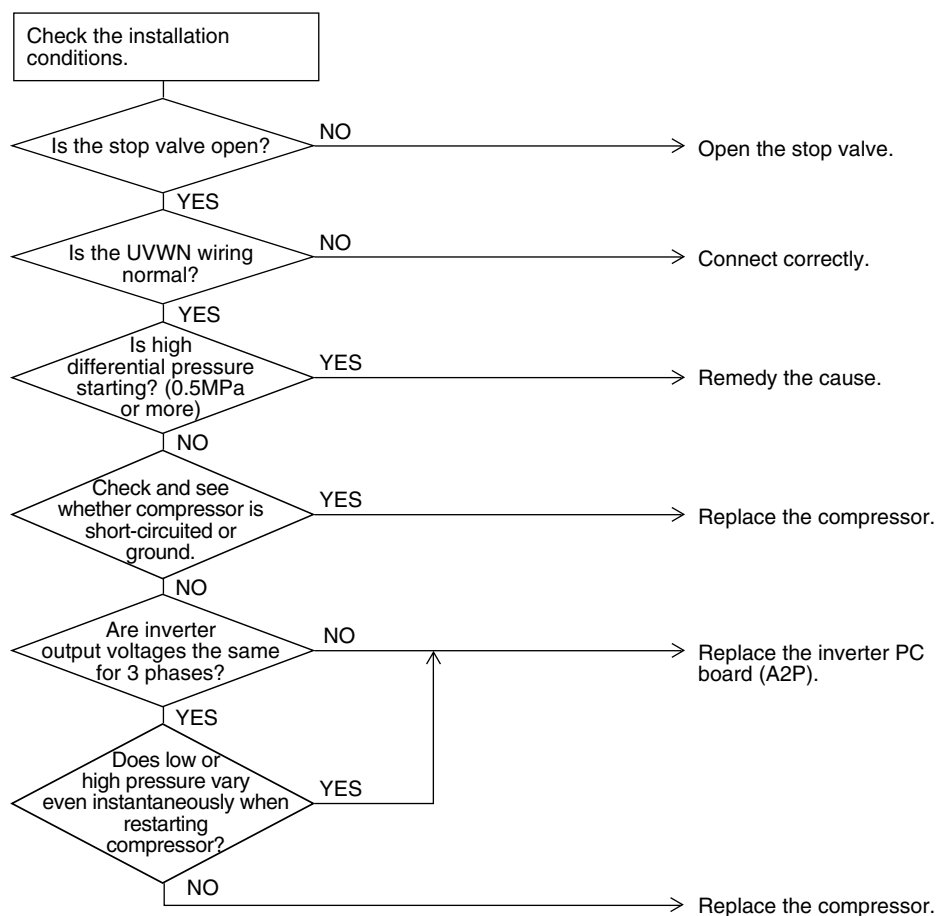
- Compressor lock
- High differential pressure (0.5MPa or more)
- Incorrect UVWN wiring
- Faulty inverter PC board
- Stop valve is left in closed.

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2793)

4.18 “E7” Malfunction of Outdoor Unit Fan Motor

Remote
Controller
Display

E7

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction of fan motor system is detected according to the fan speed detected by hall IC when the fan motor runs.

Malfunction
Decision
Conditions

- When the fan runs with speed less than a specified one for 14.5 seconds or more when the fan motor running conditions are met
- When malfunction is generated 4 times, the system shuts down.

Supposed
Causes

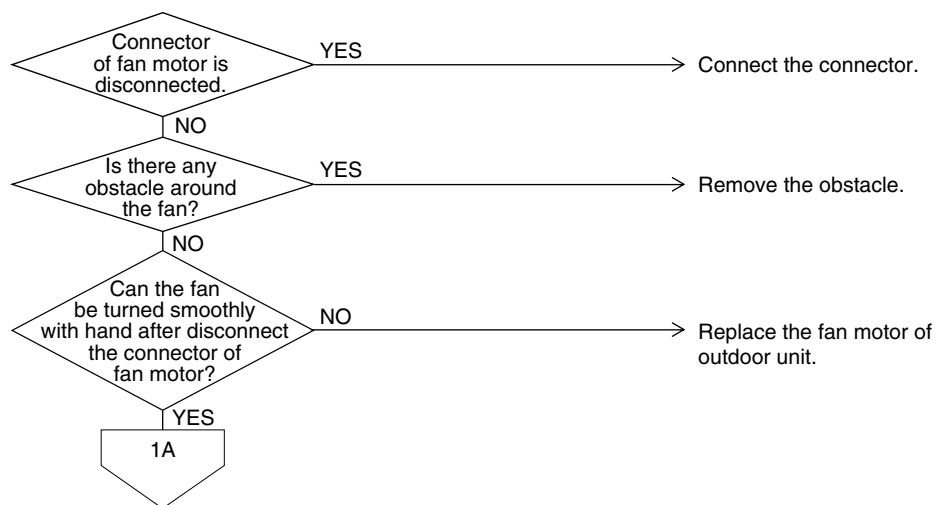
- Malfunction of fan motor
- The harness connector between fan motor and PC board is left in disconnected, or faulty connector
- Fan does not run due to foreign matters tangled
- Clearing condition: Operate for 5 minutes (normal)

Troubleshooting



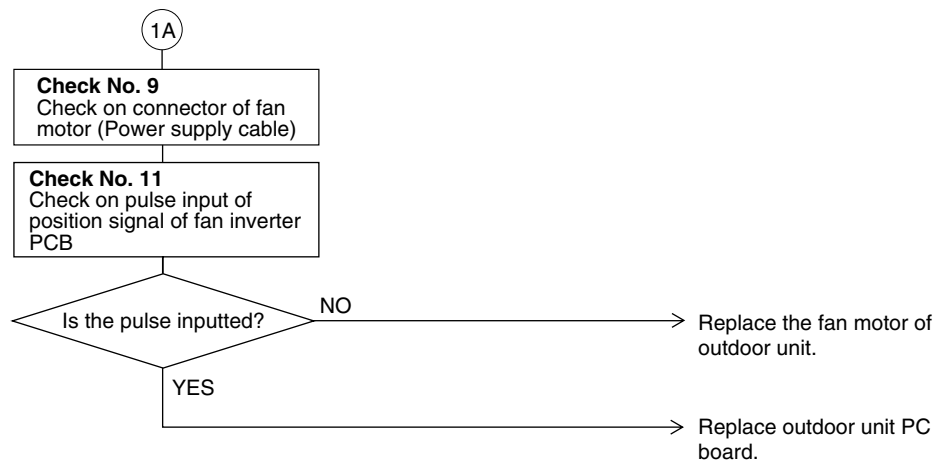
Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3076)

Troubleshooting

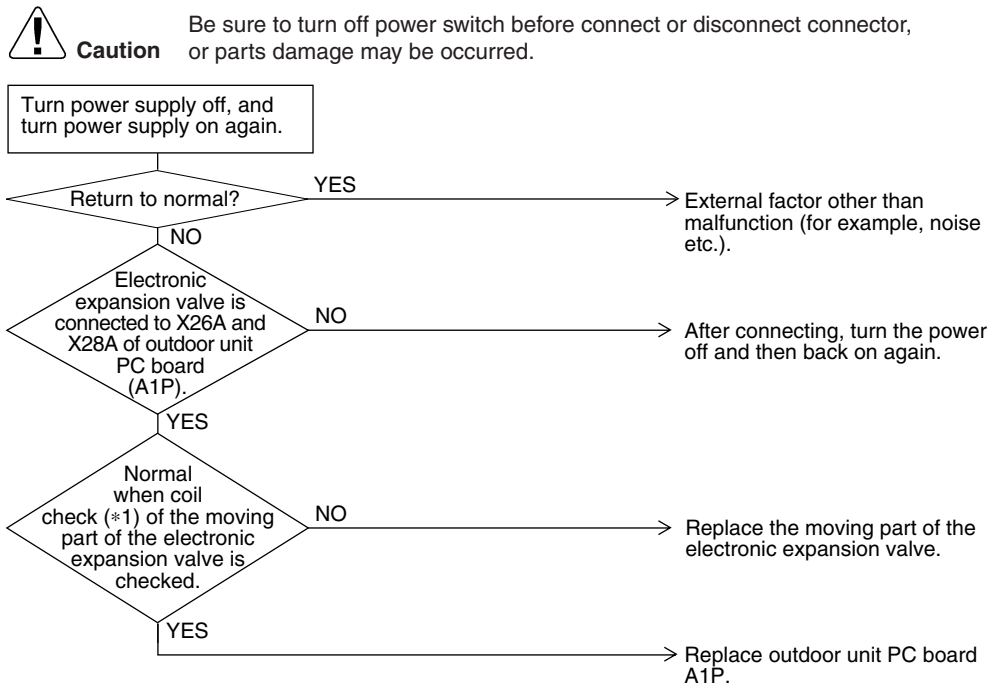


(V3077)

4.19 “E9” Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve

Remote Controller Display	<i>E9</i>
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Check disconnection of connector Check continuity of expansion valve coil
Malfunction Decision Conditions	Error is generated under no common power supply when the power is on.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of moving part of electronic expansion valve ■ Defect of outdoor unit PC board (A1P)

Troubleshooting



(V3067)

*1 Coil check method for the moving part of the electronic expansion valve
 Disconnect the electronic expansion valve from the PC board and check the continuity between the connector pins.

(Normal)

Pin No.	1. White	2. Yellow	3. Orange	4. Blue	5. Red	6. Brown
1. White		x	⊙	x	○	x
2. Yellow			x	⊙	x	○
3. Orange				x	○	x
4. Blue					x	○
5. Red						x
6. Brown						

⊙ : Continuity Approx. 300Ω

○ : Continuity Approx. 150Ω

x : No continuity

4.20 “F3” Outdoor Unit: Abnormal Discharge Pipe Temperature

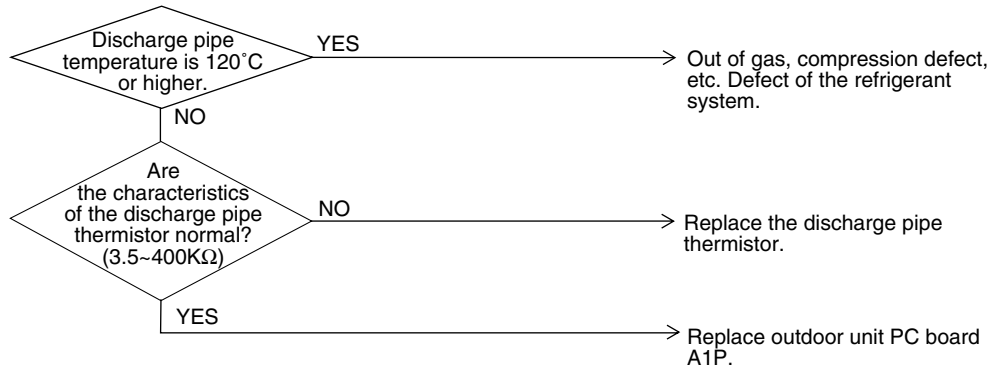
Remote Controller Display	F3
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Abnormality is detected according to the temperature detected by the discharge pipe temperature sensor.
Malfunction Decision Conditions	<ul style="list-style-type: none"> ■ When the discharge pipe temperature rises to an abnormally high level ■ When the discharge pipe temperature rises suddenly
Supposed Causes	<ul style="list-style-type: none"> ■ Faulty discharge pipe temperature ■ Faulty connection of discharge pipe thermistor ■ Faulty outdoor unit PCB

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3068)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.21 “H9” Outdoor Unit: Malfunction of Thermistor for Outdoor Air (R1T)

Remote
Controller
Display

H9

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

The abnormal detection is based on current detected by current sensor.

Malfunction
Decision
Conditions

When the outside air temperature sensor has short circuit or open circuit.

Supposed
Causes

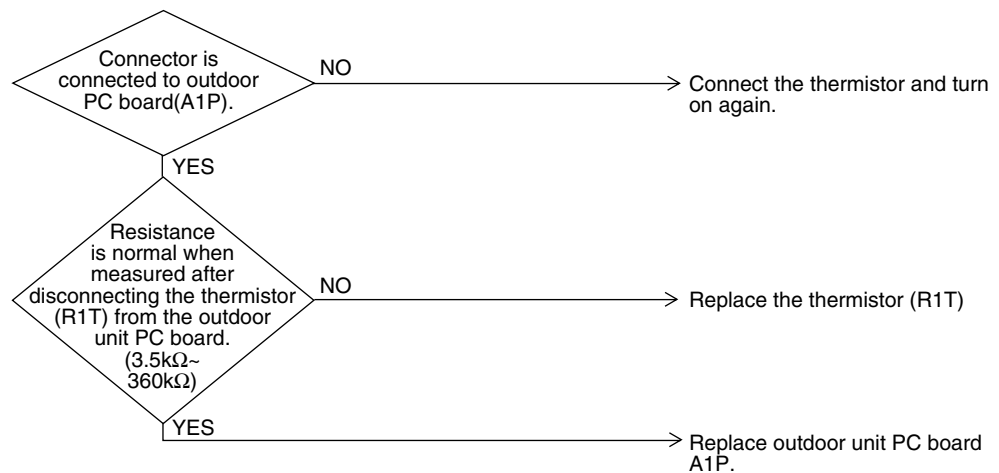
- Defect of thermistor (R1T) for outdoor air
- Defect of outdoor unit PC board (A1P)

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3070)

The alarm indicator is displayed when the fan only is being used also.




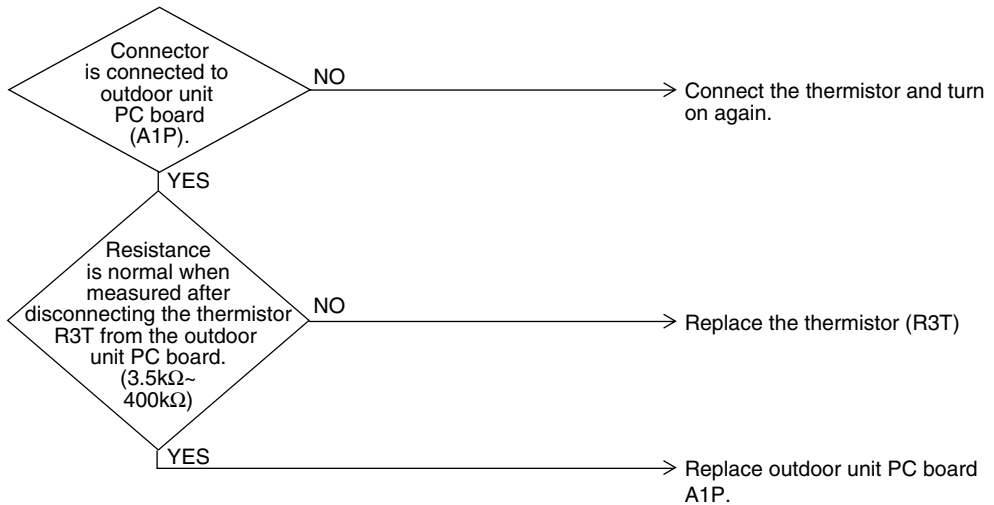
* Refer to thermistor resistance / temperature characteristics table on P219.

4.22 “J3” Outdoor Unit: Malfunction of Discharge Pipe Thermistor (R3T)

Remote Controller Display	J3
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Malfunction is detected from the temperature detected by discharge pipe temperature thermistor.
Malfunction Decision Conditions	When a short circuit or an open circuit in the discharge pipe temperature thermistor is detected.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of thermistor (R3T) for outdoor unit discharge pipe ■ Defect of outdoor unit PC board (A1P)

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3072)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.23 “J5” Outdoor Unit: Malfunction of Thermistor (R2T) for Suction Pipe

Remote
Controller
Display

J5

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction is detected from the temperature detected by the suction pipe temperature thermistor.

Malfunction
Decision
Conditions

When a short circuit or an open circuit in the suction pipe temperature thermistor is detected.

Supposed
Causes

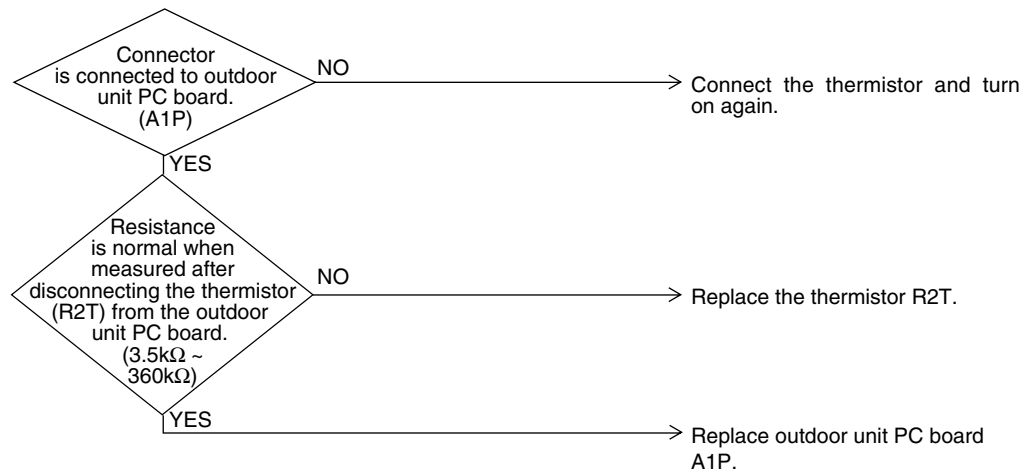
- Defect of thermistor (R2T) for outdoor unit suction pipe
- Defect of outdoor unit PC board (A1P)

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3073)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.24 “J5” Outdoor Unit: Malfunction of Thermistor (R4T) for Outdoor Unit Heat Exchanger

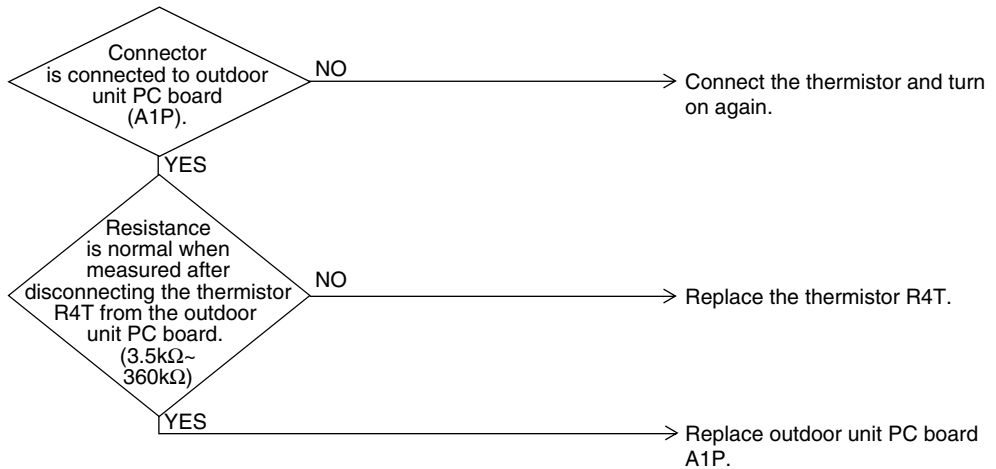
Remote Controller Display	J5
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Malfunction is detected from the temperature detected by the heat exchanger thermistor.
Malfunction Decision Conditions	When a short circuit or an open circuit in the heat exchange thermistor is detected.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of thermistor (R4T) for outdoor unit heat exchanger ■ Defect of outdoor unit PC board (A1P)

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3074)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.25 “J9” Malfunction of Receiver Gas Pipe Thermistor (R5T)

Remote
Controller
Display

J9

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction is detected according to the temperature detected by receiver gas pipe thermistor (= Subcooling heat exchanger gas pipe thermistor).

Malfunction
Decision
Conditions

When the receiver gas pipe thermistor is short circuited or open.

Supposed
Causes

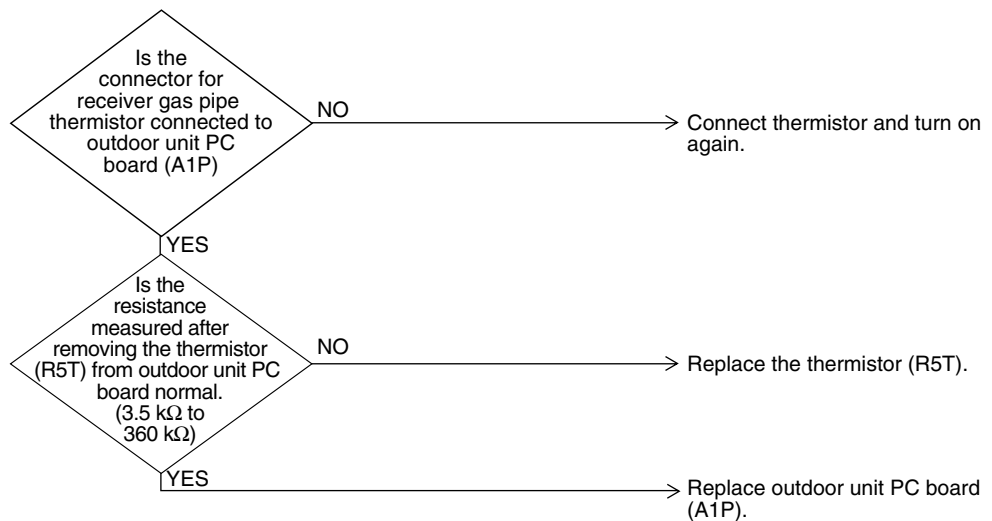
- Faulty receiver gas pipe thermistor (R5T)
- Faulty outdoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3075)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.26 “JA” Outdoor Unit: Malfunction of High Pressure Sensor

Remote Controller Display

JA

Applicable Models

All outdoor unit models

Method of Malfunction Detection

Malfunction is detected from the pressure detected by the high pressure sensor.


Malfunction Decision Conditions

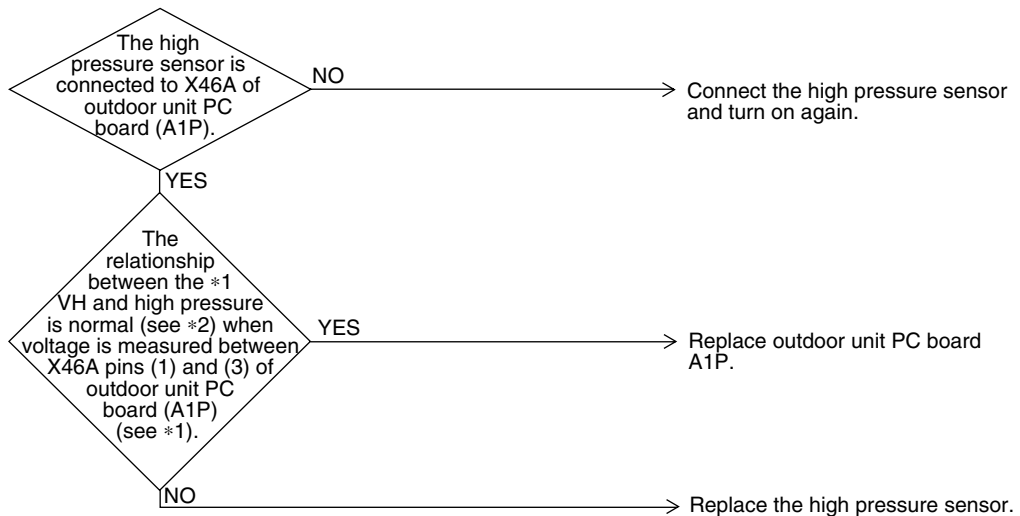
When the high pressure sensor is short circuit or open circuit.

Supposed Causes

- Defect of high pressure sensor
- Connection of low pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

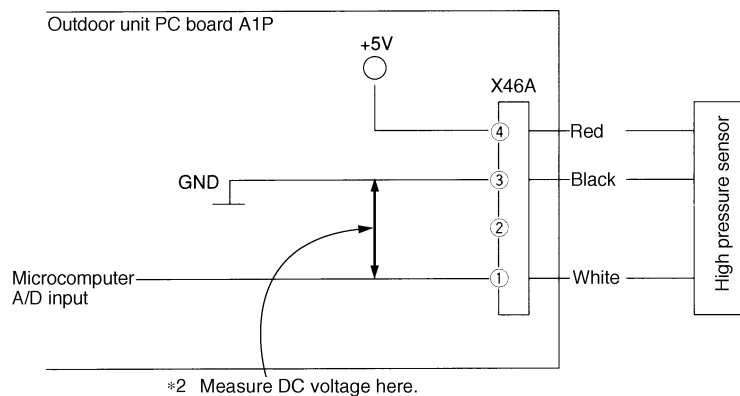
Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2806)

*1: Voltage measurement point



(V2807)



*2: Refer to pressure sensor, pressure / voltage characteristics table on P221.

4.27 “JC” Outdoor Unit: Malfunction of Low Pressure Sensor

Remote Controller Display



Applicable Models

All outdoor unit models

Method of Malfunction Detection

Malfunction is detected from pressure detected by low pressure sensor.

Malfunction Decision Conditions

When the low pressure sensor is short circuit or open circuit.

Supposed Causes

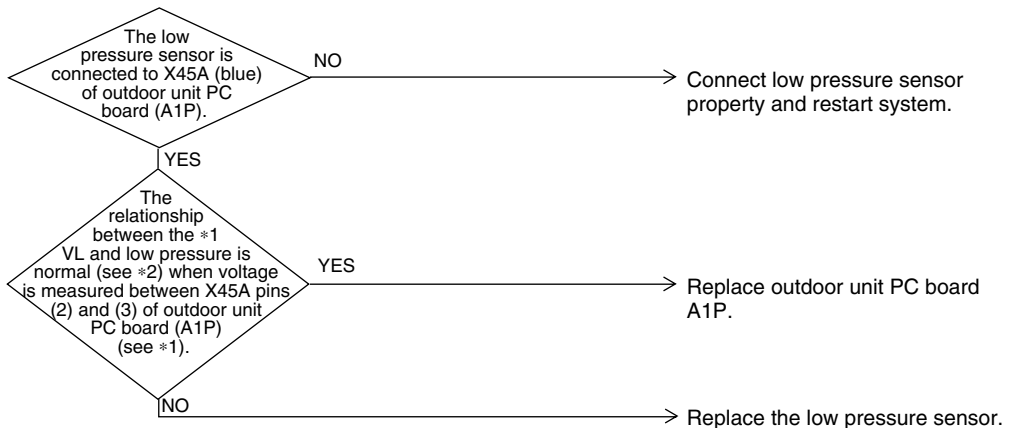
- Defect of low pressure sensor
- Connection of high pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting



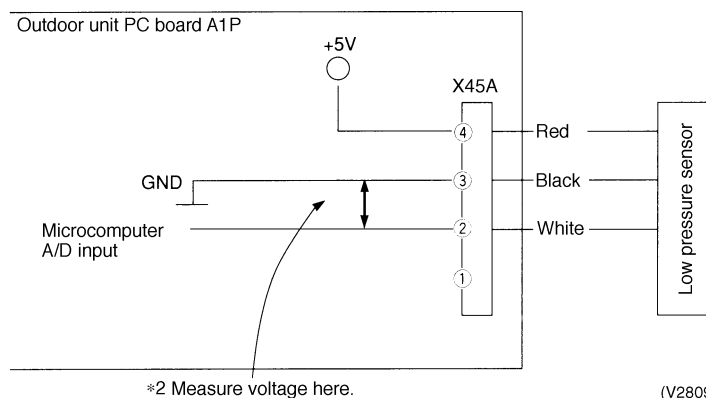
Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2808)

*1: Voltage measurement point



(V2809)




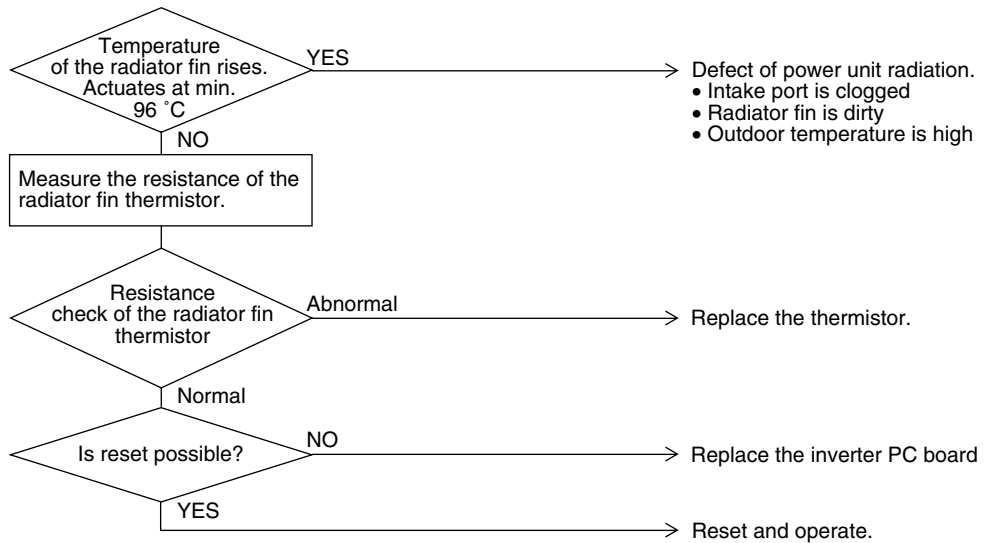
*2: Refer to pressure sensor, pressure/voltage characteristics table on P221.

4.28 “L4” Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise

Remote Controller Display	L4
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Fin temperature is detected by the thermistor of the radiation fin.
Malfunction Decision Conditions	When the temperature of the inverter radiation fin increases above 96°C.
Supposed Causes	<ul style="list-style-type: none"> ■ Actuation of fin thermal (Actuates above 96°C) ■ Defect of inverter PC board ■ Defect of fin thermistor

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2811)



* Refer to thermistor resistance / temperature characteristics table on P219.

4.29 “L5” Outdoor Unit: Inverter Compressor Abnormal

Remote
Controller
Display

L5

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction is detected from current flowing in the power transistor.

Malfunction
Decision
Conditions

When an excessive current flows in the power transistor.
(Instantaneous overcurrent also causes activation.)

Supposed
Causes

- Defect of compressor coil (disconnected, defective insulation)
- Compressor start-up malfunction (mechanical lock)
- Defect of inverter PC board

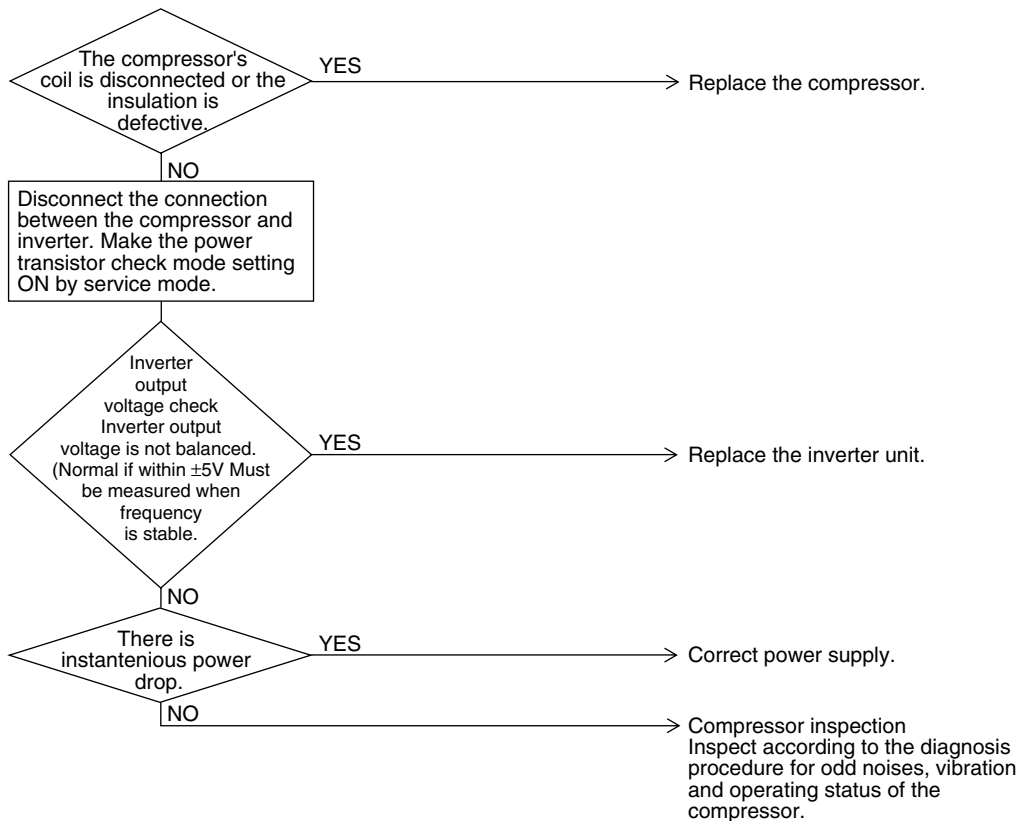
Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

Compressor inspection



(V2812)

Higher voltage than actual is displayed when the inverter output voltage is checked by tester.

4.30 “L8” Outdoor Unit: Inverter Current Abnormal

Remote
Controller
Display

L8

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction is detected by current flowing in the power transistor.

Malfunction
Decision
Conditions

When overload in the compressor is detected.

Supposed
Causes

- Compressor overload
- Compressor coil disconnected
- Defect of inverter PC board

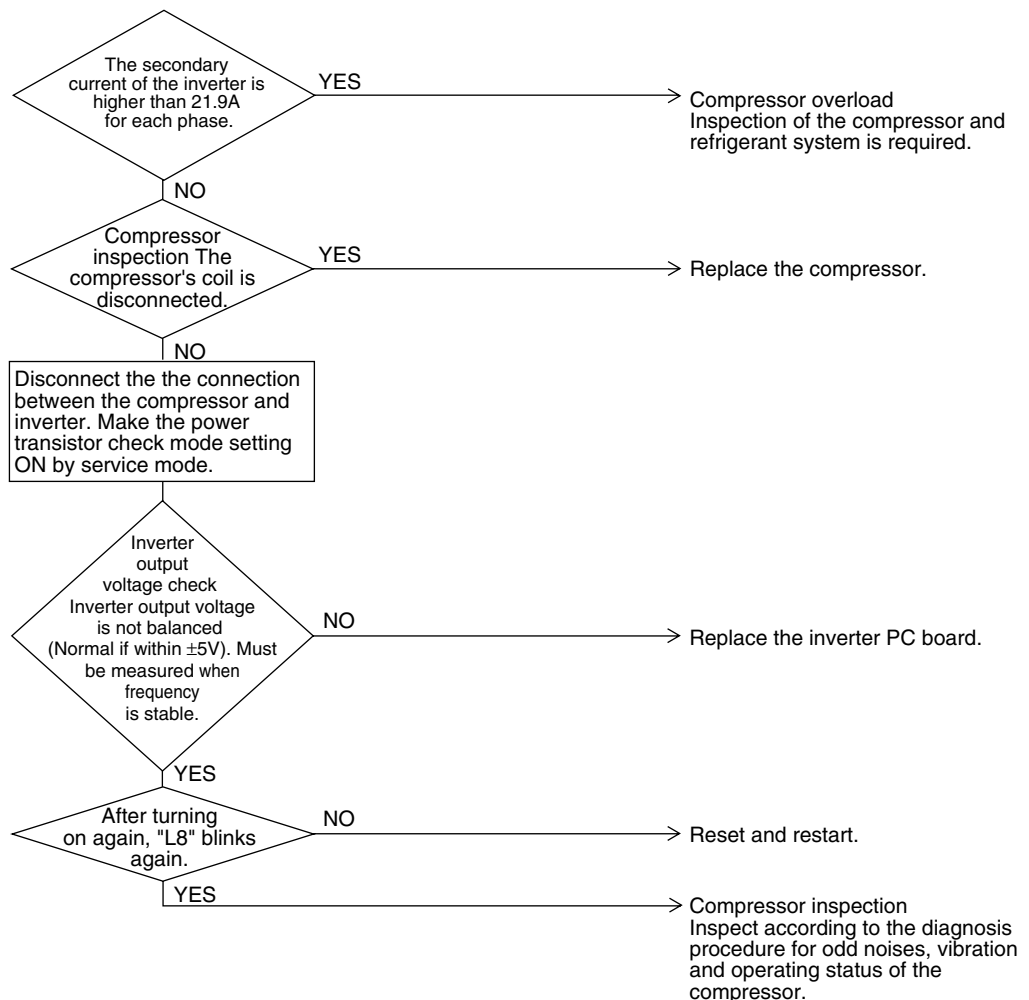
Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.


Output current check

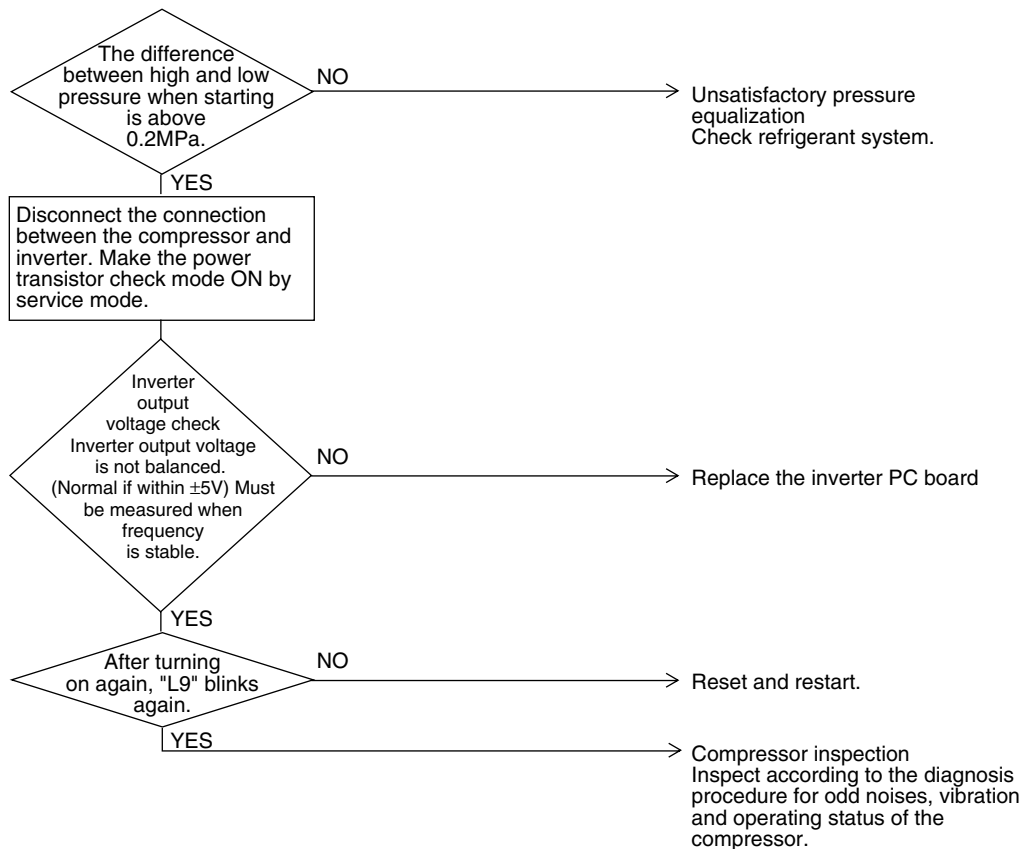


4.31 “L9” Outdoor Unit: Inverter Start up Error

Remote Controller Display	L9
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Malfunction is detected from current flowing in the power transistor.
Malfunction Decision Conditions	When overload in the compressor is detected during startup
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of compressor ■ Pressure differential start ■ Defect of inverter PC board

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2814)

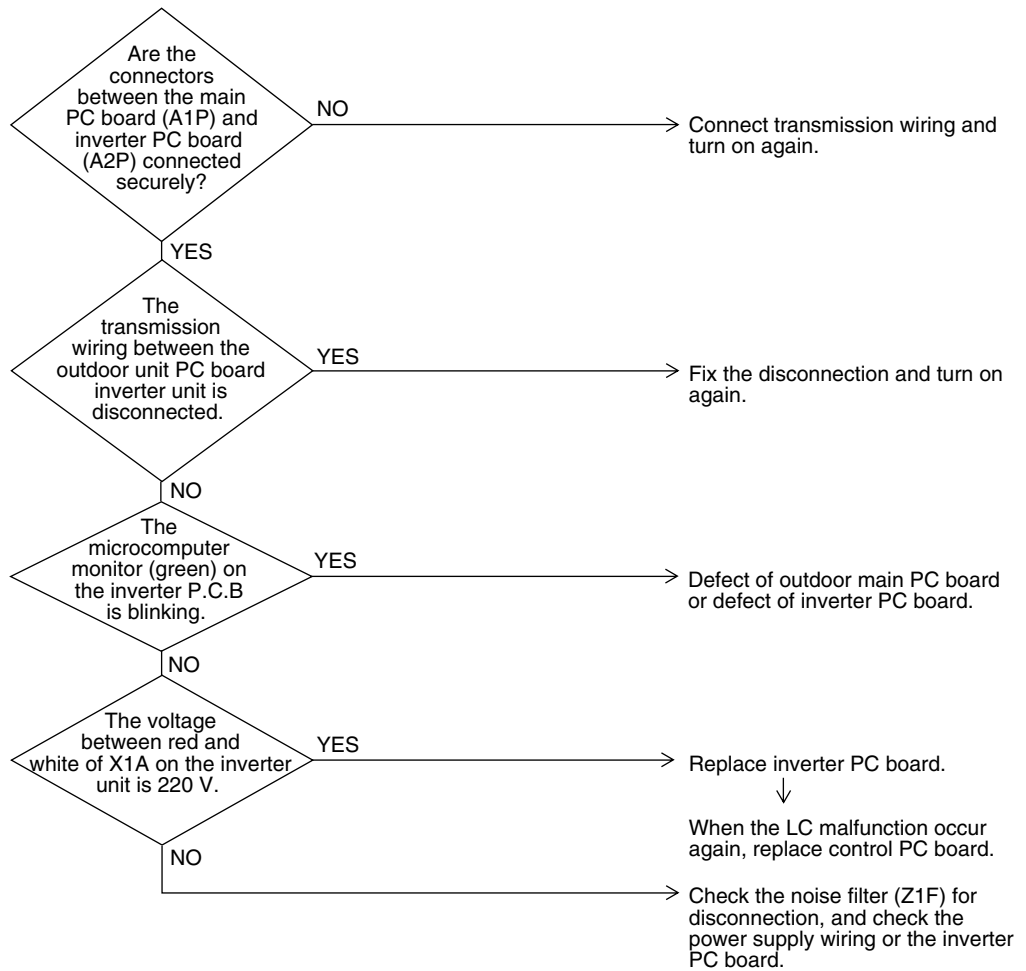
4.32 “LC” Outdoor Unit: Malfunction of Transmission between Inverter and Control PC Board

Remote Controller Display	LC
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Check the communication state between inverter PC board and control PC board by micro-computer.
Malfunction Decision Conditions	When the correct communication is not conducted in certain period.
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of connection between the inverter PC board and outdoor control PC board ■ Defect of outdoor control PC board (transmission section) ■ Defect of inverter PC board ■ Defect of noise filter ■ External factor (Noise etc.)

Troubleshooting


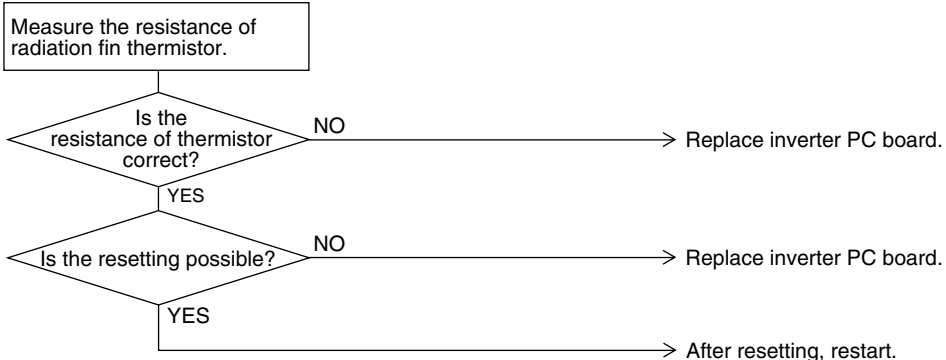


Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2815)

4.33 “P4” Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise Sensor

Remote Controller Display	<i>P4</i>
Applicable Models	All outdoor unit models
Method of Malfunction Detection	Resistance of radiation fin thermistor is detected when the compressor is not operating.
Malfunction Decision Conditions	<p>When the resistance value of thermistor becomes a value equivalent to open or short circuited status.</p> <ul style="list-style-type: none"> ■ Malfunction is not decided while the unit operation is continued. ■ "P4" will be displayed by pressing the inspection button.
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of radiator fin temperature sensor ■ Defect of inverter PC board
Troubleshooting	<div style="margin-bottom: 10px;">  Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred. </div>  <p style="text-align: right; margin-right: 20px;">(V2818)</p>



* Refer to thermistor resistance / temperature characteristics table on P219.

4.34 “PJ” Outdoor Unit: Faulty Combination of Inverter and Fan Driver

Remote
Controller
Display

PJ

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Check the communication state between inverter PC board and control PC board by micro-computer.

Malfunction
Decision
Conditions

When the communication data about inverter PC board type is incorrect.

Supposed
Causes

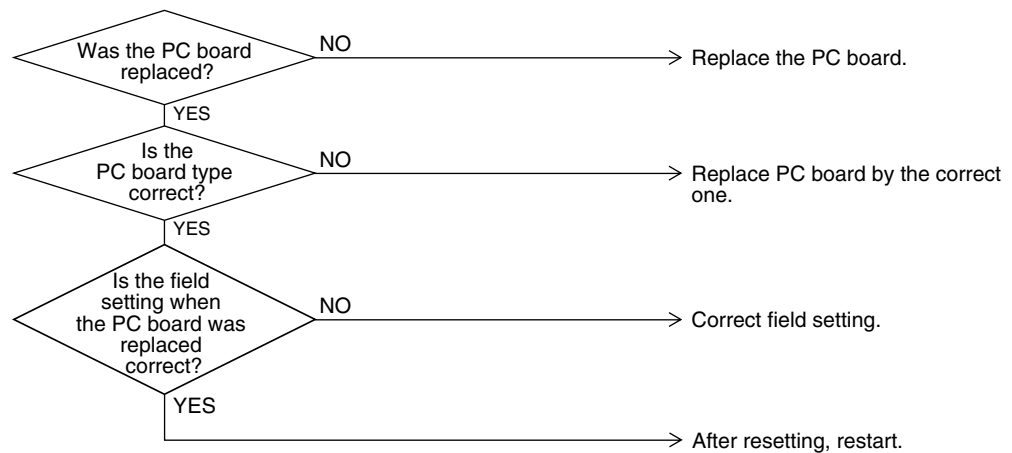
- Mismatching of inverter PC board
- Faulty field setting

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3151)



* Refer to “Field Setting from Outdoor Unit” on P93.

4.35 “U0” Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure

Remote Controller Display

U0

Applicable Models

All outdoor unit models

Method of Malfunction Detection

Short of gas malfunction is detected by discharge pipe temperature thermistor.

Malfunction Decision Conditions

Microcomputer judge and detect if the system is short of refrigerant.
 ★Malfunction is not decided while the unit operation is continued.

Supposed Causes

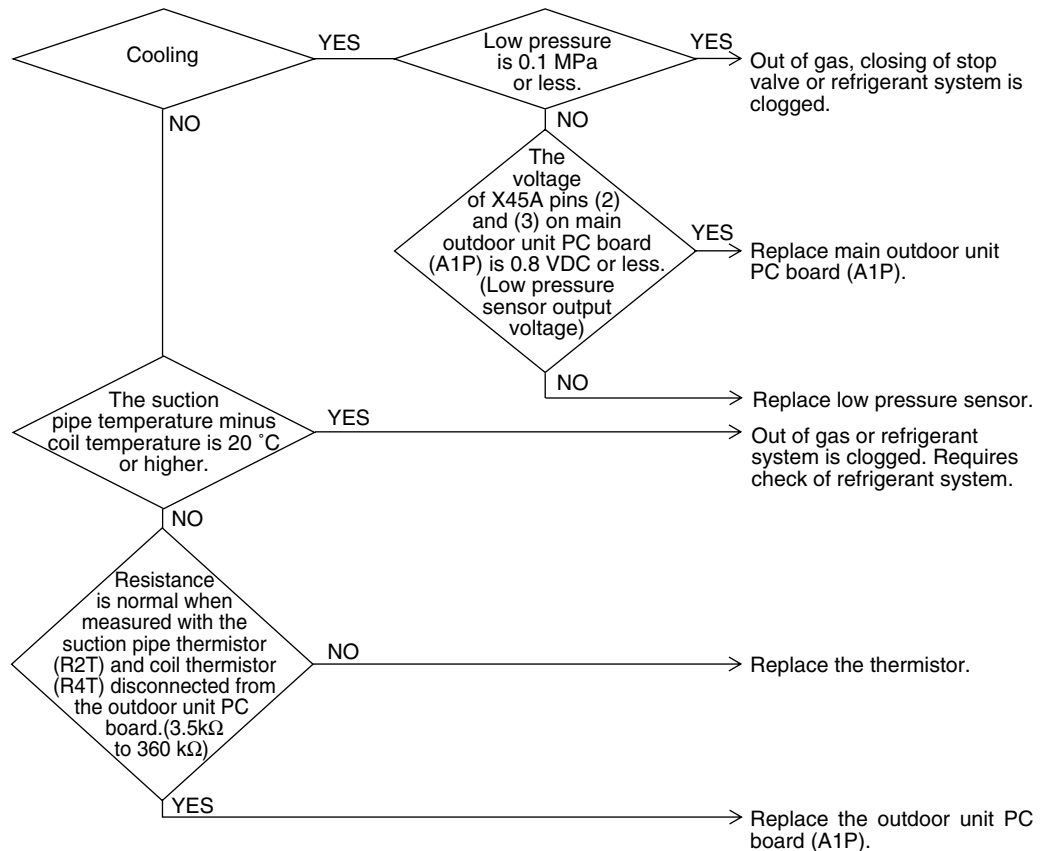
- Out of gas or refrigerant system clogging (incorrect piping)
- Defect of thermistor R2T or R4T
- Defect of pressure sensor
- Defect of outdoor unit PC board (A1P)

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2819)

4.36 “U2” Power Supply Insufficient or Instantaneous Failure

Remote
Controller
Display

U2

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Detection of voltage of main circuit capacitor built in the inverter and power supply voltage.

Malfunction
Decision
Conditions

Supposed
Causes

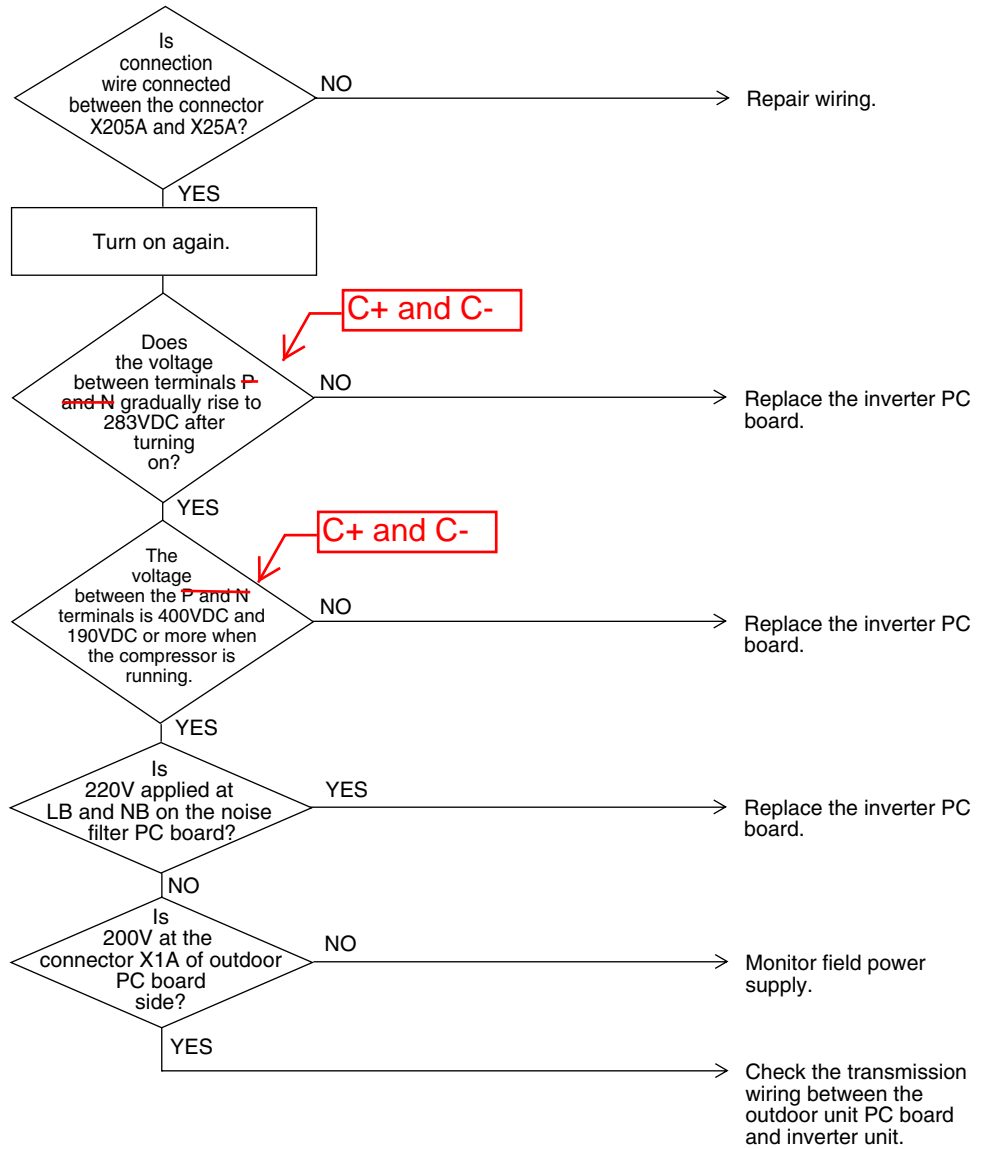
- Power supply insufficient
- Instantaneous failure
- Defect of inverter PC board
- Defect of outdoor control PC board
- Main circuit wiring defect

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2821)

4.37 “U3” Check Operation not Executed

Remote
Controller
Display

U3

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Check operation is executed or not

Malfunction
Decision
Conditions

Malfunction is decided when the unit starts operation without check operation.

Supposed
Causes

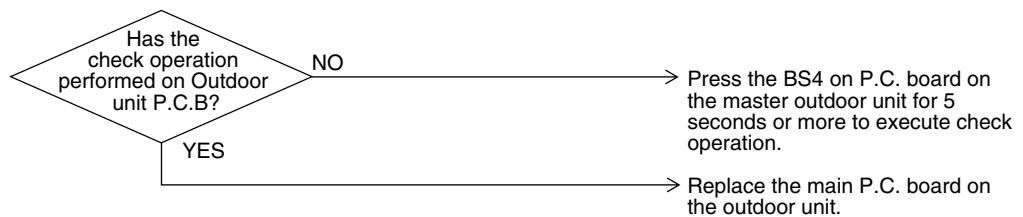
- Check operation is not executed.

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3052)

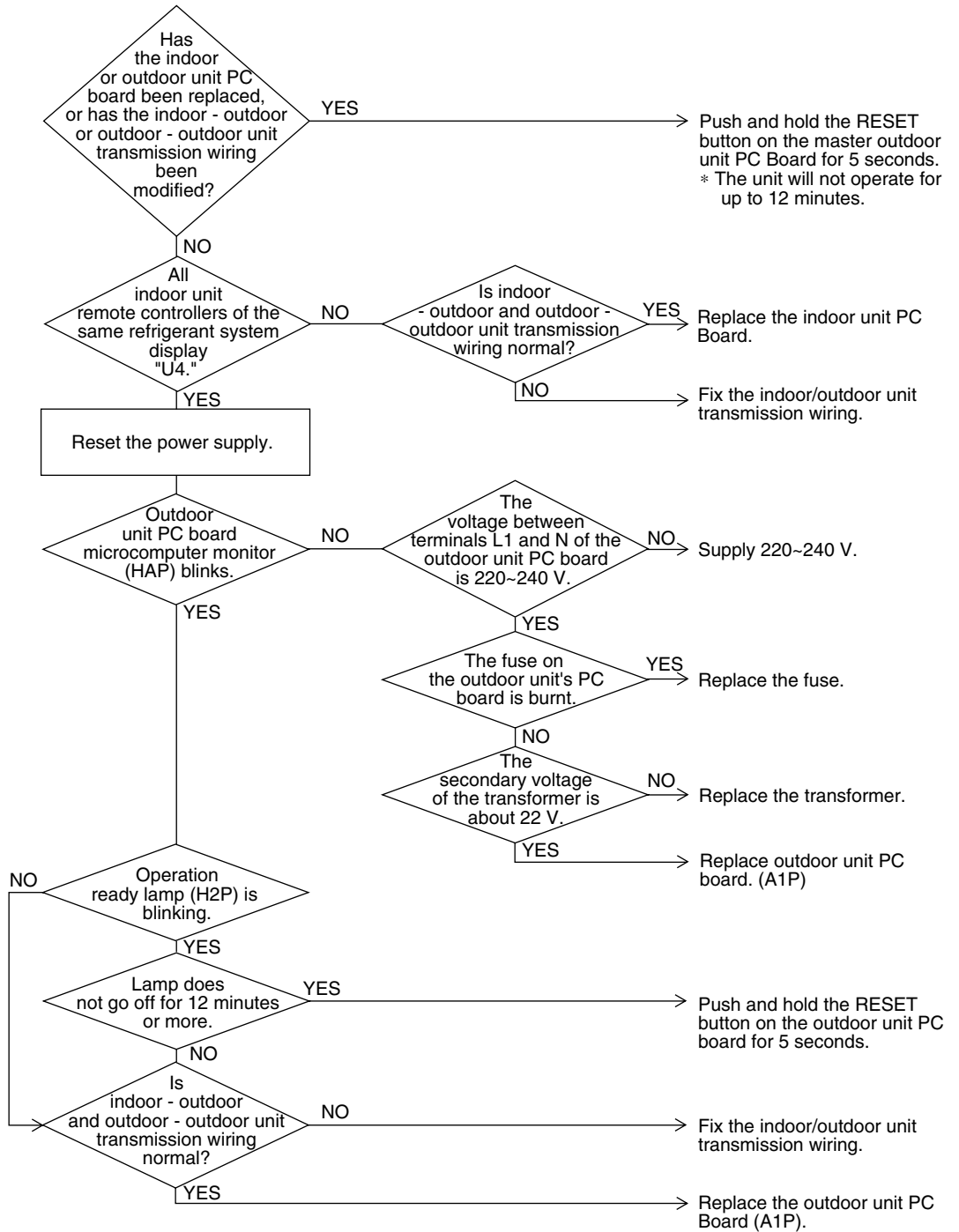
4.38 “U4” Malfunction of Transmission between Indoor Units and Outdoor Units

Remote Controller Display	U4
Applicable Models	All indoor unit models All outdoor unit models
Method of Malfunction Detection	Microcomputer checks if transmission between indoor and outdoor units is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	<ul style="list-style-type: none"> ■ Indoor to outdoor, outdoor to outdoor transmission wiring F1, F2 disconnection, short circuit or wrong wiring ■ Outdoor unit power supply is OFF ■ System address doesn't match ■ Defect of outdoor unit PC board ■ Defect of indoor unit PC board

Troubleshooting



Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2822)

4.39 "U5" Malfunction of Transmission between Remote Controller and Indoor Unit

Remote Controller Display

U5

Applicable Models

All indoor unit models

Method of Malfunction Detection

In case of controlling with 2-remote controller, check the system using microcomputer is signal transmission between indoor unit and remote controller (main and sub) is normal.

Malfunction Decision Conditions

Normal transmission does not continue for specified period.

Supposed Causes

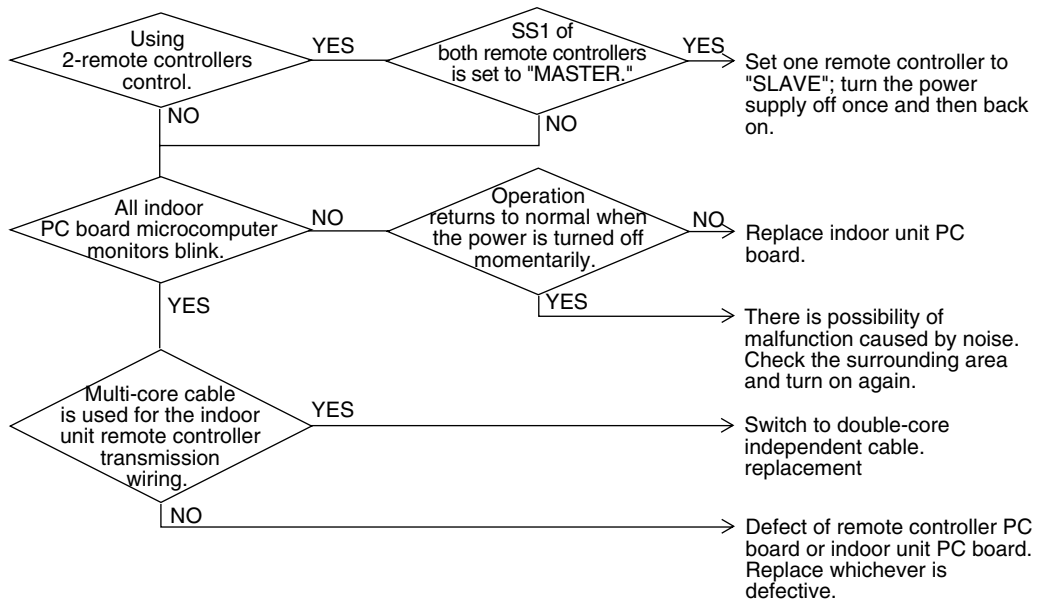
- Malfunction of indoor unit remote controller transmission
- Connection of two main remote controllers (when using 2 remote controllers)
- Defect of indoor unit PC board
- Defect of remote controller PC board
- Malfunction of transmission caused by noise

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2823)

4.40 “U8” Malfunction of Transmission between Master and Slave Remote Controllers

Remote
Controller
Display

U8

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

In case of controlling with 2-remote controller, check the system using microcomputer if signal transmission between indoor unit and remote controller (main and sub) is normal.

Malfunction
Decision
Conditions

Normal transmission does not continue for specified period.

Supposed
Causes

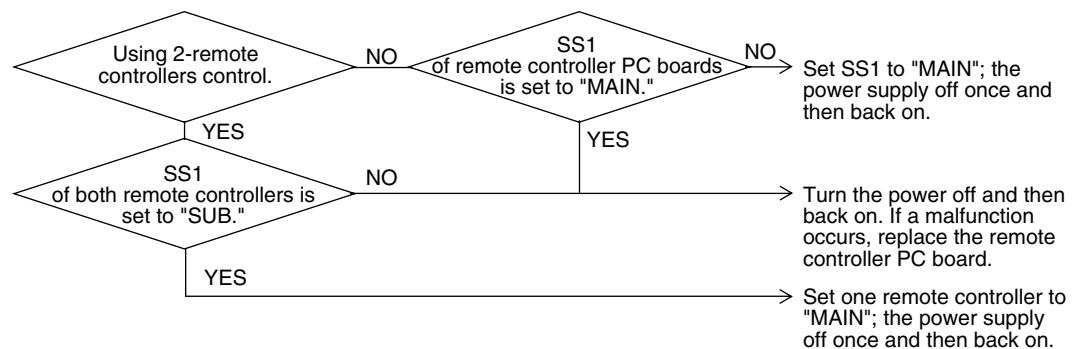
- Malfunction of transmission between main and sub remote controller
- Connection between sub remote controllers
- Defect of remote controller PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2825)

4.41 “U9” Malfunction of Transmission between Indoor and Outdoor Units in the Same System

Remote
Controller
Display

U9

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

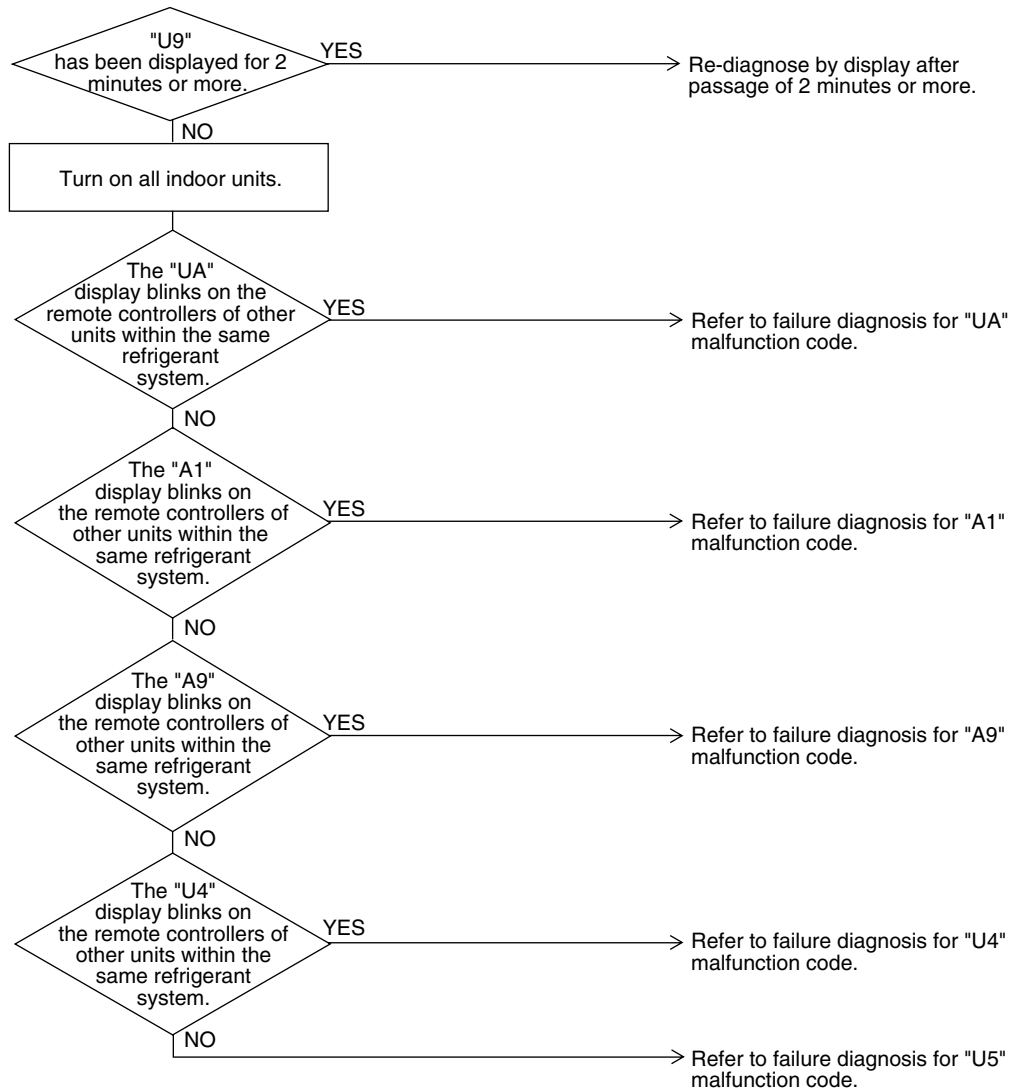
- Malfunction of transmission within or outside of other system
- Malfunction of electronic expansion valve in indoor unit of other system
- Defect of PC board of indoor unit in other system
- Improper connection of transmission wiring between indoor and outdoor unit

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2826)

4.42 “UR” Excessive Number of Indoor Units

Remote
Controller
Display

UR

Applicable
Models

All outdoor unit models

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

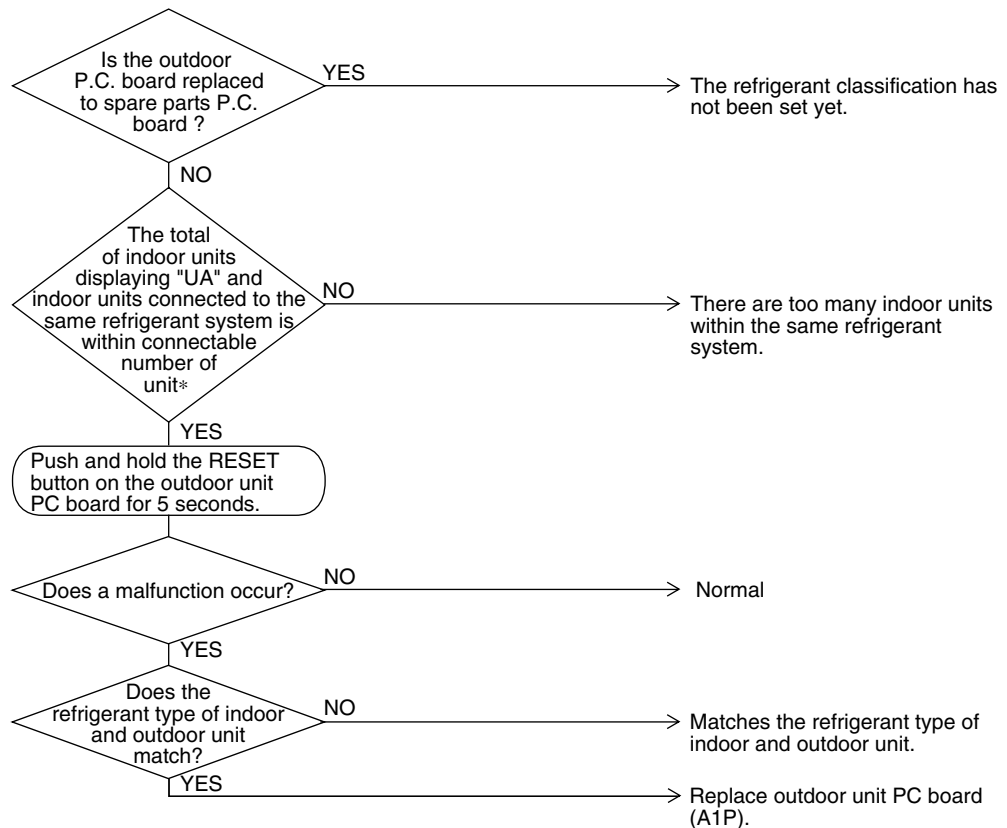
- Excess of connected indoor units
- Defect of outdoor unit PC board (A1P)
- Mismatching of the refrigerant type of indoor and outdoor unit.
- Setting of outdoor P.C. board was not conducted after replacing to spare parts P.C. board.

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V3169)

* The number of indoor units that can be connected to a single outdoor unit system depends on the type of outdoor unit.

4.43 “UC” Address Duplication of Central Remote Controller

Remote
Controller
Display

UC

Applicable
Models

All indoor unit models

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

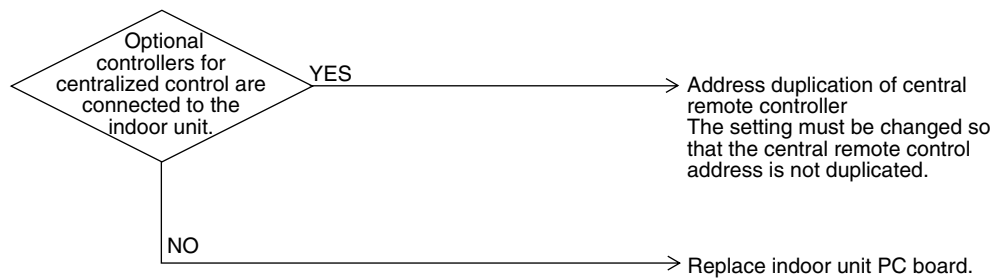
- Address duplication of centralized remote controller
- Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2828)

4.44 “UE” Malfunction of Transmission between Central Remote Controller and Indoor Unit

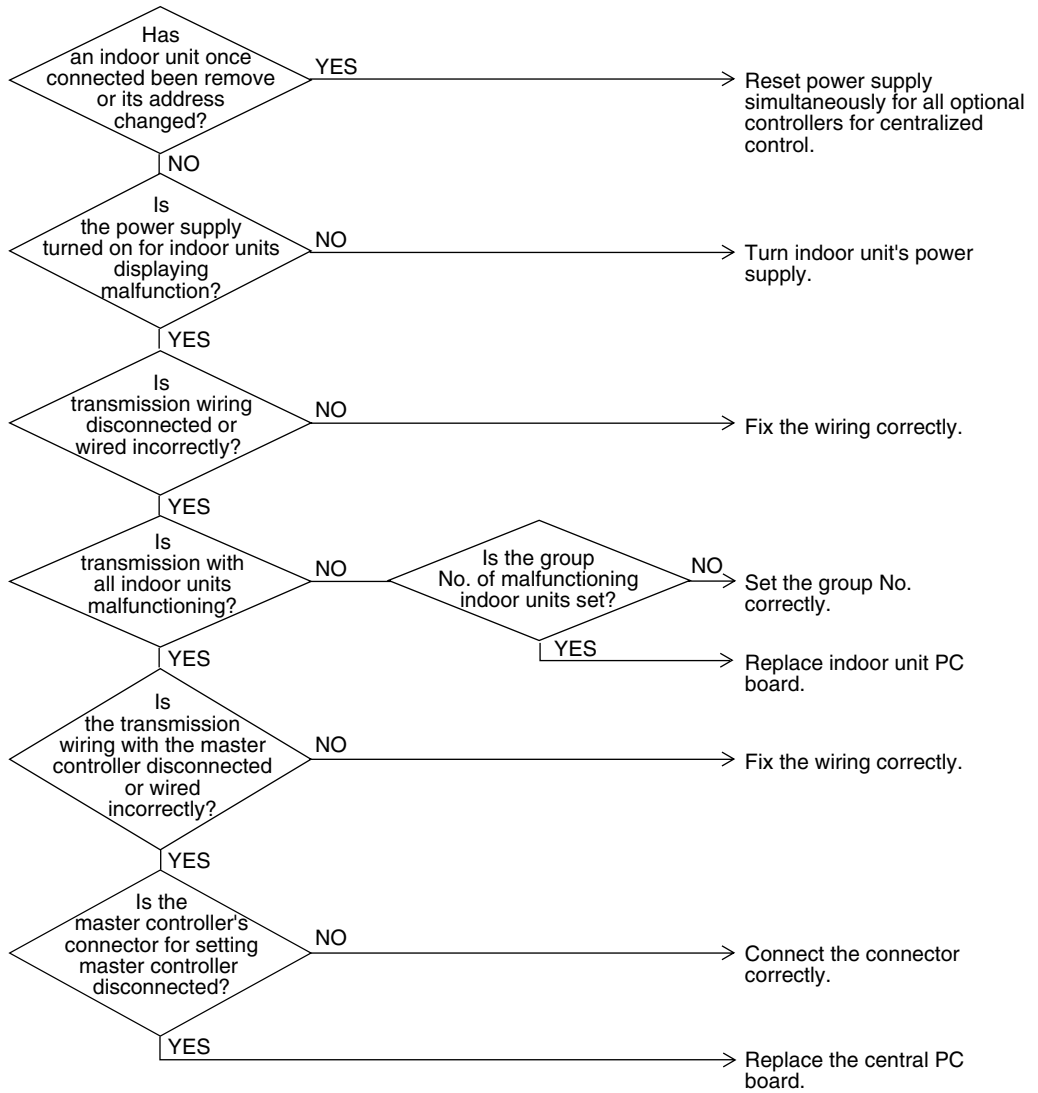
Remote Controller Display	UE
Applicable Models	All indoor unit models Centralized controller
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and centralized remote controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of transmission between optional controllers for centralized control and indoor unit ■ Connector for setting master controller is disconnected. ■ Failure of PC board for centralized remote controller ■ Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2829)

4.45 “UF” Refrigerant System not Set, Incompatible Wiring/ Piping

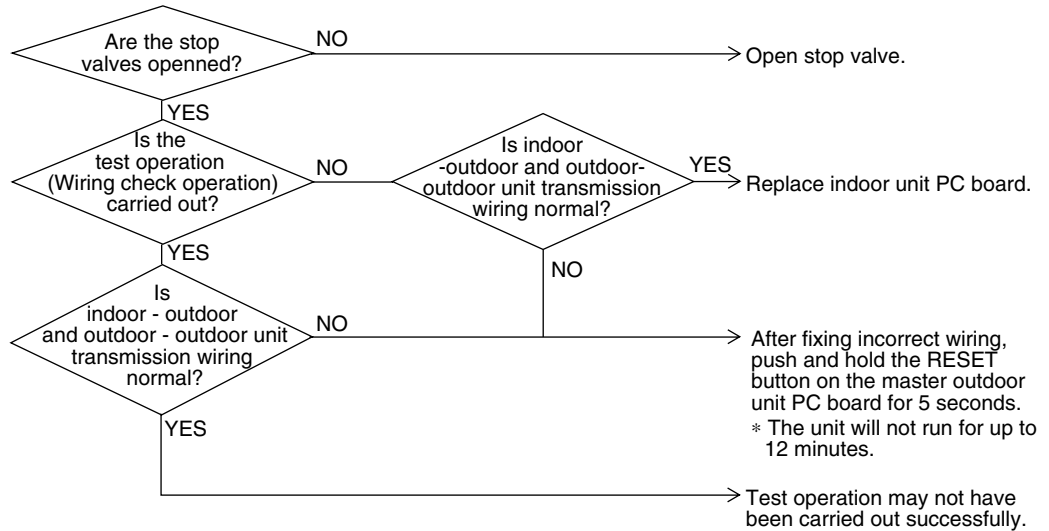
Remote Controller Display	UF
Applicable Models	All indoor unit models All outdoor unit models
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	<ul style="list-style-type: none"> ■ Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor ■ Failure to execute wiring check operation ■ Defect of indoor unit PC board ■ Failure to open the stop valve

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2830)




Note:

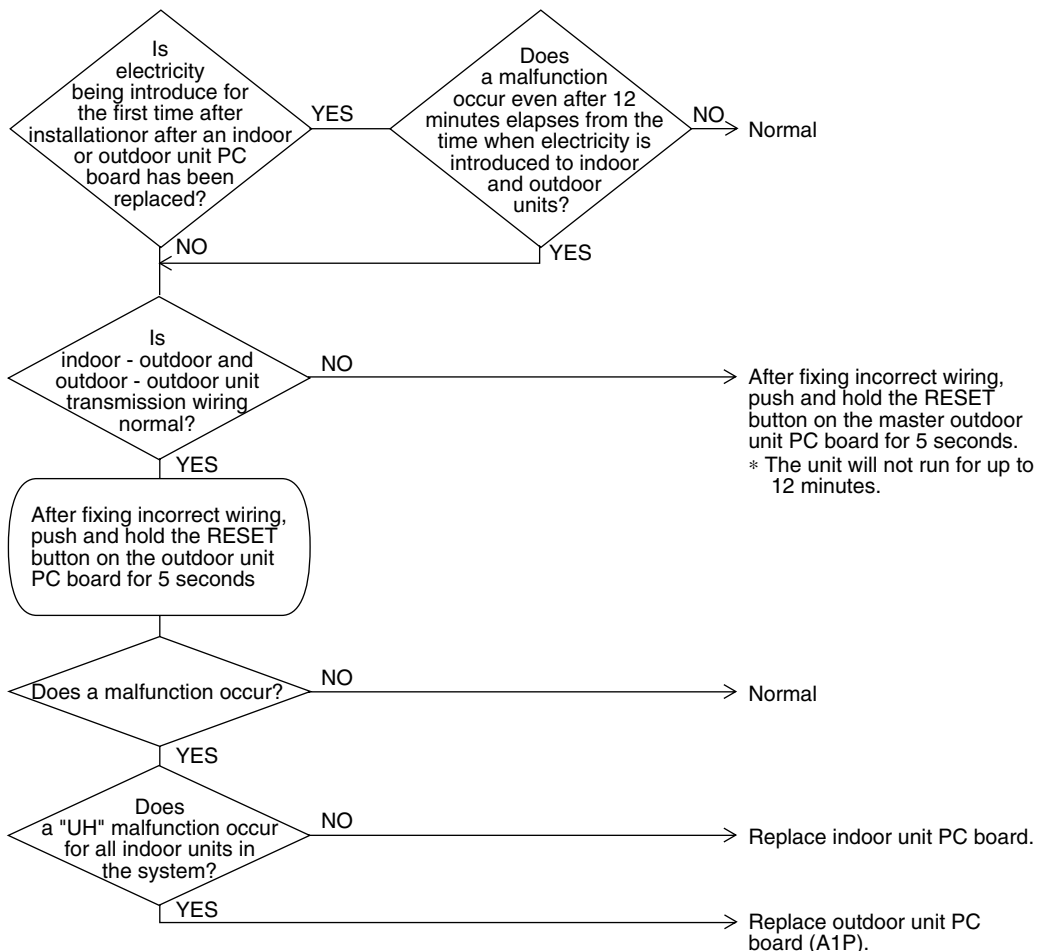
Test operation may not be successful if carried out after the outdoor unit has been off for more than 12 hours, or if it is not carried out after running all connected indoor units in the fan mode for at least an hour.

4.46 “UH” Malfunction of System, Refrigerant System Address Undefined

Remote Controller Display	<i>UH</i>
Applicable Models	All indoor unit models All outdoor unit models
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	<ul style="list-style-type: none"> ■ Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor ■ Defect of indoor unit PC board ■ Defect of outdoor unit PC board (A1P)

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



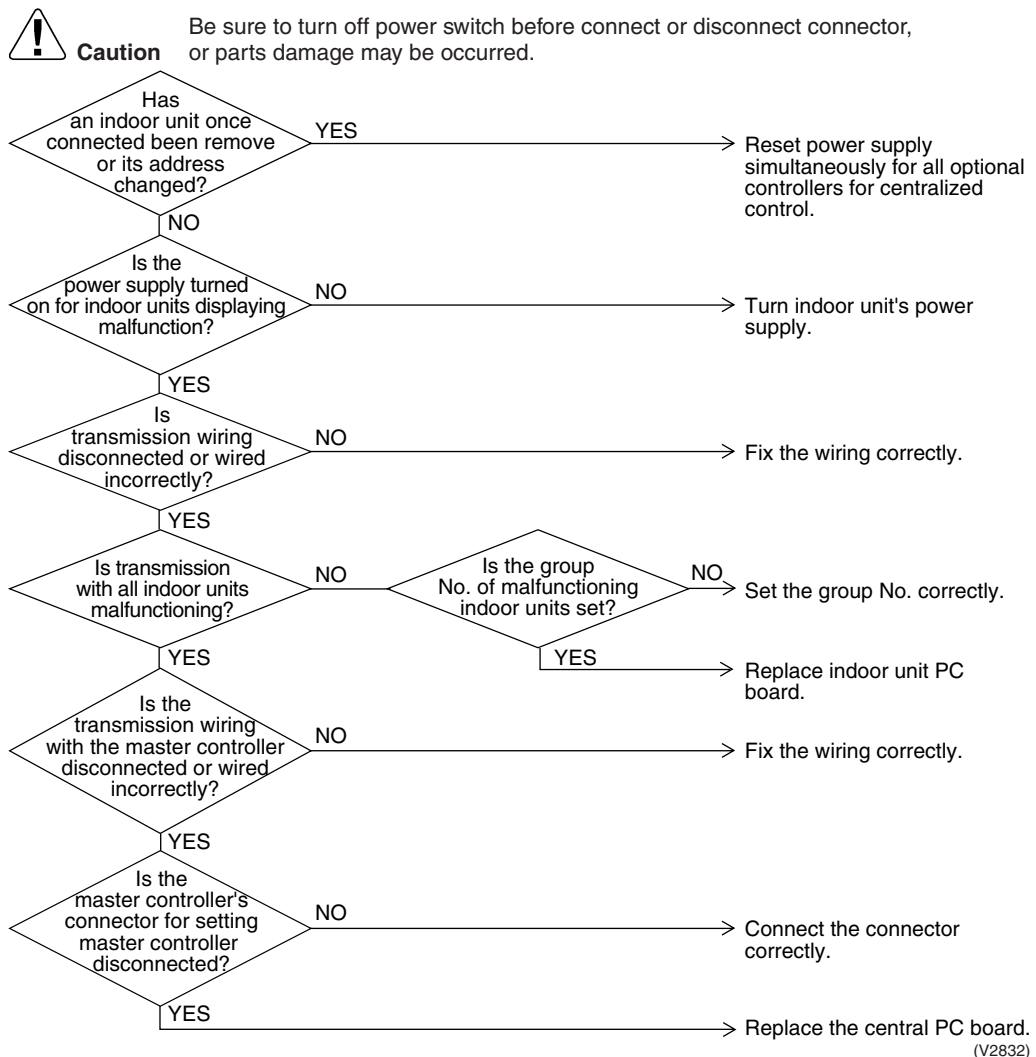
(V2831)

5. Troubleshooting by Indication on the Centralized Remote Controller

5.1 “UE” Malfunction of Transmission between Centralized Remote Controller and Indoor Unit

Remote Controller Display	UE
Applicable Models	All indoor unit models Centralized Remote Controller
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and central remote controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of transmission between optional controllers for centralized control and indoor unit ■ Connector for setting master controller is disconnected. ■ Failure of PC board for central remote controller ■ Defect of indoor unit PC board

Troubleshooting



(V2832)

5.2 “m1” PC Board Defect

Remote
Controller
Display

m1

Applicable
Models

Centralized remote controller

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

- Defect of central remote controller PC board


Troubleshooting

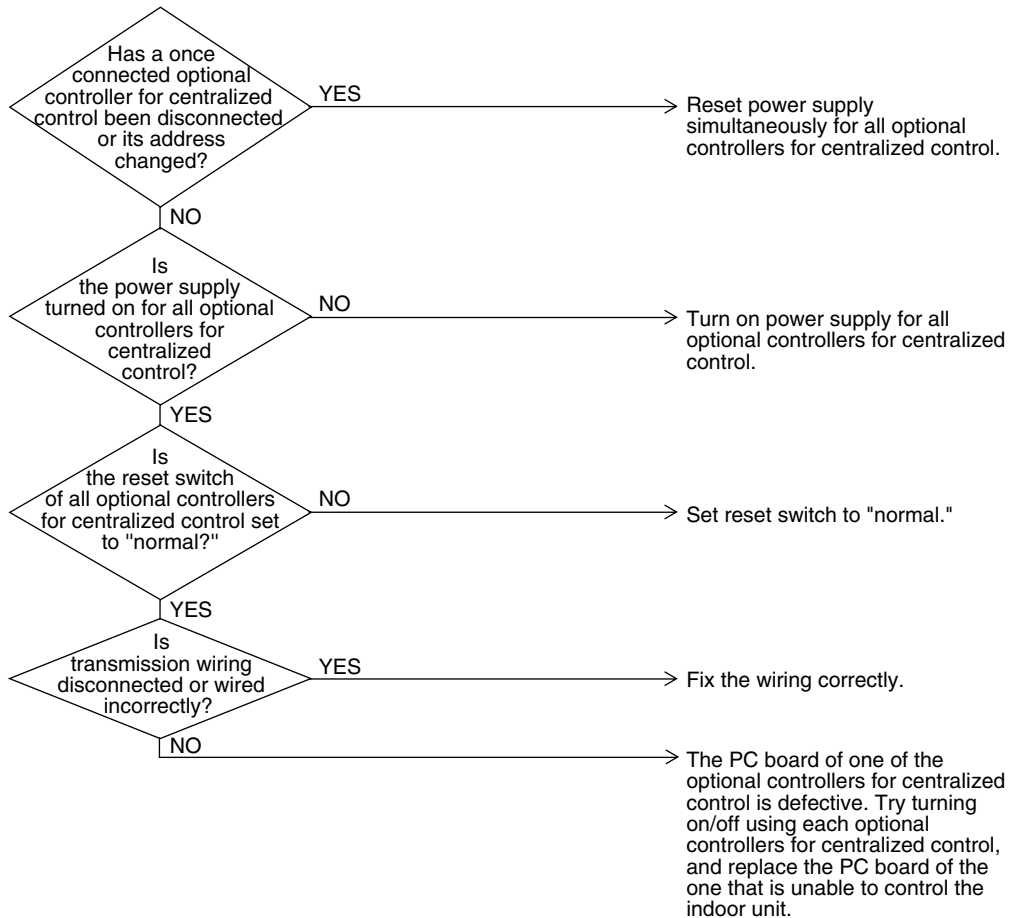
Replace the central remote controller PC board.

5.3 “M8” Malfunction of Transmission between Optional Controllers for Centralized Control

Remote Controller Display	M8
Applicable Models	Centralized remote controller
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control

Troubleshooting

 **Caution** Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2833)

5.4 “MR” Improper Combination of Optional Controllers for Centralized Control

Remote
Controller
Display

MR

Applicable
Models

Centralized remote controller

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

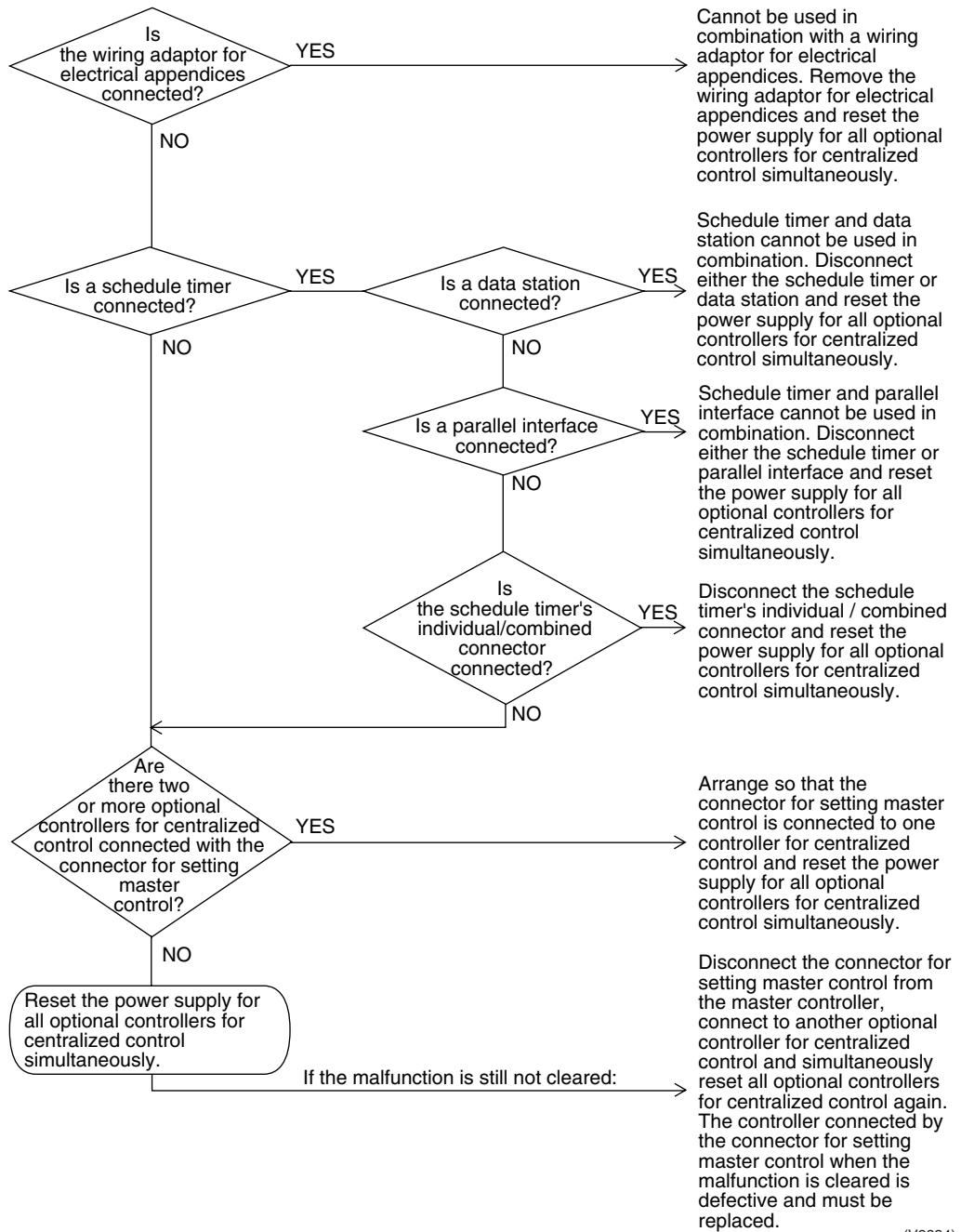
- Improper combination of optional controllers for centralized control
- More than one master controller is connected
- Defect of PC board of optional controller for centralized control

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2834)

5.5 “MC” Address Duplication, Improper Setting

Remote
Controller
Display

MC

Applicable
Models

Centralized remote controller

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

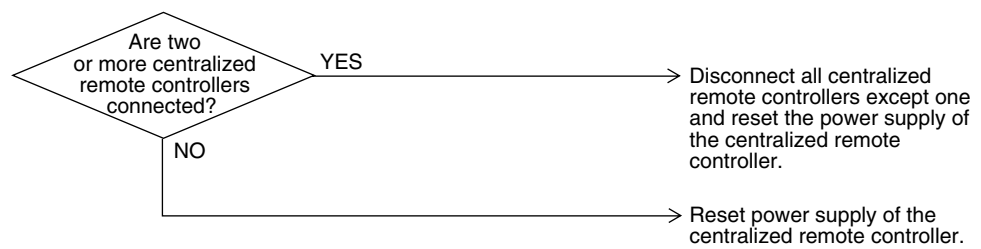
- Address duplication of centralized remote controller

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2835)

6. Troubleshooting by Indication on the Unified ON/OFF Controller

6.1 Operation Lamp Blinks

**Remote
Controller
Display**

Operation lamp blinks

**Applicable
Models**

All models of indoor units
Unified ON/OFF controller

**Method of
Malfunction
Detection**

**Malfunction
Decision
Conditions**

**Supposed
Causes**

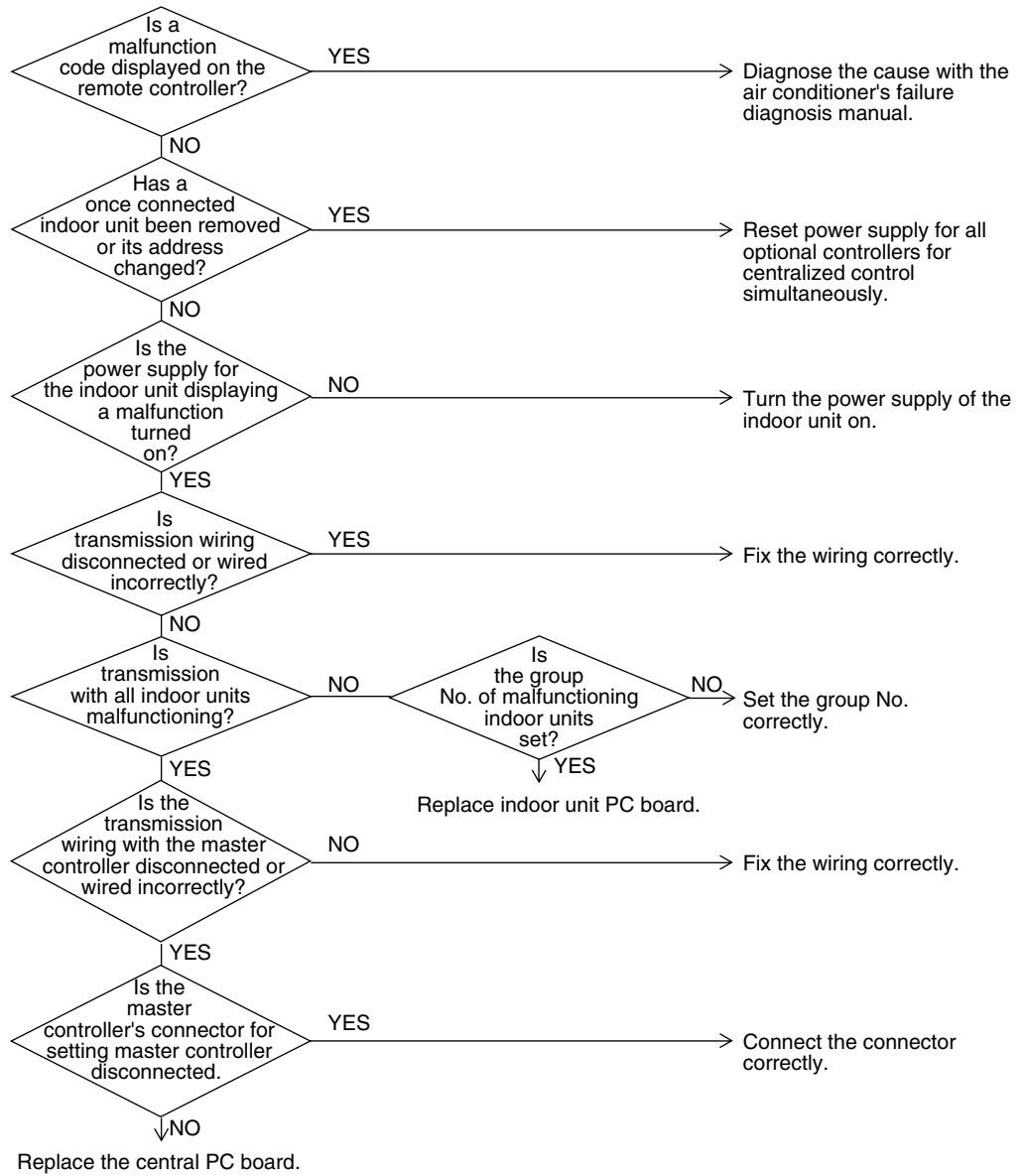
- Malfunction of transmission between optional controller and indoor unit
- Connector for setting master controller is disconnected
- Defect of unified ON/OFF controller
- Defect of indoor unit PC board
- Malfunction of air conditioner

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2841)

6.2 Display “Under Host Computer Integrate Control” Blinks (Repeats Single Blink)

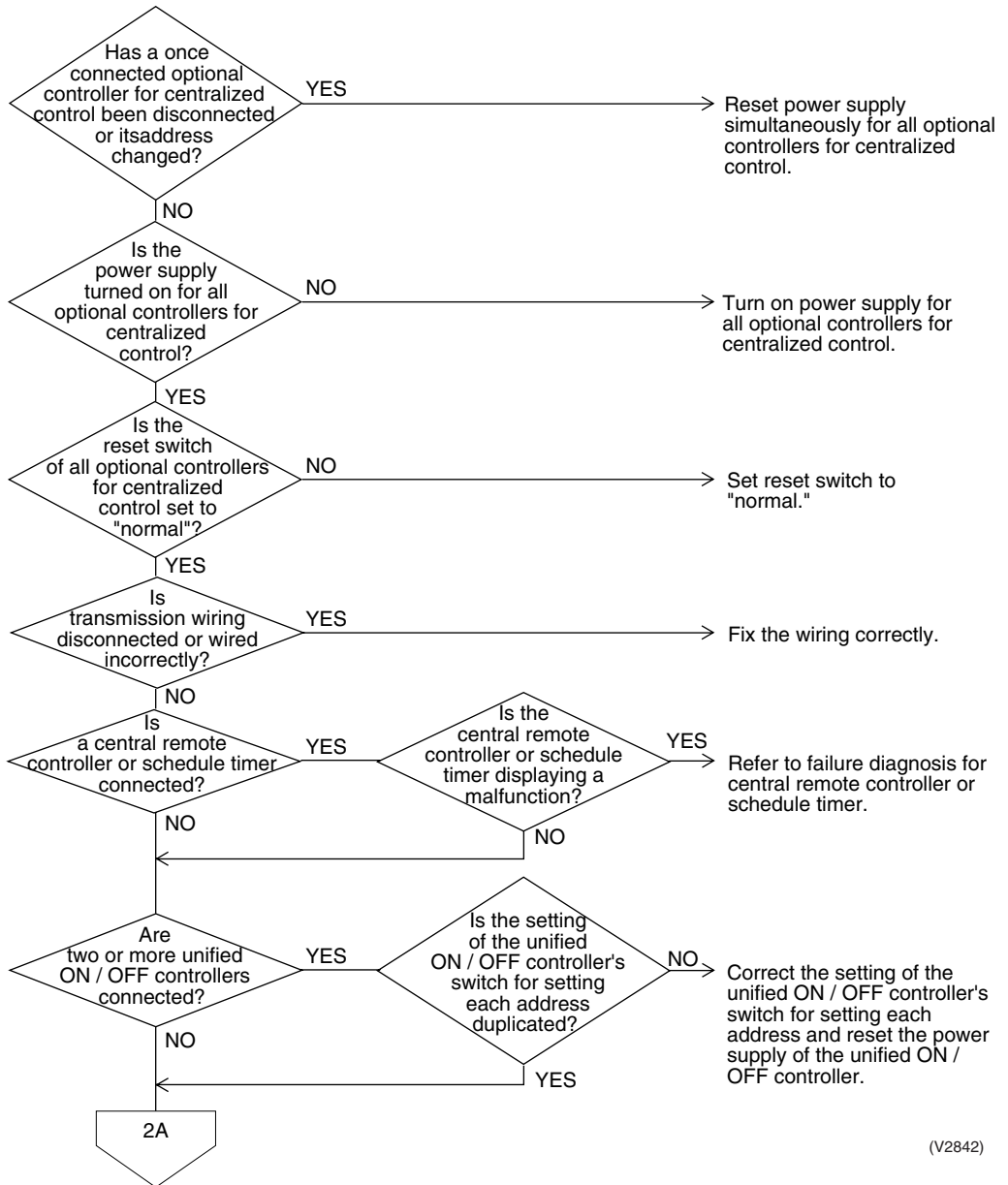
Remote Controller Display	“under host computer integrated control” (Repeats single blink)
Applicable Models	Unified ON/OFF controller Central controller, Schedule timer
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	<ul style="list-style-type: none"> ■ Address duplication of central remote controller ■ Improper combination of optional controllers for centralized control ■ Connection of more than one master controller ■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control

Troubleshooting

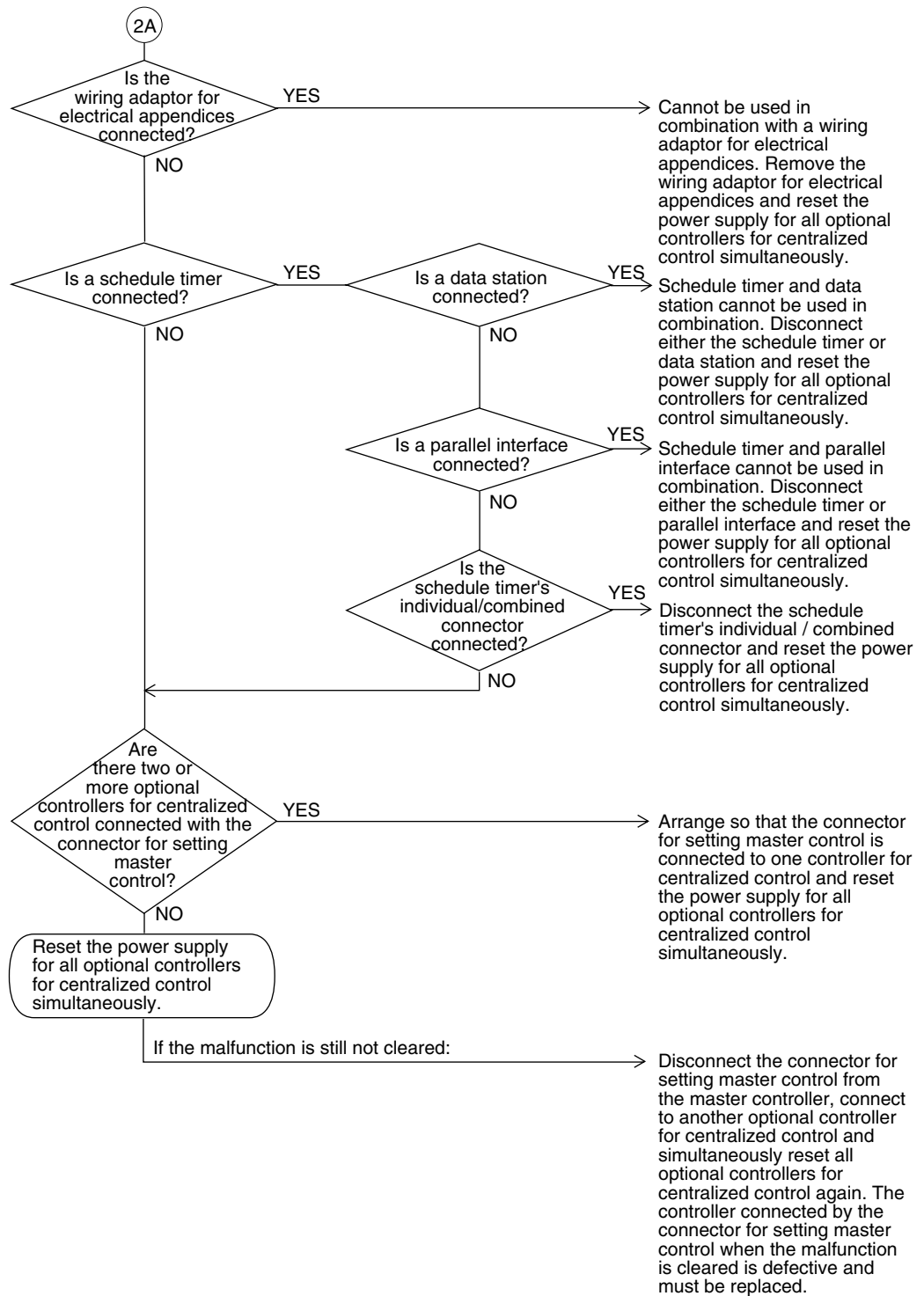


Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2842)



(V2843)

6.3 Display “Under Host Computer Integrate Control” Blinks (Repeats Double Blink)

Remote Controller Display

“under host computer integrated control” (Repeats double blink)

Applicable Models

Unified ON/OFF controller

Method of Malfunction Detection

Malfunction Decision Conditions

Supposed Causes

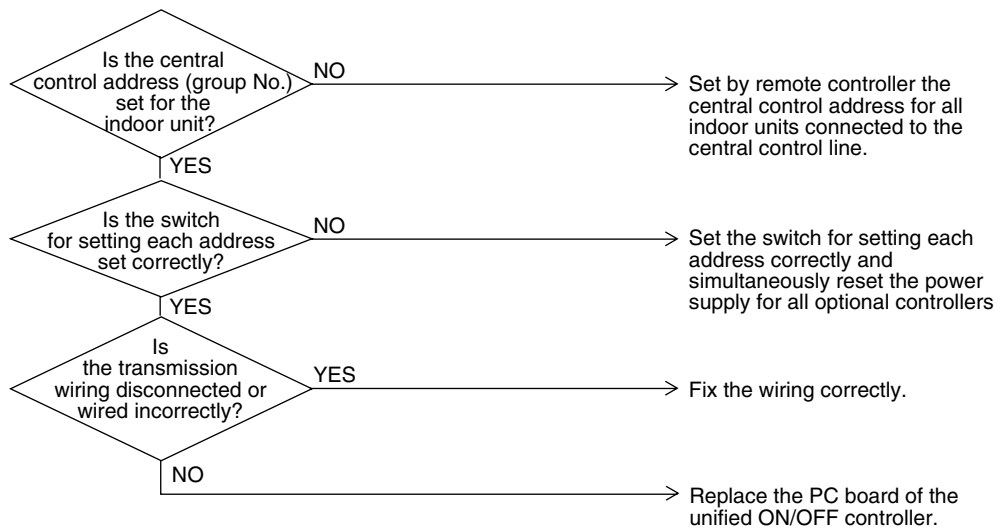
- Central control address (group No.) is not set for indoor unit.
- Improper address setting
- Improper wiring of transmission wiring

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2844)

7. Troubleshooting (OP: Schedule Timer)

7.1 “UE” Malfunction of Transmission between Central Remote Controller and Indoor Unit

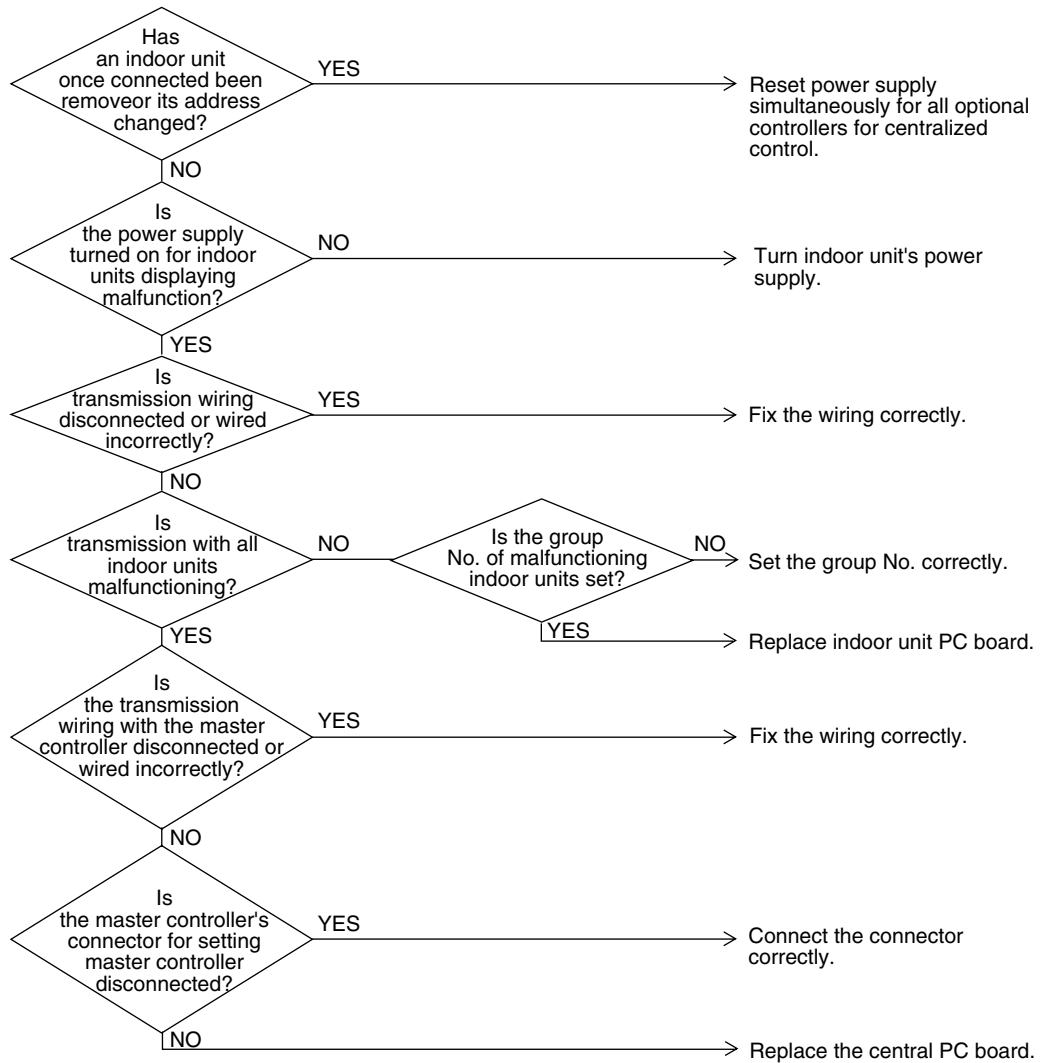
Remote Controller Display	<i>UE</i>
Applicable Models	Schedule timer
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and centralized remote controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of transmission between central remote controller and indoor unit ■ Disconnection of connector for setting master controller (or individual/combined switching connector) ■ Defect of schedule timer PC board ■ Defect of indoor unit PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2836)

7.2 “M1” PC Board Defect

Remote
Controller
Display

M1

Applicable
Models

Schedule timer

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

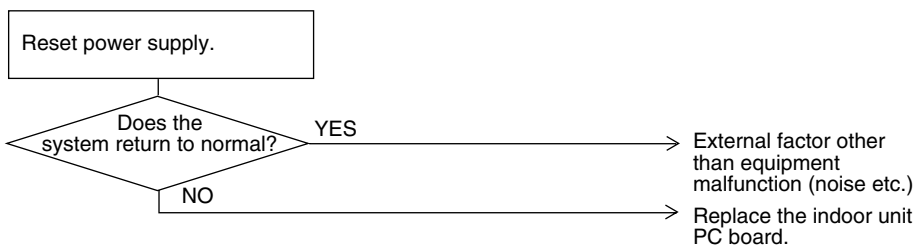
- Defect of schedule timer PC board

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2837)

7.3 “M8” Malfunction of Transmission between Optional Controllers for Centralized Control

Remote
Controller
Display

M8

Applicable
Models

All models of indoor units, schedule timer

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

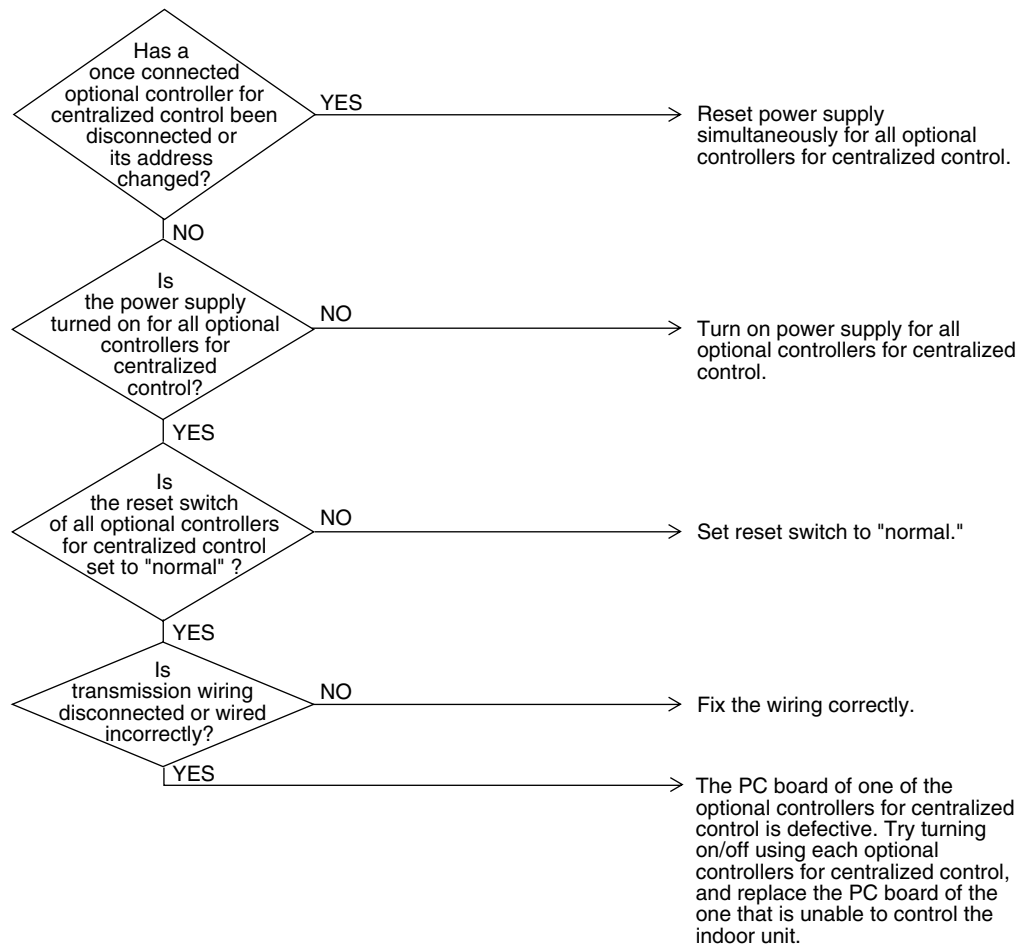
- Malfunction of transmission between optional controllers for centralized control
- Defect of PC board of optional controllers for centralized control

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2838)

7.4 “MR” Improper Combination of Optional Controllers for Centralized Control

Remote Controller Display

MR

Applicable Models

All models of indoor units, schedule timer

Method of Malfunction Detection

Malfunction Decision Conditions

Supposed Causes

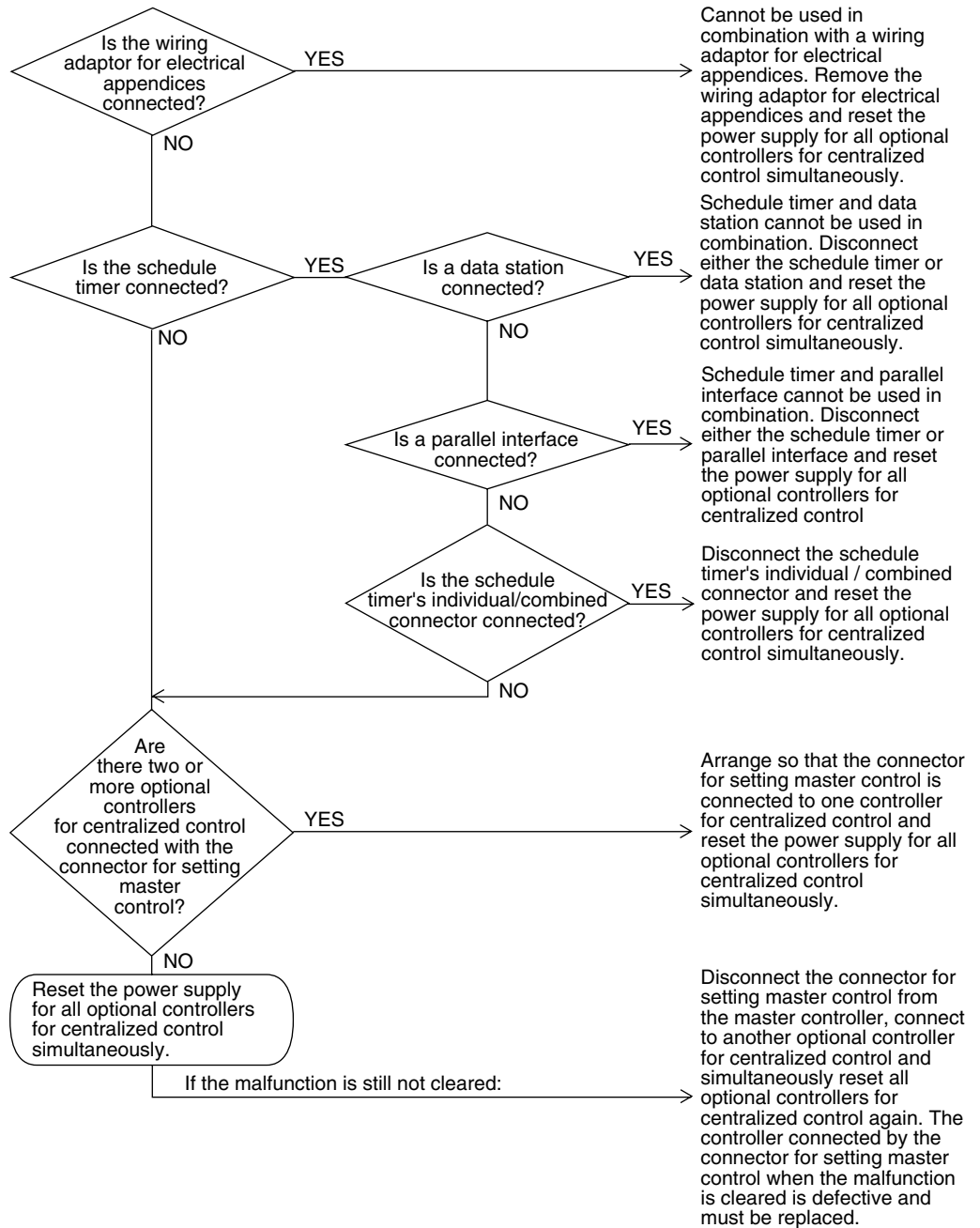
- Improper combination of optional controllers for centralized control
- More than one master controller is connected.
- Defect of PC board of optional controller for centralized control

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2839)

7.5 “MC” Address Duplication, Improper Setting

Remote
Controller
Display

MC

Applicable
Models

All models of indoor units,
schedule timer

Method of
Malfunction
Detection

Malfunction
Decision
Conditions

Supposed
Causes

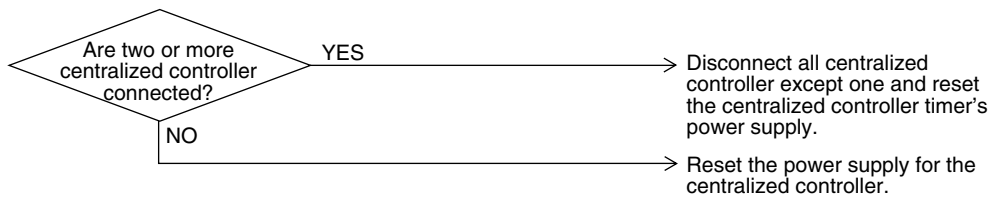
- Address duplication of optional controller for centralized control

Troubleshooting



Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2840)

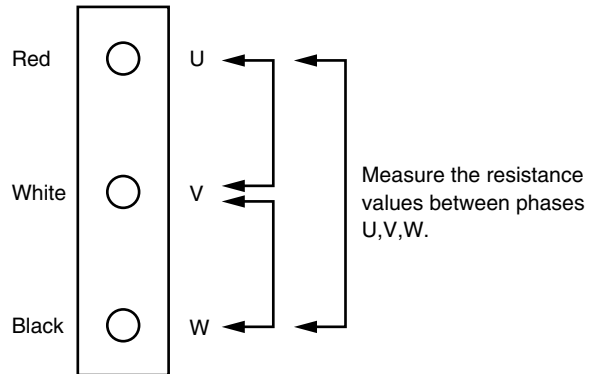
8. Check

Check No. 8

Check on connector of fan motor (Power supply cable)

(1) Turn off the power supply.

Measure the resistance between phases of U,V,W at the motor side connectors (three-core wire) to check that the values are balanced and there is no short circuiting, while connector or relay connector is disconnected.

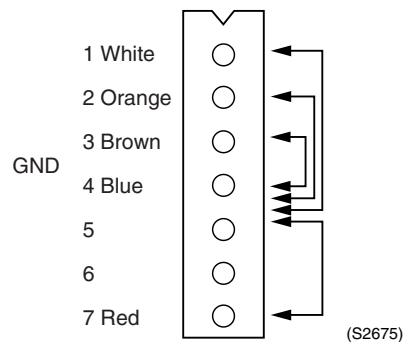


Check No. 9

Check for Fan Motor Connector (Signal Line)

(1) Turn the power supply off.

(2) With the fan motor connector disconnected, measure the resistance between each pin, then make sure that the resistance is more than the value mentioned in the following table.



Measurement point	Judgment
1 - 4	1MΩ or more
2 - 4	100kΩ or more
3 - 4	100Ω or more
4 - 7	100kΩ or more

Check No. 11

Check for Fan Speed Pulse Input on Outdoor Unit PC Board

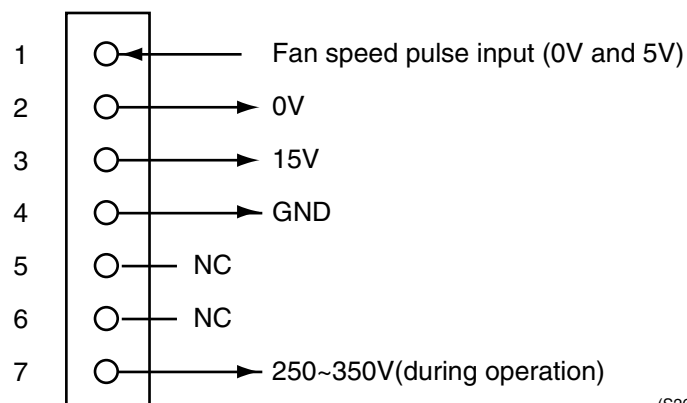
- (1) Disconnect the connector X206A with the power supply OFF and Operation OFF.
- (2) Is the voltage between pins 4 and 3 of X206A about 15 VDC after turning the power supply on?
- (3) Is the voltage between pins 4 and 1 of X206A about 5 VDC?
- (4) Connect the connector X206A with the power supply OFF and Operation OFF.
- (5) When making one turn of the upper fan motor by hand after turning the power supply on, is a pulse (0 and 5 V) generated 4 times between pins 4 and 1 of X206A? (Measure at the contact terminal on the harness side with the connector connected.)
- (6) Disconnect the connector X207A with the power supply OFF and Operation OFF.
- (7) Is the voltage between pins 4 and 3 of X207A about 15 VDC after turning the power supply on?
- (8) Is the voltage between pins 4 and 1 of X207A about 5 VDC?
- (9) Connect the connector X207A with the power supply OFF and Operation OFF.
- (10) When making one turn of the lower fan motor by hand after turning the power supply on, is a pulse (0 and 5 V) generated 4 times between pins 4 and 1 of X207A?

(2) (7): NO → Faulty PC board → Replace the PC board.

(3) (8): NO → Faulty PC board → Replace the PC board.

(5)(10): NO → Faulty hall IC → Replace the DC fan motor.

(2) (3) (5) (7) (8) (10): YES → Replace the PC board.



(S2679)

Part 8

Appendix

1. Piping Diagrams.....	200
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4. Pressure Sensor	221

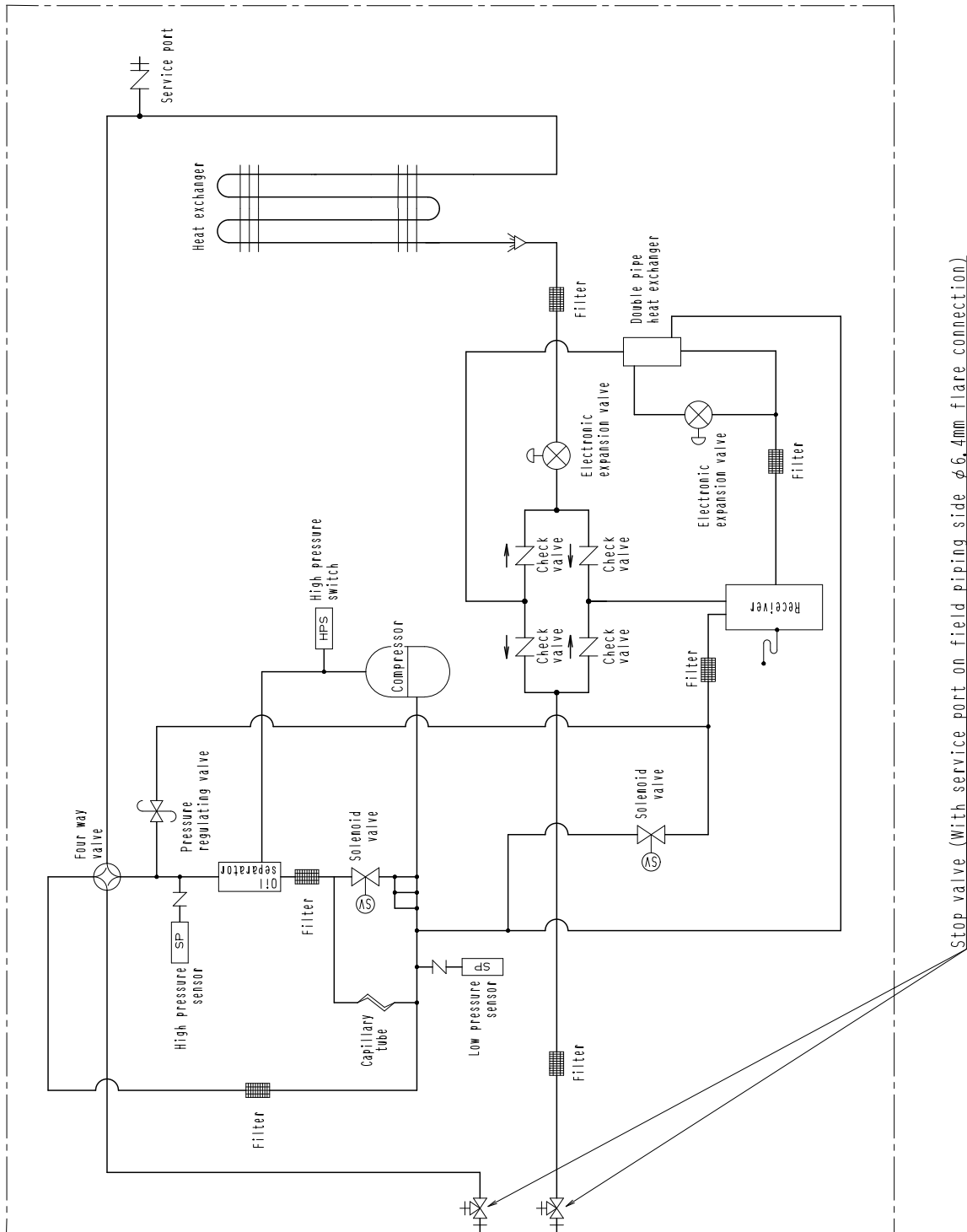
1. Piping Diagrams

1.1 Outdoor Unit

1.1.1 Heat Pump

RXYM4-5-6MVM(T)

3D044919

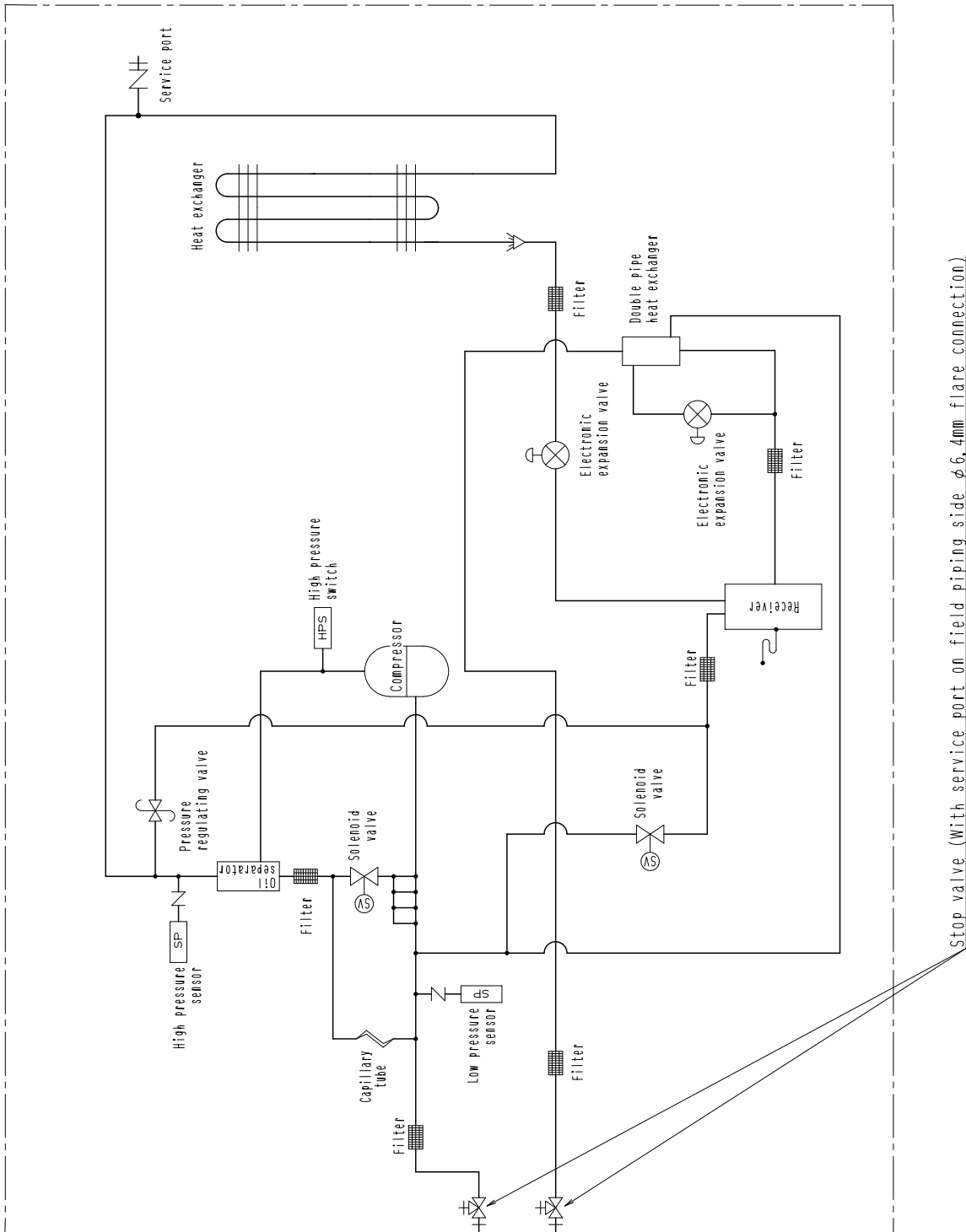


Stop valve (With service port on field piping side $\phi 6.4\text{mm}$ flare connection)

1.1.2 Cooling Only

RXM4-5-6MVM

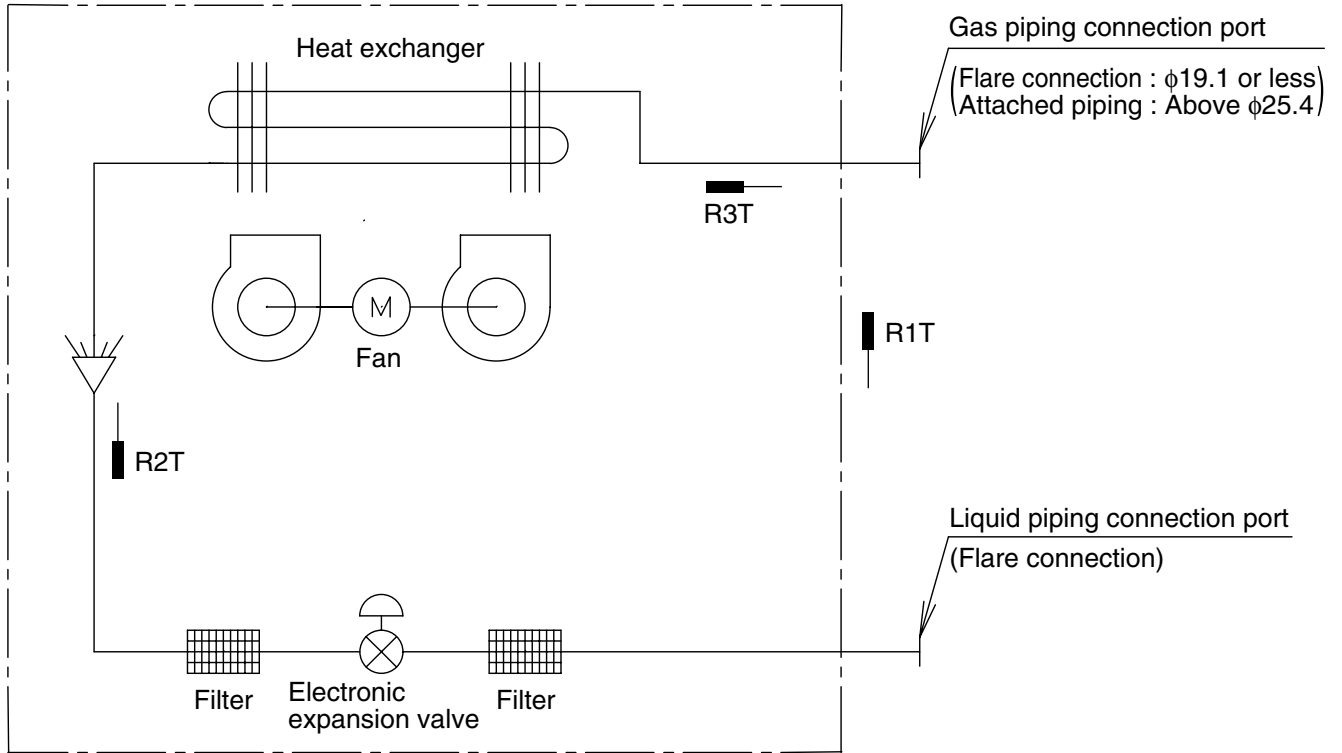
3D044920



Stop valve (With service port on field piping side ϕ 6, 4mm flare connection)

1.2 Indoor Unit

FXC, FXF, FXK, FXYD, FXS, FXYB, FXM, FXH, FXA, FXL, FXN



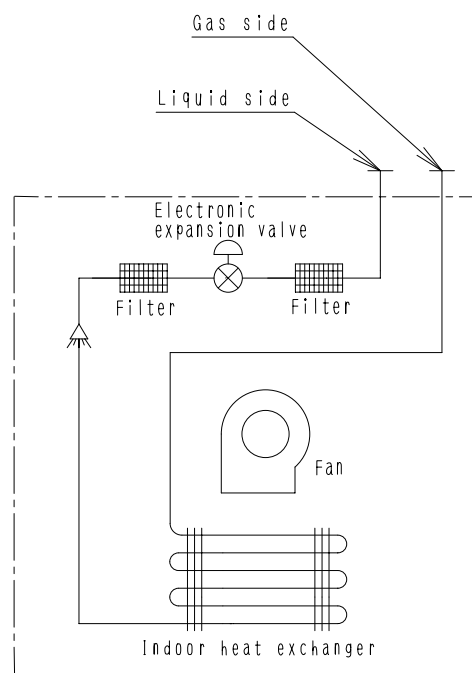
DU220-602D

- R1T : Thermistor for suction air temperature
- R2T : Thermistor for liquid line temperature
- R3T : Thermistor for gas line temperature

(mm)

Capacity	GAS	Liquid
20 / 25 / 32 / 40	φ12.7	φ6.4
50 / 63 / 80	φ15.9	φ9.5
100 / 125	φ19.1	φ9.5

FXD



4D043864A

■ Refrigerant pipe connection port diameters

(mm)

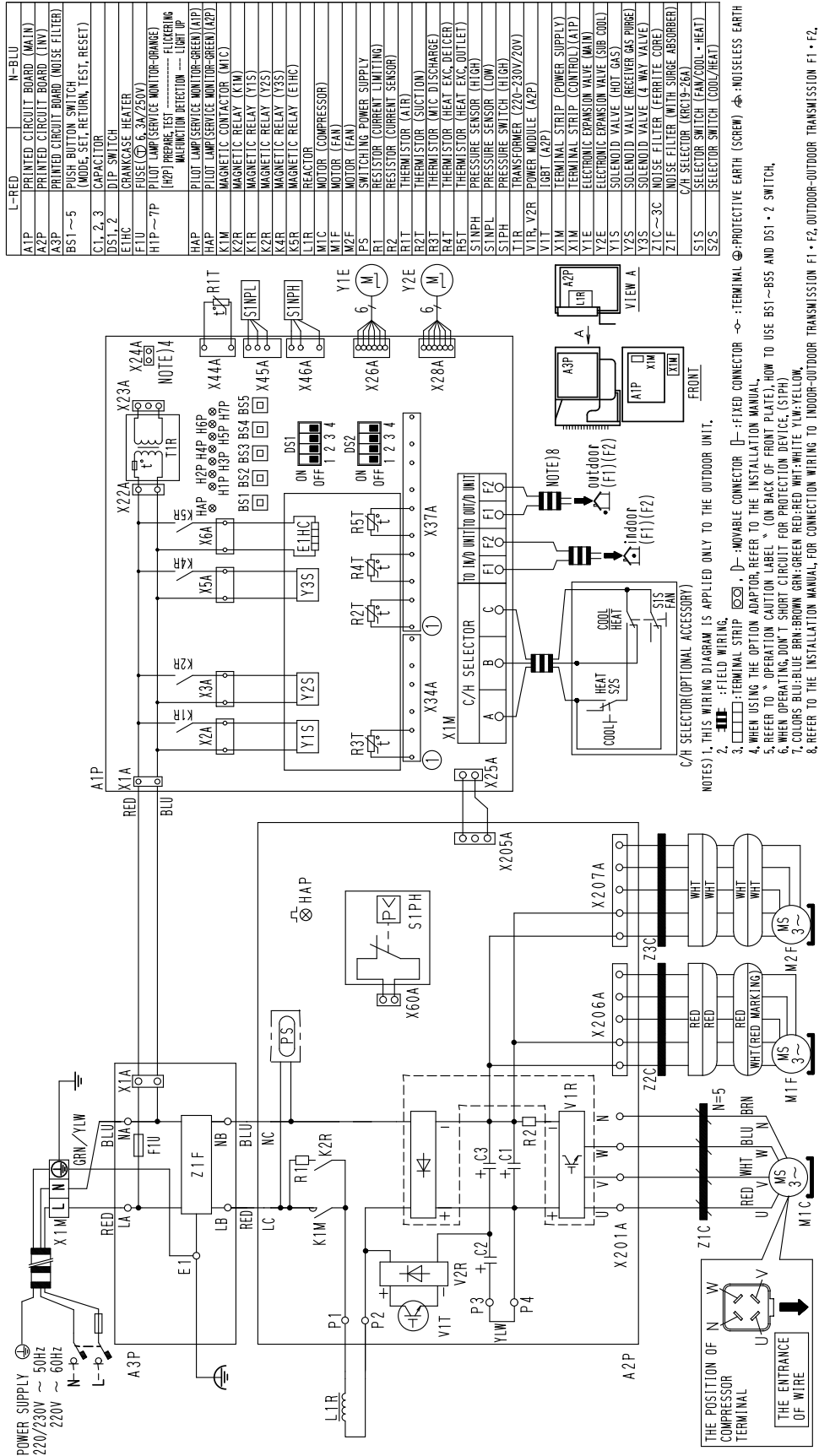
Model	Gas	Liquid
FXD20M / 25M / 32M / 40MVE	φ12.7	φ6.4
FXD50M / 63MVE	φ15.9	φ9.5

2. Wiring Diagrams for Reference

2.1 Outdoor Unit

2.1.1 Heat Pump

RXYM4-5-6MVM(T)

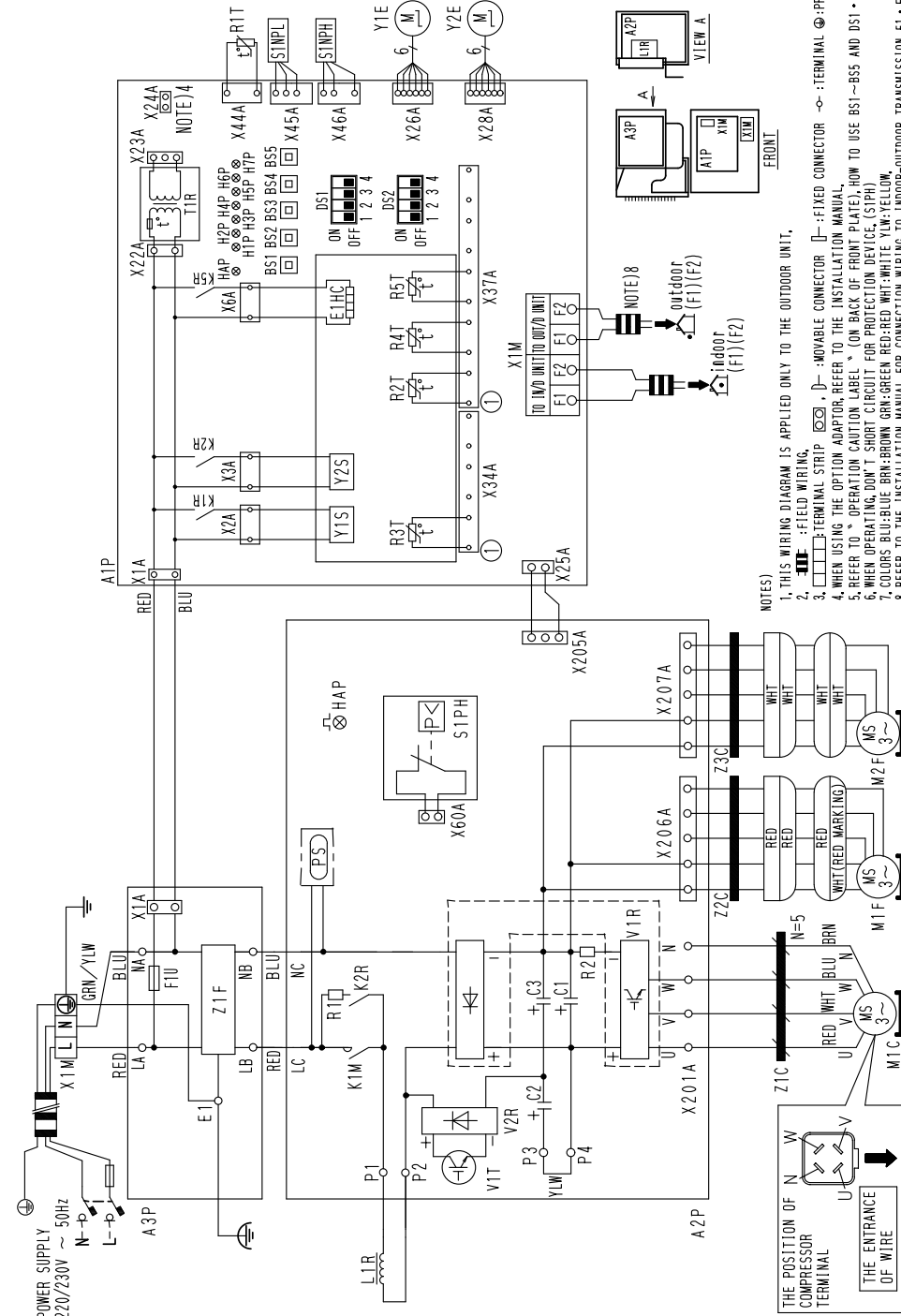


3D044179B

2.1.2 Cooling Only

RXM4-5-6MVM

A1P	L-RED	N-BLU
A2P	PRINTED CIRCUIT BOARD (MAIN)	
A3P	PRINTED CIRCUIT BOARD (INV)	
B51~5	PRINTED CIRCUIT BOARD (NOISE FILTER)	
	PUSH BUTTON SWITCH (MODE, SET, RETURN, TEST, RESET)	
C1, 2, 3	CAPACITOR	
DS1, 2	DIP SWITCH	
E1HC	CRANKCASE HEATER	
F1U	FUSE (C) 6.3A(250V)	
H1P~7P	PILOT LAMP(SERVICE MONITOR-RANGE) HALLWAY MONITOR DETECTION --- LIGHT UP	
H4P	PILOT LAMP(SERVICE MONITOR-GREEN(AIP))	
H4P	PILOT LAMP(SERVICE MONITOR-GREEN(A2P))	
K1M	MAGNETIC RELAY (K1M)	
K1R	MAGNETIC RELAY (Y1S)	
K2R	MAGNETIC RELAY (Y2S)	
K6R	MAGNETIC RELAY (E1HC)	
L1R	REACTOR	
M1C	MOTOR (COMPRESSOR)	
M2F	MOTOR (FAN)	
M2F	MOTOR (FAN)	
PS	SWITCHING POWER SUPPLY	
R1	RESISTOR (CURRENT LIMITING)	
R2	RESISTOR (CURRENT LIMITING)	
R1T	THERMISTOR (AIR)	
R2T	THERMISTOR (SUCTION)	
R3T	THERMISTOR (MIC DISCHARGE)	
R4T	THERMISTOR (HEAT EXC. DELCER)	
R5T	THERMISTOR (HEAT EXC. OUTLET)	
STMPH	PRESSURE SENSOR (HIGH)	
STNPL	PRESSURE SENSOR (LOW)	
ST1P	PRESSURE SWITCH (HIGH)	
ST2P	PRESSURE SWITCH (LOW)	
T1R, V2R	POWER MODULE (A2P)	
V1T	IGBT (A2P)	
X1M	TERMINAL STRIP (POWER SUPPLY)	
X1M	TERMINAL STRIP (CONTROL(A1P))	
X1M	TERMINAL STRIP (CONTROL(A2P))	
Y1E	ELECTRONIC EXPANSION VALVE (MAIN)	
Y2E	ELECTRONIC EXPANSION VALVE (SUB. COOL.)	
Y1S	SOLENOID VALVE (HOT GAS)	
Y2S	SOLENOID VALVE (REVERSE GAS PURGE)	
Z1C~3C	NOISE FILTER (FERRITE CORE)	
Z1F	NOISE FILTER (WITH SURGE ABSORBER)	



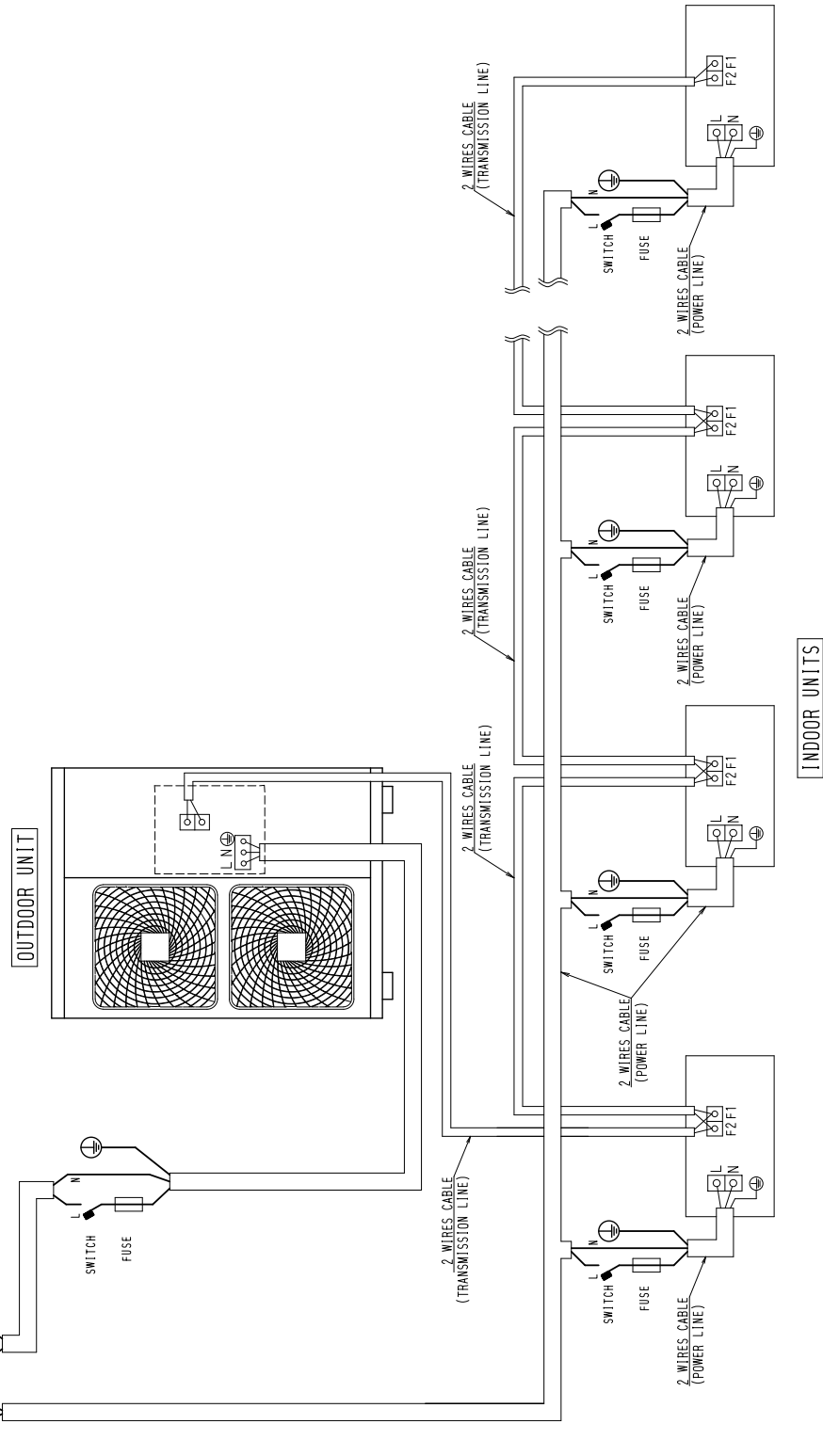
- NOTES
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
 2. **FIELD WIRING**
 3. **MOVABLE CONNECTOR** : MOVABLE CONNECTOR (ON BACK OF FRONT PLATE). HOW TO USE BS1~BS5 AND DS1-2 SWITCH.
 4. WHEN USING THE OPTION ADAPTOR, REFER TO THE INSTALLATION MANUAL.
 5. REFER TO * OPERATION CAUTION LABEL * (ON BACK OF FRONT PLATE).
 6. WHEN OPERATING, DON'T SHORT CIRCUIT FOR PROTECTION DEVICE (STPH).
 7. COLORS: BLU-BLUE, BRN-BROWN, GRN-GREEN, RED-RED, WHT-WHITE, YLW-YELLOW.
 8. REFER TO THE INSTALLATION MANUAL FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 • F2, OUTDOOR-OUTDOOR TRANSMISSION F1 • F2.

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2.1.3 Field Wiring

RXYM4-5-6MVM(T) RXM4-5-6MVM

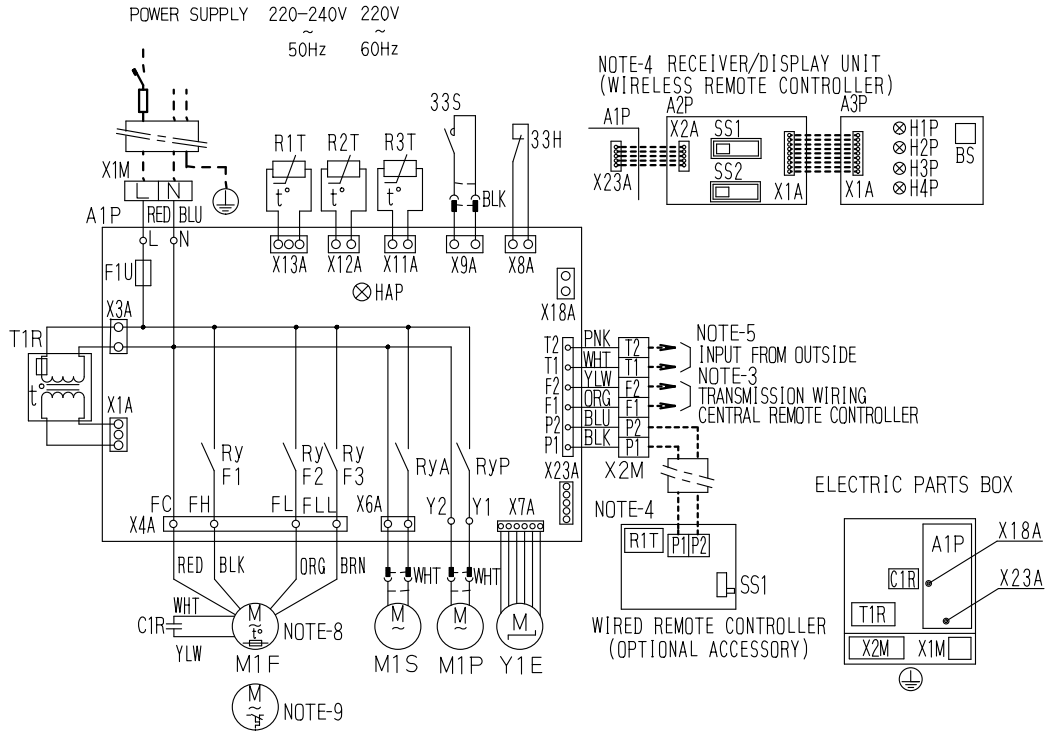
- Notes 1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes, use copper conductors only.
- 2) Use copper conductors only.
- 3) As for details, see wiring diagram.
- 4) Install circuit breaker for safety.
- 5) All field wiring and components must be provided by licensed electrician.
- 6) Unit shall be grounded in compliance with the applicable local and national codes.
- 7) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
- 8) Be sure to install the switch and the fuse to the power line of each equipment.
- 9) Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.



3D044912

2.2 Indoor Unit

FXC 20L / 25L / 32L / 63LVE

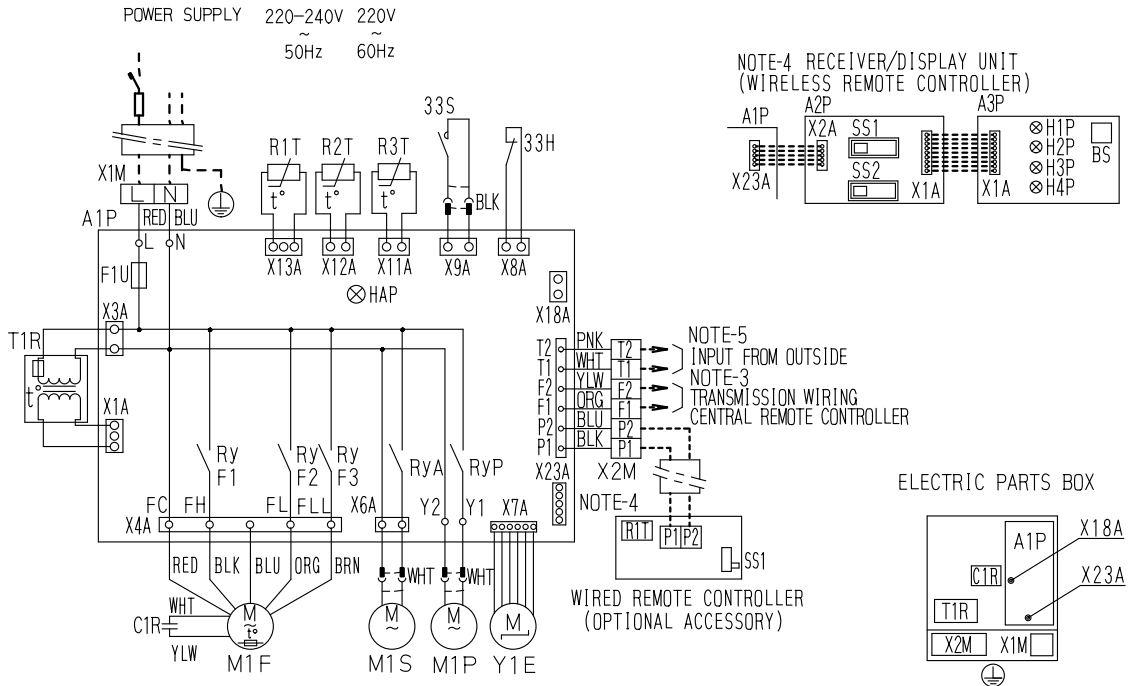


33H	FLOAT SWITCH	M1S	MOTOR (SWING FLAP)	WIRED REMOTE CONTROLLER	H3P	LIGHT EMISSION DIODE (FILTER SIGN-RED)	
33S	LIMIT SWITCH (SWING FLAP)	M1P	MOTOR(DRAIN PUMP)	R1T	THERMISTOR(AIR)	H4P	LIGHT EMISSION DIODE (DEFROST-ORANGE)
A1P	PRINTED CIRCUIT BOARD	Q1F	THERMO SWITCH(130V) (MIF EMBEDDED)(NOTE-9)	SS1	SELECTOR SWITCH (MAIN/SUB)	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
C1R	CAPACITOR(M1F)	R1T	THERMISTOR(AIR)	RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)	SS1	SELECTOR SWITCH (MAIN/SUB)	
F1T	THERMAL FUSE(152V) (MIF EMBEDDED)(NOTE-8)	R2T-3T	THERMISTOR(COIL)	A2P	PRINTED CIRCUIT BOARD	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
F1U	FUSE(250V, 5A, Ⓟ) OR F10T 250V	RVF1-3	MAGNETIC RELAY(M1F)	A3P	PRINTED CIRCUIT BOARD	BS	PUSH BUTTON(ON/OFF) CONNECTOR FOR OPTIONAL PARTS
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	T1R	TRANSFORMER(220-240V/22V)	H1P	LIGHT EMISSION DIODE (ON-RED)	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
M1F	MOTOR(INDOOR FAN)	X1M	TERMINAL STRIP(POWER)	H2P	LIGHT EMISSION DIODE (TIMER-GREEN)	X23A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
L-RED	N-BLUE	Y1E	ELECTRONIC EXPANSION VALVE				

- NOTES) 1. □: TERMINAL ⊙: CONNECTOR —○—: WIRE CLAMP
 2. ---: FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
 5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
 IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 6. SYMBOLS SHOWS AS FOLLOWS,
 (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE)
 (BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
 7. USE COPPER CONDUCTORS ONLY.
 8. ONLY FXC63LVE.
 9. ONLY FXC20-25-32LVE.

3D034120A

FXC 40L / 50L / 80L / 125LVE

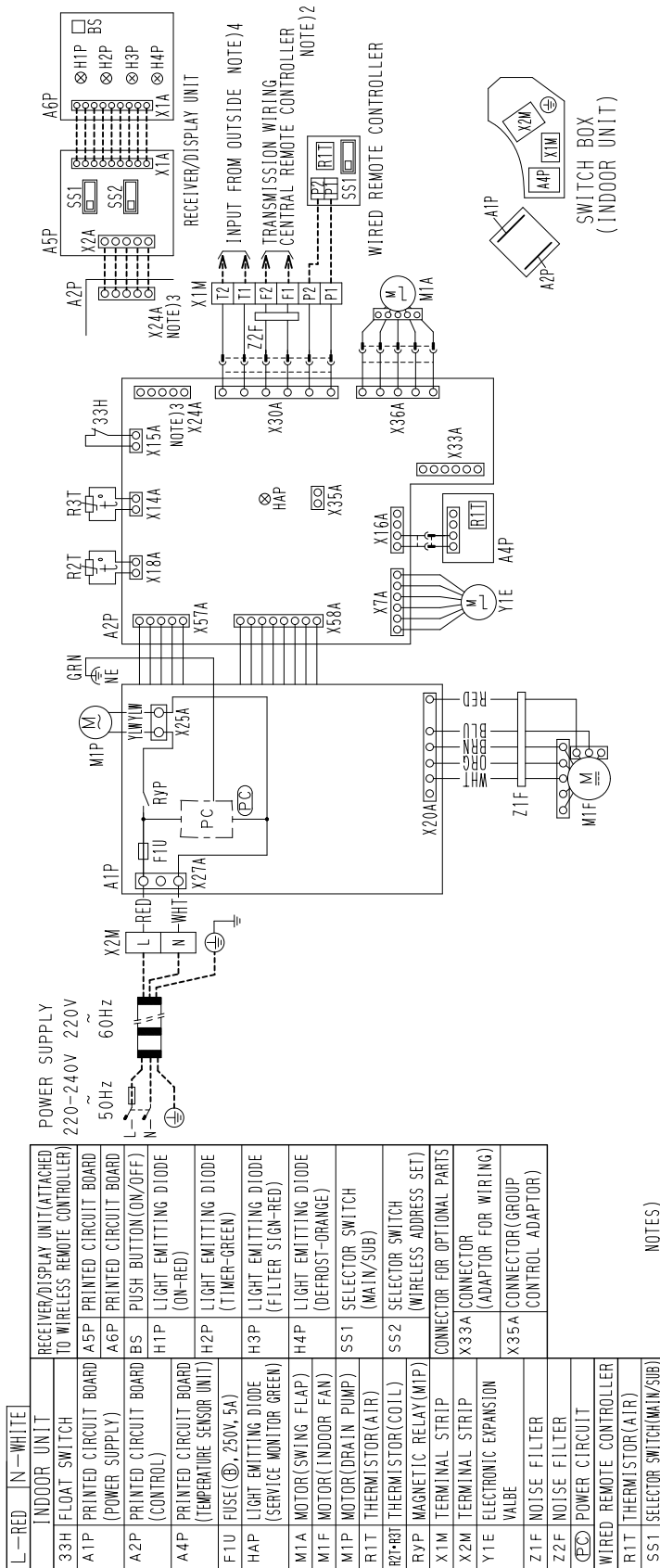


33H	FLOAT SWITCH	RYA	MAGNETIC RELAY(MIS)	H1P	LIGHT EMISSION DIODE (ON-RED)
33S	LIMIT SWITCH (SWING FLAP)	RyF1-3	MAGNETIC RELAY(M1F)	H2P	LIGHT EMISSION DIODE (TIMER-GREEN)
A1P	PRINTED CIRCUIT BOARD	T1R	TRANSFORMER(220-240V/22V)	H3P	LIGHT EMISSION DIODE (FILTER SIGN-RED)
C1R	CAPACITOR(M1F)	X2M	TERMINAL STRIP(CONTROL)	H4P	LIGHT EMISSION DIODE (DEFROST-ORANGE)
F1U	FUSE(152V) (M1F EMBEDDED)	Y1E	ELECTRONIC EXPANSION VALVE	SS1	SELECTOR SWITCH (MAIN/SUB)
F1U	FUSE(250V, 5A, ⊕) OR F10T 250V	R1T	THERMISTOR(AIR)	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	SS1	SELECTOR SWITCH (MAIN/SUB)	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
M1F	MOTOR(INDOOR FAN)	RECEIVER/DISPLAY UNIT ATTACHED TO WIRELESS REMOTE CONTROLLER		X18A	CONNECTOR FOR OPTIONAL PARTS
M1S	MOTOR (SWING FLAP)	A2P	PRINTED CIRCUIT BOARD	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
M1P	MOTOR(DRAIN PUMP)	A3P	PRINTED CIRCUIT BOARD	X23A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
R1T	THERMISTOR(AIR)	BS	PUSH BUTTON(ON/OFF)		
R2T-3T	THERMISTOR(COIL)				
L-RED	N-BLUE				

- NOTES) 1. : TERMINAL : CONNECTOR : WIRE CLAMP
2. - - - : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
6. SYMBOLS SHOWS AS FOLLOWS,
(Pnk:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE)
(BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
7. USE COPPER CONDUCTORS ONLY.

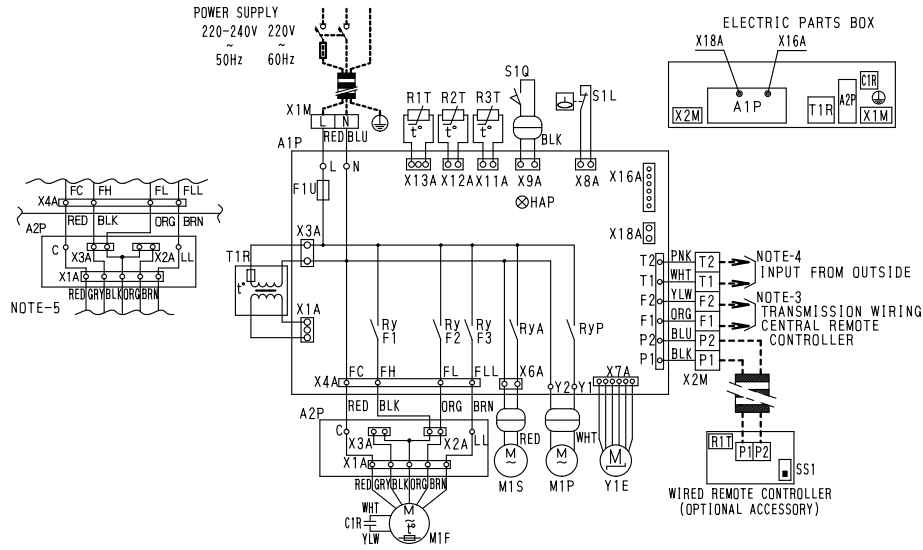
3D034121

FXF25L / 32L / 40L / 50L / 63L / 80L / 100L / 125LVE



3D03829A

FXK 25L / 32L / 40L / 63LVE

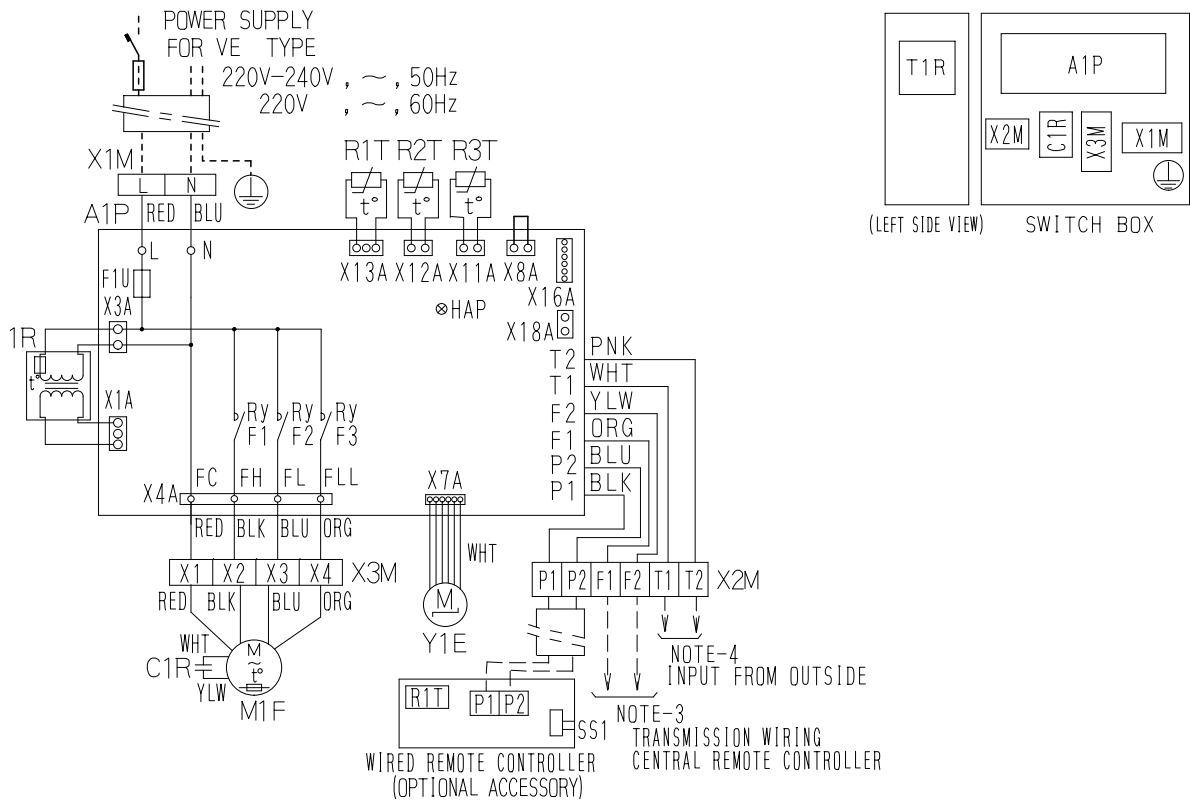


A1P	PRINTED CIRCUIT BOARD	RYA	MAGNETIC RELAY(M1S)
A2P	TERMINAL BOARD	RYF1-3	MAGNETIC RELAY(M1F)
C1R	CAPACITOR (M1F)	RYP	MAGNETIC RELAY(M1P)
F1T	THERMAL FUSE(105℃) (M1F EMBEDDED)	S1L	FLOAT SWITCH
F1U	FUSE(250V, 5A, Ⓟ) OR F5T 250V	T1R	TRANSFORMER(220-240V/22V)
		X1M	TERMINAL STRIP(POWER)
		X2M	TERMINAL STRIP(CONTROL)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	Y1E	ELECTRONIC EXPANSTION VALVE
M1F	MOTOR (INDOOR FAN)		WIRED REMOTE CONTROLLER
M1P	MOTOR (DRAIN PUMP)	R1T	THERMISTOR(AIR)
M1S	MOTOR (SWING FLAP)	SS1	SELECTOR SWITCH (MAIN/SUB)
R1T	THERMISTOR(AIR)		CONNECTOR FOR OPTIONAL PARTS
R2T·3T	THERMISTOR(COIL)	X16A	CONNECTOR(ADAPTOR FOR WIRING)
		X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)

- NOTES) 1. □□□□ : TERMINAL BLOCK, ⊞, ⊞, ⊞ : CONNECTOR, ○— : TERMINAL
 2. - - - - : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 5. IN CASE HIGH E.S.P. OPERATION, CHANGE OVER THE WIRING CONNECTION FROM X2A TO X3A.
 6. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN GRY:GRAY)
 7. USE COPPER CONDUCTORS ONLY.

3D035466

FXVD20KA / 25KA / 32KA / 40KA / 50KA / 63KAVE



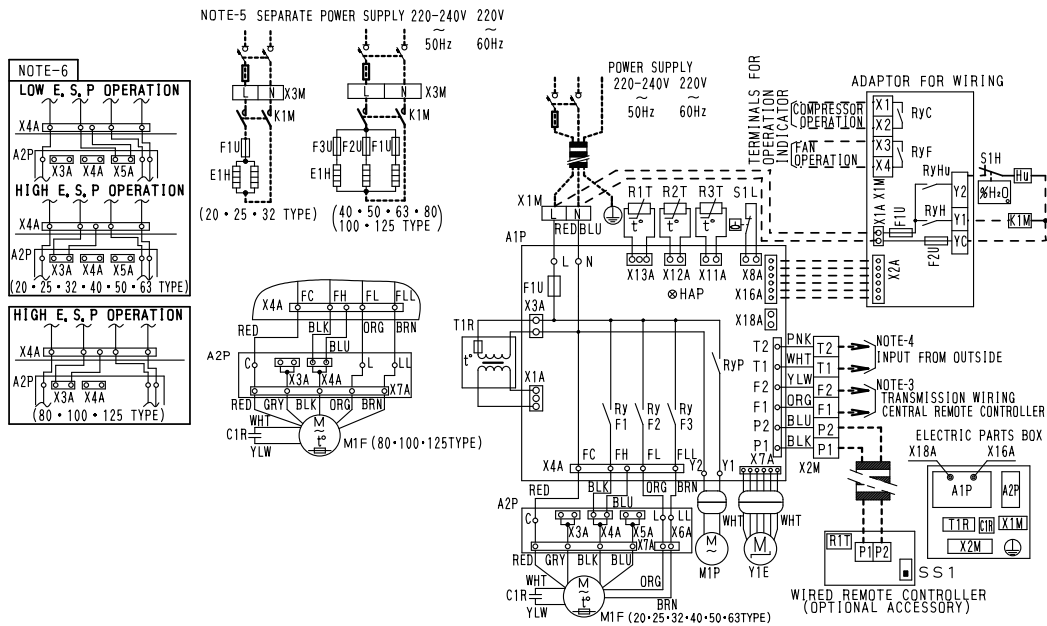
A1P	PRINTED CIRCUIT BOARD
C1R	CAPACITOR (M1F)
F1T	THERMAL FUSE (M1F EMBEDDED) (135±5°C:OFF, 95±15°C:ON)
F1U	FUSE (250V,10A)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)
M1F	MOTOR (INDOOR FAN)
R1T	THERMISTOR(AIR)
R2T·3T	THERMISTOR(COIL)
RyF1-3	MAGNETIC RELAY(M1F)
T1R	TRANSFORMER(220-240V/22V)
X1M	TERMINAL STRIP(POWER)
X2M	TERMINAL STRIP(CONTROL)
X3M	TERMINAL STRIP
Y1E	ELECTRONIC EXPANSION VALVE
CONNECTOR FOR OPTIONAL PARTS	
X16A	CONNECTOR(ADAPTOR FOR WIRING)
X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
WIRED REMOTE CONTROLLER	
R1T	THERMISTOR(AIR)
SS1	SELECTOR SWITCH(MAIN/SUB)
L-RED	N-BLUE

NOTES)

- | | | | | | |
|--|---|-----------|---|---|------------------|
| | : | TERMINAL | —○— | : | WIRE CLAMP |
| | : | CONNECTOR | <div style="position: absolute; top: -5px; left: 5px; width: 10px; height: 10px; border: 1px solid black;"></div> | : | JUMPER CONNECTOR |
- : FIELD WIRING
- IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
- WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER, IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
- SYMBOLS SHOW AS FOLLOWS,
(PNK:PINK WHT:WHITE YLW:YELLOW
ORG:ORANGE BLU:BLUE BLK:BLACK
RED:RED BRN:BROWN)
- USE COPPER CONDUCTORS ONLY.

3D024108A

FXS 20L / 25L / 32L / 40L / 50L / 63L / 80L / 100L / 125LVE

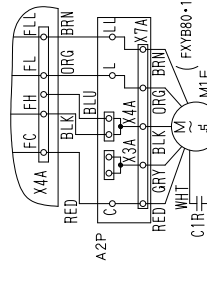
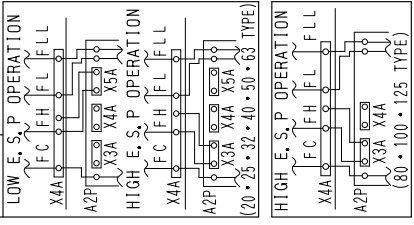
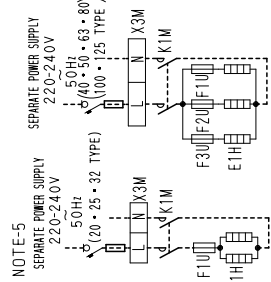
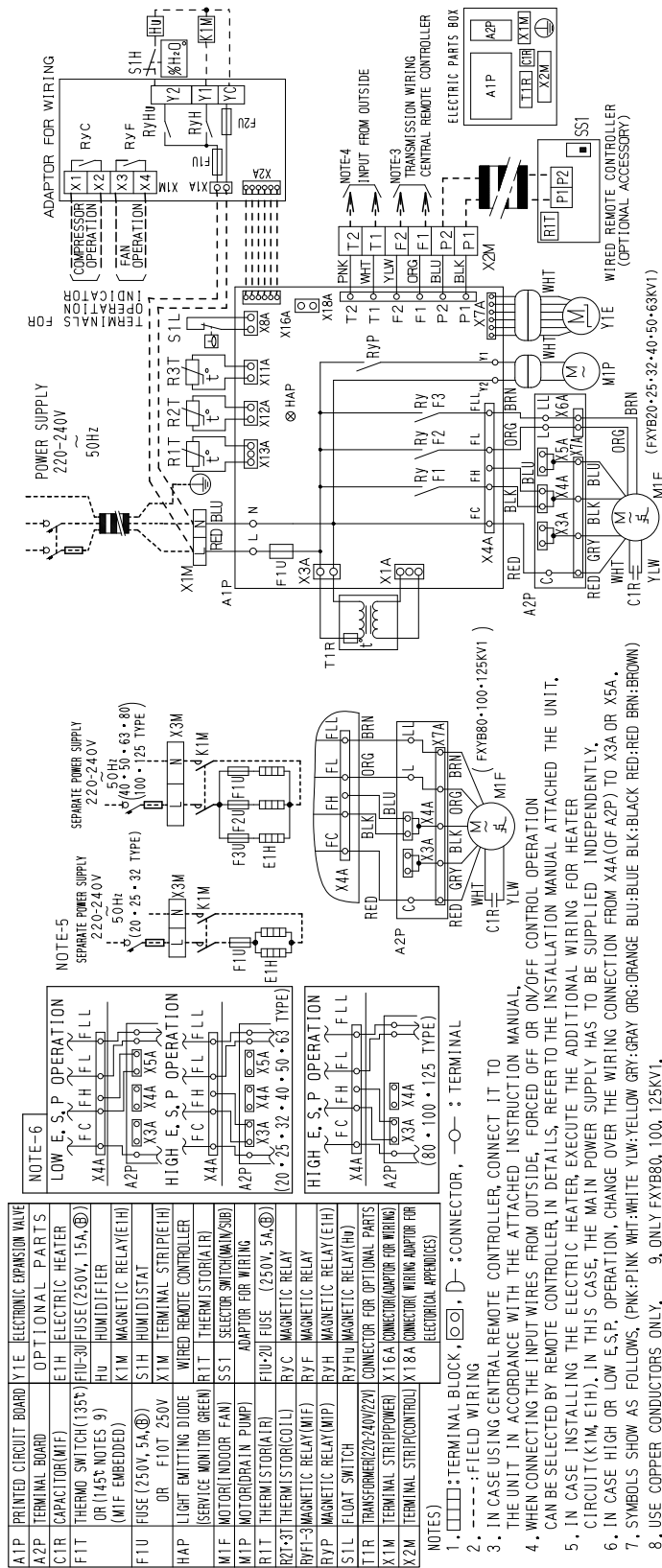


- NOTES)
1. [] : TERMINAL BLOCK, [] : CONNECTOR, -○- : TERMINAL
 2. --- : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER CIRCUIT(K1M, E1H). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
 6. IN CASE HIGH OR LOW E,S,P OPERATION, CHANGE OVER THE WIRING CONNECTION FROM X4A(OF A2P) TO X3A OR X5A.
 7. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRW:BROWN)
 8. USE COPPER CONDUCTORS ONLY.

A1P	PRINTED CIRCUIT BOARD	Y1E	ELECTRONIC EXPANSION VALVE
A2P	TERMINAL BOARD		OPTIONAL PARTS
C1R	CAPACITOR(M1F)	F1U-3U	FUSE(250V, 15A, Ⓞ)
F1T	THERMAL FUSE(152°C) (M1F EMBEDDED)	Hu	HUMIDIFIER
F1U	FUSE(250V, 10A, Ⓞ) OR F1OT 250V	E1H	ELECTRIC HEATER
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	K1M	MAGNETIC RELAY(E1H)
M1F	MOTOR(INDOOR FAN)	S1H	HUMIDISTAT
M1P	MOTOR(DRAIN PUMP)	X3M	TERMINAL STRIP(E1H)
R1T	THERMISTOR(A1R)		WIRED REMOTE CONTROLLER
R2T-3T	THERMISTOR(COIL)	R1T	THERMISTOR(A1R)
RVF1-3	MAGNETIC RELAY(M1F)	SS1	SELECTOR SWITCH(MAIN/SUB)
RVP	MAGNETIC RELAY(M1P)		ADAPTOR FOR WIRING
S1L	FLOAT SWITCH	F1U-2U	FUSE(250V, 5A, Ⓞ)
T1R	TRANSFORMER(220-240V/22V)	R1C	MAGNETIC RELAY
X1M	TERMINAL STRIP(POWER)	R1F	MAGNETIC RELAY
X2M	TERMINAL STRIP(CONTROL)	R1H	MAGNETIC RELAY(E1H)
		R1Hu	MAGNETIC RELAY(Hu)
		X16A	CONNECTOR(ADAPTOR FOR WIRING)
		X18A	CONNECTOR(ADAPTOR FOR WIRING)
		X18A	CONNECTOR(ADAPTOR FOR WIRING)
		X16A	CONNECTOR(ADAPTOR FOR WIRING)

3D035467

FXYB20K / 25K / 32K / 40K / 50K / 63KV / 80K / 100KV / 125KV1

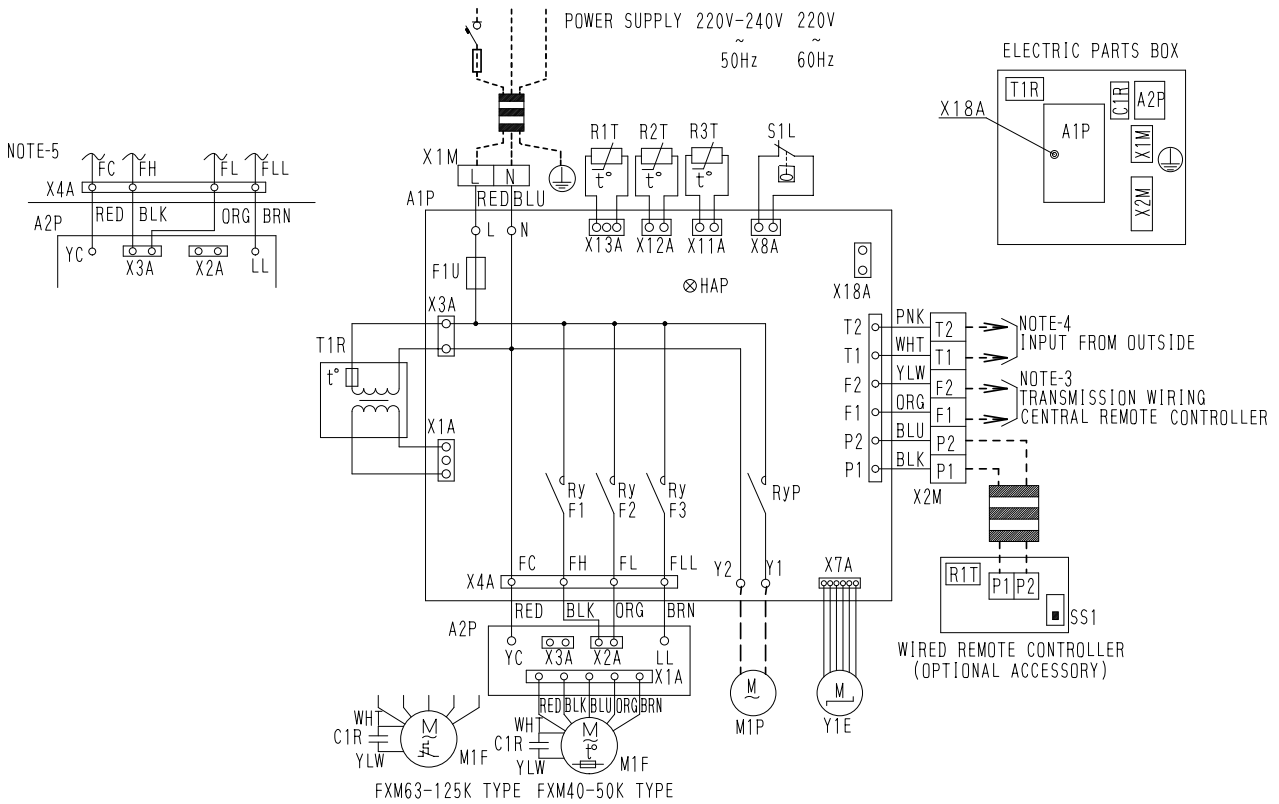


A1P	PRINTED CIRCUIT BOARD	Y1E	ELECTRONIC EXPANSION VALVE
A2P	TERMINAL BOARD	OPTIONAL PARTS	
C1R	CAPACITOR(MF)	ETH	ELECTRIC HEATER
F1T	THERMO SWITCH (135%)	F1U-F3U	FUSE (250V, 15A, ①)
	OR (145% NOTES 9)	HU	HUMIDIFIER
	(MIF EMBEDDED)	K1M	MAGNETIC RELAY(E1H)
F1U	FUSE (250V, 5A, ②)	S1H	HUMIDISTAT
	OR F1OT 250V	X1M	TERMINAL STRIP(E1H)
HAP	LIGHT EMITTING DIODE	W1R	WIRED REMOTE CONTROLLER
	(SERVICE MONITOR GREEN)	R1T	THERMISTOR(A1R)
M1F	MOTOR(INDOOR FAN)	SS1	SELECTOR SWITCH(A1V/S1B)
M1P	MOTOR(DRAIN PUMP)		
R1T	THERMISTOR(A1R)	F1U-20U	FUSE (250V, 5A, ③)
R2T-3T	THERMISTOR(C1L)	RYC	MAGNETIC RELAY
R1F	MAGNETIC RELAY(M1F)	RYF	MAGNETIC RELAY
R1P	MAGNETIC RELAY(M1P)	RYH	MAGNETIC RELAY(E1H)
S1L	FLOAT SWITCH	RYHU	MAGNETIC RELAY(HU)
T1R	TRANSFORMER(20/240V(22V))	X16A	CONNECTOR FOR OPTIONAL PARTS
X1M	TERMINAL STRIP(POWER)	X18A	CONNECTOR(ADAPTOR FOR WIRING)
X2M	TERMINAL STRIP(CONTROL)	X18A	CONNECTOR(ADAPTOR FOR WIRING)

- NOTES)
1. □ □ □ □ : TERMINAL BLOCK, □ □ □ □ : CONNECTOR, ○ ○ : TERMINAL
 2. - - - - : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER IN DETAILS. REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER CIRCUIT(K1M, ETH). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
 6. IN CASE HIGH OR LOW E.S.P. OPERATION, CHANGE OVER THE WIRING CONNECTION FROM X4A(OF A2P) TO X3A OR X5A.
 7. SYMBOLS SHOW AS FOLLOWS. (PNK:PINK WHI:WHITE YLW:YELLOW GRY:GRAY ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
 8. USE COPPER CONDUCTORS ONLY.
 9. ONLY FXYB80, 100, 125KV1.

3D037591C

FXM 40L / 50L / 63L / 80L / 100L / 125LVE



A 1 P	PRINTED CIRCUIT BOARD	R2T·3T	THERMISTOR(COIL)	CONNECTOR FOR OPTIONAL PARTS
A 2 P	TERMINAL BOARD	RyF1-3	MAGNETIC RELAY(M1F)	X 1 8 A
C 1 R	CAPACITOR(M1F)	RYP	MAGNETIC RELAY(M1P)	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
F 1 T	THERMAL FUSE(153℃) (M1F BUILT-IN ONLY40·50TYPE))	S 1 L	FLOAT SWITCH	
F 1 U	FUSE (250V, 10A, ⓑ) OR F 1 0 T 250V	T 1 R	TRANSFORMER(220-240V/22V)	
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X 1 M	TERMINAL STRIP(POWER)	
M 1 F	MOTOR(INDOOR FAN)	X 2 M	TERMINAL STRIP(CONTROL)	
Q 1 F	THERMO SWITCH (M1F BUILT-IN ONLY63-125TYPE)	Y 1 E	ELECTRONIC EXPANSION VALVE	
R 1 T	THERMISTOR(AIR)	SS 1	SELECTOR SWITCH (MAIN/SUB)	
		R 1 T	THERMISTOR(AIR)	

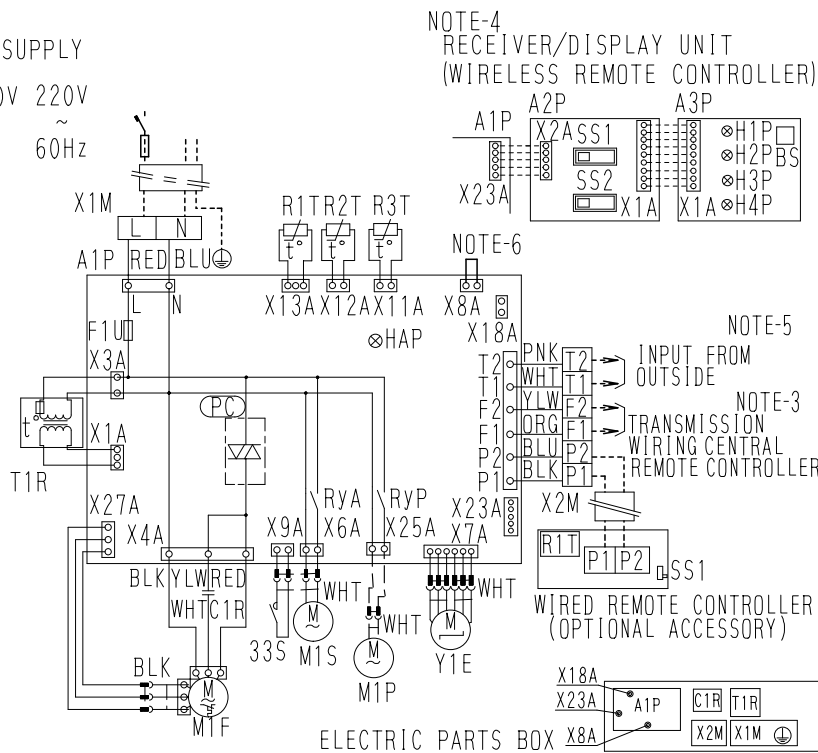
NOTES)

1. □□□□ : TERMINAL, □○□, ⓐ : CONNECTOR, —○— : WIRE CLAMP
2. - - - - : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
5. IN CASE HIGH E,S,P, OPERATION, CHANGE THE WIRING CONNECTION OF X2A AS SHOWN UPPER FIGURE.
6. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
7. USE COPPER CONDUCTORS ONLY.

3D034209A

FXH 32L / 63L / 100LVE

POWER SUPPLY
220-240V 220V
50Hz 60Hz



NOTE-4
RECEIVER/DISPLAY UNIT
(WIRELESS REMOTE CONTROLLER)

NOTE-5

NOTE-3
WIRING CENTRAL
REMOTE CONTROLLER

Wired Remote Controller
(Optional Accessory)

ELECTRIC PARTS BOX

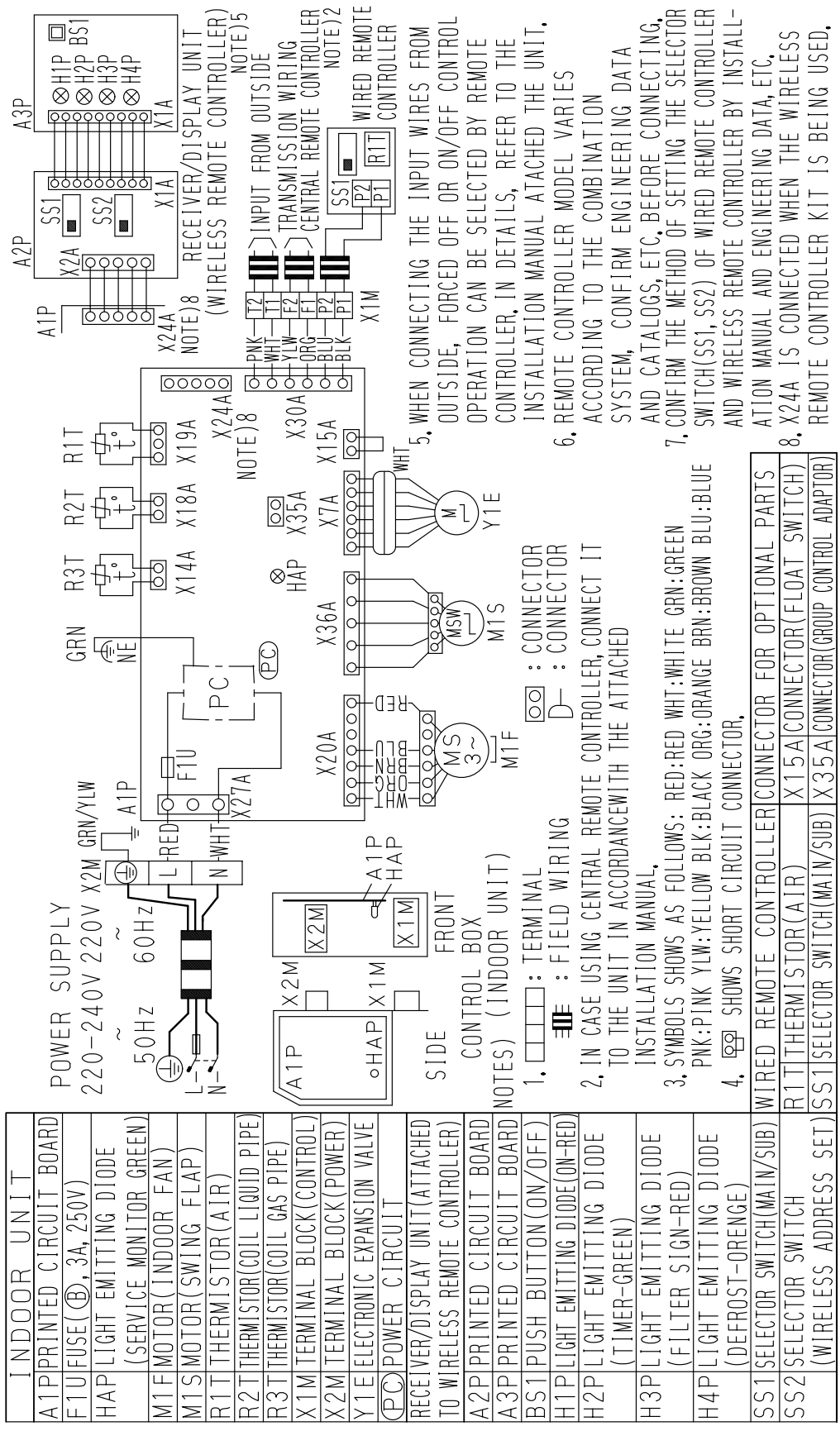
33S	LIMIT SWITCH (SWING FLAP)	H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
A1P	PRINTED CIRCUIT BOARD	H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
C1R	CAPACITOR (M1F)	SS1	SELECTOR SWITCH (MAIN/SUB)
F1U	FUSE(250V,5A)OR F10T 250V	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		CONNECTOR FOR OPTIONAL PARTS
M1F	MOTOR (INDOOR FAN)	X8A	CONNECTOR(FLOAT SWITCH)
M1S	MOTOR (SWING FLAP)	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
Q1F	THERMO SWITCH (M1F EMBEDDED)	X23A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
R1T	THERMISTOR (AIR)		
R2T	THERMISTOR (COIL LIQUID)		
R3T	THERMISTOR (COIL GAS)		
RYA	MAGNETIC RELAY (M1S)		
RYP	MAGNETIC RELAY (M1P)		
T1R	TRANSFORMER (220-240V/22V)		
X1M	TERMINAL STRIP (POWER)		
X2M	TERMINAL STRIP (CONTROL)		
Y1E	ELECTRONIC EXPANSION VALVE		
(PC)	PHASE CONTROL CIRCUIT		
	OPTIONAL PARTS		
M1P	MOTOR (DRAIN PUMP)		
	WIRED REMOTE CONTROLLER		
R1T	THERMISTOR (AIR)		
SS1	SELECTOR SWITCH(MAIN/SUB)		
	RECEIVER/DISPLAY UNIT(ATTACHED TO WIRELESS REMOTE CONTROLLER)		
A2P	PRINTED CIRCUIT BOARD		
A3P	PRINTED CIRCUIT BOARD		
BS	PUSH BUTTON (ON/OFF)		
H1P	LIGHT EMITTING DIODE (ON-RED)		
H2P	LIGHT EMITTING DIODE (TIMER-GREEN)		

NOTES)

1. : TERMINAL : CONNECTOR : CONNECTOR
 : WIRE CLAMP
2. ---- : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
6. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X8A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
7. SYMBOLS SHOW AS FOLLOWS.
 (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE)
 (BLU:BLUE BLK:BLACK RED:RED)
8. USE COPPER CONDUCTORS ONLY.

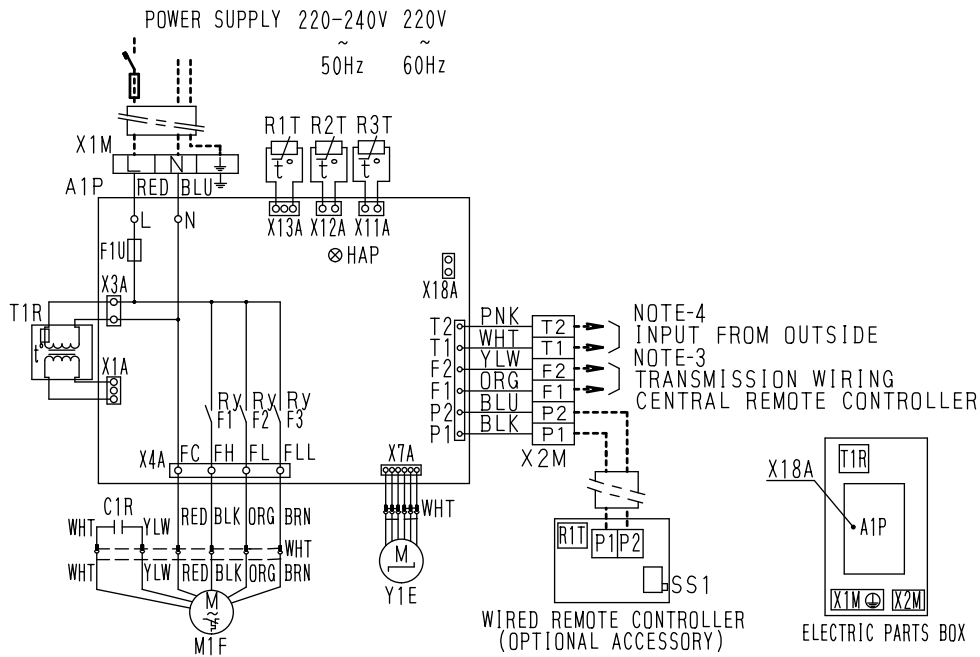
3D034052A

FXA20L / 25L / 32L / 40L / 50L / 63LVE



3D034206A

FXL 20L / 25L / 32L / 40L / 50L / 63LVE
FXN 20L / 25L / 32L / 40L / 50L / 63LVE



NOTES)

1. □□□□:TERMINAL, ⊙, ⊚:CONNECTOR, ○-○:WIRE CLAMP
2. ----:FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTIO MANUAL,
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER, IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT,
5. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
6. USE COPPER CONDUCTORS ONLY,

A1P	PRINTED CIRCUIT BOARD	X2M	TERMINAL STRIP(CONTROL)
C1R	CAPACITOR (M1F)	Y1E	ELECTRONIC EXPANSION VALVE
F1U	FUSE(250V,10A,Ⓟ) OR F10T 250V		WIRED REMOTE CONTROLLER
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		R1T THERMISTOR(AIR) SS1 SELECTOR SWITCH(MAIN/SUB)
M1F	MOTOR (INDOOR FAN)	X18A	CONNECTOR FOR OPTIONAL PARTS CONNECTOR/WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
Q1F	THERMO SWITCH (M1F EMBEDDED)		
R1T	THERMISTOR(AIR)		
R2T:3T	THERMISTOR(COIL)		
RVF1-3	MAGNETIC RELAY(M1F)		
T1R	TRANSFORMER(220-240V/22V)		
X1M	TERMINAL STRIP(POWER)		
	L-RED		N-BLU

3D034183A

3. Thermistor Resistance / Temperature Characteristics

Indoor unit	For air suction	R1T
	For liquid pipe	R2T
	For gas pipe	R3T
Outdoor unit	For outdoor air	R1T
	For suction pipe	R2T
	For heat exchanger	R4T
	For subcooling heat exchanger	R5T

			(kΩ)		
T°C	0.0	0.5	T°C	0.0	0.5
-20	197.81	192.08	30	16.10	15.76
-19	186.53	181.16	31	15.43	15.10
-18	175.97	170.94	32	14.79	14.48
-17	166.07	161.36	33	14.18	13.88
-16	156.80	152.38	34	13.59	13.31
-15	148.10	143.96	35	13.04	12.77
-14	139.94	136.05	36	12.51	12.25
-13	132.28	128.63	37	12.01	11.76
-12	125.09	121.66	38	11.52	11.29
-11	118.34	115.12	39	11.06	10.84
-10	111.99	108.96	40	10.63	10.41
-9	106.03	103.18	41	10.21	10.00
-8	100.41	97.73	42	9.81	9.61
-7	95.14	92.61	43	9.42	9.24
-6	90.17	87.79	44	9.06	8.88
-5	85.49	83.25	45	8.71	8.54
-4	81.08	78.97	46	8.37	8.21
-3	76.93	74.94	47	8.05	7.90
-2	73.01	71.14	48	7.75	7.60
-1	69.32	67.56	49	7.46	7.31
0	65.84	64.17	50	7.18	7.04
1	62.54	60.96	51	6.91	6.78
2	59.43	57.94	52	6.65	6.53
3	56.49	55.08	53	6.41	6.53
4	53.71	52.38	54	6.65	6.53
5	51.09	49.83	55	6.41	6.53
6	48.61	47.42	56	6.18	6.06
7	46.26	45.14	57	5.95	5.84
8	44.05	42.98	58	5.74	5.43
9	41.95	40.94	59	5.14	5.05
10	39.96	39.01	60	4.96	4.87
11	38.08	37.18	61	4.79	4.70
12	36.30	35.45	62	4.62	4.54
13	34.62	33.81	63	4.46	4.38
14	33.02	32.25	64	4.30	4.23
15	31.50	30.77	65	4.16	4.08
16	30.06	29.37	66	4.01	3.94
17	28.70	28.05	67	3.88	3.81
18	27.41	26.78	68	3.75	3.68
19	26.18	25.59	69	3.62	3.56
20	25.01	24.45	70	3.50	3.44
21	23.91	23.37	71	3.38	3.32
22	22.85	22.35	72	3.27	3.21
23	21.85	21.37	73	3.16	3.11
24	20.90	20.45	74	3.06	3.01
25	20.00	19.56	75	2.96	2.91
26	19.14	18.73	76	2.86	2.82
27	18.32	17.93	77	2.77	2.72
28	17.54	17.17	78	2.68	2.64
29	16.80	16.45	79	2.60	2.55
30	16.10	15.76	80	2.51	2.47

53	6.41	6.29
54	6.17	6.06
55	5.95	5.84
56	5.74	5.63
57	5.53	5.43
58	5.33	5.24

**Outdoor Unit
Thermistors for
Discharge Pipe
(R3T)**

						(kΩ)		
T°C	0.0	0.5	T°C	0.0	0.5	T°C	0.0	0.5
0	640.44	624.65	50	72.32	70.96	100	13.35	13.15
1	609.31	594.43	51	69.64	68.34	101	12.95	12.76
2	579.96	565.78	52	67.06	65.82	102	12.57	12.38
3	552.00	538.63	53	64.60	63.41	103	12.20	12.01
4	525.63	512.97	54	62.24	61.09	104	11.84	11.66
5	500.66	488.67	55	59.97	58.87	105	11.49	11.32
6	477.01	465.65	56	57.80	56.75	106	11.15	10.99
7	454.60	443.84	57	55.72	54.70	107	10.83	10.67
8	433.37	423.17	58	53.72	52.84	108	10.52	10.36
9	413.24	403.57	59	51.98	50.96	109	10.21	10.06
10	394.16	384.98	60	49.96	49.06	110	9.92	9.78
11	376.05	367.35	61	48.19	47.33	111	9.64	9.50
12	358.88	350.62	62	46.49	45.67	112	9.36	9.23
13	342.58	334.74	63	44.86	44.07	113	9.10	8.97
14	327.10	319.66	64	43.30	42.54	114	8.84	8.71
15	312.41	305.33	65	41.79	41.06	115	8.59	8.47
16	298.45	291.73	66	40.35	39.65	116	8.35	8.23
17	285.18	278.80	67	38.96	38.29	117	8.12	8.01
18	272.58	266.51	68	37.63	36.98	118	7.89	7.78
19	260.60	254.72	69	36.34	35.72	119	7.68	7.57
20	249.00	243.61	70	35.11	34.51	120	7.47	7.36
21	238.36	233.14	71	33.92	33.35	121	7.26	7.16
22	228.05	223.08	72	32.78	32.23	122	7.06	6.97
23	218.24	213.51	73	31.69	31.15	123	6.87	6.78
24	208.90	204.39	74	30.63	30.12	124	6.69	6.59
25	200.00	195.71	75	29.61	29.12	125	6.51	6.42
26	191.53	187.44	76	28.64	28.16	126	6.33	6.25
27	183.46	179.57	77	27.69	27.24	127	6.16	6.08
28	175.77	172.06	78	26.79	26.35	128	6.00	5.92
29	168.44	164.90	79	25.91	25.49	129	5.84	5.76
30	161.45	158.08	80	25.07	24.66	130	5.69	5.61
31	154.79	151.57	81	24.26	23.87	131	5.54	5.46
32	148.43	145.37	82	23.48	23.10	132	5.39	5.32
33	142.37	139.44	83	22.73	22.36	133	5.25	5.18
34	136.59	133.79	84	22.01	21.65	134	5.12	5.05
35	131.06	128.39	85	21.31	20.97	135	4.98	4.92
36	125.79	123.24	86	20.63	20.31	136	4.86	4.79
37	120.76	118.32	87	19.98	19.67	137	4.73	4.67
38	115.95	113.62	88	19.36	19.05	138	4.61	4.55
39	111.35	109.13	89	18.75	18.46	139	4.49	4.44
40	106.96	104.84	90	18.17	17.89	140	4.38	4.32
41	102.76	100.73	91	17.61	17.34	141	4.27	4.22
42	98.75	96.81	92	17.07	16.80	142	4.16	4.11
43	94.92	93.06	93	16.54	16.29	143	4.06	4.01
44	91.25	89.47	94	16.04	15.79	144	3.96	3.91
45	87.74	86.04	95	15.55	15.31	145	3.86	3.81
46	84.38	82.75	96	15.08	14.85	146	3.76	3.72
47	81.16	79.61	97	14.62	14.40	147	3.67	3.62
48	78.09	76.60	98	14.18	13.97	148	3.58	3.54
49	75.14	73.71	99	13.76	13.55	149	3.49	3.45
50	72.32	70.96	100	13.35	13.15	150	3.41	3.37

4. Pressure Sensor

High Pressure $P_H = (V_H - 0.5) \times 0.98$

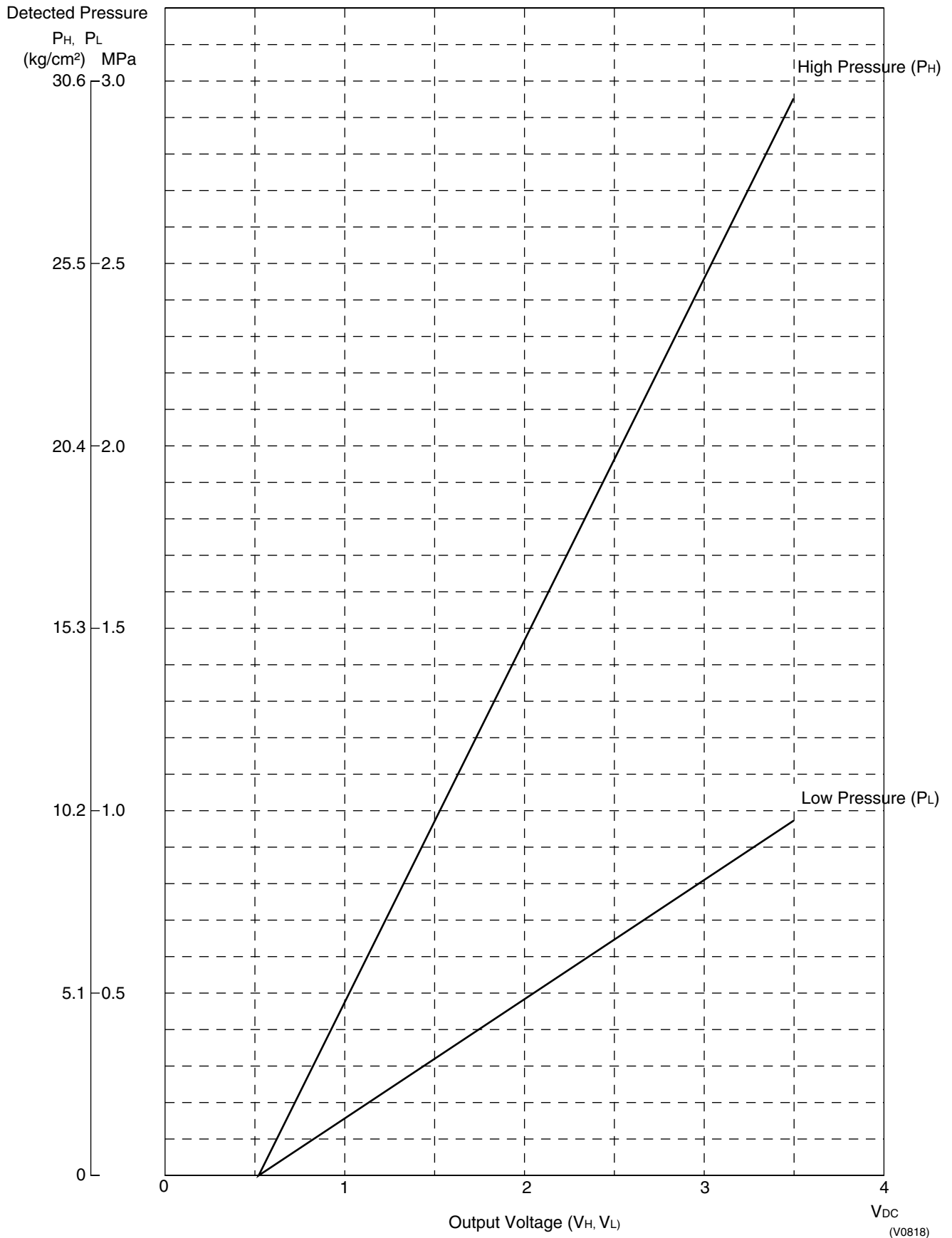
Low Pressure $P_L = (V_L - 0.5) \times \frac{0.98}{3}$

P_H : Detected Pressure [High Side] MPa

P_L : Detected Pressure [Low Side] MPa

V_H : Output Voltage [High Side] V_{DC}

V_L : Output Voltage [Low Side] V_{DC}



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