DAIKIN

SiBE121135

Service Manual

SUPER MULTI NX

E / F / G / K-Series

[Applied Models]

- **Inverter Multi : Cooling Only**
- **Inverter Multi : Heat Pump**

SUPER MULTI NX
E-Series
F-Series
G-Series
K-Series

●Cooling Only

Outdoor Unit

3MKS50E3V1B	4MKS58E3V1B	4MKS75F2V1B	5MKS90E2V3B

Indoor Unit

FTXS25J2V1B	FFQ25B9V1B	FHQ35BWV1B	FDBQ25B8V1
FTXS35J2V1B	FFQ35B9V1B	FHQ50BWV1B	FBQ35C8VEB
FTXS42J2V1B	FFQ50B9V1B	FHQ60BWV1B	FBQ50C8VEB
FTXS50J2V1B	FFQ60B9V1B		FBQ60C8VEB
FTXS60GV1B			
FTXS71GV1B			

●Heat Pump

Outdoor Unit

3MXS40K2V1B	3MXS68G2V1B	4MXS80E2V3B
3MXS52E3V1B	4MXS68F2V1B	5MXS90E2V3B

Indoor Unit

FTXG25JV1BW	FVXG25K2V1B	FCQG35FVEB
FTXG25JV1BA	FVXG35K2V1B	FCQG50FVEB
FTXG35JV1BW	FVXG50K2V1B	FCQG60FVEB
FTXG35JV1BA	FVXS25FV1B	FFQ25B9V1B
FTXG50JV1BW	FVXS35FV1B	FFQ35B9V1B
FTXG50JV1BA	FVXS50FV1B	FFQ50B9V1B
CTXS15K2V1B	FLXS25BAVMB	FFQ60B9V1B
FTXS20K2V1B	FLXS35BAVMB	FHQ35BWV1B
FTXS25K2V1B	FLXS50BAVMB	FHQ50BWV1B
CTXS35K2V1B	FLXS60BAVMB	FHQ60BWV1B
FTXS25J2V1B	FDXS25E7VMB	FDBQ25B8V1
FTXS35J2V1B	FDXS35E7VMB	FBQ35C8VEB
FTXS42J2V1B	FDXS50C7VMB	FBQ50C8VEB
FTXS50J2V1B	FDXS60C7VMB	FBQ60C8VEB
FTXS60GV1B		
FTXS71GV1B		

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 the item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.

◯ This symbol indicates the prohibited action.
The prohibited item or action is shown in the illustration or near the symbol.

● This symbol indicates the action that must be taken, or the instruction.
The instruction is shown in the illustration 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 Cautions Regarding Safety of Workers

⚠ Warning	
Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for repair. Working on the equipment that is connected to the power supply may 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.	
If the refrigerant gas is discharged during the repair work, do not touch the discharged refrigerant gas. The refrigerant gas may cause frostbite.	
When disconnecting the suction or discharge pipe of the compressor at the welded section, evacuate the refrigerant gas completely at a well-ventilated place first. If there is gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it may cause injury.	
If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas may generate toxic gases when it contacts flames.	
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 may cause an electrical shock.	
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 may cause an electrical shock or fire.	

Warning	
Be sure to wear a safety helmet, gloves, and a safety belt when working at a high place (more than 2 m). Insufficient safety measures may cause a fall accident.	
In case of R-410A refrigerant models, be sure to use pipes, flare nuts and tools for the exclusive use of the R-410A refrigerant. The use of materials for R-22 refrigerant models may cause a serious accident such as a damage of refrigerant cycle as well as an equipment failure.	

Caution	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands may cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water may 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 may cause injury.	
Be sure to conduct repair work with appropriate tools. The use of inappropriate tools may cause injury.	
Be sure to check that the refrigerating cycle section has cooled down enough before conducting repair work. Working on the unit when the refrigerating cycle section is hot may cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room may cause oxygen deficiency.	

1.1.2 Cautions Regarding Safety of Users

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 may cause an electrical shock, excessive heat generation or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires may 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 may cause an electrical shock, excessive heat generation or fire.	
Be sure to use an exclusive power circuit for the equipment, and follow the local 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 may cause an electrical shock or fire.	
Be sure to use the specified cable for wiring 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 may cause excessive heat generation or fire.	
When wiring 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 may cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable may cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable may damage the cable.	
Do not mix air or gas other than the specified refrigerant (R-410A / R-22) 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 leaking point and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leaking point 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 may generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
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 may fall and cause injury.	

Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet securely. If the plug has dust or loose connection, it may cause an electrical shock or fire.	
Be sure to install the product correctly by using the provided standard installation frame. Incorrect use of the installation frame and improper installation may cause the equipment to fall, resulting in injury.	For unitary type only 
Be sure to install the product securely in the installation frame mounted on the window frame. If the unit is not securely mounted, it may fall and cause injury.	For unitary type only 
When replacing the coin battery in the remote controller, be sure to dispose 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 the combustible gas leaks and remains around the unit, it may cause a fire.	
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 may cause excessive heat generation, fire or an electrical shock.	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame may cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding may cause an electrical shock.	

Caution	
Be sure to measure the insulation resistance after the repair, and make sure that the resistance is 1 MΩ or higher. Faulty insulation may cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage may cause the water to enter the room and wet the furniture and floor.	
Do not tilt the unit when removing it. The water inside the unit may spill and wet the furniture and floor.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water may enter the room and wet the furniture and floor.	For unitary type only 

1.2 Used 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:

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, loose 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.

Part 1
List of Functions

1. Cooling Only

1.1 Outdoor Unit

Category	Functions	3MKS50E3V1B, 4MKS58E3V1B 4MKS75F2V1B	5MKS90E2V3B	Category	Functions	3MKS50E3V1B, 4MKS58E3V1B 4MKS75F2V1B	5MKS90E2V3B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	–10 ~46	10 ~46		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	●	●				
	Standby Electricity Saving	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
Compressor	Oval Scroll Compressor	—	—				
	Swing Compressor	●	●		Air Filter (Prefilter)	—	—
	Rotary Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Reluctance DC Motor	●	●		Washable Grille	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Dual Flaps	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Diffuser	—	—	Timer	WEEKLY TIMER Operation	—	—
	Wide-Angle Louvers	—	—		24-Hour ON/OFF TIMER	—	—
	Vertical Auto-Swing (Up and Down)	—	—		NIGHT SET Mode	—	—
	Horizontal Auto-Swing (Right and Left)	—	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	—	—
	3-D Airflow	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	COMFORT AIRFLOW Operation	—	—		Wiring Error Check Function	●	●
Comfort Control	Auto Fan Speed	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	●	●
	Indoor Unit Quiet Operation	—	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	—	—
	NIGHT QUIET Mode (Automatic)	●	●		H/P, C/O Compatible Indoor Unit	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		Flexible Power Supply Correspondence	—	—
	2-Area INTELLIGENT EYE Operation	—	—		High Ceiling Application	—	—
	INTELLIGENT EYE Operation	—	—		Chargeless	●	65 m
	Quick Warming Function (Preheating Operation)	—	—		Either Side Drain (Right or Left)	—	—
	Hot-Start Function	—	—		Power Selection	—	—
	Automatic Defrosting	—	—	Remote Control	5-Room Centralized Controller (Option)	—	—
Operation	Automatic Operation	—	—				
	Program Dry Operation	—	—		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
	Fan Only	—	—				
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
	Inverter POWERFUL Operation	—	—		DIII-NET Compatible (Adaptor) (Option)	—	—
	Priority-Room Setting	●	●	Remote Controller	Wireless (Option)	—	—
	COOL / HEAT Mode Lock	—	—		Wired	—	—
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	—	—				
	Signal Receiving Sign	—	—				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

1.2 Indoor Unit

Category	Functions	FTXS25/35/42/50J2V1B	FTXS60/71GV1B	Category	Functions	FTXS25/35/42/50J2V1B	FTXS60/71GV1B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—				
	Standby Electricity Saving	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	●	●
Compressor	Oval Scroll Compressor	—	—				
	Swing Compressor	—	—		Air Filter (Prefilter)	●	●
	Rotary Compressor	—	—		Wipe-Clean Flat Panel	●	●
	Reluctance DC Motor	—	—		Washable Grille	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Dual Flaps	●	●		Good-Sleep Cooling Operation	—	—
	Power-Airflow Diffuser	—	—	Timer	WEEKLY TIMER Operation	●	●
	Wide-Angle Louvers	●	●		24-Hour ON/OFF TIMER	●	●
	Vertical Auto-Swing (Up and Down)	●	●		NIGHT SET Mode	●	●
	Horizontal Auto-Swing (Right and Left)	●	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	3-D Airflow	●	●		Self-Diagnosis (Digital, LED) Display	●	●
	COMFORT AIRFLOW Operation	●	●		Wiring Error Check Function	—	—
Comfort Control	Auto Fan Speed	●	●		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
	Indoor Unit Quiet Operation	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	NIGHT QUIET Mode (Automatic)	—	—		H/P, C/O Compatible Indoor Unit	●	●
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		Flexible Power Supply Correspondence	—	—
	2-Area INTELLIGENT EYE Operation	●	—		High Ceiling Application	—	—
	INTELLIGENT EYE Operation	—	●		Chargeless	—	—
	Quick Warming Function (Preheating Operation)	—	—		Either Side Drain (Right or Left)	●	●
	Hot-Start Function	—	—		Power Selection	—	—
	Automatic Defrosting	—	—	Remote Control	5-Room Centralized Controller (Option)	●	●
Operation	Automatic Operation	—	—		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●	●
	Program Dry Operation	●	●				
	Fan Only	●	●		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	Inverter POWERFUL Operation	●	●	Remote Controller	Wireless	●	●
	Priority-Room Setting	—	—		Wired (Option)	●	●
	COOL / HEAT Mode Lock	—	—				
	HOME LEAVE Operation	—	—				
	ECONO Operation	●	●				
	Indoor Unit [ON/OFF] Button	●	●				
	Signal Receiving Sign	●	●				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

Category	Functions	FFQ25/35/50/60B9V1B	Category	Functions	FFQ25/35/50/60B9V1B
Basic Function	Inverter (with Inverter Power Control)	●	Health & Clean	Air-Purifying Filter	—
	Operation Limit for Cooling (°CDB)	—		Photocatalytic Deodorizing Filter	—
	Operation Limit for Heating (°CWB)	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—
	PAM Control	—			
	Standby Electricity Saving	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—
Compressor	Oval Scroll Compressor	—			
	Swing Compressor	—		Longlife Filter	●
	Rotary Compressor	—		Wipe-Clean Flat Panel	—
	Reluctance DC Motor	—		Washable Grille	●
Comfortable Airflow	Power-Airflow Flap	—		Filter Cleaning Indicator	●
	Power-Airflow Dual Flaps	—		Self-Cleaning Decoration Panel (Option)	—
	Power-Airflow Diffuser	—		MOLD PROOF Operation	—
	Wide-Angle Louvers	—		Good-Sleep Cooling Operation	—
	Vertical Auto-Swing (Up and Down)	●	Timer	Schedule Timer Operation	● ★2
	Horizontal Auto-Swing (Right and Left)	—		72-Hour ON/OFF TIMER	● ★1
	3-D Airflow	—		NIGHT SET Mode	—
	COMFORT AIRFLOW Operation	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●
Comfort Control	Auto Fan Speed	—		Self-Diagnosis (Digital, LED) Display	●
	Indoor Unit Quiet Operation	—		Wiring Error Check Function	—
	NIGHT QUIET Mode (Automatic)	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—
	OUTDOOR UNIT QUIET Operation (Manual)	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●
	2-Area INTELLIGENT EYE Operation	—		H/P, C/O Compatible Indoor Unit	●
	INTELLIGENT EYE Operation	—		Flexible Power Supply Correspondence	—
	Quick Warming Function (Preheating Operation)	—		High Ceiling Application	—
	Hot-Start Function	—		Chargeless	—
	Automatic Defrosting	—		Either Side Drain (Right or Left)	—
Operation	Automatic Operation	—		Power Selection	—
	Program Dry Operation	●	Remote Control	5-Room Centralized Controller (Option)	—
	Fan Only	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—			
	Inverter POWERFUL Operation	—		Remote Control Adaptor (Normal Open Contact) (Option)	—
	Priority-Room Setting	—		DIII-NET Compatible (Adaptor) (Option)	●
	COOL / HEAT Mode Lock	—	Remote Controller	Wireless (Option)	●
	HOME LEAVE Operation	—		Wired (Option)	●
	ECONO Operation	—			
	Indoor Unit [ON/OFF] Button	● ★1			
	Signal Receiving Sign	● ★1			
	Temperature Display	—			

Note: ● : Holding Functions
— : No Functions
★1: with wireless remote controller
★2: with wired remote controller

Category	Functions	FHQ35/50/60BWV1B	FDBQ25B8V1 FBQ35/50/60C8VEB	Category	Functions	FHQ35/50/60BWV1B	FDBQ25B8V1 FBQ35/50/60C8VEB
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—				
	Standby Electricity Saving	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
Compressor	Oval Scroll Compressor	—	—				
	Swing Compressor	—	—		Longlife Filter	●	●
	Rotary Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Reluctance DC Motor	—	—		Washable Grille	●	—
Comfortable Airflow	Power-Airflow Flap	—	—		Filter Cleaning Indicator	●	●
	Power-Airflow Dual Flaps	—	—		Self-Cleaning Decoration Panel (Option)	—	—
	Power-Airflow Diffuser	—	—		MOLD PROOF Operation	—	—
	Wide-Angle Louvers	—	—		Good-Sleep Cooling Operation	—	—
	Vertical Auto-Swing (Up and Down)	●	—	Timer	Schedule Timer Operation	● ★2	● ★2
	Horizontal Auto-Swing (Right and Left)	—	—		72-Hour ON/OFF TIMER	● ★1	—
	3-D Airflow	—	—		NIGHT SET Mode	—	—
	COMFORT AIRFLOW Operation	—	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
Comfort Control	Auto Fan Speed	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	Indoor Unit Quiet Operation	—	—		Wiring Error Check Function	—	—
	NIGHT QUIET Mode (Automatic)	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	—	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	2-Area INTELLIGENT EYE Operation	—	—		H/P, C/O Compatible Indoor Unit	●	●
	INTELLIGENT EYE Operation	—	—		Flexible Power Supply Correspondence	—	—
	Quick Warming Function (Preheating Operation)	—	—		High Ceiling Application	●	—
	Hot-Start Function	—	—		Chargeless	—	—
	Automatic Defrosting	—	—		Either Side Drain (Right or Left)	—	—
Operation	Automatic Operation	—	—		Power Selection	—	—
	Program Dry Operation	●	●	Remote Control	5-Room Centralized Controller (Option)	—	—
	Fan Only	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—				
	Inverter POWERFUL Operation	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
	Priority-Room Setting	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	COOL / HEAT Mode Lock	—	—	Remote Controller	Wireless (Option)	●	—
	HOME LEAVE Operation	—	—		Wired (Option)	●	●
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	● ★1	—				
	Signal Receiving Sign	● ★1	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions
★1: with wireless remote controller
★2: with wired remote controller

2. Heat Pump

2.1 Outdoor Unit

Category	Functions	3MXS40K2V1B, 3MXS52E3V1B 3MXS68G2V1B, 4MXS68F2V1B	4MXS80E2V3B, 5MXS90E2V3B	Category	Functions	3MXS40K2V1B, 3MXS52E3V1B 3MXS68G2V1B, 4MXS68F2V1B	4MXS80E2V3B, 5MXS90E2V3B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	–10 ~46	–10 ~46		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	–15 ~15.5	–15 ~15.5		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	●	●		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	—	—
	Swing Compressor	●	●		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	●	●		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	—	—	Timer	WEEKLY TIMER Operation	—	—
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	—	—
	Wide-Angle Louvers	—	—		NIGHT SET Mode	—	—
	Vertical Auto-Swing (Up and Down)	—	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	—	—
	Horizontal Auto-Swing (Right and Left)	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	3-D Airflow	—	—		Wiring Error Check Function	●	●
	COMFORT AIRFLOW Operation	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	●	●
Comfort Control	Auto Fan Speed	—	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	—	—
	Indoor Unit Quiet Operation	—	—		H/P, C/O Compatible Indoor Unit	—	—
	NIGHT QUIET Mode (Automatic)	●	●		Flexible Power Supply Correspondence	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		High Ceiling Application	—	—
	2-Area INTELLIGENT EYE Operation	—	—		Chargeless	30 m	30 m
	INTELLIGENT EYE Operation	—	—		Either Side Drain (Right or Left)	—	—
	Quick Warming Function (Preheating Operation)	●	●		Power Selection	—	—
	Hot-Start Function	—	—	Remote Control	5-Room Centralized Controller (Option)	—	—
	Automatic Defrosting	●	●				
Operation	Automatic Operation	—	—		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
	Program Dry Operation	—	—				
	Fan Only	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—				
	Inverter POWERFUL Operation	—	—		DIII-NET Compatible (Adaptor) (Option)	—	—
	Priority-Room Setting	●	●	Remote Controller	Wireless (Option)	—	—
	COOL / HEAT Mode Lock	●	●		Wired	—	—
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	—	—				
	Signal Receiving Sign	—	—				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

2.2 Indoor Unit

Category	Functions	FTXG25/35/50JV1BW(A)	Category	Functions	FTXG25/35/50JV1BW(A)
Basic Function	Inverter (with Inverter Power Control)	●	Health & Clean	Air-Purifying Filter	—
	Operation Limit for Cooling (°CDB)	—		Photocatalytic Deodorizing Filter	—
	Operation Limit for Heating (°CWB)	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—
	PAM Control	—		Titanium Apatite Photocatalytic Air-Purifying Filter	●
	Standby Electricity Saving	—			
Compressor	Oval Scroll Compressor	—		Air Filter (Prefilter)	●
	Swing Compressor	—		Wipe-Clean Flat Panel	●
	Rotary Compressor	—		Washable Grille	—
	Reluctance DC Motor	—		MOLD PROOF Operation	—
Comfortable Airflow	Power-Airflow Flap	—		Good-Sleep Cooling Operation	—
	Power-Airflow Dual Flaps	●	Timer	WEEKLY TIMER Operation	●
	Power-Airflow Diffuser	—		24-Hour ON/OFF TIMER	●
	Wide-Angle Louvers	●		NIGHT SET Mode	●
	Vertical Auto-Swing (Up and Down)	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●
	Horizontal Auto-Swing (Right and Left)	—		Self-Diagnosis (Digital, LED) Display	●
	3-D Airflow	—		Wiring Error Check Function	—
	COMFORT AIRFLOW Operation	●		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—
Comfort Control	Auto Fan Speed	●			
	Indoor Unit Quiet Operation	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●
	NIGHT QUIET Mode (Automatic)	—			
	OUTDOOR UNIT QUIET Operation (Manual)	●		H/P, C/O Compatible Indoor Unit	—
	INTELLIGENT EYE Operation	●		Flexible Power Supply Correspondence	—
	2-Area INTELLIGENT EYE Operation	—		High Ceiling Application	—
	Quick Warming Function (Preheating Operation)	—		Chargeless	—
	Hot-Start Function	●		Either Side Drain (Right or Left)	●
	Automatic Defrosting	—		Power Selection	—
Operation	Automatic Operation	●	Remote Control	5-Room Centralized Controller (Option)	●
	Program Dry Operation	●			
	Fan Only	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—		Remote Control Adaptor (Normal Open Contact) (Option)	●
	Inverter POWERFUL Operation	●		DIII-NET Compatible (Adaptor) (Option)	●
	Priority-Room Setting	—	Remote Controller	Wireless	●
	COOL / HEAT Mode Lock	—		Wired (Option)	●
	HOME LEAVE Operation	—			
	ECONO Operation	●			
	Indoor Unit [ON/OFF] Button	●			
	Signal Receiving Sign	●			
	Multi-Colored Indicator Lamp (Multi-Monitor Lamp)	●			
	R/C with Back Light	●			
	Temperature Display	—			

Note: ● : Holding Functions
— : No Functions

Category	Functions	FTXS20/25K2V1B	CTXS15/35K2V1B	Category	Functions	FTXS20/25K2V1B	CTXS15/35K2V1B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	●	●
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	●	●
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	—	—		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	●	●		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	—	—	Timer	WEEKLY TIMER Operation	●	●
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	●	●
	Wide-Angle Louvers	●	●		NIGHT SET Mode	●	●
	Vertical Auto-Swing (Up and Down)	●	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	Horizontal Auto-Swing (Right and Left)	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	3-D Airflow	—	—		Wiring Error Check Function	—	—
	COMFORT AIRFLOW Operation	●	●		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
Comfort Control	Auto Fan Speed	●	●				
	Indoor Unit Quiet Operation	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	—
	NIGHT QUIET Mode (Automatic)	—	—				
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		H/P, C/O Compatible Indoor Unit	—	—
	INTELLIGENT EYE Operation	●	●		Flexible Power Supply Correspondence	—	—
	2-Area INTELLIGENT EYE Operation	—	—		High Ceiling Application	—	—
	Quick Warming Function (Preheating Operation)	—	—		Chargeless	—	—
	Hot-Start Function	●	●		Either Side Drain (Right or Left)	●	●
	Automatic Defrosting	—	—		Power Selection	—	—
Operation	Automatic Operation	●	●	Remote Control	5-Room Centralized Controller (Option)	●	●
	Program Dry Operation	●	●				
	Fan Only	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
	Inverter POWERFUL Operation	●	●		DIII-NET Compatible (Adaptor) (Option)	●	●
	Priority-Room Setting	—	—	Remote Controller	Wireless	●	●
	COOL / HEAT Mode Lock	—	—		Wired (Option)	●	●
	HOME LEAVE Operation	—	—				
	ECONO Operation	●	●				
	Indoor Unit [ON/OFF] Button	●	●				
	Signal Receiving Sign	●	●				
	Multi-Colored Indicator Lamp (Multi-Monitor Lamp)	—	—				
	R/C with Back Light	●	●				
	Temperature Display	—	—				

Note: ● : Holding Functions

— : No Functions

Category	Functions	FTXS25/35/42/50J2V1B	FTXS60/71GV1B	Category	Functions	FTXS25/35/42/50J2V1B	FTXS60/71GV1B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	●	●
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	●	●
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	—	—		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	●	●	Timer	WEEKLY TIMER Operation	●	●
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	●	●
	Wide-Angle Louvers	●	●		NIGHT SET Mode	●	●
	Vertical Auto-Swing (Up and Down)	●	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	Horizontal Auto-Swing (Right and Left)	●	●		Self-Diagnosis (Digital, LED) Display	●	●
	3-D Airflow	●	●		Wiring Error Check Function	—	—
	COMFORT AIRFLOW Operation	●	●		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
Comfort Control	Auto Fan Speed	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	Indoor Unit Quiet Operation	●	●		H/P, C/O Compatible Indoor Unit	●	●
	NIGHT QUIET Mode (Automatic)	—	—		Flexible Power Supply Correspondence	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		High Ceiling Application	—	—
	2-Area INTELLIGENT EYE Operation	●	—		Chargeless	—	—
	INTELLIGENT EYE Operation	—	●		Either Side Drain (Right or Left)	●	●
	Quick Warming Function (Preheating Operation)	—	—		Power Selection	—	—
	Hot-Start Function	●	●	Remote Control	5-Room Centralized Controller (Option)	●	●
	Automatic Defrosting	—	—				
Operation	Automatic Operation	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●	●
	Program Dry Operation	●	●				
	Fan Only	●	●		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	Inverter POWERFUL Operation	●	●	Remote Controller	Wireless	●	●
	Priority-Room Setting	—	—		Wired (Option)	●	●
	COOL / HEAT Mode Lock	—	—				
	HOME LEAVE Operation	—	—				
	ECONO Operation	●	●				
	Indoor Unit [ON/OFF] Button	●	●				
	Signal Receiving Sign	●	●				
	Multi-Colored Indicator Lamp (Multi-Monitor Lamp)	—	—				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

Category	Functions	FVXG25/35/50K2V1B	FVXS25/35/50FV1B	Category	Functions	FVXG25/35/50K2V1B	FVXS25/35/50FV1B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	●	●
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	●
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	—	—		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	—	—	Timer	WEEKLY TIMER Operation	●	●
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	●	●
	Wide-Angle Louvers	●	●		NIGHT SET Mode	●	●
	Vertical Auto-Swing (Up and Down)	●	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	Horizontal Auto-Swing (Right and Left)	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	3-D Airflow	—	—		Wiring Error Check Function	—	—
	COMFORT AIRFLOW Operation	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
Comfort Control	Auto Fan Speed	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	Indoor Unit Quiet Operation	●	●		H/P, C/O Compatible Indoor Unit	—	●
	NIGHT QUIET Mode (Automatic)	—	—		Flexible Power Supply Correspondence	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		High Ceiling Application	—	—
	2-Area INTELLIGENT EYE Operation	—	—		Chargeless	—	—
	INTELLIGENT EYE Operation	—	—		Either Side Drain (Right or Left)	—	—
	Quick Warming Function (Preheating Operation)	—	—		Power Selection	—	—
	Hot-Start Function	●	●	Remote Control	5-Room Centralized Controller (Option)	●	●
	Automatic Defrosting	—	—		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●	●
Operation	Automatic Operation	●	●		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
	RADIANT Operation	●	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	Program Dry Operation	●	●	Remote Controller	Wireless	●	●
	Fan Only	●	●		Wired (Option)	●	—
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—				
	Inverter POWERFUL Operation	●	●				
	Priority-Room Setting	—	—				
	COOL / HEAT Mode Lock	—	—				
	HOME LEAVE Operation	—	—				
	ECONO Operation	●	●				
	Indoor Unit [ON/OFF] Button	●	●				
	Signal Receiving Sign	●	●				
	Multi-Colored Indicator Lamp (Multi-Monitor Lamp)	—	—				
	R/C with Back Light	●	●				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

Category	Functions	FLXS25/35/50/60BAVMB	FDXS25/35E7VMB FDXS50/60C7VMB	Category	Functions	FLXS25/35/50/60BAVMB	FDXS25/35E7VMB FDXS50/60C7VMB
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	●	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	●	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	—	—		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	—	—	Timer	WEEKLY TIMER Operation	—	—
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	●	●
	Wide-Angle Louvers	—	—		NIGHT SET Mode	●	●
	Vertical Auto-Swing (Up and Down)	●	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	Horizontal Auto-Swing (Right and Left)	—	—		Self-Diagnosis (Digital, LED) Display	●	●
	3-D Airflow	—	—		Wiring Error Check Function	—	—
	COMFORT AIRFLOW Operation	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
Comfort Control	Auto Fan Speed	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	Indoor Unit Quiet Operation	●	●		H/P, C/O Compatible Indoor Unit	—	—
	NIGHT QUIET Mode (Automatic)	—	—		Flexible Power Supply Correspondence	●	●
	OUTDOOR UNIT QUIET Operation (Manual)	●	●		High Ceiling Application	—	—
	2-Area INTELLIGENT EYE Operation	—	—		Chargeless	—	—
	INTELLIGENT EYE Operation	—	—		Either Side Drain (Right or Left)	—	—
	Quick Warming Function (Preheating Operation)	—	—		Power Selection	—	—
	Hot-Start Function	●	●	Remote Control	5-Room Centralized Controller (Option)	●	●
	Automatic Defrosting	—	—				
Operation	Automatic Operation	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	●	●
	Program Dry Operation	●	●				
	Fan Only	●	●		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—				
	Inverter POWERFUL Operation	●	●		DIII-NET Compatible (Adaptor) (Option)	●	●
	Priority-Room Setting	—	—	Remote Controller	Wireless	●	●
	COOL / HEAT Mode Lock	—	—		Wired (Option)	—	●
	HOME LEAVE Operation	●	●				
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	●	●				
	Signal Receiving Sign	●	●				
	Multi-Colored Indicator Lamp (Multi-Monitor Lamp)	—	—				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

Category	Functions	FCQG35/50/60FVEB	FFQ25/35/50/60B9V1B	Category	Functions	FCQG35/50/60FVEB	FFQ25/35/50/60B9V1B
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Longlife Filter	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	●	●
	Reluctance DC Motor	—	—		Filter Cleaning Indicator	●	●
Comfortable Airflow	Power-Airflow Flap	—	—		Self-Cleaning Decoration Panel (Option)	●	—
	Power-Airflow Dual Flaps	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Diffuser	—	—		Good-Sleep Cooling Operation	—	—
	Wide-Angle Louvers	—	—	Timer	Schedule Timer Operation	● ★2	● ★2
	Vertical Auto-Swing (Up and Down)	●	●		72-Hour ON/OFF TIMER	● ★1	● ★1
	Horizontal Auto-Swing (Right and Left)	—	—		NIGHT SET Mode	—	—
	3-D Airflow	—	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	COMFORT AIRFLOW Operation	—	—		Self-Diagnosis (Digital, LED) Display	●	●
Comfort Control	Auto Fan Speed	—	—		Wiring Error Check Function	—	—
	Indoor Unit Quiet Operation	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
	NIGHT QUIET Mode (Automatic)	—	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	OUTDOOR UNIT QUIET Operation (Manual)	—	—		H/P, C/O Compatible Indoor Unit	●	●
	2-Area INTELLIGENT EYE Operation	—	—		Flexible Power Supply Correspondence	—	—
	INTELLIGENT EYE Operation	—	—		High Ceiling Application	—	—
	Quick Warming Function (Preheating Operation)	—	—		Chargeless	—	—
	Hot-Start Function	●	●		Either Side Drain (Right or Left)	—	—
	Automatic Defrosting	—	—		Power Selection	—	—
Operation	Automatic Operation	●	●	Remote Control	5-Room Centralized Controller (Option)	—	—
	Program Dry Operation	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
	Fan Only	●	●				
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
	Inverter POWERFUL Operation	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	Priority-Room Setting	—	—	Remote Controller	Wireless (Option)	●	●
	COOL / HEAT Mode Lock	—	—		Wired (Option)	●	●
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	● ★1	● ★1				
	Signal Receiving Sign	● ★1	● ★1				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions
★1: with wireless remote controller
★2: with wired remote controller

Category	Functions	FHQ35/50/60BWV1B	FDBQ25B8V1 FBQ35/50/60C8VEB	Category	Functions	FHQ35/50/60BWV1B	FDBQ25B8V1 FBQ35/50/60C8VEB
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Longlife Filter	●	●
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	●	—
	Reluctance DC Motor	—	—		Filter Cleaning Indicator	●	●
Comfortable Airflow	Power-Airflow Flap	—	—		Self-Cleaning Decoration Panel (Option)	—	—
	Power-Airflow Dual Flaps	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Diffuser	—	—		Good-Sleep Cooling Operation	—	—
	Wide-Angle Louvers	—	—	Timer	Schedule Timer Operation	● ★2	●
	Vertical Auto-Swing (Up and Down)	●	—		72-Hour ON/OFF TIMER	● ★1	—
	Horizontal Auto-Swing (Right and Left)	—	—		NIGHT SET Mode	—	—
	3-D Airflow	—	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
	COMFORT AIRFLOW Operation	—	—		Self-Diagnosis (Digital, LED) Display	●	●
Comfort Control	Auto Fan Speed	—	—		Wiring Error Check Function	—	—
	Indoor Unit Quiet Operation	—	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
	NIGHT QUIET Mode (Automatic)	—	—	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	●
	OUTDOOR UNIT QUIET Operation (Manual)	—	—		H/P, C/O Compatible Indoor Unit	●	●
	2-Area INTELLIGENT EYE Operation	—	—		Flexible Power Supply Correspondence	—	—
	INTELLIGENT EYE Operation	—	—		High Ceiling Application	●	—
	Quick Warming Function (Preheating Operation)	—	—		Chargeless	—	—
	Hot-Start Function	●	●		Either Side Drain (Right or Left)	—	—
	Automatic Defrosting	—	—		Power Selection	—	—
Operation	Automatic Operation	●	●	Remote Control	5-Room Centralized Controller (Option)	—	—
	Program Dry Operation	●	●		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
	Fan Only	●	●				
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
	Inverter POWERFUL Operation	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	Priority-Room Setting	—	—	Remote Controller	Wireless (Option)	●	—
	COOL / HEAT Mode Lock	—	—		Wired (Option)	●	●
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit [ON/OFF] Button	● ★1	—				
	Signal Receiving Sign	● ★1	—				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

★1: with wireless remote controller
★2: with wired remote controller

Part 2
Specifications

1. Cooling Only

1.1 Outdoor Unit

50 Hz, 230 V

Model			3MKS50E3V1B	4MKS58E3V1B
Casing Color			Ivory White	Ivory White
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		2YC36BXD	2YC36BXD
	Motor Output	W	1,100	1,100
Refrigerant Oil	Model		FVC50K	FVC50K
	Charge	L	0.65	0.65
Refrigerant	Type		R-410A	R-410A
	Charge	kg	2.0	2.0
Airflow Rate	H	m^3/min	45	45
	L		45	45
	H	cfm	1,589	1,589
	L		1,589	1,589
Fan	Type		Propeller	Propeller
	Motor Output	W	53	53
	Running Current	A	H: 0.33 / L: 0.33	H: 0.33 / L: 0.33
	Power Consumption	W	H: 43 / L: 43	H: 43 / L: 43
Starting Current		A	5.3	6.7
Dimensions (H × W × D)		mm	735 × 936 × 300	735 × 936 × 300
Packaged Dimensions (H × W × D)		mm	797 × 992 × 390	797 × 992 × 390
Weight (Mass)		kg	49	49
Gross Weight (Gross Mass)		kg	56	56
Sound Pressure Level		dB(A)	46	46
Sound Power Level		dB	59	59
Piping Connection	Liquid	mm	ϕ 6.4 × 3	ϕ 6.4 × 4
	Gas	mm	ϕ 9.5 × 3	ϕ 9.5 × 2, ϕ 12.7 × 2
	Drain	mm	ϕ 18.0	ϕ 18.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring	3 for Power Supply, 4 for Interunit Wiring
Max. Interunit Piping Length		m	50 (for Total of Each Room)	50 (for Total of Each Room)
		m	25 (for One Room)	25 (for One Room)
Amount of Additional Charge		g/m	Chargeless	Chargeless
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)	15 (between Indoor Unit and Outdoor Unit)
		m	15 (between Indoor Units)	15 (between Indoor Units)
Drawing No.			3D054330#1	3D054329#1

Note: The data are based on the conditions shown in the table below.

Cooling	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB	7.5 m

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

50 Hz, 230 V

Model			4MKS75F2V1B	5MKS90E2V3B
Casing Color			Ivory White	Ivory White
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		2YC45DXD	2YC63BXD
	Motor Output	W	1,380	1,920
Refrigerant Oil	Model		FVC50K	FVC50K
	Charge	L	0.65	0.75
Refrigerant	Type		R-410A	R-410A
	Charge	kg	2.3	2.95
Airflow Rate	H	m^3/min	52.7	54.5
	M		49.4	—
	L		43.5	46
	H	cfm	1,861	1,924
	M		1,744	—
	L		1,536	1,624
Fan	Type		Propeller	Propeller
	Motor Output	W	53	66
	Running Current	A	H: 0.20 / M: 0.16 / L: 0.10	H: 0.97 / L: 0.69
	Power Consumption	W	H: 70 / M: 58 / L: 36	H: 86 / L: 55
Starting Current		A	6.2	11.4
Dimensions (H × W × D)		mm	735 × 936 × 300	770 × 900 × 320
Packaged Dimensions (H × W × D)		mm	797 × 992 × 390	900 × 925 × 390
Weight (Mass)		kg	57	69
Gross Weight (Gross Mass)		kg	61	78
Sound Pressure Level		dB(A)	48	48
Sound Power Level		dB	61	62
Piping Connection	Liquid	mm	ϕ 6.4 × 4	ϕ 6.4 × 5
	Gas	mm	ϕ 9.5 × 2, ϕ 12.7 × 1, ϕ 15.9 × 1	ϕ 9.5 × 2, ϕ 12.7 × 1, ϕ 15.9 × 2
	Drain	mm	ϕ 18.0	ϕ 25.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring	3 for Power Supply, 4 for Interunit Wiring
Max. Interunit Piping Length		m	60 (for Total of Each Room)	75 (for Total of Each Room)
		m	25 (for One Room)	25 (for One Room)
Amount of Additional Charge		g/m	Chargeless	20 (65 m or more)
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)	15 (between Indoor Unit and Outdoor Unit)
		m	15 (between Indoor Units)	7.5 (between Indoor Units)
Drawing No.			3D056453	3D063120

Note: The data are based on the conditions shown in the table below.

Cooling	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB	5 m (4MKS75F2V1B) 7.5 m (5MKS90E2V3B)

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

1.2 Indoor Unit

Wall Mounted Type

50 Hz, 220 - 230 - 240 V

Model			FTXS25J2V1B	FTXS35J2V1B
Rated Capacity			2.5 kW Class	3.5 kW Class
Front Panel Color			White	White
Airflow Rate	H	m³/min (cfm)	10.8 (381)	11.4 (403)
	M		7.9 (279)	8.7 (307)
	L		5.2 (184)	5.8 (205)
	SL		3.7 (131)	4.4 (155)
Fan	Type		Cross Flow Fan	Cross Flow Fan
	Motor Output	W	23	23
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)		A	0.09 - 0.08 - 0.08	0.12 - 0.12 - 0.11
Power Consumption (Rated)		W	18 - 18 - 18	26 - 26 - 26
Power Factor (Rated)		%	90.9 - 97.8 - 93.8	98.5 - 94.2 - 98.5
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	295 × 800 × 215	295 × 800 × 215
Packaged Dimensions (H × W × D)		mm	289 × 870 × 366	289 × 870 × 366
Weight (Mass)		kg	9	10
Gross Weight (Gross Mass)		kg	13	14
Sound Pressure Level	H / M / L / SL	dB(A)	41 / 33 / 25 / 22	45 / 37 / 29 / 23
Sound Power Level		dB	57	61
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 9.5	ϕ 9.5
	Drain	mm	ϕ 18.0	ϕ 18.0
Drawing No.			3D070570A	3D070571A

Model			FTXS42J2V1B	FTXS50J2V1B
Rated Capacity			4.2 kW Class	5.0 kW Class
Front Panel Color			White	White
Airflow Rate	H	m³/min (cfm)	11.3 (399)	11.6 (410)
	M		9.0 (318)	9.2 (325)
	L		6.8 (240)	7.0 (247)
	SL		5.9 (208)	6.0 (212)
Fan	Type		Cross Flow Fan	Cross Flow Fan
	Motor Output	W	23	23
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)		A	0.11 - 0.11 - 0.11	0.12 - 0.12 - 0.11
Power Consumption (Rated)		W	24 - 24 - 24	26 - 26 - 26
Power Factor (Rated)		%	99.2 - 94.9 - 90.9	98.5 - 94.2 - 98.5
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	295 × 800 × 215	295 × 800 × 215
Packaged Dimensions (H × W × D)		mm	289 × 870 × 366	289 × 870 × 366
Weight (Mass)		kg	10	10
Gross Weight (Gross Mass)		kg	14	14
Sound Pressure Level	H / M / L / SL	dB(A)	45 / 39 / 33 / 30	46 / 40 / 34 / 31
Sound Power Level		dB	61	62
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 9.5	ϕ 12.7
	Drain	mm	ϕ 18.0	ϕ 18.0
Drawing No.			3D070572A	3D070573A

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

50 Hz, 220 - 230 - 240 V

Model			FTXS60GV1B	FTXS71GV1B
Rated Capacity			6.0 kW Class	7.1 kW Class
Front Panel Color			White	White
Airflow Rate	H	m³/min (cfm)	16.0 (565)	17.2 (607)
	M		13.5 (477)	14.5 (512)
	L		11.3 (399)	11.5 (406)
	SL		10.1 (357)	10.5 (371)
Fan	Type		Cross Flow Fan	Cross Flow Fan
	Motor Output	W	43	43
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Running Current (Rated)		A	0.19 - 0.18 - 0.17	0.21 - 0.20 - 0.19
Power Consumption (Rated)		W	40 - 40 - 40	45 - 45 - 45
Power Factor (Rated)		%	95.7 - 96.6 - 98.0	97.4 - 97.8 - 98.7
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	290 × 1,050 × 250	290 × 1,050 × 250
Packaged Dimensions (H × W × D)		mm	361 × 1,145 × 364	361 × 1,145 × 364
Weight (Mass)		kg	12	12
Gross Weight (Gross Mass)		kg	18	18
Sound Pressure Level	H / M / L / SL	dB(A)	45 / 41 / 36 / 33	46 / 42 / 37 / 34
Sound Power Level		dB	61	62
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 12.7	ϕ 15.9
	Drain	mm	ϕ 18.0	ϕ 18.0
Drawing No.			3D065735A	3D065737A

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

Ceiling Mounted Cassette Type

50 Hz, 230 V

Model			FFQ25B9V1B	FFQ35B9V1B
Rated Capacity			2.5 kW Class	3.5 kW Class
Decoration Panel	Model		BYFQ60B8W1	BYFQ60B8W1
	Color		White	White
	Dimensions (H × W × D)	mm	55 × 700 × 700	55 × 700 × 700
	Weight (Mass)	kg	2.7	2.7
Airflow Rate	H	m³/min (cfm)	9.0 (318)	10.0 (353)
	L		6.5 (230)	6.5 (230)
Fan	Type		Turbo Fan	Turbo Fan
	Motor Output	W	55	55
	Speed	Steps	2 Steps	2 Steps
Air Direction Control			Horizontal, Downward	Horizontal, Downward
Running Current (Rated)		A	0.37	0.40
Power Consumption (Rated)		W	73	84
Power Factor (Rated)		%	85.8	91.3
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D) ★		mm	260 (286) × 575 × 575	260 (286) × 575 × 575
Packaged Dimensions (H × W × D)		mm	370 × 687 × 674	370 × 687 × 674
Weight (Mass)		kg	17.5	17.5
Gross Weight (Gross Mass)		kg	21	21
Sound Pressure Level	H / L	dB(A)	29.5 / 24.5	32.0 / 25.0
Sound Power Level		dB	46.5	49.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 9.5	ϕ 9.5
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)	VP20 (O.D. ϕ 26 / I.D. ϕ 20)
Drawing No.			3D060406	3D060408

Model			FFQ50B9V1B	FFQ60B9V1B
Rated Capacity			5.0 kW Class	6.0 kW Class
Decoration Panel	Model		BYFQ60B8W1	BYFQ60B8W1
	Color		White	White
	Dimensions (H × W × D)	mm	55 × 700 × 700	55 × 700 × 700
	Weight (Mass)	kg	2.7	2.7
Airflow Rate	H	m³/min (cfm)	12.0 (424)	15.5 (530)
	L		8.0 (283)	10.0 (353)
Fan	Type		Turbo Fan	Turbo Fan
	Motor Output	W	55	55
	Speed	Steps	2 Steps	2 Steps
Air Direction Control			Horizontal, Downward	Horizontal, Downward
Running Current (Rated)		A	0.49	0.61
Power Consumption (Rated)		W	97	120
Power Factor (Rated)		%	86.1	85.5
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D) ★		mm	260 (286) × 575 × 575	260 (286) × 575 × 575
Packaged Dimensions (H × W × D)		mm	370 × 687 × 674	370 × 687 × 674
Weight (Mass)		kg	17.5	17.5
Gross Weight (Gross Mass)		kg	21	21
Sound Pressure Level	H / L	dB(A)	36.0 / 27.0	41.0 / 32.0
Sound Power Level		dB	53.0	58.0
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 12.7	ϕ 12.7
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)	VP20 (O.D. ϕ 26 / I.D. ϕ 20)
Drawing No.			3D060410	3D040431

★ ( ) : dimension including control box

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

Ceiling Suspended Type

50 Hz, 220 - 230 - 240 V

Model			FHQ35BWV1B	FHQ50BWV1B
Rated Capacity			3.5 kW Class	5.0 kW Class
Panel Color			White	White
Airflow Rate	H	m^3/min	13.0 (459)	13.0 (459)
	L		10.0 (353)	10.0 (353)
Fan	Type		Sirocco Fan	Sirocco Fan
	Motor Output	W	62	62
	Speed	Steps	2 Steps	2 Steps
Air Direction Control			Right, Left, Horizontal, Downward	Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof	Removable / Washable / Mildew Proof
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	195 × 960 × 680	195 × 960 × 680
Packaged Dimensions (H × W × D)		mm	279 × 1,046 × 818	279 × 1,046 × 818
Weight (Mass)		kg	24	25
Gross Weight (Gross Mass)		kg	31	32
Sound Pressure Level	H / L	dB(A)	37 / 32	38 / 33
Sound Power Level		dB	53	54
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4	ϕ 6.4
	Gas	mm	ϕ 9.5	ϕ 12.7
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)	VP20 (O.D. ϕ 26 / I.D. ϕ 20)
Drawing No.			3D075708	3D075709

Model			FHQ60BWV1B
Rated Capacity			6.0 kW Class
Panel Color			White
Airflow Rate	H	m^3/min	17.0 (600)
	L		13.0 (459)
Fan	Type		Sirocco Fan
	Motor Output	W	62
	Speed	Steps	2 Steps
Air Direction Control			Right, Left, Horizontal, Downward
Air Filter			Removable / Washable / Mildew Proof
Temperature Control			Microcomputer Control
Dimensions (H × W × D)		mm	195 × 1,160 × 680
Packaged Dimensions (H × W × D)		mm	279 × 1,246 × 818
Weight (Mass)		kg	27
Gross Weight (Gross Mass)		kg	35
Sound Pressure Level	H / L	dB(A)	39 / 33
Sound Power Level		dB	55
Heat Insulation			Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.4
	Gas	mm	ϕ 12.7
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)
Drawing No.			3D075710

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

Ceiling Mounted Built-in Type

Model			FDBQ25B8V1	FBQ35C8VEB
			50 Hz, 230 V	50 Hz, 220 - 230 - 240 V / 60 Hz, 220 V
Rated Capacity			2.5 kW Class	3.5 kW Class
Decoration Panel	Model		—	BYBS45DJW1
	Color		—	White
	Dimensions (H × W × D)		—	55 × 800 × 500
	Weight (Mass)	kg	—	3.5
Airflow Rate	H	m³/min	6.5	16.0
	L		5.2	11.0
Fan	Type		Sirocco Fan	Sirocco Fan
	Motor Output	W	10	140
	Speed	Steps	2 Steps	2 Steps
Air Filter			Resin net with mold resistance	Resin net with mold resistance
Dimensions (H × W × D)		mm	230 × 652 × 502	300 × 700 × 700
Packaged Dimensions (H × W × D)		mm	301 × 753 × 584	325 × 920 × 900
Weight (Mass)		kg	17	25
Gross Weight (Gross Mass)		kg	18	28
Sound Pressure Level	H / L	dB(A)	35 / 28	37 / 29
Sound Power Level	H / L	dB	55 / 49	63 / —
Heat Insulation			—	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.35	ϕ 6.35 (Flare)
	Gas	mm	ϕ 9.52	ϕ 9.52 (Flare)
	Drain	mm	O.D. ϕ 27.2	VP25 (O.D. ϕ 32 / I.D. ϕ 25)

Model			FBQ50C8VEB	FBQ60C8VEB
Rated Capacity			5.0 kW Class	6.0 kW Class
Decoration Panel	Model		BYBS45DJW1	BYBS71DJW1
	Color		White	White
	Dimensions (H × W × D)		55 × 800 × 500	55 × 1,100 × 500
	Weight (Mass)	kg	3.5	4.5
Airflow Rate	H	m³/min	16.0	18.0
	L		11.0	15.0
Fan	Type		Sirocco Fan	Sirocco Fan
	Motor Output	W	140	350
	Speed	Steps	2 Steps	2 Steps
Air Filter			Resin net with mold resistance	Resin net with mold resistance
Dimensions (H × W × D)		mm	300 × 700 × 700	300 × 1,000 × 700
Packaged Dimensions (H × W × D)		mm	355 × 920 × 900	355 × 1,220 × 900
Weight (Mass)		kg	25	34
Gross Weight (Gross Mass)		kg	28	41
Sound Pressure Level	H / L	dB(A)	37 / 29	37 / 29
Sound Power Level	H / L	dB	63 / —	57 / —
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)	ϕ 6.35 (Flare)
	Gas	mm	ϕ 12.7 (Flare)	ϕ 12.7 (Flare)
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)	VP25 (O.D. ϕ 32 / I.D. ϕ 25)

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

2. Heat Pump

2.1 Outdoor Unit

50 Hz, 230 V

Model			3MXS40K2V1B		3MXS52E3V1B	
			Cooling	Heating	Cooling	Heating
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		2YC36BXD		2YC36BXD	
	Motor Output	W	1,100		1,100	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.65		0.65	
Refrigerant	Type		R-410A		R-410A	
	Charge	kg	2.0		2.0	
Airflow Rate	H	m^3/min	45	45	45	45
	L		41	41	45	41
	H	cfm	1,589	1,589	1,589	1,589
	L		1,448	1,448	1,589	1,448
Fan	Type		Propeller		Propeller	
	Motor Output	W	53		53	
	Running Current	A	H: 0.33 / L: 0.29		H: 0.33 / L: 0.29	
	Power Consumption	W	H: 43 / L: 34		H: 43 / L: 34	
Starting Current		A	4.0		6.2	
Dimensions (H × W × D)		mm	735 × 936 × 300		735 × 936 × 300	
Packaged Dimensions (H × W × D)		mm	797 × 992 × 390		797 × 992 × 390	
Weight (Mass)		kg	49		49	
Gross Weight (Gross Mass)		kg	56		56	
Sound Pressure Level		dB(A)	46	47	46	47
Sound Power Level		dB	59	60	59	60
Piping Connection	Liquid	mm	ϕ 6.4 × 3		ϕ 6.4 × 3	
	Gas	mm	ϕ 9.5 × 3		ϕ 9.5 × 2, ϕ 12.7 × 1	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring		3 for Power Supply, 4 for Interunit Wiring	
Max. Interunit Piping Length		m	50 (for Total of Each Room)		50 (for Total of Each Room)	
		m	25 (for One Room)		25 (for One Room)	
Amount of Additional Charge		g/m	20 (30 m or more)		20 (30 m or more)	
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)		15 (between Indoor Unit and Outdoor Unit)	
		m	7.5 (between Indoor Units)		7.5 (between Indoor Units)	
Drawing No.			3D074741		3D054327#1	

Note: The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m (3MXS40K2V1B) 7.5 m (3MXS52E3V1B)

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

50 Hz, 230 V

Model			3MXS68G2V1B		4MXS68F2V1B	
			Cooling	Heating	Cooling	Heating
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		2YC45DXD		2YC45DXD	
	Motor Output	W	1,380		1,380	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.65		0.65	
Refrigerant	Type		R-410A		R-410A	
	Charge	kg	2.59		2.6	
Airflow Rate	H	m³/min	52.7	46.4	52.7	46.4
	M		49.4	44.5	49.4	44.5
	L		43.5	16.3	43.5	16.3
	H	cfm	1,861	1,638	1,861	1,638
	M		1,744	1,571	1,744	1,571
	L		1,536	576	1,536	576
Fan	Type		Propeller		Propeller	
	Motor Output	W	53		53	
	Running Current	A	H: 0.20 / M: 0.16 / L: 0.10	H: 0.16 / M: 0.14 / L: 0.03	H: 0.20 / M: 0.16 / L: 0.10	H: 0.16 / M: 0.14 / L: 0.03
	Power Consumption	W	H: 70 / M: 58 / L: 36	H: 55 / M: 48 / L: 10	H: 70 / M: 58 / L: 36	H: 55 / M: 48 / L: 10
Starting Current		A	6.2		6.2	
Dimensions (H × W × D)		mm	735 × 936 × 300		735 × 936 × 300	
Packaged Dimensions (H × W × D)		mm	797 × 992 × 390		797 × 992 × 390	
Weight (Mass)		kg	58		58	
Gross Weight (Gross Mass)		kg	63		63	
Sound Pressure Level		dB(A)	48	49	48	49
Sound Power Level		dB	61	—	61	—
Piping Connection	Liquid	mm	ϕ 6.4 × 3		ϕ 6.4 × 4	
	Gas	mm	ϕ 9.5 × 1, ϕ 12.7 × 2		ϕ 9.5 × 2, ϕ 12.7 × 2	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring		3 for Power Supply, 4 for Interunit Wiring	
Max. Interunit Piping Length		m	50 (for Total of Each Room)		60 (for Total of Each Room)	
		m	25 (for One Room)		25 (for One Room)	
Amount of Additional Charge		g/m	20 (30 m or more)		20 (30 m or more)	
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)		15 (between Indoor Unit and Outdoor Unit)	
		m	7.5 (between Indoor Units)		7.5 (between Indoor Units)	
Drawing No.			3D058720A		3D056404	

Note: The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	5 m

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

50 Hz, 230 V

Model			4MXS80E2V3B		5MXS90E2V3B	
			Cooling	Heating	Cooling	Heating
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		2YC63BXD		2YC63BXD	
	Motor Output	W	1,920		1,920	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.75		0.75	
Refrigerant	Type		R-410A		R-410A	
	Charge	kg	2.99		2.99	
Airflow Rate	H	m³/min	54.5	46.0	57.1	52.5
	M		—	—	54.5	—
	L		46	14.7	46.0	14.7
	H	cfm	1,924	1,624	2,016	1,854
	M		—	—	1,924	—
	L		1,624	519	1,624	519
Fan	Type		Propeller		Propeller	
	Motor Output	W	66		66	
	Running Current	A	H: 0.97 / L: 0.69	H: 0.69 / L: 0.05	H: 1.02 / M: 0.97 / L: 0.69	H: 0.90 / L: 0.05
	Power Consumption	W	H: 86 / L: 55	H: 55 / L: 9	H: 95 / M: 86 / L: 55	H: 78 / L: 9
Starting Current		A	9.7		11.8	
Dimensions (H × W × D)		mm	770 × 900 × 320		770 × 900 × 320	
Packaged Dimensions (H × W × D)		mm	900 × 925 × 390		900 × 925 × 390	
Weight (Mass)		kg	72		73	
Gross Weight (Gross Mass)		kg	80		80	
Sound Pressure Level		dB(A)	48	49	52	52
Sound Power Level		dB	60	—	66	—
Piping Connection	Liquid	mm	ϕ 6.4 × 4		ϕ 6.4 × 5	
	Gas	mm	ϕ 9.5 × 1, ϕ 12.7 × 1, ϕ 15.9 × 2		ϕ 9.5 × 2, ϕ 12.7 × 1, ϕ 15.9 × 2	
	Drain	mm	ϕ 25.0		ϕ 25.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring		3 for Power Supply, 4 for Interunit Wiring	
Max. Interunit Piping Length		m	70 (for Total of Each Room)		75 (for Total of Each Room)	
		m	25 (for One Room)		25 (for One Room)	
Amount of Additional Charge		g/m	20 (30 m or more)		20 (30 m or more)	
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)		15 (between Indoor Unit and Outdoor Unit)	
		m	7.5 (between Indoor Units)		7.5 (between Indoor Units)	
Drawing No.			3D063118		3D063119	

Note: The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 27°CDB / 19°CWB Outdoor ; 35°CDB	Indoor ; 20°CDB Outdoor ; 7°CDB / 6°CWB	7.5 m

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

2.2 Indoor Unit

Wall Mounted Type

50 Hz, 220 - 230 - 240 V

Model			FTXG25JV1BW		FTXG25JV1BA	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		2.5 kW Class	
Front Panel Color			White		Silver	
Airflow Rate	H	m³/min (cfm)	8.8 (311)	9.6 (339)	8.8 (311)	9.6 (339)
	M		6.8 (240)	7.9 (279)	6.8 (240)	7.9 (279)
	L		4.7 (166)	6.2 (219)	4.7 (166)	6.2 (219)
	SL		3.8 (134)	5.4 (191)	3.8 (134)	5.4 (191)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	29		29	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.09 - 0.08 - 0.08	0.12 - 0.11 - 0.11	0.09 - 0.08 - 0.08	0.12 - 0.11 - 0.11
Power Consumption (Rated)		W	18 - 18 - 18	24 - 24 - 24	18 - 18 - 18	24 - 24 - 24
Power Factor (Rated)		%	90.9 - 97.8 - 93.8	90.9 - 94.9 - 90.9	90.9 - 97.8 - 93.8	90.9 - 94.9 - 90.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	295 × 915 × 155		295 × 915 × 155	
Packaged Dimensions (H × W × D)		mm	285 × 1,003 × 377		285 × 1,003 × 377	
Weight (Mass)		kg	11		11	
Gross Weight (Gross Mass)		kg	15		16	
Sound Pressure Level	H / M / L / SL	dB(A)	38 / 32 / 25 / 22	39 / 34 / 28 / 25	38 / 32 / 25 / 22	39 / 34 / 28 / 25
Sound Power Level		dB	54	55	54	55
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 16.0 or ϕ 18.0		ϕ 16.0 or ϕ 18.0	
Drawing No.			3D066165A		3D066436A	

Model			FTXG35JV1BW		FTXG35JV1BA	
			Cooling	Heating	Cooling	Heating
Rated Capacity			3.5 kW Class		3.5 kW Class	
Front Panel Color			White		Silver	
Airflow Rate	H	m³/min (cfm)	10.1 (357)	10.8 (381)	10.1 (357)	10.8 (381)
	M		7.3 (258)	8.6 (304)	7.3 (258)	8.6 (304)
	L		4.6 (162)	6.4 (226)	4.6 (162)	6.4 (226)
	SL		3.9 (138)	5.6 (198)	3.9 (138)	5.6 (198)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	29		29	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.13 - 0.12 - 0.12	0.16 - 0.15 - 0.14	0.13 - 0.12 - 0.12	0.16 - 0.15 - 0.14
Power Consumption (Rated)		W	26 - 26 - 26	32 - 32 - 32	26 - 26 - 26	32 - 32 - 32
Power Factor (Rated)		%	90.9 - 94.2 - 90.3	90.9 - 92.8 - 95.2	90.9 - 94.2 - 90.3	90.9 - 92.8 - 95.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	295 × 915 × 155		295 × 915 × 155	
Packaged Dimensions (H × W × D)		mm	285 × 1,003 × 377		285 × 1,003 × 377	
Weight (Mass)		kg	11		11	
Gross Weight (Gross Mass)		kg	15		16	
Sound Pressure Level	H / M / L / SL	dB(A)	42 / 34 / 26 / 23	42 / 36 / 29 / 26	42 / 34 / 26 / 23	42 / 36 / 29 / 26
Sound Power Level		dB	58	58	58	58
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 16.0 or ϕ 18.0		ϕ 16.0 or ϕ 18.0	
Drawing No.			3D066437A		3D066438B	

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

50 Hz, 220 - 230 - 240 V

Model			FTXG50JV1BW		FTXG50JV1BA	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		5.0 kW Class	
Front Panel Color			White		Silver	
Airflow Rate	H	m³/min (cfm)	10.3 (364)	11.4 (402)	10.3 (364)	11.4 (402)
	M		8.5 (300)	9.8 (346)	8.5 (300)	9.8 (346)
	L		6.7 (237)	8.1 (286)	6.7 (237)	8.1 (286)
	SL		5.7 (201)	7.1 (251)	5.7 (201)	7.1 (251)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	40		40	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.16 - 0.15 - 0.14	0.19 - 0.18 - 0.17	0.16 - 0.15 - 0.14	0.19 - 0.18 - 0.17
Power Consumption (Rated)		W	32 - 32 - 32	38 - 38 - 38	32 - 32 - 32	38 - 38 - 38
Power Factor (Rated)		%	90.9 - 92.8 - 95.2	90.9 - 91.8 - 93.1	90.9 - 92.8 - 95.2	90.9 - 91.8 - 93.1
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	295 × 915 × 155		295 × 915 × 155	
Packaged Dimensions (H × W × D)		mm	285 × 1,003 × 377		285 × 1,003 × 377	
Weight (Mass)		kg	11		11	
Gross Weight (Gross Mass)		kg	15		16	
Sound Pressure Level	H / M / L / SL	dB(A)	44 / 40 / 35 / 32	44 / 40 / 35 / 32	44 / 40/ 35 / 32	44 / 40 / 35 / 32
Sound Power Level		dB	60	60	60	60
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D071585		3D072083A	

Model			CTXS15K2V1B		FTXS20K2V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			1.5 kW Class		2.0 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	7.9 (279)	9.0 (318)	8.8 (311)	9.5 (335)
	M		6.3 (222)	7.5 (265)	6.7 (237)	7.8 (275)
	L		4.7 (166)	6.0 (212)	4.7 (166)	6.0 (212)
	SL		3.9 (138)	4.3 (152)	3.9 (138)	4.3 (152)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	16		16	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17
Power Consumption (Rated)		W	40 - 40 - 40	40 - 40 - 40	40 - 40 - 40	40 - 40 - 40
Power Factor (Rated)		%	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	289 × 780 × 215		289 × 780 × 215	
Packaged Dimensions (H × W × D)		mm	274 × 850 × 346		274 × 850 × 346	
Weight (Mass)		kg	8		8	
Gross Weight (Gross Mass)		kg	12		12	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 31 / 25 / 21	38 / 33 / 28 / 21	40 / 32 / 24 / 19	40 / 34 / 27 / 19
Sound Power Level		dB	53	54	56	56
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D074531		3D074533	

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

50 Hz, 220 - 230 - 240 V

Model			FTXS25K2V1B		CTXS35K2V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	9.1 (321)	10.0 (353)	9.2 (325)	10.1 (357)
	M		7.0 (247)	8.0 (282)	7.2 (254)	8.1 (286)
	L		5.0 (177)	6.0 (212)	5.2 (184)	6.3 (222)
	SL		3.9 (138)	4.3 (152)	3.9 (138)	4.3 (152)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	16		16	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17	0.19 - 0.18 - 0.17
Power Consumption (Rated)		W	40 - 40 - 40	40 - 40 - 40	40 - 40 - 40	40 - 40 - 40
Power Factor (Rated)		%	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0	95.7 - 96.6 - 98.0
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	289 × 780 × 215		289 × 780 × 215	
Packaged Dimensions (H × W × D)		mm	274 × 850 × 346		274 × 850 × 346	
Weight (Mass)		kg	8		8	
Gross Weight (Gross Mass)		kg	12		12	
Sound Pressure Level	H / M / L / SL	dB(A)	41 / 33 / 25 / 19	41 / 34 / 27 / 19	42 / 35 / 28 / 21	41 / 36 / 30 / 21
Sound Power Level		dB	57	57	58	57
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D074534		3D074535	

Model			FTXS25J2V1B		FTXS35J2V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	10.8 (381)	11.9 (420)	11.4 (403)	12.4 (438)
	M		7.9 (279)	9.1 (321)	8.7 (307)	9.5 (335)
	L		5.2 (184)	6.4 (226)	5.8 (205)	6.8 (240)
	SL		3.7 (131)	5.9 (208)	4.4 (155)	6.0 (212)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	23		23	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.09 - 0.08 - 0.08	0.10 - 0.10 - 0.09	0.12 - 0.12 - 0.11	0.13 - 0.13 - 0.12
Power Consumption (Rated)		W	18 - 18 - 18	21 - 21 - 21	26 - 26 - 26	28 - 28 - 28
Power Factor (Rated)		%	90.9 - 97.8 - 93.8	95.5 - 91.3 - 97.2	98.5 - 94.2 - 98.5	97.9 - 93.6 - 97.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	295 × 800 × 215		295 × 800 × 215	
Packaged Dimensions (H × W × D)		mm	289 × 870 × 366		289 × 870 × 366	
Weight (Mass)		kg	9		10	
Gross Weight (Gross Mass)		kg	13		14	
Sound Pressure Level	H / M / L / SL	dB(A)	41 / 33 / 25 / 22	42 / 35 / 28 / 25	45 / 37 / 29 / 23	45 / 39 / 29 / 26
Sound Power Level		dB	57	58	61	61
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D070565A		3D070566A	

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

50 Hz, 220 - 230 - 240 V

Model			FTXS42J2V1B		FTXS50J2V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			4.2 kW Class		5.0 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	11.3 (399)	12.2 (431)	11.6 (410)	12.1 (427)
	M		9.0 (318)	9.7 (343)	9.2 (325)	9.8 (346)
	L		6.8 (240)	7.3 (258)	7.0 (247)	7.6 (268)
	SL		5.9 (208)	6.4 (228)	6.0 (212)	6.7 (237)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	23		23	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.11 - 0.11 - 0.11	0.14 - 0.14 - 0.13	0.12 - 0.12 - 0.11	0.15 - 0.14 - 0.14
Power Consumption (Rated)		W	24 - 24 - 24	30 - 30 - 30	26 - 26 - 26	32 - 32 - 32
Power Factor (Rated)		%	99.2 - 94.9 - 90.9	97.4 - 93.2 - 96.2	98.5 - 94.2 - 98.5	97.0 - 99.4 - 95.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	295 × 800 × 215		295 × 800 × 215	
Packaged Dimensions (H × W × D)		mm	289 × 870 × 366		289 × 870 × 366	
Weight (Mass)		kg	10		10	
Gross Weight (Gross Mass)		kg	14		14	
Sound Pressure Level	H / M / L / SL	dB(A)	45 / 39 / 33 / 30	45 / 39 / 33 / 30	46 / 40 / 34 / 31	47 / 41 / 34 / 31
Sound Power Level		dB	61	61	62	63
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 12.7	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D070567A		3D070568A	

Model			FTXS60GV1B		FTXS71GV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			6.0 kW Class		7.1 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	16.0 (565)	17.2 (607)	17.2 (607)	19.5 (689)
	M		13.5 (477)	14.9 (526)	14.5 (512)	16.7 (590)
	L		11.3 (399)	12.6 (445)	11.5 (406)	14.2 (501)
	SL		10.1 (357)	11.3 (399)	10.5 (371)	12.6 (445)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	43		43	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.19 - 0.18 - 0.17	0.21 - 0.20 - 0.19	0.21 - 0.20 - 0.19	0.28 - 0.27 - 0.26
Power Consumption (Rated)		W	40 - 40 - 40	45 - 45 - 45	45 - 45 - 45	60 - 60 - 60
Power Factor (Rated)		%	95.7 - 96.6 - 98.0	97.4 - 97.8 - 98.7	97.4 - 97.8 - 98.7	97.4 - 96.6 - 96.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	290 × 1,050 × 250		290 × 1,050 × 250	
Packaged Dimensions (H × W × D)		mm	361 × 1,145 × 364		361 × 1,145 × 364	
Weight (Mass)		kg	12		12	
Gross Weight (Gross Mass)		kg	18		18	
Sound Pressure Level	H / M / L / SL	dB(A)	45 / 41 / 36 / 33	44 / 40 / 35 / 32	46 / 42 / 37 / 34	46 / 42 / 37 / 34
Sound Power Level		dB	61	60	62	62
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 15.9	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D065512A		3D065513A	

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

Floor Standing Type

50 Hz, 220 - 230 - 240 V

Model			FVXG25K2V1B		FVXG35K2V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	8.9 (314)	9.9 (349)	9.1 (321)	10.2 (360)
	M		7.0 (247)	7.8 (275)	7.2 (254)	8.0 (282)
	L		5.3 (187)	5.7 (201)	5.3 (187)	5.8 (205)
	SL		4.5 (159)	4.7 (166)	4.5 (159)	5.0 (177)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	32		32	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Upward		Right, Left, Upward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.10 - 0.09 - 0.09	0.11 - 0.11 - 0.10	0.11 - 0.10 - 0.10	0.12 - 0.12 - 0.11
Power Consumption (Rated)		W	19 - 19 - 19	22 - 22 - 22	21 - 21 - 21	24 - 24 - 24
Power Factor (Rated)		%	86.4 - 91.8 - 88.0	90.9 - 87.0 - 91.7	86.8 - 91.3 - 87.5	90.9 - 87.0 - 90.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	600 × 950 × 215		600 × 950 × 215	
Packaged Dimensions (H × W × D)		mm	761 × 1,030 × 314		761 × 1,030 × 314	
Weight (Mass)		kg	22		22	
Gross Weight (Gross Mass)		kg	28		28	
Sound Pressure Level	H / M / L / SL	dB(A)	38 / 32 / 26 / 23	39 / 32 / 26 / 22	39 / 33 / 27 / 24	40 / 33 / 27 / 23
Sound Power Level		dB	54	55	55	56
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D071592		3D071593	

Model			FVXG50K2V1B	
			Cooling	Heating
Rated Capacity			5.0 kW Class	
Front Panel Color			White	
Airflow Rate	H	m³/min (cfm)	10.6 (374)	12.2 (431)
	M		8.9 (314)	10.0 (353)
	L		7.3 (258)	7.8 (275)
	SL		6.0 (212)	6.8 (240)
Fan	Type		Cross Flow Fan	
	Motor Output	W	32	
	Speed	Steps	5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Upward	
Air Filter			Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.17 - 0.16 - 0.15	0.18 - 0.17 - 0.17
Power Consumption (Rated)		W	32 - 32 - 32	35 - 35 - 35
Power Factor (Rated)		%	85.6 - 87.0 - 88.9	88.4 - 89.5 - 85.8
Temperature Control			Microcomputer Control	
Dimensions (H × W × D)		mm	600 × 950 × 215	
Packaged Dimensions (H × W × D)		mm	761 × 1,030 × 314	
Weight (Mass)		kg	22	
Gross Weight (Gross Mass)		kg	28	
Sound Pressure Level	H / M / L / SL	dB(A)	44 / 40 / 36 / 32	46 / 40 / 34 / 30
Sound Power Level		dB	56	58
Heat Insulation			Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4	
	Gas	mm	ϕ 12.7	
	Drain	mm	ϕ 18.0	
Drawing No.			3D071594	

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

50 Hz, 220 - 230 - 240 V

Model			FVXS25FV1B		FVXS35FV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	8.2 (290)	8.8 (311)	8.5 (300)	9.4 (332)
	M		6.5 (230)	6.9 (244)	6.7 (237)	7.3 (258)
	L		4.8 (169)	5.0 (177)	4.9 (173)	5.2 (184)
	SL		4.1 (145)	4.4 (155)	4.5 (159)	4.7 (166)
Fan	Type		Turbo Fan		Turbo Fan	
	Motor Output	W	48		48	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.14 - 0.13 - 0.12	0.15 - 0.14 - 0.13	0.14 - 0.13 - 0.12	0.15 - 0.14 - 0.13
Power Consumption (Rated)		W	15 - 15 - 15	17 - 17 - 17	15 - 15 - 15	17 - 17 - 17
Power Factor (Rated)		%	48.7 - 50.2 - 52.1	51.5 - 52.8 - 54.5	48.7 - 50.2 - 52.1	51.5 - 52.8 - 54.5
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	600 × 700 × 210		600 × 700 × 210	
Packaged Dimensions (H × W × D)		mm	696 × 786 × 286		696 × 786 × 286	
Weight (Mass)		kg	14		14	
Gross Weight (Gross Mass)		kg	18		18	
Sound Pressure Level	H / M / L / SL	dB(A)	38 / 32 / 26 / 23	38 / 32 / 26 / 23	39 / 33 / 27 / 24	39 / 33 / 27 / 24
Sound Power Level		dB	54	54	55	55
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 20.0		ϕ 20.0	
Drawing No.			3D071661		3D071662	

Model			FVXS50FV1B	
			Cooling	Heating
Rated Capacity			5.0 kW Class	
Front Panel Color			White	
Airflow Rate	H	m³/min (cfm)	10.7 (378)	11.8 (417)
	M		9.2 (325)	10.1 (357)
	L		7.8 (275)	8.5 (300)
	SL		6.6 (233)	7.1 (251)
Fan	Type		Turbo Fan	
	Motor Output	W	48	
	Speed	Steps	5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.18 - 0.17 - 0.16	0.20 - 0.19 - 0.18
Power Consumption (Rated)		W	27 - 27 - 27	34 - 34 - 34
Power Factor (Rated)		%	68.1 - 69.1 - 70.3	77.3 - 77.8 - 78.7
Temperature Control			Microcomputer Control	
Dimensions (H × W × D)		mm	600 × 700 × 210	
Packaged Dimensions (H × W × D)		mm	696 × 786 × 286	
Weight (Mass)		kg	14	
Gross Weight (Gross Mass)		kg	18	
Sound Pressure Level	H / M / L / SL	dB(A)	44 / 40 / 36 / 32	45 / 40 / 36 / 32
Sound Power Level		dB	56	57
Heat Insulation			Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4	
	Gas	mm	ϕ 12.7	
	Drain	mm	ϕ 20.0	
Drawing No.			3D071663	

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

Floor / Ceiling Suspended Dual Type

50 Hz, 220 - 230 - 240 V

Model			FLXS25BAVMB		FLXS35BAVMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	7.6 (268)	9.2 (325)	8.6 (304)	9.8 (346)
	M		6.8 (240)	8.3 (293)	7.6 (268)	8.9 (314)
	L		6.0 (212)	7.4 (261)	6.6 (233)	8.0 (282)
	SL		5.2 (184)	6.6 (233)	5.6 (198)	7.2 (254)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.33 - 0.32 - 0.31	0.36 - 0.34 - 0.33	0.38 - 0.36 - 0.35	0.38 - 0.36 - 0.35
Power Consumption (Rated)		W	70 - 70 - 70	74 - 74 - 74	78 - 78 - 78	78 - 78 - 78
Power Factor (Rated)		%	96.4 - 95.1 - 94.1	93.4 - 94.6 - 93.4	93.3 - 94.2 - 92.9	93.3 - 94.2 - 92.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280× 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	16		16	
Gross Weight (Gross Mass)		kg	22		22	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power Level		dB	53	53	54	55
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D059564		3D059567	

50 Hz, 220 - 230 - 240 V 50 Hz, 230 V

Model			FLXS50BAVMB		FLXS60BAVMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Front Panel Color			Almond White		Almond White	
Airflow Rate	H	m³/min (cfm)	11.4 (403)	12.1 (427)	12.0 (424)	12.8 (452)
	M		10.0 (353)	9.8 (346)	10.7 (378)	10.6 (374)
	L		8.5 (300)	7.5 (265)	9.3 (328)	8.4 (297)
	SL		7.5 (265)	6.8 (240)	8.3 (293)	7.5 (265)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.48 - 0.45 - 0.43	0.47 - 0.45 - 0.44	0.47	0.45
Power Consumption (Rated)		W	96 - 96 - 96	96 - 96 - 96	98	96
Power Factor (Rated)		%	90.9 - 92.8 - 93.0	92.8 - 92.8 - 90.9	90.7	92.8
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	280 × 1,100 × 566		280 × 1,100 × 566	
Weight (Mass)		kg	17		17	
Gross Weight (Gross Mass)		kg	24		24	
Sound Pressure Level	H / M / L / SL	dB(A)	47 / 43 / 39 / 36	46 / 41 / 35 / 33	48 / 45 / 41 / 39	47 / 42 / 37 / 34
Sound Power Level		dB	63	62	64	63
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D071657		3D050882	

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

Duct Connected Type

50 Hz, 230 V

Model			FDXS25E7VMB		FDXS35E7VMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Airflow Rate	H	m³/min (cfm)	8.7 (307)	8.7 (307)	8.7 (307)	8.7 (307)
	M		8.0 (282)	8.0 (282)	8.0 (282)	8.0 (282)
	L		7.3 (258)	7.3 (258)	7.3 (258)	7.3 (258)
	SL		6.2 (219)	6.2 (219)	6.2 (219)	6.2 (219)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	62		62	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.48	0.48	0.48	0.48
Power Consumption (Rated)		W	71	71	71	71
Power Factor (Rated)		%	64.3	64.3	64.3	64.3
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	200 × 700 × 620		200 × 700 × 620	
Packaged Dimensions (H × W × D)		mm	274 × 906 × 751		274 × 906 × 751	
Weight (Mass)		kg	21		21	
Gross Weight (Gross Mass)		kg	29		29	
Sound Pressure Level	H / M / L / SL	dB(A)	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29
Sound Power Level		dB	53	53	53	53
External Static Pressure		Pa	30		30	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)		VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D060029		3D060030	

Model			FDXS50C7VMB		FDXS60C7VMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Airflow Rate	H	m³/min (cfm)	12.0 (424)	12.0 (424)	16.0 (565)	16.0 (565)
	M		11.0 (388)	11.0 (388)	14.8 (523)	14.8 (523)
	L		10.0 (353)	10.0 (353)	13.5 (477)	13.5 (477)
	SL		8.4 (297)	8.4 (297)	11.2 (395)	11.2 (395)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	130		130	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.64	0.64	0.74	0.74
Power Consumption (Rated)		W	140	140	160	160
Power Factor (Rated)		%	95.1	95.1	94.0	94.0
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	200 × 900 × 620		200 × 1,100 × 620	
Packaged Dimensions (H × W × D)		mm	266 × 1,106 × 751		266 × 1,306 × 751	
Weight (Mass)		kg	27		30	
Gross Weight (Gross Mass)		kg	34		37	
Sound Pressure Level	H / M / L / SL	dB(A)	37 / 35 / 33 / 31	37 / 35 / 33 / 31	38 / 36 / 34 / 32	38 / 36 / 34 / 32
Sound Power Level		dB	55	55	56	56
External Static Pressure		Pa	40		40	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)		VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D060033		3D065477	

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

Ceiling Mounted Cassette Type

50 Hz, 220 - 230 - 240 V

Model			FCQG35FVEB		FCQG50FVEB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			3.5 kW Class		5.0 kW Class	
Decoration Panel	Model		BYCQ140D7W1 / BYCQ140D7W1W / BYCQ140D7GW1		BYCQ140D7W1 / BYCQ140D7W1W / BYCQ140D7GW1	
	Color		Fresh White		Fresh White	
	Dimensions (H × W × D)	mm	60 × 950 × 950 / 60 × 950 × 950 / 145 × 950 × 950		60 × 950 × 950 / 60 × 950 × 950 / 145 × 950 × 950	
	Weight (Mass)	kg	5.4 / 5.4 / 10.3		5.4 / 5.4 / 10.3	
	Air Filter		Resin net with mold resistance		Resin net with mold resistance	
Airflow Rate	H	m^3/min	12.5	12.5	12.6	12.6
	M		10.6	10.6	10.7	10.7
	L		8.7	8.7	8.7	8.7
Fan	Type		Turbo Fan		Turbo Fan	
	Motor Output	W	48		48	
	Speed	Steps	3 Steps		3 Steps	
Dimensions (H × W × D)		mm	204 × 840 × 840		204 × 840 × 840	
Packaged Dimensions (H × W × D)		mm	220 × 880 × 880		220 × 880 × 880	
Weight (Mass)		kg	18		19	
Gross Weight (Gross Mass)		kg	22		23	
Sound Pressure Level	H / M / L	dB(A)	31 / 29 / 27		31 / 29 / 27	
Sound Power Level	H	dB	49		49	
Heat Insulation			Foamed polystyrene / Foamed polyethylene		Foamed polystyrene / Foamed polyethylene	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 9.52 (Flare)		ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	
Drawing No.			3D076994		3D076994	

Model			FCQG60FVEB	
			Cooling	Heating
Rated Capacity			6.0 kW Class	
Decoration Panel	Model		BYCQ140D7W1 / BYCQ140D7W1W / BYCQ140D7GW1	
	Color		Fresh White	
	Dimensions (H × W × D)	mm	60 × 950 × 950 / 60 × 950 × 950 / 145 × 950 × 950	
	Weight (Mass)	kg	5.4 / 5.4 / 10.3	
	Air Filter		Resin net with mold resistance	
Airflow Rate	H	m^3/min	13.6	13.6
	M		11.2	11.2
	L		8.7	8.7
Fan	Type		Turbo Fan	
	Motor Output	W	48	
	Speed	Steps	3 Steps	
Dimensions (H × W × D)		mm	204 × 840 × 840	
Packaged Dimensions (H × W × D)		mm	220 × 880 × 880	
Weight (Mass)		kg	19	
Gross Weight (Gross Mass)		kg	23	
Sound Pressure Level	H / M / L	dB(A)	33 / 31 / 28	
Sound Power Level	H	dB	51	
Heat Insulation			Foamed polystyrene / Foamed polyethylene	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)	
	Gas	mm	ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)	
Drawing No.			3D076994	

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

50 Hz, 230 V

Model			FFQ25B9V1B		FFQ35B9V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Decoration Panel	Model		BYFQ60B8W1		BYFQ60B8W1	
	Color		White		White	
	Dimensions (H × W × D)	mm	55 × 700 × 700		55 × 700 × 700	
	Weight (Mass)	kg	2.7		2.7	
Airflow Rate	H	m³/min (cfm)	9.0 (318)	9.0 (318)	10.0 (353)	10.0 (353)
	L		6.5 (230)	6.5 (230)	6.5 (230)	6.5 (230)
Fan	Type		Turbo Fan		Turbo Fan	
	Motor Output	W	55		55	
	Speed	Steps	2 Steps		2 Steps	
Air Direction Control			Horizontal, Downward		Horizontal, Downward	
Running Current (Rated)		A	0.37	0.32	0.40	0.36
Power Consumption (Rated)		W	73	64	84	76
Power Factor (Rated)		%	85.8	87.0	91.3	91.8
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D) ★		mm	260 (286) × 575 × 575		260 (286) × 575 × 575	
Packaged Dimensions (H × W × D)		mm	370 × 687 × 674		370 × 687 × 674	
Weight (Mass)		kg	17.5		17.5	
Gross Weight (Gross Mass)		kg	21		21	
Sound Pressure Level	H / L	dB(A)	29.5 / 24.5		32.0 / 25.0	
Sound Power Level		dB	46.5		49.0	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 9.5	
	Drain	mm	VP20 (O.D ϕ 26 / I.D ϕ 20)		VP20 (O.D ϕ 26 / I.D ϕ 20)	
Drawing No.			3D060405		3D060407	

Model			FFQ50B9V1B		FFQ60B9V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Decoration Panel	Model		BYFQ60B8W1		BYFQ60B8W1	
	Color		White		White	
	Dimensions (H × W × D)	mm	55 × 700 × 700		55 × 700 × 700	
	Weight (Mass)	kg	2.7		2.7	
Airflow Rate	H	m³/min (cfm)	12.0 (424)	12.0 (424)	15.0 (530)	15.0 (530)
	L		8.0 (283)	8.0 (283)	10.0 (353)	10.0 (353)
Fan	Type		Turbo Fan		Turbo Fan	
	Motor Output	W	55		55	
	Speed	Steps	2 Steps		2 Steps	
Air Direction Control			Horizontal, Downward		Horizontal, Downward	
Running Current (Rated)		A	0.49	0.45	0.61	0.56
Power Consumption (Rated)		W	97	89	120	111
Power Factor (Rated)		%	86.1	86.0	85.5	86.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D) ★		mm	260 (286) × 575 × 575		260 (286) × 575 × 575	
Packaged Dimensions (H × W × D)		mm	370 × 687 × 674		370 × 687 × 674	
Weight (Mass)		kg	17.5		17.5	
Gross Weight (Gross Mass)		kg	21		21	
Sound Pressure Level	H / L	dB(A)	36.0 / 27.0		41.0 / 32.0	41.0 / 32.0
Sound Power Level		dB	53.0		58.0	—
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	VP20 (O.D ϕ 26 / I.D ϕ 20)		VP20 (O.D ϕ 26 / I.D ϕ 20)	
Drawing No.			3D060409		3D040436	

Note: ★ ( ) : dimension including control box

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

Ceiling Suspended Type

50 Hz, 220 - 230 - 240 V

Model			FHQ35BWV1B		FHQ50BWV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			3.5 kW Class		5.0 kW Class	
Panel Color			White		White	
Airflow Rate	H	m³/min	13.0 (459)	13.0 (459)	13.0 (459)	13.0 (459)
	L		10.0 (353)	10.0 (353)	10.0 (353)	10.0 (353)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	62		62	
	Speed	Steps	2 Steps		2 Steps	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	195 × 960 × 680		195 × 960 × 680	
Packaged Dimensions (H × W × D)		mm	279 × 1,046 × 818		279 × 1,046 × 818	
Weight (Mass)		kg	24		25	
Gross Weight (Gross Mass)		kg	31		32	
Sound Pressure Level	H / L	dB(A)	37 / 32		38 / 33	
Sound Power Level		dB	53		54	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)		VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D075705		3D075706	

Model			FHQ60BWV1B	
			Cooling	Heating
Rated Capacity			6.0 kW Class	
Panel Color			White	
Airflow Rate	H	m³/min	17.0 (600)	16.0 (565)
	L		13.0 (459)	13.0 (459)
Fan	Type		Sirocco Fan	
	Motor Output	W	62	
	Speed	Steps	2 Steps	
Air Direction Control			Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof	
Temperature Control			Microcomputer Control	
Dimensions (H × W × D)		mm	195 × 1,160 × 680	
Packaged Dimensions (H × W × D)		mm	279 × 1,246 × 818	
Weight (Mass)		kg	27	
Gross Weight (Gross Mass)		kg	35	
Sound Pressure Level	H / L	dB(A)	39 / 33	
Sound Power Level		dB	55	
Heat Insulation			Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4	
	Gas	mm	ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D075707	

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

Ceiling Mounted Built-in Type

Model			50 Hz, 230 V		50 Hz, 220 - 230 - 240 V / 60 Hz, 220 V	
			FDBQ25B8V1		FBQ35C8VEB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Decoration Panel	Model		—		BYBS45DJW1	
	Color		—		White	
	Dimensions (H × W × D)		—		55 × 800 × 500	
	Weight (Mass)	kg	—		3.5	
Airflow Rate	H	m^3/min	6.5	6.95	16.0	
	L		5.2	5.2	11.0	
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	10		140	
	Speed	Steps	2 Steps		2 Steps	
Air Filter			Resin net with mold resistance		Resin net with mold resistance	
Dimensions (H × W × D)		mm	230 × 652 × 502		300 × 700 × 700	
Packaged Dimensions (H × W × D)		mm	301 × 753 × 584		325 × 920 × 900	
Weight (Mass)		kg	17		25	
Gross Weight (Gross Mass)		kg	18		28	
Sound Pressure Level	H / L	dB(A)	35 / 28	35 / 29	37 / 29	
Sound Power Level	H / L	dB	55 / 49		63 / —	
Heat Insulation			—		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.35		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 9.52		ϕ 9.52 (Flare)	
	Drain	mm	O.D. ϕ 27.2		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

Model			FBQ50C8VEB		FBQ60C8VEB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Decoration Panel	Model		BYBS45DJW1		BYBS71DJW1	
	Color		White		White	
	Dimensions (H × W × D)		55 × 800 × 500		55 × 1,100 × 500	
	Weight (Mass)	kg	3.5		4.5	
Airflow Rate	H	m^3/min	16.0		18.0	
	L		11.0		15.0	
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	140		350	
	Speed	Steps	2 Steps		2 Steps	
Air Filter			Resin net with mold resistance		Resin net with mold resistance	
Dimensions (H × W × D)		mm	300 × 700 × 700		300 × 1,000 × 700	
Packaged Dimensions (H × W × D)		mm	355 × 920 × 920		355 × 1,220 × 900	
Weight (Mass)		kg	25		34	
Gross Weight (Gross Mass)		kg	28		41	
Sound Pressure Level	H / L	dB(A)	37 / 29		37 / 29	
Sound Power Level	H / L	dB	63 / —		57 / —	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 12.7 (Flare)		ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

Part 3
Printed Circuit Board Connector Wiring Diagram

1. Outdoor Unit

Connectors and Other Parts

PCB (1): Main PCB

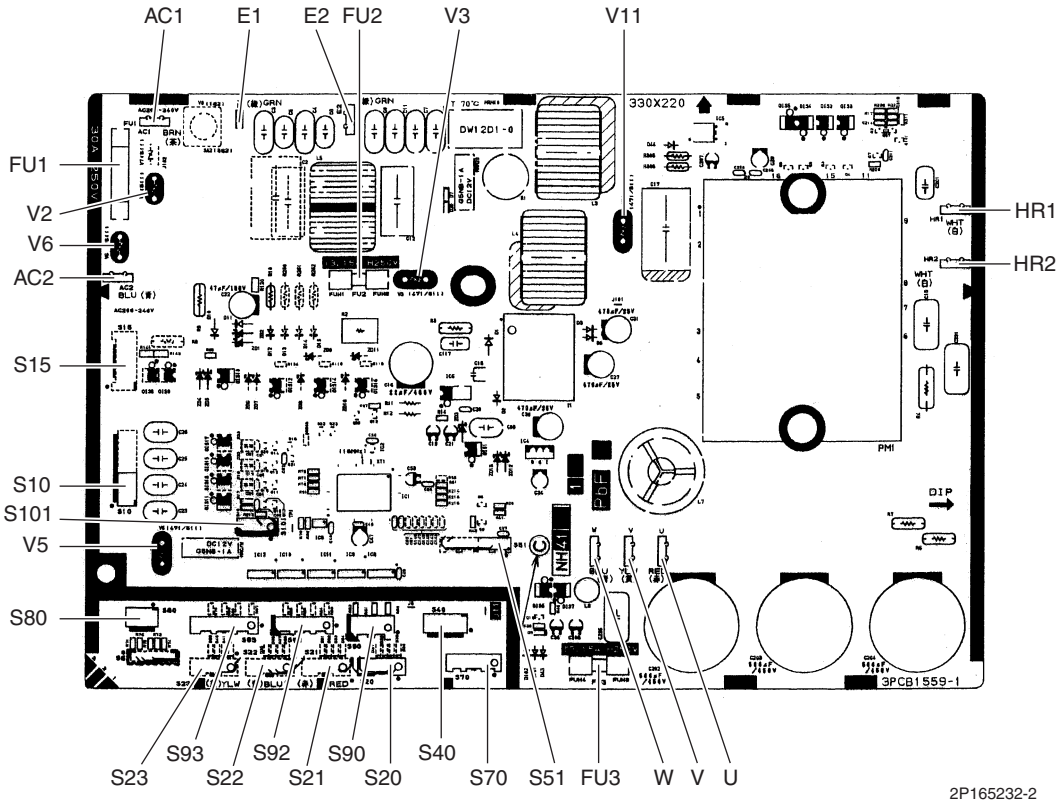
1)	S10	Connector for terminal board (indoor - outdoor transmission)
2)	S15	Connector for COOL / HEAT mode lock ∗ Refer to page 413 for detail.
3)	S20 (white)	Connector for electronic expansion valve coil A port
4)	S21 (red)	Connector for electronic expansion valve coil B port
5)	S22 (blue)	Connector for electronic expansion valve coil C port
6)	S23 (yellow)	Connector for electronic expansion valve coil D port (for 4 and 5-room model)
7)	S24 (green)	Connector for electronic expansion valve coil E port (for 5-room model only)
8)	S40	Connector for overload protector
9)	S51, S101	Connector for service monitor PCB
10)	S70	Connector for outdoor fan motor
11)	S80	Connector for four way valve coil
12)	S90	Connector for thermistors (outdoor temperature, outdoor heat exchanger, discharge pipe temperature)
13)	S92	Connector for gas pipe thermistors
14)	S93	Connector for liquid pipe thermistors
15)	AC1, AC2	Connector for terminal board (power supply)
16)	HR1, HR2	Connector for reactor
17)	E1, E2	Connector for earth
18)	U, V, W	Connector for compressor
19)	FU1	Fuse (30 A, 250 V)
20)	FU2, FU3	Fuse (3.15 A, 250 V)
21)	V2, V3, V5 V6, V11 V9, V100	Varistor (for 40 - 58 class) (for 68 - 90 class)

PCB (2): Service Monitor PCB

1)	S52, S102	Connector for main PCB
2)	LED A	LED for service monitor (green)
3)	LED1 - LED4	LED for service monitor (red)
4)	LED 5	LED for service monitor (red) (for 5-room model only)
5)	SW1	Forced operation [ON/OFF] switch ∗ Refer to page 405 for detail.
6)	SW2	Operation mode switch ∗ Refer to page 405 for detail.
7)	SW3	Wiring error check switch ∗ Refer to page 406 for detail.
8)	SW4	Priority room setting switch ∗ Refer to page 412 for detail.
9)	SW5	NIGHT QUIET mode setting switch ∗ Refer to page 414 for detail.

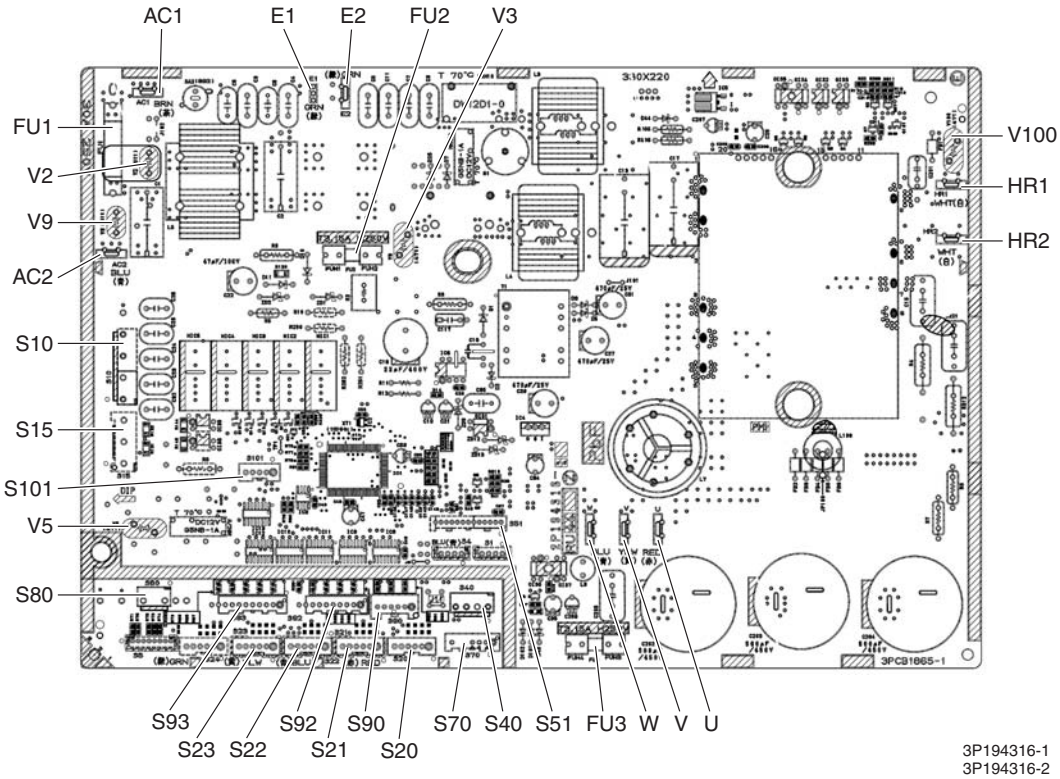
PCB Detail

PCB (1): Main PCB (40/50/52/58 class)



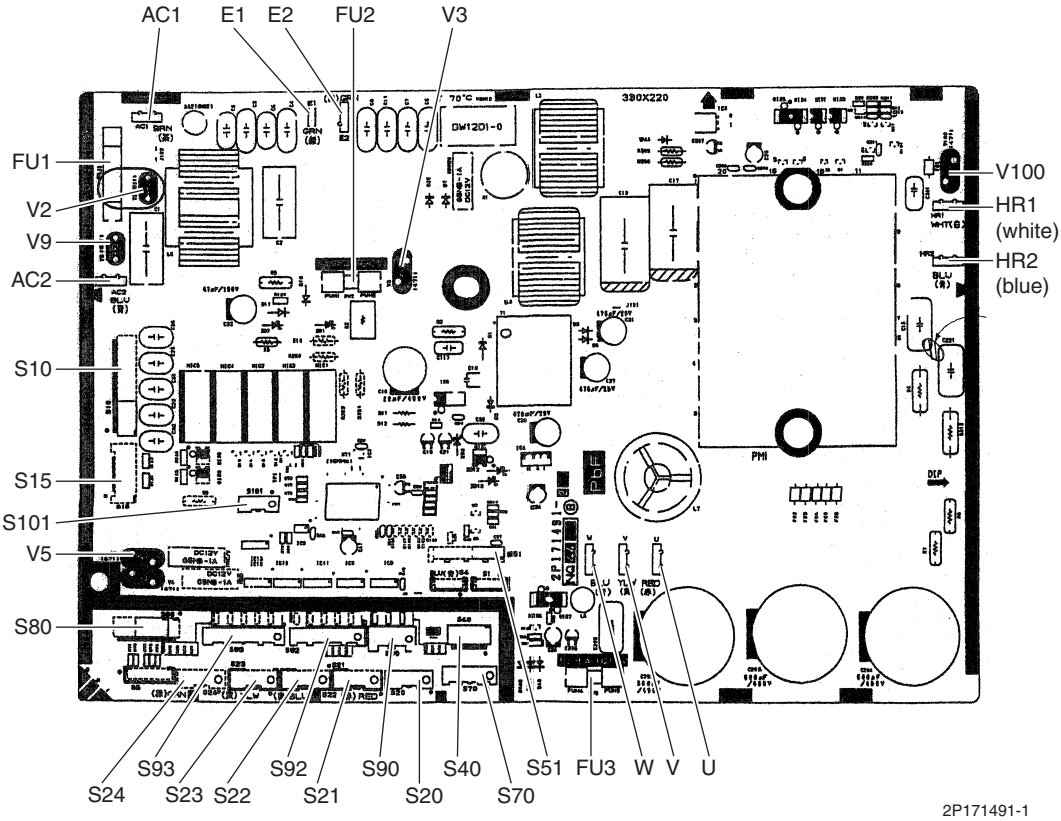
2P165232-2
2P165232-4

PCB (1): Main PCB (68/75 class)



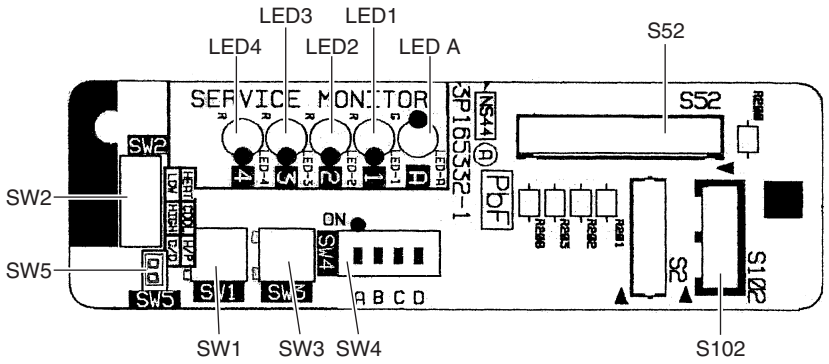
3P194316-1
3P194316-2

PCB (1): Main PCB (80/90 class)



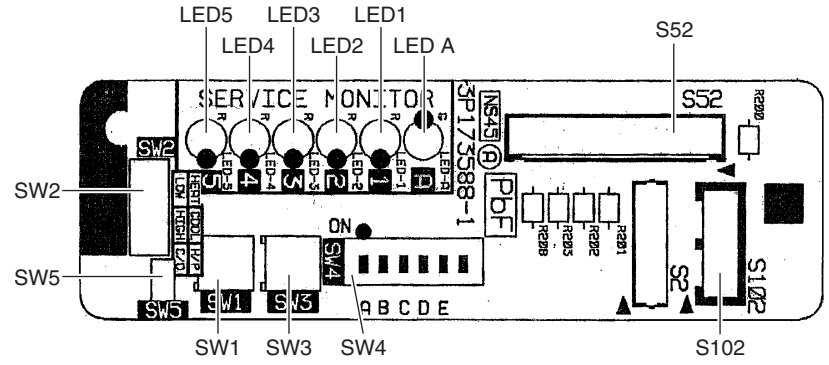
2P171491-1
2P171491-2

PCB (2): Service Monitor PCB (for 3 or 4-room model)



3P165332-1

PCB (2): Service Monitor PCB (for 5-room model)



3P173588-1

2. Indoor Unit

2.1 FTXG25/35/50JV1BW(A)

Connectors and Other Parts

[A1P]: Control PCB

1)	S21	Connector for centralized control (HA)
2)	S25	Connector for INTELLIGENT EYE sensor PCB
3)	S32	Indoor heat exchanger thermistor
4)	S41	Connector for swing motors
5)	S42	Connector for reduction motor (front panel mechanism) and limit switch
6)	S46	Connector for signal receiver / display PCB
7)	S200	Connector for fan motor
8)	H1, H2, H3, FG	Connector for terminal board
9)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 418 for detail.
10)	LED A	LED for service monitor (green)
11)	F1U	Fuse (3.15 A, 250 V)
12)	V1	Varistor

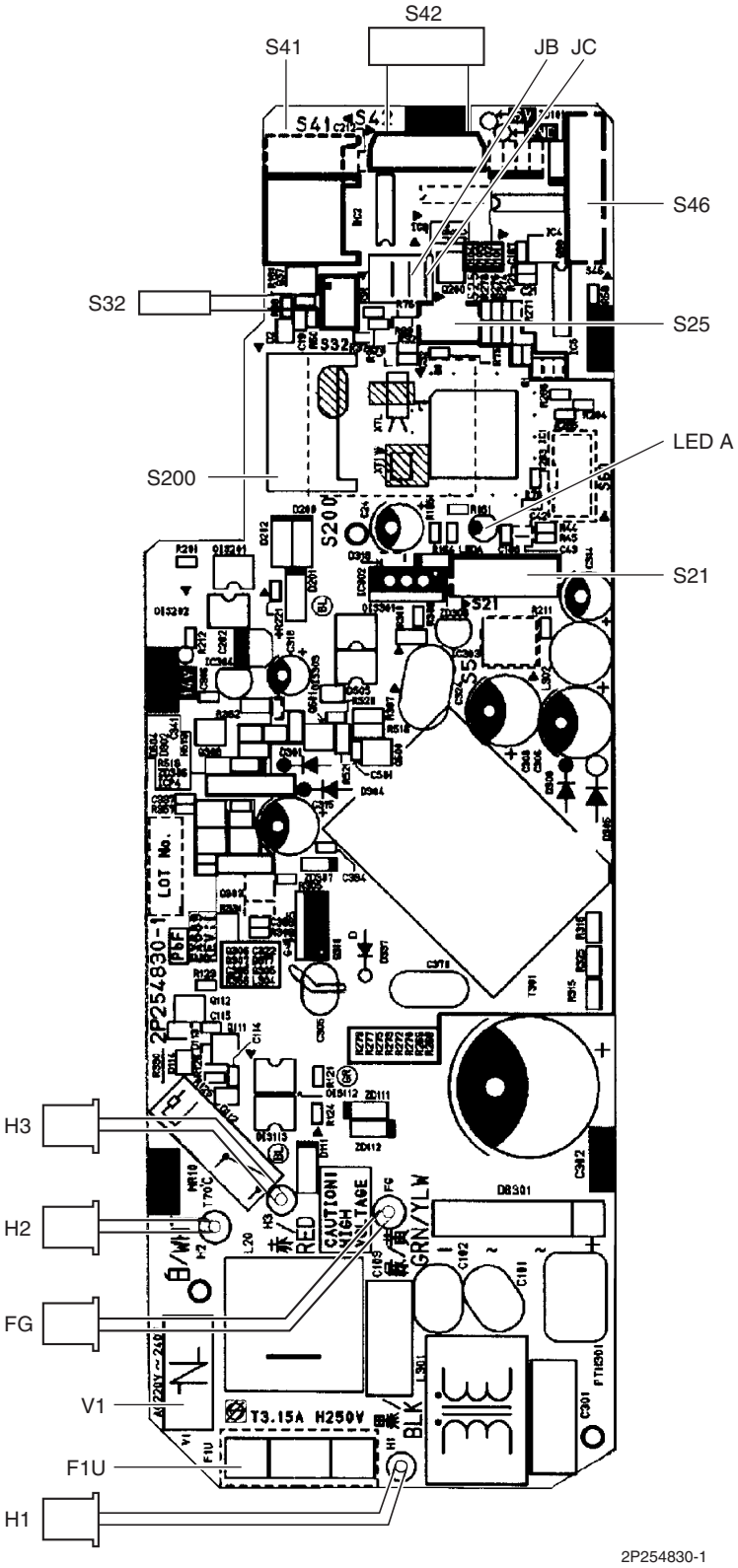
[A2P]: Signal Receiver / Display PCB

1)	S51	Connector for control PCB
2)	S52	Connector for room temperature thermistor
3)	S1W	Forced cooling operation [ON/OFF] button
4)	H1P	LED for operation (multi-color)
5)	H2P	LED for INTELLIGENT EYE (green)
6)	JA	Address setting jumper
		∗ Refer to page 415 for detail.

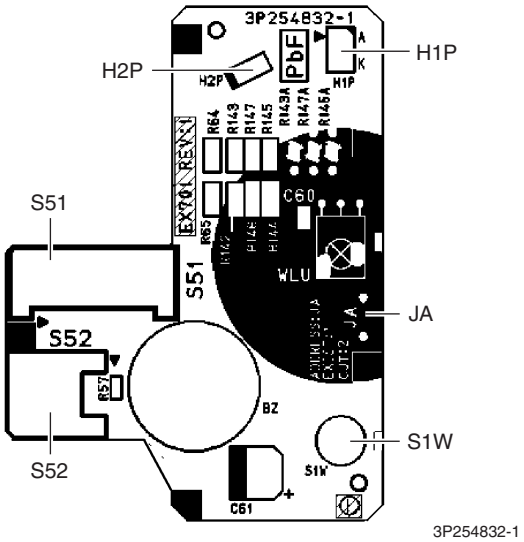
[A3P]: INTELLIGENT EYE Sensor PCB

1)	S36	Connector for control PCB

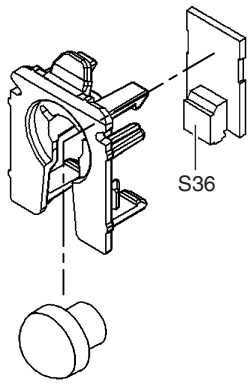
PCB Detail **[A1P]: Control PCB**



[A2P]: Signal Receiver / Display PCB



[A3P]: INTELLIGENT EYE Sensor PCB



2.2 FTXS20/25K2V1B, CTXS15/35K2V1B

Connectors and Other Parts

PCB(1): Control PCB

1)	S6	Connector for swing motor (horizontal blade)
2)	S25	Connector for INTELLIGENT EYE sensor PCB
3)	S26	Connector for display PCB
4)	S32	Connector for indoor heat exchanger thermistor
5)	S200	Connector for fan motor
6)	S403	Connector for adaptor PCB (option)
7)	FG1, FG2	Connector for terminal board (frame ground)
8)	H1, H2, H3	Connector for terminal board (indoor - outdoor transmission)
9)	V1	Varistor
10)	JA	Address setting jumper
		∗ Refer to page 415 for detail.
11)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 418 for detail.
12)	LED A	LED for service monitor (green)
13)	FU1 (F1U)	Fuse (3.15 A, 250 V)

PCB (2): Display PCB

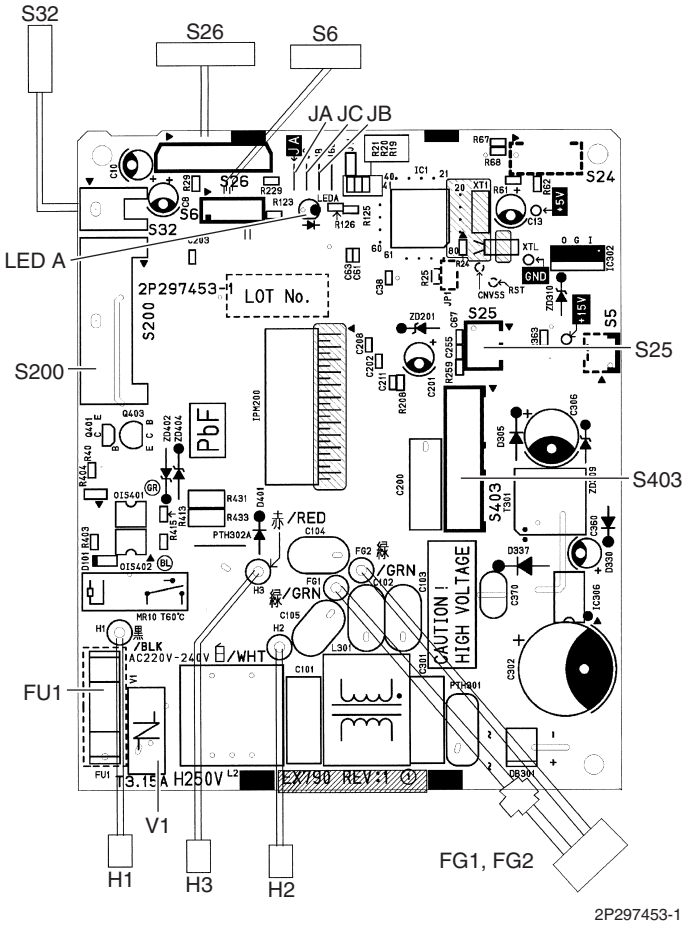
1)	S27	Connector for control PCB
2)	SW1 (S1W)	Forced cooling operation [ON/OFF] button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (3): INTELLIGENT EYE Sensor PCB

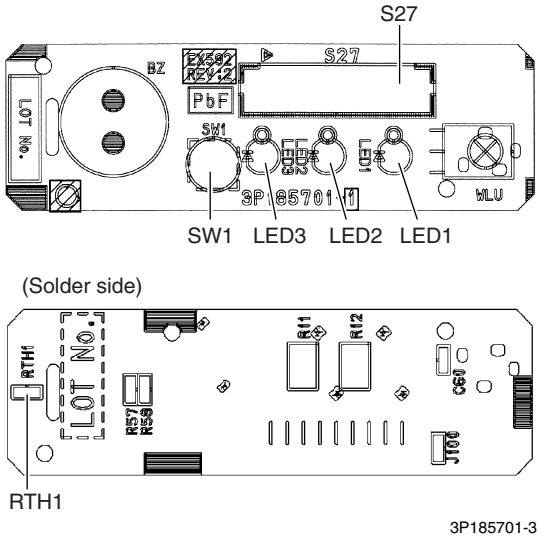
1)	S36	Connector for control PCB

PCB Detail

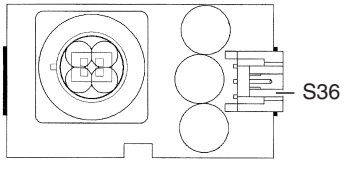
PCB(1): Control PCB



PCB(2): Display PCB



PCB(3): INTELLIGENT EYE Sensor PCB



2.3 FTXS25/35/42/50J2V1B

Connectors and Other Parts

PCB (1): Control PCB

1)	S1	Connector for DC fan motor
2)	S21	Connector for centralized control (HA)
3)	S25	Connector for INTELLIGENT EYE sensor PCB
4)	S32	Indoor heat exchanger thermistor
5)	S41	Connector for swing motors
6)	S46	Connector for display PCB
7)	S47	Connector for signal receiver PCB
8)	H1, H2, H3, FG	Connector for terminal board
9)	JA	Address setting jumper ∗ Refer to page 415 for detail.
10)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart) ∗ Refer to page 418 for detail.
11)	LED A	LED for service monitor (green)
12)	FU1 (F1U)	Fuse (3.15 A, 250 V)
13)	V1	Varistor

PCB (2): Signal Receiver PCB

1)	S48	Connector for control PCB

PCB (3): Display PCB

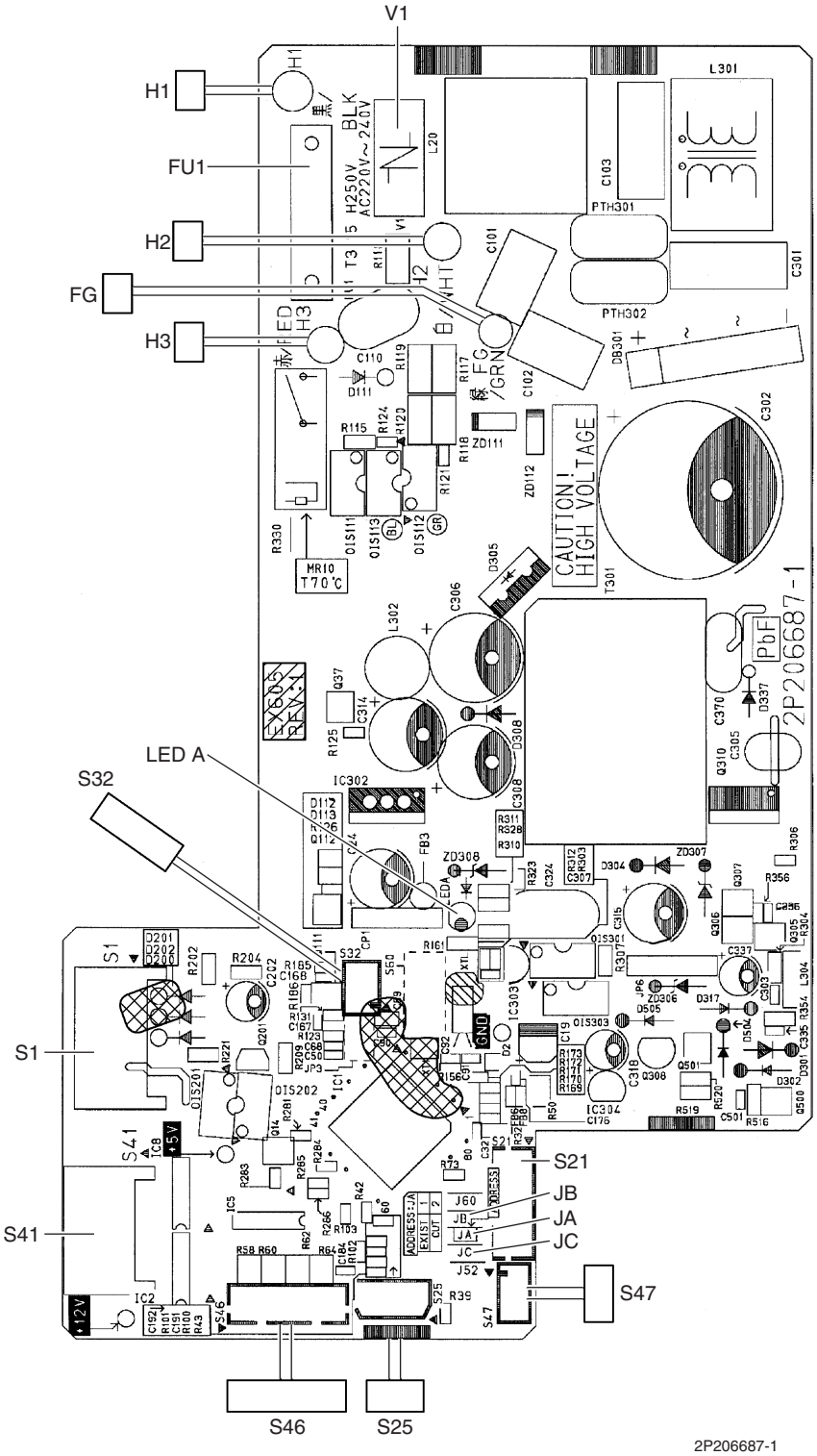
1)	S49	Connector for control PCB
2)	SW1	Forced cooling operation [ON/OFF] button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (4): INTELLIGENT EYE Sensor PCB

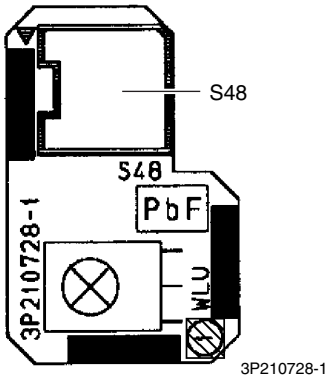
1)	S26	Connector for control PCB

PCB Detail

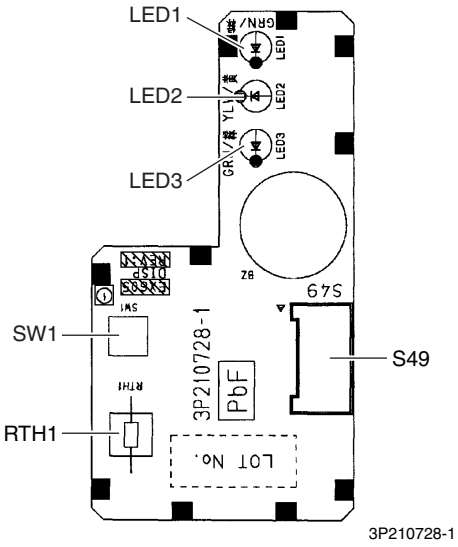
PCB (1): Control PCB



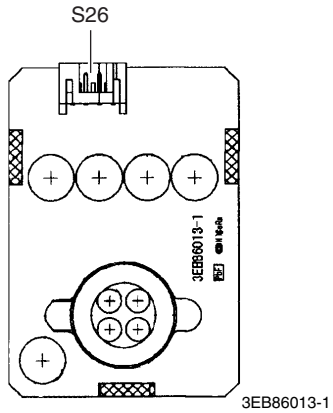
PCB (2): Signal Receiver PCB



PCB (3): Display PCB



PCB (4): INTELLIGENT EYE Sensor PCB



2.4 FTXS60/71GV1B

Connectors and Other Parts

PCB (1): Control PCB

1)	S1	Connector for DC fan motor
2)	S21	Connector for centralized control (HA)
3)	S25	Connector for INTELLIGENT EYE sensor PCB
4)	S32	Connector for indoor heat exchanger thermistor
5)	S41	Connector for swing motors
6)	S46	Connector for display PCB
7)	S47	Connector for signal receiver PCB
8)	H1, H2, H3, FG	Connector for terminal board
9)	V1	Varistor
10)	JA	Address setting jumper ∗ Refer to page 415 for detail.
11)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart) ∗ Refer to page 418 for detail.
12)	LED A	LED for service monitor (green)
13)	FU1 (F1U)	Fuse (3.15 A, 250 V)

PCB (2): Signal Receiver PCB

1)	S48	Connector for control PCB

PCB (3): Display PCB

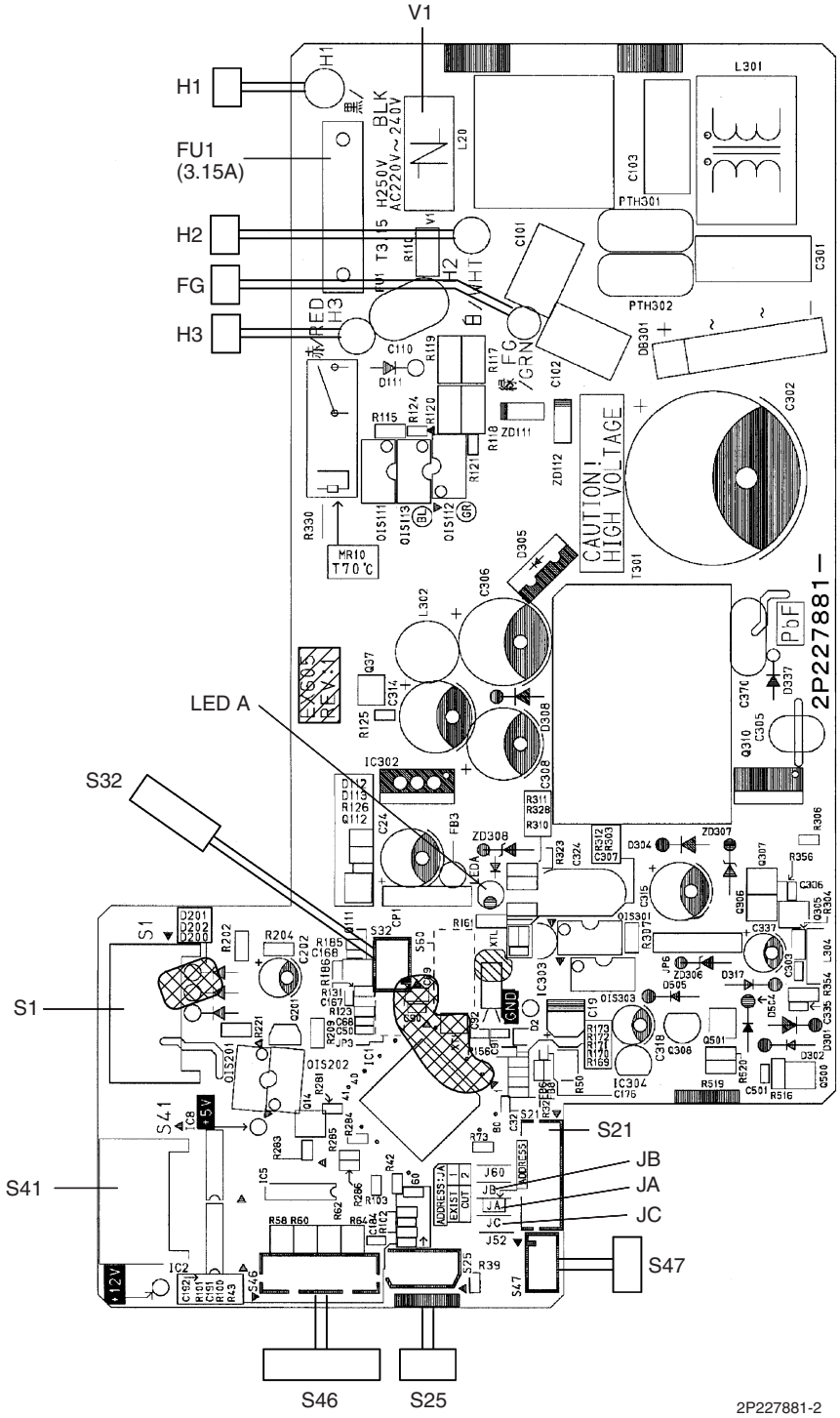
1)	S49	Connector for control PCB
2)	SW1	Forced cooling operation [ON/OFF] button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (4): INTELLIGENT EYE Sensor PCB

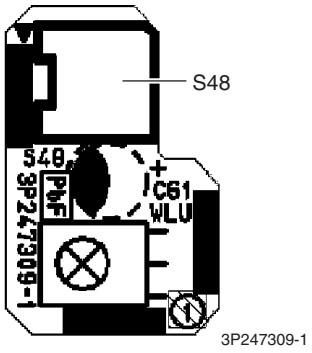
1)	S36	Connector for control PCB

PCB Detail

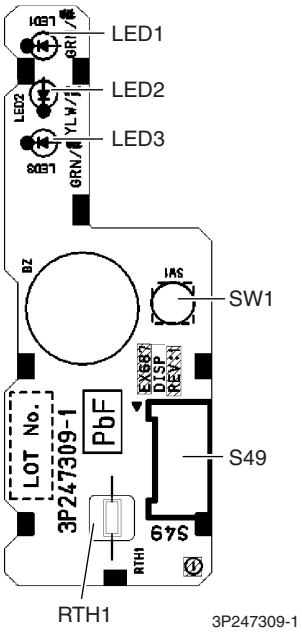
PCB (1): Control PCB



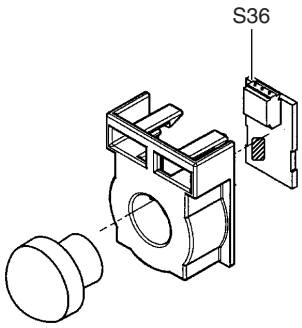
PCB (2): Signal Receiver PCB



PCB (3): Display PCB



PCB (4): INTELLIGENT EYE Sensor PCB



3P227885-1

2.5 FVXG25/35/50K2V1B

Connectors and Other Parts

PCB (1): Main PCB

1)	S1	Connector for fan motor
2)	S2	Connector for terminal board
3)	S6	Connector for swing motor
4)	S21	Connector for centralized control (HA)
5)	S26	Connector for service PCB
6)	S30	Connector for indoor electronic expansion valve coil (motor operated valve coil)
7)	S32	Connector for indoor heat exchanger thermistor
8)	S33	Connector for room temperature thermistor
9)	S34	Connector for radiant panel thermistors
10)	S46	Connector for display PCB
11)	FG	Connector for earth
12)	V1	Varistor
13)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function ∗ Refer to page 418 for detail.
14)	F1U	Fuse (3.15A, 250V)
15)	LED A	LED for service monitor (green)

PCB (2): Display PCB

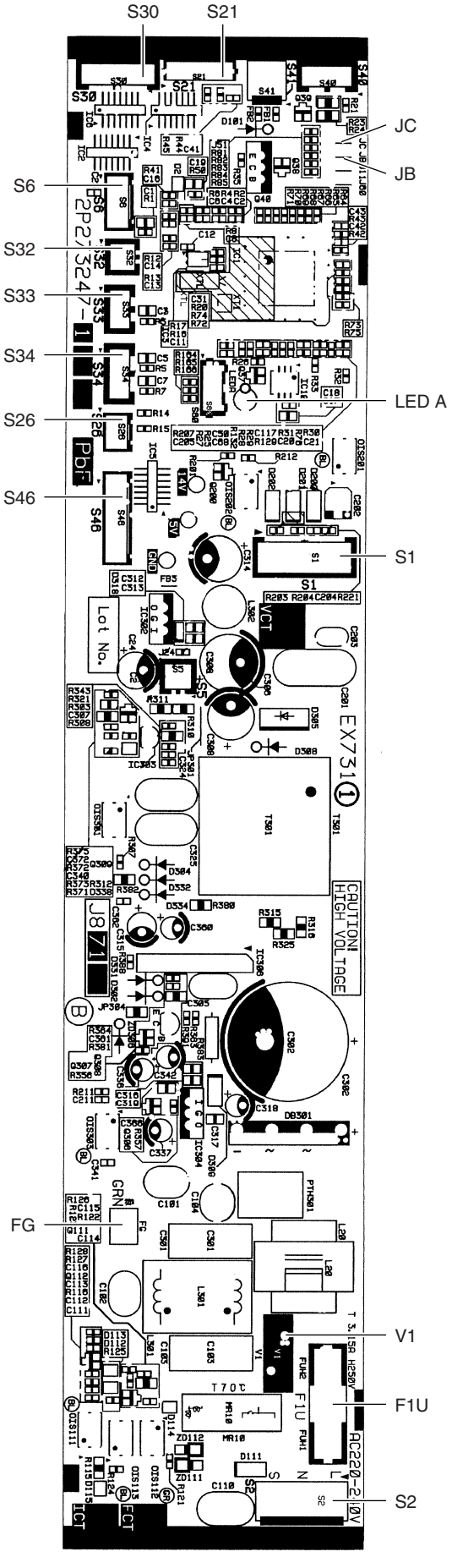
1)	S56	Connector for main PCB
2)	S1W	Forced cooling operation [ON/OFF] button
3)	H1P	LED for operation (green)
4)	H2P	LED for timer (yellow)
5)	H3P	LED for RADIANT operation (red)

PCB (3): Service PCB

1)	S27	Connector for main PCB
2)	S2W-1	Address setting switch ∗ Refer to page 415 for detail. ∗ Keep the other switches as factory setting (OFF).

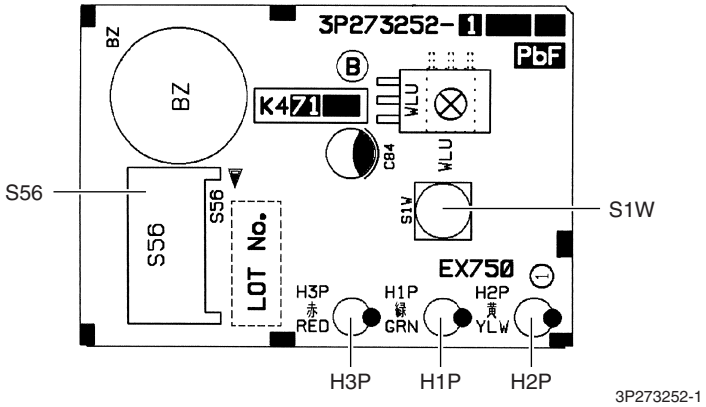
PCB Detail

PCB (1): Main PCB

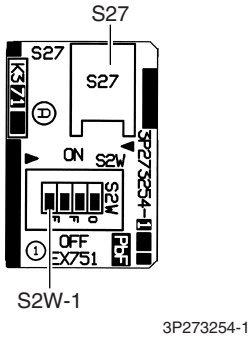


2P273247-1

PCB (2): Display PCB



PCB (3): Service PCB



2.6 FVXS25/35/50FV1B

Connectors and Other Parts

PCB (1): Sensor PCB

1)	S49	Connector for control PCB
2)	RTH2 (R1T)	Room temperature thermistor

PCB (2): Control PCB

1)	S1	Connector for fan motor
2)	S21	Connector for centralized control (HA)
3)	S26	Connector for service PCB
4)	S32	Indoor heat exchanger thermistor
5)	S41	Connector for lower air outlet motor
6)	S42	Connector for swing motor
7)	S46	Connector for display PCB
8)	S48	Connector for sensor PCB
9)	H1, H2, H3	Connector for terminal board
10)	E1	Terminal for earth
11)	V1, V2	Varistor
12)	JA	Address setting jumper ∗ Refer to page 415 for detail.
13)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function ∗ Refer to page 418 for detail.
14)	FU1 (F1U)	Fuse (3.15A, 250V)
15)	LED A	LED for service monitor (green)

PCB (3): Service PCB

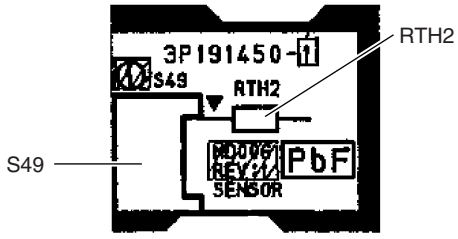
1)	S27	Connector for control PCB
2)	SW2-4	Switch for upward airflow limit setting ∗ Refer to page 418 for detail. ∗ Keep the other switches as factory setting.
3)	SW4 (S4W)	Switch for air outlet selection ∗ Refer to page 185, 195 for detail.

PCB (4): Display PCB

1)	S47	Connector for control PCB
2)	SW1 (S1W)	Forced cooling operation [ON/OFF] button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)

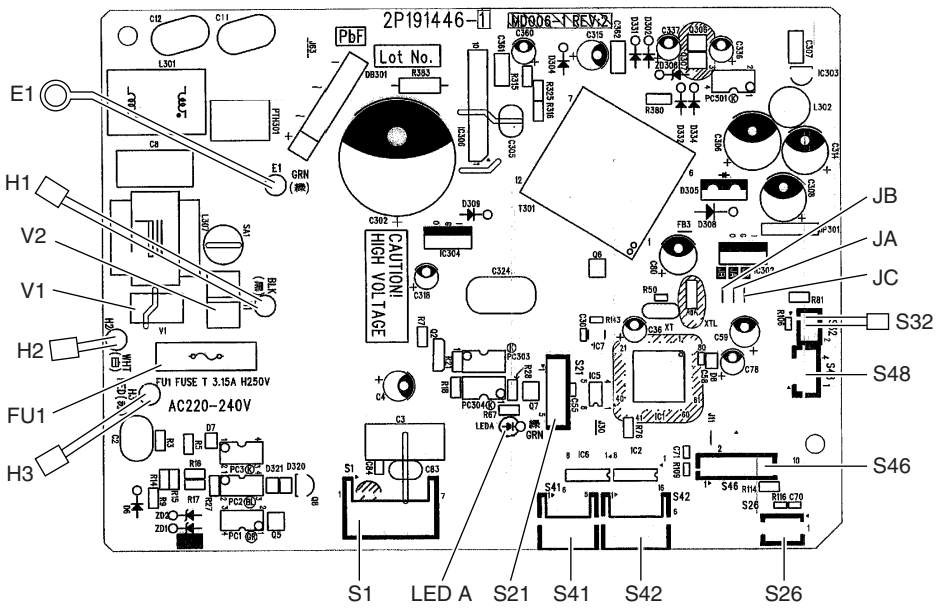
PCB Detail

PCB (1): Sensor PCB



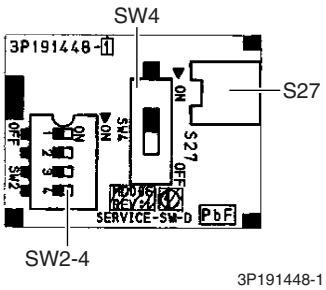
3P191450-1

PCB (2): Control PCB



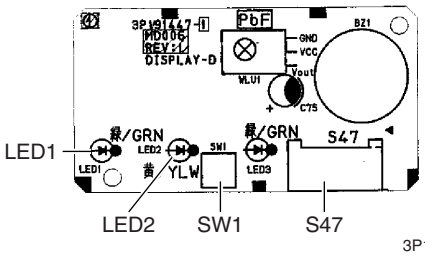
2P191446-1

PCB (3): Service PCB



3P191448-1

PCB (4): Display PCB



3P191447-1

★ LED3 does not function.

2.7 FLXS25/35/50/60BAVMB

Connectors and Other Parts

PCB (1): Control PCB

1)	S6	Connector for swing motor (horizontal swing)
2)	S7	Connector for AC fan motor
3)	S21	Connector for centralized control (HA)
4)	S24	Connector for display PCB
5)	S26	Connector for signal receiver PCB
6)	S32	Connector for indoor heat exchanger thermistor
7)	S37	Connector for power supply PCB
8)	JA	Address setting jumper ∗ Refer to page 415 for detail.
9)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function ∗ Refer to page 418 for detail.
10)	SW2	Select switch for installation (ceiling or floor) ∗ Refer to page 418 for detail.
11)	LED A	LED for service monitor (green)

PCB (2): Power Supply PCB

1)	S36	Connector for control PCB
2)	H1, H2, H3	Connector for terminal board
3)	H4, H5, H6	Connector for AC fan motor
4)	V1	Varistor
5)	FU1	Fuse (3.15A, 250V)

PCB (3): Display PCB

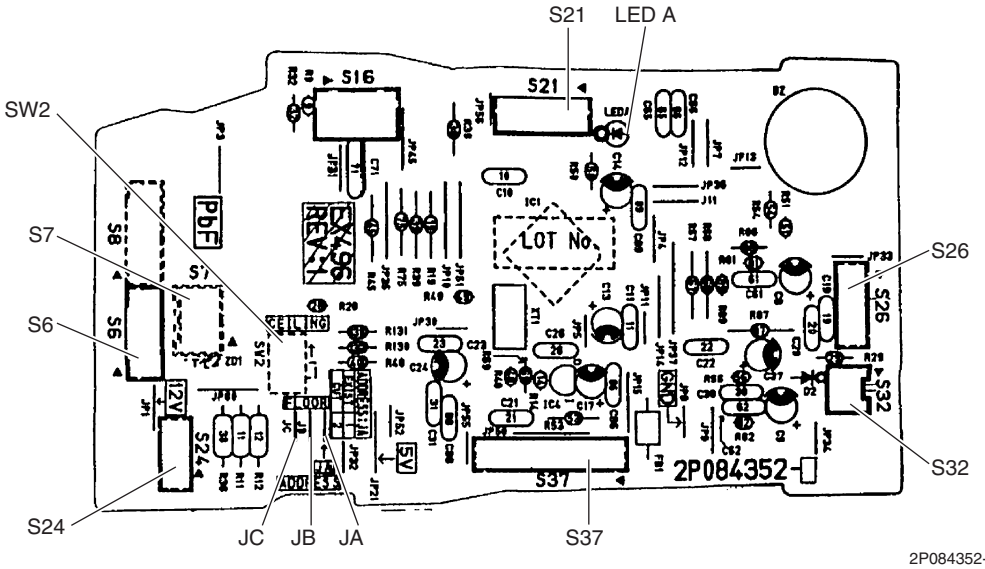
1)	S25	Connector for control PCB
2)	LED1 (H1P)	LED for operation (green)
3)	LED2 (H2P)	LED for timer (yellow)
4)	LED3 (H3P)	LED for HOME LEAVE operation (red)

PCB (4): Signal Receiver PCB

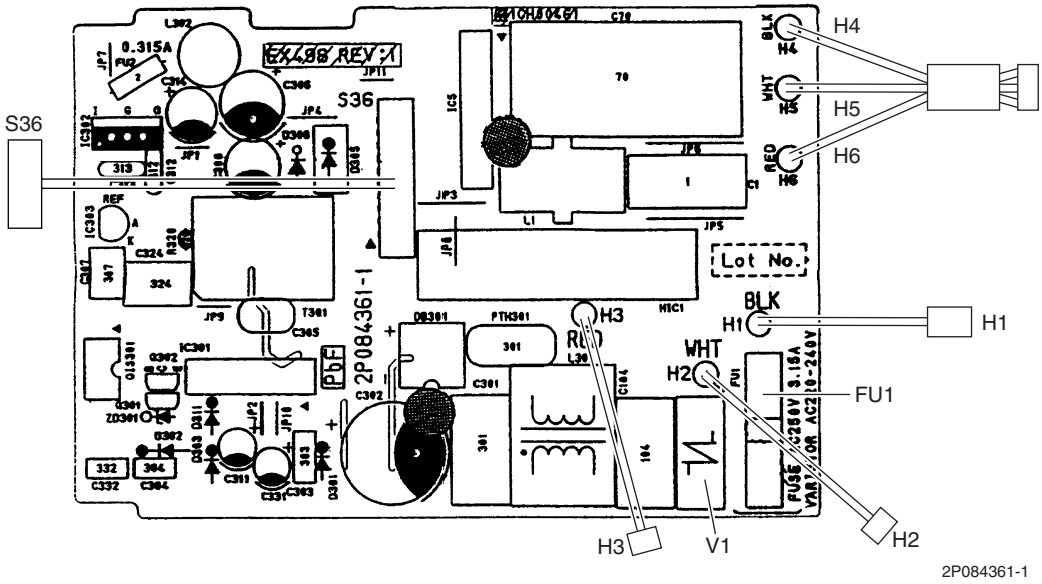
1)	S27	Connector for control PCB
2)	S31 (RTH)	Room temperature thermistor
3)	SW1 (S1W)	Forced cooling operation [ON/OFF] button

PCB Detail

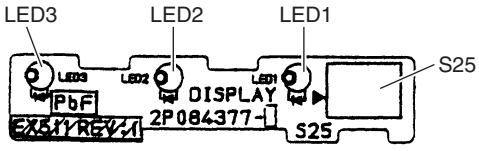
PCB (1): Control PCB



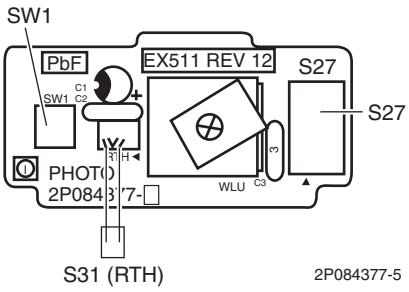
PCB (2): Power Supply PCB



PCB (3): Display PCB



PCB (4): Signal Receiver PCB



2.8 FDXS25/35E7VMB, FDXS50/60C7VMB

Connectors and Other Parts

PCB (1): Control PCB

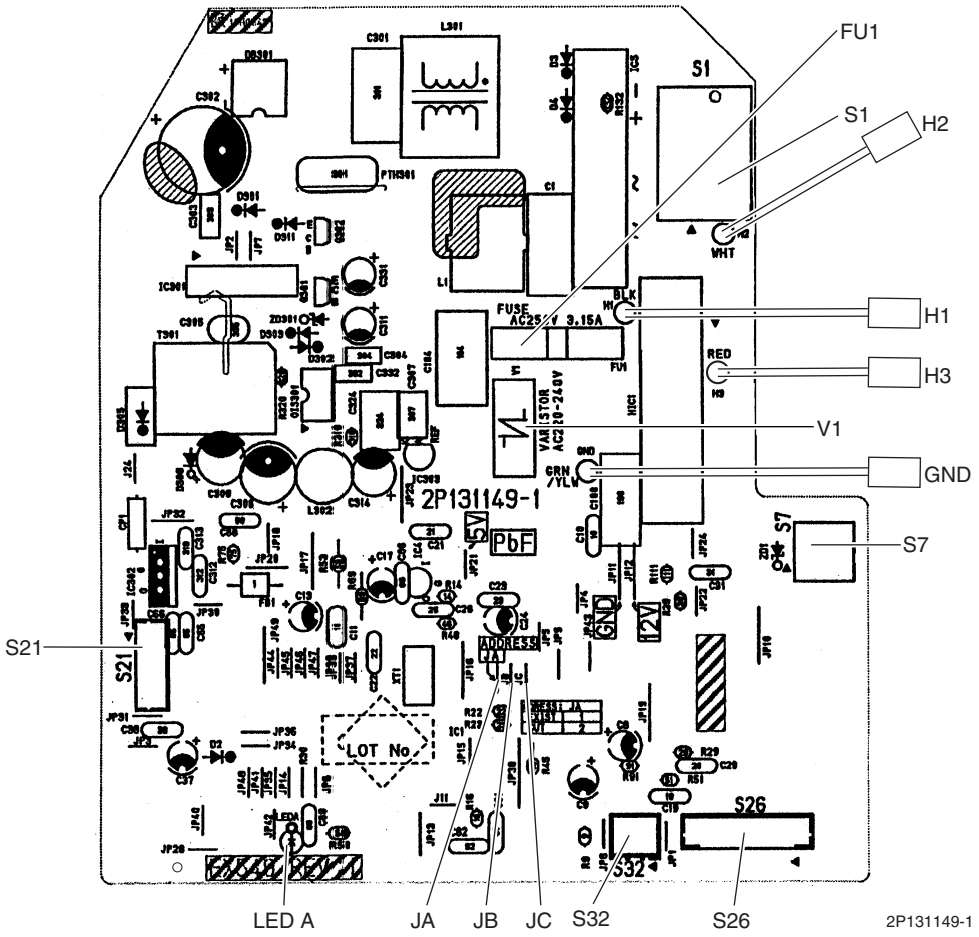
1)	S1	Connector for AC fan motor
2)	S7	Connector for AC fan motor (Hall IC)
3)	S21	Connector for centralized control (HA)
4)	S26	Connector for display PCB
5)	S32	Connector for indoor heat exchanger thermistor
6)	H1, H2, H3	Connector for terminal board
7)	GND	Connector for terminal board (earth)
8)	JA	Address setting jumper ∗ Refer to page 415 for detail.
9)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart) Refer to page 418 for detail.
10)	LED A	LED for service monitor (green)
11)	FU1 (F1U)	Fuse (3.15A, 250V)
12)	V1 (V1TR)	Varistor

PCB (2): Display PCB

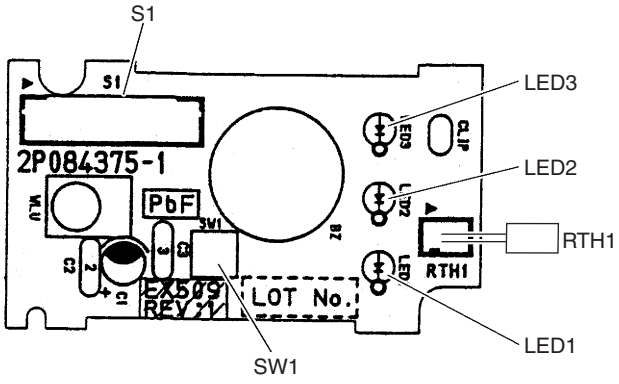
1)	S1	Connector for control PCB
2)	SW1 (S1W)	Forced cooling operation [ON/OFF] button
3)	LED1 (H1P)	LED for HOME LEAVE operation (red)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for operation (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB Detail

PCB (1): Control PCB



PCB (2): Display PCB



2P084375-1

2.9 FCQG35/50/60FVEB

Connectors and Other Parts

[A1P]

1)	X15A	Connector for float switch
2)	X16A	Connector for room temperature thermistor
3)	X17A, X18A	Connector for indoor heat exchanger thermistor
4)	X20A	Connector for fan motor
5)	X24A	Connector for signal receiver PCB (when the wireless remote controller is used)
6)	X27A	Connector for terminal board (for inter-unit wiring)
7)	X30A	Connector for terminal board (for wired remote controller)
8)	X33A	Connector for wiring adaptor PCB (option)
9)	X35A	Connector for group control adaptor (option)
10)	X36A	Connector for self-cleaning decoration panel (option)
11)	X65A, X70A	Connector for [A2P]
12)	HAP	LED for service monitor (green)
13)	SS1	Selector switch for emergency

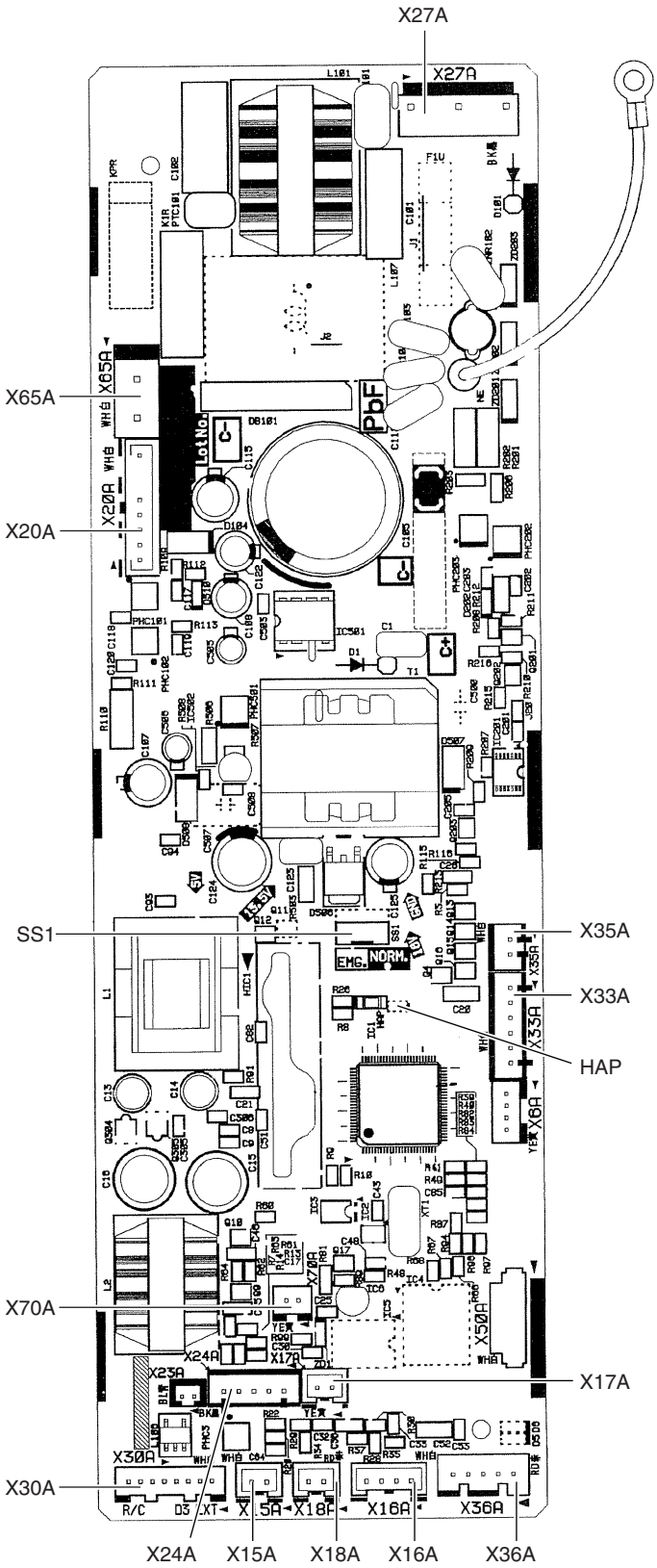
[A2P]

1)	X1A, X7A	Connector for [A1P]
2)	X2A	Connector for sensor kit (option)
3)	X4A	Connector for humidity sensor PCB [A3P]
4)	X8A	Connector for self-cleaning decoration panel (option)
5)	X9A	Connector for swing motors
6)	X10A	Connector for drain pump motor
7)	HAP	LED for service monitor (green)

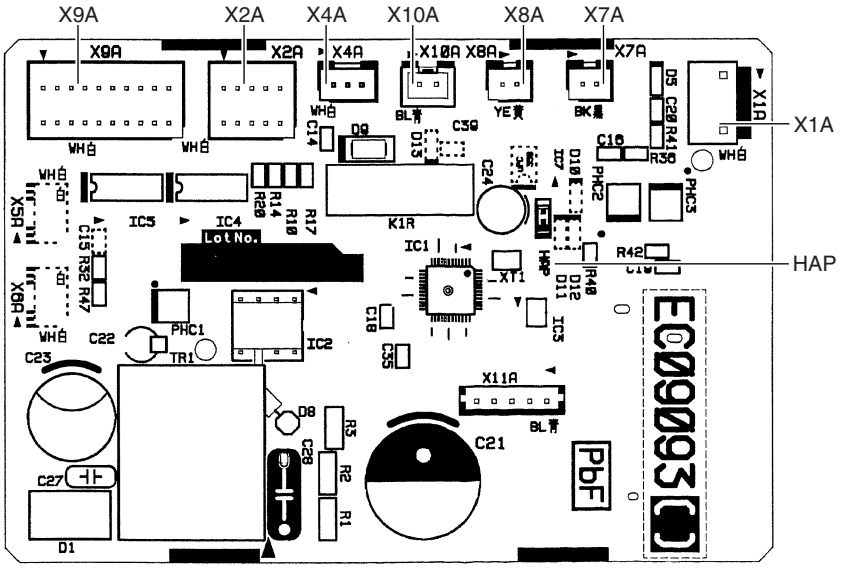
[A3P]: Humidity Sensor PCB

1)	CN1	Connector for [A2P]

PCB Detail [A1P]

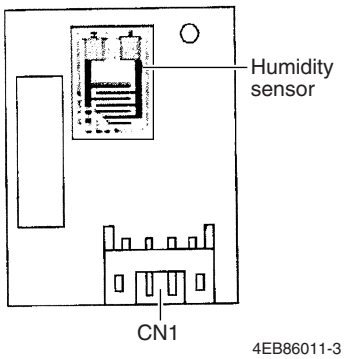


[A2P]



2P263045-1

[A3P]: Humidity Sensor PCB



4EB86011-3

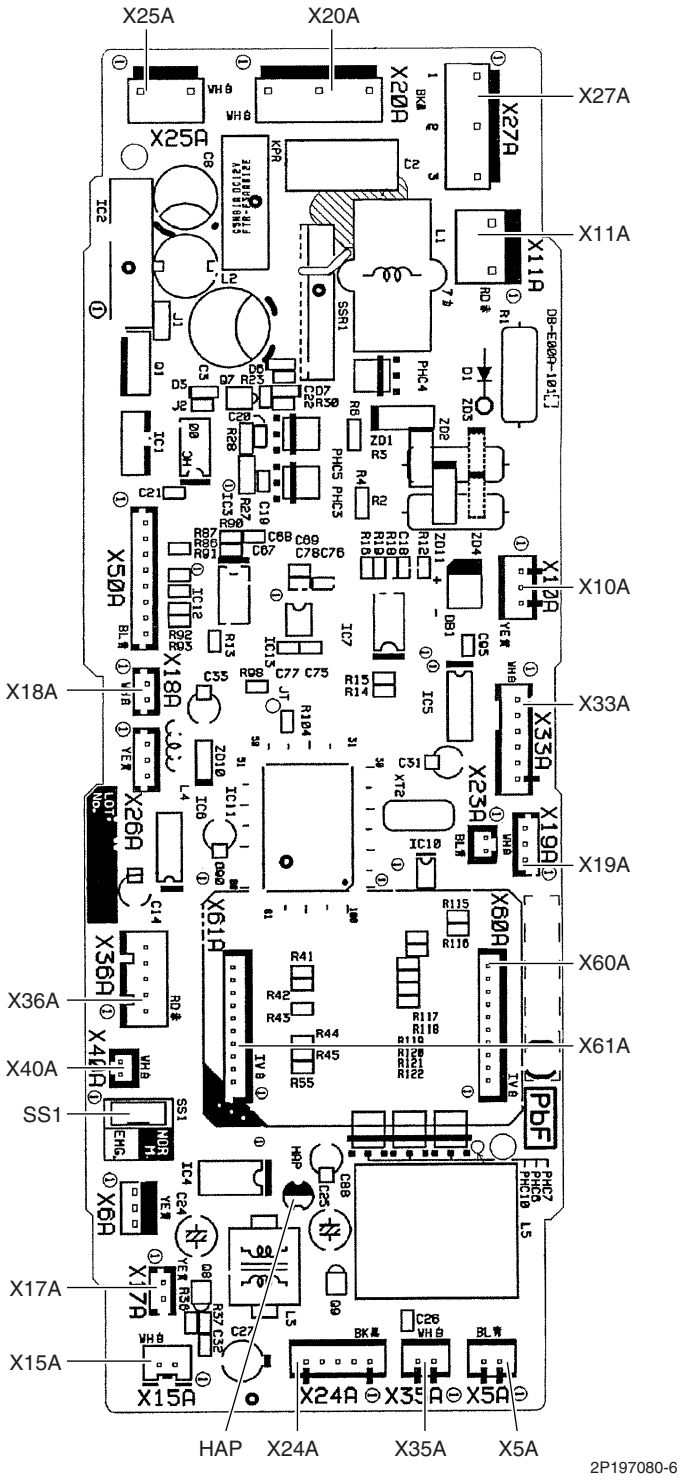
2.10 FFQ25/35/50/60B9V1B

Connectors and Other Parts

[A1P]: Control PCB

1)	X5A	Connector for terminal board (for wired remote controller)
2)	X10A, X11A	Connector for transformer
3)	X15A	Connector for float switch
4)	X17A, X18A	Connector for indoor heat exchanger thermistor
5)	X19A	Connector for room temperature thermistor
6)	X20A	Connector for fan motor
7)	X24A	Connector for signal receiver PCB (when the wireless remote controller is used)
8)	X25A	Connector for drain pump motor
9)	X27A	Connector for terminal board (for inter-unit wiring)
10)	X33A	Connector for wiring adaptor PCB (option)
11)	X35A	Connector for group control adaptor (option)
12)	X36A	Connector for swing motor
13)	X40A	Connector for ON/OFF input from outside (option)
14)	X60A, X61A	Connector for interface adaptor (option)
15)	HAP	LED for service monitor (green)
16)	SS1	Selector switch for emergency

PCB Detail **[A1P]: Control PCB**



2.11 FHQ35/50/60BWV1B

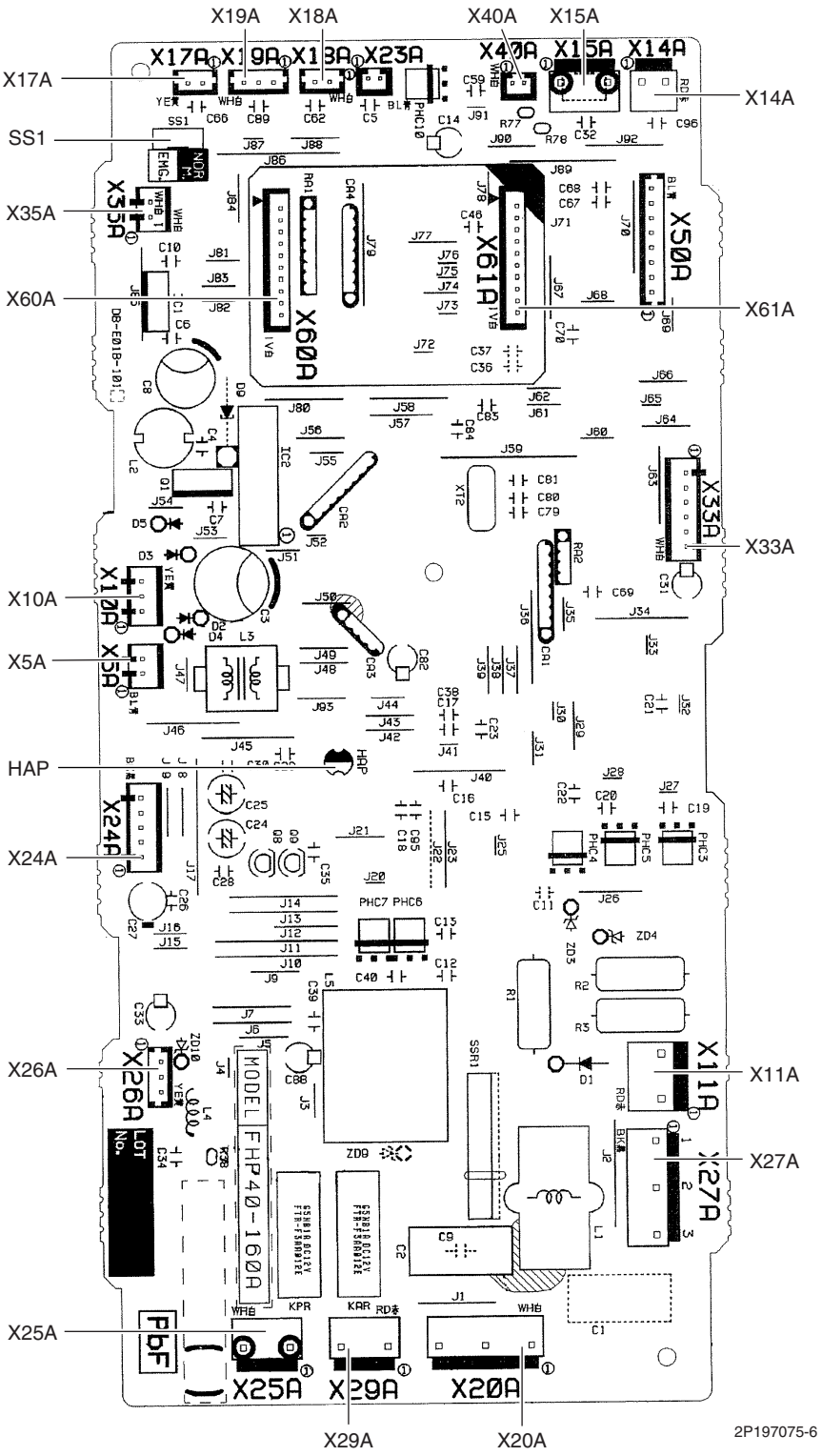
Connectors and Other Parts

[A1P]: Control PCB

1)	X5A	Connector for terminal board (for wired remote controller)
2)	X10A, X11A	Connector for transformer
3)	X14A	Connector for limit switch (for swing flap)
4)	X15A	Connector for float switch (option)
5)	X17A, X18A	Connector for indoor heat exchanger thermistor
6)	X19A	Connector for room temperature thermistor
7)	X20A, X26A	Connector for fan motor
8)	X24A	Connector for signal receiver PCB (when the wireless remote controller is used)
9)	X25A	Connector for drain pump motor (option)
10)	X27A	Connector for terminal board (for inter-unit wiring)
11)	X29A	Connector for swing motor
12)	X33A	Connector for wring adaptor PCB (option)
13)	X35A	Connector for group control adaptor (option)
14)	X40A	Connector for ON/OFF input from outside (option)
15)	X60A, X61A	Connector for interface adaptor (option)
16)	HAP	LED for service monitor (green)
17)	SS1	Selector switch for emergency

PCB Detail

[A1P]: Control PCB



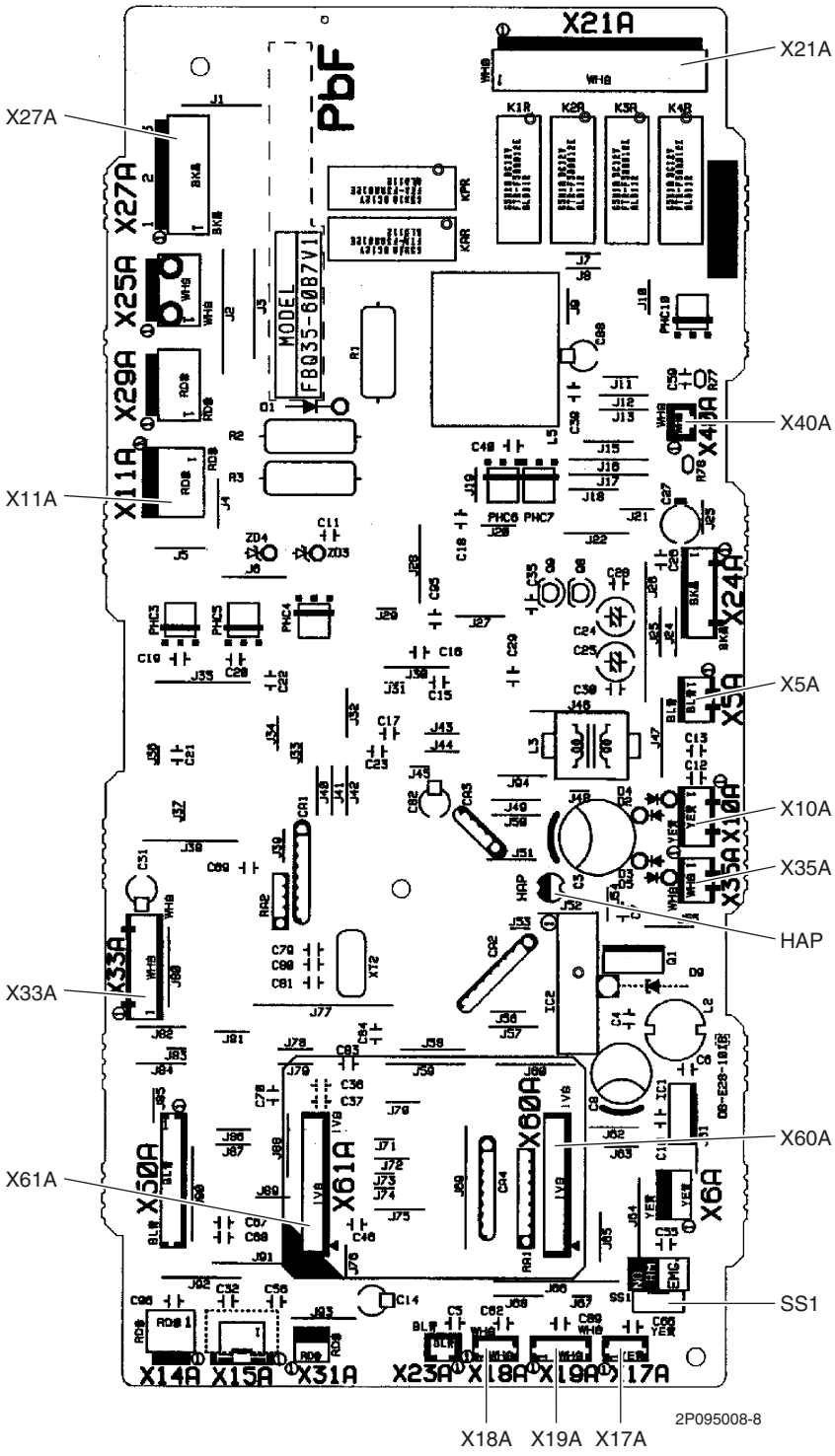
2.12 FDBQ25B8V1

Connectors and Other Parts

[A1P]: Control PCB

1)	X5A	Connector for terminal board (for wired remote controller)
2)	X10A, X11A	Connector for transformer
3)	X17A	Connector for indoor heat exchanger thermistor
4)	X18A	Connector for liquid pipe thermistor
5)	X19A	Connector for room temperature thermistor
6)	X21A	Connector for fan motor
7)	X27A	Connector for terminal board (for inter-unit wiring)
8)	X33A	Connector for wiring adaptor PCB (option)
9)	X35A	Connector for group control adaptor (option)
10)	X40A	Connector for ON/OFF input from outside (option)
11)	X60A, X61A	Connector for interface adaptor (option)
12)	HAP	LED for service monitor (green)
13)	SS1	Selector switch for emergency

PCB Detail **[A1P]: Control PCB**



2.13 FBQ35/50/60C8VEB

Connectors and Other Parts

[A1P]: Control PCB

1)	X15A	Connector for float switch
2)	X16A	Connector for room temperature thermistor
3)	X17A	Connector for indoor heat exchanger thermistor
4)	X18A	Connector for liquid pipe thermistor
5)	X25A	Connector for drain pump motor
6)	X27A	Connector for terminal board (for inter-unit wiring)
7)	X28A	Connector for power supply wiring (option)
8)	X30A	Connector for terminal board (for wired remote controller)
9)	X33A	Connector for wiring adaptor PCB (option)
10)	X35A	Connector for group control adaptor (option)
11)	X70A	Connector for fan PCB
12)	X85A	Connector for multi zoning (option)
13)	HAP	LED for service monitor (green)
14)	SS1	Selector switch for emergency

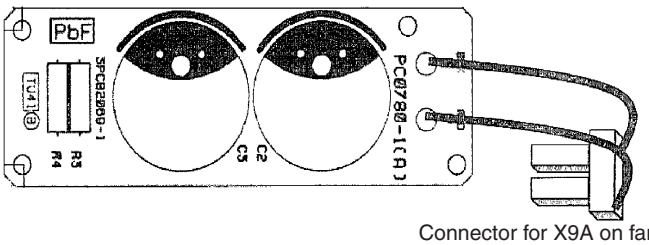
[A2P]: Fan PCB (for FBQ35/50C8VEB)

1)	X3A	Connector for control PCB
2)	X6A	Connector for reactor
3)	X8A	Connector for fan motor
4)	X10A	Connector for terminal board (power supply)
5)	F2U	Fuse (5 A, 250 V)
6)	F4U	Fuse (6.3 A, 250 V)
7)	HAP	LED for service monitor (green)

[A2P]: Fan PCB (for FBQ60C8VEB)

1)	X1A, X2A	Connector for fan motor
2)	X3A	Connector for control PCB
3)	X6A	Connector for reactor
4)	X9A	Connector for capacitor PCB
5)	X10A	Connector for terminal board (power supply)
6)	F3U	Fuse (6.3 A, 250 V)
7)	HAP	LED for service monitor (green)

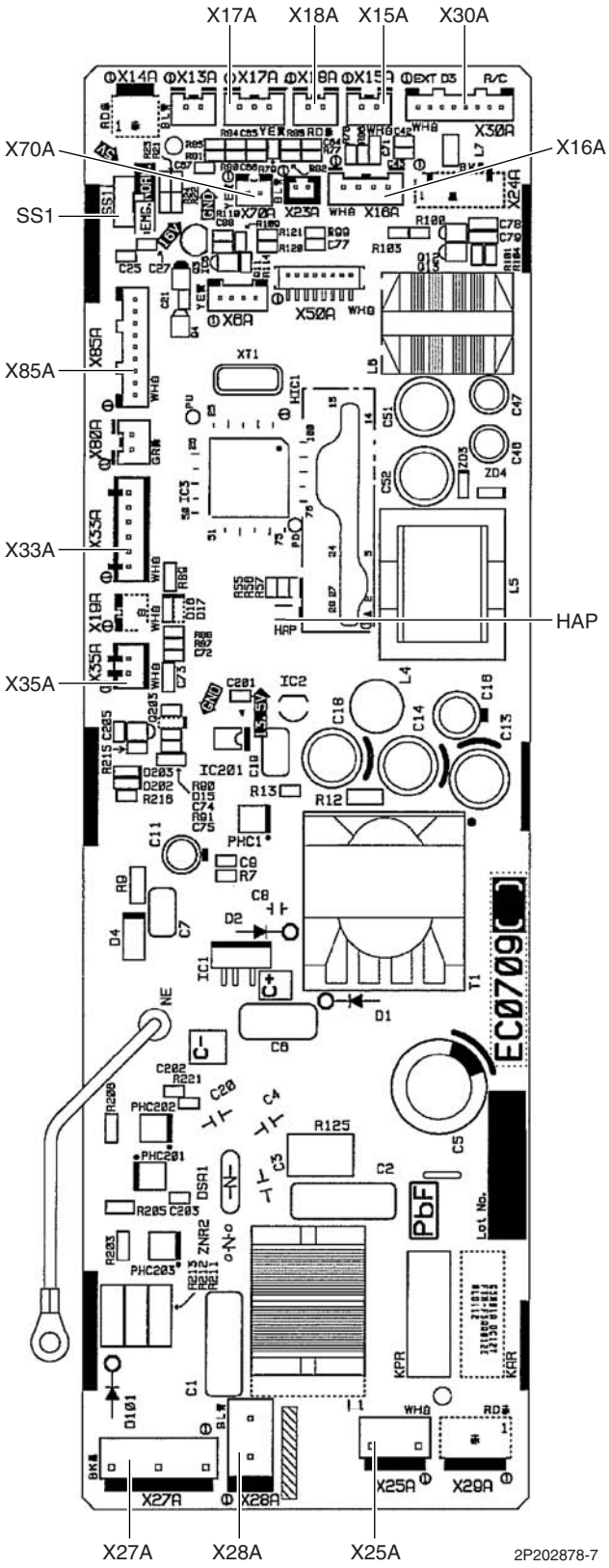
[A3P]: Capacitor PCB (FBQ60C8VEB only)



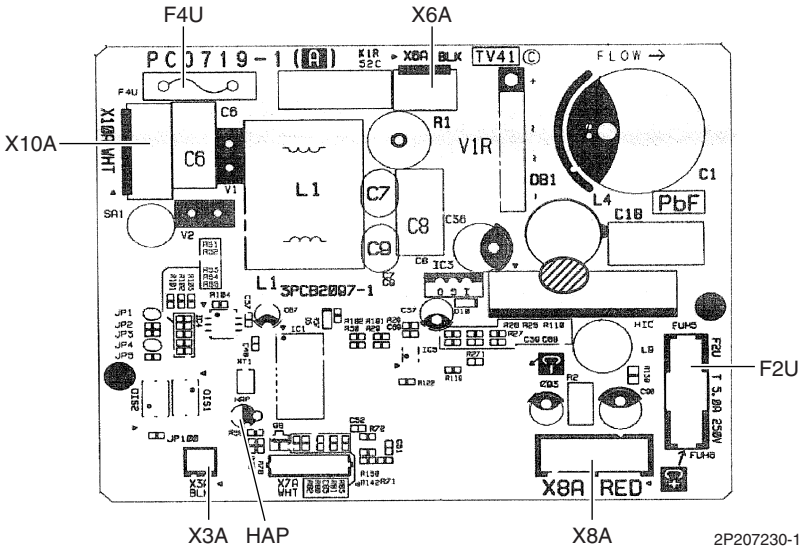
Connector for X9A on fan PCB

3P217472-1

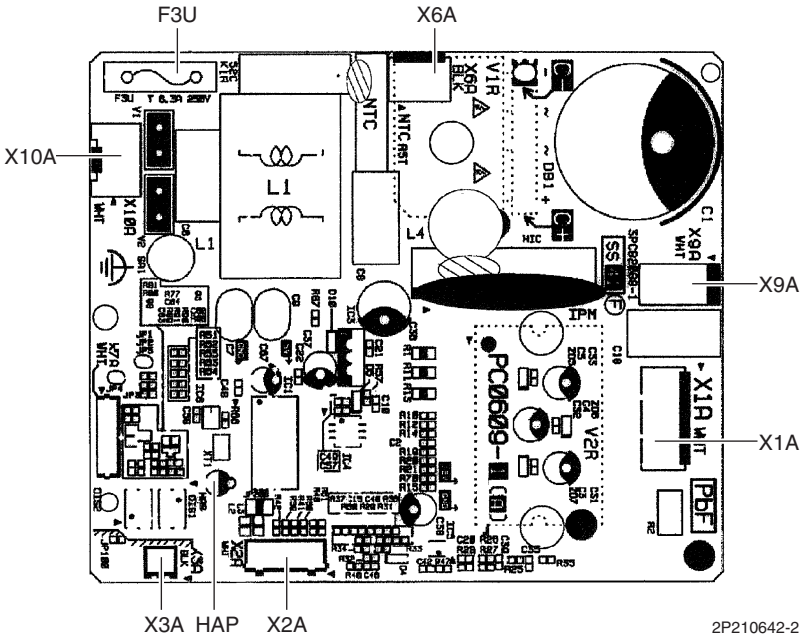
PCB Detail **[A1P]: Control PCB**



[A2P]: Fan PCB (for FBQ35/50C8VEB)



[A2P]: Fan PCB (for FBQ60C8VEB)



3. Wired Remote Controller

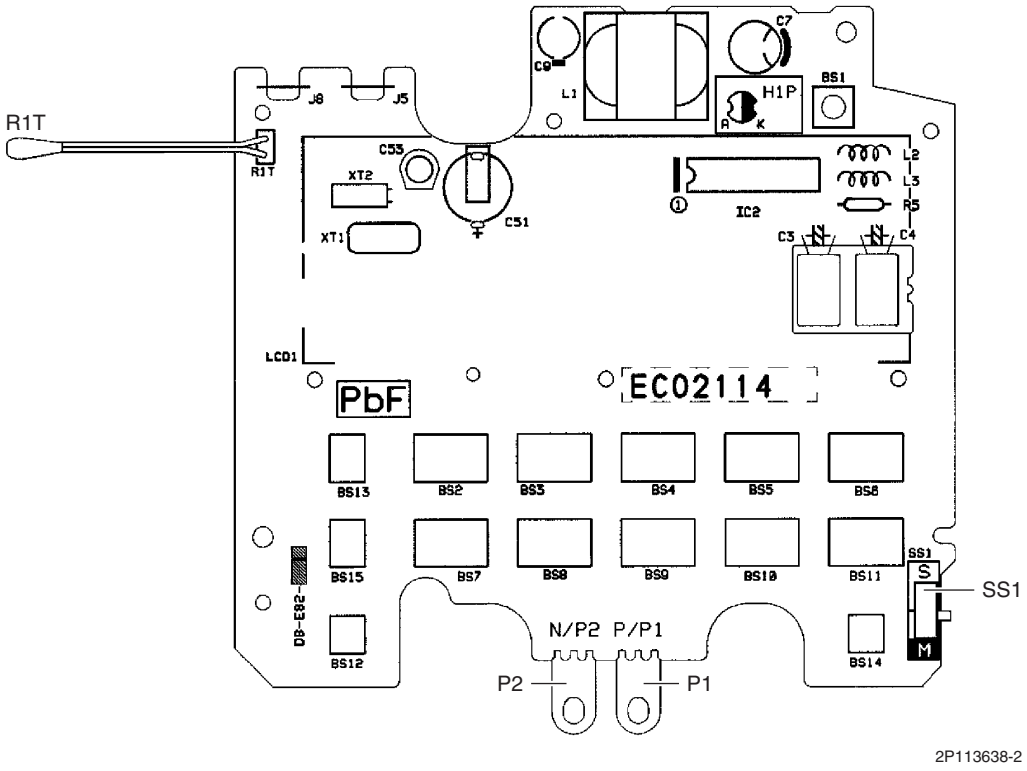
3.1 BRC1D528

Connectors and Other Parts

1)	P1, P2	Terminal for indoor unit
2)	R1T	Room temperature thermistor
3)	SS1	MAIN / SUB setting switch

∗ Refer to page 422 for detail.

PCB Detail



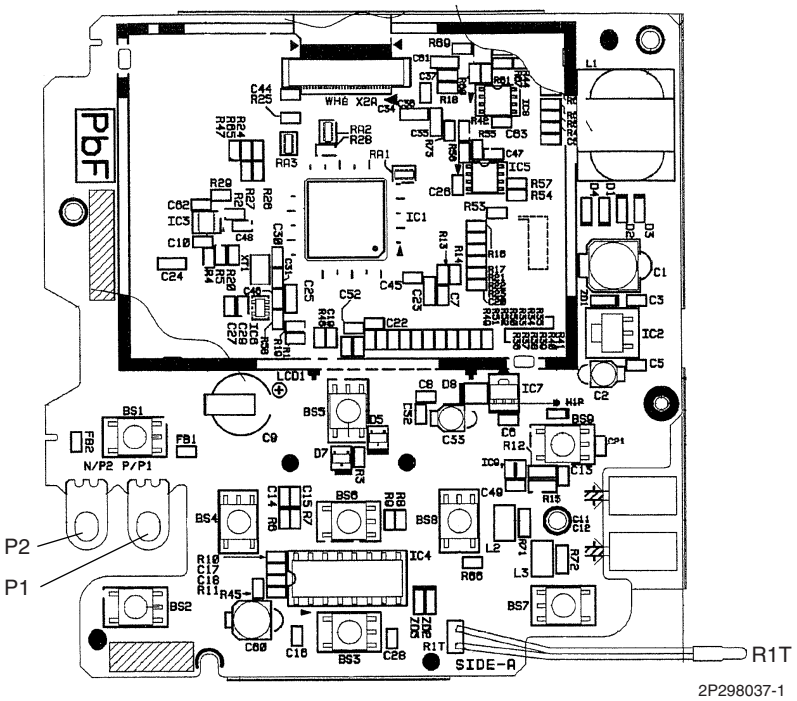
2P113638-2

3.2 BRC1E52A7, BRC1E52B7

Connectors and Other Parts

1)	P1, P2	Terminal for indoor unit
2)	R1T	Room temperature thermistor

PCB Detail



Part 4
Function and Control

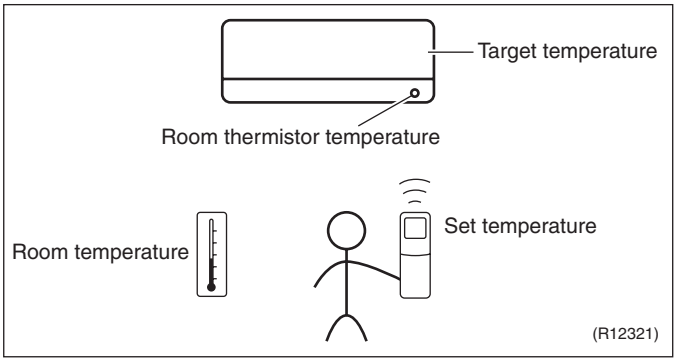
1. Indoor Unit Control (RA Models)

1.1 Temperature Control

Definitions of Temperatures

The definitions of temperatures are classified as following.

- Room temperature: temperature of lower part of the room
- Set temperature: temperature set by remote controller
- Room thermistor temperature: temperature detected by room temperature thermistor
- Target temperature: temperature determined by microcomputer



★ The illustration is for wall mounted type as representative.

Temperature Control

The temperature of the room is detected by the room temperature thermistor. However, there is a difference between the “temperature detected by room temperature thermistor” and the “temperature of lower part of the room”, depending on the type of the indoor unit or installation condition. Practically, the temperature control is done by the “target temperature appropriately adjusted for the indoor unit” and the “temperature detected by room temperature thermistor”.

1.2 Frequency Principle

Main Control Parameters

The frequency of the compressor is controlled by the following 2 parameters:

- The load condition of the operating indoor unit
- The difference between the room thermistor temperature and the target temperature

Additional Control Parameters

The target frequency is adapted by additional parameters in the following cases:

- Frequency restrictions
- Initial settings
- Forced cooling operation

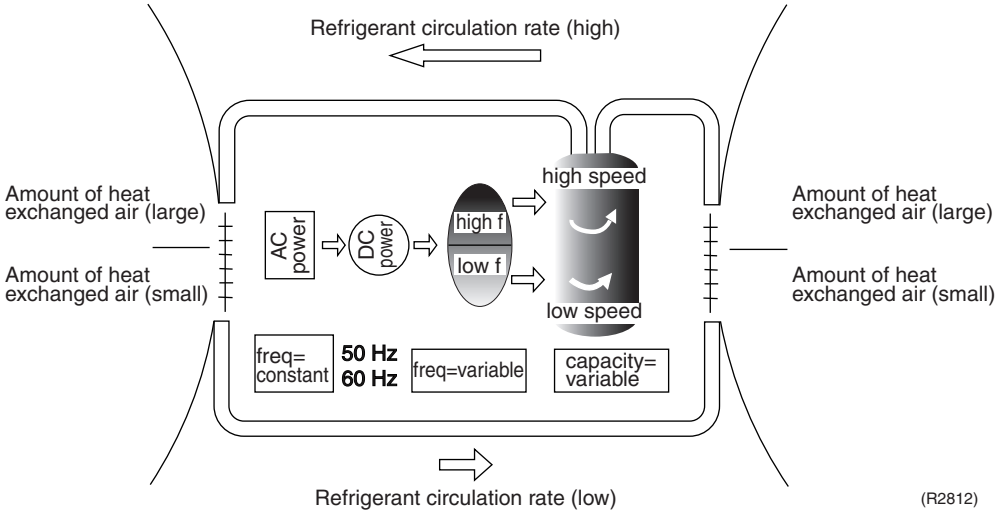
Inverter Principle

To regulate the capacity, a frequency control is needed. The inverter makes it possible to alter the rotation speed of the compressor. The following table explains the conversion principle:

Phase	Description
1	The supplied AC power source is converted into the DC power source for the present.
2	The DC power source is reconverted into the three phase AC power source with variable frequency. ■ When the frequency increases, the rotation speed of the compressor increases resulting in an increased refrigerant circulation. This leads to a higher amount of the heat exchange per unit. ■ When the frequency decreases, the rotation speed of the compressor decreases resulting in a decreased refrigerant circulation. This leads to a lower amount of the heat exchange per unit.

Drawing of Inverter

The following drawing shows a schematic view of the inverter principle:



Inverter Features

The inverter provides the following features:

- The regulating capacity can be changed according to the changes in the outdoor temperature and cooling / heating load.
- Quick heating and quick cooling
  The compressor rotational speed is increased when starting the heating (or cooling). This enables to reach the set temperature quickly.
- Even during extreme cold weather, high capacity is achieved. It is maintained even when the outdoor temperature is 2°C.
- Comfortable air conditioning
  A fine adjustment is integrated to keep the room temperature constant.
- Energy saving heating and cooling
  Once the set temperature is reached, the energy saving operation enables to maintain the room temperature at low power.

Frequency Limits

The following functions regulate the minimum and maximum frequency:

Frequency	Functions
Low	■ Four way valve operation compensation. Refer to page 111.
High	■ Compressor protection function. Refer to page 112. ■ Discharge pipe temperature control. Refer to page 112. ■ Input current control. Refer to page 113. ■ Freeze-up protection control. Refer to page 113. ■ Heating peak-cut control. Refer to page 114. ■ Defrost control. Refer to page 116.

Forced Operation

Refer to page 405 for detail.

1.3 Operation Starting Control

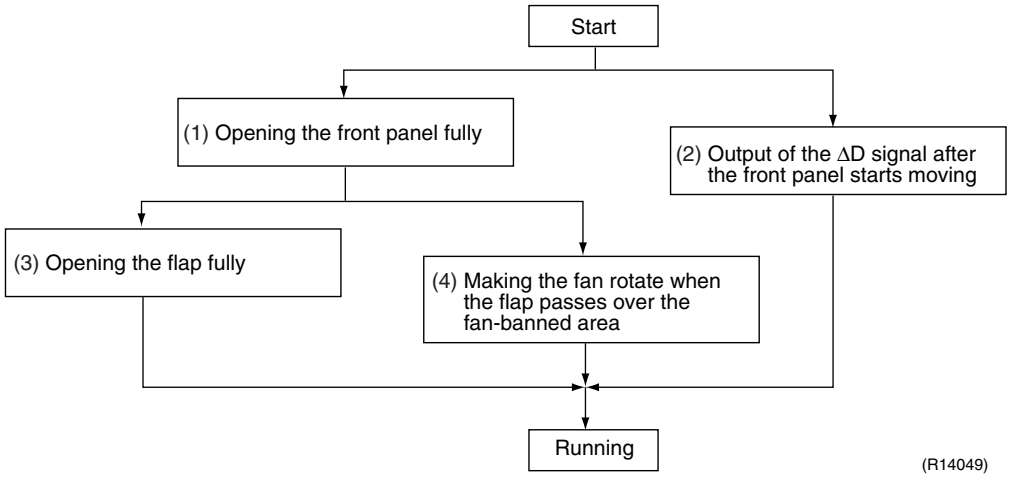
Outline

Wall Mounted Type: FTXG Series

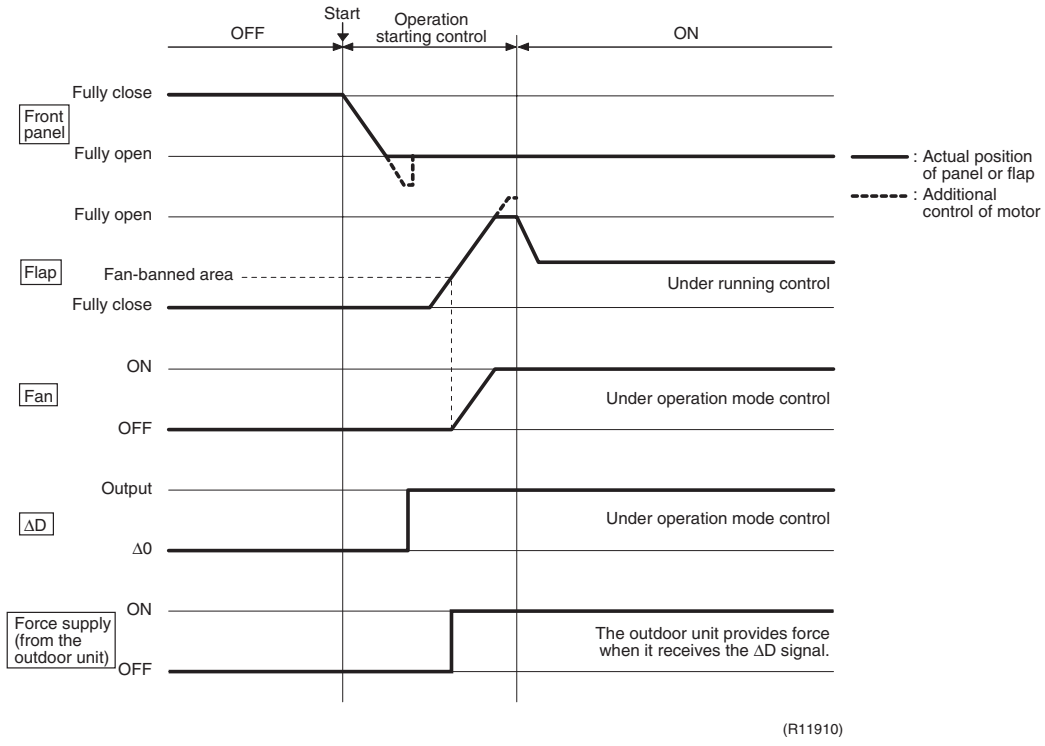
The system carries out the following control at the beginning to conduct every functional parts properly.

1. Opening the front panel fully
2. Output of the ΔD signal after the front panel starts moving
3. Opening the flap fully after the front panel opens fully
4. Making the fan rotate when the flap passes over the fan-banned area

Control Flow



Timing Chart



1.4 Airflow Direction Control

Power-Airflow Dual Flaps

The large flap sends a large volume of air downward to the floor. The flap provides an optimum control in cooling, dry, and heating operation.

<Cooling / Dry>
During cooling or dry operation, the flap retracts into the indoor unit. Then, cool air can be blown far and distributed all over the room.

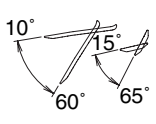
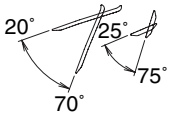
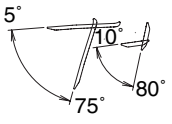
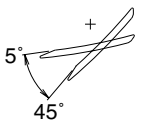
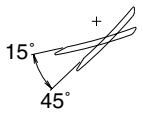
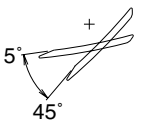
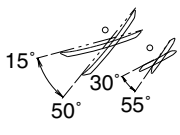
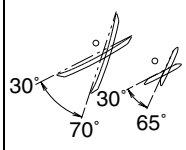
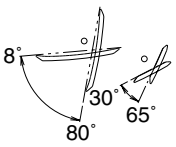
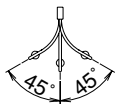
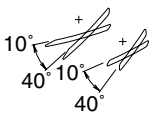
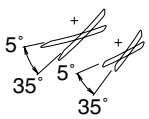
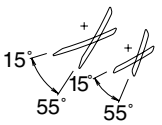
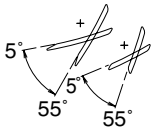
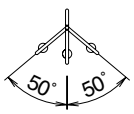
<Heating>
During heating operation, the large flap directs airflow downward to spread the warm air to the entire room.

Wide-Angle Louvers

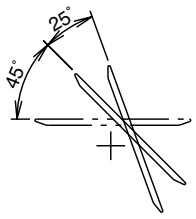
The louvers, made of elastic synthetic resin, provide a wide range of airflow that guarantees comfortable air distribution.

Auto-Swing

The following table explains the auto-swing process for cooling, dry, heating, and fan:
Wall Mounted Type

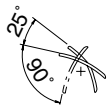
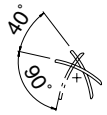
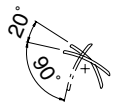
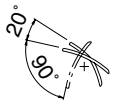
Series	Vertical Swing (up and down)			Horizontal Swing (right and left)
	Cooling / Dry	Heating	Fan	
FTXG	 (R11662)	 (R11664)	 (R11663)	—
FTXS-K CTXS-K	 (R11256)	 (R11257)	 (R11256)	—
FTXS-J	 (R12182)	 (R11402)	 (R14208)	 (R11404)
FTXS-G	 (R2814)  (R2815)	 (R2813)	 (R2816)	 (R2817)

Floor Standing Type: FVXG Series
The swinging range of the flap is the same in any operation mode.

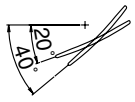
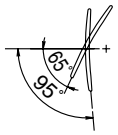
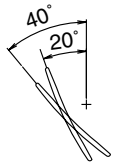
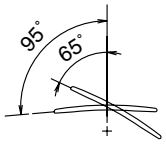


(R14634)

Floor Standing Type: FVXS Series

	Vertical Swing (up and down)	
	Cooling / Dry	Heating
Upward airflow limit OFF	 (R6831)	 (R6829)
Upward airflow limit ON	 (R6832)	 (R6830)

Floor / Ceiling Suspended Dual Type

	Vertical Swing (up and down)	
	Cooling / Dry / Fan	Heating
Ceiling	 (R2964)	 (R2963)
Floor	 (R2967)	 (R2966)

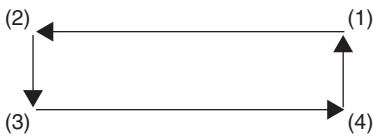
3-D Airflow

Wall Mounted Type: FTXS-J/G Series

Alternative repetition of vertical and horizontal swing motions enables uniform air-conditioning of the entire room. This function is effective for starting the air conditioner.

When the horizontal swing and vertical swing are both set to automatic operation, the airflow becomes 3-D airflow. The horizontal and vertical swing motion is altered and the airflow direction changes in the order shown in the following diagram.

(1): The vertical blades (louvers) move from the right to the left.
(2): The horizontal blades (flaps) move downward.
(3): The vertical blades (louvers) move from the left to the right.
(4): The horizontal blades (flaps) move upward.

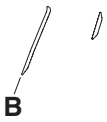


(R13554)

COMFORT AIRFLOW Operation

Wall Mounted Type

The vertical swing flap is controlled not to blow the air directly at the people in the room.

Cooling / Dry	Heating
 (R11665)	 (R12181)

	A	B
FTXG	5°	75°
FTXS-K, CTXS-K	0°	50°
FTXS-J	8°	80°
FTXS-G	5°	55°

1.5 Fan Speed Control for Indoor Unit

Outline

Phase control and fan speed control contains 9 steps: LLL, LL, SL, L, ML, M, MH, H, and HH. The airflow rate can be automatically controlled depending on the difference between the room thermistor temperature and the target temperature. This is done through phase control and Hall IC control.

For more information about Hall IC, refer to the troubleshooting for fan motor on page 274, 277.

Automatic Fan Speed Control

In automatic fan speed operation, the step “SL” is not available.

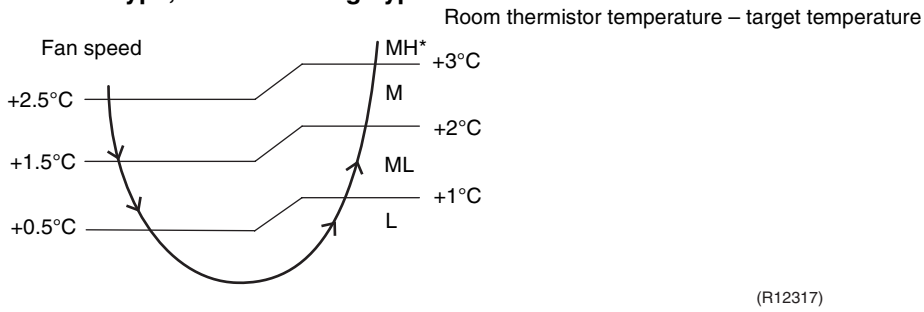
	Wall Mounted Type Floor Standing Type		Floor / Ceiling Suspended Dual Type Duct Connected Type	
Step	**Cooling**	**Heating**	**Cooling**	**Heating**
LLL				
LL				
L				
ML				
M				
MH				
H				
HH (POWERFUL)	(R11681)	(R6834)	(R6833)	(R6834)

⟺ = The airflow rate is automatically controlled within this range when the [FAN] setting button is set to automatic.

<Cooling>

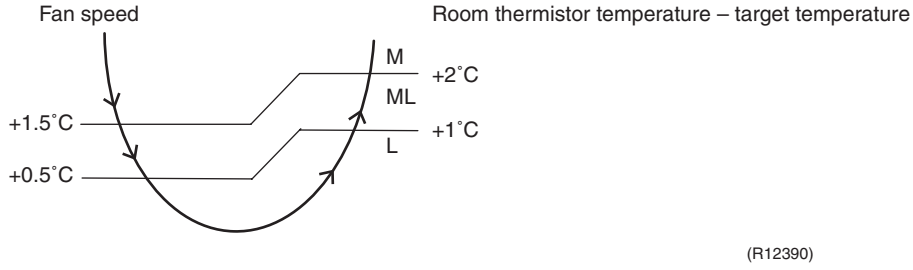
The following drawing explains the principle of fan speed control for cooling.

Wall Mounted Type, Floor Standing Type



*The upper limit is M tap in 30 minutes from the operation start.

Floor / Ceiling Suspended Dual Type, Duct Connected Type



<Heating>

In heating operation, the fan speed is regulated according to the indoor heat exchanger temperature and the difference between the room thermistor temperature and the target temperature.

Note:

1. During POWERFUL operation, the fan rotates at H tap + 40 ~ 90 rpm.
2. The fan stops during defrost operation.

COMFORT AIRFLOW Operation

Wall Mounted Type

- The fan speed is controlled automatically.
- The latest command has the priority between POWERFUL and COMFORT AIRFLOW.

1.6 RADIANT Operation

Outline

Floor Standing Type: FVXG Series
The RADIANT operation has 2 operation modes.

- RADIANT 1: RADIANT operation with heating
- RADIANT 2: RADIANT operation only

1.6.1 Indoor Electronic Expansion Valve (Motor Operated Valve) Control

Initializing with Power ON

The indoor electronic expansion valve is initialized when turning on the power.

Opening Limit Control

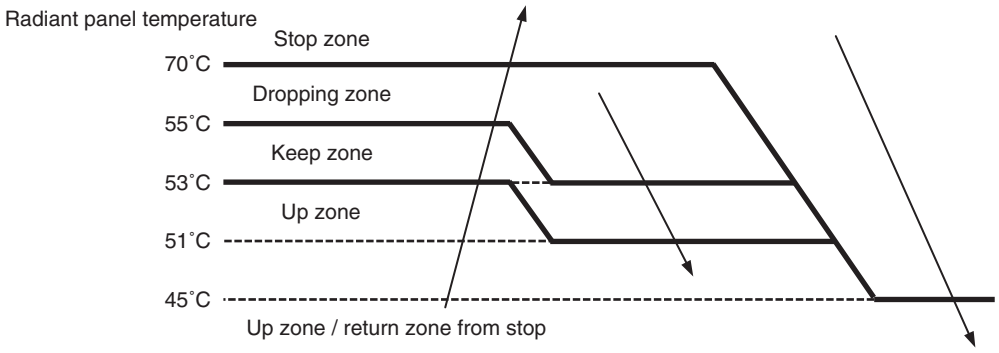
Opening limit control limits the opening of the indoor electronic expansion valve in order to keep a specified range during RADIANT operation.

Starting Operation Control

Starting operation control opens the indoor electronic expansion valve to a certain degree when starting RADIANT operation. The indoor electronic expansion valve is kept open for a certain period.

Target Panel Temperature Control

When the starting operation control finishes, the target panel temperature control starts and adjusts the opening of the indoor electronic expansion valve to achieve the target panel temperature. The panel temperature is categorized into stop, dropping, keep, up, and return zones.
(The target panel temperature is 55°C at maximum but it may be lower depending on the condition.)



Stop zone	Operation stops, the radiant panel temperature control is carried out.
Dropping zone	The opening of indoor electronic expansion valve decreases.
Keep zone	The opening of indoor electronic expansion valve is kept.
Up zone	The opening of indoor electronic expansion valve increases.
Return zone	Starting operation control is carried out.

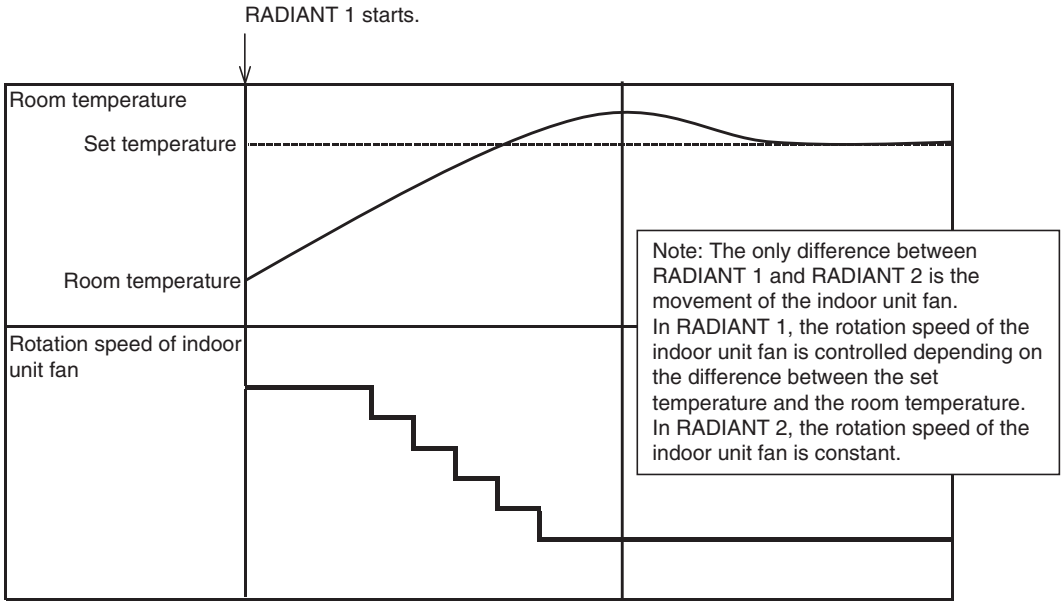
Operation Stop Control

■ **In case operation stops during RADIANT operation (including thermostat off)**
In case any of the following events occur while the indoor electronic expansion valve is open, the operation stop control makes the indoor electronic expansion valve close completely.

- Operation ON → OFF
- RADIANT 1 or RADIANT 2 is canceled.
- Thermostat off
- Defrost control

1.6.2 Indoor Unit Fan Control

The movement of the indoor unit fan is different whether in RADIANT 1 or RADIANT 2.



(R14637)

1.6.3 RADIANT Operation and Optional Function

Some optional function cannot be used with RADIANT 1 or RADIANT 2 at the same time.

Function	RADIANT 1	RADIANT 2
POWERFUL operation	available	not available
ECONO operation	not available	not available
OUTDOOR UNIT QUIET operation	not available	not available

1.7 Program Dry Operation

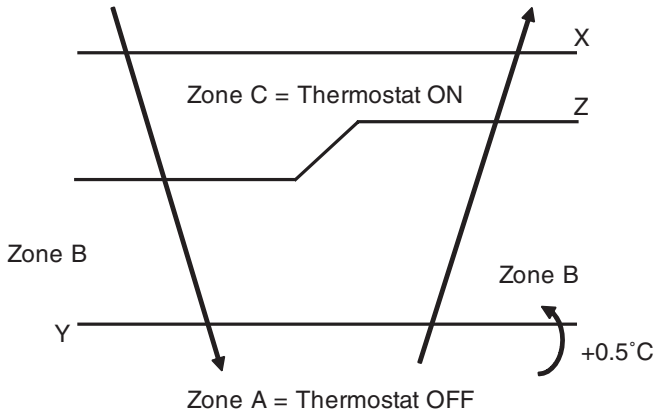
Outline

Program dry operation removes humidity while preventing the room temperature from lowering. Since the microcomputer controls both the temperature and airflow rate, the temperature adjustment and [FAN] setting buttons are inoperable.

Detail

The microcomputer automatically sets the temperature and airflow rate. The difference between the room thermistor temperature at start-up and the target temperature is divided into two zones. Then, the unit operates an appropriate capacity for each zone to maintain the temperature and humidity at a comfortable level.

Room thermistor temperature at start-up	Target temperature X	Thermostat OFF point Y	Thermostat ON point Z
24°C or more	Room thermistor temperature at start-up	X – 2.5°C	X – 0.5°C or Y + 0.5°C (zone B) continues for 10 min.
23.5°C ~ 18°C		X – 2.0°C	X – 0.5°C or Y + 0.5°C (zone B) continues for 10 min.
17.5°C ~	18°C	X – 2.0°C	X – 0.5°C = 17.5°C or Y + 0.5°C (zone B) continues for 10 min.



(R11581)

1.8 Automatic Operation

Outline

Automatic Cooling / Heating Function

When the automatic operation is selected with the remote controller, the microcomputer automatically determines the operation mode as cooling or heating according to the room temperature and the set temperature at start-up.

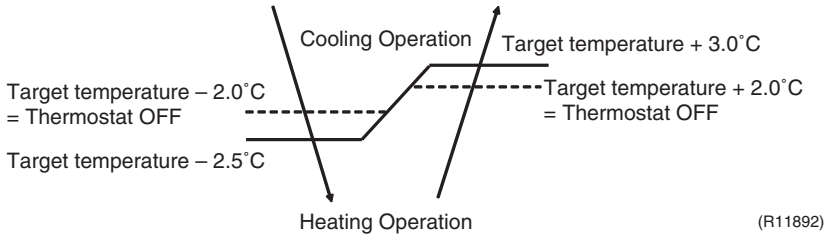
The unit automatically switches the operation mode to maintain the room temperature at the set temperature.

Detail

Ts: set temperature (set by remote controller)
Tt: target temperature (determined by microcomputer)
Tr: room thermistor temperature (detected by room temperature thermistor)
C: correction value

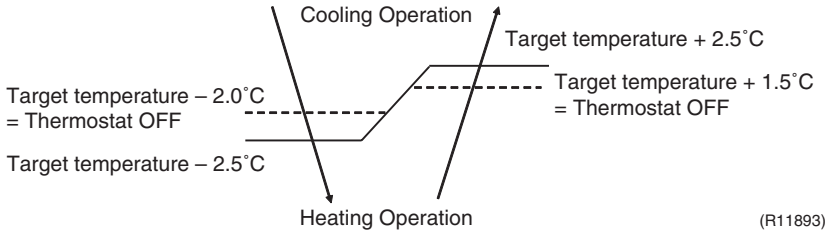
1. The set temperature (Ts) determines the target temperature (Tt).
   (Ts = 18 ~ 30°C).
2. The target temperature (Tt) is calculated as;
   Tt = Ts + C
   where C is the correction value.
   C = 0°C
3. Thermostat ON/OFF point and operation mode switching point are as follows.
   Tr means the room thermistor temperature.
   (1) Heating → Cooling switching point:
   Tr ≥ Tt + 3.0°C (FTXG, FTXS-G, FVXG series)
   Tr ≥ Tt + 2.5°C (other models)
   (2) Cooling → Heating switching point:
   Tr < Tt – 2.5°C
   (3) Thermostat ON/OFF point is the same as the ON/OFF point of cooling or heating operation.
4. During initial operation
   Tr ≥ Ts: Cooling operation
   Tr < Ts: Heating operation

FTXG, FTXS-G, FVXG series



Ex: When the target temperature is 25°C
Cooling → 23°C: Thermostat OFF → 22°C: Switch to heating
Heating → 27°C: Thermostat OFF → 28°C: Switch to cooling

Other Models



Ex: When the target temperature is 25°C
Cooling → 23°C: Thermostat OFF → 22°C: Switch to heating
Heating → 26.5°C: Thermostat OFF → 27.5°C: Switch to cooling

1.9 Thermostat Control

Thermostat control is based on the difference between the room thermistor temperature and the target temperature.

Thermostat OFF Condition

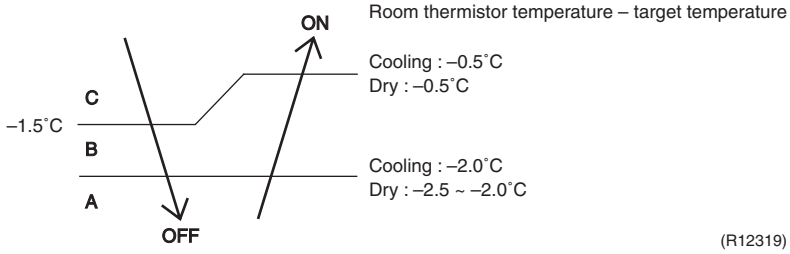
- The temperature difference is in the zone A.

Thermostat ON Condition

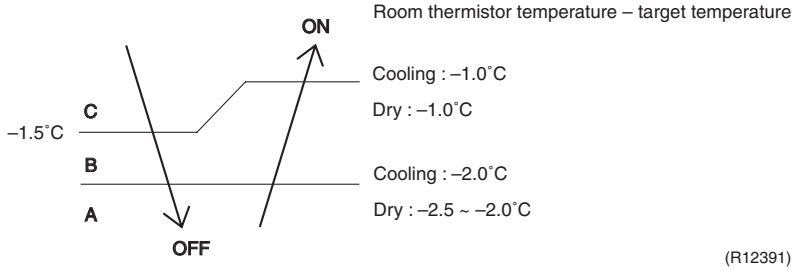
- The temperature difference returns to the zone C after being in the zone A.
- The system resumes from defrost control in any zones except A.
- The operation turns on in any zones except A.
- The monitoring time has passed while the temperature difference is in the zone B. (Cooling / Dry : 10 minutes, Heating / Radiant : 10 seconds)

<Cooling / Dry>

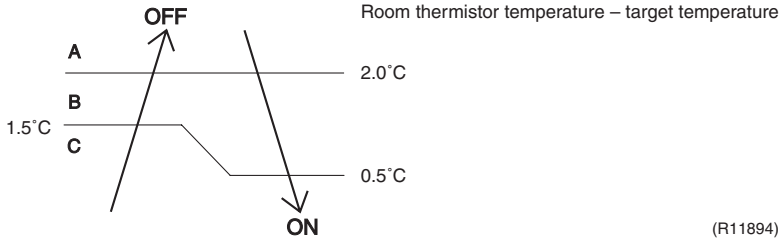
Wall Mounted Type, Floor Standing Type



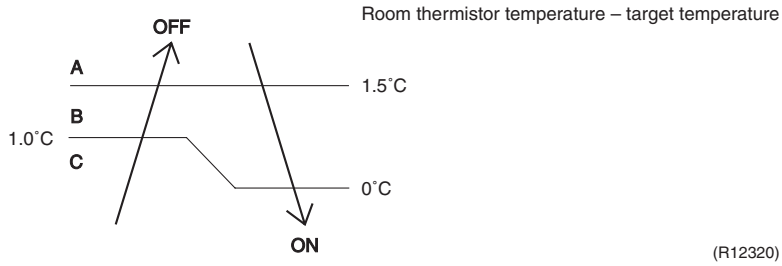
Floor / Ceiling Suspended Dual Type, Duct Connected Type



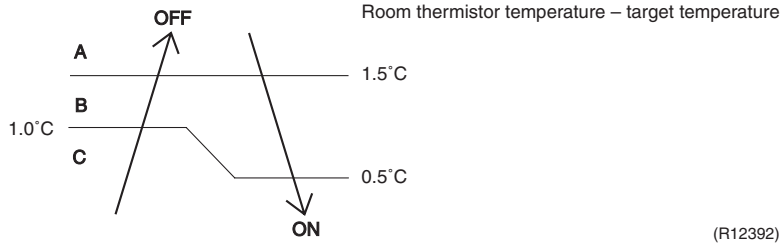
<Heating / Radiant>
Wall Mounted Type: FTXG, FTXS-G series
Floor Standing Type: FVXG series



Wall Mounted Type: FTXS-K, CTXS-K, FTXS-J series
Floor Standing Type: FVXS series



Floor / Ceiling Suspended Dual Type, Duct Connected Type



Refer to “Temperature Control” on page 76 for detail.

1.10 NIGHT SET Mode

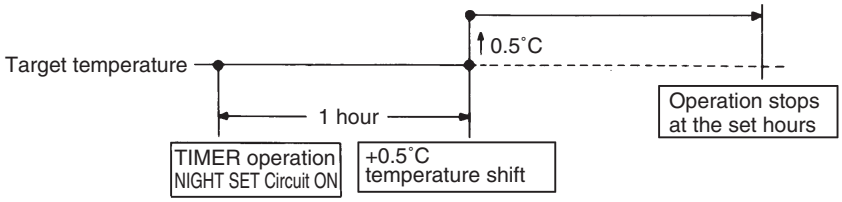
Outline

When the OFF TIMER is set, the NIGHT SET Mode is automatically activated. The NIGHT SET Mode keeps the airflow rate setting.

Detail

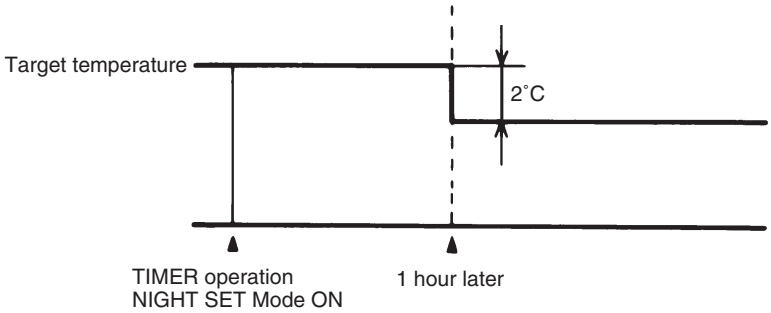
The NIGHT SET Mode continues operation at the target temperature for the first one hour, then automatically raises the target temperature slightly in the case of cooling, or lowers it slightly in the case of heating. This prevents excessive cooling in summer and excessive heating in winter to ensure comfortable sleeping conditions, and also conserves electricity.

<Cooling>
Ex: Wall Mounted Type, Floor Standing Type



(R10870)

<Heating / Radiant>



(R10871)

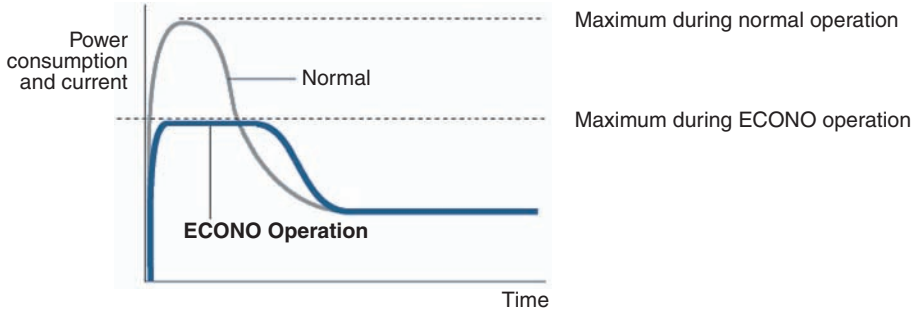
1.11 ECONO Operation

Wall Mounted Type, Floor Standing Type

The "ECONO operation" reduces the maximum operating current and the power consumption. This operation is particularly convenient for energy-saving-oriented users. It is also a major bonus for those whose breaker capacities do not allow the use of multiple electrical devices and air conditioners.

It is easily activated from the wireless remote controller by pushing the [ECONO] button.

- When this function is activated, the maximum capacity also decreases.
- ECONO operation can only be set when the unit is running. Pressing the [ON/OFF] button on the remote controller cancels the function.
- ECONO operation is available when the unit is in AUTO, COOL, DRY, or HEAT operation and not available in RADIANT or FAN operation.
- ECONO operation and POWERFUL operation cannot be used at the same time. The latest command has the priority.



(R9288)

1.12 HOME LEAVE Operation

Outline

Floor / Ceiling Suspended Dual Type, Duct Connected Type

HOME LEAVE operation is a function that allows you to record your favorite set temperature and airflow rate. You can start your favorite operation mode simply by pressing the [HOME LEAVE] button on the remote controller.

Detail

1. Start of Function

The function starts when the [HOME LEAVE] button is pressed in cooling mode, heating mode (including POWERFUL operation), or while the operation is stopped. If this button is pressed in POWERFUL operation, the POWERFUL operation is canceled and this function becomes effective.

- The [HOME LEAVE] button is ineffective in dry mode and fan mode.

2. Details of Function

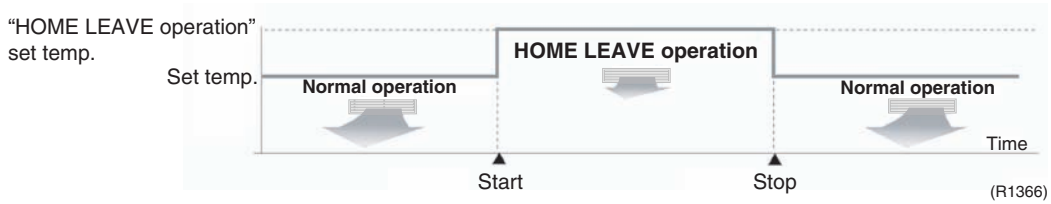
A mark representing HOME LEAVE is indicated on the display of the remote controller. The indoor unit is operated according to the set temperature and airflow rate for HOME LEAVE which were pre-set in the memory of the remote controller.

The LED (red) of indoor unit representing HOME LEAVE lights up. (It goes out when the operation is stopped.)

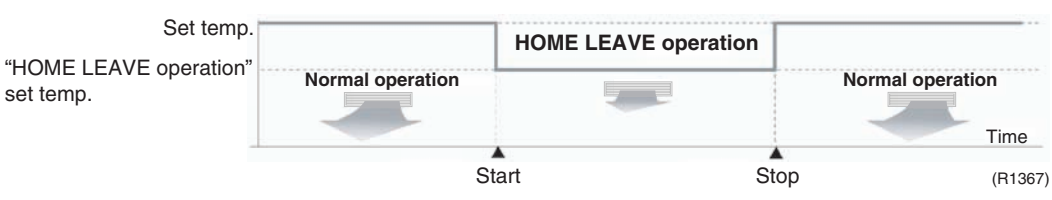
3. End of Function

The function ends when the [HOME LEAVE] button is pressed again during HOME LEAVE operation or when the [POWERFUL] button is pressed.

<Cooling>



<Heating>



Others

The set temperature and airflow rate are memorized in the remote controller. When the remote controller is reset due to replacement of battery, it is necessary to set the temperature and airflow rate again for HOME LEAVE operation.

1.13 INTELLIGENT EYE Operation

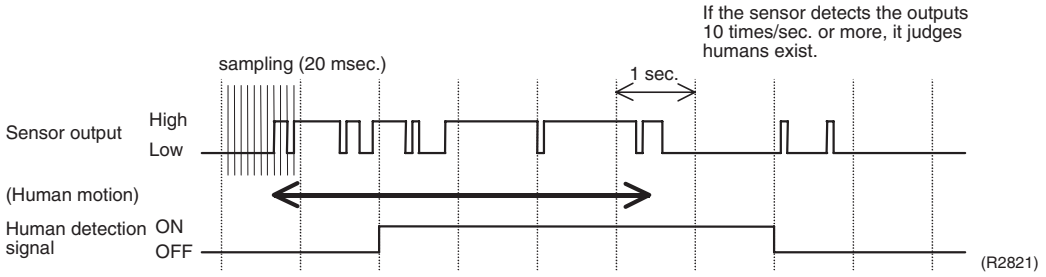
Outline

Wall Mounted Type: FTXG, FTXS-K, CTXS-K, FTXS-G Series

This function detects the existence of humans in the room with a human motion sensor (INTELLIGENT EYE) and reduces the capacity when there is nobody in the room in order to save electricity.

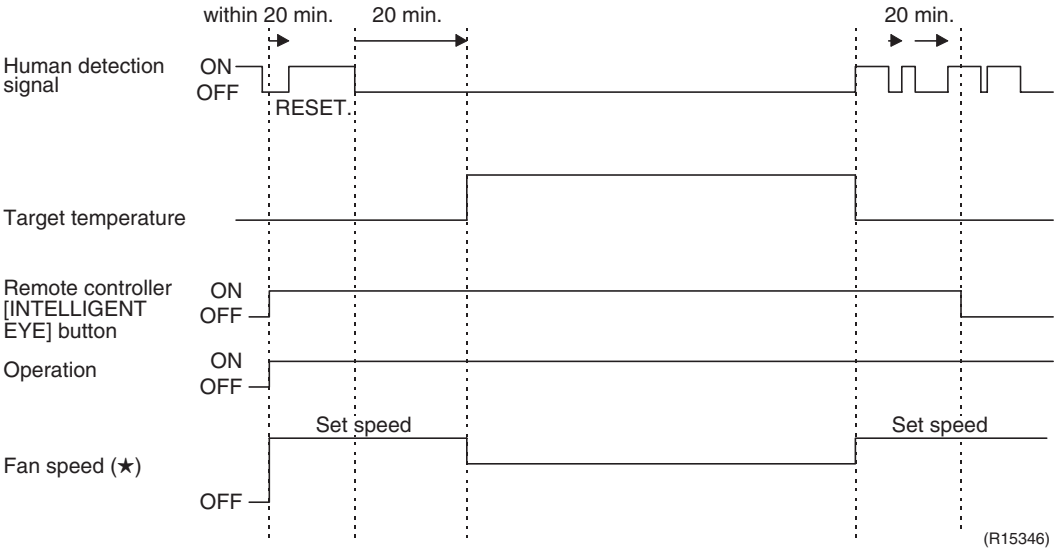
Detail

1. Detection method by INTELLIGENT EYE



- The sensor detects human motion by receiving infrared rays and displays the pulse wave output.
- A microcomputer in an indoor unit carries out a sampling every 20 msec. and if it detects 10 cycles of the wave in 1 second in total (corresponding to 20 msec. × 10 = 200 msec.), it judges humans are in the room as the motion signal is ON.

2. The motions (for example: in cooling)



- When the microcomputer does not have a signal from the sensor in 20 minutes, it judges that nobody is in the room and operates the unit at a temperature shifted from the target temperature. (Cooling / Dry : 1 ~ 2°C higher, Heating : 2°C lower, Auto : according to the operation mode at that time.)

★ In FAN operation, the fan speed is reduced by 60 rpm.

Others

- For dry operation, you cannot set the temperature with a remote controller, but the target temperature is shifted internally.

1.14 2-Area INTELLIGENT EYE Operation

Outline

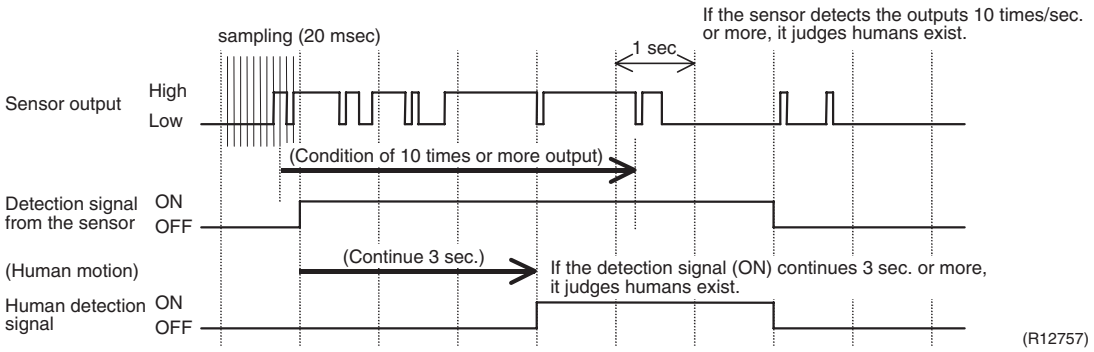
Wall Mounted Type: FTXS-J Series

The following functions can be performed by a motion sensor (INTELLIGENT EYE).

1. Reduction of the capacity when there is nobody in the room in order to save electricity (energy saving operation)
2. Dividing the room into plural areas and detecting existence of humans in each area. Moving the airflow direction to the area with no human automatically to avoid direct airflow on humans.

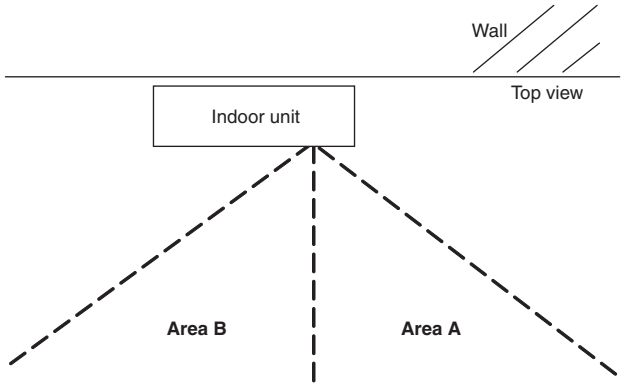
Detail

1. Detection method of INTELLIGENT EYE



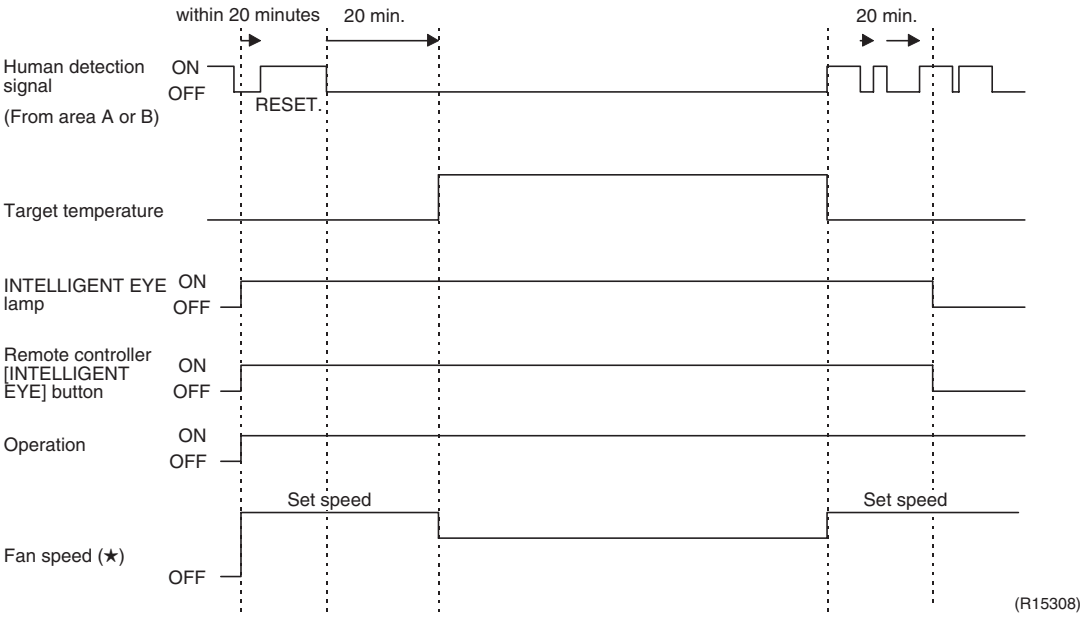
- This sensor detects human motion by receiving infrared rays and displays the pulse wave output.
- The microcomputer in the indoor unit carries out a sampling every 20 msec. and if it detects 10 cycles of the wave in one second in total (corresponding to 20 msec.× 10 = 200 msec.), and when the ON signal continues 3 sec., it judges human is in the room as the motion signal is ON
- 2-area INTELLIGENT EYE sensor is divided into 2 areas and detects humans in each area.

- Image of 2-area INTELLIGENT EYE



· A microcomputer judges human existence by the sensor signal from each area A and B.

2. Motions (for example: in cooling)

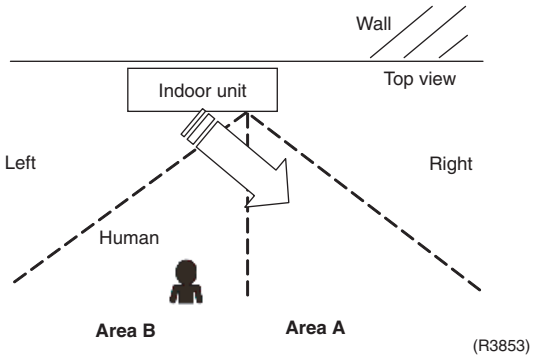


- When the microcomputer does not have a signal from the sensor in 20 minutes, it judges that nobody is in the room and operates the unit in temperature shifted from the target temperature. (Cooling / Dry : 2°C higher, Heating : 2°C lower, Auto : according to the operation mode at that time.)

★ In case of FAN operation, the fan speed reduces by 60 rpm.

3. Airflow direction in 2-area INTELLIGENT EYE operation

- Detection method: The opposite area of detected area is set as the target direction.



1. Detection signal ON in both area A and B: Shift the airflow direction to area B (left side)
2. Detection signal ON in area A: Shift the airflow direction to area B (left side)
3. Detection signal ON in area B: Shift the airflow direction to area A (right side)
4. Detection signal OFF in both area A and B: No change

* When the detection signal is OFF for 20 minutes in both area A and B, the unit starts energy saving operation.

Others

- For dry operation, you cannot set the temperature with remote controller, but internally the target temperature is shifted.

1.15 Inverter POWERFUL Operation

Outline

In order to exploit the cooling and heating capacity to full extent, operate the air conditioner by increasing the indoor fan rotating speed and the compressor frequency.

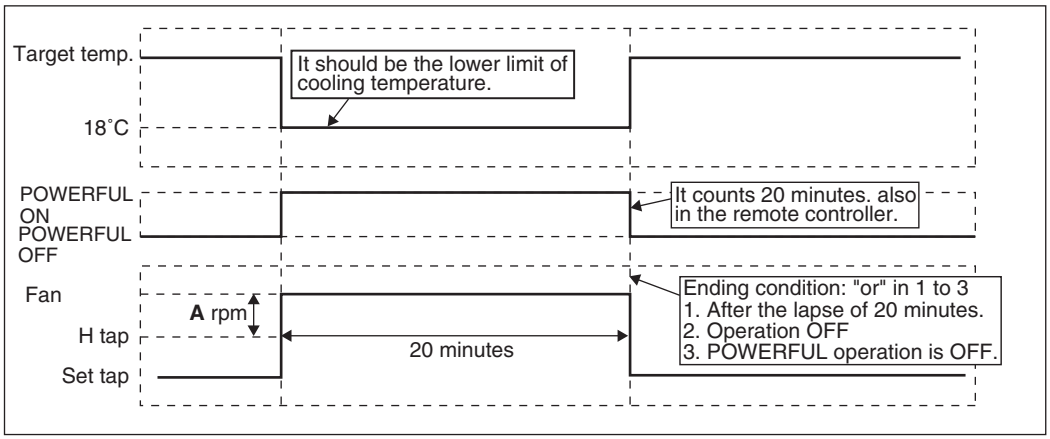
Detail

When the [POWERFUL] button is pressed, the fan speed and target temperature are converted to the following states for 20 minutes.

Operation mode	Fan speed	Target temperature
COOL	H tap + **A** rpm	18°C
DRY	Dry rotating speed + **A** rpm	Lowered by 2 ~ 2.5°C
HEAT / RADIANT 1	H tap + **A** rpm	30 ~ 32°C
FAN	H tap + **A** rpm	—
AUTO	Same as cooling / heating in POWERFUL operation	The target temperature is kept unchanged.

A = 40 ~ 90 rpm (depending on the model)

Ex: POWERFUL operation in cooling



(R13571)

Note: **For Floor Standing Type: FVXG Series**

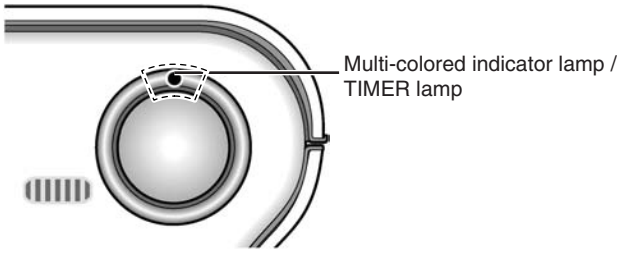
POWERFUL operation is only available in RADIANT 1 (RADIANT operation with heating), it is not available in RADIANT 2 (RADIANT operation only).

1.16 Multi-Colored Indicator Lamp / TIMER Lamp

Features

Wall Mounted Type: FTXG Series

Current operation mode is displayed in color of the lamp of the indoor unit. Operating status can be monitored even in automatic operation in accordance with the actual operation mode.



(R15294)

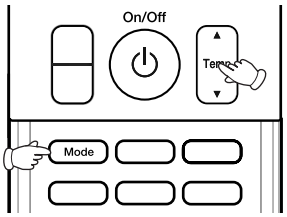
The lamp color changes according to the operation.

- AUTO .....Red / Blue
- DRY .....Green
- COOL.....Blue
- HEAT .....Red
- FAN.....White
- TIMER.....Orange

Brightness Setting

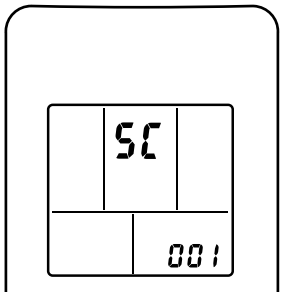
The brightness of the multi-colored indicator lamp can be adjusted L (low), H (high), or OFF.

1. Press the center of the [Temp] button and the [Mode] button at the same time.



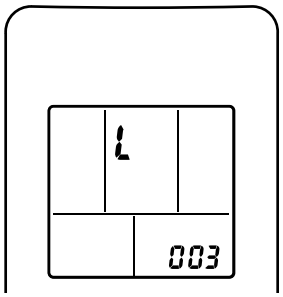
(R11669)

SC is displayed on the LCD.



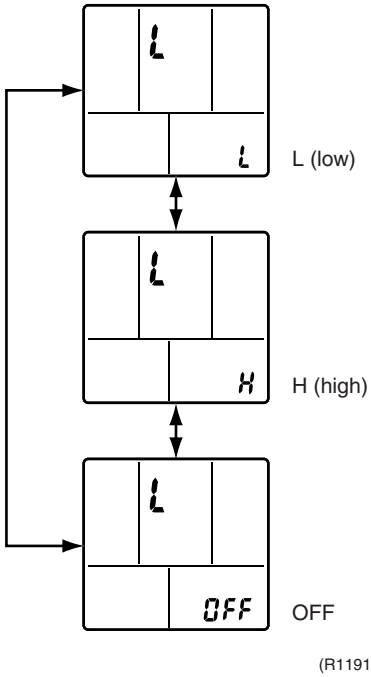
(R11911)

2. Select L (light) with the [Temp] ▲ or ▼ button.



(R11912)

3. Press the [Mode] button to enter the brightness setting mode.
4. Press the [Temp] ▲ or ▼ button to adjust the brightness of the multi-colored indicator lamp.



(R11913)

5. Press the [Mode] button for 5 seconds to exit from the brightness setting mode.
   (When the remote controller is left untouched for 60 seconds, it returns to the normal mode also.)

1.17 Other Functions

1.17.1 Hot-Start Function

In order to prevent the cold air blast that normally comes when heating operation is started, the temperature of the indoor heat exchanger is detected, and the airflow is either stopped or made very weak thereby carrying out comfortable heating of the room.

∗ The cold air blast is also prevented using similar control when the defrosting operation is started or when the thermostat is turned ON.

1.17.2 Signal Receiving Sign

When the indoor unit receives a signal from the remote controller, the unit emits a signal receiving sound.

1.17.3 Indoor Unit [ON/OFF] Button

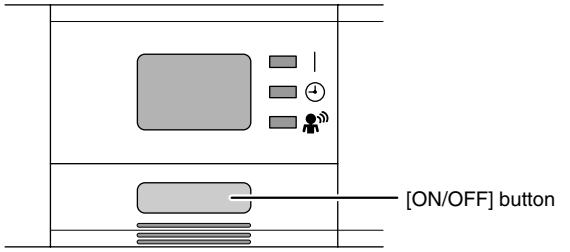
An [ON/OFF] button is provided on the display of the unit.

- Press the [ON/OFF] button once to start operation. Press once again to stop it.
- The [ON/OFF] button is useful when the remote controller is missing or the battery has run out.
- The operation mode refers to the following table.

	Operation mode	Temperature setting	Airflow rate
Cooling Only	COOL	22°C	Automatic
Heat Pump	AUTO	25°C	Automatic

- In the case of multi system operation, there are times when the unit does not activate with the [ON/OFF] button.

Ex: Wall mounted type FTXS-J series



Note: When the [ON/OFF] button is pressed for 10 seconds or more, the forced operation is stopped.

1.17.4 Titanium Apatite Photocatalytic Air-Purifying Filter

This filter combines the Air-Purifying Filter and Titanium Apatite Photocatalytic Deodorizing Filter as a single highly effective filter. The filter traps microscopic particles, decomposes odors and even deactivates bacteria and viruses. It lasts for 3 years without replacement if washed about once every 6 months.

1.17.5 Photocatalytic Deodorizing Filter

The photocatalytic deodorizing filter powerfully decomposes odor of tobacco, pet, etc. The deodorizing power is regenerated simply by being exposed to the sunshine. It is recommended to dry the filter in the sun for about 6 hours (after vacuuming the filter) every 6 months.

1.17.6 Air-Purifying Filter

The air-purifying filter collects tobacco smoke, pollen, etc. with electrostatic agency.
This filter includes a deodorizing active carbon filter that removes minute particles of odor.
Replace the air-purifying filter every 3 months.

1.17.7 Auto-restart Function

If a power failure (including one for just a moment) occurs during the operation, the operation restarts automatically when the power is restored in the same condition as before the power failure.

Note: It takes 3 minutes to restart the operation because the 3-minute standby function is activated.

1.17.8 WEEKLY TIMER Operation

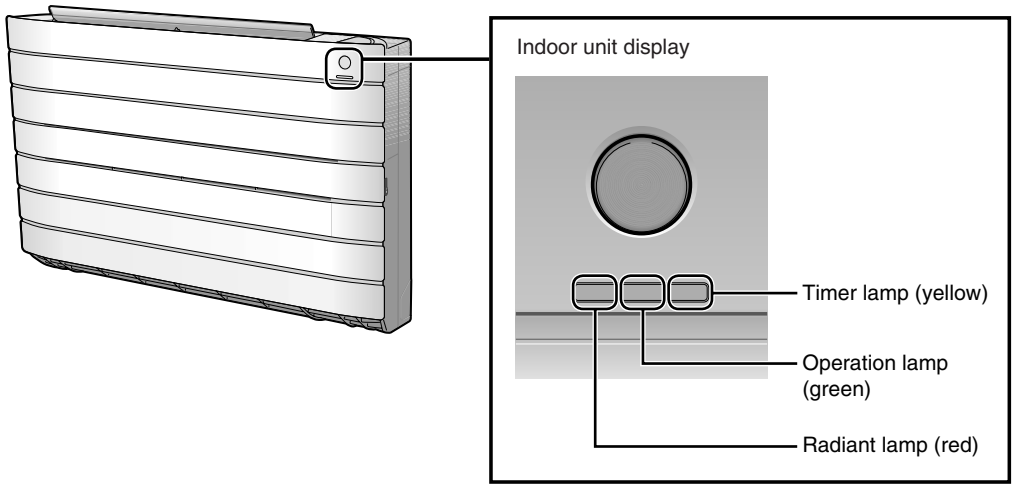
Up to 4 timer settings can be saved for each day of the week (up to 28 settings in total). Those 3 items of “ON/OFF”, “temperature” and “time” can be set.

Refer to “WEEKLY TIMER Operation” on page 167, 208 for detail.

1.17.9 Brightness Setting of the Indoor Unit Display

Floor Standing Type: FVXG Series

Each time you press the [Brightness] button on the remote controller, the brightness of the indoor unit display changes to “high”, “low”, or “off”.
Refer to the operation manual for details.

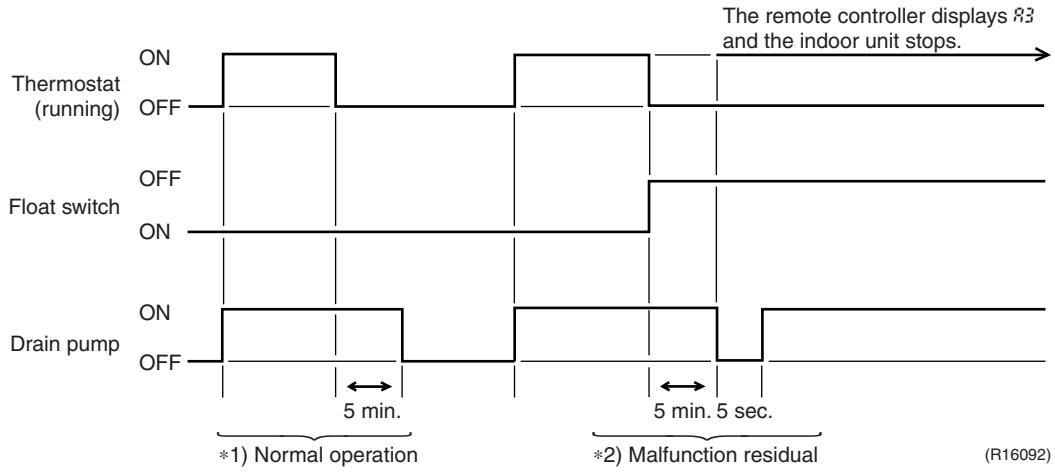


(R14639)

2. Indoor Unit Control (SA Models)

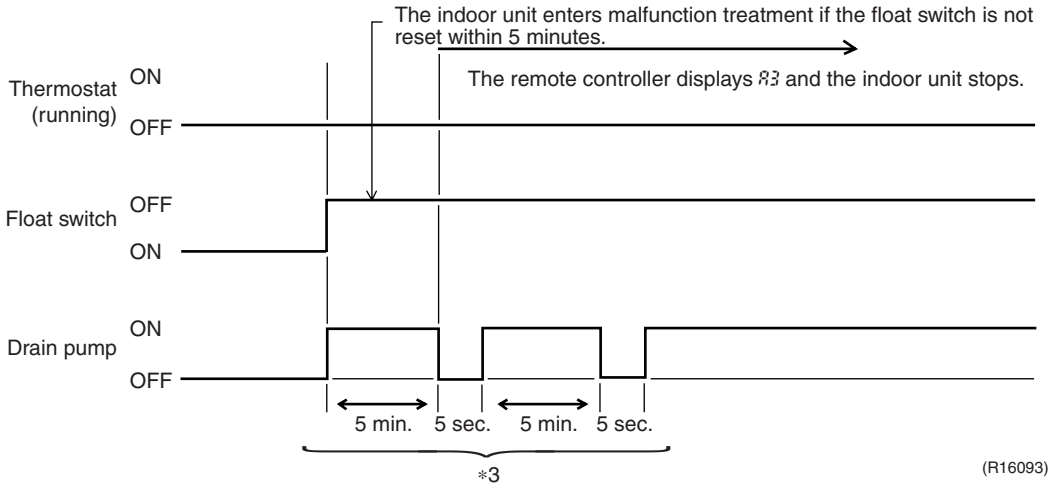
2.1 Drain Pump Control

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



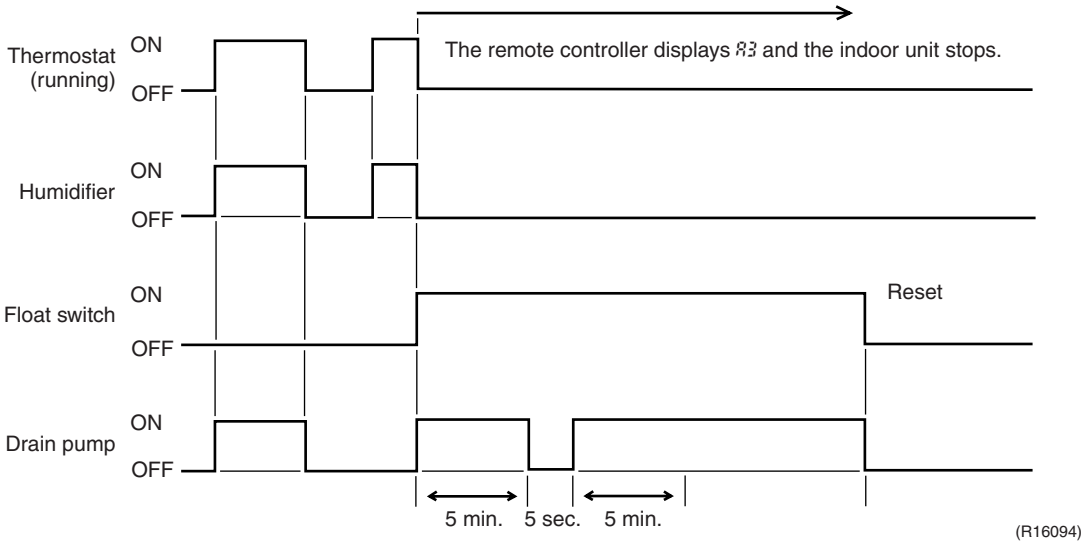
∗1. (Normal operation):
The purpose of residual operation is to completely drain any moisture adhering to the fin of the indoor heat exchanger when the thermostat goes off during cooling operation.
∗2. (Malfunction residual):
The remote controller displays 83 and the air conditioner comes to an abnormal stop in 5 minutes if the float switch is turned OFF while the cooling thermostat is ON.

2.1.2 When the Float Switch is Tripped While the Cooling Thermostat is OFF:



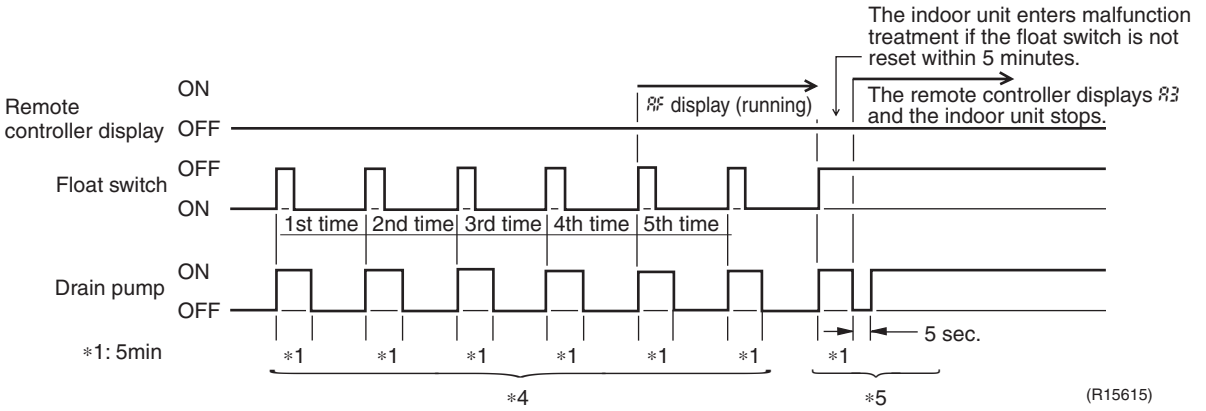
∗3. (Malfunction residual):
The remote controller displays 83 and the air conditioner comes to an abnormal stop if the float switch is turned OFF and not turned ON again within 5 minutes while the cooling thermostat is OFF.

2.1.3 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.

2.1.4 When the Float Switch is Tripped and 8F is Displayed on the Remote Controller:



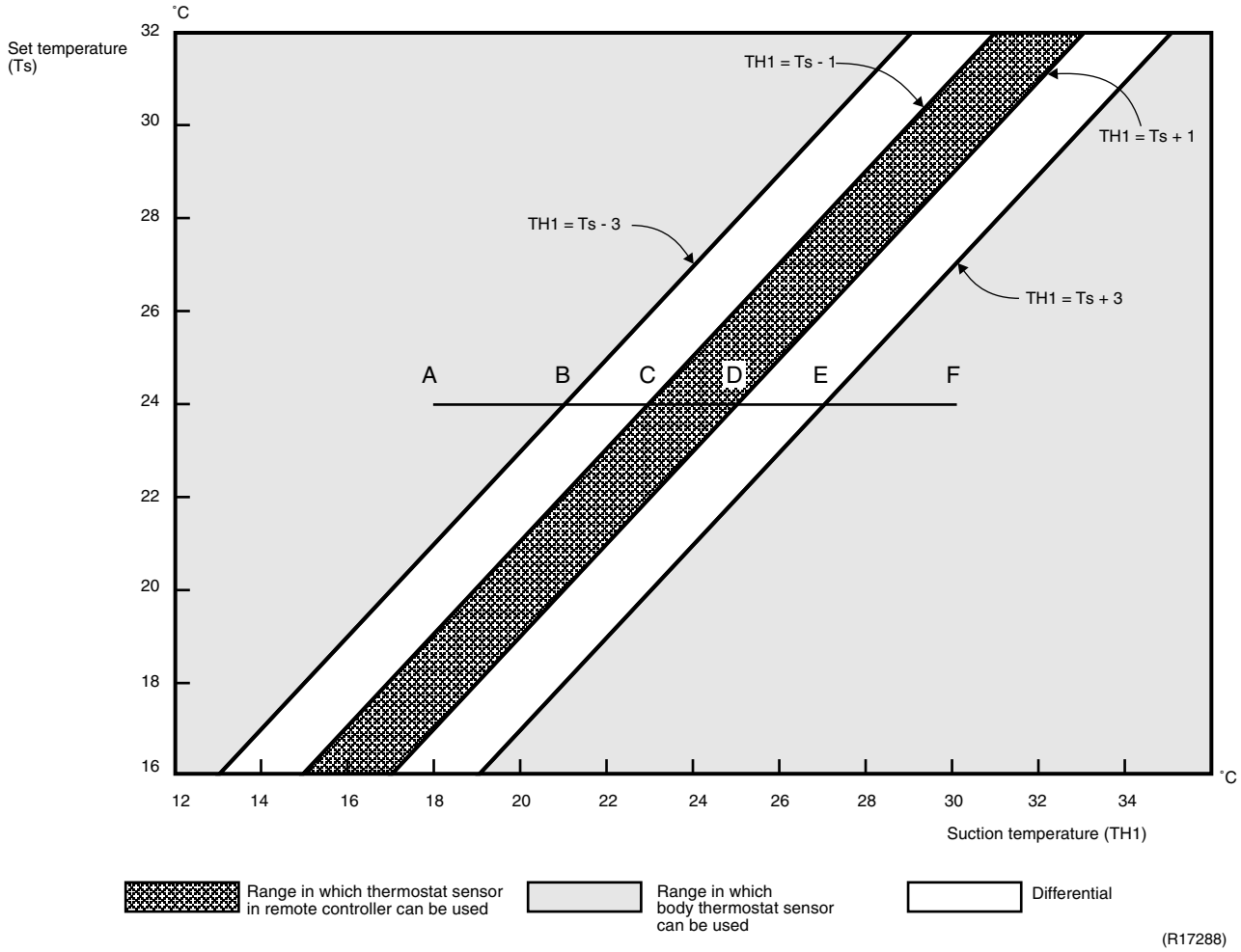
∗4. (Malfunction residual):
If the float switch is tripped 5 times in succession, a drain malfunction is determined to have occurred. 8F is then displayed as operation continues.
∗5. (Malfunction residual):
The remote controller displays 83 and the air conditioner comes to an abnormal stop if the float switch is OFF for more than 5 minutes in the case of ∗4.

2.2 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.”)

Cooling

If there is a significant difference in the set 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 set temperature.



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

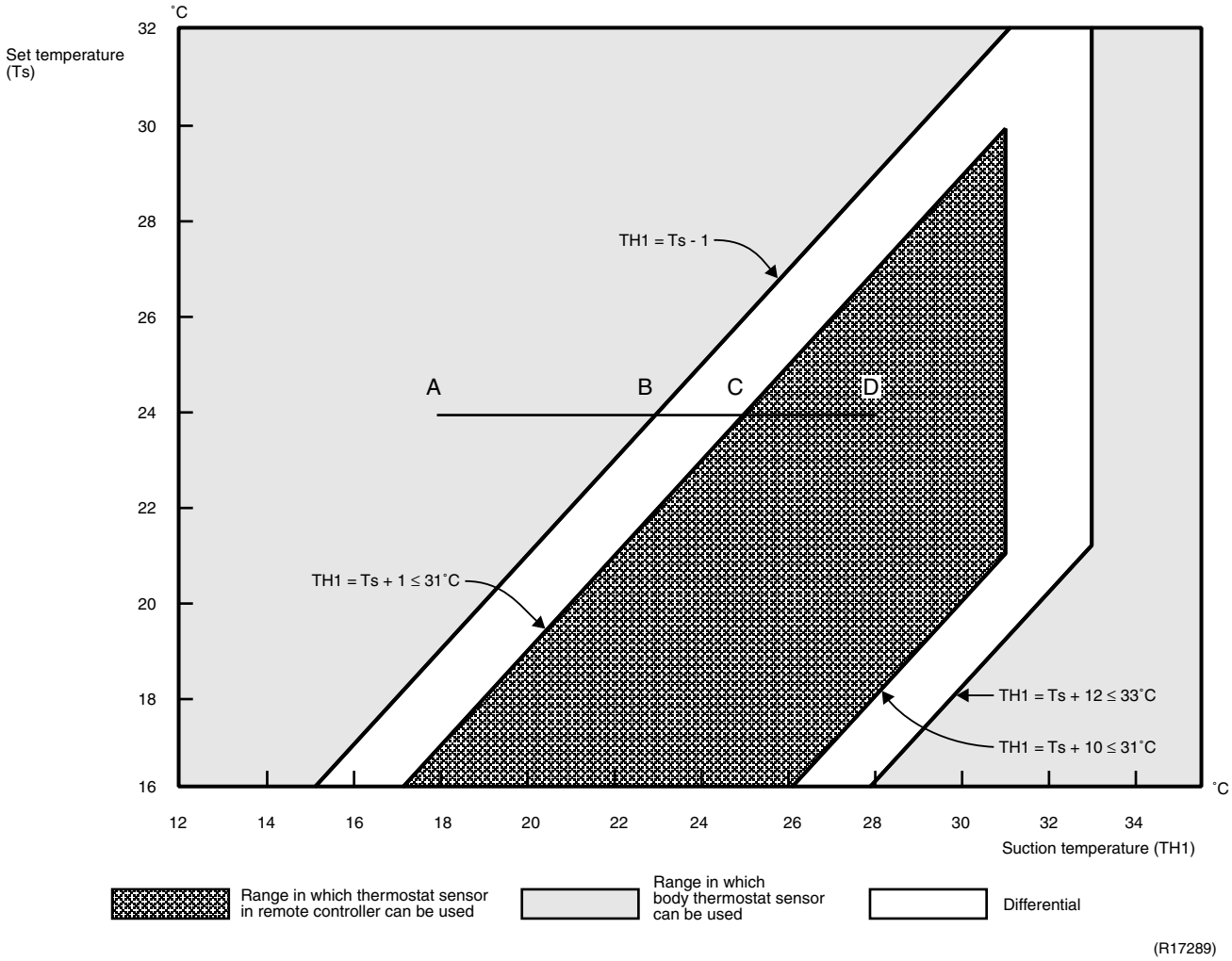
(This example also assumes there are several other air conditioners, and the suction temperature changes even when the thermostat sensor is off.)
Body thermostat sensor is used for temperatures from 18°C to 23°C (A → C).
Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C → E).
Body thermostat sensor is used for temperatures from 27°C to 30°C (E → F).

■ **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 indoor unit may therefore be turned off by the thermostat before the lower part of the room reaches the set temperature. The temperature can be controlled so the lower part of the room where the occupants are does not become cold by widening the range in which thermostat sensor in remote controller can be used so that suction temperature is higher than the set temperature.



■ **Assuming the set 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, and the suction 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).

■ **Assuming suction temperature has changed from 28°C to 18°C (D → A):**

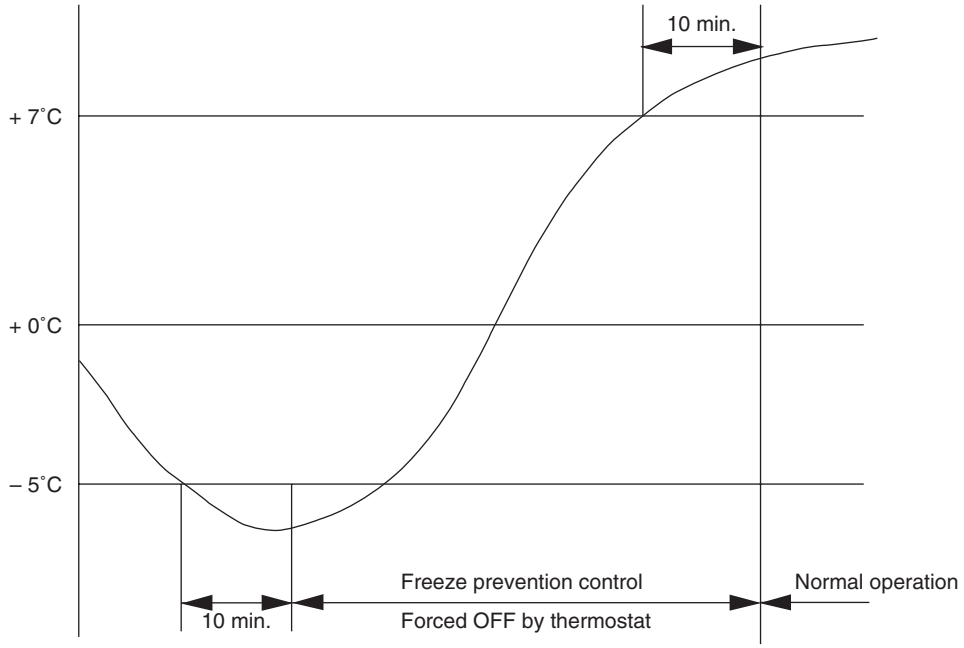
Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D → B).
Body thermostat sensor is used for temperatures from 23°C to 18°C (B → A).

2.3 Freeze Prevention Control

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

Conditions for starting: 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 cancelling: Temperature is +7°C or more for 10 min. continuously

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



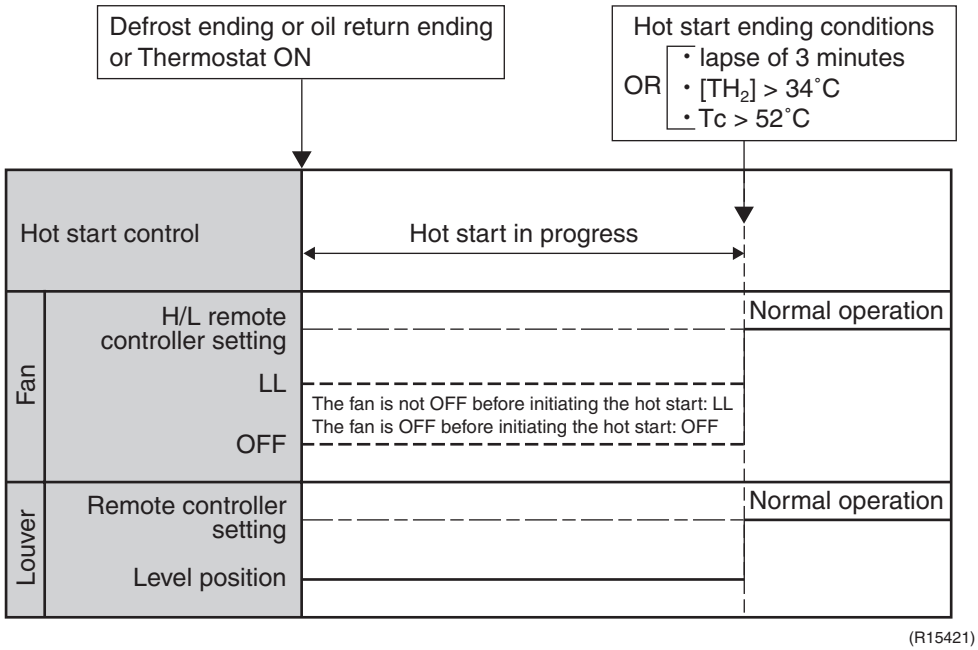
(R12940)

2.4 Hot Start Control (In Heating Operation Only)

Outline

At startup with thermostat ON or after the completion of defrosting in heating operation, the indoor unit fan is controlled to prevent cold air from blasting out and ensure startup capacity.

Detail



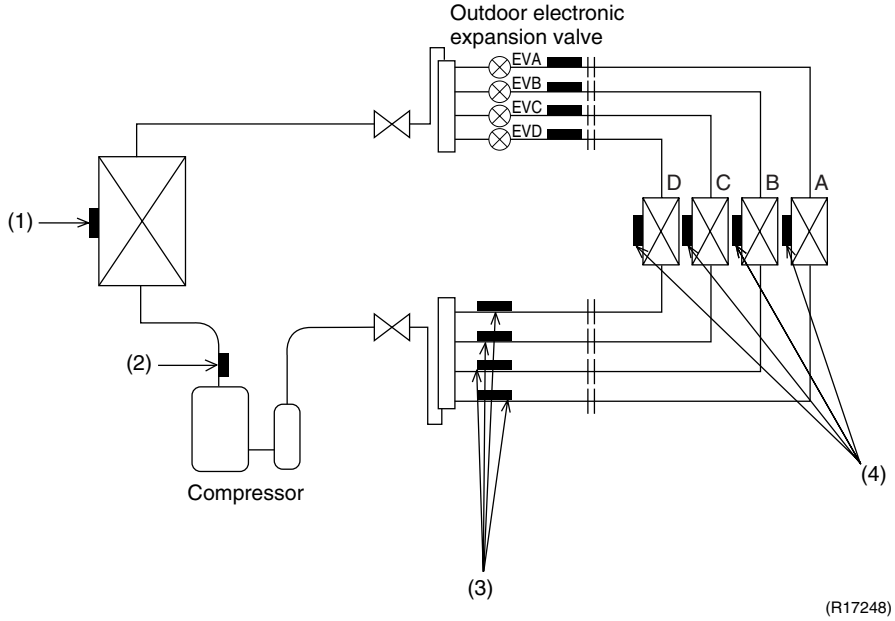
TH_2: Temperature (°C) detected with the gas thermistor

TC : High pressure equivalent saturated temperature

3. Function of Thermistor

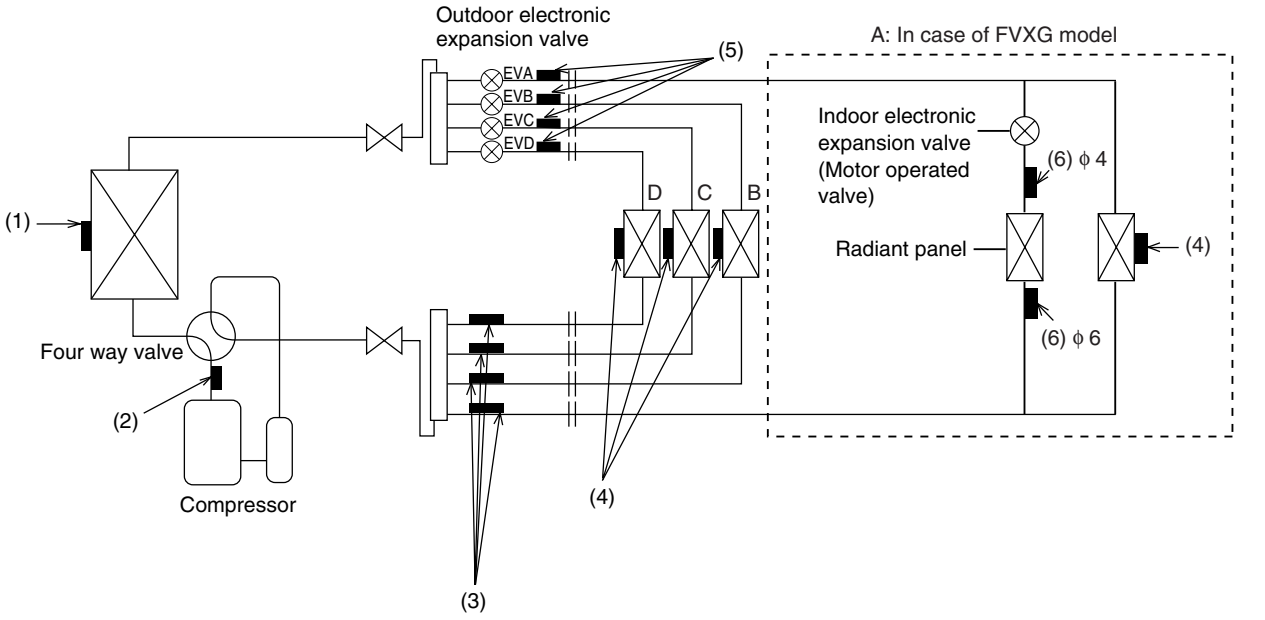
★ Illustrations are for 4-room models as representative and have 4 lines of indoor unit system (A ~ D). 3-room models have 3 lines (A ~ C) and 5-room models have 5 lines (A ~ E).

Cooling Only Model



(R17248)

Heat Pump Model



(R17159)

(1) Outdoor Heat Exchanger Thermistor

1. The outdoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the outdoor electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
2. In cooling operation, the outdoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature becomes lower than the outdoor heat exchanger temperature, the discharge pipe thermistor is judged as disconnected.
3. In cooling operation, the outdoor heat exchanger thermistor is used for high pressure protection.

(2) Discharge Pipe Thermistor

1. The discharge pipe thermistor is used for controlling discharge pipe temperature. If the discharge pipe temperature (used in place of the inner temperature of the compressor) rises abnormally, the operating frequency becomes lower or the operation halts.
2. The discharge pipe thermistor is used for detecting disconnection of the discharge pipe thermistor.

(3) Gas Pipe Thermistor

1. In cooling operation, the gas pipe thermistor is used for gas pipe isothermal control. The system controls outdoor electronic expansion valve opening so that the gas pipe temperature in each room becomes equal.

(4) Indoor Heat Exchanger Thermistor

1. The indoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the outdoor electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
2. In cooling operation, the indoor heat exchanger thermistor is used for freeze-up protection control. If the indoor heat exchanger temperature drops abnormally, the operating frequency becomes lower or the operation halts.
3. In cooling operation, the indoor heat exchanger thermistor is used for anti-icing function. If any of the following conditions are met in the room where operation halts, it is assumed as icing.
   The conditions are
   $Tc \leq -1°\ C$
   $Ta - Tc \geq 10°\ C$
   where Ta is the room temperature and Tc is the indoor heat exchanger temperature.
4. In heating operation, the indoor heat exchanger thermistor is used for heating peak-cut control. If the indoor heat exchanger temperature rises abnormally, the operating frequency becomes lower or the operation halts.
5. In heating operation, the indoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature becomes lower than the maximum indoor heat exchanger temperature, the discharge pipe thermistor is judged as disconnected.
6. When only one indoor unit is operating, the indoor heat exchanger thermistor is used for subcooling control. The actual subcool is calculated with the liquid pipe temperature and the indoor heat exchanger temperature. The system controls the outdoor electronic expansion valve openings to obtain the target subcool.
7. The indoor heat exchanger thermistor is used for wiring error check function. The refrigerant flows in order from the port A to detect the indoor heat exchanger temperature one by one, and then wiring and piping can be checked.

(5) Liquid Pipe Thermistor

1. When only one indoor unit is in heating, the liquid pipe thermistor is used for subcooling control. The actual subcool is calculated with the liquid pipe temperature and the maximum indoor heat exchanger temperature. The system controls the outdoor electronic expansion valve openings to obtain the target subcool.
2. In heating operation, the liquid pipe thermistor is used for liquid pipes isothermal control. The system controls the outdoor electronic expansion valve opening so that the liquid pipe temperatures in each room becomes equal.

(6) Radiant Panel Thermistors

1. The radiant panel thermistors are used for calculating radiant panel surface temperature. Due to structural and manufactural restrictions, the radiant panel surface temperature cannot be controlled directly with a thermistor. Thermistors are mounted on the radiant panel piping in order to calculate the radiant panel surface temperature.
   The indoor electronic expansion valve is controlled according to the radiant panel surface temperature.
2. The radiant panel thermistors are used for detecting malfunction of the indoor electronic expansion valve.

4. Control Specification

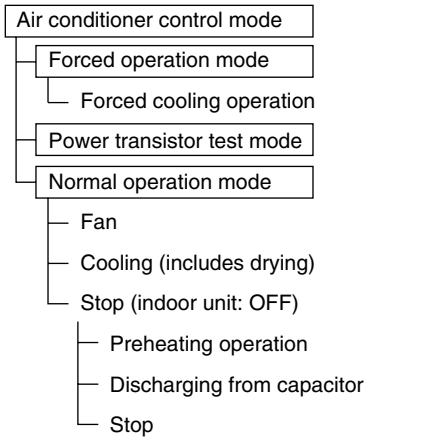
4.1 Mode Hierarchy

Outline

There are 3 modes; normal operation mode, forced operation mode, and power transistor test mode for installation and servicing.

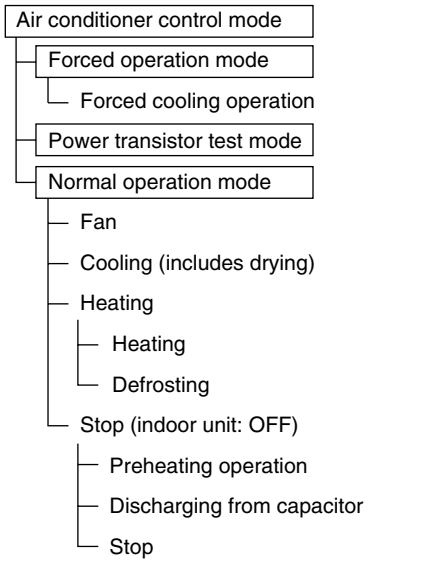
Detail

Cooling Only Model



(R14428)

Heat Pump Model



(R14248)

Note:

- Unless specified otherwise, a dry operation command is regarded as cooling operation and a radiant operation command is regarded as heating operation.
- Indoor fan operation cannot be made in multiple indoor units. (A forced fan command is made during forced cooling operation.)

Determine Operation Mode

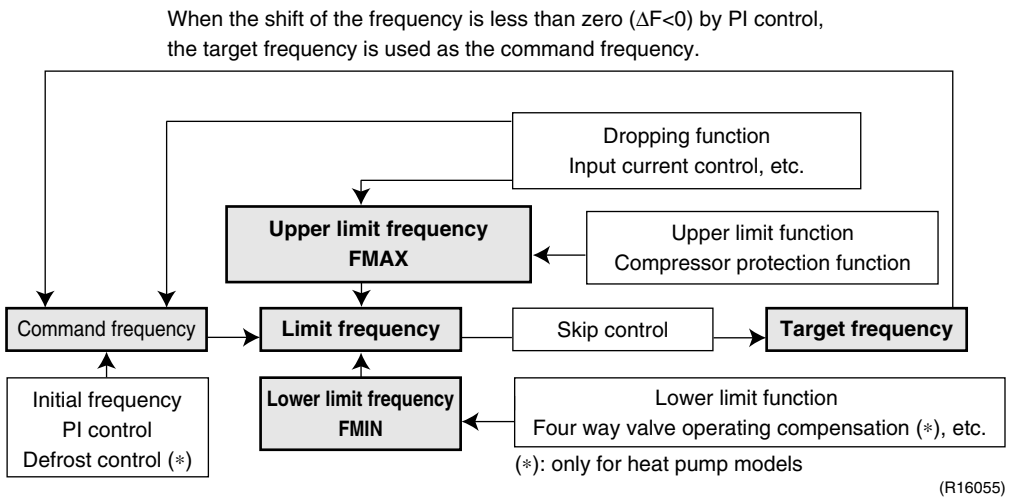
The system judges the operation mode command which is set by each room in accordance with the procedure, and determines the operation mode of the system.
The following procedure is taken when the modes conflict with each other.
∗1. The system follows the mode which is set first. (First-push, first-set)
∗2. For the rooms where the different mode is set, standby mode is activated. (The operation lamp blinks.)

4.2 Frequency Control

Outline

Frequency that corresponds to each room's capacity is determined according to the difference between the target temperature and the temperature of each room.
The function is explained as follows.

1. How to determine frequency
2. Frequency command from an indoor unit (Difference between a room thermistor temperature and the target temperature)
3. Frequency command from an indoor unit (The ranked capacity of the operating room)
4. Frequency initial setting
5. PI control



Detail

How to Determine Frequency

The compressor's frequency is determined by taking the following steps.

For Cooling Only Model

1. Determine command frequency

- Command frequency is determined in the following order of priority.
  1. Forced cooling
  2. Indoor frequency command

2. Determine upper limit frequency

- The minimum value is set as the upper limit frequency among the frequency upper limits of the following functions:
  Compressor protection, input current, discharge pipe temperature, low Hz high pressure limit, freeze-up protection.

3. Determine lower limit frequency

- The maximum value is set as lower limit frequency among the frequency lower limits of the following functions:
  Draft prevention, pressure difference upkeep.

4. Determine prohibited frequency

- There is a certain prohibited frequency such as a power supply frequency.

For Heat Pump Model

1. Determine command frequency

- Command frequency is determined in the following order of priority.
  1. Limiting defrost control time
  2. Forced cooling / heating
  3. Indoor frequency command

2. Determine upper limit frequency

- The minimum value is set as upper limit frequency among the frequency upper limits of the following functions:
  Compressor protection, input current, discharge pipe temperature, low Hz high pressure limit, heating peak-cut, freeze-up protection, defrost.

3. Determine lower limit frequency

- The maximum value is set as the lower limit frequency among the frequency lower limits of the following functions:
  Four way valve operation compensation, draft prevention, pressure difference upkeep.

4. Determine prohibited frequency

- There is a certain prohibited frequency such as a power supply frequency.

Indoor Frequency Command (∆D signal)

The difference between a room thermistor temperature and the target temperature is taken as the "∆D signal" and is used for frequency command.

Temperature difference (°C)	∆D signal	Temperature difference (°C)	∆D signal	Temperature difference (°C)	∆D signal	Temperature difference (°C)	∆D signal
–2.0	∗Th OFF	0	4	2.0	8	4.0	C
–1.5	1	0.5	5	2.5	9	4.5	D
–1.0	2	1.0	6	3.0	A	5.0	E
–0.5	3	1.5	7	3.5	B	5.5	F

Values depend on the type of indoor unit.
∗Th OFF = Thermostat OFF

Indoor Unit Capacity (S value)

The capacity of the indoor unit is a "S" value and is used for frequency command.

Ex:

Capacity	S value	Capacity	S value
2.5 kW	25	5.0 kW	50
3.5 kW	35	6.0 kW	60

Frequency Initial Setting

<Outline>

When starting the compressor, or when conditions are varied due to the change of the operating room, the frequency must be initialized according to the total of a maximum ∆D value of each room and a total value of Q (ΣQ) of the operating room (the room in which the thermos is set to ON).
Q value: Indoor unit output determined from indoor unit volume, airflow rate and other factors.

PI Control (Determine Frequency Up / Down by ΔD Signal)

1. **P control**
   A total of the ΔD value is calculated in each sampling time (20 seconds), and the frequency is adjusted according to its difference from the frequency previously calculated.

2. **I control**
   If the operating frequency is not change more than a certain fixed time, the frequency is adjusted according to the ΣΔD value.
   When the ΣΔD value is low, the frequency is lowered.
   When the ΣΔD value is high, the frequency is increased.

3. **Limit of frequency increasing range**
   When the difference between input current and input current dropping value is less than 1.5 A, the frequency increasing range must be limited.

4. **Frequency management when other controls are functioning**
   - When each frequency is dropping;
     Frequency management is carried out only when the frequency drops.
   - For limiting lower limit
     Frequency management is carried out only when the frequency rises.

5. **Upper and lower limit of frequency by PI control**
   The frequency upper and lower limits are set according to the total of S values. When the indoor unit quiet operation commands come from more than one room or when the outdoor unit quiet operation commands come from all the rooms, the upper limit frequency is lower than the usual setting.

4.3 Controls at Mode Changing / Start-up

4.3.1 Preheating Operation

Outline

The inverter operation in open phase starts with the conditions of the preheating command from the outdoor unit.

Detail

ON Condition

- When the outdoor temperature is below 10.5°C, the inverter operation in open phase starts.

OFF Condition

- When the outdoor temperature is higher than 12°C, the inverter operation in open phase stops.

4.3.2 Four Way Valve Switching

Outline

In heating operation, current is conducted, and in cooling and defrosting operation, current is not conducted. In order to eliminate the switching sound, as the four way valve coil switches from ON to OFF when the heating is stopped, the OFF delay switch of the four way valve is carried out.

Detail

OFF delay switch of four way valve:

The four way valve coil is energized for 150 seconds after the operation is stopped.

4.3.3 Four Way Valve Operation Compensation

Outline

At the beginning of the operation as the four way valve is switched, the pressure difference to activate the four way valve is acquired by having output frequency which is more than a certain fixed frequency, for a certain fixed time.

Detail

Starting Conditions

1. When starting the compressor for heating
2. When the operation mode changes from the previous time
3. When starting the compressor for defrosting
4. When starting the compressor for the first time after resetting with the power ON.
   The lower limit of frequency keeps **A** Hz for 70 seconds with any conditions 1 through 4 above.

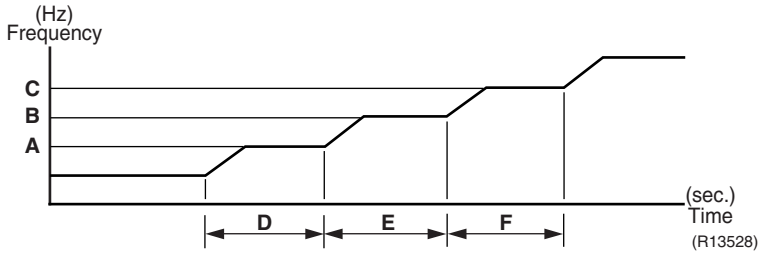
	A (Hz)
40/50/52/58 class	48
68/75 class	40
80/90 class	28

4.3.4 3-Minute Standby

Turning on the compressor is prohibited for 3 minutes after turning off.
(Except when defrosting.)

4.3.5 Compressor Protection Function

When turning the compressor from OFF to ON, the upper limit of frequency is set as follows. (The function is not used when defrosting.)



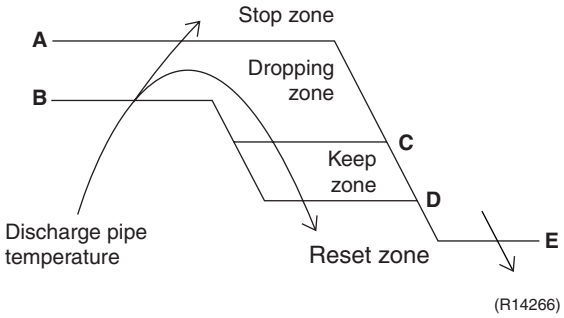
	40/50/52/58 class	68/75/80/90 class
A (Hz)	55	55
B (Hz)	70	65
C (Hz)	85	80
D (seconds)	150 ~ 240	120
E (seconds)	180	200
F (seconds)	300	470

4.4 Discharge Pipe Temperature Control

Outline

The discharge pipe temperature is used as the internal temperature of the compressor. If the discharge pipe temperature rises above a certain level, the upper limit of frequency is set to keep the discharge pipe temperature from rising further.

Detail



	40/50/52/58 class	68/75/80/90 class
A (˚C)	110	120
B (˚C)	103	111
C (˚C)	102	109
D (˚C)	100	107
E (˚C)	95	107

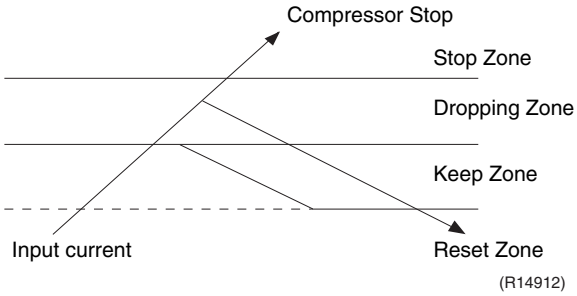
Zone	Control
Stop zone	When the temperature reaches the stop zone, the compressor stops.
Dropping zone	The upper limit of frequency decreases.
Keep zone	The upper limit of frequency is kept.
Reset zone	The upper limit of frequency is canceled.

4.5 Input Current Control

Outline

An input current is detected by the CT while the compressor is running, and the frequency upper limit is set from the input current.
In case of heat pump models, this control which is the upper limit control of the frequency takes priority over the lower limit control of four way valve operation compensation.

Detail



Frequency control in each zone

Stop zone

- After 2.5 seconds in this zone, the compressor is stopped.

Dropping zone

- The upper limit of the compressor frequency is defined as operation frequency – 2 Hz.
- After this, the output frequency is lowered by 2 Hz every second until it reaches the keep zone.

Keep zone

- The present maximum frequency goes on.

Reset zone

- Limit of the frequency is canceled.

Limitation of current dropping and stop value according to the outdoor temperature

- The current drops when outdoor temperature becomes higher than a certain level (depending on the model).

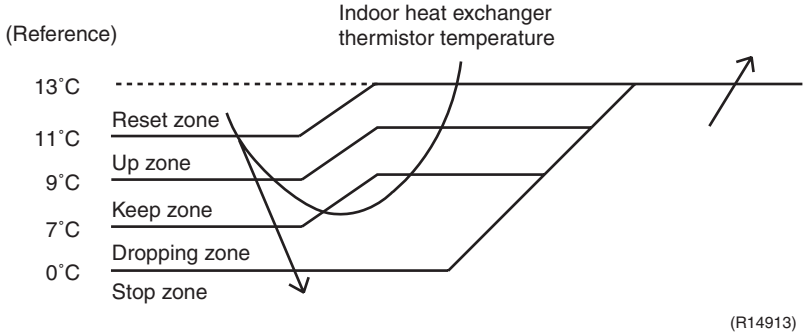
4.6 Freeze-up Protection Control

Outline

During cooling operation, the signals sent from the indoor unit control the operating frequency limitation and prevent freezing of the indoor heat exchanger. (The signal from the indoor unit is divided into zones.)

Detail

The operating frequency limitation is judged with the indoor heat exchanger temperature 2 seconds after operation starts and 30 seconds after the number of operation room is changed.



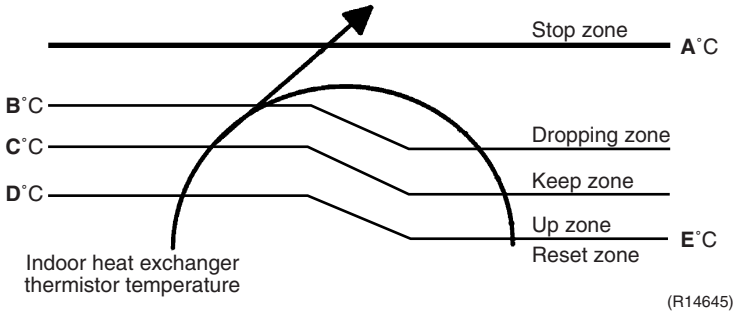
4.7 Heating Peak-cut Control

Outline

During heating operation, the indoor heat exchanger temperature determines the frequency upper limit to prevent abnormal high pressure.

Detail

- The operating frequency is judged with the indoor heat exchanger temperature 2 minutes after the operation starts and **F** seconds after the number of operation room is changed.
- The maximum value of the indoor heat exchanger temperature controls the following (excluding stopped rooms).



Zone	Control
Stop zone	When the temperature reaches the stop zone, the compressor stops.
Dropping zone	The upper limit of frequency decreases.
Keep zone	The upper limit of frequency is kept.
Up zone	The upper limit of frequency increases.
Reset zone	The upper limit of frequency is canceled.

A (°C)	65
B (°C)	55
C (°C)	54
D (°C)	52
E (°C)	50

	F (seconds)
When increase	30
When decrease	2

4.8 Outdoor Fan Control

1. Fan ON control to cool down the electrical box
The outdoor fan is turned ON when the electrical box temperature is high while the compressor is OFF.

2. Fan OFF control during defrosting
The outdoor fan is turned OFF while defrosting.

3. Fan OFF delay when stopped
The outdoor fan is turned OFF 60 seconds after the compressor stops.

4. Fan speed control for pressure difference upkeep
The rotation speed of the outdoor fan is controlled for keeping the pressure difference during cooling operation with low outdoor temperature.
- When the pressure difference is low, the rotation speed of the outdoor fan is reduced.
- When the pressure difference is high, the rotation speed of the outdoor fan is controlled as well as normal operation.

5. Fan control when the number of heating room decreases
When the outdoor temperature is more than 10°C, the fan is turned off for 30 seconds.

6. Fan speed control during forced operation
The outdoor fan is controlled as well as normal operation during the forced operation.

7. Fan speed control during POWERFUL operation
The rotation speed of the outdoor fan is increased during the POWERFUL operation.

8. Fan speed control during indoor / outdoor unit quiet operation
The rotation speed of the outdoor fan is reduced by the command of the indoor / outdoor unit quiet operation.

9. Fan ON/OFF control when operation starts / stops
The outdoor fan is turned ON when the operation starts. The outdoor fan is turned OFF when the operation stops.

4.9 Liquid Compression Protection Function

Outline

In order to obtain the dependability of the compressor, the compressor is stopped according to the outdoor temperature and temperature of the outdoor heat exchanger.

Detail

■ Operation stops depending on the outdoor temperature
The compressor turns off under the conditions that the system is in cooling operation and outdoor temperature is below –12°C.

4.10 Defrost Control

Outline

Defrosting is carried out by the cooling cycle (reverse cycle). The defrosting time or outdoor heat exchanger temperature must be more than a certain value to finish.

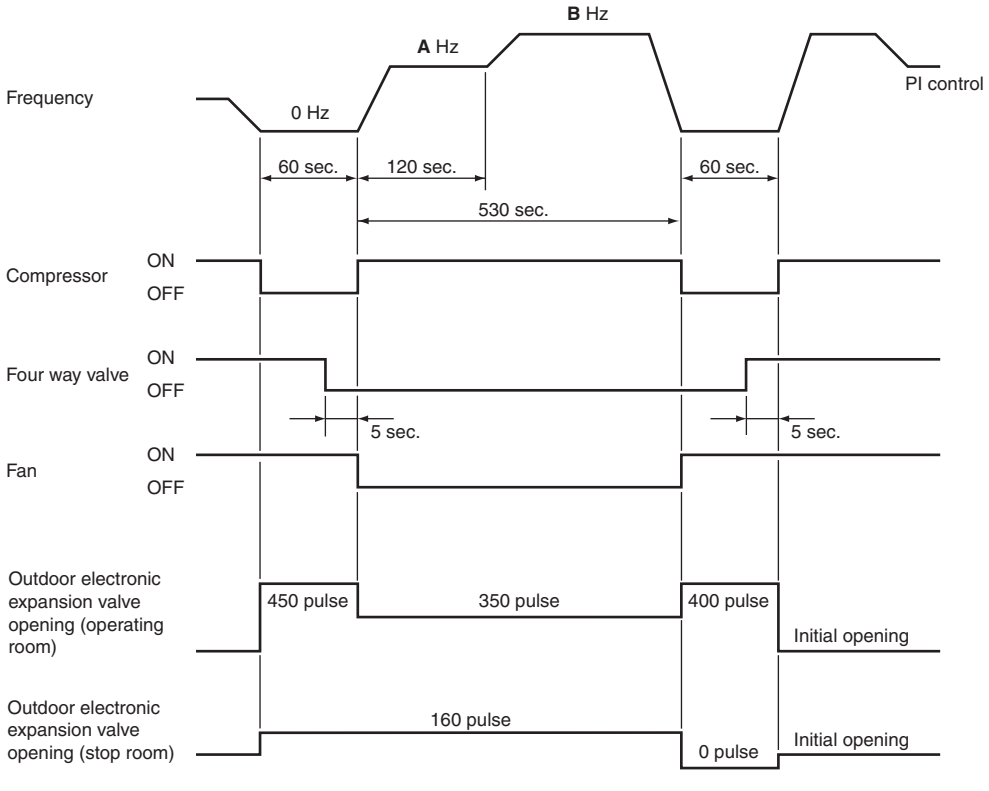
Detail

Conditions for Starting Defrost

- The starting conditions are determined with the outdoor temperature and the outdoor heat exchanger temperature.
- The system is in heating operation.
- The compressor operates for 6 minutes.
- More than 38 minutes of accumulated time pass after the start of the operation, or ending the previous defrosting.

Conditions for Canceling Defrost

The target heat exchanger temperature as the canceling condition is selected in the range of 4 ~ 12°C according to the outdoor temperature.



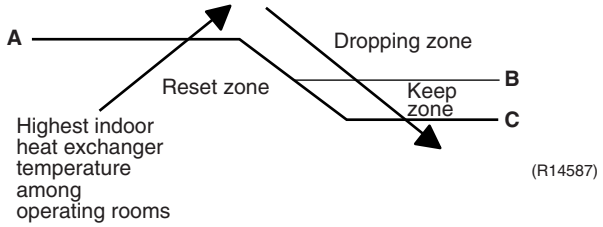
	40/50/52/58 class	68/75 class	80/90 class
A (Hz)	62	54	39
B (Hz)	80	82	62

4.11 Low Hz High Pressure Limit

Outline

The upper limit of high pressure in a low Hz zone is set. The upper limit of the indoor heat exchanger temperature is also set by the operating frequency. Zones are divided into three, reset zone, keep zone, and dropping zone, and the frequency control is carried out according to each zone.

Detail



	40/50/52/58/68/75 class	80/90 class
A (°C)	60	57
B (°C)	59	56
C (°C)	56	53

Note: Dropping: The system stops 2 minutes after staying in the dropping zone.

4.12 Outdoor Electronic Expansion Valve Control

Outline

The following items are included in the outdoor electronic expansion valve control.

Outdoor electronic expansion valve is fully closed

1. Outdoor electronic expansion valve is fully closed when turning on the power.
2. Pressure equalizing control

Room Distribution Control

1. Gas pipe isothermal control
2. SC (subcooling) control
3. Liquid pipe temperature control (with all ports connected and all rooms being air-conditioned)
4. Liquid pipe temperature control for stopped rooms
5. Dew prevention control for indoor rotor

Open Control

1. Outdoor electronic expansion valve control when starting operation
2. Outdoor electronic expansion valve control when the frequency changes
3. Outdoor electronic expansion valve control for defrosting
4. Outdoor electronic expansion valve control for oil recovery
5. Outdoor electronic expansion valve control when a discharge pipe temperature is abnormally high
6. Outdoor electronic expansion valve control when the discharge pipe thermistor is disconnected
7. Outdoor electronic expansion valve control for indoor unit freeze-up protection

Feedback Control

1. Target discharge pipe temperature control

Detail

The followings are the examples of the outdoor electronic expansion valve control which function in each operation mode.

Operation pattern	● : Holding Functions — : No Functions	Gas pipe isothermal control	SC (subcooling) control	Control when the frequency changes	Control for abnormally high discharge pipe temperature	Oil recovery control	Indoor freeze-up protection control	Liquid pipe temperature control	Liquid pipe temperature control for non-operating units	Dew prevention control for indoor rotor
When power is turned on	Fully closed when power is turned on	—	—	—	—	—	—	—	—	—
Cooling, 1 room operation	Open control when starting	—	—	—	●	●	●	—	—	—
	(Control of target discharge pipe temperature)	—	—	●	●	●	●	—	—	●
Cooling, 2 rooms operation to Cooling, 4 rooms operation	Control when the operating room is changed	—	—	—	●	●	●	—	—	●
	(Control of target discharge pipe temperature)	●	—	●	●	●	●	—	—	●
Stop	Pressure equalizing control	—	—	—	—	—	—	—	—	—
Heating, 1 room operation	Open control when starting	—	—	—	●	—	—	—	—	—
	(Control of target discharge pipe temperature)	—	● ★2	●	●	—	—	● ★1	● ★3	—
Heating, 2 rooms operation	Control when the operating room is changed	—	—	—	●	—	—	—	—	—
	(Control of target discharge pipe temperature)	—	● ★2	●	●	—	—	● ★1	● ★3	—
	(Defrost control)	—	—	—	—	—	—	—	—	—
Stop	Pressure equalizing control	—	—	—	—	—	—	—	—	—
Heating operation	Open control when starting	—	—	—	●	—	—	—	—	—
Control of discharge pipe thermistor disconnection	Continue	—	● ★2	—	—	—	—	● ★1	● ★3	—
Stop	Pressure equalizing control	—	—	—	—	—	—	—	—	—

(R16007)

★1: When all the indoor units are operating, “liquid pipe temperature control” is conducted.
★2: “SC (subcooling) control” is conducted for the operating indoor units, when some of the units are not operating.
★3: “Liquid pipe temperature control for stopped room” is conducted for the non-operating indoor units.

4.12.1 Fully Closing with Power on

The outdoor electronic expansion valve is initialized when the power is turned on. The opening position is set and the pressure equalization is developed.

4.12.2 Pressure Equalizing Control

When the compressor is stopped, the pressure equalizing control is activated. The outdoor electronic expansion valve opens, and develops the pressure equalization.

4.12.3 Opening Limit Control

Outline

A maximum and minimum opening of the outdoor electronic expansion valve are limited.

Detail

- A maximum outdoor electronic expansion valve opening in the operating room: 450 pulses
- A minimum outdoor electronic expansion valve opening in the operating room: 75 pulses

The outdoor electronic expansion valve is fully closed in the room where cooling is stopped and is opened at a fixed degree during defrosting.

4.12.4 Starting Operation Control / Changing Operation Room

The outdoor electronic expansion valve opening is controlled when the operation starts, and prevents superheating or liquid compression.

4.12.5 Control when the Frequency Changes

When the target discharge pipe temperature control is active, if the target frequency is changed to a specified value in a certain time period, the target discharge pipe temperature control is canceled and the target opening of the outdoor electronic expansion valve is changed.

4.12.6 Oil Recovery Function

Outline

The outdoor electronic expansion valve opening in the cooling stopped room is set as to open for a certain time at a specified interval so that the oil in the cooling stopped room may not be accumulated.

Detail

During cooling operation, every 1 hour continuous operation, the outdoor electronic expansion valves in the operation stopped room is opened by 80 pulses for specified time.

4.12.7 High Discharge Pipe Temperature Control

When the compressor is operating, if the discharge pipe temperature exceeds a certain value, the outdoor electronic expansion valve opens and the refrigerant runs to the low pressure side. This procedure lowers the discharge pipe temperature.

4.12.8 Control for Disconnection of the Discharge Pipe Thermistor

Outline

The disconnection of the discharge pipe thermistor is detected by comparing the discharge pipe temperature with the condensing temperature. If the discharge pipe thermistor is disconnected, the outdoor electronic expansion valve opens according to the outdoor temperature and the operation frequency, and operates for a specified time, and then stops.
After 3 minutes, the operation restarts and checks if the discharge pipe thermistor is disconnected. If the discharge pipe thermistor is disconnected, the system stops after operating for a specified time.
If the disconnection is detected repeatedly, the system is shut down. When the compressor runs for 60 minutes without any error, the error counter is reset.

Detail

Detect Disconnection
When the starting control (660 ~ 810 seconds) finishes, the following adjustment is made.

1. When the operation mode is cooling
   When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.
   Discharge pipe temperature + 6°C < outdoor heat exchanger temperature
2. When the operation mode is heating
   When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.
   Discharge pipe temperature + 6°C < highest indoor heat exchanger temperature

Adjustment when the thermistor is disconnected
When the disconnection is ascertained, the compressor continues operation for 9 minutes and then stops.
If the compressor stops repeatedly, the system is shut down.

4.12.9 Gas Pipe Isothermal Control During Cooling

When the units are operating in multiple rooms, the gas pipe temperature is detected and the outdoor electronic expansion valve opening is adjusted so that the temperature of the gas pipe in each room becomes equal.

- When the gas pipe temperature > the average gas pipe temperature, → open the outdoor electronic expansion valve in that room
- When the gas pipe temperature < the average gas pipe temperature, → close the outdoor electronic expansion valve in that room

The temperatures are monitored every 40 seconds.

4.12.10 SC (Subcooling) Control

Outline

The liquid pipe temperature and the heat exchanger temperature are detected and the outdoor electronic expansion valve opening is compensated so that the SC of each room becomes the target SC.

- When the actual SC is > target SC, open the outdoor electronic expansion valve of the room.
- When the actual SC is < target SC, close the outdoor electronic expansion valve of the room.

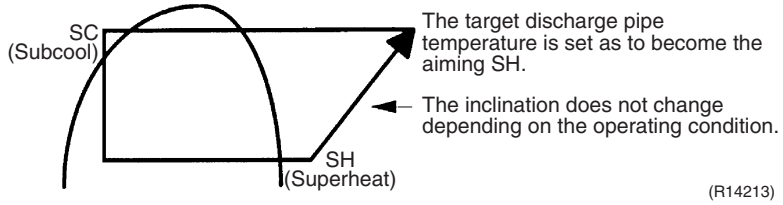
Detail

Start Conditions
After finishing the starting control (660 ~ 810 seconds), (all) the outdoor electronic expansion valve(s) for the operating room is/are controlled.

Determine Outdoor Electronic Expansion Valve Opening
The outdoor electronic expansion valve opening is adjusted so that the temperature difference between the maximum heat exchanger temperature of connected room and the liquid pipe temperature thermistor becomes constant.

4.12.11Target Discharge Pipe Temperature Control

The target discharge pipe temperature is obtained from the indoor and outdoor heat exchanger temperature, and the outdoor electronic expansion valve opening is adjusted so that the actual discharge pipe temperature becomes close to the target discharge pipe temperature. (Indirect SH (superheating) control using the discharge pipe temperature)



The outdoor electronic expansion valve opening and the target discharge pipe temperature are adjusted every 20 seconds. The target discharge pipe temperature is controlled by indoor heat exchanger temperature and outdoor heat exchanger temperature. The opening degree of the outdoor electronic expansion valve is controlled by the followings.

- Target discharge pipe temperature
- Actual discharge pipe temperature
- Previous discharge pipe temperature

4.13 Malfunctions

4.13.1 Sensor Malfunction Detection

Sensor malfunction may occur either in the thermistor or current transformer (CT) system.

Relating to Thermistor Malfunction

1. Outdoor heat exchanger thermistor
2. Discharge pipe thermistor
3. Radiation fin thermistor
4. Gas pipe thermistor
5. Outdoor temperature thermistor
6. Liquid pipe thermistor

Relating to CT Malfunction

Refer to “CT or related abnormality” on page 315 for detail.

4.13.2 Detection of Overcurrent and Overload

Outline

In order to protect the inverter, an excessive output current is detected and the OL temperature is observed to protect the compressor.

Detail

- If the inverter current exceeds 14 ~ 20 A (depending on the model), the system shuts down the compressor.
- If the OL (compressor head) temperature exceeds 120 ~ 130°C, the compressor stops.

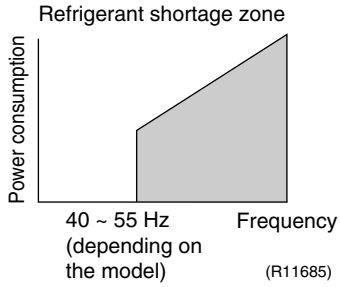
4.13.3 Refrigerant Shortage Control

Outline

I : Detecting by power consumption

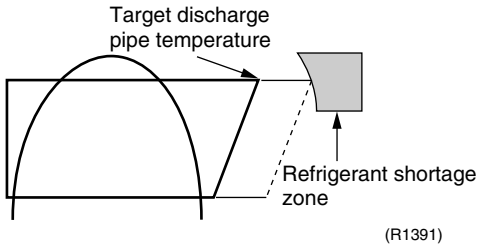
If the power consumption is below the specified value and the frequency is higher than the specified frequency, it is regarded as refrigerant shortage.

The power consumption is low comparing with that in the normal operation when refrigerant is insufficient, and refrigerant shortage is detected by checking power consumption.



II : Detecting by discharge pipe temperature

If the discharge pipe temperature is higher than the target discharge pipe temperature, and the outdoor electronic expansion valve is fully open for more than the specified time, it is regarded as refrigerant shortage.



Refer to “Refrigerant shortage” on page 296 for detail.

4.13.4 Anti-icing Function

During cooling, if the indoor heat exchanger temperature in the operation stopped room becomes below the specified temperature for the specified time, the outdoor electronic expansion valve is opened in the operation stopped room as specified, and the fully closed operation is carried out. After this, if freezing abnormality occurs more than specified time, the system shuts down as the system abnormality.

Part 5
Operation Manual

1. System Configuration

After installation and trial operation of the room air conditioner are completed, the air conditioner should be handled and operated as described in the following pages. Every user should be informed on the correct method of operation and how to check if it can cool (or heat) well, and how to use it efficiently.

Providing instructions to the user can reduce requests for servicing by 80%. However proficient the installation and operating functions of the air conditioning system are, the customer may fault either the room air conditioner or its installation work when it is actually due to improper handling. The installation work and the handing-over of the unit can only be considered completed when its handling has been fully explained to the user without using technical terms, and while imparting full knowledge of the equipment.

2. RA Indoor Unit

2.1 FTXG, FTXS-K, CTXS, FVXG Series - ARC466A1, A2, A6

2.1.1 Manual Contents and Reference Page

Model Series	Wall Mounted Type		Floor Standing Type
	FTXG25-50JV1BW(A)	FTXS20/25K2V1B CTXS15/35K2V1B	FVXG25-50K2V1B
Read Before Operation			
Names of Parts	127	131	135
Preparation before Operation	139 ★2	139 ★2	139
Operation			
AUTO · DRY · COOL · HEAT · FAN Operation	141	143	145
RADIANT Operation	—	—	146
Temperature Setting	—	—	147
Adjusting the Airflow Direction and Rate	148	150	152
COMFORT AIRFLOW Operation	154 ★1	154	—
INTELLIGENT EYE Operation	155 ★1	155	—
POWERFUL Operation	157 ★1	157	158
OUTDOOR UNIT QUIET Operation	159 ★2	159 ★2	159
ECONO Operation	160 ★2	160 ★2	160
OFF TIMER Operation	161	162	163
ON TIMER Operation	164	165	166
WEEKLY TIMER Operation	167 ★2	167 ★2	167
Note for Multi System	173	173	173
Quick Reference	175 ★1	176	177
Drawing No.	3P255639-2A (Reference)	3P297033-1	3P276869-1

★1: Illustrations are for FTXS-K and CTXS-K series as representative.
★2: Illustrations are for FVXG series as representative.

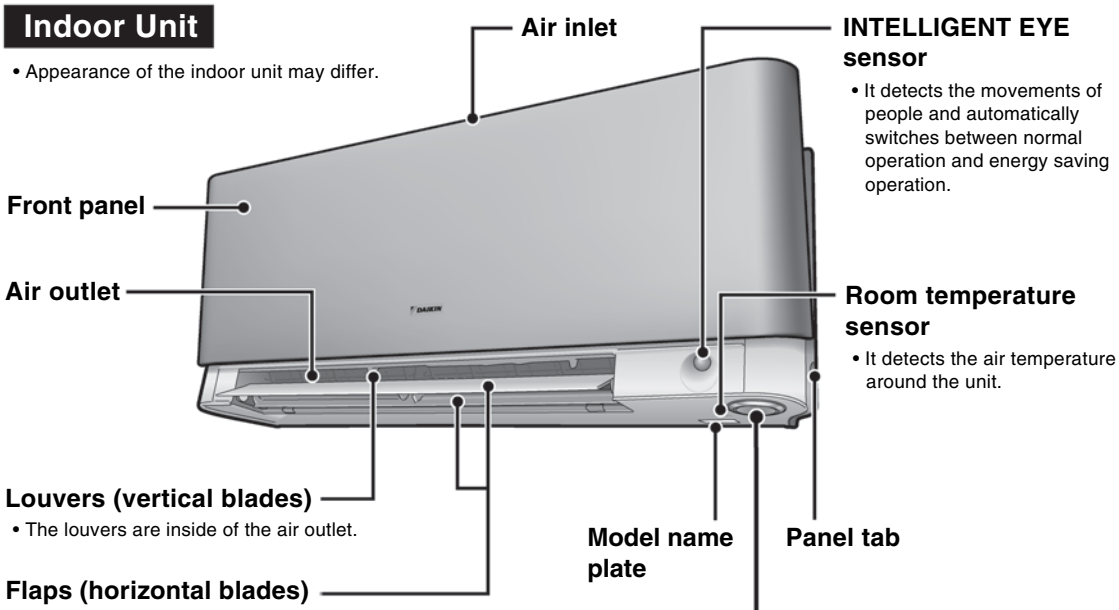
2.1.2 Name of Parts

FTXG25/35/50JV1BW(A)

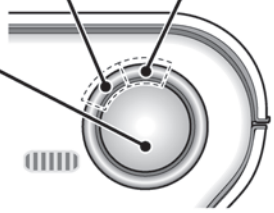
Name of Parts

Indoor Unit

• Appearance of the indoor unit may differ.



Display



Signal receiver

- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Setting changed	beep
Operation stop	long beep

Indoor unit ON/OFF switch

- Press this switch once to start operation. Press once again to stop it.
- The operation mode refer to the following table.

Mode	Temperature setting	Airflow rate
AUTO	25˚C	AUTO

- This switch is useful when the remote controller is missing.

Multi-monitor lamp

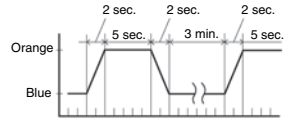
- The lamp colour changes according to the operation.

Operation	Multi-monitor lamp
AUTO	Red/Blue
DRY	Green
COOL	Blue
HEAT	Red
FAN	White
TIMER	Orange

TIMER lamp

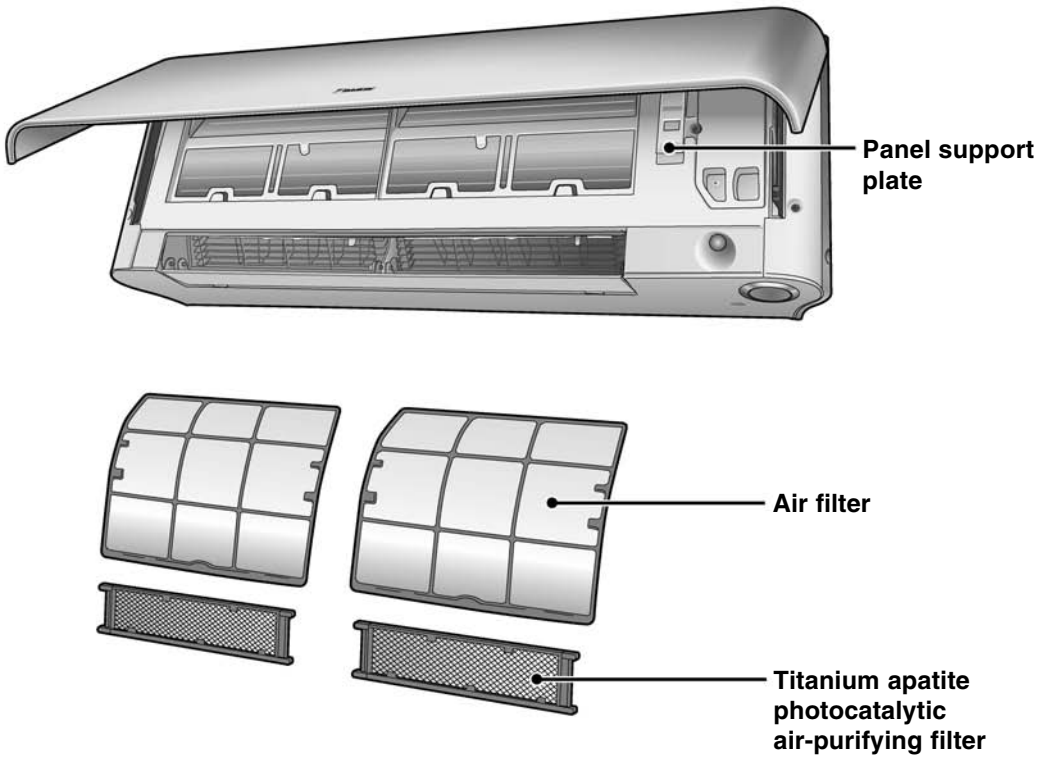
- When operation by timer has been set, the multi-monitor lamp periodically changes to orange. After lighting orange for about 5 seconds, it returns to the colour of the operation mode. The multi-monitor lamp will turn orange on and off in cyclic manner while the air conditioner is not in operation.

TIMER lamp colour : For COOL



TIMER lamp colour

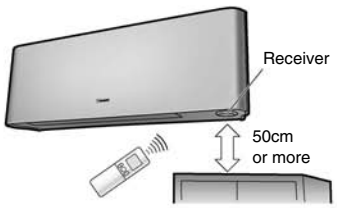
■ Open the front panel



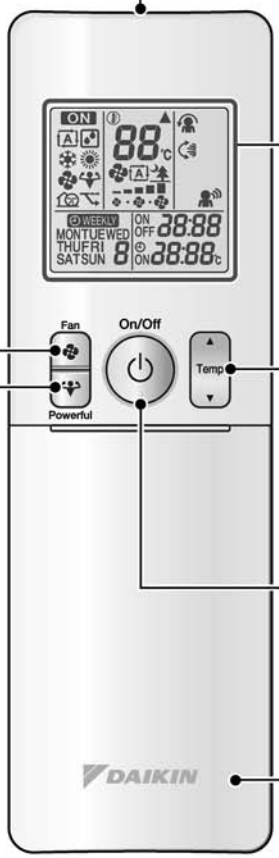
Name of Parts

Remote Controller

Signal transmitter



- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approx. 6m. Make sure that there are no obstacles within 50cm under the signal receiver. Such obstacles, if any, may have an adverse influence on the reception performance of the receiver and the reception distance may be shortened.



Display (LCD)

- It displays the current settings. (In this illustration, each section is shown with its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- It changes the temperature setting.

ON/OFF button

- Press this button once to start operation. Press once again to stop it.

FAN setting button

- It selects the airflow rate setting.

Front cover

- Open the front cover.

POWERFUL button

- POWERFUL operation.

Model	ARC466A1

■ Open the front cover

MODE selector button
- It selects the operation mode. (AUTO/DRY/COOL/HEAT/ FAN)

ECONO button
- ECONO operation.

SWING button
- Adjusting the airflow direction.

QUIET button
- OUTDOOR UNIT QUIET operation.

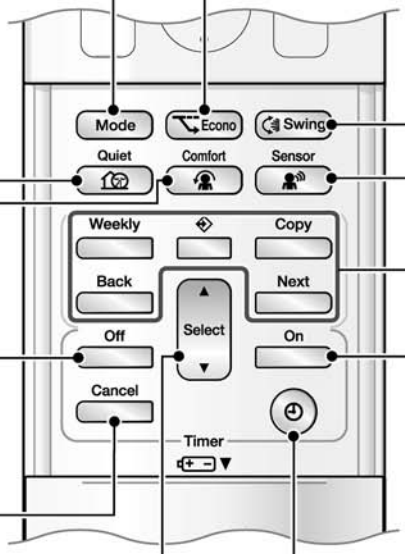
INTELLIGENT EYE button
- INTELLIGENT EYE operation.

COMFORT button
- COMFORT AIRFLOW operation.

OFF TIMER button

TIMER CANCEL button
- It cancels the timer setting.
- It cannot be used for the WEEKLY TIMER operation.

SELECT button
- It changes the ON/OFF TIMER and WEEKLY TIMER settings.



Weekly
: WEEKLY button
: PROGRAM button
Copy
: COPY button
Back
: BACK button
Next
: NEXT button
- WEEKLY TIMER operation.

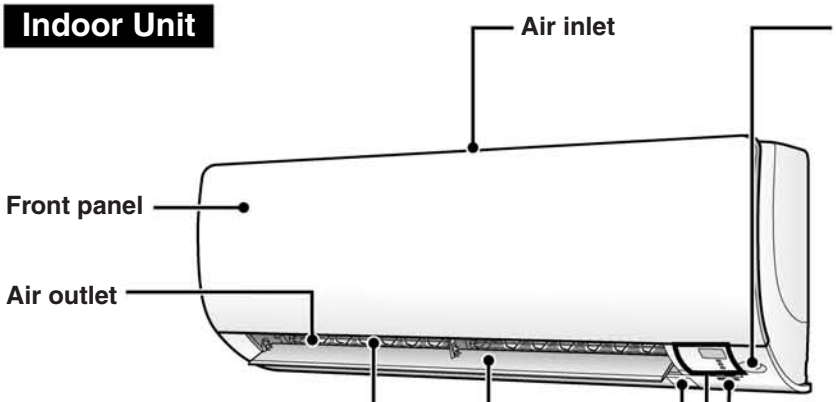
ON TIMER button

CLOCK button

FTXS20/25K2V1B, CTXS15/35K2V1B

Name of Parts

Indoor Unit



Air inlet

INTELLIGENT EYE sensor

- It detects the movements of people and automatically switches between normal operation and energy saving operation.

Front panel

Air outlet

Louvers (vertical blades)

- The louvers are inside of the air outlet.

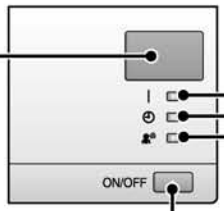
Flap (horizontal blade)

Model name plate

Room temperature sensor

- It detects the air temperature around the unit.

Display



Signal receiver

- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Setting changed	beep
Operation stop	long beep

OPERATION lamp (green)

TIMER lamp (yellow)

INTELLIGENT EYE lamp (green)

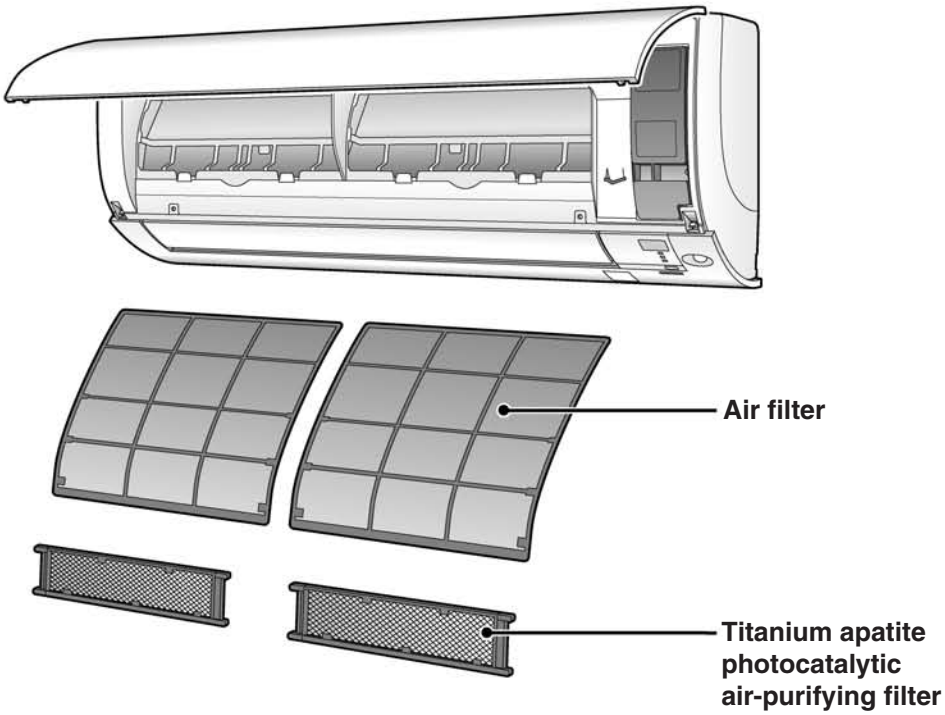
Indoor unit ON/OFF switch

- Press this switch once to start operation. Press once again to stop it.
- The operation mode refers to the following table.

Mode	Temperature setting	Airfl ow rate
AUTO	25˚C	AUTO

- This switch is useful when the remote controller is missing.

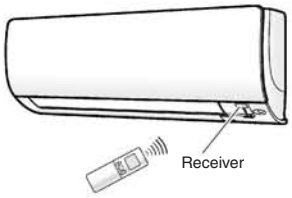
■ Open the front panel



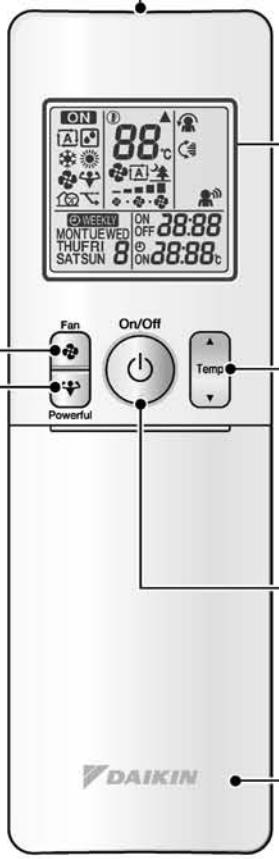
Name of Parts

Remote Controller

Signal transmitter



- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approx. 7m.



Display (LCD)

- It displays the current settings. (In this illustration, each section is shown with its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- It changes the temperature setting.

FAN setting button

- It selects the airflow rate setting.

ON/OFF button

- Press this button once to start operation.
  Press once again to stop it.

POWERFUL button

- POWERFUL operation.

Front cover

- Open the front cover.

Model	ARC466A6

■ Open the front cover

MODE selector button
- It selects the operation mode. (AUTO/DRY/COOL/HEAT/ FAN)

ECONO button
- ECONO operation.

SWING button
- Adjusting the airflow direction.

QUIET button
- OUTDOOR UNIT QUIET operation.

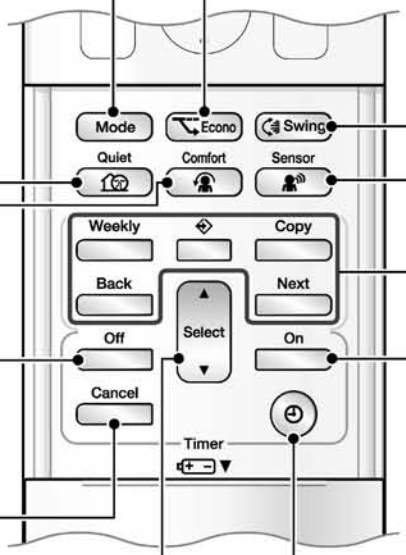
INTELLIGENT EYE button
- INTELLIGENT EYE operation.

COMFORT button
- COMFORT AIRFLOW operation.

OFF TIMER button

TIMER CANCEL button
- It cancels the timer setting.
- It cannot be used for the WEEKLY TIMER operation.

SELECT button
- It changes the ON/OFF TIMER and WEEKLY TIMER settings.



Weekly
: WEEKLY button
: PROGRAM button
Copy
: COPY button
Back
: BACK button
Next
: NEXT button
- WEEKLY TIMER operation.

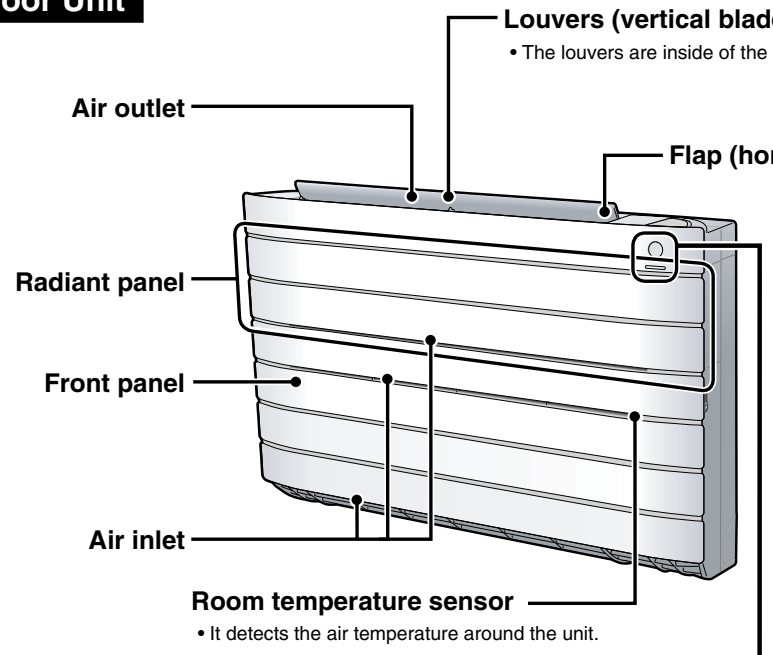
ON TIMER button

CLOCK button

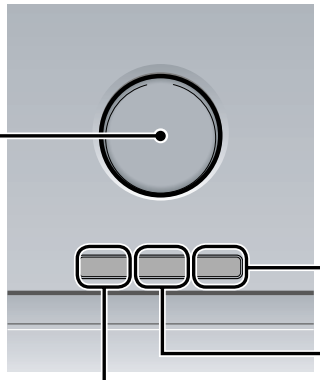
FVXG25/35/50K2V1B

Name of Parts

Indoor Unit



Display



Signal receiver

- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Setting changed	beep
Operation stop	long beep

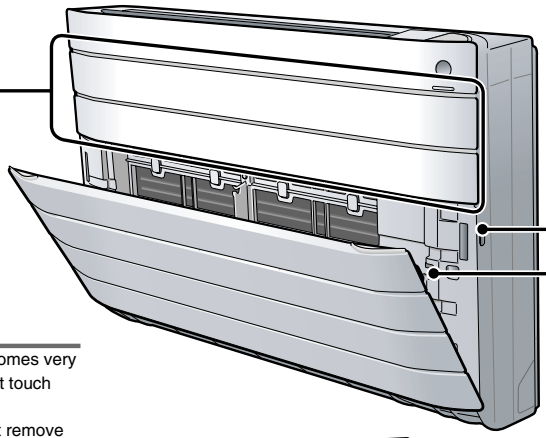
Indoor unit ON/OFF switch

- Press this switch once to start operation. Press once again to stop it.
- The operation mode refer to the following table.

Mode	Temperature setting	Airflow rate
AUTO	25˚C	AUTO

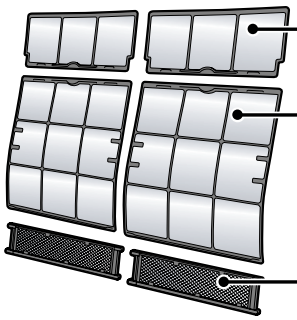
- This switch is useful when the remote controller is missing.

■ Open the front panel



⚠ CAUTION

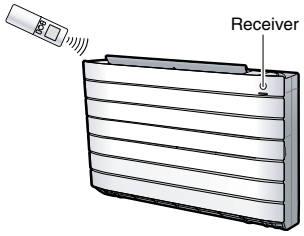
• The surface of the radiant panel becomes very hot during RADIANT operation. Do not touch the panel of the main unit directly.
After the operation is complete, do not remove or care and clean the panel until the surface temperature of the panel decreases.



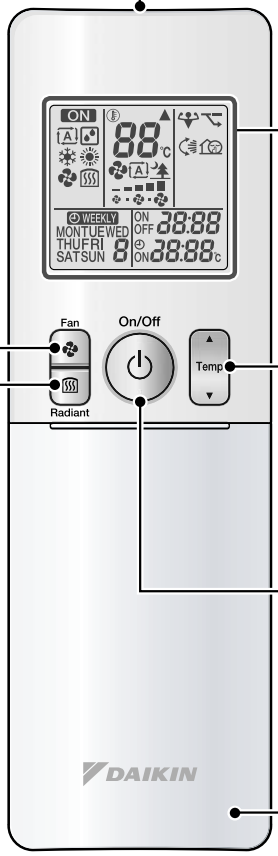
Name of Parts

Remote Controller

Signal transmitter



- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approximately 7m.



Display (LCD)
- It displays the current settings. (In this illustration, each section is shown with its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons
- It changes the temperature setting.

ON/OFF button
- Press this button once to start operation.

Press once again to stop it.

FAN setting button
- It selects the airflow rate setting.

RADIANT switching button
- RADIANT operation.

Front cover
- Open the front cover.

Model	ARC466A2

■ Open the front cover

MODE selector button
• It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)

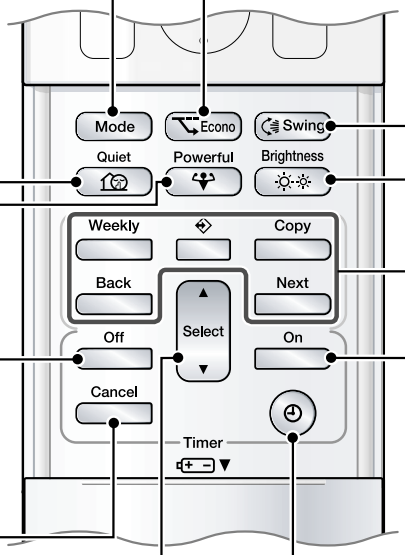
ECONO button
• ECONO operation.

SWING button
• Adjusting the airflow direction.

QUIET button
• OUTDOOR UNIT QUIET operation.

Lamp brightness setting button

POWERFUL button
• POWERFUL operation.



OFF TIMER button

Weekly : **WEEKLY button**
: **PROGRAM button**
Copy : **COPY button**
Back : **BACK button**
Next : **NEXT button**
• WEEKLY TIMER operation.

TIMER CANCEL button
• It cancels the timer setting.
• It cannot be used for the WEEKLY TIMER operation.

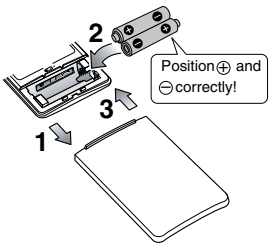
ON TIMER button

SELECT button
• It changes the ON/OFF TIMER and WEEKLY TIMER settings.

CLOCK button

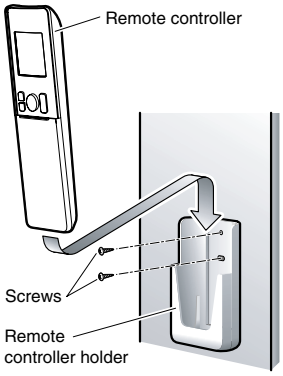
2.1.3 Preparation before Operation

Preparation before Operation



■ To set the batteries

1. **Slide the front cover to take it off.**
2. **Set two dry batteries AAA.LR03 (alkaline).**
3. **Set the front cover as before.**



■ To fix the remote controller holder on the wall

1. **Choose a place from where the signals reach the unit.**
2. **Fix the holder to a wall, a pillar, or similar location with the screws procured locally**
3. **Place the remote controller in the remote controller holder.**

■ To set the luminance of the display

• The luminance of the indoor unit display can be set.

Press Brightness **.**

→ Hi → Low → Off →

NOTE

■ **Notes on batteries**
- When replacing the batteries, use batteries of the same type, and replace both old batteries together.
- When the system is not used for a long time, take the batteries out.
- The batteries will last for approximately 1 year. If the remote controller display begins to fade and the degradation of reception performance occurs within a year, however, replace both batteries with new, size AAA.LR03 (alkaline).
- The attached batteries are provided for the initial use of the system. The usable period of the batteries may be short depending on the manufactured date of the air conditioner.

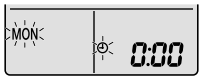
■ **Notes on remote controller**
- Never expose the remote controller to direct sunlight.
- Dust on the signal transmitter or receiver will reduce the sensitivity. Wipe off dust with soft cloth.
- Signal communication may be disabled if an electronic-starter-type fluorescent lamp (such as inverter-type lamps) is in the room. Consult the shop if that is the case.
- If the remote controller signals happen to operate another appliance, move that appliance to somewhere else, or consult the service shop.

■ Turn the breaker on

• After the power is turned on, the flap of the indoor unit opens and closes once to set the reference position.

■ To set the clock

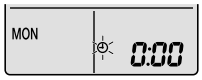
1. **Press** ⏲.



• "0:00" is displayed on the LCD.
• "MON" and "⏲" blink.

2. **Press** Select **to set the current day of the week.**

3. **Press** ⏲ .



• "⏲" blinks.

4. **Press** Select **to set the clock to the present time.**

• Holding down ▲or ▼ rapidly increases or decreases the time display.

5. **Press** ⏲ .

• Point the remote controller at the indoor unit when pressing the buttons.

• ":" blinks.

NOTE

■ **Note on setting the clock**

• If the indoor unit's internal clock is not set to the correct time, the ON TIMER, OFF TIMER and WEEKLY TIMER will not operate punctually.

2.1.4 AUTO · DRY · COOL · HEAT · FAN Operation

FTXG25/35/50JV1BW(A)

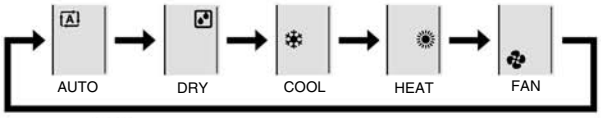
AUTO · DRY · COOL · HEAT · FAN Operation

The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.

■ To start operation

1. Press Mode and select an operation mode.

- Each pressing of the button advances the mode setting in sequence.



2. Press On/Off.

- "ON" is displayed on the LCD.
- The multi-monitor lamp lights up.
  The colour of the lamp varies depending on the operation mode.

Operation	Multi-monitor lamp
AUTO	Red/Blue
DRY	Green
COOL	Blue
HEAT	Red
FAN	White

Display

■ To stop operation

Press On/Off again.

- "ON" disappears from the LCD.
- The multi-monitor lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	• Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner. • The heat pump system heats the room by circulating hot air around all parts of the room. After the start of HEAT operation, it takes some time before the room gets warmer. • In HEAT operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost. • During defrosting operation, hot air does not flow out of indoor unit.
COOL	• This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high
DRY	• The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	• In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	• This mode is valid for fan only.

■ To change the temperature setting

Press 

.

• The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT operation	AUTO operation	DRY or FAN operation
18-32˚C	10-30˚C	18-30˚C	The temperature setting is not variable.
Press ▲ to raise the temperature and press ▼ to lower the temperature.			

■ Operating conditions

■ Recommended temperature setting

• For cooling: 26-28˚C
• For heating: 20-24˚C

■ Tips for saving energy

• Be careful not to cool (heat) the room too much.
Keeping the temperature setting at a moderate level helps save energy.
• Cover windows with a blind or a curtain.
Blocking sunlight and air from outdoors increases the cooling (heating) effect.
• Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks.

■ Notes on the operating conditions

• The outdoor unit consumes some power to have its electric components work even while it is not operating.
Connecting outdoor unit RXG25/35: 1-15W
Other outdoor units: 15-20W
The outdoor unit consumes 40 to 55W of power at the time of compressor preheating.
• If you are not going to use the air conditioner for a long period, for example in spring or autumn, turn the breaker off.
• Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature : <2/3/4/5MXS> –10-46˚C <RXG> –10-46˚C Indoor temperature : 18-32˚C Indoor humidity : 80% max.	• A safety device may work to stop the operation. (In multi system, it may work to stop the operation of the outdoor unit only.) • Condensation may occur on the indoor unit and drip.
HEAT	Outdoor temperature : <2MXS> –10-24˚C <3/4/5MXS> –15-24˚C <RXG> –15-24˚C Indoor temperature : 10-30˚C	• A safety device may work to stop the operation.
DRY	Outdoor temperature : <2/3/4/5MXS> –10-46˚C <RXG> –10-46˚C Indoor temperature : 18-32˚C Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

• Operation outside this humidity or temperature range may cause a safety device to disable the system.

FTXS20/25K2V1B, CTXS15/35K2V1B

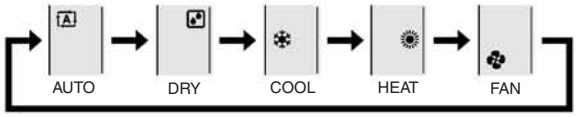
AUTO · DRY · COOL · HEAT · FAN Operation

The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.

■ To start operation

1. Press Mode and select an operation mode.

- Each pressing of the button advances the mode setting in sequence.



2. Press On/Off.

- " ON " is displayed on the LCD.
- The OPERATION lamp lights green.

Display

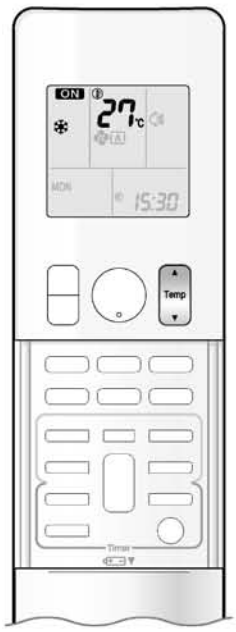
■ To stop operation

Press On/Off again.

- " ON " disappears from the LCD.
- The OPERATION lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	• Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner. • The heat pump system heats the room by circulating hot air around all parts of the room. After the start of HEAT operation, it takes some time before the room gets warmer. • In HEAT operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost. • During defrosting operation, hot air does not flow out of indoor unit.
COOL	• This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high
DRY	• The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	• In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	• This mode is valid for fan only.



■ To change the temperature setting

Press Temp **.**

- The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT operation	AUTO operation	DRY or FAN operation
18-32˚C	10-30˚C	18-30˚C	The temperature setting is not variable.
Press ▲ to raise the temperature and press ▼ to lower the temperature.			

■ Operating conditions

■ Recommended temperature setting

- For cooling: 26-28˚C
- For heating: 20-24˚C

■ Tips for saving energy

- Be careful not to cool (heat) the room too much.
  Keeping the temperature setting at a moderate level helps save energy.
- Cover windows with a blind or a curtain.
  Blocking sunlight and air from outdoors increases the cooling (heating) effect.
- Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks.

■ Notes on the operating conditions

- The outdoor unit consumes some power to have its electric components work even while it is not operating.
  Connecting outdoor unit RXS20/25: 1-15W
  Other outdoor units: 15-20W
  The outdoor unit consumes 40 to 55W of power at the time of compressor preheating.
- If you are not going to use the air conditioner for a long period, for example in spring or autumn, turn the breaker off.
- Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature: <2MXS> 10-46˚C <3/4/5MXS> –10-46˚C <RXS> –10-46˚C Indoor temperature: 18-32˚C Indoor humidity: 80% max.	• A safety device may work to stop the operation. (In multi system, it may work to stop the operation of the outdoor unit only.) • Condensation may occur on the indoor unit and drip.
HEAT	Outdoor temperature: <2/3/4/5MXS> –15-24˚C <RXS> –15-24˚C Indoor temperature: 10-30˚C	• A safety device may work to stop the operation.
DRY	Outdoor temperature: <2MXS> 10-46˚C <3/4/5MXS> –10-46˚C <RXS> –10-46˚C Indoor temperature: 18-32˚C Indoor humidity: 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

- Operation outside this humidity or temperature range may cause a safety device to disable the system.

FVXG25/35/50K2V1B

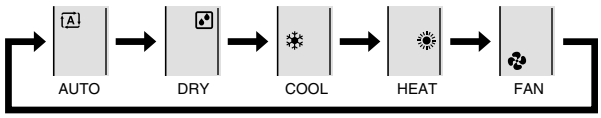
AUTO · DRY · COOL · HEAT · FAN Operation

The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.

■ To start operation

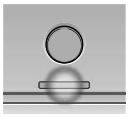
1. Press Mode and select an operation mode.

• Each pressing of the button advances the mode setting in sequence.



2. Press On/Off .

• " ON " is displayed on the LCD.
• The OPERATION lamp lights green.



Display

■ To stop operation

Press On/Off again.

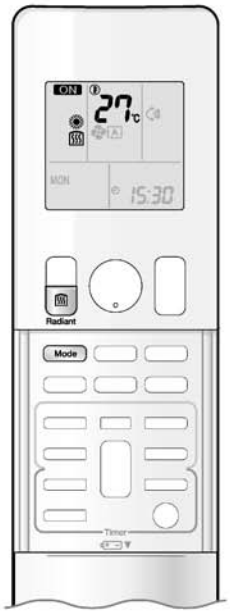
• " ON " disappears from the LCD.
• The OPERATION lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	• Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner. • The heat pump system heats the room by circulating hot air around all parts of the room. After the start of HEAT operation, it takes some time before the room gets warmer. • In HEAT operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost. • During defrosting operation, hot air does not flow out of indoor unit.
COOL	• This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high. • When the outdoor temperature is lower than 10˚C, do not use COOL operation. If the operation is used when the outdoor temperature is lower than 10˚C, the protective function of the main unit works and this disables the operation.
DRY	• The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	• In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	• This mode is valid for fan only.

2.1.5 RADIANT Operation

RADIANT Operation

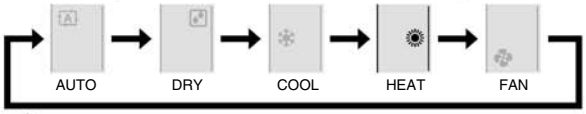


The RADIANT operation provides a comfortable environment with quiet and currentless heating operation in addition to the HEAT operation mode. The RADIANT operation has 2 operation modes.

■ To start RADIANT operation

1. Press Mode and select an HEAT operation.

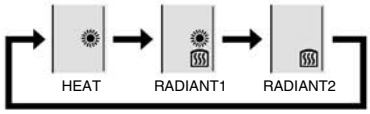
- Each pressing of the button advances the mode setting in sequence.



- "☀" is displayed on the LCD.

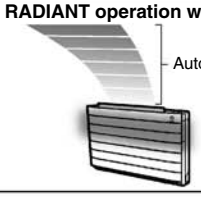
2. Press Radiant and select a RADIANT operation.

- "♨" is displayed on the LCD.
- The RADIANT lamp lights red.
- This button can be used only in the HEAT operation mode.
- When the RADIANT operation starts, the temperature of the radiant panel increases.




Display

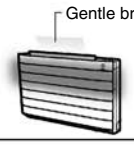
RADIANT operation with HEAT



■ RADIANT1

- Use this operation when the difference between the set temperature and indoor temperature is large, or to warm up the room quickly.

RADIANT operation



■ RADIANT2

- Use this operation to prioritize quiet and currentless heating operation, or when the noise from RADIANT1 operation bothers you. The gentle breeze operation starts from the beginning.

⚠ CAUTION

- During the RADIANT operation, the surface temperature of the panel will be about 55˚C at maximum.
  Even after the RADIANT operation is finished, the surface temperature of the panel of the air conditioner stays hot for a while. Do not touch the air conditioner until the surface temperature of the panel decreases.
  Be careful that children do not touch the surface of the panel.

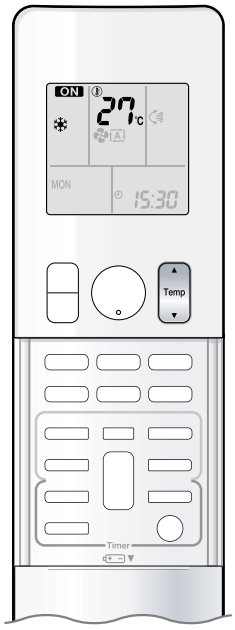
NOTE

■ Notes on RADIANT operation

- If RADIANT2 operation does not warm up the room, use HEAT or RADIANT1 operation.
- RADIANT1 can be used with POWERFUL operation. RADIANT2 cannot be used with the POWERFUL operation.
- This operation may not warm up the room adequately depending on conditions such as an extremely low outside temperature and lack of adequate performance.
- The RADIANT operation uses the auto fan speed, so the airflow rate cannot be changed.
- When the indoor units are connected using a multi system, please refer to "Selecting the operation mode" in note for multi system.

2.1.6 Temperature Setting

Temperature Setting



■ To change the temperature setting

Press Temp **.**

• The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT or RADIANT operation	AUTO operation	DRY or FAN operation
18-32˚C	10-30˚C	18-30˚C	
Press ▲ to raise the temperature and press ▼ to lower the temperature.			The temperature setting is not variable.

■ Operating conditions

■ Recommended temperature setting
- For cooling: 26-28˚C
- For heating: 20-24˚C

■ Tips for saving energy
- Be careful not to cool (heat) the room too much.
  Keeping the temperature setting at a moderate level helps save energy.
- Cover windows with a blind or a curtain.
  Blocking sunlight and air from outdoors increases the cooling (heating) effect.
- Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks.

■ Notes on the operating conditions
- The outdoor unit consumes some power to have its electric components work even while it is not operating.
  Connecting outdoor unit RXG25/35: 1-15W
  Other outdoor units: 15-20W
  The outdoor unit consumes 40 to 55W of power at the time of compressor preheating.
- If you are not going to use the air conditioner for a long period, for example in spring or autumn, turn the breaker off.
- Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature : <2/3/4/5MXS> 10-46˚C <RXG> 10-46˚C Indoor temperature : 18-32˚C Indoor humidity : 80% max.	• A safety device may work to stop the operation. (In multi system, it may work to stop the operation of the outdoor unit only.) • Condensation may occur on the indoor unit and drip.
HEAT or RADIANT	Outdoor temperature : <2MXS> –10-24˚C <3/4/5MXS> –15-24˚C <RXG> –15-24˚C Indoor temperature : 10-30˚C	• A safety device may work to stop the operation.
DRY	Outdoor temperature : <2/3/4/5MXS> 10-46˚C <RXG> 10-46˚C Indoor temperature : 18-32˚C Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

- Operation outside this humidity or temperature range may cause a safety device to disable the system.

2.1.7 Adjusting the Airflow Direction and Rate

FTXG25/35/50JV1BW(A)

Adjusting the Airflow Direction and Rate

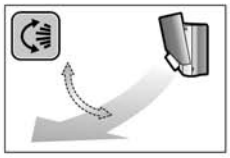
You can adjust the airflow direction to increase your comfort.

■ To start auto swing

Upper and lower airflow direction

Press Swing.

- "" is displayed on the LCD.
- The flaps (horizontal blades) will begin to swing.



■ To set the flaps at desired position

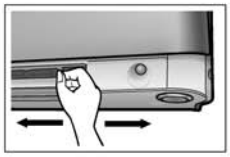
- This function is effective while flaps are in auto swing mode.

Press Swing when the flaps have reached the desired position.

- "" disappears from the LCD.

■ To adjust the louvers at desired position

Hold the knob and move the louvers.

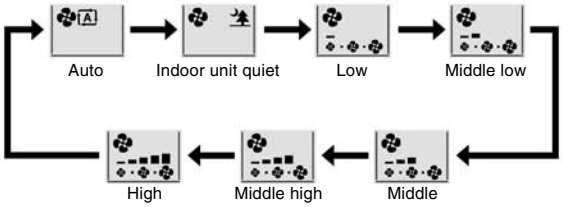


- You will find a knob on the left-side and the right-side blades.
- When the unit is installed in the corner of a room, the direction of the louvers (vertical blades) should be facing away from the wall.
  If they face the wall, the wall will block off the wind, causing the cooling (or heating) efficiency to drop.
- If the flaps are in the way, press Swing on the remote controller to move the flaps out of the way and then adjust the louvers.

■ To adjust the airflow rate setting

Press Fan.

• Each pressing of Fan advances the airflow rate setting in sequence.

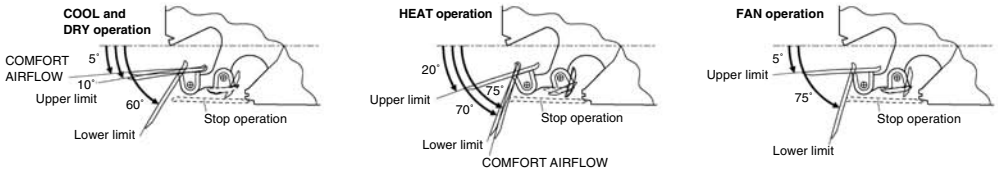


• When the airflow is set to "", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY mode, the airflow rate setting is not variable.

NOTE

■ Note on the angles of the flaps

• The flaps swinging range depends on the operation. (See the figure.)



■ Note on airflow rate setting

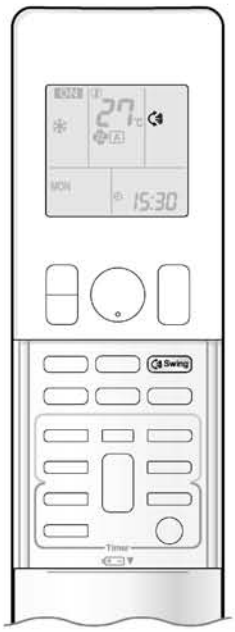
• At smaller airflow rates, the cooling (heating) effect is also smaller.
• If the air conditioner is operated in COOL or DRY operation with the flaps kept stopped in the downward direction, the flaps will automatically start operating in approximately an hour in order to prevent dew condensation.

⚠ CAUTION

• Always use a remote controller to adjust the angles of the flaps. If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.
• Be careful when adjusting the louvers.
Inside the air outlet, a fan is rotating at a high speed.

FTXS20/25K2V1B, CTXS15/35K2V1B

Adjusting the Airflow Direction and Rate



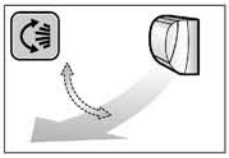
You can adjust the airflow direction to increase your comfort.

■ To start auto swing

Upper and lower airflow direction

Press Swing .

- "Swing" is displayed on the LCD.
- The flap (horizontal blade) will begin to swing.



■ To set the flap at desired position

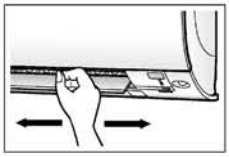
- This function is effective while flap is in auto swing mode.

Press Swing when the flap has reached the desired position.

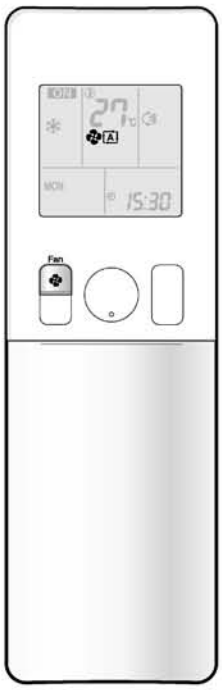
- "Swing" disappears from the LCD.

■ To adjust the louvers at desired position

Hold the knob and move the louvers.



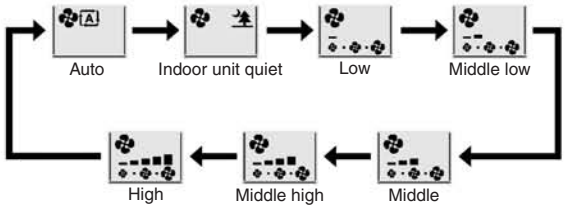
- You will find a knob on the left-side and the right-side blades.
- When the unit is installed in the corner of a room, the direction of the louvers (vertical blades) should be facing away from the wall.
  If they face the wall, the wall will block off the wind, causing the cooling (or heating) efficiency to drop.
- If the flap is in the way, press Swing on the remote controller to move the flap out of the way and then adjust the louvers.



■ To adjust the airflow rate setting

Press Fan **.**

• Each pressing of Fan advances the airflow rate setting in sequence.

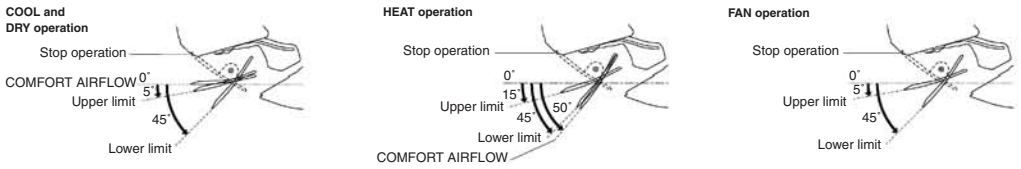


- When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
- In indoor unit quiet operation, the airflow rate is set to a weak level.
- If the temperature does not reach the desired point in the indoor unit quiet operation, change the airflow rate setting.
- In DRY mode, the airflow rate setting is not variable.

NOTE

■ Notes on the angles of the flap

• The flap swinging range depends on the operation. (See the figure.)



• If the air conditioner is operated in COOL or DRY operation with the flap kept stopped in the downward direction, the flap will automatically start operating in approximately an hour in order to prevent dew condensation.

■ Note on airflow rate setting

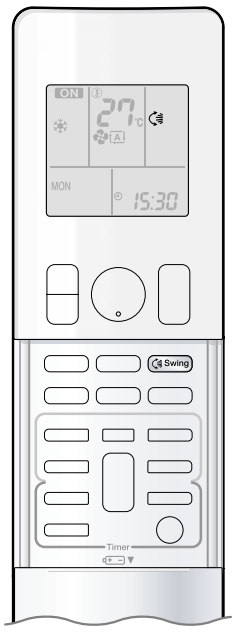
• At smaller airflow rates, the cooling (heating) effect is also smaller.

⚠ CAUTION

- Always use a remote controller to adjust the angles of the flap. If you attempt to move the flap and louvers forcibly with hand when they are swinging, the mechanism may be broken.
- Be careful when adjusting the louvers.
  Inside the air outlet, a fan is rotating at a high speed.

FVXG25/35/50K2V1B

Adjusting the Airflow Direction and Rate

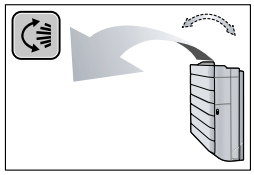


You can adjust the airflow direction to increase your comfort.

■ To start auto swing

Upper and lower airflow direction

Press Swing .



- " " is displayed on the LCD.
- The flap (horizontal blade) will begin to swing.

■ To set the flap at desired position

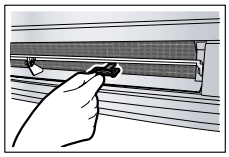
- This function is effective while flap is in auto swing mode.

Press Swing when the flap has reached the desired position.

- " " disappears from the LCD.

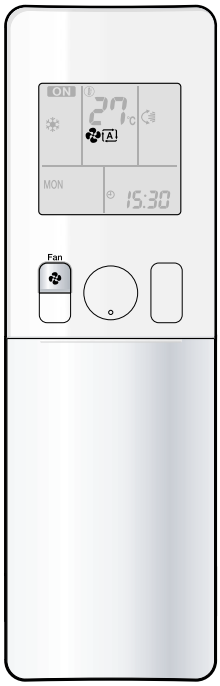
■ To adjust the louvers at desired position

Hold the knob and move the louvers.



- You will find a knob on the left-side and the right-side blades.
- When the unit is installed in the corner of a room, the direction of the louvers (vertical blades) should be facing away from the wall.
  If they face the wall, the wall will block off the wind, causing the cooling (or heating) efficiency to drop.
- If the flap is in the way, press Swing on the remote controller to move the flap out of the way and then adjust the louvers.

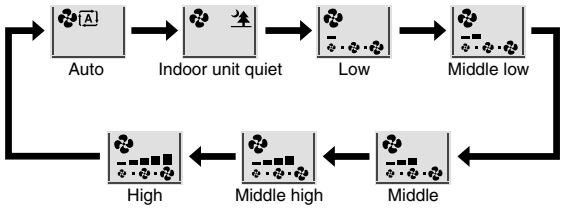
Adjusting the Airflow Direction and Rate



■ To adjust the airflow rate setting

Press Fan **.**

• Each pressing of Fan advances the airflow rate setting in sequence.

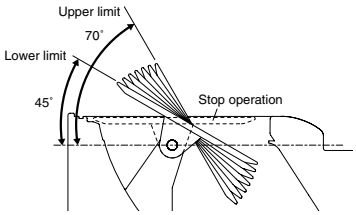


• When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY or RADIANT operation, the airflow rate setting is not variable.

NOTE

■ Note on the angles of the flap

• The flap swinging range is the same by all operation. (See the figure.)



■ Note on airflow rate setting

• At smaller airflow rates, the cooling (heating) effect is also smaller.

⚠ CAUTION

• Always use a remote controller to adjust the angles of the flap. If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.
• Be careful when adjusting the louvers.
Inside the air outlet, a fan is rotating at a high speed.

2.1.8 COMFORT AIRFLOW Operation

COMFORT AIRFLOW Operation

The flow of air will be in the upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.

■ To start COMFORT AIRFLOW operation

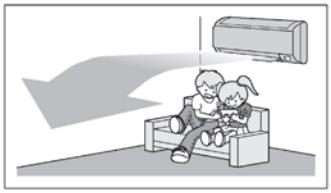
Press Comfort **.**

- "" is displayed on the LCD.
- Airflow rate is set to Auto.
  COOL/DRY: The flap will go up.
  HEAT: The flap will go down.

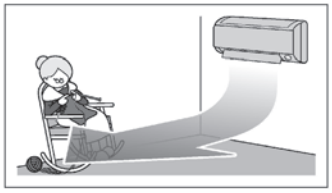
■ To cancel COMFORT AIRFLOW operation

Press Comfort **again.**

- The flaps will return to the memory position from before COMFORT AIRFLOW operation.
- "" disappears from the LCD.



COOL operation



HEAT operation

NOTE

■ **Notes on COMFORT AIRFLOW operation**

- The flap position will change, preventing air from blowing directly on the occupants of the room.
- POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- The airflow rate will be set to Auto. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled.

2.1.9 INTELLIGENT EYE Operation

INTELLIGENT EYE Operation

"INTELLIGENT EYE" is the infrared sensor which detects the human movement. If nobody in the room for more than 20 minutes, the operation automatically changes to energy saving operation.

■ To start INTELLIGENT EYE operation

Press Sensor **.**

- " " is displayed on the LCD.
- The INTELLIGENT EYE lamp lights green.

Display

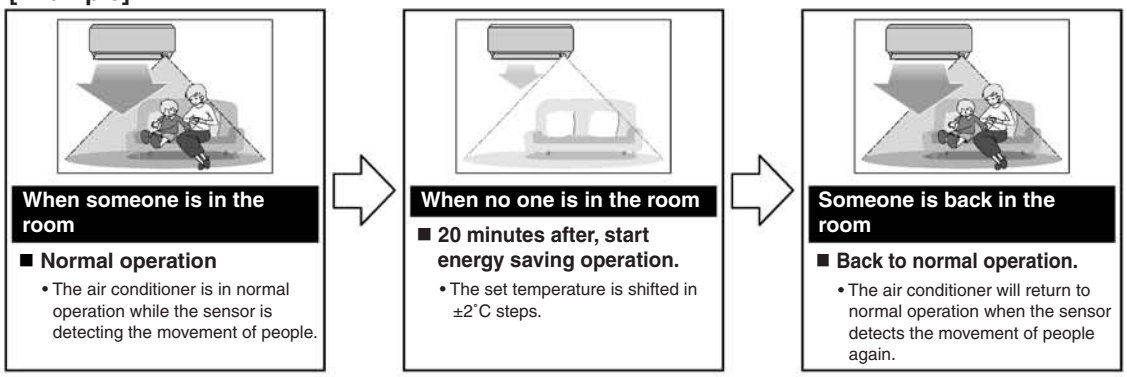
■ To cancel INTELLIGENT EYE operation

Press Sensor **again.**

- " " disappears from the LCD.
- The INTELLIGENT EYE lamp goes off.

INTELLIGENT EYE Operation

[Example]



INTELLIGENT EYE operation is useful for energy saving

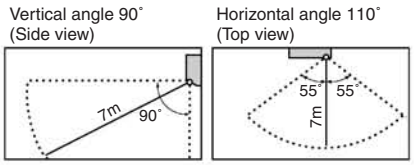
■ **Energy saving operation**

- If no presence detected in the room for 20 minutes, the energy saving operation will start.
- This operation changes the temperature –2˚C in HEAT / +2˚C in COOL / +1˚C in DRY operation from set temperature. When the room temperature exceeds 30˚C, the operation changes the temperature +1˚C in COOL / +1˚C in DRY operation from set temperature.
- This operation decreases the airflow rate slightly in FAN operation only.

NOTE

■ **Notes on INTELLIGENT EYE operation**

- Application range is as follows.



- Sensor may not detect moving objects further than 7m away. (Check the application range.)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
- INTELLIGENT EYE operation will not go on during POWERFUL operation.
- NIGHT SET mode will not go on during use of INTELLIGENT EYE operation.

⚠ CAUTION

- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor's detection area. This sensor can detect undesirable objects.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

2.1.10 POWERFUL Operation

FTXG25/35/50JV1BW(A), FTXS20/25K2V1B, CTXS15/35K2V1B

POWERFUL Operation

POWERFUL operation quickly maximizes the cooling (heating) effect in any operation modes. You can get the maximum capacity.

■ To start POWERFUL operation

Press Powerful during operation.

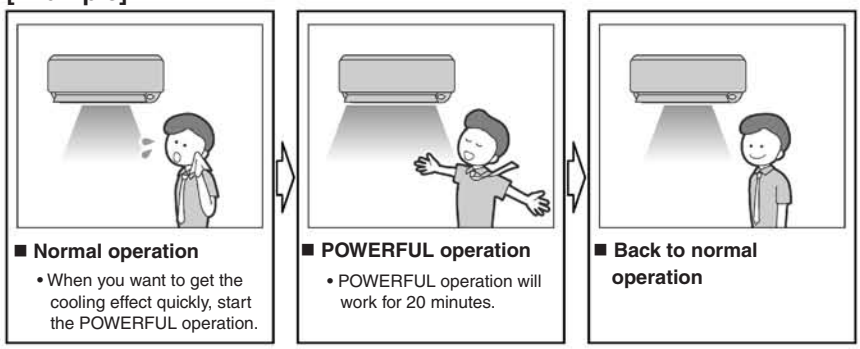
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- "" is displayed on the LCD.

■ To cancel POWERFUL operation

Press Powerful again.

- "" disappears from the LCD.

[Example]



■ **Normal operation**
- When you want to get the cooling effect quickly, start the POWERFUL operation.

■ **POWERFUL operation**
- POWERFUL operation will work for 20 minutes.

■ **Back to normal operation**

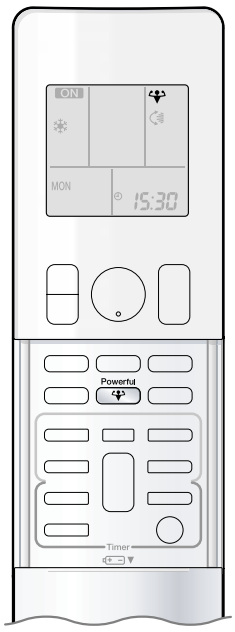
NOTE

■ **Notes on POWERFUL operation**

- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with ECONO, COMFORT AIRFLOW or OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL operation can only be set when the unit is running. Pressing On/Off causes the settings to be canceled, and the "" disappears from the LCD.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL and HEAT operation**
  To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting. The temperature and airflow settings are not variable.
- **In DRY operation**
  The temperature setting is lowered by 2.5˚C and the airflow rate is slightly increased.
- **In FAN operation**
  The airflow rate is fixed to the maximum setting.
- **In AUTO operation**
  To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting.

FVXG25/35/50K2V1B

POWERFUL Operation



POWERFUL operation quickly maximises the cooling (heating) effect in any operation mode. You can get the maximum capacity.

■To start POWERFUL operation

Press Powerful **during operation.**

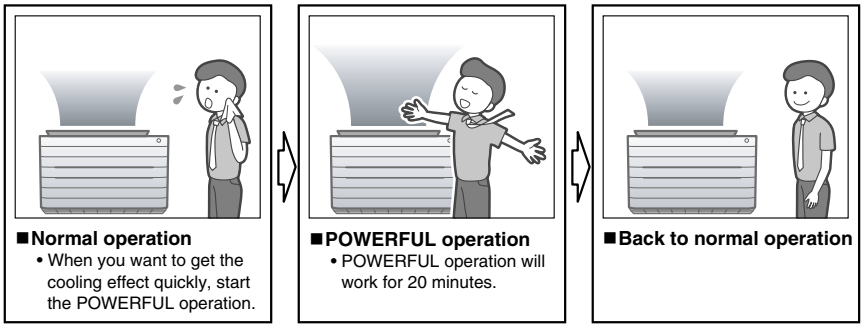
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- " " is displayed on the LCD.

■To cancel POWERFUL operation

Press Powerful **again.**

- " " disappears from the LCD.

[Example]



■**Normal operation**
- When you want to get the cooling effect quickly, start the POWERFUL operation.

■**POWERFUL operation**
- POWERFUL operation will work for 20 minutes.

■**Back to normal operation**

NOTE

■ **Notes on POWERFUL operation**
- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with RADIANT2, ECONO or OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL operation can only be set when the unit is running. Pressing On/Off causes the settings to be canceled, and the " " disappears from the LCD.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL, HEAT and RADIANT1 operation**
  To maximise the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting. The temperature and airflow settings are not variable.
- **In DRY operation**
  The temperature setting is lowered by 2.5˚C and the airflow rate is slightly increased.
- **In FAN operation**
  The airflow rate is fixed to the maximum setting.
- **In AUTO operation**
  To maximise the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting.

2.1.11 OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during the night.

■ To start OUTDOOR UNIT QUIET operation

Quiet

Press ( ) **.**

• " " is displayed on the LCD.

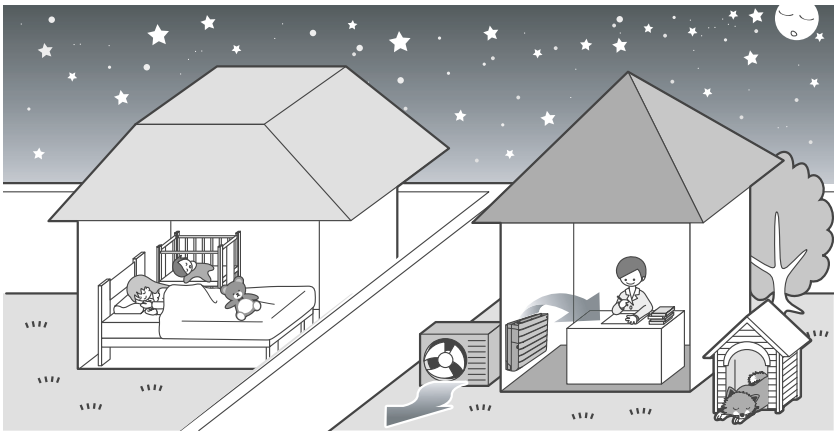
■ To cancel OUTDOOR UNIT QUIET operation

Quiet

Press ( ) **again.**

• " " disappears from the LCD.

[Example] **Using the OUTDOOR UNIT QUIET operation during the night.**



• The noise level of the outdoor unit will be lower.
This is convenient when you need to consideration for your neighbourhood.

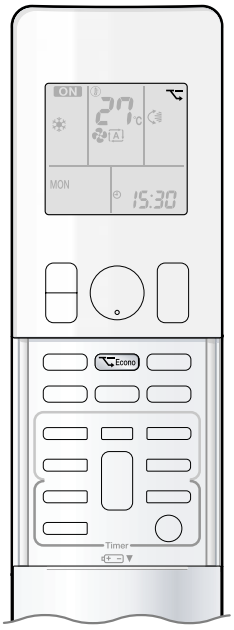
NOTE

■ **Notes on OUTDOOR UNIT QUIET operation**

- This function is available in COOL, HEAT, and AUTO operation.
  This is not available in RADIANT, FAN and DRY operation.
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- Even the operation is stopped using the remote controller or the indoor unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, " " will remain on the remote controller display.
- OUTDOOR UNIT QUIET operation will drop neither the frequency nor fan speed if they have been already dropped low enough.

2.1.12 ECONO Operation

ECONO Operation



ECONO operation is a function which enables efficient operation by limiting the maximum power consumption value.
This function is useful for cases in which attention should be paid to ensure a circuit breaker will not trip when the product runs alongside other appliances.

■ To start ECONO operation

Press Econo during operation.

• " " is displayed on the LCD.

■ To cancel ECONO operation

Press Econo again.

• " " disappears from the LCD.

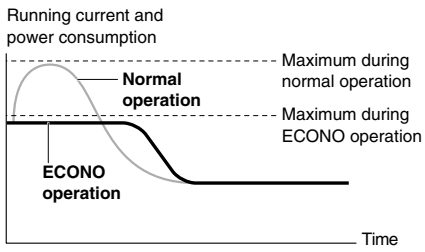
[Example]

Normal operation

• In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

ECONO operation

• The maximum power consumption of the air conditioner is limited by using ECONO operation.
The circuit breaker will hardly trip even if the air conditioner and other appliances are used at same time.



From start up until set temperature is reached

• This diagram is a representation for illustrative purposes only.
The maximum running current and power consumption of the air conditioner in ECONO operation vary with the connecting outdoor unit.

NOTE

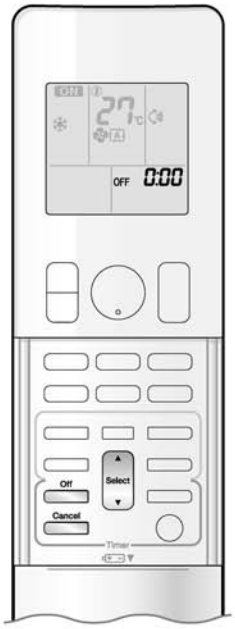
■ Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing On/Off causes the settings to be canceled, and the " " disappears from the LCD.
- ECONO operation is a function which enables efficient operation by limiting the power consumption of the outdoor unit (operating frequency).
- ECONO operation functions in AUTO, COOL, DRY, and HEAT operation.
  This is not available in RADIANT and FAN operation.
- POWERFUL operation and ECONO operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- If the level of power consumption is already low, ECONO operation will not drop the power consumption.

2.1.13 OFF TIMER Operation

FTXG25/35/50JV1BW(A)

OFF TIMER Operation



Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.

■ To use OFF TIMER operation

- Check that the clock is correct.
  If not, set the clock to the present time.

1. Press Off.

- " 0:00 " is displayed on the LCD.
- " OFF " blinks.
- " ⏲ " and day of the week disappear from the LCD.

2. Press Select until the time setting reaches the point you like.

- Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the time setting rapidly.

3. Press Off again.

- " OFF " and setting time are displayed on the LCD.
- The multi-monitor lamp blinks twice.
  The TIMER lamp periodically lights orange.

Display

■ To cancel OFF TIMER operation

Press Cancel.

- " OFF " and setting time disappear from the LCD.
- " ⏲ " and day of the week are displayed on the LCD.

NOTE

■ **Notes on TIMER operation**

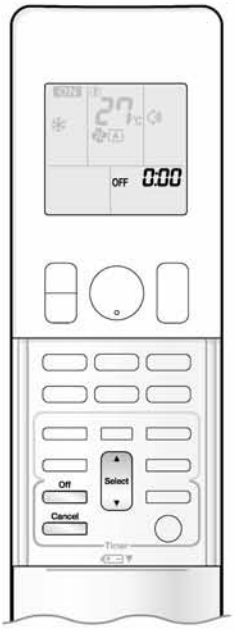
- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approx. 10 minutes)

■ **NIGHT SET mode**

- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.5˚C up in COOL, 2.0˚C down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

FTXS20/25K2V1B, CTXS15/35K2V1B

OFF TIMER Operation



Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.

■ To use OFF TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press Off .

• " 0:00 " is displayed on the LCD.
• " OFF " blinks.

• " " and day of the week disappear from the LCD.

2. Press Select until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the time setting rapidly.

3. Press Off again.

• " OFF " and setting time are displayed on the LCD.
• The TIMER lamp lights yellow.

Display

■ To cancel OFF TIMER operation

Press Cancel .

• " OFF " and setting time disappear from the LCD.
• " " and day of the week are displayed on the LCD.
• The TIMER lamp goes off.

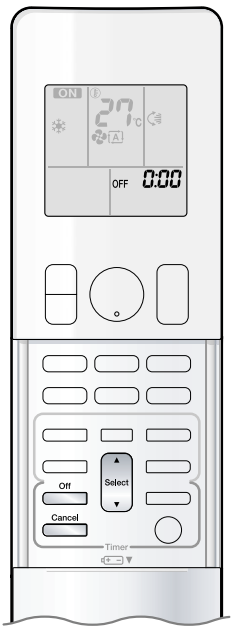
NOTE

■ **Notes on TIMER operation**
- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approx. 10 minutes)

■ **NIGHT SET mode**
- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.5°C up in COOL, 2.0°C down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

FVXG25/35/50K2V1B

OFF TIMER Operation



Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.

■To use OFF TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press Off .

• " 0:00 " is displayed on the LCD.
• " OFF " blinks.

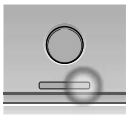
• " ◴ " and day of the week disappear from the LCD.

2. Press Select until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the time setting rapidly.

3. Press Off again.

• " OFF " and setting time are displayed on the LCD.
• The OPERATION lamp blinks and the TIMER lamp lights yellow.



Display

■To cancel OFF TIMER operation

Press Cancel .

• " OFF " and setting time disappear from the LCD.
• " ◴ " and day of the week are displayed on the LCD.

NOTE

■ **Notes on TIMER operation**
- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approximately 10 minutes)

■ **NIGHT SET mode**
- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.5˚C up in COOL, 2.0˚C down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

2.1.14 ON TIMER Operation

FTXG25/35/50JV1BW(A)

ON TIMER Operation

■ To use ON TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press On.

• " 6:00 " is displayed on the LCD.
• " ON " blinks.

• " ⏲ " and day of the week disappear from the LCD.

2. Press Select until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the setting rapidly.

3. Press On again.

• " ON " and setting time are displayed on the LCD.
• The multi-monitor lamp blinks twice.
The TIMER lamp periodically lights orange.

Display

■ To cancel ON TIMER operation

Press Cancel.

• " ON " and setting time disappear from the LCD.
• " ⏲ " and day of the week are displayed on the LCD.

■ To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.

(Example)
Present time: 23:00 (The unit operating)
OFF TIMER at 0:00 ⎫ Combined
ON TIMER at 14:00 ⎭

NOTE

■ **In the following cases, set the timer again.**
• After a breaker has turned off.
• After a power failure.
• After replacing batteries in the remote controller.

FTXS20/25K2V1B, CTXS15/35K2V1B

ON TIMER Operation

■ To use ON TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press On .

• "6:00" is displayed on the LCD.
• "ON" blinks.

• "⏲" and day of the week disappear from the LCD.

2. Press Select until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the setting rapidly.

3. Press On again.

• "ON" and setting time are displayed on the LCD.
• The TIMER lamp lights yellow.

Display

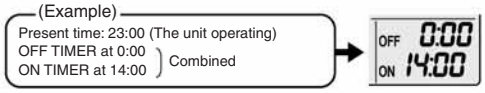
■ To cancel ON TIMER operation

Press Cancel .

• "ON" and setting time disappear from the LCD.
• "⏲" and day of the week are displayed on the LCD.
• The TIMER lamp goes off.

■ To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.

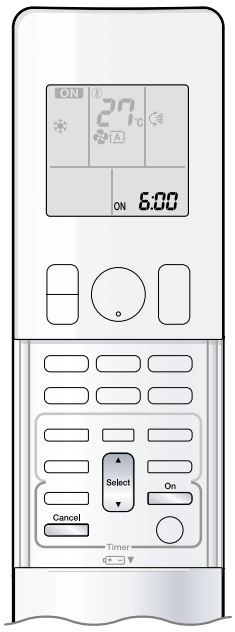


NOTE

■ **In the following cases, set the timer again.**
- After a breaker has turned off.
- After a power failure.
- After replacing batteries in the remote controller.

FVXG25/35/50K2V1B

ON TIMER Operation



■To use ON TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press On **.**

• " 6:00 " is displayed on the LCD.
• " ON " blinks.

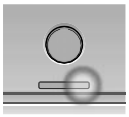
• " ◷ " and day of the week disappear from the LCD.

2. Press Select **until the time setting reaches the point you like.**

• Each pressing of either button increases or decreases the time setting by 10 minutes.
Holding down either button changes the time setting rapidly.

3. Press On **again.**

• " ON " and setting time are displayed on the LCD.
• The OPERATION lamp blinks and the TIMER lamp lights yellow.



Display

■To cancel ON TIMER operation

Press Cancel **.**

• " ON " and setting time disappear from the LCD.
• " ◷ " and day of the week are displayed on the LCD.

■To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.

(Example)
Present time: 23:00 (The unit operating)
OFF TIMER at 0:00
ON TIMER at 14:00
Combined

NOTE

■ **In the following cases, set the timer again.**
• After a breaker has turned off.
• After a power failure.
• After replacing batteries in the remote controller.

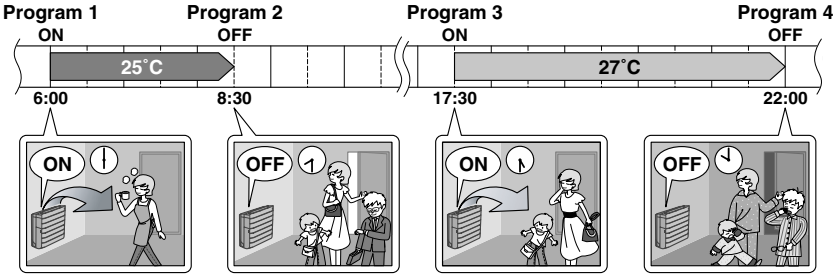
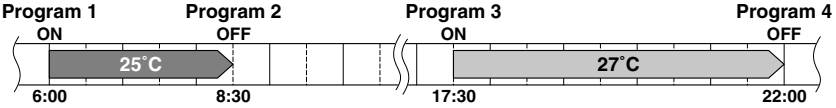
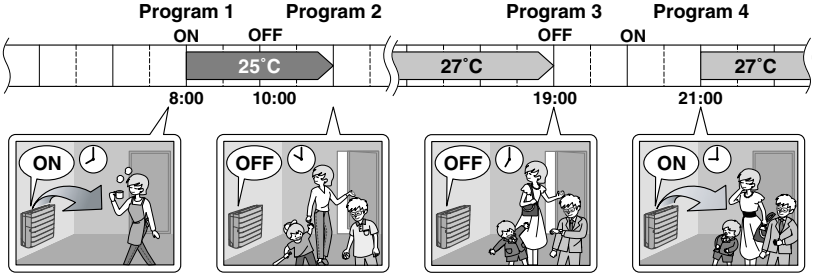
2.1.15 WEEKLY TIMER Operation

WEEKLY TIMER Operation

Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

■ Using in these cases of WEEKLY TIMER

[Example] **The same timer settings are made for the week from Monday through Friday while different timer settings are made for the weekend.**

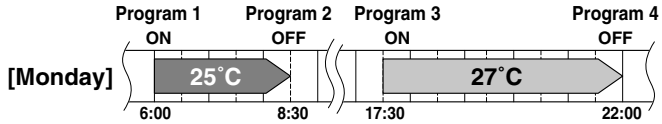
[Monday]	Make timer settings up to programs 1-4. 
[Tuesday] to [Friday]	Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday. 
[Saturday]	No timer settings
[Sunday]	Make timer settings up to programs 1-4. 

- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by using OFF-OFF-OFF-OFF settings, only the turn off time of each day can be set. This will turn off the air conditioner automatically if the user forgets to turn it off.

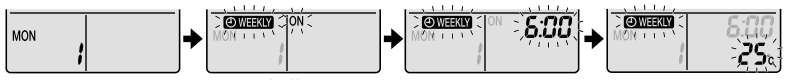
■To use WEEKLY TIMER operation

Setting mode

• Make sure the day of the week and time are set. If not, set the day of the week and time.



Setting Displays



1. Press ◈ .

- The day of the week and the reservation number of the current day will be displayed.
- 1 to 4 settings can be made per day

2. Press Select **to select the desired day of the week and reservation number.**

- Pressing Select changes the reservation number and the day of the week.

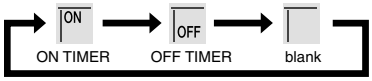
3. Press Next .

- The day of the week and reservation number will be set.
- " WEEKLY " and " ON " blink.

4. Press Select **to select the desired mode.**

- Pressing Select changes " ON " or " OFF " setting in sequence.

Pressing ▲ alternates the following items appearing on the LCD in rotational sequence.



- In case the reservation has already been set, selecting "blank" deletes the reservation.
- Go to step ***9*** if "blank" is selected.
- To return to the day of the week and reservation number setting, press Back .

5. Press Next .

- The ON/OFF TIMER mode will be set.
- " WEEKLY " and the time blink.

WEEKLY TIMER Operation

6. Press Select to select the desired time.

- The time can be set between 0:00 and 23:50 in 10 minute intervals.
- To return to the ON/OFF TIMER mode setting, press Back.
- Go to step *9* when setting the OFF TIMER.

7. Press Next.

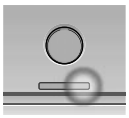
- The time will be set.
- " WEEKLY " and the temperature blink.

8. Press Select to select the desired temperature.

- The temperature can be set between 10˚C and 32˚C.
  COOL or AUTO: The unit operates at 18˚C even if it is set at 10 to 17˚C.
  HEAT or AUTO: The unit operates at 30˚C even if it is set at 31 to 32˚C.
- To return to the time setting, press Back.
- The set temperature is only displayed when the mode setting is on.

9. Press Next.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and flashing the OPERATION lamp.
- The temperature is set while in ON TIMER operation, and the time is set while in OFF TIMER operation.
- The next reservation screen will appear.
- To continue further settings, repeat the procedure from step *4*.
- The TIMER lamp lights yellow.



Display

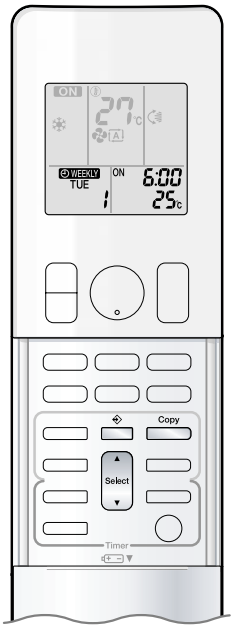
10. Press ◈ to complete the setting.

- " WEEKLY " is displayed on the LCD and WEEKLY TIMER operation is activated.
- A reservation made once can be easily copied and the same settings used for another day of the week. Refer to copy mode.

NOTE

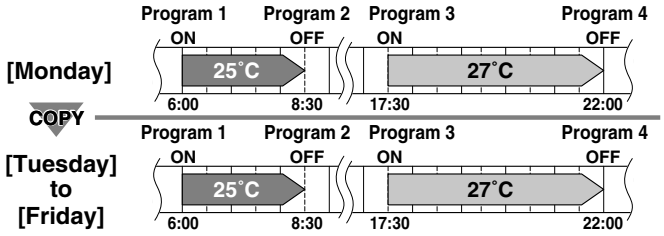
■ Notes on WEEKLY TIMER operation

- Do not forget to set the clock on the remote controller first.
- The day of the week, ON/OFF TIMER mode, time and set temperature (only for ON TIMER mode) can be set with WEEKLY TIMER. Other settings for ON TIMER are based on the settings just before the operation.
- Both WEEKLY TIMER and ON/OFF TIMER operation cannot be used at the same time. The ON/OFF TIMER operation has priority if it is set while WEEKLY TIMER is still active. The WEEKLY TIMER will go into standby state, and " WEEKLY " will disappear from the LCD. When ON/OFF TIMER is up, the WEEKLY TIMER will automatically become active.
- Shutting the breaker off, power failure, and other similar events will render operation of the indoor unit's internal clock inaccurate. Reset the clock.

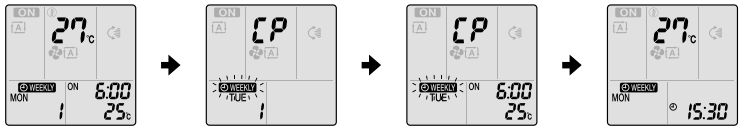


Copy mode

• A reservation made once can be copied to another day of the week. The whole reservation of the selected day of the week will be copied.



Setting Displays



1. **Press** ◈ **.**

2. **Press** Select **to confirm the day of the week to be copied.**

3. **Press** Copy **.**

• The whole reservation of the selected day of the week will be copied.

4. **Press** Select **to select the destination day of the week.**

5. **Press** Copy **.**

• Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and flashing the OPERATION lamp.
• The reservation will be copied to the selected day of the week. The whole reservation of the selected day of the week will be copied.
• To continue copying the settings to other days of the week, repeat step ***4*** and step ***5***.

6. **Press** ◈ **to complete the setting.**

• " WEEKLY " is displayed on the LCD and WEEKLY TIMER operation is activated.

NOTE

■ **Note on copy mode**

• The entire reservation of the source day of the week is copied in the copy mode.

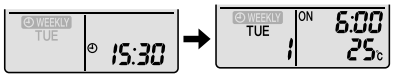
In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press ◈ and change the settings in the steps of setting mode.

WEEKLY TIMER Operation

■ Confirming a reservation

• The reservation can be confirmed.

Setting Displays



1. Press [Weekly] .

• The day of the week and the reservation number of the current day will be displayed.

2. Press [Select] to select the day of the week and the reservation number to be confirmed.

• Pressing [Select] displays the reservation details.

• To change the confirmed reserved settings, select the reservation number and press [Next].
The mode is switched to setting mode. Go to setting mode step ***2***.

3. Press [Weekly] to exit confirming mode.

■ To deactivate WEEKLY TIMER operation

Press [Weekly] while " WEEKLY " is displayed on the LCD.

• The " WEEKLY " will disappear from the LCD.
• The TIMER lamp goes off.
• To reactivate the WEEKLY TIMER operation, press [Weekly] again.
• If a reservation deactivated with [Weekly] is activated once again, the last reservation mode will be used.

⚠ CAUTION

• If not all the reservation settings are reflected, deactivate the WEEKLY TIMER operation once. Then press [Weekly] again to reactivate the WEEKLY TIMER operation.

■ To delete reservations

The individual reservation

1. Press [◈] .

• The day of the week and the reservation number will be displayed.

2. Press [Select] to select the day of the week and the reservation number to be deleted.

3. Press [Next].

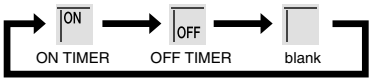
• " WEEKLY " and " ON " or " OFF " blink.

4. Press [Select] and select " blank ".

• Pressing [Select] changes ON/OFF TIMER mode.

Pressing ▲ alternates the following items appearing on the LCD in rotational sequence.

• The reservation will be no setting with selecting "blank".



5. Press [Next].

• The selected reservation will be deleted.

6. Press [◈] .

• If there are still other reservations, WEEKLY TIMER operation will be activated.

The reservations for each day of the week

• This function can be used for deleting reservations for each day of the week.
• It can be used while confirming or setting reservations.

1. Press [Select] to select the day of the week to be deleted.

2. Hold [Weekly] for 5 seconds.

• The reservation of the selected day of the week will be deleted.

All reservations

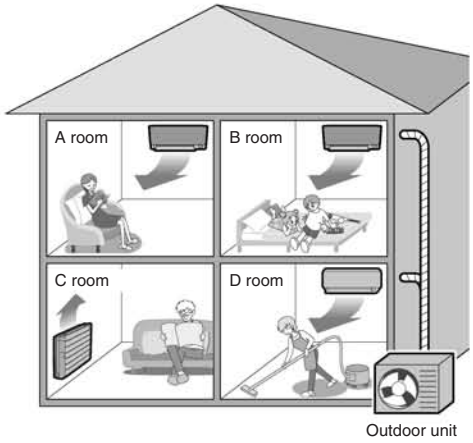
Hold [Weekly] for 5 seconds while normal display.

• Be sure to direct the remote controller toward the indoor unit and check for a receiving tone.
• This operation is not effective while WEEKLY TIMER is being set.
• All reservations will be deleted.

2.1.16 Note for Multi System

Note for Multi System

Multi system has one outdoor unit connected to multiple indoor units.



■ Selecting the operation mode

With the priority room setting present but inactive or not present.

When more than one indoor unit is operating, priority is given to the first unit that was turned on.
In this case, set the units that are turned on later to the same operation mode as the first unit.
Otherwise, they will enter the standby state, and the OPERATION lamp will flash: this does not indicate malfunction.

NOTE

■ **Notes on operation mode for multi system**
- COOL, DRY and FAN operation may be used at the same time.
- HEAT and RADIANT operation may be used at the same time.
- AUTO operation automatically selects COOL operation or HEAT operation based on the room temperature. Therefore, AUTO operation is available when selecting the same operation mode as that of the room with the first unit to be turned on.

⚠ CAUTION

- Normally, the operation mode in the room where the unit is first run is given priority, but the following situations are exceptions, so please keep this in mind.
  If the operation mode of the first room is FAN operation, then using HEAT and RADIANT operation in any room after this will give priority to HEAT and RADIANT operation. In this situation, the air conditioner running in FAN operation will go on standby, and the OPERATION lamp will flash.
  When the RADIANT operation starts when the FAN operation is used in another room, the FAN operation is switched to the HEAT operation.

With the priority room setting active.

Refer to priority room setting on the next page.

■ NIGHT QUIET mode (Available only for COOL operation)

NIGHT QUIET mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET mode reduces the operation noise of the outdoor unit during the nighttime hours to prevent annoyance to neighbours.
- The NIGHT QUIET mode is activated when the temperature drops 5˚C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5˚C, this function will not be activated.
- NIGHT QUIET mode reduces slightly the cooling efficiency of the unit.

■ OUTDOOR UNIT QUIET operation

Refer to OUTDOOR UNIT QUIET operation.

With the priority room setting present but inactive or not present.

When using the OUTDOOR UNIT QUIET operation feature with the multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.
When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller. However OUTDOOR UNIT QUIET operation display remains on the remote controller for other rooms.
We recommend you release all rooms using their remote controllers.

With the priority room setting active.

Refer to priority room setting on the next page.

■ COOL/HEAT mode lock

The COOL/HEAT mode lock requires initial programming during installation. Please consult your authorised dealer for assistance. The COOL/HEAT mode lock sets the unit forcibly to either COOL or HEAT operation. This function is convenient when you wish to set all indoor units connected to the multi system to the same operation mode.
During the COOL mode, the DRY operation can also be used. During the HEAT mode, the RADIANT operation can also be used.

NOTE

- The COOL/HEAT mode lock cannot be activated together with the priority room setting.

■ Priority room setting

The priority room setting requires initial programming during installation. Please consult your authorised dealer for assistance.
The room designated as the priority room takes priority in the following situations.

Operation mode priority

- As the operation mode of the priority room takes precedence, the user can select a different operation mode from other rooms.

[Example]

- Room A is the priority room in the examples.
  When COOL operation is selected in room A while operating the following modes in room B, C and D:

Operation mode in room B, C and D	Status of room B, C and D when the unit in room A is in COOL operation
COOL or DRY or FAN	Current operation mode maintained
HEAT and RADIANT	The unit enters standby mode. Operation resumes when the room A unit stops operating.
AUTO	If the unit is set to COOL operation, it continues. If the unit is set to HEAT operation, it enters standby mode. Operation resumes when the room A unit stops operating.

Priority when POWERFUL operation is used

[Example]

- Room A is the priority room in the examples.
  The indoor units in rooms A, B, C and D are all operating. If the unit in room A enters POWERFUL operation, operation capacity will be concentrated in room A. In such a case, the cooling (heating) efficiency of the units in room B, C and D may be slightly reduced.

Priority when using OUTDOOR UNIT QUIET operation

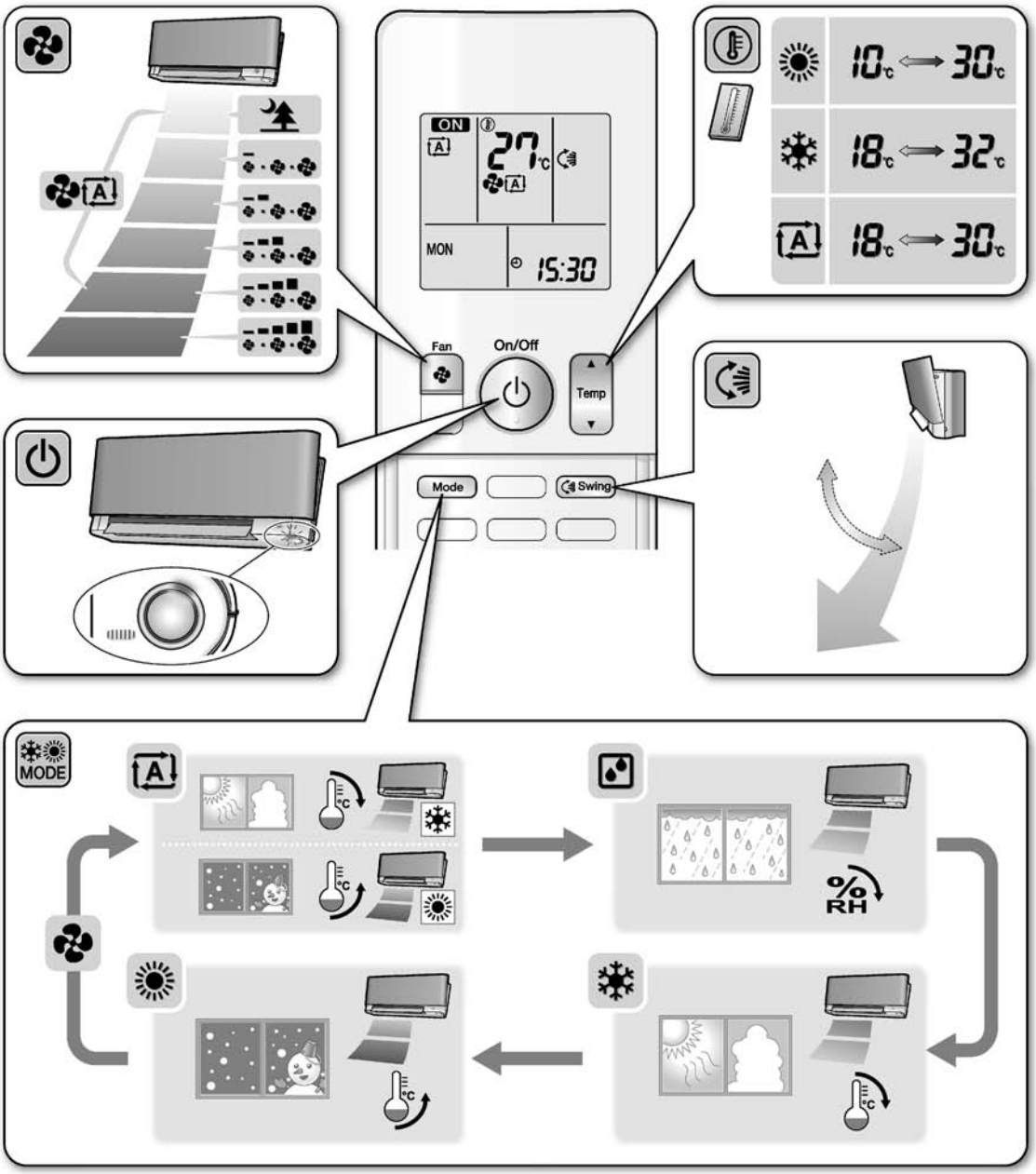
[Example]

- Room A is the priority room in the examples.
  Just by setting the unit in room A to QUIET operation, the air conditioner starts OUTDOOR UNIT QUIET operation. You don't have to set all the operated indoor units to QUIET operation.

2.1.17 Quick Reference

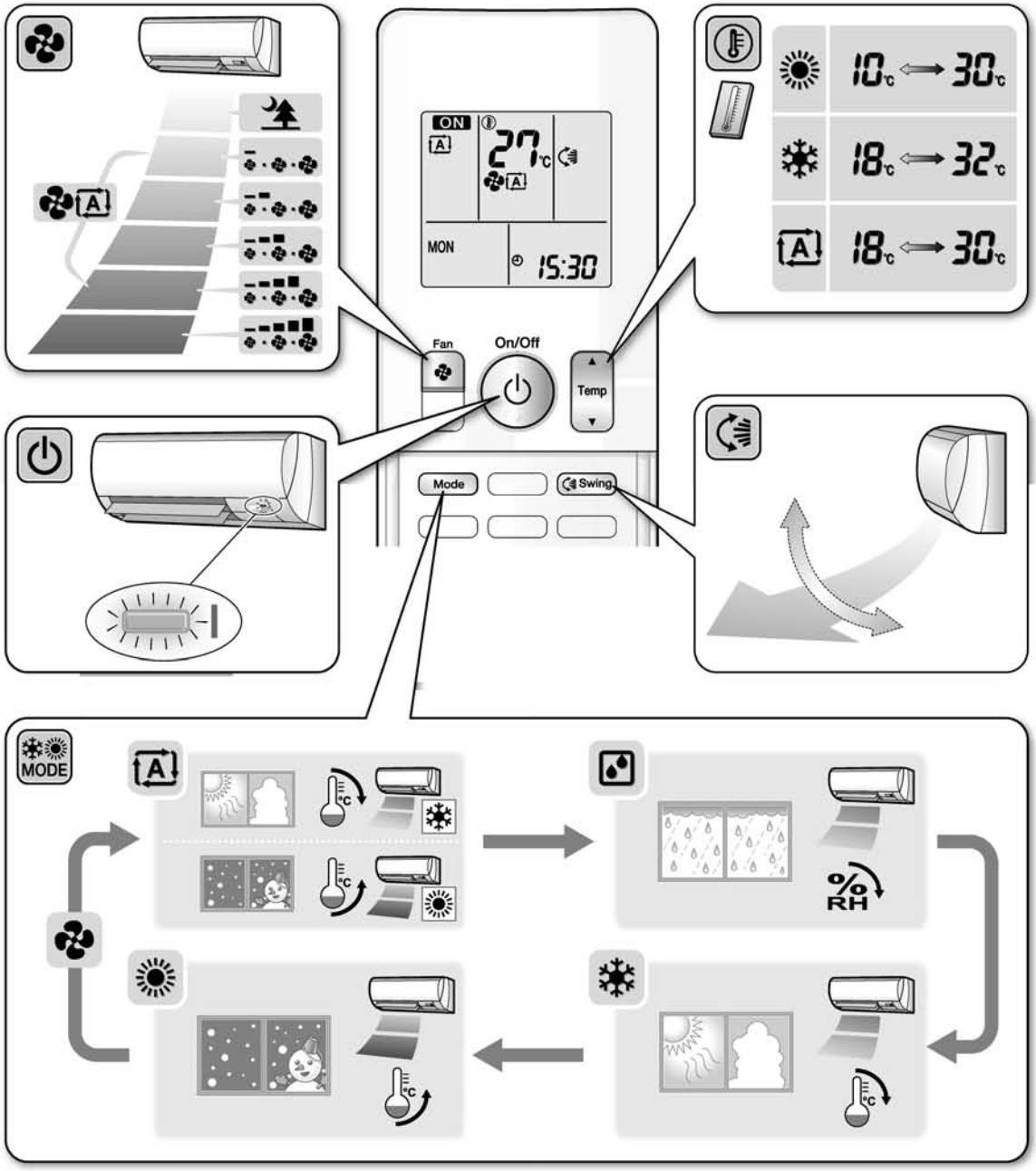
FTXG25/35/50JV1BW(A)

Quick Reference



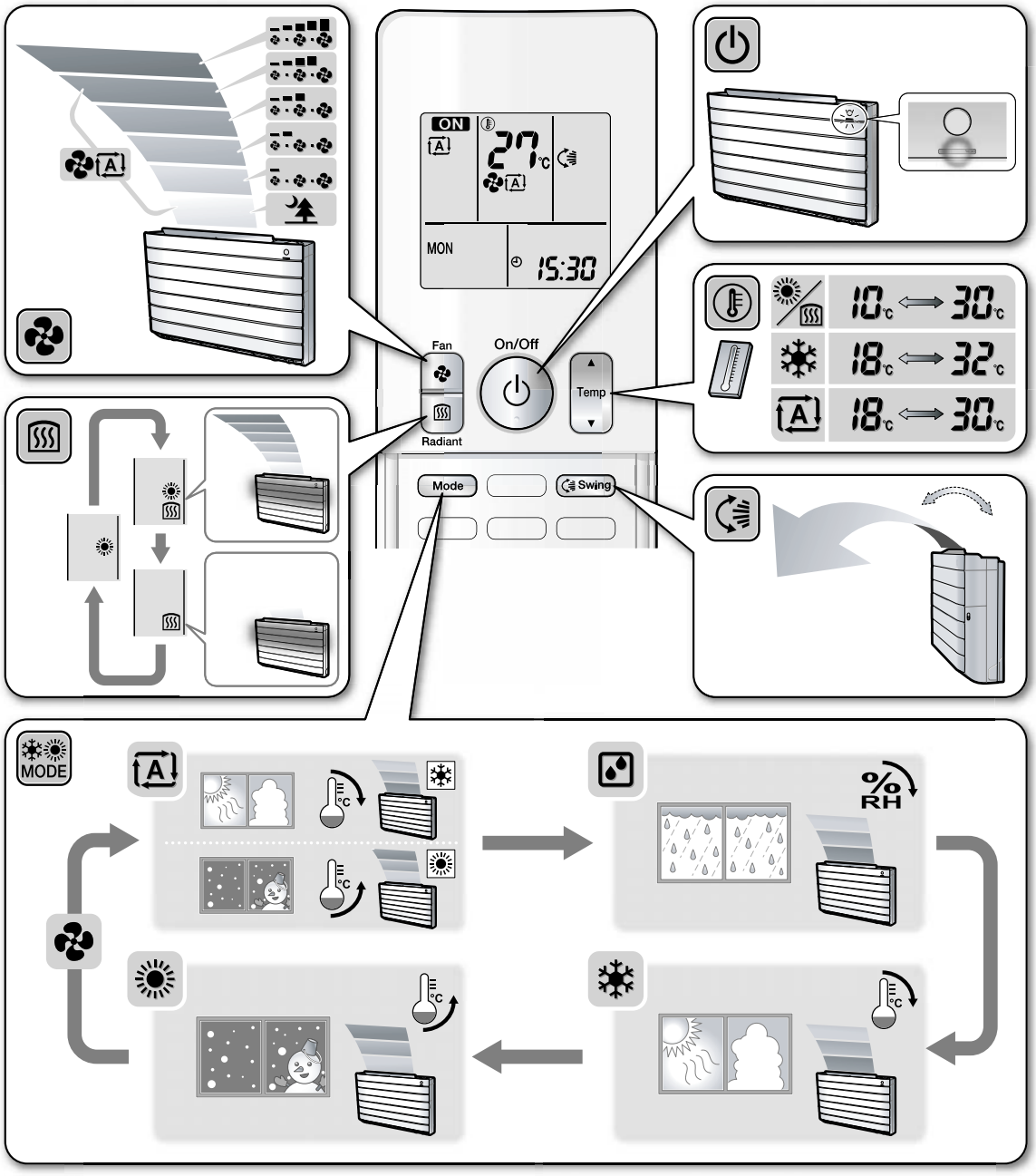
FTXS20/25K2V1B, CTXS15/35K2V1B

Quick Reference



FVXG25/35/50K2V1B

Quick Reference



2.2 FTXS-J, FTXS-G, FVXS Series - ARC452A1, A3

2.2.1 Manual Contents and Reference Page

Model Series	Wall Mounted Type		Floor Standing Type
	FTXS25-50J2V1B	FTXS60/71GV1B	FVXS25-50FV1B
Read Before Operation			
Names of Parts	179	182	185
Operation			
AUTO · DRY · COOL · HEAT · FAN Operation ★	188	188	188
Adjusting the Airflow Direction	190	192	194
COMFORT AIRFLOW and INTELLIGENT EYE Operation	196	200	—
POWERFUL Operation ★	203	203	203
OUTDOOR UNIT QUIET Operation ★	204	204	204
ECONO Operation ★	205	205	205
OFF TIMER Operation ★	206	206	206
ON TIMER Operation ★	207	207	207
WEEKLY TIMER Operation ★	208	208	208
Note for Multi System ★	216	216	216
Drawing No.	3P266959-2A	3P248442-3	3P191290-1K

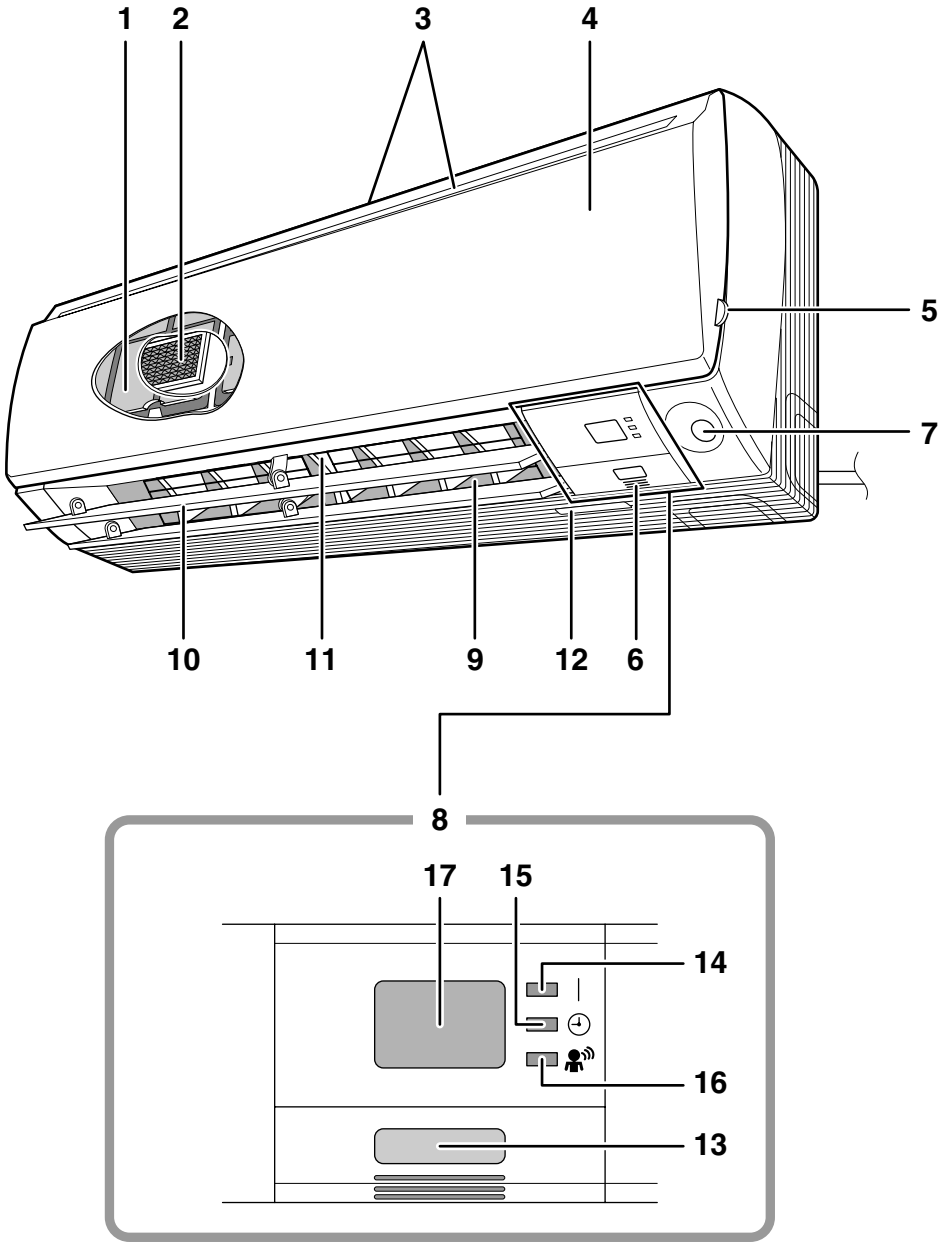
★: The illustrations are for FTXS-J series as representative.

2.2.2 Names of Parts

FTXS20/25/35/42/50J2V1B

Names of Parts

■ Indoor Unit



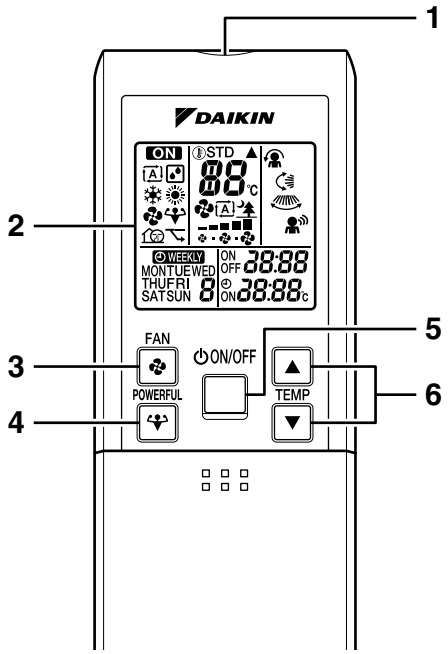
■ Indoor Unit

1. **Air filter**
2. **Titanium apatite photocatalytic air-purifying filter:**
   - These filters are attached to the inside of the air filters.
3. **Air inlet**
4. **Front panel**
5. **Panel tab**
6. **Room temperature sensor:**
   - It senses the air temperature around the unit.
7. **INTELLIGENT EYE sensor**
8. **Display**
9. **Air outlet**
10. **Flaps (horizontal blades)**
11. **Louvers (vertical blades):**
    - The louvers are inside of the air outlet.
12. **Model name plate**
13. **Indoor unit ON/OFF switch:**
    - Push this switch once to start operation. Push once again to stop it.
    - The operation mode refers to the following table.

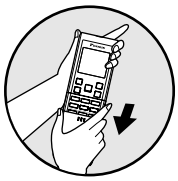
Model	Mode	Temperature setting	Airflow rate
COOLING ONLY	COOL	22˚C	AUTO
HEAT PUMP	AUTO	25˚C	AUTO

    - This switch is useful when the remote controller is missing.
14. **OPERATION lamp (green)**
15. **TIMER lamp (yellow)**
16. **INTELLIGENT EYE lamp (green)**
17. **Signal receiver:**
    - It receives signals from the remote controller.
    - When the unit receives a signal, you will hear a beep sound.
      - Operation start ..... beep-beep
      - Settings changed ..... beep
      - Operation stop ..... long beep

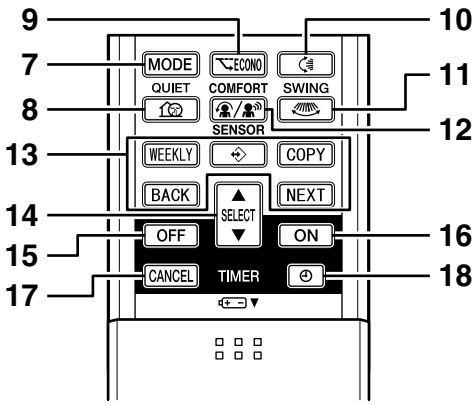
■ Remote Controller



<ARC452A3>



<Open the front cover>

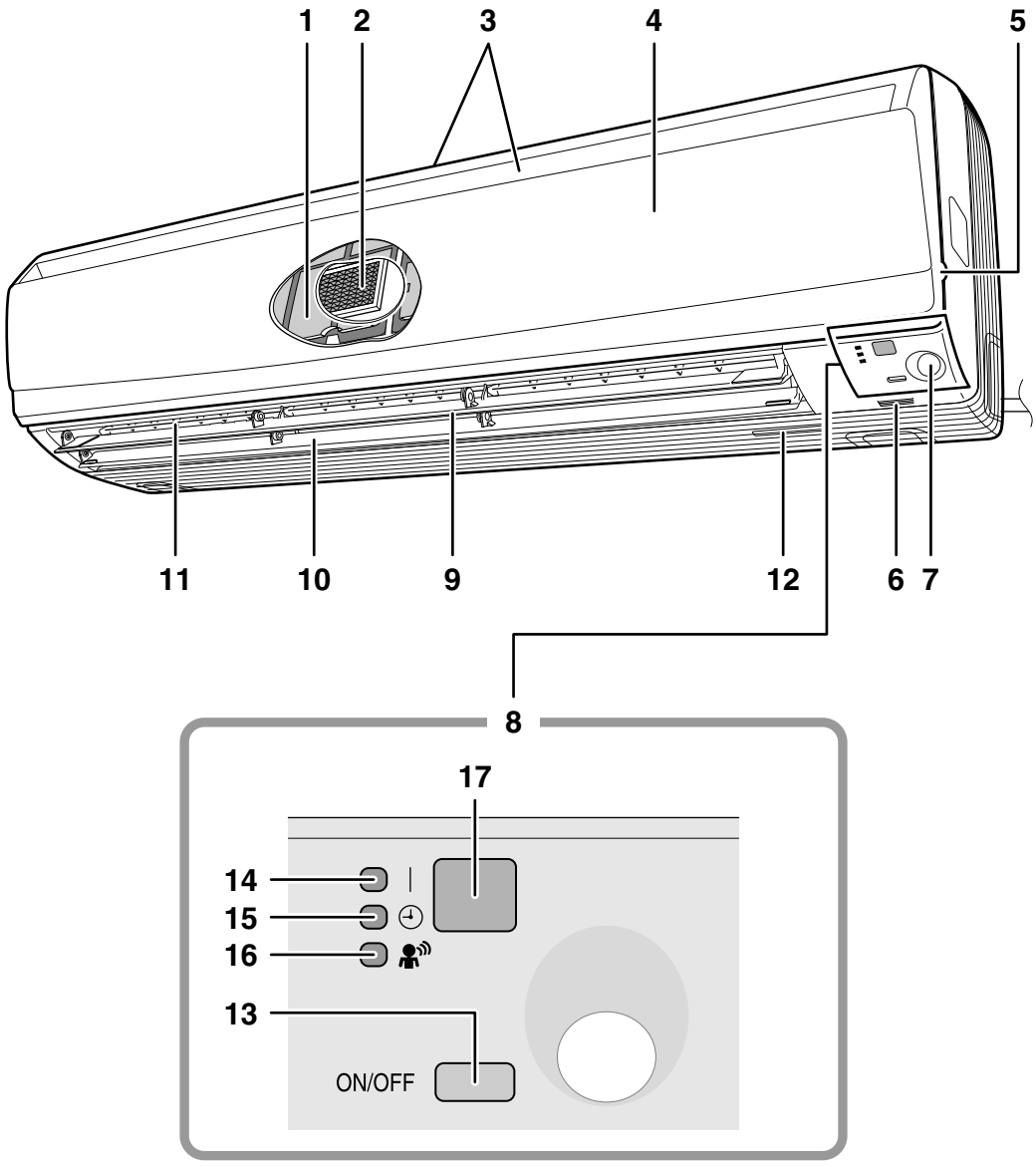


1. **Signal transmitter:**
   - It sends signals to the indoor unit.
2. **Display:**
   - It displays the current settings.
     (In this illustration, each section is shown with its displays ON for the purpose of explanation.)
3. **FAN setting button:**
   - It selects the airflow rate setting.
4. **POWERFUL button:**
   POWERFUL operation
5. **ON/OFF button:**
   - Press this button once to start operation. Press once again to stop it.
6. **TEMPERATURE adjustment buttons:**
   - It changes the temperature setting.
7. **MODE selector button:**
   - It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)
8. **QUIET button:**
   OUTDOOR UNIT QUIET operation
9. **ECONO button:**
   ECONO operation
10. **SWING button:**
    - Horizontal blades (flaps)
11. **SWING button:**
    - Vertical blades (louvers)
12. **COMFORT/SENSOR button:**
    - COMFORT AIRFLOW and INTELLIGENT EYE operation
13. **WEEKLY/PROGRAM/COPY/BACK/NEXT button:**
    - WEEKLY TIMER operation
14. **SELECT button:**
    - It changes the ON/OFF TIMER and WEEKLY TIMER settings.
15. **OFF TIMER button**
16. **ON TIMER button**
17. **TIMER CANCEL button:**
    - It cancels the timer setting.
    - It cannot be used for the WEEKLY TIMER operation.
18. **CLOCK button**

FTXS60/71GV1B

Names of Parts

■ Indoor Unit



■ Indoor Unit

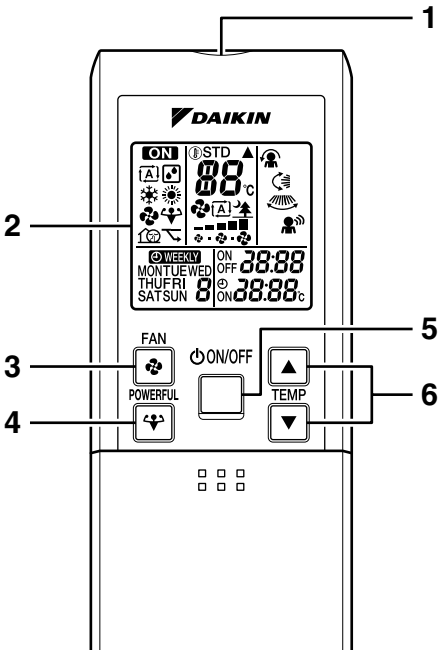
1. **Air filter**
2. **Titanium apatite photocatalytic air-purifying filter:**
   •These filters are attached to the inside of the air filters.
3. **Air inlet**
4. **Front panel**
5. **Panel tab**
6. **Room temperature sensor:**
   • It senses the air temperature around the unit.
7. **INTELLIGENT EYE sensor**
8. **Display**
9. **Air outlet**
10. **Flaps (horizontal blades)**
11. **Louvers (vertical blades):**
    • The louvers are inside of the air outlet.
12. **Model name plate**
13. **Indoor unit ON/OFF switch:**
    • Push this switch once to start operation. Push once again to stop it.
    • The operation mode refers to the following table.

Model	Mode	Temperature setting	Airflow rate
COOLING ONLY	COOL	22˚C	AUTO
HEAT PUMP	AUTO	25˚C	AUTO

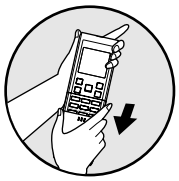
    • This switch is useful when the remote controller is missing.
14. **OPERATION lamp (green)**
15. **TIMER lamp (yellow)**
16. **INTELLIGENT EYE lamp (green)**
17. **Signal receiver:**
    • It receives signals from the remote controller.
    • When the unit receives a signal, you will hear a beep sound.
      • Operation start .....beep-beep
      • Settings changed.....beep
      • Operation stop.....long beep

Names of Parts

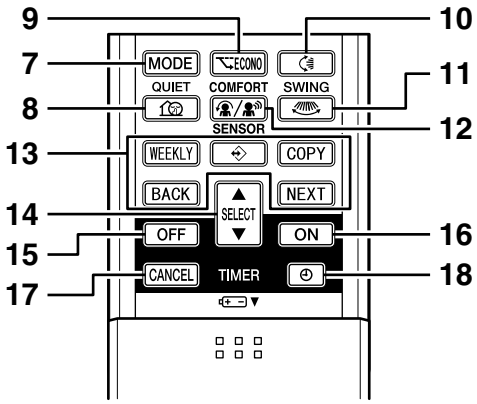
■ Remote Controller



<ARC452A3>



<Open the front cover>

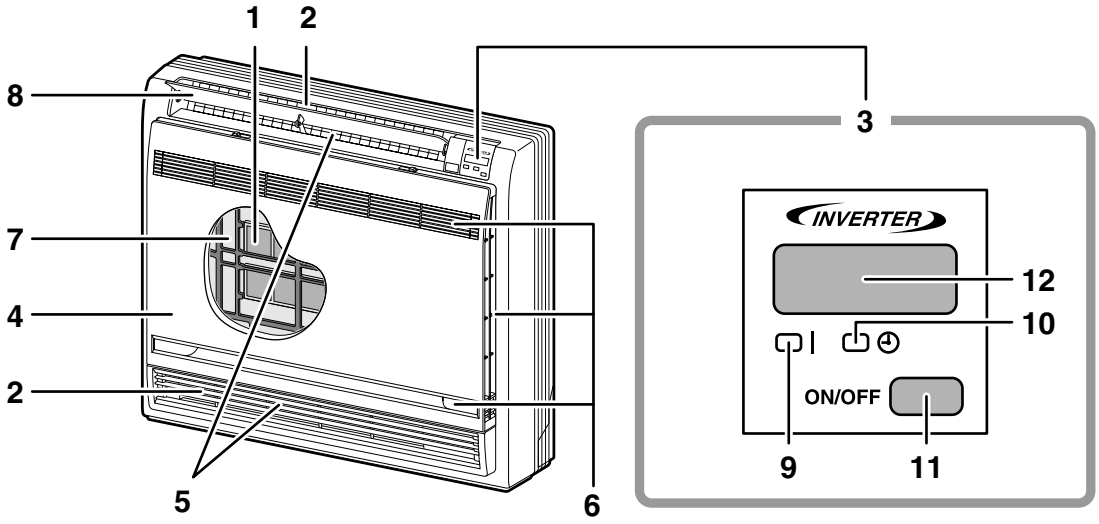


1. **Signal transmitter:**
   - It sends signals to the indoor unit.
2. **Display (LCD):**
   - It displays the current settings. (In this illustration, each section is shown with its displays on for the purpose of explanation.)
3. **FAN setting button:**
   - It selects the airflow rate setting.
4. **POWERFUL button:**
   POWERFUL operation
5. **ON/OFF button:**
   - Press this button once to start operation. Press once again to stop it.
6. **TEMPERATURE adjustment buttons:**
   - It changes the temperature setting.
7. **MODE selector button:**
   - It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)
8. **QUIET button:**
   OUTDOOR UNIT QUIET operation
9. **ECONO button:**
   ECONO operation
10. **SWING button:**
    - Flaps (horizontal blades)
11. **SWING button:**
    - Louvers (vertical blades)
12. **COMFORT/SENSOR button:**
    - COMFORT AIRFLOW and INTELLIGENT EYE operation
13. **WEEKLY/PROGRAM/COPY/BACK/NEXT button:**
    - WEEKLY TIMER operation
14. **SELECT button:**
    - It changes the ON/OFF TIMER and WEEKLY TIMER settings.
15. **OFF TIMER button**
16. **ON TIMER button**
17. **TIMER CANCEL button:**
    - It cancels the timer setting.
    - It cannot be used for the WEEKLY TIMER operation.
18. **CLOCK button**

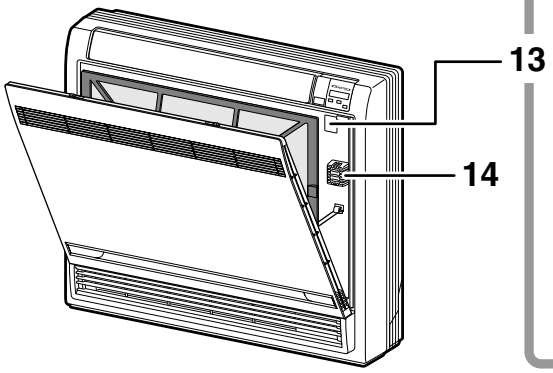
FVXS25/35/50FV1B

Names of parts

■ Indoor Unit

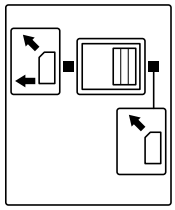


■ Opening the Front Panel



Air outlet selection switch

- This setting blows air from upper outlet only.
- This setting automatically decides a blow pattern depending on mode and conditions.
- This setting is recommended.
- The unit is shipped from the factory with this setting.



⚠ CAUTION

Before opening the front panel, be sure to stop the operation and turn the breaker OFF.
Do not touch the metal parts on the inside of the indoor unit, as it may result in injury.

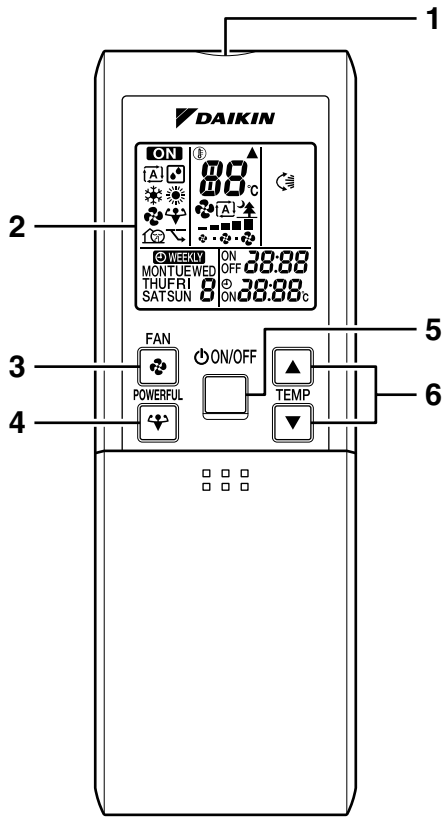
■ Indoor Unit

1. **Titanium Apatite Photocatalytic Air-Purifying Filter:**
   - These filters are attached to the inside of the air filters.
2. **Air outlet**
3. **Display**
4. **Front panel**
5. **Vertical blades (louvers)**
   - The louvers are inside of the air outlet.
6. **Air inlet**
7. **Air filter**
8. **Horizontal blade (flap)**
9. **Operation lamp (green)**
10. **TIMER lamp (yellow)**
11. **Indoor Unit ON/OFF switch:**
    - Push this switch once to start operation. Push once again to stop it.
    - The operation mode refers to the following table.

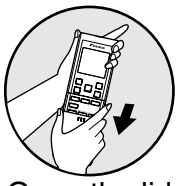
Model	Mode	Temperature setting	Airflow rate
COOLING ONLY	COOL	22˚C	AUTO
HEAT PUMP	AUTO	25˚C	AUTO

    - This switch is useful when the remote controller is missing.
12. **Signal receiver:**
    - It receives signals from the remote controller.
    - When the unit receives a signal, you will hear a short beep.
      - Operation start ..... beep-beep
      - Settings changed ..... beep
      - Operation stop..... beeeeep
13. **Air outlet selection switch**
14. **Room temperature sensor:**
    - It senses the air temperature around the unit.

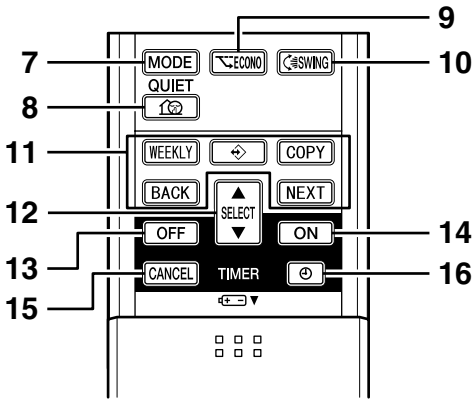
■ Remote Controller



<ARC452A1>



<Open the lid>

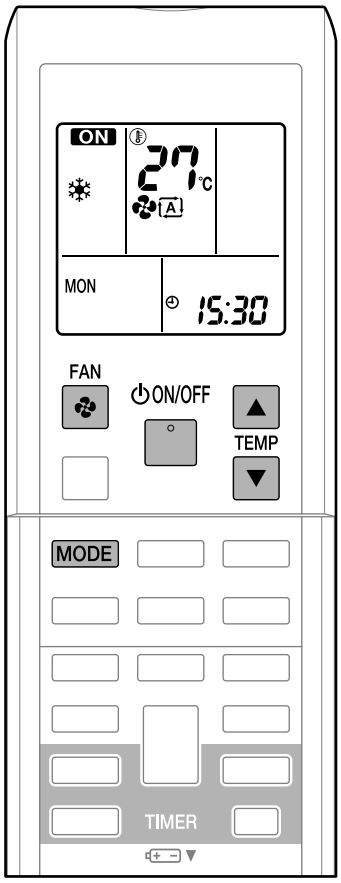


1. **Signal transmitter:**
   - It sends signals to the indoor unit.
2. **Display:**
   - It displays the current settings. (In this illustration, each section is shown with all its displays ON for the purpose of explanation.)
3. **FAN setting button:**
   - It selects the airflow rate setting.
4. **POWERFUL button:**
   POWERFUL operation
5. **ON/OFF button:**
   - Press this button once to start operation. Press once again to stop it.
6. **TEMPERATURE adjustment buttons:**
   - It changes the temperature setting.
7. **MODE selector button:**
   - It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)
8. **QUIET button:**
   OUTDOOR UNIT QUIET operation
9. **ECONO button:**
   ECONO operation
10. **SWING button:**
    - Adjusting the Airflow Direction
11. **WEEKLY/PROGRAM/COPY/BACK/NEXT button:**
    WEEKLY TIMER operation
12. **SELECT button:**
    - It changes the ON/OFF TIMER and WEEKLY TIMER settings.
13. **OFF TIMER button**
14. **ON TIMER button**
15. **TIMER CANCEL button:**
    - It cancels the timer setting.
    - It cannot be used for the WEEKLY TIMER operation.
16. **CLOCK button**

2.2.3 AUTO · DRY · COOL · HEAT · FAN Operation

AUTO · DRY · COOL · HEAT · FAN Operation

The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.



■ To start operation

1. Press MODE and select a operation mode.

- Each pressing of the button advances the mode setting in sequence.

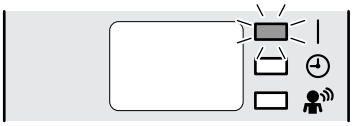
: AUTO : HEAT
: DRY : FAN
: COOL

COOLING ONLY model

HEAT PUMP model

2. Press ON/OFF .

- " ON " is displayed on the LCD.
- The OPERATION lamp lights up.



■ To stop operation

3. Press ON/OFF again.

- " ON " disappears from the LCD.
- Then OPERATION lamp goes off.

■ To change the temperature setting

4. Press ▲ TEMP or TEMP ▼ .

AUTO or COOL or HEAT operation	DRY or FAN operation
Press ▲ raise the temperature and press ▼ lower the temperature.	The temperature setting is not variable.
Set to the temperature you like. 27°C	

■ To change the airflow rate setting

5. Press .

AUTO or COOL or HEAT or FAN operation	DRY operation
5 levels of airflow rate setting from " " to " " plus "A" " " are available. 	The airflow rate setting is not variable.

- Indoor unit quiet operation

  When the airflow is set to " ", the noise from the indoor unit will become quieter. Use this when making the noise quieter.

NOTE

■ **Notes on HEAT operation**
- Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner.
- The heat pump system heats the room by circulating hot air around all parts of the room. After the start of heating operation, it takes some time before the room gets warmer.
- In heating operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost.
- During defrosting operation, hot air does not flow out of indoor unit.
- A pinging sound may be heard during defrosting operation, which, however does not mean that the air conditioner has failures.

■ **Note on COOL operation**
- This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high.

■ **Note on DRY operation**
- The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.

■ **Notes on AUTO operation**
- In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation.
- The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.

■ **Note on FAN operation**
- This mode is valid for fan only.

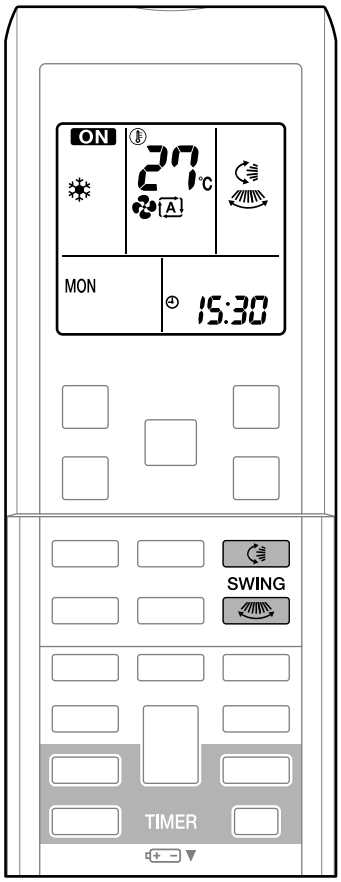
■ **Note on airflow rate setting**
- At smaller airflow rates, the cooling (heating) effect is also smaller.

2.2.4 Adjusting the Airflow Direction

FTXS20/25/35/42/50J2V1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.



■ To start auto swing

Upper and lower airflow direction

Press [ ] **.**

- "" is displayed on the LCD.
- The flaps (horizontal blades) will begin to swing.

Right and left airflow direction

Press [ ] **.**

- "" is displayed on the LCD.
- The louvers (vertical blades) will begin to swing.

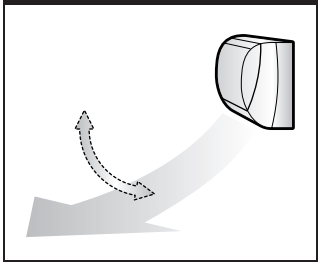
The 3-D airflow direction

Press [ ] **and** [ ] **.**

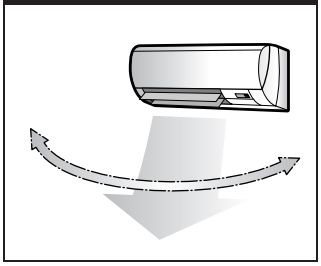
- "" and "" are displayed on the LCD.
- The flaps and louvers move in turn.
- To cancel 3-D airflow, press either [ ] or [ ] again.
  The flaps or louvers will stop moving.

- The following illustrations show respective airflow directions.

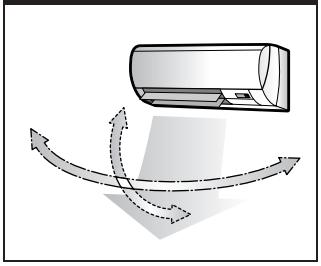
Upper/Lower



Right/Left



3-D



■ To set the flaps or louvers at desired position

• This function is effective while flaps or louvers are in auto swing mode.

Press [ ] and [ ] when the flaps or louvers have reached the desired position.

• In the 3-D airflow, the flaps and louvers move in turn.

• "" or "" disappears from the LCD.

⚠ CAUTION

- Always use a remote controller to adjust the angles of the flaps and louvers. If you attempt to move the flaps and louvers forcibly with hand when they are swinging, the mechanism may be broken.
- Always use a remote controller to adjust the louvers angles. In side the air outlet, a fan is rotating at a high speed.

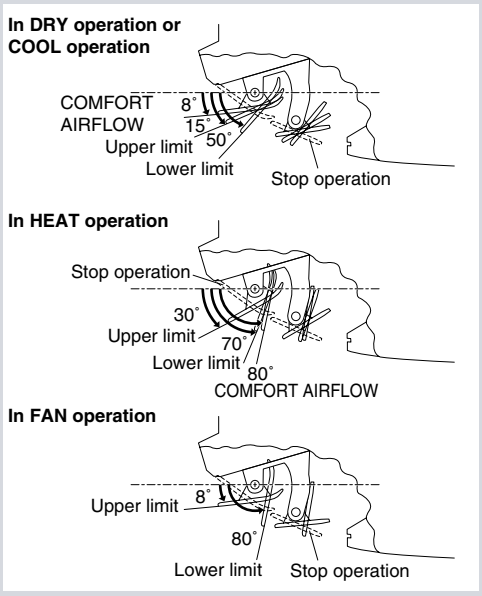
NOTE

■ **Note on the angles of the flaps**

• The flaps swinging range depends on the operation. (See the figure.)

■ **Note on 3-D airflow**

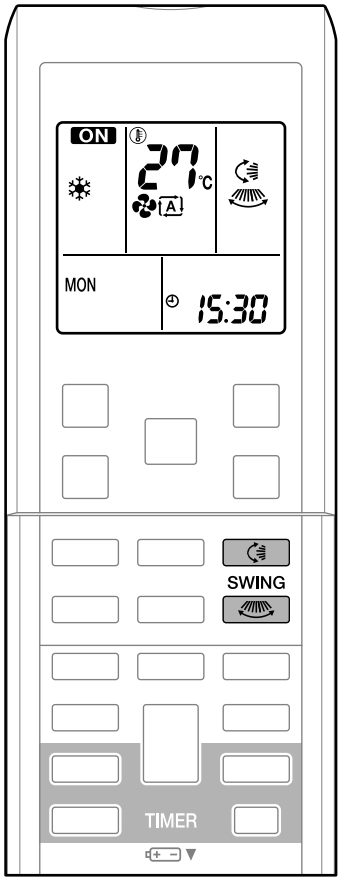
• Using 3-D airflow circulates cold air, which tends to collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing are as of cold and hot developing.



FTXS60/71GV1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.



■ To start auto swing

Upper and lower airflow direction

Press .

- "" is displayed on the LCD.
- The flaps (horizontal blades) will begin to swing.

Right and left airflow direction

Press .

- "" is displayed on the LCD.
- The louvers (vertical blades) will begin to swing.

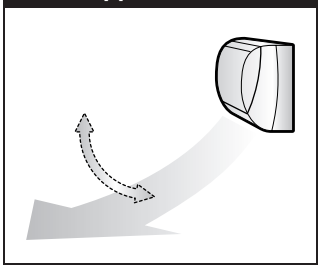
The 3-D airflow direction

Press **and** .

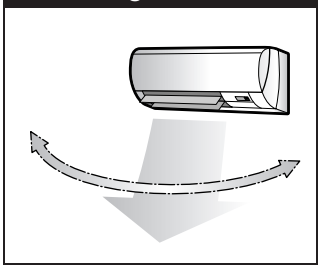
- "" and "" are displayed on the LCD.
- The flaps and louvers move in turn.
- To cancel 3-D airflow, press either or again.
  The flaps or louvers will stop moving.

- The following illustrations show respective airflow directions.

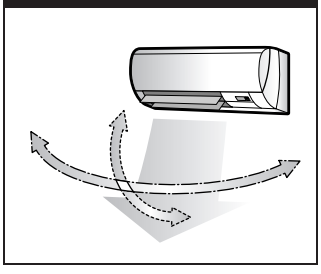
Upper/Lower



Right/Left



3-D



■ To set the flaps or louvers at desired position

• This function is effective while flaps or louvers are in auto swing mode.

Press [ ] and [ ] when the flaps or louvers have reached the desired position.

• In the 3-D airflow, the flaps and louvers move in turn.

• "" or "" disappears from the LCD.

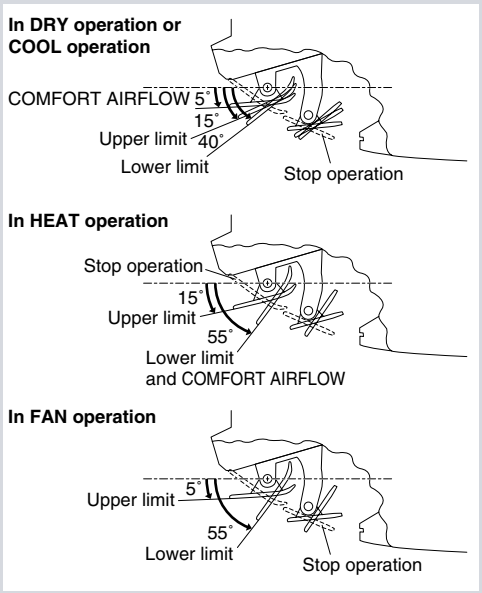
⚠ CAUTION

• Always use a remote controller to adjust the angles of the flaps and louvers. If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.
• Always use a remote controller to adjust the louvers angles. In side the air outlet, a fan is rotating at a high speed.

NOTE

■ **Note on the angles of the flaps**
• The flaps swinging range depends on the operation. (See the figure.)

■ **Note on 3-D airflow**
• Using 3-D airflow circulates cold air, which tends to collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing areas of cold and hot developing.



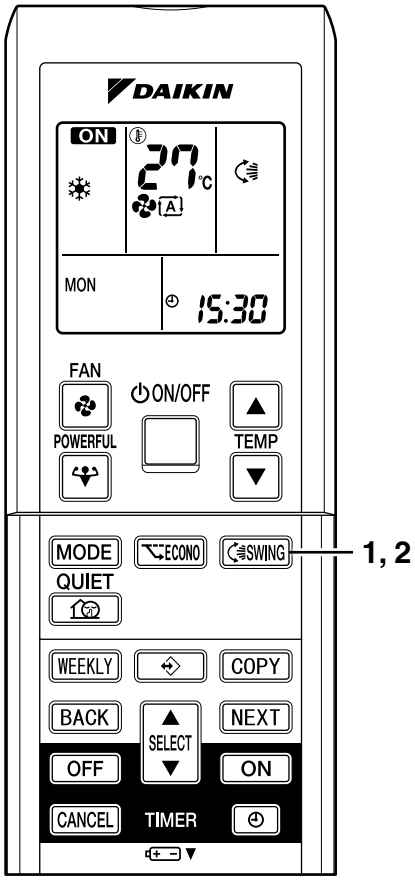
FVXS25/35/50FV1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.

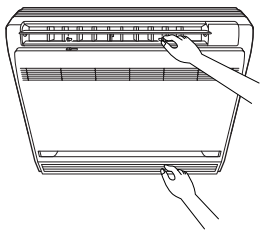
■ To adjust the horizontal blade (flap)

1. **Press "SWING button ".**
   - " is displayed on the LCD and the flaps will begin to swing.
2. **When the flap has reached the desired position, press "SWING button " once more.**
   - The flap will stop moving.
   - " " disappears from the LCD.



■ To adjust the vertical blades (louvers)

Hold the knob and move the louver.
(You will find a knob on the left-side and the right-side blades.)

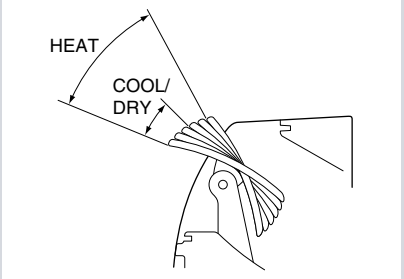


Notes on flap and louvers angle

- Unless "SWING" is selected, you should set the flap at a near-horizontal angle in HEAT mode and at a upward position in COOL or DRY mode to obtain the best performance.

■ **ATTENTION**

- When adjusting the flap by hand, turn off the unit, and use the remote controller to restart the unit.
- Be careful when adjusting the louvers. Inside the air outlet, a fan is rotating at a high speed.

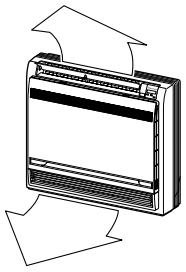


■ Airflow selection

- Make airflow selection according to what suits you.

When setting the airflow selection switch to .

- Air conditioner automatically decides the appropriate blowing pattern depending on the operating mode/situation.

Operating mode	Situation	Blowing pattern
COOL mode	• When the room has become fully cool, or when one hour has passed since turning on the air conditioner.	• So that air does not come into direct contact with people, air is blown upper air outlet, room temperature is equalized.
	• At start of operation or other times when the room is not fully cooled.	
HEAT mode	• At times other than below. (Normal time.)	• Air is blown from the upper and lower air outlets for high speed cooling during COOL mode, and for filling the room with warm air during HEAT mode.
	• At start or when air temperature is low.	• So that air does not come into direct contact with people. Air is blown upper air outlet.

- During Dry mode, so that cold air does not come into direct contact with people, air is blown upper air outlet.

When setting the air outlet selection switch to .

- Regardless of the operating mode or situation, air blows from the upper air outlet.
- Use this switch when you do not want air coming out of the lower air outlet. (While sleeping etc.)

⚠ CAUTION

- Do not try to adjust the flap by hand.
- When adjusting by hand, the mechanism may not operate properly or condensation may drip from air outlets.

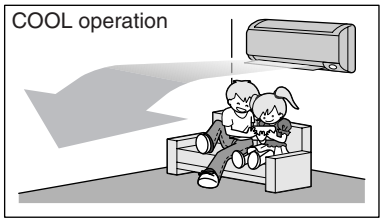
2.2.5 COMFORT AIRFLOW and INTELLIGENT EYE Operation

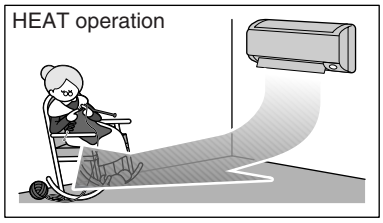
FTXS20/25/35/42/50J2V1B

COMFORT AIRFLOW and INTELLIGENT EYE Operation

■ COMFORT AIRFLOW operation

The flow of air will be in the upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.

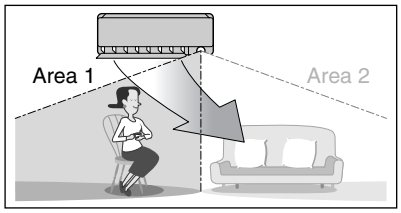




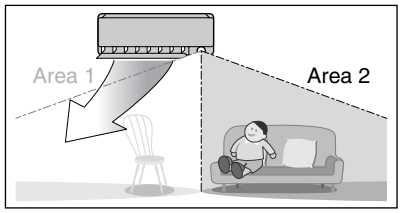
■ INTELLIGENT EYE operation

"INTELLIGENT EYE" is the infrared sensor which detects the human movement.
If no one is in the room for more than 20 minutes, the operation automatically changes to energy saving operation.
The INTELLIGENT EYE sensor according to the following situations.

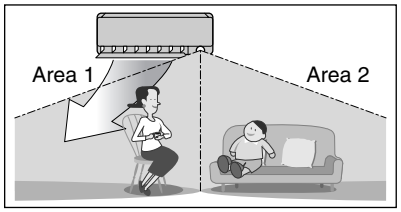
■ A person is detected in area 1.



■ A person is detected in area 2.

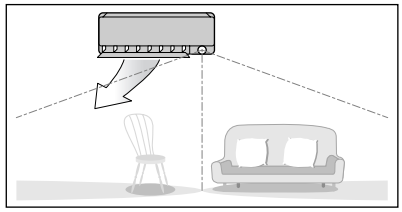


■ People are detected in both areas.



Use the INTELLIGENT EYE Operation in combination with the COMFORT AIRFLOW Operation.

■ No people are detected in the areas.



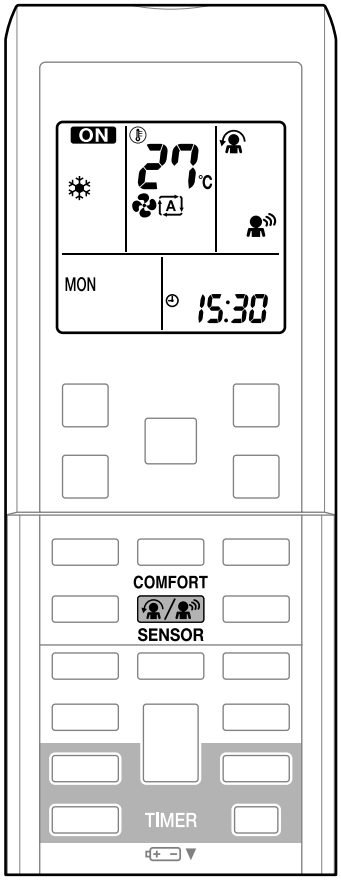
The air conditioner will go into energy-saving mode after 20 minutes.
*The wind direction may differ from the illustrated direction depending on the actions and movements of the people in the areas.

■ To start operation

Press [COMFORT/SENSOR] and select the desired mode.

- Each time the [COMFORT/SENSOR] is pressed a different setting option is displayed on the LCD.
- By selecting "[COMFORT AIRFLOW + INTELLIGENT EYE]" from the following icons, the air conditioner will be in COMFORT AIRFLOW operation combined with INTELLIGENT EYE operation.

- When the flaps (horizontal blades) are swinging, the operating as above will stop movement of them.
- The INTELLIGENT EYE lamp lights up.
- The lamp will be lit while human movements are detected.



■ To cancel operation

Press [COMFORT/SENSOR] and select "blank" on the LCD.

Display	Operation mode	Explanation
	COMFORT AIRFLOW	The flaps will adjust the airflow direction upward while cooling, and adjust the airflow direction downward while heating.
	INTELLIGENT EYE	The sensors will detect the movement of people in the sensing areas and the louvers will adjust the airflow direction to an area where people are not present. When there are no people in the sensing areas, the air conditioner will go into energy-saving mode.
	COMFORT AIRFLOW and INTELLIGENT EYE	The air conditioner will be in COMFORT AIRFLOW operation combined with INTELLIGENT EYE operation.
Blank	No function	–

COMFORT AIRFLOW and INTELLIGENT EYE Operation

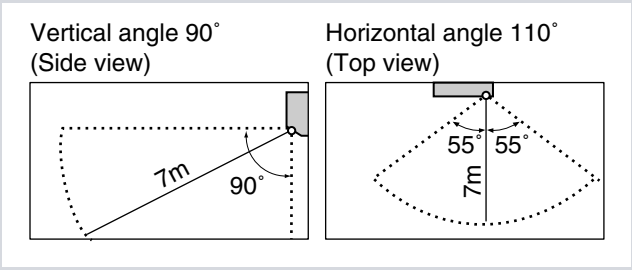
NOTE

■ **Notes on COMFORT AIRFLOW operation**

- The flap position will change, preventing air from blowing directly on the occupants of the room.
- POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time.
- Priority is given to the function of whichever button is pressed last.
- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled.

■ **Notes on INTELLIGENT EYE operation**

- Application range is as follows.



- While the air conditioner is in INTELLIGENT EYE operation, the louvers will adjust the airflow direction if there are people in the sensing areas of the INTELLIGENT EYE so that the leftward or rightward airflow will not be directed to the people.
  If no people are detected in either area 1 or 2 in 20 minutes, the air conditioner will go into energy-saving mode with the set temperature shifted by 2˚C.
  The air conditioner may go into energy-saving operation even if there are people in the areas. This may occur depending on the clothes the people are wearing if there are no movements of the people in the areas.
- The airflow direction from the louvers will be leftward if there are people in both areas 1 and 2 or if there is a person right in front of the sensors because the sensors on the both sides will detect the person.
- Due to the position of the sensor, people might be exposed to the airflow of the indoor unit if they are close to the front side of the indoor unit.
  If there are people close to the front side of the indoor unit or in both areas, it is recommended to use the COMFORT AIRFLOW and INTELLIGENT EYE functions simultaneously. When both of them are in use, the air conditioner will not direct the airflow towards the people.
- Sensor may not detect moving objects further than 7m away. (Check the application range)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
- INTELLIGENT EYE operation will not go on during POWERFUL operation.
- NIGHT SET mode will not go on during use of INTELLIGENT EYE operation.

NOTE

■ **Note on combination of COMFORT AIRFLOW operation and INTELLIGENT EYE operation**

- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled.
  Priority is given to the function of whichever button is pressed last.
- The air conditioner can go into operation with the COMFORT AIRFLOW and INTELLIGENT EYE functions combined.
  The flaps adjust the airflow direction upward (while in cooling operation) and downward (while in heating operation), during which the sensors of the INTELLIGENT EYE are working to detect the movement of people. When the sensors detect people, the louvers will direct the airflow in such way that it will not be blown directly on them. If there are no people, the air conditioner will go into energy-saving operation after 20 minutes.

INTELLIGENT EYE operation is useful for energy saving

■ **Energy saving operation**

- If no presence detected in the room for 20 minutes, the energy saving operation will start.
- This operation changes the temperature –2˚C in HEAT / +2˚C in COOL / +2˚C in DRY operation from set temperature.
- This operation decreases the airflow rate slightly in FAN operation only.

⚠ CAUTION

- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor's detection area. This sensor can detect undesirable objects.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

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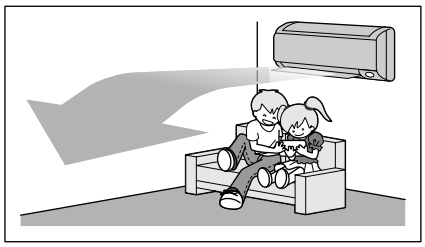
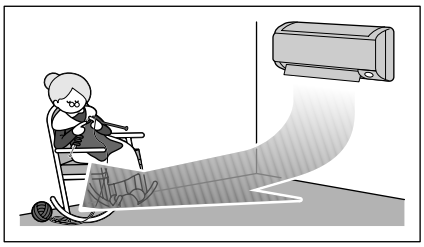
COMFORT AIRFLOW and INTELLIGENT EYE Operation

■ COMFORT AIRFLOW operation

The flow of air will be in the upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.



COOL operation

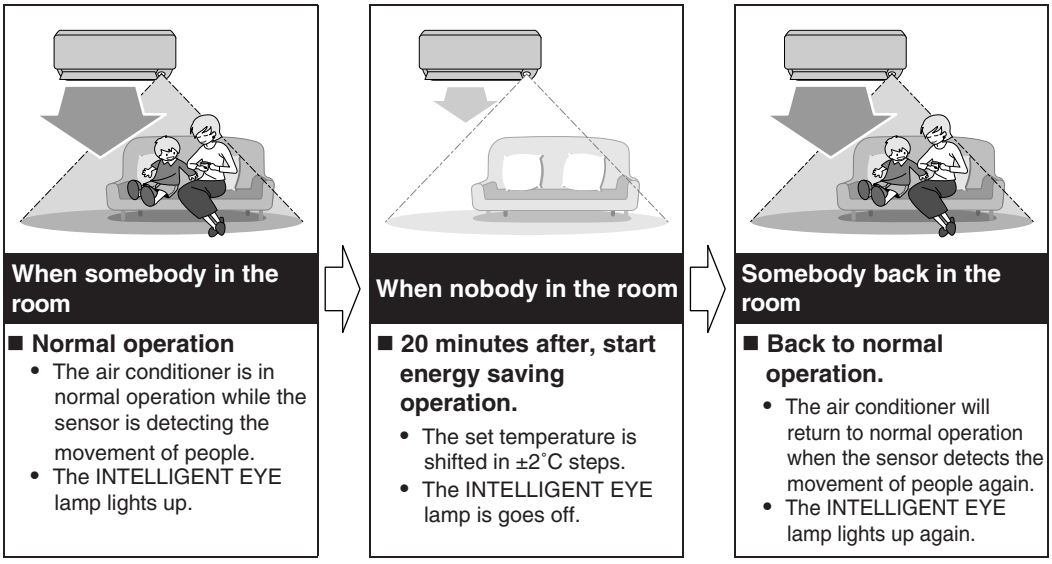


HEAT operation

■ INTELLIGENT EYE operation

"INTELLIGENT EYE" is the infrared sensor which detects the human movement.
If nobody in the room for more than 20 minutes, the operation automatically changes to energy saving operation.

[Example]



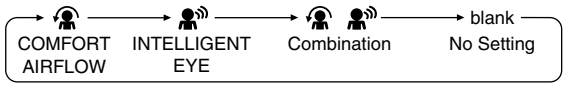
■ To combine COMFORT AIRFLOW and INTELLIGENT EYE operation

The air conditioner can go into operation with the COMFORT AIRFLOW and INTELLIGENT EYE operation combined.

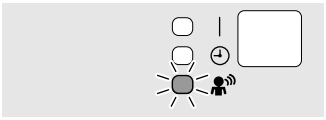
■ To start operation

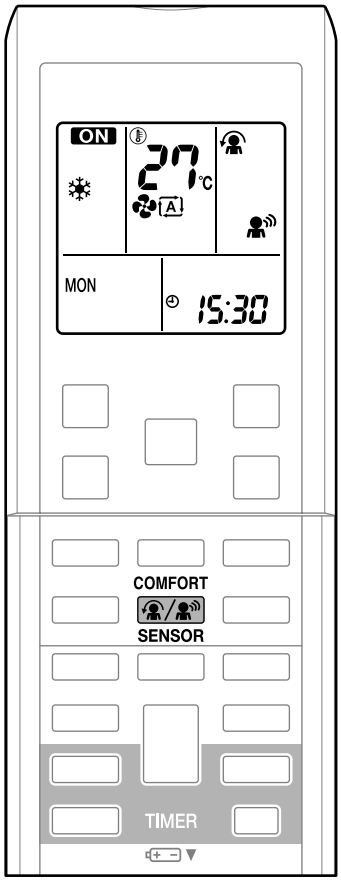
Press [COMFORT AIRFLOW / INTELLIGENT EYE] and select the desired mode.

- Each time the [COMFORT AIRFLOW / INTELLIGENT EYE] is pressed a different setting option is displayed on the LCD.
- By selecting "[COMFORT AIRFLOW] [INTELLIGENT EYE]" from the following icons, the air conditioner will be in COMFORT AIRFLOW operation combined with INTELLIGENT EYE operation.



- When the flaps (horizontal blades) are swinging, the operating as above will stop movement of them.
- The INTELLIGENT EYE lamp lights up.
- The lamp will be lit while human movements are detected.





■ To cancel operation

Press [COMFORT AIRFLOW / INTELLIGENT EYE] and select "blank" on the LCD.

INTELLIGENT EYE operation is useful for energy saving

■ **Energy saving operation**

- If no presence detected in the room for 20 minutes, the energy saving operation will start.
- This operation changes the temperature –2˚C in HEAT / +2˚C in COOL / +2˚C in DRY operation from set temperature.
- This operation decreases the airflow rate slightly in FAN operation only.

COMFORT AIRFLOW and INTELLIGENT EYE Operation

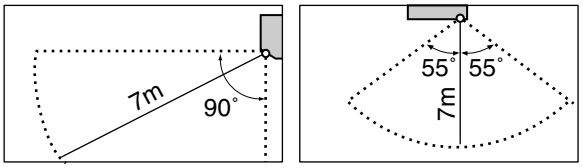
NOTE

■ **Notes on COMFORT AIRFLOW operation**

- The flap position will change, preventing air from blowing directly on the occupants of the room.
- POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled.

■ **Notes on INTELLIGENT EYE operation**

- Application range is as follows.



- Sensor may not detect moving objects further than 7m away. (Check the application range)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
- INTELLIGENT EYE operation will not go on during POWERFUL operation.
- NIGHT SET mode will not go on during use of INTELLIGENT EYE operation.

■ **Note on combination of COMFORT AIRFLOW operation and INTELLIGENT EYE operation**

- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled.
  Priority is given to the function of whichever button is pressed last.

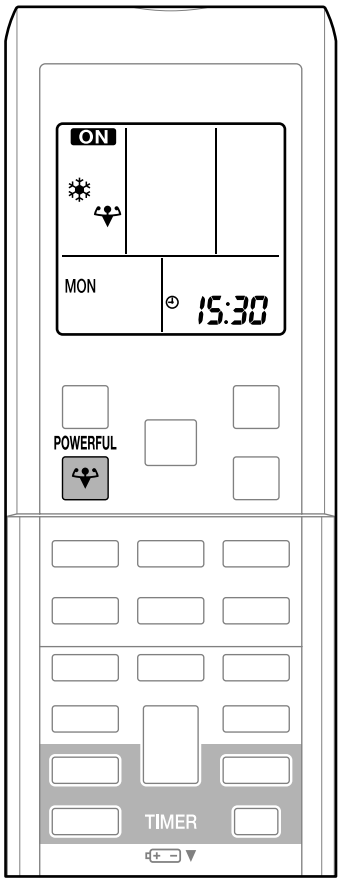
⚠ CAUTION

- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor's detection area. This sensor can detect undesirable objects.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

2.2.6 POWERFUL Operation

POWERFUL Operation

POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode. You can get the maximum capacity.



■ To start POWERFUL operation

1. **Press**  **.**
   - POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
   - "  " is displayed on the LCD.

■ To cancel POWERFUL operation

2. **Press**  **again.**
   - "" disappears from the LCD.

NOTE

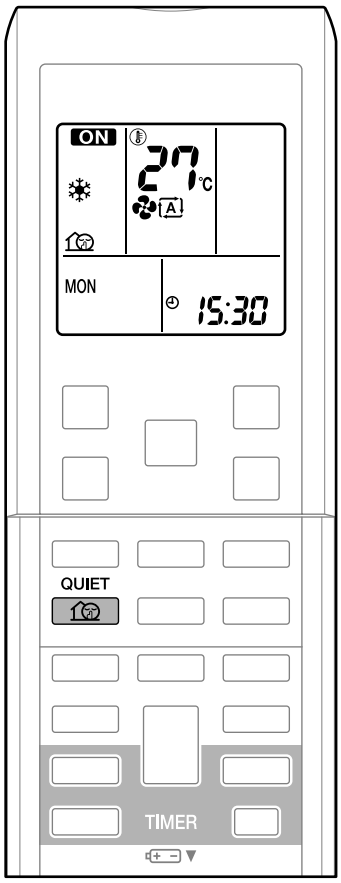
■ **Notes on POWERFUL operation**

- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with ECONO, COMFORT AIRFLOW or OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL operation can only be set when the unit is running.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL, HEAT and AUTO mode**
  To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting.
  The temperature and airflow settings are not variable.
- **In DRY operation**
  The temperature setting is lowered by 2.5˚C and the airflow rate is slightly increased.
- **In FAN operation**
  The airflow rate is fixed to the maximum setting.

2.2.7 OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during night.



■ To start OUTDOOR UNIT QUIET operation

1. Press [ ] .

- "[ ]" is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

2. Press [ ] again.

- "[ ]" disappears from the LCD.

NOTE

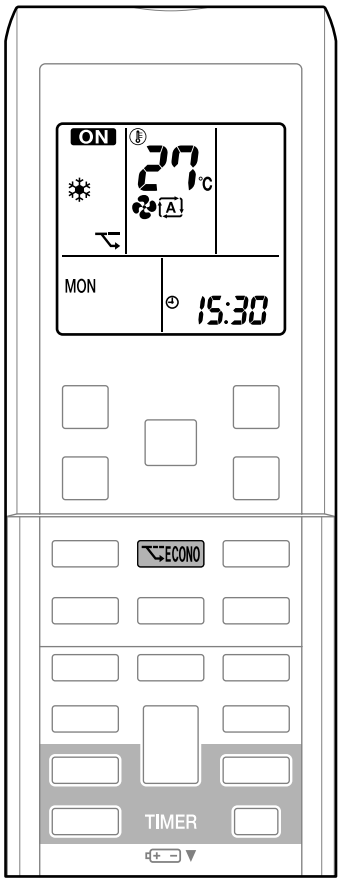
■ **Notes on OUTDOOR UNIT QUIET operation**

- If using a multi system, the OUTDOOR UNIT QUIET operation will work only when this function is set on all operated indoor units.
- This function is available in COOL, HEAT, and AUTO operation. (This is not available in FAN and DRY operation.)
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- Even the operation is stopped using the remote controller or the indoor unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, "[ ]" will remain on the remote controller display.
- OUTDOOR UNIT QUIET operation will drop neither the frequency nor fan speed if the frequency and fan speed have been already dropped low enough.

2.2.8 ECONO Operation

ECONO Operation

ECONO operation is a function which enables efficient operation by limiting the maximum power consumption value.
This function is useful for cases in which attention should be paid to ensure a circuit breaker will not trip when the product runs alongside other appliances.

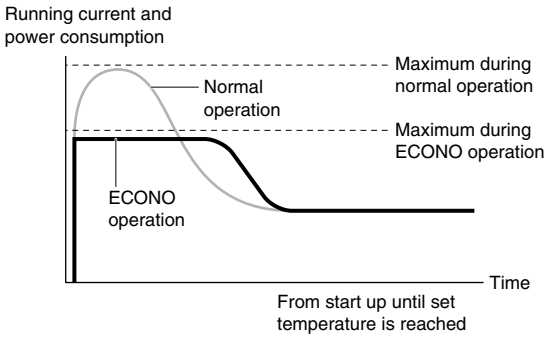


■ To start ECONO operation

1. **Press ECONO .**
   - " " is displayed on the LCD.

■ To cancel ECONO operation

2. **Press ECONO again.**
   - " " disappears from the LCD.



- This diagram is a representation for illustrative purposes only.

* The maximum running current and power consumption of the air conditioner in ECONO operation vary with the connecting outdoor unit.

NOTE

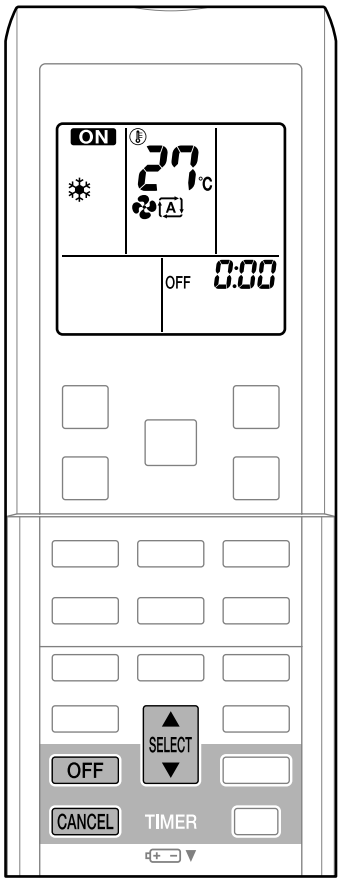
■ **Notes on ECONO operation**

- ECONO operation can only be set when the unit is running.
- ECONO operation is a function which enables efficient operation by limiting the power consumption of the outdoor unit (operating frequency).
- ECONO operation functions in AUTO, COOL, DRY and HEAT operation.
- POWERFUL and ECONO operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- If the level of power consumption is already low, ECONO operation will not drop the power consumption.

2.2.9 OFF TIMER Operation

OFF TIMER Operation

Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.



■ To use OFF TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time.

1. Press OFF .

• "OFF" and setting time are displayed on the LCD.
• "0:00" is displayed on the LCD.
• "OFF" blinks.

2. Press SELECT until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.

3. Press OFF again.

• The TIMER lamp lights up.

■ To cancel the OFF TIMER Operation

4. Press CANCEL .

• "OFF" and setting time disappear from the LCD.
• "🕘" and day of the week are displayed on the LCD.
• The TIMER lamp goes off.

NOTE

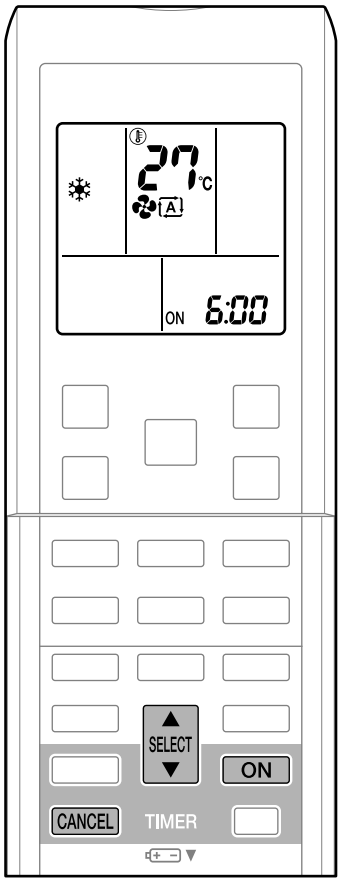
■ **Notes on TIMER operation**
• When TIMER is set, the present time is not displayed.
• Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
• When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approx. 10 minutes)

■ **NIGHT SET mode**
When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.5˚C up in COOL, 2.0˚C down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

2.2.10 ON TIMER Operation

ON TIMER Operation

■ To use ON TIMER operation



• Check that the clock is correct. If not, set the clock to the present time.

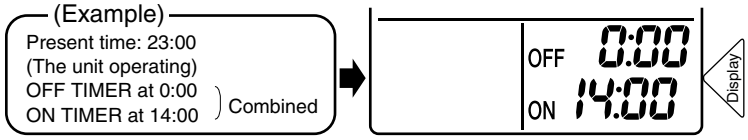
1. **Press ON .**
   • "ON" and setting time are displayed on the LCD.
   • "6:00" is displayed on the LCD.
   • "ON" blinks.
2. **Press SELECT until the time setting reaches the point you like.**
   • Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.
3. **Press ON again.**
   • The TIMER lamp lights up.

■ To cancel ON TIMER operation

4. **Press CANCEL .**
   • "ON" and setting time disappear from the LCD.
   • "🕘" and day of the week are displayed on the LCD.
   • The TIMER lamp goes off.

■ To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.



NOTE

■ **In the following cases, set the timer again.**
• After a breaker has turned off.
• After a power failure.
• After replacing batteries in the remote controller.

2.2.11 WEEKLY TIMER Operation

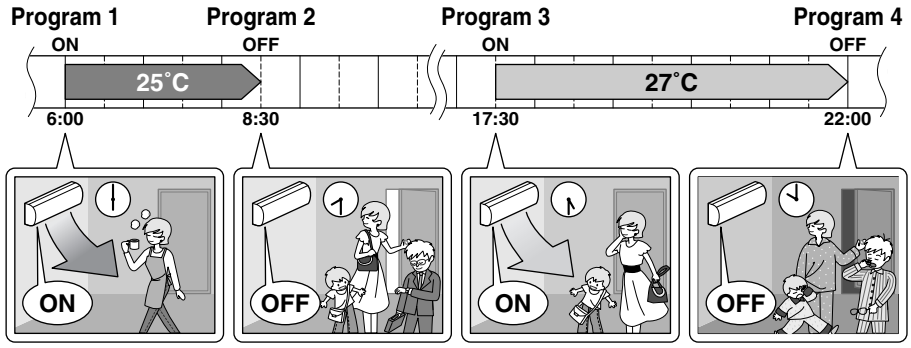
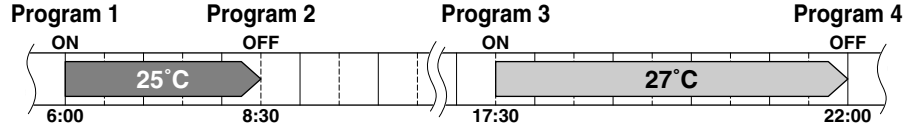
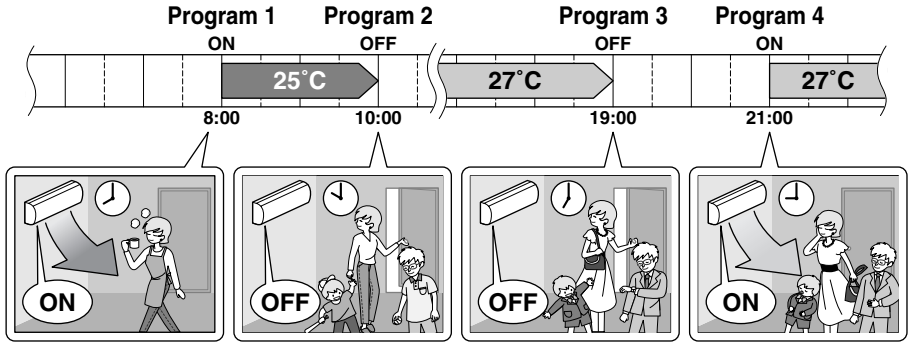
WEEKLY TIMER Operation

Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

■ Using in these cases of WEEKLY TIMER

An example of WEEKLY TIMER settings is shown below.

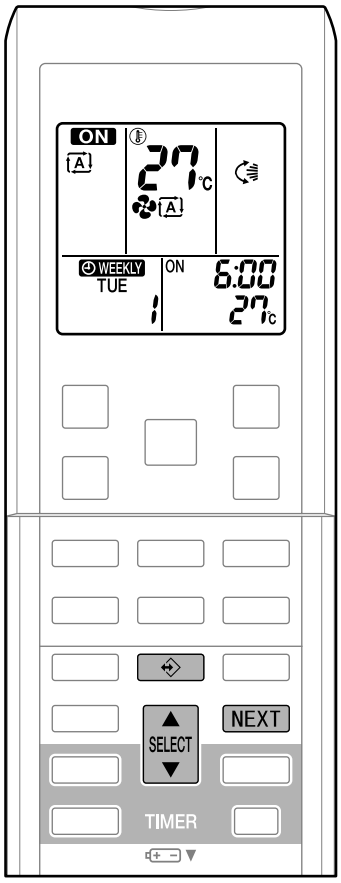
Example: The same timer settings are made for the week from Monday through Friday while different timer settings are made for the weekend.

<table>
<tr><td>[Monday]</td><td>Make timer settings up to programs 1-4.
 
</td></tr>
<tr><td>[Tuesday] to [Friday]</td><td>Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday.
 
</td></tr>
<tr><td>[Saturday]</td><td>No timer settings</td></tr>
<tr><td>[Sunday]</td><td>Make timer settings up to programs 1-4.
 
</td></tr>
</table>

- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by using OFF-OFF-OFF-OFF settings, only the turn-off time of each day can be set. This will turn off the air conditioner automatically if the user forgets to turn it off.

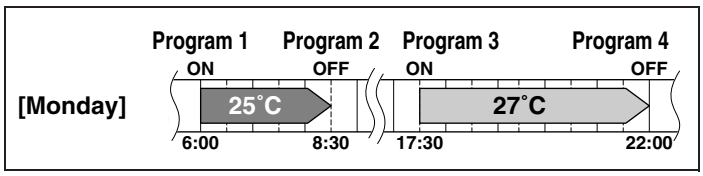
WEEKLY TIMER Operation

■ To use WEEKLY TIMER operation



Setting mode

• Make sure the day of the week and time are set. If not, set the day of the week and time.



1. **Press** ◈ **.**
   • The day of the week and the reservation number of the current day will be displayed.
   • 1 to 4 settings can be made per day.

2. **Press** SELECT **to select the desired day of the week and reservation number.**
   • Pressing the SELECT changes the reservation number and the day of the week.

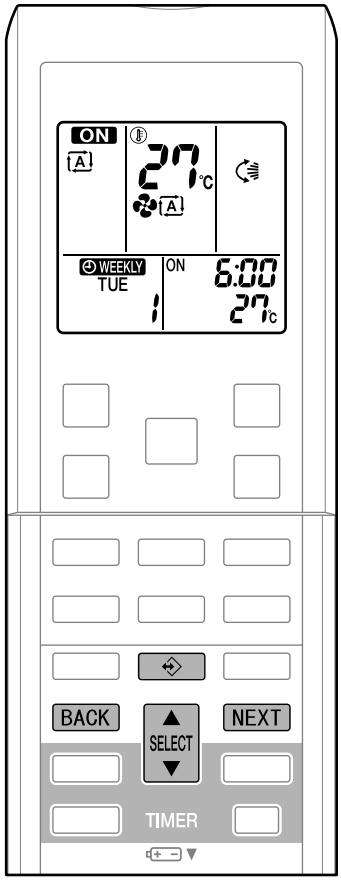
3. **Press** NEXT **.**
   • The day of the week and reservation number will be set.
   • "WEEKLY" and "ON" blink.

4. **Press** SELECT **to select the desired mode.**
   • Pressing the SELECT changes "ON" or "OFF" setting in sequence.

   • In case the reservation has already been set, selecting "blank" deletes the reservation.
   • Go to step **9** if "blank" is selected.

5. **Press** NEXT **.**
   • The ON/OFF TIMER mode will be set.
   • "WEEKLY" and the time blink.

6. Press SELECT to select the desired time.



- The time can be set between 0:00 and 23:50 in 10 minute intervals.
- To return to the ON/OFF TIMER mode setting, press BACK.
- Go to step **9** when setting the OFF TIMER.

7. Press NEXT .

- The time will be set.
- "WEEKLY" and the temperature blink.

8. Press SELECT to select the desired temperature.

- The temperature can be set between 10˚C and 32˚C.
  Cooling: The unit operates at 18˚C even if it is set at 10 to 17˚C.
  Heating: The unit operates at 30˚C even if it is set at 31 to 32˚C.
- To return to the time setting, press BACK .
- The set temperature is only displayed when the mode setting is on.

9. Press NEXT .

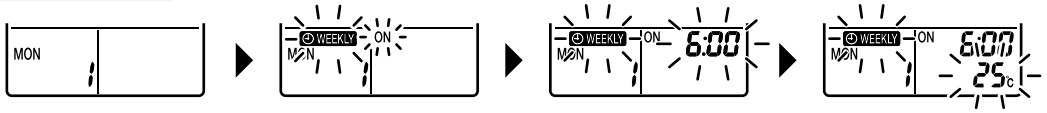
- The temperature will be set and go to the next reservation setting.
- To continue further settings, repeat the procedure from step **4**.

10. Press ◈ to complete the setting.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and flashing the OPERATION lamp.
- "WEEKLY" is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights up.
- A reservation made once can be easily copied and the same settings used for another day of the week.
  Refer to copy mode.

WEEKLY TIMER Operation

Setting Displays



Day and number ON/OFF Time Temperature

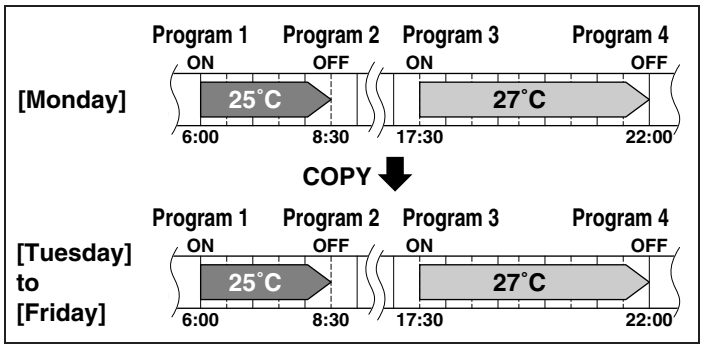
NOTE

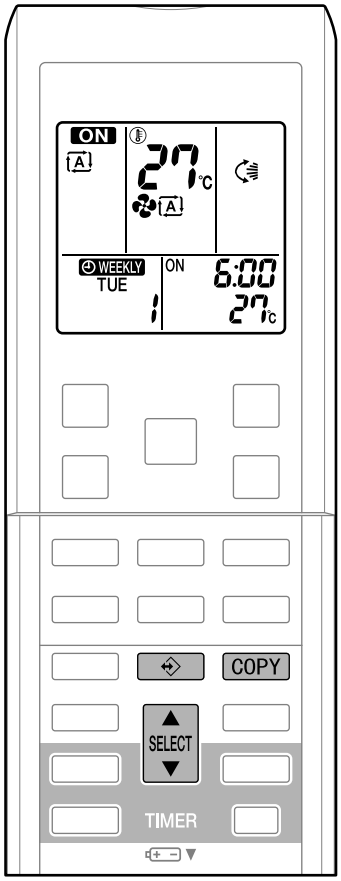
■ **Notes on WEEKLY TIMER operation**

- Do not forget to set the clock on the remote control first.
- The day of the week, ON/OFF TIMER mode, time and set temperature (only for ON TIMER mode) can be set with WEEKLY TIMER. Other settings for ON TIMER are based on the settings just before the operation.
- Both WEEKLY TIMER and ON/OFF TIMER operation cannot be used at the same time. The ON/OFF TIMER operation has priority if it is set while WEEKLY TIMER is still active.
  The WEEKLY TIMER will go into standby state, and "WEEKLY" will disappear from the LCD.
  When ON/OFF TIMER is up, the WEEKLY TIMER will automatically become active.
- Only the time and set temperature with the weekly timer are sent with the [◈].
  Set the weekly timer only after setting the operation mode, the fan strength, and the fan direction ahead of time.
- Shutting the breaker off, power failure, and other similar events will render operation of the indoor unit's internal clock inaccurate. Reset the clock.
- The [BACK] can be used only for the time and temperature settings.
  It cannot be used to go back to the reservation number.

Copy mode

- A reservation made once can be copied another day of the week. The whole reservation of the selected day of the week will be copied.





1. **Press** ⇔ **.**
2. **Press** SELECT ▲▼ **to confirm the day of the week to be copied.**
3. **Press** COPY **to activate copy mode.**
   - The whole reservation of the selected day of the week will be copied.
4. **Press** SELECT ▲▼ **to select the destination day of the week.**

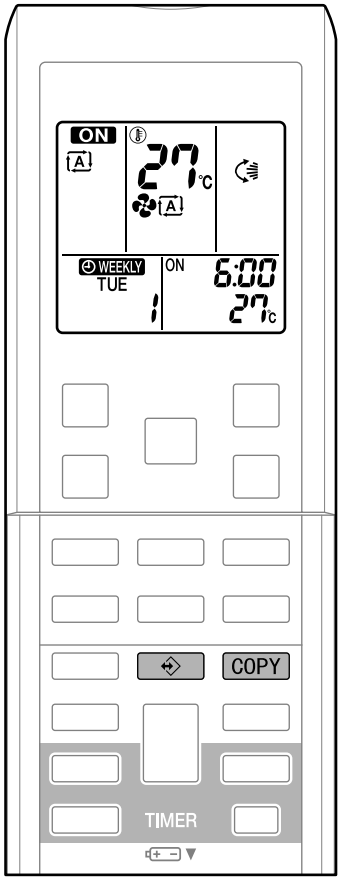
WEEKLY TIMER Operation

5. Press COPY .

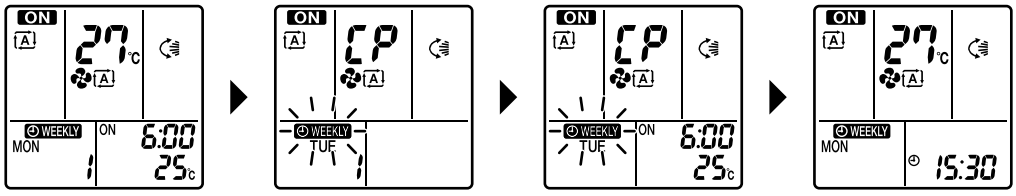
- The reservation will be copied to the selected day of the week. The whole reservation of the selected day of the week will be copied.
- To continue copying the settings to other days of the week, repeat step **4** and step **5**.

6. Press ⇔ to complete the setting.

- " WEEKLY " is displayed on the LCD and WEEKLY TIMER operation is activated.



Setting Displays



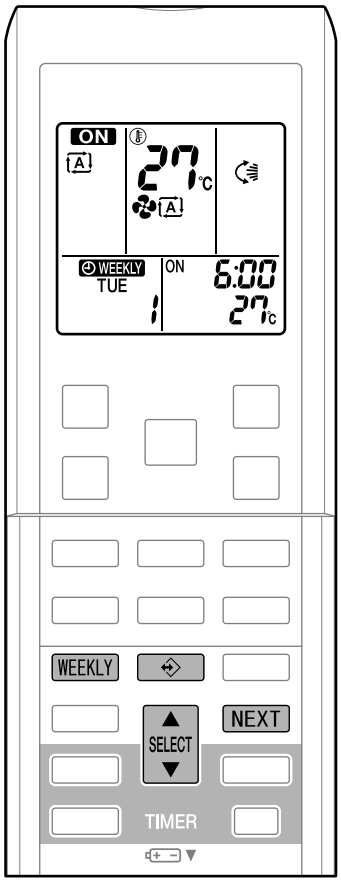
Confirmation Copy Paste Normal

NOTE

■ **Note on COPY MODE**

- The entire reservation of the source day of the week is copied in the copy mode. In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press ⇔ and change the settings in the steps of setting mode.

■ Confirming a reservation



• The reservation can be confirmed.

1. Press [◈] .

• The day of the week and the reservation number of current day will be displayed.

2. Press [SELECT] to select the day of the week and the reservation number to be confirmed.

• Pressing the [SELECT] displays the reservation details.

• To change the confirmed reserved settings, select the reservation number and press [NEXT] .
The mode is switched to setting mode. Go to setting mode step **4**.

3. Press [◈] to exit confirming mode.

• "WEEKLY" is displayed on the LCD and WEEKLY TIMER operation is activated.
• The TIMER lamp lights up.

Setting Displays

Normal Confirmation

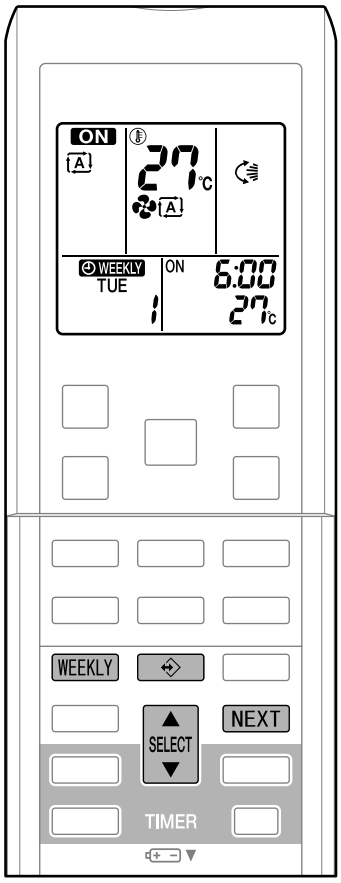
■ To deactivate WEEKLY TIMER operation

4. Press [WEEKLY] while "WEEKLY" is displayed on the LCD.

• "WEEKLY" disappears from the LCD.
• The TIMER lamp goes off.
• To reactivate the WEEKLY TIMER operation, press the [WEEKLY] again.
• If a reservation deactivated with [WEEKLY] is activated once again, the last reservation mode will be used.

WEEKLY TIMER Operation

■ To delete reservations



The individual reservation

- Refer to setting mode.
  When selecting desired mode at step **4** in setting mode, select “blank”. The reservation will be deleted.

The reservations for each day of the week

- This function can be used for deleting reservations for each day of the week.
- It can be used while confirming or setting reservations.

5. Press [◈] **.**

6. Select the day of the week to be canceled with [▲ SELECT ▼] **.**

7. Hold [WEEKLY] **for 5 seconds.**

- The reservation of the selected day of the week will be deleted.

All reservations

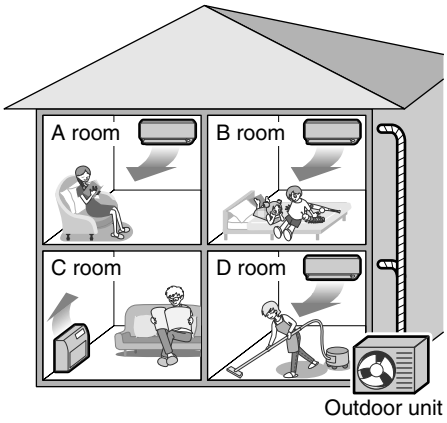
8. Hold [WEEKLY] **for 5 seconds while normal display.**

- Be sure to direct the remote control toward the main unit and check for a receiving tone.
- This operation is not effective on the setting display of WEEKLY TIMER.
- All reservations will be deleted.

2.2.12 Note for Multi System

Note for Multi System

This system has one outdoor unit connected to multiple indoor units.



■ Selecting the operation mode

1. With the priority room setting present but inactive or not present.

When more than 1 indoor unit is operating, priority is given to the first unit that was turned on.
In this case, set the units that are turned on later to the same operation mode as the first unit.
Otherwise, they will enter the standby state, and the OPERATION lamp will flash: this does not indicate malfunction.

NOTE

■ **Notes on operation mode for multi system**

- COOL, DRY and FAN operation may be used at the same time.
- AUTO operation automatically selects COOL operation or HEAT operation based on the room temperature.
  Therefore, AUTO operation is available when selecting the same operation mode as that of the room with the first unit to be turned on.

⚠ CAUTION

- Normally, the operation mode in the room where the unit is first run is given priority, but the following situations are exceptions, so please keep this in mind.
  If the operation mode of the first room is FAN operation, then using HEAT operation in any room after this will give priority to HEAT operation. In this situation, the air conditioner running in FAN operation will go on standby, and the OPERATION lamp will flash.

2. With the priority room setting active.

See “Priority room setting” on the next page.

■ NIGHT QUIET mode (Available only for COOL operation)

NIGHT QUIET mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET mode reduces the operation noise of the outdoor unit during the night time hours to prevent annoyance to neighbors.

- The NIGHT QUIET mode is activated when the temperature drops 5˚C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5˚C, this function will not be activated.
- NIGHT QUIET mode reduces slightly the cooling efficiency of the unit.

Note for Multi System

■ OUTDOOR UNIT QUIET operation

1. With the priority room setting present but inactive or not present.

When using the OUTDOOR UNIT QUIET operation feature with the Multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.

When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller. However OUTDOOR UNIT QUIET operation display remains on the remote controller for other rooms. We recommend you release all rooms using their remote controllers.

2. With the priority room setting active.

See “Priority room setting”.

■ COOL/HEAT mode lock (Available only for heat pump models)

The COOL/HEAT mode lock requires initial programming during installation. Please consult your authorized dealer for assistance. The COOL/HEAT mode lock sets the unit forcibly to either COOL or HEAT operation. This function is convenient when you wish to set all indoor units connected to the multi system to the same operation mode.

NOTE

- The COOL/HEAT mode lock cannot be activated together with the priority room setting.

■ Priority room setting

The priority room setting requires initial programming during installation. Please consult your retailer or dealer for assistance.

The room designated as the priority room takes priority in the following situations;

1. Operation mode priority.

As the operation mode of the priority room takes precedence, the user can select a different operation mode from other rooms.

* Room A is the priority room in the examples.

〈Example〉

When COOL operation is selected in room A while operating the following modes in room B, C and D:

Operation mode in room B, C and D	Status of room B, C and D when the unit in room A is in COOL operation
COOL or DRY or FAN	Current operation mode maintained
HEAT	The unit enters standby mode. Operation resumes when the room A unit stops operating.
AUTO	If the unit is set to COOL operation, it continues. If set to HEAT operation, it enters standby mode. Operation resumes when the room A unit stops operating.

2. Priority when POWERFUL operation is used.

* Room A is the priority room in the examples.

〈Example〉

The indoor units in rooms A, B, C and D are all operating. If the unit in room A enters POWERFUL operation, operation capacity will be concentrated in room A. In such a case, the cooling (heating) efficiency of the units in rooms B, C and D may be slightly reduced.

3. Priority when using OUTDOOR UNIT QUIET operation.

* Room A is the priority room in the examples.

〈Example〉

Just by setting the unit in room A to QUIET operation, the air conditioner starts OUTDOOR UNIT QUIET operation. You don’t have to set all the operated indoor units to QUIET operation.

2.3 FLXS, FDXS Series - ARC433B67, B69

2.3.1 Manual Contents and Reference Page

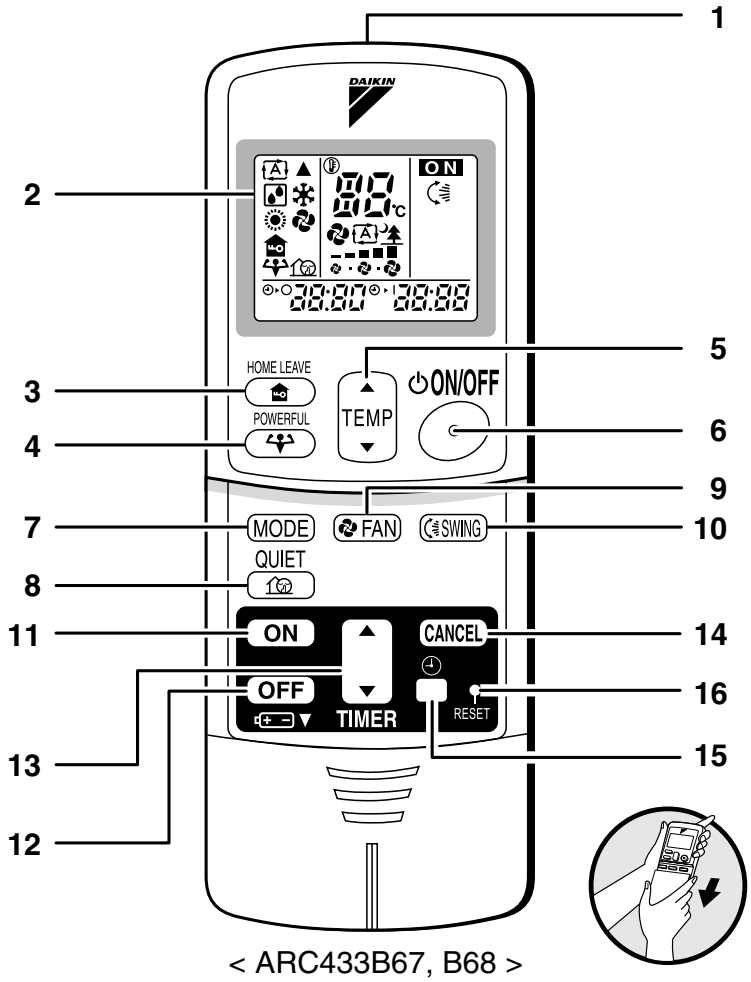
Model Series	Floor / Ceiling Suspended Dual Type	Duct Connected Type
	FLXS25-60BAVMB	FDXS25/35E7VMB FDXS50/60C7VMB
Read Before Operation		
Remote Controller	219	220
Operation		
AUTO · DRY · COOL · HEAT · FAN Operation ★	221	221
Adjusting the Airflow Direction	223	—
POWERFUL Operation ★	225	225
OUTDOOR UNIT QUIET Operation ★	226	226
HOME LEAVE Operation ★	227	227
TIMER Operation ★	229	229
Note for Multi System	231	231
Drawing No.	3P194444-5C	3P196326-9C (Reference)

★: The illustrations are for FLXS series as representative.

2.3.2 Remote Controller

FLXS25/35/50/60BAVMB

■ Remote Controller



< ARC433B67, B68 >

1. Signal transmitter:
- It sends signals to the indoor unit.

2. Display:
- It displays the current settings.
  (In this illustration, each section is shown with all its displays ON for the purpose of explanation.)

3. HOME LEAVE button:
HOME LEAVE operation

4. POWERFUL button:
POWERFUL operation

5. TEMPERATURE adjustment buttons:
- It changes the temperature setting.

6. ON/OFF button:
- Press this button once to start operation. Press once again to stop it.

7. MODE selector button:
- It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)

8. QUIET button: OUTDOOR UNIT QUIET operation

9. FAN setting button:
- It selects the air flow rate setting.

10. SWING button

11. ON TIMER button

12. OFF TIMER button

13. TIMER Setting button:
- It changes the time setting.

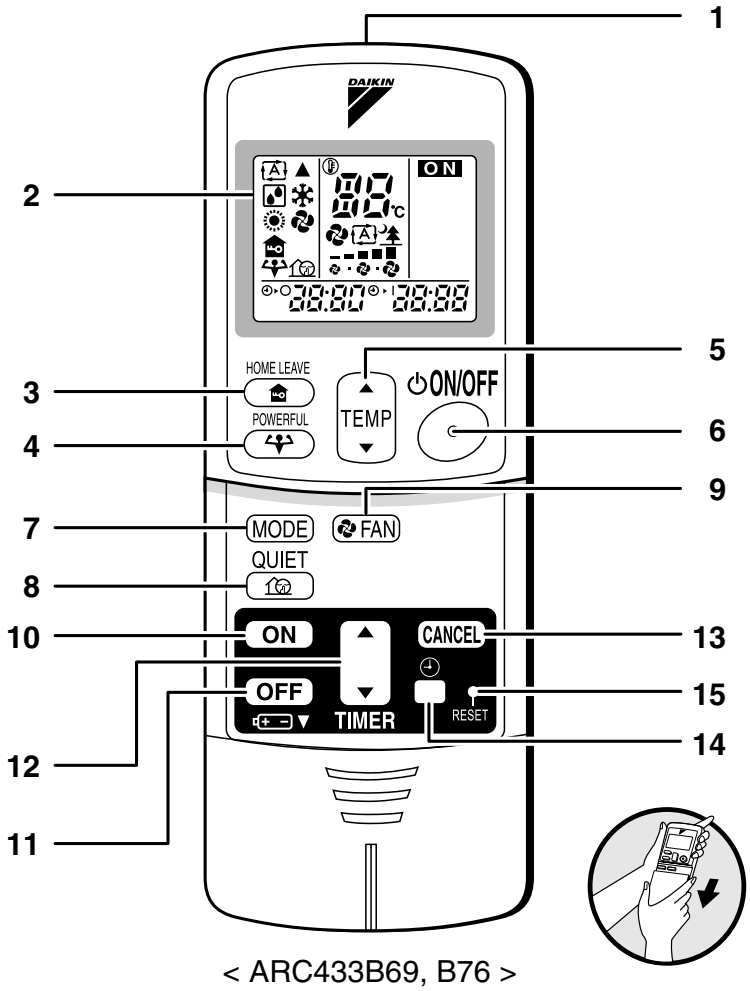
14. TIMER CANCEL button:
- It cancels the timer setting.

15. CLOCK button

16. RESET button:
- Restart the unit if it freezes.
- Use a thin object to push.

FDXS25/35E7VMB, FDXS50/60C7VMB

■ Remote Controller



< ARC433B69, B76 >

1. Signal transmitter:
- It sends signals to the indoor unit.

2. Display:
- It displays the current settings.
  (In this illustration, each section is shown with all its displays ON for the purpose of explanation.)

3. HOME LEAVE button:
HOME LEAVE operation

4. POWERFUL button:
POWERFUL operation

5. TEMPERATURE adjustment buttons:
- It changes the temperature setting.

6. ON/OFF button:
- Press this button once to start operation. Press once again to stop it.

7. MODE selector button:
- It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN)

8. QUIET button: OUTDOOR UNIT QUIET operation

9. FAN setting button:
- It selects the air flow rate setting.

10. ON TIMER button

11. OFF TIMER button

12. TIMER Setting button:
- It changes the time setting.

13. TIMER CANCEL button:
- It cancels the timer setting.

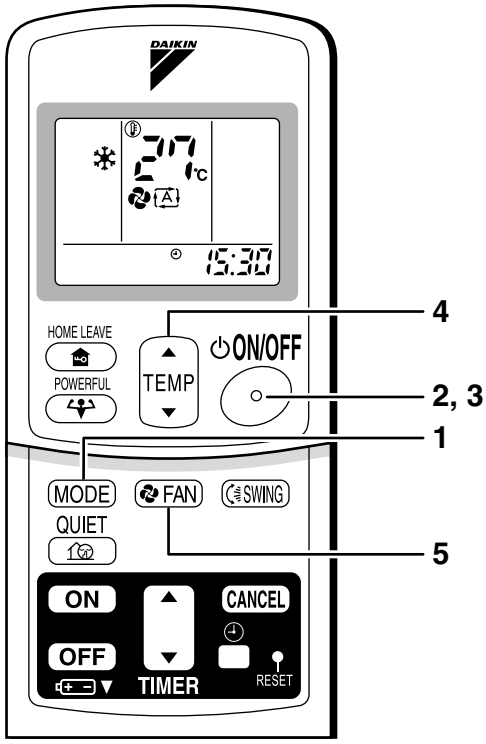
14. CLOCK button

15. RESET button:
- Restart the unit if it freezes.
- Use a thin object to push.

2.3.3 AUTO · DRY · COOL · HEAT · FAN Operation

AUTO · DRY · COOL · HEAT · FAN Operation

The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.



■ To start operation

1. Press “MODE selector button” and select a operation mode.

- Each pressing of the button advances the mode setting in sequence.

: AUTO

: DRY

: COOL

: HEAT

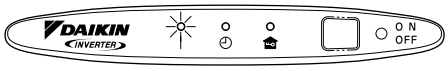
: FAN

<FLKS>

<FLXS>

2. Press “ON/OFF button”.

- The OPERATION lamp lights up.



■ To stop operation

3. Press “ON/OFF button” again.

- Then OPERATION lamp goes off.

■ To change the temperature setting

4. Press “TEMPERATURE adjustment button”.

DRY or FAN mode	AUTO or COOL or HEAT mode
The temperature setting is not variable.	Press “▲” to raise the temperature and press “▼” to lower the temperature.
	Set to the temperature you like.

■ To change the air flow rate setting

5. Press “FAN setting button”.

DRY mode	AUTO or COOL or HEAT or FAN mode
The air flow rate setting is not variable.	Five levels of air flow rate setting from “ ” to “ ” plus “ ” “ ” are available. 

- Indoor unit quiet operation

  When the air flow is set to “ ”, the noise from the indoor unit will become quieter. Use this when making the noise quieter.

  The unit might lose capacity when the air flow rate is set to a weak level.

NOTE

■ **Note on HEAT operation**
- Since this air conditioner heats the room by taking heat from outdoor air to indoors, the heating capacity becomes smaller in lower outdoor temperatures. If the heating effect is insufficient, it is recommended to use another heating appliance in combination with the air conditioner.
- The heat pump system heats the room by circulating hot air around all parts of the room. After the start of heating operation, it takes some time before the room gets warmer.
- In heating operation, frost may occur on the outdoor unit and lower the heating capacity. In that case, the system switches into defrosting operation to take away the frost.
- During defrosting operation, hot air does not flow out of indoor unit.

■ **Note on COOL operation**
- This air conditioner cools the room by blowing the hot air in the room outside, so if the outside temperature is high, performance drops.

■ **Note on DRY operation**
- The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and fan strength, so manual adjustment of these functions is unavailable.

■ **Note on AUTO operation**
- In AUTO operation, the system selects a temperature setting and an appropriate operation mode (COOL or HEAT) based on the room temperature at the start of the operation.
- The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
- If you do not like AUTO operation, you can manually select the operation mode and setting you like.

■ **Note on air flow rate setting**
- At smaller air flow rates, the cooling (heating) effect is also smaller.

2.3.4 Adjusting the Airflow Direction

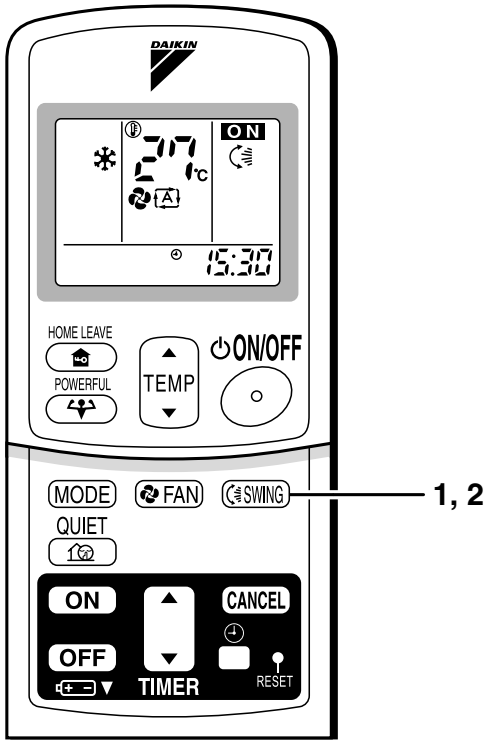
FLXS25/35/50/60BAVMB

Adjusting the Airflow Direction

You can adjust the air flow direction to increase your comfort.

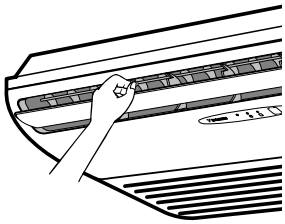
■ To adjust the horizontal blade (flap)

1. **Press “SWING button”.**
   - “ ” is displayed on the LCD and the flaps will begin to swing.
2. **When the flaps have reached the desired position, press “SWING button” once more.**
   - The flap will stop moving.
   - “ ” disappears from the LCD.



■ To adjust the vertical blades (louvers)

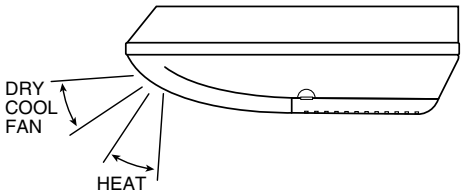
• When adjusting the louver, use a robust and stable stool and watch your steps carefully.
Hold the knob and move the louvers.
(You will find a knob on the left side and the right side blades.)



Notes on flap and louvers angles.

• Unless [SWING] is selected, you should set the flap at a near- horizontal angle in COOL or DRY mode to obtain the best performance.

• In COOL or DRY mode, if the flap is fixed at a downward position, the flap automatically moves in about 60 minutes to prevent condensation on it.



■ **ATTENTION**

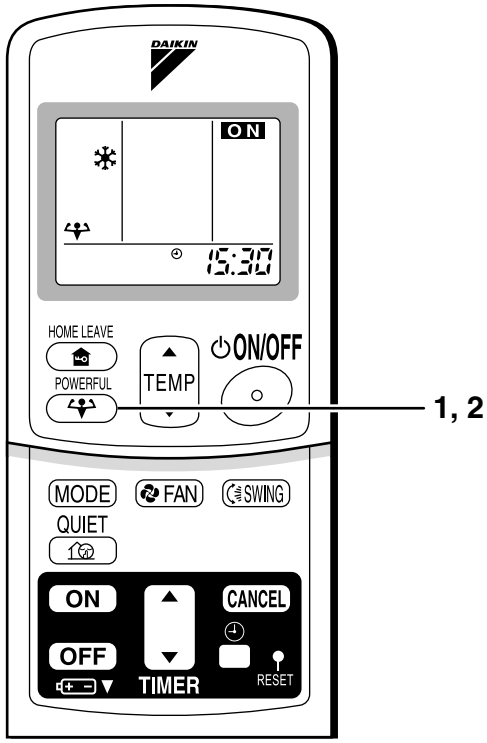
• Always use a remote controller to adjust the flap angle.
If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.

• Be careful when adjusting the louvers. Inside the air outlet, a fan is rotating at a high speed.

2.3.5 POWERFUL Operation

POWERFUL Operation

POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode. You can get the maximum capacity.



■ To start POWERFUL operation

1. **Press “POWERFUL button”.**
   - POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the settings which were used before POWERFUL operation.
   - When using POWERFUL operation, there are some functions which are not available.
   - “ ” is displayed on the LCD.

■ To cancel POWERFUL operation

2. **Press “POWERFUL button” again.**
   - “ ” disappears from the LCD.

NOTE

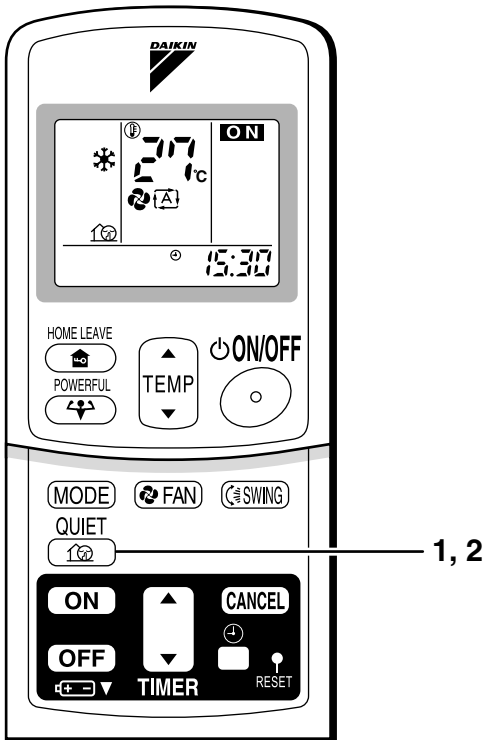
■ **Notes on POWERFUL operation**

- **In COOL and HEAT mode**
  To maximize the cooling (heating) effect, the capacity of outdoor unit must be increased and the air flow rate be fixed to the maximum setting.
  The temperature and air flow settings are not variable.
- **In DRY mode**
  The temperature setting is lowered by 2.5˚C and the air flow rate is slightly increased.
- **In FAN mode**
  The air flow rate is fixed to the maximum setting.

2.3.6 OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET Operation

OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during night.



■ To start OUTDOOR UNIT QUIET operation

1. **Press “QUIET button”.**
   - “ ” is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

2. **Press “QUIET button” again.**
   - “ ” disappears from the LCD.

NOTE

■ **Note on OUTDOOR UNIT QUIET operation**

- This function is available in COOL, HEAT, and AUTO modes. (This is not available in FAN and DRY mode.)
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- If operation is stopped using the remote controller or the main unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, “ ” will remain on the remote controller display.

2.3.7 HOME LEAVE Operation

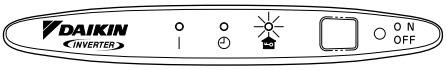
HOME LEAVE Operation

HOME LEAVE operation is a function which allows you to record your preferred temperature and air flow rate settings.

■ To start HOME LEAVE operation

1. Press “HOME LEAVE button” .

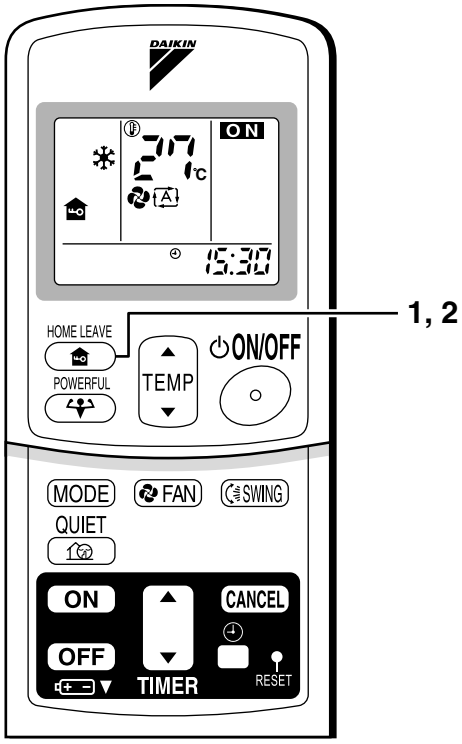
• The HOME LEAVE lamp lights up.



■ To cancel HOME LEAVE operation

2. Press “HOME LEAVE button” again.

• The HOME LEAVE lamp goes off.



Before using HOME LEAVE operation.

■ **To set the temperature and air flow rate for HOME LEAVE operation**

When using HOME LEAVE operation for the first time, please set the temperature and air flow rate for HOME LEAVE operation. Record your preferred temperature and air flow rate.

	Initial setting		Selectable range	
	temperature	Air flow rate	temperature	Air flow rate
Cooling	25°C	“ A ”	18-32°C	5 step, “ A ” and “ ”
Heating	25°C	“ A ”	10-30°C	5 step, “ A ” and “ ”

1. Press “HOME LEAVE button”. Make sure “ ” is displayed in the remote controller display.

2. Adjust the set temperature with “ ▲ ” or “ ▼ ” as you like.

3. Adjust the air flow rate with “FAN” setting button as you like.

Home leave operation will run with these settings the next time you use the unit. To change the recorded information, repeat steps 1 – 3.

■ What's the HOME LEAVE operation?

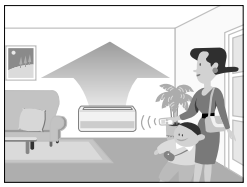
Is there a set temperature and air flow rate which is most comfortable, a set temperature and air flow rate which you use the most? HOME LEAVE operation is a function that allows you to record your favorite set temperature and air flow rate. You can start your favorite operation mode simply by pressing the HOME LEAVE button on the remote controller. This function is convenient in the following situations.

■ Useful in these cases

1.Use as an energy-saving mode.

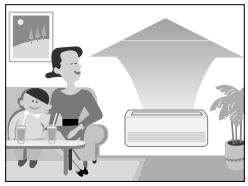
Set the temperature 2-3˚C higher (cooling) or lower (heating) than normal. Setting the fan strength to the lowest setting allows the unit to be used in energy-saving mode. Also convenient for use while you are out or sleeping.

- **Every day before you leave the house...**



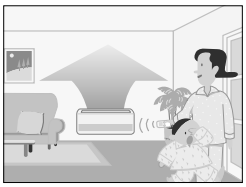
When you go out, push the "HOME LEAVE Operation" button, and the air conditioner will adjust capacity to reach the preset temperature for HOME LEAVE Operation.

When you return, you will be welcomed by a comfortably air conditioned room.



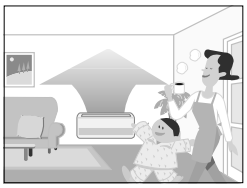
Push the "HOME LEAVE Operation" button again, and the air conditioner will adjust capacity to the set temperature for normal operation.

- **Before bed...**



Set the unit to HOME LEAVE Operation before leaving the living room when going to bed.

The unit will maintain the temperature in the room at a comfortable level while you sleep.



When you enter the living room in the morning, the temperature will be just right. Disengaging HOME LEAVE Operation will return the temperature to that set for normal operation. Even the coldest winters will pose no problem!

2.Use as a favorite mode.

Once you record the temperature and air flow rate settings you most often use, you can retrieve them by pressing HOME LEAVE button. You do not have to go through troublesome remote control operations.

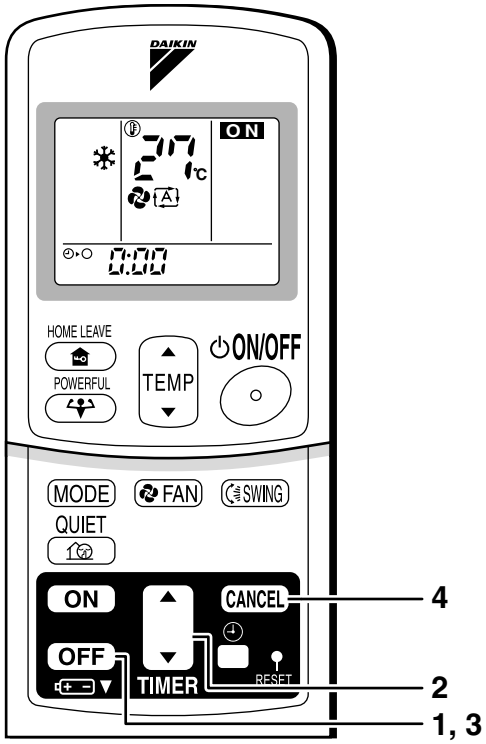
NOTE

- Once the temperature and air flow rate for HOME LEAVE operation are set, those settings will be used whenever HOME LEAVE operation is used in the future. To change these settings, please refer to the "Before using HOME LEAVE operation" section above.
- HOME LEAVE operation is only available in COOL and HEAT mode. Cannot be used in AUTO, DRY, and FAN mode.
- HOME LEAVE operation runs in accordance with the previous operation mode (COOL or HEAT) before using HOME LEAVE operation.
- HOME LEAVE operation and POWERFUL operation cannot be used at the same time. Last button that was pressed has priority.
- The operation mode cannot be changed while HOME LEAVE operation is being used.
- When operation is shut off during HOME LEAVE operation, using the remote controller or the indoor unit ON/OFF switch, " " will remain on the remote controller display.

2.3.8 TIMER Operation

TIMER Operation

Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.



■ To use OFF TIMER operation

- Check that the clock is correct. If not, set the clock to the present time.

1. Press “OFF TIMER button”.

0:00 is displayed.

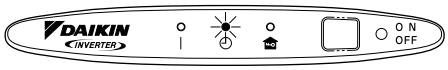
⏲○ blinks.

2. Press “TIMER Setting button” until the time setting reaches the point you like.

- Every pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.

3. Press “OFF TIMER button” again.

- The TIMER lamp lights up.



■ To cancel the OFF TIMER operation

4. Press “CANCEL button”.

- The TIMER lamp goes off.

NOTE

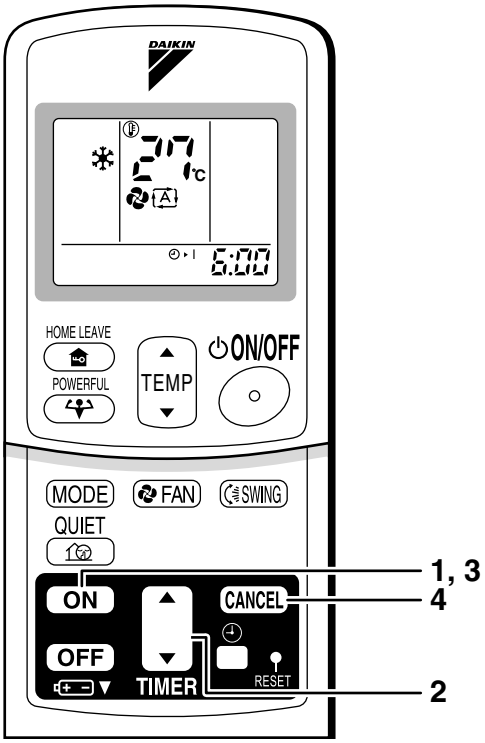
- When TIMER is set, the present time is not displayed.
- Once you set ON, OFF TIMER, the time setting is kept in the memory. (The memory is canceled when remote controller batteries are replaced.)
- When operating the unit via the ON/OFF Timer, the actual length of operation may vary from the time entered by the user. (Maximum approx. 10 minutes)

■ NIGHT SET MODE

When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.5˚C up in COOL, 2.0˚C down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

■ To use ON TIMER operation

- Check that the clock is correct. If not, set the clock to the present time



1. Press “ON TIMER button”.

6:00 is displayed.

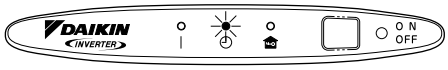
⏲▸| blinks.

2. Press “TIMER Setting button” until the time setting reaches the point you like.

- Every pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.

3. Press “ON TIMER button” again.

- The TIMER lamp lights up.



■ To cancel ON TIMER operation

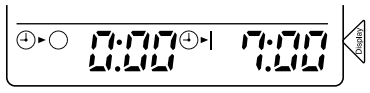
4. Press “CANCEL button”.

- The TIMER lamp goes off.

■ To combine ON TIMER and OFF TIMER

- A sample setting for combining the two timers is shown below.

(Example)
Present time: 11:00 p.m.
(The unit operating)
OFF TIMER at 0:00 a.m.
ON TIMER at 7:00 a.m.) Combined

➡ 

ATTENTION

■ In the following cases, set the timer again.

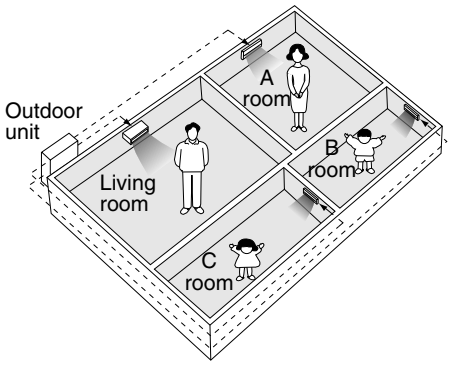
- After a breaker has turned OFF.
- After a power failure.
- After replacing batteries in the remote controller.

2.3.9 Note for Multi System

Note for Multi System

<< What is a "Multi System"? >>

This system has one outdoor unit connected to multiple indoor units.



■ Selecting the Operation Mode

1. With the Priority Room Setting present but inactive or not present.

When more than one indoor unit is operating, priority is given to the first unit that was turned on.
In this case, set the units that are turned on later to the same operation mode (*1) as the first unit.

Otherwise, they will enter the Standby Mode, and the operation lamp will flash; this does not indicate malfunction.

(*1)

- COOL, DRY and FAN mode may be used at the same time.
- AUTO mode automatically selects COOL mode or HEAT mode based on the room temperature. Therefore, AUTO mode is available when selecting the same operation mode as that of the room with the first unit to be turned on.

<CAUTION>

Normally, the operation mode in the room where the unit is first run is given priority, but the following situations are exceptions, so please keep this in mind.

If the operation mode of the first room is **FAN Mode**, then using **Heating Mode** in any room after this will give priority to **heating.** In this situation, the air conditioner running in FAN Mode will go on standby, and the operation lamp will flash.

2. With the Priority Room Setting active.

See "Priority Room Setting" on the next page.

■ NIGHT QUIET Mode (Available only for cooling operation)

NIGHT QUIET Mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET Mode reduces the operation noise of the outdoor unit during the night time hours to prevent annoyance to neighbors.

- The NIGHT QUIET Mode is activated when the temperature drops 5°C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5°C, this function will not be activated.
- NIGHT QUIET Mode reduces slightly the cooling efficiency of the unit.

■ OUTDOOR UNIT QUIET Operation

1. With the Priority Room Setting present but inactive or not present.

When using the OUTDOOR UNIT QUIET operation feature with the Multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.
When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller. However OUTDOOR UNIT QUIET operation display remains on the remote controller for other rooms. We recommend you release all rooms using their remote controllers.

2. With the Priority Room Setting active.

See "Priority Room Setting" on the next page.

■ Cooling / Heating Mode Lock (Available only for heat pump models)

The Cooling / Heating Mode Lock requires initial programming during installation. Please consult your retailer or dealer for assistance. The Cooling / Heating Mode Lock sets the unit forcibly to either Cooling or Heating Mode. This functions convenient when you wish to set all indoor units connected to the Multi system to the same operation mode.

■ Priority Room Setting

The Priority Room Setting requires initial programming during installation. Please consult your retailer or dealer for assistance.
The room designated as the Priority Room takes priority in the following situations;

1. Operation Mode Priority.

As the operation mode of the Priority Room takes precedence, the user can select a different operation mode from other rooms.
<Example>
* Room A is the Priority Room in the examples.
When COOL mode is selected in Room A while operating the following modes in Room B,C and D:

Operation mode in Room B, C and D	Status of Room B, C and D when the unit in Room A is in COOL mode
COOL or DRY or FAN	Current operation mode maintained
HEAT	The unit enters Standby Mode. Operation resumes when the Room A unit stops operating.
AUTO	If the unit is set to COOL mode, operation continues. If set to HEAT mode, it enters Standby Mode. Operation resumes when the Room A unit stops operating.

2. Priority when POWERFUL operation is used.

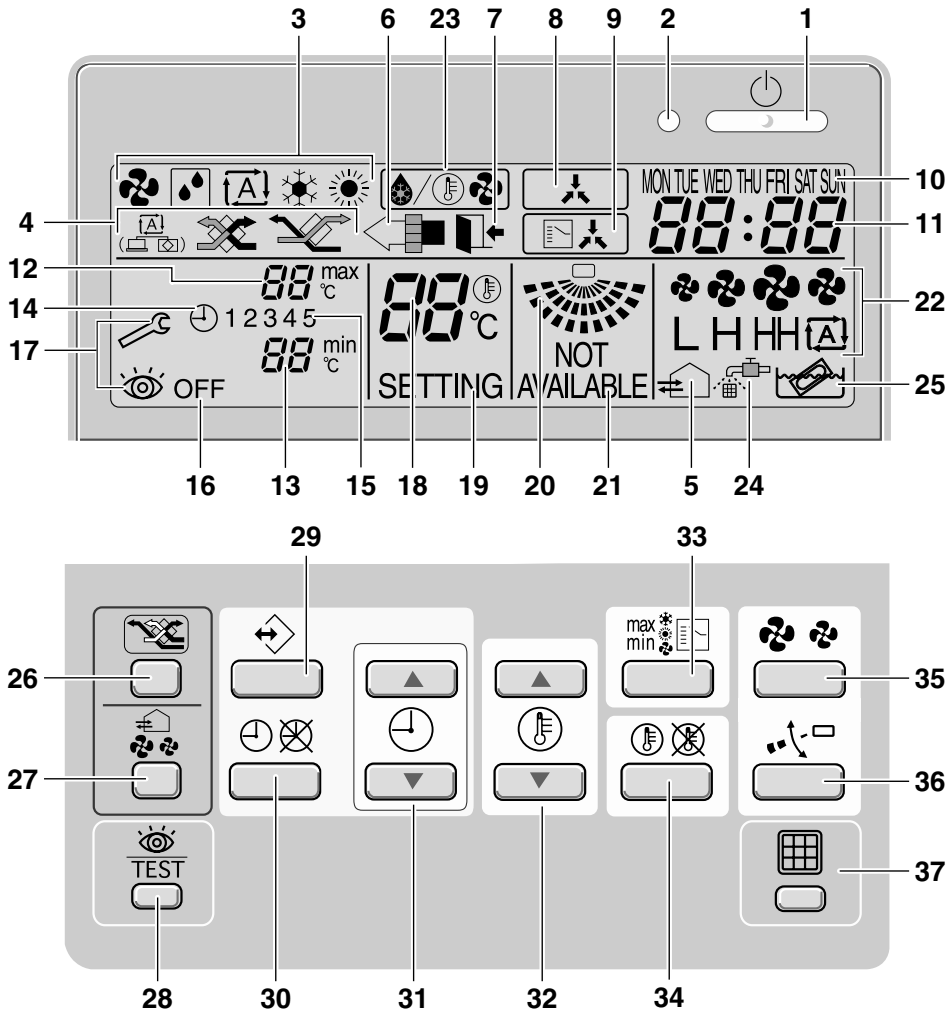
<Example>
* Room A is the Priority Room in the examples.
The indoor units in Rooms A,B,C and D are all operating. If the unit in Room A enters POWERFUL operation, operation capacity will be concentrated in Room A. In such a case, the cooling (heating) efficiency of the units in Rooms B,C and D may be slightly reduced.

3. Priority when using OUTDOOR UNIT QUIET operation.

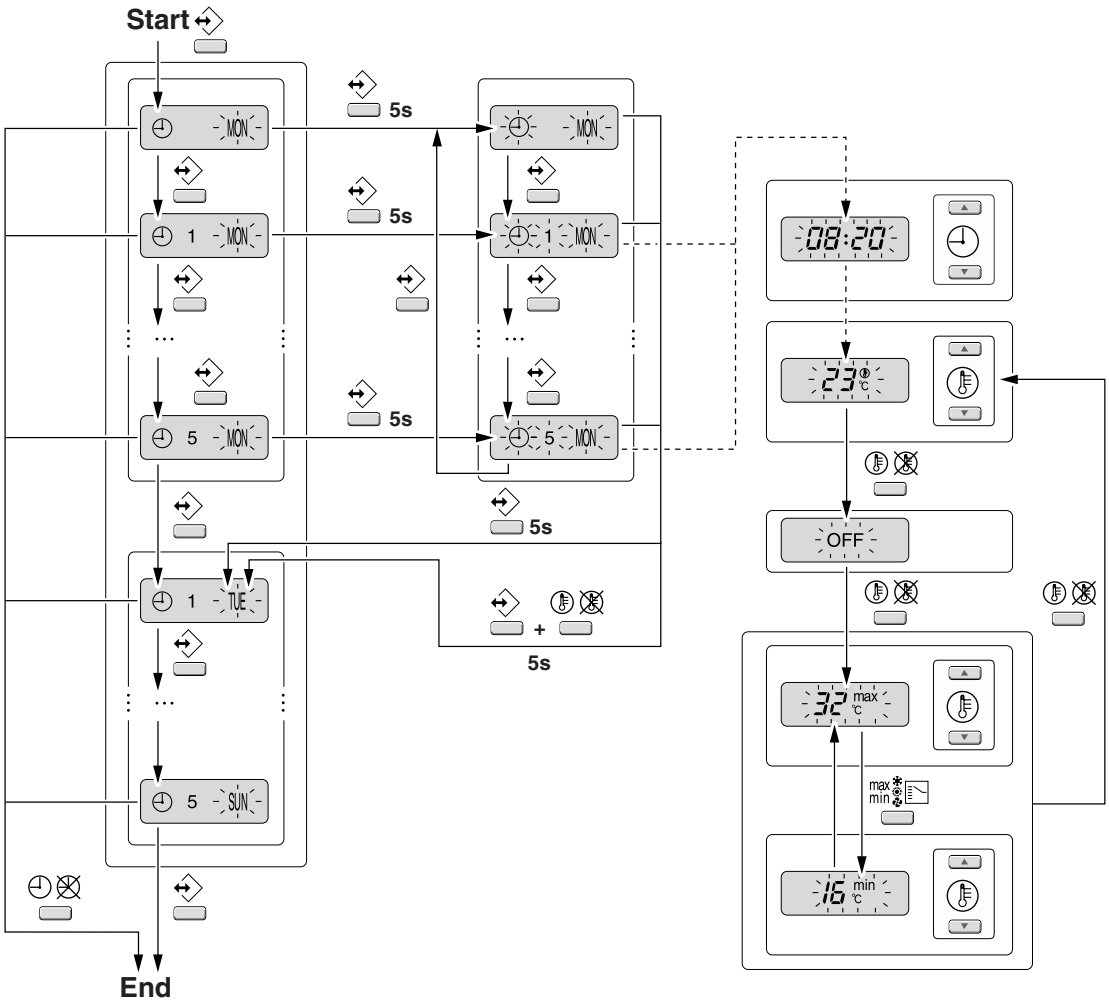
<Example>
* Room A is the Priority Room in the examples.
Just by setting the unit in Room A to QUIET operation, the air conditioner starts OUTDOOR UNIT QUIET operation.
You don’t have to set all the operated indoor units to QUIET operation.

3. SA Indoor Unit

3.1 BRC1D528



1


Start
5s
5s
5s
5s
5s
+
MON
1 MON
5 MON
1 TUE
5 SUN
08:20
23 °C
OFF
32 max °C
max
min
16 min °C
End

2

BRC1D528 Remote controller Operation manual

THANK YOU FOR PURCHASING THIS CONTROLLER. READ THE MANUAL ATTENTIVELY BEFORE USING THE INSTALLATION. AFTER READING THE MANUAL, STORE IT IN A SAFE PLACE FOR FUTURE USE.

Before initial operation, contact your dealer to obtain all details concerning your air conditioning installation.

WARNING

- Never let the remote controller get wet, this may cause an electric shock or fire.
- Never press the buttons of the remote controller with a hard, pointed object. The remote controller may be damaged.
- Never inspect or service the remote controller yourself, ask a qualified service person to do this.

Contents

1. Features and functions

The BRC1D528 is a state of the art remote controller that offers full control over your installation.

1 BASIC REMOTE CONTROLLER

The basic remote controller functions are:
- ON/OFF,
- operation mode change-over,
- temperature adjustment,
- air volume adjustment
- air flow direction adjustment.

2 CLOCK FUNCTION

The clock functions are:
- 24 hours real time clock,
- day of the week indicator.

3 SCHEDULE TIMER FUNCTION

The schedule timer functions are:
- a maximum of 5 actions can be programmed for each day of the week (totalling 35 actions),
- schedule timer can be enabled/disabled at any time,
- linked to a set temperature or a LIMIT operation or an OFF operation,
- "last command" overrules previous command until next scheduled command.

4 LIMIT OPERATION

Limit operation provides thermostat control within the range of the set minimum and maximum temperature. The minimum temperature setting will trigger heating, the maximum temperature setting will trigger cooling.

5 LEAVE HOME

The leave home function prevents the room temperature from dropping when the occupants are out for a longer period. If the room temperature drops below 10°C, heating is started automatically. As soon as 15°C is reached, the controller returns to its original status.

6 BUTTON PERMISSION LEVEL

Three hierarchical permission levels can be set to limit the user action.

2. Name and function of switches and icons (Refer to figure 1)

1 ON/OFF BUTTON

Press the ON/OFF button to start or stop the system.

2 OPERATION LAMP

The operation lamp lights up during operation or blinks if a malfunction occurs.

3 OPERATION MODE ICON

These icons indicate the current operation mode (FAN, DRY, AUTOMATIC, COOLING, HEATING).

4 VENTILATION MODE ICON

These icons indicate the current ventilation mode (HRV only) (AUTOMATIC, HEAT EXCHANGE, BYPASS).

5 VENTILATION ICON

The ventilation icon appears when the ventilation is adjusted with the ventilation amount button (HRV only). Simultaneously, the ventilation amount is indicated by the fan speed icon (see 22).

6 AIR CLEANING ICON

This icon indicates that the air cleaning unit (option) is operational.

7 LEAVE HOME ICON

The leave home icon shows the status of the leave home function.

ON	Leave home is enabled
FLASHING	Leave home is active
OFF	Leave home is disabled

8 EXTERNAL CONTROL ICON

This icon indicates that another controller with higher priority is controlling or disabling your installation.

9 CHANGE-OVER UNDER CENTRALISED CONTROL ICON

This icon indicates that the change-over of the installation is under centralised control assigned to another indoor unit or optional cool/heat selector connected to the outdoor unit (= master remote controller).

10 DAY OF THE WEEK INDICATOR

MON TUE WED THU FRI SAT SUN

The day of the week indicator shows the current week day (or the set day when reading or programming the schedule timer).

11 CLOCK DISPLAY 88:88

The clock display indicates the current time (or the action time when reading or programming the schedule timer).

12 MAXTEMPERATURE IMUM SET 88 max ℃
The maximum set temperature indicates the maximum set temperature when in limit operation.

13 MINIMUM SET TEMPERATURE 88 min ℃
The minimum set temperature indicates the minimum set temperature when in limit operation.

14 SCHEDULE TIMER ICON
This icon indicates that the schedule timer is enabled.

15 ACTION ICONS 1 2 3 4 5
These icons indicate the actions for each day of the schedule timer.

16 OFF ICON OFF
This icon indicates that the OFF action is selected when programming the schedule timer.

17 INSPECTION REQUIRED and
These icons indicate that inspection is required. Consult your installer.

18 SET TEMPERATURE DISPLAY 88
This indicates the current set temperature of the installation (not shown in LIMIT operation or in FAN or DRY mode).

19 SETTING SETTING
Not used, for service purposes only.

20 AIR FLOW DIRECTION ICON
This icon indicates the air flow direction (only for installations with motorised air flow ßaps).

21 NOT AVAILABLE NOT AVAILABLE
NOT AVAILABLE is displayed whenever a non-installed option is addressed or a function is not available.

22 FAN SPEED ICON L H HH A
This icon indicates the set fan speed.

23 DEFROST/HOTSTART MODE ICON
This icon indicates that the defrost/hotstart mode is active.

24 AIR FILTER CLEANING TIME ICON
This icon indicates the air filter must be cleaned. Refer to the manual of the indoor unit.

25 ELEMENT CLEANING TIME ICON
This icon indicates the element must be cleaned (HRV only).

26 VENTILATION MODE BUTTON
The ventilation mode button operates the HRV; refer to the HRV manual for more details.

27 VENTILATION AMOUNT BUTTON
This button sets the ventilation amount; refer to the HRV manual for more details.

28 INSPECTION/TEST OPERATION BUTTON TEST
Not used, for service purposes only.

29 PROGRAMMING BUTTON
This button is a multi-purpose button.
Depending on the previous manipulations of the user, the programming button can have various functions.

30 SCHEDULE TIMER BUTTON

This button enables or disables the schedule timer.

31 TIME ADJUST BUTTON

These buttons are used to adjust the clock or, when in programming mode, to adjust the programmed action time. Both buttons have an auto-repeat function.

32 TEMPERATURE ADJUST BUTTONS

These buttons are used to adjust the current setpoint or, when in programming mode, to adjust the programmed setpoint temperature (step = 1°C). Both buttons are also used to adjust the day of the week.

33 OPERATION CHANGE/MIN-MIX BUTTON

This button is a multi-purpose button. Depending on the previous manipulations of the user, it can have following functions:

1 select the operation mode of the installation (FAN, DRY, AUTOMATIC, COOLING, HEATING)

2 toggle between minimum temperature and maximum temperature when in limit operation

34 SETPOINT/LIMIT BUTTON

This button toggles between setpoint, limit operation or OFF (programming mode only).

35 FAN SPEED BUTTON

This button toggles between L (Low), H (High), HH (very High), A (Automatic).

36 AIR FLOW DIRECTION ADJUST BUTTON

This button enables to adjust the air flow direction.

37 AIR FILTER CLEANING TIME ICON RESET BUTTON

This button is used to reset the air filter cleaning time icon.

3. Setting up the controller

After initial installation, the user can set the clock and day of the week.

The controller is equipped with a schedule timer that enables the user to operate the installation automatically; setting the clock and day of the week is required to be able to use the schedule timer.

1 CLOCK SETTING FUNCTION

Hold down the button for 5 seconds. The clock read-out and the day of week indicator will blink, both can now be adjusted.

Use the & buttons to adjust the clock. Each time pressing the time adjust button will in/decrease the time by 1 minute. Keeping the or button pressed will in/decrease the time by 10 minutes.

Use the & buttons to adjust the day of the week. Each time pressing the or buttons will display the next or previous day.

Press the button to confirm the current set time and day of the week.

If the controller, with blinking clock and day of week read-out, is left untouched for 5 minutes, the clock and day of the week will return to their previous settings; the clock setting function is no longer active.

2 SETTING UP THE SCHEDULE TIMER

To set up the schedule timer, refer to chapter 6. "Programming the schedule timer" on page 10.

4. Description of the operation modes

1 FAN ONLY OPERATION

In this mode, air only circulates without heating or cooling.

2 DRY OPERATION

In this mode, the air humidity will be lowered with a minimal temperature decrease.

The temperature and fan speed are controlled automatically and cannot be controlled by the remote controller.

Dry operation will not function if the room temperature is too low.

3 AUTOMATIC OPERATION

In this mode, the controller will automatically switch between heating and cooling as required by the setpoint or limit temperature.

4 COOLING OPERATION

In this mode, cooling will be activated as required by the setpoint or limit temperature.

5 HEATING OPERATION

In this mode, heating will be activated as required by the setpoint or limit temperature.

Hot start (heat pump types only)

At the start of a heating operation, the indoor fan is stopped until a certain indoor heat exchanger temperature is reached and is displayed. This prevents cold air from leaving the indoor unit.

Defrost (heat pump types only)

In heating operation, freezing of the outdoor heat exchanger may occur. If so, the heating capacity of the system lowers and the system goes into defrost operation. The indoor unit fan stops and is displayed. After maximum 10 minutes of defrost operation, the system returns to heating operation again.

6 LIMIT OPERATION min °C & max °C

Limit operation is an additional mode that enables to keep the room temperature within certain limits. The min °C & max °C icons are displayed to confirm the activation of the limit operation.

7 LEAVE HOME

LEAVE HOME is a feature that enables to keep the room temperature above 10°C when the occupants are out. This function will switch on heating if the installation is switched off.

5. Operation

Manual operation

In manual operation, the user decides about the settings of the installation. The last setting remains active until the user changes it.

As the controller can be implemented for a wide variety of installations and features, it might occur that you select a function that is not available on your installation; if this is the case, the NOT AVAILABLE message will appear.

Use the max min button to select the desired operation mode.

	Fan only operation
	Dry operation
A	Automatic operation
	Cooling operation
	Heating operation

Press the button to toggle between limit operation and the operations listed above.

In limit operation, use the max min button to select minimum and maximum temperature settings. Use the ▲ or ▼ buttons to adjust the minimum and maximum temperature settings.

1 FAN ONLY OPERATION

User adjustable parameters:

- Fan speed, use the button,
- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

2 DRY OPERATION

User adjustable parameters:

- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

3 AUTOMATIC OPERATION

User adjustable parameters:

- Setpoint temperature, use the ▲ & ▼ buttons,
- Fan speed, use the button,
- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

4 COOLING OPERATION

User adjustable parameters:

- Setpoint temperature, use the ▲ & ▼ buttons,
- Fan speed, use the button,
- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

5 HEATING OPERATION

User adjustable parameters:

- Setpoint temperature, use the ▲ & ▼ buttons,
- Fan speed, use the button,
- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

6 LIMIT OPERATION

User adjustable parameters:

- Fan speed, use the button,
- Air flow direction adjust, use the button,
- Ventilation mode, use the button,
- Ventilation amount, use the button.

ADDITIONAL FEATURES OF THE CONTROLLER

1 LEAVE HOME

Press the ⏲▲ and ⏲▼ buttons simultaneously to enable the LEAVE HOME function.

KEEP IN MIND THAT THE ⏻ BUTTON MUST BE OFF TO GUARANTEE TRIGGERING OF THE LEAVE HOME FUNCTION.

2 Adjusting the air flow direction

Use the ↕ button to adjust the air flow direction. Press the button to switch between fixed or variable air flow direction. Use the ≋ icon to determine the fixed air flow direction by pressing the ↕ button when the ≋ icon indicates the desired direction.

NOTE Even if fixed air flow direction is selected, variable air flow direction can be enabled automatically to preserve proper operation of your installation.

3 SCHEDULE TIMER

All features and operation and programming of the schedule timer are described below.

Schedule timer operation

In schedule timer operation, the installation is also controlled by the schedule timer. The actions programmed in the schedule timer will be executed automatically.

The schedule timer always executes the last command; this means the user can temporarily overrule the last executed programmed action. Refer to "Manual operation" on page 5. The next programmed action (in the schedule timer) will return control to the schedule timer.

Use the ⏲⊗ button to enable or disable the schedule timer.

NOTE The schedule timer overrules the ⏻ button, only use the ⏲⊗ button to enable or disable the schedule timer. The schedule timer is enabled when the ⏲ icon is visible. The ⏻ button only overrules the schedule timer until the next programmed action.

The programmed schedule is time driven. Make sure that the clock and day of the week are set correctly. Refer to "CLOCK SETTING FUNCTION" on page 4.

Manually adjust the clock for summertime and wintertime. Refer to "CLOCK SETTING FUNCTION" on page 4.

A power failure exceeding 1 hour will reset the clock and the day of the week. Refer to "CLOCK SETTING FUNCTION" on page 4 to adjust the clock and the day of the week.

The actions programmed in the schedule timer will not be lost after a power failure; reprogramming the schedule timer is not required.

To set up the SCHEDULE TIMER refer to chapter 6. "Programming the schedule timer" on page 10.

What can the schedule timer do?

The concept of the schedule timer is simple, straightforward though powerful.

The schedule timer can order 3 actions:

1 switch on the installation at a scheduled time, in combination with a setpoint (exact temperature control)

2 switch off the installation (end of control)

3 switch on the installation at a scheduled time, in limit operation

The schedule timer can accept a maximum of 5 actions per day.

For each day of the week a maximum of 5 actions can be programmed, totalling a maximum of 35 programmed actions. The action that was programmed first for a certain day is action 1, the last programmed action for a day could be action 1 (in case only one action is programmed for that day) to 5.

It is of utmost importance to understand that the number assigned to the programmed action, DOES NOT DETERMINE WHEN the programmed action will be executed. Only the TIME, being a part of the data entered when programming the action, will determine when the programmed action will be executed.

What will the schedule timer do?

If enabled, the schedule timer will execute the programmed actions.

It will order the installation to:

- cool or heat, depending on the current operation, if applicable; the setpoint will be displayed,

OR

- switch off the installation (the schedule timer remains enabled and reactivates the installation as programmed); the operation lamp will turn off,

OR

- cool or heat, whichever is required to keep the room temperature within a specified range (limit operation); $^{min}_{\circ C}$ and $^{max}_{\circ C}$ are displayed.

The schedule timer will change the operation mode in LIMIT operation only.

To be able to verify the programmed actions, you can browse the programmed actions, see below.

What will the schedule timer NOT do?

The schedule timer will not:

- control fan speed,
- control air flow direction,
- control ventilation mode,
- control ventilation amount,
- change the operation mode for a scheduled setpoint.

The parameters listed above can be set manually, without interfering with the schedule timer.

More sophisticated remote controllers are available. Consult your dealer for more information.

Browsing the programmed actions in the schedule timer (read-out only)

Refer to figure 2.

Browsing the programmed actions of the schedule timer is a sequential process. Only 2 buttons are used to browse the entire schedule timer program.

The ◈ button is used to start browsing, to display the next programmed action or to exit browsing when displaying the last programmed action.

The ⏲⊗ button is used to exit browsing at once (without having to scroll through all programmed actions).

Press the ⇔ button to enter the browse mode, the ⏲ icon appears, MON will blink.

NOTE Browsing always starts on Monday and ends on Sunday.

Check the 1 2 3 4 5 icon. If at least 1 action is programmed for Monday, 1 will appear.

The clock indicates the time when the programmed action is scheduled, either 24℃, OFF or 16 min ℃ and 30 max ℃ is being displayed.

NOTE The temperatures mentioned above are for clarifying purposes only, temperature values on your controller may vary.

If 1 does not appear, it indicates that there are no programmed actions for Monday.

Press the ⇔ button again to go to the next day of the week. TUE will blink, this indicates that the programmed actions for Tuesday are being browsed.

The process described above is now restarted.

If at least 1 action is programmed for Tuesday, 1 will appear. The clock indicates the time when the programmed action will be enabled, either 24℃, OFF or 16 min ℃ and 30 max ℃ is being displayed.

If 1 does not appear, it indicates that there are no programmed actions for Tuesday.

Press the ⇔ button to display the next programmed action. If a second action is programmed for Tuesday, TUE will still be blinking and 1 2 will appear.

Assuming that 5 actions were programmed for Tuesday, a total of 5 presses will be required to display all programmed actions.

Continue pressing the ⇔ button until the day of the week indicator displays the current day (not blinking), you have now quit browsing.

NOTE The number of times that the ⇔ button will have to be pressed to quit browsing depends on the number of programmed actions in the schedule timer.

How do I interpret the programmed actions

To be able to understand the behaviour of your installation when the schedule timer is enabled, it is important to look at all programmed actions for the current day and maybe the last programmed action of yesterday.

If the first programmed action for today is not active yet, the current status of your installation depends, most probably but not necessarily, on the last programmed action from yesterday. Read the important note below.

If the first programmed action for today is already active, the current status of your installation depends, most probably but not necessarily, on the parameters programmed in the first programmed action for today. Read the important note below.

NOTE To keep the operation of your installation simple, the schedule timer settings can easily be overruled by altering the current setting ("last command" overrules previous command until next scheduled command).

Conclusion: Although ⏲ is displayed, somebody might have altered the settings. The next programmed action will overrule the altered settings and all settings return as programmed.

Programmed actions might overlap; due to the "last command overrules" logic, the last scheduled command will rule.

How do I interpret the readings on the display when the schedule timer is active

As described above, the schedule timer settings, (and as a consequence the display readings) might be overruled temporarily by a manual intervention.

If you want to be absolutely sure about the schedule timer settings for this very moment, you must browse the schedule timer programmed actions. Refer to "Browsing the programmed actions in the schedule timer" on page 8.

6 . Programming the schedule timer

What do I have to program?

As the schedule timer is based on a week program (the same actions will be repeated every week) you will have to select the day of the week first.

Now you must choose an action:

1. switch on the installation at a scheduled time, in combination with a setpoint (exact temperature control)
2. switch off the installation (end of control)
3. switch on the installation at a scheduled time, in limit operation

Finally you must enter the time of the day when the action must be enabled.

NOTE If you program 2 or more actions on the same day and at the same time of the day, only the action with the highest action number (2 - 5) will be executed.

Getting started

Programming the schedule timer is flexible (you can add, remove or alter programmed actions whenever required) and straightforward (programming steps are limited to a minimum).

Below are some tips and tricks to ensure successful programming of the schedule timer:

- familiarise yourself with the icons and the buttons, you will need them when programming,
- familiarise yourself with the browse function, you will need it to start programming. Refer to "Browsing the programmed actions in the schedule timer" on page 8,
- fill out the form at the end of this manual; note the time and the required action for each day (keep in mind that the number of actions is limited to 5 per day),
- take your time to enter all data accurately,
- try to program the actions for each day in logical sequence (start with action 1 for the first action and end with the highest number for the last action). This is not a requirement but it will make it much easier to interpret the program later,
- keep in mind that you can always alter, add or remove the programmed actions later.

Programming

1 THE SCHEDULE TIMER IS PROGRAMMED FOR THE FIRST TIME

NOTE When changing day during programming you will have to confirm "the last action". Each day can have 5 programmed actions (numbered 1 to 5) but for some reason you might want to delete one, several or all programmed actions.

Tobe able to delete programmed actions, you must select the last action that you want to keep, this can be 1 to 5 or no action (🕘 is displayed and no action displayed).

All programmed actions with a number HIGHER than the selected one, or all programmed actions if no last action was selected will be deleted.

PROGRAMMING THE FIRST DAY OF THE WEEK

NOTE In the guidelines below it is assumed that you start programming the schedule timer actions on Monday and end with the schedule timer actions for Sunday.

If you prefer NOT to start on Monday, first browse to the desired day and then enter the PROGRAM mode.

In this particular case, no actions have been programmed before, all schedule timer actions are idle.

- Browse to Monday by pressing the ◇ button. The 🕘 icon appears, MON will blink and one of the icons might be displayed but all other fields remain blank, indicating that no actions are programmed for Monday.
- Enter the program mode by holding down the button ◇ for 5 seconds, the 🕘 icon will now blink too.
- Press the ◇ button to activate the first programmed action.
- A blinking 1 is displayed indicating that the first programmed action for Monday is being programmed; The set temperature and clock display are blinking.
- Press the button to select either set temperature, OFF, or limit operation.
- Enter the desired temperature using the ▲ & ▼ buttons.
- Press the button to toggle between minimum set temperature and maximum set temperature in limit operation, the selected temperature will blink.
- Enter the time when the action must start using the 🕘▲ & 🕘▼ buttons (min. step = 10 minutes).

NOTE If, by accident, you pressed the ◇ button, you activated the next action; 1 2 is displayed (1 steady and 2 blinking). Press the ◇ button repeatedly until a blinking 1 is displayed. You can now continue adjusting the settings for the first schedule timer action.

If the action and the corresponding time are correct, you can proceed to the second schedule timer action. This is done by pressing the ↔ button, the data is saved and the next schedule timer action can be programmed.

Programming the remaining schedule timer actions for the same day is similar.

You can browse the schedule timer actions by pressing the ↔ button.

NOTE Don't worry if you add additional schedule timer actions by pressing the ↔ button repeatedly, they can be deleted when finishing the current day.

When all data for the schedule timer actions for Monday are entered, you must confirm the programmed actions.

Make sure the last schedule timer action you want to keep is selected (schedule timer actions with a higher number will be deleted).

Now you must choose between 2 options:

1 CONFIRM AND COPY TO NEXT DAY

The schedule timer action programmed for the current day are also valid for the next day: use the "confirm last action and copy actions to next day" function by pressing the ↔ and ⏻ ⊗ buttons simultaneously for 5 seconds.

2 CONFIRM ONLY

The schedule timer action programmed for the current day are only valid for the selected day: use the "confirm last action and go to next day" function by pressing the ↔ button for 5 seconds.

Program mode is quit and depending on the choice made, the programmed actions are saved for Monday (and possibly Tuesday).

PROGRAMMING THE OTHER DAYS OF THE WEEK

Programming the other days of the week is identical to programming the first day of the week. TUE is blinking to indicate the selected day, 🕘 and 1 are steady if actions were copied from Monday to Tuesday, only 🕘 is displayed if no actions were copied from Monday to Tuesday.

2 I WANT TO EDIT PROGRAMMED ACTIONS

Editing programmed actions is easy.

Make sure you are not in program mode (🕘 not blinking); if required, press the 🕘 ⊗ button to quit program mode.

Browse to the programmed actions using the ↔ button, select the day and action you want to edit.

Press the ↔ button for 5 seconds; program mode is enabled, the 🕘 icon and selected action are blinking. Edit the settings using the same buttons described above.

Select the "last action" using the ↔ button and decide if you do or do not want to copy the programmed action(s) to the next day (pressing the ↔ and ⏻ ⊗ buttons simultaneously or only the ↔ button for 5 seconds).

3 I WANT TO DELETE ONE OR MORE PROGRAMMED ACTIONS

Make sure you are not in program mode (🕘 not blinking); if required, press 🕘⊗ to quit program mode.

Browse to the programmed actions using the ◈ button, select the day you want to edit.

Press the ◈ button for 5 seconds; program mode is enabled, the 🕘 icon and selected action are blinking.

Select the "last action" you want to keep using the ◈ button. All higher actions will be deleted.

Confirm the deletion by pressing the ◈ button for 5 seconds, OR confirm the deletion for the current and the next day too by pressing the ◈ and ⏻⊗ buttons simultaneously for 5 seconds.

NOTE In the case above, if for example the last action was 3, the programmed actions 4 and 5 will also be deleted (if they were present).

4 I WANT TO DELETE ALL PROGRAMMED ACTIONS AT ONCE

Quit programming or browsing.

Press the ◈ and 🏠 buttons simultaneously for 5 seconds; the 🕘 icon will invert and disappear to confirm deletion.

7. Maintenance

The remote controller does not need maintenance.

Remove dirt with a soft damp cloth.

NOTE Only use clear tepid water to moisten the cloth.

8. Troubleshooting

The guidelines below might help to solve your problem. If you cannot remedy the problem, consult your installer.

No readings on the remote controller (display blank)

Check if the mains power is still applied to your installation.

Only 88 is displayed

This indicates that the installation has just been powered, please wait until 88 disappears.

The schedule timer does work but the programmed actions are executed at the wrong time (e.g. 1 hour too late or too early)

Check if the clock and the day of the week are set correctly, correct if necessary (refer to "CLOCK SETTING FUNCTION" on page 4).

I cannot enable the schedule timer (the 🕘 icon blinks for 2 seconds and disappears)

The schedule timer has not been programmed yet. First program the schedule timer (refer to "Programming the schedule timer" on page 10).

I cannot enable the schedule timer (the NOT AVAILABLE icon is displayed)

The schedule timer can not be enabled when a centralised control is connected.

Limit operation cannot be selected

Limit operation is not available for cooling only installations.

Part 6
Service Diagnosis

1. Troubleshooting with LED

1.1 Indoor Unit

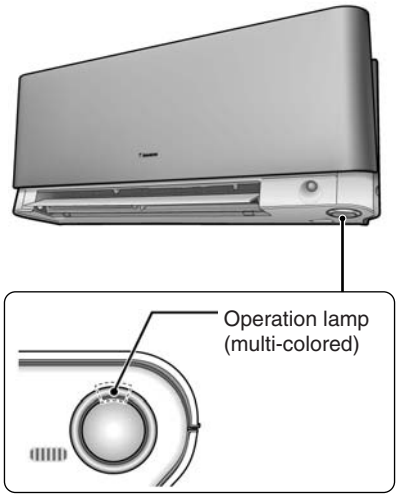
Operation Lamp

The operation lamp blinks when any of the following errors is detected.

1. When a protection device of the indoor or outdoor unit is activated, or when the thermistor malfunctions.
2. When a signal transmission error occurs between the indoor and outdoor units.

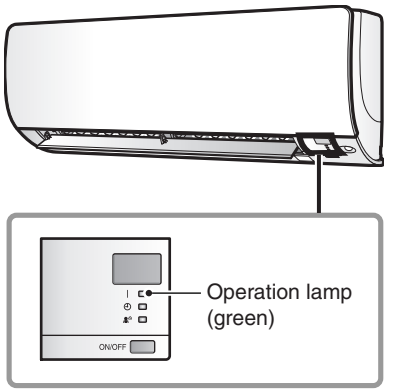
In either case, conduct the diagnostic procedure described in the following pages.

Wall Mounted Type: FTXG Series



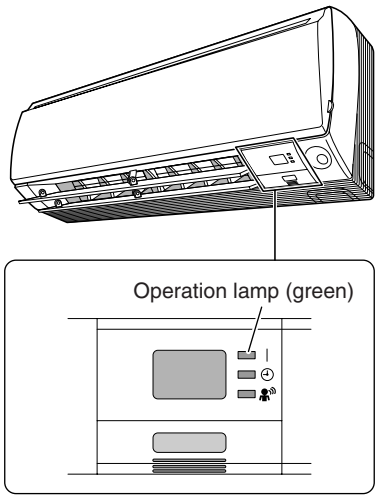
(R12750)

Wall Mounted Type: FTXS-K, CTXS-K Series



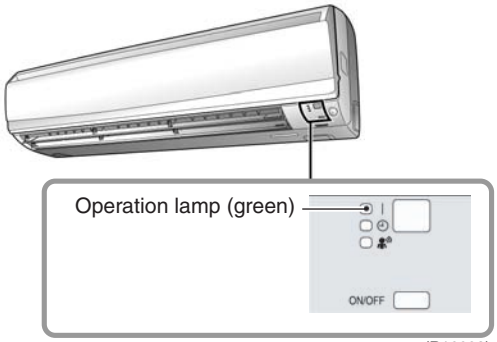
(R17161)

Wall Mounted Type: FTXS-J Series



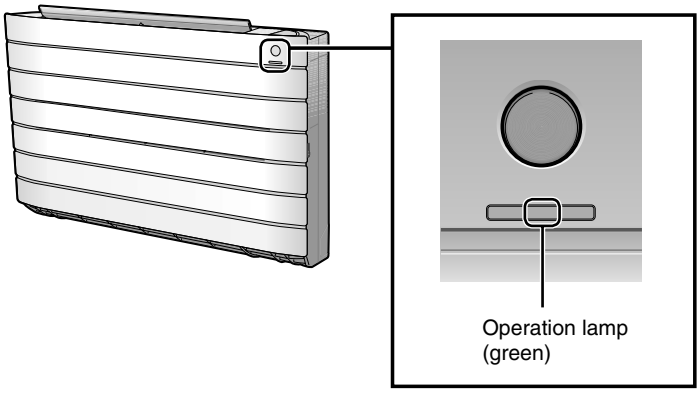
(R12187)

Wall Mounted Type: FTXS-G Series



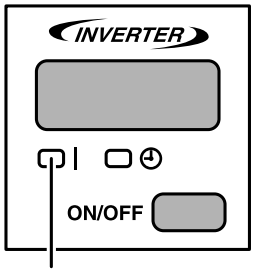
(R16008)

Floor Standing Type: FVXG Series



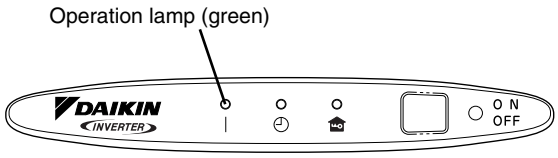
(R14646)

Floor Standing Type: FVXS Series



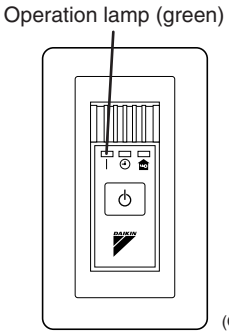
(R11687)

Floor / Ceiling Suspended Dual Type



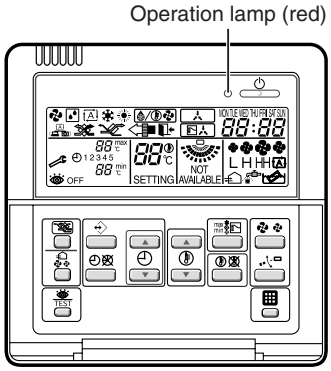
(R11688)

Duct Connected Type



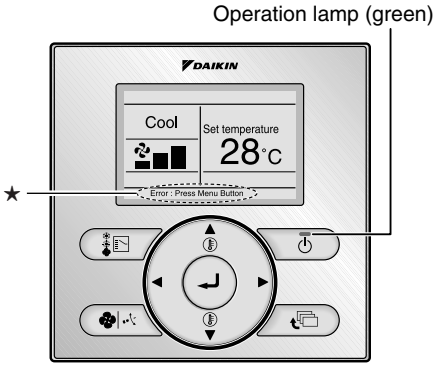
(Q0340)

BRC1D528



(R12851)

BRC1E52A7, BRC1E52B7



★ The error or warning message also blinks on the basic screen.

(R17162)

Caution: When operation stops suddenly and the operation lamp blinks, it could be "operation mode conflict".
Check followings;
Are the operation modes all the same for the indoor units connected to multi system outdoor unit?
If not, set all the indoor units to the same operation mode and confirm that the operation lamp is not blinking.
Moreover, when the operation mode is automatic, set all the indoor unit operation mode as "cooling" or "heating" and check again if the operation lamp is normal.
If the lamp stops blinking after the above steps, there is no malfunction.

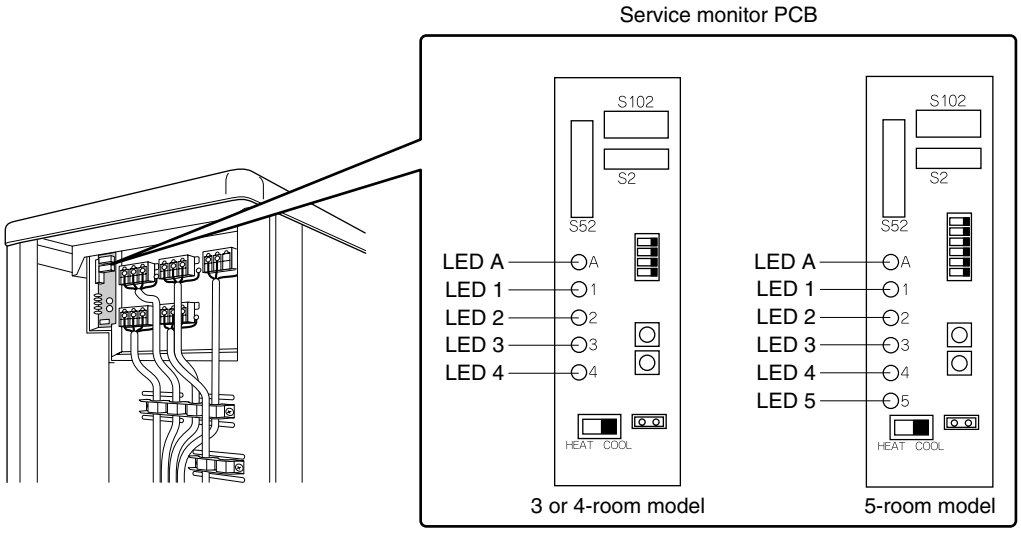
∗ Operation stops and operation lamp blinks only for indoor unit which different operation mode is set later. (The first set operation mode has priority.)

Service Monitor

The indoor unit has one green LED (LED A) on the control PCB. When the microcomputer works in order, the LED A blinks.

1.2 Outdoor Unit

The outdoor unit has one green LED (LED A) on the PCB. When the LED A blinks, the microcomputer works in order.



(R17270)

There are a green LED (LED A) and red LEDs on the outdoor unit PCB. The LED A indicates microcomputer operation condition. In normal condition, the LED A is blinking and the other LEDs are OFF.
Even after the error is canceled and the unit operates in normal condition, the LED indication remains.

2. Problem Symptoms and Measures

Problem Symptom	Check Item	Details of Measure	Reference Page
None of the units operates.	Check the power supply.	Check if the rated voltage is supplied.	—
	Check the types of the indoor units.	Check if the indoor unit type is compatible with the outdoor unit.	—
	Check the outdoor temperature.	Heating operation cannot be used when the outdoor temperature is 20°C or higher, and cooling operation cannot be used when the outdoor temperature is below –10 ~ 10°C (depending on the model).	—
	Diagnose with remote controller indication	—	267
	Check the remote controller addresses.	Check if address settings for the remote controller and indoor unit are correct.	415
Operation sometimes stops.	Check the power supply.	A power failure of 2 to 10 cycles can stop air conditioner operation. (Operation lamp OFF)	—
	Check the outdoor temperature.	Heating operation cannot be used when the outdoor temperature is 20°C or higher, and cooling operation cannot be used when the outdoor temperature is below –10 ~ 10°C (depending on the model).	—
	Diagnose with remote controller indication.	—	267
Some indoor units do not operate.	Check the type of the indoor units.	Check if the indoor unit type is compatible with the outdoor unit.	—
	Diagnose with remote controller indication	—	267
Units operate but do not cool, or do not heat.	Check for wiring and piping errors in the connection between the indoor and outdoor units.	Conduct the wiring/piping error check described on the product diagnosis nameplate.	—
	Check for thermistor detection errors.	Check if the thermistor is mounted securely.	—
	Check for faulty operation of the outdoor electronic expansion valve.	Set all the units to cooling operation, and compare the temperatures of the liquid pipes to see if the each outdoor electronic expansion valve works.	—
	Diagnose with remote controller indication.	—	267
	Diagnose by service port pressure and operating current.	Check for refrigerant shortage.	296
Large operating noise and vibrations	Check the output voltage of the power module.	—	335
	Check the power module.	—	—
	Check the installation condition.	Check if the required spaces for installation (specified in the installation manual) are provided.	—

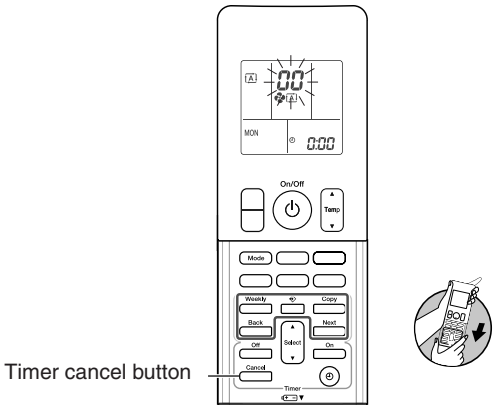
3. Service Check Function

3.1 RA Indoor Unit - FTXG, FTXS, CTXS, FVXG, FVXS, FLXS, FDXS Series

3.1.1 ARC466 Series Remote Controller

Check Method 1

1. When the timer cancel button is held down for 5 seconds, 00 is displayed on the temperature display screen.



< ARC466 Series > (R14220)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

<ARC466A1, A6>

No.	Code	No.	Code	No.	Code
1	00	13	C7	25	UA
2	U4	14	A3	26	UH
3	L5	15	H8	27	P4
4	E6	16	H9	28	L3
5	H6	17	C9	29	L4
6	H0	18	C4	30	H7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1	35	H1
12	F6	24	E1	36	P9

<ARC466A2>

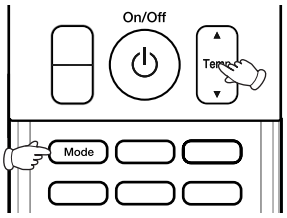
No.	Code	No.	Code	No.	Code
1	00	14	C7	27	UA
2	U4	15	A3	28	UH
3	L5	16	H8	29	P4
4	E6	17	H9	30	L3
5	H6	18	C9	31	L4
6	H0	19	C4	32	H7
7	A6	20	C5	33	U2
8	E7	21	CE	34	EA
9	U0	22	J3	35	AH
10	F3	23	J6	36	FA
11	A5	24	E5	37	H1
12	F6	25	A1	38	P9
13	A9	26	E1		

Note:

1. A short beep and two consecutive beeps indicate non-corresponding codes.
2. To return to the normal mode, hold the timer cancel button down for 5 seconds. When the remote controller is left untouched for 60 seconds, it also returns to the normal mode.
3. Not all the error codes are displayed. When you cannot find the error code, try the check method 2. (→ Refer to page 255.)

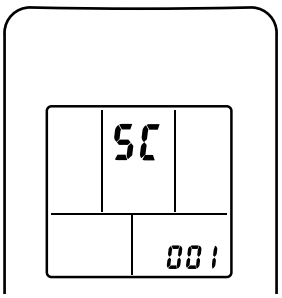
Check Method 2

1. Press the center of the [Temp] button and the [Mode] button at the same time.



(R11669)

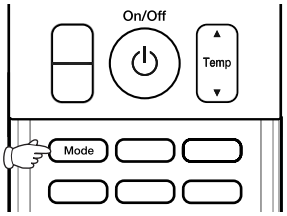
SC is displayed on the LCD.



(R11821)

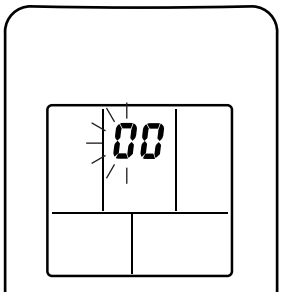
2. Select SC (service check) with the [Temp] ▲ or ▼ button.

3. Press the [Mode] button to enter the service check mode.



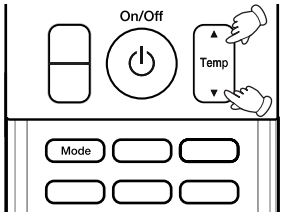
(R11672)

The left-side number blinks.



(R11670)

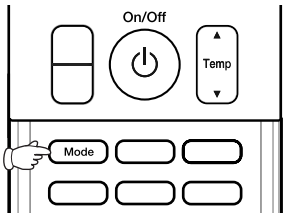
4. Press the [Temp] ▲ or ▼ button and change the number until you hear the two consecutive beeps or the long beep.



(R11671)

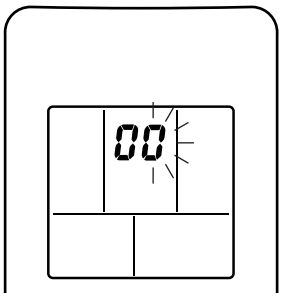
5. Diagnose by the sound.
   ★beep : The left-side number does not correspond with the error code.
   ★tow consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★long beep : Both the left-side and right-side numbers correspond with the error code. The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 267.

6. Press the [Mode] button.



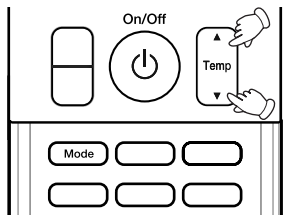
(R11672)

   The right-side number blinks.



(R11673)

7. Press the [Temp] ▲ or ▼ button and change the number until you hear the long beep.

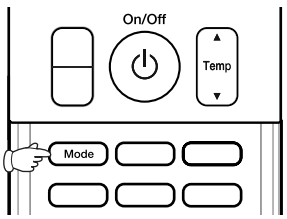


(R11671)

8. Diagnose by the sound.
   ★beep : The left-side number does not correspond with the error code.
   ★two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★long beep : Both the left-side and right-side numbers correspond with the error code.

9. Determine the error code.
   The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 267.

10. Press the [Mode] button for 5 seconds to exit from the service check mode.
    (When the remote controller is left untouched for 60 seconds, it returns to the normal mode also.)

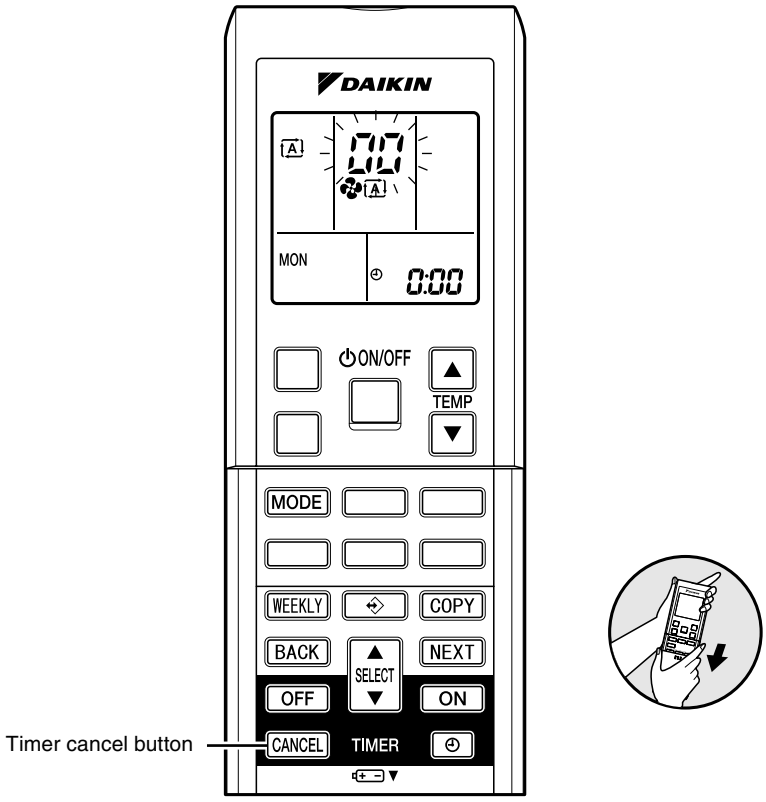


(R11672)

3.1.2 ARC452 Series Remote Controller

Check Method 1

1. When the timer cancel button is held down for 5 seconds, 00 is displayed on the temperature display screen.



< ARC452 Series >

(R14554)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

<ARC452A1, A3>

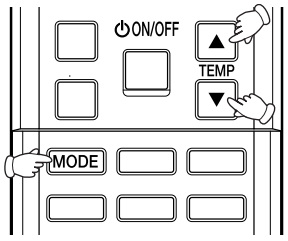
No.	Code	No.	Code	No.	Code
1	00	13	C7	25	UA
2	U4	14	A3	26	UH
3	L5	15	H8	27	P4
4	E6	16	H9	28	L3
5	H6	17	C9	29	L4
6	H0	18	C4	30	H7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1		
12	F6	24	E1		

Note:

1. A short beep or 2 consecutive beeps indicate non-corresponding codes.
2. To return to the normal mode, hold the timer cancel button down for 5 seconds. When the remote controller is left untouched for 60 seconds, it also returns to the normal mode.
3. Not all the error codes are displayed. When you cannot find the error code, try the check method 2. (→ Refer to page 258.)

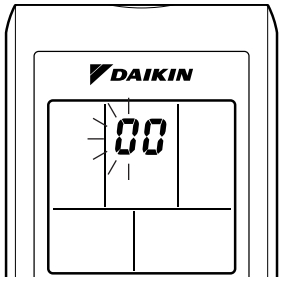
Check Method 2

1. Press the 3 buttons ([TEMP] ▲, [TEMP] ▼, [MODE]) at the same time to enter the diagnosis mode.



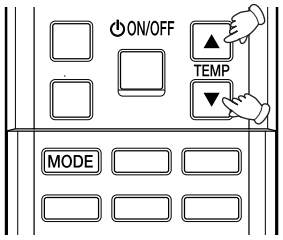
(R8381)

The left-side number blinks.



(R8382)

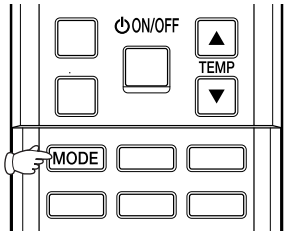
2. Press the [TEMP] ▲ or ▼ button and change the number until you hear the two consecutive beeps or the long beep.



(R8383)

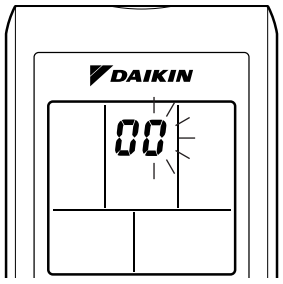
3. Diagnose by the sound.
   - ★ beep : The left-side number does not correspond with the error code.
   - ★ two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   - ★ long beep : Both the left-side and right-side numbers correspond with the error code. The numbers indicated when you hear the long beep are the error code. Error codes and description → Refer to page 267.

4. Press the [MODE] button.



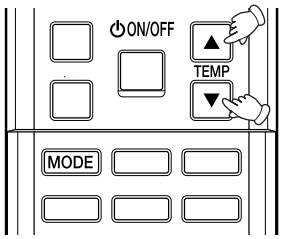
(R8384)

The right-side number blinks.



(R8385)

5. Press the [TEMP] ▲ or ▼ button and change the number until you hear the long beep.

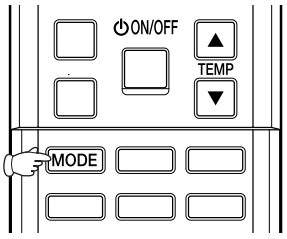


(R8383)

6. Diagnose by the sound.
   ★ beep : The left-side number does not correspond with the error code.
   ★ two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★ long beep : Both the left-side and right-side numbers correspond with the error code.

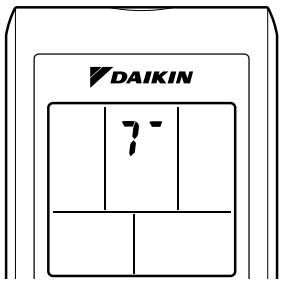
7. Determine the error code.
   The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 267.

8. Press the [MODE] button to exit from the diagnosis mode.



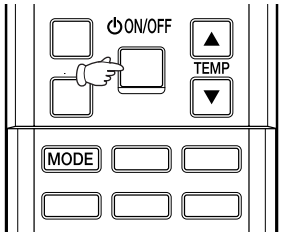
(R8384)

   The display 7- means the trial operation mode.
   Refer to page 408 for trial operation.



(R9659)

9. Press the [ON/OFF] button twice to return to the normal mode.



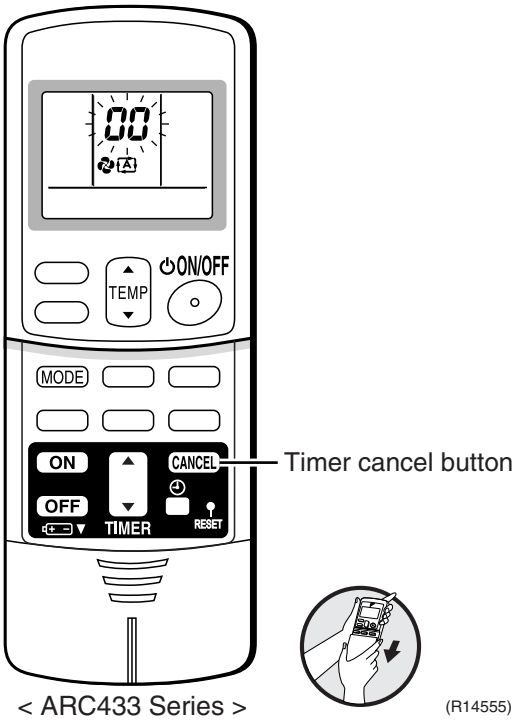
(R9660)

Note: When the remote controller is left untouched for 60 seconds, it returns to the normal mode.

3.1.3 ARC433 Series Remote Controller

Check Method 1

1. When the timer cancel button is held down for 5 seconds, 00 is displayed on the temperature display screen.



< ARC433 Series > (R14555)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

<ARC433B67, B69>

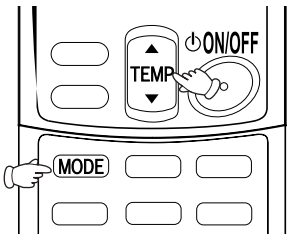
No.	Code	No.	Code	No.	Code
1	00	12	C7	23	H0
2	U4	13	H8	24	E1
3	F3	14	J3	25	P4
4	E6	15	A3	26	L3
5	L5	16	A1	27	L4
6	A6	17	C4	28	H6
7	E5	18	C5	29	H7
8	F6	19	H9	30	U2
9	C9	20	J6	31	UH
10	U0	21	U8	32	E8
11	E7	22	A5	33	AH

Note:

1. A short beep or two consecutive beeps indicate non-corresponding codes.
2. To return to the normal mode, hold the timer cancel button down for 5 seconds. When the remote controller is left untouched for 60 seconds, it also returns to the normal mode.
3. Not all the error codes are displayed. When you cannot find the error code, try the check method 2. (→ Refer to page 261.)

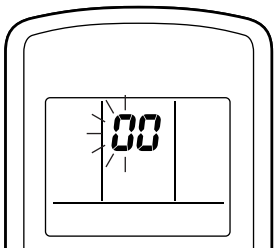
Check Method 2

1. Press the center of the [TEMP] button and the [MODE] button at the same time to enter the diagnosis mode.



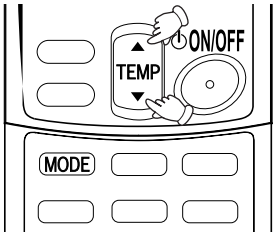
(R4272)

The left-side number blinks.



(R14967)

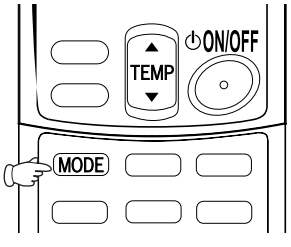
2. Press the [TEMP] ▲ or ▼ button and change the number until you hear the two consecutive beeps or the long beep.



(R4274)

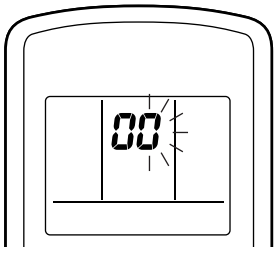
3. Diagnose by the sound.
   ★ beep : The left-side number does not correspond with the error code.
   ★ two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★ long beep : Both the left-side and right-side numbers correspond with the error code. The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 267.

4. Press the [MODE] button.



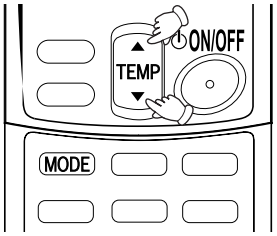
(R4275)

The right-side number blinks.



(R14968)

5. Press the [TEMP] ▲ or ▼ button and change the number until you hear the long beep.

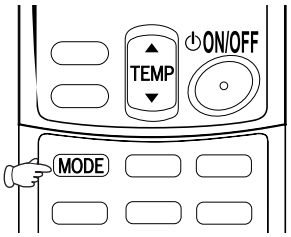


(R4277)

6. Diagnose by the sound.
   ★ beep : The left-side number does not correspond with the error code.
   ★ two consecutive beeps : The left-side number corresponds with the error code but the right-side number does not.
   ★ long beep : Both the left-side and right-side numbers correspond with the error code.

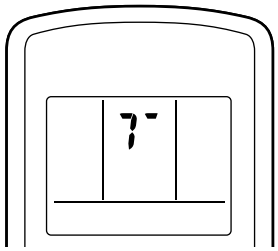
7. Determine the error code.
   The numbers indicated when you hear the long beep are the error code.
   Error codes and description → Refer to page 267.

8. Press the [MODE] button to exit from the diagnosis mode.



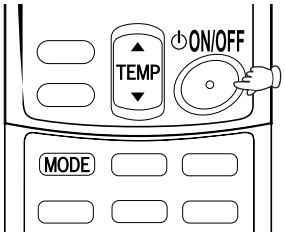
(R4278)

   The display 7- means the trial operation mode.
   Refer to page 408 for trial operation.



(R14969)

9. Press the [ON/OFF] button twice to return to the normal mode.



(R9670)

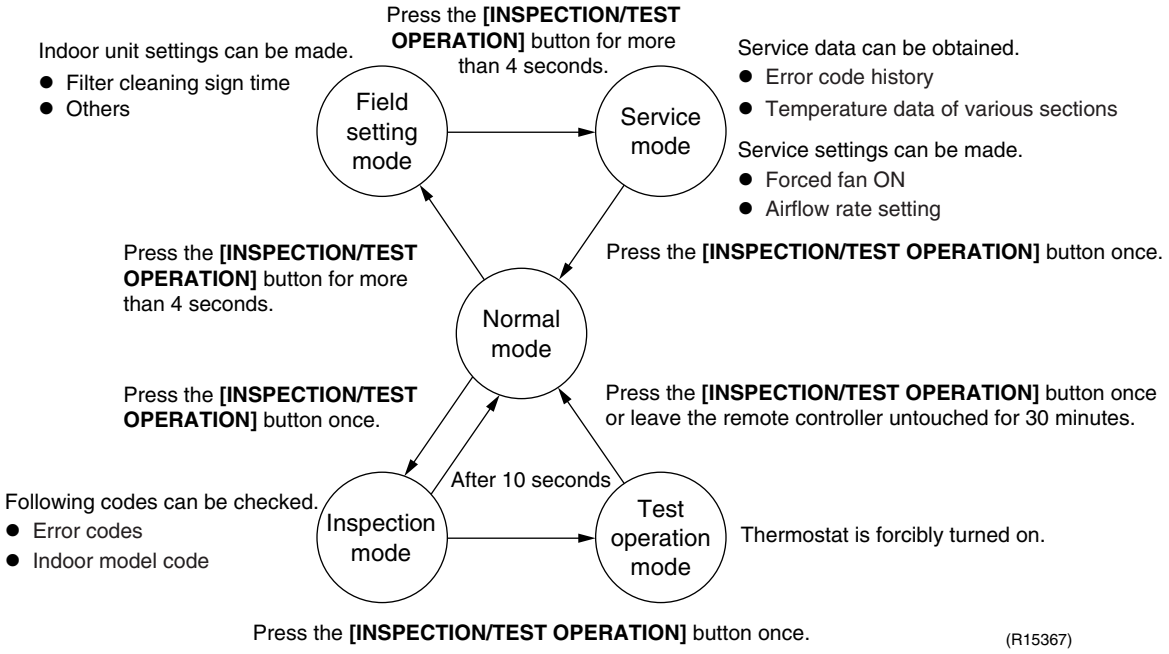
Note: When the remote controller is left untouched for 60 seconds, it returns to the normal mode.

3.2 SA Indoor Unit - FCQG, FFQ, FHQ, FDBQ, FBQ Series

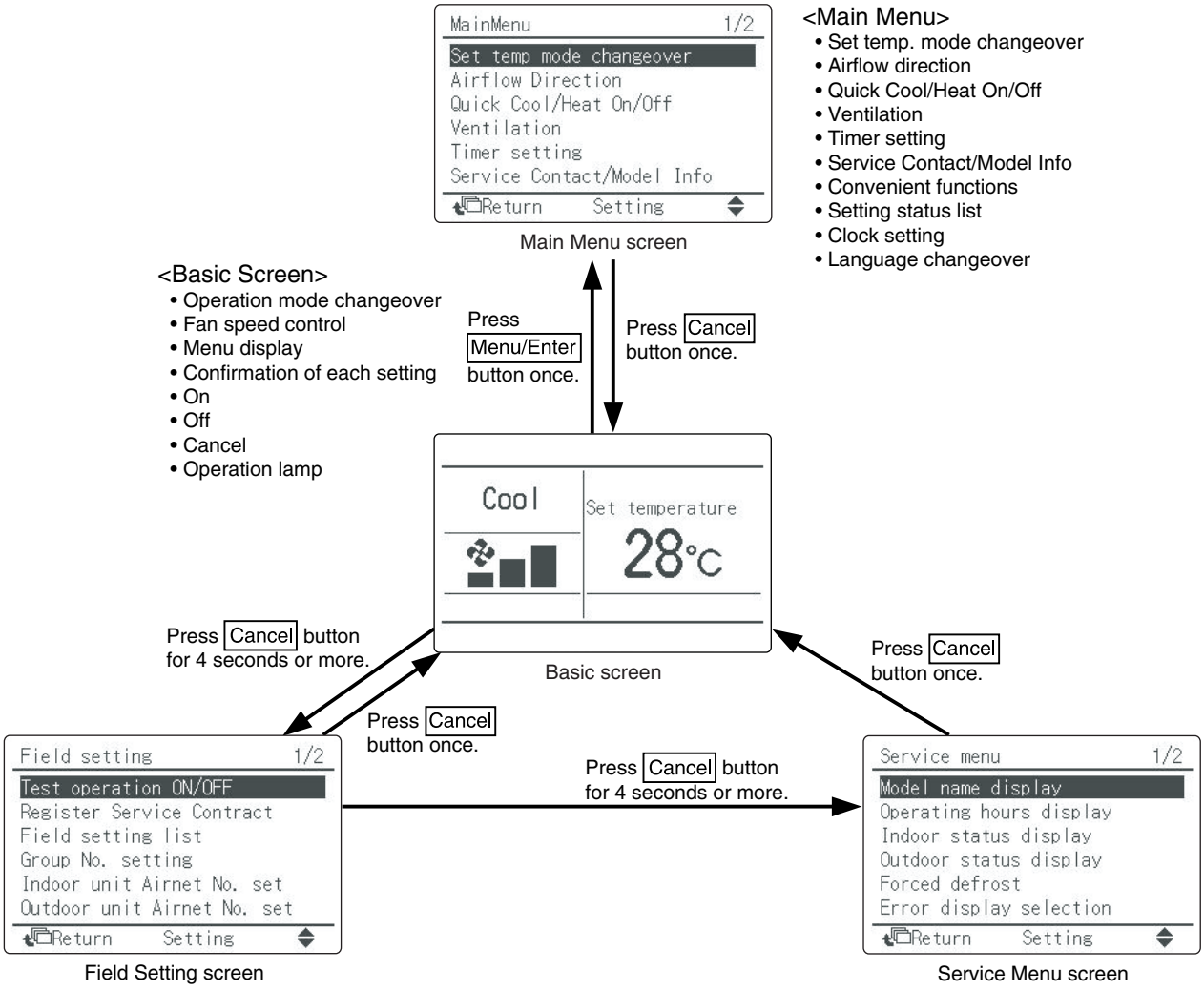
3.2.1 Relations between Modes

BRC1D528

The following modes can be selected by using the [Inspection / Test] button on the remote controller.



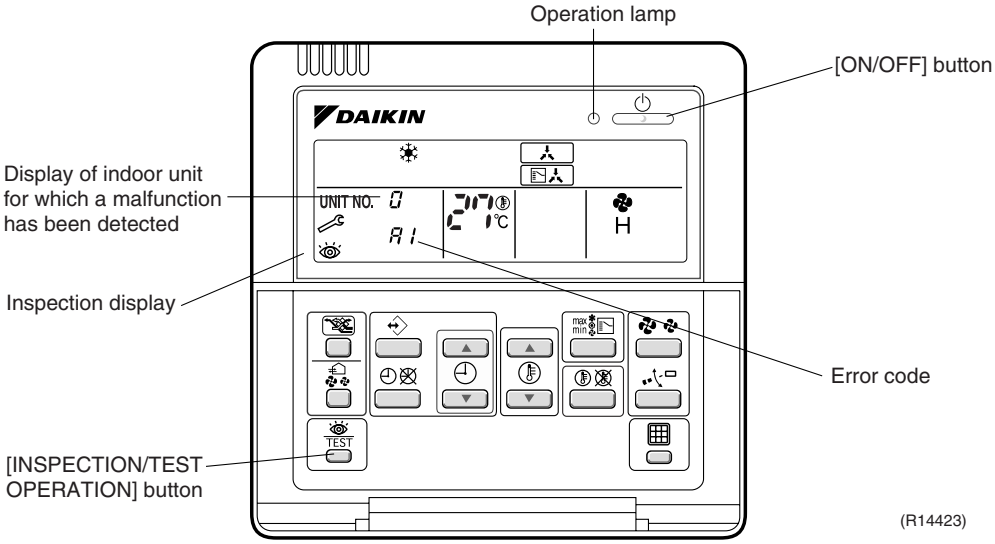
BRC1E52A7, BRC1E52B7



(R12855)

3.2.2 BRC1D528

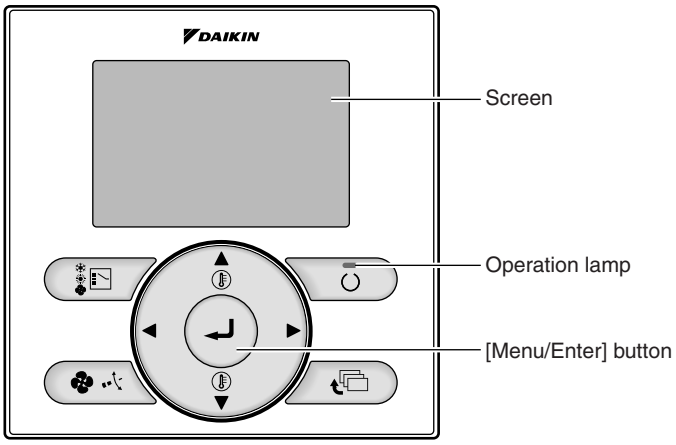
If operation stops due to malfunction, the operation lamp on the remote controller blinks, and error code is displayed. (Even if stop operation is carried out, malfunction contents are displayed when inspection mode is entered.) The error code enables you to tell what kind of malfunction caused operation to stop.
Refer to page 267 for error code and malfunction contents.



Note:
1. When you press the [INSPECTION/TEST OPERATION] button, the inspection display blinks.
2. While in the inspection mode, press the [ON/OFF] button for 5 seconds or more to clear the failure history indication. In this case, the error code blinks twice and then changes to 00 (= Normal), the UNIT No. changes to 0, and the operation mode automatically switches from the inspection mode to the normal mode (displaying the set temperature).

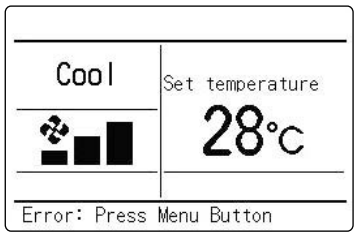
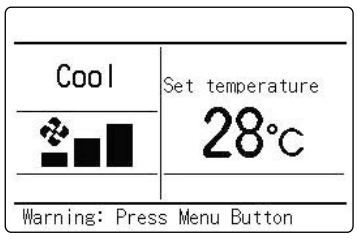
3.2.3 BRC1E52A7, BRC1E52B7

The following display appears on the screen when a error (or a warning) occurs during operation.
Check the error code and take the corrective action specified for the particular model.



(R17163)

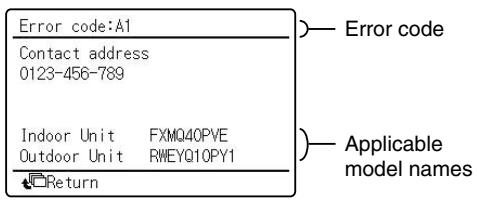
(1) Check if it is error or warning.

	Operation status	Display	
Abnormal shutdown	The system stops operating.	The operation lamp (green) starts to blink. The message "Error: Press Menu Button" appears and blinks at the bottom of the screen.	 (R12858)
Warning	The system continues its operation.	The operation lamp (green) remains on. The message "Warning: Press Menu Button" appears and blinks at the bottom of the screen.	 (R12857)

(2) Take corrective action.

· Press the [Menu/Enter] button to check the error code.

· Take the corrective action specific to the model.



(R12859)

4. Code Indication on Remote Controller

4.1 RA Indoor Unit - FTXG, FTXS, CTXS, FVXG, FVXS, FLXS, FDXS Series

Error Codes	Description		Reference Page
00	Normal condition		—
A1	Indoor unit PCB abnormality		270
A5	Freeze-up protection control or heating peak-cut control		272
A6	Fan motor or related abnormality	DC motor (wall, floor standing)	274
		AC motor (floor / ceiling, duct)	277
A9	Radiant panel temperature rise, indoor electronic expansion valve (motor operated valve) abnormality, freeze-up protection control (FVXG series only)		278
C4	Indoor heat exchanger thermistor or related abnormality		280
C7	Front panel open / close fault (FTXG series only)		281
C9	Room temperature thermistor or related abnormality		280
CE	Radiant panel thermistor or related abnormality (FVXG series only)		280
U4	Signal transmission error (between indoor unit and outdoor unit)		282
UA	Unspecified voltage (between indoor unit and outdoor unit)		283

4.2 SA Indoor Unit - FCQG, FFQ, FHQ, FDBQ, FBQ Series

Error Codes	Description	Reference Page
00	Normal condition	—
A1	Indoor unit PCB abnormality	284
A3	Drain water level system abnormality	285
A6	Fan motor or related abnormality	287
AJ	Swing motor lock (FHQ series only)	289
AF	Drain system abnormality	290
C4	Indoor heat exchanger thermistor or related abnormality	291
C9	Room temperature thermistor or related abnormality	291
CJ	Remote controller thermistor abnormality	292
U5	Signal transmission error (between indoor unit and remote controller)	293
U8	Signal transmission error (between MAIN remote controller and SUB remote controller)	294
UA	Field setting abnormality	295

: Error code displays automatically and system stops. Inspect and solve the error.

: In the case of the shaded error codes, “inspection” is not displayed. The system operates, but be sure to inspect and solve the error.

4.3 Sub Codes for SA Indoor Unit

If an error code like the one shown below is displayed when the navigation remote controller (BRC1E52A7, BRC1E52B7) is in use, make a detailed diagnosis or a diagnosis of the relevant unit referring to the attached list.

Error codes	Description	Troubleshooting
A6 - 01	Fan motor locked	A locked fan motor current has been detected. Turn the fan by hand to check for the connection of connectors.
A6 - 10	Fan overcurrent error	A fan motor overcurrent has been detected. Check for the connection of the connector between the fan motor and the PCB. If the connection is normal, replace the fan motor. If this still cannot solve the error, replace the PCB.
A6 - 11	Fan position detection error	An error in the detection of position of the fan motor. Check for the connection of the connector between the fan motor and the PCB. If the connection is normal, replace the fan motor. If this still cannot solve the error, replace the PCB.
AH - 03	Transmission error (between the self-cleaning decoration panel and the indoor unit) [when the self-cleaning decoration panel is mounted]	Check for the connection of the harness connector between the panel PCB and the indoor unit PCB.
AH - 04	Dust detection sensor error [when the self-cleaning decoration panel is mounted]	Check for the connections of the connector X12A on the panel PCB and the connectors X18A and X19A on the sensor PCBs.
AH - 05	Dust collection sign error [when the self-cleaning decoration panel is mounted]	Check for clogging with dust at the dust collection port as well as in the brush unit, S-shaped pipe, and dust box. Furthermore, check for any stains of the light receiving and emitting parts of the infrared unit.
AH - 06	Air filter rotation error [when the self-cleaning decoration panel is mounted]	Check for anything getting in the way of rotating the filter (e.g. the filter comes off or the drive gear is clogged with foreign matters).
AH - 07	Damper rotation error [when the self-cleaning decoration panel is mounted]	The damper does not rotate normally. Check for any foreign matters around the damper and for the operation of the gear and limit switch.
AH - 08	Filter self-cleaning operation error [when the self-cleaning decoration panel is mounted]	The unit has not yet completed the filter self-cleaning operation even after the lapse of specified period of time. Check for any external noise, etc.
AH - 09	Filter self-cleaning operation start disabled error [when the self-cleaning decoration panel is mounted]	The unit has been put into a state in which the filter self-cleaning operation is disabled. Check the unit for the operating conditions.
C6 - 01	Faulty combination of indoor unit PCB and fan PCB	A combination of indoor unit PCB and fan PCB is defective. Check whether the capacity setting adaptor is correct and the type of the fan PCB is correct.

4.4 Outdoor Unit

☼: ON, ●: OFF, ◑: Blinks

Green : Blinks in normal condition
Red : OFF in normal condition

Outdoor Unit LED Indication						Error Codes	Description	Reference Page
Green	Red							
A	1	2	3	4	5★			
◑	●	●	●	●	●	00	Normal condition	—
						UA	Unspecified voltage (between indoor unit and outdoor unit)	301
						UH	Anti-icing function in other rooms	301
◑	●	●	☼	☼	●	(U0)	Refrigerant shortage	296
◑	☼	●	●	☼	●	U2	Low-voltage detection or over-voltage detection	298
◑	●	☼	☼	☼	●	U7	Signal transmission error (on outdoor unit PCB)	300
◑	☼	●	☼	☼	●	A5	Anti-icing function	302
◑	☼	☼	☼	●	●	E1	Outdoor unit PCB abnormality	304
◑	☼	●	☼	●	●	(E5)	OL activation (compressor overload)	305
◑	●	☼	☼	●	●	(E6)	Compressor lock	306
◑	☼	☼	☼	☼	●	E7	DC fan lock	307
◑	●	☼	●	☼	●	E8	Input overcurrent detection	308
◑	☼	●	☼	●	●	F3	Discharge pipe temperature control	309
◑	☼	●	☼	☼	●	F6	High pressure control in cooling	310
◑	☼	☼	●	●	●	H0	Compressor sensor system abnormality	311
						H6	Position sensor abnormality	313
						H8	CT or related abnormality	315
						H9	Outdoor temperature thermistor or related abnormality	317
						J3	Discharge pipe thermistor or related abnormality	317
						J6	Outdoor heat exchanger thermistor or related abnormality	317
						J8	Liquid pipe thermistor or related abnormality	317
						J9	Gas pipe thermistor or related abnormality	317
						P4	Radiation fin thermistor or related abnormality	317
◑	☼	☼	●	☼	●	L3	Electrical box temperature rise	319
◑	●	●	●	☼	●	L4	Radiation fin temperature rise	321
◑	●	●	☼	●	●	L5	Output overcurrent detection	323

Note:
1. The error codes in the parenthesis ( ) are displayed only when the system is shut down.
2. When a sensor error occurs, check the remote controller display to determine which sensor is malfunctioning.
   If the remote controller does not indicate the error code, conduct the following procedure.
   ∗ Turn the power switch off and back on again. If the same LED indication appears again immediately after the power is turned on, the fault is in the thermistor.
   ∗ If the above condition does not result, the fault is in the CT.
3. The indoor unit error code may take the precedence in the remote controller display.
4. ★ 3-room models and 4-room models do not have LED5.

5. Troubleshooting for RA Indoor Unit - FTXG, FTXS, CTXS, FVXG, FVXS, FLXS, FDXS Series

5.1 Indoor Unit PCB Abnormality

Remote Controller Display

A1

Method of Malfunction Detection

The system checks if the circuit works properly within the microcomputer of the indoor unit.

Malfunction Decision Conditions

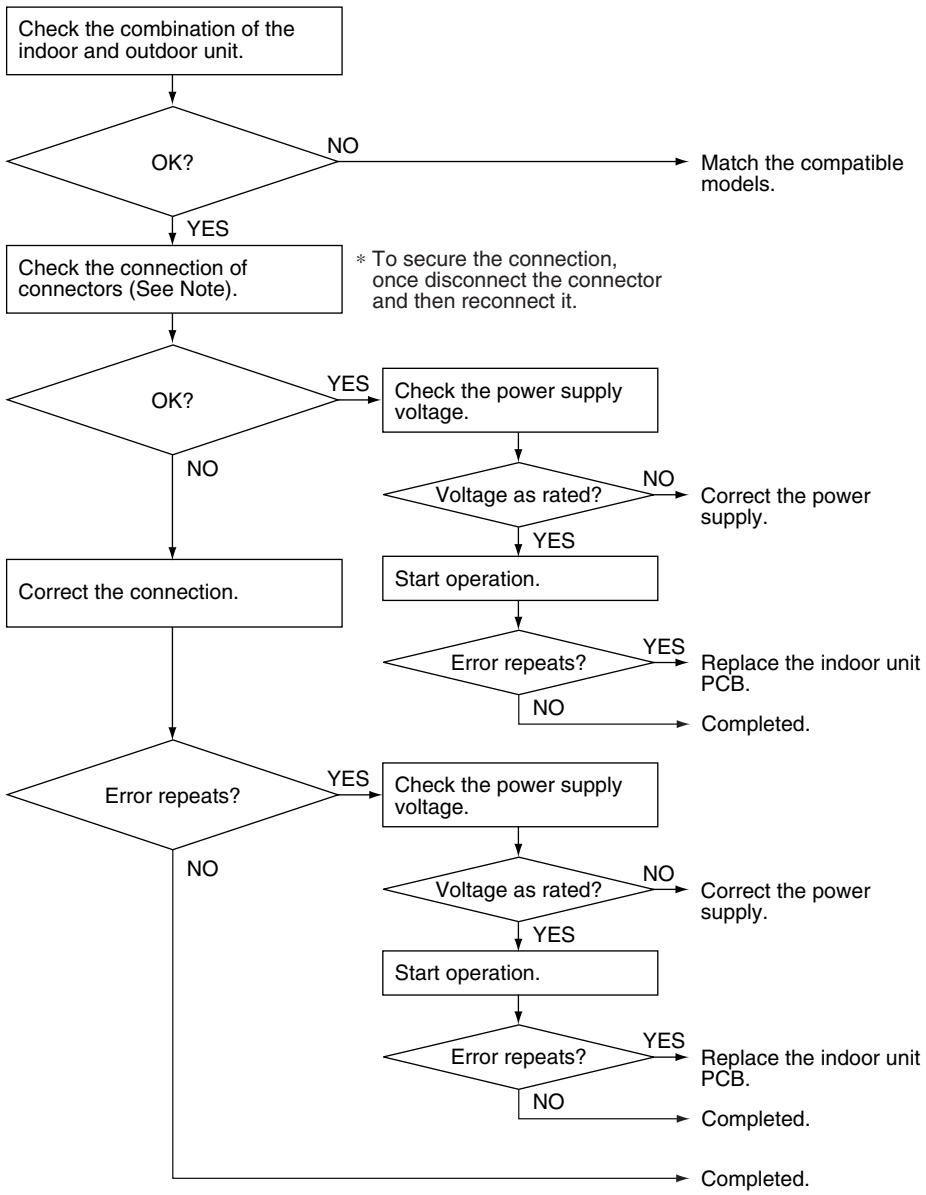
The system cannot set the internal settings.

Supposed Causes

- Wrong models interconnected
- Defective indoor unit PCB
- Disconnection of connector
- Reduction of power supply voltage

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15310)

Note: Check the following connector.

Model Type	Connector
Wall mounted type	Terminal board ~ Control PCB
Floor standing type	Terminal board ~ Control PCB
Floor / ceiling suspended dual type	S36 ~ S37
Duct connected type	Terminal board ~ Control PCB

5.2 Freeze-up Protection Control or Heating Peak-cut Control

Remote Controller Display

Method of Malfunction Detection

- Freeze-up protection control
  During cooling operation, the freeze-up protection control (operation halt) is activated according to the temperature detected by the indoor heat exchanger thermistor.
- Heating peak-cut control
  During heating operation, the temperature detected by the indoor heat exchanger thermistor is used for the heating peak-cut control (operation halt, outdoor fan stop, etc.)

Malfunction Decision Conditions

- Freeze-up protection control
  During cooling operation, the indoor heat exchanger temperature is below 0°C.
- Heating peak-cut control
  During heating operation, the indoor heat exchanger temperature is above 65°C.

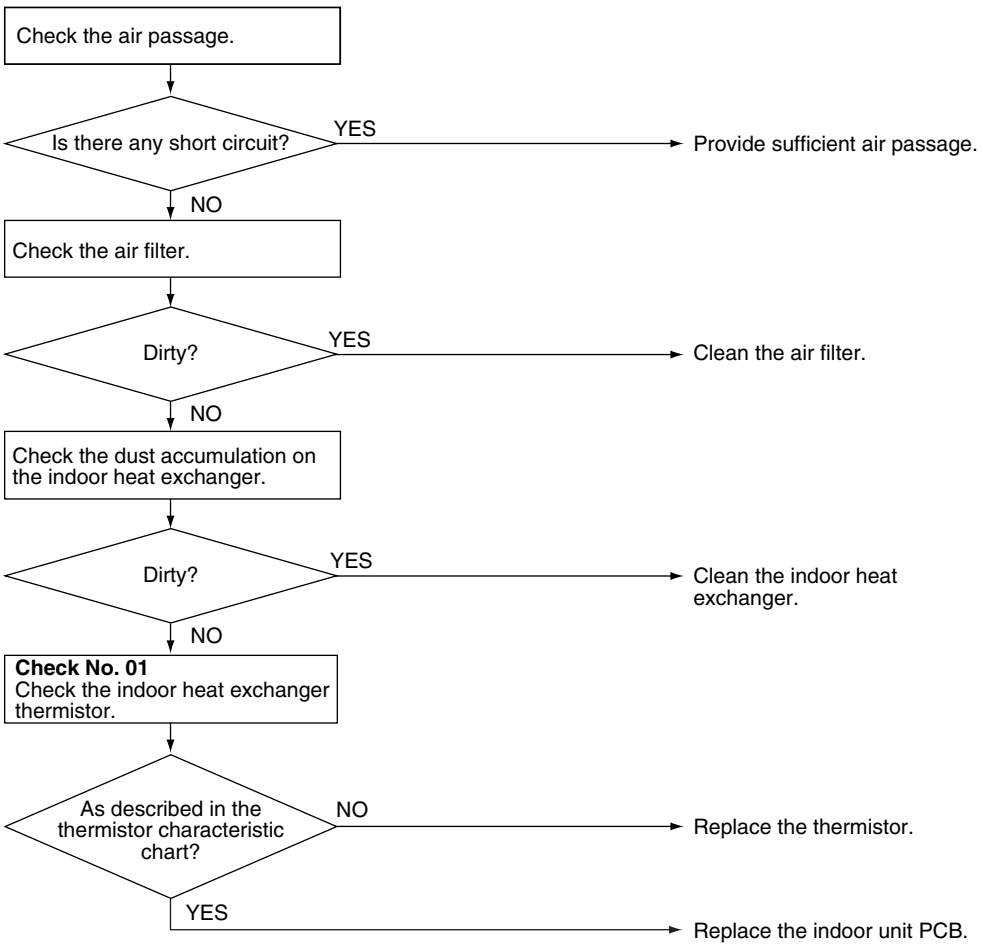
Supposed Causes

- Short-circuited air
- Clogged air filter of the indoor unit
- Dust accumulation on the indoor heat exchanger
- Defective indoor heat exchanger thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.325

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15715)

5.3 Fan Motor or Related Abnormality

5.3.1 DC Motor (Wall Mounted Type, Floor Standing Type)

Remote Controller Display

A6

Method of Malfunction Detection

The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor operation.

Malfunction Decision Conditions

The detected rotation speed does not reach the demanded rotation speed of the target tap, and is less than 50% of the maximum fan motor rotation speed.

Supposed Causes

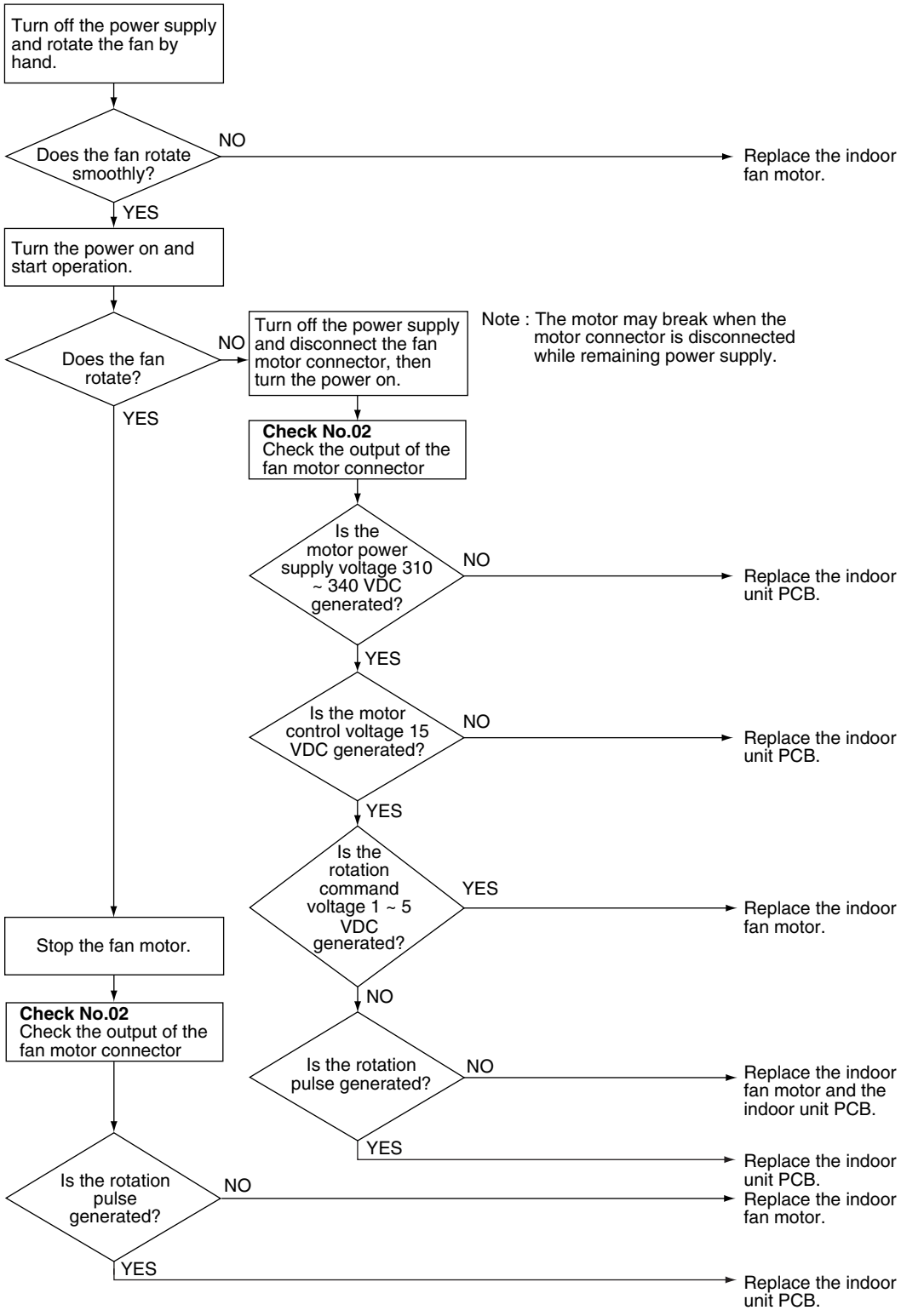
- Disconnection of connector
- Foreign matters stuck in the fan
- Layer short inside the fan motor winding
- Breaking of wire inside the fan motor
- Breaking of the fan motor lead wires
- Defective capacitor of the fan motor
- Defective indoor unit PCB

Troubleshooting

FTXG, FTXS-J, FTXS-G, FVXG, FVXS Series

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Check No.02
Refer to P.326



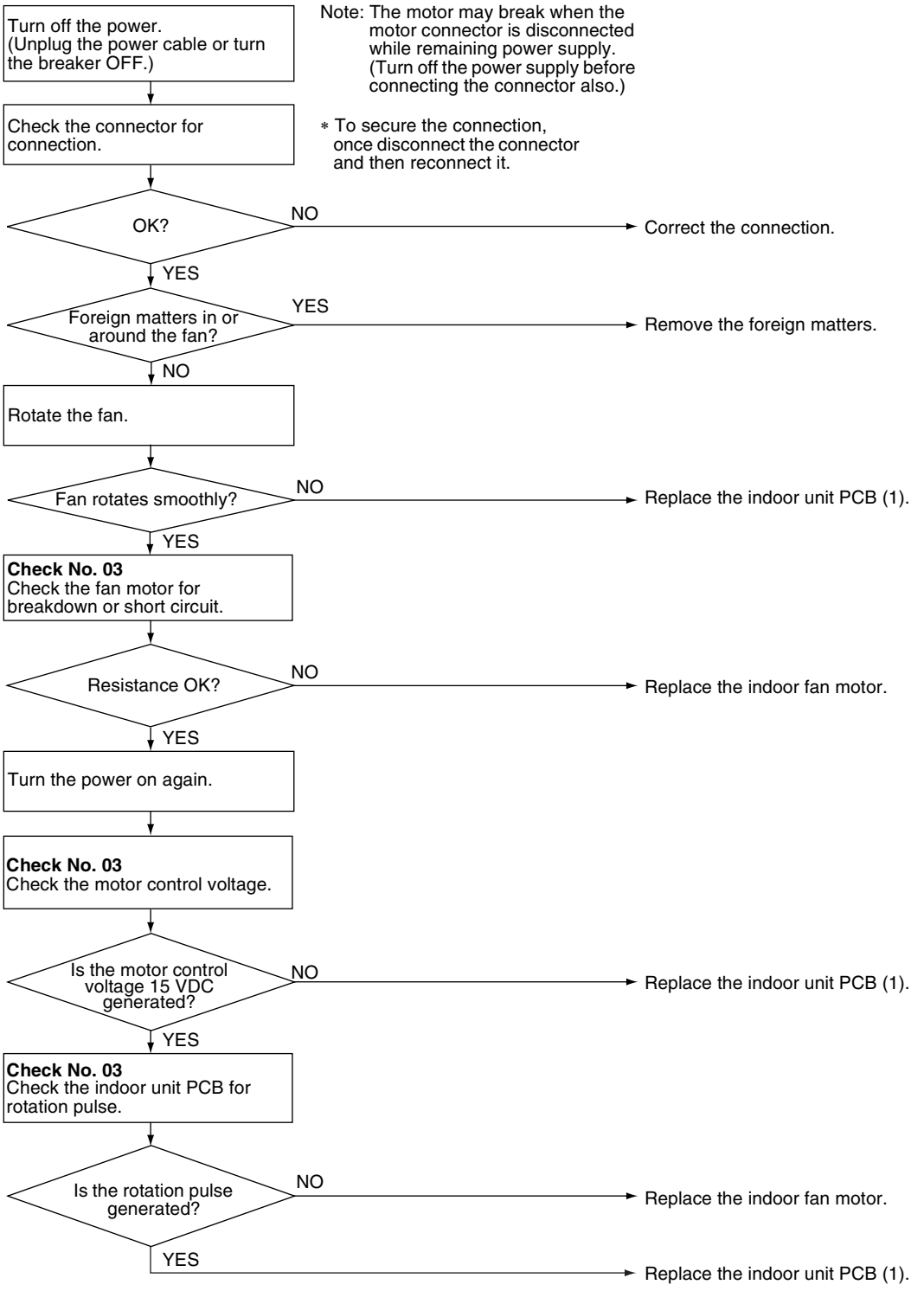
(R14970)

Troubleshooting

Check No.03
Refer to P.326

FTXS-K, CTXS-K Series

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R16048)

5.3.2 AC Motor (Duct Connected Type, Floor / Ceiling Suspended Dual Type)

Remote Controller Display

Method of Malfunction Detection

The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor operation.

Malfunction Decision Conditions

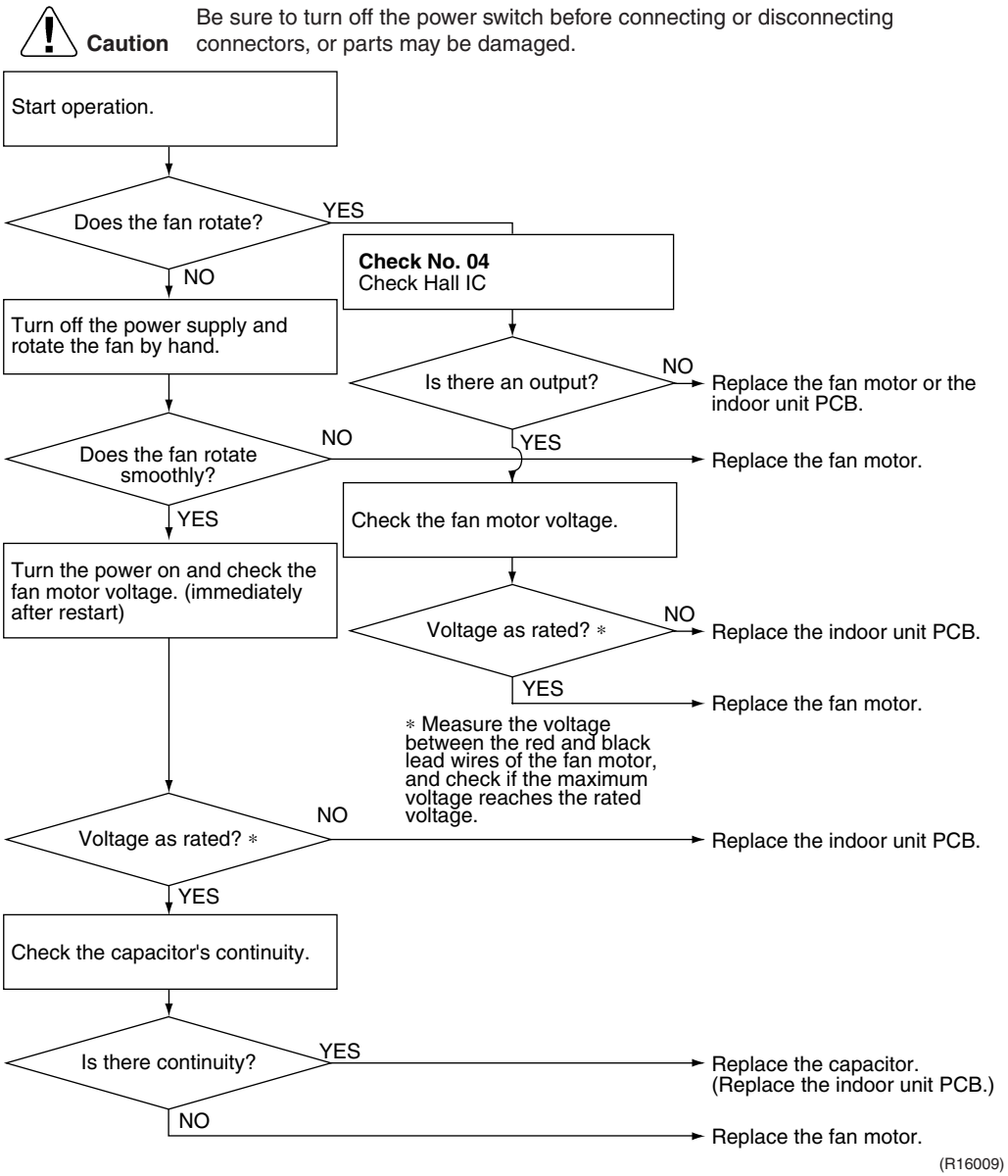
The detected rotation speed does not reach the demanded rotation speed of the target tap, and is less than 50% of the maximum fan motor rotation speed.

Supposed Causes

- Layer short inside the fan motor winding
- Breaking of wire inside the fan motor
- Breaking of the fan motor lead wires
- Defective capacitor of the fan motor
- Defective indoor unit PCB

Troubleshooting

Check No.04
Refer to P.327



5.4 Radiant Panel Temperature Rise, Indoor Electronic Expansion Valve (Motor Operated Valve) Abnormality, Freeze-up Protection Control (FVXG Series Only)

Remote Controller Display

A9

Method of Malfunction Detection

Radiant panel temperature rise
During RADIANT operation, high temperature control (e.g., operation halt, indoor electronic expansion valve closure) is activated according to the temperature detected by the radiant panel thermistors.

Indoor electronic expansion valve abnormality
- The indoor electronic expansion valve is required to be fully closed during cooling, dry or heating operation. When the indoor electronic expansion valve is open due to malfunction, the refrigerant flows into the radiant panel and the radiant panel temperature rises or drops.
- The indoor electronic expansion valve is required to be open during RADIANT operation. When the indoor electronic expansion valve is closed due to malfunction, the refrigerant does not flow into the radiant panel and the radiant panel temperature does not rise.
- For multi system
  The indoor electronic expansion valve is required to be fully closed in the room where the system does not run. When the indoor electronic expansion valve is open due to malfunction and heating or RADIANT operation is conducted in the other room(s), the refrigerant flows into the radiant panel and the radiant panel temperature rises.

Freeze-up protection control
The temperature detected by the radiant panel thermistors is used to prevent the indoor unit from freezing during cooling operation.

Malfunction Decision Conditions

Radiant panel temperature rise
The radiant panel surface temperature calculated by the radiant panel thermistors is above 70°C.

Indoor electronic expansion valve abnormality
- During cooling or dry operation, the temperature detected by the radiant panel thermistor (ϕ 4) has dropped.
- During heating operation, the temperature detected by the radiant panel thermistor (ϕ 4) has risen.
- During RADIANT operation, the temperature detected by the radiant panel thermistor (ϕ 4) does not rise.
- For multi system
  While the system does not run and heating or RADIANT operation is conducted in the other room(s), the temperature detected by the radiant panel thermistor (ϕ 4) has risen.

Freeze-up protection control
During cooling operation, the operation stops when the temperature detected by the radiant panel thermistor (ϕ 4) has dropped.

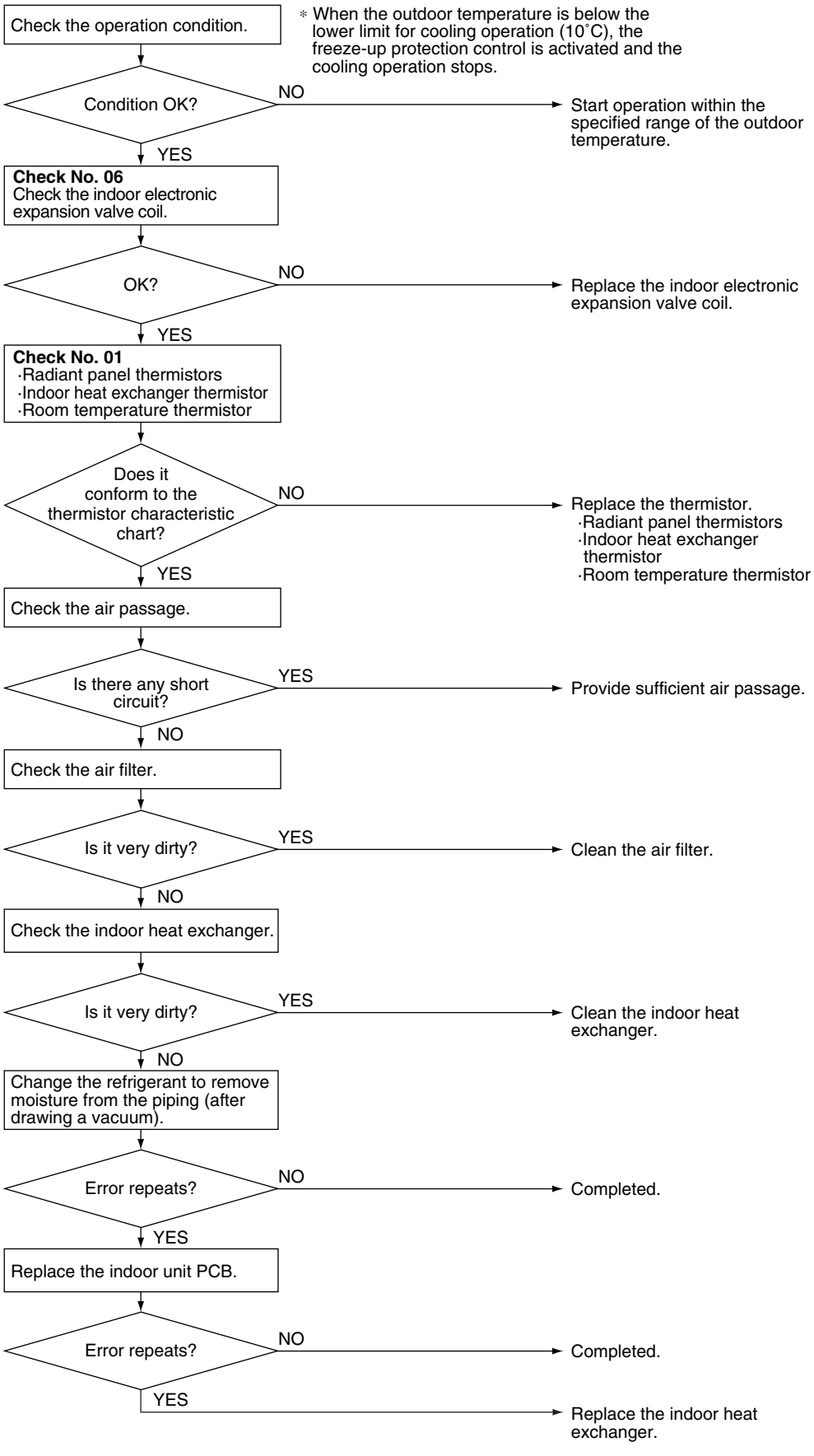
Supposed Causes
- Clogged air filter of the indoor unit
- Dust accumulation on the indoor heat exchanger
- Short-circuited air
- Defective radiant panel thermistor(s)
- Defective indoor heat exchanger thermistor
- Defective room temperature thermistor
- Defective indoor electronic expansion valve (or coil)

Troubleshooting

Check No.01
Refer to P.325

Check No.06
Refer to P.327

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14647)

5.5 Thermistor or Related Abnormality (RA Indoor Unit)

Remote Controller Display

C4, C9, CE

Method of Malfunction Detection

The temperatures detected by the thermistors are used to determine thermistor errors.

Malfunction Decision Conditions

The thermistor input is more than 4.96 V or less than 0.04 V during compressor operation.

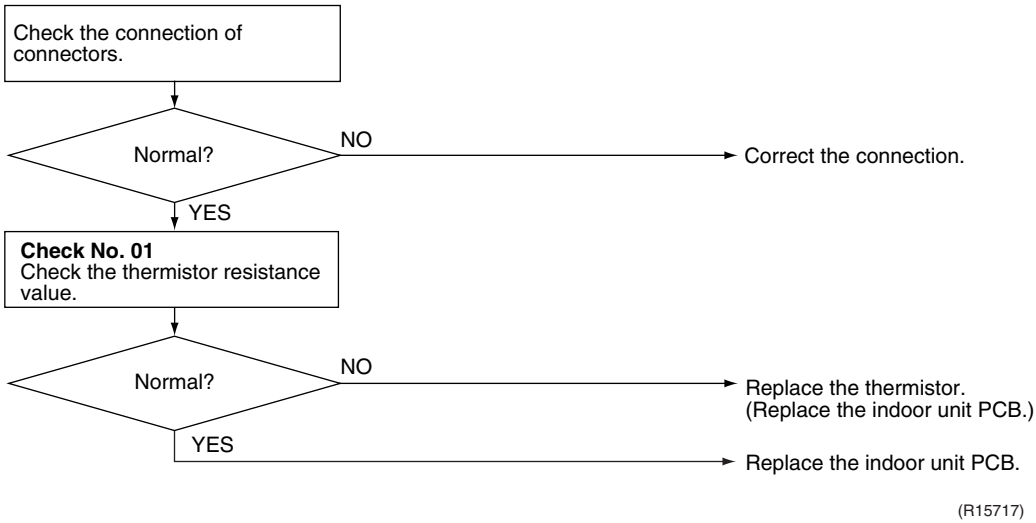
Supposed Causes

- Disconnection of connector
- Defective thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.325

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15717)

C4 : Indoor heat exchanger thermistor
C9 : Room temperature thermistor
CE : Radiant panel thermistor (FVXG series only)

5.6 Front Panel Open / Close Fault (FTXG Series Only)

Remote Controller Display

C7

Method of Malfunction Detection

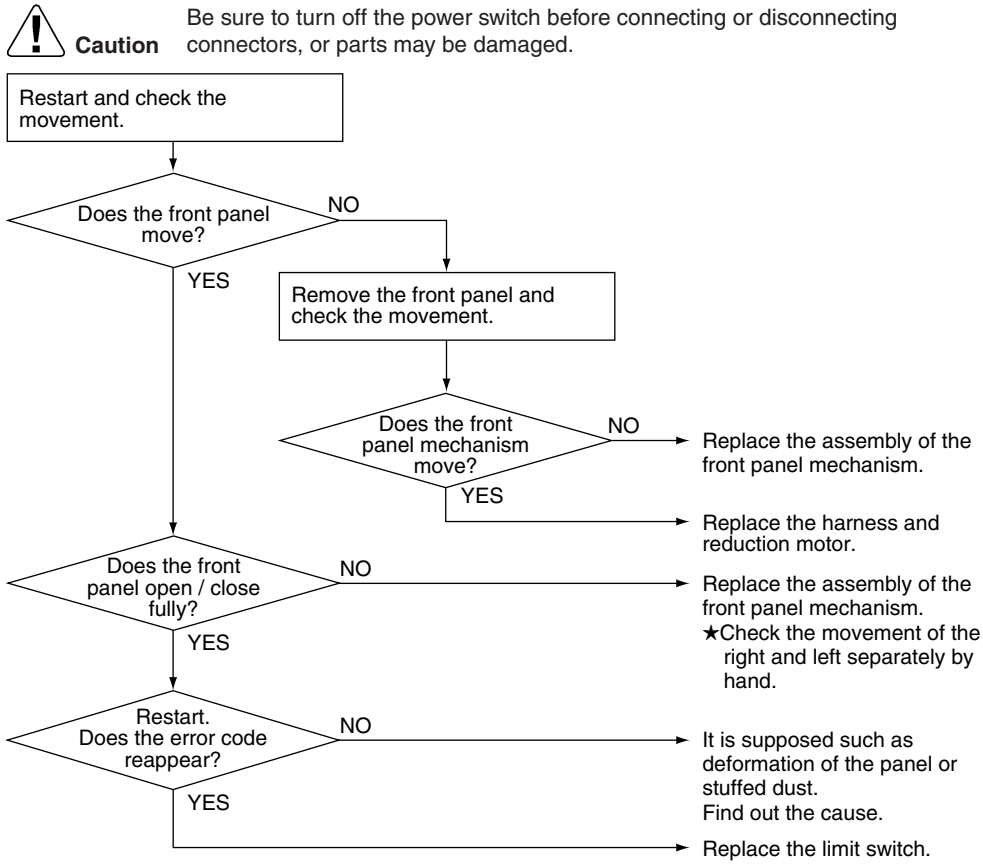
Malfunction Decision Conditions

- If the error repeats, the system is shut down.

Supposed Causes

- Defective reduction motor
- Malfunction or deterioration of the front panel mechanism
- Defective limit switch

Troubleshooting



(R17249)

Note: You cannot operate the unit by the remote controller when the front panel mechanism breaks down.

<To the dealers: temporary measure before repair>

1. Turn off the power.
2. Remove the front panel.
3. Turn on the power.
   (Wait until the initialization finishes.)
4. Operate the unit by the indoor unit [ON/OFF] button.

5.7 Signal Transmission Error (between Indoor Unit and Outdoor Unit)

Remote Controller Display

U4

Method of Malfunction Detection

The data received from the outdoor unit in indoor unit-outdoor unit signal transmission is checked whether it is normal.

Malfunction Decision Conditions

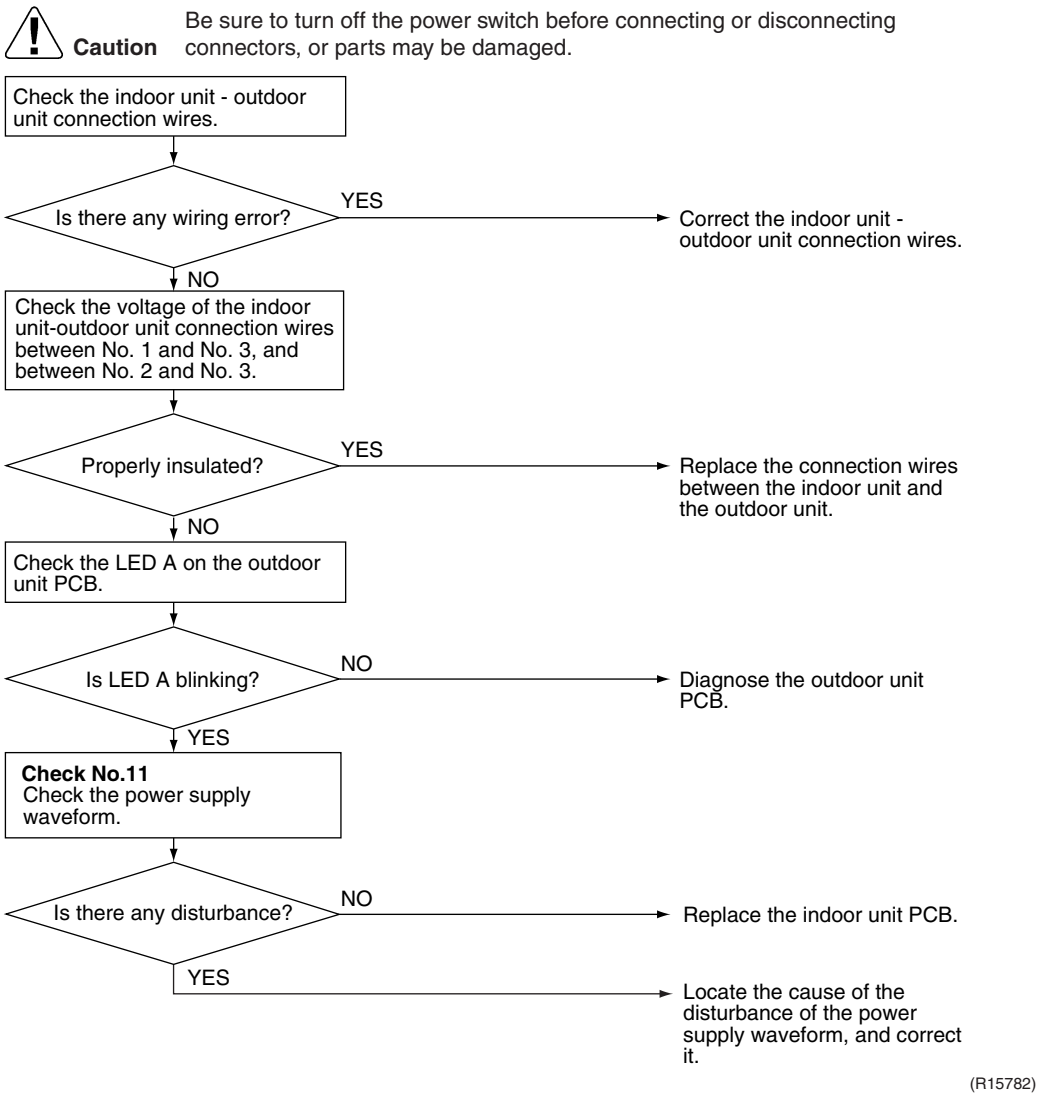
The data sent from the outdoor unit cannot be received normally, or the content of the data is abnormal.

Supposed Causes

- Wiring error
- Breaking of the connection wires between the indoor and outdoor units (wire No. 3)
- Defective outdoor unit PCB
- Defective indoor unit PCB
- Disturbed power supply waveform

Troubleshooting

Check No.11
Refer to P.328



(R15782)

5.8 Unspecified Voltage (between Indoor Unit and Outdoor Unit)

Remote Controller Display

Method of Malfunction Detection

The supply power is detected for its requirements (different from pair type and multi type) by the indoor / outdoor transmission signal.

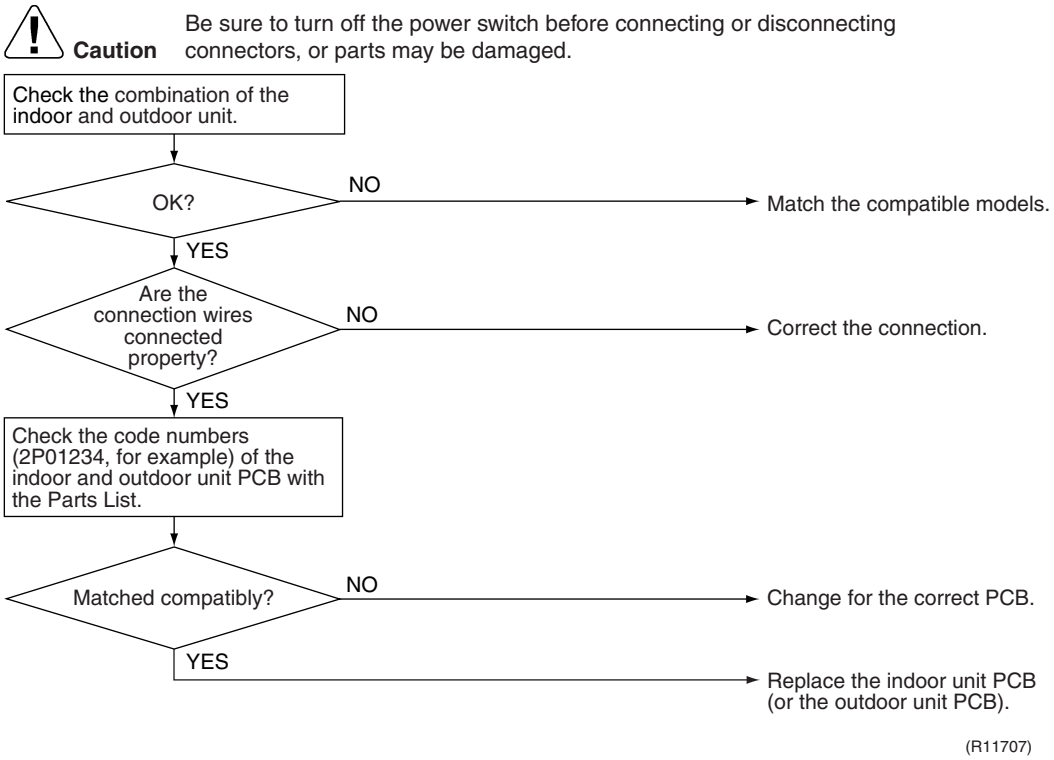
Malfunction Decision Conditions

The pair type and multi type are interconnected.

Supposed Causes

- Wrong models interconnected
- Wrong wiring of connecting wires
- Wrong indoor unit PCB or outdoor unit PCB mounted
- Defective indoor unit PCB
- Defective outdoor unit PCB

Troubleshooting



6. Troubleshooting for SA Indoor Unit - FCQG, FFQ, FHQ, FDBQ, FBQ Series

6.1 Indoor Unit PCB Abnormality

Remote Controller Display

A1

Method of Malfunction Detection

The system checks the data from EEPROM.

Malfunction Decision Conditions

When the data from the EEPROM is not received correctly

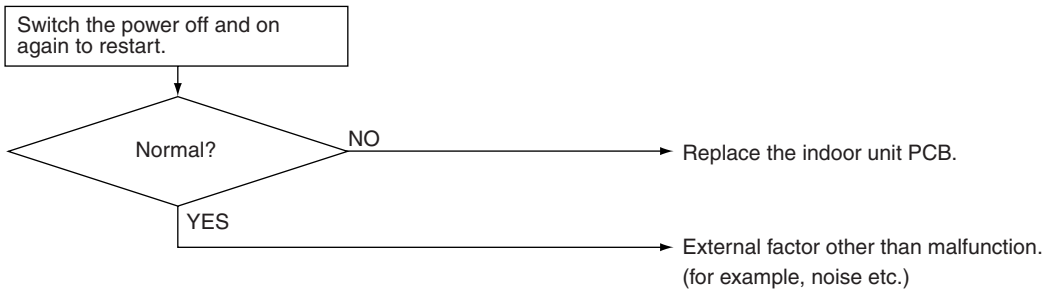
EEPROM (Electrically Erasable Programmable Read Only Memory): A memory chip that holds its content without power. It can be erased, either within the computer or externally and usually requires more voltage for erasure than the common +5 volts used in logic circuits. It functions like non-volatile RAM, but writing to EEPROM is slower than writing to RAM.

Supposed Causes

- Defective indoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R11294)

6.2 Drain Water Level System Abnormality

Remote Controller Display

A3

Method of Malfunction Detection

The float switch detects error.

Malfunction Decision Conditions

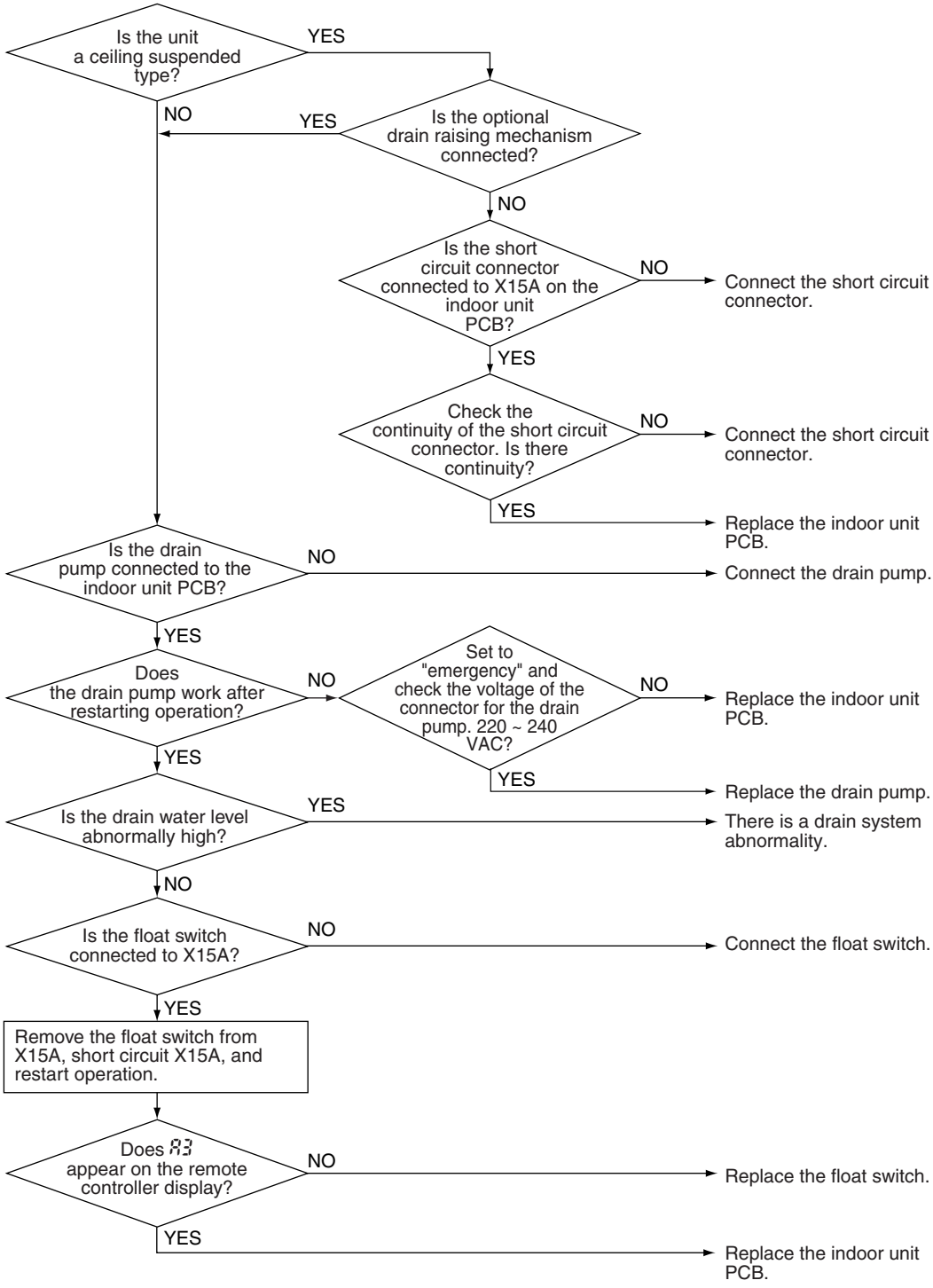
When the water level reaches its upper limit and when the float switch turns OFF

Supposed Causes

- Defective drain pump
- Improper drain piping work
- Clogged drain piping
- Defective float switch
- Defective indoor unit PCB
- Defective short circuit connector X15A on indoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17250)

Note: If 83 is detected by the indoor unit PCB which is not mounted with X15A, the indoor unit PCB is defective.

6.3 Fan Motor or Related Abnormality

Remote Controller Display

Method of Malfunction Detection

The signal from the fan motor detects abnormal fan speed.

Malfunction Decision Conditions

When the fan rotations are not detected while the output voltage to the fan is at its maximum

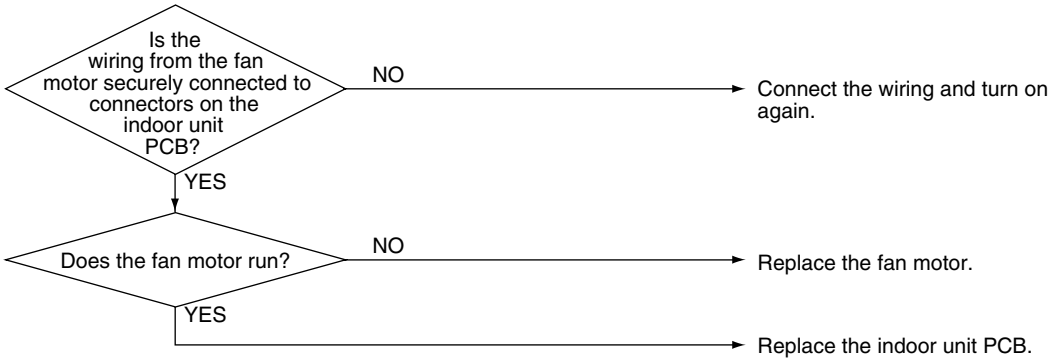
Supposed Causes

- Defective indoor fan motor
- Broken or disconnected wire
- Defective contact
- Defective indoor unit PCB

Troubleshooting

FCQC, FFQ, FDBQ, FBQ Series

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

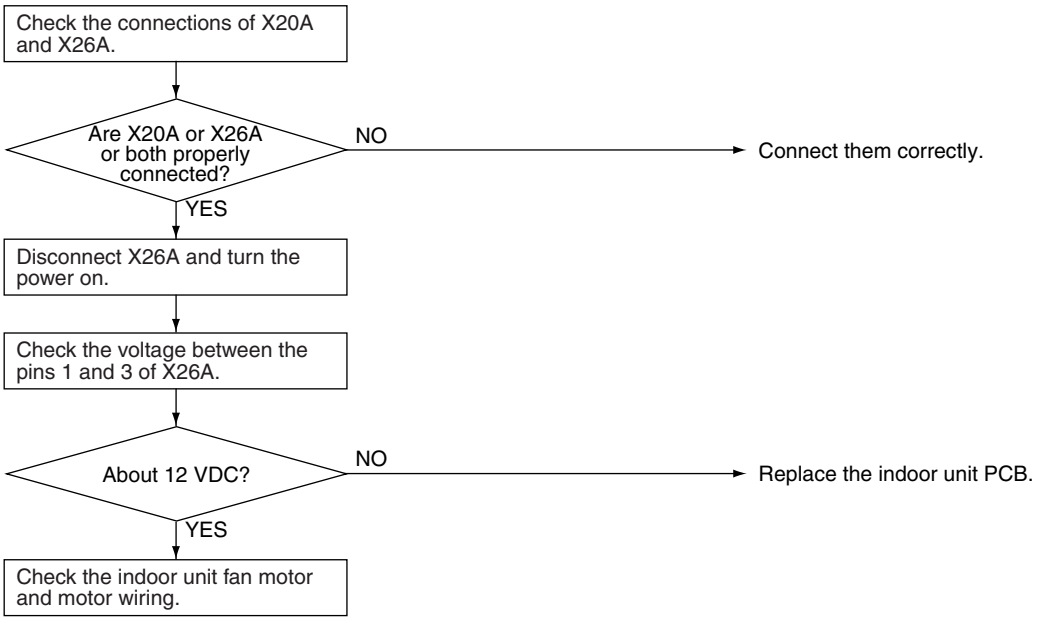


(R11296)

Troubleshooting

FHQ Series

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R12862)

Note: There is a possibility of open phase power supply, also check the power supply.

6.4 Swing Motor Lock (FHQ Series Only)

Remote Controller Display

A7

Method of Malfunction Detection

The error is detected by the limit switch when the motor turns.

Malfunction Decision Conditions

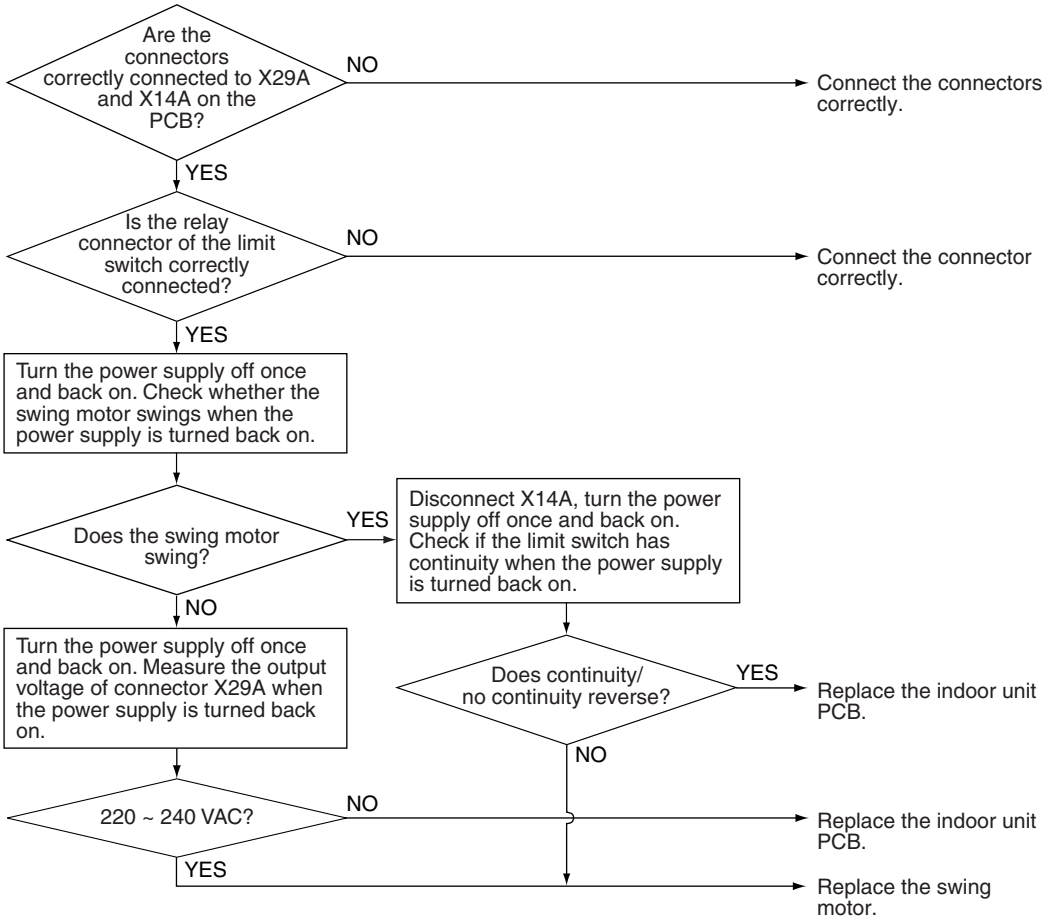
When the ON/OFF micro-switch for position detection cannot be reversed even though the swing motor is energized for a specified amount of time (about 30 seconds).

Supposed Causes

- Defective swing motor
- Defective micro-switch
- Disconnection of connector
- Defective indoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17251)

6.5 Drain System Abnormality

Remote Controller Display

Method of Malfunction Detection

Water leakage is detected based on the float switch ON/OFF changeover while the compressor is not operating.

Malfunction Decision Conditions

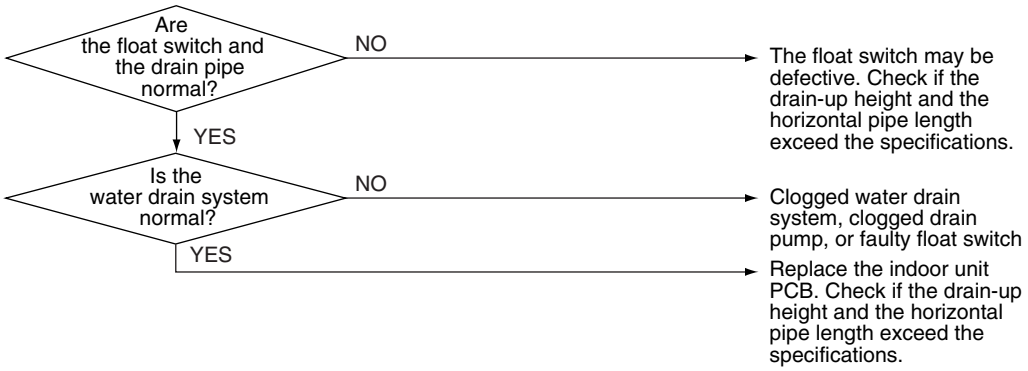
When the float switch changes from ON to OFF while the compressor is OFF

Supposed Causes

- Error in the drain pipe installation
- Defective float switch
- Defective indoor unit PCB

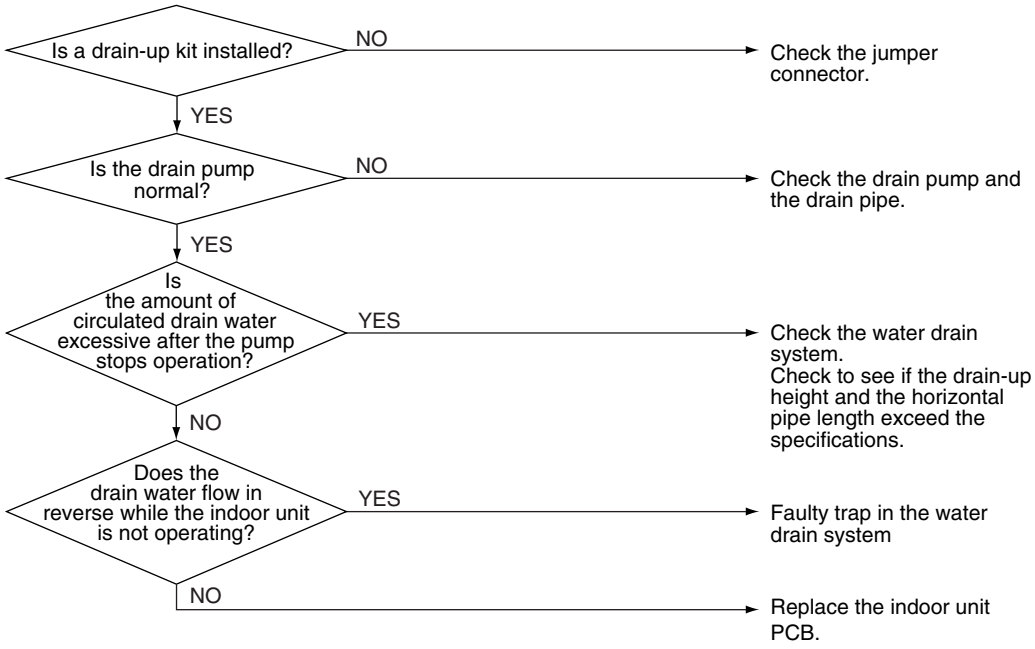
Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R16022)

* In FHQ, problems can also occur in the optional drain pump.



(R13752)

6.6 Thermistor or Related Abnormality (SA Indoor Unit)

Remote Controller Display

C4, C9

Method of Malfunction Detection

The temperatures detected by the thermistors determine thermistor errors.

Malfunction Decision Conditions

The thermistor input is more than 4.96 V or less than 0.04 V during compressor operation.

Supposed Causes

- Disconnection of connector
- Defective thermistor
- Defective indoor unit PCB

Troubleshooting

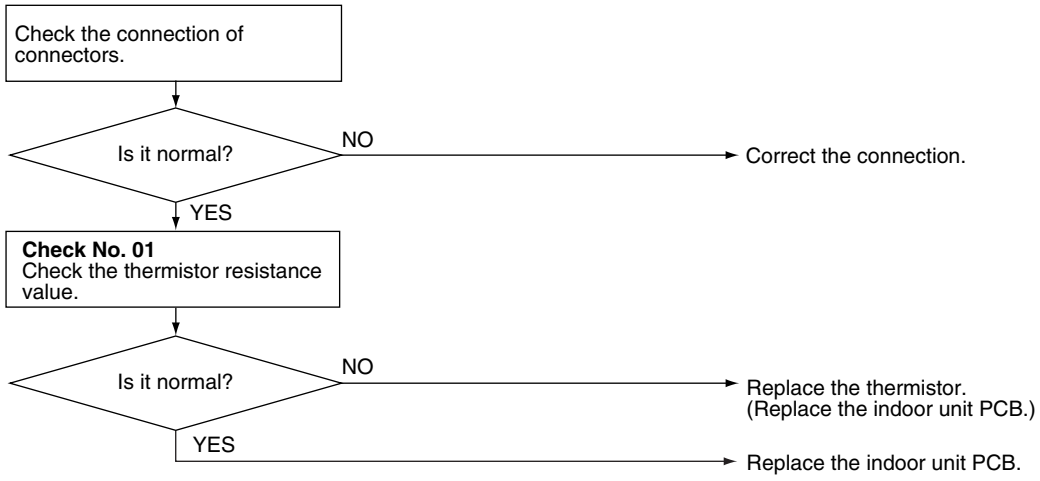
Check No.01
Refer to P.325

If the cause of the problem is related to the thermistors, the thermistors should be checked prior to changing the indoor unit PCB.

To check the thermistors, proceed as follows:

Step	Action
1	Disconnect the thermistor from the indoor unit PCB.
2	Read the temperature and the resistance value.
3	Check if the measured values correspond with the values in the table of thermistor resistance check.

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14406)

C4 : Indoor heat exchanger thermistor (R2T, R3T)
C9 : Room temperature thermistor (R1T)

6.7 Remote Controller Thermistor Abnormality

Remote Controller Display

C J

Method of Malfunction Detection

Even if remote controller thermistor is faulty, system is possible to operate by system thermistor. Malfunction detection is carried out by the temperature detected by remote controller thermistor.

Malfunction Decision Conditions

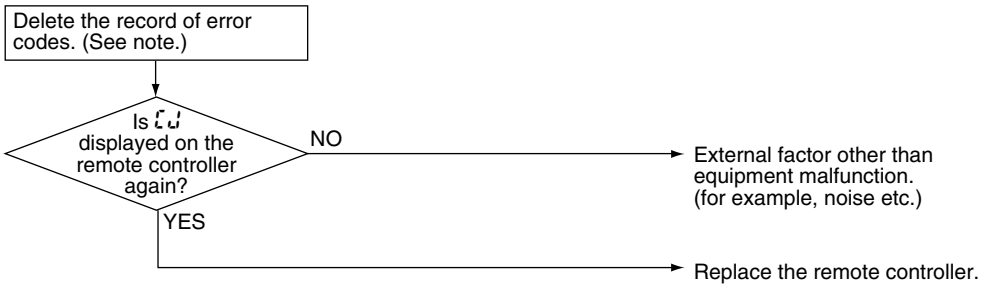
When the remote controller thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defective thermistor
- Broken wire

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17252)

Note: To delete the record of error codes, press the [ON/OFF] button for 4 seconds or more while the error code is displayed in the inspection mode.

6.8 Signal Transmission Error (between Indoor Unit and Remote Controller)

Remote Controller Display

U5

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and remote controller is normal.

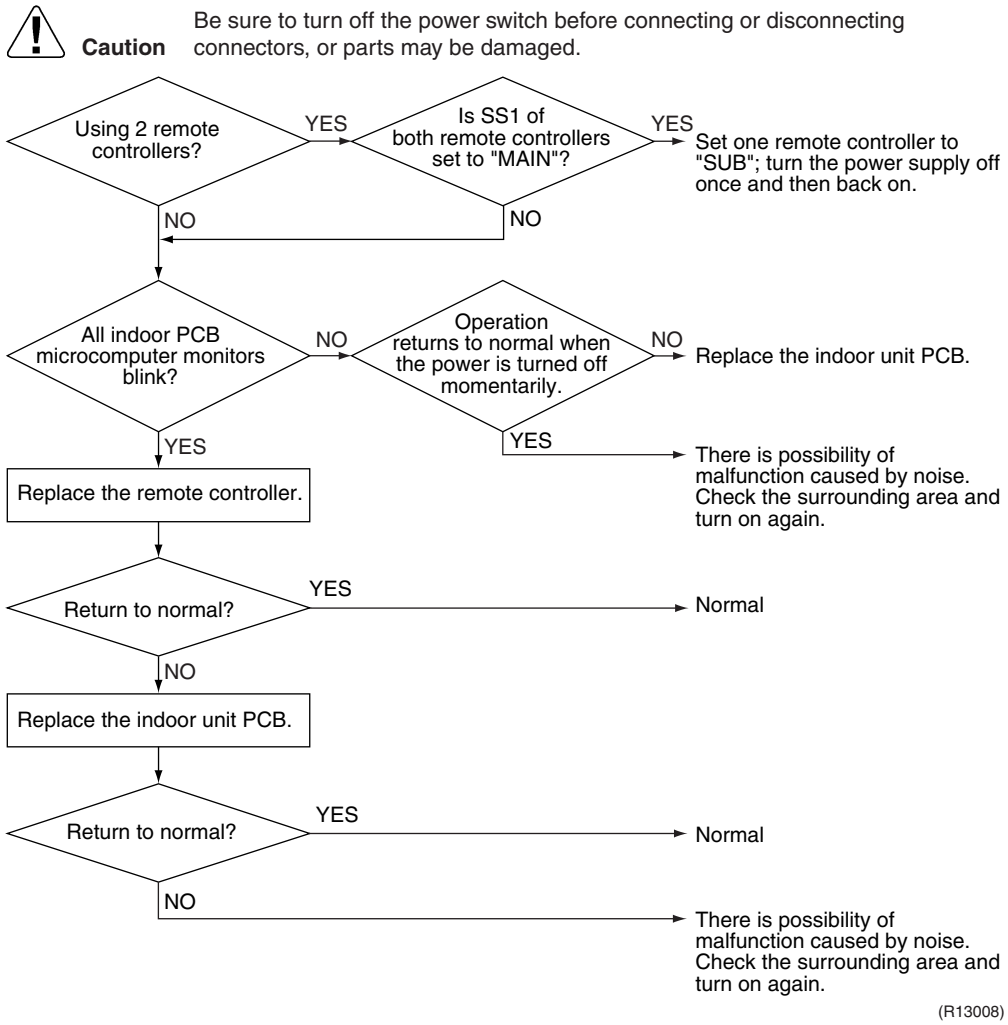
Malfunction Decision Conditions

Normal transmission does not continue for specified period.

Supposed Causes

- Connection of 2 main remote controllers (when using 2 remote controllers)
- Defective indoor unit PCB
- Defective remote controller
- Transmission error caused by noise

Troubleshooting



6.9 Signal Transmission Error (between MAIN Remote Controller and SUB Remote Controller)

Remote Controller Display

U8

Method of Malfunction Detection

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

Malfunction Decision Conditions

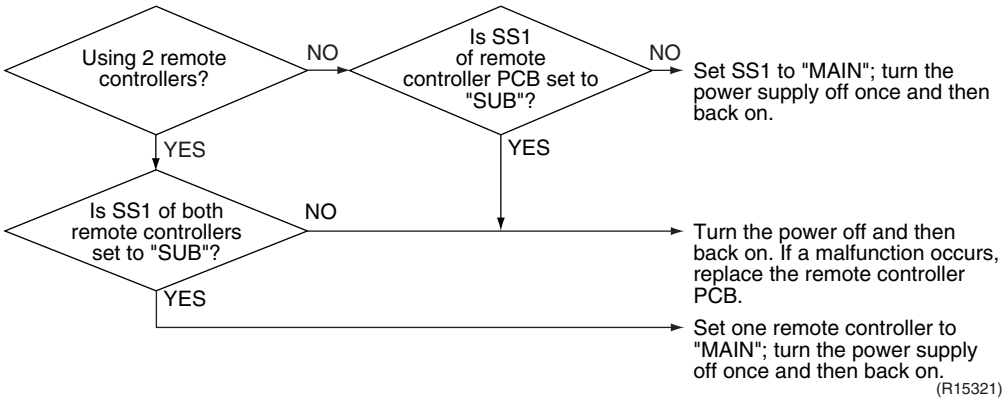
Normal transmission does not continue for specified period.

Supposed Causes

- Remote controller is set to “SUB” when using 1 remote controller
- Connection of 2 sub remote controllers (when using 2 remote controllers)
- Defective remote controller PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



6.10 Field Setting Abnormality

Remote Controller Display

UA

Method of Malfunction Detection

Malfunction Decision Conditions

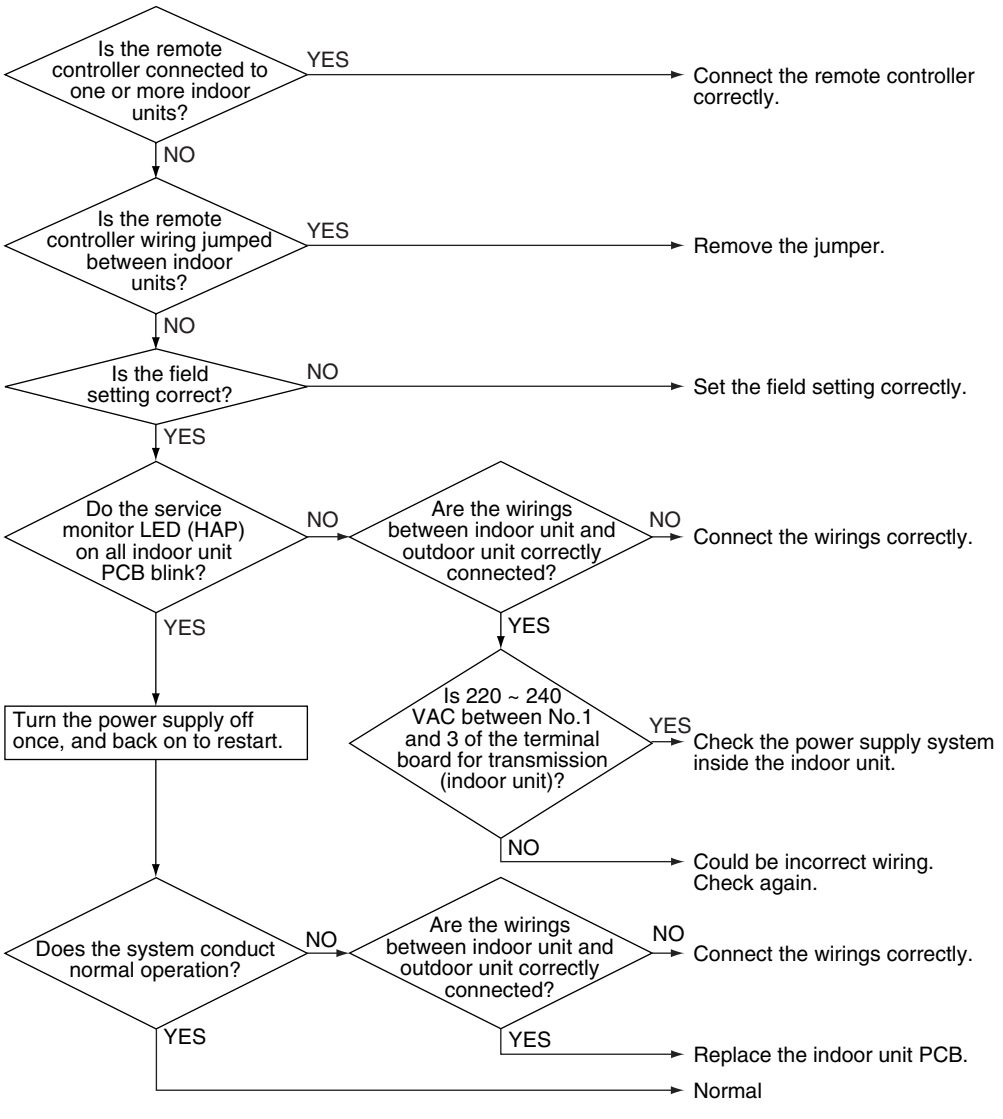
Incorrect field setting

Supposed Causes

- Defective indoor unit PCB
- Defective outdoor unit PCB
- Defective power supply PCB
- Indoor-outdoor, indoor-indoor unit transmission wiring
- Defective remote controller wiring

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17253)

7. Troubleshooting for Outdoor Unit

7.1 Refrigerant Shortage

Remote Controller Display

U0

Outdoor Unit LED Display

A ◑ 1 ● 2 ● 3 ☼ 4 ☼ 5 ●

Method of Malfunction Detection

Refrigerant shortage detection I :
Refrigerant shortage is detected by checking the input current value and the compressor output frequency. If the refrigerant is short, the input current is smaller than the normal value.

Refrigerant shortage detection II :
Refrigerant shortage is detected by checking the discharge pipe temperature and the opening of the outdoor electronic expansion valve. If the refrigerant is short, the discharge pipe temperature tends to rise.

Malfunction Decision Conditions

Refrigerant shortage detection I :
The following conditions continue for 7 minutes.

- DC current ≤ **A** × Compressor output frequency + **B**
- Output frequency > **C**

	A (–)	**B** (A)	**C** (Hz)
40/50/52/58 class	0.01	0.3	54
68/75 class	0.035	0.5	55
80/90 class	0.027	2.0	40

Refrigerant shortage detection II :
The following conditions continue for 80 seconds.

- Opening of the outdoor electronic expansion valve ≥ **D**
- Discharge pipe temperature > **E** × target discharge pipe temperature + **F**

	D (pulse)	**E** (–)	**F** (°C)
Cooling	450	255/256	20
Heating			40

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

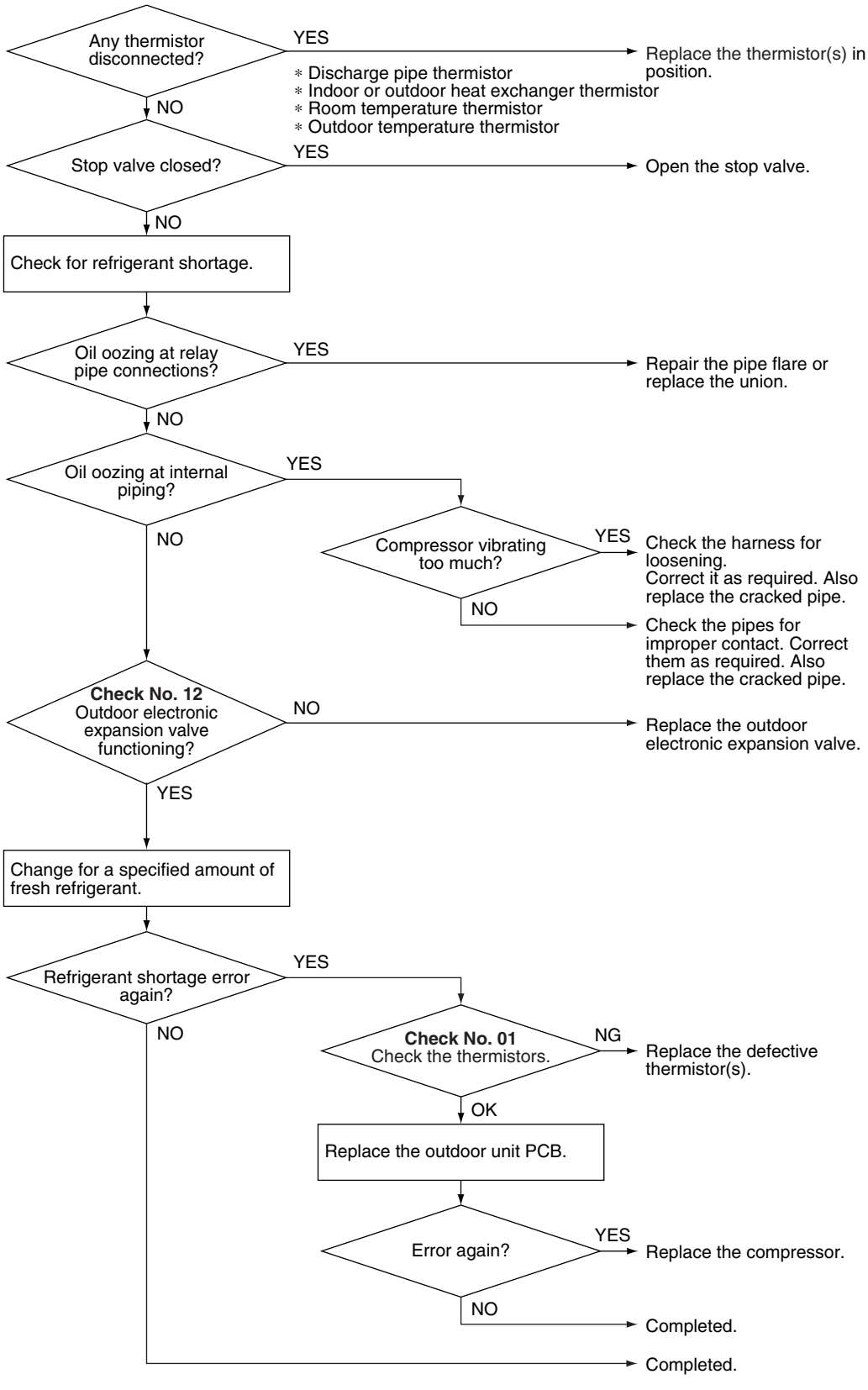
- Disconnection of the discharge pipe thermistor, indoor or outdoor heat exchanger thermistor, room or outdoor temperature thermistor
- Closed stop valve
- Refrigerant shortage (refrigerant leakage)
- Poor compression performance of compressor
- Defective outdoor electronic expansion valve

Troubleshooting

Check No.01
Refer to P.325

Check No.12
Refer to P.329

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R17254)

7.2 Low-voltage Detection or Over-voltage Detection

Remote Controller Display

U2

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ● 3 ● 4 ☼ 5 ●

Method of Malfunction Detection

★ Indoor Unit

The zero-cross detection of the power supply is evaluated by the indoor unit PCB.

★ Outdoor Unit

Low-voltage detection:
An abnormal voltage drop is detected by the DC voltage detection circuit.

Over-voltage detection:
An abnormal voltage rise is detected by the over-voltage detection circuit.

Malfunction Decision Conditions

★ Indoor Unit

There is no zero-cross detection in approximately 10 seconds.

★ Outdoor Unit

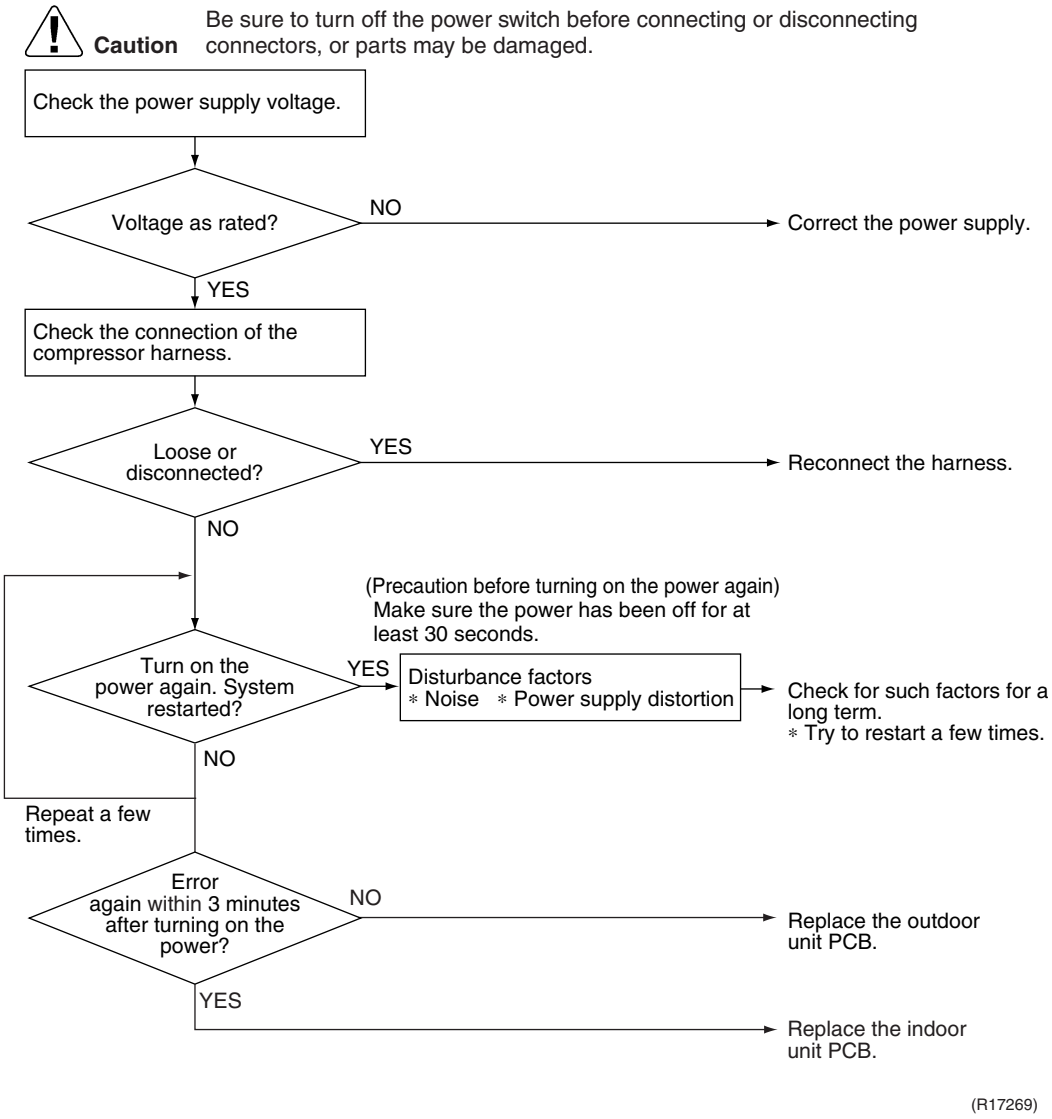
Low-voltage detection:
- The voltage detected by the DC voltage detection circuit is below 150 V for 0.1 second.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Over-voltage detection:
- An over-voltage signal is fed from the over-voltage detection circuit to the microcomputer.
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

Supposed Causes

- Supply voltage is not as specified.
- Defective DC voltage detection circuit
- Defective over-voltage detection circuit
- Defective PAM control part
- Disconnection of compressor harness
- Noise
- Momentary fall of voltage
- Momentary power failure
- Defective indoor unit PCB

Troubleshooting



7.3 Signal Transmission Error (on Outdoor Unit PCB)

Remote Controller Display

U7

Outdoor Unit LED Display

A ◑ 1 ● 2 ☼ 3 ☼ 4 ☼ 5 ●

Method of Malfunction Detection

Communication error between microcomputer mounted on the main PCB and PM1.

Malfunction Decision Conditions

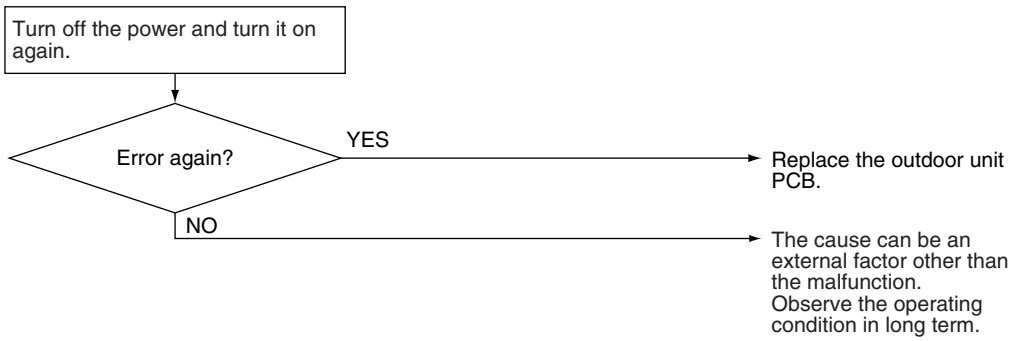
- The abnormality is determined when the data sent from the PM1 can not be received for 9 seconds.
- The error counter is reset when the data from the PM1 can be successfully received.

Supposed Causes

- Defective outdoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R7185)

7.4 Unspecified Voltage (between Indoor Unit and Outdoor Unit) / Anti-icing Function in Other Rooms

Remote Controller Display

U9, UH

Outdoor Unit LED Display

A ◑ 1 ● 2 ● 3 ● 4 ● 5 ●

Method of Malfunction Detection

A wrong connection is detected by checking the combination of indoor and outdoor units on the microcomputer.

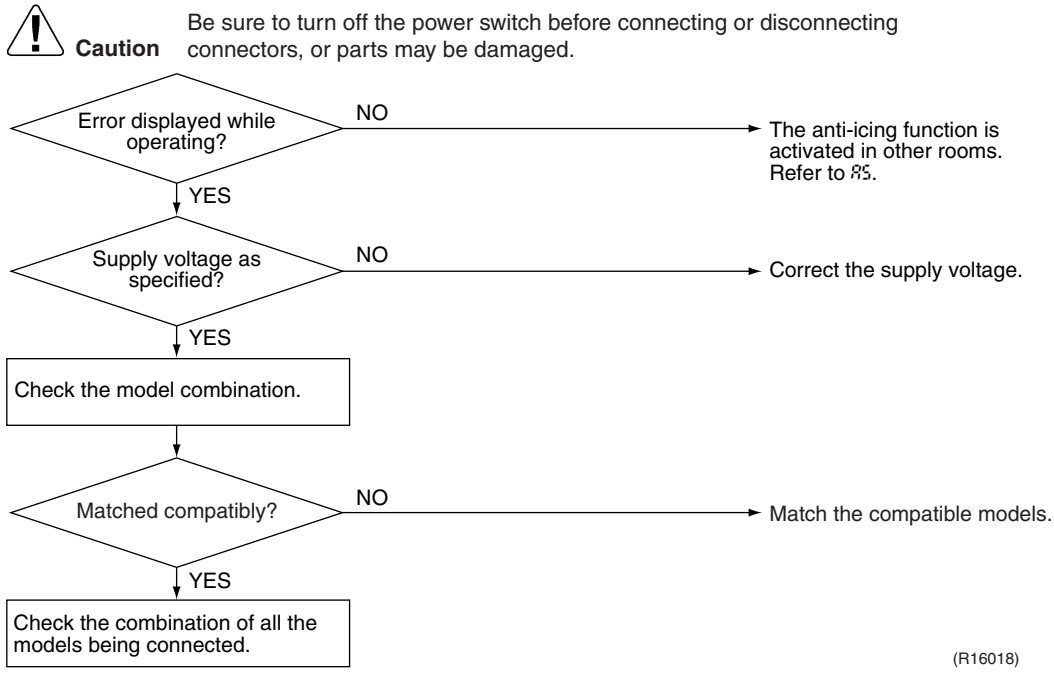
Malfunction Decision Conditions

- Anti-icing function in other rooms
- Unspecified internal and/or external voltages
- Mismatching of indoor and outdoor units

Supposed Causes

- Anti-icing function in other rooms
- Wrong models interconnected
- Wrong indoor unit PCB or outdoor unit PCB mounted

Troubleshooting



Note: Refer to “Anti-icing function” on page 302 for detail.

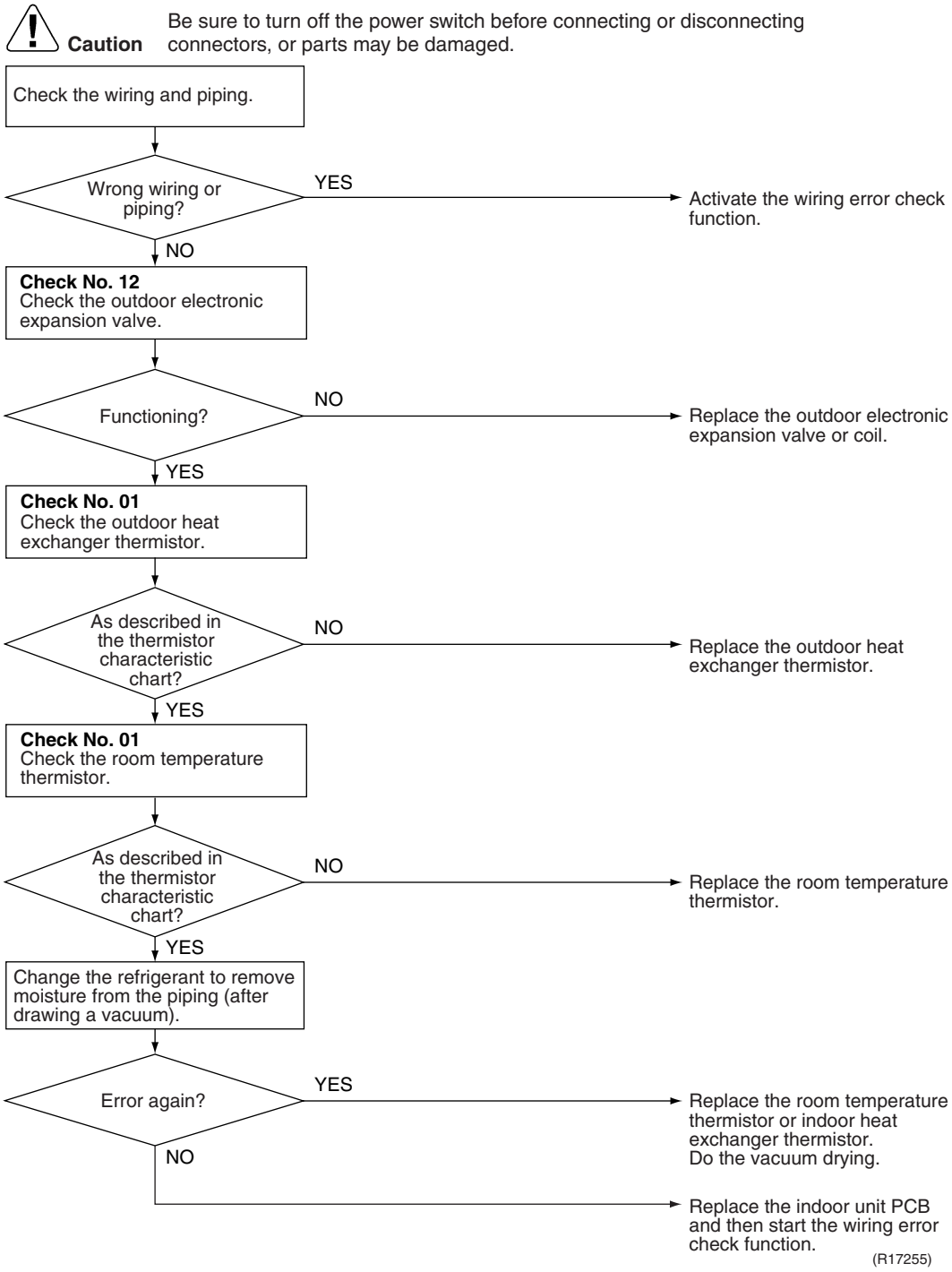
7.5 Anti-icing Function

Remote Controller Display	P5
Outdoor Unit LED Display	A ◑ 1 ☼ 2 ● 3 ☼ 4 ☼ 5 ●
Method of Malfunction Detection	During cooling operation, indoor unit icing is detected by checking the temperatures sensed by the indoor heat exchanger thermistor and room temperature thermistor that are located in a shut-down room.
Malfunction Decision Conditions	■ In cooling operation, the both conditions (A) and (B) are met for 5 minutes. (A) Room temperature – Indoor heat exchanger temperature ≥ 10°C (B) Indoor heat exchanger temperature ≤ –1°C ■ If the error repeats, the system is shut down. ■ Reset condition: Continuous run for about 60 minutes without any other error
Supposed Causes	■ Wrong wiring or piping ■ Defective outdoor electronic expansion valve ■ Short-circuited air ■ Defective indoor heat exchanger thermistor ■ Defective room temperature thermistor

Troubleshooting

Check No.01
Refer to P.325

Check No.12
Refer to P.329



7.6 Outdoor Unit PCB Abnormality

Remote Controller Display

E1

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ☼ 3 ☼ 4 ● 5 ●

Method of Malfunction Detection

Detect within the program of the microcomputer.

Malfunction Decision Conditions

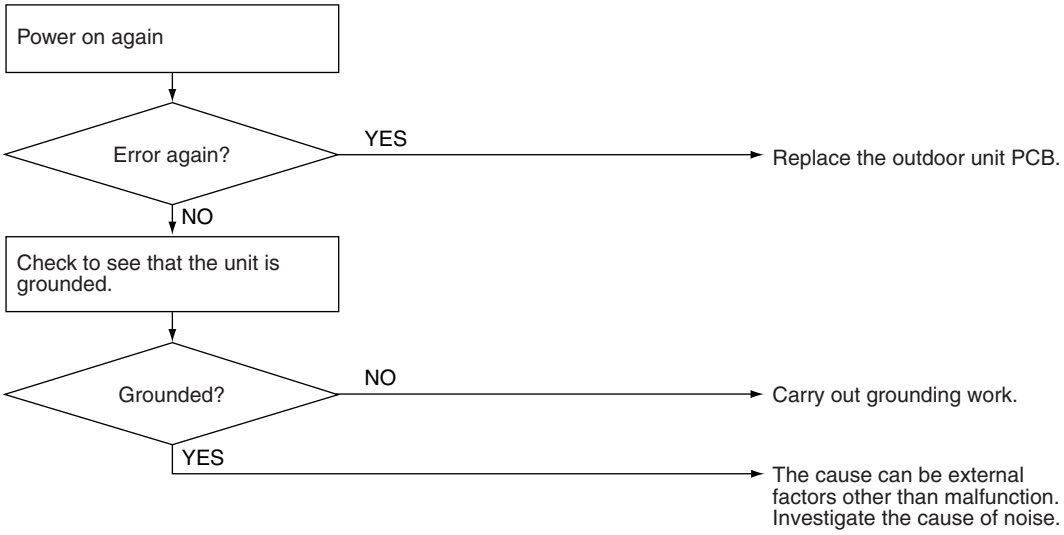
The program of the microcomputer is in abnormal running order.

Supposed Causes

- Defective outdoor unit PCB
- Noise
- Momentary fall of voltage
- Momentary power failure

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R7183)

7.7 OL Activation (Compressor Overload)

Remote Controller Display

E5

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ● 3 ☼ 4 ● 5 ●

Method of Malfunction Detection

A compressor overload is detected through compressor OL.

Malfunction Decision Conditions

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

∗ The operating temperature condition is not specified.

Supposed Causes

- Defective discharge pipe thermistor
- Defective outdoor electronic expansion valve or coil
- Defective four way valve or coil
- Defective outdoor unit PCB
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve

Troubleshooting

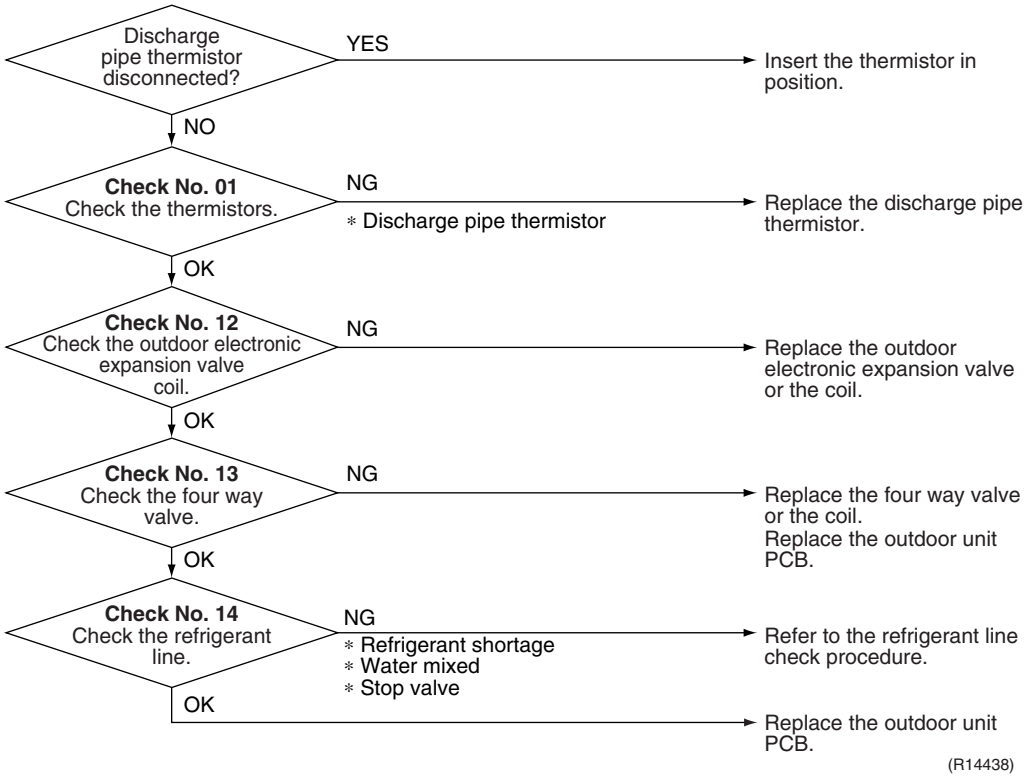
Check No.01
Refer to P.325

Check No.12
Refer to P.329

Check No.13
Refer to P.330

Check No.14
Refer to P.330

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14438)

7.8 Compressor Lock

Remote Controller Display

E6

Outdoor Unit LED Display

A ◑ 1 ● 2 ☼ 3 ☼ 4 ● 5 ●

Method of Malfunction Detection

A compressor lock is detected by checking the compressor running condition through the position detection circuit.

Malfunction Decision Conditions

- Judging from the current waveform generated when high-frequency voltage is applied to the compressor.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 5 minutes without any other error

Supposed Causes

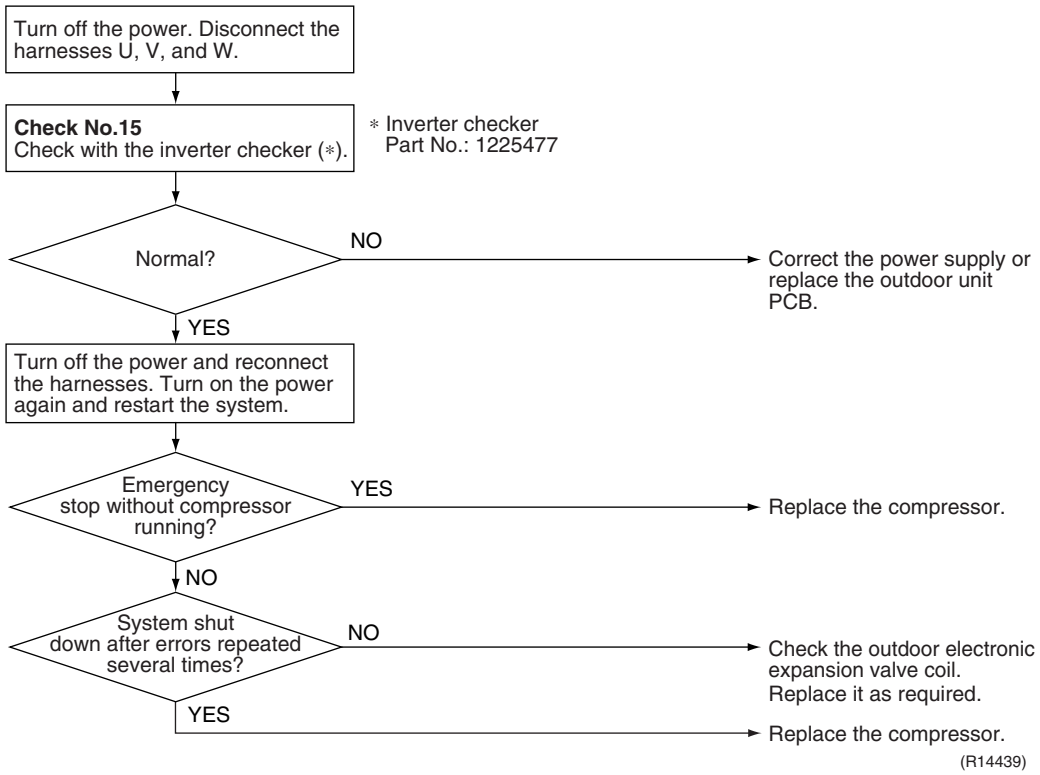
- Compressor locked
- Compressor harness disconnected

Troubleshooting

Check No.15
Refer to P.331

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

(Precaution before turning on the power again)
Make sure the power has been off for at least 30 seconds.



(R14439)

7.9 DC Fan Lock

Remote Controller Display

E7

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ☼ 3 ☼ 4 ☼ 5 ●

Method of Malfunction Detection

An error is determined with the high-voltage fan motor rotation speed detected by the Hall IC.

Malfunction Decision Conditions

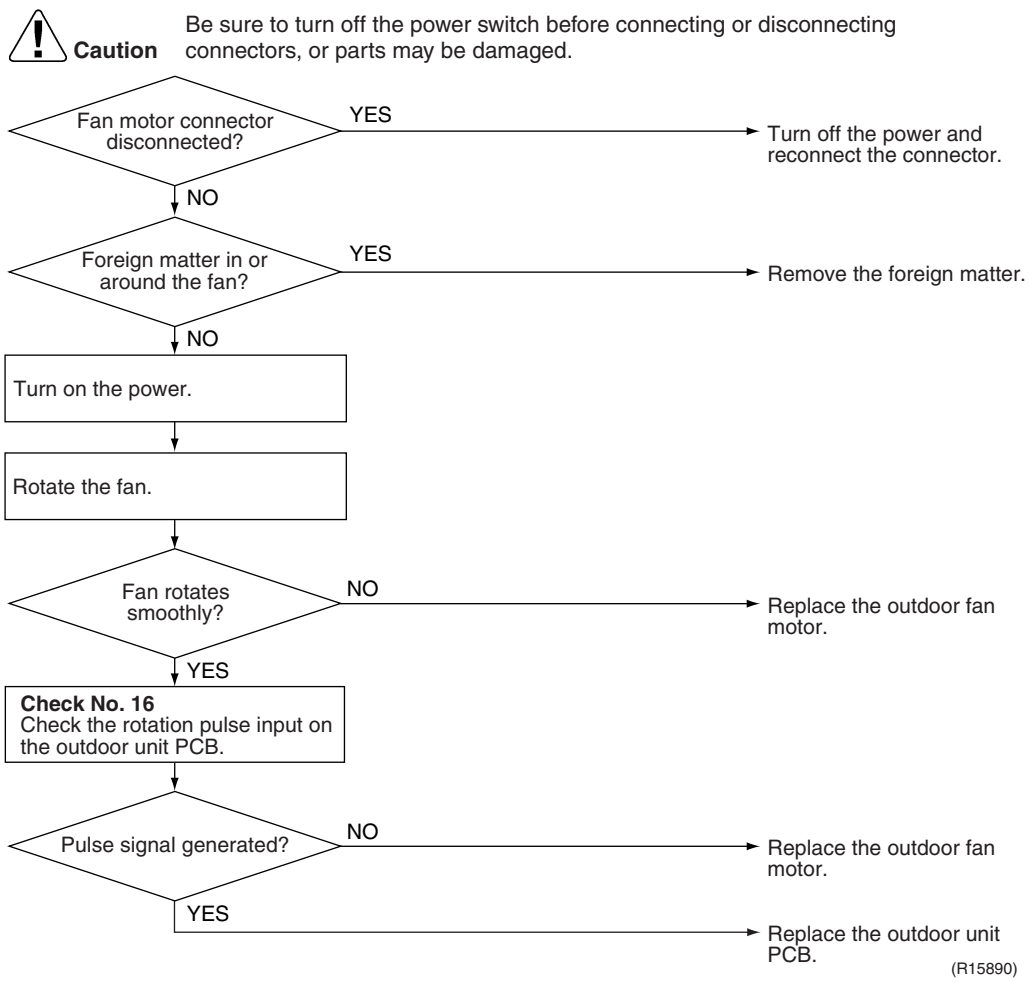
- The fan does not start in 30 seconds even when the fan motor is running.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 5 minutes without any other error

Supposed Causes

- Disconnection of the fan motor
- Foreign matter stuck in the fan
- Defective fan motor
- Defective outdoor unit PCB

Troubleshooting

Check No.16
Refer to P.332



7.10 Input Overcurrent Detection

Remote Controller Display

E8

Outdoor Unit LED Display

A ◑ 1 ● 2 ☼ 3 ● 4 ☼ 5 ●

Method of Malfunction Detection

Detected by checking the input current value

Malfunction Decision Conditions

- The input current is at a certain value (depending on the condition) for 2.5 seconds.
- The compressor halts if the error occurs, and restarts automatically after 3-minute standby.

Supposed Causes

- Outdoor temperature is out of operation range.
- Defective compressor
- Defective power module
- Defective outdoor unit PCB
- Short circuit

Troubleshooting

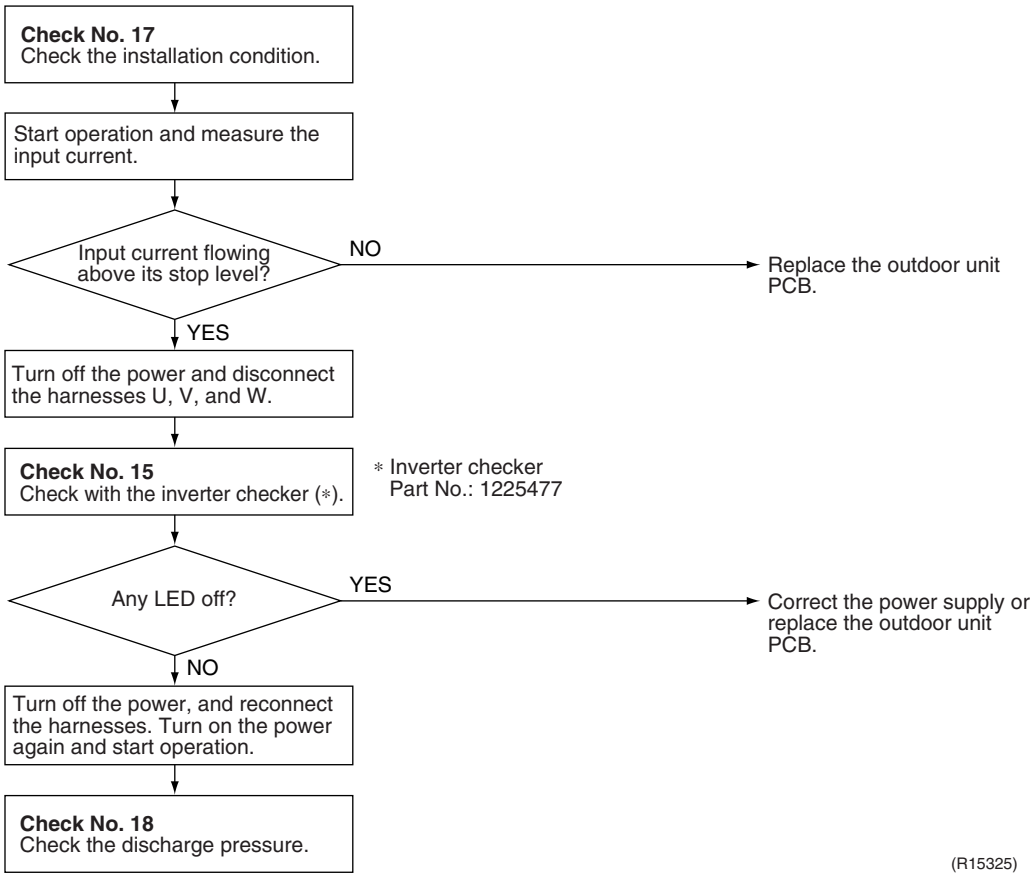
Check No.15
Refer to P.331

Check No.17
Refer to P.333

Check No.18
Refer to P.333

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

∗ An input overcurrent may result from wrong internal wiring. If the system is interrupted by an input overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



(R15325)

7.11 Discharge Pipe Temperature Control

Remote Controller Display

F3

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ● 3 ☼ 4 ● 5 ●

Method of Malfunction Detection

Detected by the discharge pipe thermistor

Malfunction Decision Conditions

- If the temperature detected by the discharge pipe thermistor rises above **A** °C, the compressor stops.
- The error is cleared when the discharge pipe temperature is dropped below **B** °C.

	A (°C)	**B** (°C)
40/50/52/58 class	110	95
68/75/80/90 class	120	107

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Defective discharge pipe thermistor (Defective outdoor heat exchanger thermistor or outdoor temperature thermistor)
- Defective outdoor electronic expansion valve or coil
- Refrigerant shortage
- Defective four way valve
- Water mixed in refrigerant
- Defective stop valve
- Defective outdoor unit PCB

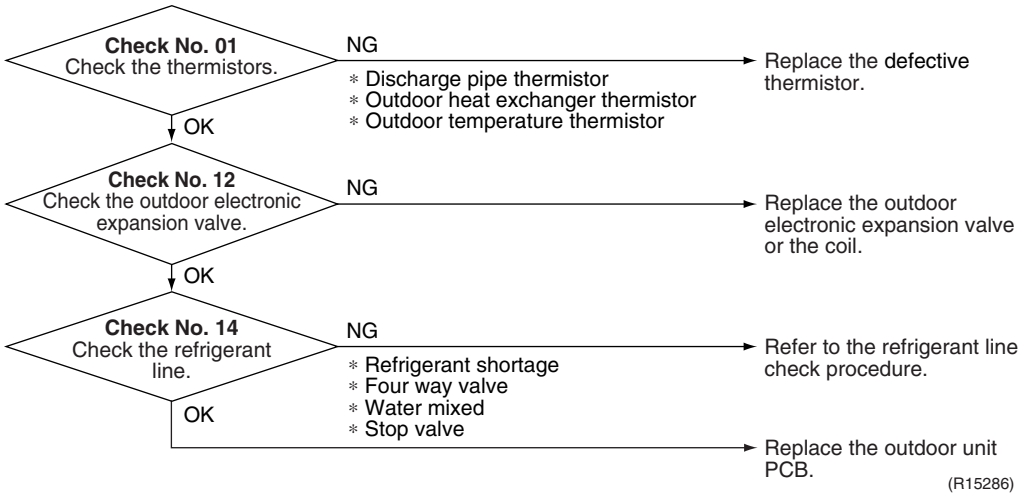
Troubleshooting

Check No.01
Refer to P.325

Check No.12
Refer to P.329

Check No.14
Refer to P.330

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15286)

7.12 High Pressure Control in Cooling

Remote Controller Display

F6

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ● 3 ☼ 4 ☼ 5 ●

Method of Malfunction Detection

High-pressure control (operation halt, frequency drop, etc.) is activated in cooling mode if the temperature sensed by the outdoor heat exchanger thermistor exceeds the limit.

Malfunction Decision Conditions

- The temperature sensed by the outdoor heat exchanger thermistor rises above about 65°C.
- The error is cleared when the temperature drops below about 50°C.

Supposed Causes

- The installation space is not large enough.
- Dirty outdoor heat exchanger
- Defective outdoor fan motor
- Defective stop valve
- Defective outdoor electronic expansion valve or coil
- Defective outdoor heat exchanger thermistor
- Defective outdoor unit PCB

Troubleshooting

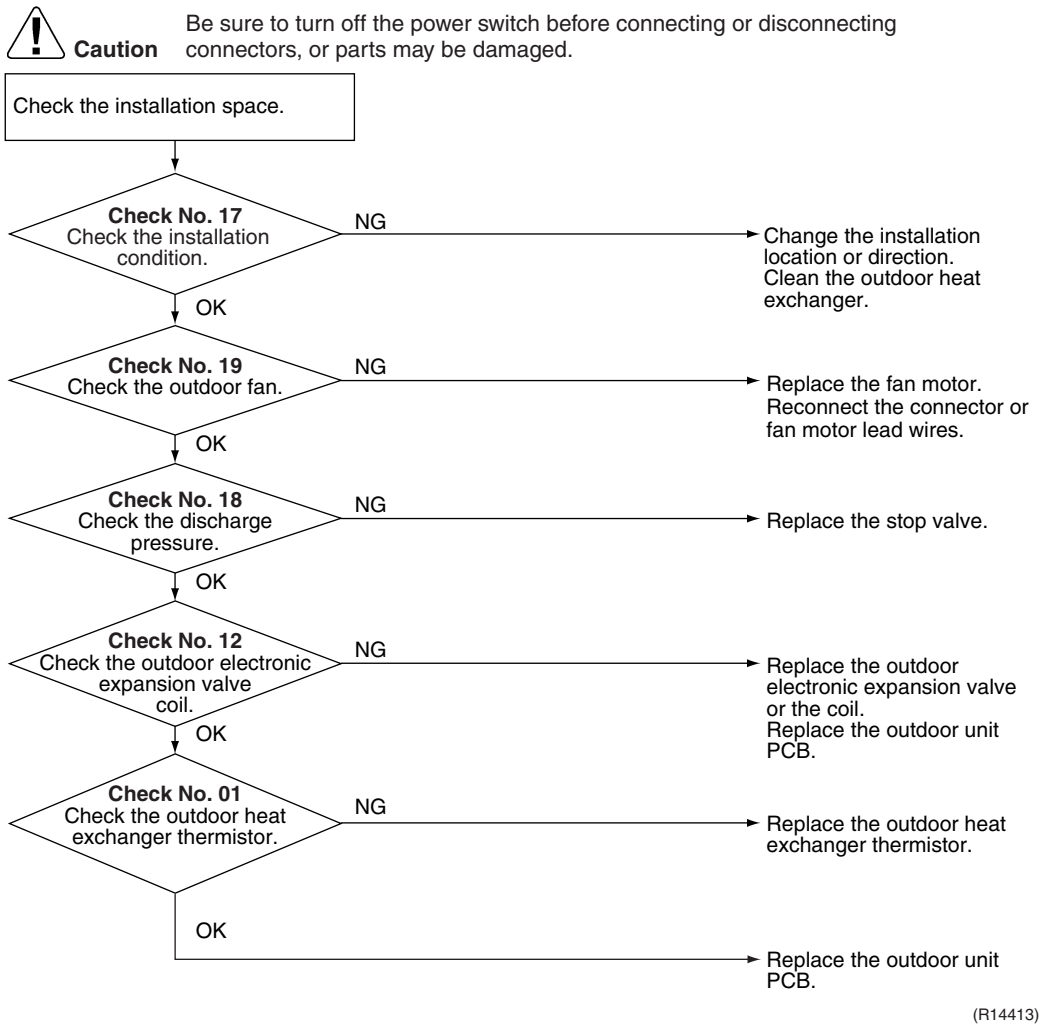
Check No.01 **Refer to P.325**

Check No.12 **Refer to P.329**

Check No.17 **Refer to P.333**

Check No.18 **Refer to P.333**

Check No.19 **Refer to P.334**

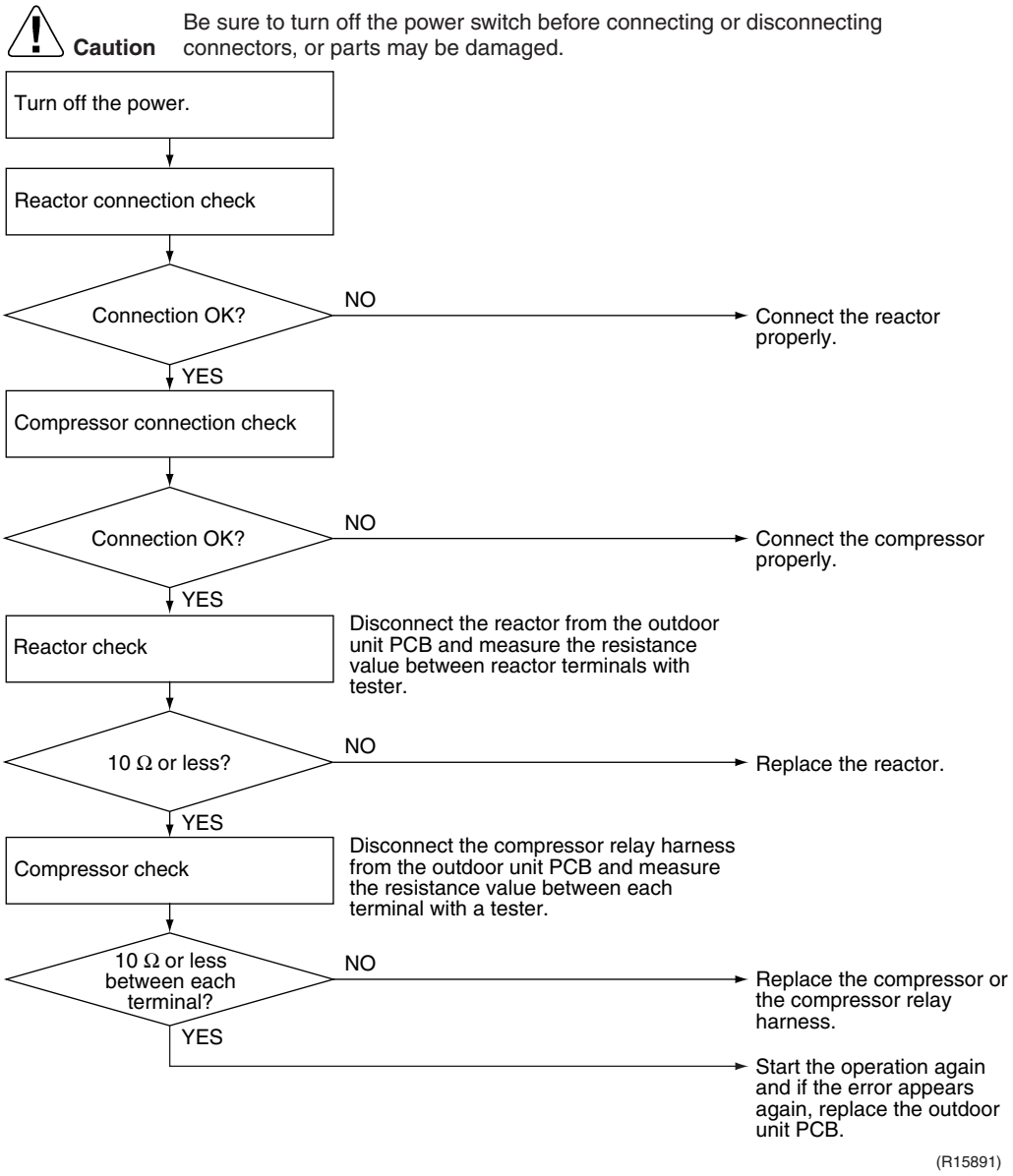


(R14413)

7.13 Compressor Sensor System Abnormality

Remote Controller Display	H0
Outdoor Unit LED Display	A ◑ 1 ☼ 2 ☼ 3 ● 4 ● 5 ●
Method of Malfunction Detection	■ Fault condition is identified by the supply voltage and the DC voltage which is detected before the compressor startup. ■ Fault condition is identified by the compressor current which is detected right after the compressor startup. ■ If the error repeats, the system is shut down. ■ Reset condition: Continuous run for about 5 minutes without any other error
Malfunction Decision Conditions	■ The detected value of the supply voltage and the DC voltage is obviously low or high. ■ The compressor current does not run when the compressor is started.
Supposed Causes	■ Disconnection of reactor ■ Disconnection of compressor harness ■ Defective outdoor unit PCB ■ Defective compressor

Troubleshooting



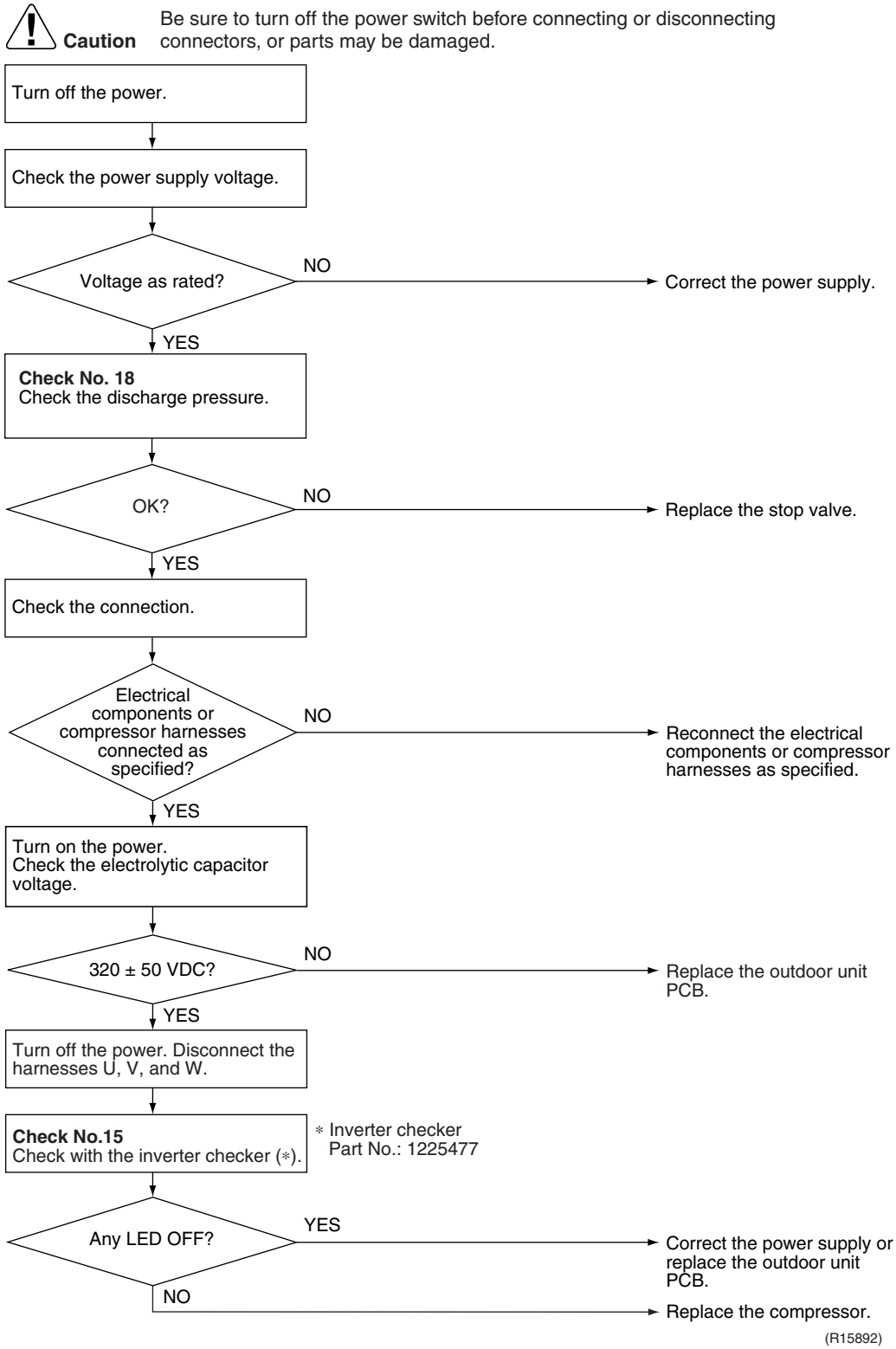
7.14 Position Sensor Abnormality

Remote Controller Display	H6
Outdoor Unit LED Display	A ◑ 1 ☼ 2 ☼ 3 ● 4 ● 5 ●
Method of Malfunction Detection	A compressor startup failure is detected by checking the compressor running condition through the position detection circuit.
Malfunction Decision Conditions	■ If the error repeats, the system is shut down. ■ Reset condition: Continuous run for about 5 minutes without any other error
Supposed Causes	■ Disconnection of the compressor relay cable ■ Defective compressor ■ Defective outdoor unit PCB ■ Start-up failure caused by the closed stop valve ■ Input voltage is outside the specified range.

Troubleshooting

Check No.15
Refer to P.331

Check No.18
Refer to P.333



7.15 CT or Related Abnormality

Remote Controller Display

H8

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ☼ 3 ● 4 ● 5 ●

Method of Malfunction Detection

A CT or related error is detected by checking the compressor running frequency and CT-detected input current.

Malfunction Decision Conditions

- The compressor running frequency is more than **A** Hz and input current is less than **B** A.

	A (Hz)	**B** (A)
40/50/52/58/68/75 class	55	0.5
80/90 class	32	0.5

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

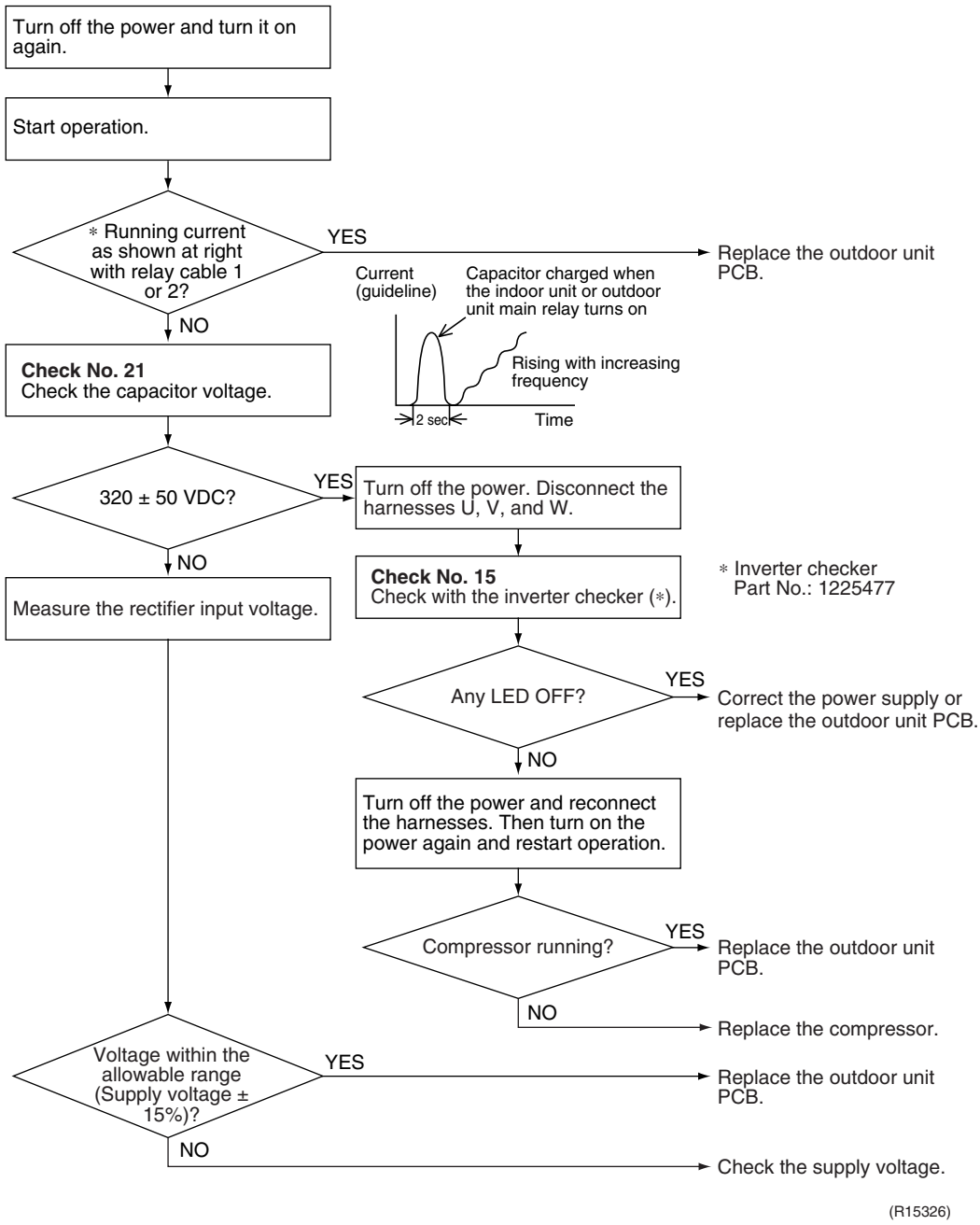
- Defective power module
- Broken or disconnected wiring
- Defective reactor
- Defective outdoor unit PCB

Troubleshooting

Check No.15
Refer to P.331

Check No.21
Refer to P.334

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R15326)

7.16 Thermistor or Related Abnormality (Outdoor Unit)

Remote Controller Display

H9, J3, J6, J8, J9, P4

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ☼ 3 ● 4 ● 5 ●

Method of Malfunction Detection

This type of error is detected by checking the thermistor input voltage to the microcomputer.
A thermistor error is detected by checking the temperature sensed by each thermistor.

Malfunction Decision Conditions

- The thermistor input is above 4.96 V or below 0.04 V with the power on.
- J3 error is judged if the discharge pipe temperature is lower than the heat exchanger temperature.
- The system is shut down if all the units are judged as the J8 error.

Supposed Causes

- Disconnection of the connector for the thermistor
- Defective thermistor corresponding to the error code
- Defective heat exchanger thermistor in the case of J3 error (outdoor heat exchanger thermistor in cooling operation, or indoor heat exchanger thermistor in heating operation)
- Defective outdoor unit PCB

Troubleshooting

In case of P4

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

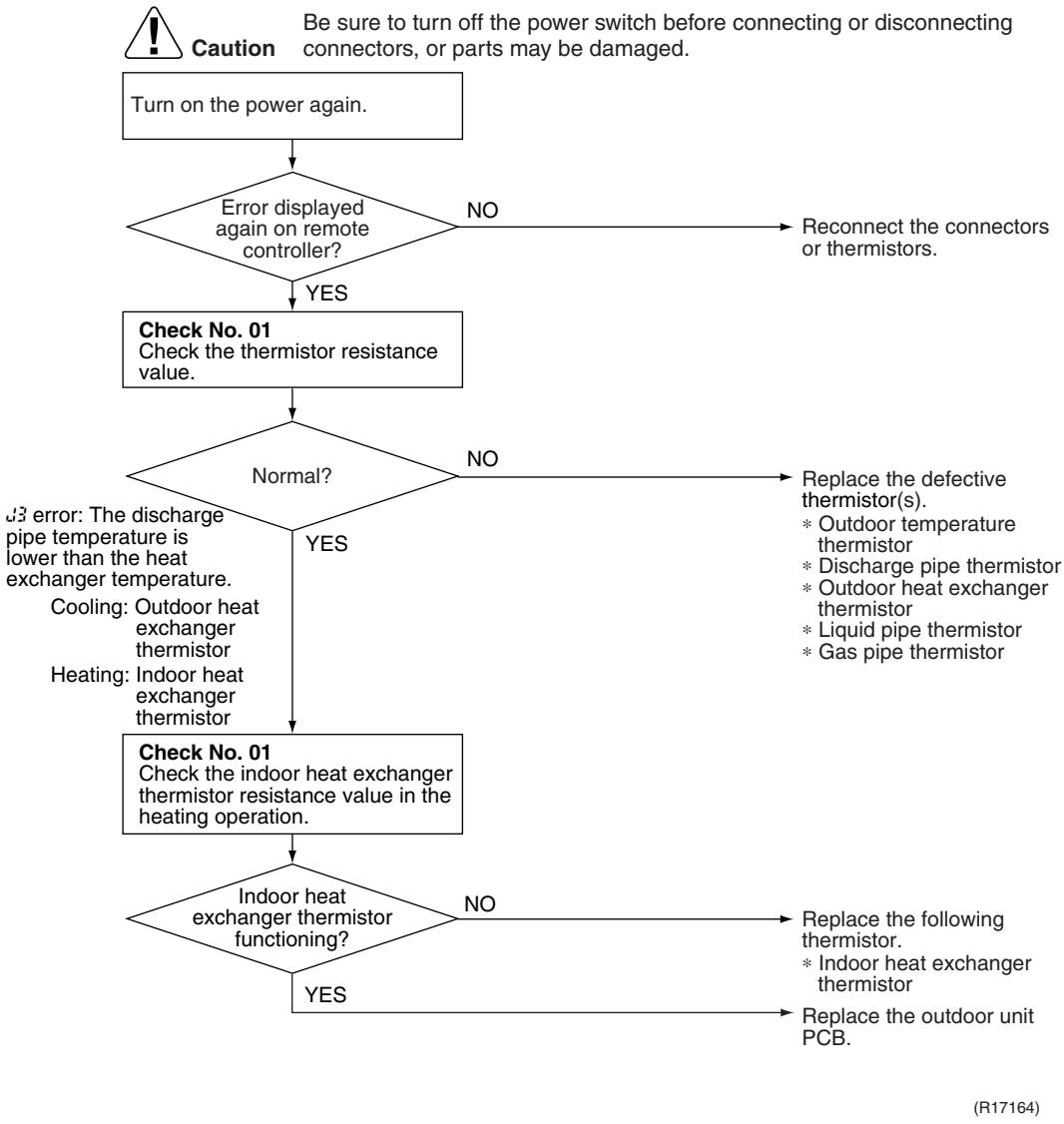
Replace the outdoor unit PCB.

P4 : Radiation fin thermistor

Troubleshooting

In case of H9, J3, J6, J8, J9

Check No.01
Refer to P.325



(R17164)

H9 : Outdoor temperature thermistor
J3 : Discharge pipe thermistor
J6 : Outdoor heat exchanger thermistor
J8 : Liquid pipe thermistor
J9 : Gas pipe thermistor

7.17 Electrical Box Temperature Rise

Remote Controller Display

L3

Outdoor Unit LED Display

A ◑ 1 ☼ 2 ☼ 3 ● 4 ☼ 5 ●

Method of Malfunction Detection

An electrical box temperature rise is detected by checking the radiation fin thermistor with the compressor off.

Malfunction Decision Conditions

- With the compressor off, the radiation fin temperature is above **A** °C.
- The error is cleared when the temperature drops below **B** °C.
- To cool the electrical components, the outdoor fan starts when the radiation fin temperature rises above **C** °C and stops when it drops below **B** °C.

A (°C)	**B** (°C)	**C** (°C)
100	70	85

Supposed Causes

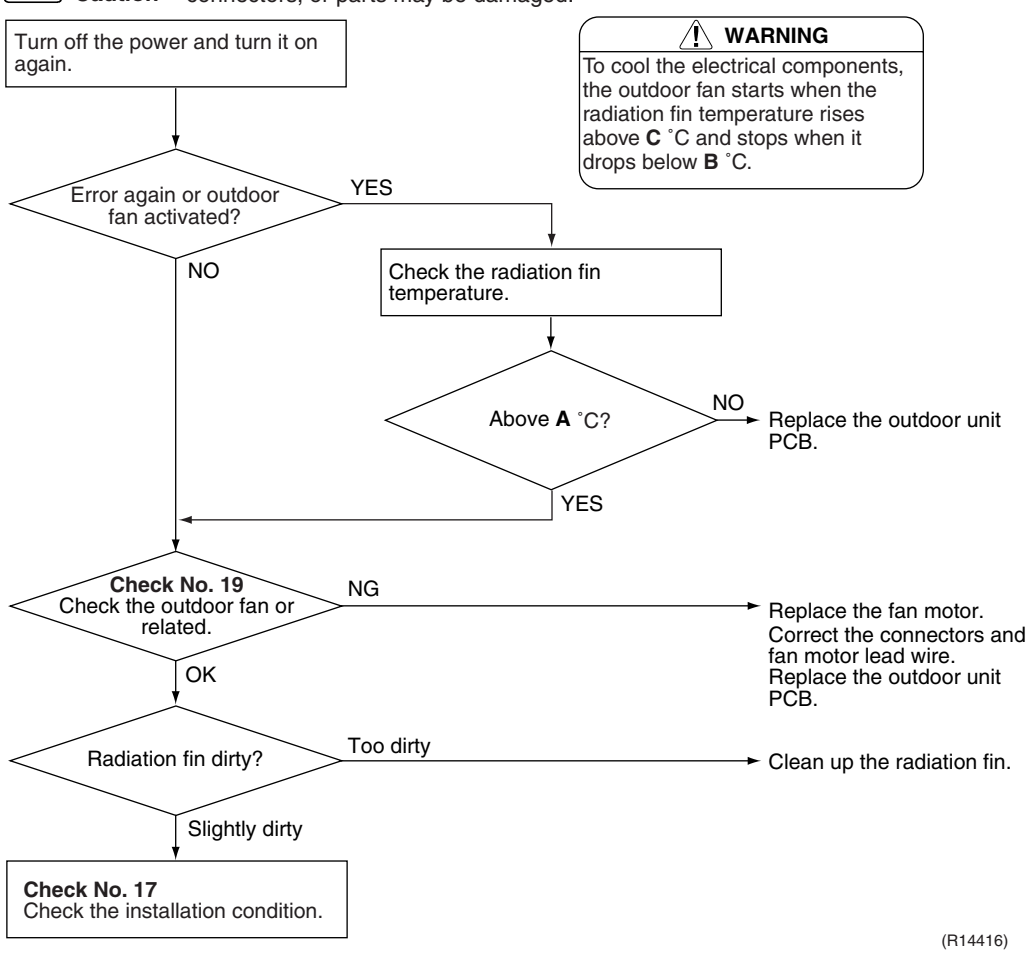
- Defective outdoor fan motor
- Short circuit
- Defective radiation fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB

Troubleshooting

Check No.17
Refer to P.333

Check No.19
Refer to P.334

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14416)

A (°C)	**B** (°C)	**C** (°C)
100	70	85

7.18 Radiation Fin Temperature Rise

Remote Controller Display

L4

Outdoor Unit LED Display

A ◑ 1 ● 2 ● 3 ● 4 ☼ 5 ●

Method of Malfunction Detection

A radiation fin temperature rise is detected by checking the radiation fin temperature with the compressor on.

Malfunction Decision Conditions

- The radiation fin temperature with the compressor on is above **A** °C.
- The error is cleared when the temperature drops below **B** °C

	A (°C)	**B** (°C)
40/50/52/58/68/75 class	103	95
80/90 class	105	97

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

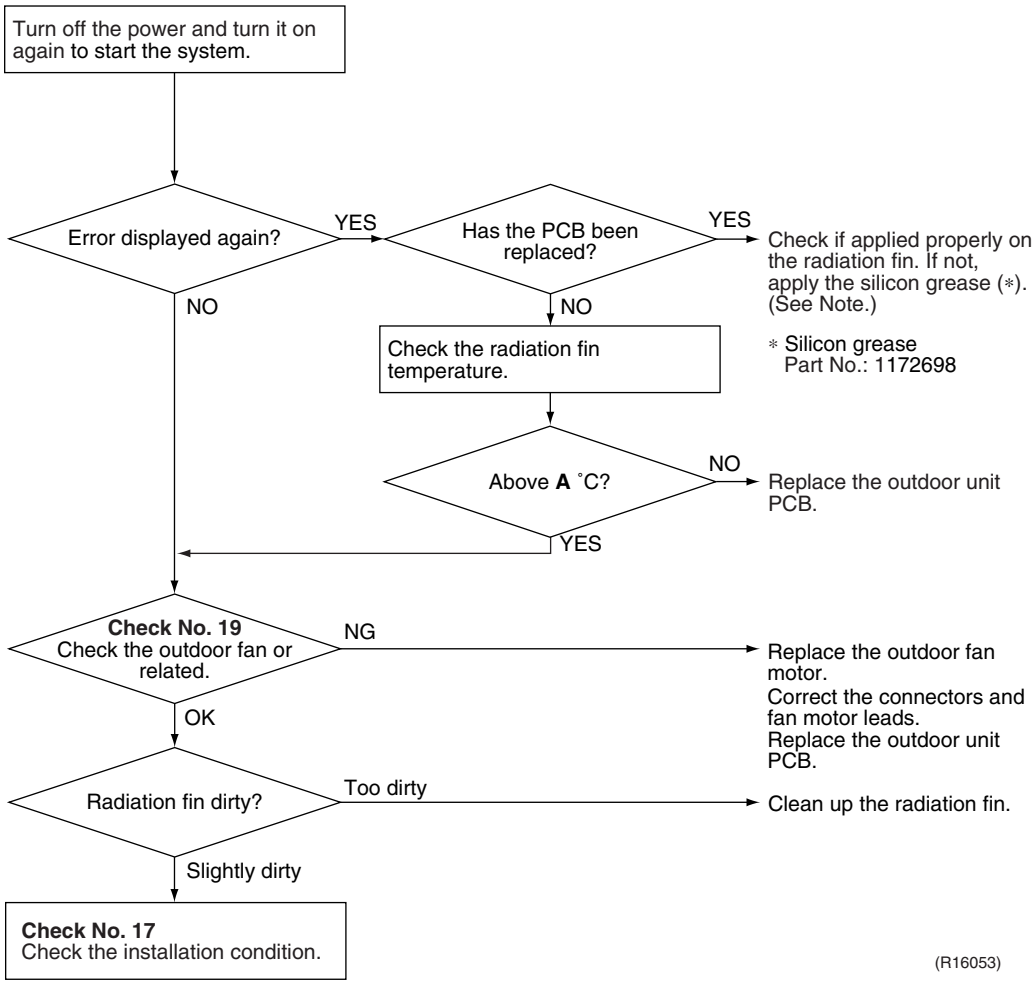
- Defective outdoor fan motor
- Short circuit
- Defective radiation fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB
- Silicon grease is not applied properly on the radiation fin after replacing the outdoor unit PCB.

Troubleshooting

Check No.17
Refer to P.333

Check No.19
Refer to P.334

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



	A (°C)
40/50/52/58/68/75 class	103
80/90 class	105

Note: Refer to “Application of silicon grease to a power transistor and a diode bridge” on page 423 for detail.

7.19 Output Overcurrent Detection

Remote Controller Display

L5

Outdoor Unit LED Display

A ◑ 1 ● 2 ● 3 ☼ 4 ● 5 ●

Method of Malfunction Detection

An output overcurrent is detected by checking the current that flows in the inverter DC section.

Malfunction Decision Conditions

- A position signal error occurs while the compressor is running.
- A speed error occurs while the compressor is running.
- An output overcurrent signal is fed from the output overcurrent detection circuit to the microcomputer.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 5 minutes without any other error

Supposed Causes

- Poor installation condition
- Closed stop valve
- Defective power module
- Wrong internal wiring
- Abnormal power supply voltage
- Defective outdoor unit PCB
- Defective compressor

Troubleshooting

Check No.15
Refer to P.331

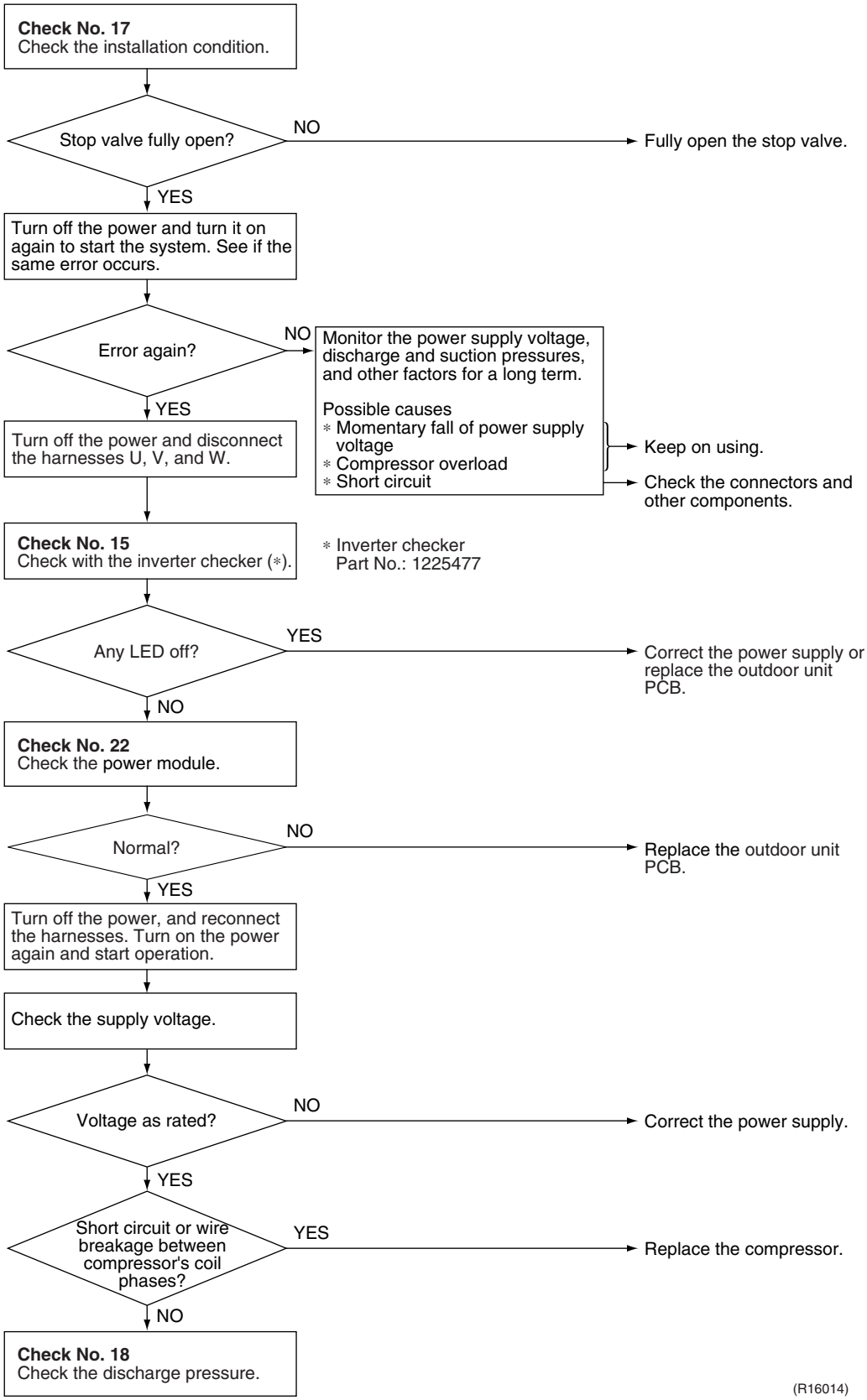
Check No.17
Refer to P.333

Check No.18
Refer to P.333

Check No.22
Refer to P.335

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

* An output overcurrent may result from wrong internal wiring. If the system is interrupted by an output overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



(R16014)

8. Check

8.1 Thermistor Resistance Check

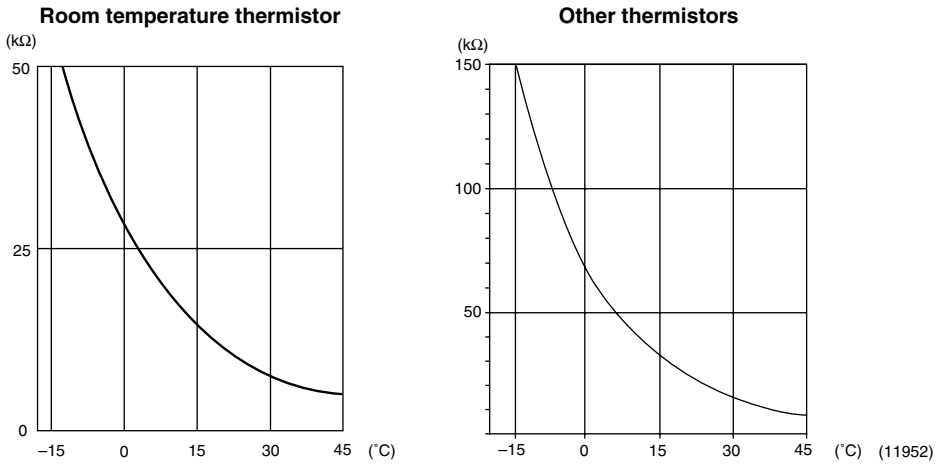
Check No.01

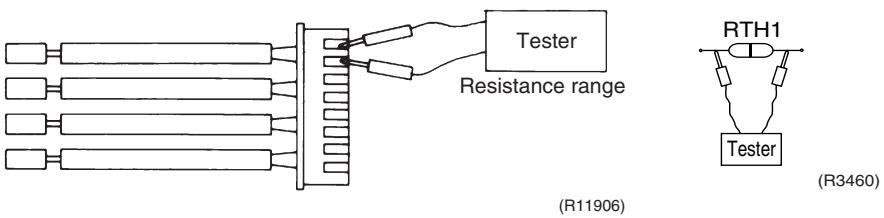
Disconnect the connectors of the thermistors from the PCB, and measure the resistance of each thermistor using tester.
The relationship between normal temperature and resistance is shown in the table and the graphs below.

The data is for reference purpose only.

Thermistor temperature (°C)	Resistance (kΩ)	
	Room temperature thermistor for FTXS-K and CTXS-K series	Other thermistors
–20	70.3	197.8
–15	56.1	148.2
–10	44.1	112.1
–5	34.9	85.60
0	28.2	65.93
5	22.3	51.14
10	18.1	39.99
15	14.8	31.52
20	12.2	25.02
25	10.0	20.00
30	8.3	16.10
35	6.9	13.04
40	5.8	10.62
45	4.9	8.707
50	4.1	7.176

(R25°C = 10 kΩ, B = 3435 K) (R25°C = 20 kΩ, B = 3950 K)



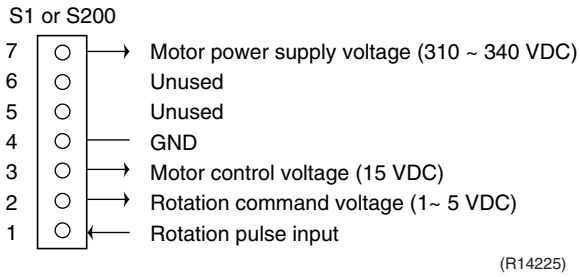


- The room temperature thermistor is directly mounted on the display PCB. Remove the display PCB from the control PCB to measure the resistance.
- When the indoor heat exchanger thermistor is soldered on the PCB, remove the thermistor and measure the resistance.

8.2 Fan Motor Connector Check

Check No.02 **FTXG, FTXS-J, FTXS-G, FVXG, FVXS Series**

1. Check the connection of connector.
2. Check motor power supply voltage output (pins 4 - 7).
3. Check motor control voltage (pins 4 - 3).
4. Check rotation command voltage output (pins 4 - 2).
5. Check rotation pulse input (pins 4 - 1).



Check No.03 **FTXS-K, CTXS-K Series**

- Fan motor wire breakdown / short circuit check

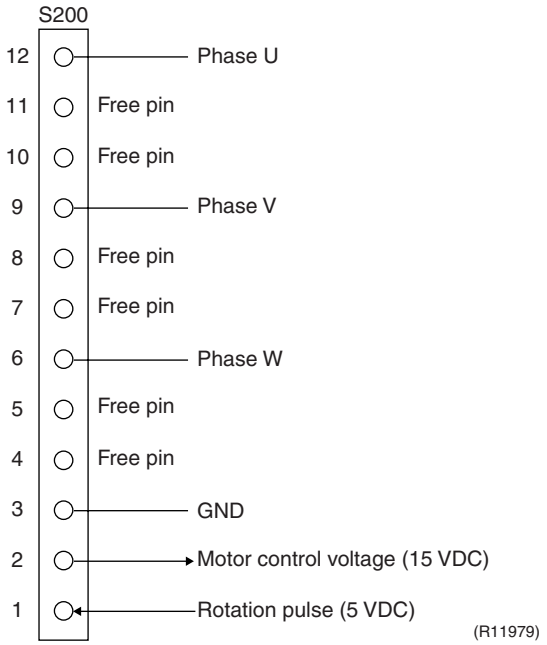
1. Check the connector for connection.
2. Turn the power off.
3. Check if each resistance at the phases U - V and V - W is 90 Ω ~ 100 Ω (between the pins 12 - 9, and between 9 - 6).

- Motor control voltage check

1. Check the connector for connection.
2. Check the motor control voltage is generated (between the pins 2 - 3).

- Rotation pulse check

1. Check the connector for connection.
2. Turn the power on and stop the operation.
3. Check if the Hall IC generates the rotation pulse 4 times when the fan motor is manually rotated once (between the pins 1 - 3).



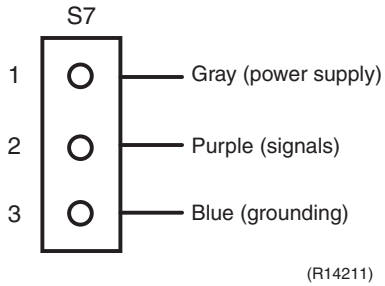
8.3 Hall IC Check

Check No.04

FLXS, FDXS Series

1. Check the connector connection.
2. With the power on, operation off, and the connector connected, check the following.
   ∗Output voltage of about 5 V between pins 1 and 3.
   ∗Generation of 3 pulses between pins 2 and 3 when the fan motor is operating.

If NG in step 1 → Defective PCB → Replace the PCB.
If NG in step 2 → Defective Hall IC → Replace the fan motor.
If OK in both steps 1 and 2 → Replace the PCB.

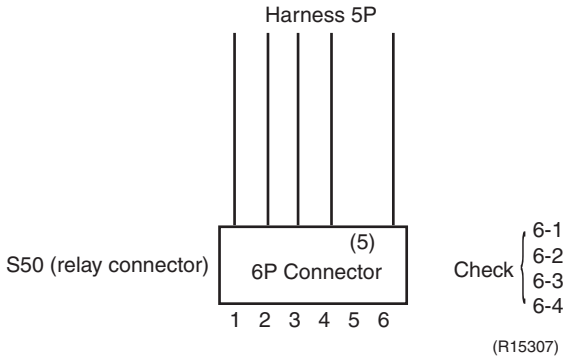


8.4 Indoor Electronic Expansion Valve Coil Check

Check No.06

Conduct the followings to check the indoor electronic expansion valve coil (EV).

1. Check to see if the EV connector is correctly connected to the PCB.
2. Turn the power off and on again, and check to see if the EV generate latching sound.
3. If the EV does not generate latching sound in the above step 2, disconnect the connector and check the continuity using a tester.
4. Check the continuity between the pins 1 - 6, 2 - 6, 3 - 6, and 4 - 6. If there is no continuity between the pins, the EV coil is faulty.



5. If the continuity is confirmed in the above step 3, the PCB is faulty.

Note: Please note that the latching sound varies depending on the valve type.

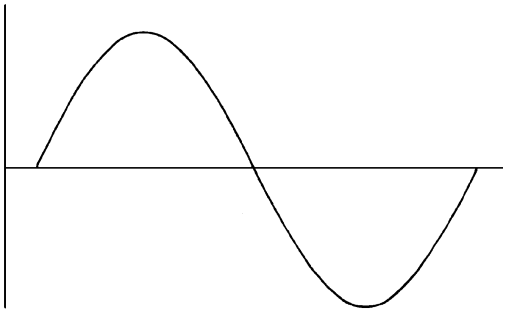
8.5 Power Supply Waveform Check

Check No.11

Measure the power supply waveform between No. 1 and No. 2 on the terminal board, and check the waveform disturbance.

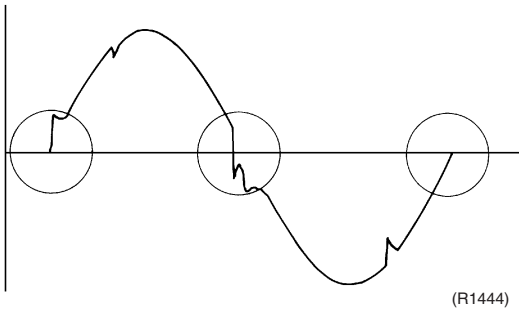
- Check to see if the power supply waveform is a sine wave (Fig.1).
- Check to see if there is waveform disturbance near the zero cross (sections circled in Fig.2)

[Fig.1]



(R1736)

[Fig.2]



(R1444)

8.6 Outdoor Electronic Expansion Valve Check

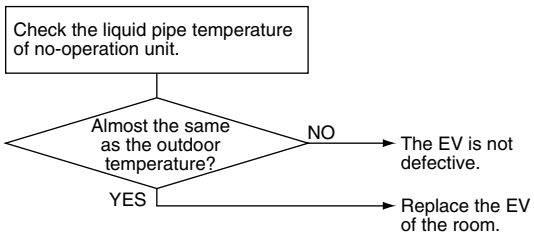
Check No.12

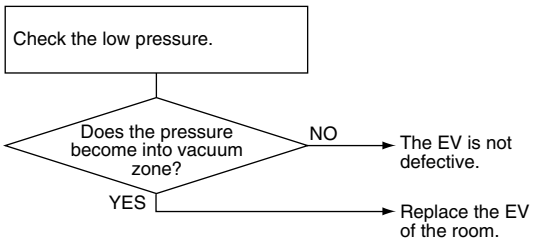
Conduct the followings to check the outdoor electronic expansion valve (EV).

1. Check to see if the EV connector is correctly inserted in the PCB. Match the EV unit number and the connector number.
2. Turn the power off and on again, and check to see if all the EVs generate latching sound.
3. If any of the EVs does not generate latching sound in the above step 2, disconnect that connector and check the continuity using a tester.
   Check the continuity between the pins 1 - 6 and 3 - 6, and between the pins 2 - 5 and 4 - 5. If there is no continuity between the pins, the EV coil is faulty.
4. If no EV generates latching sound in the above step 2, the outdoor unit PCB is faulty.
5. If the continuity is confirmed in the above step 3, mount a good coil (which generated latching sound) in the EV unit that did not generate latching sound, and check to see if that EV generates latching sound.
   ∗If latching sound is generated, the outdoor unit PCB is faulty.
   ∗If latching sound is not generated, the EV unit is faulty.

Note: Please note that the latching sound varies depending on the valve type.

If the system keeps operating with a defective outdoor electronic expansion valve, the following problem may occur.

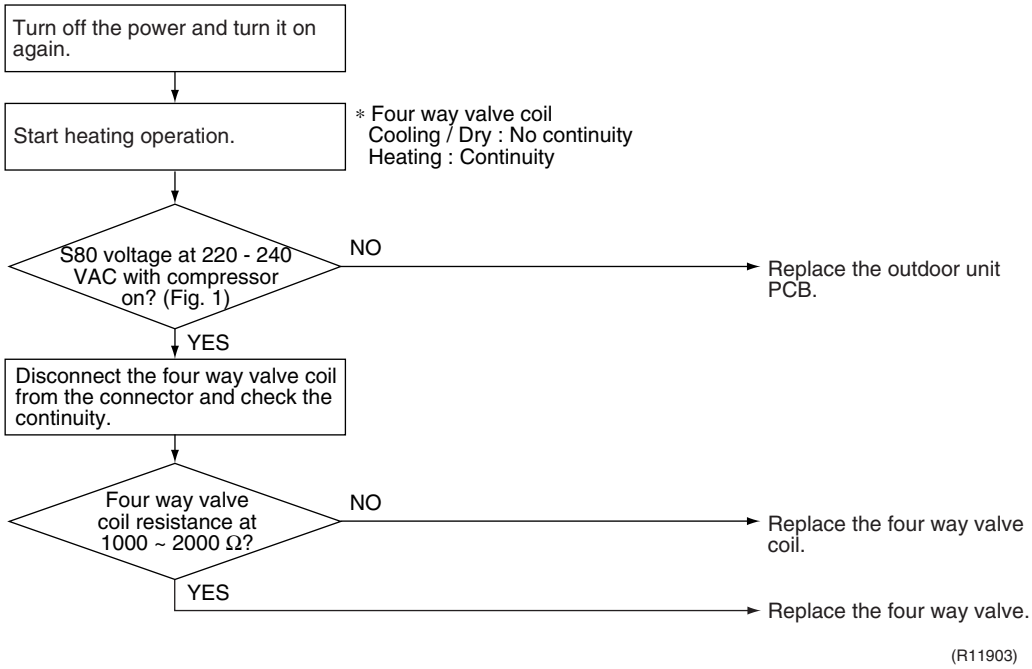
<table>
<tr><th>Valve opening position</th><th>Possible problem</th><th>Check method</th></tr>
<tr><td rowspan="2">Open</td><td>Cooling:
■ Flowing noise of refrigerant in the unit which is not in operation
■ Water leakage at the unit which is not in operation
■ Operation half due to anti-icing function</td><td rowspan="2">Reset power supply and conduct cooling operation unit by unit.
 

(R16019)</td></tr>
<tr><td>Heating:
■ Flowing noise of refrigerant in the unit which is not in operation
■ The unit does not heat the room.</td></tr>
<tr><td rowspan="2">Close</td><td>Cooling:
■ The problem unit does not cool the room.
■ Only the problem unit is in operation, the unit starts pump down.
(The low pressure of the unit becomes vacuum.)
■ Abnormal discharge pipe temperature</td><td rowspan="2">Reset power supply and conduct cooling operation unit by unit.
 

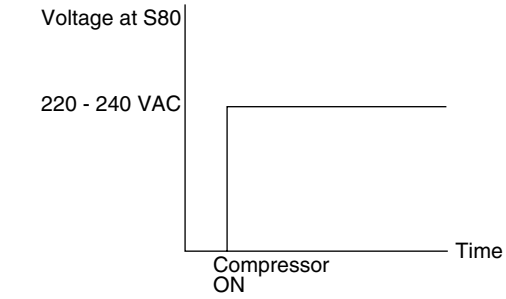
(R16020)</td></tr>
<tr><td>Heating:
■ Refrigerant shortage due to stagnation of liquid refrigerant inside the faulty indoor unit
■ The unit does not heat the room.
■ Abnormal discharge pipe temperature</td></tr>
</table>

8.7 Four Way Valve Performance Check

Check No.13



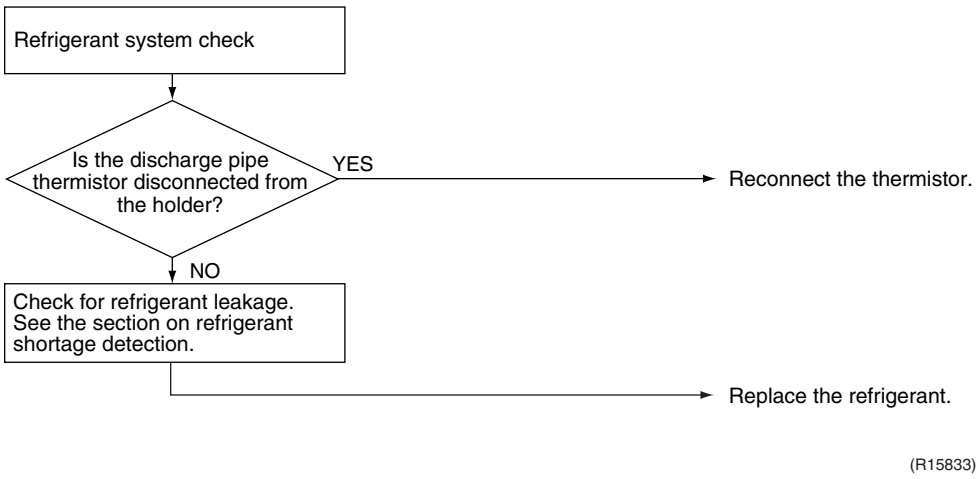
(Fig. 1)



(R11904)

8.8 Inverter Unit Refrigerant System Check

Check No.14



8.9 “Inverter Checker” Check

Check No.15

■ **Characteristics**

If abnormal stop occurs due to compressor startup failure or overcurrent output when using an inverter unit, it is difficult to judge whether the stop is caused by the compressor failure or some other failure (control PCB, power module, etc.). The inverter checker makes it possible to judge the cause of trouble easily and securely. (Connect this checker as a quasi-compressor instead of the compressor and check the output of the inverter.)

■ **Operation Method**

Step 1

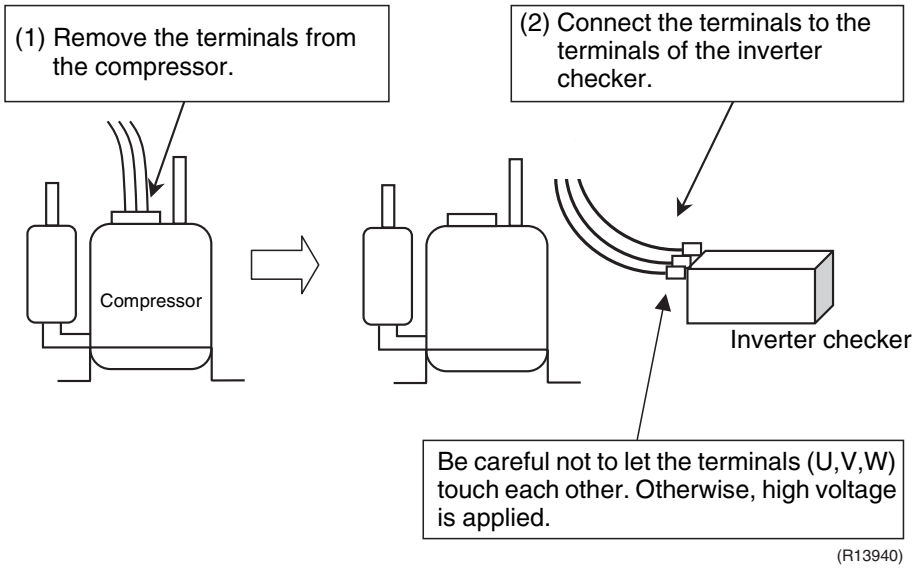
Be sure to turn the power off.

Step 2

Install the inverter checker instead of a compressor.

Note:

Make sure the charged voltage of the built-in smoothing electrolytic capacitor drops to 10 VDC or below before carrying out the service work.



Reference:

If the terminals of the compressor are not FASTON terminals (difficult to remove the wire on the terminals), it is possible to connect wires available on site to the outdoor unit from output side of PCB. (Do not connect them to the compressor at the same time, otherwise it may result in incorrect detection.)

Step 3

Activate the power transistor test operation from the outdoor unit.

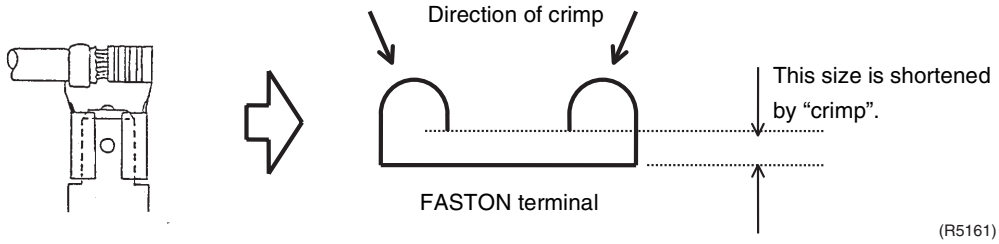
1) Press the forced operation [ON/OFF] switch for 5 seconds.
   (Refer to page 405 for the position.)
   → Power transistor test operation starts.

■ **Diagnose method (Diagnose according to 6 LEDs lighting status.)**

(1) If all the LEDs are lit uniformly, the compressor is defective.
→ Replace the compressor.
(2) If the LEDs are not lit uniformly, check the power module.
→ Refer to **Check No.22**.
(3) If NG in **Check No.22**, replace the power module.
(Replace the main PCB. The power module is united with the main PCB.)
If OK in **Check No.22**, check if there is any solder cracking on the PCB.
(4) If any solder cracking is found, replace the PCB or repair the soldered section.
If there is no solder cracking, replace the PCB.

Caution

(1) When the output frequency is low, the LEDs blink slowly. As the output frequency increases, the LEDs blink quicker. (The LEDs look like they are lit.)
(2) On completion of the inverter checker diagnosis, be sure to re-crimp the FASTON terminals. Otherwise, the terminals may be burned due to loosening.



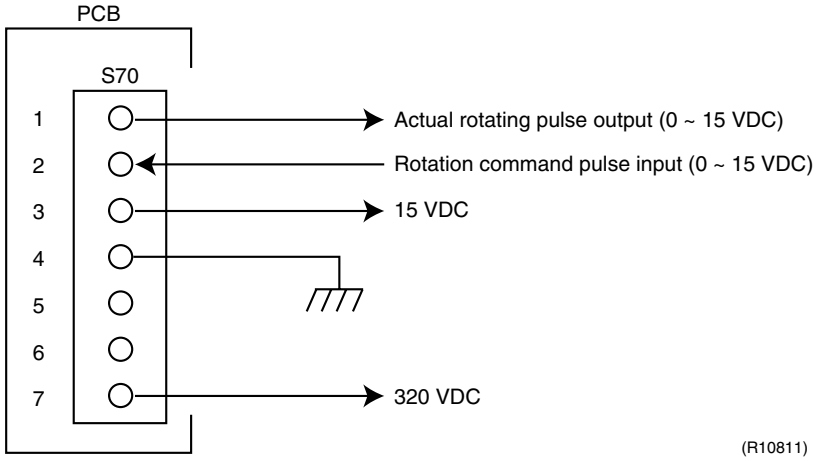
8.10 Rotation Pulse Check on the Outdoor Unit PCB

Check No.16

<Outdoor fan motor>
Make sure that the voltage of 320 ± 30 V is applied.

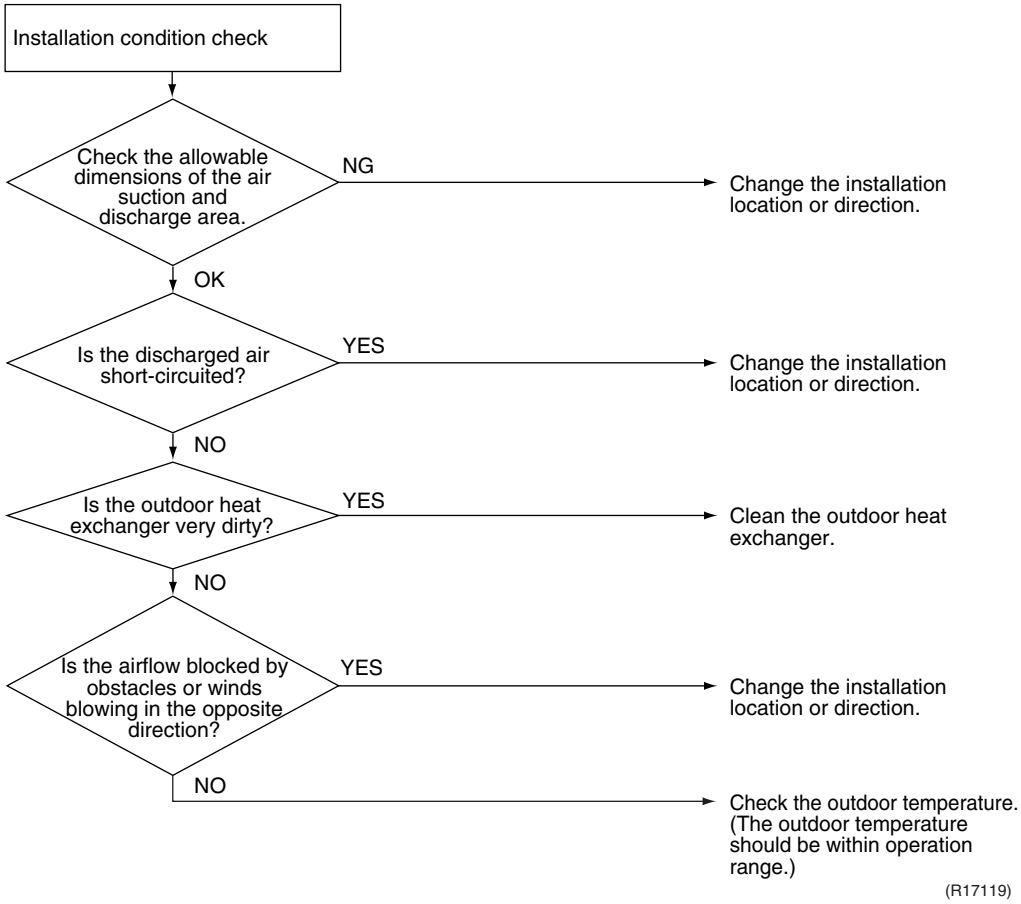
1. Set operation off and power off. Disconnect the connector S70.
2. Check that the voltage between the pins 4 - 7 is 320 VDC.
3. Check that the control voltage between the pins 3 - 4 is 15 VDC.
4. Check that the rotation command voltage between the pins 2 - 4 is 0 ~ 15 VDC.
5. Keep operation off and power off. Connect the connector S70.
6. Check whether 2 pulses (0 ~ 15 VDC) are output at the pins 1 - 4 when the fan motor is rotated 1 turn by hand.

When the fuse is melted, check the outdoor fan motor for proper function.
If NG in step 2 → Defective PCB → Replace the PCB.
If NG in step 4 → Defective Hall IC → Replace the outdoor fan motor.
If OK in both steps 2 and 4 → Replace the PCB.



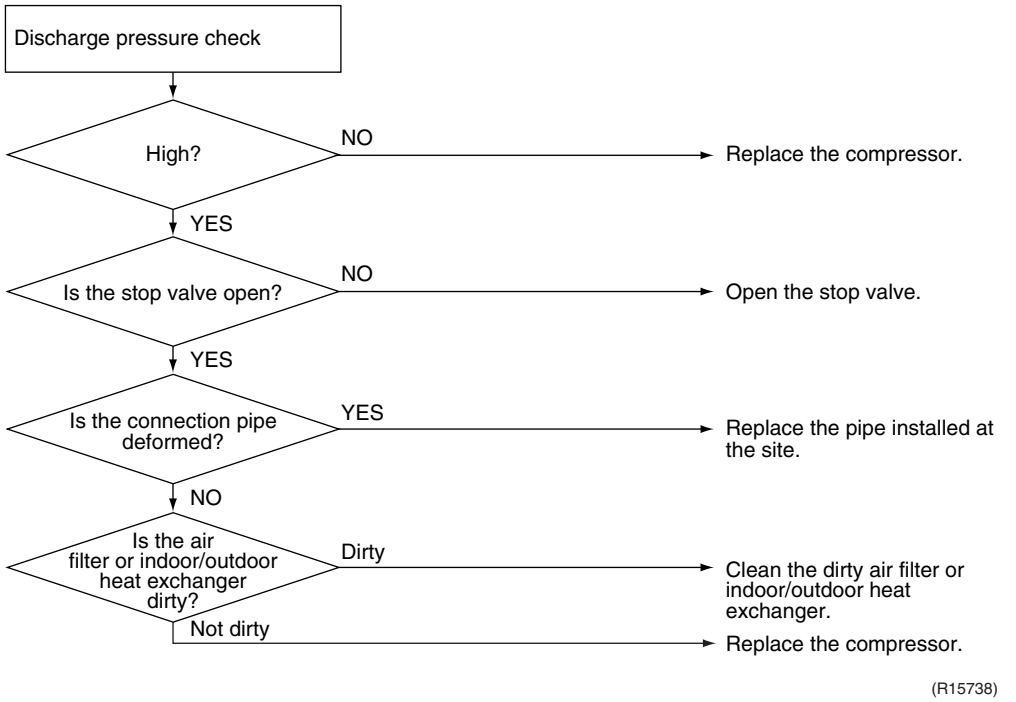
8.11 Installation Condition Check

Check No.17



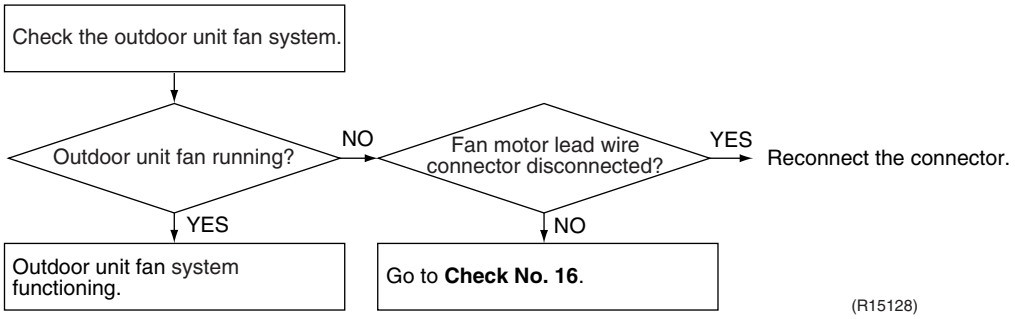
8.12 Discharge Pressure Check

Check No.18



8.13 Outdoor Fan System Check

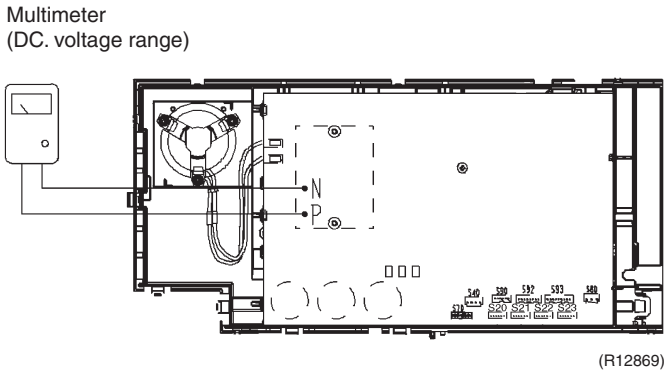
Check No.19



8.14 Capacitor Voltage Check

Check No.21

Before this check, be sure to check the main circuit for short circuit.
With the circuit breaker still on, measure the voltage according to the drawing of the model in question. Be careful never to touch any live parts.



8.15 Power Module Check

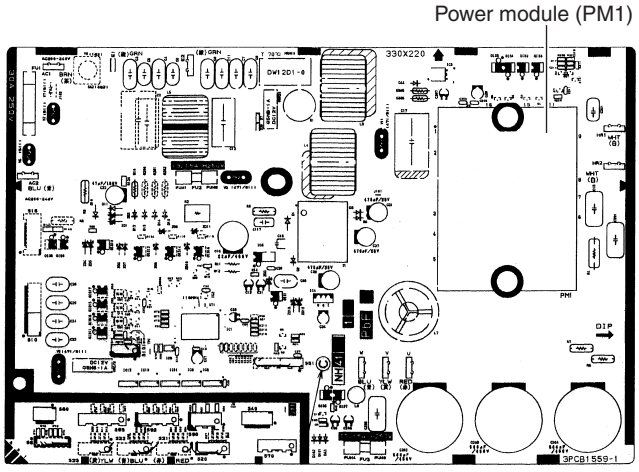
Check No.22

Note: Check to make sure that the voltage between (+) and (–) of the power module (PM1) is approx. 0 V before checking.

- Disconnect the compressor harness connector from the outdoor unit PCB. To disengage the connector, press the protrusion on the connector.
- Follow the procedure below to measure resistance between the terminals of the power module and the terminals of the compressor with a multi-tester. Evaluate the measurement results referring to the following table.

Negative (–) terminal of tester (positive terminal (+) for digital tester)	Power module (+)	UVW	Power module (–)	UVW
Positive (+) terminal of tester (negative terminal (–) for digital tester)	UVW	Power module (+)	UVW	Power module (–)
Resistance is OK.	several kΩ ~ several MΩ			
Resistance is NG.	0 Ω or ∞			

∗ The illustration is for 40/50/52/58 class as representative.



(R16074)

Part 7
Removal Procedure

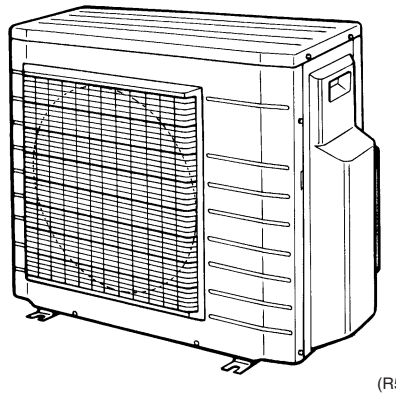
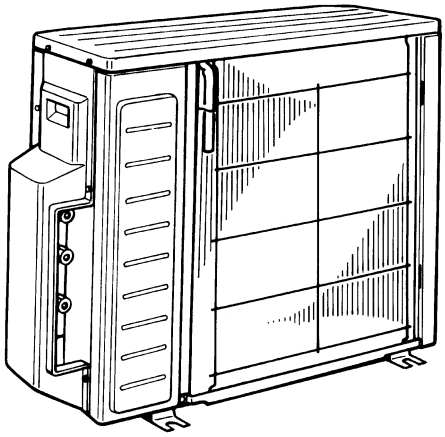
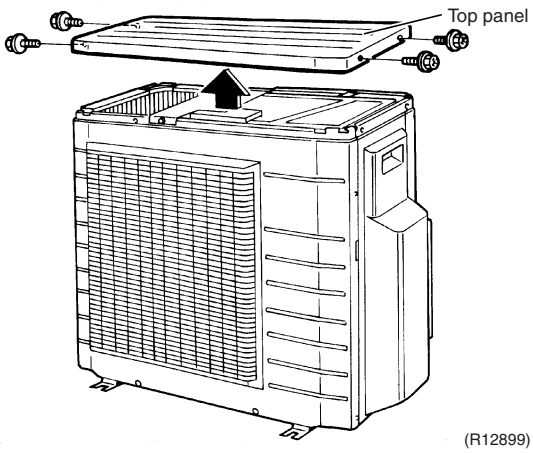
1. Outdoor Unit: 40-75 Class

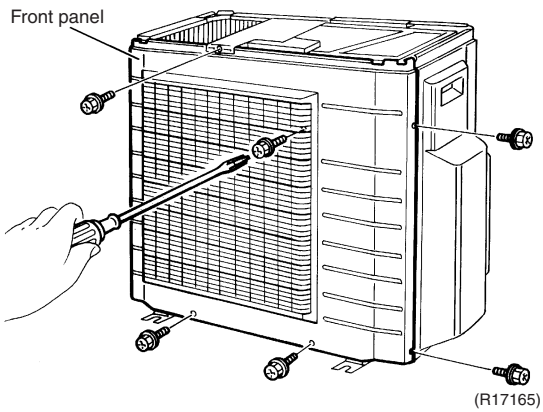
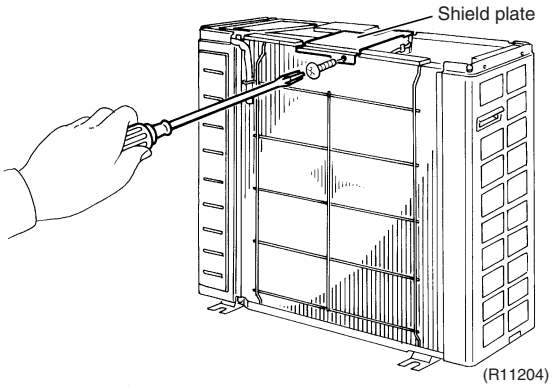
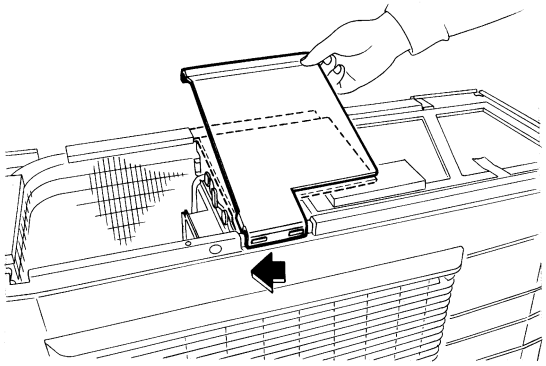
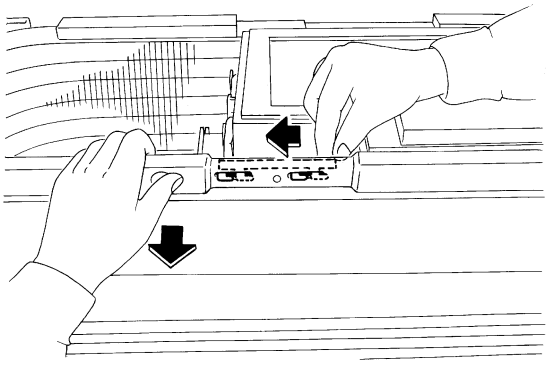
Note: The illustrations are for heat pump models as representative.

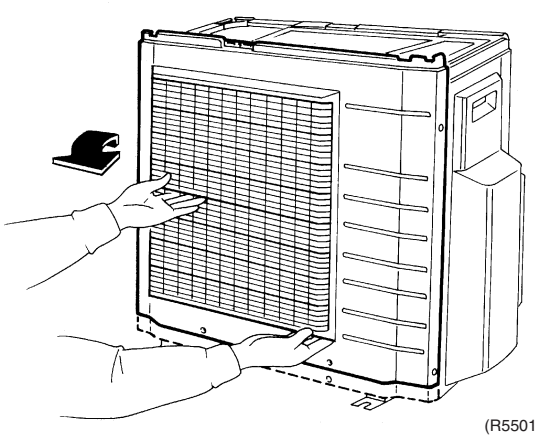
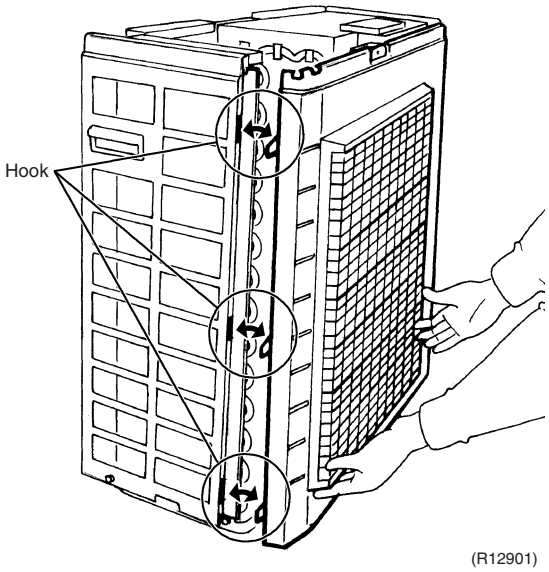
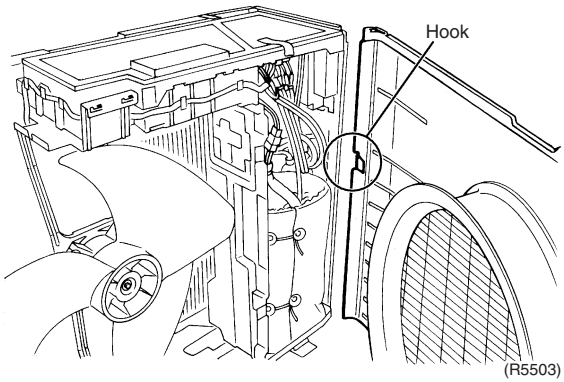
1.1 Removal of Outer Panels

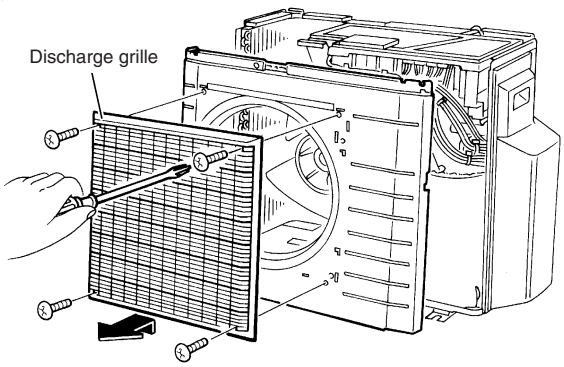
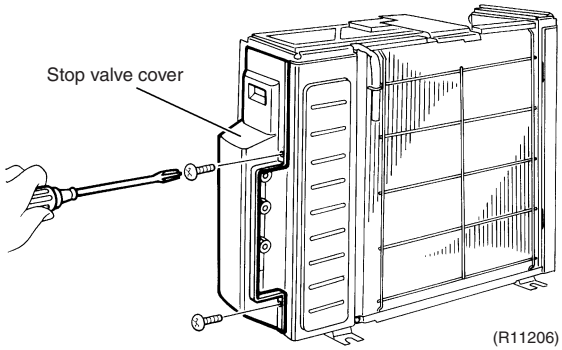
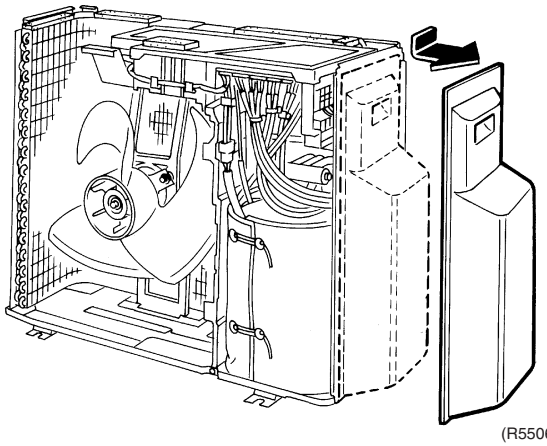
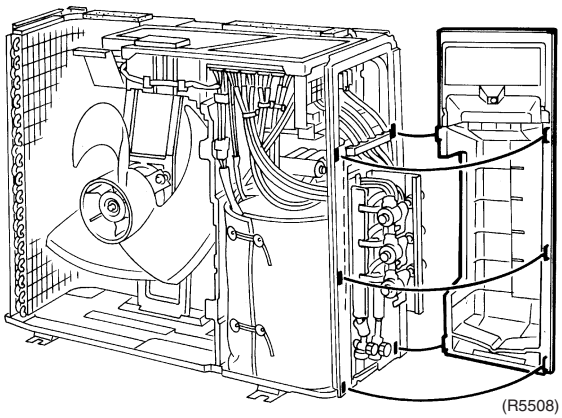
Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1	Appearance features	 (R5494)  (R12898)	■ Take care not to cut your finger by the fins of the heat exchanger.
2	Remove the 4 screws (2 on both sides) of the top panel.	 (R12899)	

Step	Procedure		Points
3	Remove the 6 screws of the front panel.	 (R17165)	
4	Remove the screw of the shield plate.	 (R11204)	
5	Slide the shield plate to the left to unfasten the hooks and remove the shield plate.	 (R5499)	
6	Unfasten the upper 2 hooks.	 (R5500)	■ Align the position of hole of the upper hook to pull the front panel out.

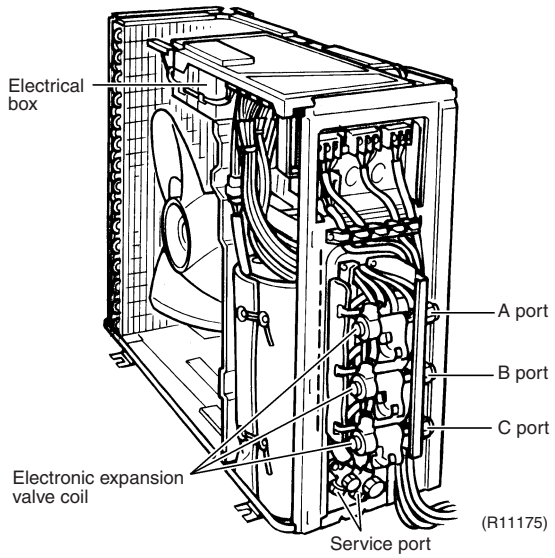
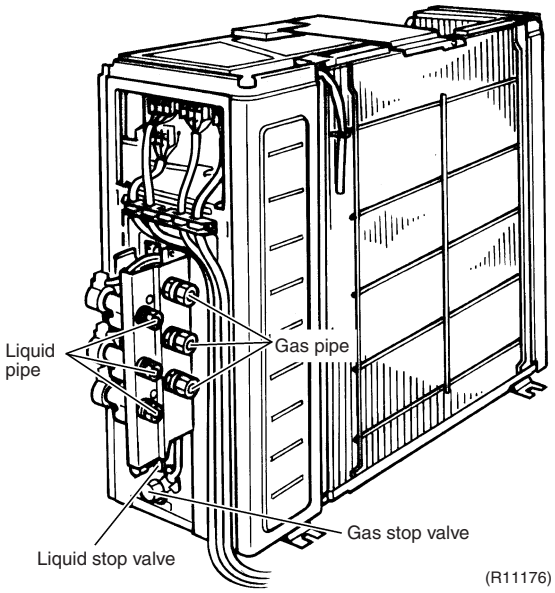
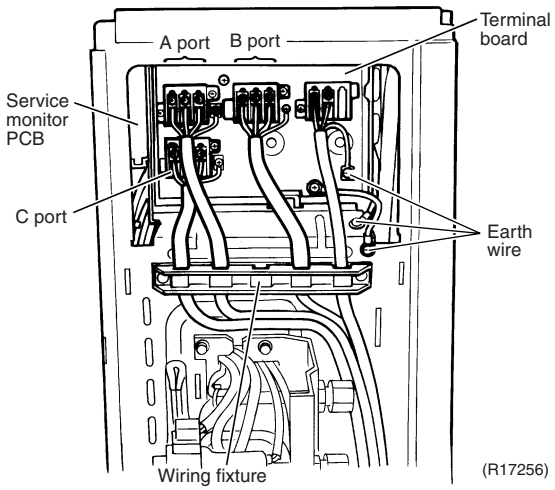
Step	Procedure		Points
7	Lift the front panel up to unfasten the left side hooks.	 (R5501)	■ The front panel has 3 hooks on the left.
		 (R12901)	
8	Unfasten the right side hook and remove the front panel.	 (R5503)	

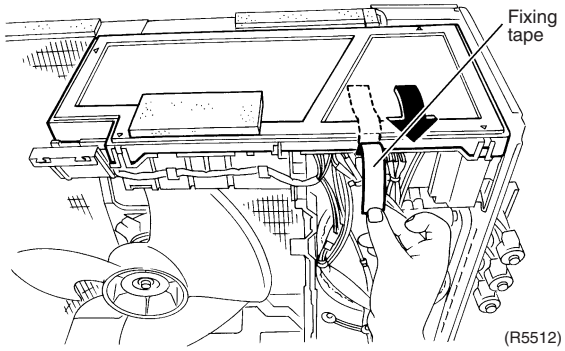
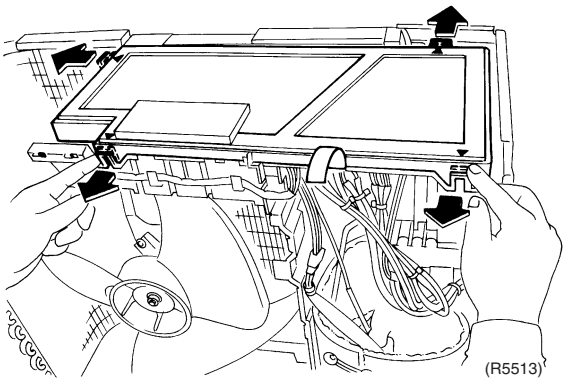
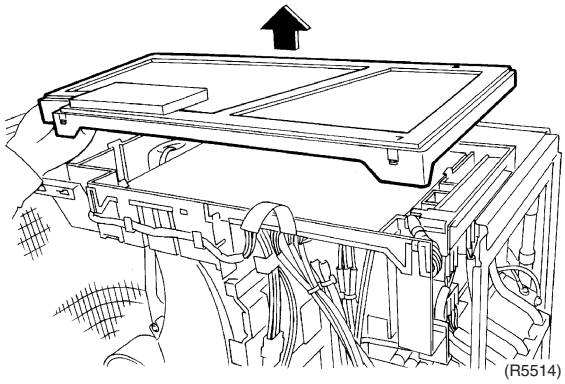
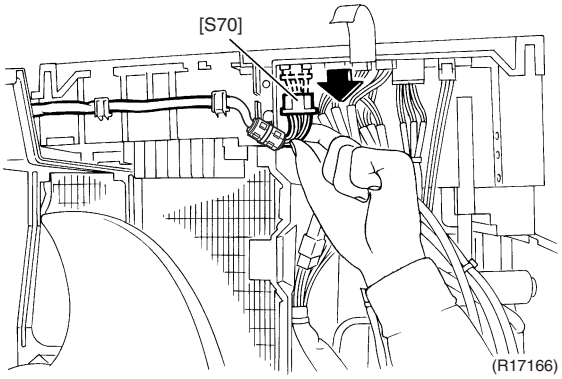
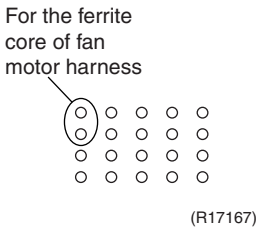
Step	Procedure		Points
9	Remove the 4 screws of the discharge grille.	 (R12902)	
10	Remove the 2 screws of the stop valve cover.	 (R11206)	
11	Slide the stop valve cover downward and remove it.	 (R5506)	■ When reassembling, make sure to fit the 5 hooks.
		 (R5508)	

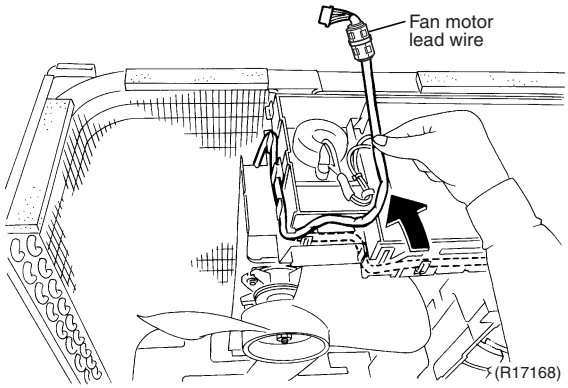
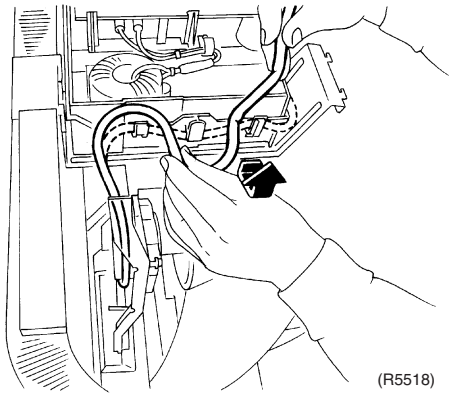
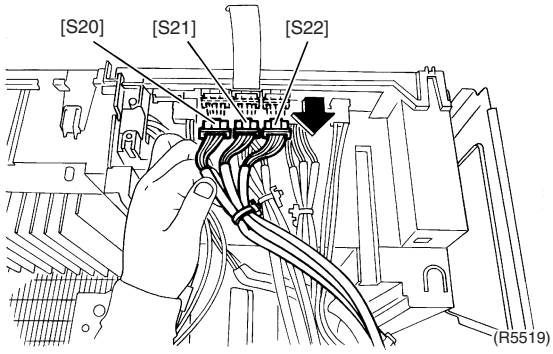
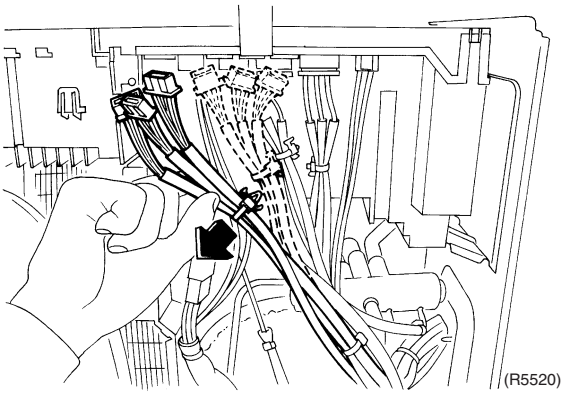
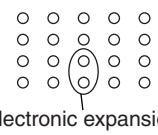
1.2 Removal of Electrical Box

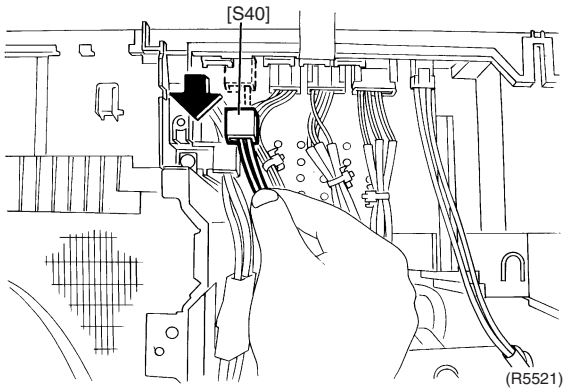
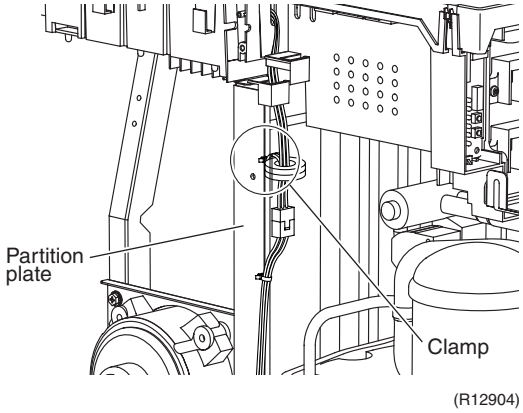
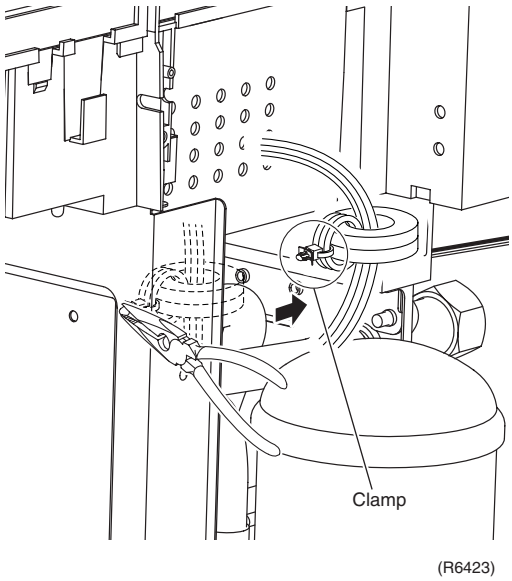
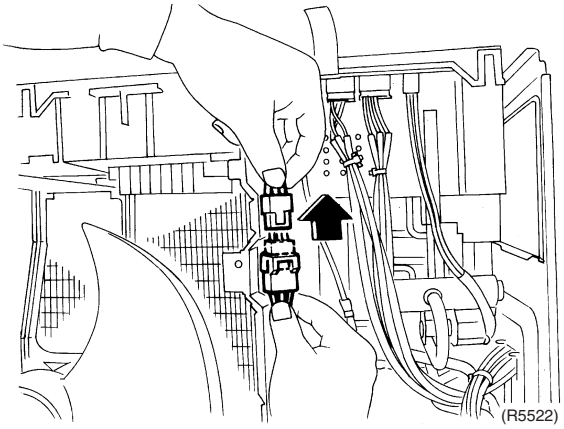
Procedure

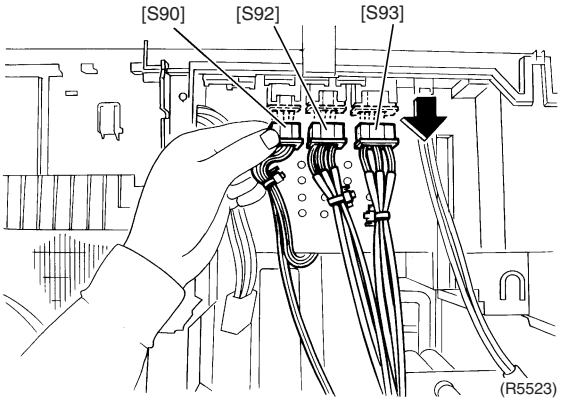
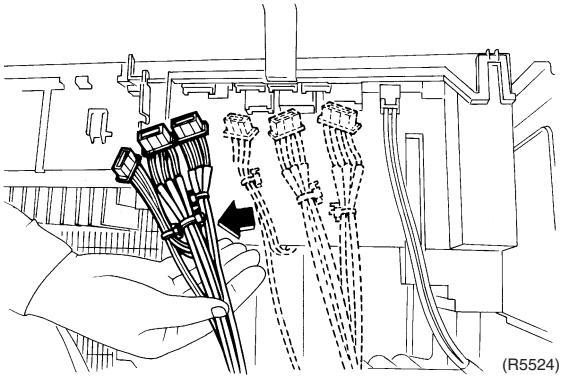
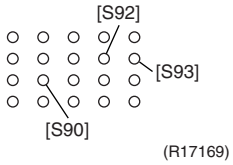
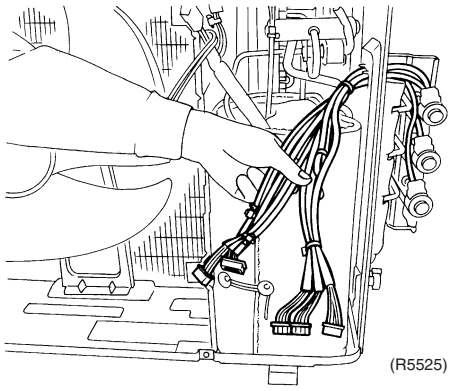
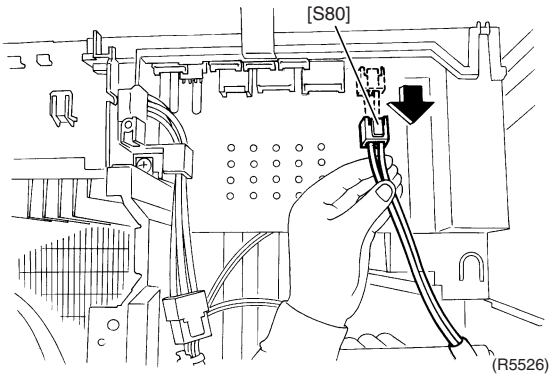
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure	Points
1. Disconnect the harnesses.		■ The illustrations are for 3-room models as representative, 4-room models also have D port.
1 Layout of the connecting wires		■ The wires are fixed to the terminal board with screws.
		

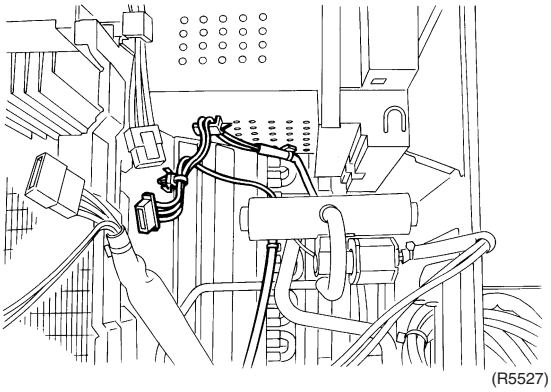
Step	Procedure		Points
2	Detach the fixing tape of the electrical box cover.		
3	Unfasten the 4 hooks at the ▲ mark of the electrical box cover.		
4	Lift the electrical box cover up and remove it.		
5	Detach the clamp and disconnect the connector for the fan motor [S70].		■ When reassembling, insert the clamp into the either hole as below. 

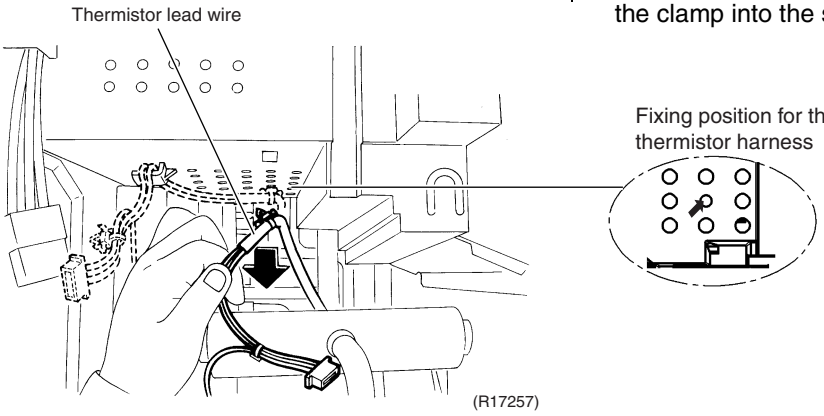
Step	Procedure		Points
6	Release the fan motor lead wire from the hooks.	 	
7	Disconnect the connectors for the electronic expansion valve coils.		[S20] (white) : room A [S21] (red) : room B [S22] (blue) : room C ■ 4-room models also have [S23] (yellow) for room D.
8	Pull out the clamp.		■ When reassembling, insert the clamp of the electronic expansion valve coil ASSY into either hole as below.  Electronic expansion valve coil (R17170)

Step	Procedure		Points
9	Disconnect the connector for the overload protector [S40].		
10	The wire harness for the compressor is attached to the partition plate by the clamp.		
11	Pull out the clamp with pliers.		
12	Disconnect the relay connector of the compressor.		

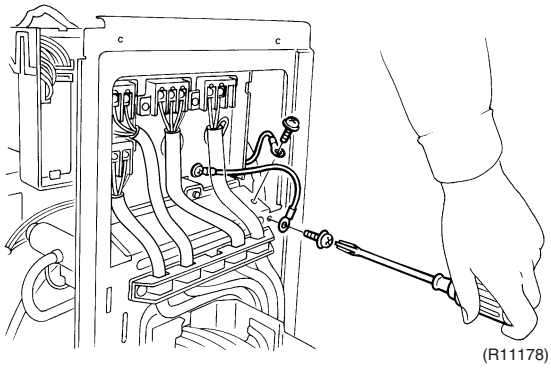
Step	Procedure		Points
13	Disconnect the each connector.		[S90] : Thermistors [S92] : Gas pipe thermistors [S93] : Liquid pipe thermistors
			■ When reassembling, insert each clamp of the thermistor harnesses into the holes as below. 
			
14	Disconnect the connector for the four way valve coil [S80].		■ The cooling only models have no harness for [S80].

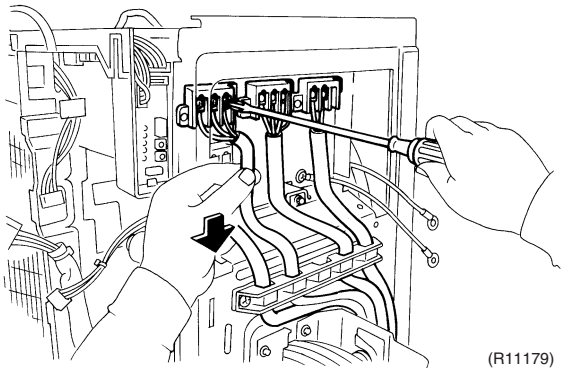
Step	Procedure	Points
15	The figure shows the arrangement of the wire harnesses under the electrical box.	
16	Pull out the clamp of the thermistor lead wire.	■ When reassembling, insert the clamp into the small hole.
2. Remove the electrical box.		
1	Remove the 2 screws of the earth wires.	
2	Remove the screws on the terminal board and disconnect all the connecting wires and power supply wire.	

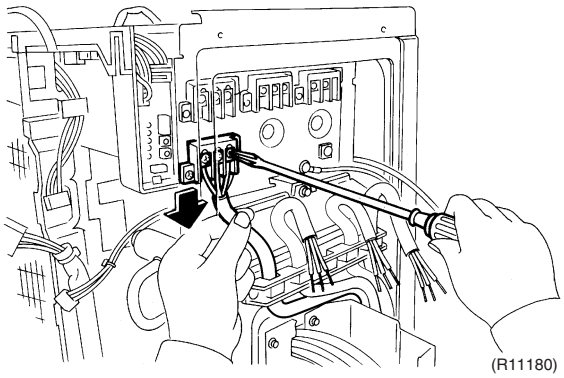
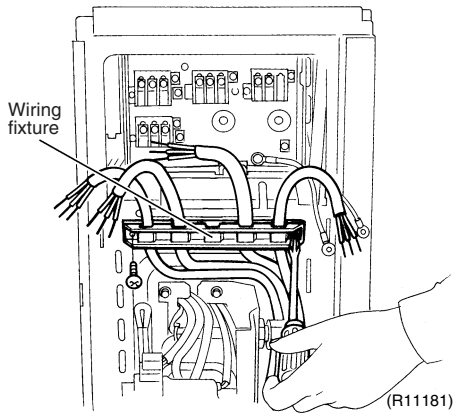
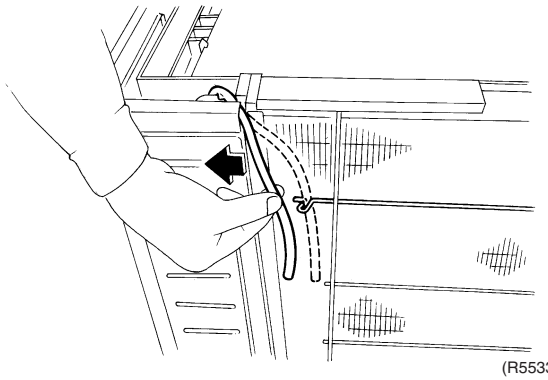
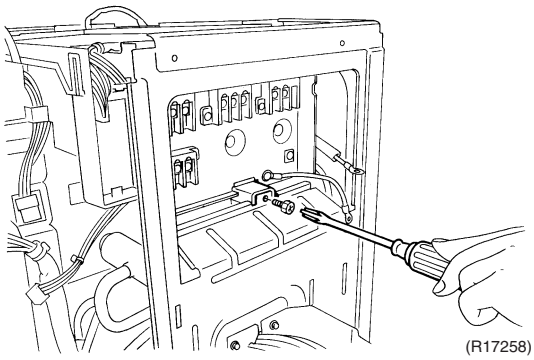

(R5527)

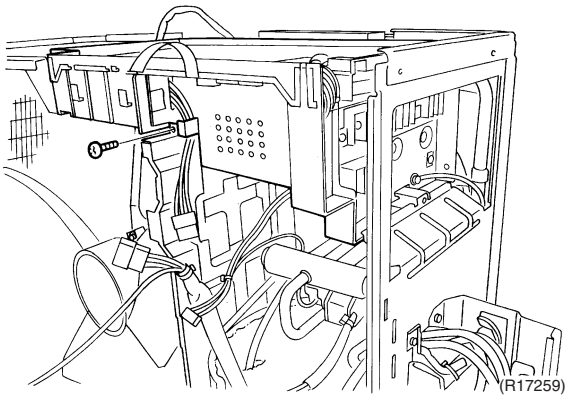
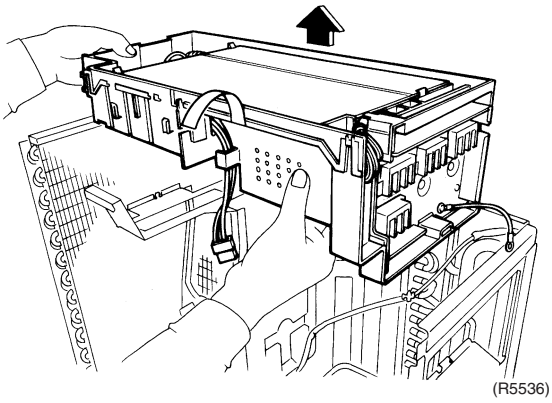


(R17257)


(R11178)


(R11179)

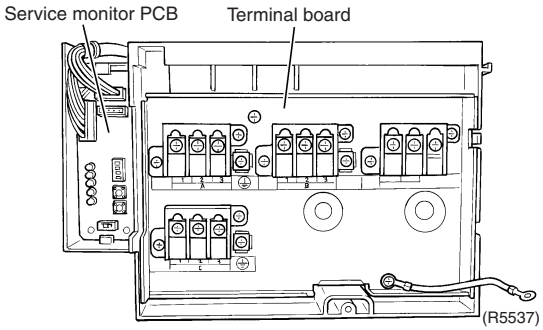
Step	Procedure		Points
		 (R11180)	
3	Remove the 2 screws and remove the wiring fixture.	 (R11181)	
4	Detach the outdoor temperature thermistor.	 (R5533)	
5	Remove the screw on the right side of the electrical box.	 (R17258)	

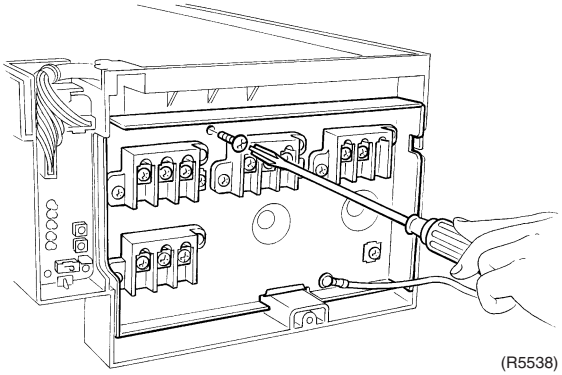
Step	Procedure		Points
6	Remove the screw of the electrical box.	 (R17259)	
7	Lift up and remove the electrical box.	 (R5536)	

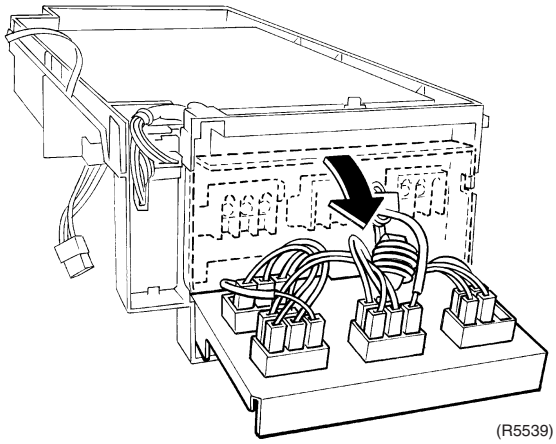
1.3 Removal of PCBs

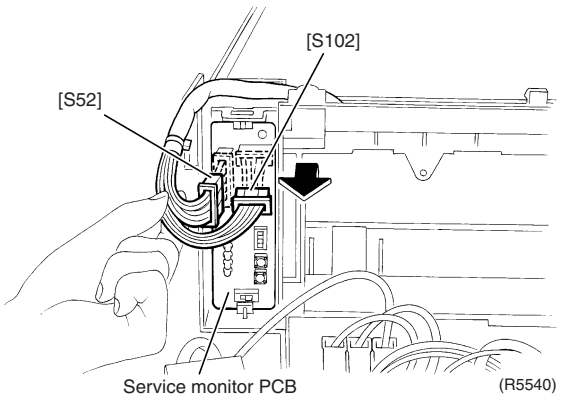
Procedure **Warning** **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

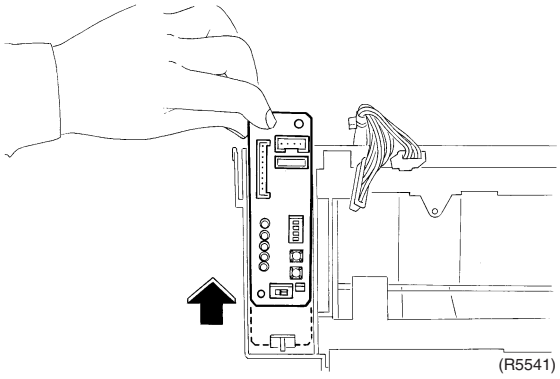
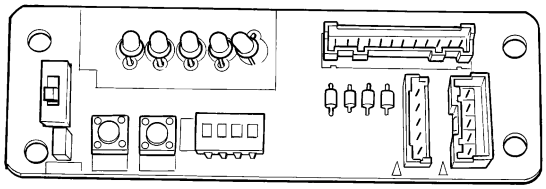
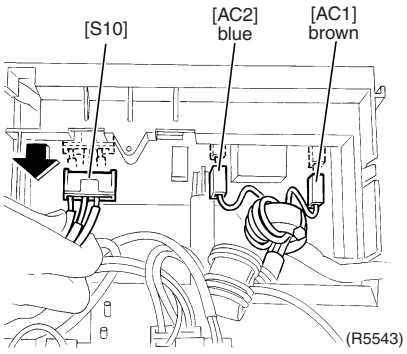
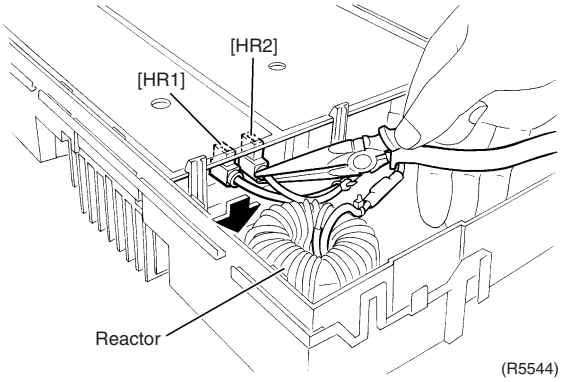
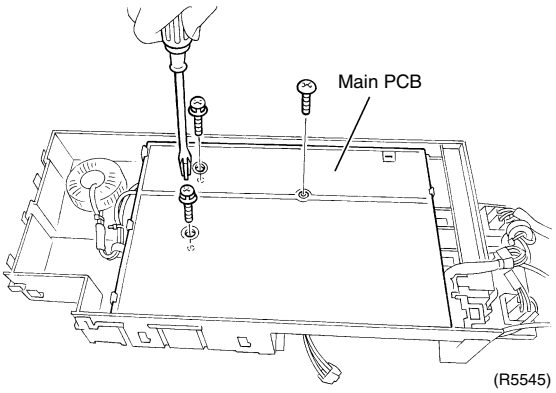
Step	Procedure	Points
1. Remove the service monitor PCB.		
1	External appearance	
2	Remove the screw of the terminal board and open it.	
3	Disconnect the connectors [S52] [S102] from the service monitor PCB.	

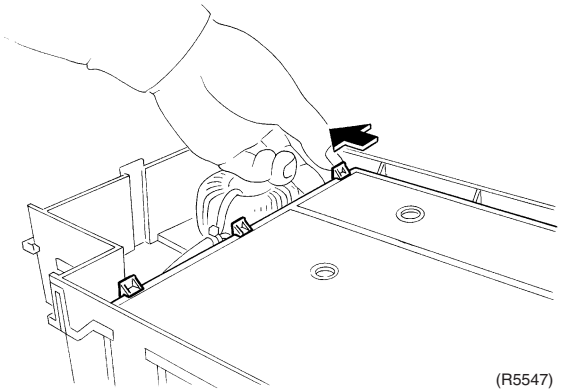
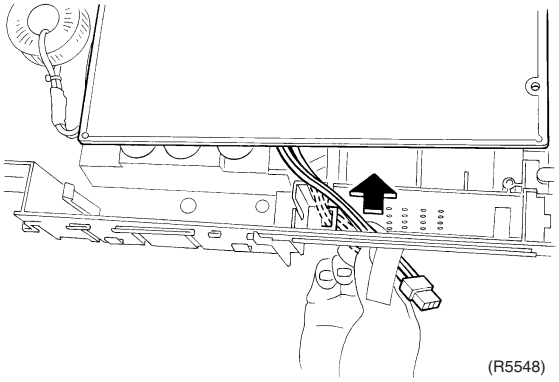
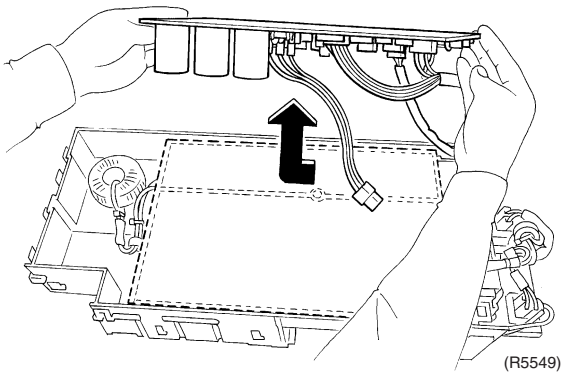
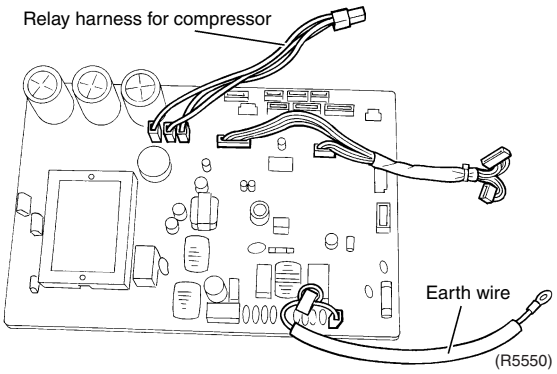


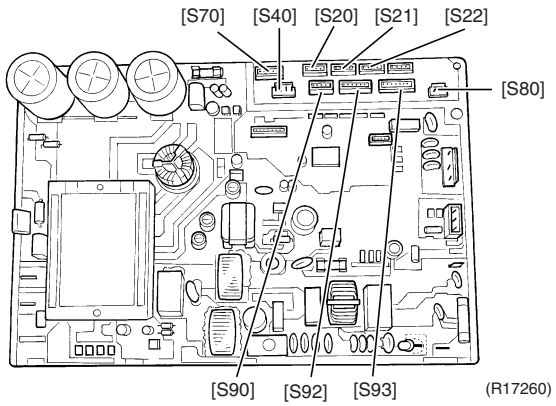
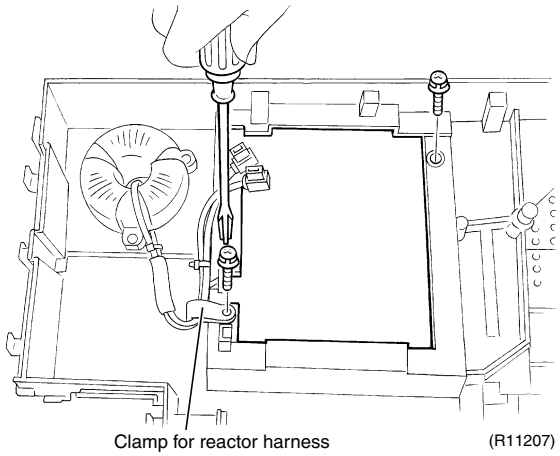
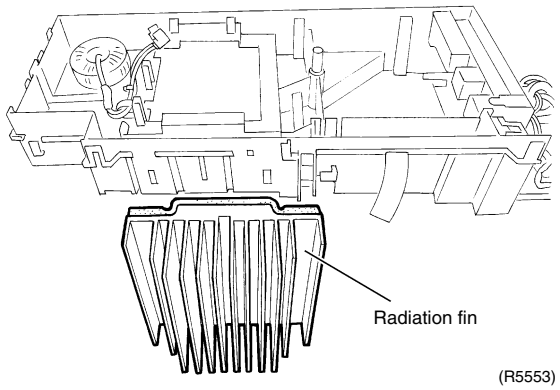
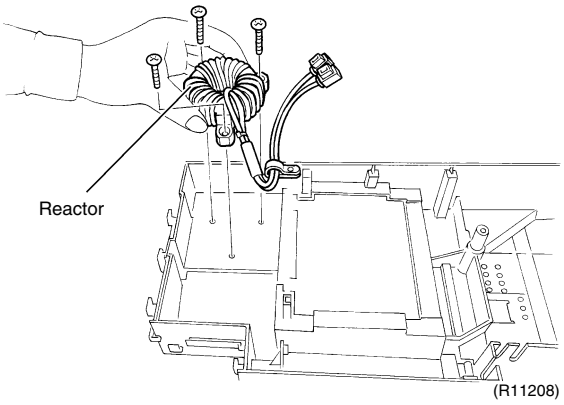


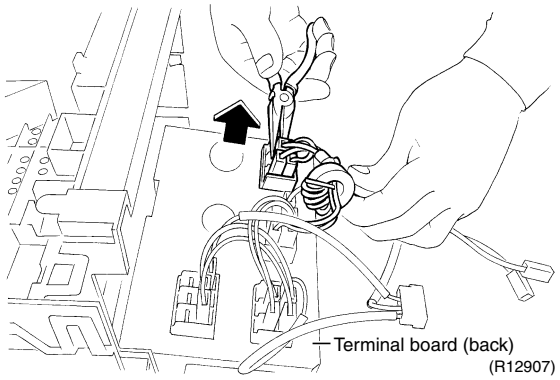
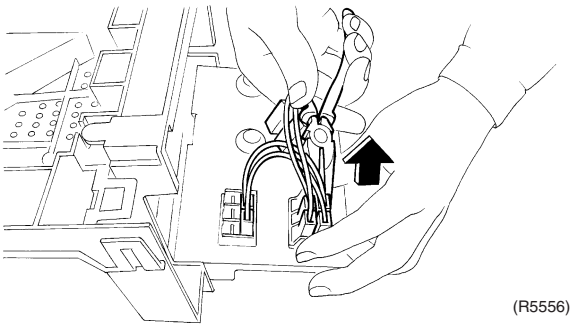
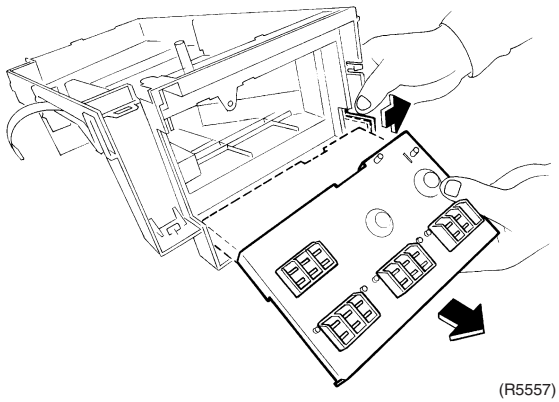
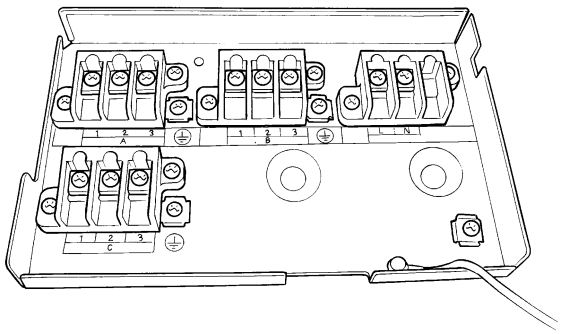




Step	Procedure		Points
4	Unfasten the upper hook and pull the service monitor PCB upward to remove.	 (R5541)  (R5542)	■ Refer to page 40 for detail.
2. Remove the main PCB.			
1	Disconnect the connectors for the terminal board on the right side.	 (R5543)	[AC1] [AC2] : for power supply [S10] : for transmission
2	Disconnect the 2 connectors for the reactor on the left side.	 (R5544)	
3	Remove the 3 screws of the main PCB.	 (R5545)	

Step	Procedure		Points
4	Unfasten the 3 hooks on the reactor side and slide the main PCB to the left.	 (R5547)	
5	Release the relay harness for the compressor from the hook.	 (R5548)	
6	Lift up the main PCB and remove it.	 (R5549)  (R5550)	■ In working, be careful not to break the main PCB with the excessive force because the main PCB and the radiation fin are adhered to one another.

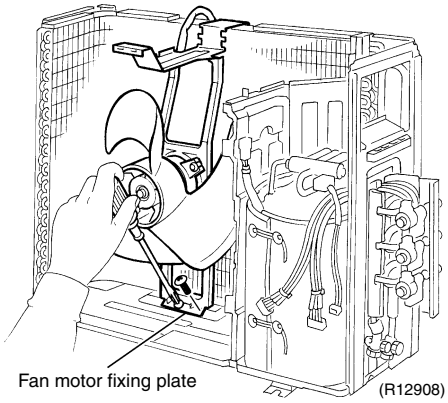
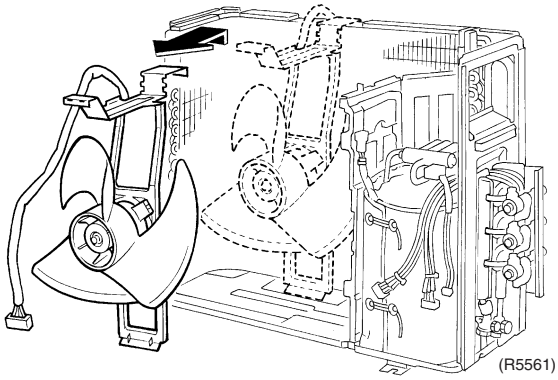
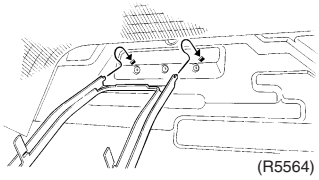
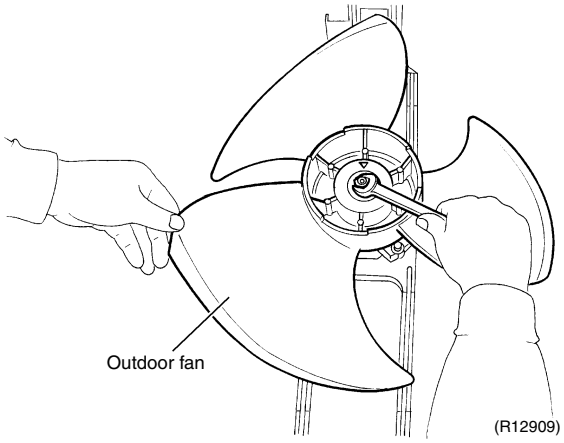
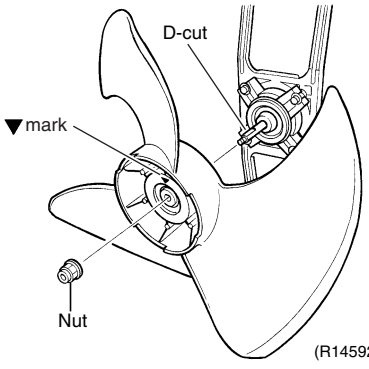
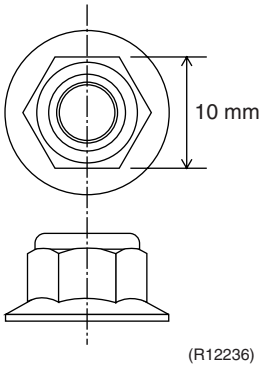
Step	Procedure		Points
			■ Refer to page 39 for detail.
7	Remove the 2 screws of the radiation fin.		
			■ When reassembling, make sure to use the silicon grease. ■ Silicon grease Part No.: 1172698
8	Remove the 3 screws of the reactor.		

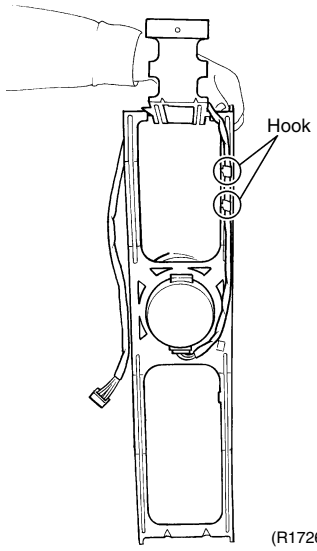
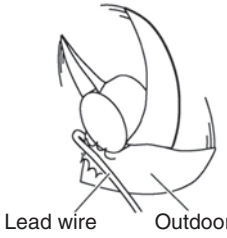
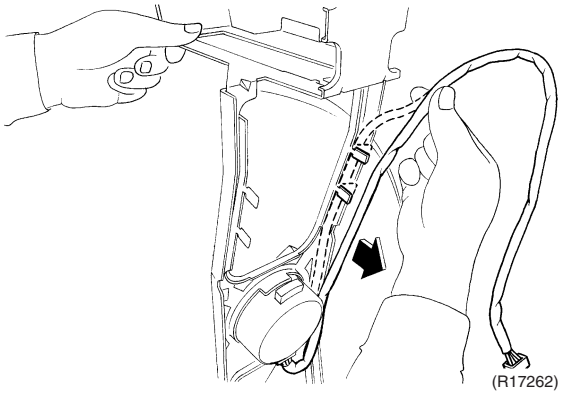
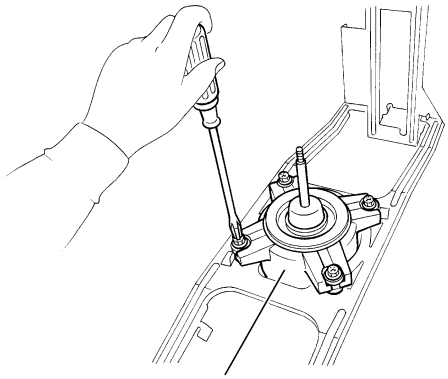
Step	Procedure	Points
3. Remove the terminal board.		
1 Disconnect all the wire harnesses from the back of the terminal board.	 (R12907)  (R5556)	
2 Unfasten the hook of the electrical box and remove the terminal board.	 (R5557)  (R5558)	

1.4 Removal of Outdoor Fan / Fan Motor

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

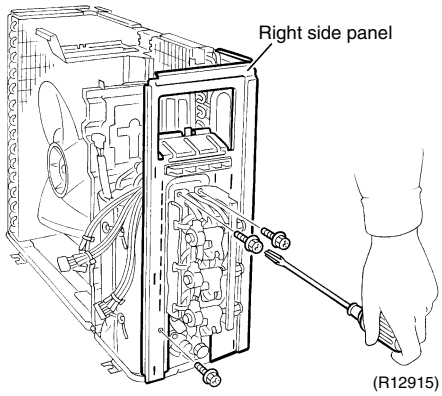
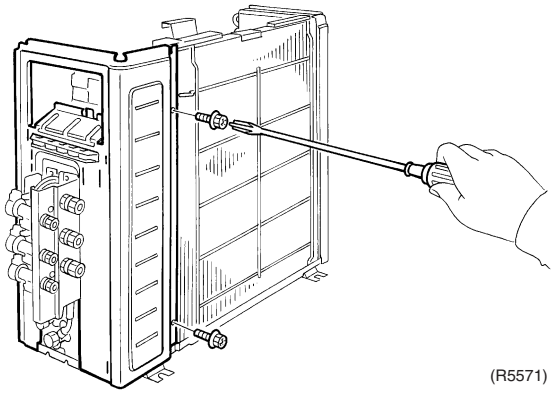
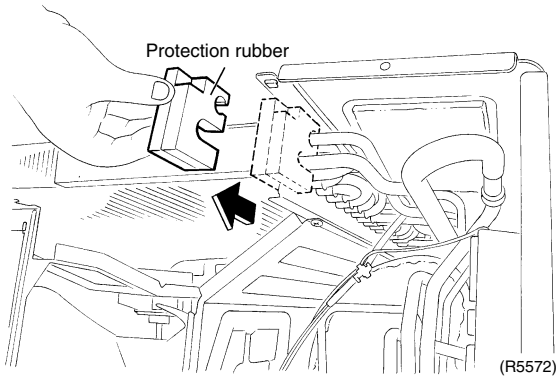
Step	Procedure		Points
1	Remove the 2 screws of the fan motor fixing plate.		**Preparation** ■ Remove the outer panels and plates. ■ Remove the electrical box.
2	Remove the fan motor fixing plate.		 ■ When reassembling, fit the lower hooks.
3	Remove the nut and remove the outdoor fan.	 	■ Nut size: M6  ■ When reassembling, align the ▼ mark of the outdoor fan with the D-cut section of the motor shaft.

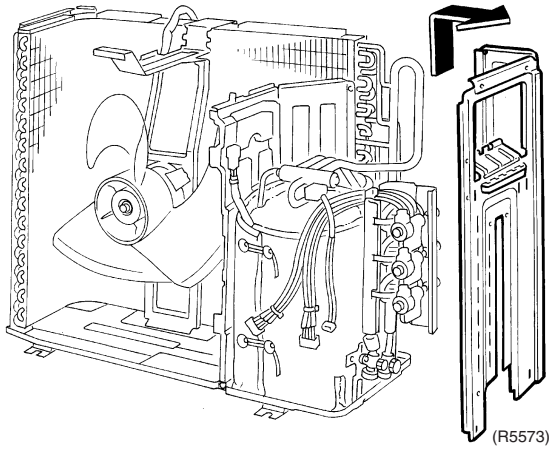
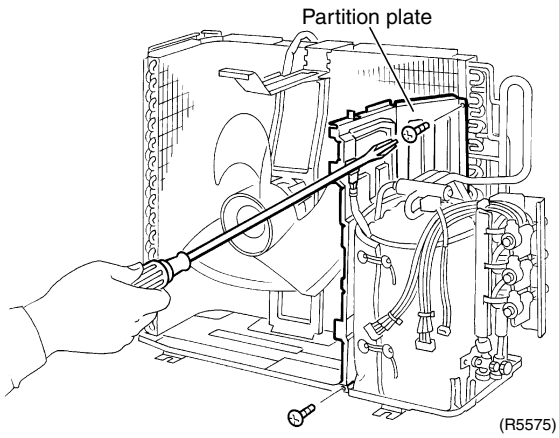
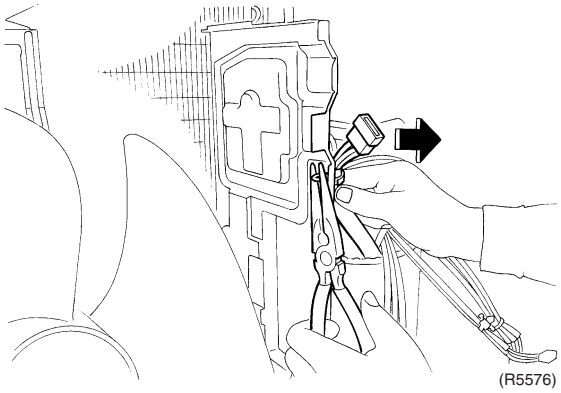
Step	Procedure		Points
4	Open the 2 hooks and release the fan motor lead wire.	 (R17261)	■ When reassembling, put the fan motor lead wire through the back of the fan motor so as not to be entangled with the outdoor fan.  (R12215)
		 (R17262)	
5	Remove the 4 screws and remove the fan motor.	 (R12913)	

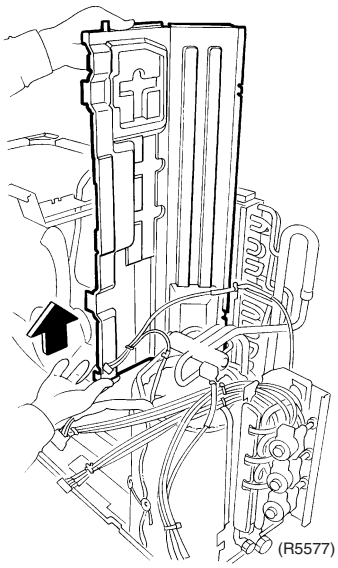
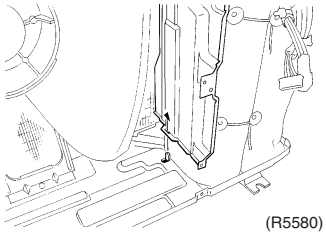
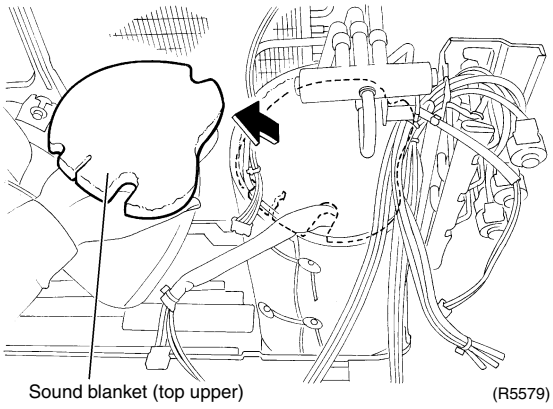
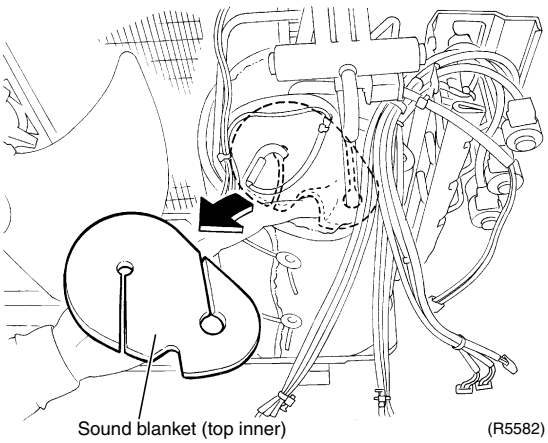
1.5 Removal of Sound Blankets

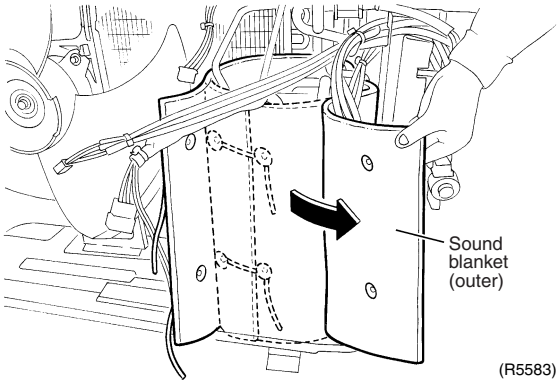
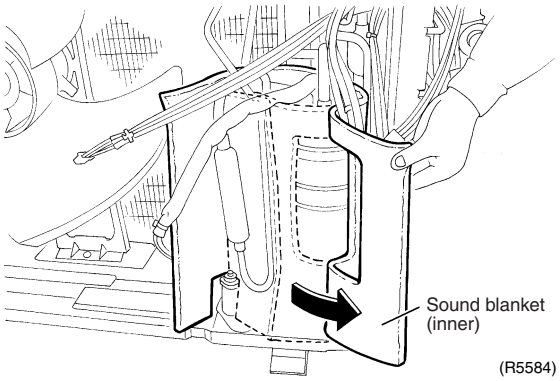
Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure	Points
1. Remove the right side panel.	 (R12915)	**Preparation** ■ Remove the outer panels and plates. ■ Remove the electrical box.
1 Remove the 3 screws of the right side panel.		
2 Remove the 2 screws on the back.	 (R5571)	
3 Remove the protection rubber. There is a hook on the back.	 (R5572)	

Step	Procedure		Points
4	Lift up and remove the right side panel.	 (R5573)	
2. Remove the partition plate.		 (R5575)	
1	Remove the 2 screws of the partition plate.		
2	Detach the clamp of the relay harness for the compressor.	 (R5576)	

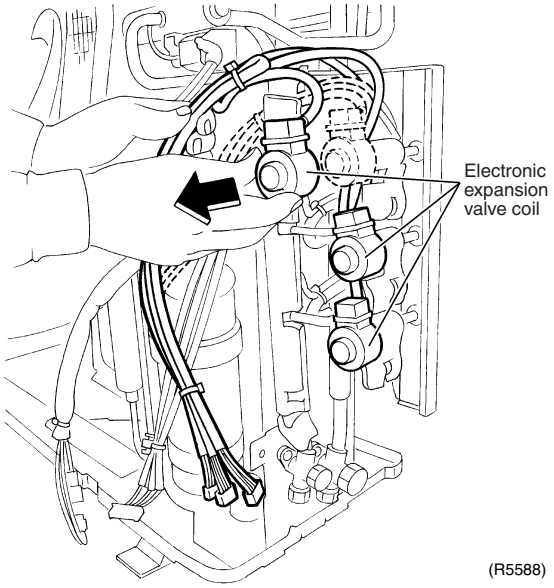
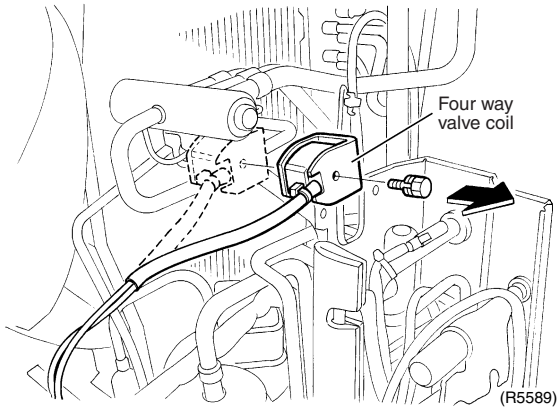
Step	Procedure		Points
3	Lift up and remove the partition plate.	 (R5577)	 (R5580) ■ When reassembling, make sure to fit the lower hook of the partition plate.
3. Remove the sound blankets.			■ Since the piping ports on the sound blanket are torn easily, remove the blanket carefully. ■ The shape of the sound blankets differs depending on the model.
1	Remove the sound blanket (top upper).	 Sound blanket (top upper) (R5579)	
2	Remove the sound blanket (top inner).	 Sound blanket (top inner) (R5582)	

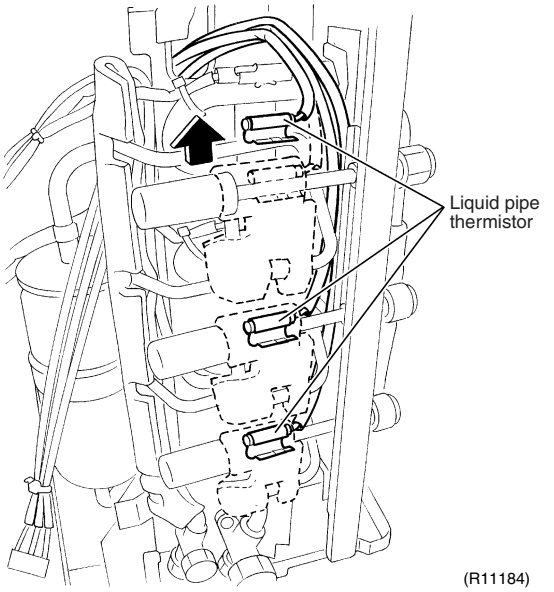
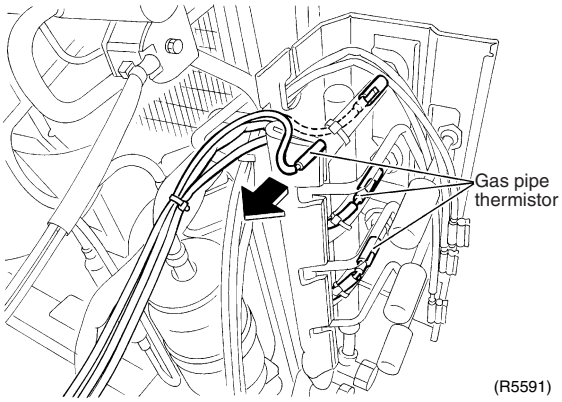
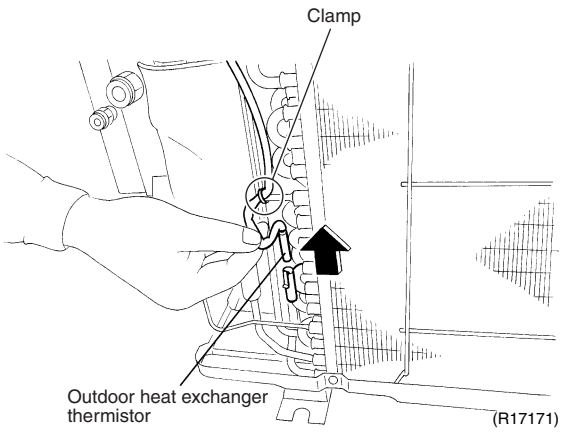
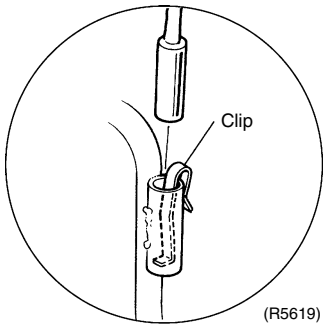
Step	Procedure		Points
3	Open the sound blanket (outer) and pull it out.		
4	Open the sound blanket (inner) and pull it out.		

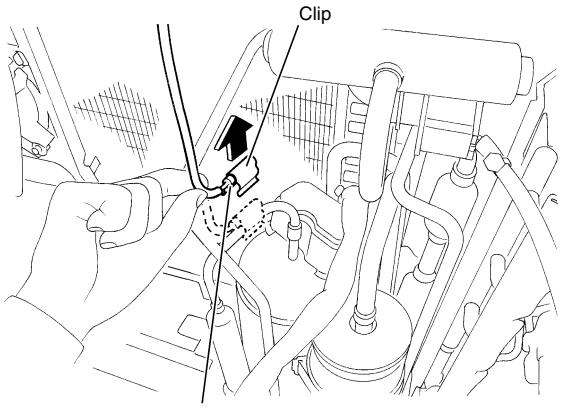
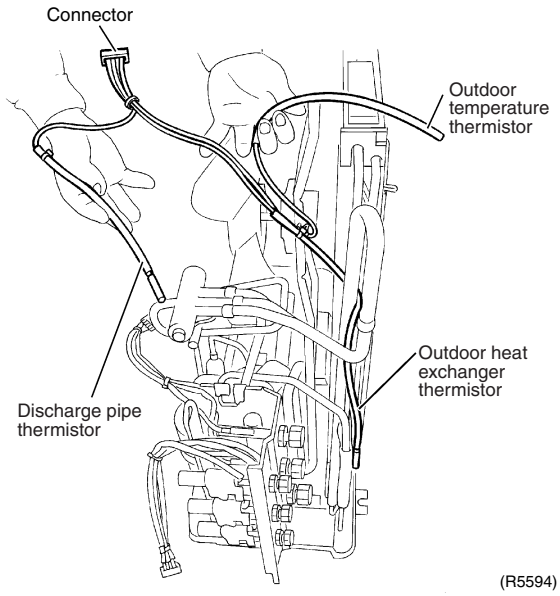
1.6 Removal of Coils / Thermistors

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure	Points
1. Remove the electronic expansion valve coils.		
1 Pull out the electronic expansion valve coils.		
2. Remove the four way valve coil.		■ Cooling only models have no four way valve coil.
1 Remove the screw to remove the four way valve coil.		

Step	Procedure	Points
3. Remove the thermistors.		■ When reassembling, meet the edge of the thermistor and the fixture.
1 Open the putty and remove the liquid pipe thermistors.		
2 Pull out the gas pipe thermistors.		
3 Cut the clamp. Pull out the outdoor heat exchanger thermistor.		 ■ Be careful not to lose the clip. ■ The positions of the clamp and outdoor heat exchanger thermistor differ depending on the model.

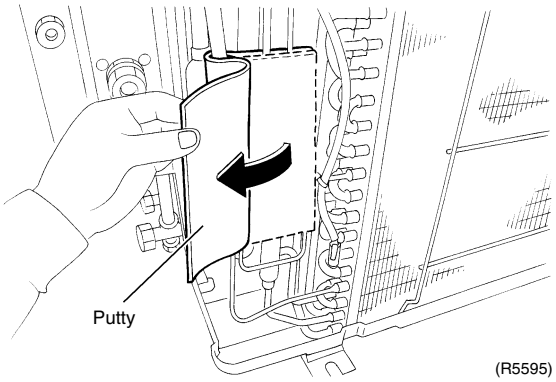
Step	Procedure		Points
4	Remove the discharge pipe thermistor.		■ When reassembling, meet the edge of the thermistor and the fixture.
5	Remove the assembly of thermistors.		

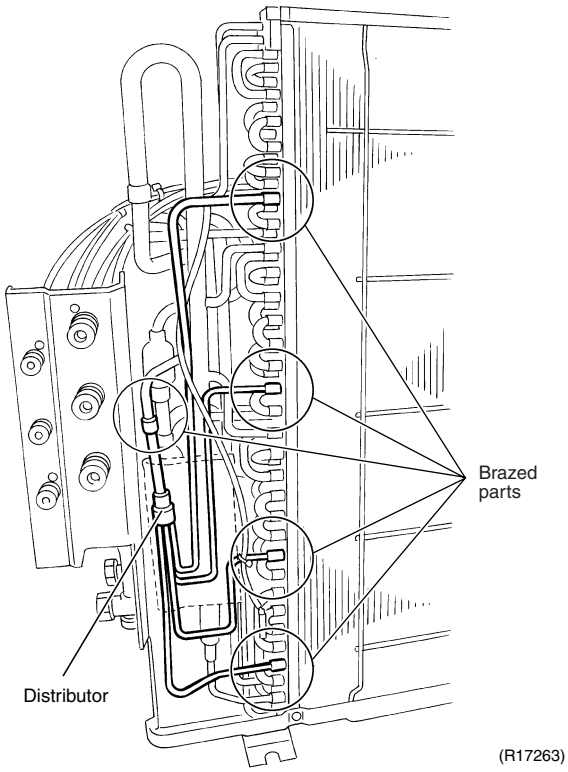
1.7 Removal of Distributor

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure	Points
1	Remove the putty.	**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.** **Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)**
■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		**Caution** **From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.**
2	Heat up and disconnect the brazed parts to remove the distributor.	**Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry.
Note: ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.		**In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

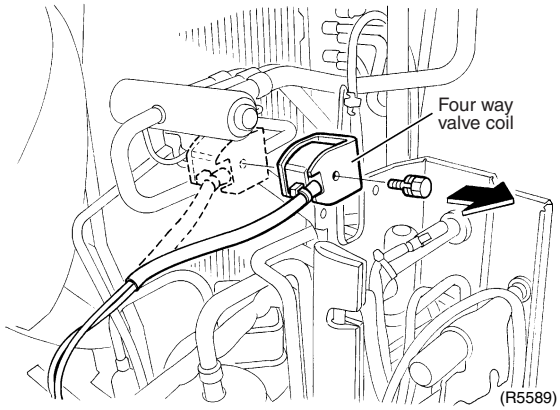
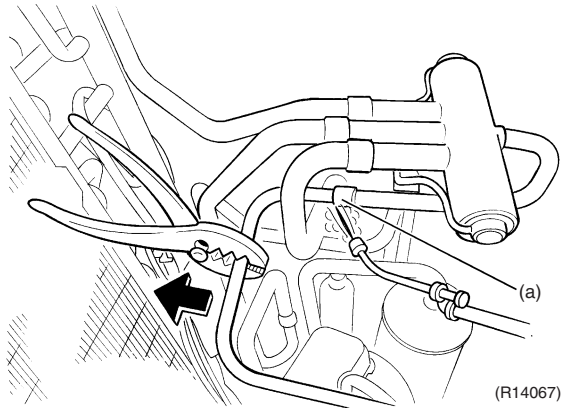
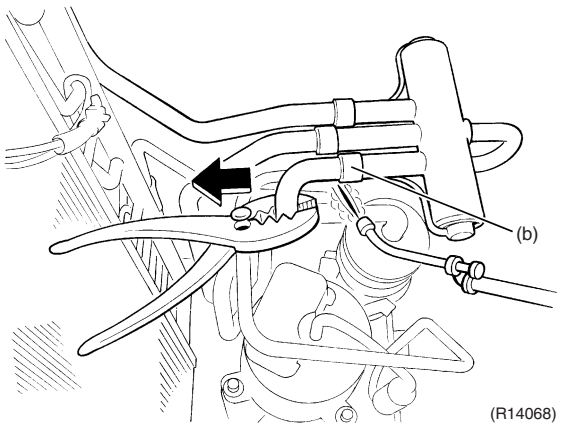
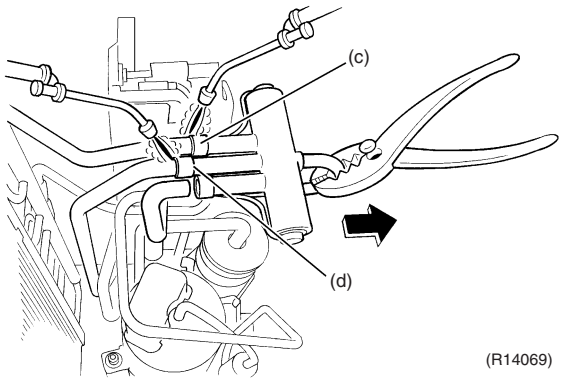




1.8 Removal of Four Way Valve

Procedure

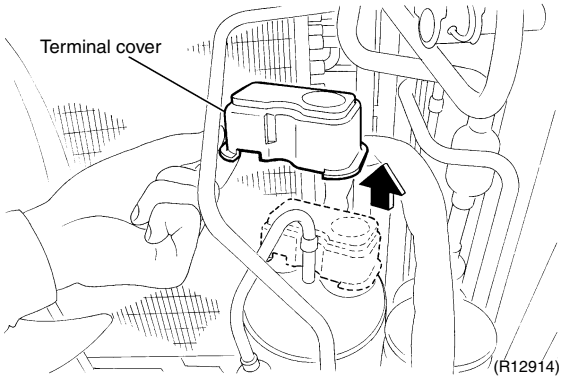
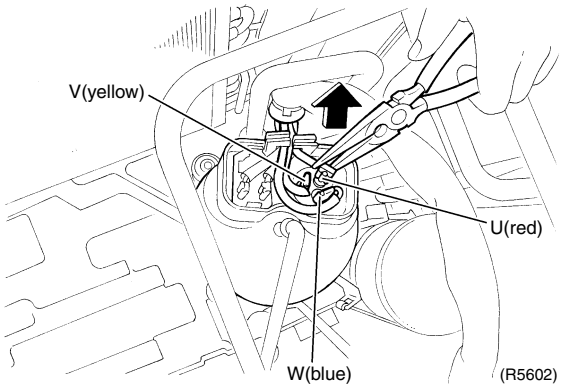
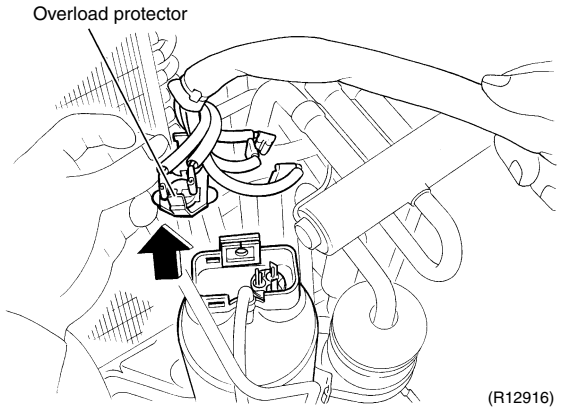
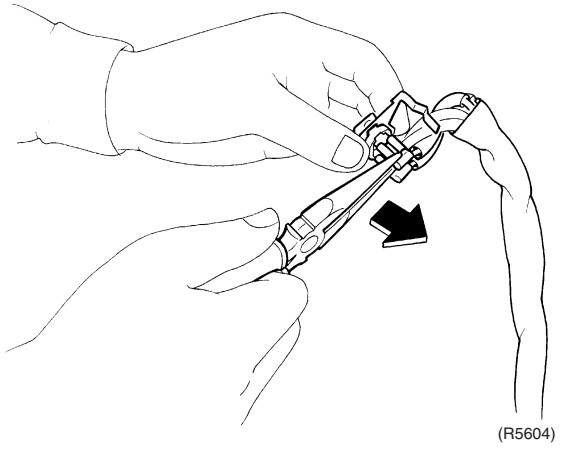
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

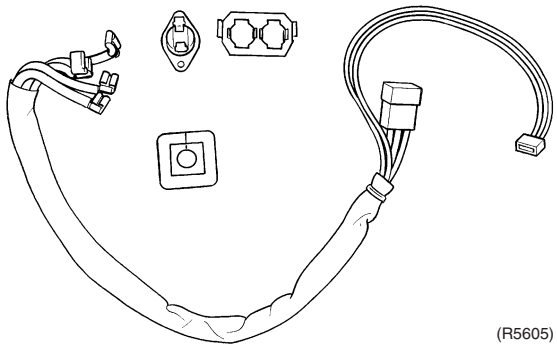
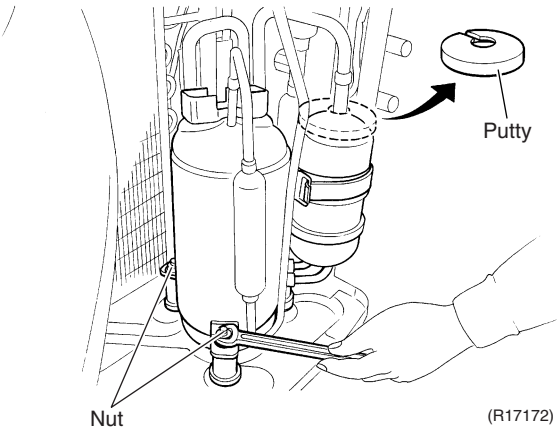
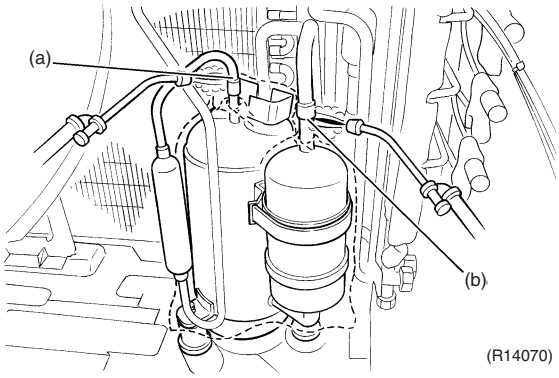
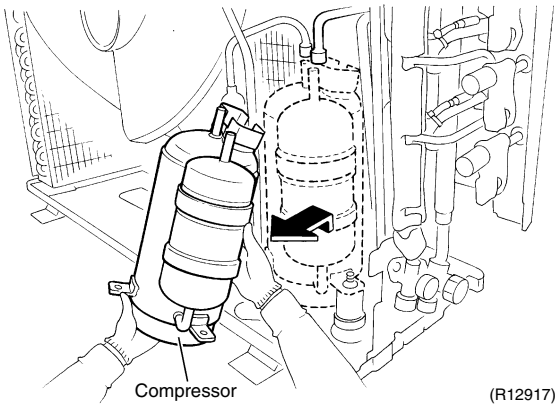
Step	Procedure	Points
■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		■ Cooling only models have no four way valve coil. **Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.** **Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)** **Caution** **From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.** **Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry. **In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.
1 Remove the screw to remove the four way valve coil.		
2 Heat up the 4 brazed part of the four way valve. First, disconnect the part (a).		
3 Disconnect the part (b).		
4 Disconnect the part (c) and (d) and remove the four way valve.		
Note: ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.		

1.9 Removal of Compressor

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the terminal cover.		
2	Disconnect the compressor lead wires.		
3	Detach the overload protector.	 	

Step	Procedure	Points
4 Remove the putty. 5 Remove the 2 nuts.	 (R5605)  Putty Nut (R17172)	**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.** **Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)** **Warning** **Since it may happen that the refrigerant oil in the compressor catches fire, prepare wet cloth so as to extinguish fire immediately.** **Caution** **From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.**
■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		
6 Heat up the brazed part of the discharge side and disconnect the part (a). 7 Heat up the brazed part of the suction side and disconnect the part (b). 8 Remove the compressor.	 (a) (b) (R14070)  Compressor (R12917)	**Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry. **In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.
Note: ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries. ■ Be careful so as not to burn the compressor terminals, the name plate, the heat exchanger fin.		

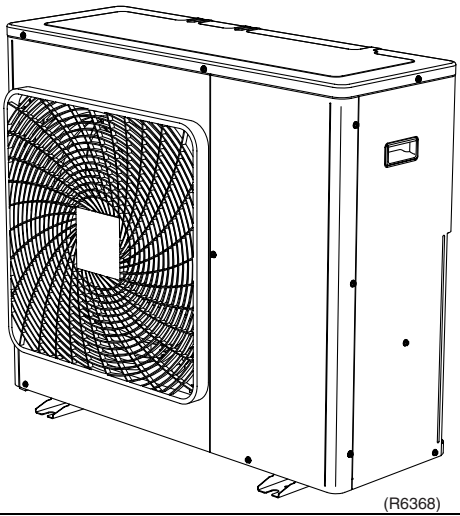
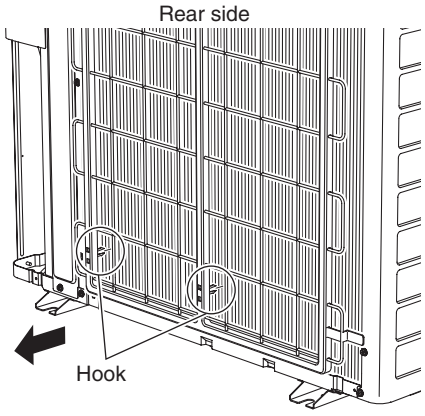
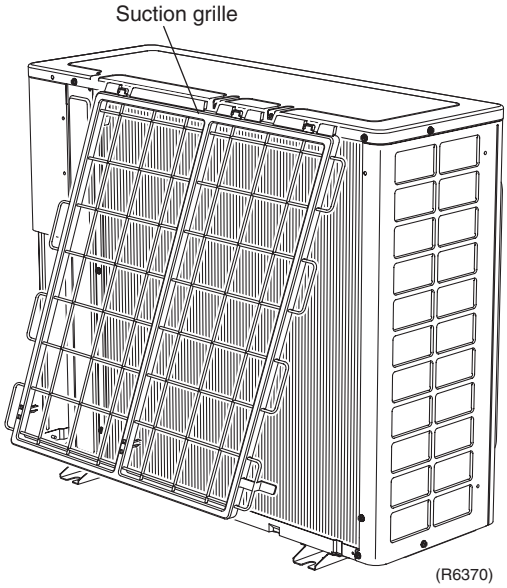
2. Outdoor Unit: 80/90 Class

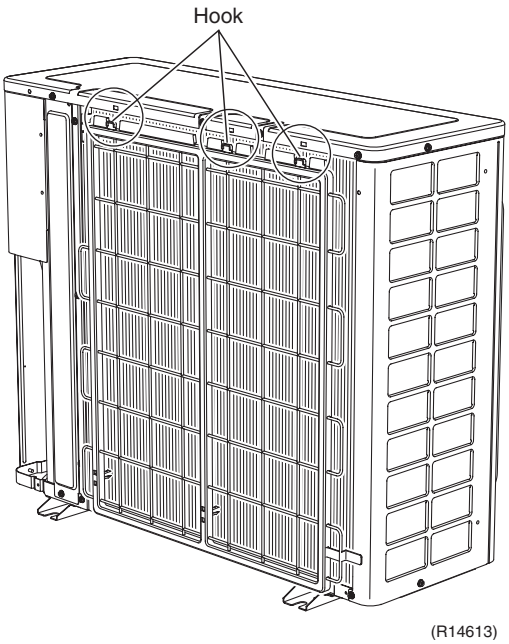
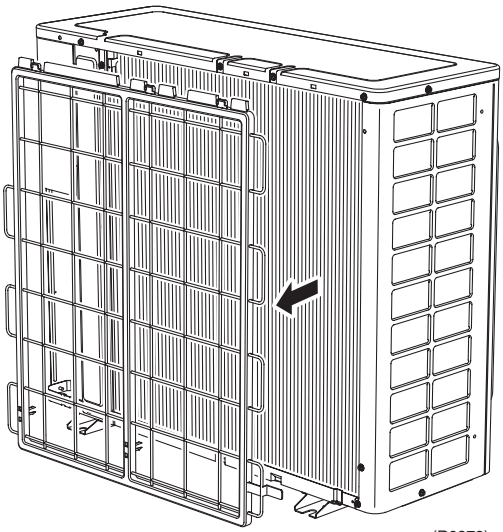
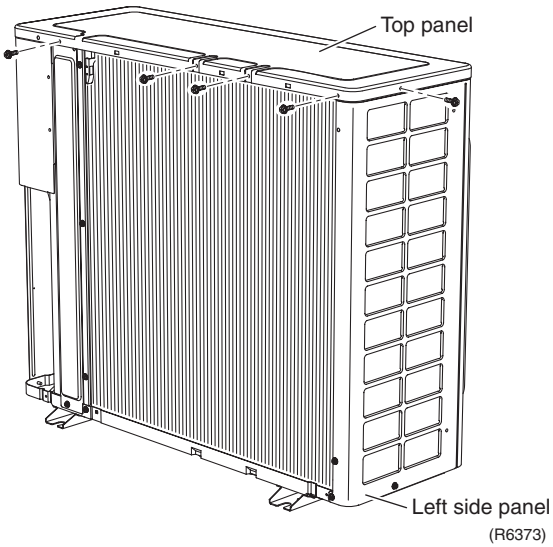
Note: The illustrations are for heat pump models as representative.

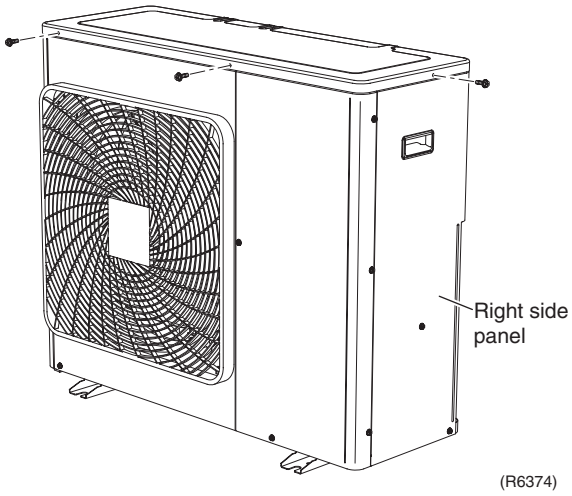
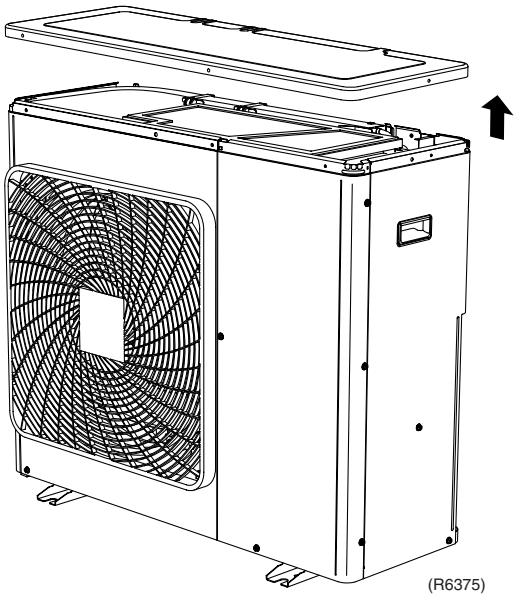
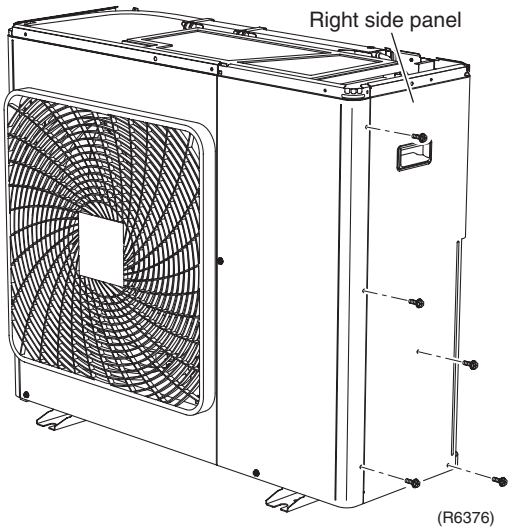
2.1 Removal of Outer Panels

Procedure

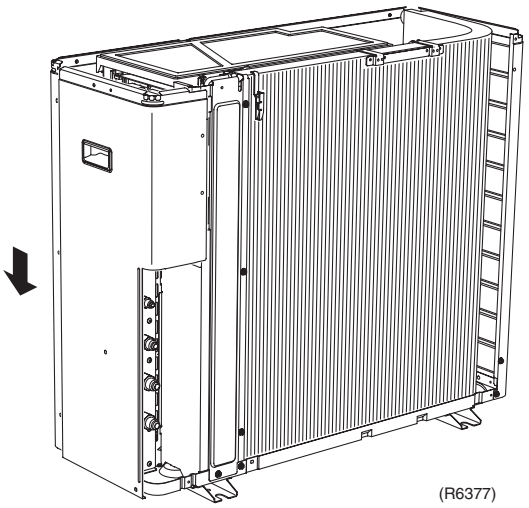
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
	Appearance features	 (R6368)	
1. Remove the suction grille.		 (R14612)	■ The hooks are secured in the clearances of the outdoor heat exchanger fins.
1	Unfasten the 2 hooks at the bottom first.	 (R6370)	

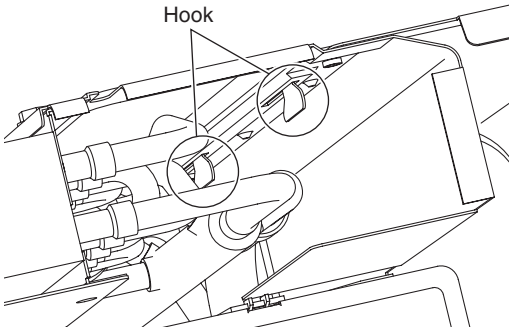
Step	Procedure		Points
2	Slide the suction grille downward to unfasten the 3 top hooks.	 (R14613)	
3	Remove the suction grille.	 (R6372)	
2. Remove the top panel.			
1	Remove the 4 screws on the back and the screw on the left side panel.	 (R6373)	

Step	Procedure		Points
2	Remove the 2 screws on the front and the screw on the right side panel.	 (R6374)	
3	Lift the top panel and remove it.	 (R6375)	
3. Remove the right side panel.			
1	Remove the 5 screws.	 (R6376)	

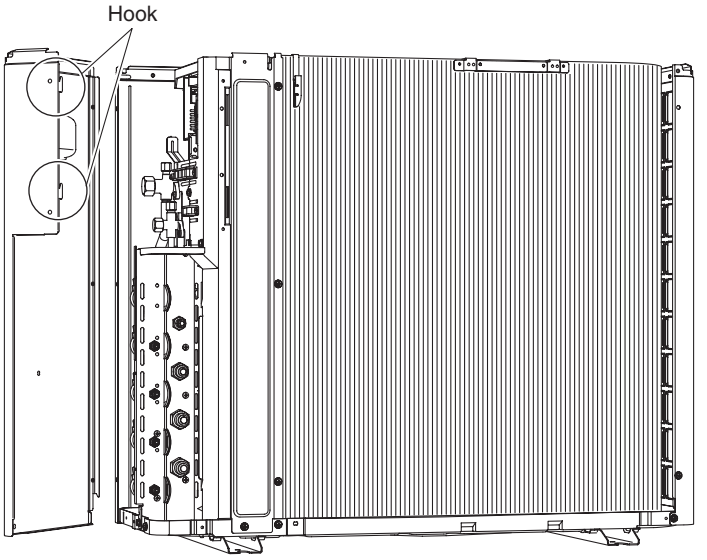
Step	Procedure	Points
2	Slide the right side panel downward to unfasten the 2 hooks on the back side.	



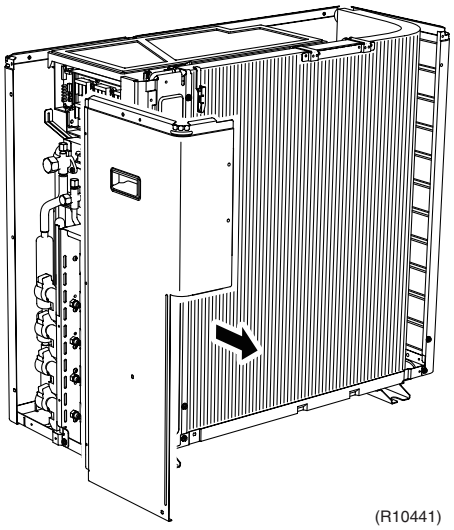
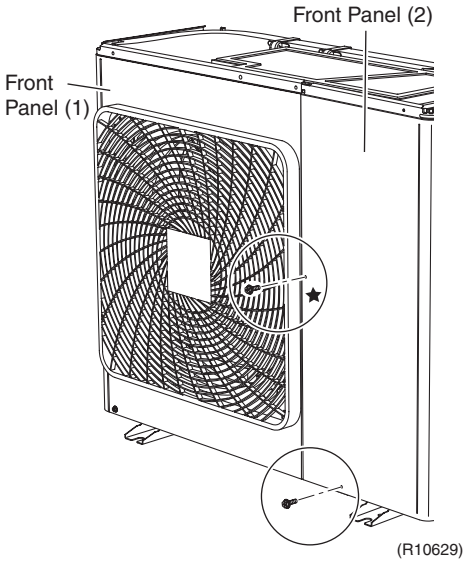
(R6377)

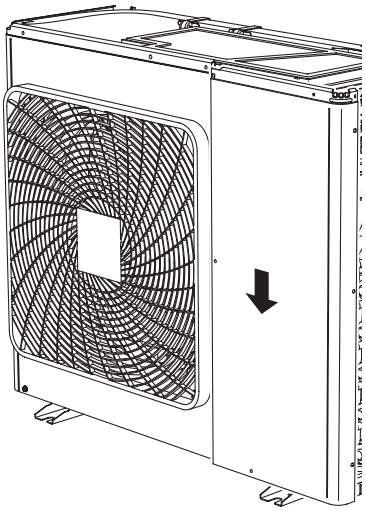
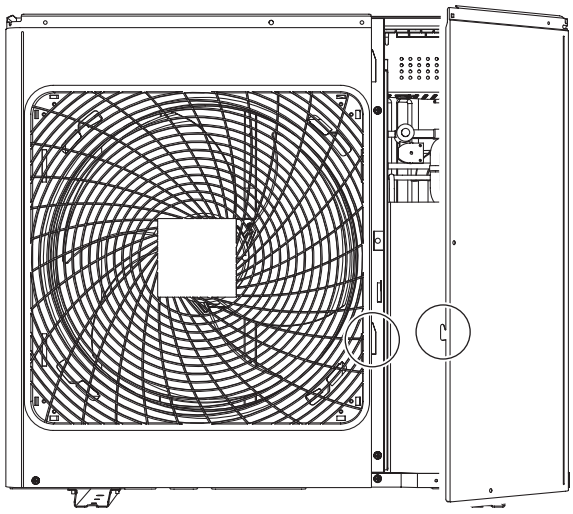
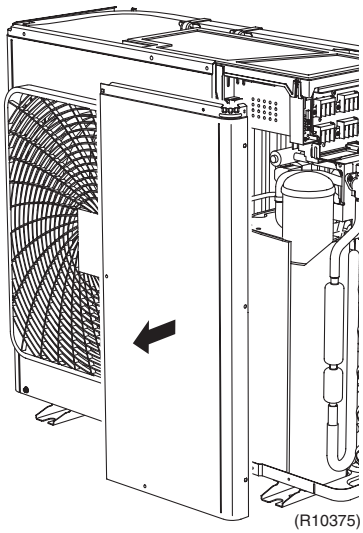


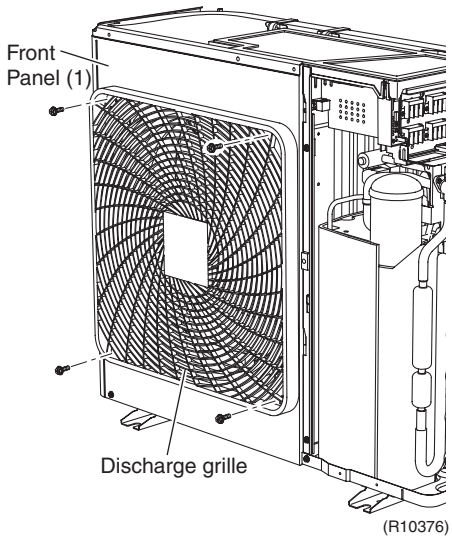
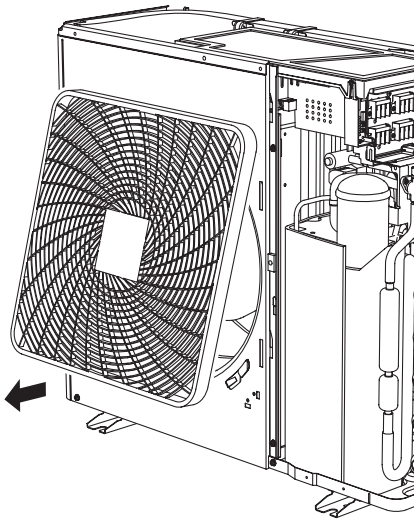
(R14614)

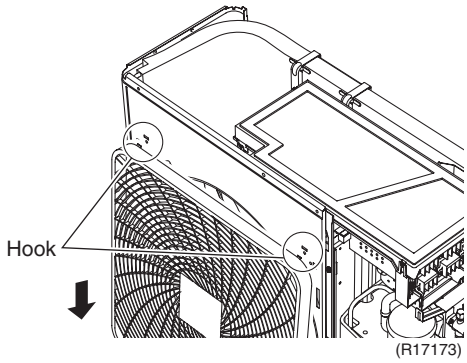
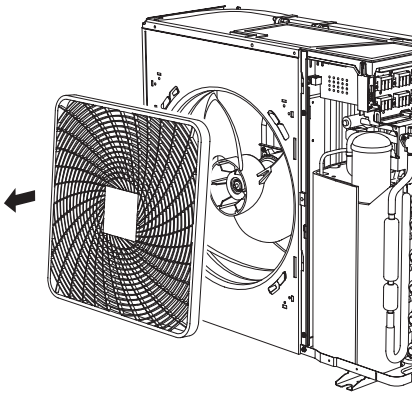
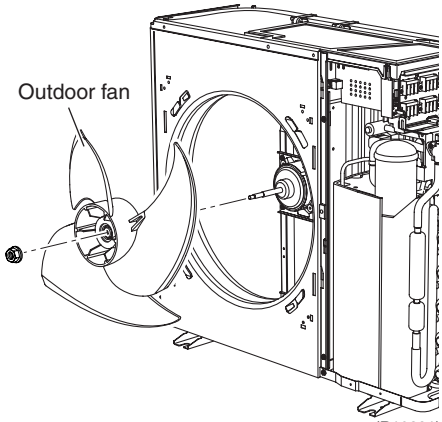
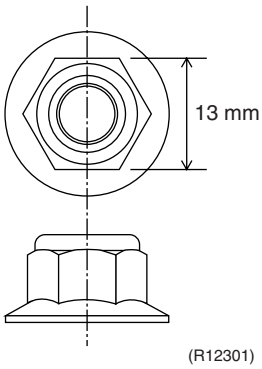


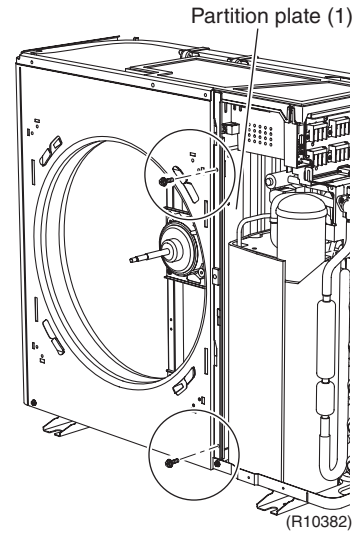
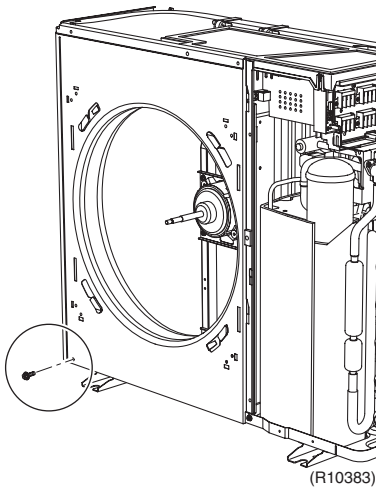
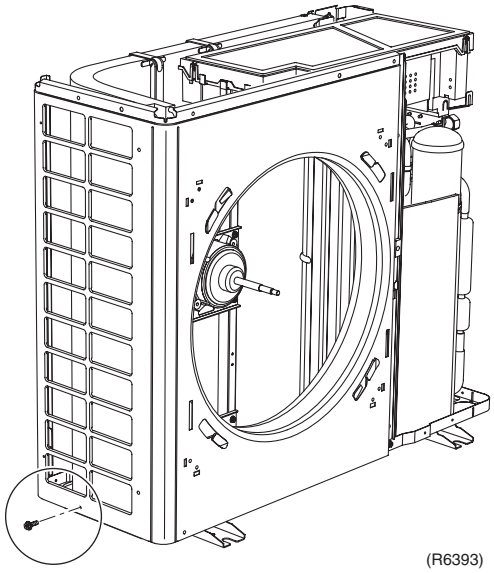
(R14615)

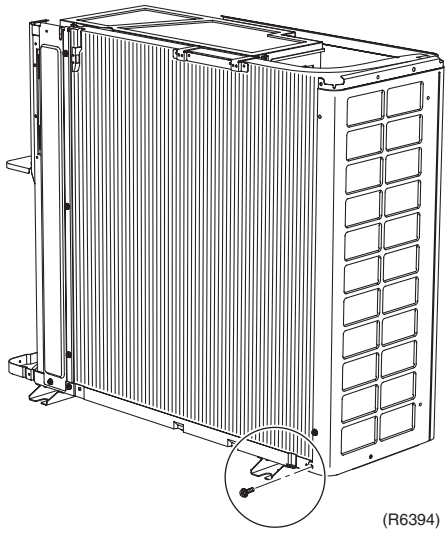
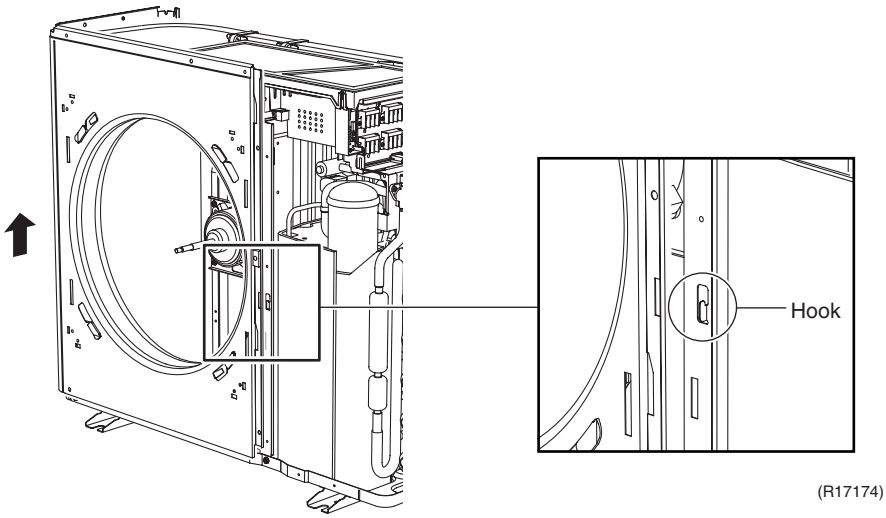
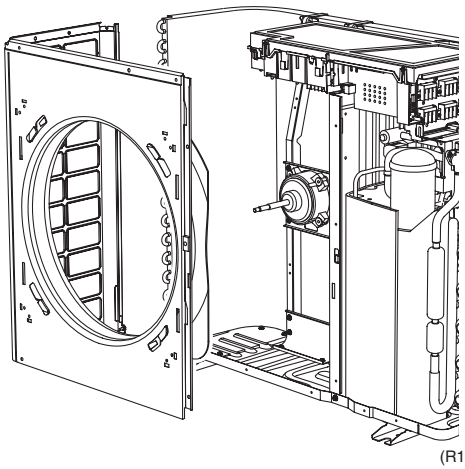
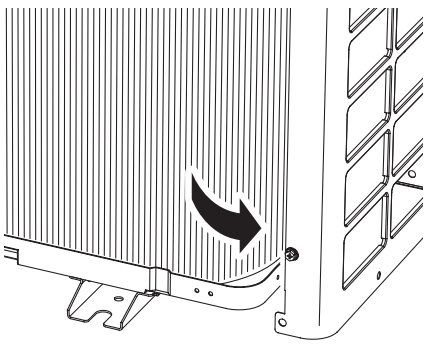
Step	Procedure		Points
3	Remove the right side panel.	 (R10441)	
4. Remove the front panel (2).		 (R10629)	★ This screw is M5 × 16
1	Remove the 2 screws.		

Step	Procedure	Points
2	Slide the front panel (2) downward to unfasten the hook.  (R10374)  (R6383)	
3	Remove the front panel (2).  (R10375)	

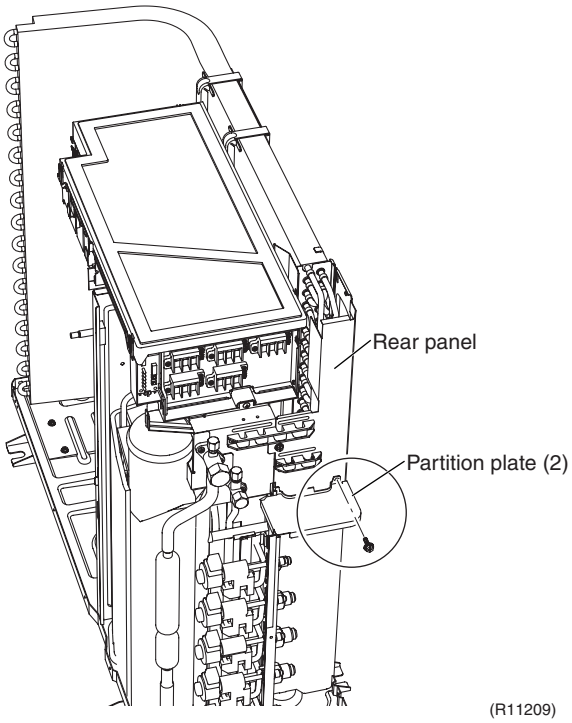
Step	Procedure	Points
5. Remove the front panel (1).		■ Remove the discharge grille and outdoor fan first to remove the front panel (1).
1 Remove the 4 screws on the discharge grille.	 (R10376)	
2 Pull the bottom of the discharge grille.	 (R10377)	

Step	Procedure		Points
3	Slide the discharge grille downward to unfasten the 2 hooks at the top.	 (R17173)	
4	Remove the discharge grille.	 (R10380)	
5	Remove the nut and remove the outdoor fan.	 (R10381)	■ Nut size : M8  (R12301) ■ When reassembling, align ▼ mark of the outdoor fan with D-cut section of the motor shaft.

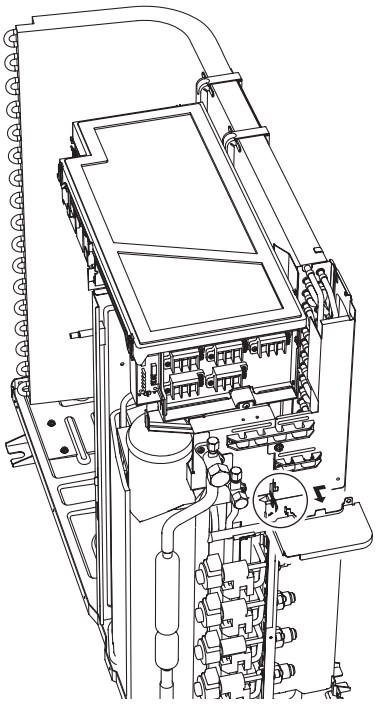
Step	Procedure		Points
6	Remove the 2 screws on the partition plate (1).		
7	Remove the screw at the bottom left of the front panel (1).		
8	Remove the screw at the bottom of the left side.		

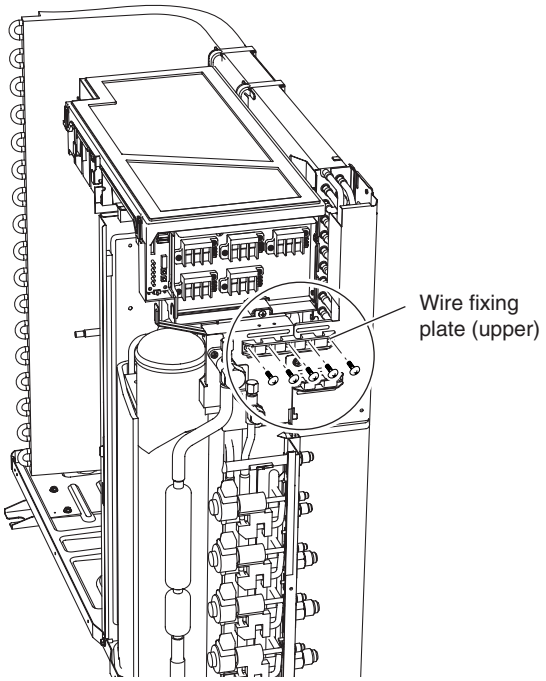
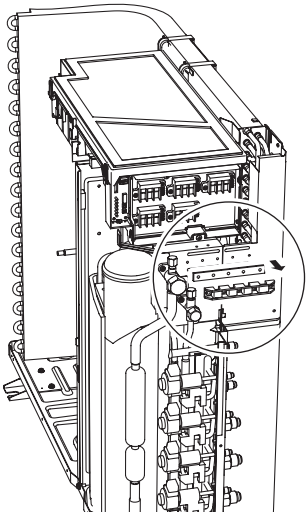
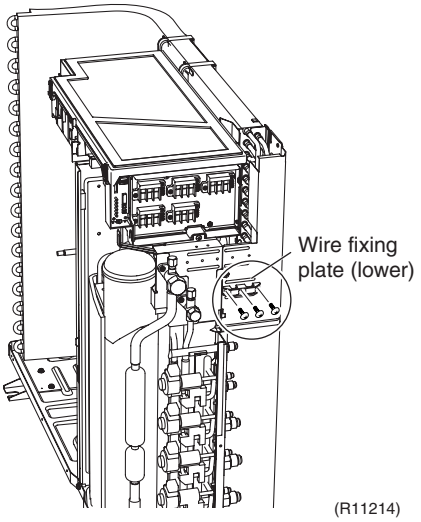
Step	Procedure	Points
9	Remove the screw at the bottom of the back side.  (R6394)	
10	The front panel (1) has a hook. Lift the front panel (1).  (R17174)	
11	Remove the front panel (1).  (R10385)  (R6396)	■ Be sure to detach the front panel (1) carefully so as not to deform it.

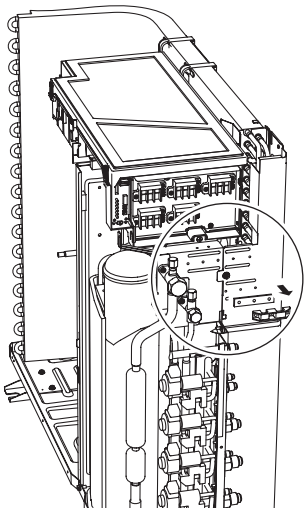
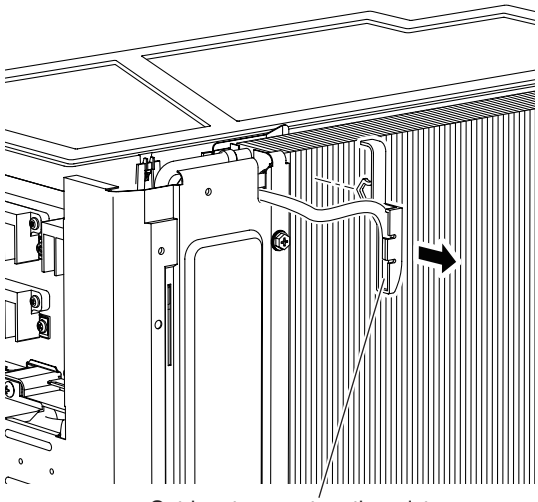
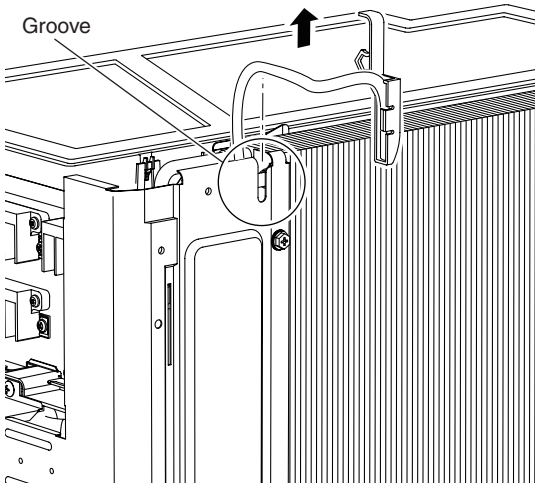
Step	Procedure	Points
6. Remove the rear panel.		
1	Remove the screw on the partition plate (2).	
2	Slide the partition plate (2) to the left and remove it.	

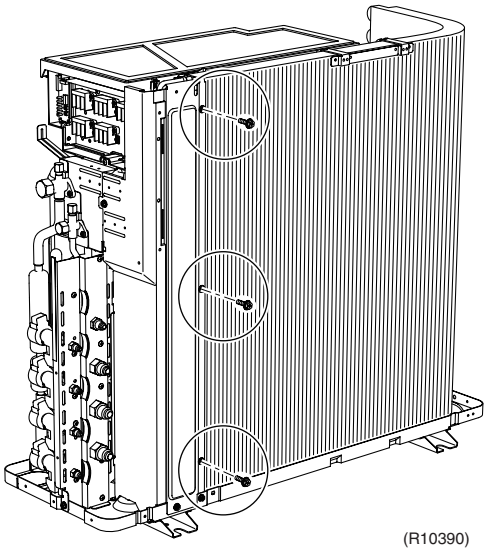
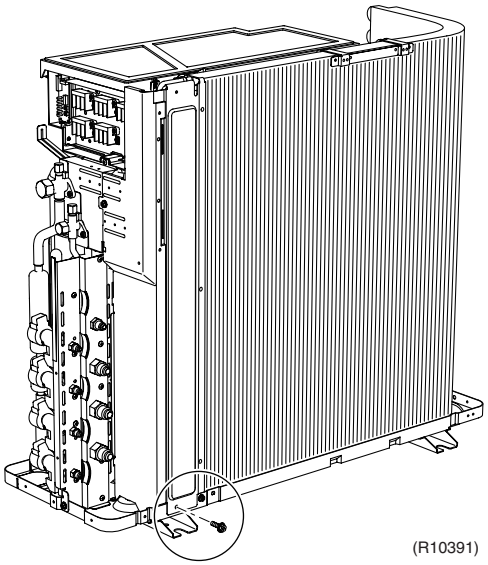
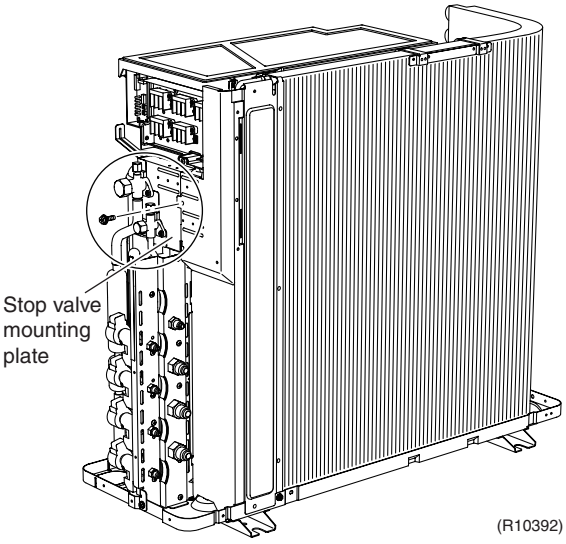


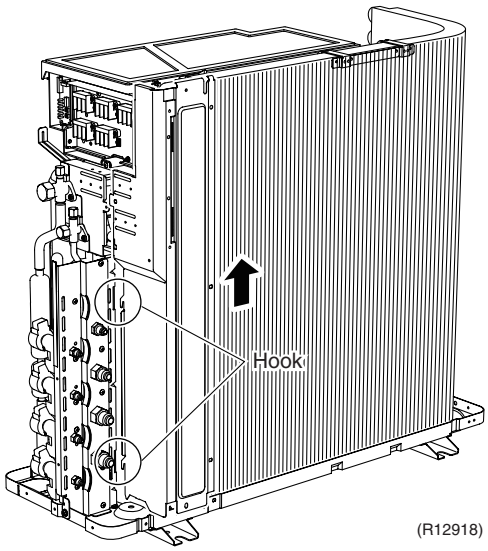
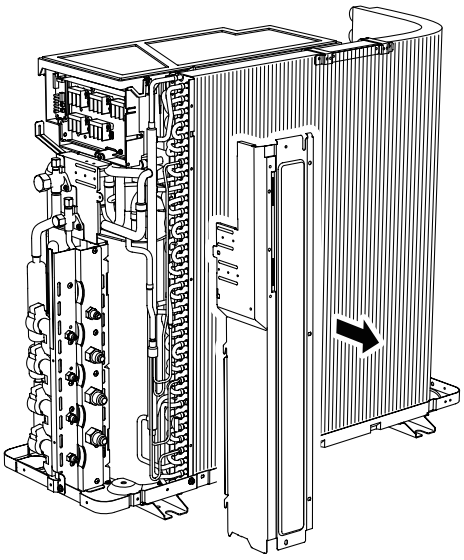
(R11209)


(R11211)

Step	Procedure	Points
3	Remove the 5 screws on the wire fixing plate (upper).  (R11210)	
4	Remove the wire fixing plate (upper).  (R11213)	
5	Remove the 3 screws on the wire fixing plate (lower).  (R11214)	

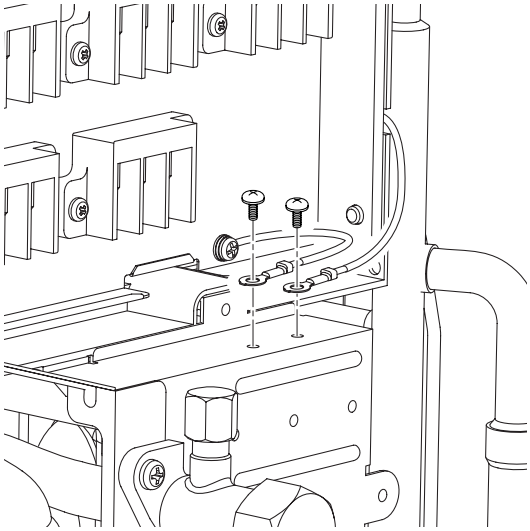
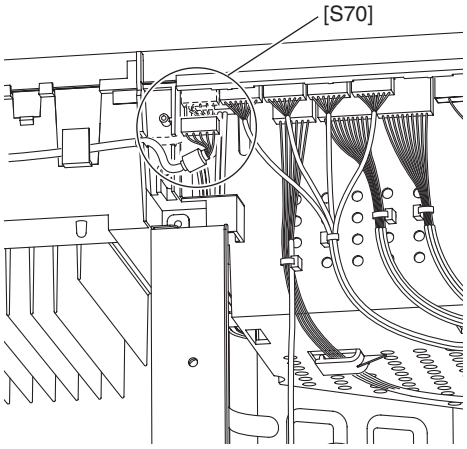
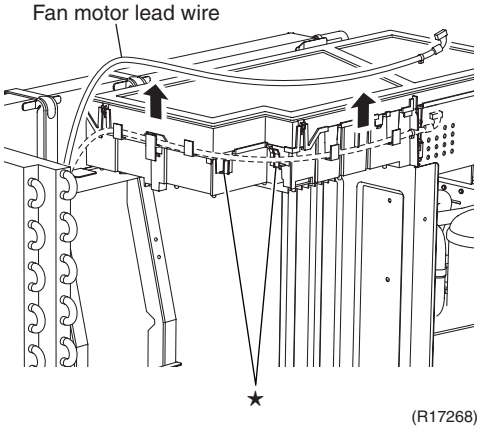
Step	Procedure		Points
6	Remove the wire fixing plate (lower).	 (R11215)	
7	Pull out the holder of the outdoor temperature thermistor.	 Outdoor temperature thermistor (R10388)	■ The holder is secured in the clearances of the outdoor heat exchanger fins.
8	Release the thermistor wire from the groove	 (R10389)	

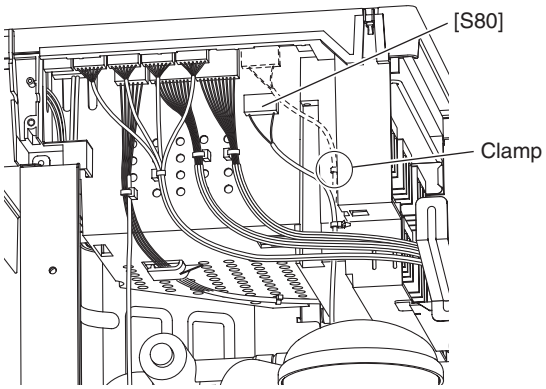
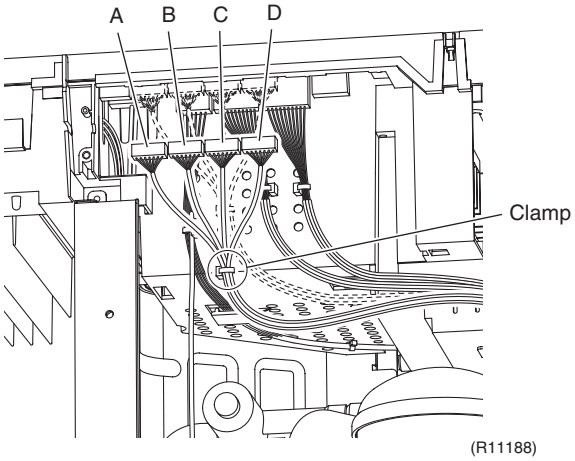
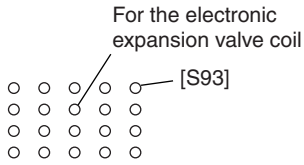
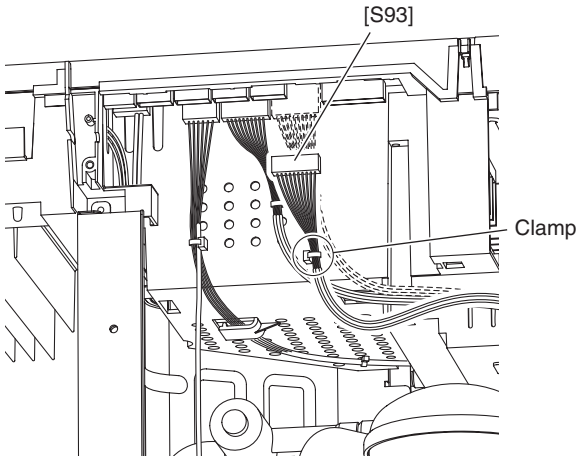
Step	Procedure		Points
9	Remove the 3 screws on the rear panel.	 (R10390)	
10	Remove the screw on the bottom frame.	 (R10391)	
11	Remove the screw on the stop valve mounting plate.	 (R10392)	

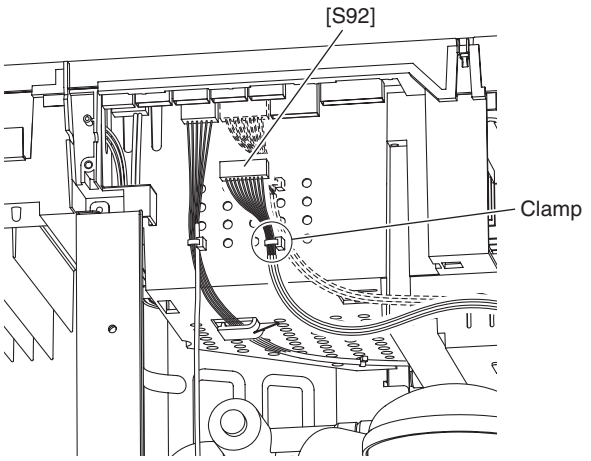
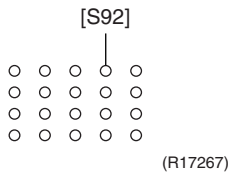
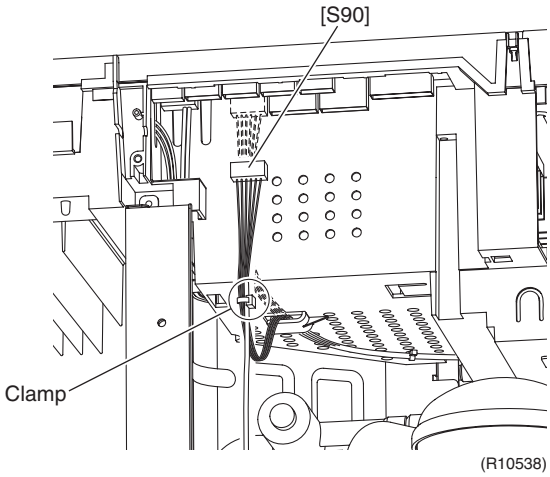
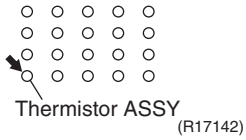
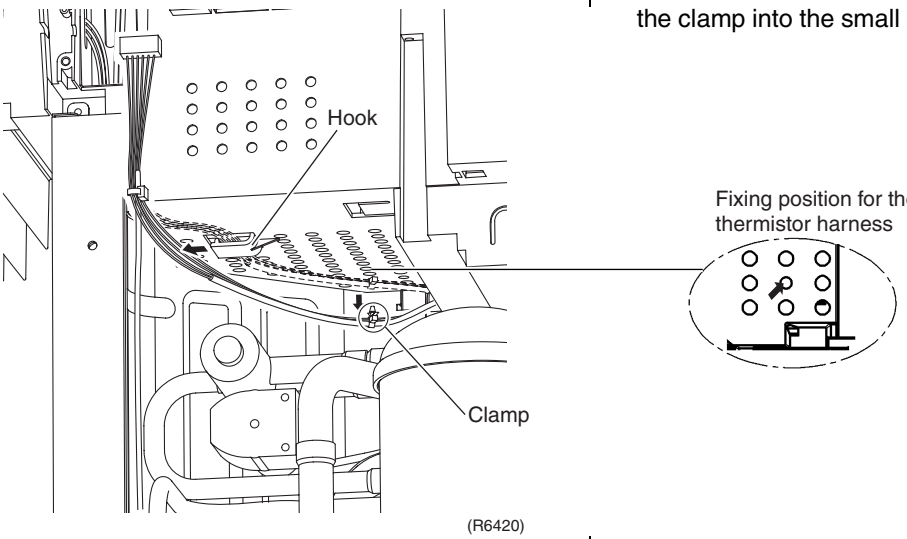
Step	Procedure		Points
12	Lift the rear panel upward to unfasten the 2 hooks.		
13	Remove the rear panel.		

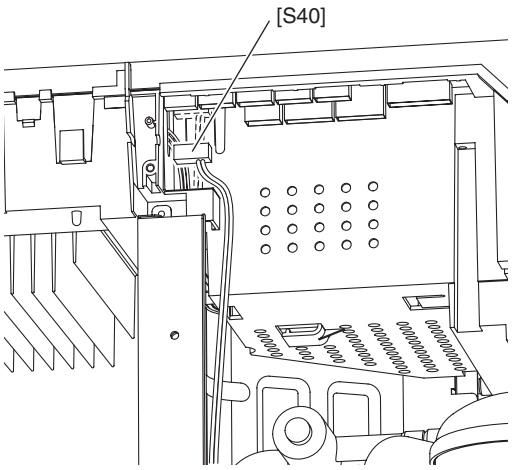
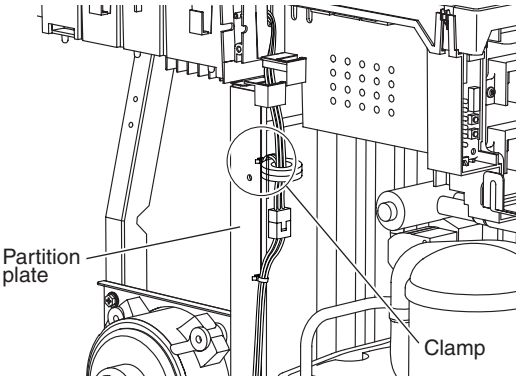
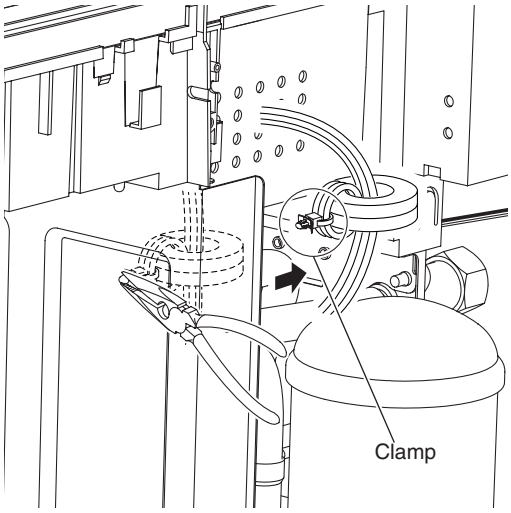
2.2 Removal of Electrical Box

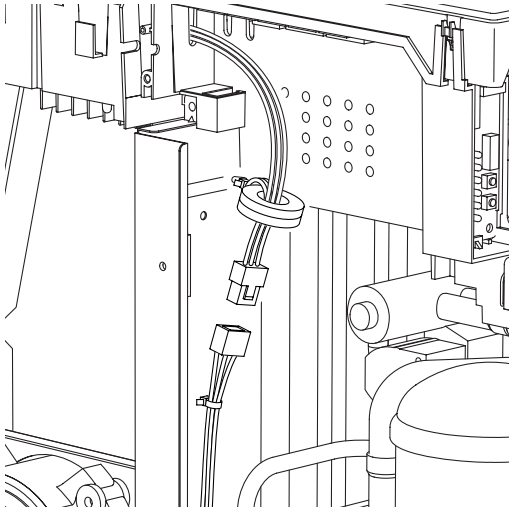
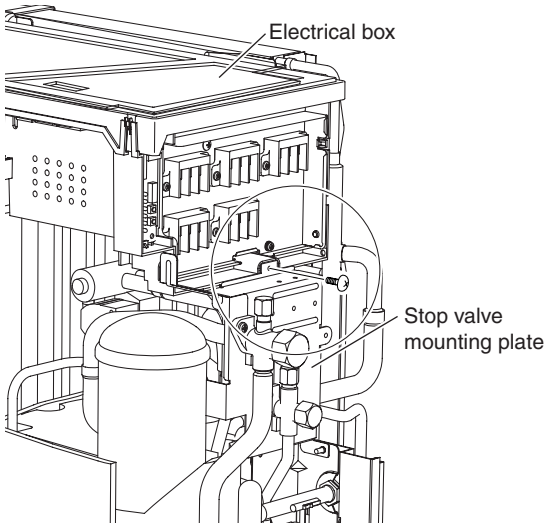
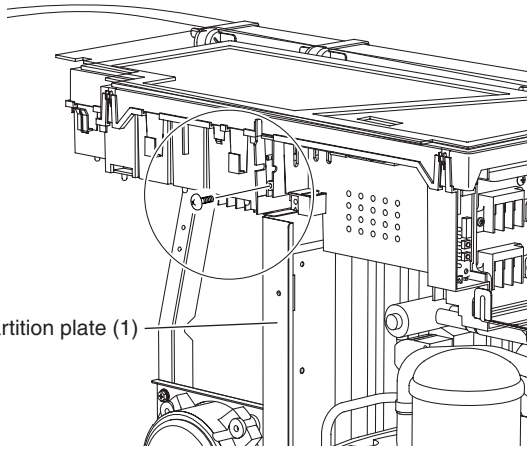
Procedure **Warning** **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

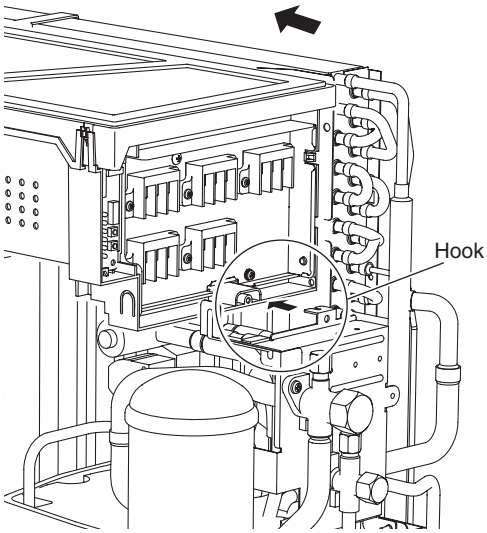
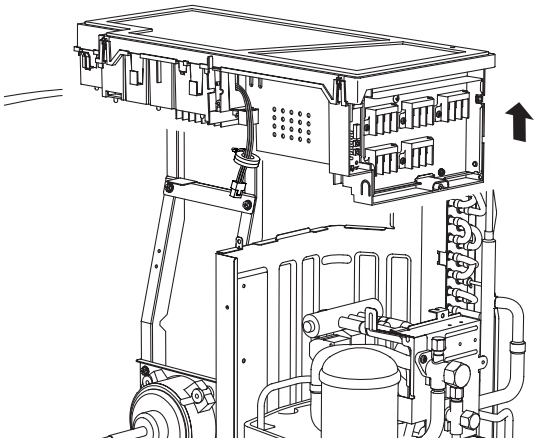
Step	Procedure		Points
1	Remove the 2 screws to detach the earth wires.	 (R10396)	
2	Disconnect the connector for the fan motor [S70].	 (R10397)	
3	Release the fan motor lead wire.	 (R17268)	★: When reassembling, do not use these 2 hooks.

Step	Procedure		Points
4	Disconnect the connector for the four way valve coil [S80].	 (R11187)	■ Pull out the clamp. ■ The cooling only model has no harness for [S80].
5	Disconnect the connectors for the electronic expansion valve coil. [S20] (white): room A [S21] (red): room B [S22] (blue): room C [S23] (yellow): room D	 (R11188)	■ Pull out the clamp. ■ 5-room models also has [S24] (green) for room E. ■ When reassembling, insert each clamp into the small hole.  (R17266)
6	Disconnect the connector for the liquid pipe thermistor [S93].	 (R10400)	■ Pull out the clamp.

Step	Procedure		Points
7	Disconnect the connector for the gas pipe thermistor [S92].		■ Pull out the clamp. ■ When reassembling, insert the clamp into the small hole. 
8	Disconnect the connector for the thermistors [S90].		■ Pull out the clamp. ■ When reassembling, insert the clamp of the thermistor ASSY into the hole as below. 
9	The wire harness of the thermistor is hooked under the electrical box. Unhook it and pull out the clamp.		■ When reassembling, insert the clamp into the small hole.

Step	Procedure		Points
10	Disconnect the connector for the overload protector [S40].	 (R10539)	
11	The wire harness for the compressor is attached to the partition plate (1) by the clamp.	 (R12904)	
12	Pull out the clamp with pliers.	 (R6423)	

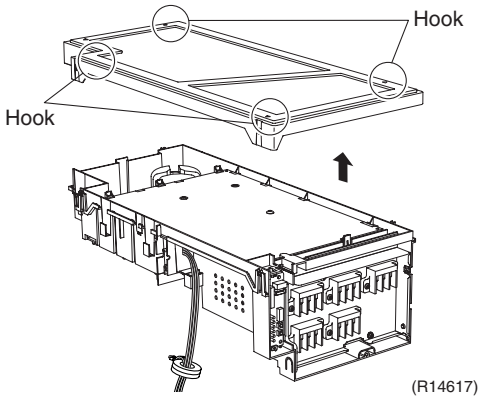
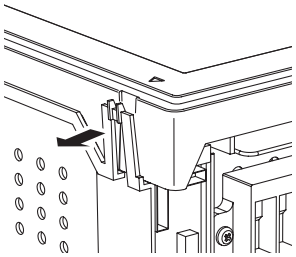
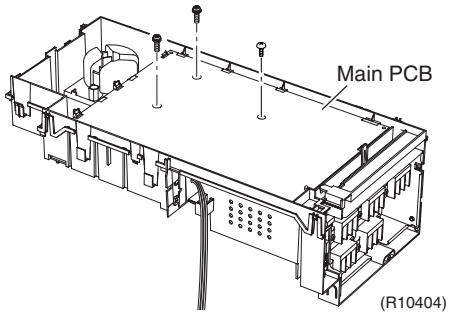
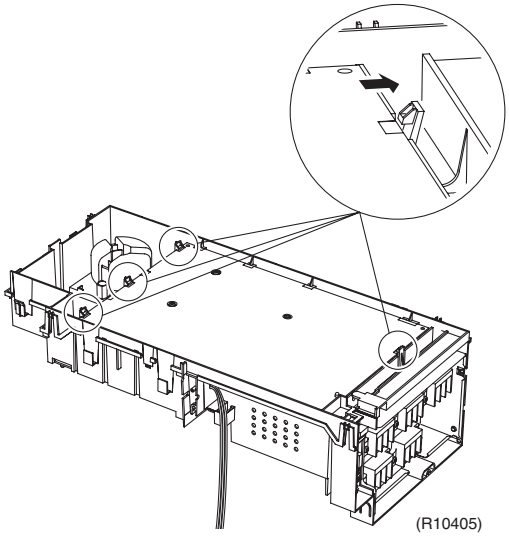
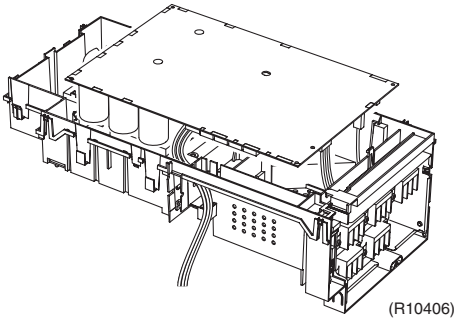
Step	Procedure		Points
13	Disconnect the relay connector of the compressor.	 (R6469)	
14	Remove the screw on the stop valve mounting plate.	 (R10395)	
15	Remove the screw on the partition plate (1).	 (R6411)	

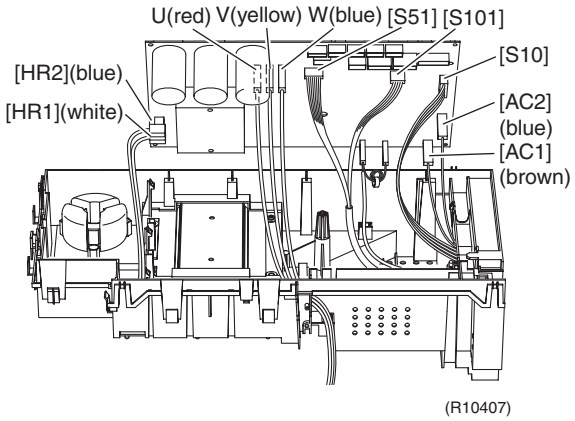
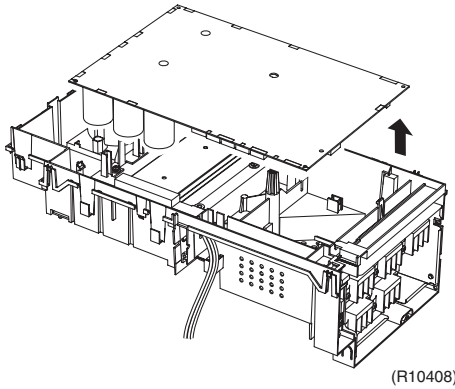
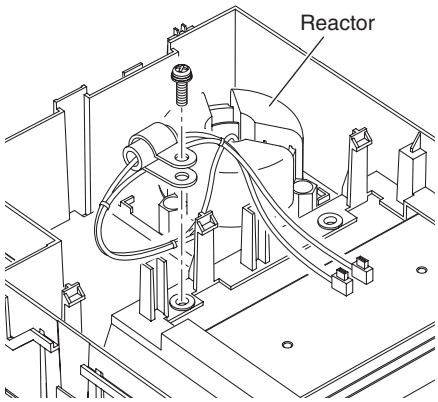
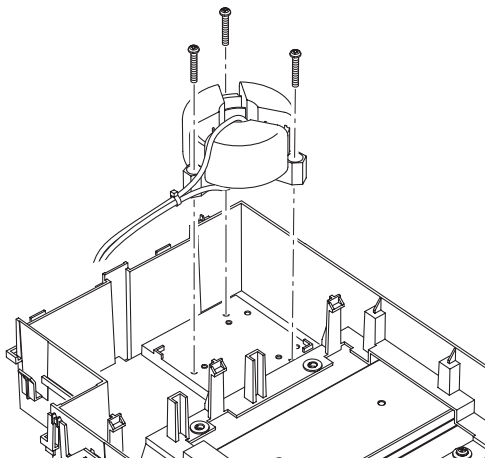
Step	Procedure		Points
16	Slide the electrical box leftward to unfasten the hook on the right side of the electrical box.	 (R10401)	
17	Lift up the electrical box and remove it.	 (R10402)	

2.3 Removal of PCBs

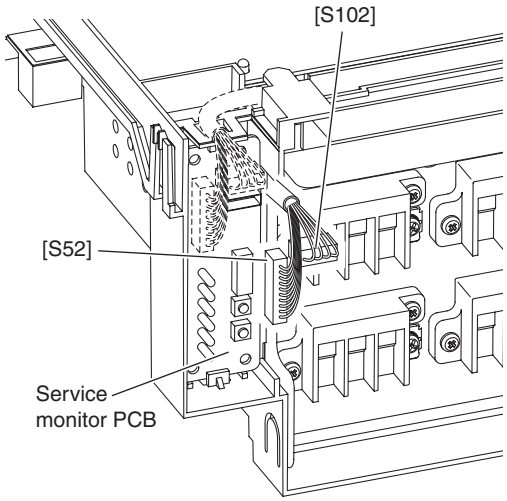
Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

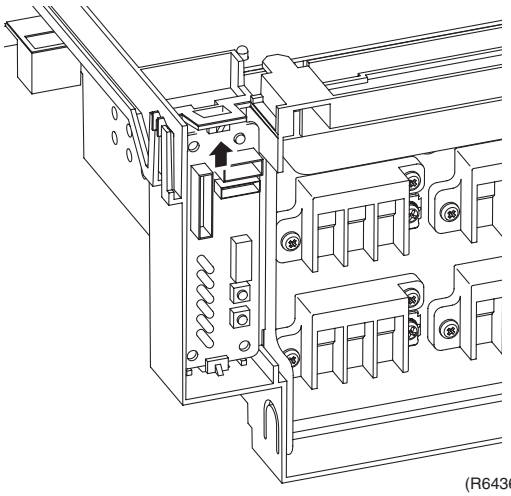
Step	Procedure	Points
1. Remove the main PCB.		
1 Remove the cover of the electrical box.	 (R14617)	■ Release the 4 hooks. The hooks are marked with ▼.  (R6427)
2 Remove the 3 screws.	 (R10404)	
3 Unfasten the 4 hooks.	 (R10405)	
4 Lift up the main PCB.	 (R10406)	

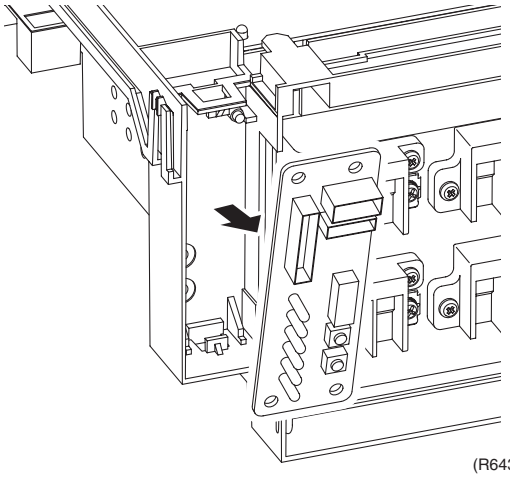
Step	Procedure		Points
5	Disconnect the connectors.	 (R10407)	■ [S51] [S101] : service monitor PCB ■ [S10] : terminal board (transmission) ■ [HR1] [HR2] : reactor ■ [AC1] [AC2] : terminal board (power supply) ■ [U] [V] [W] : compressor ■ Refer to page 40 for detail.
6	Remove the main PCB.	 (R10408)	
2. Remove the reactor.			
1	Remove the screw.	 (R10409)	
2	Remove the 3 screws and lift the reactor upward to remove it.	 (R6434)	

Step	Procedure	Points
3. Remove the service monitor PCB.		
1	Disconnect the connectors [S52] [S102] from the service monitor PCB.	
2	Slightly lift the top hook to detach.	
3	Unfasten the bottom hook and remove the service monitor PCB.	■ Refer to page 40 for detail.

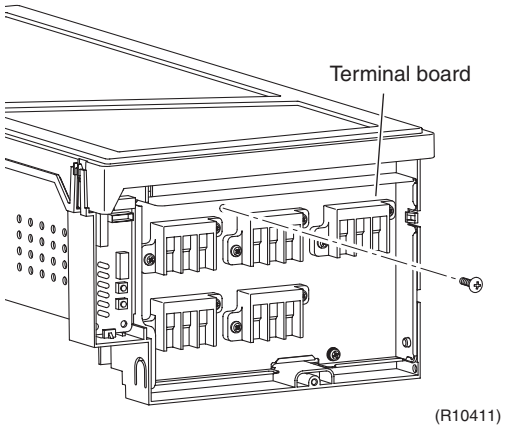


(R10410)

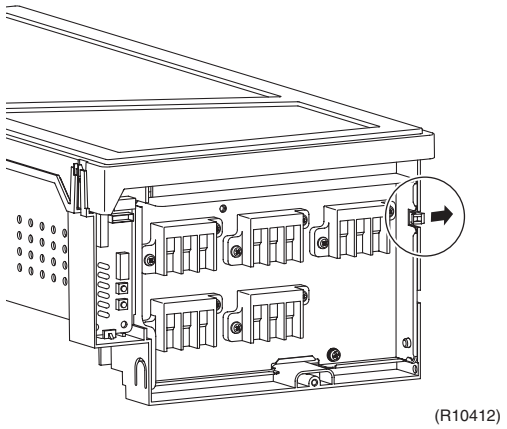

(R6436)

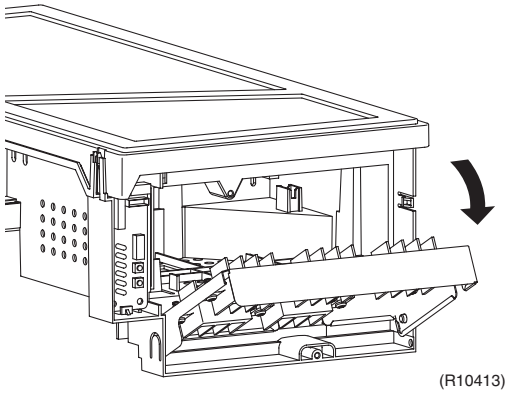

(R6437)

Step	Procedure	Points
4. Remove the terminal board.		
1	Remove the screw.	
2	Unfasten the hook.	
3	Remove the terminal board.	



(R10411)

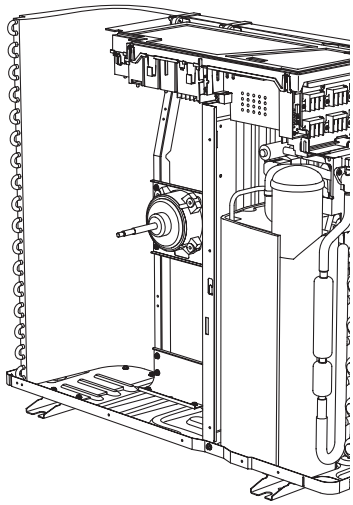
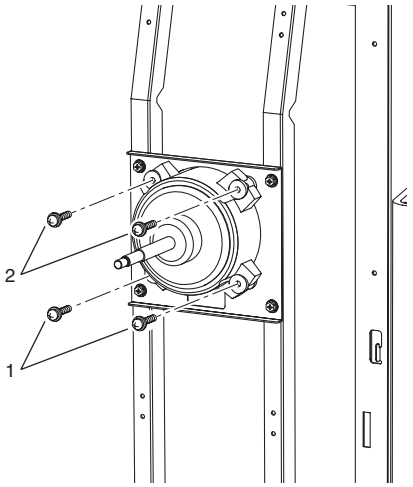
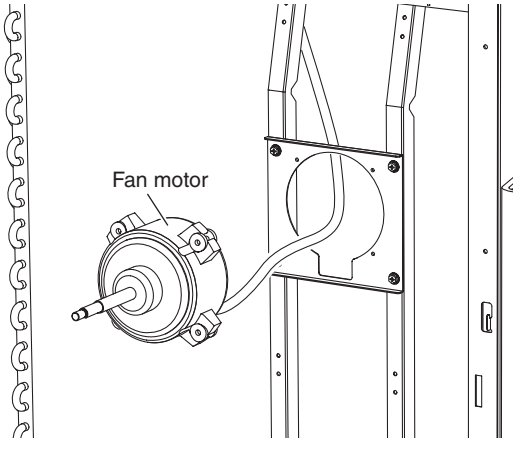
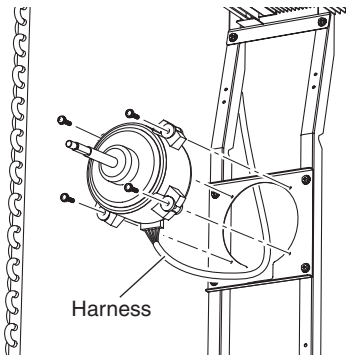

(R10412)


(R10413)

2.4 Removal of Fan Motor

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

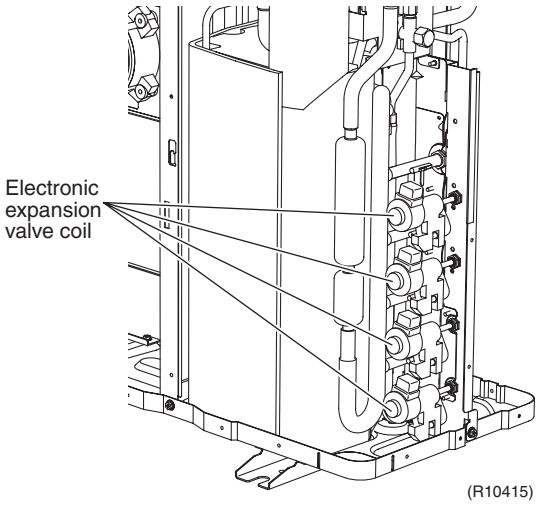
Step	Procedure	Points
	 (R10414)	
1	Remove the 2 lower screws of the fan motor.	■ Be sure to remove the lower screws first. If the upper screws are removed first, the fan motor may tilt or fall because the center of its gravity is toward the front. It may cause injuries.
2	Remove the 2 upper screws.	
	 (R6442)	
3	Remove the fan motor.	■ When reassembling, be sure to place the wire harness lower.
	 (R10542)	 (R6444)

2.5 Removal of Coils / Thermistors

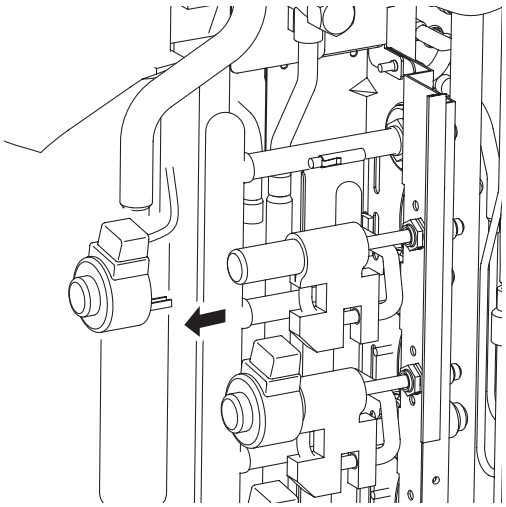
Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure	Points
1. Remove the electronic expansion valve coils.		
1	Pull out the electronic expansion valve coils.	

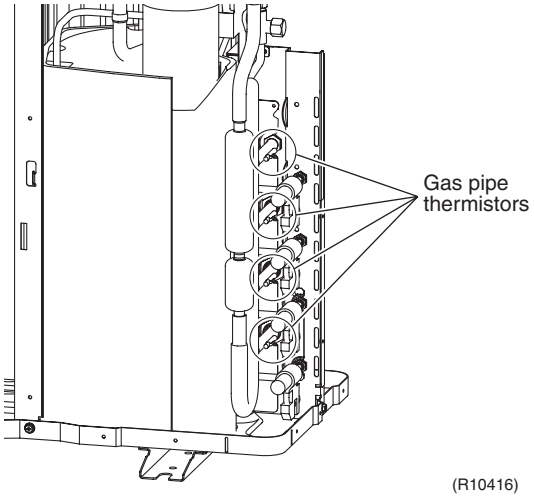


(R10415)

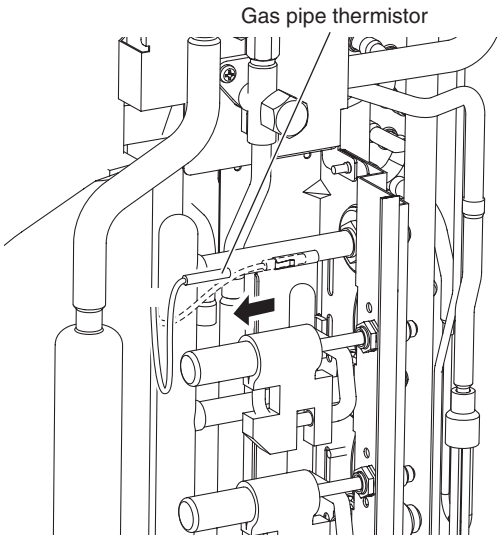


(R6446)

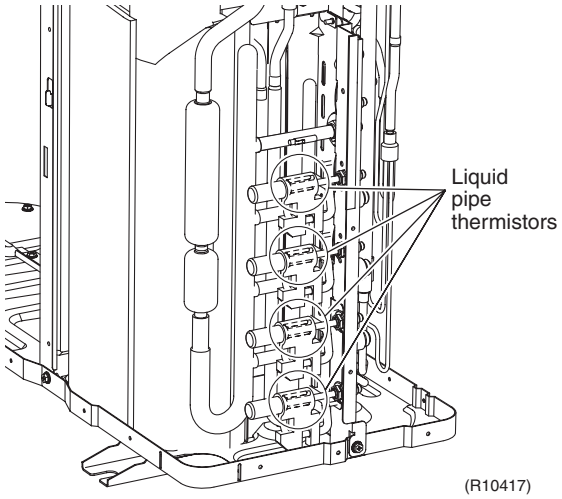
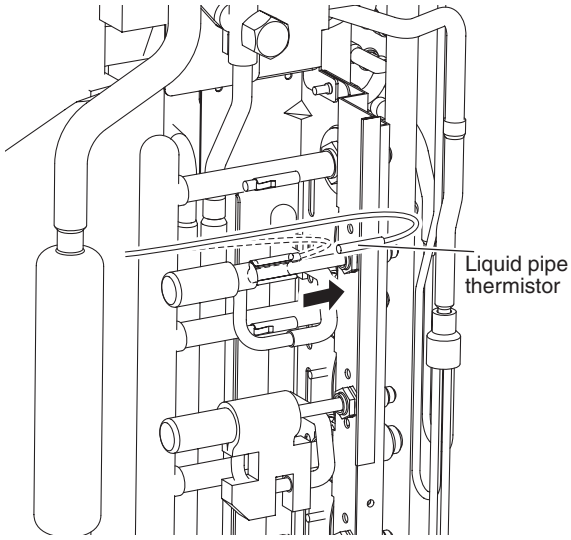
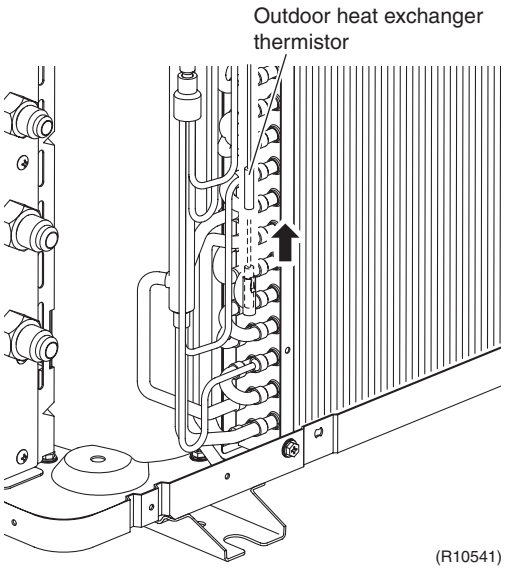
Step	Procedure	Points
2. Remove the thermistors.		
1	Pull out the gas pipe thermistors.	

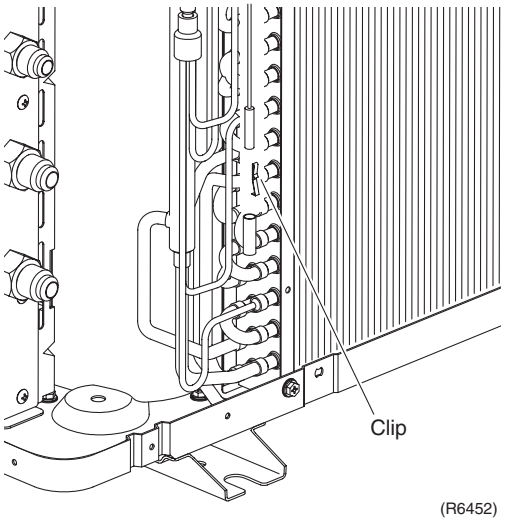
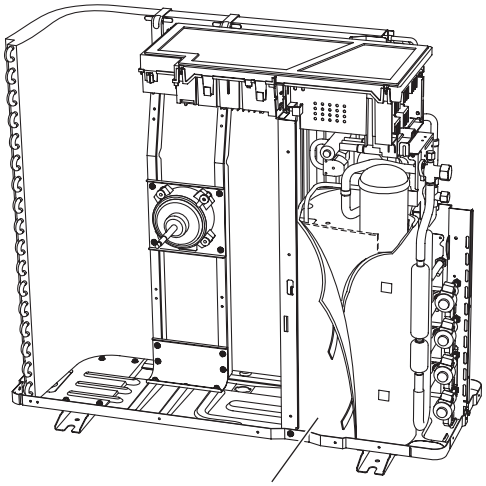
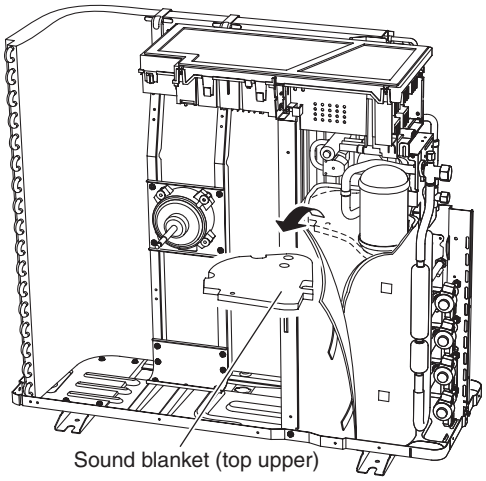


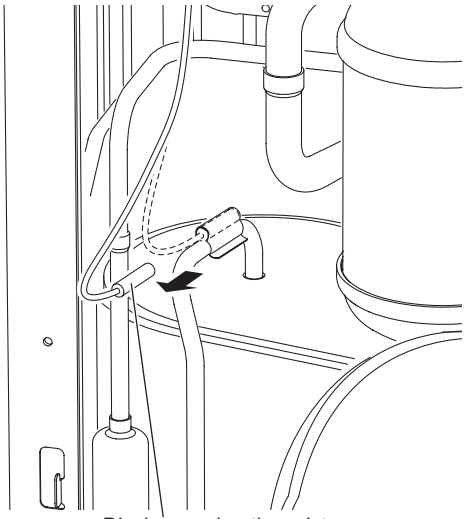
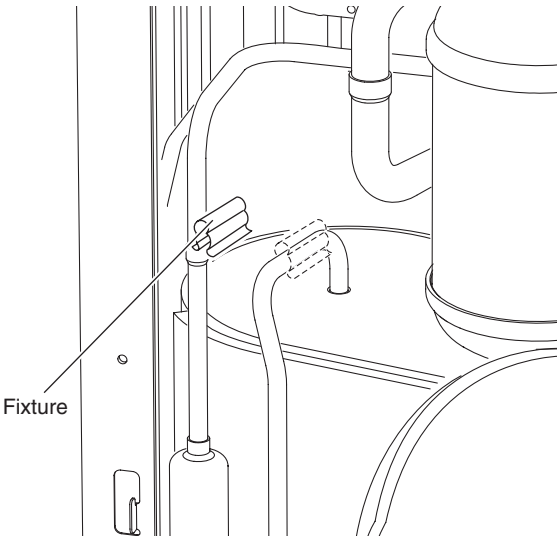
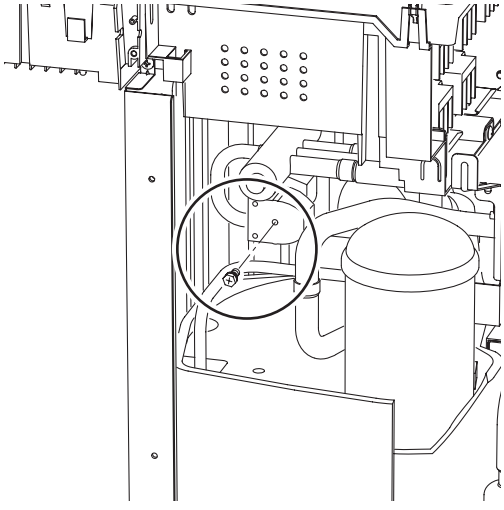
(R10416)

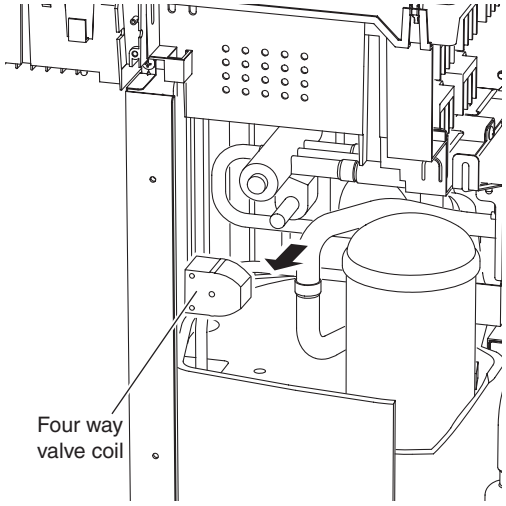


(R6448)

Step	Procedure		Points
2	Peel off the putty and pull out the liquid pipe thermistors.	 (R10417)  (R6450)	
3	Pull out the outdoor heat exchanger thermistor.	 (R10541)	

Step	Procedure		Points
4	Remove the clip from the outdoor heat exchanger thermistor.	 (R6452)	■ Be careful not to lose the clip.
5	Slightly open the sound blanket (outer).	 (R10418)	
6	Remove the sound blanket (top upper).	 (R10419)	

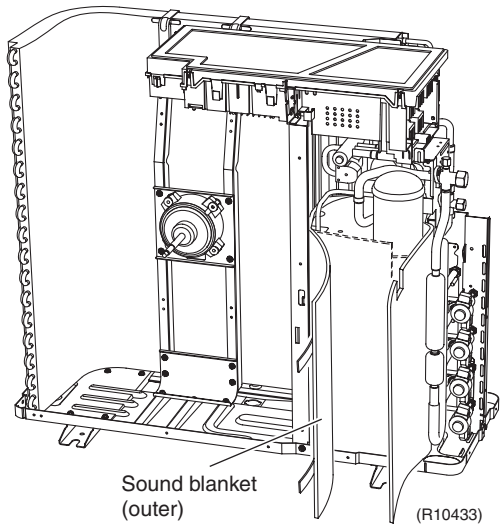
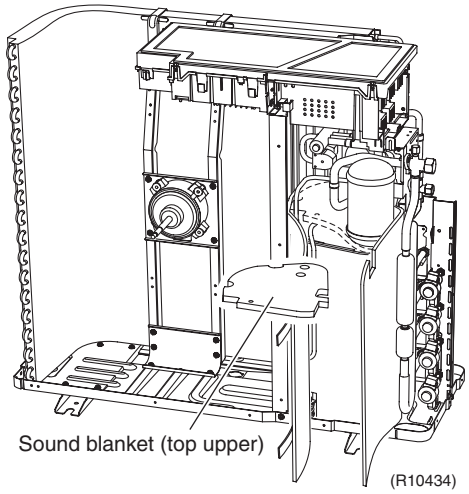
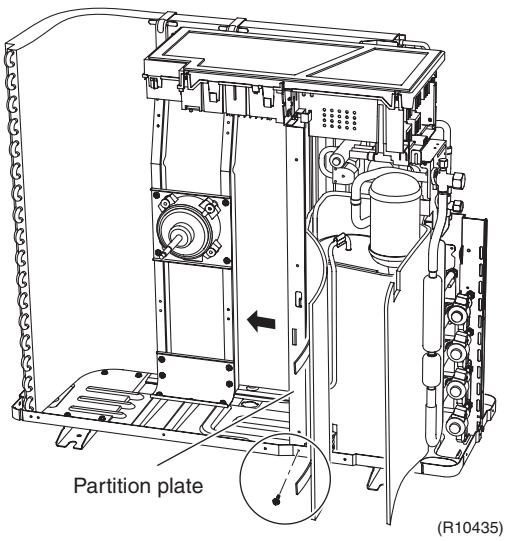
Step	Procedure	Points
7	Remove the discharge pipe thermistor.  Discharge pipe thermistor (R10420)	
8	Remove the fixture.  Fixture (R10430)	
3. Remove the four way valve coil.	 (R10431)	
1	Remove the screw.	

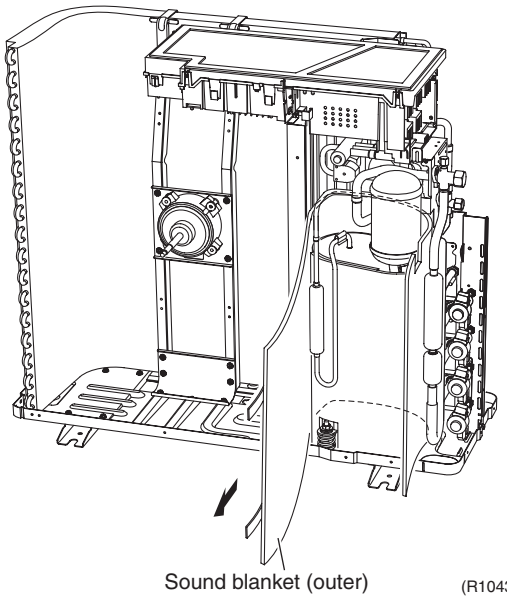
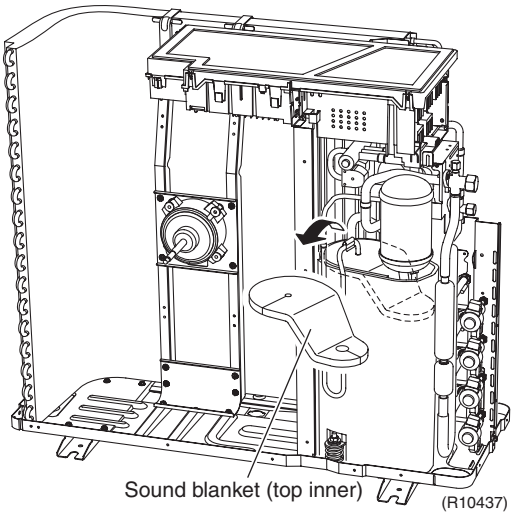
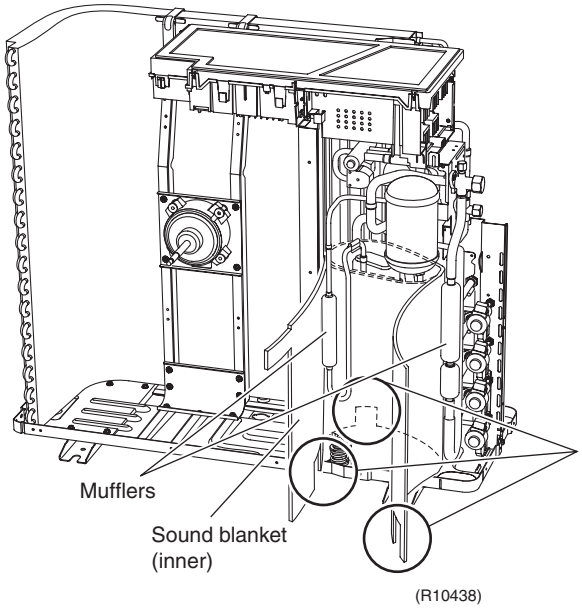
Step	Procedure		Points
2	Remove the four way valve coil.	 (R10432)	

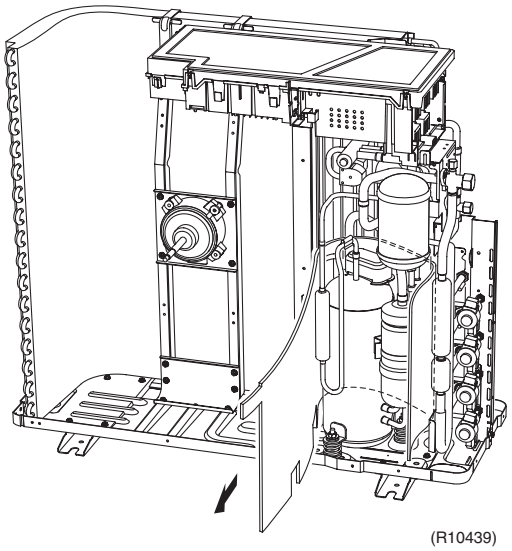
2.6 Removal of Sound Blankets

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1	Open the sound blanket (outer).		
2	Remove the sound blanket (top upper).		■ The sound blanket is fragile. Carefully pass the blanket through the discharge pipe.
3	Remove the screw from the partition plate and push the plate to the left slightly for easy work.		

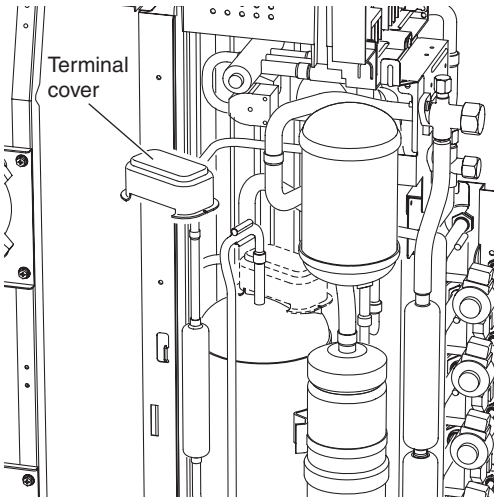
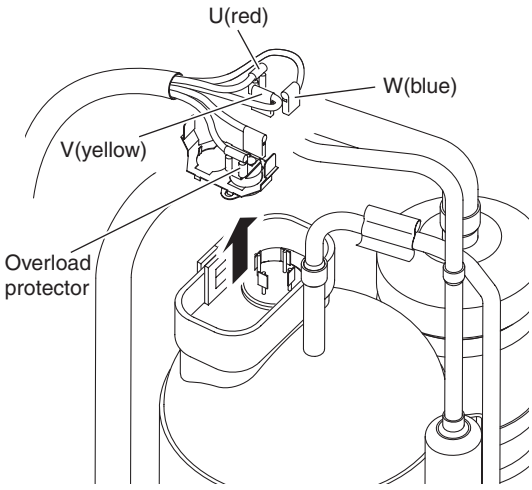
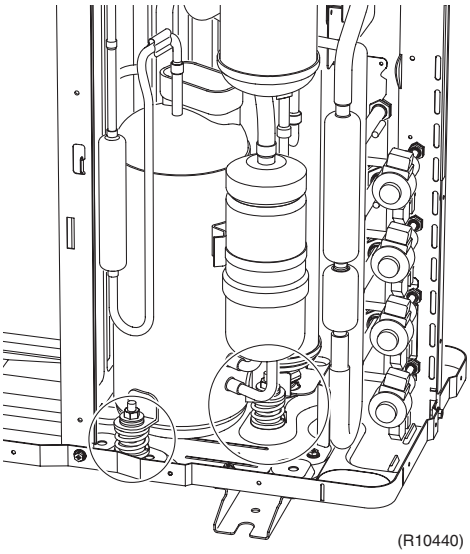
Step	Procedure		Points
4	Remove the sound blanket (outer).		■ The sound blanket is fragile.
5	Remove the sound blanket (top inner).		■ The sound blanket is fragile. Carefully pass the blanket through the discharge pipe.
6	Open the sound blanket (inner) and pass it through the part of the mufflers.		■ The sound blanket is fragile. Be careful of the notches of the compressor mount (3 locations).

Step	Procedure		Points
7	Remove the sound blanket (inner).	 (R10439)	

2.7 Removal of Compressor

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the terminal cover.	 (R6466)	
2	Disconnect the compressor lead wires.	 (R9471)	■ U : red, V : yellow, W : blue
3	Remove the overload protector.		
4	Remove the 3 nuts.	 (R10440)	■ Disconnect the pipings, referring to page 366.

Part 8
Trial Operation and Field Settings

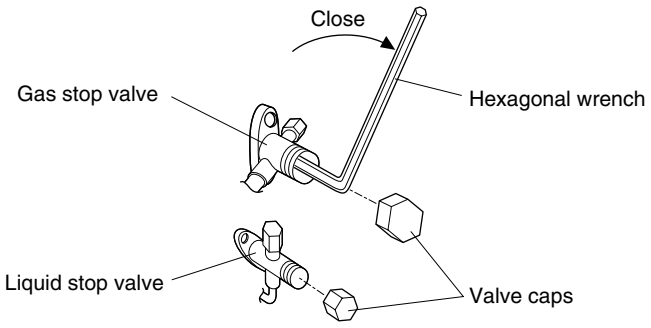
1. Pump Down Operation

Outline

In order to protect the environment, be sure to conduct pump down operation when relocating or disposing the unit.

Detail

1) Remove the valve caps from the liquid stop valve and the gas stop valve.
2) Carry out forced cooling operation.
3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
4) After 2 to 3 minutes, close the gas stop valve and stop the forced cooling operation.



(R14566)

Refer to page 405 for forced operation.

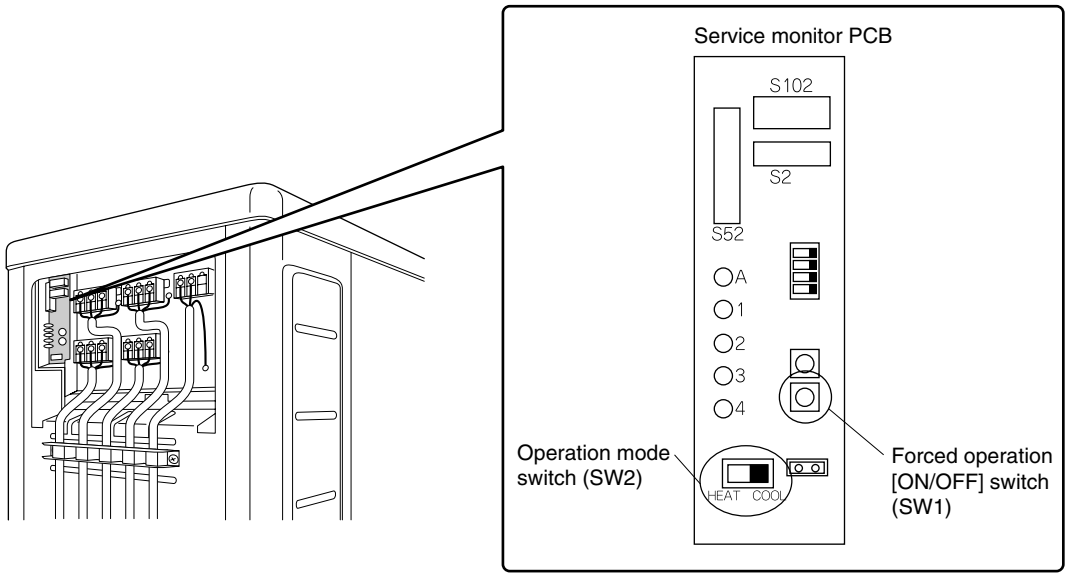
2. Forced Operation

Outline

Forced operation mode includes forced cooling and forced heating. Operation mode can be selected by the operation mode switch (SW2) on the outdoor unit. Press the forced operation [ON/OFF] switch (SW1) on the outdoor unit to start the operation.

Detail

Item	Forced Cooling	Forced Heating
Conditions	1) The indoor unit is not abnormal, but the indoor unit which is not in the freezing prohibiting zone is present in more than 1 room.	1) The indoor unit is not abnormal. The indoor unit which is not in the peak-cut prohibited zone is present in more than 1 room.
	2) The outdoor unit is not abnormal and not in the 3-minute standby mode.	←
	3) The operating mode of the outdoor unit is the stop mode.	←
	4) The operation mode switch (SW2) on the outdoor unit is set to the cooling mode.	4) The operation mode switch (SW2) on the outdoor unit is set to the heating mode.
Start	Press the forced operation [ON/OFF] switch (SW1) on the outdoor unit.	←
Operating room	All rooms: The command is sent to all the rooms where the transmission is normal.	■ Only 1 room: The command is sent to one of the rooms which can be operate and the order of priority is A > B > C > D > E. Other rooms operation must be stopped.
Command frequency	• 40/50/52/58 class : 52 Hz • 68/75 class : 42 Hz • 80/90 class : 31 Hz	(Outdoor temperature : 2°C) • 40/50/52/58 class : 42 Hz • 68/75 class : 35 Hz • 80/90 class : 26 Hz
End	1) Press the forced operation [ON/OFF] switch (SW1) on the outdoor unit again.	←
	2) The operation ends automatically after 15 minutes.	2) The operation ends automatically after 60 minutes.
Others	The protection functions are prior to all others in the forced operation.	←



(R12870)

3. Wiring Error Check Function

Outline

The convenient wiring error check function is designed for the microcomputer to correct wiring errors itself.
If local wiring is unclear in the case of buried piping, for example, just press the wiring error check switch that is behind the stop valve cover of the outdoor unit. Even if the connections for Room A and Room B are confused, the system may run without a hassle. Note that this check function does not work in the following cases.

- For about 1 minute after the power is turned on (during initial setup).
- For 3-minute standby period after the compressor has stopped.
- When the outdoor temperature is below 5°C.
- If the indoor unit is in trouble (also in case of all-room transmission failure).

When the piping and wiring are perfect, there is no need to use this function.

Operation

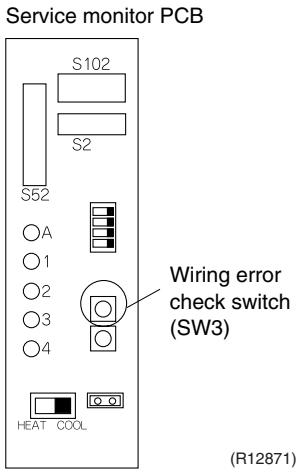
1. Remove the stop valve cover.
2. Press the wiring error check switch (SW3) on the service monitor PCB of the outdoor unit, and the wiring error check function is activated.
3. In about 10 ~ 20 minutes, the check finishes automatically.
4. When the check is over, the service monitor LED indicators start blinking.

LED	1	2	3	4	5	Judgment
Status	All blinking at once					Self-correction impossible
	Blinking one after another					Self-correction complete

- Self-correction complete…The LED indicators 1 ~ 3 (3-room model), 1 ~ 4 (4-room model), or 1~5 (5-room model) blink one after another.
- Self-correction impossible…The LED indicators blink all at the same time.
  - ∗ Transmission failure occurs at any of the indoor units.
  - ∗ The indoor unit heat exchanger thermistor is disconnected.
  - ∗ An indoor unit is in trouble (if a trouble occurs during the wiring error checking).
- Emergency stop…Any of the LED indicators stays on.

Note:

1. It takes about 10 ~ 20 minutes (after pressing the wiring error check switch) to complete the checking.
2. Wrongly connected liquid and gas pipes cannot be self-corrected. Be sure to make the liquid pipe and the gas pipe in pairs.
3. To cancel the wiring error check procedure halfway, press the wiring error check switch again.
   In this case, the memory of the microcomputer returns to its initial status (Room A wiring → Port A piping, Room B wiring → Port B piping).
4. When replacing the outdoor unit PCB, be sure to use this function.
5. Make the power side setting after doing the wiring error check. (Otherwise, if the wiring is reversed, the air-conditioners being connected are set up in the reverse way.)



Basic Knowledge

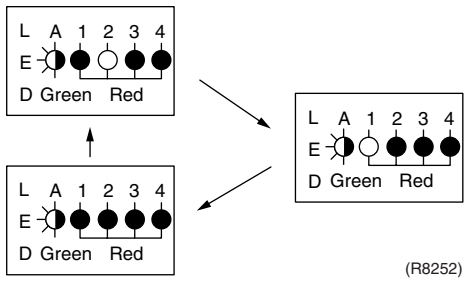
- Refrigerant flows from Port A and on. The temperatures of the indoor heat exchanger thermistors are detected one by one to check up the matching between the piping and wiring.
- With this function on, freezing (crackling) noise may be heard from the indoor unit. This is not a problem. (This is because the heat exchanger temperature is made to drop below 0°C in order to increase the detection accuracy.)
- The indoor fan is made to turn on or off at the same time.

Checking the current setting data on the microcomputer memory

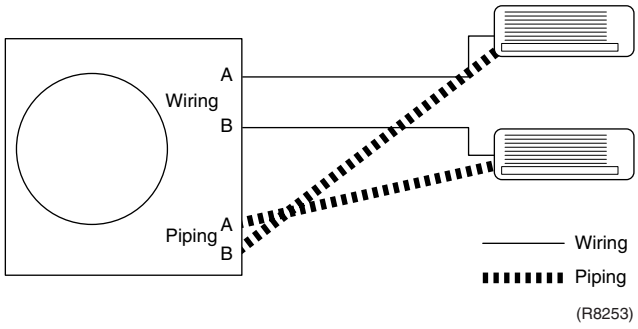
Those data can be checked by looking at the service monitor LED indicators, when the wiring error checking is over, during forced operation, at the stop of the system.
The LED indicators stop blinking when the forced operation is over.
LED1…Room A wiring, LED2…Room B wiring
1st blinking LED…Port A piping, 2nd blinking LED…Port B piping
The 1st blinking LED means the room that is connected with Port A. The 2nd blinking LED means the one connected with Port B.

Example

Ex: Suppose the LED indicators are blinking as follows.



The above means that Port A is connected with Port B, and Port B with Room A (or self-corrected this way.)



4. Trial Operation

4.1 RA Indoor Unit - FTXG, FTXS, CTXS, FVXG, FVXS, FLXS, FDXS Series

Outline

1. Measure the power supply voltage and make sure that it falls in the specified range.
2. Trial operation should be carried out in either cooling or heating operation.
3. Carry out the trial operation in accordance with the operation manual to ensure that all functions and parts, such as flap movement, are working properly.

- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system backs up the operation mode. The system then restarts operation with the previous operation mode when the circuit breaker is restored.

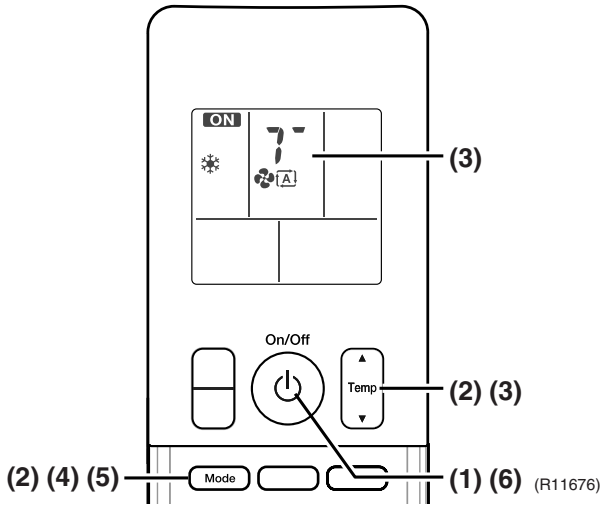
In cooling operation, select the lowest programmable temperature; in heating operation, select the highest programmable temperature.

- Trial operation may be disabled in either operation mode depending on the room temperature.
- After trial operation is complete, set the temperature to a normal level. (26°C ~ 28°C in cooling, 20°C ~ 24°C in heating)
- For protection, the system does not start for 3 minutes after it is turned off.

Detail

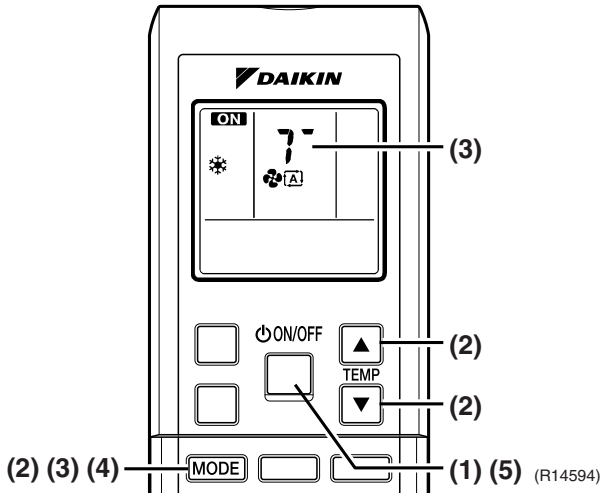
ARC466 Series

(1) Press the [On/Off] button to turn on the system.
(2) Press the center of the [Temp] button and the [Mode] button at the same time.
(3) Select 7- (trial operation) with the [Temp] ▲ or ▼ button.
(4) Press the [Mode] button to start the trial operation.
(5) Press the [Mode] button and select operation mode.
(6) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press the [On/Off] button.



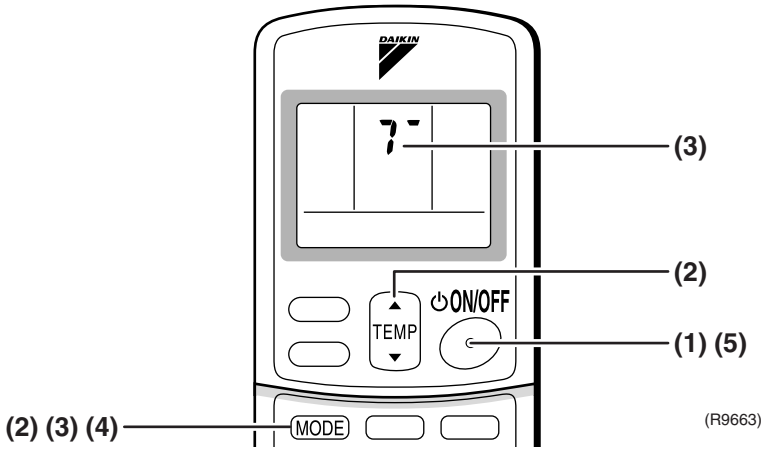
ARC452 Series

(1) Press the [ON/OFF] button to turn on the system.
(2) Press the both of [TEMP] buttons and the [MODE] button at the same time.
(3) Press the [MODE] button twice.
(7 appears on the display to indicate that trial operation is selected.)
(4) Press the [MODE] button and select the operation mode.
(5) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press the [ON/OFF] button.



ARC433 Series

(1) Press the [ON/OFF] button to turn on the system.
(2) Press the center of the [TEMP] button and the [MODE] button at the same time.
(3) Press the [MODE] button twice.
(7 appears on the display to indicate that trial operation is selected.)
(4) Press the [MODE] button and select the operation mode.
(5) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press the [ON/OFF] button.



4.2 SA Indoor Unit - FCQG, FFQ, FHQ, FDBQ, FBQ Series

4.2.1 Check points

To carry out test operation, check the followings:

- Check that the temperature setting of the remote controller is at the lowest level in cooling mode.
- Go through the following checklist:

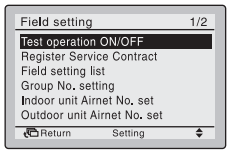
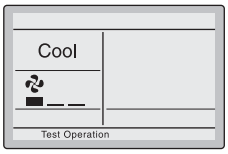
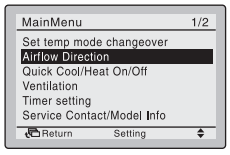
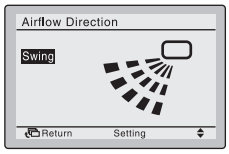
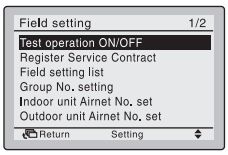
Checkpoints	Cautions or warnings
Are all units securely installed?	● Dangerous for turning over during storm ● Possible damage to pipe connections
Is the earth wire installed according to the applicable local standard?	Dangerous if electric leakage occurs.
Are all air inlets and outlets of the indoor and outdoor units unobstructed?	● Poor cooling ● Poor heating
Does the drain flow out smoothly?	Water leakage
Is piping adequately heat-insulated?	Water leakage
Have the connections been checked for refrigerant leakage?	● Poor cooling ● Poor heating ● Stop
Is the supply voltage conform to the specifications on the name plate?	Incorrect operation
Are the cable sizes as specified and according to local regulations?	Damage of cables
Are the remote controller signals received by the unit?	No operation

4.2.2 Test operation

BRC1D528

Step	Action
1	Turn on the power supply more than 6 hours before test operation.
2	Open the gas stop valve.
3	Open the liquid stop valve.
4	Set to cooling operation with the remote controller and start operation by pressing [ON/OFF] button (⏻).
5	Press the [INSPECTION/TEST OPERATION] button (TEST) 4 times (2 times for wireless remote controller) and operate at test operation mode for 3 minutes.
6	Press the [AIRFLOW DIRECTION ADJUST] button ( ) to make sure the unit is in operation.
7	Press the [INSPECTION/TEST OPERATION] button (TEST) and operate normally.
8	Confirm all the function of unit according to the operation manual.
9	If the decoration panel has not been installed, turn off the power after the test operation.

BRC1E51A7

Step	Action	Remote controller
Before test operation		
1	Turn on the power supply more than 6 hours before test operation.	
2	Open the gas stop valve.	
3	Open the liquid stop valve.	
How to activate test operation		
4	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
5	Use the ▼▲ buttons to select **Test operation ON/OFF** and push the [Menu/Enter] button ( ).	 (R12872)
6	**Test operation** is displayed on the bottom of the basic screen.	 (R12873)
7	Push the [ON/OFF] button ( ) within 10 seconds to start the test operation.	
How to check airflow direction		
8	Push the [Menu/Enter] button ( ) to enter the **Main Menu**.	
9	Use the ▼▲ buttons to select **Airflow direction** and push the [Menu/Enter] button ( ).	 (R12874)
10	Check that the airflow direction is actuated according to the setting and push the [Menu/Enter] button ( ) .	 (R12875)
How to deactivate test operation		
11	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
12	Use the ▼▲ buttons to select **Test operation ON/OFF** in the menu and push the [Menu/Enter] button ( ).	 (R12876)

5. Field Settings

5.1 Outdoor Unit

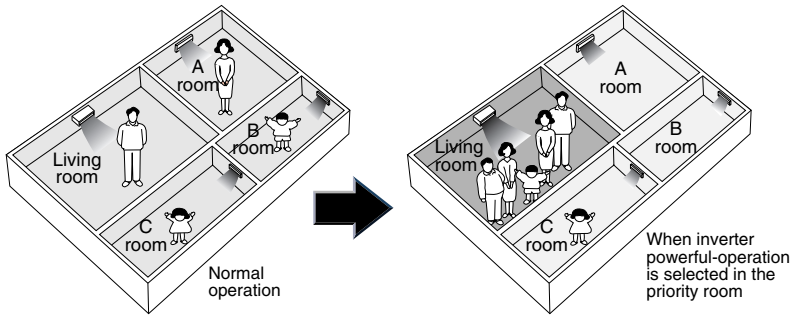
5.1.1 Priority Room Setting

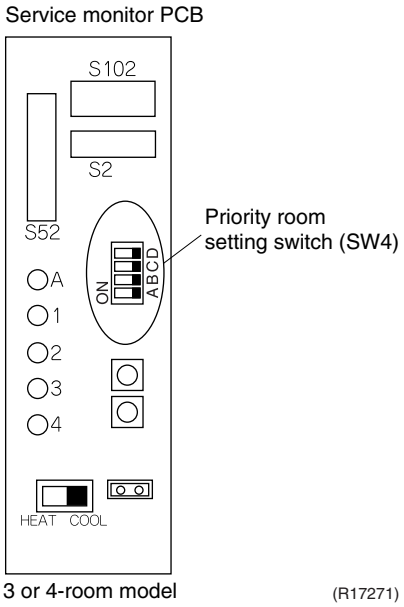
Outdoor electronic expansion valves are controlled to provide more capacity to the prioritized room.

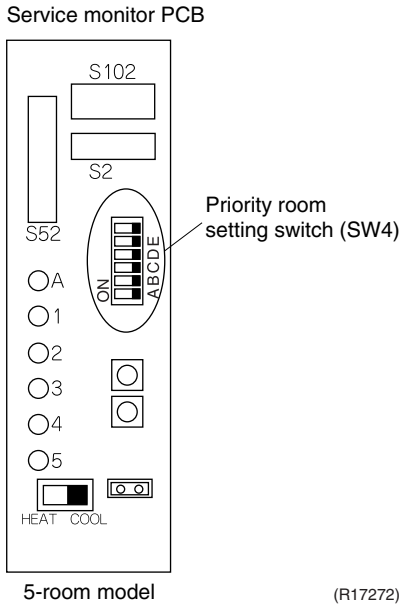
- Setting method
  Turn off the circuit breaker before changing the setting.
  Only one room can be set as the priority room (By turning on one of the SW4 on the service monitor PCB of the outdoor unit).
- The control starts when all the following conditions are met.
  * Priority room setting is made.
  * “POWERFUL” signal from the priority room unit is received.

Note: The operation mode of the priority room unit has precedence.

- Cancellation of control
  The control function is canceled when the “POWERFUL” operation mode is switched off or 20 minutes elapse after “POWERFUL Operation” started.



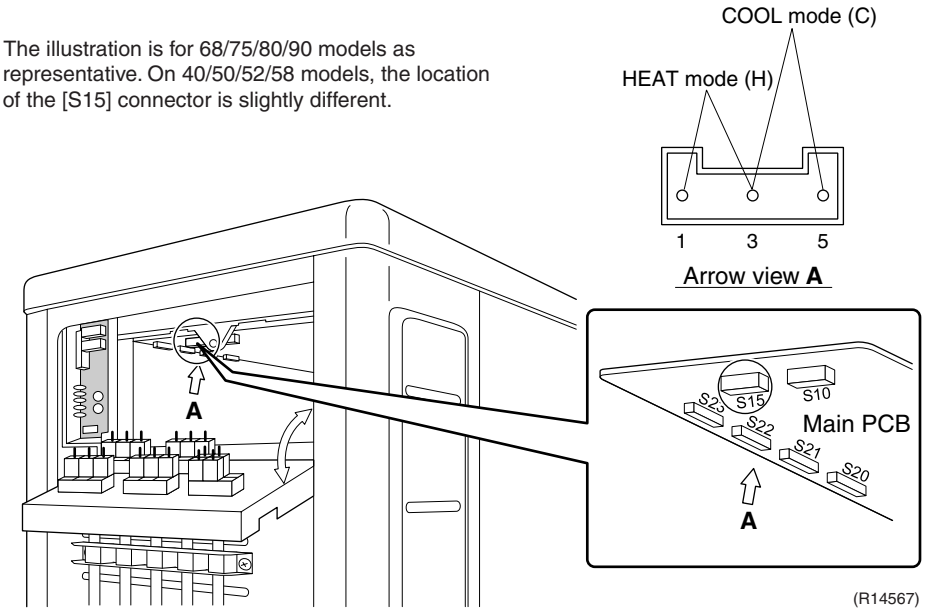




5.1.2 COOL / HEAT Mode Lock

Use the [S15] connector to set the unit to cooling only or heating only.
Setting to heating only (H): Short-circuit pins 1 and 3 of the connector [S15].
Setting to cooling only (C): Short-circuit pins 3 and 5 of the connector [S15].
The following specifications apply to the connector housing and pins.
JST products Housing: VHR-5N
Pin: SVH-21T-1, 1
Note that forced operation is also possible in cooling / heating mode.

∗ The illustration is for 68/75/80/90 models as representative. On 40/50/52/58 models, the location of the [S15] connector is slightly different.

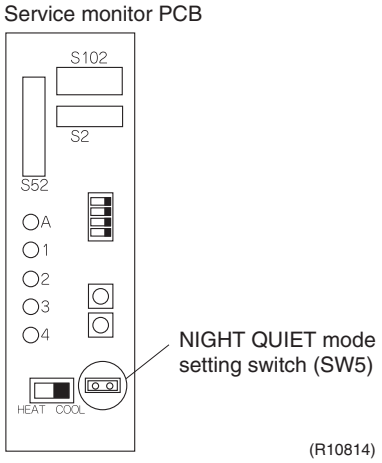


5.1.3 NIGHT QUIET Mode

If NIGHT QUIET mode is to be used, initial settings must be made when the unit is installed. Explain the function of NIGHT QUIET mode, as described below, to the customer, and confirm whether or not the customer wants to use NIGHT QUIET mode.
NIGHT QUIET mode function reduces operating noise of the outdoor unit at nighttime. This function is useful if the customer is worried about the effects of the operating noise on the neighbors. However, if NIGHT QUIET mode is running, cooling capacity is reduced.

■ Procedure

1. Remove the SW5 jumper switch on the service monitor PCB of the outdoor unit.
   Once the settings are complete, reset the power.



2. Install the removed jumper switch as described below. This jumper switch is needed later to disable this setting.

5.1.4 ECONO-mode-proof Setting

Outline

When installing in hotels, you can make ECONO mode ineffective on the outdoor unit.

Operation

The ECONO mode can be switched over between "effective" and "ineffective" by pressing the forced operation [ON/OFF] switch (SW1) on the outdoor unit and wiring error check switch (SW3) on the outdoor unit at the same time and holding them for 5 seconds while the compressor is stopped. The LEDs are lit in turn for 15 seconds to show the ECONO mode status.
The factory setting is "effective".

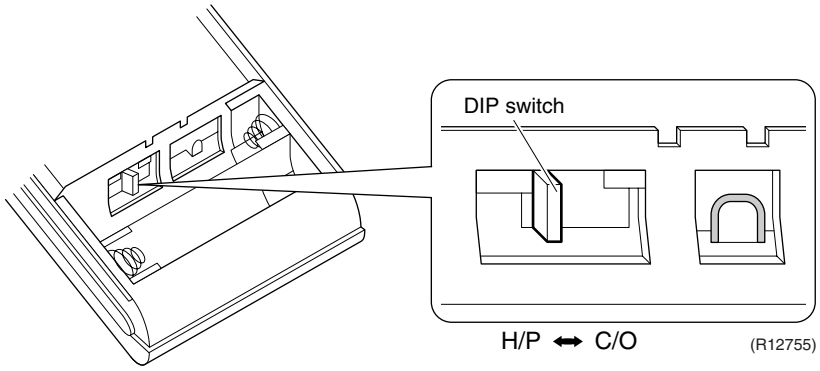
LED flashing order	effective → ineffective	ineffective → effective
3 or 4-room model	4 → 3 → 2 → 1	1 → 2 → 3 → 4
5-room model	5 → 4 → 3 → 2 → 1	1 → 2 → 3 → 4 → 5

5.2 RA Indoor Unit - FTXG, FTXS, CTXS, FVXG, FVXS, FLXS, FDXS Series

5.2.1 Model Type Setting

ARC452A1, ARC452A3, ARC466A6

- The remote controller is common to the heat pump model and cooling only model. Use the DIP switch on the remote controller to set the model type.
- Set the DIP switch as shown in the illustration. (The factory set is the heat pump side.)
  - Heat pump model: Set the DIP switch to H/P.
  - Cooling only model: Set the DIP switch to C/O.



5.2.2 When 2 Units are Installed in 1 Room

Outline

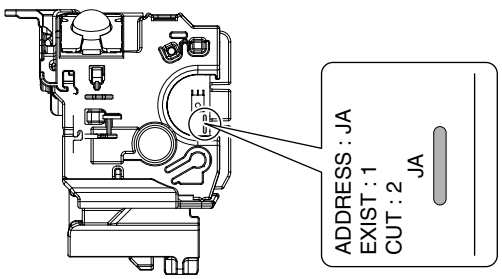
When 2 indoor units are installed in 1 room, 1 of the 2 indoor units and the corresponding wireless remote controller can be set for different address.
Both the indoor unit PCB and the wireless remote controller need alteration.

The method of address setting varies depending on the type of indoor unit and the series of wired remote controller. Refer to the following pages for the appropriate indoor unit and wireless remote controller.

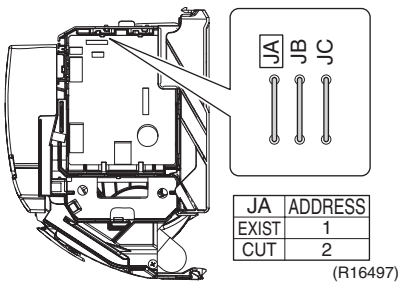
Wall Mounted Type

(1) Remove the front grille.
(2) Remove the electrical box.
(3) Remove the shield plate of the electrical box.
(4) Cut the address setting jumper JA on the PCB.

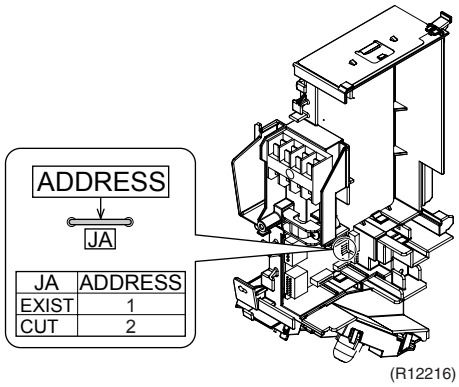
FTXG Series



FTXS-K, CTXS-K Series

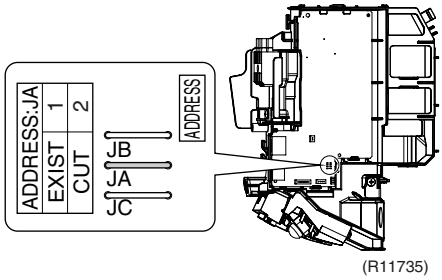


FTXS-J Series



(R12216)

FTXS-G Series



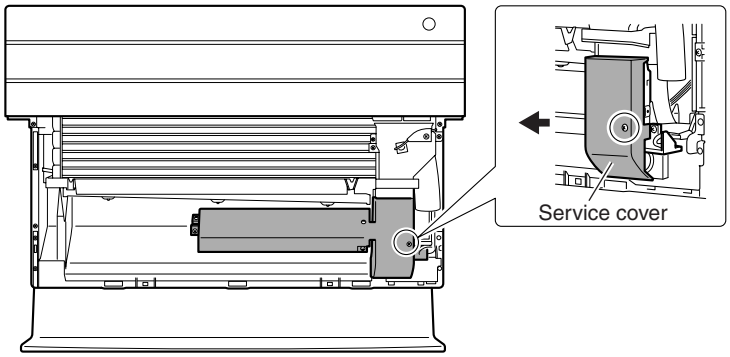
(R11735)

Floor Standing Type

FVXG Series

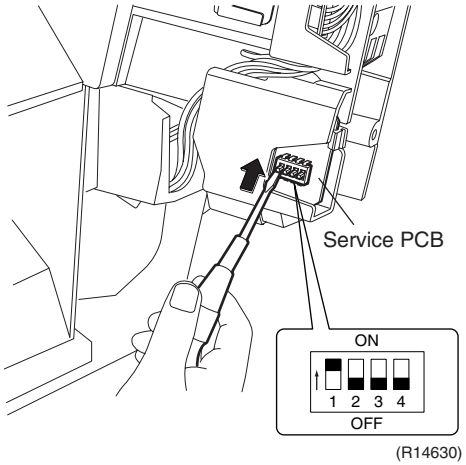
(1) Remove the front panel, air filters and front grille.

(2) Remove the screw, and remove the service cover.



(R14629)

(3)Turn on the DIP switch [S2W-1] on the service PCB.

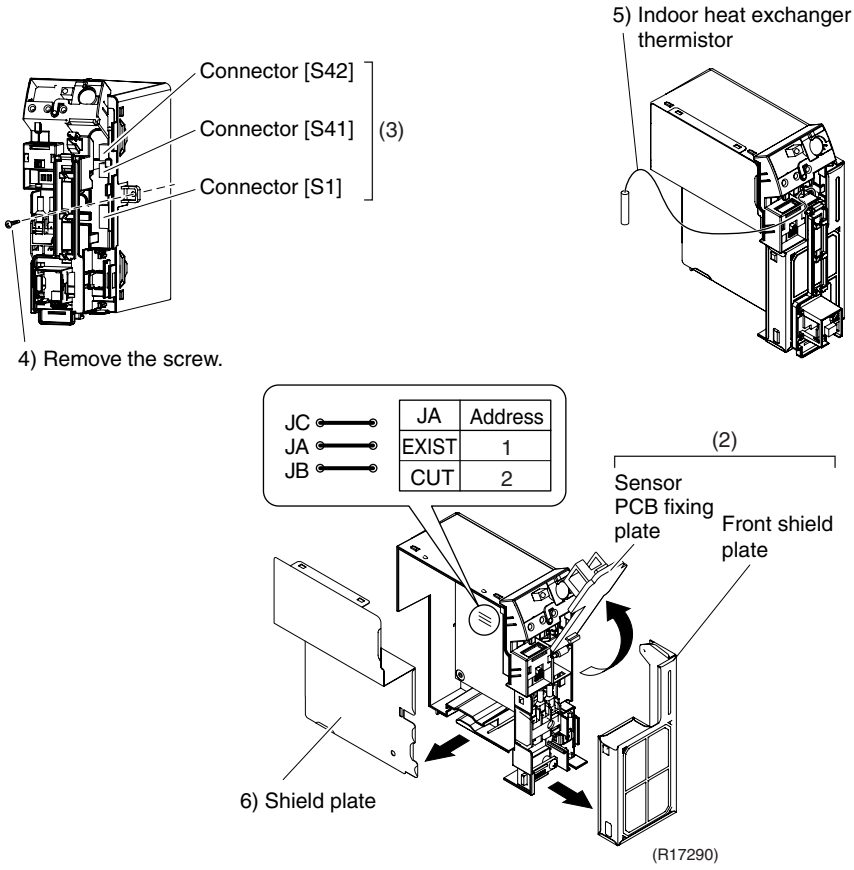


(R14630)

∗ Keep the other switches as factory setting (OFF).

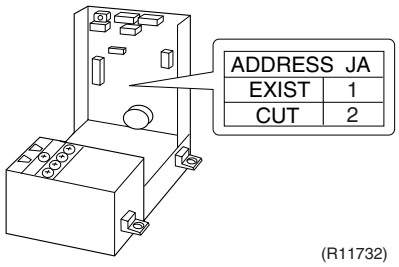
FVXS Series

1) Remove the front grille.
2) Lift the sensor PCB fixing plate and remove the front shield plate.
3) Disconnect the connectors [S1] [S41] [S42].
4) Remove the electric box (1 screw).
5) Pull out the indoor heat exchanger thermistor.
6) Remove the shield plate (8 tabs).
7) Cut the address setting jumper JA on the indoor unit PCB.



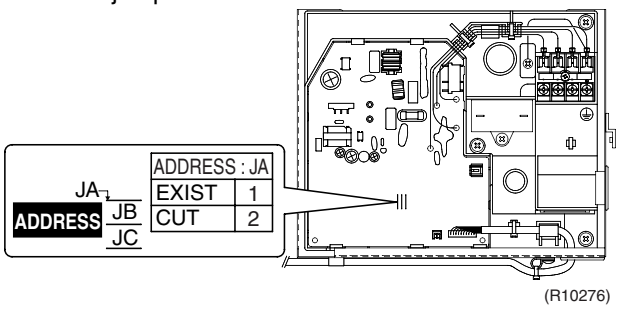
Floor / Ceiling Suspended Dual Type

■ Cut the jumper JA on PCB.



Duct Connected Type

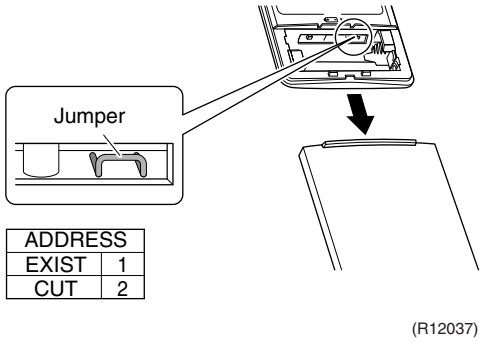
■ Cut the jumper JA on PCB.



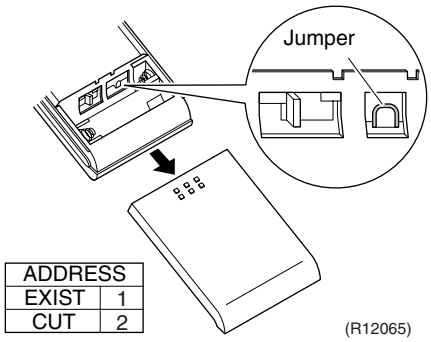
Wireless Remote Controller

(1) Remove the cover and take it off.
(2) Cut the address setting jumper.

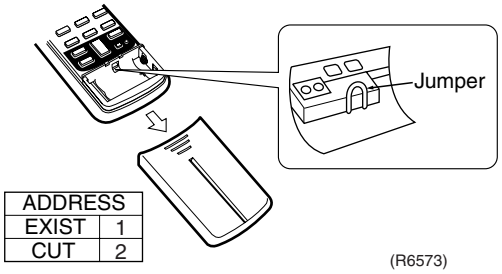
ARC466 series



ARC452 series



ARC433 series



5.2.3 Jumper and Switch Settings

Jumper (on indoor unit PCB)	Function	When connected (factory set)	When cut
JB	Fan speed setting when compressor stops for thermostat OFF. (effective only at cooling operation)	Fan speed setting ; Remote controller setting	Fan speed setting; “0” (The fan stops.)
JC	Power failure recovery function	Auto-restart	The unit does not resume operation after recovering from a power failure. Timer settings are cleared.

<Floor Standing Type: FVXS Series>

Switch (on indoor unit PCB)	Function	OFF (factory set)	ON
SW2-4	Upward airflow limit setting	Exposed or half embedded installation	Set the switch to ON position when you install the indoor unit embedded in the wall to avoid condensation.

<Floor / Ceiling Suspended Dual Type>

Switch (on indoor unit PCB)	Function	FLOOR (factory set)	CEILING
SW2	Installation style changeover	When installed as the floor mounted type	When installed as the ceiling suspended type

For the location of the jumper and the switch, refer to the following pages.
Wall Mounted Type: page 42, 45, 47, 50
Floor Standing Type: page 53, 56
Floor / Ceiling Suspended Dual Type: page 58
Duct Connected Type: page 60

5.3 SA Indoor Unit - FCQG, FFQ, FHQ, FDBQ, FBQ Series

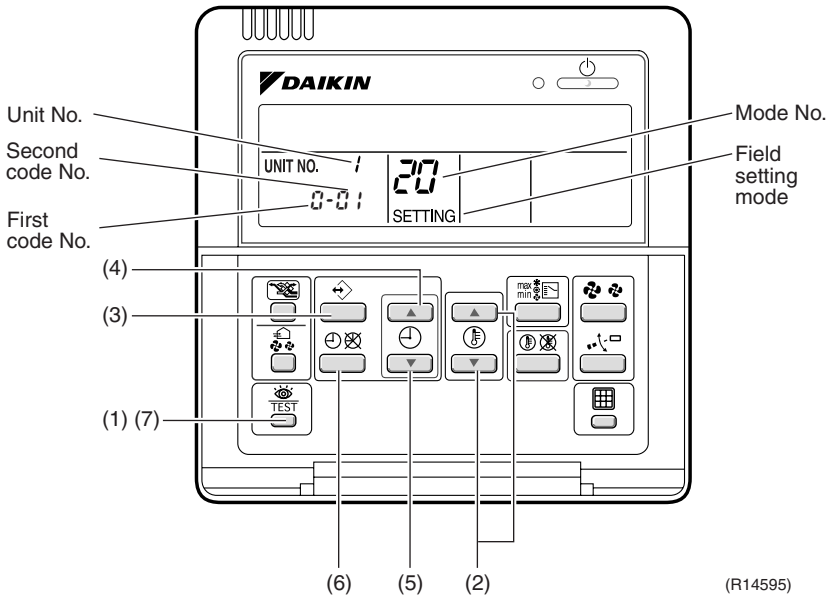
5.3.1 How to Change the Field Settings

Outline

If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.

Wired remote controller

BRC1D528

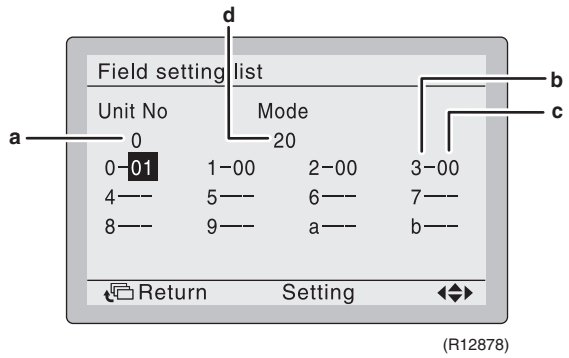


To set the field settings, you have to change:

- Mode No.
- First code No.
- Second code No.

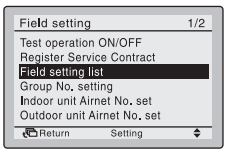
Step	Action
1	Press the [INSPECTION/TEST OPERATION] button for 4 seconds during normal mode to enter the field setting mode.
2	Press the [TEMPERATURE ADJUST] button to select the desired mode No.
3	■ If the indoor unit is under group control, all settings for all the indoor units are set at the same time. Use the codes 10 to 15 to apply this group control and proceed to the next step. ■ If you want to set the indoor units of one group individually or if you want to read out the last settings, use the codes 20 to 25 which are displayed in brackets. Press the [PROGRAMMING] button to select the indoor unit No. for which you want to adjust the field settings.
4	Press the upper part of the [TIME ADJUST] button to select the first code No.
5	Press the lower part of the [TIME ADJUST] button to select the second code No.
6	Press the [SCHEDULE TIMER] button to confirm the setting.
7	Press the [INSPECTION/TEST OPERATION] button to return to normal mode.

BRC1E52A7, BRC1E52B7



(R12878)

a Unit No.
b First code No.
c Second code No.
d Mode

Step	Action	Remote controller
1	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
2	Use the ▼▲ buttons to select **Field setting list** and push the [Menu/Enter] button ( ).	 (R12879)
3	Use the ▼▲ buttons to select the desired **Mode**.	
4	During group control, when setting by each indoor unit (**Mode 20, 21, 22** and **23** have been selected), push the ◄ button to highlight and ▼▲ buttons to select the INDOOR UNIT NO. to be set. This operation is unnecessary when setting by group.	
5	Highlight the second code No. to be changed using the ◄► buttons, and use the ▼▲ buttons to select the desired second code No.	When setting by group, all of the second code No. that may be set are displayed as "*".
6	Push the [Menu/Enter] button ( ) to display the confirmation screen.	
7	Use the ◄► buttons to select **Yes** and push the [Menu/Enter] button ( ).	When multiple setting changes are needed, repeat steps 3 to 7.
8	Push the [Cancel] button ( ) 2 times to return to basic screen.	

5.3.2 Overview of the Field Settings

Mode No.	First Code No.	Description of setting		Second Code No. 01		02		03	04
10 (20)	0	Filter cleaning sign interval	Ultra longlife filter	Light	Approx. 10,000 hrs.	Heavy	Approx. 5,000 hrs.	—	—
			Longlife filter		Approx. 2,500 hrs.		Approx. 1,250 hrs.		
	1	Longlife filter type		Longlife filter		Ultra longlife filter		—	—
	2	Remote controller thermistor		Enabled		Disabled		—	—
	3	Filter cleaning sign		Display		No display		—	—
11 (21)	0	Indoor unit number of simultaneous operation system		Pair		Twin		Triple	Double twin
	1	Simultaneous operation system individual setting		Unified setting		Individual setting		—	—
	7	External static pressure setting		Airflow adjustment is OFF		Completion of airflow adjustment		Start of airflow adjustment	—
12 (22)	1	Forced ON/OFF function		Forced OFF		ON/OFF operation		—	—
	2	Thermostat differential changeover (setting for when using remote sensor)		1°C		0.5°C		—	—
13 (23)	0	High air outlet velocity (for high ceiling applications)		≤ 2.7 m		2.7 ~ 3.0 m		3.0 ~ 3.5 m	—
	1	Selection of airflow direction (setting for when a blocking pad kit has been installed)		4-way flow		3-way flow		2-way flow	—
	3	Selection of airflow function (setting for when using a decoration panel for outlet)		Equipped		Not equipped		—	—
	4	Airflow direction range setting		Upper		Normal		Lower	—
	6	External static pressure		Refer to Note 2.					
14 (24)	2	Dust collection sign interval		Approx. 1,250 hrs.		Approx. 2,500 hrs.		Approx. 5,000 hrs.	—
	3	Filter replacement sign		No display		Approx. 32,000 hrs.		Approx. 48,000 hrs.	Approx. 72,000 hrs.
	4	Panel indicator (green) ON/OFF		The indicator lights up during both air conditioning operation and filter auto-cleaning.		The indicator can light up only during filter auto-cleaning.		The indicator does not light up during both air conditioning operation and filter auto-cleaning.	—
	8	Selection of the automatic control operation lock mode		ON		OFF		—	—
	9	Dust amount setting		Standard		Heavy		—	—
15 (25)	3	Drain pump operation with humidifying		Not equipped		Equipped		—	—

: factory set

Note: 1. Any function that is not available on the indoor unit is not displayed.

2.

			External static pressure (Pa)		
			FBQ		
Mode No.	First code No.	Second code No.	35 class	50 class	60 class
13 (23)	6	03	30	30	30
		04	35	35	40
		05	40	40	50
		06	45	45	60
		07	50	50	70
		08	60	60	80
		09	70	70	90
		10	80	80	100
		11	90	90	—
		12	100	100	—

: factory set

5.3.3 MAIN / SUB Setting when Using 2 Wired Remote Controllers

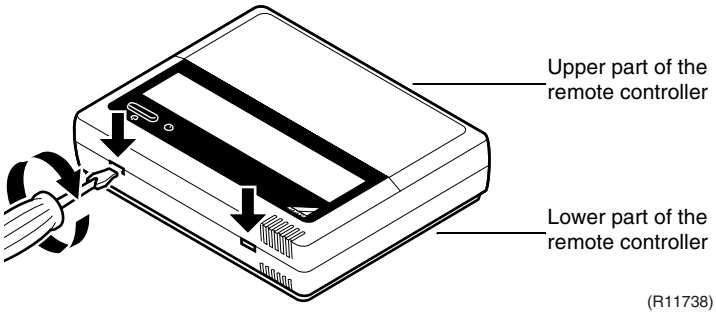
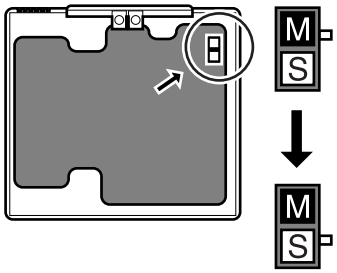
Outline

The MAIN / SUB setting is necessary when 1 indoor unit is controlled by 2 remote controllers. When you use 2 remote controllers (control panel and separate remote controller), set one to MAIN and the other to SUB.

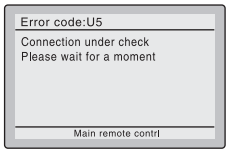
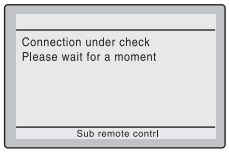
Detail

The remote controllers are factory set to MAIN, so you only have to change one remote controller from MAIN to SUB.

BRC1D528

Step	Action
1	Insert a flat screwdriver into the groove between the upper and lower part of the remote controller, as shown in the illustration below. Gently pry off the upper part of the controller, working from the two possible positions.  (R11738)
2	Set the [MAIN / SUB changeover] switch on the PCB to “S”.  (R11739)

BRC1E52A7, BRC1E52B7

Step	Action	Remote controller
1	Put on the power for both remote controllers.	
2	Determine which one is the sub/main remote controller.	
3	When **Error code: U5 - Connection under check Please wait for a moment** is displayed on both remote controllers, push and hold the [Operation mode selector] button () of the sub remote controller for 4 seconds.	 (R12880)
4	The sub remote controller now displays **Sub remote contrl.** Note) The main remote controller still displays **Main remote contrl.**	 (R12881)
5	After a few seconds, the basic screen is displayed.	

6. Application of Silicon Grease to a Power Transistor and a Diode Bridge

Applicable Models

All outdoor units using inverter type compressor for room air conditioner.

When the printed circuit board (PCB) of an outdoor unit is replaced, it is required that silicon grease (∗1) is certainly applied to the heat radiation part (the contact point to the radiation fin) of the power transistor and diode bridge.

∗1: Parts number of the silicon grease – 1172698 (Drawing number 3FB03758-1)

Details

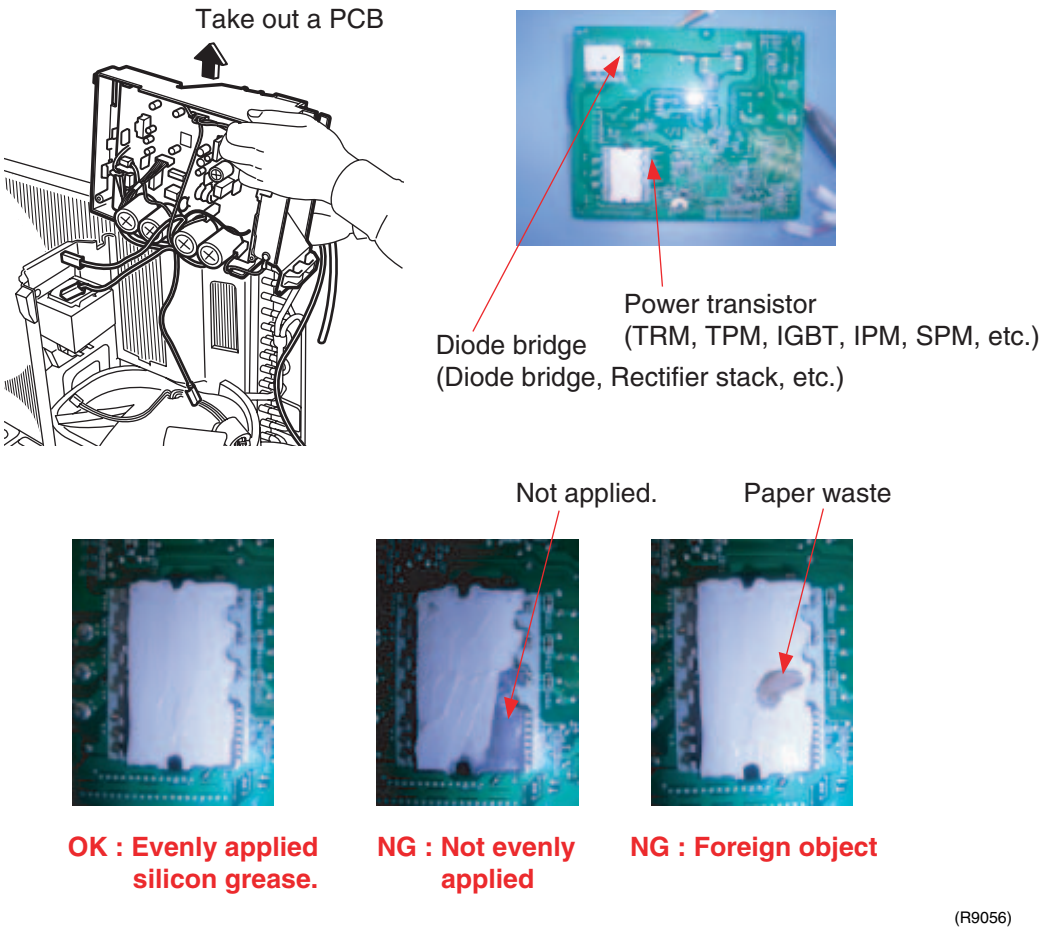
The silicon grease is an essential article for encouraging the heat radiation of the power transistor and the diode bridge. Applying the paste should be implemented in accordance with the following instruction.

Note: There is the possibility of failure with smoke in case of bad heat radiation.

- Wipe off the old silicon grease completely on a radiation fin.
- Apply the silicon grease evenly to the whole.
- Do not leave any foreign object such as solder or paper waste between the power transistor and the radiation fin, and also the diode bridge, and the radiation fin.
- Tighten the screws of the power transistor and the diode bridge, and contact to the radiation fin without any gap.

<Example>

The shape of electrical box and PCB vary depending on the model.



(R9056)

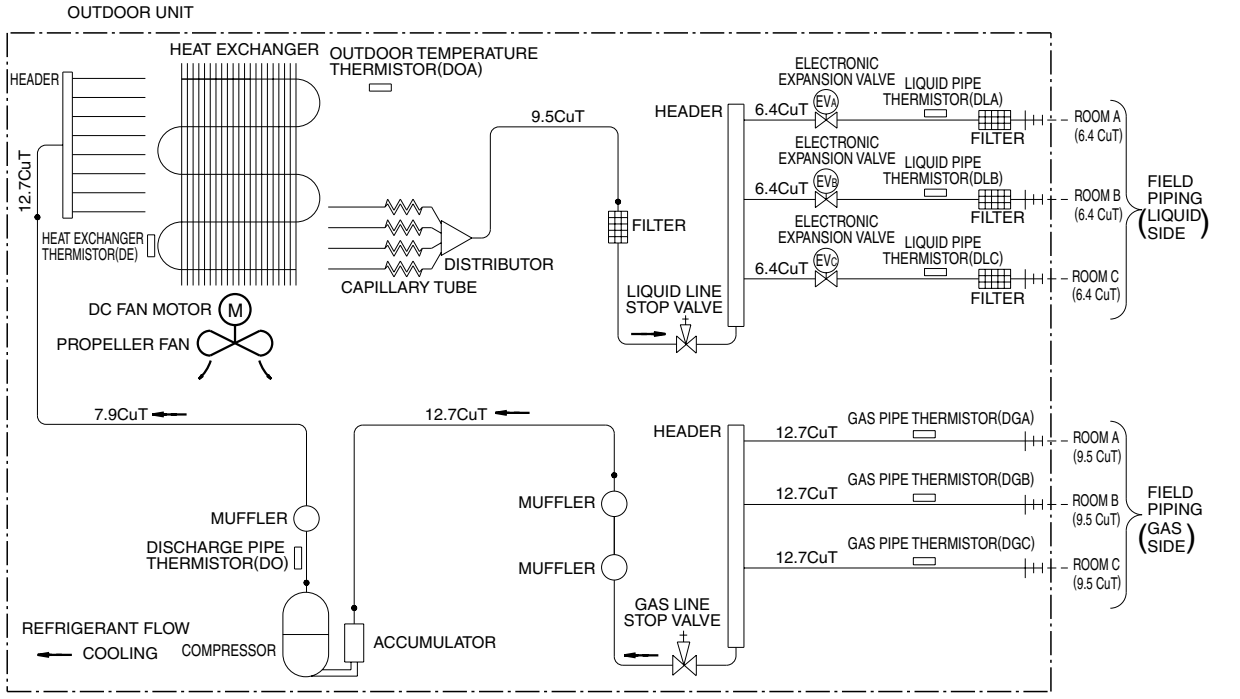
Part 9
Appendix

1. Piping Diagrams

1.1 Outdoor Unit

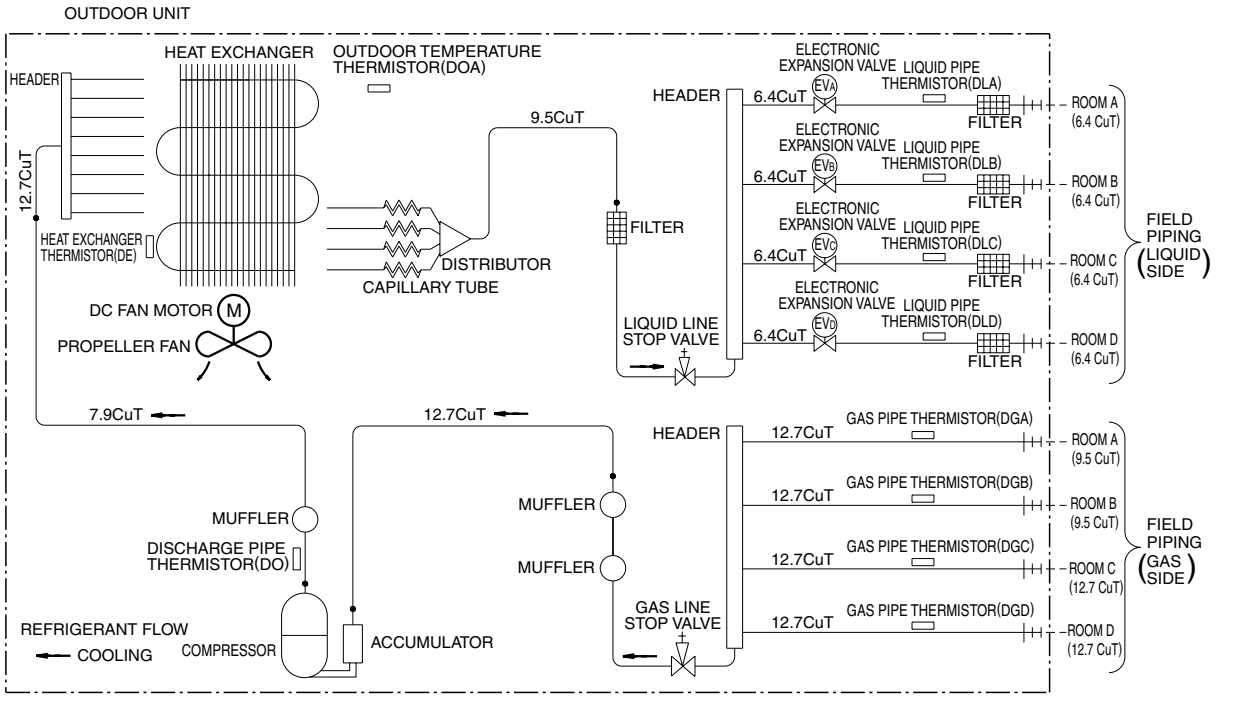
1.1.1 Cooling Only

3MKS50E3V1B



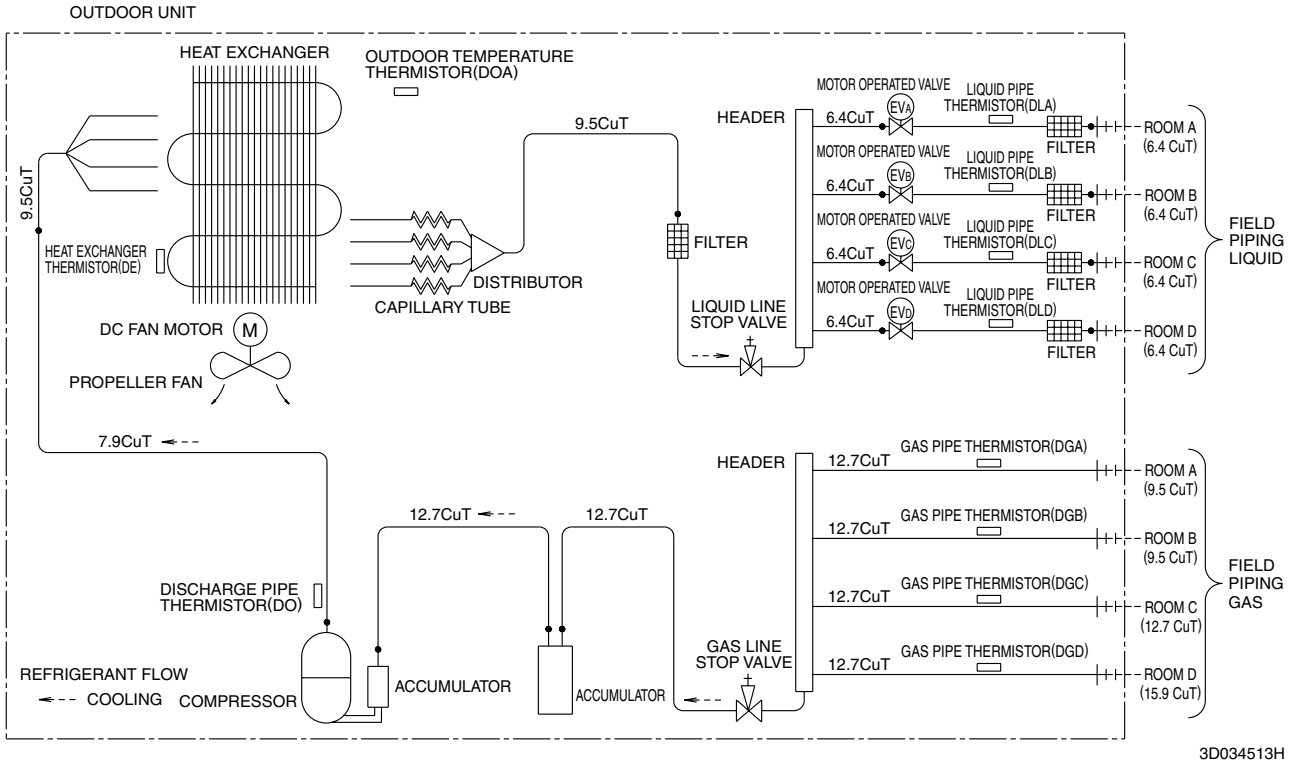
3D052056C

4MKS58E3V1B

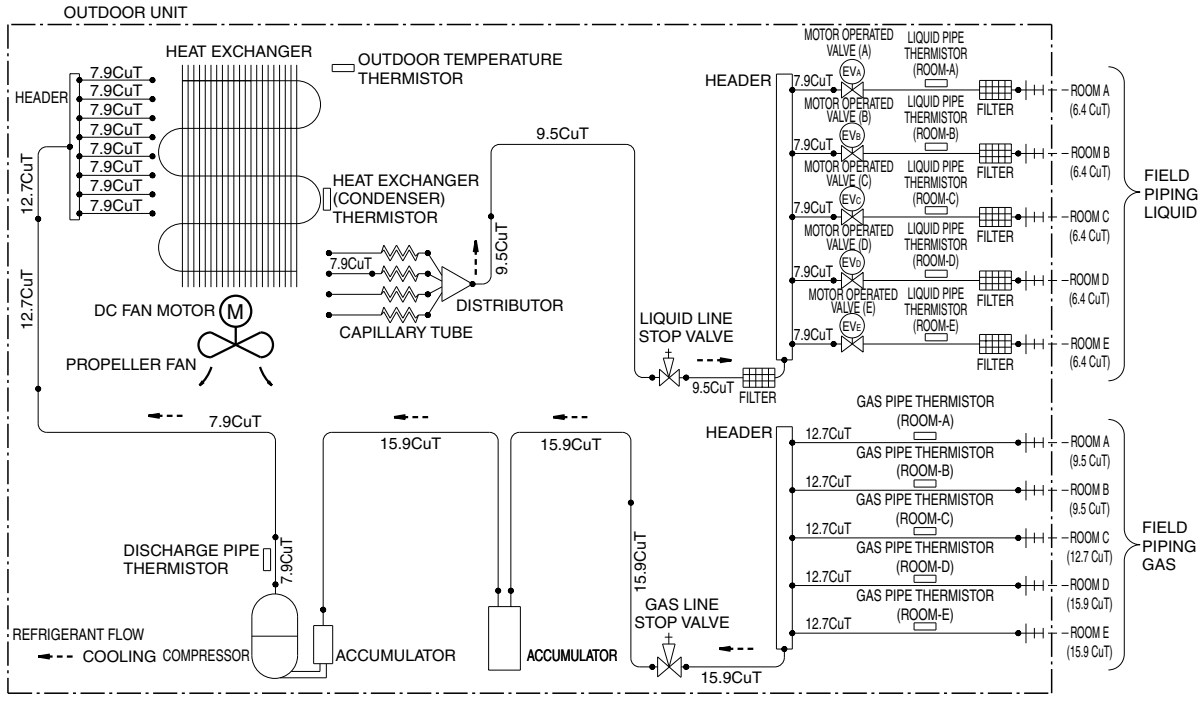


3D052057B

4MKS75F2V1B

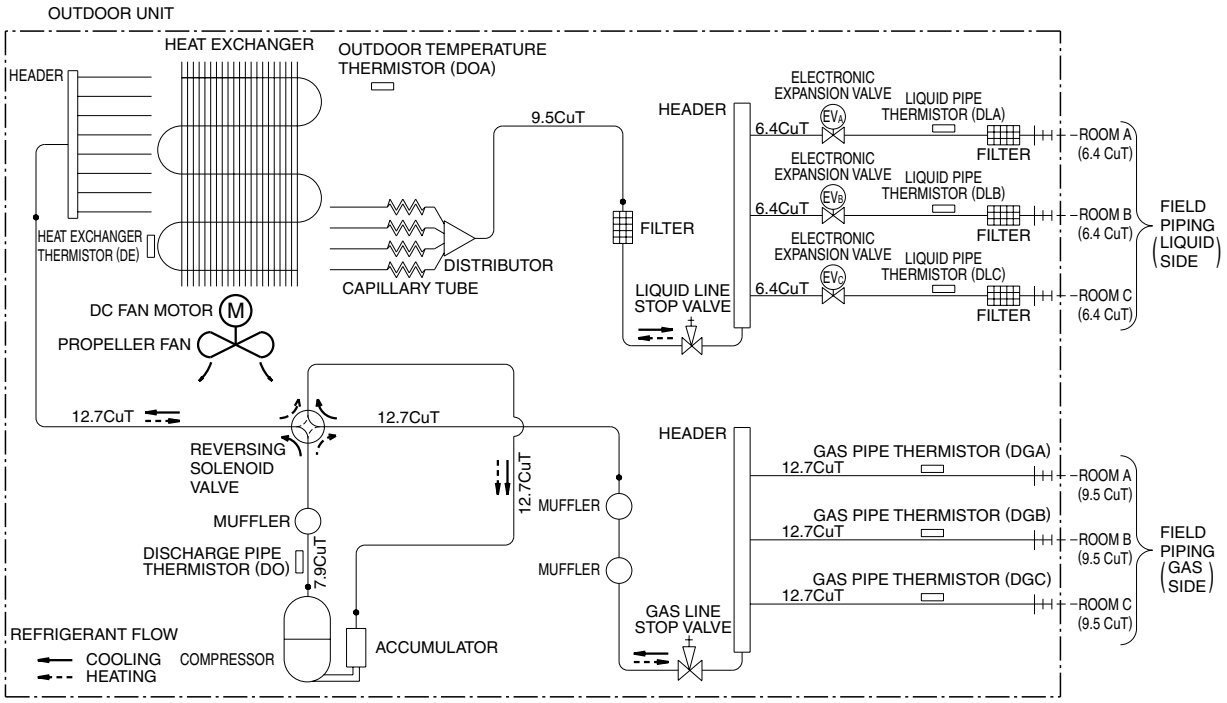


5MKS90E2V3B



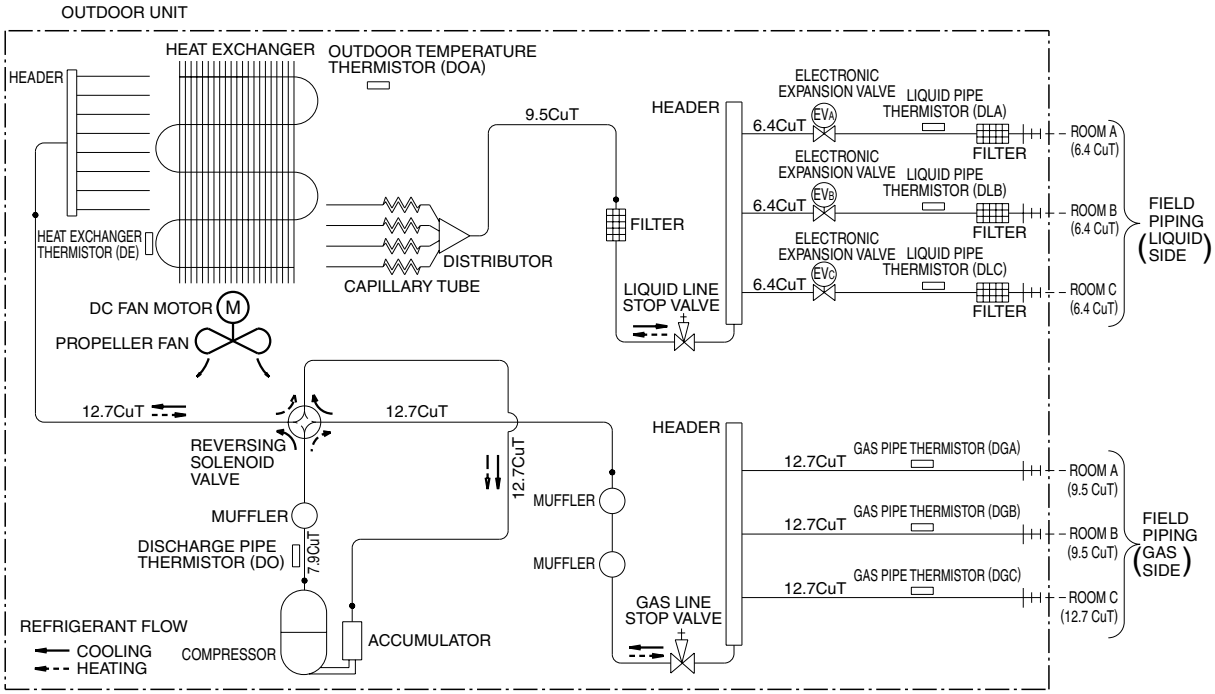
1.1.2 Heat Pump

3MXS40K2V1B



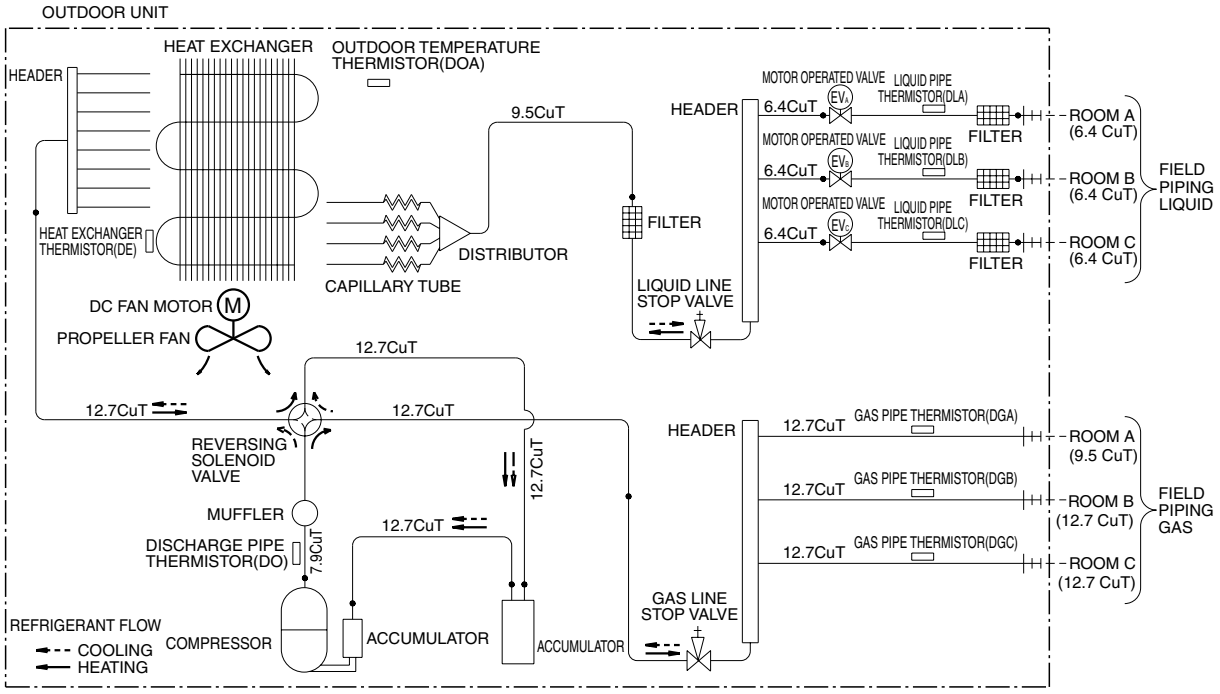
3D073394

3MXS52E3V1B



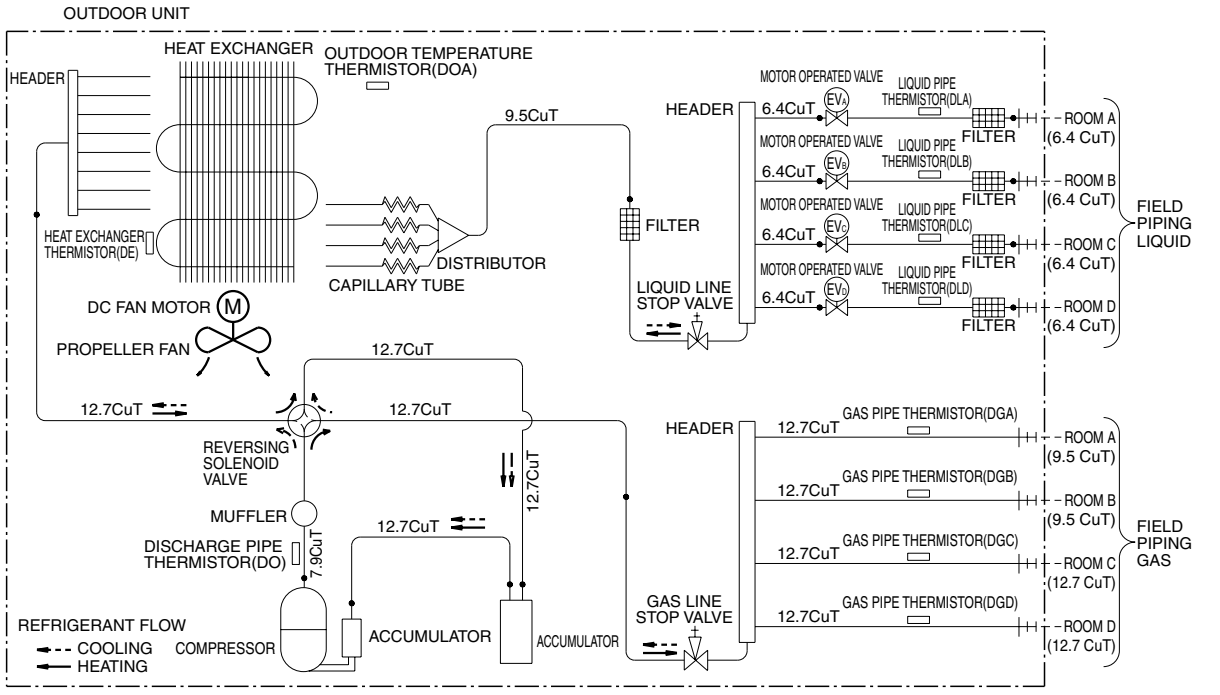
3D052055D

3MXS68G2V1B



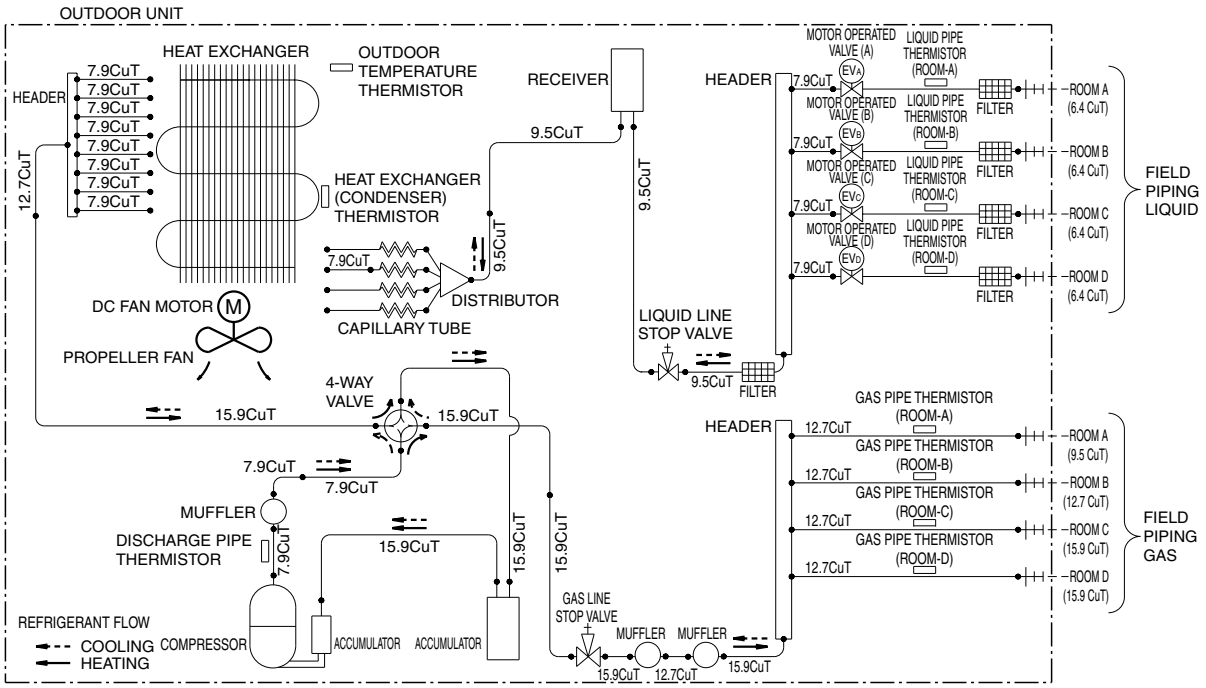
3D058888

4MXS68F2V1B



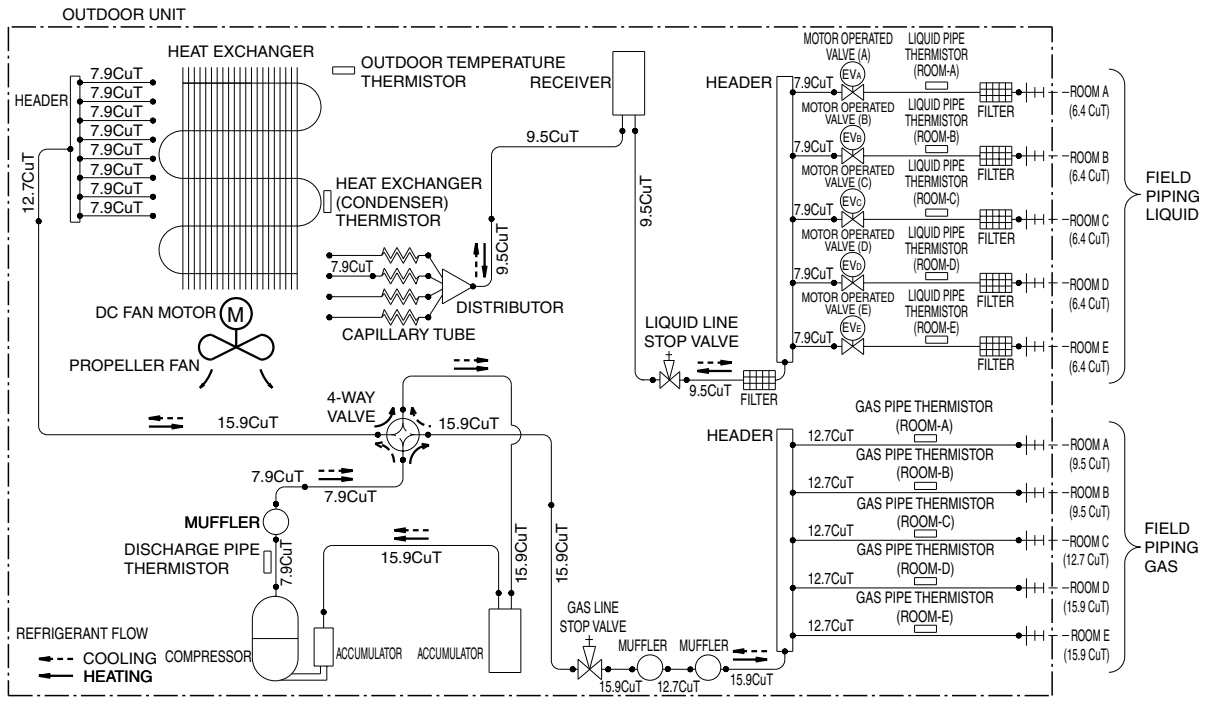
3D055041

4MXS80E2V3B



3D051937E

5MXS90E2V3B

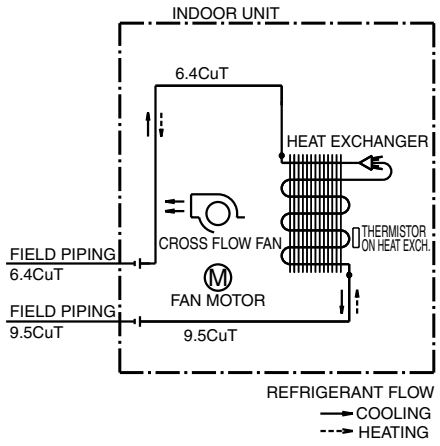


3D051936A

1.2 Indoor Unit

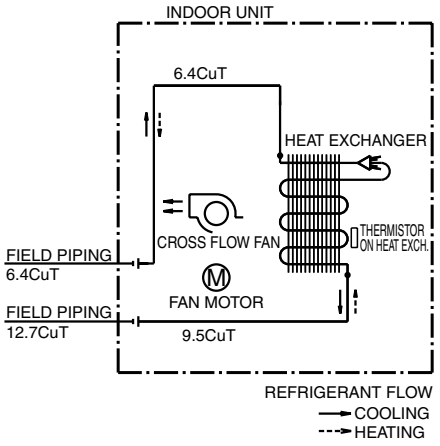
1.2.1 Wall Mounted Type

FTXG25/35JV1BW(A)



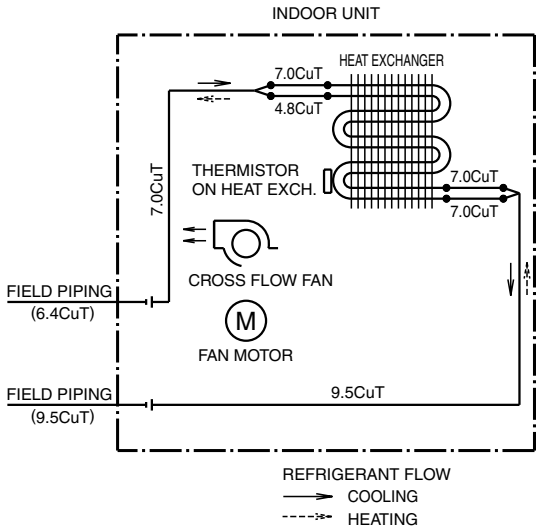
4D065855B

FTXG50JV1BW(A)



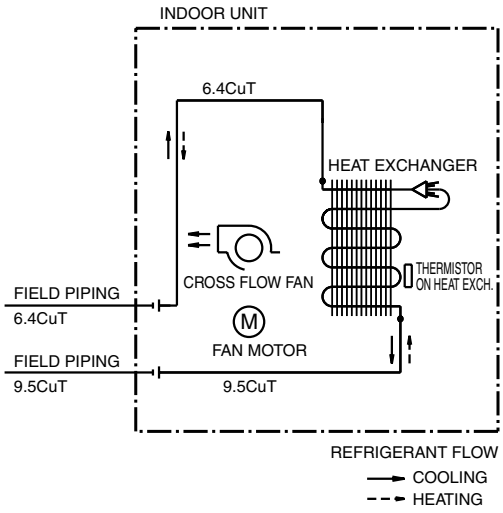
4D065856C

FTXS20/25K2V1B, CTXS15/35K2V1B



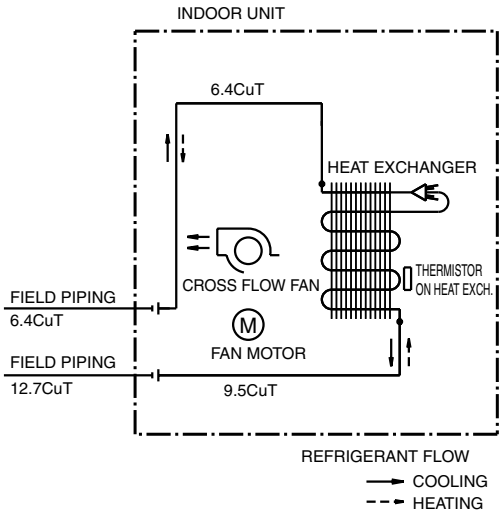
4D058926N

FTXS25/35/42J2V1B



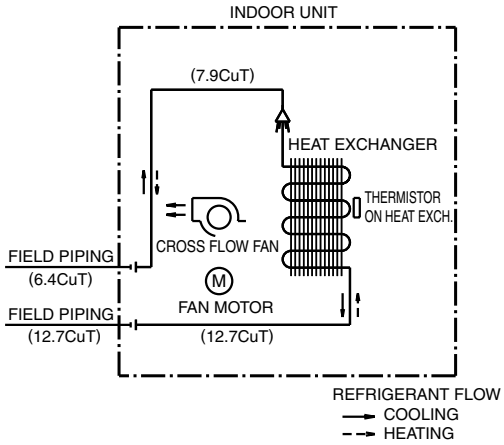
4D058897H

FTXS50J2V1B



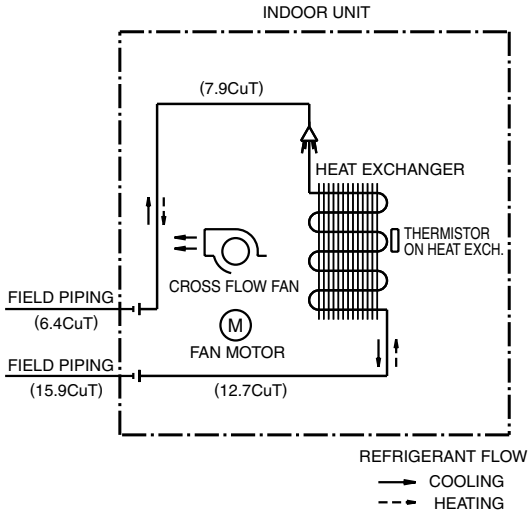
4D058898F

FTXS60GV1B



4D040081Y

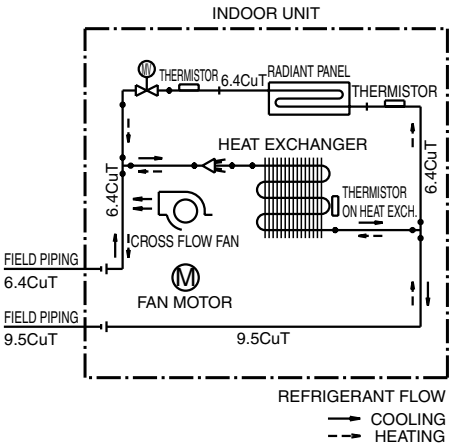
FTXS71GV1B



4D040082W

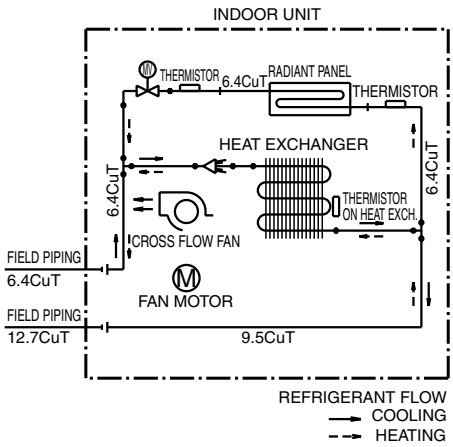
1.2.2 Floor Standing Type

FVXG25/35K2V1B



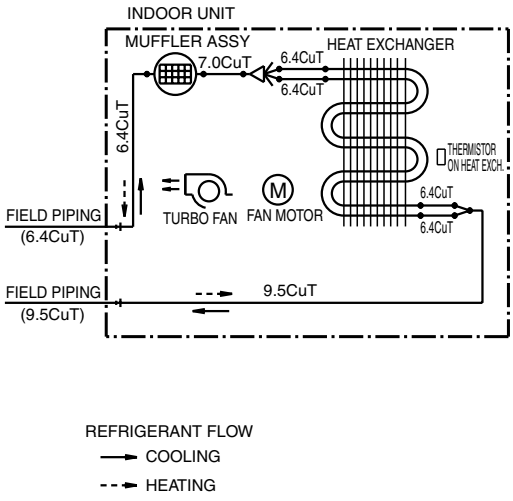
4D071597

FVXG50K2V1B



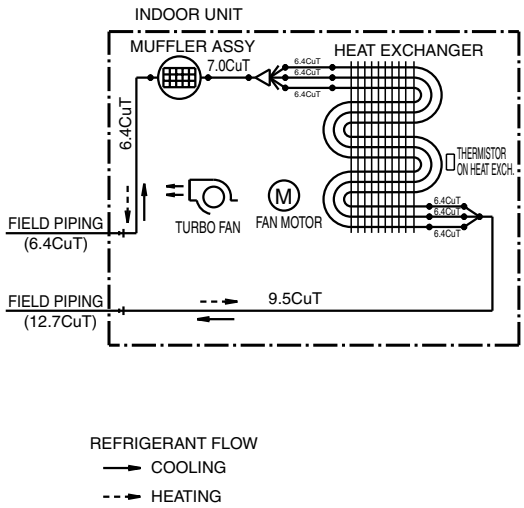
4D071598

FVXS25/35FV1B



4D056137B

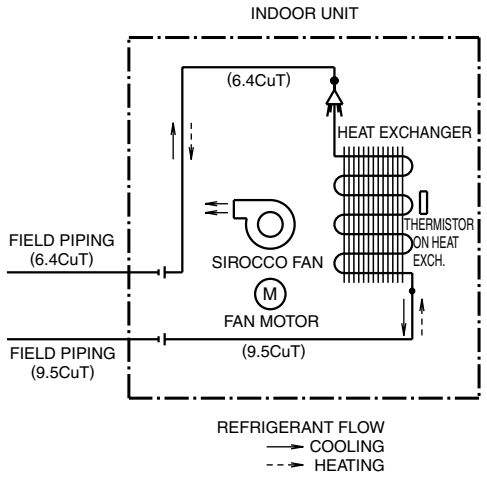
FVXS50FV1B



4D056138C

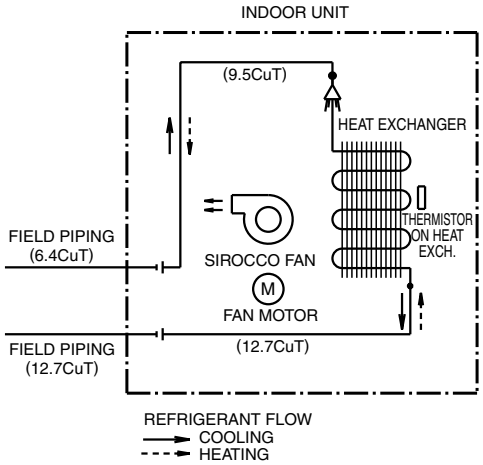
1.2.3 Floor / Ceiling Suspended Dual Type

FLXS25/35BAVMB



4D048722B

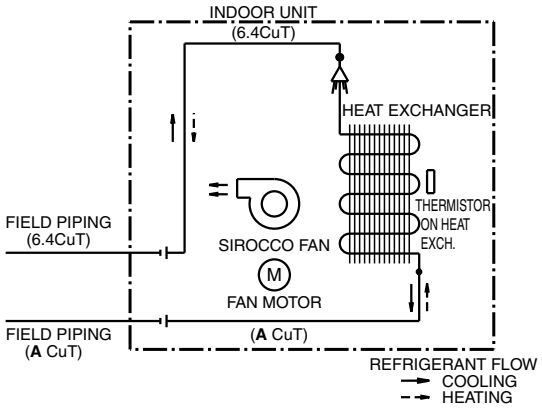
FLXS50/60BAVMB



4D048724B

1.2.4 Duct Connected Type

FDXS25/35E7VMB, FDXS50/60C7VMB

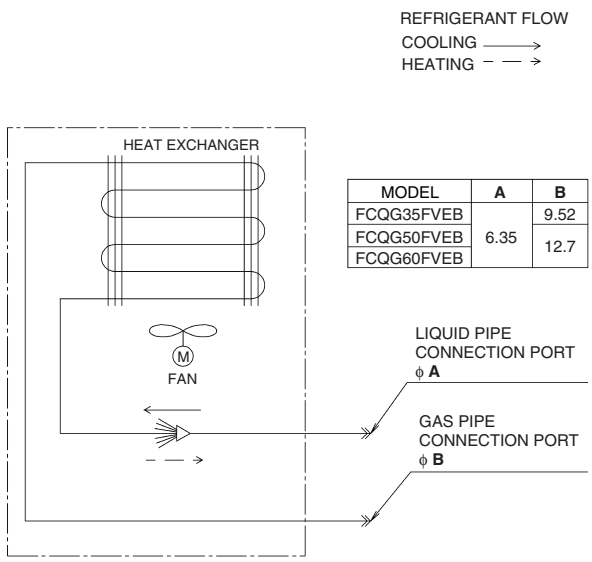


	A		A
FDXS25E7VMB FDXS35E7VMB	9.5	FDXS50C7VMB FDXS60C7VMB	12.7

C: 4D045449Q

1.2.5 Ceiling Mounted Cassette Type

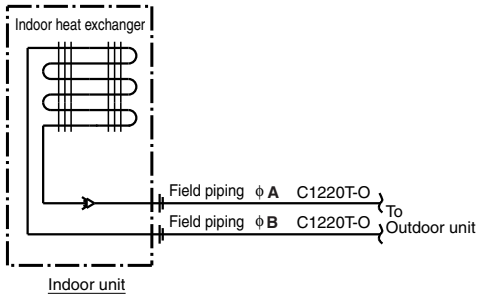
FCQG35/50/60FVEB



MODEL	A	B
FCQG35FVEB	6.35	9.52
FCQG50FVEB		12.7
FCQG60FVEB		

C: 4D076993

FFQ25/35/50/60B9V1B

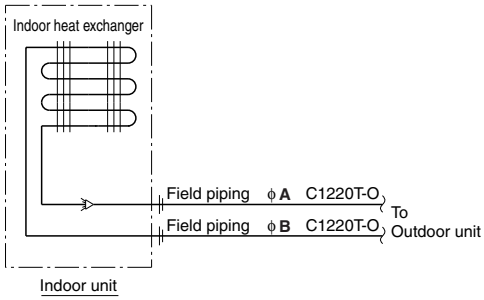


MODEL	A	B
FFQ25/35B9V1B	6.4	9.5
FFQ50/60B9V1B	6.4	12.7

C: 4D039335B

1.2.6 Ceiling Suspended Type

FHQ35/50/60BWV1B

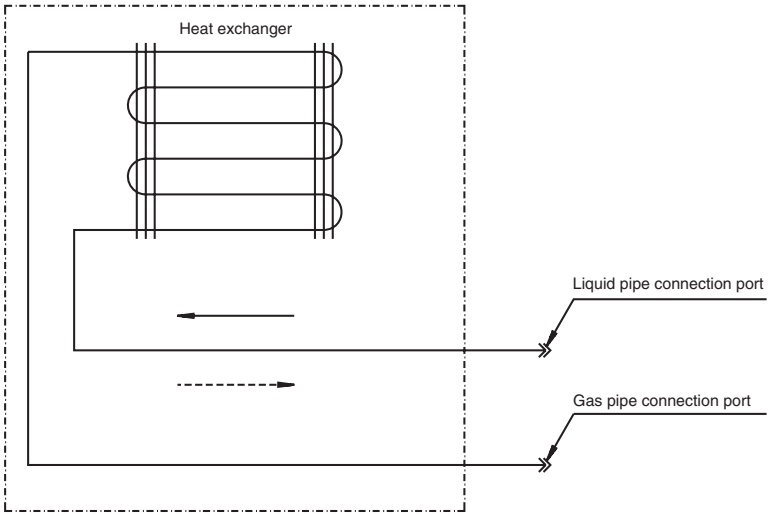


MODEL	A	B
FHQ35BWV1B	6.4	9.5
FHQ50, 60BWV1B	6.4	12.7

C: 4D037995L

1.2.7 Ceiling Mounted Built-in Type

FDBQ25B8V1



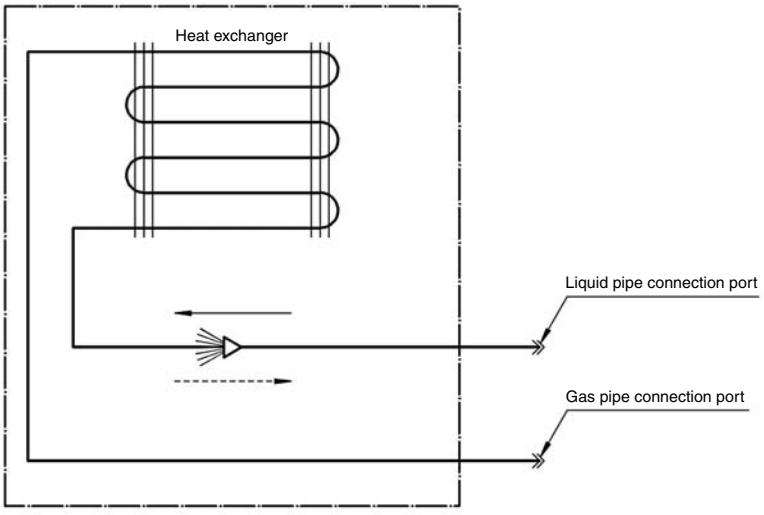
Refrigerant flow
Cooling
Heating

Refrigerant pipe connection port diameters

Model	Gas	Liquid
FDBQ25B8V1	ϕ9.52	ϕ6.35

C: 3TW20815-1B

FBQ35/50/60C8VEB



Refrigerant flow
Cooling
Heating

Refrigerant pipe connection port diameters

Model	Gas	Liquid
FBQ35C	9.52	6.35
FBQ50C	12.70	6.35
FBQ60C	12.70	6.35

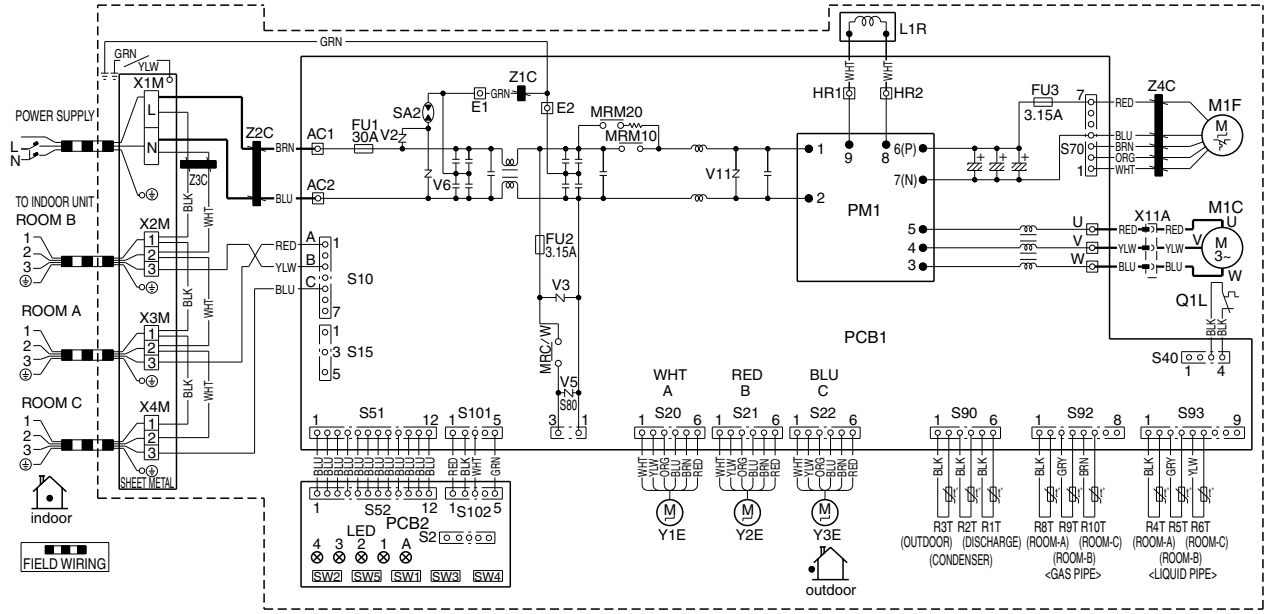
C: 3TW31275-1

2. Wiring Diagrams

2.1 Outdoor Unit

2.1.1 Cooling Only

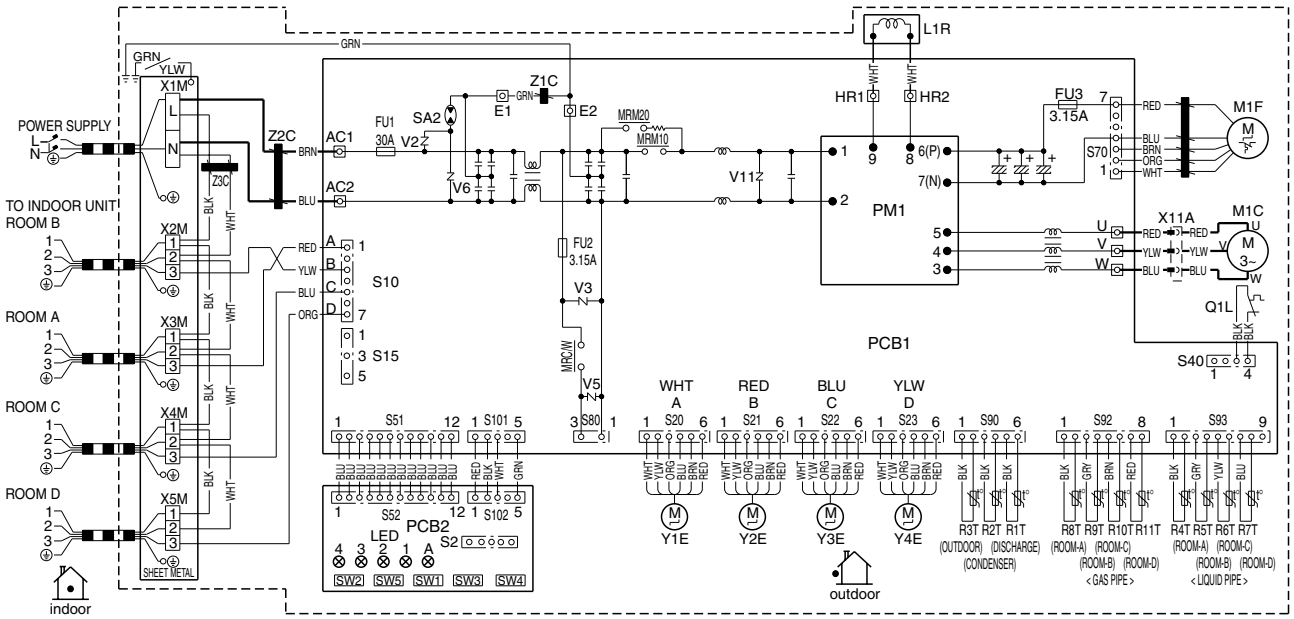
3MKS50E3V1B



Z1C~Z4C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C	: COMPRESSOR MOTOR
X1M~X4M	: TERMINAL STRIP	MRC/W	: MAGNETIC RELAY	N	: NEUTRAL	M1F	: FAN MOTOR
Y1E~Y3E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R6T		SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R	: REACTOR
V2, V3, V5, V6, V11	: VARISTOR	R8T~R10T	: THERMISTOR	SW2	: SELECT SW (SW2)	Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ARRESTER	S2~S102	: CONNECTOR	SW3	: WIRING ERROR CHECK SW (SW3)	PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE	LED1~LED4		SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2		LEDA	: PILOT LAMP	SW5	: NIGHT QUIET MODE SETTING SW (SW5)	SHEET METAL	: TERMINAL STRIP FIXED PLATE
U, V, W, X11A							
E1, E2							
HR1, HR2	: CONNECTOR						

3D057135

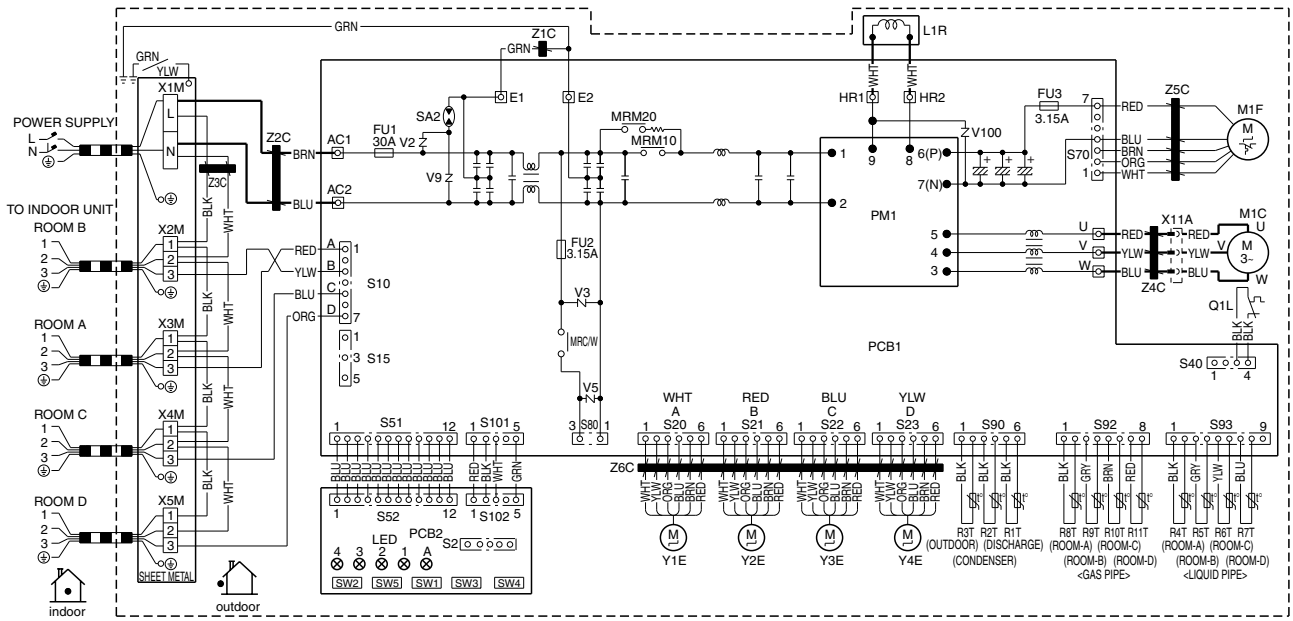
4MKS58E3V1B



Z1C ~ Z3C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C	: COMPRESSOR MOTOR
X1M ~ X5M	: TERMINAL STRIP	MRC/W	: MAGNETIC RELAY	N	: NEUTRAL	M1F	: FAN MOTOR
Y1E ~ Y4E	: ELECTRONIC EXPANSION VALVE COIL	R1T ~ R11T	: THERMISTOR	SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R	: REACTOR
V2, V3, V5, V6, V11	: VARISTOR	S2 ~ S102	: CONNECTOR	SW2	: SELECT SW (SW2)	Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ARRESTER	LED1 ~ LED4		SW3	: WIRING ERROR CHECK SW (SW3)	PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE	LEDA	: PILOT LAMP	SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2				SW5	: NIGHT QUIET MODE SETTING SW (SW5)	SHEET METAL	: TERMINAL STRIP FIXED PLATE
U, V, W, X11A							
E1, E2							
HR1, HR2	: CONNECTOR						

3D051014B

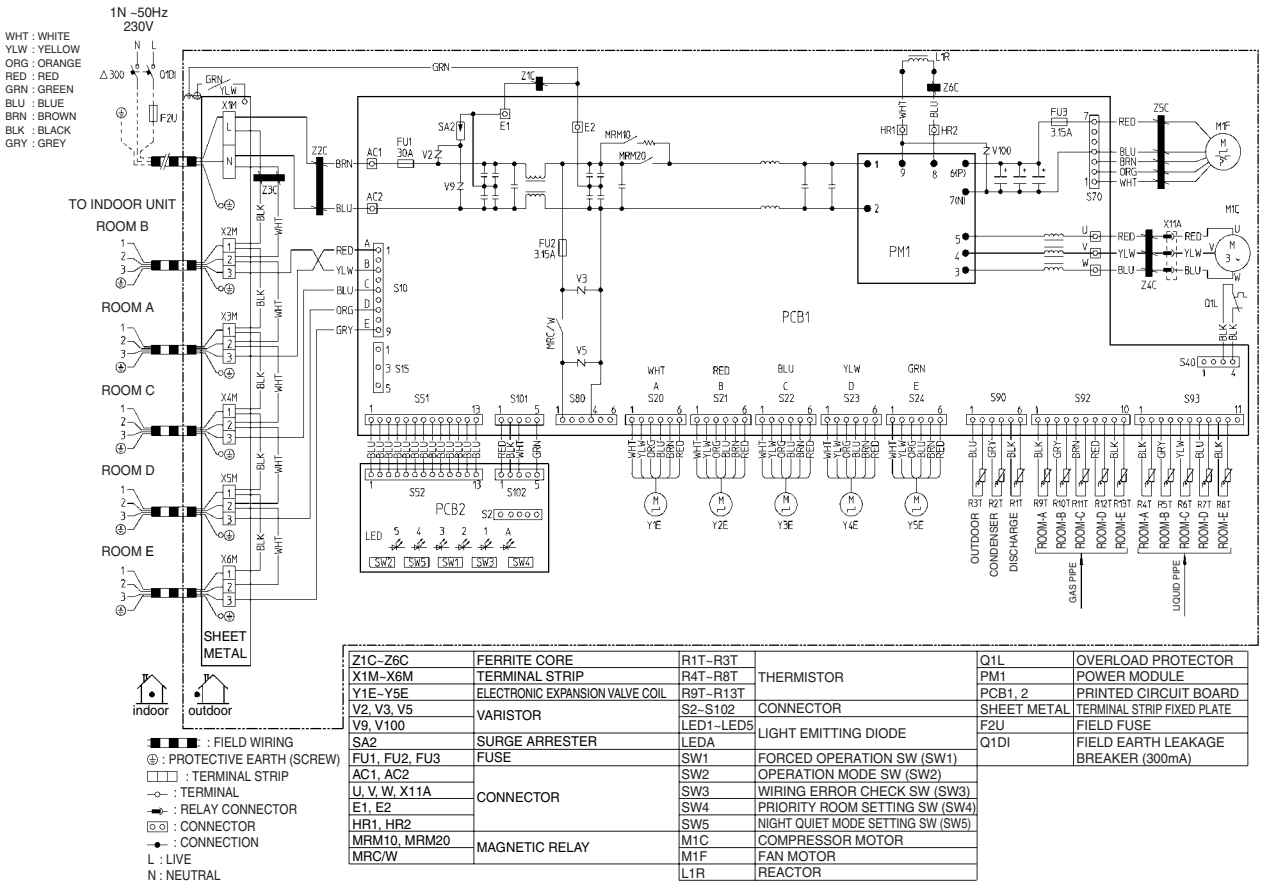
4MKS75F2V1B



FIELD WIRING	Z1C~Z6C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C : COMPRESSOR MOTOR
	X1M~X5M	: TERMINAL STRIP	MRC/W	: MAGNETIC RELAY	N	: NEUTRAL	M1F : FAN MOTOR
	Y1E~Y4E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R11T	: THERMISTOR	SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R : REACTOR
	V2, V3, V5, V9, V100	: VARISTOR	S2~S102	: CONNECTOR	SW2	: SELECT SW (SW2)	Q1L : OVERLOAD PROTECTOR
	SA2	: SURGE ARRESTER	LED1~LED4		SW3	: WIRING ERROR CHECK SW (SW3)	PM1 : POWER MODULE
	FU1, FU2, FU3	: FUSE	LEDA	: PILOT LAMP	SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2 : PRINTED CIRCUIT BOARD
	AC1, AC2				SW5	: NIGHT QUIET MODE SETTING SW (SW5)	SHEET METAL : TERMINAL STRIP FIXED PLATE
	U, V, W, X11A						
	E1, E2						
	HR1, HR2	: CONNECTOR					

3D055885

5MKS90E2V3B



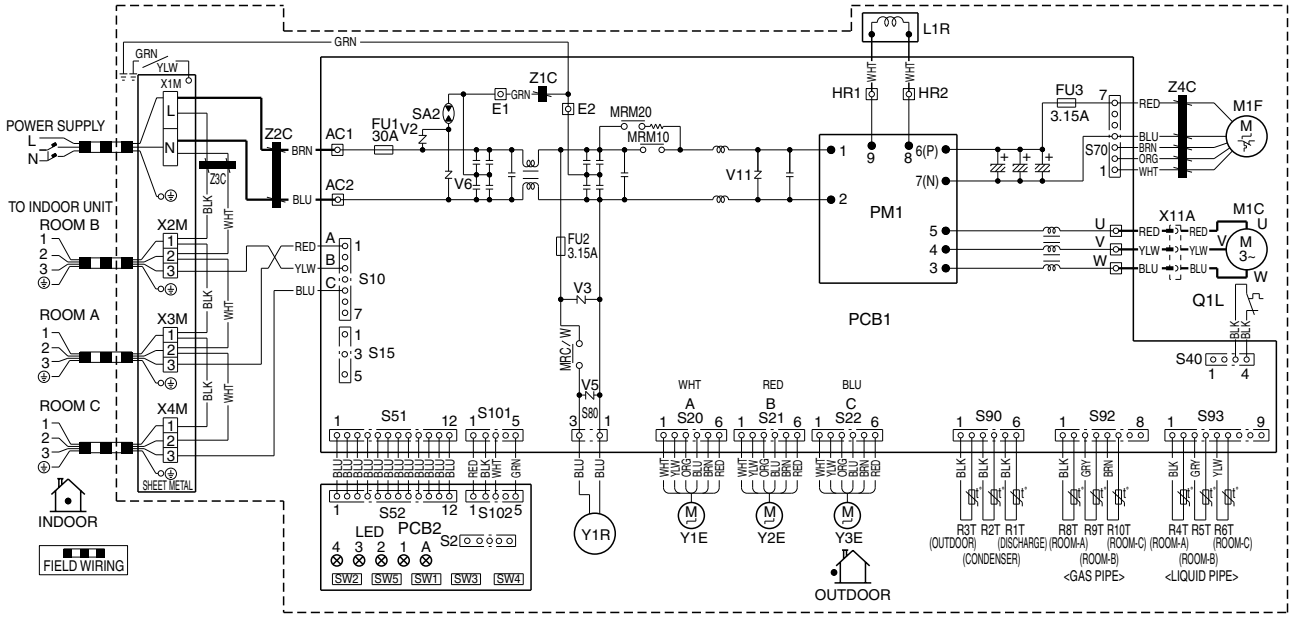
: FIELD WIRING
⏚ : PROTECTIVE EARTH (SCREW)
: TERMINAL STRIP
: TERMINAL
: RELAY CONNECTOR
: CONNECTOR
: CONNECTION
L : LIVE
N : NEUTRAL

Z1C~Z6C	FERRITE CORE	R1T~R3T	THERMISTOR	Q1L	OVERLOAD PROTECTOR
X1M~X6M	TERMINAL STRIP	R4T~R8T		PM1	POWER MODULE
Y1E~Y5E	ELECTRONIC EXPANSION VALVE COIL	R9T~R13T		PCB1, 2	PRINTED CIRCUIT BOARD
V2, V3, V5	VARISTOR	S2~S102	CONNECTOR	SHEET METAL	TERMINAL STRIP FIXED PLATE
V9, V100		LED1~LED5	LIGHT EMITTING DIODE	F2U	FIELD FUSE
SA2	SURGE ARRESTER	LEDA		Q1DI	FIELD EARTH LEAKAGE BREAKER (300mA)
FU1, FU2, FU3	FUSE	SW1	FORCED OPERATION SW (SW1)		
AC1, AC2	CONNECTOR	SW2	OPERATION MODE SW (SW2)		
U, V, W, X11A		SW3	WIRING ERROR CHECK SW (SW3)		
E1, E2		SW4	PRIORITY ROOM SETTING SW (SW4)		
HR1, HR2		SW5	NIGHT QUIET MODE SETTING SW (SW5)		
MRM10, MRM20	MAGNETIC RELAY	M1C	COMPRESSOR MOTOR		
MRC/W		M1F	FAN MOTOR		
		L1R	REACTOR		

2TW27596-1A

2.1.2 Heat Pump

3MXS40K2V1B, 3MXS52E3V1B



Z1C~Z4C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C	: COMPRESSOR MOTOR
X1M~X4M	: TERMINAL STRIP	MRC/W	: MAGNETIC RELAY	N	: NEUTRAL	M1F	: FAN MOTOR
Y1E Y3E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R6T		SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R	: REACTOR
V2, V3, V5, V6, V11	: VARISTOR	R8T~R10T	: THERMISTOR	SW2	: SELECT SW (SW2)	Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ARRESTER	S2~S102	: CONNECTOR	SW3	: WIRING ERROR CHECK SW (SW3)	PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE	LED1~LED4		SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2		LEDA	: PILOT LAMP	SW5	: NIGHT QUIET MODE SETTING SW (SW5)	Y1R	: REVERSING SOLENOID VALVE COIL
U, V, W, X11A						SHEET METAL	: TERMINAL STRIP FIXED PLATE
E1, E2							
HR1, HR2	: CONNECTOR						

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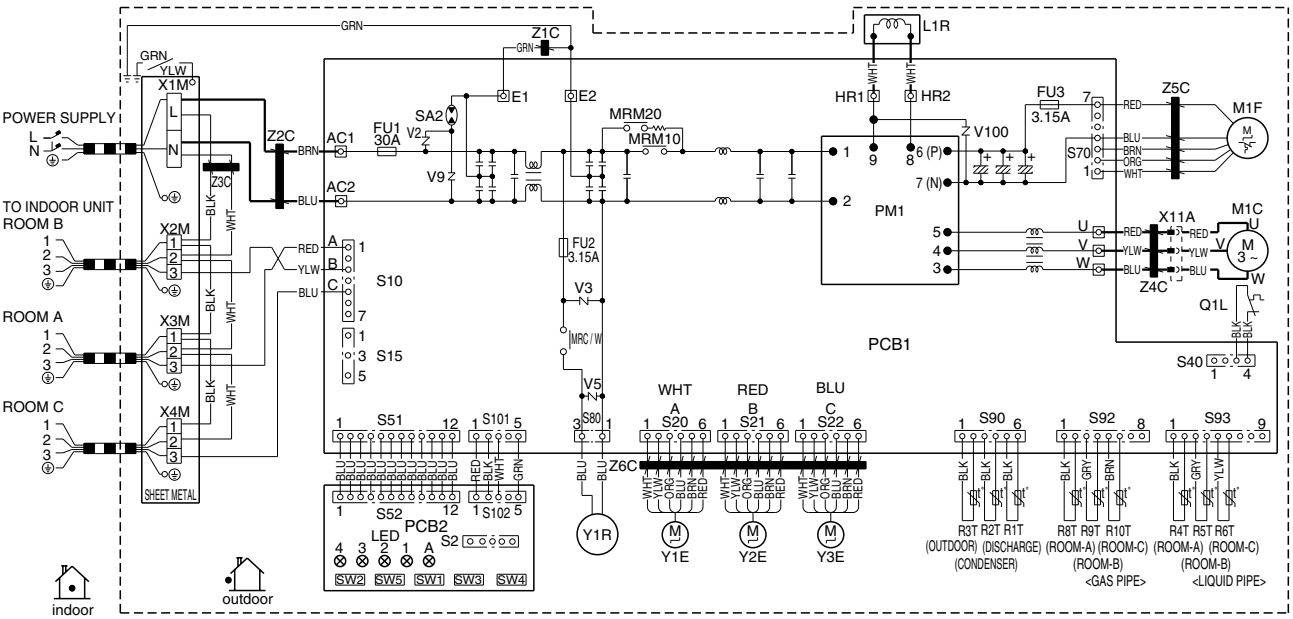
3MXS68G2V1B



Z1C~Z6C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C	: COMPRESSOR MOTOR
X1M~X5M	: TERMINAL STRIP	MRC / W	: MAGNETIC RELAY	N	: NEUTRAL	M1F	: FAN MOTOR
Y1E~Y4E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R11T	: THERMISTOR	SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R	: REACTOR
V2, V3, V5, V9, V100	: VARISTOR	S2~S102	: CONNECTOR	SW2	: SELECT SW (SW2)	Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ARRESTER	LED1~LED4		SW3	: WIRING ERROR CHECK SW (SW3)	PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE	LEDA	: PILOT LAMP	SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2				SW5	: NIGHT QUIET MODE SETTING SW (SW5)	Y1R	: REVERSING SOLENOID VALVE COIL
U, V, W, X11A						SHEET METAL	: TERMINAL STRIP FIXED PLATE
E1, E2							
HR1, HR2	: CONNECTOR						

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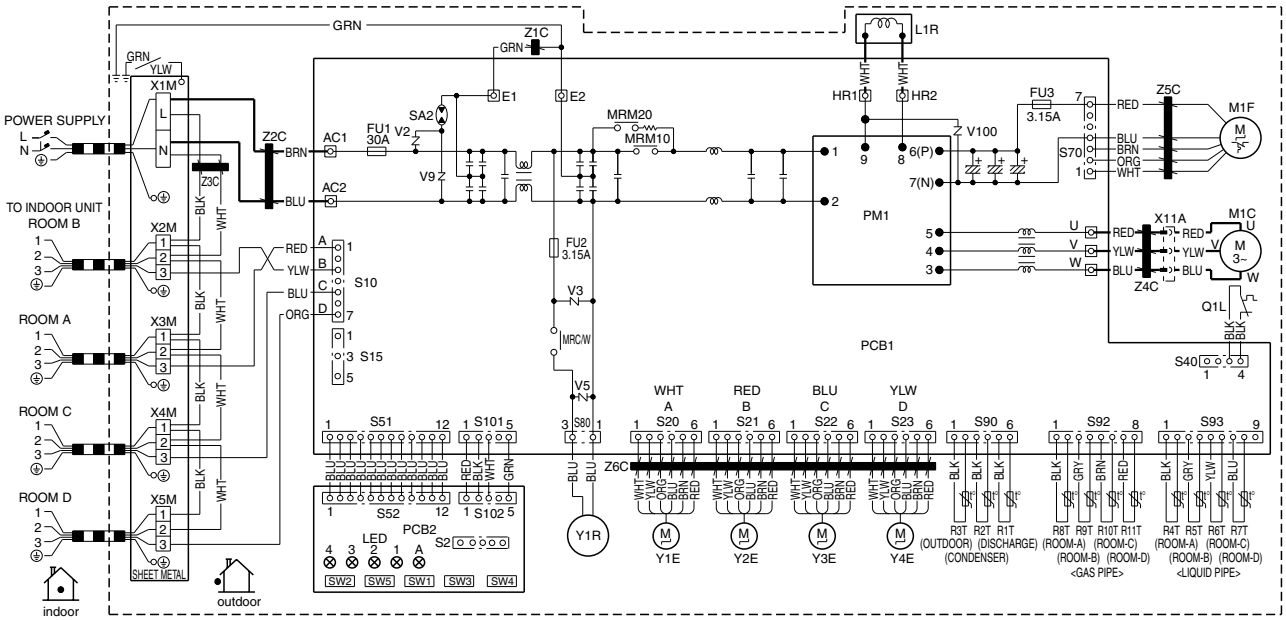
4MXS68F2V1B



FIELD WIRING

Z1C~Z6C	: FERRITE CORE	MRM10, MRM20		L	: LIVE	M1C	: COMPRESSOR MOTOR
X1M~X5M	: TERMINAL STRIP	MRC/W	: MAGNETIC RELAY	N	: NEUTRAL	M1F	: FAN MOTOR
Y1E~Y4E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R11T	: THERMISTOR	SW1	: FORCED OPERATION ON/OFF SW (SW1)	L1R	: REACTOR
V2, V3, V5, V9, V100	: VARISTOR	S2~S102	: CONNECTOR	SW2	: SELECT SW (SW2)	Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ARRESTER	LED1~LED4		SW3	: WIRING ERROR CHECK SW (SW3)	PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE	LEDA	: PILOT LAMP	SW4	: PRIORITY ROOM SETTING SW (SW4)	PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2				SW5	: NIGHT QUIET MODE SETTING SW (SW5)	Y1R	: REVERSING SOLENOID VALVE COIL
U, V, W, X11A						SHEET METAL	: TERMINAL STRIP FIXED PLATE
E1, E2							
HR1, HR2	: CONNECTOR						

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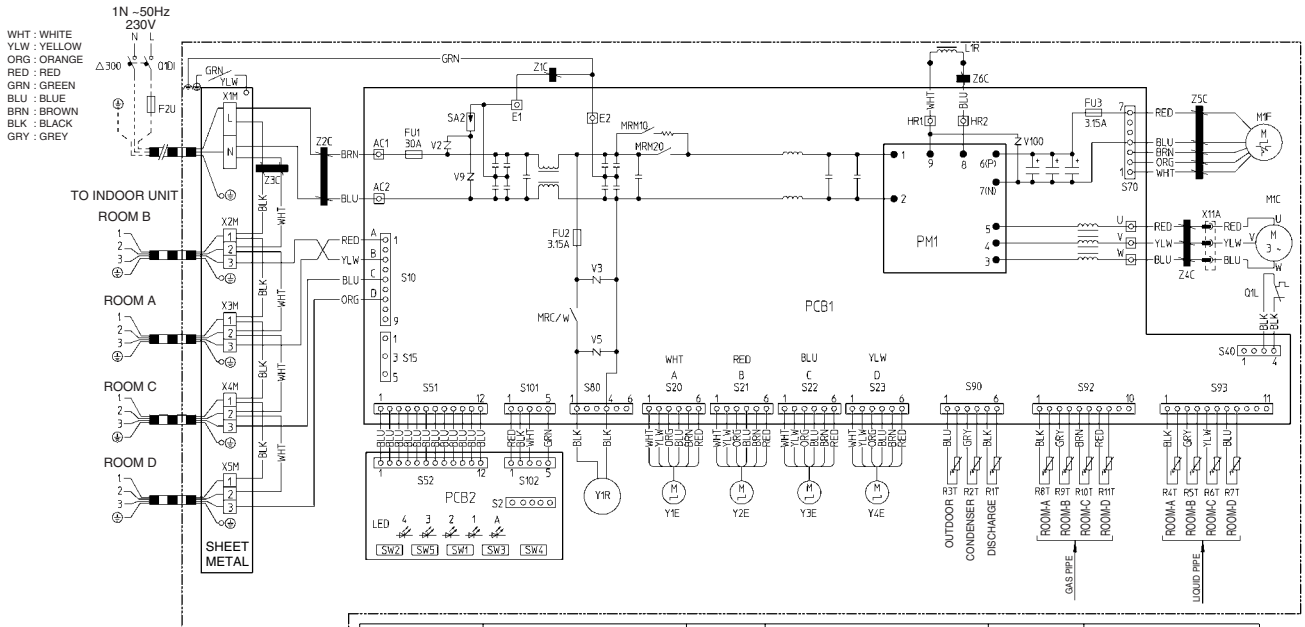
4MXS80E2V3B

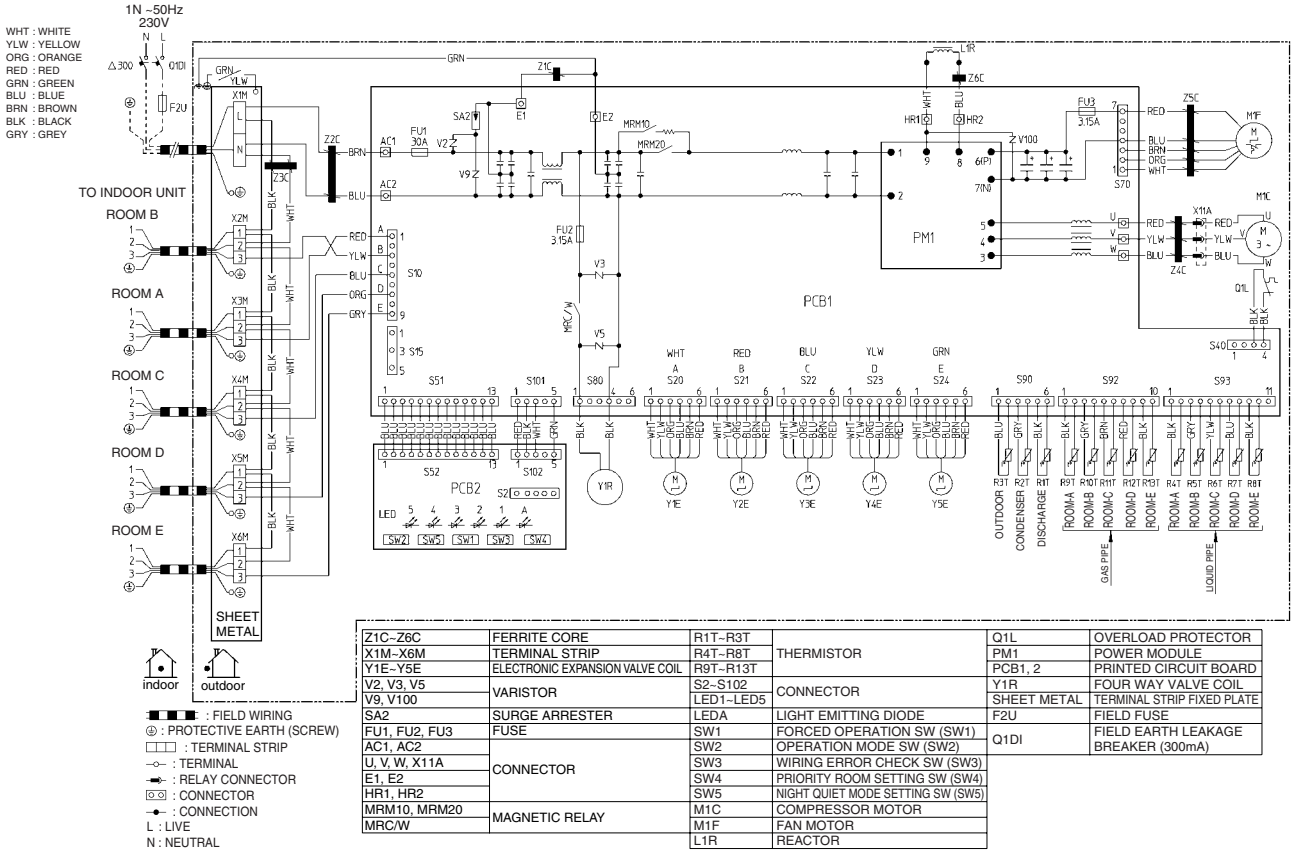


Z1C~Z6C	FERRITE CORE	R1T~R3T	THERMISTOR	Q1L	OVERLOAD PROTECTOR
X1M~X5M	TERMINAL STRIP	R4T~R7T		PM1	POWER MODULE
Y1E~Y4E	ELECTRONIC EXPANSION VALVE COIL	R8T~R11T		PCB1, 2	PRINTED CIRCUIT BOARD
V2, V3, V5	VARISTOR	S2~S102	CONNECTOR	Y1R	FOUR WAY VALVE COIL
V9, V100		LED1~LED4	LIGHT EMITTING DIODE	SHEET METAL	TERMINAL STRIP FIXED PLATE
SA2	SURGE ARRESTER	LEDA		F2U	FIELD FUSE
FU1, FU2, FU3	FUSE	SW1	FORCED OPERATION SW (SW1)	Q1DI	FIELD EARTH LEAKAGE BREAKER (300mA)
AC1, AC2	CONNECTOR	SW2	OPERATION MODE SW (SW2)		
U, V, W, X11A		SW3	WIRING ERROR CHECK SW (SW3)		
E1, E2		SW4	PRIORITY ROOM SETTING SW (SW4)		
HR1, HR2		SW5	NIGHT QUIET MODE SETTING SW (SW5)		
MRM10, MRM20	MAGNETIC RELAY	M1C	COMPRESSOR MOTOR		
MRC/W		M1F	FAN MOTOR		
		L1R	REACTOR		

: FIELD WIRING
: PROTECTIVE EARTH (SCREW)
: TERMINAL STRIP
: TERMINAL
: RELAY CONNECTOR
: CONNECTOR
: CONNECTION
L : LIVE
N : NEUTRAL

2TW27576-1B

5MXS90E2V3B



Z1C~Z6C	FERRITE CORE	R1T~R3T	THERMISTOR	Q1L	OVERLOAD PROTECTOR
X1M~X6M	TERMINAL STRIP	R4T~R8T		PM1	POWER MODULE
Y1E~Y5E	ELECTRONIC EXPANSION VALVE COIL	R9T~R13T		PCB1, 2	PRINTED CIRCUIT BOARD
V2, V3, V5	VARISTOR	S2~S102	CONNECTOR	Y1R	FOUR WAY VALVE COIL
V9, V100		LED1~LED5		SHEET METAL	TERMINAL STRIP FIXED PLATE
SA2	SURGE ARRESTER	LEDA	LIGHT EMITTING DIODE	F2U	FIELD FUSE
FU1, FU2, FU3	FUSE	SW1	FORCED OPERATION SW (SW1)	Q1DI	FIELD EARTH LEAKAGE BREAKER (300mA)
AC1, AC2	CONNECTOR	SW2	OPERATION MODE SW (SW2)		
U, V, W, X11A		SW3	WIRING ERROR CHECK SW (SW3)		
E1, E2		SW4	PRIORITY ROOM SETTING SW (SW4)		
HR1, HR2		SW5	NIGHT QUIET MODE SETTING SW (SW5)		
MRM10, MRM20	MAGNETIC RELAY	M1C	COMPRESSOR MOTOR		
MRC/W		M1F	FAN MOTOR		
		L1R	REACTOR		

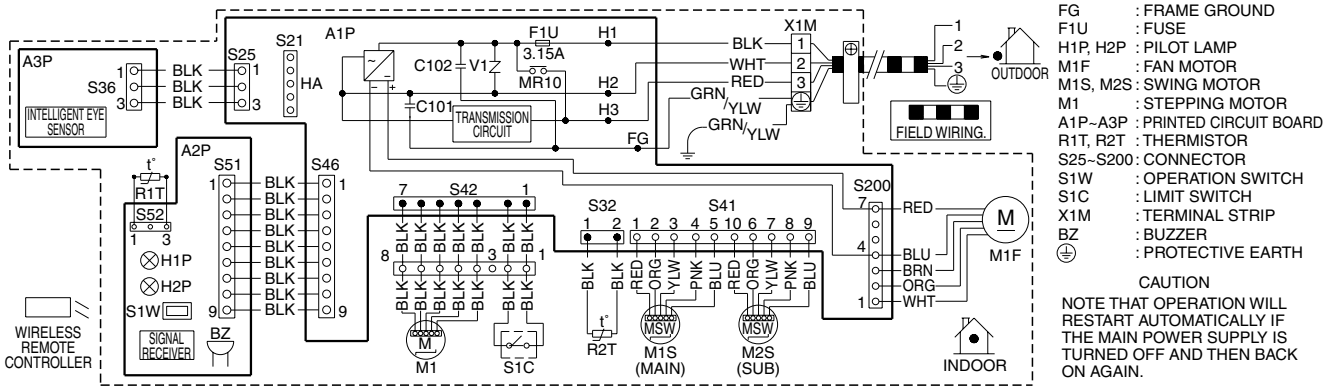
: FIELD WIRING
: PROTECTIVE EARTH (SCREW)
: TERMINAL STRIP
: TERMINAL
: RELAY CONNECTOR
: CONNECTOR
: CONNECTION
L : LIVE
N : NEUTRAL

2TW27586-1A

2.2 Indoor Unit

2.2.1 Wall Mounted Type

FTXG25/35/50JV1BW(A)



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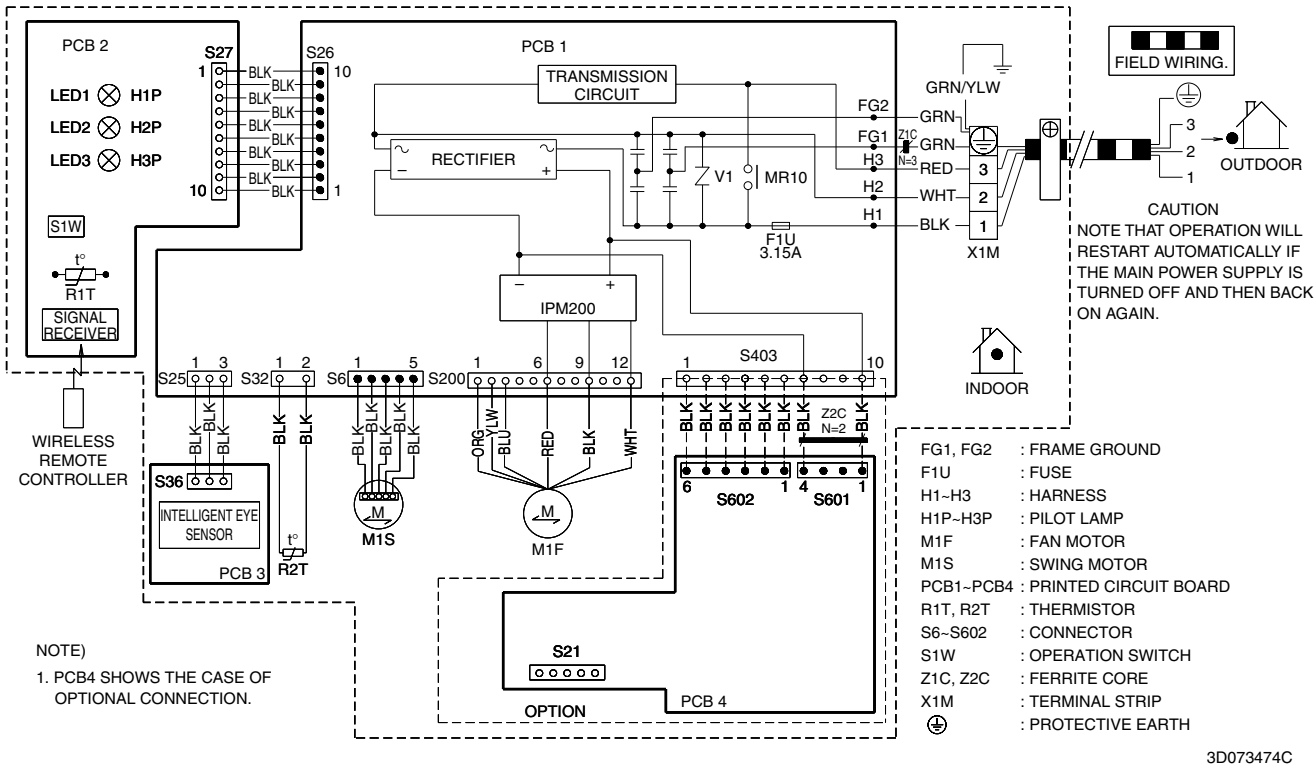
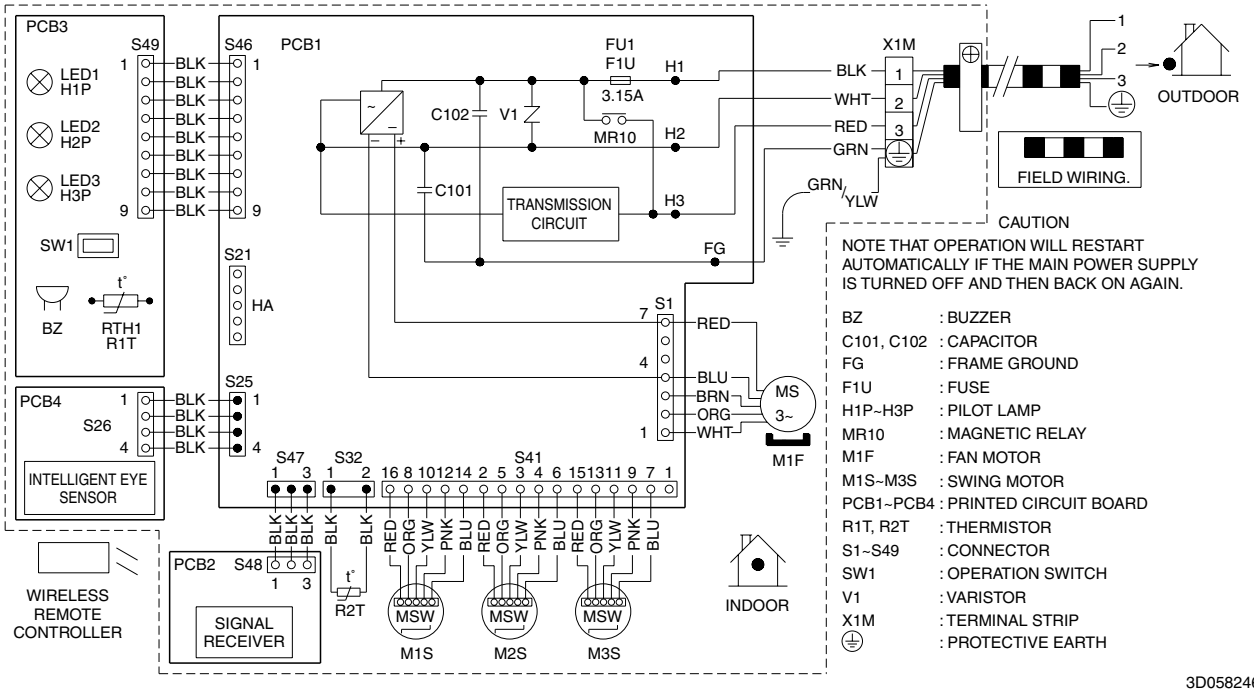
FTXS20/25K2V1B, CTXS15/35K2V1B



3D073474C

FTXS25/35/42/50J2V1B



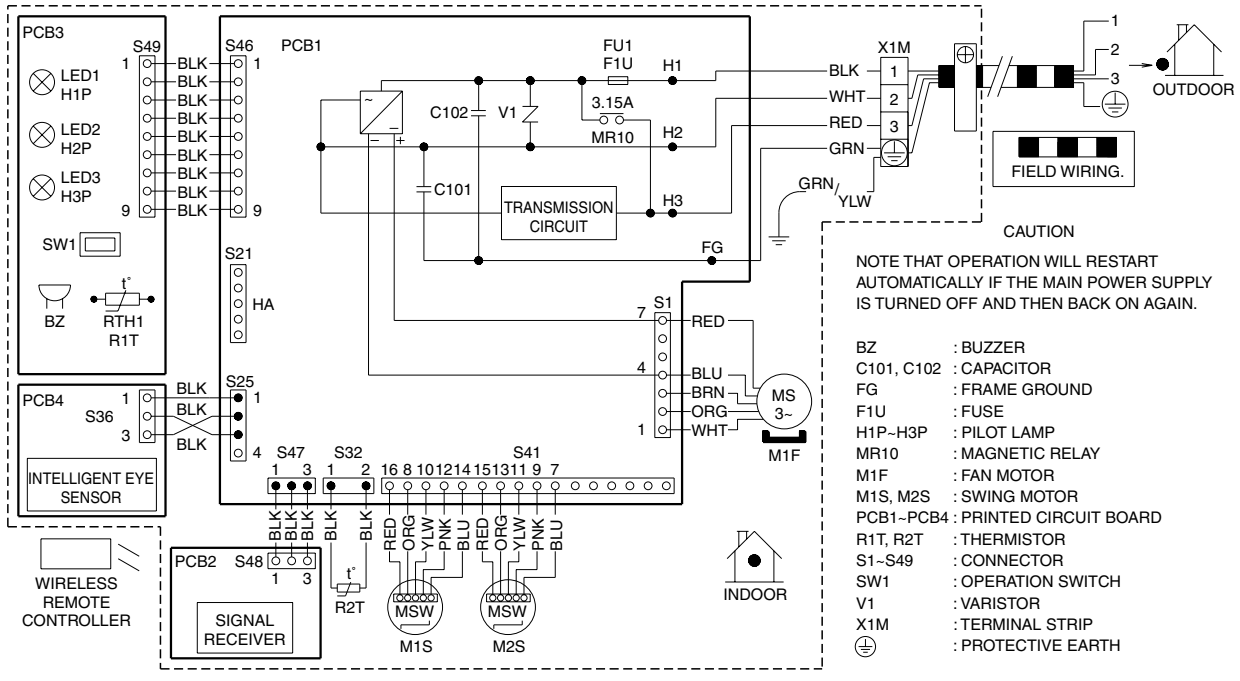
CAUTION

NOTE THAT OPERATION WILL RESTART AUTOMATICALLY IF THE MAIN POWER SUPPLY IS TURNED OFF AND THEN BACK ON AGAIN.

BZ	: BUZZER
C101, C102	: CAPACITOR
FG	: FRAME GROUND
F1U	: FUSE
H1P~H3P	: PILOT LAMP
MR10	: MAGNETIC RELAY
M1F	: FAN MOTOR
M1S~M3S	: SWING MOTOR
PCB1~PCB4	: PRINTED CIRCUIT BOARD
R1T, R2T	: THERMISTOR
S1~S49	: CONNECTOR
SW1	: OPERATION SWITCH
V1	: VARISTOR
X1M	: TERMINAL STRIP
⏚	: PROTECTIVE EARTH

3D058246F

FTXS60/71GV1B



CAUTION

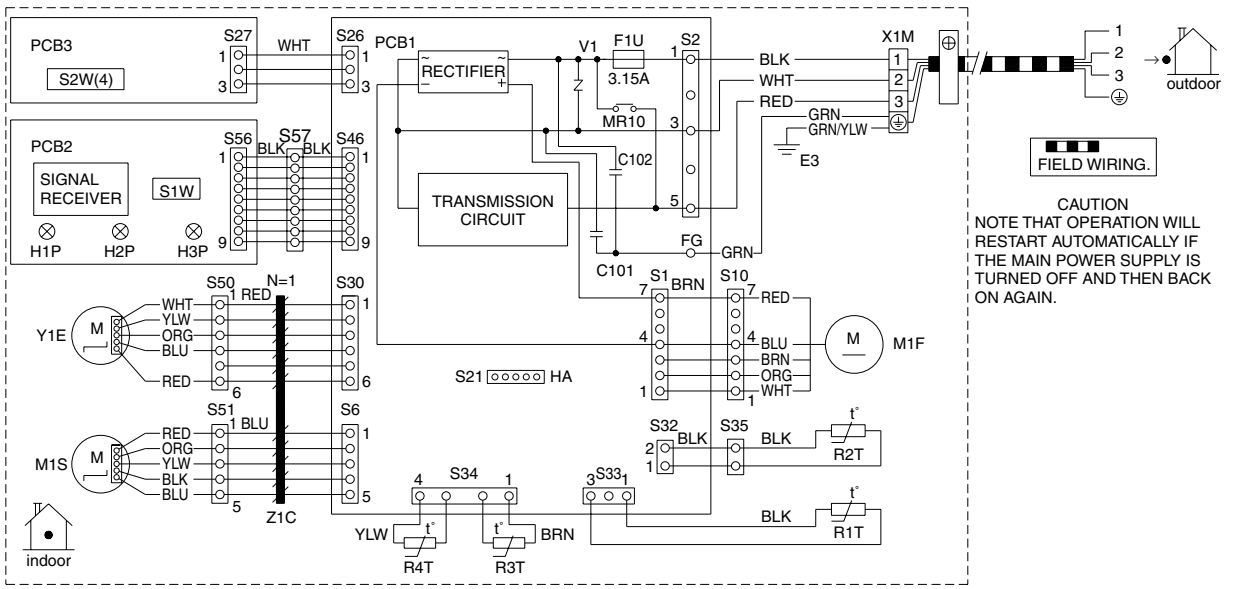
NOTE THAT OPERATION WILL RESTART AUTOMATICALLY IF THE MAIN POWER SUPPLY IS TURNED OFF AND THEN BACK ON AGAIN.

BZ	: BUZZER
C101, C102	: CAPACITOR
FG	: FRAME GROUND
F1U	: FUSE
H1P~H3P	: PILOT LAMP
MR10	: MAGNETIC RELAY
M1F	: FAN MOTOR
M1S, M2S	: SWING MOTOR
PCB1~PCB4	: PRINTED CIRCUIT BOARD
R1T, R2T	: THERMISTOR
S1~S49	: CONNECTOR
SW1	: OPERATION SWITCH
V1	: VARISTOR
X1M	: TERMINAL STRIP
⏚	: PROTECTIVE EARTH

3D064800C

2.2.2 Floor Standing Type

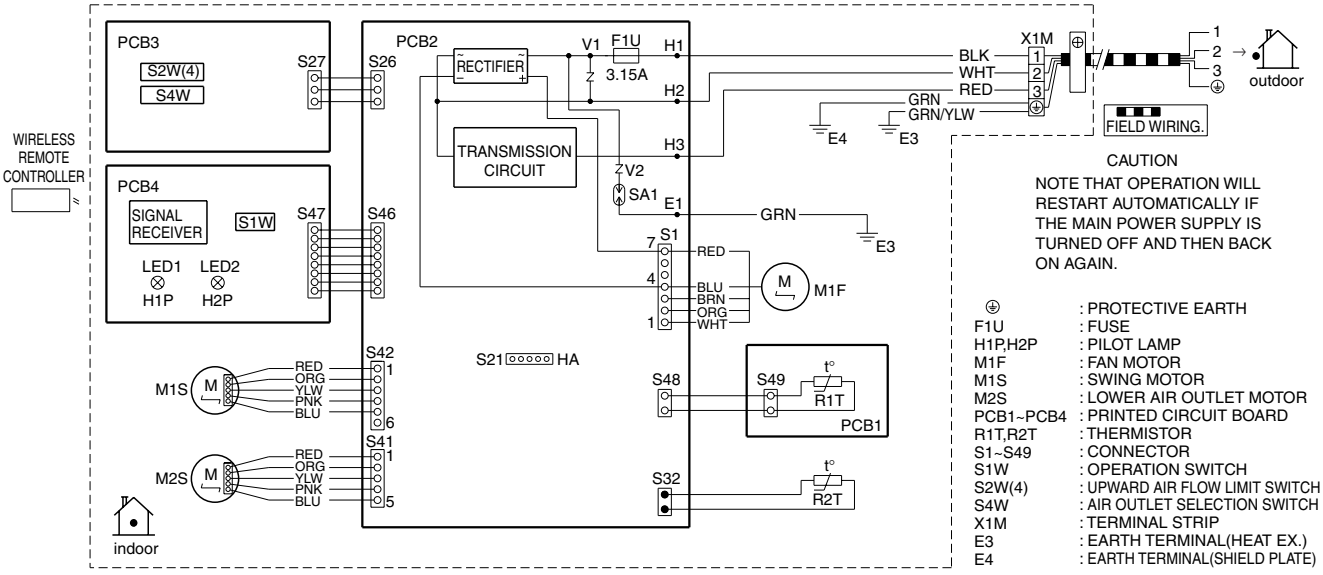
FVXG25/35/50K2V1B



⏚	:	PROTECTIVE EARTH	S1~S57	:	CONNECTOR
F1U	:	FUSE	S1W	:	OPERATION SWITCH
H1P~H3P	:	PILOT LAMP	S2W(4)	:	UPWARD AIR FLOW LIMIT SWITCH
M1F	:	FAN MOTOR	X1M	:	TERMINAL STRIP
M1S	:	SWING MOTOR	E3	:	EARTH TERMINAL(HEAT EX.)
PCB1~PCB3	:	PRINTED CIRCUIT BOARD	Y1E	:	ELECTRONIC EXPANSION VALVE COIL
R1T~R4T	:	THERMISTOR	Z1C	:	FERRITE CORE

3D069838A

FVXS25/35/50FV1B

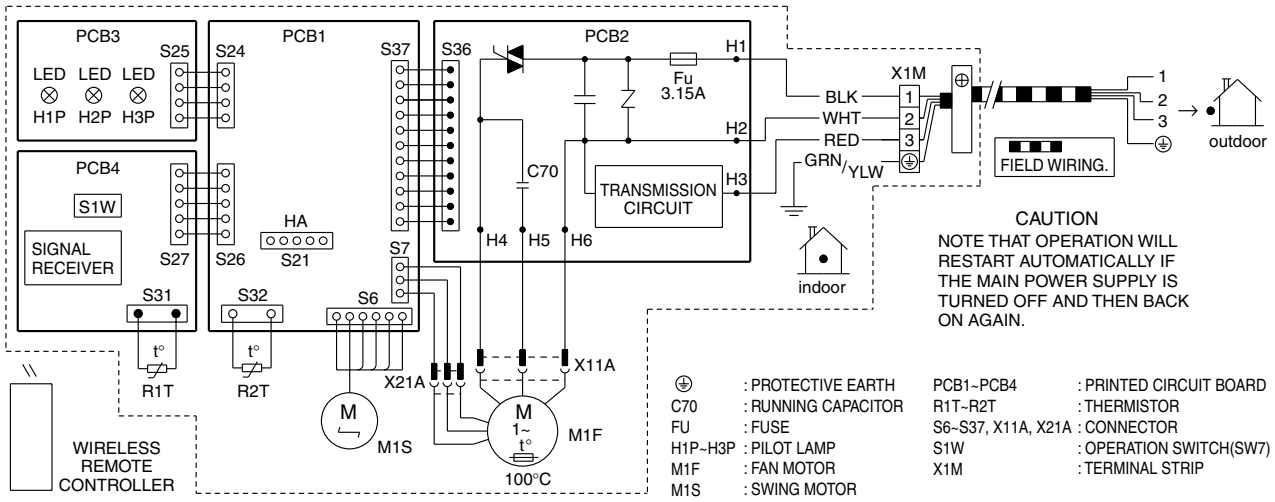


⏚	:	PROTECTIVE EARTH
F1U	:	FUSE
H1P,H2P	:	PILOT LAMP
M1F	:	FAN MOTOR
M1S	:	SWING MOTOR
M2S	:	LOWER AIR OUTLET MOTOR
PCB1~PCB4	:	PRINTED CIRCUIT BOARD
R1T,R2T	:	THERMISTOR
S1~S49	:	CONNECTOR
S1W	:	OPERATION SWITCH
S2W(4)	:	UPWARD AIR FLOW LIMIT SWITCH
S4W	:	AIR OUTLET SELECTION SWITCH
X1M	:	TERMINAL STRIP
E3	:	EARTH TERMINAL(HEAT EX.)
E4	:	EARTH TERMINAL(SHIELD PLATE)

3D055953A

2.2.3 Floor / Ceiling Suspended Dual Type

FLXS25/35/50/60BAVMB



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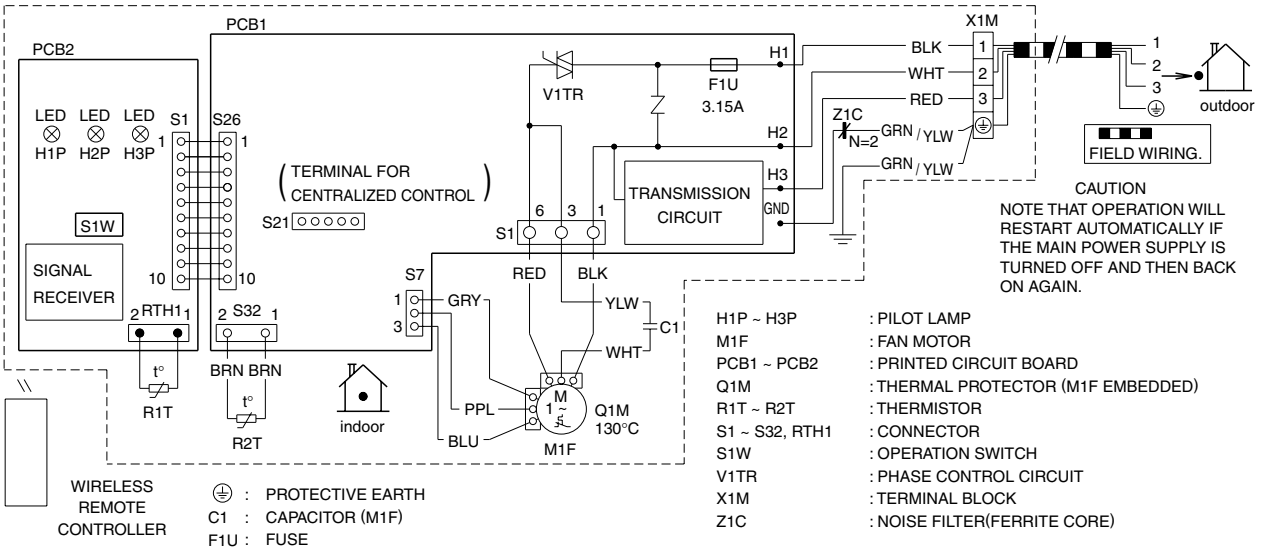
2.2.4 Duct Connected Type

FDXS25/35E7VMB, FDXS50/60C7VMB



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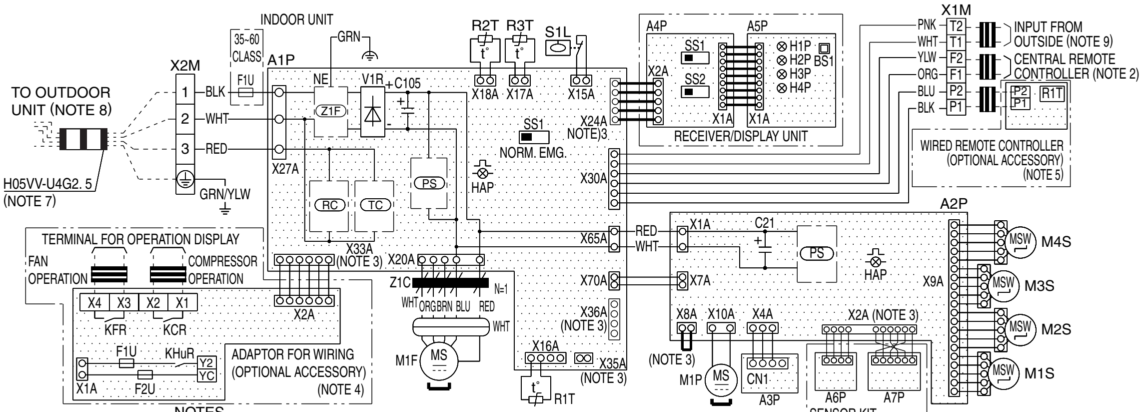
2.2.5 Ceiling Mounted Cassette Type

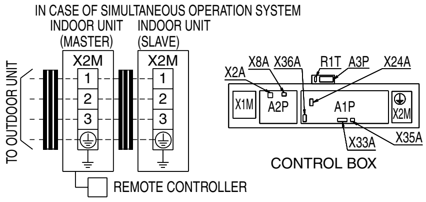
FCQG35/50/60FVEB



NOTES

1. ▭▭▭ : TERMINAL BLOCK ⊙⊙, ▯ : CONNECTOR ▮▮ : FIELD WIRING
2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
3. X2A, X8A, X33A, X35A, X36A ARE CONNECTED WHEN THE OPTIONAL ACCESSORIES ARE BEING USED. IN CASE OF USING AN AUTO CLEAN PANEL, SEE THE WIRING DIAGRAM OF IT.
4. CONNECT POWER OF ADAPTOR FOR WIRING TO TERMINAL BLOCK (X2M) OF INDOOR UNIT DIRECTLY.
5. IN CASE OF MAIN/SUB OVERCHANGE, SEE THE INSTALLATION MANUAL ATTACHED TO REMOTE CONTROLLER.
6. SYMBOLS SHOWS AS FOLLOWS : RED : RED BLK : BLACK WHT : WHITE YLW : YELLOW GRN : GREEN ORG : ORANGE BRN : BROWN PNK : PINK GRY : GRAY BLU : BLUE
7. SHOWS ONLY IN CASE OF PROTECTED PIPES. USE H07RN-F IN CASE OF NO PROTECTION.
8. FOR THE DETAIL, SEE WIRING DIAGRAM ATTACHED TO OUTDOOR UNIT.
9. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY THE REMOTE CONTROLLER. SEE INSTALLATION MANUAL FOR MORE DETAILS.

IN CASE OF SIMULTANEOUS OPERATION SYSTEM



INDOOR UNIT	
A1P	PRINTED CIRCUIT BOARD
A2P	PRINTED CIRCUIT BOARD
A3P	PRINTED CIRCUIT BOARD (HUMIDITY SENSOR UNIT)
C21	CAPACITOR
C105	CAPACITOR
F1U	FUSE (F, 5A, 250V)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)
M1F	MOTOR (INDOOR FAN)
M1P	MOTOR (DRAIN PUMP)
M1S-M4S	MOTOR (SWING FLAP)
R1T	THERMISTOR (AIR)
R2T·R3T	THERMISTOR (COIL)
S1L	FLOAT SWITCH
SS1	SELECTOR SWITCH (EMERGENCY)
V1R	DIODE BRIDGE
X1M	TERMINAL BLOCK
X2M	TERMINAL BLOCK
Z1C	FERRITE CORE (NOISE FILTER)
(Z1F)	NOISE FILTER
(PS)	POWER SUPPLY CIRCUIT
(RC)	SIGNAL RECEIVER CIRCUIT
(TC)	SIGNAL TRANSMISSION CIRCUIT
WIRED REMOTE CONTROLLER	
R1T	THERMISTOR (AIR)

RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)	
	PRINTED CIRCUIT BOARD
A4P	PRINTED CIRCUIT BOARD
A5P	PUSH BUTTON (ON/OFF)
BS1	LIGHT EMITTING DIODE (ON-RED)
H1P	
H2P	LIGHT EMITTING DIODE (TIMER-GREEN)
H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
SS1	SELECTOR SWITCH (MAIN/SUB)
SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
ADAPTOR FOR WIRING	
F1U F2U	FUSE (Ⓑ, 5A, 250V)
KCR	MAGNETIC RELAY
KFR	MAGNETIC RELAY
KHuR	MAGNETIC RELAY (Hu)

CONNECTOR FOR OPTIONAL PARTS	
X2A	CONNECTOR (SENSOR KIT)
X8A	CONNECTOR (AUTO CLEAN PANEL)
X24A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
X33A	CONNECTOR (ADAPTOR FOR WIRING)
X35A	CONNECTOR (GROUP CONTROL ADAPTOR)
X36A	CONNECTOR (AUTO CLEAN PANEL)

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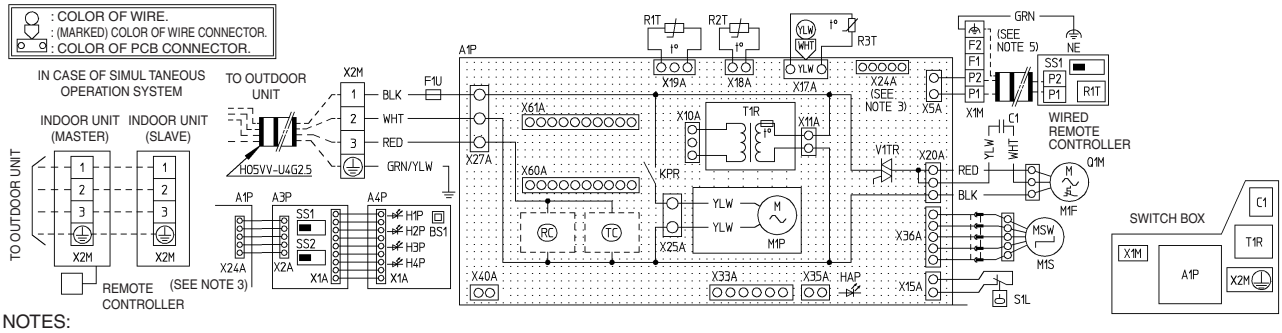
FFQ25/35/50/60B9V1B



NOTES:

1. IN CASE OF USING A REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE TO THE ATTACHED INSTALLATION MANUAL.
2. X24A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
3. REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM.
   SEE TECHNICAL DATA AND CATALOGS, ETC.
   BEFORE CONNECTING.
4. GROUND THE SHIELD OF THE REMOTE CONTROLLER WIRE TO THE INDOOR UNIT.
   (IN CASE OF USING SHIELD WIRE)

: TERMINAL
: CONNECTOR
: WIRE CLAMP
: FIELD WIRING

RED: RED
BLK: BLACK
WHT: WHITE
YLW: YELLOW
GRN: GREEN

A1P	PRINTED CIRCUIT BOARD	WIRED REMOTE CONTROLLER		WIRELESS REMOTE CONTROLLER (RECEIVER/DISPLAY UNIT)		CONNECTOR FOR OPTIONAL PARTS	
C1	CAPACITOR (M1F)	R1T	THERMISTOR (AIR)	A3P	PRINTED CIRCUIT BOARD	X33A	CONNECTOR (ADAPTOR FOR WIRING)
F1U	FUSE (F5A, 250V)	SS1	SELECTOR SWITCH (MAIN/SUB)	A4P	PRINTED CIRCUIT BOARD	X35A	CONNECTOR (GROU CONTROL ADAPTOR)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)			BS1	PUSH BUTTON(ON/OFF)	X40A	CONNECTOR (ON/OFF INPUT FROM OUTSIDE)
KPR	MAGNETIC RELAY (M1P)			H1P	LIGHT EMITTING DIODE (ON-RED)	X60A X61A	CONNECTOR (INTERFACE ADAPTOR FOR SKY-AIR SERIES)
M1F	MOTOR (INDOOR FAN)			H2P	LIGHT EMITTING DIODE (TIMER-GREEN)		
M1P	MOTOR (DRAIN PUMP)			H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)		
M1S	MOTOR (SWING FLAP)			H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)		
Q1M	THERMO SWITCH (M1F EMBEDDED)			SS1	SELECTOR SWITCH (MAIN/SUB)		
R1T	THERMISTOR (AIR)			SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)		
R2T	THERMISTOR (COIL-1)						
R3T	THERMISTOR (COIL-2)						
S1L	FLOAT SWITCH						
T1R	TRANSFORMER (220-240V/22V)						
V1TR	PHASE CONTROL CIRCUIT						
X1M	TERMINAL STRIP						
X2M	TERMINAL STRIP						
RC	SIGNAL RECEIVER CIRCUIT						
TC	SIGNAL TRANSMISSION CIRCUIT						

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2.2.6 Ceiling Suspended Type

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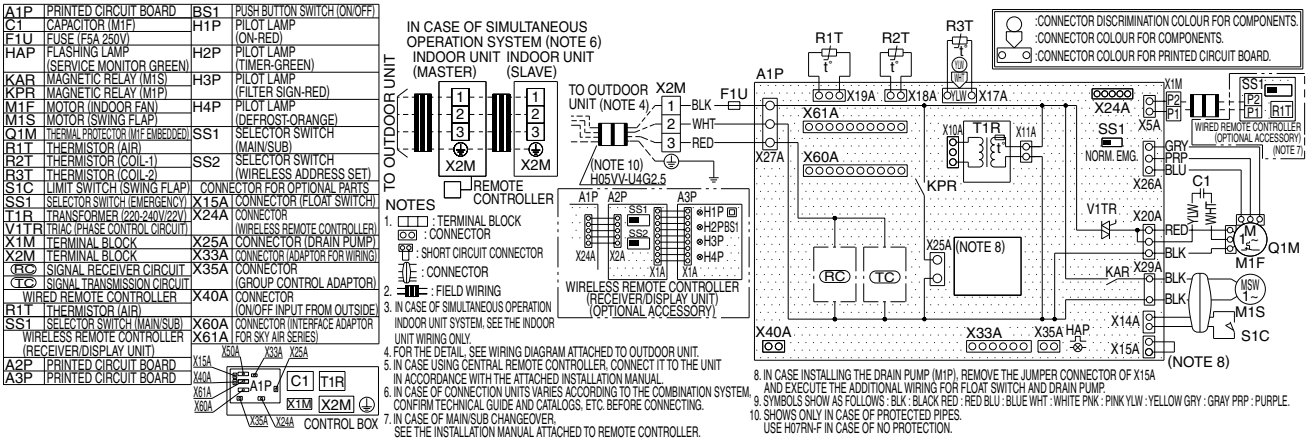

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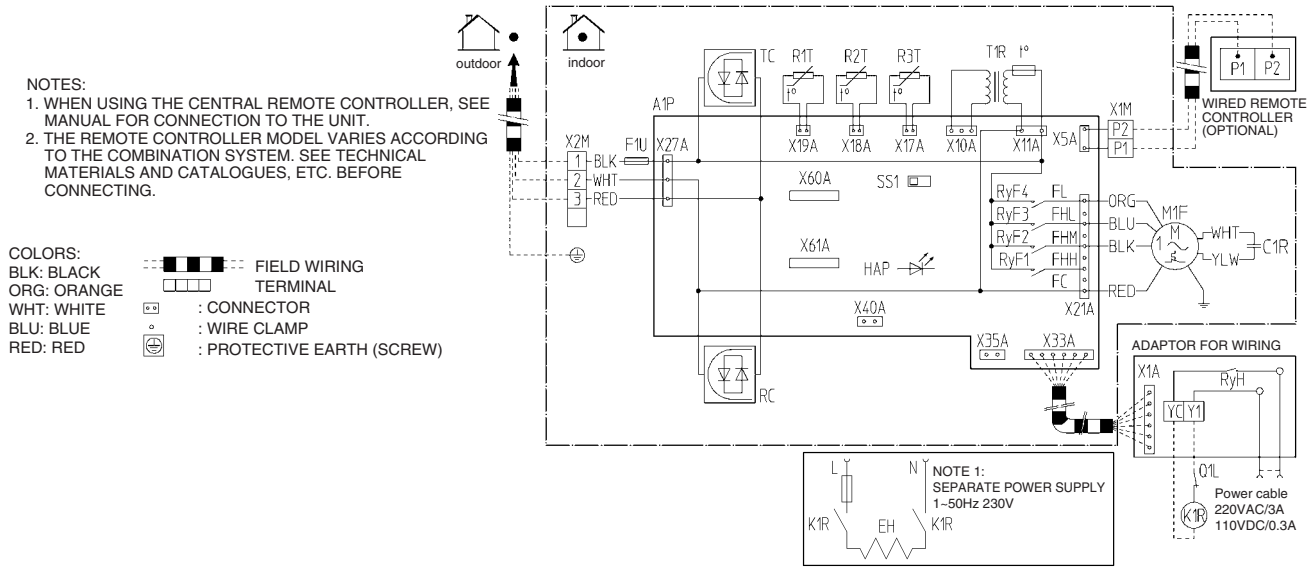
2.2.7 Ceiling Mounted Built-in Type

FDBQ25B8V1



A1P	PRINTED CIRCUIT BOARD	R1T	THERMISTOR (AIR)	ADAPTOR FOR WIRING		FIELD SUPPLY	
T1R	POWER SUPPLY TRANSFORMER (TRANSFORMER 220-240V/218V)	R2T	THERMISTOR (LIQUID)	RyH	MAGNETIC RELAY	K1R	MAGNETIC RELAY
		R3T	THERMISTOR (COIL)	Q1L	THERMAL PROTECTOR	EH	ELECTRICAL HEATER KIT
C1R	CAPACITOR (FAN)	RyF1-4	MAGNETIC RELAY (FAN)	CONNECTOR FOR OPTIONAL PARTS			
F1U	FUSE (5A, 250V)	SS1	SELECTOR SWITCH (EMERGENCY)	X60A, X61A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR/US SERIES)		
F1T	THERMAL FUSE (152˚C) (M1F EMBEDDED)	X1M	TERMINAL STRIP				
		X2M	TERMINAL STRIP	X33A	CONNECTOR (ADAPTOR FOR WIRING)		
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	RC	SIGNAL RECEIVER CIRCUIT	X35A	CONNECTOR (GROUP CONTROL ADAPTOR)		
		TC	SIGNAL TRANSMISSION CIRCUIT	X40A	CONNECTOR (REMOTE ON/OFF FORCED OFF)		
M1F	MOTOR (FAN)						

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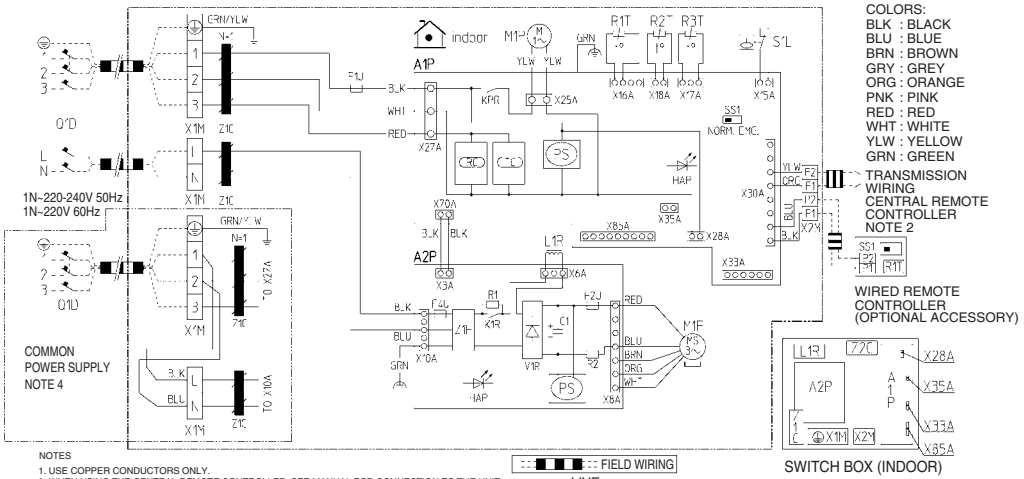

NOTES
1. USE COPPER CONDUCTORS ONLY.
2. WHEN USING THE CENTRAL REMOTE CONTROLLER, SEE MANUAL FOR CONNECTION TO THE UNIT.
3. THE REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM. SEE TECHNICAL MATERIALS AND CATALOGUES, ETC. BEFORE CONNECTING.
4. REFER TO INSTALLATION MANUAL.

INDOOR UNIT		CONNECTOR OPTIONAL ACCESSORY		WIRED REMOTE CONTROLLER	
A1P	PRINTED CIRCUIT BOARD	X28A	CONNECTOR (POWER SUPPLY FOR WIRING)	R1T	THERMISTOR (AIR)
A2P	PRINTED CIRCUIT BOARD (FAN)	X33A	CONNECTOR (FOR WIRING)	SS1	SELECTOR SWITCH (MAIN/SUB)
C1	CAPACITOR	X35A	CONNECTOR (ADAPTER)		
F1U, F2U	FUSE (T, 5A, 250V)	X85A	CONNECTOR (FOR MULTI ZONING)		
F4U	FUSE (T, 6.3A, 250V)				
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)				
KPR, K1R	MAGNETIC RELAY				
L1R	REACTOR				
M1F	MOTOR (FAN)				
M1P	MOTOR (DRAIN PUMP)				
PS	SWITCHING POWER SUPPLY				
Q1DI	EARTH LEAK DETECTOR				
R1	RESISTOR (CURRENT LIMITING)				
R2	CURRENT SENSING DEVICE				
R1T	THERMISTOR (SUCTION AIR)				
R2T	THERMISTOR (LIQUID)				
R3T	THERMISTOR (COIL)				
SS1	SELECTOR SWITCH (EMERGENCY)				
S1L	FLOAT SWITCH				
V1R	DIODE BRIDGE				
V2R	POWER MODULE				
X1M	TERMINAL STRIP (POWER SUPPLY)				
X2M	TERMINAL STRIP (CONTROL)				
Z1C	NOISE FILTER (FERRITE CORE)				
Z1F	NOISE FILTER				
(RC)	SIGNAL RECEIVER CIRCUIT				
(TC)	SIGNAL TRANSMISSION CIRCUIT				

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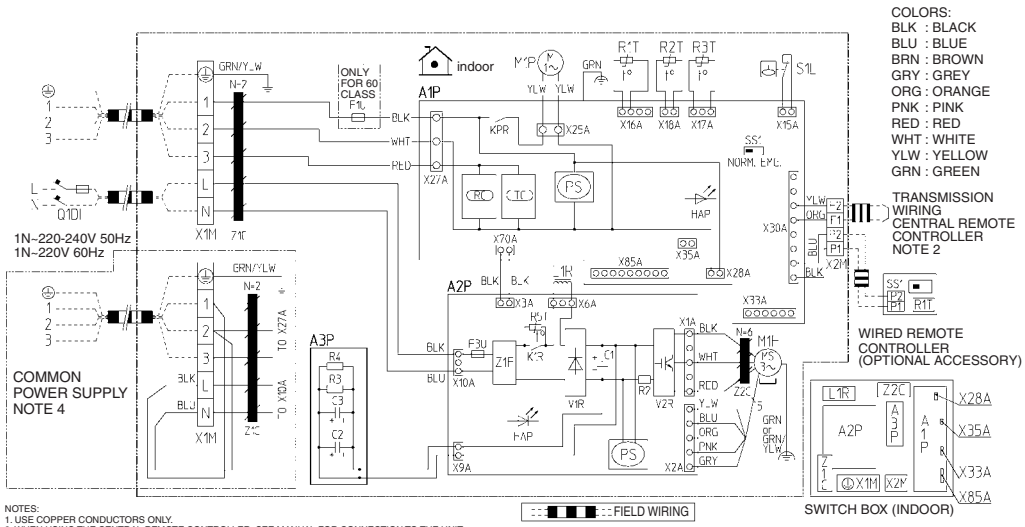

NOTES:
1. USE COPPER CONDUCTORS ONLY.
2. WHEN USING THE CENTRAL REMOTE CONTROLLER, SEE MANUAL FOR CONNECTION TO THE UNIT.
3. THE REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM. SEE TECHNICAL MATERIALS AND CATALOGUES, ETC. BEFORE CONNECTING.
4. REFER TO INSTALLATION MANUAL.

INDOOR UNIT		CONNECTOR OPTIONAL ACCESSORY		WIRED REMOTE CONTROLLER	
A1P	PRINTED CIRCUIT BOARD	X28A	CONNECTOR (POWER SUPPLY FOR WIRING)	R1T	THERMISTOR (AIR)
A2P	PRINTED CIRCUIT BOARD (FAN)	X33A	CONNECTOR (FOR WIRING)	SS1	SELECTOR SWITCH (MAIN/SUB)
A3P	PRINTED CIRCUIT BOARD (CAPACITOR)	X35A	CONNECTOR (ADAPTER)		
C1, C2, C3	CAPACITOR	X85A	CONNECTOR (FOR MULTI ZONING)		
F1U	FUSE (T,5A,250V)				
F3U	FUSE (T,6.3A,250V)				
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)				
KPR, K1R	MAGNETIC RELAY				
L1R	REACTOR				
M1F	MOTOR (FAN)				
M1P	MOTOR (DRAIN PUMP)				
PS	SWITCHING POWER SUPPLY				
Q1DI	EARTH LEAK DETECTOR				
R2	CURRENT SENSING DEVICE				
R3, R4	RESISTOR (ELECTRIC DISCHARGE)				
R1T	THERMISTOR (SUCTION AIR)				
R2T	THERMISTOR (LIQUID)				
R3T	THERMISTOR (COIL)				
R5T	THERMISTOR NTC (CURRENT LIMITING)				
SS1	SELECTOR SWITCH (EMERGENCY)				
S1L	FLOAT SWITCH				
V1R	DIODE BRIDGE				
V2R	POWER MODULE				
X1M	TERMINAL STRIP (POWER SUPPLY)				
X2M	TERMINAL STRIP (CONTROL)				
Z1C, Z2C	NOISE FILTER (FERRITE CORE)				
Z1F	NOISE FILTER				
(RC)	SIGNAL RECEIVER CIRCUIT				
(TC)	SIGNAL TRANSMISSION CIRCUIT				

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Warning

- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

Dealer

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