DAIKIN

SiBE12-816_D

Service Manual

Inverter Multi for 2 Rooms
G-Series









[Applied Models]

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

Inverter Multi for 2 Rooms G-Series

●Cooling Only

Outdoor Unit	Indoor Unit	
2MKS40GV1B	FTXS20G2V1B	FVXS25FV1B
2MKS40G2V1B	FTXS25G2V1B	FVXS35FV1B
2MKS50GV1B	FTXS35G2V1B	FVXS50FV1B
2MKS50G2V1B	FTXS42G2V1B	FLKS25BAVMB
	FTXS50G2V1B	FLKS35BAVMB
	FTXS20J2V1B	FLKS50BAVMB
	FTXS25J2V1B	FDKS25EAVMB
	FTXS35J2V1B	FDKS35EAVMB
	FTXS42J2V1B	FDKS50CVMB
	FTXS50J2V1B	FFQ25B8V1B
		FFQ35B8V1B
		FFQ50B8V1B

●Heat Pump

Outdoor Unit	Indoor Unit	
2MXS40GV1B	FTXG25EV1BW(S)	FVXS25FV1B
2MXS40G2V1B	FTXG35EV1BW(S)	FVXS35FV1B
2MXS50GV1B	CTXG50EV1BW(S)	FVXS50FV1B
2MXS50G2V1B	FTXG25JV1BW(S)	FLXS25BAVMB
	FTXG35JV1BW(S)	FLXS35BAVMB
	CTXG50JV1BW(S)	FLXS50BAVMB
	FTXS20G2V1B	FDXS25EAVMB
	FTXS25G2V1B	FDXS35EAVMB
	FTXS35G2V1B	FDXS50CVMB
	FTXS42G2V1B	FFQ25B8V1B
	FTXS50G2V1B	FFQ35B8V1B
		FFQ50B8V1B

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 a 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 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 disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If 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. Functions

1.1 Cooling Only

Category	Functions	FTXS20/25/35/42/50G2V1B FTXS20/25/35/42/50J2V1B	FVXS25/35/50FV1B	Category	Functions	FTXS20/25/35/42/50G2V1B FTXS20/25/35/42/50J2V1B	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	—	—				
	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	FLKS25/35/50BAVMB	FDKS25/35EAVMB FDKS50CVMB	Category	Functions	FLKS25/35/50BAVMB	FDKS25/35EAVMB FDKS50CVMB
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	FFQ25/35/50B8V1B	2MKS40/50GV1B 2MKS40/50G2V1B	Category	Functions	FFQ25/35/50B8V1B	2MKS40/50GV1B 2MKS40/50G2V1B
Basic Function	Inverter (with Inverter Power Control)	○	○	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	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	—	○		Longlife Filter (Option)	○	—
	Rotary Compressor	—	—		Air Filter (Prefilter)	○	—
	Reluctance DC Motor	—	○		Wipe-Clean Flat Panel	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Washable Grille	—	—
	Power-Airflow Dual Flaps	—	—		Filter Cleaning Indicator	○	—
	Power-Airflow Diffuser	—	—		MOLD PROOF Operation	—	—
	Wide-Angle Louvers	—	—		Good-Sleep Cooling Operation	—	—
	Vertical Auto-Swing (Up and Down)	○	—	Timer	WEEKLY TIMER Operation	—	—
	Horizontal Auto-Swing (Right and Left)	—	—		72-Hour ON/OFF TIMER	○	—
	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	—	20 m
	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	○	—
	ECONO Operation	—	—				
	Indoor Unit ON/OFF Button	—	—				
	Signal Receiving Sign	—	—				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ○ : Holding Functions
— : No Functions

1.2 Heat Pump

Category	Functions	FTXG25/35EV1BW(S)	CTXG50EV1BW(S)	Category	Functions	FTXG25/35EV1BW(S)	CTXG50EV1BW(S)
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	FTXG25/35JV1BW(S)	CTXG50JV1BW(S)	Category	Functions	FTXG25/35JV1BW(S)	CTXG50JV1BW(S)
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	FTXS20/25/35/42/50G2V1B	FVXS25/35/50FV1B	Category	Functions	FTXS20/25/35/42/50G2V1B	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	○	○				
	Program Dry Operation	○	○		Remote Control Adaptor (Normal Open Contact) (Option)	○	○
	Fan Only	○	○		DIII-NET Compatible (Adaptor) (Option)	○	○
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—	Remote Controller	Wireless	○	○
	Inverter POWERFUL Operation	○	○		Wired (Option)	○	—
	Priority-Room Setting	—	—				
	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	FLXS25/35/50BAVMB	FDXS25/35EAVMB FDXS50CVMB	Category	Functions	FLXS25/35/50BAVMB	FDXS25/35EAVMB FDXS50CVMB
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	○	○				
	Program Dry Operation	○	○		Remote Control Adaptor (Normal Open Contact) (Option)	○	○
	Fan Only	○	○		DIII-NET Compatible (Adaptor) (Option)	○	○
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—	Remote Controller	Wireless	○	○
	Inverter POWERFUL Operation	○	○		Wired (Option)	—	○
	Priority-Room Setting	—	—				
	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	FFQ25/35/50B8V1B	2MXS40/50GV1B 2MXS40/50G2V1B	Category	Functions	FFQ25/35/50B8V1B	2MXS40/50GV1B 2MXS40/50G2V1B
Basic Function	Inverter (with Inverter Power Control)	○	○	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	10 ~46		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	−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	—	—		Longlife Filter (Option)	○	—
	Swing Compressor	—	○		Air Filter (Prefilter)	○	—
	Rotary Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Reluctance DC Motor	—	○		Washable Grille	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Filter Cleaning Indicator	○	—
	Power-Airflow Dual Flaps	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Diffuser	—	—		Good-Sleep Cooling Operation	—	—
	Wide-Angle Louvers	—	—	Timer	WEEKLY TIMER Operation	—	—
	Vertical Auto-Swing (Up and Down)	○	—		72-Hour ON/OFF TIMER	○	—
	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	—	20 m
	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	○	—
	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

Part 2
Specifications

1. Specifications

1.1 Cooling Only - Indoor Unit

Wall Mounted Type

50 Hz, 220 - 230 - 240 V

Model				FTXS20G2V1B	FTXS25G2V1B
Rated Capacity				2.0 kW Class	2.5 kW Class
Front Panel Color				White	White
Airflow Rates	H		m^3/min (cfm)	9.4 (332)	9.1 (321)
	M			7.4 (262)	7.1 (252)
	L			5.5 (193)	5.2 (182)
	SL			4.0 (141)	3.7 (130)
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	0.09 - 0.08 - 0.08
Power Consumption (Rated)			W	18 - 18 - 18	18 - 18 - 18
Power Factor (Rated)			%	90.9 - 97.8 - 93.8	90.9 - 97.8 - 93.8
Temperature Control				Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)			mm	295 × 800 × 215	295 × 800 × 215
Packaged Dimensions (H × W × D)			mm	274 × 870 × 366	274 × 870 × 366
Weight (Mass)			kg	9	9
Gross Weight (Gross Mass)			kg	13	13
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 25 / 22	38 / 32 / 25 / 22
Sound Power			dB(A)	54	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 9.5
		Drain	mm	ϕ 18.0	ϕ 18.0
Drawing No.				3D059727	3D059728

Model				FTXS35G2V1B	FTXS42G2V1B
Rated Capacity				3.5 kW Class	4.2 kW Class
Front Panel Color				White	White
Airflow Rates	H		m^3/min (cfm)	10.4 (367)	9.1 (321)
	M			7.7 (270)	7.7 (273)
	L			4.8 (170)	6.3 (221)
	SL			3.5 (125)	5.4 (190)
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	0.12 - 0.12 - 0.11	0.11 - 0.11 - 0.10
Power Consumption (Rated)			W	26 - 26 - 26	24 - 24 - 24
Power Factor (Rated)			%	98.5 - 94.2 - 98.5	99.2 - 94.9 - 100.0
Temperature Control				Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)			mm	295 × 800 × 215	295 × 800 × 215
Packaged Dimensions (H × W × D)			mm	274 × 870 × 366	274 × 870 × 366
Weight (Mass)			kg	10	10
Gross Weight (Gross Mass)			kg	13	13
Operation Sound	H / M / L / SL		dB(A)	42 / 34 / 26 / 23	42 / 38 / 33 / 30
Sound Power			dB(A)	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 18.0	ϕ 18.0
Drawing No.				3D059729	3D059730

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

50 Hz, 220 - 230 - 240 V

Model				FTXS50G2V1B
Rated Capacity				5.0 kW Class
Front Panel Color				White
Airflow Rates	H		m³/min (cfm)	10.2 (360)
	M			8.6 (305)
	L			7.0 (246)
	SL			6.0 (212)
Fan	Type			Cross Flow Fan
	Motor Output		W	23
	Speed		Steps	5 Steps, Quiet, Auto
Air Direction Control				Right, Left, Horizontal, Downward
Air Filter				Removable / Washable / Mildew Proof
Running Current (Rated)			A	0.12 - 0.12 - 0.11
Power Consumption (Rated)			W	26 - 26 - 26
Power Factor (Rated)			%	98.5 - 94.2 - 98.5
Temperature Control				Microcomputer Control
Dimensions (H × W × D)			mm	295 × 800 × 215
Packaged Dimensions (H × W × D)			mm	274 × 870 × 366
Weight (Mass)			kg	10
Gross Weight (Gross Mass)			kg	13
Operation Sound	H / M / L / SL		dB(A)	43 / 39 / 34 / 31
Sound Power			dB(A)	59
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.				3D059731

Model				FTXS20J2V1B	FTXS25J2V1B
Rated Capacity				2.0 kW Class	2.5 kW Class
Front Panel Color				White	White
Airflow Rates	H		m³/min (cfm)	9.4 (332)	10.8 (381)
	M			7.4 (261)	7.9 (279)
	L			5.5 (194)	5.2 (184)
	SL			4.1 (145)	3.7 (131)
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	0.09 - 0.08 - 0.08
Power Consumption (Rated)			W	18 - 18 - 18	18 - 18 - 18
Power Factor (Rated)			%	90.9 - 97.8 - 93.8	90.9 - 97.8 - 93.8
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	9
Gross Weight (Gross Mass)			kg	13	13
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 25 / 22	41 / 33 / 25 / 22
Sound Power			dB(A)	54	57
Heat Insulation				Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connections	Liquid		mm	ϕ 6.4	ϕ 6.4
	Gas		mm	ϕ 9.5	ϕ 9.5
	Drain	Indoor Unit	mm	I.D. ϕ 14.0, O.D. ϕ 18.0	I.D. ϕ 14.0, O.D. ϕ 18.0
		Outdoor Unit		I.D. ϕ 15.9 (Hole)	I.D. ϕ 15.9 (Hole)
Drawing No.				3D070569A	3D070570A

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

50 Hz, 220 - 230 - 240 V

Model				FTXS35J2V1B	FTXS42J2V1B
Rated Capacity				3.5 kW Class	4.2 kW Class
Front Panel Color				White	White
Airflow Rates	H		m³/min (cfm)	11.4 (403)	11.3 (399)
	M			8.7 (307)	9.0 (318)
	L			5.8 (205)	6.8 (240)
	SL			4.4 (155)	5.9 (208)
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	0.12 - 0.12 - 0.11	0.11 - 0.11 - 0.11
Power Consumption (Rated)			W	26 - 26 - 26	24 - 24 - 24
Power Factor (Rated)			%	98.5 - 94.2 - 98.5	99.2 - 94.9 - 90.9
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
Operation Sound	H / M / L / SL		dB(A)	45 / 37 / 29 / 23	45 / 39 / 33 / 30
Sound Power			dB(A)	61	61
Heat Insulation				Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Piping Connections	Liquid		mm	ϕ 6.4	ϕ 6.4
	Gas		mm	ϕ 9.5	ϕ 9.5
	Drain	Indoor Unit	mm	I.D. ϕ 14.0, O.D. ϕ 18.0	I.D. ϕ 14.0, O.D. ϕ 18.0
		Outdoor Unit		I.D. ϕ 15.9 (Hole)	I.D. ϕ 15.9 (Hole)
Drawing No.				3D070571A	3D070572A

Model				FTXS50J2V1B
Rated Capacity				5.0 kW Class
Front Panel Color				White
Airflow Rates	H		m³/min (cfm)	11.6 (410)
	M			9.2 (325)
	L			7.0 (247)
	SL			6.0 (212)
Fan	Type			Cross Flow Fan
	Motor Output		W	23
	Speed		Steps	5 Steps, Quiet, Auto
Air Direction Control				Right, Left, Horizontal, Downward
Air Filter				Removable / Washable / Mildew Proof
Running Current (Rated)			A	0.12 - 0.12 - 0.11
Power Consumption (Rated)			W	26 - 26 - 26
Power Factor (Rated)			%	98.5 - 94.2 - 98.5
Temperature Control				Microcomputer Control
Dimensions (H × W × D)			mm	295 × 800 × 215
Packaged Dimensions (H × W × D)			mm	289 × 870 × 366
Weight (Mass)			kg	10
Gross Weight (Gross Mass)			kg	14
Operation Sound	H / M / L / SL		dB(A)	46 / 40 / 34 / 31
Sound Power			dB(A)	62
Heat Insulation				Both Liquid and Gas Pipes
Piping Connections	Liquid		mm	ϕ 6.4
	Gas		mm	ϕ 12.7
	Drain	Indoor Unit	mm	I.D. ϕ 14.0, O.D. ϕ 18.0
		Outdoor Unit		I.D. ϕ 15.9 (Hole)
Drawing No.				3D070573A

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				FVXS25FV1B	FVXS35FV1B
Rated Capacity				2.5 kW Class	3.5 kW Class
Front Panel Color				White	White
Airflow Rates	H		m³/min (cfm)	8.2 (290)	8.5 (300)
	M			6.5 (229)	6.7 (237)
	L			4.8 (169)	4.9 (174)
	SL			4.1 (146)	4.5 (158)
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	0.14 - 0.13 - 0.12
Power Consumption (Rated)			W	15 - 15 - 15	15 - 15 - 15
Power Factor (Rated)			%	48.7 - 50.2 - 52.1	48.7 - 50.2 - 52.1
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
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 26 / 23	39 / 33 / 27 / 24
Sound Power			dB(A)	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 20.0	ϕ 20.0
Drawing No.				3D059858	3D059859

Model				FVXS50FV1B
Rated Capacity				5.0 kW Class
Front Panel Color				White
Airflow Rates	H		m³/min (cfm)	10.7 (378)
	M			9.2 (326)
	L			7.8 (274)
	SL			6.6 (233)
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
Power Consumption (Rated)			W	27 - 27 - 27
Power Factor (Rated)			%	68.1 - 69.1 - 70.3
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
Operation Sound	H / M / L / SL		dB(A)	44 / 40 / 36 / 32
Sound Power			dB(A)	56
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.				3D059860

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				FLKS25BAVMB	FLKS35BAVMB
Rated Capacity				2.5 kW Class	3.5 kW Class
Front Panel Color				Almond White	Almond White
Airflow Rates	H		m³/min (cfm)	7.6 (268)	8.6 (304)
	M			6.8 (240)	7.6 (268)
	L			6.0 (212)	6.6 (233)
	SL			5.2 (184)	5.6 (198)
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	0.38 - 0.36 - 0.35
Power Consumption (Rated)			W	70 - 70 - 70	78 - 78 - 78
Power Factor (Rated)			%	96.4 - 95.1 - 94.1	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
Operation Sound	H / M / L / SL		dB(A)	37 / 34 / 31 / 28	38 / 35 / 32 / 29
Sound Power			dB(A)	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 9.5
		Drain	mm	ϕ 18.0	ϕ 18.0
Drawing No.				3D059861	3D059862

Model				FLKS50BAVMB
Rated Capacity				5.0 W Class
Front Panel Color				Almond White
Airflow Rates	H		m³/min (cfm)	11.4 (402)
	M			10.0 (353)
	L			8.5 (300)
	SL			7.5 (265)
Fan	Type			Sirocco Fan
	Motor Output		W	34
	Speed		Steps	5 Steps, Quiet, Auto
Air Direction Control				Right, Left, Horizontal, Downward
Air Filter				Removable / Washable / Mildew Proof
Running Current (Rated)			A	0.48 - 0.45 - 0.43
Power Consumption (Rated)			W	96 - 96 - 96
Power Factor (Rated)			%	90.9 - 92.8 - 93.0
Temperature Control				Microcomputer Control
Dimensions (H × W × D)			mm	490 × 1,050 × 200
Packaged Dimensions (H × W × D)			mm	280 × 1,100 × 566
Weight (Mass)			kg	17
Gross Weight (Gross Mass)			kg	24
Operation Sound	H / M / L / SL		dB(A)	47 / 43 / 39 / 36
Sound Power			dB(A)	63
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.				3D059863

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

Duct Connected Type

50 Hz, 230 V

Model				FDKS25EAVMB	FDKS35EAVMB
Rated Capacity				2.5 kW Class	3.5 kW Class
Front Panel Color				—	—
Airflow Rates	H		m³/min (cfm)	8.7 (307)	8.7 (307)
	M			8.0 (282)	8.0 (282)
	L			7.3 (258)	7.3 (258)
	SL			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
Power Consumption (Rated)			W	71	71
Power Factor (Rated)			%	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
Operation Sound	H / M / L / SL		dB(A)	35 / 33 / 31 / 29	35 / 33 / 31 / 29
Sound Power			dB(A)	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.				3D060036	3D060037

Model				FDKS50CVMB
Rated Capacity				5.0 kW Class
Front Panel Color				—
Airflow Rates	H		m³/min (cfm)	12.0 (424)
	M			11.0 (388)
	L			10.0 (353)
	SL			8.4 (297)
Fan	Type			Sirocco Fan
	Motor Output		W	130
	Speed		Steps	5 Steps, Quiet, Auto
Air Filter				Removable / Washable / Mildew Proof
Running Current (Rated)			A	0.64
Power Consumption (Rated)			W	140
Power Factor (Rated)			%	95.1
Temperature Control				Microcomputer Control
Dimensions (H × W × D)			mm	200 × 900 × 620
Packaged Dimensions (H × W × D)			mm	266 × 1,106 × 751
Weight (Mass)			kg	27
Gross Weight (Gross Mass)			kg	34
Operation Sound	H / M / L / SL		dB(A)	37 / 35 / 33 / 31
Sound Power			dB(A)	55
External Static Pressure			Pa	40
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.				3D060040

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

Ceiling Mounted Cassette Type

50 Hz, 230 V

Model				FFQ25B8V1B	FFQ35B8V1B
Rated Capacity				2.5 kW Class	3.5 kW Class
Decoration Panel	Color			White	White
	Dimensions (H × W × D)		mm	55 × 700 × 700	55 × 700 × 700
Airflow Rates	H		m³/min (cfm)	9.0 (318)	10.0 (353)
	M			—	—
	L			6.5 (230)	6.5 (230)
	SL			—	—
Fan	Type			Turbo Fan	Turbo Fan
	Motor Output		W	55	55
	Speed		Steps	2 Steps	2 Steps
Air Direction Control				Horizontal, Downward	Horizontal, Downward
Air Filter				—	—
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) ★1			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
Operation Sound	H / L		dB(A)	29.5 / 24.5	32.0 / 25.0
Sound Power			dB(A)	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				FFQ50B8V1B
Rated Capacity				5.0 kW Class
Decoration Panel	Color			White
	Dimensions (H × W × D)		mm	55 × 700 × 700
Airflow Rates	H		m³/min (cfm)	12.0 (424)
	M			—
	L			8.0 (283)
	SL			—
Fan	Type			Turbo Fan
	Motor Output		W	55
	Speed		Steps	2 Steps
Air Direction Control				Horizontal, Downward
Air Filter				—
Running Current (Rated)			A	0.49
Power Consumption (Rated)			W	97
Power Factor (Rated)			%	86.1
Temperature Control				Microcomputer Control
Dimensions (H × W × D) ★1			mm	260 (286) × 575 × 575
Packaged Dimensions (H × W × D)			mm	370 × 687 × 674
Weight (Mass)			kg	17.5
Gross Weight (Gross Mass)			kg	21
Operation Sound	H / L		dB(A)	36.0 / 27.0
Sound Power			dB(A)	53.0
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.				3D060410

★1 ( ) : dimension including control box

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

1.2 Cooling Only - Outdoor Unit

50 Hz, 220 - 240 V

Model			2MKS40GV1B	2MKS40G2V1B
Casing Color			Ivory White	Ivory White
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		1YC23ABXD	1YC23AGXD
	Motor Output	W	600	600
Refrigerant Oil	Model		FVC50K	FVC50K
	Charge	L	0.45	0.45
Refrigerant	Type		R-410A	R-410A
	Charge	kg	1.20	1.20
Airflow Rate	HH	m³/min	36	36
	H		33	33
	L		30	30
	HH	cfm	1,271	1,271
	H		1,165	1,165
	L		1,059	1,059
Fan	Type		Propeller	Propeller
	Motor Output	W	50	50
Starting Current		A	5.9	5.9
Dimension (H × W × D)		mm	550 × 765 × 285	550 × 765 × 285
Packaged Dimension (H × W × D)		mm	612 × 906 × 364	612 × 906 × 364
Weight (Mass)		kg	38	38
Gross Weight (Gross Mass)		kg	43	43
Operation Sound		dB(A)	47	47
Sound Power		dB(A)	62	62
Piping Connection	Liquid	mm	ϕ 6.4 × 2	ϕ 6.4 × 2
	Gas	mm	ϕ 9.5 × 2	ϕ 9.5 × 2
	Drain	mm	ϕ 18	ϕ 18
Heat Insulation			Both Liquid & Gas Pipes	Both Liquid & Gas Pipes
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring	3 for Power Supply, 4 for Interunit Wiring
Max. Piping Length		m	30 (for Total of Each Room)	30 (for Total of Each Room)
			20 (for One Room)	20 (for One Room)
Min. Piping Length		m	3 (for One Room)	3 (for One Room)
Amount of Additional Charge		g/m	20 (20 m or more)	20 (20 m or more)
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)	15 (between Indoor Unit and Outdoor Unit)
			7.5 (between Indoor Units)	7.5 (between Indoor Units)
Drawing No.			3D059052A	3D058886A

Note: 1. 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

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

50 Hz, 220 - 240 V

Model			2MKS50GV1B	2MKS50G2V1B
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	1.60	1.60
Airflow Rates	HH	m^3/min	37	37
	H		34	34
	L		34	34
	HH	cfm	1,306	1,306
	H		1,200	1,200
	L		1,200	1,200
Fan	Type		Propeller	Propeller
	Motor Output	W	50	50
Starting Current		A	9.8	9.8
Dimensions (H × W × D)		mm	550 × 765 × 285	550 × 765 × 285
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364	612 × 906 × 364
Weight (Mass)		kg	42	42
Gross Weight (Gross Mass)		kg	47	47
Operation Sound		dB(A)	48	48
Sound Power		dB(A)	63	63
Piping Connection	Liquid	mm	ϕ 6.4 × 2	ϕ 6.4 × 2
	Gas	mm	ϕ 9.5 × 1, ϕ 12.7 × 1	ϕ 9.5 × 1, 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	30 (for Total of Each Room)	30 (for Total of Each Room)
		m	20 (for One Room)	20 (for One Room)
Min. Interunit Piping Length		m	3 (for One Room)	3 (for One Room)
Amount of Additional Charge		g/m	20 (20 m or more)	20 (20 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.			3D059053A	3D058887A

Note: 1. 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

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

1.3 Heat Pump - Indoor Unit

Wall Mounted Type

50 Hz, 220 - 230 - 240 V

Model				FTXG25EV1BW		FTXG25EV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.5 kW Class		2.5 kW Class	
Front Panel Color				Mat Crystal White		Mat Crystal Silver	
Airflow Rates	H		m³/min (cfm)	7.7 (271)	9.0 (317)	7.7 (271)	9.0 (317)
	M			6.1 (215)	7.9 (278)	6.1 (215)	7.9 (278)
	L			4.7 (165)	6.7 (236)	4.7 (165)	6.7 (236)
	SL			3.8 (134)	5.4 (190)	3.8 (134)	5.4 (190)
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	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13
Power Consumption (Rated)			W	30 - 30 - 30	30 - 30 - 30	30 - 30 - 30	30 - 30 - 30
Power Factor (Rated)			%	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2
Temperature Control				Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)			mm	275 × 840 × 150		275 × 840 × 150	
Packaged Dimensions (H × W × D)			mm	222 × 894 × 345		222 × 894 × 345	
Weight (Mass)			kg	9		9	
Gross Weight (Gross Mass)			kg	13		13	
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 25 / 22	38 / 33 / 28 / 25	38 / 32 / 25 / 22	38 / 33 / 28 / 25
Sound Power			dB(A)	56	56	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.				3D051101		3D051102	

Model				FTXG35EV1BW		FTXG35EV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				3.5 kW Class		3.5 kW Class	
Front Panel Color				Mat Crystal White		Mat Crystal Silver	
Airflow Rates	H		m³/min (cfm)	8.1 (285)	9.6 (338)	8.1 (285)	9.6 (338)
	M			6.5 (229)	8.2 (289)	6.5 (229)	8.2 (289)
	L			4.9 (173)	6.7 (236)	4.9 (173)	6.7 (236)
	SL			4.1 (144)	5.9 (208)	4.1 (144)	5.9 (208)
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	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13
Power Consumption (Rated)			W	30 - 30 - 30	30 - 30 - 30	30 - 30 - 30	30 - 30 - 30
Power Factor (Rated)			%	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2
Temperature Control				Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)			mm	275 × 840 × 150		275 × 840 × 150	
Packaged Dimensions (H × W × D)			mm	222 × 894 × 345		222 × 894 × 345	
Weight (Mass)			kg	9		9	
Gross Weight (Gross Mass)			kg	13		13	
Operation Sound	H / M / L / SL		dB(A)	39 / 33 / 26 / 23	39 / 34 / 29 / 26	39 / 33 / 26 / 23	39 / 34 / 29 / 26
Sound Power			dB(A)	57	57	57	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.				3D051103		3D051104	

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

50 Hz, 220 - 230 - 240 V

Model				CTXG50EV1BW		CTXG50EV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				5.0 kW Class		5.0 kW Class	
Front Panel Color				Mat Crystal White		Mat Crystal Silver	
Airflow Rates	H		m³/min (cfm)	11.3 (398)	12.6 (444)	11.3 (398)	12.6 (444)
	M			9.1 (320)	10.6 (373)	9.1 (320)	10.6 (373)
	L			7.1 (250)	8.7 (306)	7.1 (250)	8.7 (306)
	SL			6.7 (236)	7.7 (271)	6.7 (236)	7.7 (271)
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	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13	0.15 - 0.14 - 0.13
Power Consumption (Rated)			W	30	30	30	30
Power Factor (Rated)			%	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2	90.9 - 93.2 - 96.2
Temperature Control				Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)			mm	275 × 840 × 150		275 × 840 × 150	
Packaged Dimensions (H × W × D)			mm	222 × 894 × 345		222 × 894 × 345	
Weight (Mass)			kg	9		9	
Gross Weight (Gross Mass)			kg	13		13	
Operation Sound	H / M / L / SL		dB(A)	47 / 41 / 35 / 32	47 / 41 / 35 / 32	47 / 41 / 35 / 32	47 / 41 / 35 / 32
Sound Power			dB(A)	64	64	64	64
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.				3D051105		3D051106	

Model				FTXG25JV1BW		FTXG25JV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.5 kW Class		2.5 kW Class	
Front Panel Color				White		Silver	
Airflow Rates	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	
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 25 / 22	39 / 34 / 28 / 25	38 / 32 / 25 / 22	39 / 34 / 28 / 25
Sound Power			dB(A)	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	

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

50 Hz, 220 - 230 - 240 V

Model				FTXG35JV1BW		FTXG35JV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				3.5 kW Class		3.5 kW Class	
Front Panel Color				White		Silver	
Airflow Rates	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	
Operation Sound	H / M / L / SL		dB(A)	42 / 34 / 26 / 23	42 / 36 / 29 / 26	42 / 34 / 26 / 23	42 / 36 / 29 / 26
Sound Power			dB(A)	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		3D066438A	

Model				CTXG50JV1BW		CTXG50JV1BS	
				Cooling	Heating	Cooling	Heating
Rated Capacity				5.0 kW Class		5.0 kW Class	
Front Panel Color				White		Silver	
Airflow Rates	H		m³/min (cfm)	10.5 (371)	11.4 (402)	10.5 (371)	11.4 (402)
	M			8.7 (307)	9.8 (346)	8.7 (307)	9.8 (346)
	L			6.9 (244)	8.1 (286)	6.9 (244)	8.1 (286)
	SL			5.9 (208)	7.1 (251)	5.9 (208)	7.1 (251)
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	0.16 - 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		15	
Operation Sound	H / M / L / SL		dB(A)	44 / 41 / 35 / 32	44 / 41 / 35 / 32	44 / 41 / 35 / 32	44 / 41 / 35 / 32
Sound Power			dB(A)	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 16.0 or ϕ 18.0		ϕ 16.0 or ϕ 18.0	
Drawing No.				3D066439B		3D066440B	

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

50 Hz, 220 - 230 - 240 V

Model				FTXS20G2V1B		FTXS25G2V1B	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.0 kW Class		2.5 kW Class	
Front Panel Color				White		White	
Airflow Rates	H		m³/min (cfm)	9.4 (332)	9.9 (350)	9.1 (321)	9.8 (346)
	M			7.4 (262)	8.2 (290)	7.1 (252)	7.9 (280)
	L			5.5 (193)	6.5 (228)	5.2 (182)	6.2 (217)
	SL			4.0 (141)	5.5 (193)	3.7 (130)	5.2 (183)
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	0.09 - 0.08 - 0.08	0.10 - 0.10 - 0.09
Power Consumption (Rated)			W	18 - 18 - 18	21 - 21 - 21	18 - 18 - 18	21 - 21 - 21
Power Factor (Rated)			%	90.9 - 97.8 - 93.8	95.5 - 91.3 - 97.2	90.9 - 97.8 - 93.8	95.5 - 91.3 - 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	274 × 870 × 366		274 × 870 × 366	
Weight (Mass)			kg	9		9	
Gross Weight (Gross Mass)			kg	13		13	
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 25 / 22	38 / 33 / 28 / 25	38 / 32 / 25 / 22	39 / 34 / 28 / 25
Sound Power			dB(A)	54	54	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.				3D059722		3D059723	

Model				FTXS35G2V1B		FTXS42G2V1B	
				Cooling	Heating	Cooling	Heating
Rated Capacity				3.5 kW Class		4.2 kW Class	
Front Panel Color				White		White	
Airflow Rates	H		m³/min (cfm)	10.4 (367)	10.6 (374)	9.1 (321)	11.2 (395)
	M			7.7 (270)	8.5 (302)	7.7 (273)	9.4 (333)
	L			4.8 (170)	6.4 (226)	6.3 (221)	7.7 (271)
	SL			3.5 (125)	5.4 (191)	5.4 (190)	6.8 (240)
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	0.12 - 0.12 - 0.11	0.13 - 0.13 - 0.12	0.11 - 0.11 - 0.10	0.14 - 0.14 - 0.13
Power Consumption (Rated)			W	26 - 26 - 26	28 - 28 - 28	24 - 24 - 24	30 - 30 - 30
Power Factor (Rated)			%	98.5 - 94.2 - 98.5	97.9 - 93.6 - 97.2	99.2 - 94.9 - 100.0	97.4 - 93.2 - 96.2
Temperature Control				Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)			mm	295 × 800 × 215		295 × 800 × 215	
Packaged Dimensions (H × W × D)			mm	274 × 870 × 366		274 × 870 × 366	
Weight (Mass)			kg	10		10	
Gross Weight (Gross Mass)			kg	13		13	
Operation Sound	H / M / L / SL		dB(A)	42 / 34 / 26 / 23	42 / 36 / 29 / 26	42 / 38 / 33 / 30	42 / 38 / 33 / 30
Sound Power			dB(A)	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 18.0		ϕ 18.0	
Drawing No.				3D059724		3D059725	

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

50 Hz, 220 - 230 - 240 V

Model				FTXS50G2V1B	
				Cooling	Heating
Rated Capacity				5.0 kW Class	
Front Panel Color				White	
Airflow Rates	H		m³/min (cfm)	10.2 (360)	11.0 (388)
	M			8.6 (305)	9.3 (330)
	L			7.0 (246)	7.6 (267)
	SL			6.0 (212)	6.7 (236)
Fan	Type			Cross Flow Fan	
	Motor Output		W	23	
	Speed		Steps	5 Steps, Quiet, Auto	
Air Direction Control				Right, Left, Horizontal, Downward	
Air Filter				Removable / Washable / Mildew Proof	
Running Current (Rated)			A	0.12 - 0.12 - 0.11	0.15 - 0.14 - 0.14
Power Consumption (Rated)			W	26 - 26 - 26	32 - 32 - 32
Power Factor (Rated)			%	98.5 - 94.2 - 98.5	97.0 - 99.4 - 95.2
Temperature Control				Microcomputer Control	
Dimensions (H × W × D)			mm	295 × 800 × 215	
Packaged Dimensions (H × W × D)			mm	274 × 870 × 366	
Weight (Mass)			kg	10	
Gross Weight (Gross Mass)			kg	13	
Operation Sound	H / M / L / SL		dB(A)	43 / 39 / 34 / 31	44 / 39 / 34 / 31
Sound Power			dB(A)	59	60
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.				3D059726	

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				FVXS25FV1B		FVXS35FV1B	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.5 kW Class		3.5 kW Class	
Front Panel Color				White		White	
Airflow Rates	H		m³/min (cfm)	8.2 (290)	8.8 (311)	8.5 (300)	9.4 (332)
	M			6.5 (229)	6.9 (244)	6.7 (237)	7.3 (258)
	L			4.8 (169)	5.0 (178)	4.9 (174)	5.2 (184)
	SL			4.1 (146)	4.4 (155)	4.5 (158)	4.7 (168)
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 × 280		696 × 786 × 280	
Weight (Mass)			kg	14		14	
Gross Weight (Gross Mass)			kg	18		18	
Operation Sound	H / M / L / SL		dB(A)	38 / 32 / 26 / 23	38 / 32 / 26 / 23	39 / 33 / 27 / 24	39 / 33 / 27 / 24
Sound Power			dB(A)	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.				3D059825		3D059826	

Model				FVXS50FV1B	
				Cooling	Heating
Rated Capacity				5.0 kW Class	
Front Panel Color				White	
Airflow Rates	H		m³/min (cfm)	10.7 (378)	11.8 (417)
	M			9.2 (326)	10.1 (358)
	L			7.8 (274)	8.5 (300)
	SL			6.6 (233)	7.1 (250)
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 × 280	
Weight (Mass)			kg	14	
Gross Weight (Gross Mass)			kg	18	
Operation Sound	H / M / L / SL		dB(A)	44 / 40 / 36 / 32	45 / 40 / 36 / 32
Sound Power			dB(A)	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.				3D059827	

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 Rates	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	566 × 1,100 × 280		566 × 1,100 × 280	
Weight (Mass)			kg	16		16	
Gross Weight (Gross Mass)			kg	22		22	
Operation Sound	H / M / L / SL		dB(A)	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power			dB(A)	53	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 9.5	
		Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.				3D059828		3D059829	

Model				FLXS50BAVMB	
				Cooling	Heating
Rated Capacity				5.0 kW Class	
Front Panel Color				Almond White	
Airflow Rates	H		m³/min (cfm)	11.4 (402)	12.1 (427)
	M			10.0 (353)	9.8 (346)
	L			8.5 (300)	7.5 (265)
	SL			7.5 (265)	6.8 (240)
Fan	Type			Sirocco Fan	
	Motor Output		W	34	
	Speed		Steps	5 Steps, Quiet, Auto	
Air Direction Control				Right, Left, Horizontal, Downward	
Air Filter				Removable / Washable / Mildew Proof	
Running Current (Rated)			A	0.48 - 0.45 - 0.43	0.47 - 0.45 - 0.44
Power Consumption (Rated)			W	96 - 96 - 96	96 - 96 - 96
Power Factor (Rated)			%	90.9 - 92.8 - 93.0	92.8 - 92.8 - 90.9
Temperature Control				Microcomputer Control	
Dimensions (H × W × D)			mm	490 × 1,050 × 200	
Packaged Dimensions (H × W × D)			mm	566 × 1,100 × 280	
Weight (Mass)			kg	17	
Gross Weight (Gross Mass)			kg	24	
Operation Sound	H / M / L / SL		dB(A)	47 / 43 / 39 / 36	46 / 41 / 35 / 33
Sound Power			dB(A)	63	32
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.				3D059830	

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

Duct Connected Type

50 Hz, 230 V

Model				FDXS25EAVMB		FDXS35EAVMB	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.5 kW Class		3.5 kW Class	
Front Panel Color				—		—	
Airflow Rates	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	
Operation Sound	H / M / L / SL		dB(A)	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29
Sound Power			dB(A)	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				FDXS50CVMB	
				Cooling	Heating
Rated Capacity				5.0 kW Class	
Front Panel Color				—	
Airflow Rates	H		m³/min (cfm)	12.0 (424)	12.0 (424)
	M			11.0 (388)	11.0 (388)
	L			10.0 (353)	10.0 (353)
	SL			8.4 (297)	8.4 (297)
Fan	Type			Sirocco Fan	
	Motor Output		W	130	
	Speed		Steps	5 Steps, Quiet, Auto	
Air Filter				Removable / Washable / Mildew Proof	
Running Current (Rated)			A	0.64	0.64
Power Consumption (Rated)			W	140	140
Power Factor (Rated)			%	95.1	95.1
Temperature Control				Microcomputer Control	
Dimensions (H × W × D)			mm	200 × 900 × 620	
Packaged Dimensions (H × W × D)			mm	266 × 1,106 × 751	
Weight (Mass)			kg	27	
Gross Weight (Gross Mass)			kg	34	
Operation Sound	H / M / L / SL		dB(A)	37 / 35 / 33 / 31	37 / 35 / 33 / 31
Sound Power			dB(A)	55	55
External Static Pressure			Pa	40	
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.				3D060033	

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

Ceiling Mounted Cassette Type

50 Hz, 230 V

Model				FFQ25B8V1B		FFQ35B8V1B	
				Cooling	Heating	Cooling	Heating
Rated Capacity				2.5 kW Class		3.5 kW Class	
Decoration Panel	Color			White		White	
	Dimensions (H × W × D)		mm	55 × 700 × 700		55 × 700 × 700	
Airflow Rates	H		m³/min (cfm)	9.0 (318)	9.0 (318)	10.0 (353)	10.0 (353)
	M			—	—	—	—
	L			6.5 (230)	6.5 (230)	6.5 (230)	6.5 (230)
	SL			—	—	—	—
Fan	Type			Turbo Fan		Turbo Fan	
	Motor Output		W	55		55	
	Speed		Steps	2 Steps		2 Steps	
Air Direction Control				Horizontal, Downward		Horizontal, Downward	
Air Filter				—		—	
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) ★1			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	
Operation Sound	H / L		dB(A)	29.5 / 24.5		32.0 / 25.0	
Sound Power			dB(A)	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				FFQ50B8V1B	
				Cooling	Heating
Rated Capacity				5.0 kW Class	
Decoration Panel	Color			White	
	Dimensions (H × W × D)		mm	55 × 700 × 700	
Airflow Rates	H		m³/min (cfm)	12.0 (424)	12.0 (424)
	M			—	—
	L			8.0 (283)	8.0 (283)
	SL			—	—
Fan	Type			Turbo Fan	
	Motor Output		W	55	
	Speed		Steps	2 Steps	
Air Direction Control				Horizontal, Downward	
Air Filter				—	
Running Current (Rated)			A	0.49	0.45
Power Consumption (Rated)			W	97	89
Power Factor (Rated)			%	86.1	86.0
Temperature Control				Microcomputer Control	
Dimensions (H × W × D) ★1			mm	260 (286) × 575 × 575	
Packaged Dimensions (H × W × D)			mm	370 × 687 × 674	
Weight (Mass)			kg	17.5	
Gross Weight (Gross Mass)			kg	21	
Operation Sound	H / L		dB(A)	36.0 / 27.0	
Sound Power			dB(A)	53.0	
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.				3D060409	

Note: ★1 ( ) : dimension including control box

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

1.4 Heat Pump - Outdoor Unit

50 Hz, 220 - 240 V

Model			2MXS40GV1B		2MXS40G2V1B	
			Cooling	Heating	Cooling	Heating
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23ABXD		1YC23AGXD	
	Motor Output	W	600		600	
Refrigerant Oil	Model		FVC50K		FVC50K	
	Charge	L	0.45		0.45	
Refrigerant	Type		R-410A		R-410A	
	Charge	kg	1.20		1.20	
Airflow Rate	HH	m^3/min	36	32	36	32
	H		33	32	33	32
	L		30	32	30	32
	HH	cfm	1,271	1,130	1,271	1,130
	H		1,165	1,130	1,165	1,130
	L		1,059	1,130	1,059	1,130
Fan	Type		Propeller		Propeller	
	Motor Output	W	50		50	
Starting Current		A	5.9		5.9	
Dimension (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimension (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	38		38	
Gross Weight (Gross Mass)		kg	43		43	
Operation Sound		dB(A)	47	48	47	48
Sound Power		dB(A)	62	—	62	—
Piping Connection	Liquid	mm	ϕ 6.4 × 2		ϕ 6.4 × 2	
	Gas	mm	ϕ 9.5 × 2		ϕ 9.5 × 2	
	Drain	mm	ϕ 18		ϕ 18	
Heat Insulation			Both Liquid & Gas Pipes		Both Liquid & Gas Pipes	
No. of Wiring Connection			3 for Power Supply, 4 for Interunit Wiring		3 for Power Supply, 4 for Interunit Wiring	
Max. Piping Length		m	30 (for Total of Each Room)		30 (for Total of Each Room)	
			20 (for One Room)		20 (for One Room)	
Min. Piping Length		m	3 (for One Room)		3 (for One Room)	
Amount of Additional Charge		g/m	20 (20 m or more)		20 (20 m or more)	
Max. Installation Height Difference		m	15 (between Indoor Unit and Outdoor Unit)		15 (between Indoor Unit and Outdoor Unit)	
			7.5 (between Indoor Units)		7.5 (between Indoor Units)	
Drawing No.			3D059050A		3D058721B	

Note: 1. 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 = m^3/min × 35.3

50 Hz, 220 - 240 V

Model			2MXS50GV1B		2MXS50G2V1B	
			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	1.60		1.60	
Airflow Rates	HH	m^3/min	37	34	37	34
	H		34	34	34	34
	L		34	34	34	34
	HH	cfm	1,306	1,200	1,306	1,200
	H		1,200	1,200	1,200	1,200
	L		1,200	1,200	1,200	1,200
Fan	Type		Propeller		Propeller	
	Motor Output	W	50		50	
Starting Current		A	9.8		9.8	
Dimensions (H × W × D)		mm	550 × 765 × 285		550 × 765 × 285	
Packaged Dimensions (H × W × D)		mm	612 × 906 × 364		612 × 906 × 364	
Weight (Mass)		kg	42		42	
Gross Weight (Gross Mass)		kg	47		47	
Operation Sound		dB(A)	48	50	48	50
Sound Power		dB(A)	63	—	63	—
Piping Connection	Liquid	mm	ϕ 6.4 × 2		ϕ 6.4 × 2	
	Gas	mm	ϕ 9.5 × 1, ϕ 12.7 × 1		ϕ 9.5 × 1, 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	30 (for Total of Each Room)		30 (for Total of Each Room)	
		m	20 (for One Room)		20 (for One Room)	
Min. Interunit Piping Length		m	3 (for One Room)		3 (for One Room)	
Amount of Additional Charge		g/m	20 (20 m or more)		20 (20 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.			3D059051A		3D058722B	

Note: 1. 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 = m^3/min × 35.3

Part 3
Printed Circuit Board Connector Wiring Diagram

1. Indoor Unit

1.1 Wall Mounted Type

1.1.1 FTXG25/35EV1BW(S), CTXG50EV1BW(S)

Connectors and Other Parts

PCB (1): Control PCB

1)	S1	Connector for fan motor
2)	S21	Connector for centralized control (HA)
3)	S32	Indoor heat exchanger thermistor
4)	S36	Connector for INTELLIGENT EYE sensor PCB
5)	S41	Connector for swing motors
6)	S46	Connector for signal receiver PCB
7)	S49	Connector for reduction motor (front panel mechanism)
8)	S51	Connector for front panel limit switch
9)	H1B, H2, H3	Connector for terminal board
10)	FG	Terminal for earth
11)	JA	Address setting jumper
		∗ Refer to page 303 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 306 for detail.
12)	LED A	LED for service monitor (green)
13)	FU (F1U)	Fuse (3.15 A, 250 V)
14)	V1	Varistor

PCB (2): Signal Receiver PCB

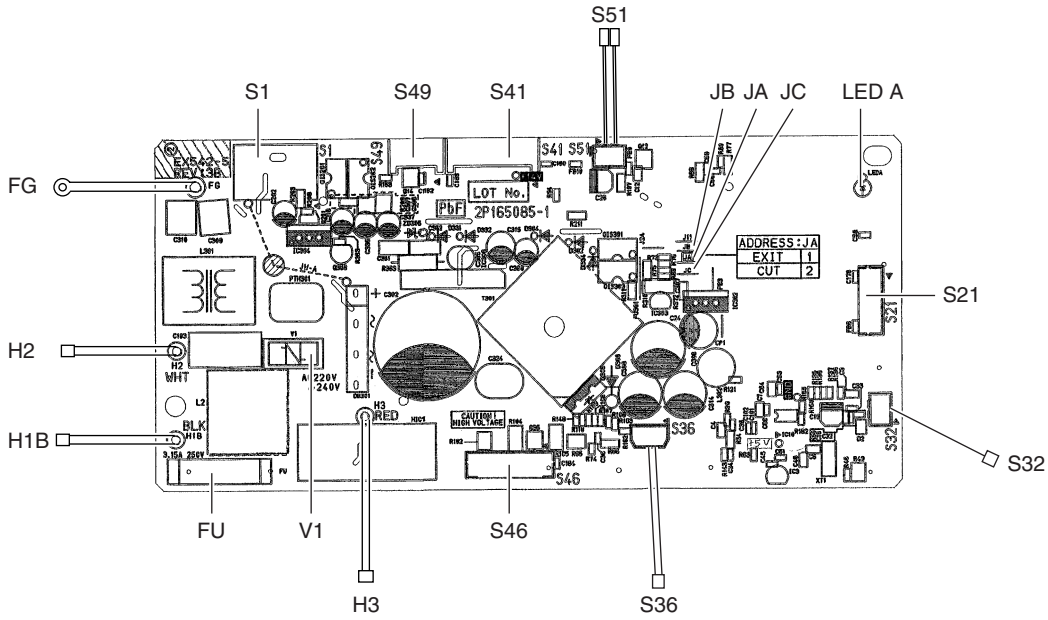
1)	S47	Connector for control PCB
2)	SW1 (S1W)	Forced operation ON/OFF button
3)	LED2 (H2P)	LED for INTELLIGENT EYE (green)
4)	LED3 (H3P)	LED for timer (yellow)
5)	LED4 (H4P)	LED for operation (green)
6)	RTH1 (R2T)	Room temperature thermistor

PCB (3): INTELLIGENT EYE Sensor PCB

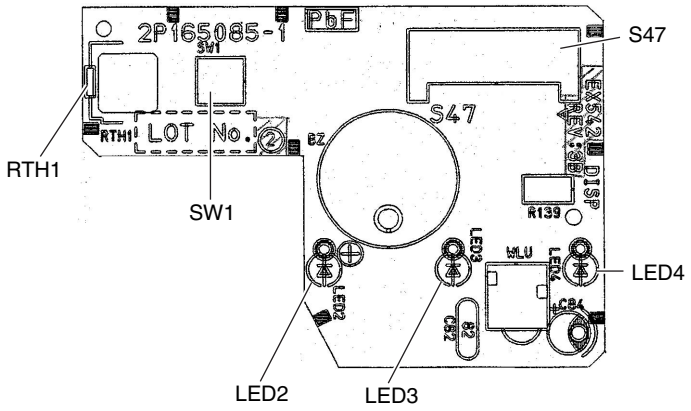
1)	S36	Connector for control PCB

PCB Detail

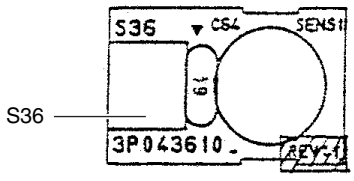
PCB (1): Control PCB



PCB (2): Signal Receiver PCB



PCB (3): INTELLIGENT EYE Sensor PCB



1.1.2 FTXG25/35JV1BW(S), CTXG50JV1BW(S)

Connectors and Other Parts

PCB (1): 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 306 for detail.
10)	LED A	LED for service monitor (green)
11)	F1U	Fuse (3.15 A, 250 V)
12)	V1	Varistor

PCB (2): Signal Receiver / Display PCB

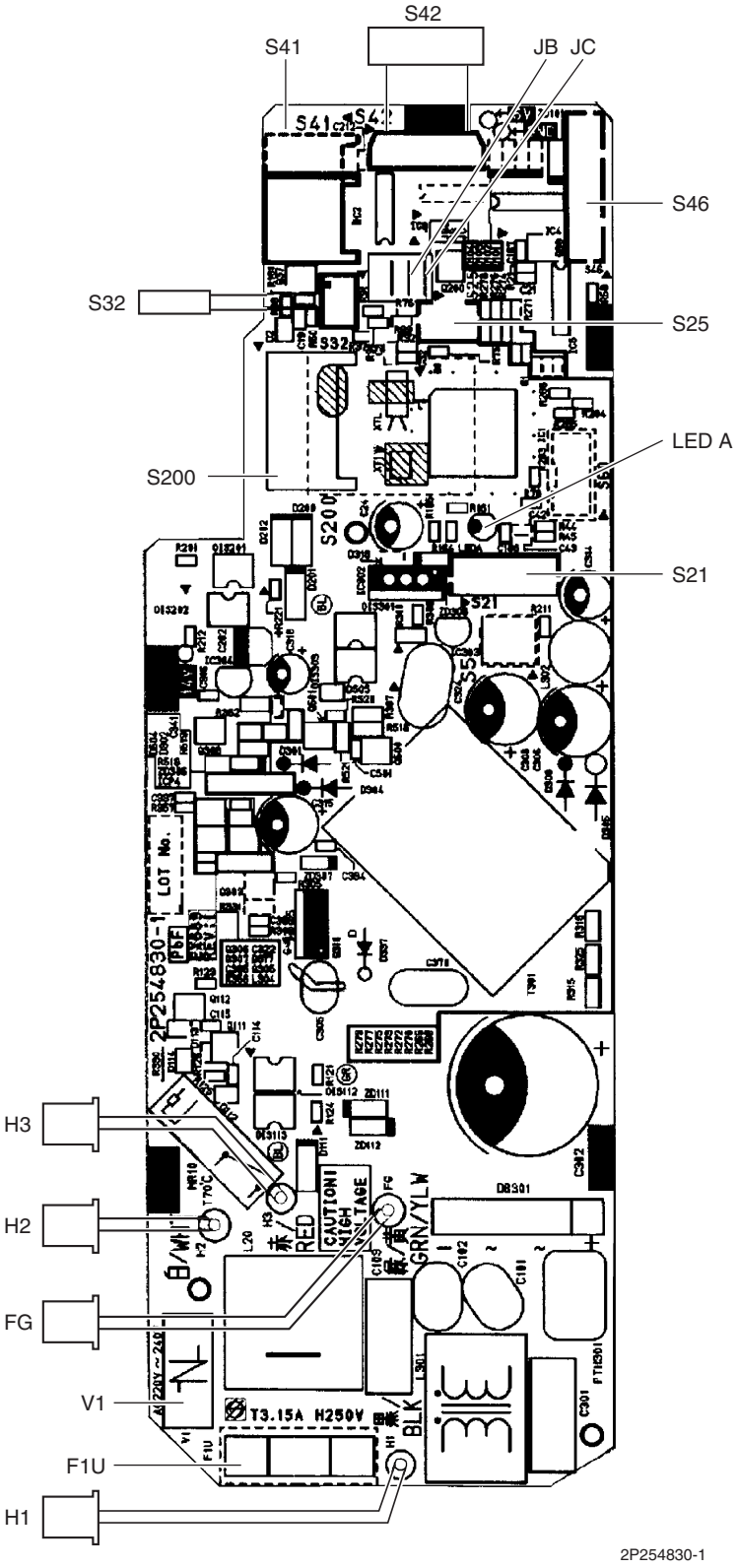
1)	S51	Connector for control PCB
2)	S52	Connector for room temperature thermistor
3)	S1W	Forced operation ON/OFF button
4)	H1P	LED for operation (multi-color)
5)	H2P	LED for INTELLIGENT EYE (green)
6)	JA	Address setting jumper
		∗ Refer to page 303 for detail.

PCB (3): INTELLIGENT EYE Sensor PCB

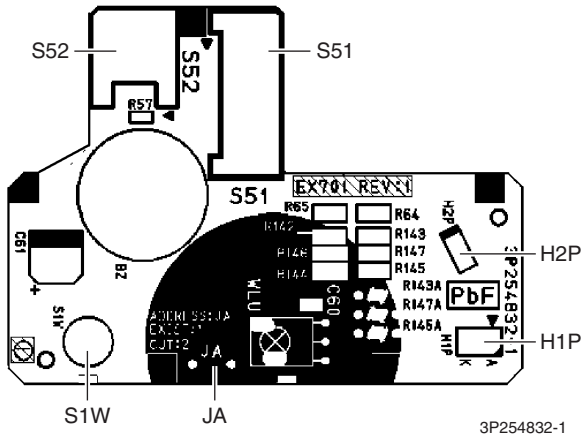
1)	S36	Connector for control PCB

PCB Detail

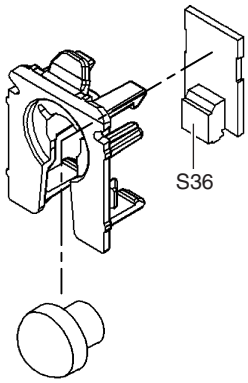
PCB (1): Control PCB



PCB (2): Signal Receiver / Display PCB



PCB (3): INTELLIGENT EYE Sensor PCB



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1.1.3 FTXS20/25/35/42/50G2V1B, FTXS20/25/35/42/50J2V1B

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 303 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart) * Refer to page 306 for detail.
10)	LED A	LED for service monitor (green)
11)	FU1 (F1U)	Fuse (3.15 A, 250 V)
12)	V1	Varistor

PCB (2): Signal Receiver PCB

1)	S48	Connector for control PCB

PCB (3): Display PCB

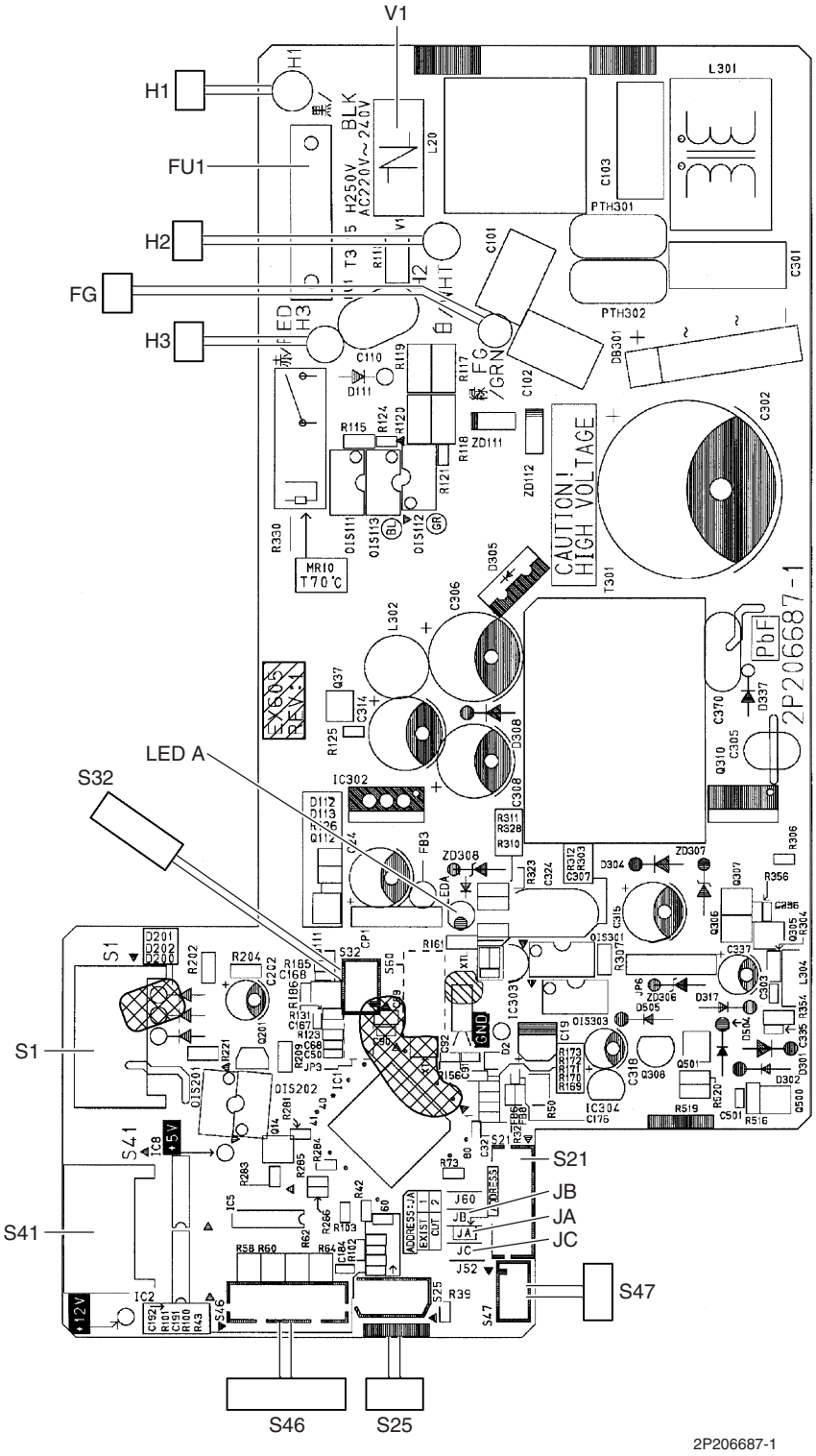
1)	S49	Connector for control PCB
2)	SW1	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (4): INTELLIGENT EYE Sensor PCB

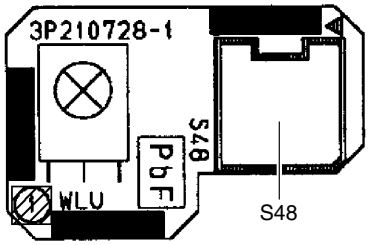
1)	S26	Connector for control PCB

PCB Detail

PCB (1): Control PCB

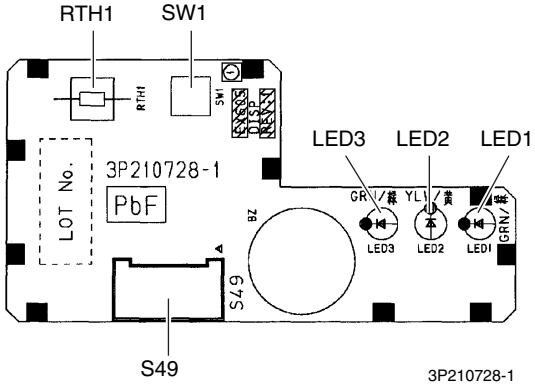


PCB (2): Signal Receiver PCB

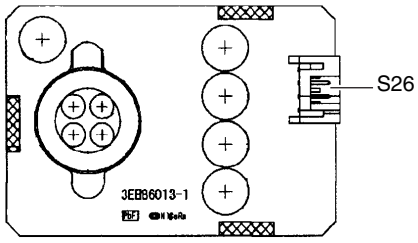


3P210728-1

PCB (3): Display PCB



PCB (4): INTELLIGENT EYE Sensor PCB



3EB86013-1

1.2 Floor Standing Type

1.2.1 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 303 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function ∗ Refer to page 306 for detail.
13)	FU1 (F1U)	Fuse (3.15A, 250V)
14)	LED A	LED for service monitor (green)

PCB (3): Service PCB

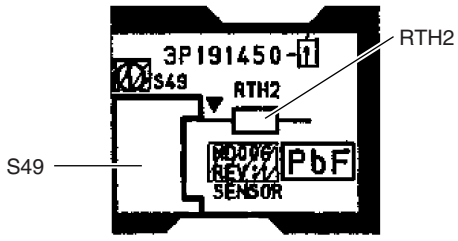
1)	S27	Connector for control PCB
2)	SW2-4 (S2W(4))	Switch for upward airflow limit setting ∗ Refer to page 306 for detail.
3)	SW4 (S4W)	Switch for air outlet selection ∗ Refer to page 126, 134 for detail.

PCB (4): Display PCB

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

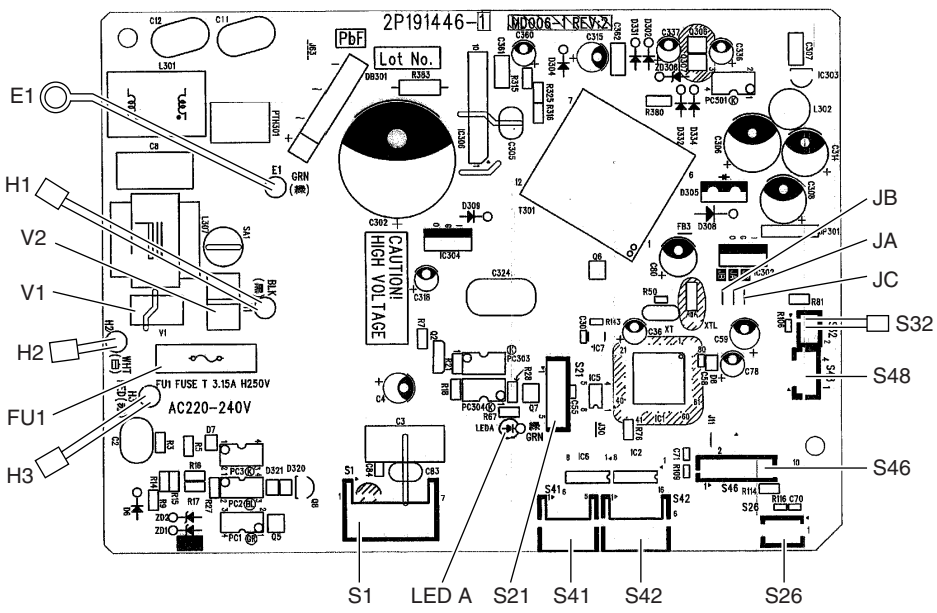
PCB Detail

PCB (1): Sensor PCB



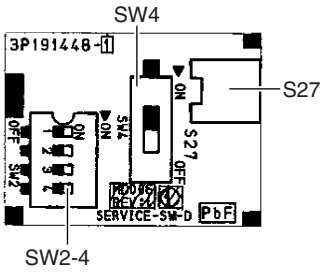
3P191450-1

PCB (2): Control PCB



2P191446-1

PCB (3): Service PCB



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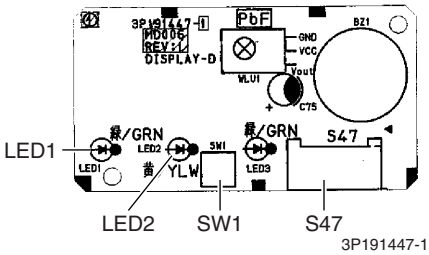
PCB (4): Display PCB



★ LED3 does not function.

1.3 Floor / Ceiling Suspended Dual Type

1.3.1 FLK(X)S25/35/50BAVMB

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 303 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function
		∗ Refer to page 306 for detail.
9)	SW2	Select switch for installation (ceiling or floor)
		∗ Refer to page 306 for detail.
10)	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

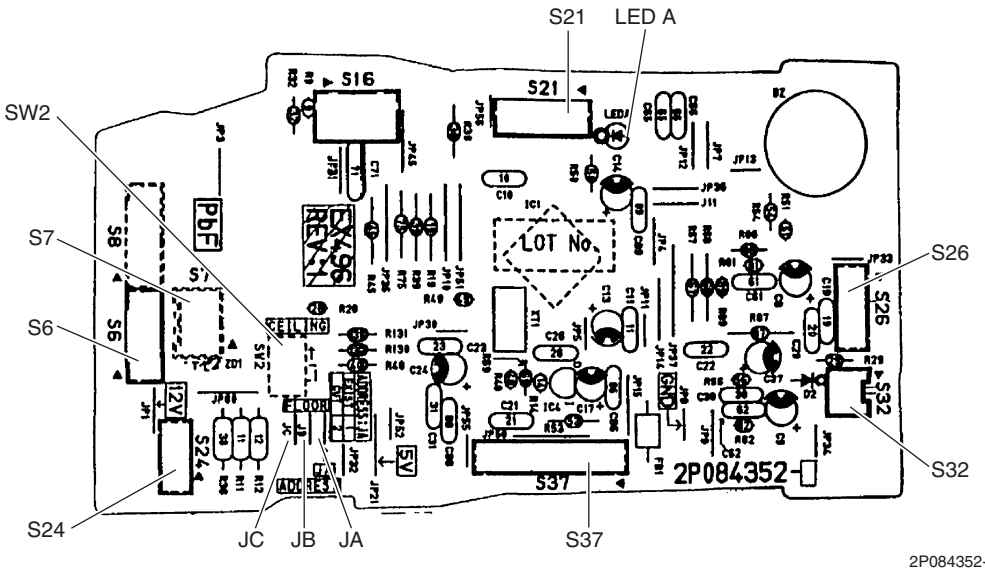
1)	S25	Connector for control PCB
2)	LED1 (H1P)	LED for operation (green)
3)	LED2 (H2P)	LED for timer (yellow)
4)	LED3 (H3P)	LED for HOME LEAVE operation (red)

PCB (4): Signal Receiver PCB

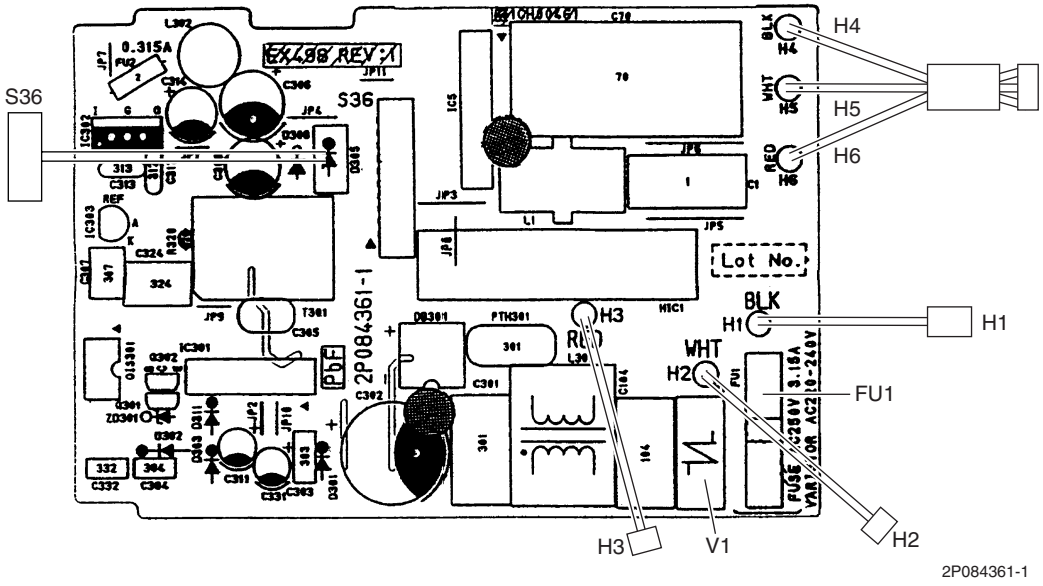
1)	S27	Connector for control PCB
2)	S31 (RTH)	Room temperature thermistor
3)	SW1 (S1W)	Forced operation ON/OFF button

PCB Detail

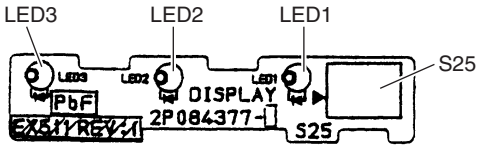
PCB (1): Control PCB



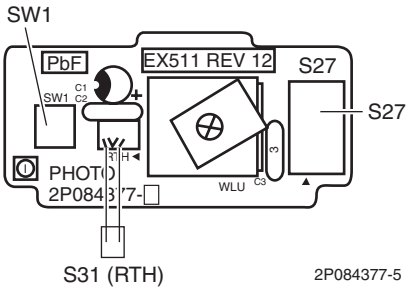
PCB (2): Power Supply PCB



PCB (3): Display PCB



PCB (4): Signal Receiver PCB



1.4 Duct Connected Type

1.4.1 FDK(X)S25/35EAVMB, FDK(X)S50CVMB

Connectors and Other Parts

PCB (1): Control PCB

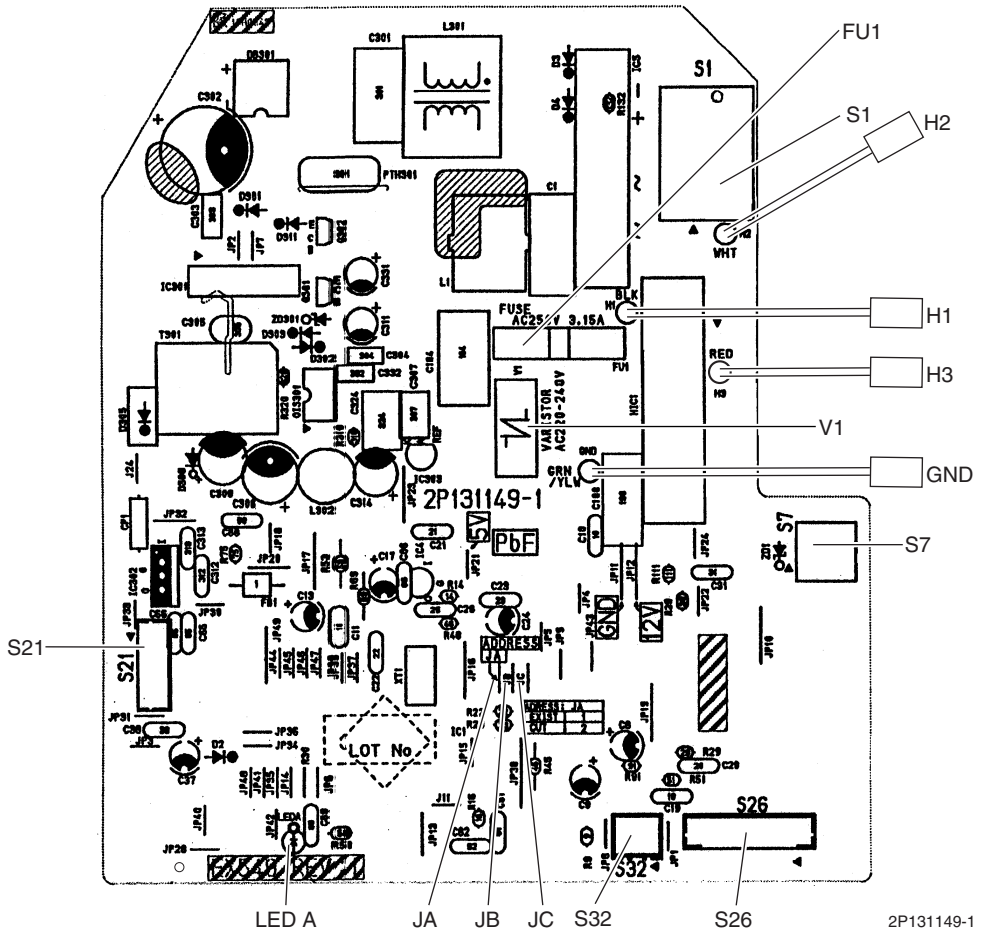
1)	S1	Connector for AC fan motor
2)	S7	Connector for AC fan motor (Hall IC)
3)	S21	Connector for centralized control (HA)
4)	S26	Connector for display PCB
5)	S32	Connector for indoor heat exchanger thermistor
6)	H1, H2, H3	Connector for terminal board
7)	GND	Connector for terminal board (earth)
8)	JA	Address setting jumper
		∗ Refer to page 303 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		Refer to page 306 for detail.
9)	LED A	LED for service monitor (green)
10)	FU1 (F1U)	Fuse (3.15A, 250V)
11)	V1 (V1TR)	Varistor

PCB (2): Display PCB

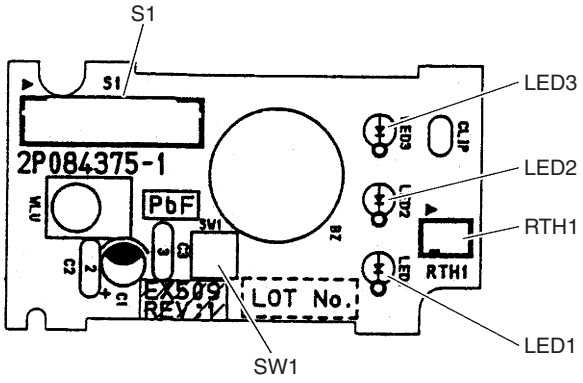
1)	S1	Connector for control PCB
2)	SW1 (S1W)	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for HOME LEAVE operation (red)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for operation (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB Detail

PCB (1): Control PCB



PCB (2): Display PCB



2P084375-1

1.5 Ceiling Mounted Cassette Type

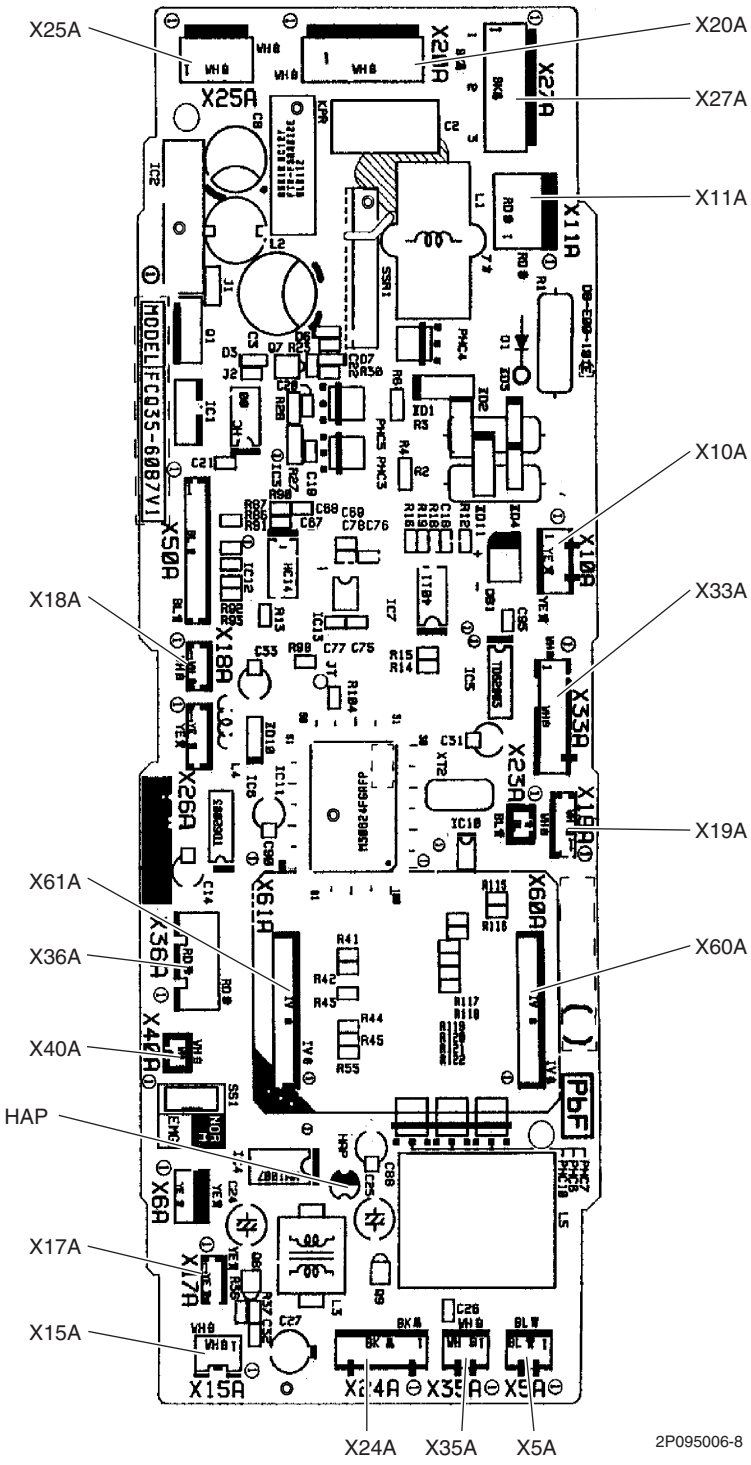
1.5.1 FFQ25/35/50/60B8V1B

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)

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



2. Remote Controller

2.1 Wired Remote Controller

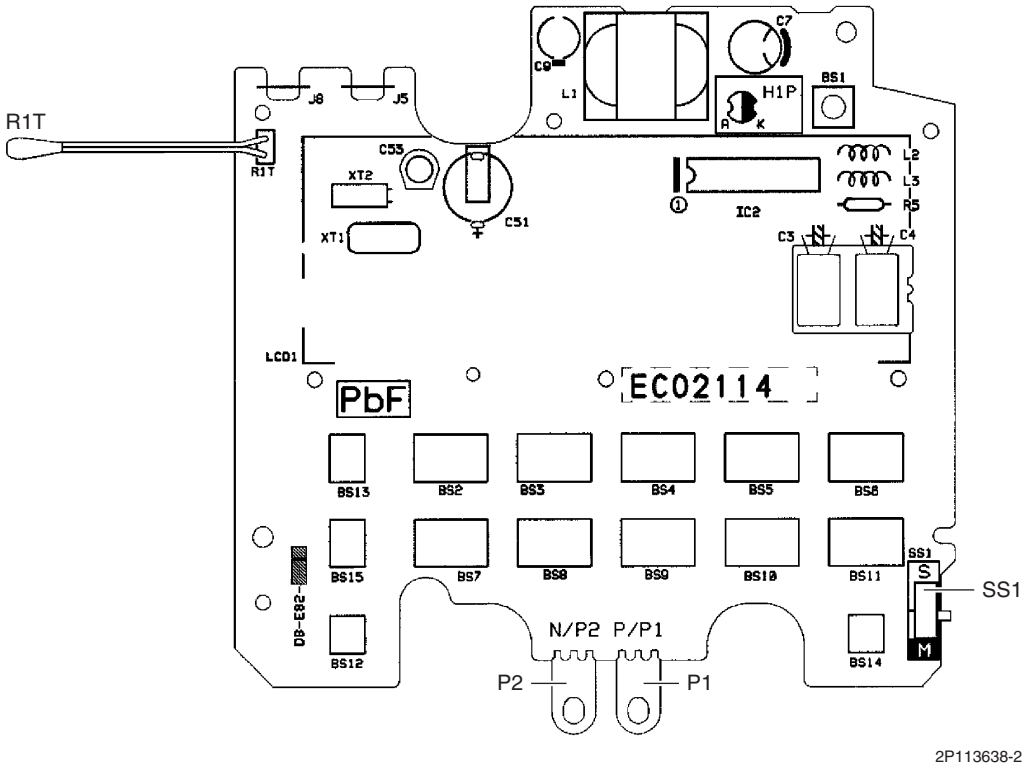
2.1.1 BRC1D528

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 310 for detail.

PCB Detail



2.2 Wireless Remote Controller

2.2.1 BRC7E530W/531W

Connectors and Other Parts

[A3P]: Signal Receiver PCB

1)	X1A	Connector for display PCB
2)	X2A	Connector for control PCB
3)	SS1	MAIN / SUB setting switch
	SS2	Address setting switch

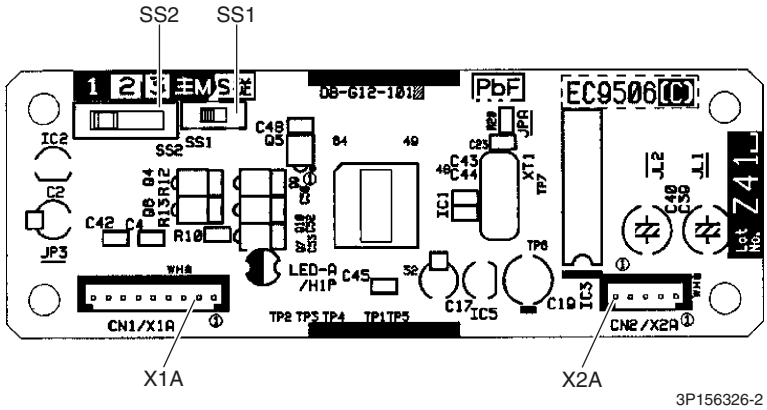
∗ Refer to page 311 for detail.

[A4P]: Display PCB

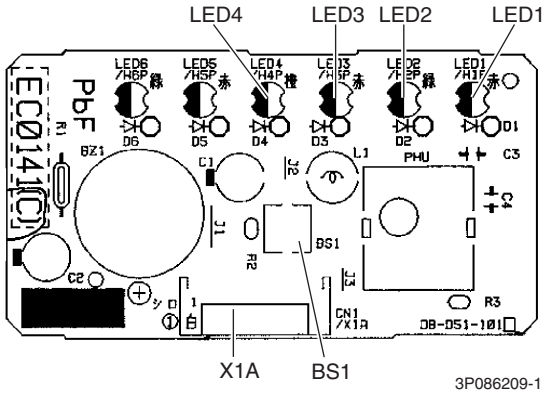
1)	X1A	Connector for signal receiver PCB
2)	BS1	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for operation (red)
4)	LED2 (H2P)	LED for timer (green)
5)	LED3 (H3P)	LED for filter cleaning sign (red)
6)	LED4 (H4P)	LED for defrost operation (orange)

PCB Detail

[A3P]: Signal Receiver PCB



[A4P]: Display PCB



★ LED5 and LED6 do not function.

3. Outdoor Unit

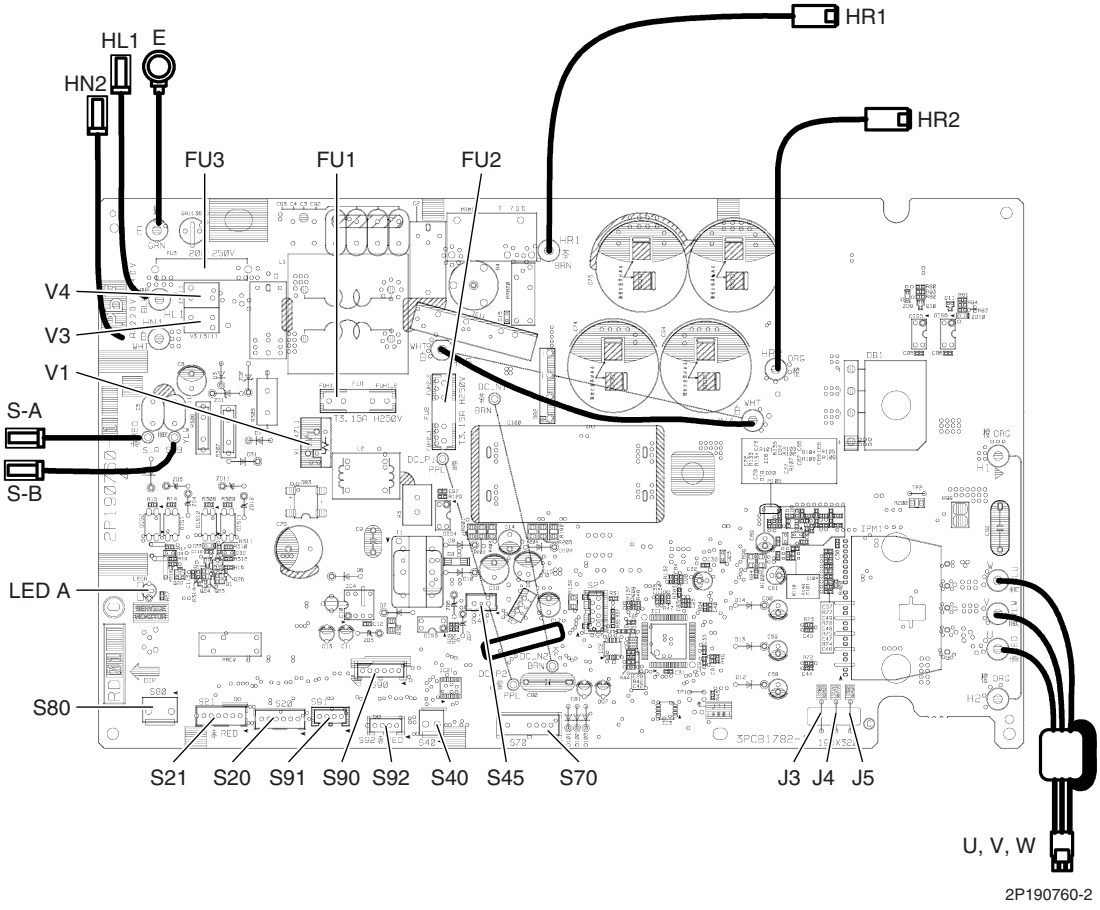
3.1 2MK(X)S40/50GV1B, 2MK(X)S40/50G2V1B

Connectors and Other Parts

1)	S20	Connector for electronic expansion valve coil A port
2)	S21	Connector for electronic expansion valve coil B port
3)	S40	Connector for overload protector
4)	S45	Connector for terminal board (thermal fuse)
5)	S70	Connector for fan motor
6)	S80	Connector for four way valve coil
7)	S90	Connector for thermistors (outdoor temperature, outdoor heat exchanger, discharge pipe)
8)	S91	Connector for thermistors (gas pipe)
9)	S92	Connector for thermistors (liquid pipe)
10)	E E2	Terminal for earth (40 class) Terminal for earth (50 class)
11)	HL1, HN1	Connector for terminal board (power supply)
12)	HR1, HR2	Connector for reactor
13)	S-A	Connector for terminal board (room A - outdoor transmission)
14)	S-B	Connector for terminal board (room B - outdoor transmission)
15)	U, V, W	Connector for compressor
16)	LED A	LED for service monitor (green)
17)	FU1, FU2	Fuse (3.15 A / 250 V)
18)	FU3	Fuse (30 A / 250 V)
19)	J3	Jumper for ECONO mode prohibition setting ∗ Refer to page 314 for detail.
20)	J4	Jumper for maximum power input limitation setting ∗ Refer to page 314 for detail.
21)	J5	Jumper for improvement of defrost performance ∗ Refer to page 314 for detail.
22)	V1, V3, V4	Varistor

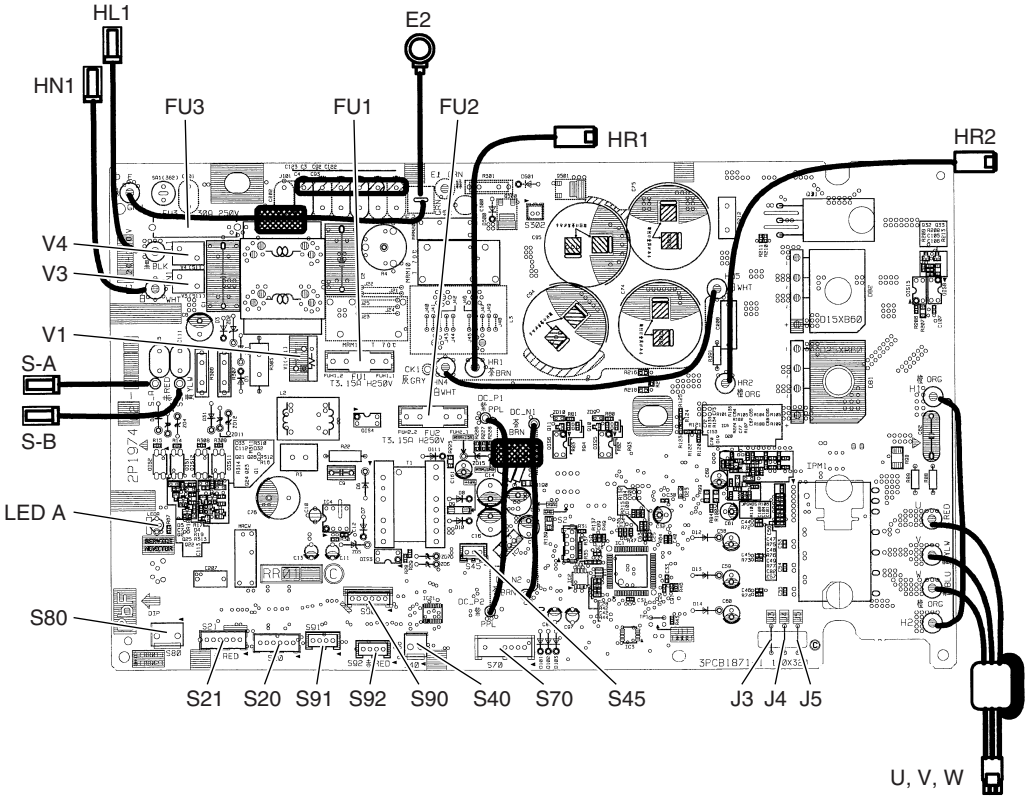
PCB Detail

40 class



2P190760-2

50 class



2P197402-1

Part 4
Function and Control

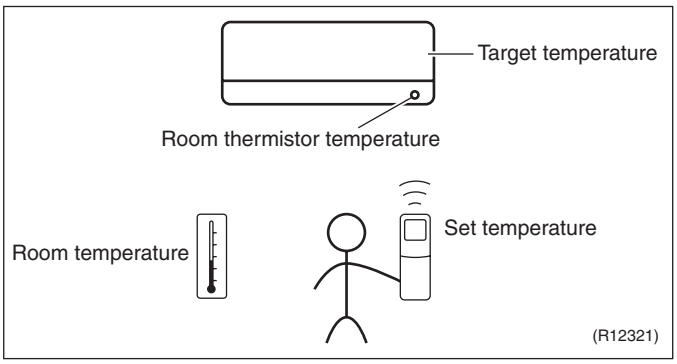
1. Function of Indoor Unit (RA Models)

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 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 compressor is frequency-controlled during normal operation. The target frequency is set by the following 2 parameters coming from the operating indoor unit:

- 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

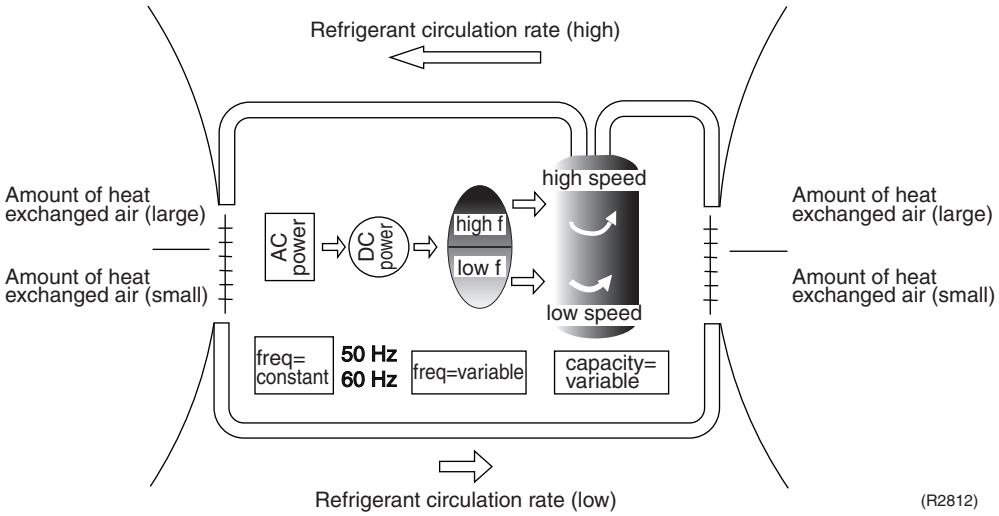
Inverter Principle

To regulate the capacity, a frequency control is needed. The inverter makes it possible to vary 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, the 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 86.
High	■ Compressor protection function. Refer to page 87. ■ Discharge pipe temperature control. Refer to page 87. ■ Input current control. Refer to page 88. ■ Freeze-up protection control. Refer to page 88. ■ Heating peak-cut control. Refer to page 89. ■ Defrost control. Refer to page 90.

Forced Cooling Operation

Refer to page 299 for detail.

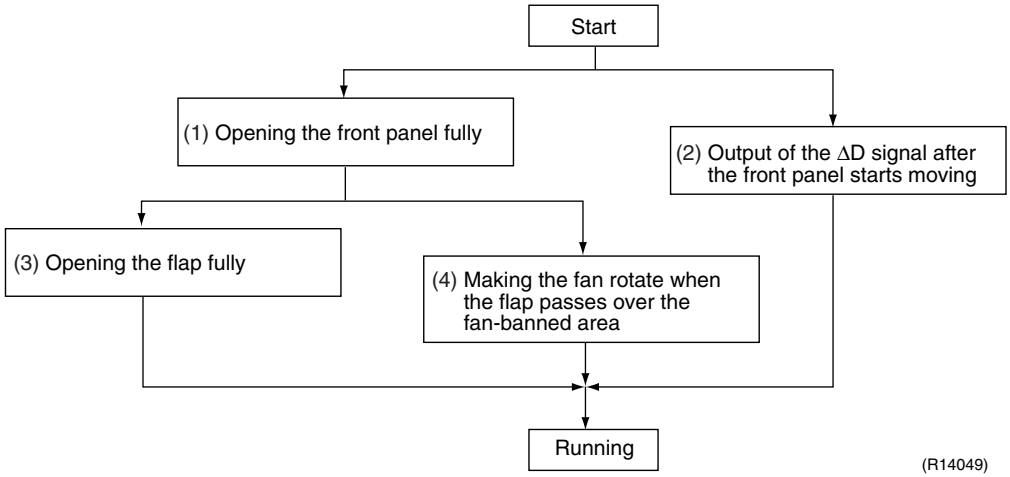
1.3 Operation Starting Control

Wall Mounted Type: FTXG, CTXG Series

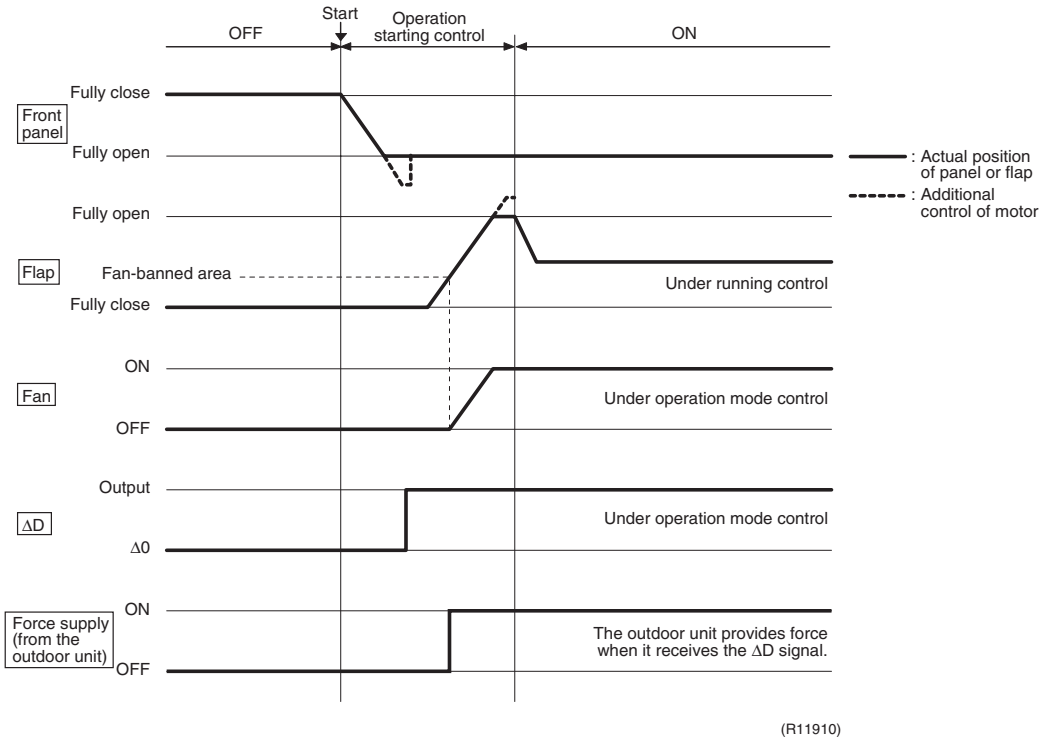
The system carries out the following control at the beginning to conduct every functional parts properly.

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 flaps send a large volume of air downwards to the floor. The flap provides an optimum control in cooling, dry, and heating mode.

Cooling / Dry Mode
During cooling or dry mode, the flap retracts into the indoor unit. Then, cool air can be blown far and pervaded all over the room.

Heating Mode
During heating mode, the large flap directs airflow downwards to spread the warm air to the entire room.

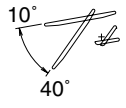
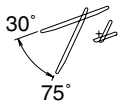
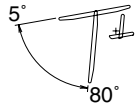
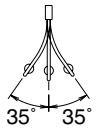
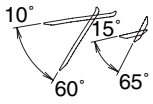
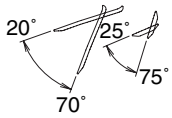
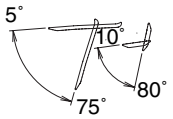
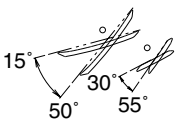
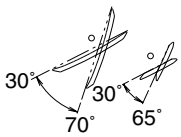
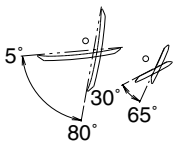
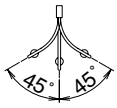
Wide-Angle Louvers

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

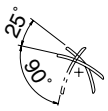
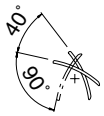
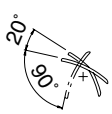
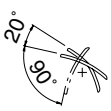
Auto-Swing

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

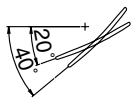
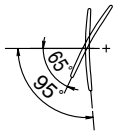
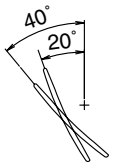
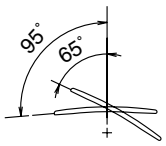
Wall Mounted Type

Series	Vertical Swing (up and down)			Horizontal Swing (right and left)
	Cooling / Dry	Heating	Fan	
FTXG-E CTXG-E	 (R3294)	 (R3293)	 (R3295)	 (R3296)
FTXG-J CTXG-J	 (R11662)	 (R11664)	 (R11663)	—
FTXS-G FTXS-J	 (R12182)	 (R11402)	 (R11403)	 (R11404)

Floor Standing Type

	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)

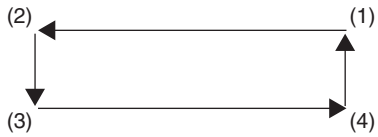
3-D Airflow

Wall Mounted Type: FTXS 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 auto mode, the airflow becomes 3-D airflow. The horizontal and vertical swing motions are alternated 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.

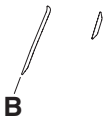


(R13554)

COMFORT AIRFLOW Operation

Wall Mounted Type

The vertical swing flap is controlled not to blow the air directly on the person in the room.

Cooling / Dry	Heating
 (R11665)	 (R12181)

	A	B
FTXG-E CTXG-E	5°	80°
FTXG-J CTXG-J	5°	75°
FTXS-G FTXS-J	5°	80°

1.5 Fan Speed Control for Indoor Units

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 218, 219.

Automatic Fan Speed Control

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

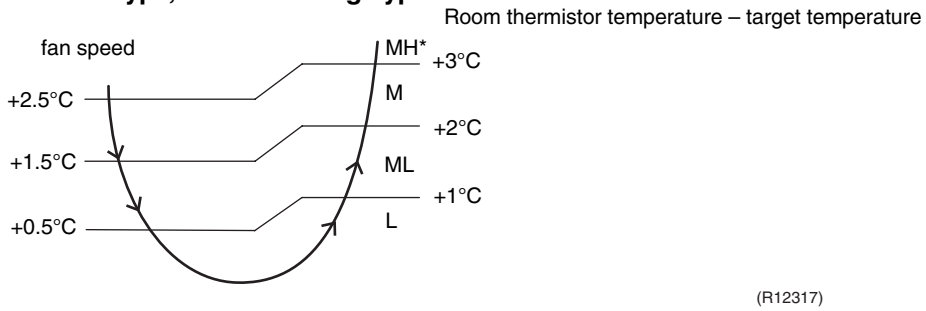
	Wall Mounted Type Floor Standing Type		Floor / Ceiling Suspended Dual Type Duct Connected Type	
Step	**Cooling**	**Heating**	**Cooling**	**Heating**
LLL				
LL				
L				
ML				
M				
MH				
H				
HH (POWERFUL)	(R11681)	(R6834)	(R6833)	(R6834)

⟺ = 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.

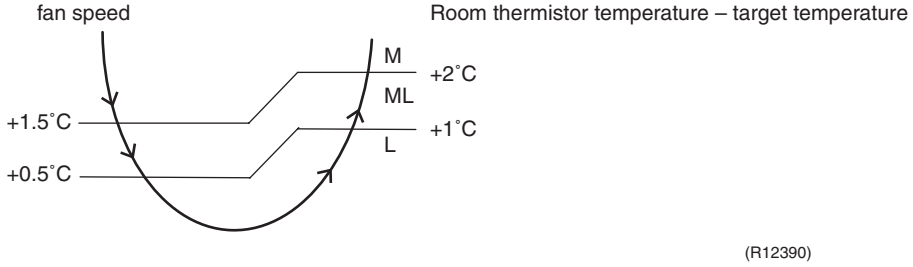
Wall Mounted Type, Floor Standing Type



(R12317)

*In automatic fan speed operation, upper limit is at M tap in 30 minutes from the operation start.

Floor / Ceiling Suspended Dual Type, Duct Connected Type



(R12390)

<Heating>

On heating mode, 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, fan rotates at H tap + 40 ~ 50 rpm.
2. Fan stops during defrost operation.

COMFORT AIRFLOW Operation

Wall Mounted Type

- The fan speed is controlled automatically within the following steps.
  Cooling: L tap – MH tap (same as AUTOMATIC)
  Heating: ML tap – M tap ~ MH tap (depending on the model)
- The latest command has the priority between POWERFUL and COMFORT AIRFLOW.

1.6 Program Dry Operation

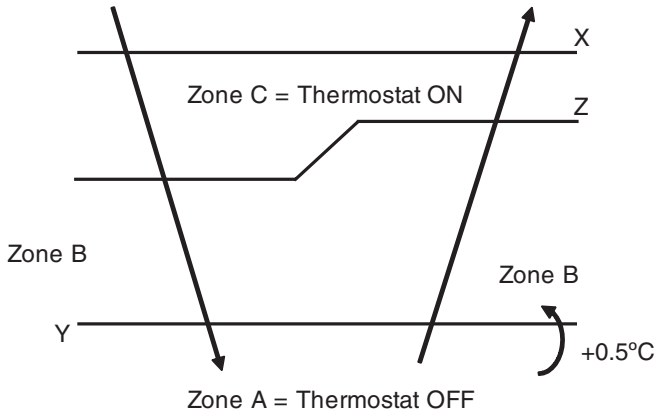
Outline

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 adjustment buttons are inoperable in this mode.

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 in the dry mode with 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)

1.7 Automatic Operation

Outline

Automatic Cooling / Heating Function

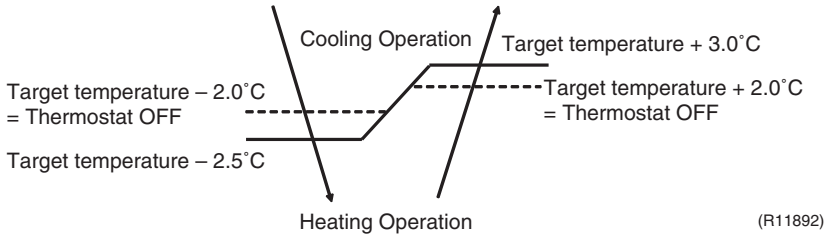
When the AUTO mode is selected with the remote controller, the microcomputer automatically determines the operation mode as cooling or heating according to the room temperature and the set temperature at start-up, and automatically operates in that mode.
The unit automatically switches the operation 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

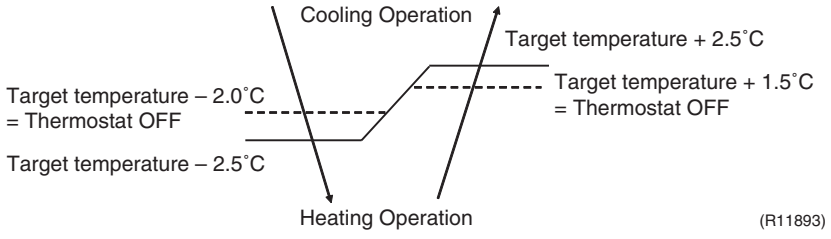
1. The set temperature (Ts) determines the target temperature (Tt).
   (Ts = 18 ~ 30°C).
2. The target temperature (Tt) is calculated as;
   Tt = Ts + C
   where C is the correction value.
   C = 0°C
3. Thermostat ON/OFF point and mode switching point are as follows.
   Tr means the room thermistor temperature.
   (1) Heating → Cooling switching point:
   Tr ≥ Tt + 3.0°C (wall mounted type: FTXG-J, CTXG-J 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

Wall Mounted Type: FTXG-J, CTXG-J 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

1.8 Thermostat Control

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

Thermostat OFF Condition

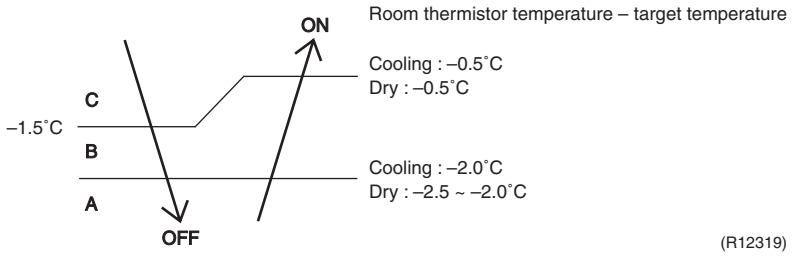
- The temperature difference is in the zone A.

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 : 10 seconds)

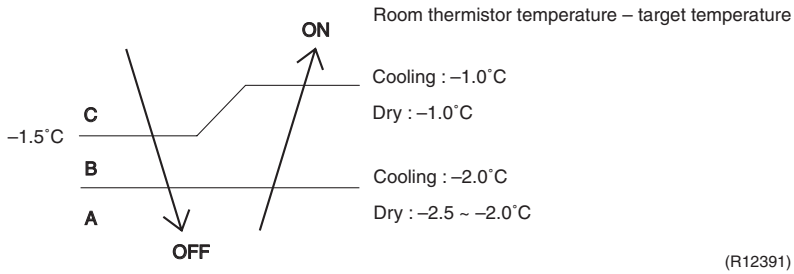
Cooling / Dry

- Wall Mounted Type
- Floor Standing Type



(R12319)

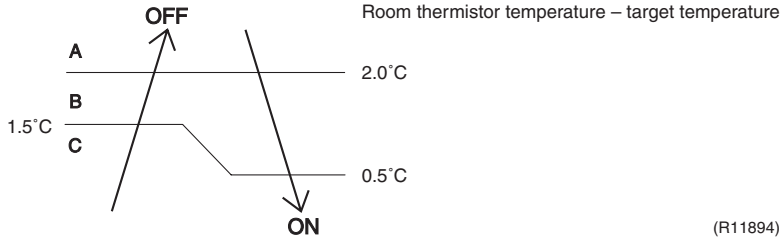
- Floor / Ceiling Suspended Dual Type
- Duct Connected Type



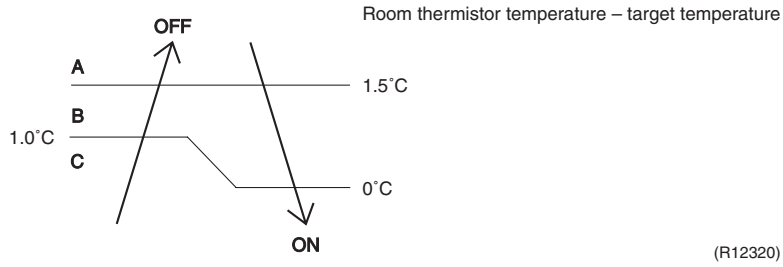
(R12391)

Heating

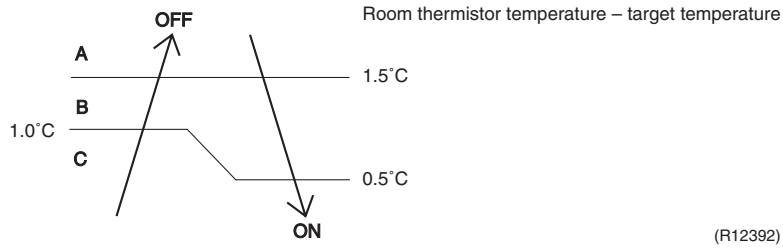
- Wall Mounted Type: FTXG-J, CTXG-J Series



- Wall Mounted Type: FTXG-E, CTXG-E, FTXS Series
- Floor Standing Type



- Floor / Ceiling Suspended Dual Type
- Duct Connected Type



Refer to “Temperature Control” on page 53 for detail.

1.9 NIGHT SET Mode

Outline

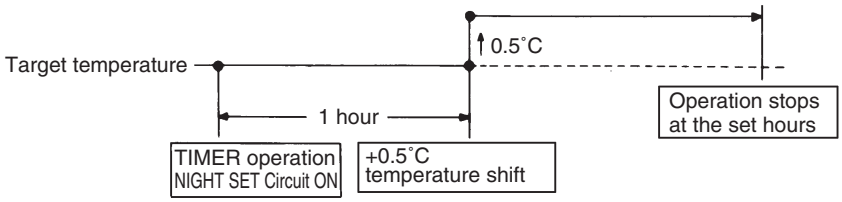
When the OFF timer is set, the NIGHT SET Mode is automatically activated. The NIGHT SET Mode keeps the airflow rate setting.

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.

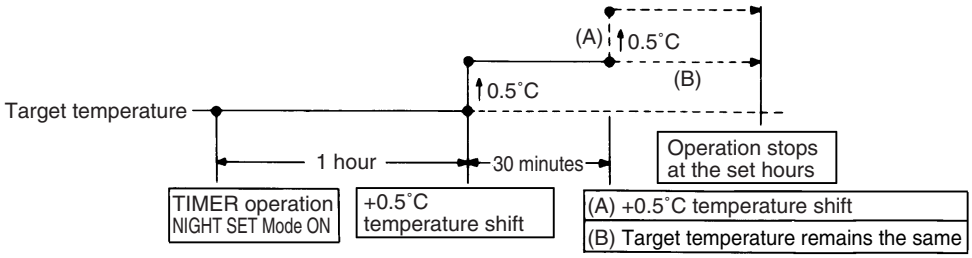
Cooling

- Wall Mounted Type
- Floor Standing Type



(R10870)

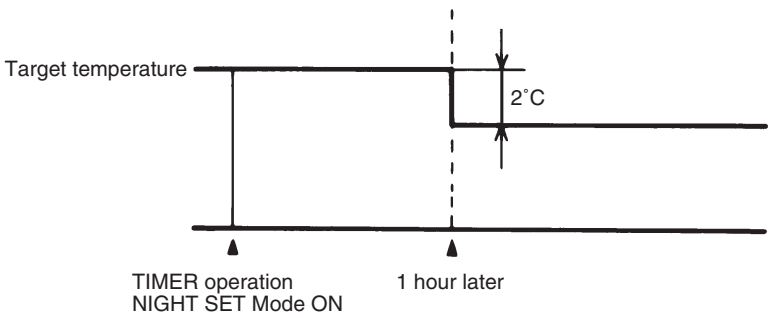
- Floor / Ceiling Suspended Dual Type
- Duct Connected Type



(A) : When the outdoor temperature is normal and the room temperature is at the set temperature.
(B) : When the outdoor temperature is high (27˚C or higher).

(R14060)

Heating



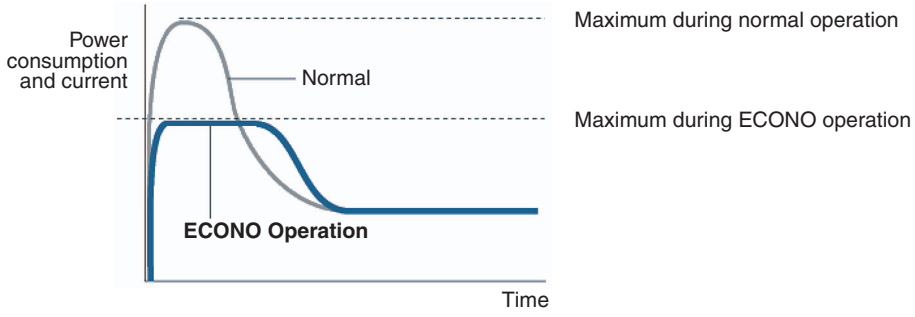
(R10871)

1.10 ECONO Operation

FTXG-J, CTXG-J, FTXS, FVXS Series

The "ECONO operation" reduces the maximum operating current and power consumption during start-up etc..
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 decreases.
- The remote controller can send the ECONO command when the unit is in cooling, heating, dry, or automatic operation. This function can only be set when the unit is running. Pressing the ON/OFF button on the remote controller cancels the function.
- This function and POWERFUL operation cannot be used at the same time. The latest command has the priority.



- When the ECONO command is valid, the input current is under reducing control.

1.11 HOME LEAVE Operation

Outline

FLK(X)S, FDK(X)S Series

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.

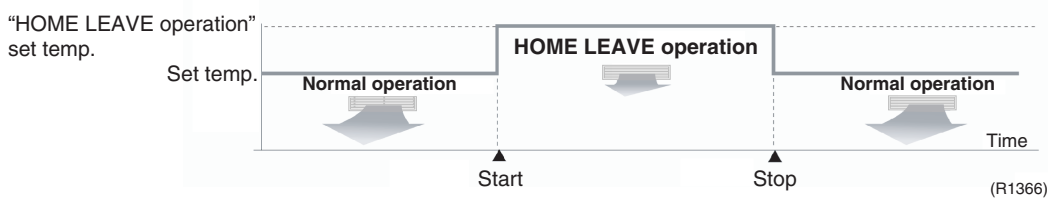
2. Details of Function

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.)

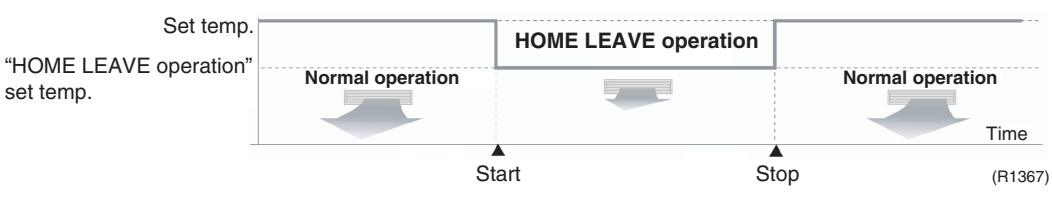
3. End of Function

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.

1.12 2-Area INTELLIGENT EYE Operation

Outline

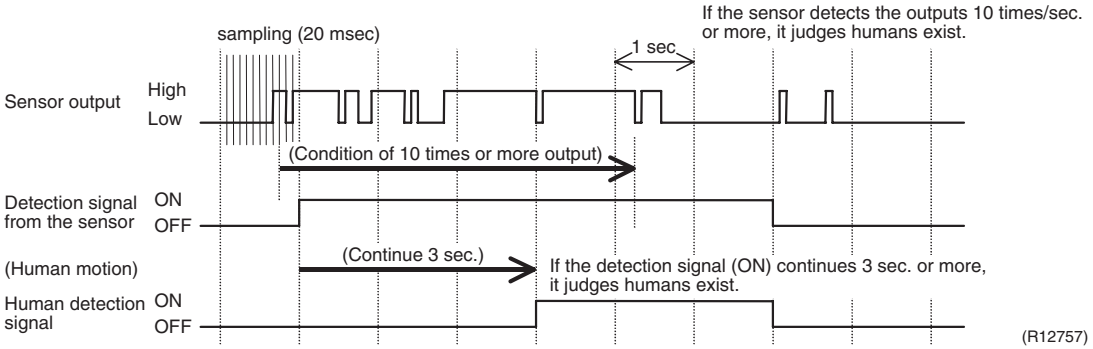
Wall Mounted Type: FTXS Series

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.

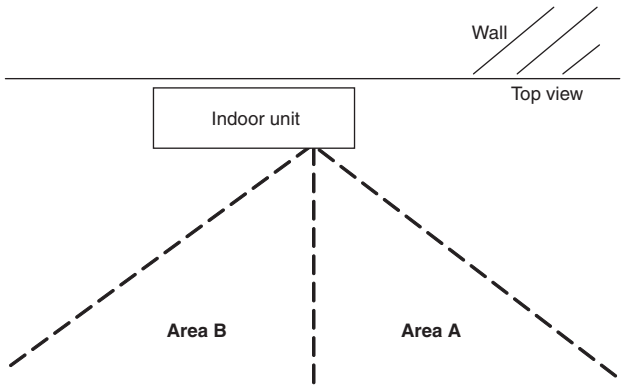
Detail

1. Detection method of INTELLIGENT EYE



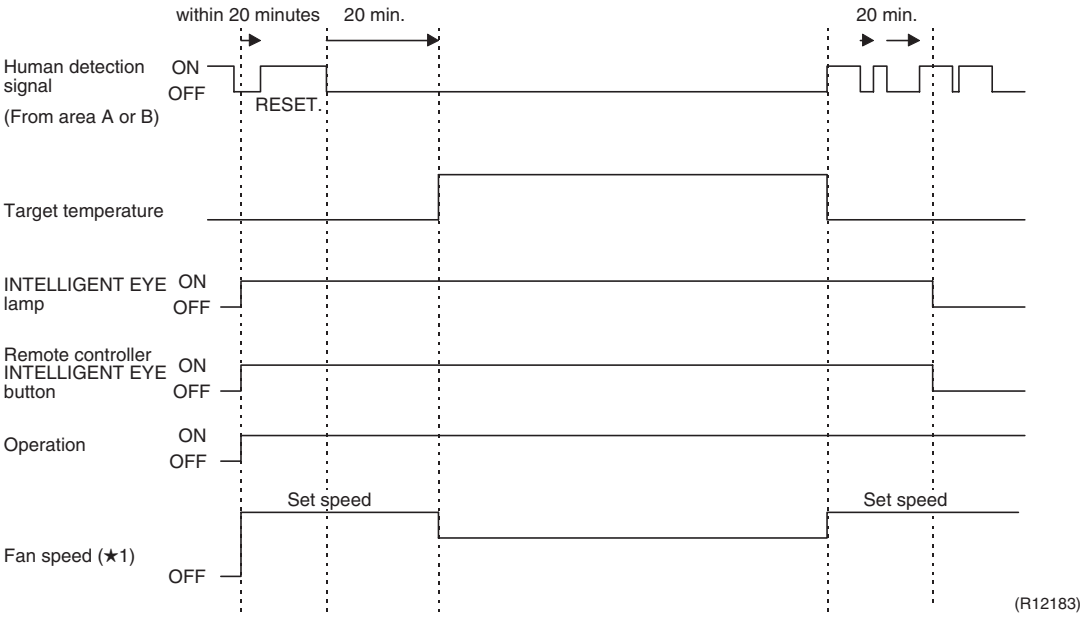
- This sensor detects human motion by receiving infrared rays and displays the pulse wave output.
- The microcomputer in the indoor unit carries out a sampling every 20 msec. and if it detects 10 cycles of the wave in one second in total (corresponding to 20 msec.× 10 = 200 msec.), and when the ON signal 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)

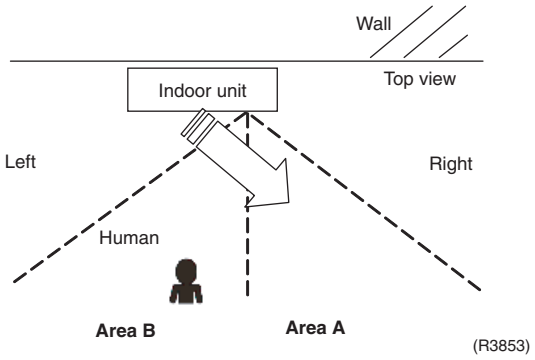


- When the microcomputer does not have a signal from the sensor in 20 minutes, it judges that nobody is in the room and operates the unit in temperature shifted from the target temperature. (Cooling / Dry : 2°C higher, Heating : 2°C lower, Auto : according to the operation mode at that time.)

★1 In case of FAN mode, 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 by 2°C.

1.13 INTELLIGENT EYE Operation

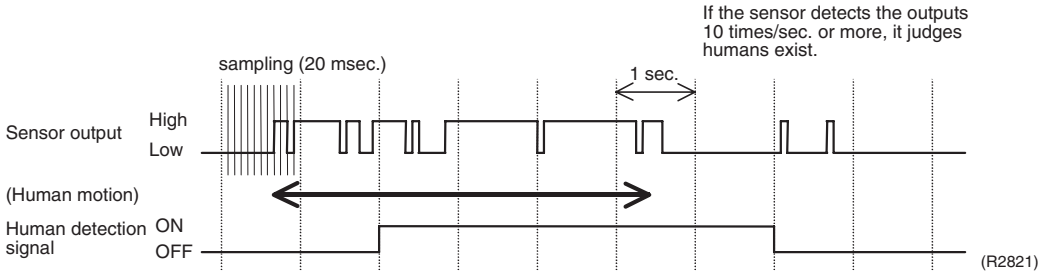
Outline

Wall Mounted Type: FTXG, CTXG Series

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

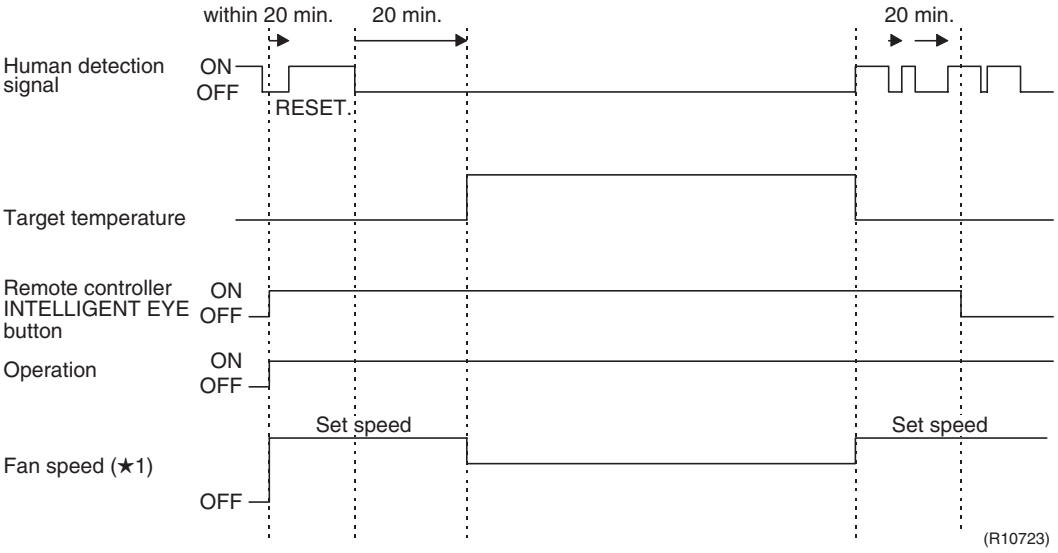
Detail

1. Detection method by INTELLIGENT EYE



- This 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 one second in total (corresponding to 20 msec. × 10 = 200 msec.), it judges human is in the room as the motion signal is ON.

2. The motions (for example: in cooling)



- When a 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.)

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

Others

- For dry operation, you cannot set the temperature with a remote controller, but internally the target temperature is shifted by 2°C.

1.14 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.

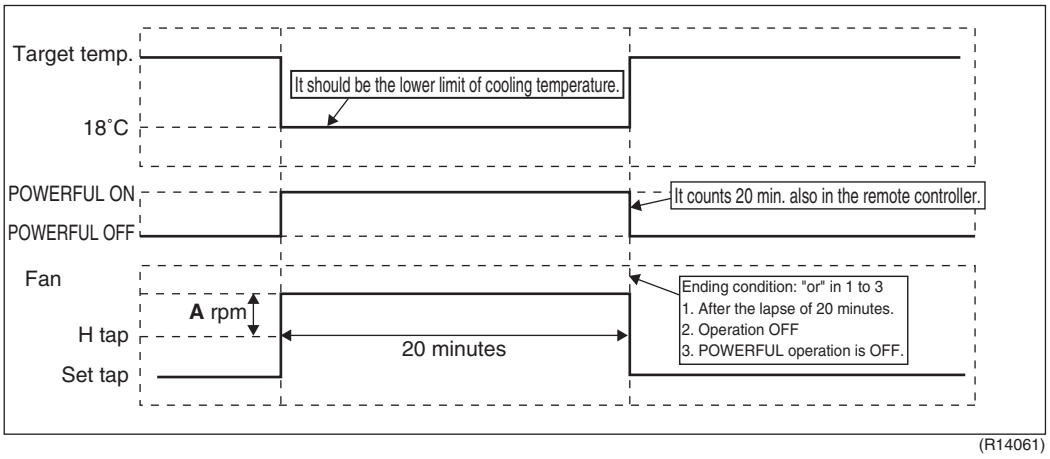
Detail

When 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	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 ~ 50 rpm (depending on the model)

Ex.) : POWERFUL operation in cooling mode.



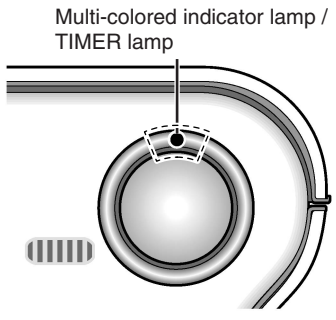
(R14061)

1.14.1 Multi-Colored Indicator Lamp / TIMER Lamp

Features

Wall Mounted Type: FTXG-J, CTXG-J 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 mode of actual operation.



(R11815)

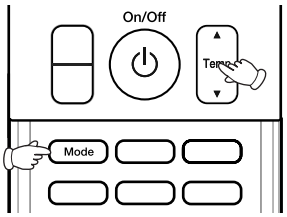
The lamp color changes according to the operation.

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

Brightness Setting

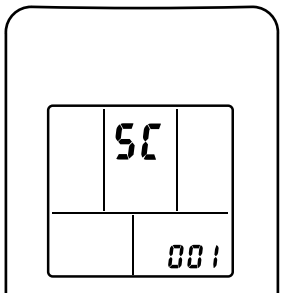
The brightness of the multi-colored indicator lamp can be adjusted L (low), H (high), or OFF.

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



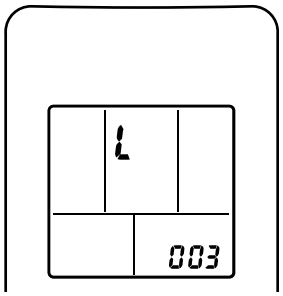
(R11669)

"SC" is displayed on the LCD.



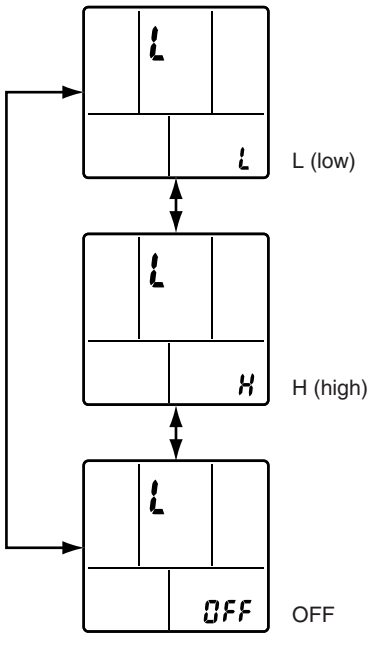
(R11911)

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.)

1.15 Other Functions

1.15.1 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 either the airflow is stopped or is made very weak thereby carrying out comfortable heating of the room.
*The cold air blast is also prevented using a similar control when the defrosting operation is started or when the thermostat is turned ON.

1.15.2 Signal Receiving Sign

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

1.15.3 Indoor Unit ON/OFF Button

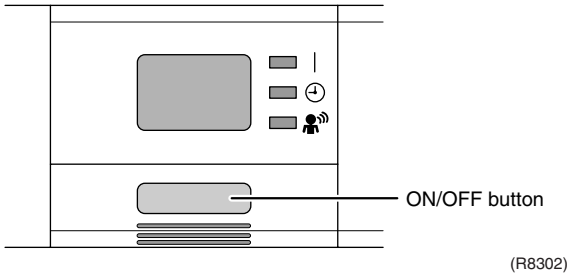
An ON/OFF button is provided on the display of the unit.

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

	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 this button.

ex. Wall mounted type FTXS series



<Forced cooling operation>
Forced cooling operation can be started by pressing the ON/OFF button for 5 to 9 seconds while the unit is not operating.
Refer to page 299 for detail.

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

1.15.4 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.

1.15.5 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.

1.15.6 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.

1.15.7 Auto-restart Function

Even 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.

1.15.8 WEEKLY TIMER Operation

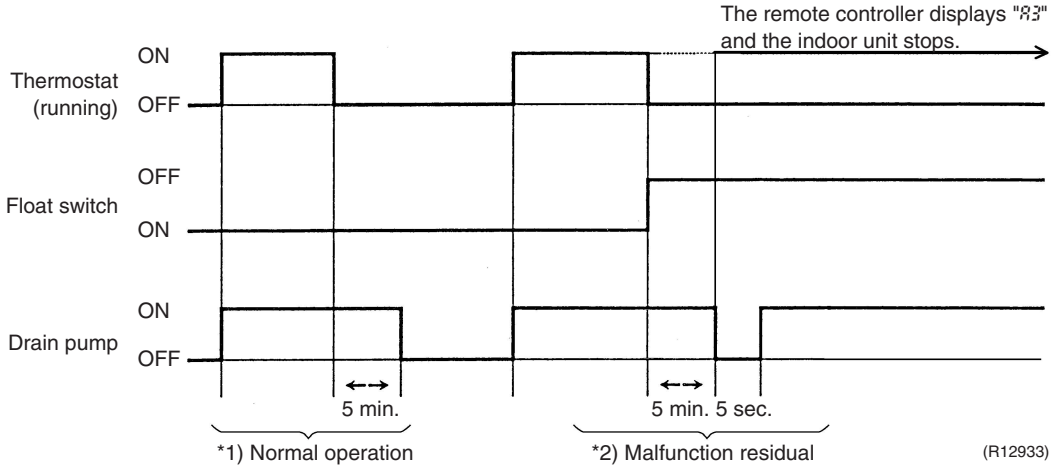
Up to 4 timer settings can be saved for each day of the week (up to 28 settings in total). Those 3 items of “ON/OFF”, “temperature” and “time” can be set.

Refer to “WEEKLY TIMER Operation” on the following pages for detail.
FTXG-J, CTXG-J series: page 116
FTXS, FVXS series: page 143

2. Function of Indoor Unit (SA Models)

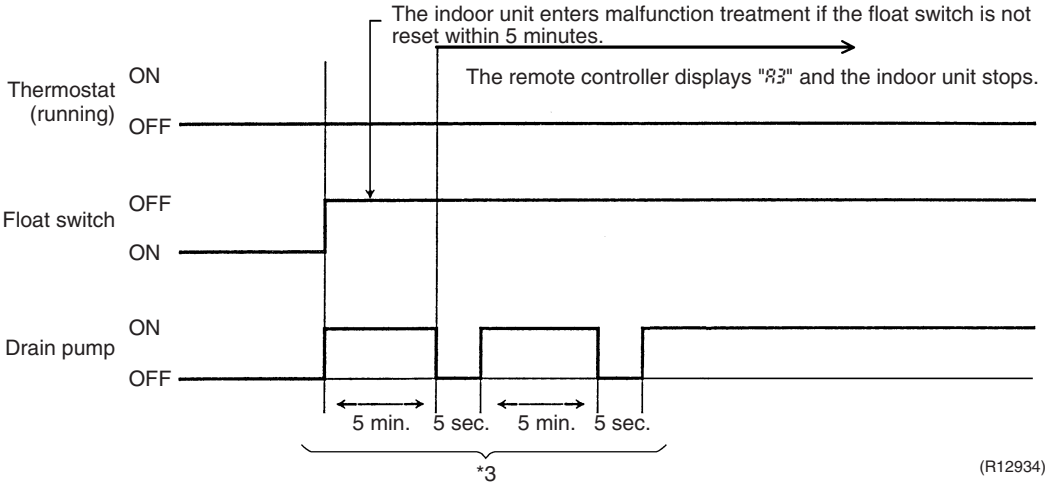
2.1 Drain Pump Control

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



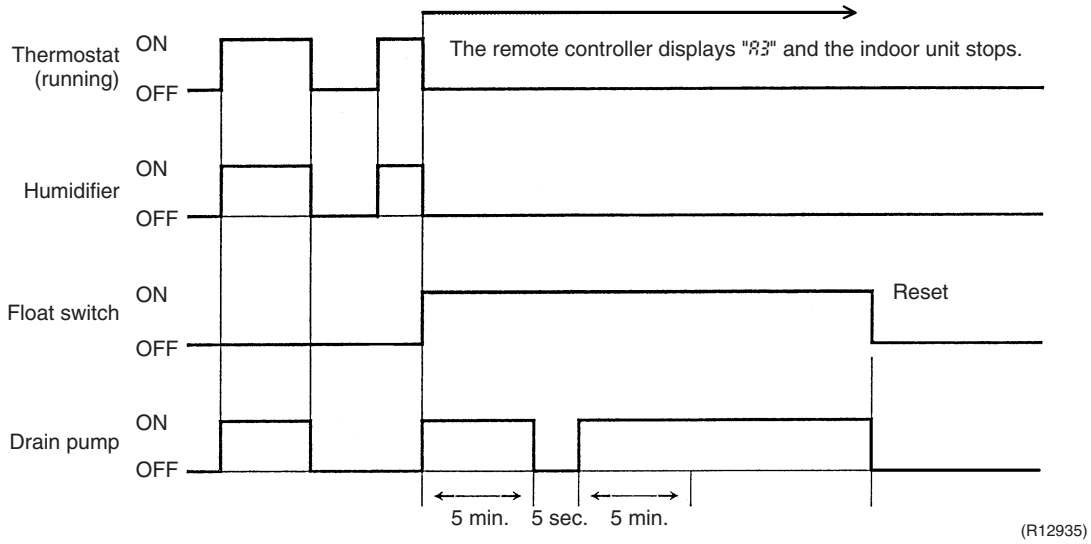
∗1. (Normal operation):
The purpose of residual operation is to completely drain any moisture adhering to the fin of the indoor heat exchanger when the thermostat goes off during cooling operation.
∗2. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal 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:



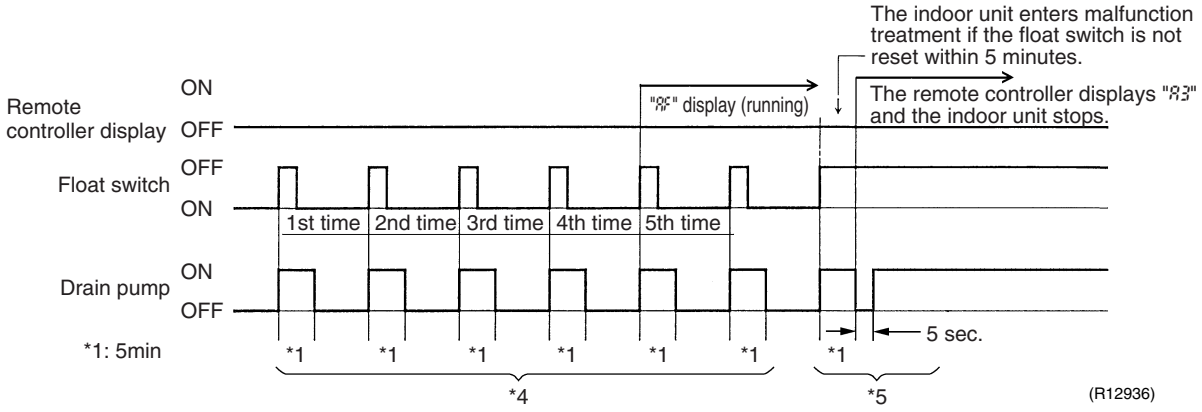
*3. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal stop if the float switch is turned OFF and not turned ON again within 5 minutes while the cooling thermostat is OFF.

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:



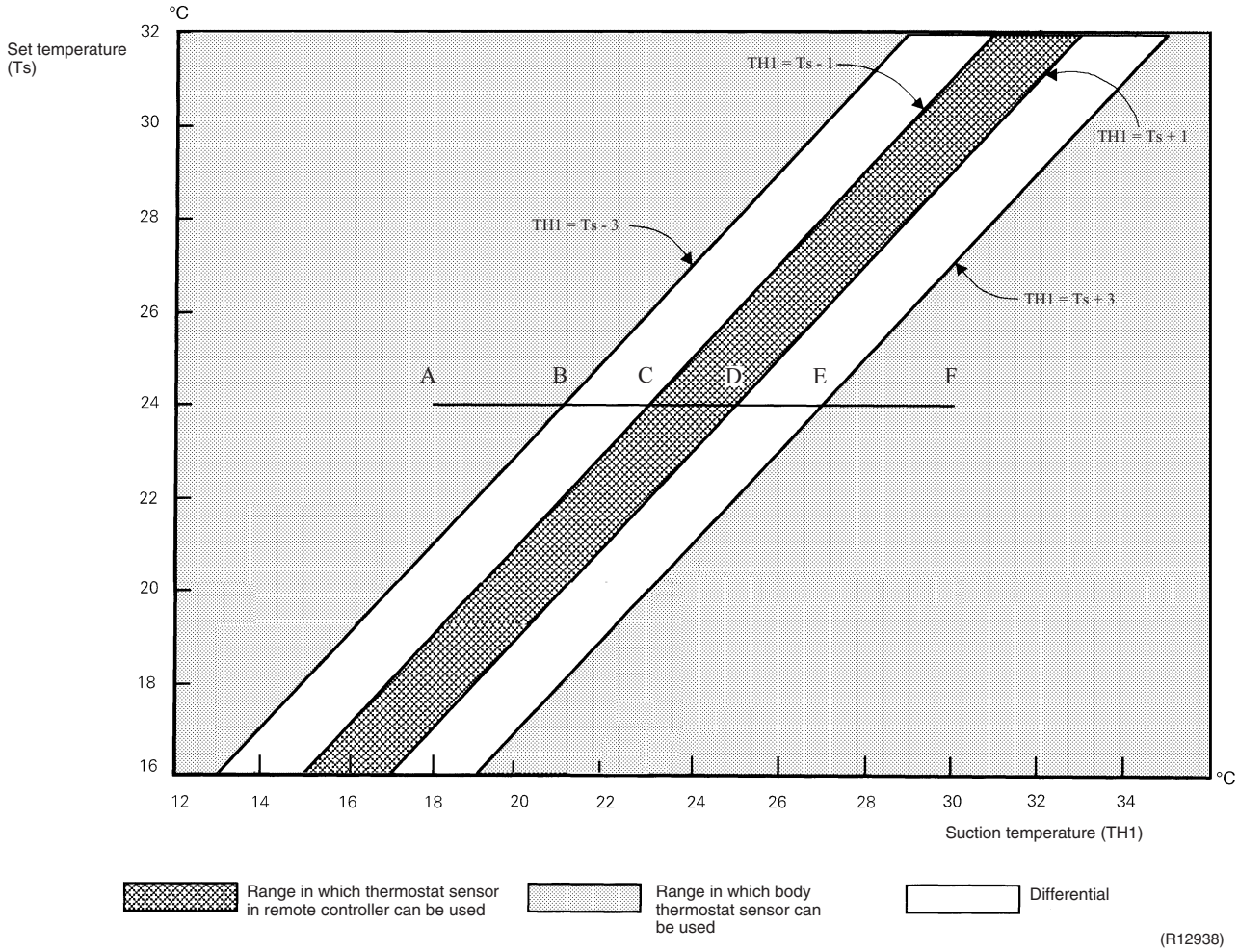
*4. (Malfunction residual):
If the float switch is tripped 5 times in succession, a drain malfunction is determined to have occurred. "8F" is then displayed as operation continues.
*5. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal stop if the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

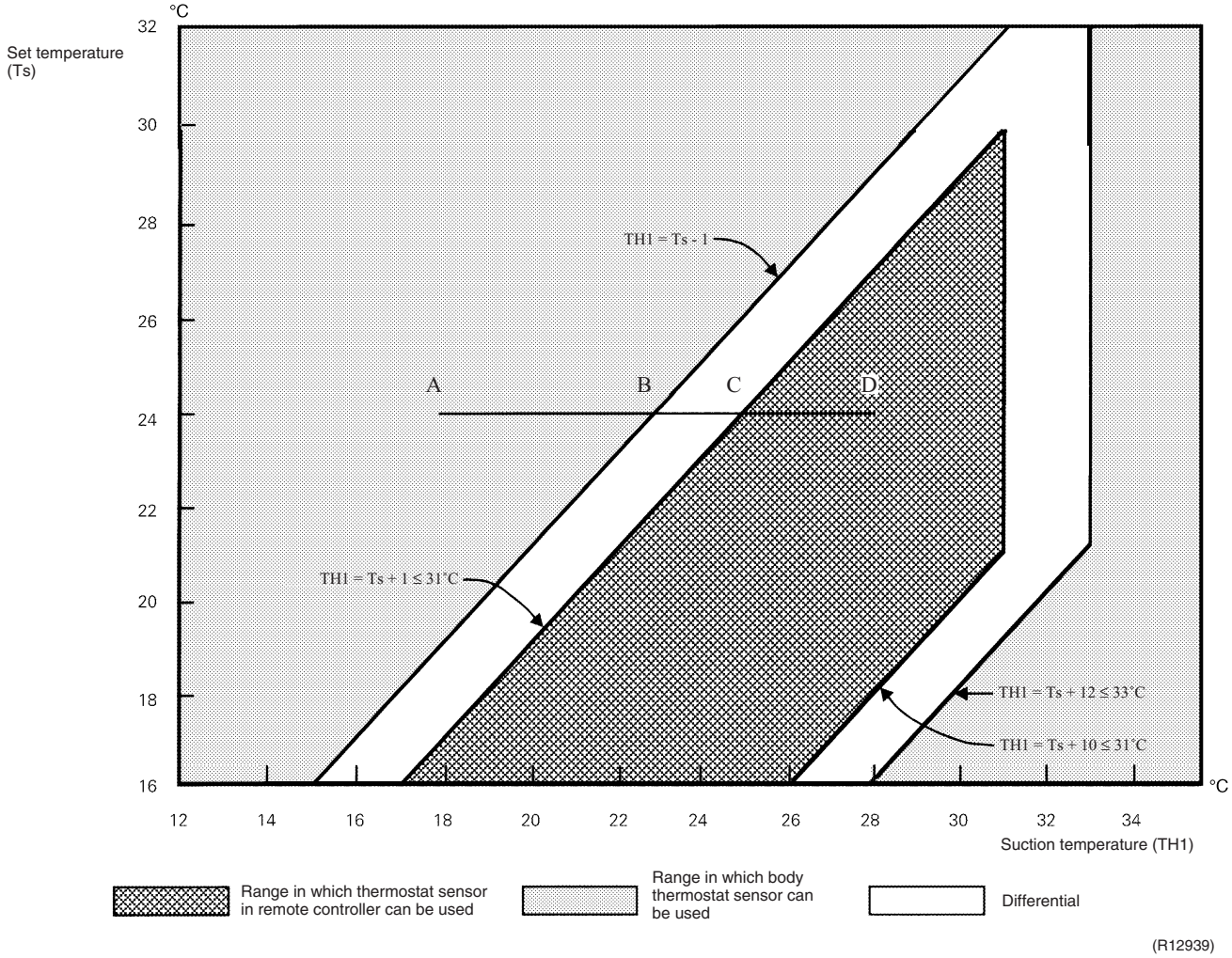
(This example also assumes there are several other air conditioners, and the suction temperature changes even when the thermostat sensor is off.)
Body thermostat sensor is used for temperatures from 18°C to 23°C (A → C).
Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C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

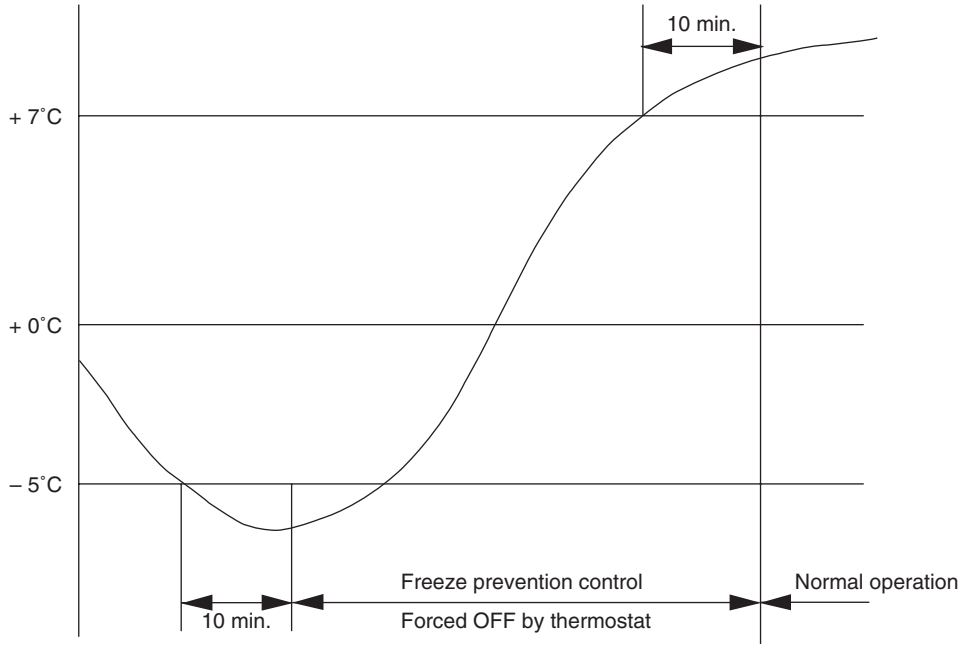
Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D → B).
Body thermostat sensor is used for temperatures from 23°C to 18°C (B → A).

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.



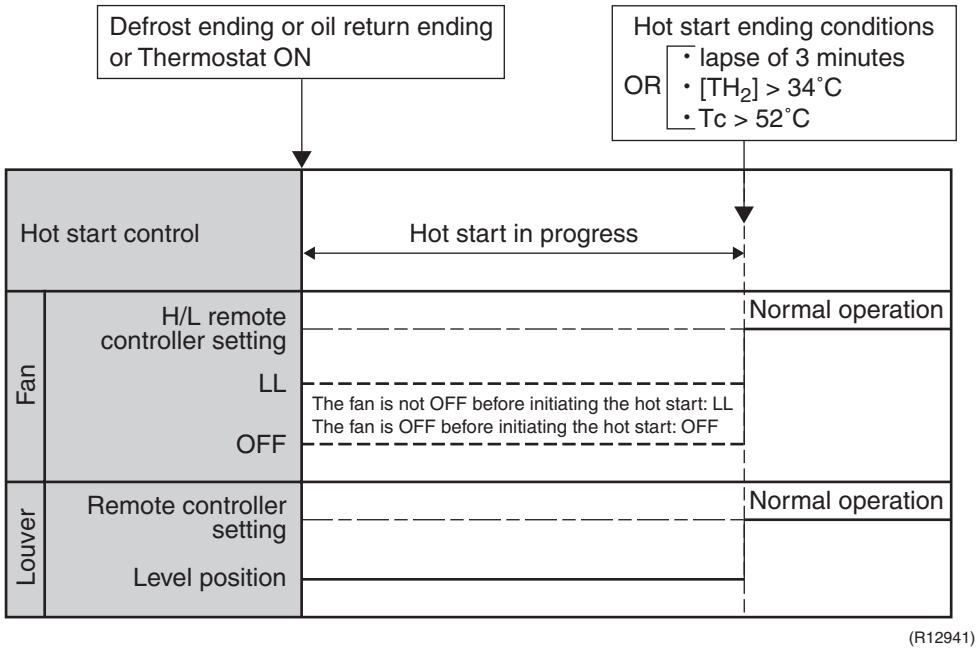
(R12940)

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.

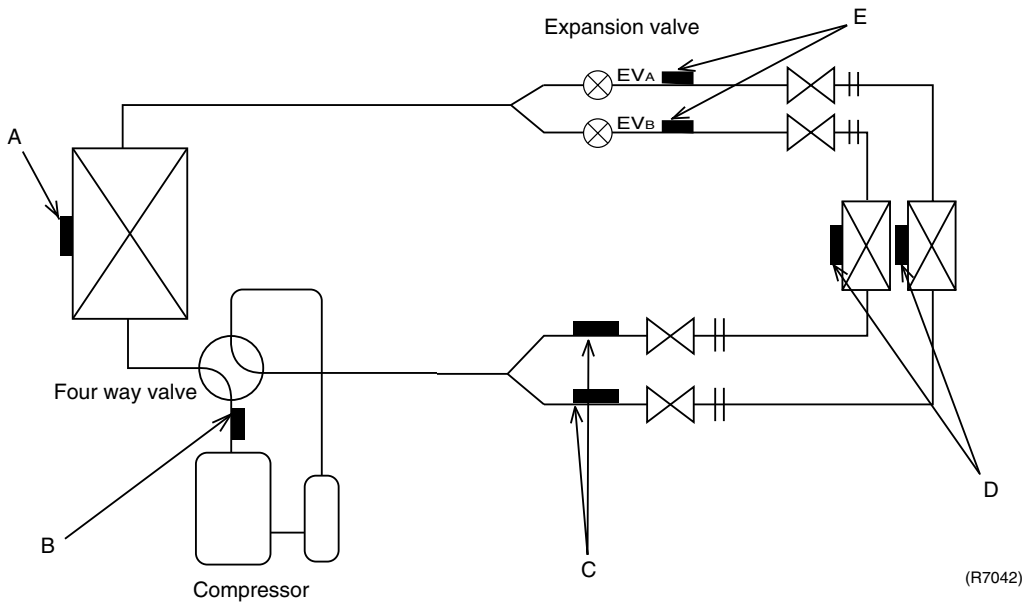
Detail



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

Tc : High pressure equivalent saturated temperature

3. Function of Thermistor



A Outdoor Heat Exchanger Thermistor

1. The outdoor heat exchanger thermistor is used for controlling target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the 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 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.

B 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.

C Gas Pipe Thermistor

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

D Indoor Heat Exchanger Thermistor

1. The indoor heat exchanger thermistor is used for controlling target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the 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 thermistor 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 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 electronic expansion valve openings to obtain the target subcool.

E 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 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 electronic expansion valve opening so that the liquid pipe temperatures in each room becomes equal.

4. Control Specification

4.1 Mode Hierarchy

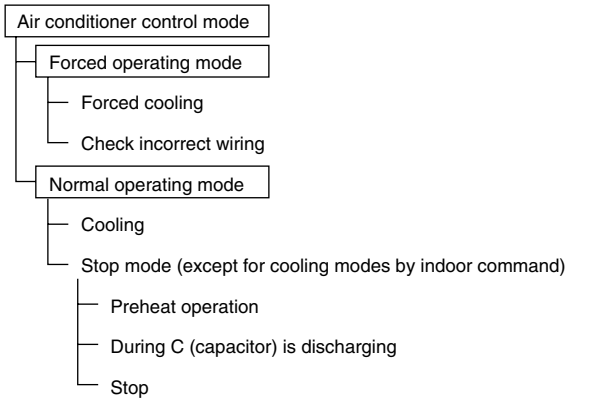
Outline

There are two modes; the one is the normal operation mode and the other is the forced operation mode for installation and providing service.

Detail

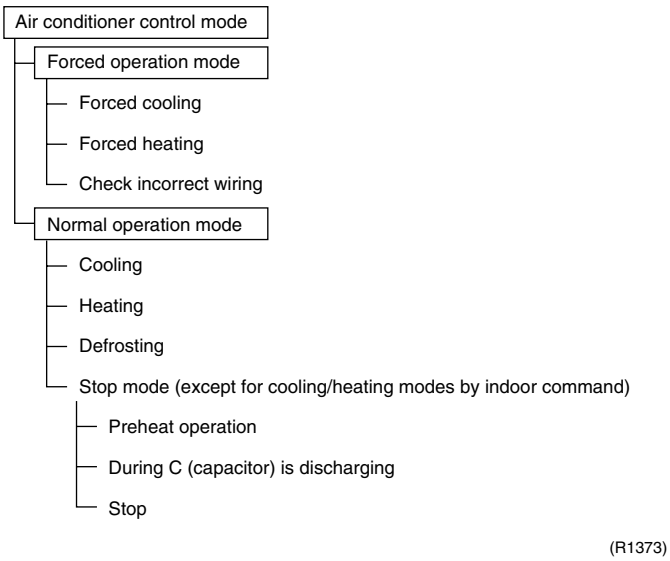
Cooling only model

There are following models; stop and cooling (includes drying).



Heat Pump Model

There are following modes; stop, cooling (includes drying), heating (includes defrosting)



Note: Unless specified otherwise, dry operation command is regarded as cooling operation. An indoor fan operation cannot be made in a multiple indoor unit. (A forced fan command to the indoor unit from the outdoor unit is made during forced 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.)

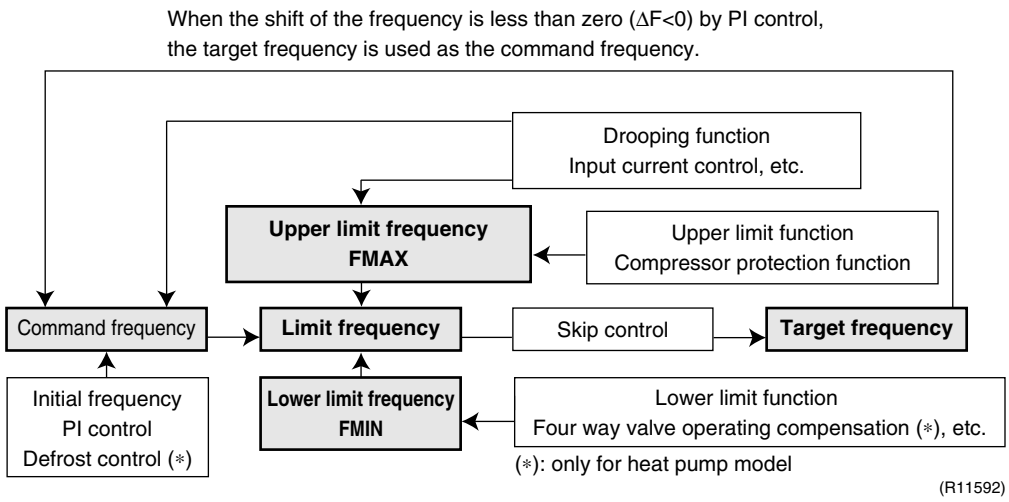
Command from the first room	Command from the second room	Operation of the first room	Operation of the second room
Cooling	Heating	Cooling	Standby
Cooling	Fan	Cooling	Fan
Heating	Cooling	Heating	Standby
Heating	Fan	Heating	Standby
Fan	Cooling	Fan	Cooling
Fan	Heating	Standby	Heating

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 the 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 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, 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
2.5 kW	25
3.5 kW	35

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 small...lower the frequency.
   When the ΣΔD value is large...increase the frequency.

3. **Limit of frequency variation width**
   When the difference between input current and input current drooping value is less than 1.5 A, the frequency increase width must be limited.

4. **Frequency management when other controls are functioning**
- When each frequency is drooping;
  Frequency management is carried out only when the frequency droops.
- 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 depending on the total of S values of a room. When low noise commands come from the indoor unit more than one room or when outdoor unit low noise or quiet commands come from all the rooms, the upper limit frequency must be lowered 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 indoor, the outdoor temperature, and discharge pipe temperature.

Detail

ON Condition

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

OFF Condition

- When outdoor temperature is higher than 12°C or discharge pipe 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, current is not conducted. In order to eliminate the switching sound when the heating is stopped, as the four way valve coil switches from ON to OFF, the OFF delay switch of the four way valve is carried out after the operation stopped.

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, acquire the differential pressure to activate the four way valve by having output frequency which is more than a certain fixed frequency, for a certain fixed time.

Detail

Starting Conditions

1. When starting compressor for heating.
2. When the operating mode changes from the previous time.
3. When starting compressor for starting defrosting or resetting.
4. When starting compressor for the first time after the reset with the power is ON.
5. When starting compressor after operation halt by failing cooling/heating mode change-over.

The lower limit frequency is set to **A** Hz for 60 seconds with any conditions with 1 through 5 above.

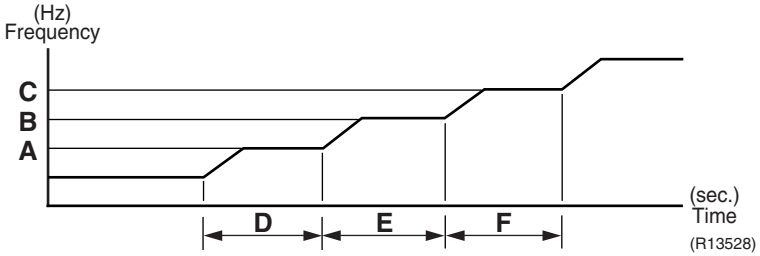
		40 class	50 class
A (Hz)	Cooling	56	40
	Heating	68	54

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.)



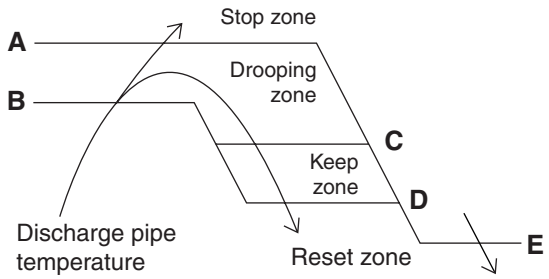
	40 class	50 class	Unit
A	62	55	Hz
B	72	70	
C	90	85	
D	140	150	seconds
E	180	180	
F	300	300	

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 this temperature from going up further.

Detail



	40 class	50 class
A(˚C)	110	110
B(˚C)	103	103
C(˚C)	102	102
D(˚C)	101	100
E(˚C)	97	95

(R14062)

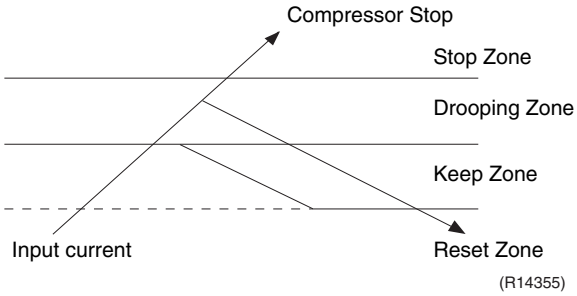
Zone	Control
Stop zone	When the temperature reaches the stop zone, the compressor stops.
Drooping zone	The upper limit of frequency decreases.
Keep zone	The upper limit of frequency is kept.
Reset zone	The upper limit of frequency is canceled.

4.5 Input Current Control

Outline

An input current is detected by the CT during the compressor is running, and the frequency upper limit is set from the input current.
In case of heat pump model, this control, which is the upper limit control of the frequency, takes priority to 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.

Drooping zone

- The upper limit of the compressor frequency is defined as operation frequency – 2 Hz.
- After this, the output frequency is pulled down 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 drooping and stop value according to the outdoor temperature

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

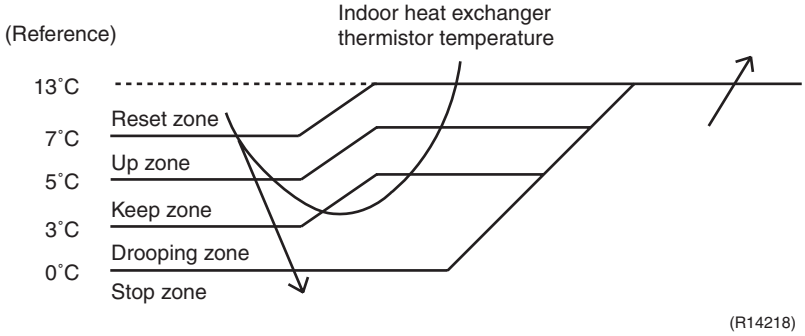
4.6 Freeze-up Protection Control

Outline

During cooling operation, the signals sent from the indoor unit allow 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

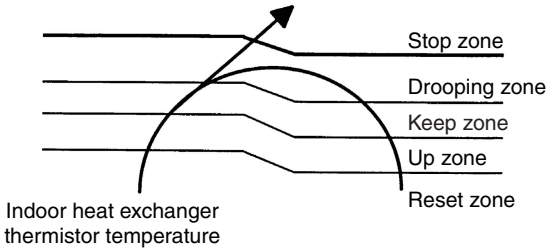
Outline

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 **A** seconds after the number of operation room is changed.
- The maximum value of the indoor heat exchanger temperature controls the following (excluding stopped rooms).

	A(seconds)
When increase	30
When decrease	2



(R4579)

4.8 Outdoor Fan Control

1. Fan OFF delay when stopped

The outdoor fan is turned OFF 60 seconds after the compressor stops.

2. 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.

3. Fan OFF control while defrosting

The outdoor fan is turned OFF while defrosting.

4. 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.

5. Fan control while forced operation

The outdoor fan is controlled as well as normal operation while the forced operation.

6. Fan speed control while indoor / outdoor quiet operation

The rotation speed of the outdoor fan is reduced by the command of the indoor / outdoor quiet operation.

7. 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.

8. Fan speed control for pressure difference upkeep

The rotation speed of the outdoor fan is controlled for keeping the pressure difference while cooling with low outdoor temperature.

- When the pressure difference is small, the rotation speed of the outdoor fan is reduced.
- When the pressure difference is large, the rotation speed of the outdoor fan is increased.

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

Compressor turns off under the conditions that the system is in cooling operation and outdoor temperature is below 0°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.

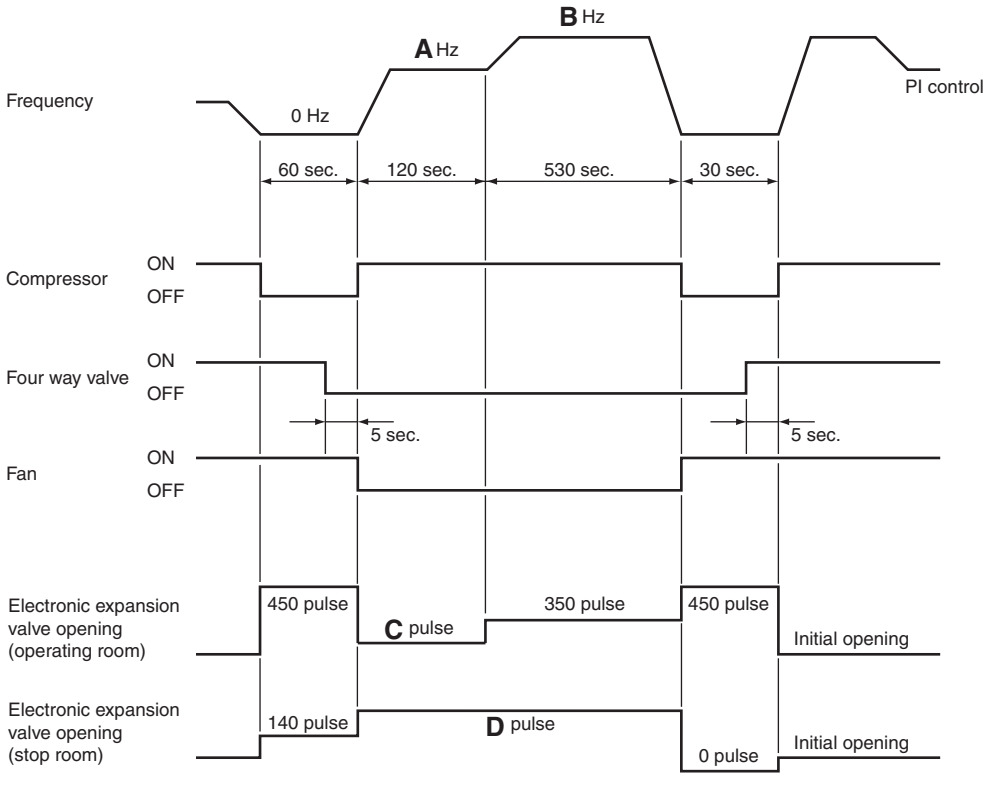
Detail

Conditions for Starting Defrost

- The starting conditions is 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 30 minutes of accumulated time pass since 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 **E**°C according to the outdoor temperature.



(R12739)

	40 class	50 class
A (Hz)	70	48
B (Hz)	86	70
C (pulse)	350	300
D (pulse)	160	200
E (˚C)	4 ~ 12	4 ~ 15

4.11 Electronic Expansion Valve Control

Outline

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

Electronic expansion valve is fully closed

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

Room Distribution Control

1. SC (subcooling) control
2. Heat exchanger isothermal control during heating
3. Liquid pipe isothermal control during heating
4. Gas pipe isothermal control during cooling

Open Control

1. Electronic expansion valve control when starting operation
2. Electronic expansion valve control when frequency changed
3. Electronic expansion valve control for defrosting
4. Electronic expansion valve control for oil recovery
5. Electronic expansion valve control when a discharge pipe temperature is abnormally high
6. Electronic expansion valve control when the discharge pipe thermistor is disconnected
7. Electronic expansion valve control for anti-icing control for indoor unit

Feedback Control

1. Discharge pipe temperature control

Detail

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

Operation pattern	○ : function × : not function	SC (subcooling) control	Control when frequency changed	Control for abnormally high discharge pipe temperature	Heat exchanger isothermal control during heating	Oil recovery control	Anti-icing control for indoor unit
When power is turned on	Fully closed when power is turned on	×	×	×	×	×	×
Cooling, 1 room operation	Open control when starting	×	×	○	×	○	○
	(Target discharge pipe temperature control)	×	○	○	×	○	○
Cooling, 2 rooms operation	Control when the operating room is changed	×	×	○	×	○	○
	(Target discharge pipe temperature control)	×	○	○	×	○	○
Stop	Pressure equalizing control	×	×	×	×	×	×
Heating operation	Open control when starting	×	×	○	○	×	×
	(Target discharge pipe temperature control)	○	○	○	○	×	×
	(Defrost control)	×	×	×	×	×	×
Stop	Pressure equalizing control	×	×	×	×	×	×
Heating operation	Open control when starting	×	×	○	○	×	×
Control of discharge pipe thermistor disconnection	Continue	○	×	×	○	×	×
Stop	Pressure equalizing control	×	×	×	×	×	×

(R14236)

4.11.1 Fully Closing with Power on

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

4.11.2 Pressure Equalization Control

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

4.11.3 Opening Limit

Outline

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

Detail

- A maximum electronic expansion valve opening in the operating room: 450 pulses
- A minimum electronic expansion valve opening in the operating room: 60 pulses

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

4.11.4 Starting Operation Control / Changing Operation Room

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

4.11.5 High Discharge Pipe Temperature

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

4.11.6 Oil Recovery Function

Outline

The 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 electronic expansion valves in the operation stopped room is opened by 80 pulses for specified time.

4.11.7 Gas Pipe Isothermal Control During Cooling

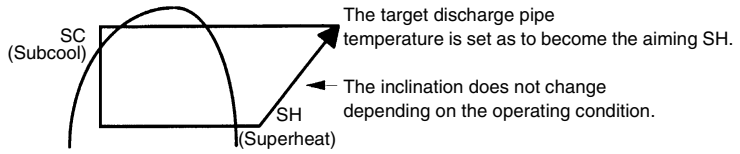
When the units are operating in multiple rooms, the gas pipe temperature is detected and the electronic expansion valve opening is adjusted so that the temperature of the gas pipe in each room becomes equal.

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

The temperatures are monitored every 40 seconds.

4.11.8 Target Discharge Pipe Temperature Control

The target discharge pipe temperature is obtained from the indoor and outdoor heat exchanger temperature, and the 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)



(R14219)

The 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 electronic expansion valve is controlled by followings.

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

4.11.9 SC (Subcooling) Control

Outline

The liquid pipe temperature and the heat exchanger temperature are detected and the 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 electronic expansion valve of the room.
- When the actual SC is < target SC, close the electronic expansion valve of the room.

Detail

Start Conditions

After finishing the starting control (about 660 seconds), all the electronic expansion valve(s) in the operating room is/are controlled.

Determine Electronic Expansion Valve Opening

The 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.

4.11.10 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 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 of waiting, 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 4 times in succession, then 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 (about 660 seconds) finishes, and the 9-minute timer for the compressor operation continuation is not counting time, 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.
When the compressor stops repeatedly, the system is shut down.

4.11.11Control when frequency is changed

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

4.12 Malfunctions

4.12.1 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. Fin thermistor
4. Gas pipe thermistor
5. Outdoor temperature thermistor
6. Liquid pipe thermistor

Relating to CT Malfunction
When the output frequency is more than 52 Hz, abnormal adjustment is carried out.

4.12.2 Detection of Overcurrent and Overload

Outline

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

Detail

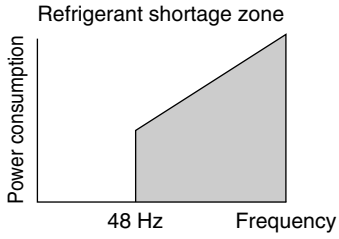
- If the inverter current exceeds 11.5~12.5 A (depending on the model), the system shuts down the compressor.
- If the OL (compressor head) temperature exceeds 120 ~ 130°C, the compressor stops.

4.12.3 Refrigerant Shortage Control

Outline

I Detecting by power consumption

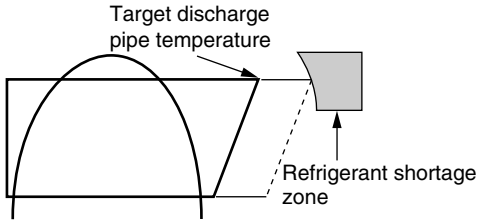
If the power consumption is below the specified value and the frequency is higher than the specified frequency, it is regarded as refrigerant shortage.
The power consumption is small comparing with that in the normal operation when refrigerant is insufficient, and refrigerant shortage is detected by checking a power consumption.



(R12507)

II Detecting by discharge pipe temperature

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



(R1391)

Refer to page 254 for detail.

4.12.4 Anti-icing Control

During cooling, if the indoor heat exchanger temperature in the operation stopped room becomes below the specified temperature for the specified time, the 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 the installation and test operation of the room air conditioner have been completed, it should be operated and handled as described below. Every user would like to know the correct method of operation of the room air conditioner, to check if it is capable of cooling (or heating) well, and to know a clever method of using it.
In order to meet this expectation of the users, giving sufficient explanations taking enough time can be said to reduce about 80% of the requests for servicing. However good the installation work is and however good the functions are, the customer may blame either the room air conditioner or its installation work because of improper handling. The installation work and handing over of the unit can only be considered to have been completed when its handling has been explained to the user without using technical terms but giving full knowledge of the equipment.

2. RA Indoor Unit

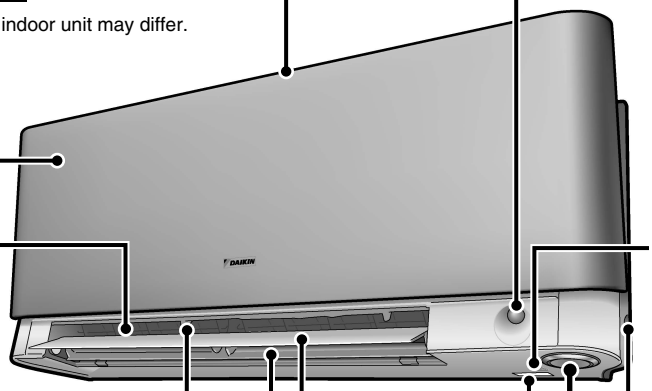
2.1 FTXG-J, CTXG-J Series - ARC466A1

2.1.1 Name of Parts

Name of Parts

Indoor Unit

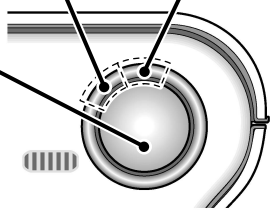
• Appearance of the indoor unit may differ.



Display

INTELLIGENT EYE lamp (green) ▶Page 16

Signal receiver and Indoor unit ON/OFF switch



Multi-monitor lamp and TIMER lamp

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

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.

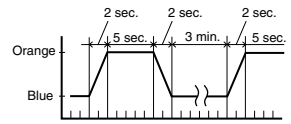
Mode	Temperature setting	Airflow rate
AUTO	25˚C	AUTO

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

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

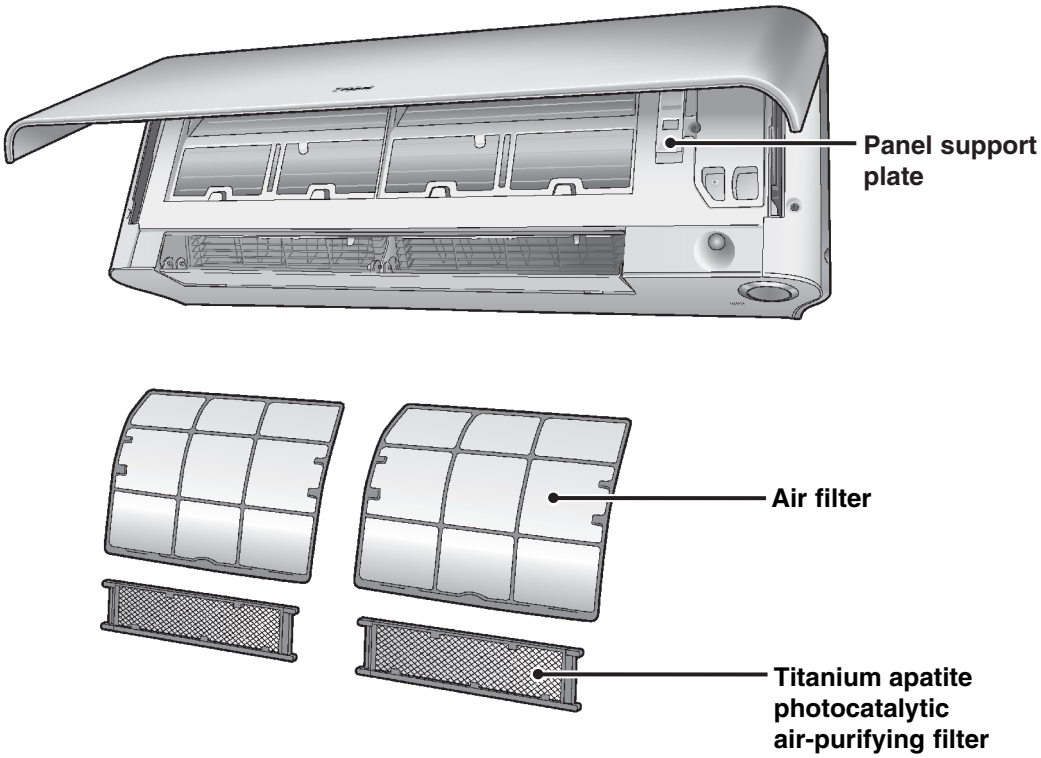


TIMER lamp colour

DRY : Green ⟶ Orange
COOL : Blue ⟶ Orange
HEAT : Red ⟶ Orange
FAN : White ⟶ Orange
Stop : Off ⟶ Orange

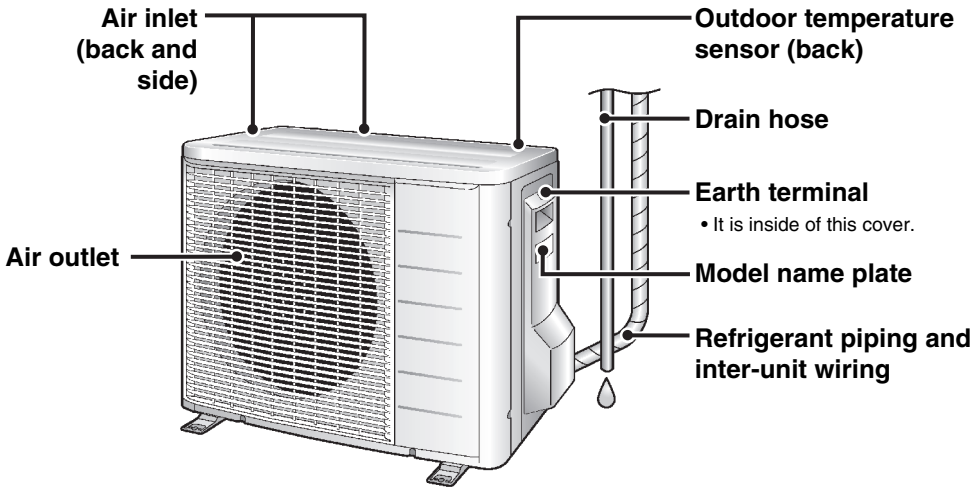
5

■ Open the front panel



Outdoor Unit

• Appearance of the outdoor unit may differ from some models.

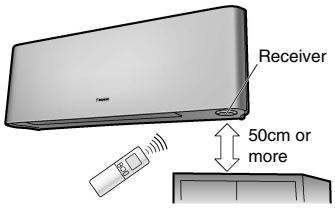


6

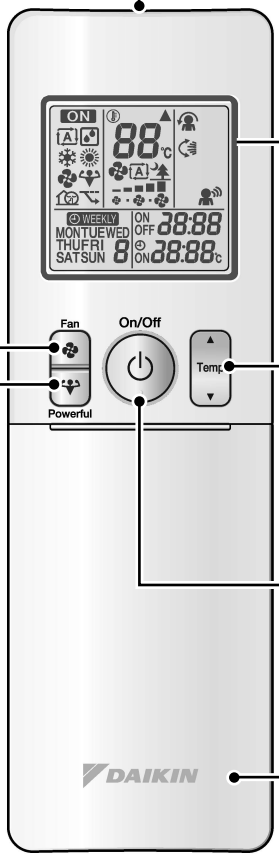
Name of Parts

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. ▶Page 12

ON/OFF button

- Press this button once to start operation. Press once again to stop it. ▶Page 11

FAN setting button

- It selects the airflow rate setting. ▶Page 14

Front cover

- Open the front cover. ▶Page 8

POWERFUL button

- POWERFUL operation. ▶Page 18

Model	ARC466A1

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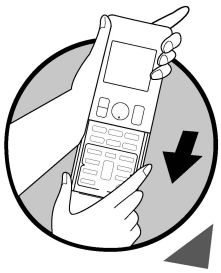
■ Open the front cover



MODE selector button
- It selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN) ▶Page 11

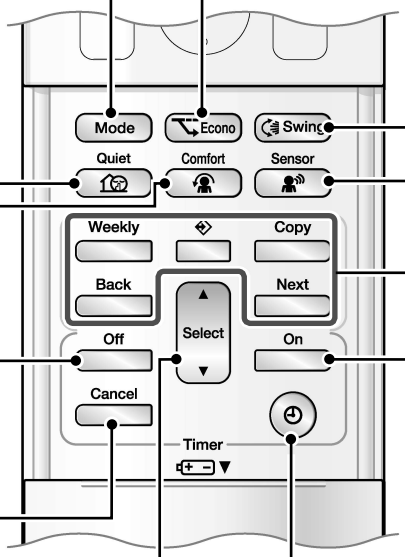
ECONO button
- ECONO operation. ▶Page 20

SWING button
- Adjusting the airflow direction. ▶Page 13

QUIET button
- OUTDOOR UNIT QUIET operation. ▶Page 19

INTELLIGENT EYE button
- INTELLIGENT EYE operation. ▶Page 16

COMFORT button
- COMFORT AIRFLOW operation. ▶Page 15



Weekly
: WEEKLY button
: PROGRAM button
Copy
: COPY button
Back
: BACK button
Next
: NEXT button
- WEEKLY TIMER operation. ▶Page 23

OFF TIMER button ▶Page 21

TIMER CANCEL button
- It cancels the timer setting. ▶Page 21,22
- It cannot be used for the WEEKLY TIMER operation.

ON TIMER button ▶Page 22

SELECT button
- It changes the ON/OFF TIMER and WEEKLY TIMER settings. ▶Page 21,22,23

CLOCK button

8

2.1.2 AUTO · DRY · COOL · HEAT · FAN Operation

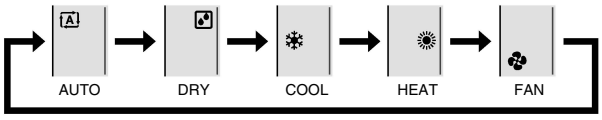
AUTO · DRY · COOL · HEAT · FAN Operation

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.



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

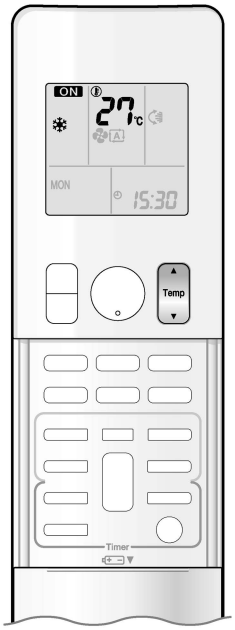
Press On/Off again.

• " 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 blowing the hot air in the room outside, so if the outside temperature is high, the performance of the air conditioner drops.
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 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.
FAN	• This mode is valid for fan only.

11



■ 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 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.

2.1.3 Adjusting the Airflow Direction and Rate

Adjusting the Airflow Direction and Rate

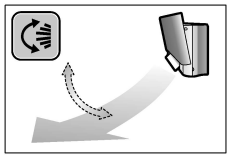
You can adjust the airflow direction to increase your comfort.

■ 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.

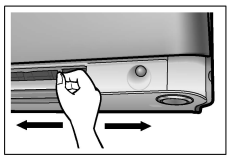
- " " disappears from the LCD.

■ To adjust the louvers at desired position

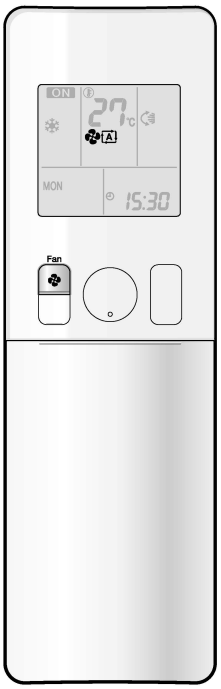
Hold the knob and move the louvers.

- 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.



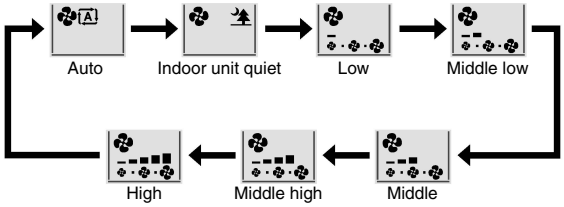
13



■ To adjust the airflow rate setting

Press Fan **.**

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

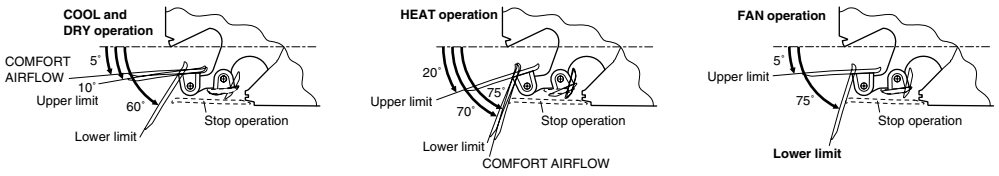


• When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY mode, the airflow rate setting is not variable.

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.

2.1.4 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

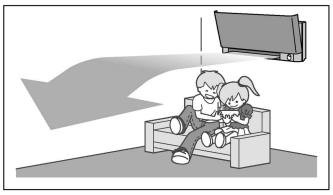
Press Comfort **.**

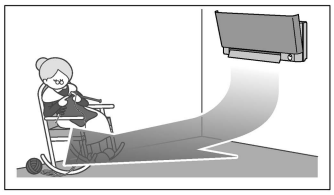
- "" is displayed on the LCD.
- Airflow rate is set to Auto.
  COOL/DRY: The flaps will go up.
  HEAT: The flaps will go down.

■ 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 flaps 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.

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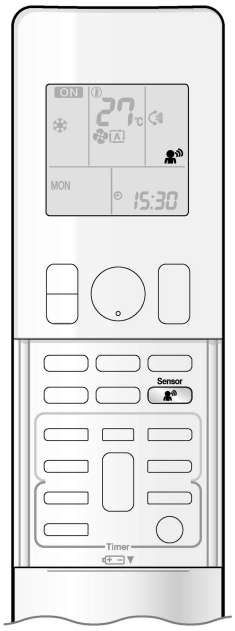
2.1.5 INTELLIGENT EYE Operation

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

Sensor

Press .

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

Display

■ To cancel INTELLIGENT EYE operation

Sensor

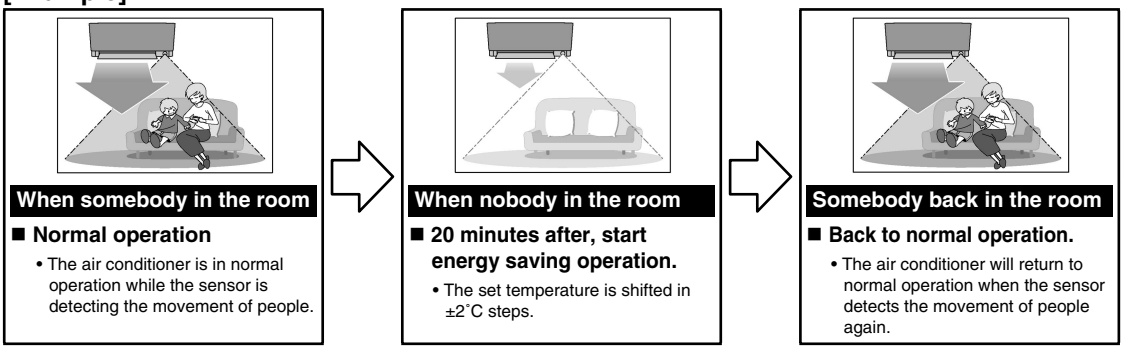
Press again.

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

16

INTELLIGENT EYE Operation

[Example]



INTELLIGENT EYE operation is useful for energy saving

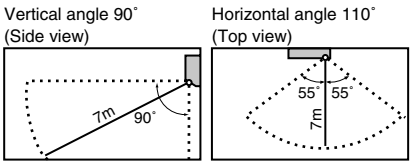
■ **Energy saving operation**

- 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.
- This operation decreases the airflow rate slightly in FAN operation only.

NOTE

■ **Notes on INTELLIGENT EYE operation**

- Application range is as follows.



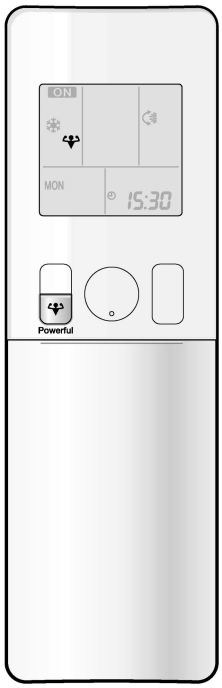
- Sensor may not detect moving objects further than 7m away. (Check the application range.)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
- INTELLIGENT EYE operation will not go on during POWERFUL operation.
- NIGHT SET mode ▶Page 21 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.

2.1.6 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

Press Powerful during operation.

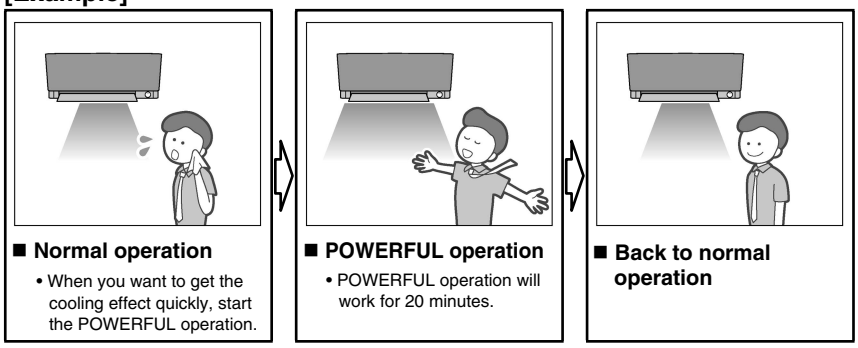
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- "Powerful" is displayed on the LCD.

■ To cancel POWERFUL operation

Press Powerful again.

- "Powerful" 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 "Powerful" 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 must be increased and the airflow rate be 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 must be increased and the airflow rate be fixed to the maximum setting.

2.1.7 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 the night.

■ To start OUTDOOR UNIT QUIET operation

Press Quiet **.**

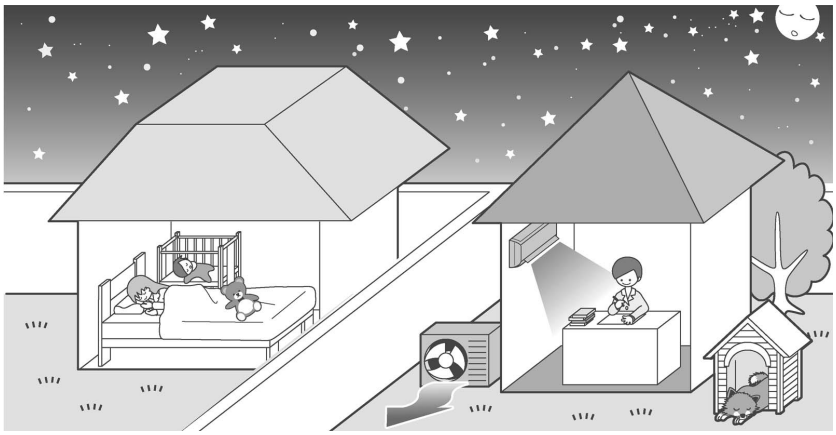
- "" is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

Press Quiet **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 neighborhood.

NOTE

■ **Notes on OUTDOOR UNIT QUIET operation**

- 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 they have been already dropped low enough.

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2.1.8 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

Press Econo during operation.

- "⌥" is displayed on the LCD.

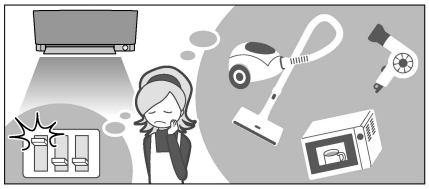
■ To cancel ECONO operation

Press Econo again.

- "⌥" disappears from the LCD.

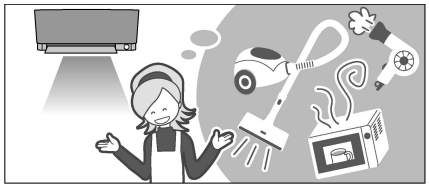
[Example]

Normal operation

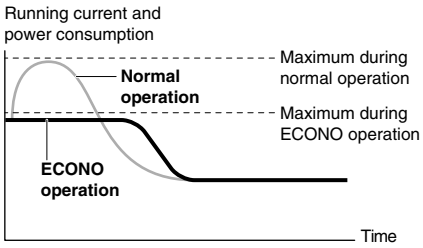


- In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

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.

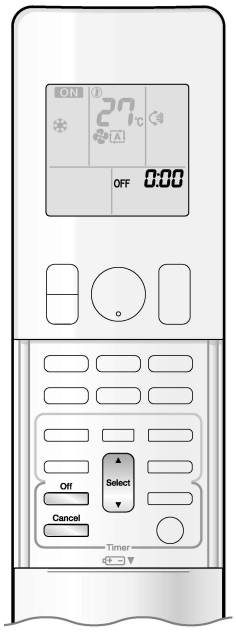
NOTE

■ 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.
- 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.

2.1.9 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.

• " 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. ▶Page 5

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.

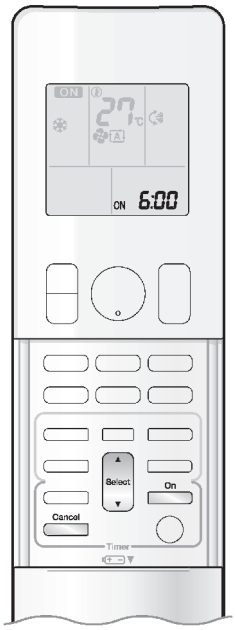
NOTE

■ **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.

2.1.10 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.

• " 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. ▶Page 5

Display

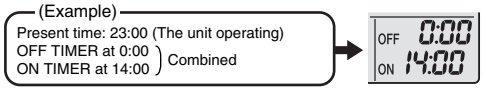
■ To cancel ON TIMER operation

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.



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.

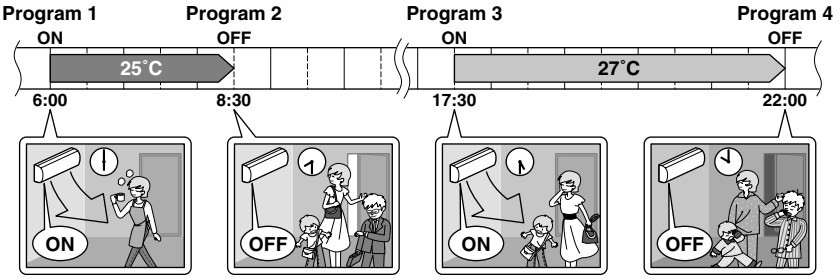
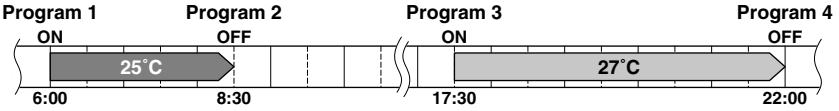
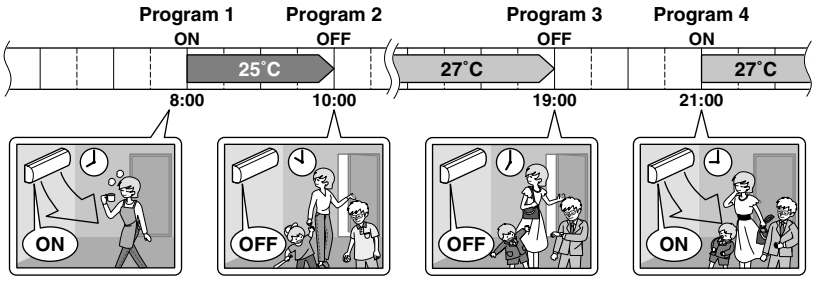
2.1.11 WEEKLY TIMER Operation

WEEKLY TIMER Operation

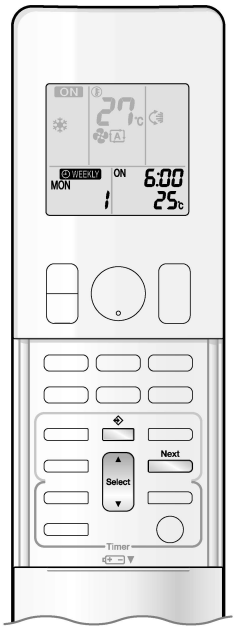
Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

■ Using in these cases of WEEKLY TIMER

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. ▶Page 24 
[Tuesday] to [Friday]	Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday. ▶Page 26 
[Saturday]	No timer settings
[Sunday]	Make timer settings up to programs 1-4. ▶Page 24 

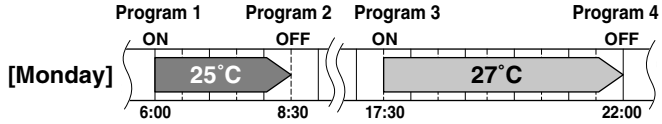
- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by 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.



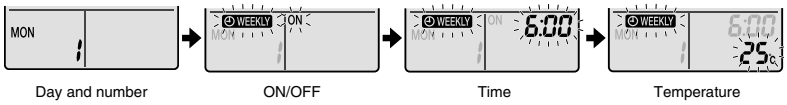
■ To use WEEKLY TIMER operation

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.

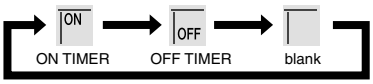
3. Press Next.

• 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 multi-monitor 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 multi-monitor lamp blinks twice.
  The TIMER lamp periodically lights orange. ▶Page 5
  The multi-monitor lamp will not blink orange if all the reservation settings are deleted.

Display

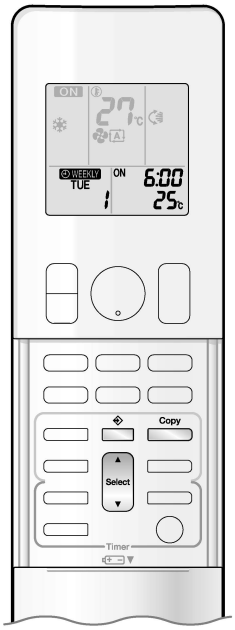
10. Press ◈ to complete the setting.

- "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. ▶Page 26

NOTE

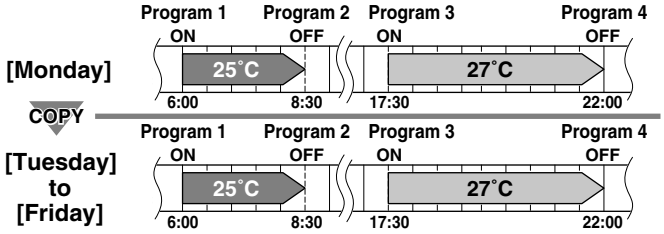
■ **Notes on WEEKLY TIMER operation**

- 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.

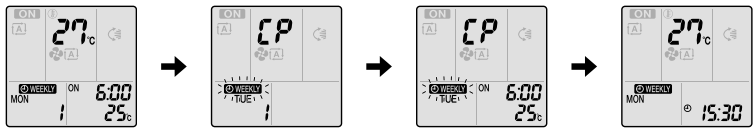


Copy mode

• 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 multi-monitor 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***.
• The multi-monitor lamp blinks twice. The TIMER lamp periodically lights orange.

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.

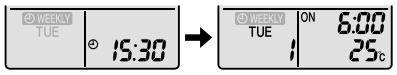
In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press [◈] and change the settings in the steps of setting mode. ▶Page 24

WEEKLY TIMER Operation

■ Confirming a reservation

• The reservation can be confirmed.

Setting Displays



Normal Confirmation

1. Press ◈ .

• 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*. ▶Page 24

3. Press ◈ 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".

ON TIMER → OFF TIMER → 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.

3P255639-1

2.2 FTXS, FVXS Series - ARC452A1, A3

2.2.1 Manual Contents and Reference Page

Model Series	Wall Mounted Type	Floor Standing Type
	FTXS20-50G2V1B FTXS20-50J2V1B	FVXS25-50FV1B
Read Before Operation		
Names of Parts	123	126
Operation		
AUTO · DRY · COOL · HEAT · FAN Operation	129 ★	129 ★
Adjusting the Airflow Direction	131 ★	133
COMFORT AIRFLOW and INTELLIGENT EYE Operation	135	—
POWERFUL Operation	138 ★	138 ★
OUTDOOR UNIT QUIET Operation	139 ★	139 ★
ECONO Operation	140 ★	140 ★
TIMER Operation	141 ★	141 ★
WEEKLY TIMER Operation	143 ★	143 ★
Note for Multi System	148 ★	148 ★
Drawing No.	3P207037-1D 3P266959-2A	3P191290-1K

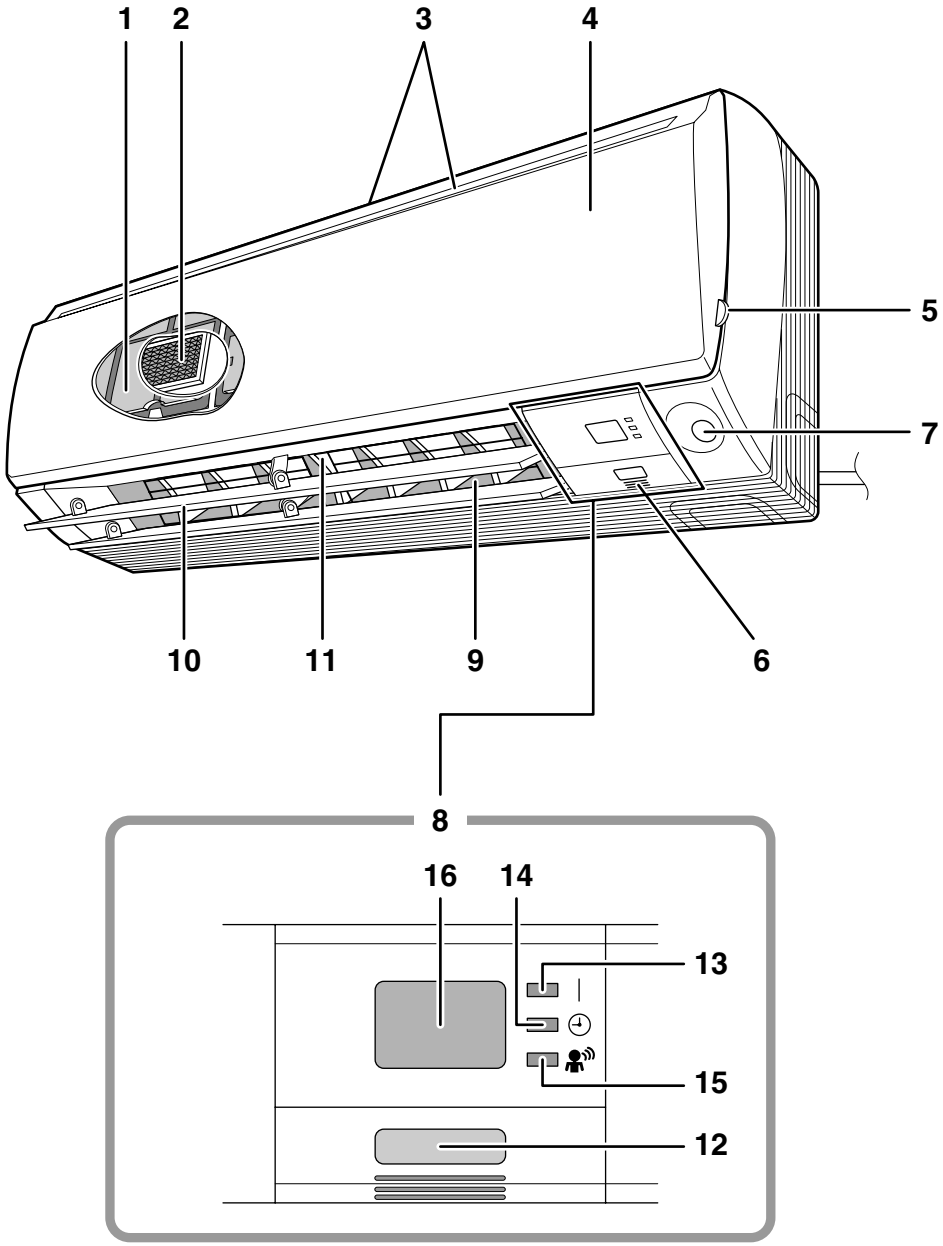
★: Illustrations are for FTXS20-50G2V1B as representative.

2.2.2 Names of Parts

FTXS20/25/35/42/50G2V1B, FTXS20/25/35/42/50J2V1B

Names of parts

■ Indoor Unit



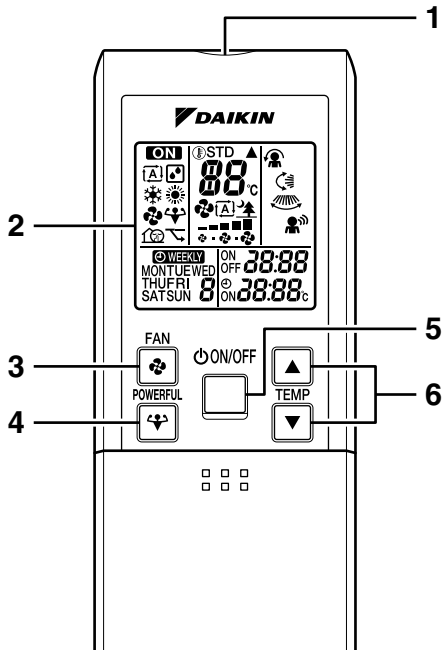
■ Indoor Unit

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. **Horizontal blades (flaps)**
11. **Vertical blades (louvers):**
    - The louvers are inside of the air outlet.
12. **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

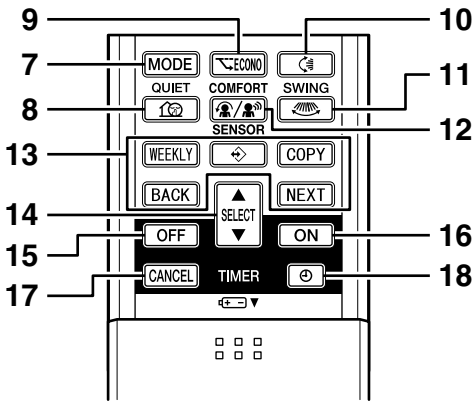
    - This switch is useful when the remote controller is missing.
13. **Operation lamp (green)**
14. **TIMER lamp (yellow)**
15. **INTELLIGENT EYE lamp (green)**
16. **Signal receiver:**
    - It receives signals from the remote controller.
    - When the unit receives a signal, you will hear a short beep.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

■ Remote Controller



<ARC452A3>

<Open the front cover>

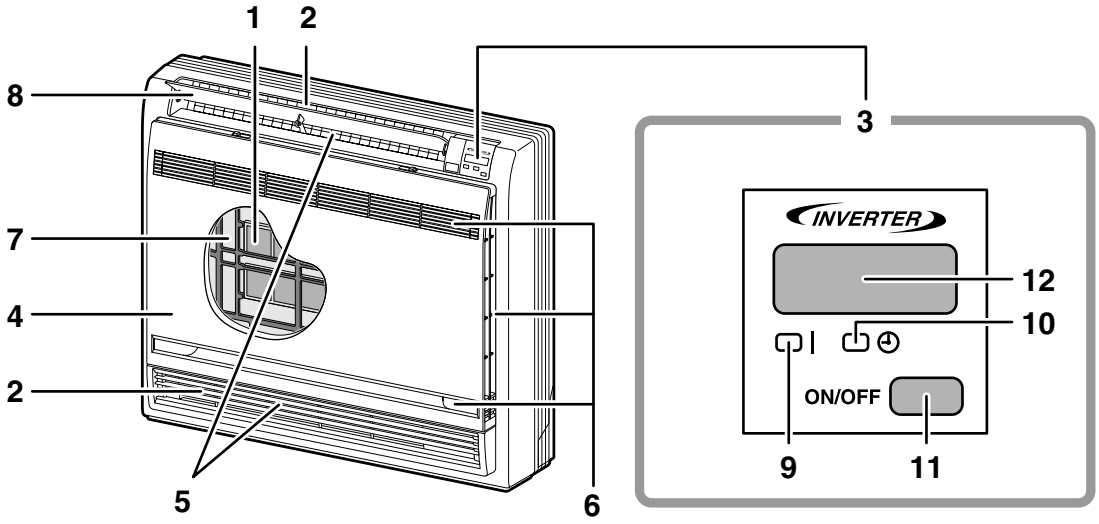


1. **Signal transmitter:**
   - It sends signals to the indoor unit.
2. **Display:**
   - It displays the current settings. (In this illustration, each section is shown with its displays ON for the purpose of explanation.)
3. **FAN setting button:**
   - It selects the airflow rate setting.
4. **POWERFUL 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**

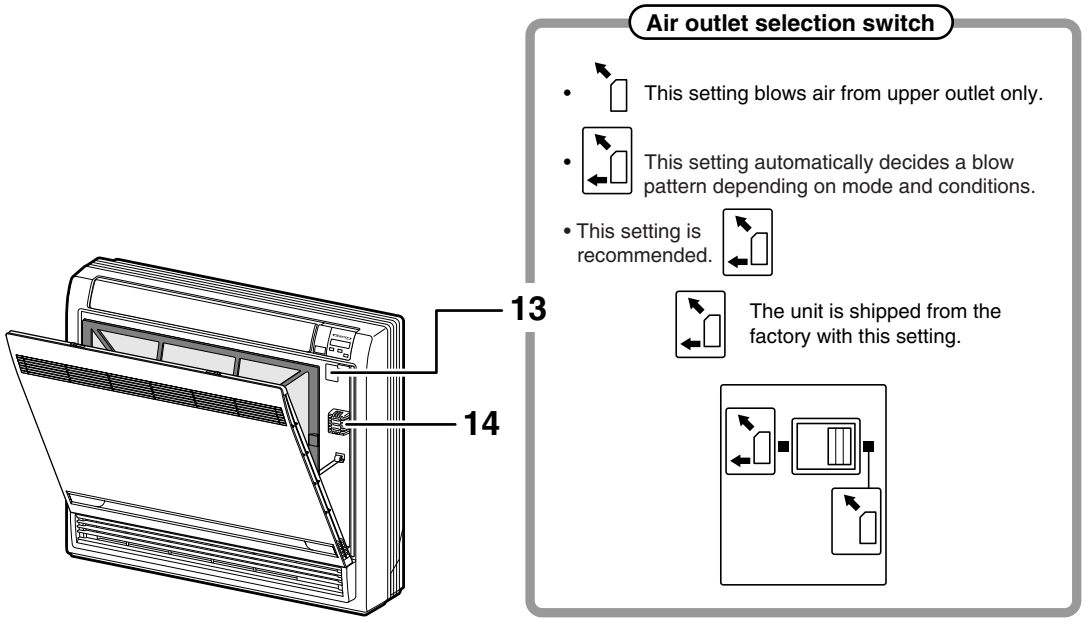
FVXS25/35/50FV1B

Names of parts

■ Indoor Unit



■ Opening the Front Panel



⚠ 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.

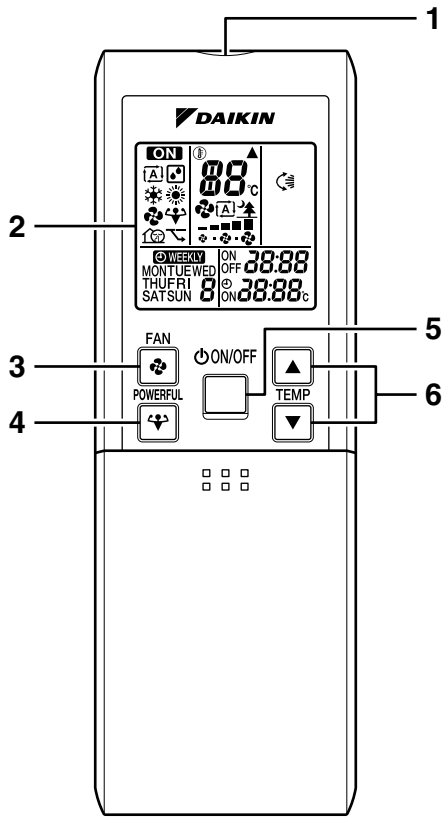
■ Indoor Unit

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

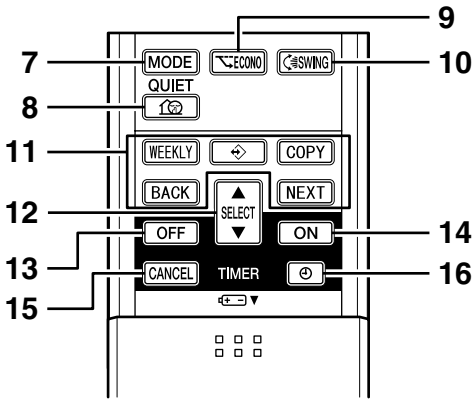
    - This switch is useful when the remote controller is missing.
12. **Signal receiver:**
    - It receives signals from the remote controller.
    - When the unit receives a signal, you will hear a short beep.
      - Operation start .....beep-beep
      - Settings changed .....beep
      - Operation 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>

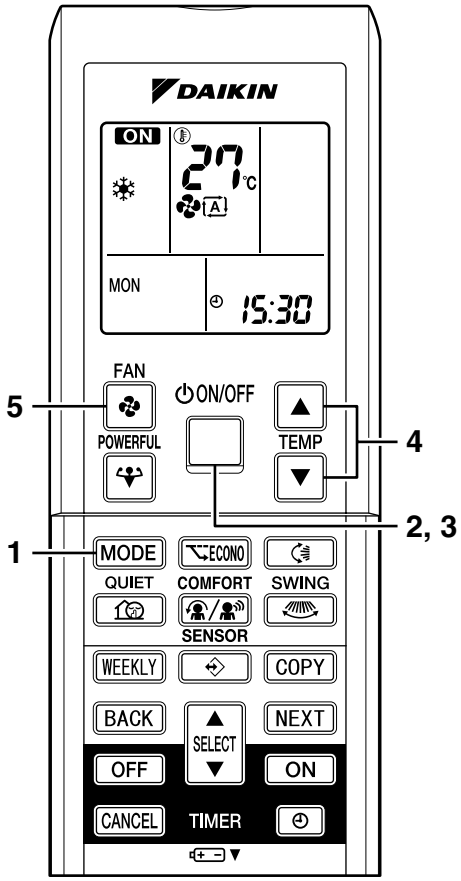


1. **Signal transmitter:**
   - It sends signals to the indoor unit.
2. **Display:**
   - It displays the current settings. (In this illustration, each section is shown with all its displays ON for the purpose of explanation.)
3. **FAN setting button:**
   - It selects the airflow rate setting.
4. **POWERFUL 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 selector button” and select a operation mode.

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

: AUTO

: DRY

: COOL

: HEAT

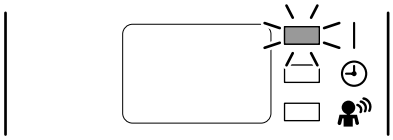
: FAN

Cooling only model

Heat pump model

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 airflow rate setting

5. Press “FAN setting button”.

DRY mode	AUTO or COOL or HEAT or FAN mode
The airflow rate setting is not variable.	Five levels of airflow rate setting from “ ” to “ ” plus “ ” “ ” are available. 

- 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

■ **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.
- 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 blowing the hot air in the room outside, so if the outside temperature is high, the performance of the air conditioner 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 airflow rate, 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, manually change the set temperature.

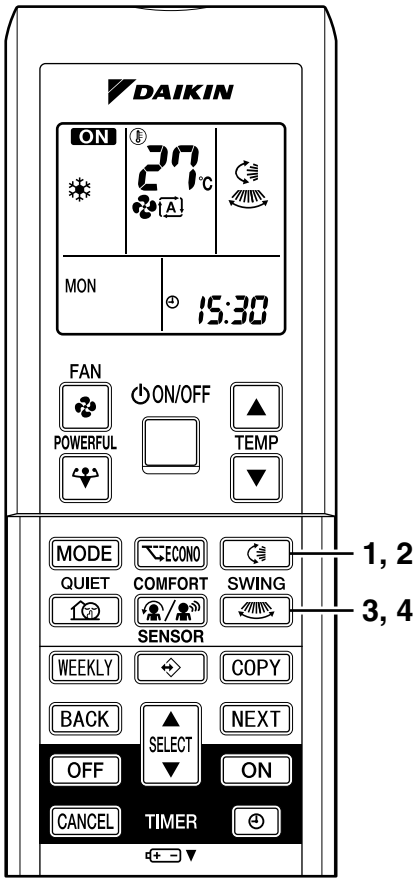
■ **Note on airflow rate setting**
- At smaller airflow rates, the cooling (heating) effect is also smaller.

2.2.4 Adjusting the Airflow Direction

FTXS20/25/35/42/50G2V1B, FTXS20/25/35/42/50J2V1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.



■ To adjust the horizontal blades (flaps)

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 flaps will stop moving.
   - " " disappears from the LCD.

■ To adjust the vertical blades (louvers)

3. **Press "SWING button ".**
   - " " is displayed on the LCD.
4. **When the louvers have reached the desired position, press the "SWING button " once more.**
   - The louvers will stop moving.
   - " " disappears from the LCD.

■ To start 3-D Airflow

1. 3. Press the "SWING button" and the "SWING button": the "" and " " display will light up and the flap and louvers will move in turn.

■ To cancel 3-D Airflow

2. 4. Press either the "SWING button " or the "SWING button ".

■ COMFORT AIRFLOW operation

- Check COMFORT AIRFLOW operation in the section of "COMFORT AIRFLOW Operation" and "INTELLIGENT EYE Operation".

Notes on flaps and louvers angles

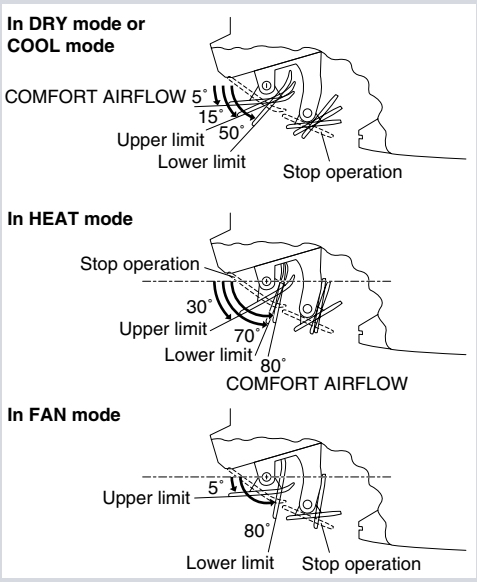
- When "**SWING button**" is selected, the flaps swinging range depends on the operation mode. (See the figure.)

Three-Dimensional (3-D) Airflow

- Using three-dimensional 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.

■ **ATTENTION**

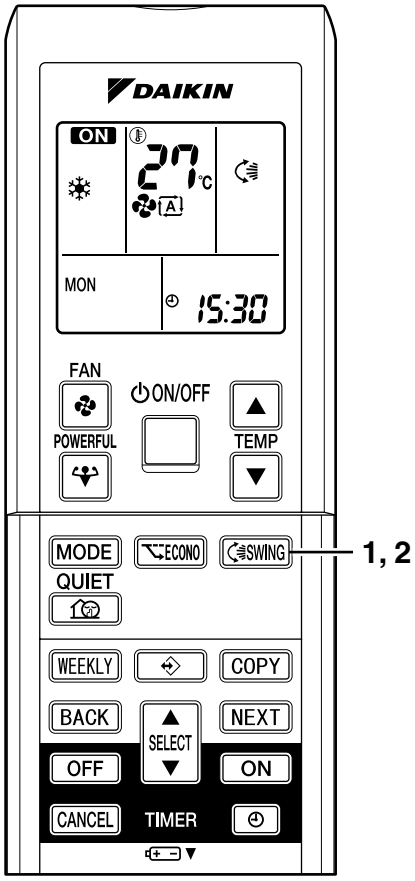
- Always use a remote controller to adjust the angles of the flaps and louvers. If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.
- Always use a remote controller to adjust the louvers angles. In side the air outlet, a fan is rotating at a high speed.



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".

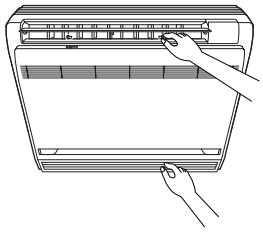
- "" is displayed on the LCD and the flaps will begin to swing.

2. When the flap has reached the desired position, press "SWING button" once more.

- The flap will stop moving.
- "" disappears from the LCD.

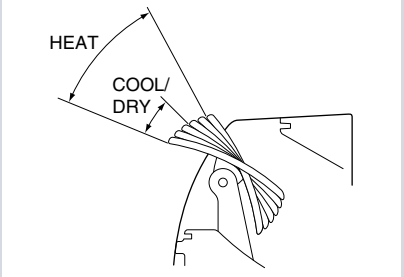
■ To adjust the vertical blades (louvers)

Hold the knob and move the louver.
(You will find a knob on the left-side and the rightside 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**

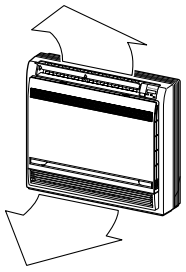
- When adjusting the flap by hand, turn off the unit, and use the remote controller to restart the unit.
- Be careful when adjusting the louvers. Inside the air outlet, a fan is rotating at a high speed.

■ 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.)

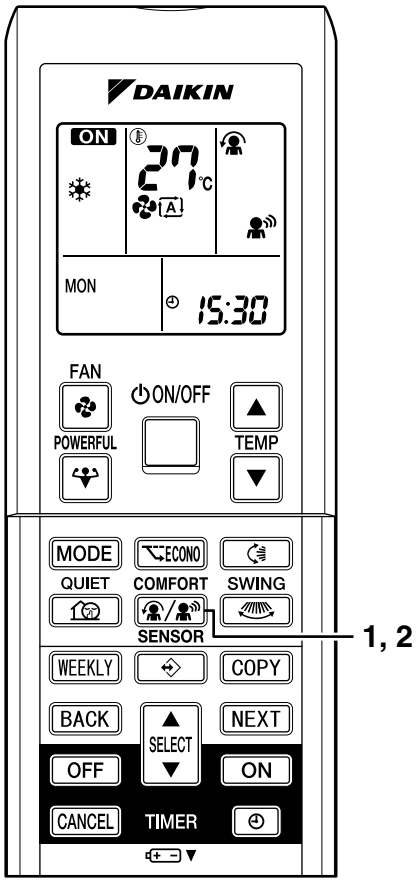
⚠ CAUTION

- 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

COMFORT AIRFLOW and INTELLIGENT EYE Operation

The INTELLIGENT EYE incorporates infrared sensors to detect the presence of people in the conditioned room.
When these sensors detect people, 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.



■ To start operation

1. Press “COMFORT/SENSOR button” and select an operation mode.

- Choose the desired operation mode out of the following sequence.
- Each time the “COMFORT/SENSOR button” is pressed a different setting option is displayed on the LCD.

→ → → → Blank

■ To cancel operation

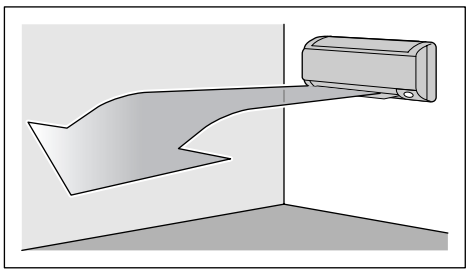
2. Press “COMFORT/SENSOR button”.

- Press the button to select “Blank”.

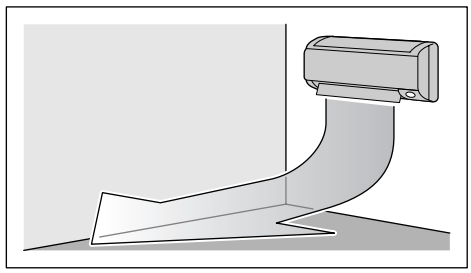
Display	Operation mode	Explanation
	COMFORT AIRFLOW	The flaps will adjust the airflow direction upward while cooling, and adjust the airflow direction downward while heating.
	INTELLIGENT EYE	The sensors will detect the movement of people in the sensing areas and the louvers will adjust the airflow direction 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	–

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.
- The volume of air will be set to AUTO. If the upward and downward airflow direction is selected, the COMFORT AIRFLOW function will be canceled.
- Priority is given to the function of whichever button is pressed last.
- The COMFORT AIRFLOW function makes the following airflow direction adjustments.
  The flaps will move upward while cooling so that the airflow will be directed upward.
  The flaps will move downward while heating so that the airflow will be directed downward.



Cooling operation

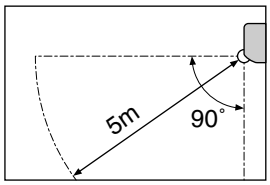


Heating operation

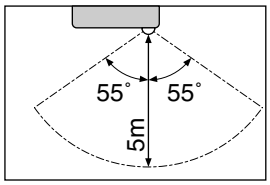
Notes on “INTELLIGENT EYE Operation”

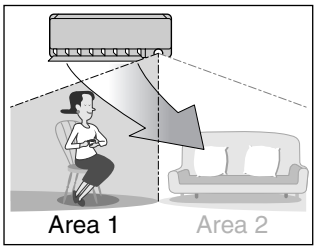
- The INTELLIGENT EYE sensor according to the following situations.

Vertical angle 90˚
(Side View)

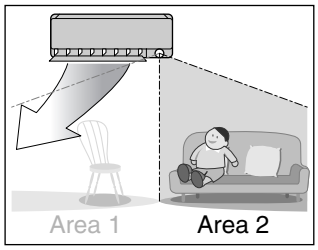


Horizontal angle 110˚
(Top View)

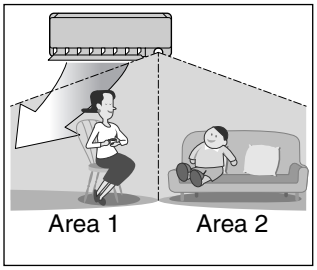




A person is detected in area 1.

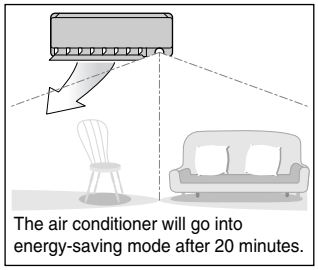


A person is detected in area 2.



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 wind direction may differ from the illustrated direction depending on the actions and movements of the people in the areas.

COMFORT AIRFLOW and INTELLIGENT EYE Operation

Notes on “INTELLIGENT EYE Operation”

- 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 5m 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.
- NIGHT SET MODE will not go on during use of INTELLIGENT EYE operation.

“INTELLIGENT EYE” is useful for Energy Saving

■ **Energy saving operation**

- Change the temperature –2˚C in heating / +2˚C in cooling / +2˚C in dry mode from set temperature.
- Decrease the airflow rate slightly in FAN mode only. If no presence detected in the room during 20 minutes.

■ To combine “COMFORT AIRFLOW Operation” and “INTELLIGENT EYE Operation”

- 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.

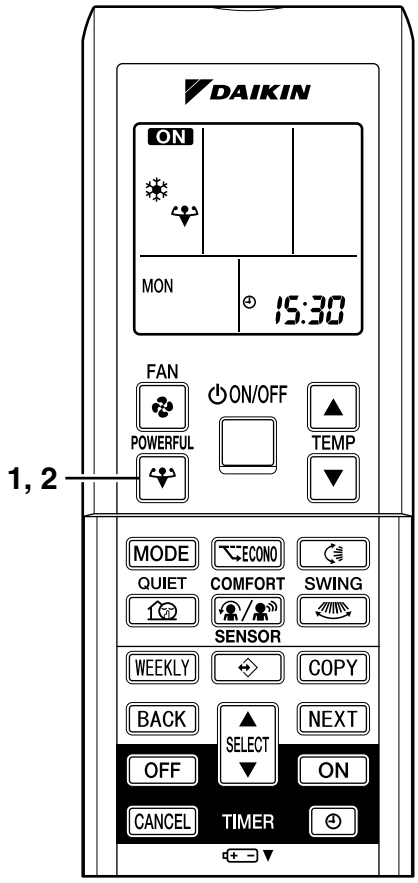
⚠ CAUTION

- 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 button".

- 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.
- When using POWERFUL operation, there are some functions which are not available.

■ To cancel POWERFUL operation

2. Press "POWERFUL button" again.

- " " disappears from the LCD.

NOTE

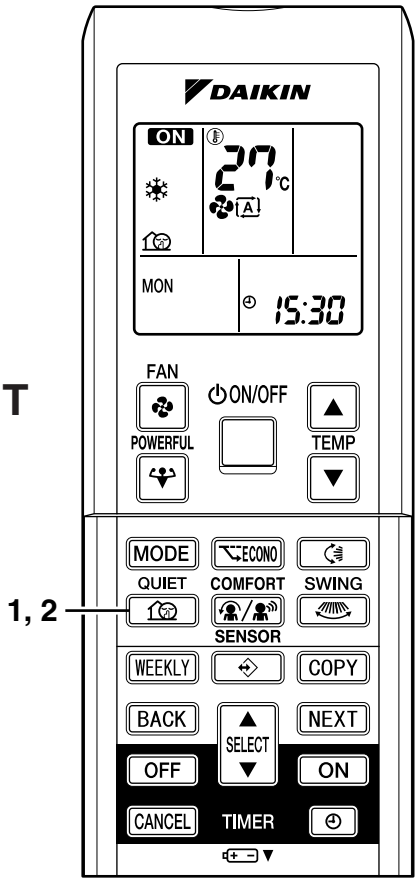
■ **Notes on POWERFUL operation**

- POWERFUL Operation cannot be used together with ECONO, QUIET, or COMFORT 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 the operation stop button 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 mode**
  To maximize the cooling (heating) effect, the capacity of outdoor unit must be increased and the airflow rate be fixed to the maximum setting.
  The temperature and airflow settings are not variable.
- **In DRY mode**
  The temperature setting is lowered by 2.5˚C and the airflow rate is slightly increased.
- **In FAN mode**
  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 "QUIET button".**
   - "" is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

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

NOTE

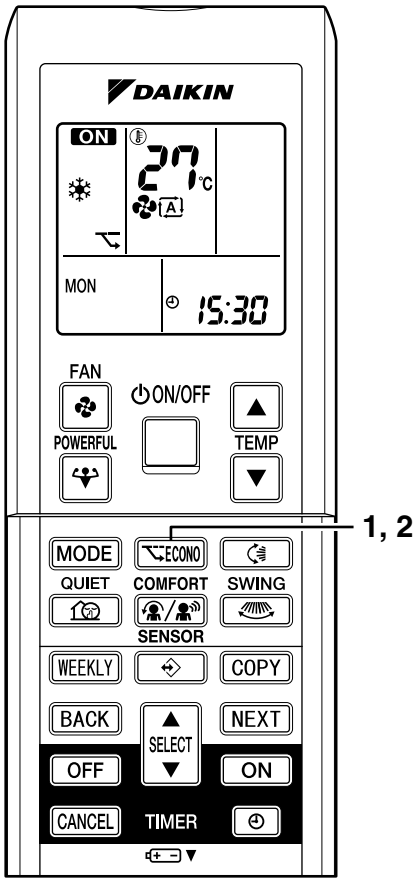
■ **Note on OUTDOOR UNIT QUIET operation**

- 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.
- 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

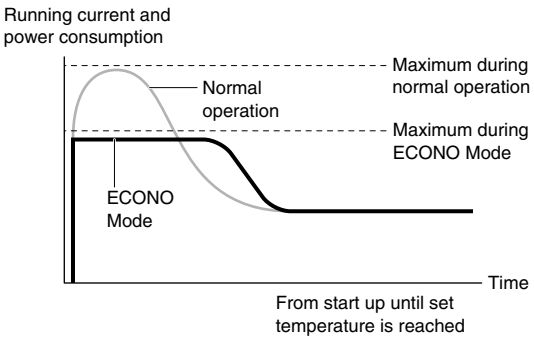
1. Press “ECONO button”.

- “ ⌥ ” is displayed on the LCD.

■ To cancel ECONO operation

2. Press “ECONO button” 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 mode vary with the connecting outdoor unit.

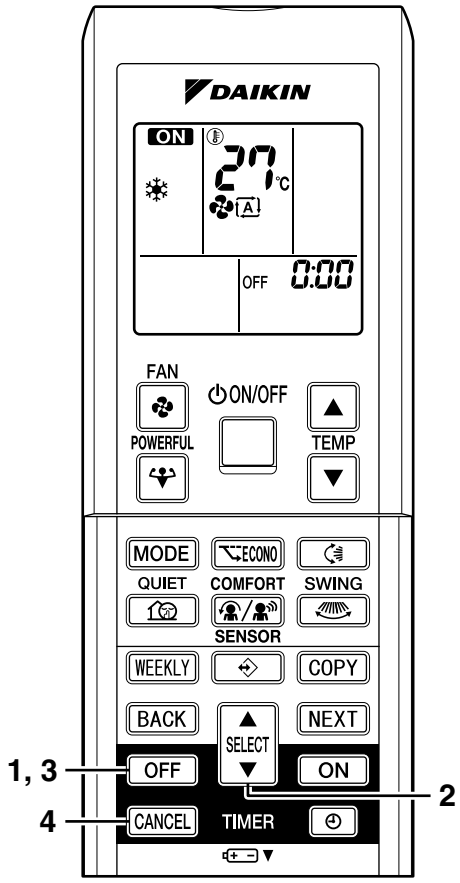
NOTE

- ECONO Operation can only be set when the unit is running. Pressing the OFF button causes the setting 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 modes.
- POWERFUL and ECONO operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- Power consumption may not drop even if ECONO operation is used of the level of power consumption is already low.

2.2.9 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.

OFF blinks.

2. Press “SELECT 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.

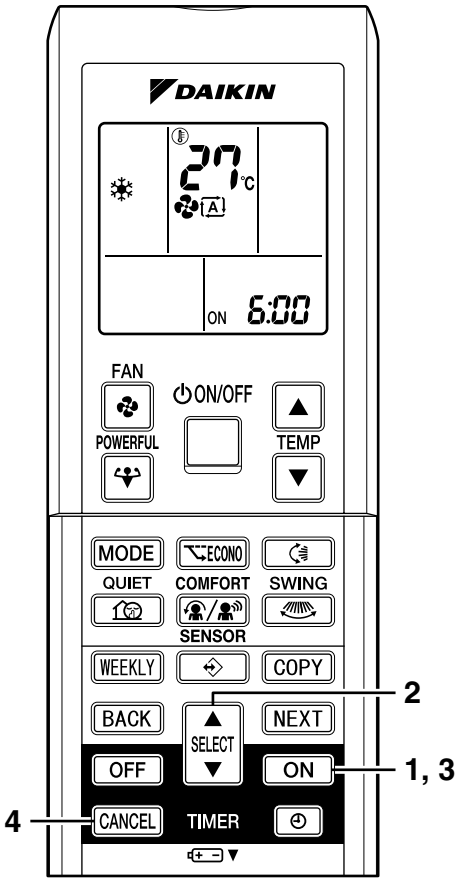
1. **Press “ON TIMER button”.**

   6:00 is displayed.

   ON blinks.

2. **Press “SELECT 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.

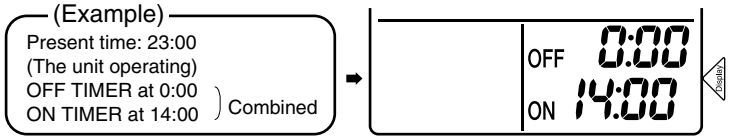


■ To cancel ON TIMER operation

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.



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.

2.2.10 WEEKLY TIMER Operation

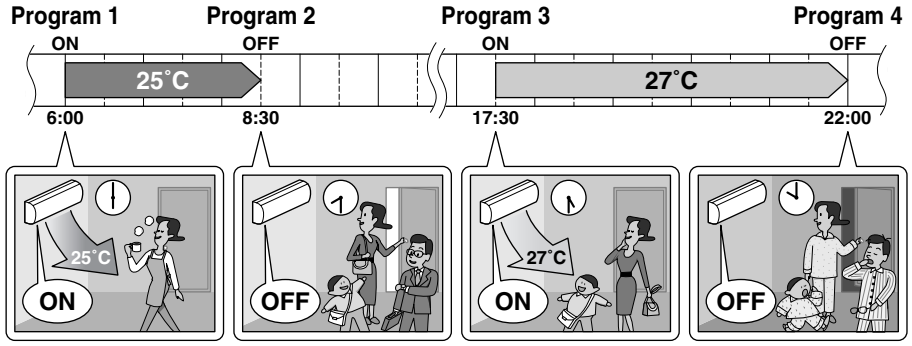
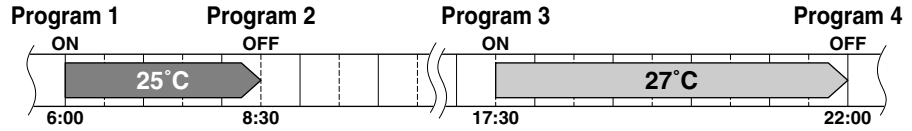
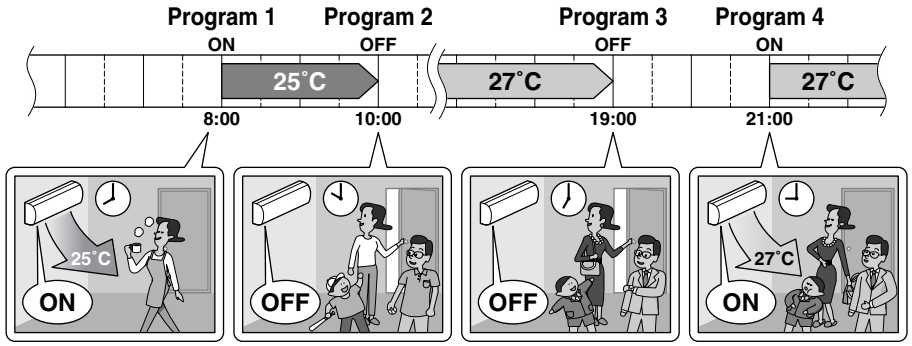
WEEKLY TIMER Operation

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.

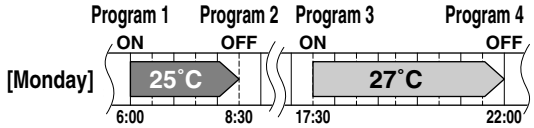
<table>
<tr><td>[Monday]</td><td>Make timer settings up to programs 1-4.
 
</td></tr>
<tr><td>[Tuesday] to [Friday]</td><td>Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday.
 
</td></tr>
<tr><td>[Saturday]</td><td>No timer settings</td>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

■ 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.

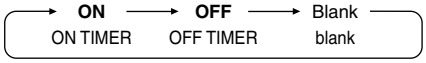


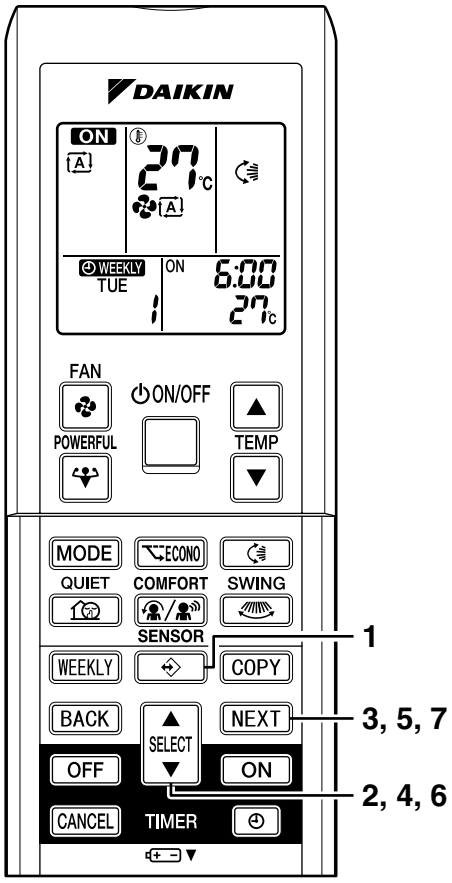
1. Press "[◈] button".
- The day of the week and the reservation number of the current day will be displayed.
- 1 to 4 settings can be made per day.

2. Press the "SELECT button" to select the desired day of the week and reservation number.
- Pressing the "SELECT button" changes the reservation number and the day of the week.

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

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





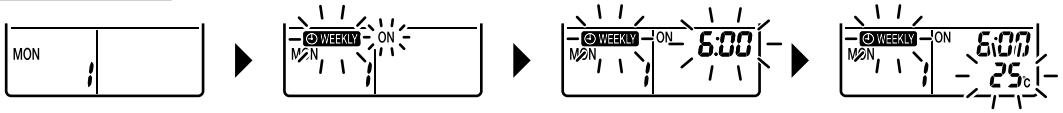
- In case the reservation has already been set, selecting "blank" deletes the reservation.
- Go to STEP **9** if "blank" is selected.

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

6. Press "SELECT button" 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 button".
- Go to STEP **9** when setting the OFF TIMER.

7. Press "NEXT button".
- The time will be set.
- "WEEKLY" and the temperature blink.

Setting Displays



Day and number settings | ON/OFF settings | Time settings | Temperature settings

WEEKLY TIMER Operation

8. Press “SELECT button” to select the desired temperature.

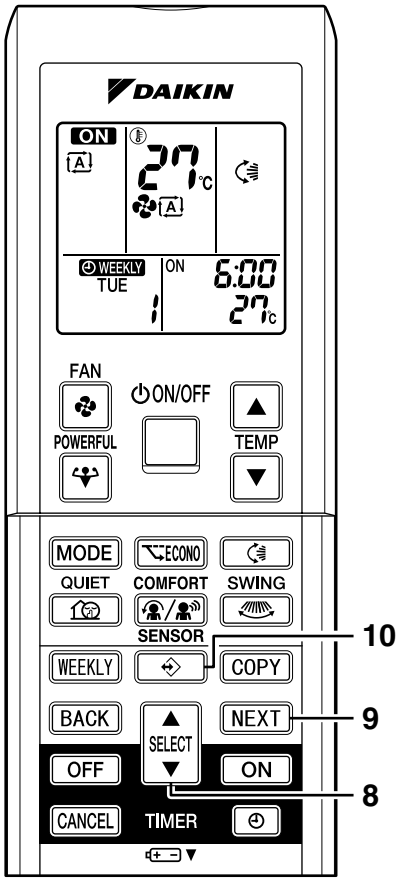
- The temperature can be set between 10˚C and 32˚C.
  Cooling: The unit operates at 18˚C even if it is set at 10 to 17˚C.
  Heating: The unit operates at 30˚C even if it is set at 31 to 32˚C.
- To return to the time setting, press “BACK button”.
- The set temperature is only displayed when the mode setting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

9. Press “NEXT button”.

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

10. Press “ button” 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**.



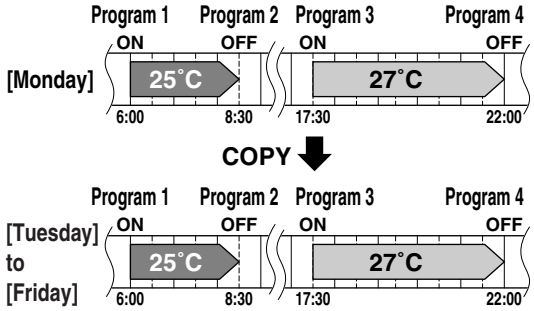
NOTE

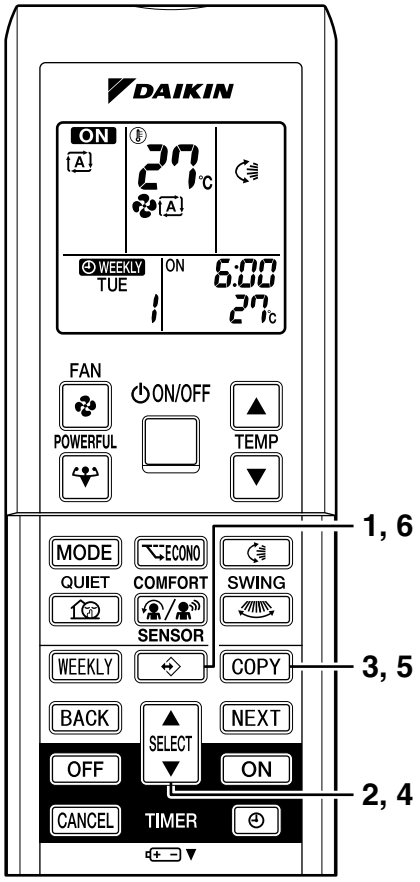
■ Notes on WEEKLY TIMER operation

- 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 set with the weekly timer are sent with the “ button”. 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 button” can be used only for the time and temperature settings.
  It cannot be used to go back to the reservation number.

Copy mode

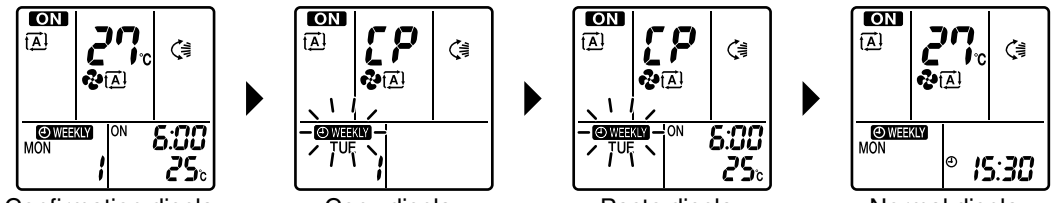
- A reservation made once can be copied another day of the week. The whole reservation of the selected day of the week will be copied.





1. **Press “ button”.**
2. **Press “SELECT button” to confirm the day of the week to be copied.**
3. **Press “COPY button” to activate copy mode.**
   - The whole reservation of the selected day of the week will be copied.
4. **Press “SELECT button” to select the destination day of the week.**
5. **Press “COPY button”.**
   - 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 “ button” to complete the setting.**
   - “ WEEKLY ” is displayed on the LCD and WEEKLY TIMER operation is activated.

Setting Displays



Confirmation display | Copy display | Paste display | Normal display

NOTE

■ **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 “ button” and change the settings in the steps of **Setting mode**.

WEEKLY TIMER Operation

■ Confirming a reservation

- The reservation can be confirmed.

1. Press “ ⇳ button”.

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

2. Press “SELECT button” to select the day of the week and the reservation number to be confirmed.

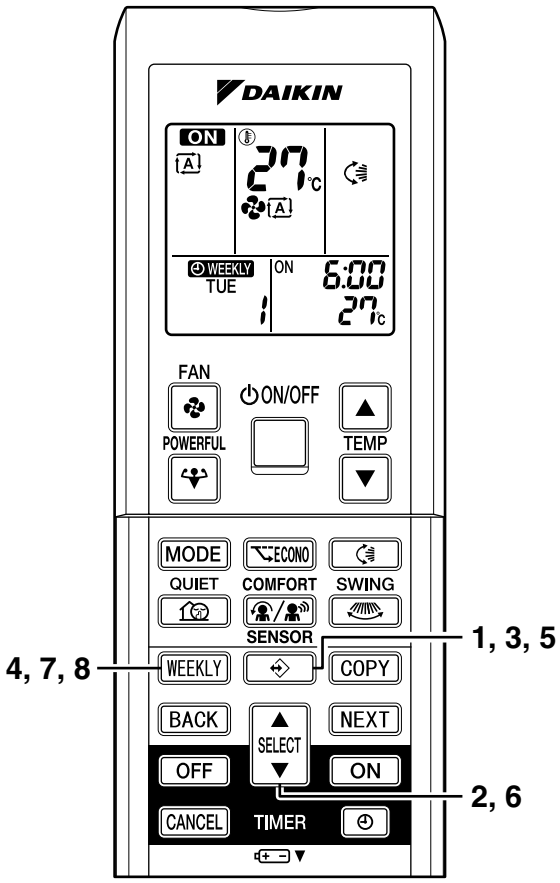
- Pressing the “SELECT button” displays the reservation details.
- To change the confirmed reserved settings, select the reservation number and press “NEXT button”. The mode is switched to setting mode. Go to **Setting mode** STEP **4**.

3. Press “ ⇳ button” to exit confirming mode.

- “WEEKLY” is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights up.

Setting Displays

Normal display Confirmation display



■ To deactivate WEEKLY TIMER operation

4. Press “WEEKLY button” 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 the “WEEKLY button” again.
- If a reservation deactivated with “WEEKLY button” is activated once again, the last reservation mode will be used.

■ 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.

5. Press “ ⇳ button”.

6. Select the day of the week to be canceled with the “SELECT button”.

7. Hold the “WEEKLY button” for 5 seconds.

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

All reservations

8. Hold “WEEKLY button” for 5 seconds while normal display.

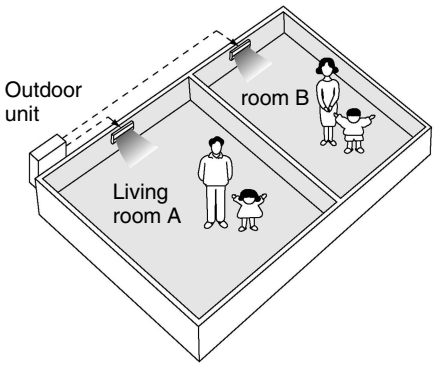
- Be sure to direct the remote control toward the main unit and check for a receiving tone.
- This operation is not effective while WEEKLY TIMER is being set.
- All reservations will be deleted.

2.2.11 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

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.

■ OUTDOOR UNIT QUIET operation

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.

2.3 FTXG-E, CTXG-E, FLK(X)S, FDK(X)S Series - ARC433B41, B67, B68, B69, B76

2.3.1 Manual Contents and Reference Page

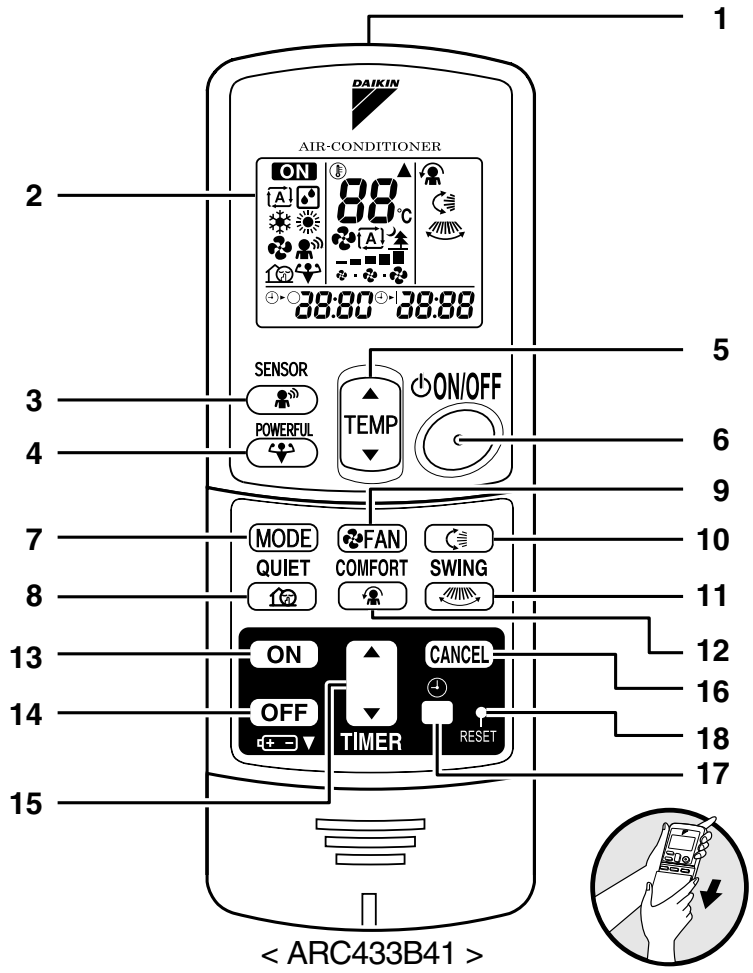
Model Series	Wall Mounted Type	Floor/Ceiling Suspended Dual Type	Duct Connected Type
	FTXG25/35EV1BW(S) CTXG50EV1BW(S)	FLK(X)S25-50BAVMB	FDK(X)S25/35EAVMB FDK(X)S50CVMB
Read Before Operation			
Remote Controller	150	151	152
Operation			
AUTO · DRY · COOL · HEAT · FAN Operation ★1	153	153	153
Adjusting the Airflow Direction	155	157	—
POWERFUL Operation ★1	159	159	159
OUTDOOR UNIT QUIET Operation ★1	160	160	160
HOME LEAVE Operation ★2	—	161	161
INTELLIGENT EYE Operation	163	—	—
TIMER Operation ★1	165	165	165
Note for Multi System	167	167	167
Drawing No.	3P194513-2C	3P194444-5C	3P196326-9C

★1 : Illustrations are for wall mounted type as representative.
★2 : Illustrations are for duct connected type as representative.

2.3.2 Remote Controller

FTXG25/35EV1BW(S), CTXG50EV1BW(S)

■ Remote Controller



< ARC433B41 >

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. SENSOR button: INTELLIGENT EYE 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:
- Flap (Horizontal blade)

11. SWING button:
- Louvers (Vertical blades)

12. COMFORT AIRFLOW mode button

13. ON TIMER button

14. OFF TIMER button

15. TIMER Setting button:
- It changes the time setting.

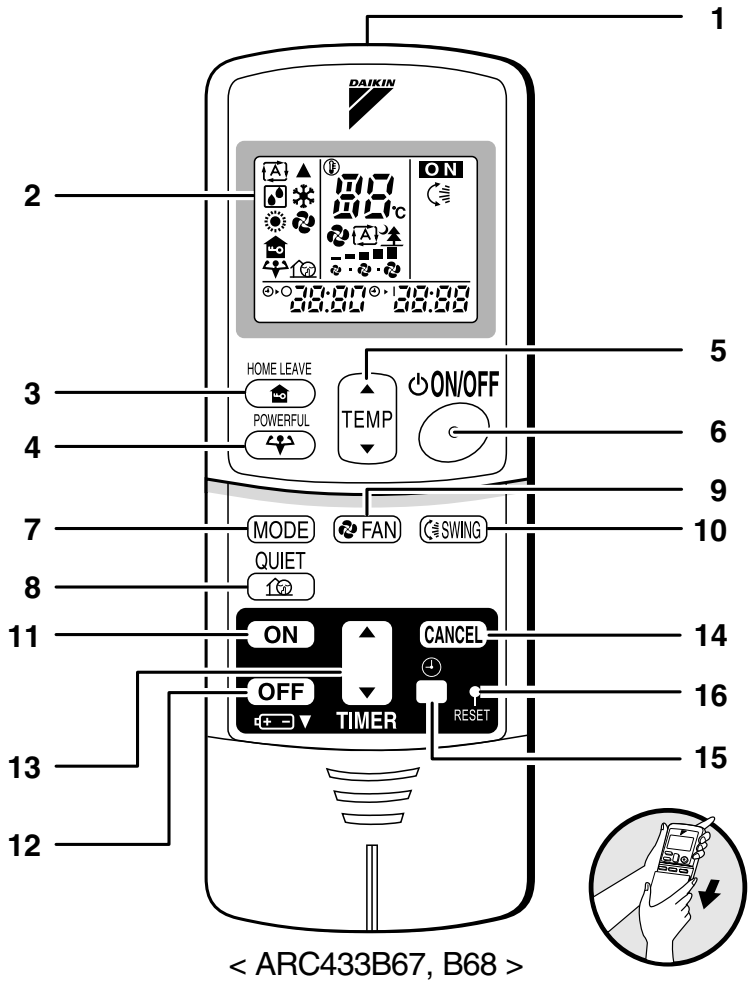
16. TIMER CANCEL button:
- It cancels the timer setting.

17. CLOCK button

18. RESET button:
- Restart the unit if it freezes.

FLK(X)S25/35/50BAVMB

■ 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.

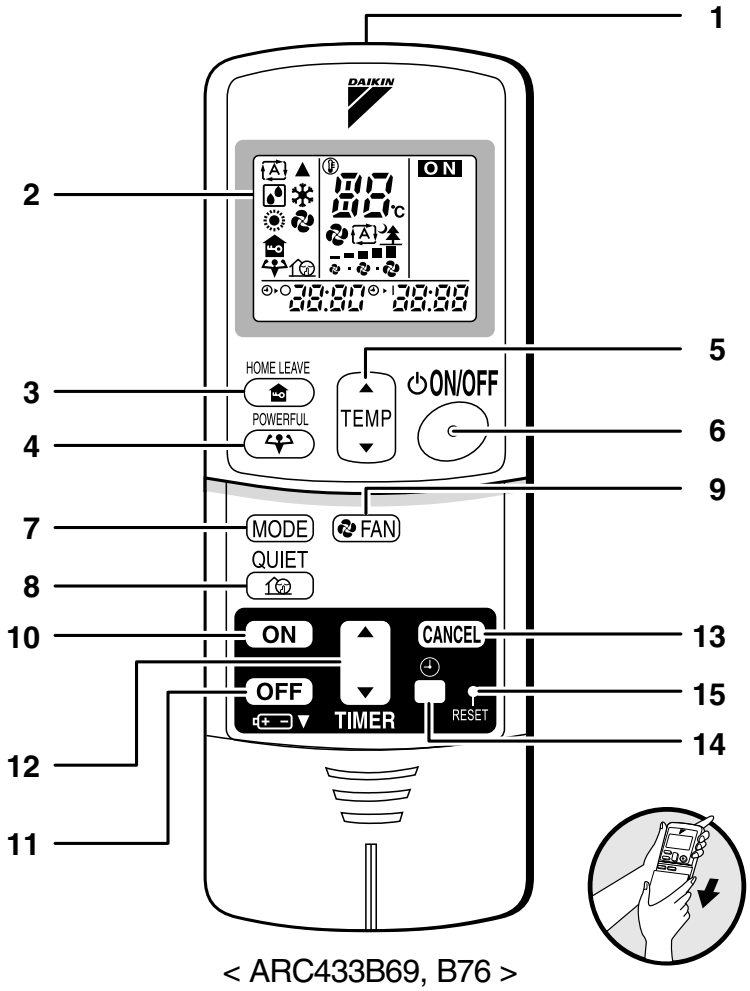
14. TIMER CANCEL button:
- It cancels the timer setting.

15. CLOCK button

16. RESET button:
- Restart the unit if it freezes.
- Use a thin object to push.

FDK(X)S25/35EAVMB, FDK(X)S50CVMB

■ 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.

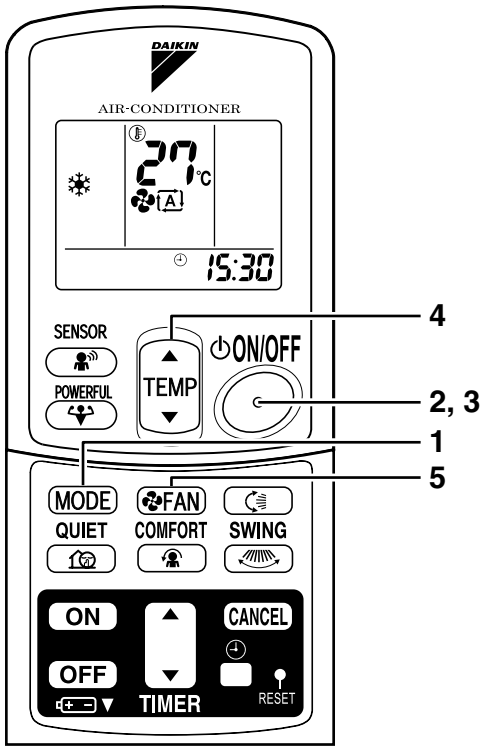
14. CLOCK button

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.

A: AUTO

: DRY

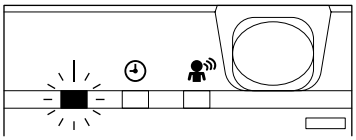
: COOL

: HEAT

: FAN

2. Press “ON/OFF button”.

- The operation lamp will light up and the panel will open.



■ To stop operation

3. Press “ON/OFF button” again.

- The operation lamp will go off and the panel will close.

■ 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 air flow rate, so manual adjustment of these functions is unavailable.

■ **Note on AUTO operation**
- In AUTO operation, the system selects 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.

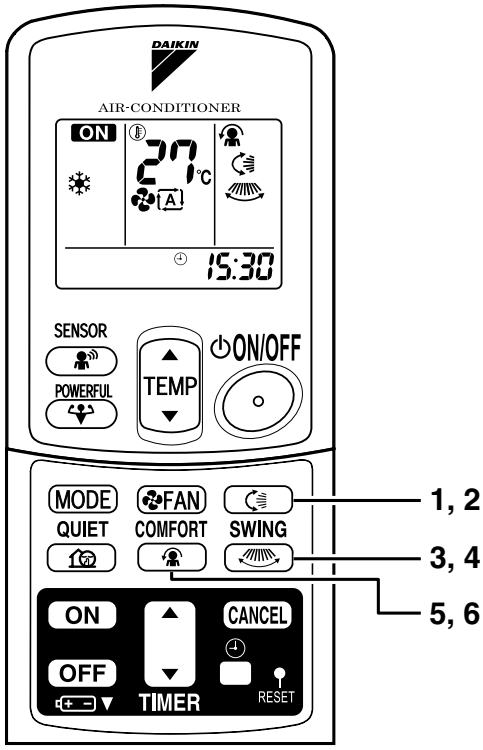
■ **Note on air flow rate setting**
- At smaller air flow rates, the cooling (heating) effect is also smaller.

2.3.4 Adjusting the Airflow Direction

FTXG25/35EV1BW(S), CTXG50EV1BW(S)

Adjusting the Air Flow 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.
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)

3. **Press "SWING button ".**
   • " " is displayed on the LCD.
4. **When the louvers have reached the desired position, press the "SWING button " once more.**
   • The louvers will stop moving.

■ To 3-D Airflow

1. 3. Press the "SWING button " and the "SWING button ": the " " and " " display will light up and the flap and louvers will move in turn.

■ To cancel 3-D Airflow

2. 4. Press either the "SWING button " or the "SWING button ".

■ To start COMFORT AIRFLOW operation

5. Press “COMFORT AIRFLOW button”.

- The flap orientation will change, preventing air from blowing directly on the occupants of the room.
- “ ” is displayed on the LCD.

<COOL/DRY> The flap will go up.

<HEAT> The flap will go down.

■ To cancel COMFORT AIRFLOW operation

6. Press “COMFORT AIRFLOW button” again.

- The flaps will return to the memory position from before COMFORT AIRFLOW mode.
- “ ” disappears from the LCD.

NOTE

- When “**SWING button** ” is selected, the flap swinging range depends on the operation mode. (See the figure.)

Three-Dimensional (3-D) Airflow

- Using three-dimensional 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.

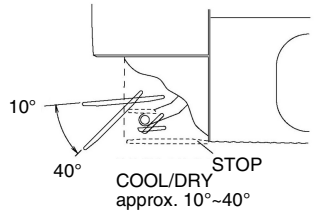
Comfort Airflow

- The air flow is set automatically.
- The air direction is as shown in the figure at right.

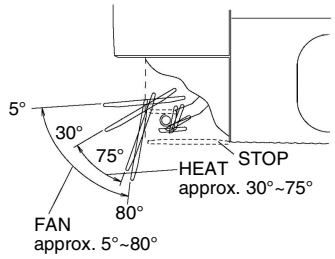
■ **ATTENTION**

- 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.
- Always use a remote controller to adjust the louvers angles.

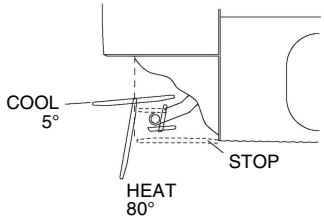
In COOL or DRY mode



In HEAT or FAN mode



In COMFORT AIRFLOW mode



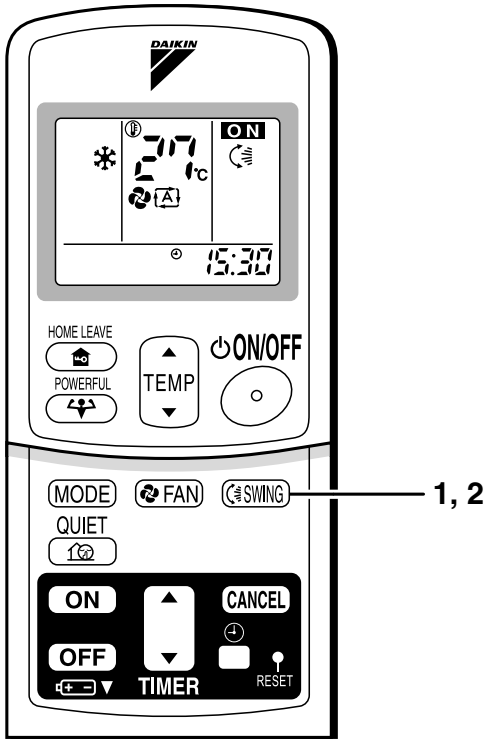
FLK(X)S25/35/50BAVMB

Adjusting the Airflow Direction

You can adjust the air flow direction to increase your comfort.

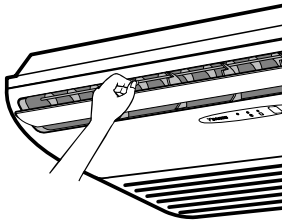
■ To adjust the horizontal blade (flap)

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)

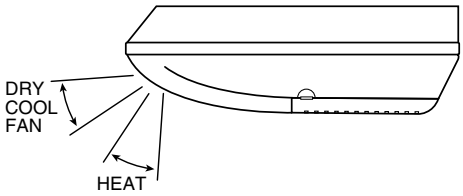
• When adjusting the louver, use a robust and stable stool and watch your steps carefully.
Hold the knob and move the louvers.
(You will find a knob on the left side and the right side blades.)



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**

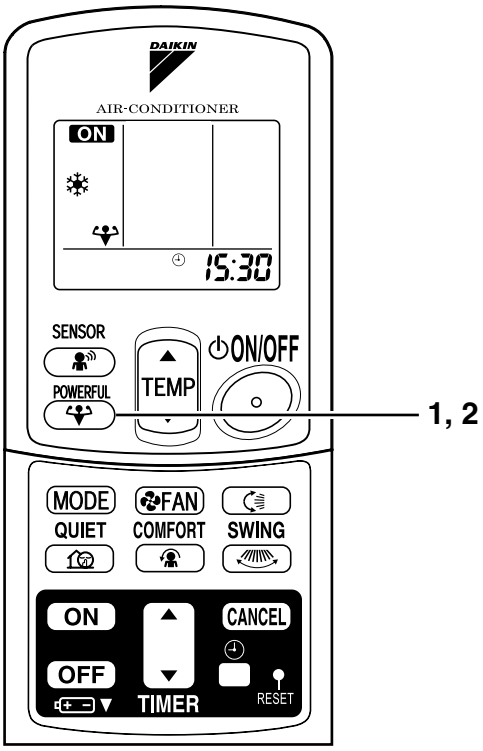
• Always use a remote controller to adjust the flap angle.
If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.

• 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

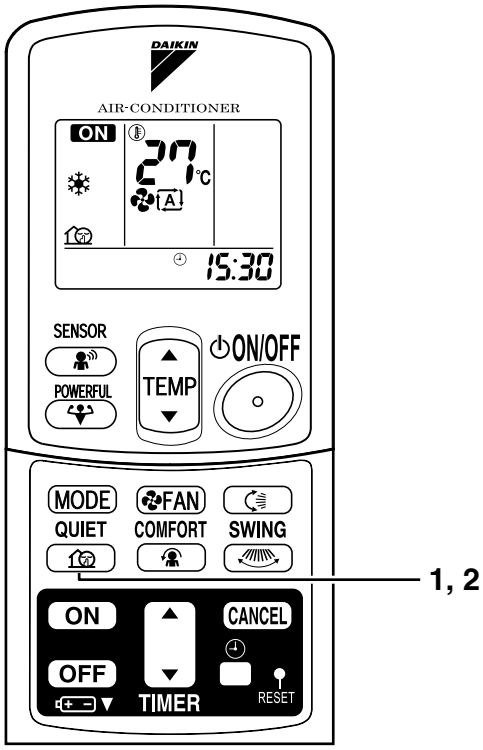
■ **Notes on POWERFUL operation**

- POWERFUL Operation cannot be used together with QUIET, or COMFORT Operation. Priority is given to the function of whichever button is pressed last. (This does not include QUIET operation.)
- POWERFUL Operation can only be set when the unit is running. Pressing the operation stop button causes the settings to be canceled, and the “ ” disappears from the LCD.
- **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**

- If using a multi system, this function will work only when the OUTDOOR UNIT QUIET operation is set on all operated indoor units.
- 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

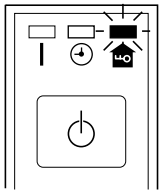
HOME LEAVE Operation

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".

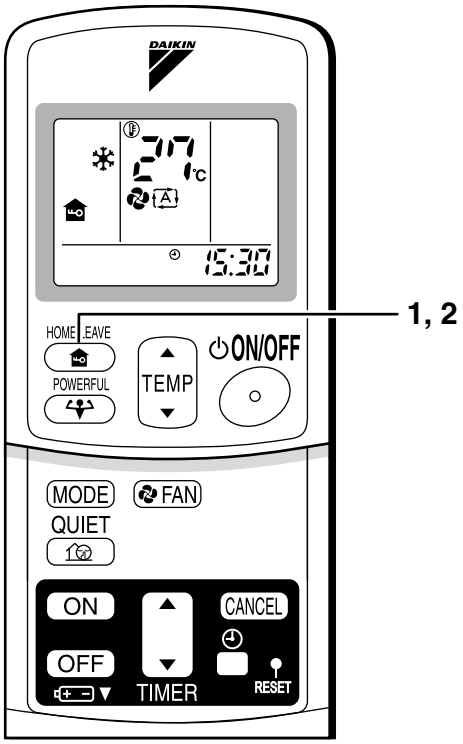
- " " is displayed on the LCD.
- The HOME LEAVE lamp lights up.



■ To cancel HOME LEAVE operation

2. Press "HOME LEAVE button" again.

- The HOME LEAVE lamp goes off.
- " " disappears from the LCD.



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 control 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 control. 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.

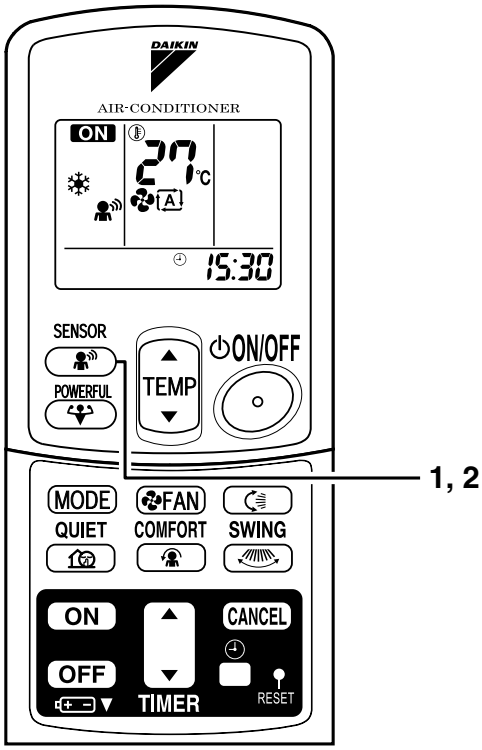
NOTE

- 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 INTELLIGENT EYE Operation

INTELLIGENT EYE Operation

"INTELLIGENT EYE" is the infrared sensor which detects the human movement.



■ To start INTELLIGENT EYE operation

1. Press "SENSOR button".

- " " is displayed on the LCD.

■ To cancel the INTELLIGENT EYE operation

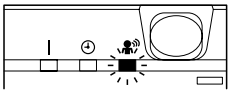
2. Press "SENSOR button" again.

- " " disappears from the LCD.

[EX.]

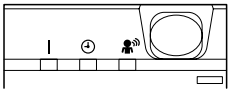
When somebody in the room

- **Normal operation.**
- **The INTELLIGENT EYE lamp lights up.**



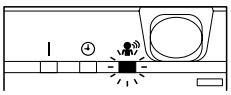
When somebody in the room

- **20 min. after, start energy saving operation.**
- **The INTELLIGENT EYE lamp goes off.**



Somebody back in the room

- **Back to normal operation.**
- **The INTELLIGENT EYE lamp lights up.**



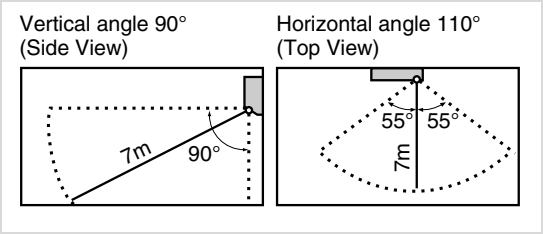
“INTELLIGENT EYE” is useful for Energy Saving

■ **Energy saving operation**

- Change the temperature –2°C in heating / +2°C in cooling / +2°C in dry mode from set temperature.
- Decrease the air flow rate slightly in fan operation. (In FAN mode only)

Notes on “INTELLIGENT EYE”

- 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 you use INTELLIGENT EYE operation.

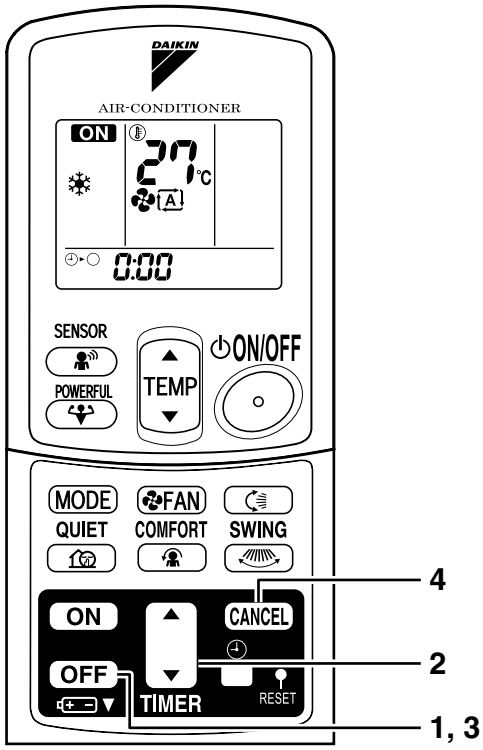
⚠ CAUTION

- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor’s detection area. This sensor can detect objects it shouldn’t as well as not detect objects it should.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

2.3.9 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.

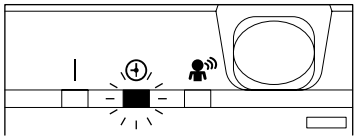
⏲ blinks.

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

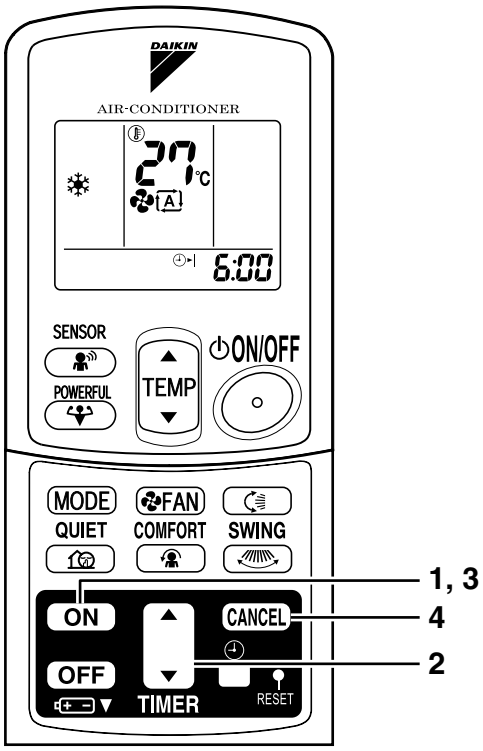
- When TIMER is set, the present time is not displayed.
- Once you set ON, OFF TIMER, the time setting is kept in the memory. (The memory is canceled when remote controller batteries are replaced.)
- When operating the unit via the ON/OFF Timer, the actual length of operation may vary from the time entered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

■ 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.

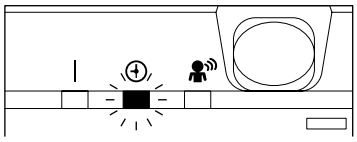
blinks.

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.



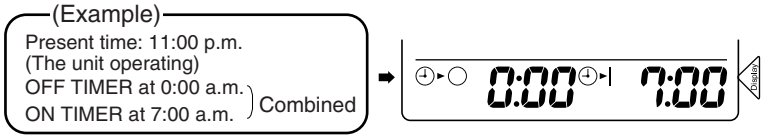
■ To cancel ON TIMER operation

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.



ATTENTION

■ In the following cases, set the timer again.

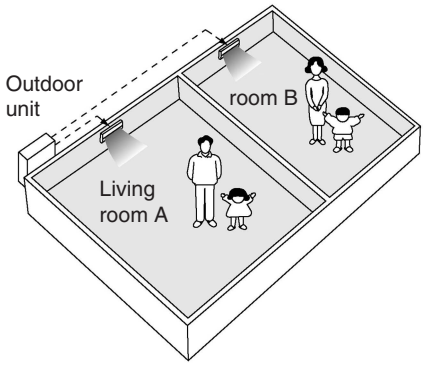
- After a breaker has turned OFF.
- After a power failure.
- After replacing batteries in the remote controller.

2.3.10 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

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⟩

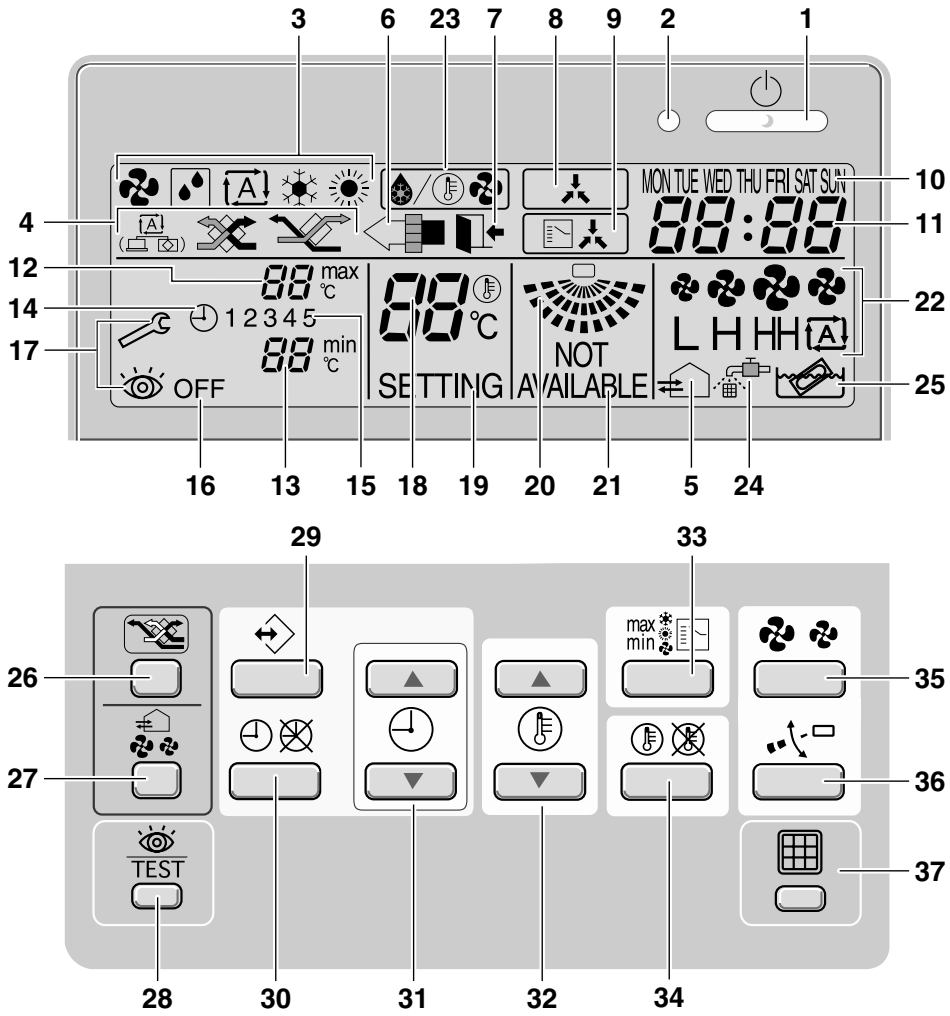
Normally, the operation mode in the room where the unit is first run is given priority, but the following situations are exceptions, so please keep this in mind.
If the operation mode of the first room is **FAN Mode**, then using **Heating Mode** in any room after this will give priority to **heating.** In this situation, the air conditioner running in FAN Mode will go on standby, and the operation lamp will flash.

■ OUTDOOR UNIT QUIET Operation

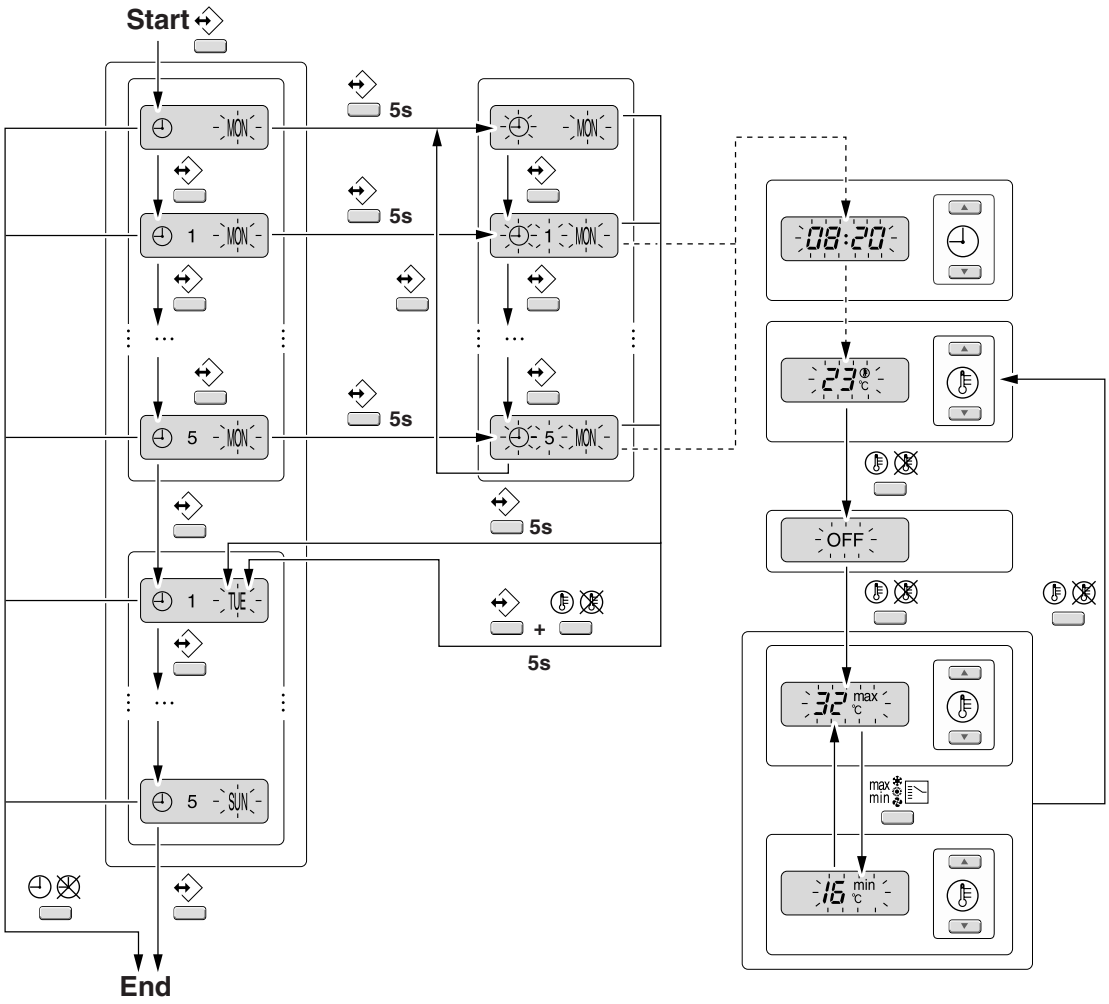
When using the OUTDOOR UNIT QUIET operation feature with the Multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.
When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller.
However OUTDOOR UNIT QUIET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

3. SA Indoor Unit - FFQ Series

3.1 BRC1D528



1



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); $^{min}_{℃}$ and $^{max}_{℃}$ 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°C, OFF or 16 min °C and 30 max °C 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°C, OFF or 16 min °C and 30 max °C 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 💨 💧 A ❄ ☀ 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 max/min 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).

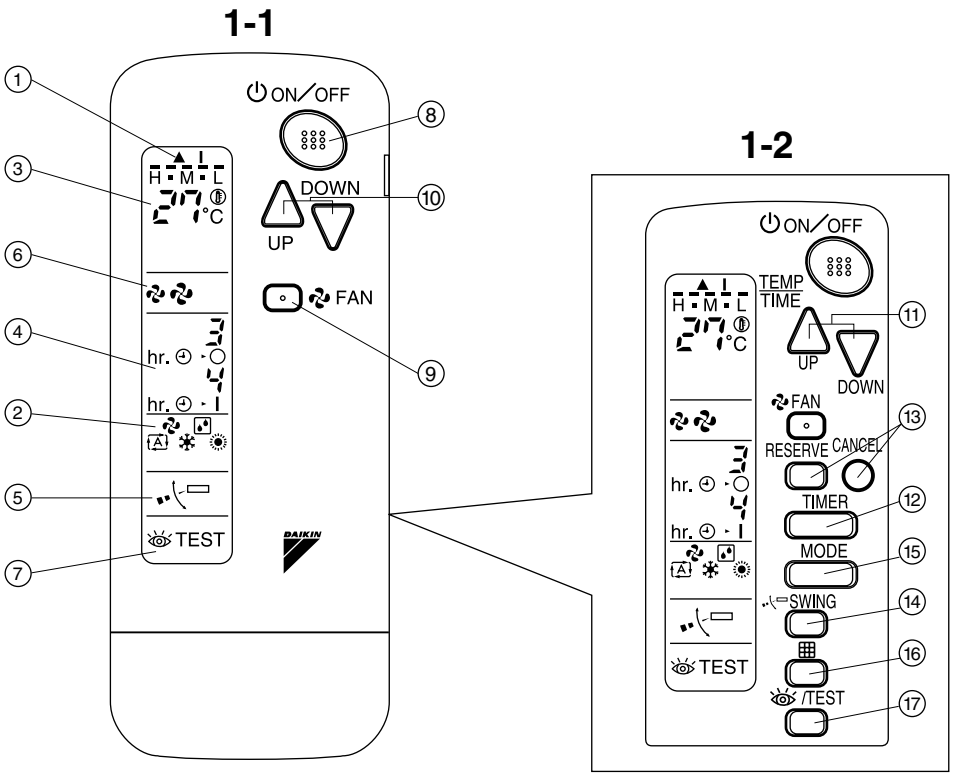
I cannot enable the schedule timer (the NOT AVAILABLE icon is displayed)

The schedule timer can not be enabled when a centralised control is connected.

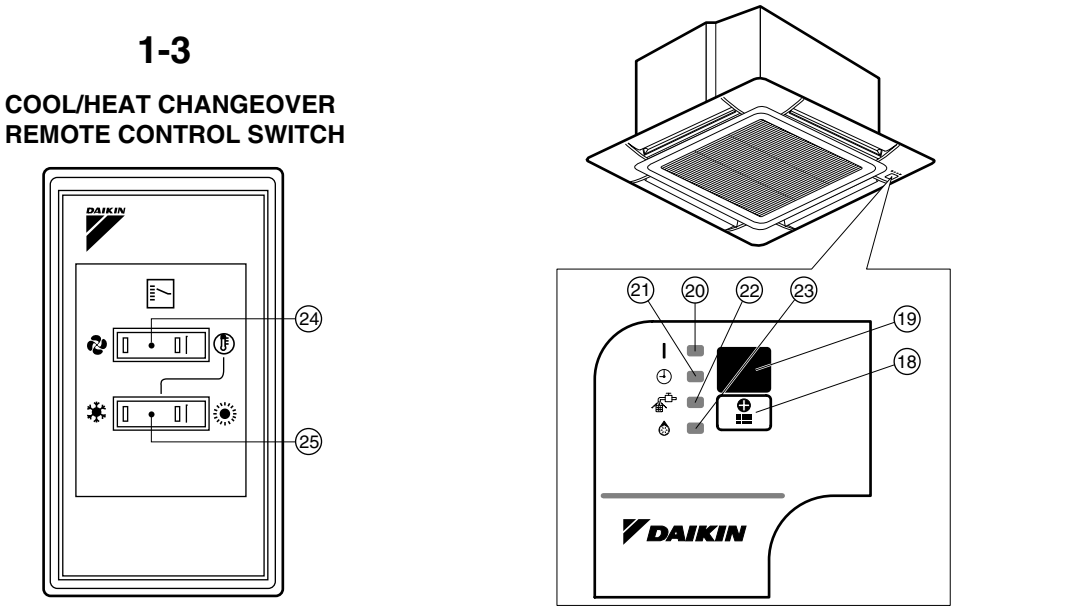
Limit operation cannot be selected

Limit operation is not available for cooling only installations.

3.2 BRC7E530W/531W



1



1 2

[1]

2. NAMES AND FUNCTIONS OF THE OPERATING SECTION (Fig. 1, 2)

1	**DISPLAY " ▲ " (SIGNAL TRANSMISSION)**
	This lights up when a signal is being transmitted.
2	**DISPLAY "" "" " A " " " " " (OPERATION MODE)**
	This display shows the current OPERATION MODE. For cooling only type, " A " (Auto) and " " (Heating) are not installed.
3	**DISPLAY " H M L 27 °C " (SET TEMPERATURE)**
	This display shows the set temperature.
4	**DISPLAY " hr. 3 0 hr. 4 1 " (PROGRAMMED TIME)**
	This display shows PROGRAMMED TIME of the system start or stop.
5	**DISPLAY " " (AIR FLOW FLAP)**
	Refer to page 9.
6	**DISPLAY " " " " (FAN SPEED)**
	The display shows the set fan speed.
7	**DISPLAY " TEST " (INSPECTION/ TEST OPERATION)**
	When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
8	**ON/OFF BUTTON**
	Press the button and the system will start. Press the button again and the system will stop.
9	**FAN SPEED CONTROL BUTTON**
	Press this button to select the fan speed, HIGH or LOW, of your choice.
10	**TEMPERATURE SETTING BUTTON**
	Use this button for SETTING TEMPERATURE (Operates with the front cover of the remote controller closed.)
11	**PROGRAMMING TIMER BUTTON**
	Use this button for programming "START and/or STOP" time. (Operates with the front cover of the remote controller opened.)
12	**TIMER MODE START/STOP BUTTON**
	Refer to page 10.
13	**TIMER RESERVE/CANCEL BUTTON**
	Refer to page 10.
14	**AIR FLOW DIRECTION ADJUST BUTTON**
	Refer to page 9.
15	**OPERATION MODE SELECTOR BUTTON**
	Press this button to select OPERATION MODE.
16	**FILTER SIGN RESET BUTTON**
	Refer to the section of MAINTENANCE in the operation manual attached to the indoor unit.
17	**INSPECTION/TEST OPERATION BUTTON**
	This button is used only by qualified service persons for maintenance purposes.
18	**EMERGENCY OPERATION SWITCH**
	This switch is readily used if the remote controller does not work.

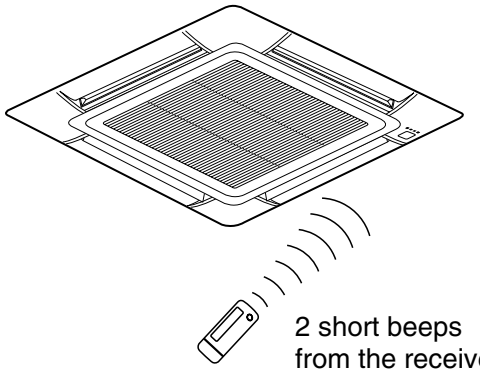
19	**RECEIVER** This receives the signals from the remote controller.
20	**OPERATING INDICATOR LAMP (Red)** This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.
21	**TIMER INDICATOR LAMP (Green)** This lamp stays lit while the timer is set.
22	**AIR FILTER CLEANING TIME INDICATOR LAMP (Red)** Lights up when it is time to clean the air filter.
23	**DEFROST LAMP (Orange)** Lights up when the defrosting operation has started. (For cooling only type this lamp does not turn on.)
24	**FAN/AIR CONDITIONING SELECTOR SWITCH** Set the switch to " " (FAN) for FAN and " " (A/C) for HEAT or COOL.
25	**COOL/HEAT CHANGEOVER SWITCH** Set the switch to " " (COOL) for COOL and " " (HEAT) for HEAT.

NOTES

- For the sake of explanation, all indications are shown on the display in Figure 1 contrary to actual running situations.
- Fig. 1-2 shows the remote controller with the front cover opened.
- If the air filter cleaning time indicator lamp lights up, clean the air filter as explained in the operation manual provided with the indoor unit.
  After cleaning and reinstalling the air filter, press the filter sign reset button on the remote controller. The air filter cleaning time indicator lamp on the receiver will go out.
- The Defrost Lamp will flash when the power is turned on. This is not a malfunction.

3. HANDLING FOR WIRELESS REMOTE CONTROLLER

Precautions in handling remote controller
Direct the transmitting part of the remote controller to the receiving part of the air conditioner.
If something blocks the transmitting and receiving path of the indoor unit and the remote controller as curtains, it will not operate.



2 short beeps from the receiver indicates that the transmission is properly done.

Transmitting distance is approximately 7 m.

Do not drop or get it wet.
It may be damaged.

Never press the button of the remote controller with a hard, pointed object.
The remote controller may be damaged.

Installation site

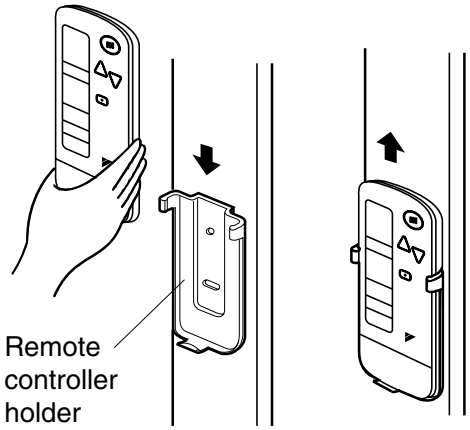
- It is possible that signals will not be received in rooms that have electronic fluorescent lighting. Please consult with the salesman before buying new fluorescent lights.
- If the remote controller operated some other electrical apparatus, move that machine away or consult your dealer.

Placing the remote controller in the remote controller holder

Install the remote controller holder to a wall or a pillar with the attached screw. (Make sure it transmits)

Placing the remote controller | **Removing the remote controller**

Slide from above | Pull it upward

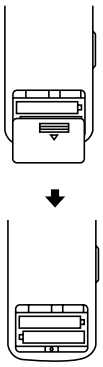


How to put the dry batteries

(1) Remove the back cover of the remote controller to the direction pointed by the arrow mark.

(2) Put the batteries Use two dry cell batteries (AAA.LR03 (alkaline)). Put dry batteries correctly to fit their (+) and (–).

(3) Close the cover



— When to change batteries

Under normal use, batteries last about a year. However, change them whenever the indoor unit doesn't respond or responds slowly to commands, or if the display becomes dark.

[CAUTIONS]

- Replace all batteries at the same time, do not use new and old batteries intermixed.
- In case the remote controller is not used for a long time take out all batteries in order to prevent liquid leak of the battery.

IN THE CASE OF CENTRALIZED CONTROL SYSTEM

If the indoor unit is under centralized control, it is necessary to switch the remote controller's setting.
In this case, contact your DAIKIN dealer.

4. OPERATION RANGE

SKYAIR System

If the temperature or the humidity is beyond the following conditions, safety devices may work and the air conditioner may not operate, or sometimes, water may drop from the indoor unit.

COOLING [°C]

OUTDOOR UNIT	INDOOR			OUTDOOR TEMPERATURE	
	TEMPERATURE		HUMIDITY		
RS50 · 60 RKS25 · 35 · 50 · 60 RXS25 · 35 · 50 · 60	DB	21 to 32	80% or below	DB	– 10 to 46
	WB	14 to 23			
3MKS50 4MKS58 · 75 · 90 3MXS52 4MXS68 · 80	DB	21 to 32	80% or below	DB	– 10 to 46
	WB	14 to 23			

HEATING [°C]

OUTDOOR UNIT	INDOOR TEMPERATURE		OUTDOOR TEMPERATURE	
RXS25 · 35 · 50 · 60	DB	10 to 30	DB	– 14 to 24
			WB	– 15 to 18
3MXS52 4MXS68 · 80	DB	10 to 30	DB	– 14 to 21
			WB	– 15 to 15.5

DB: Dry bulb temperature
WB: Wet bulb temperature

The setting temperature range of the remote controller is 16°C to 32°C.

VRV System
See the operation manual provided with the air conditioner.

5. OPERATION PROCEDURE

Refer to figure 1 on page [1]

- Operating procedure varies with heat pump type and cooling only type. Contact your Daikin dealer to confirm your system type.
- To protect the unit, turn on the main power switch 6 hours before operation.
- If the main power supply is turned off during operation, operation will restart automatically after the power turns back on again.

COOLING, HEATING, AUTOMATIC, FAN, AND PROGRAM DRY OPERATION

Operate in the following order.

- AUTOMATIC OPERATION can be selected only by Heat pump split system.
- For cooling only type, “COOLING”, and “FAN” and “DRY” operation are able to select.

⟨⟨FOR SYSTEMS WITHOUT COOL/HEAT CHANGEOVER REMOTE CONTROL SWITCH⟩⟩

Refer to figure 1-1, 2 on page [1]

OPERATION MODE SELECTOR

Press OPERATION MODE SELECTOR button several times and select the OPERATION MODE of your choice as follows.

- COOLING OPERATION..... “ ❄ ”
- HEATING OPERATION..... “ ☀ ”
- AUTOMATIC OPERATION..... “ A ”
  - In this operation mode, COOL/HEAT changeover is automatically conducted.
- FAN OPERATION..... “ ”
- DRY OPERATION..... “ ”
  - The function of this program is to decrease the humidity in your room with the minimum temperature decrease.
  - Micro computer automatically determines TEMPERATURE and FAN SPEED.
  - This system does not go into operation if the room temperature is below 16˚C.

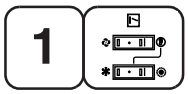
ON/OFF

Press ON/OFF button
OPERATION lamp lights up or goes off and the system starts or stops OPERATION.

NOTE
- Do not turn OFF power immediately after the unit stops. Then, wait no less than 5 minutes.
  Water is leaking or there is something else wrong with the unit.

⟨⟨FOR SYSTEMS WITH COOL/HEAT CHANGEOVER REMOTE CONTROL SWITCH⟩⟩

Refer to figure 1-1,3 on page [1]



OPERATION MODE SELECTOR

(1) Select OPERATION MODE with the COOL/HEAT CHANGEOVER REMOTE CONTROL SWITCH as follows.

- COOLING OPERATION..... “  ”
- HEATING OPERATION..... “  ”

■ FAN OPERATION..... “  ”

■ DRY OPERATION..... “  ”

- See “FOR SYSTEMS WITHOUT COOL/ HEAT CHANGEOVER REMOTE CONTROL SWITCH” for details on dry operation.

(2) Press OPERATION MODE SELECTOR button several times and select “ ” (This operation is only available during dry operation.)

ON/OFF

Press ON/OFF button

OPERATION lamp lights up or goes off and the system starts or stops OPERATION.

NOTE

- Do not turn OFF power immediately after the unit stops. Then, wait no less than 5 minutes.
  Water is leaking or there is something else wrong with the unit.

[EXPLANATION OF HEATING OPERATION]
DEFROST OPERATION

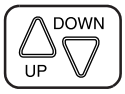
- As the frost on the coil of an outdoor unit increase, heating effect decreases and the system goes into DEFROST OPERATION.
- The fan operation stops and the DEFROST lamp of the indoor unit goes on. After 6 to 8 minutes (maximum 10 minutes) of DEFROST OPERATION, the system returns to HEATING OPERATION.

Heating capacity & Outdoor air temperature

- Heating capacity drops as outdoor air temperature lowers. If feeling cold, use another heater at the same time as this air conditioner.
- Hot air is circulated to warm the room. It will take some time from when the air conditioner is first started until the entire room becomes warm. The internal fan automatically turns at low speed until the air conditioner reaches a certain temperature on the inside. In this situation, all you can do is wait.
- If hot air accumulates on the ceiling and feet are left feeling cold, it is recommended to use a circulator. For details, contact the place of purchase.

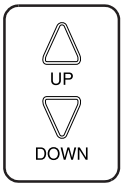
ADJUSTMENT

For programming TEMPERATURE, FAN SPEED and AIR FLOW DIRECTION, follow the procedure shown below.



TEMPERATURE SETTING

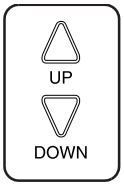
Press TEMPERATURE SETTING button and program the setting temperature



Each time this button is pressed, setting temperature rises 1°C.

Each time this button is pressed, setting temperature lowers 1°C.

In case of automatic operation



Each time this button is pressed, setting temperature shifts to “H” side.

Each time this button is pressed, setting temperature shifts to “L” side.

[°C]

	H	•	M	•	L
Setting temperature	25	23	22	21	19

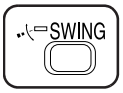
- The setting is impossible for fan operation.

NOTE

- The setting temperature range of the remote controller is 16˚C to 32˚C.

FAN SPEED CONTROL

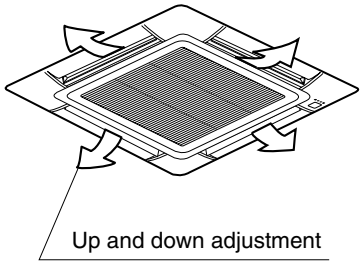
Press FAN SPEED CONTROL button.
High or Low fan speed can be selected.
The micro computer may sometimes control the fan speed in order to protect the unit.



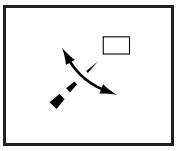
AIR FLOW DIRECTION ADJUST

UP AND DOWN DIRECTION

- The movable limit of the flap is changeable. Contact your Daikin dealer for details.



Press the AIR FLOW DIRECTION ADJUST button to select the air direction as shown below.



DISPLAY appears and the air flow direction continuously varies. (Automatic swing setting)

Press AIR FLOW DIRECTION ADJUST button to select the air direction of your choice.

DISPLAY vanishes the air flow direction is fixed (Fixed air flow direction setting).

MOVEMENT OF THE AIR FLOW FLAP

For the following conditions, micro computer controls the air flow direction so it may be different from the display.

Operation mode	Heating
Operation conditions	• When starting operation • When room temperature is higher than the set temperature • At defrost operation (The flaps blow horizontally to avoid blowing cold air directly on the occupants of the room.)

NOTES

- If you try cooling or programmed drying, while the flaps are facing downward, air flow direction may change unexpectedly. There is nothing wrong with the equipment. This serves to prevent dew formed on parts in the air discharge outlet from dripping.
- Operation mode includes automatic operation.

PROGRAM TIMER OPERATION

Operate in the following order.

- The timer is operated in the following two ways.
  Programming the stop time (◷ ▸ ○)
  .... The system stops
  operating after the set time has elapsed.
  Programming the start time (◷ ▸ |)
  .... The system starts
  operating after the set time has elapsed.
- The timer can be programmed a maximum of 72 hours.
- The start and the stop time can be simultaneously programmed.

1 TIMER MODE START/ STOP

Press the TIMER MODE START/STOP button several times and select the mode on the display.

The display flashes.

For setting the timer stop .... "◷ ▸ ○"

For setting the timer start .... "◷ ▸ |"

2 PROGRAMMING TIME

Press the PROGRAMMING TIME button and set the time for stopping or starting the system.

UP

When this button is pressed, the time advances by 1 hour.

DOWN

When this button is pressed, the time goes backward by 1 hour.

3 TIMER RESERVE

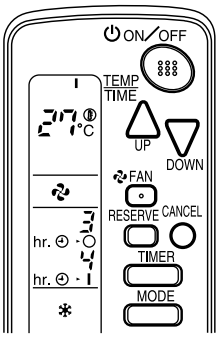
Press the TIMER RESERVE button.

The timer setting procedure ends.
The display or changes from flashing light to a constant light.

4 TIMER CANCEL

Press the TIMER OFF button to cancel programming. The display vanishes.

For example.



When the timer is programmed to stop the system after 3 hours and start the system after 4 hours, the system will stop after 3 hours and then 1 hour later the system will start.

NOTES

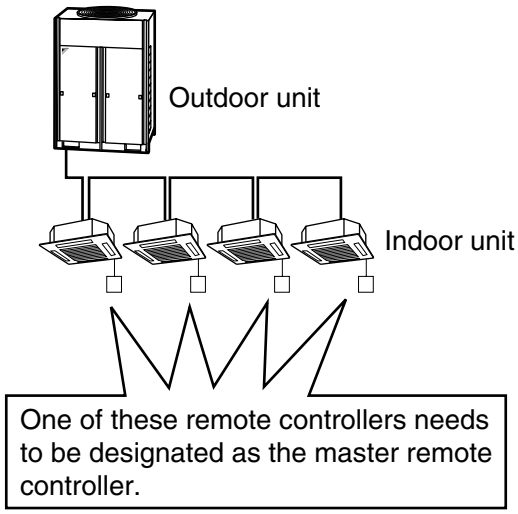
- When the timer is programmed to stop the system after 3 hours and start the system after 4 hours, the system will stop after 3 hours and then 1 hour later the system will start.
- After the timer is programmed, the display shows the remaining time.

HOW TO SET MASTER REMOTE CONTROLLER (For VRV system)

- When the system is installed as shown below, it is necessary to designate the master remote controller.

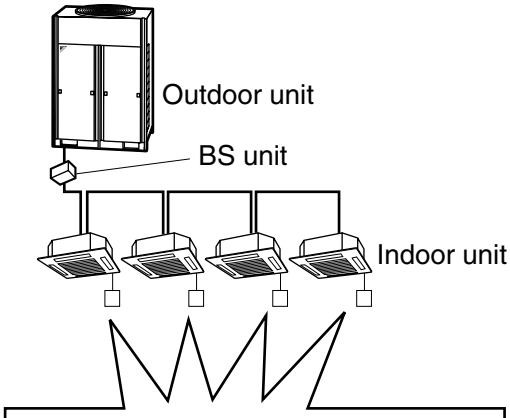
■ For Heat pump system

When one outdoor unit is connected with several indoor units.



■ **For Heat recovery system**

When one BS unit is connected with several indoor units.



- Only the master remote controller can select HEATING, COOLING or AUTOMATIC (only Heat recovery system) OPERATION.

When the indoor unit with master remote controller is set to “COOL”, you can switch over operation mode between “FAN”, “DRY” and “COOL”.

When the indoor unit with master remote controller is set to “HEAT”, you can switch over operation mode between “FAN” and “HEAT”.

When the indoor unit with master remote controller is set to “FAN”, you cannot switch operation mode.

When attempting settings than that consented above, a “peep” is emitted as a warning.

Only with Heat recovery system, you can set the indoor unit to AUTOMATIC. Attempting to do so, a “peep” will be emitted as a warning.

How to designate the master remote controller

Operate in the following order.

Continuously press the OPERATION MODE SELECTOR button for 4 seconds.

The displays showing “ ⏲ ” of all slave indoor unit connected to the same outdoor unit or BS unit flash.

Press the OPERATION MODE SELECTOR button to the indoor unit that you wish to designate as the master remote controller. Then designation is completed. This indoor unit is designated as the master remote controller and the display showing “ ⏲ ” vanishes.

- To change settings, repeat steps 1 and 2.

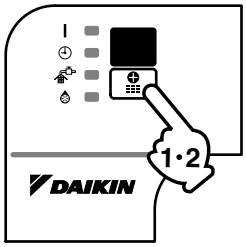
EMERGENCY OPERATION

When the remote controller does not work due to battery failure or the absence thereof, use this switch which is located beside the discharge grille on the main unit. When the remote controller does not work, but the battery low indicator on it is not lit, contact your dealer.

[START]

To press the emergency operation switch.

The machine runs in the previous mode. The system operates with the previously set air flow direction.



[STOP]

2 **Press the EMERGENCY OPERATION switch again.**

PRECAUTIONS FOR GROUP CONTROL SYSTEM OR TWO REMOTE CONTROLLER CONTROL SYSTEM

This system provides two other control systems beside individual control (one remote controller controls one indoor unit) system. Confirm the following if your unit is of the following control system type.

■ **Group control system**
One remote controller controls up to 16 indoor units.
All indoor units are equally set.

■ **Two remote controller control system**
Two remote controllers control one indoor unit. (In case of group control system, one group of indoor units)
The unit follows individual operation.

NOTES

- Cannot have two remote controller control system with only wireless remote controllers. (It will be a two remote controller control system having one wired and one wireless remote controllers.)
- Under two remote controller control system, wireless remote controller cannot control timer operation.
- Only the operating indicator lamp out of 3 other lamps on the indoor unit display functions.

NOTE

- Contact your Daikin dealer in case of changing the combination or setting of group control and two remote controller control systems.

6. NOT MALFUNCTION OF THE AIR CONDITIONER

The following symptoms do not indicate air conditioner malfunction

I. THE SYSTEM DOES NOT OPERATE

- **The system does not restart immediately after the ON/OFF button is pressed.**
  If the OPERATION lamp lights, the system is in normal condition. It does not restart immediately because a safety device operates to prevent overload of the system. After 3 minutes, the system will turn on again automatically.
- **The system does not restart immediately when TEMPERATURE SETTING button is returned to the former position after pushing the button.**
  It does not restart immediately because a safety device operates to prevent overload of the system. After 3 minutes, the system will turn on again automatically.
- **If the reception beep is rapidly repeated 3 times (It sounds only twice when operating normally.)**
  Control is set to the optional controller for centralized control.
- **If the defrost lamp on the indoor unit's display is lit when heating is started.**
  This indication is to warn against cold air being blown from the unit. There is nothing wrong with the equipment.

7. HOW TO DIAGNOSE TROUBLE SPOTS

I. EMERGENCY STOP

When the air conditioner stops in emergency, the run lamp on the indoor unit starts blinking. Take the following steps yourself to read the malfunction code that appears on the display. Contact your dealer with this code. It will help pinpoint the cause of the trouble, speeding up the repair.

1 TEST

Press the INSPECTION/TEST button to select the inspection mode " 0 ".

" 0 " appears on display and blinks. "UNIT" lights up.

2 UP DOWN

Press PROGRAMMING TIMER BUTTON and change the unit number.

Press to change the unit number until the indoor unit beeps and perform the following operation according to the number of beeps.

Number of beeps

3 short beeps .... Perform all steps from 3 to 6.

1 short beep ..... Perform 3 and 6 steps.

1 long beep..... Normal state

3 MODE

Press OPERATION MODE SELECTOR BUTTON

" 0 " on the left-hand of the malfunction code blinks.

4 UP DOWN

Press PROGRAMMING TIMER BUTTON and change the malfunction code.

Press until the indoor unit beeps twice.

5 MODE

Press OPERATION MODE SELECTOR BUTTON

" 0 " on the right-hand of the malfunction code blinks.

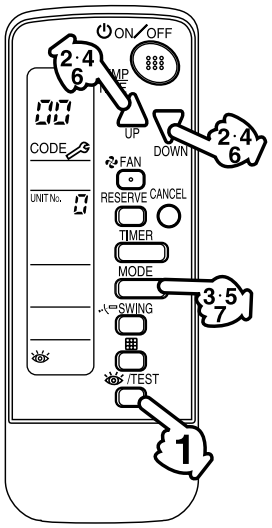
6 UP DOWN

Press PROGRAMMING TIMER BUTTON and change the malfunction code.

Press until the indoor unit makes a long beep.
The malfunction code is fixed when the indoor unit makes a long beep.

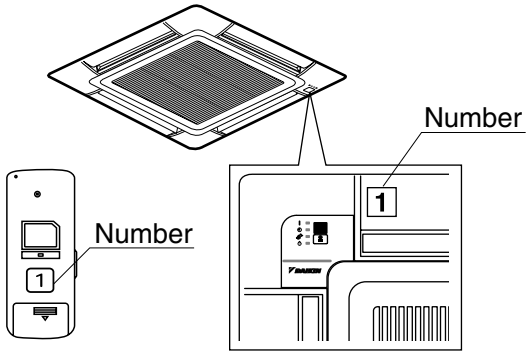
7 MODE **Reset of the display**

Press OPERATION MODE SELECTOR BUTTON to get the display back to the normal state.



II. IN CASE BESIDES EMERGENCY STOP

1. **The unit does not operate at all.**
   - Check if the receiver is exposed of sunlight or strong light. Keep receiver away from light.
   - Check if there are batteries in the remote controller. Place the batteries.
   - Check if the indoor unit number and wireless remote controller number are equal.



Operate the indoor unit with the remote controller of the same number.
Signal transmitted from a remote controller of a different number cannot be accepted. (If the number is not mentioned, it is considered as “1”)

2. **The system operates but it does not sufficiently cool or heat.**
   - If the set temperature is not proper.
   - If the FAN SPEED is set to LOW SPEED.
   - If the air flow angle is not proper.

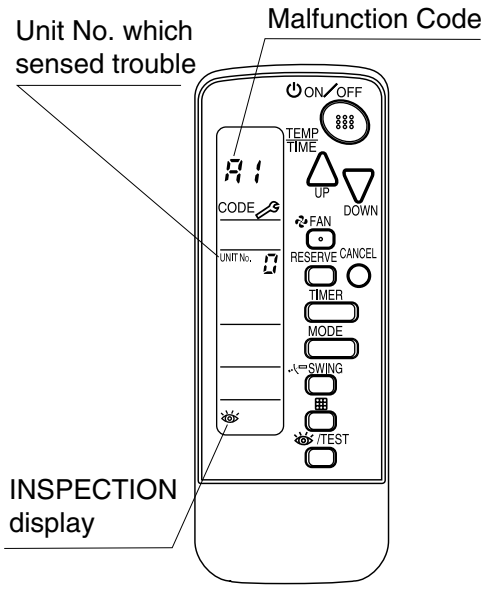
Contact the place of purchase in the following case.

⚠ WARNING

When you detect a burning odor, shut OFF power immediately and contact the place of purchase. Using the equipment in anything but proper working condition can result in equipment damage, electric shock and/or fire.

[Trouble]

The RUN lamp of the indoor unit is flashing and the unit does not work at all.



[Remedial action]

Check the malfunction code (A1 - UF) on the remote controller.
Notify and inform the model name and what the malfunction code indicates to your Daikin dealer.

3P107422-1S

Part 6
Service Diagnosis

1. Troubleshooting with LED

1.1 Indoor Unit

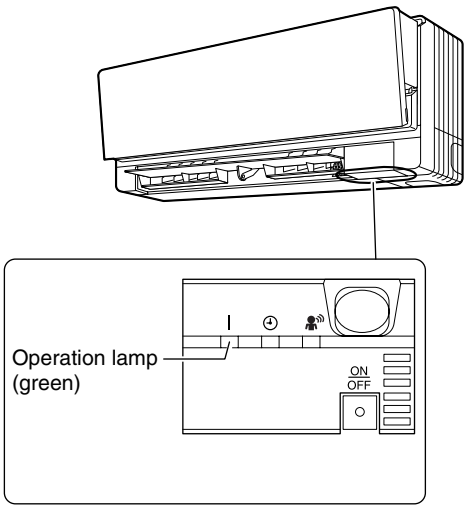
Operation Lamp

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.

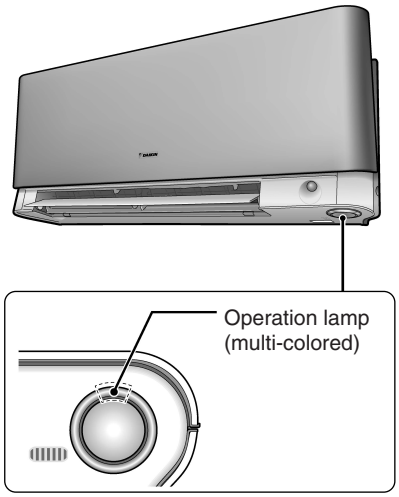
In either case, conduct the diagnostic procedure described in the following pages.

Wall Mounted Type
FTXG-E, CTXG-E Series



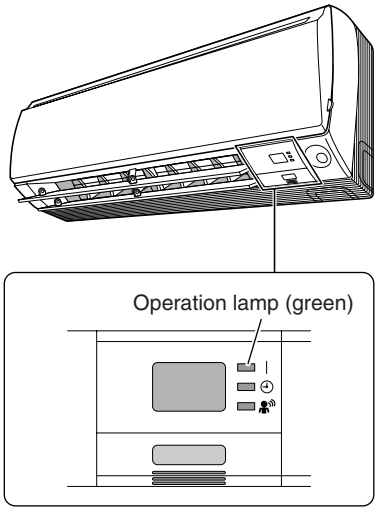
(R12749)

Wall Mounted Type
FTXG-J, CTXG-J Series



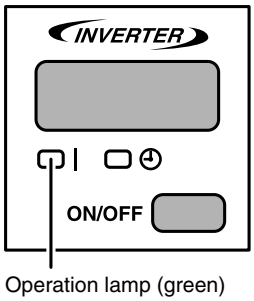
(R12750)

Wall Mounted Type
FTXS-G, FTXS-J Series



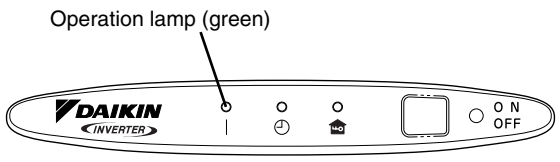
(R12187)

Floor Standing Type



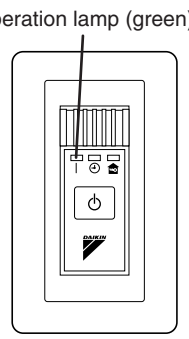
(R11687)

Floor / Ceiling Suspended Dual Type



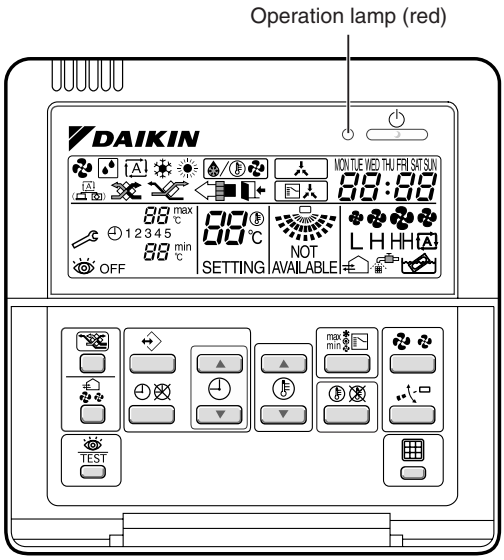
(R11688)

Duct Connected Type



(Q0340)

BRC1D528



(R14422)

BRC7E530W/531W

In case of wireless remote controller, a signal receiver PCB and a display PCB are installed on indoor unit.

When the error occurs, the operation lamp on the display PCB blinks.

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 microcomputer works in order, the LED A blinks.

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 type 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°C.	—
	Diagnose with remote controller indication	—	213, 214
	Check the remote controller addresses.	Check if address settings for the remote controller and indoor unit are correct.	303
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°C.	—
	Diagnose with remote controller indication.	—	213, 214
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	—	213, 214
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.	—	—
	Check for thermistor detection errors.	Check if the thermistor is mounted securely.	—
	Check for faulty operation of the electronic expansion valve.	Set both the units to cooling operation, and compare the temperatures of the liquid pipes to see if the each electronic expansion valve works.	—
	Diagnose with remote controller indication.	—	213, 214
	Diagnose by service port pressure and operating current.	Check for refrigerant shortage.	254
Large operating noise and vibrations	Check the output voltage of the power module.	—	271
	Check the power module.	—	—
	Check the installation condition.	Check if the required spaces for installation (specified in the installation manual, etc.) are provided.	—

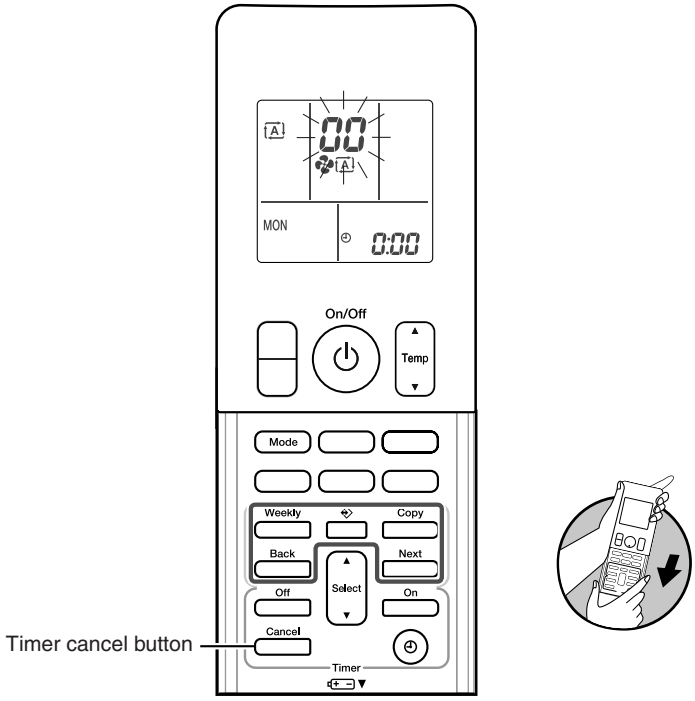
3. Service Check Function

3.1 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLK(X)S, FDK(X)S Series

3.1.1 ARC466 Series Remote Controller

Check Method 1

1. When the timer cancel button is held down for 5 seconds, "00" indication appears on the temperature display section.



< ARC466 Series >

(R14220)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

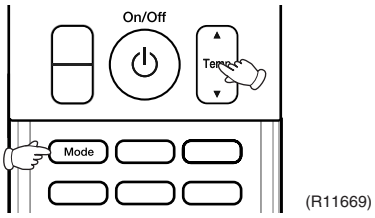
No.	Code	No.	Code	No.	Code
1	00	13	C7	25	UA
2	U4	14	A3	26	UH
3	L5	15	H8	27	P4
4	E6	16	H9	28	L3
5	H6	17	C9	29	L4
6	H0	18	C4	30	H7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1	35	H1
12	F6	24	E1	36	P9

Note:

1. A short beep "pi" and two consecutive beeps "pi pi" 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 201)

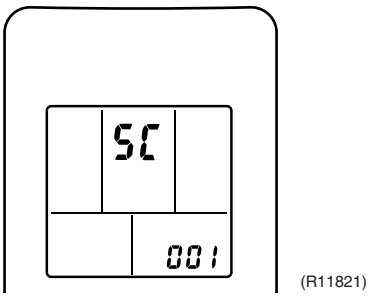
Check Method 2

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



(R11669)

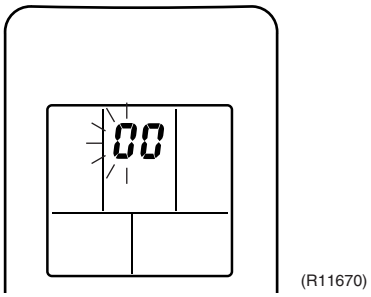
"SC" is displayed on the LCD.



(R11821)

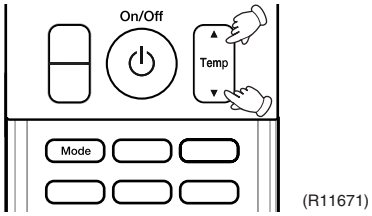
2. Select "SC" (service check) with the Temp ▲ or ▼ button.

3. Press the Mode button to enter the service check mode.
   The figure of the ten's place blinks.



(R11670)

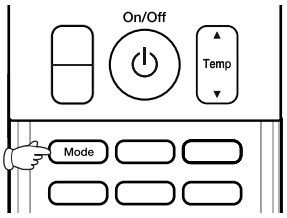
4. Press the Temp ▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R11671)

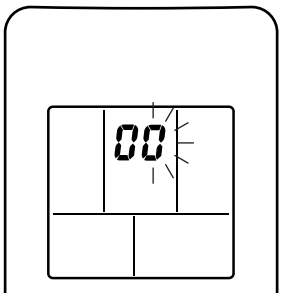
5. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 213, 214.)

6. Press the Mode button.



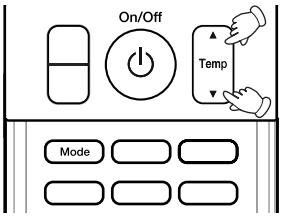
(R11672)

The figure of the one's place blinks.



(R11673)

7. Press the Temp ▲ or ▼ button and change the figure until you hear the sound of "beep".

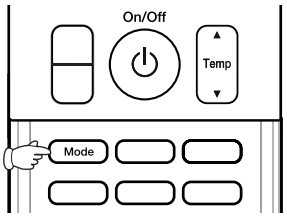


(R11671)

8. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.

9. Determine the error code.
   The figures indicated when you hear the "beep" sound are error code.
   (Error codes and description → Refer to page 213, 214.)

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.)

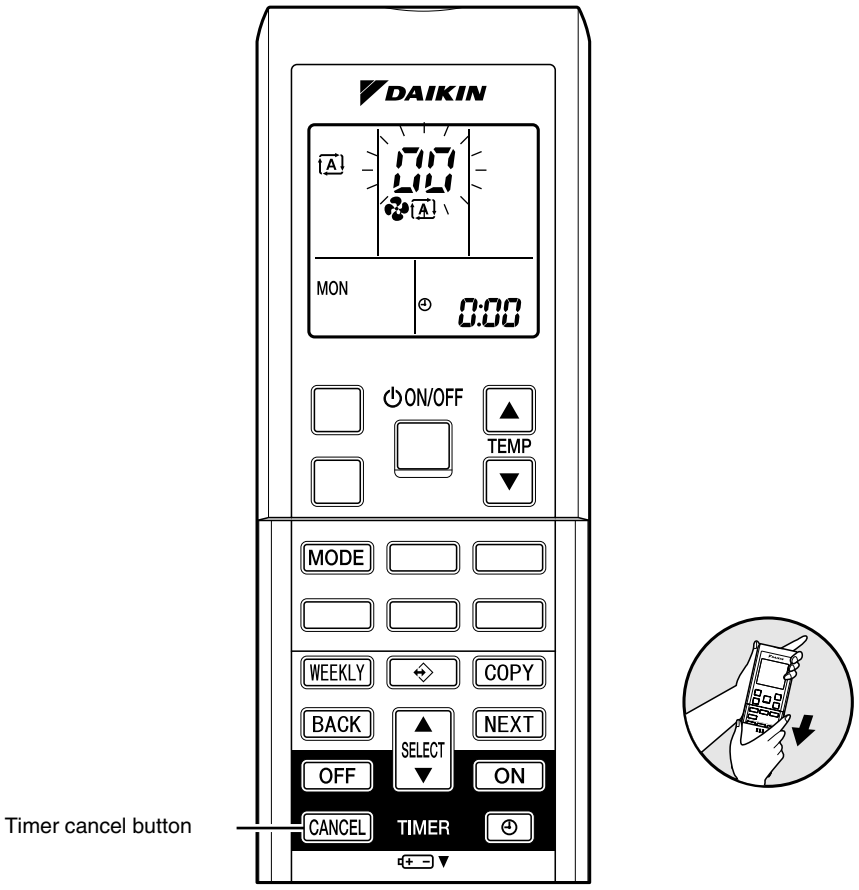


(R11672)

3.1.2 ARC452 Series Remote Controller

Check Method 1

1. When the timer cancel button is held down for 5 seconds, "00" indication appears on the temperature display section.



< ARC452 Series >

(R13820)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

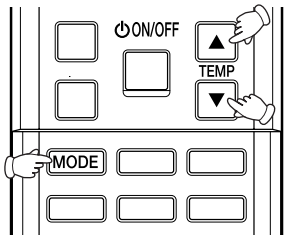
No.	Code	No.	Code	No.	Code
1	00	13	C7	25	UA
2	U4	14	A3	26	UH
3	L5	15	H8	27	P4
4	E6	16	H9	28	L3
5	H6	17	C9	29	L4
6	H0	18	C4	30	H7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1		
12	F6	24	E1		

Note:

1. A short beep "pi" and two consecutive beeps "pi pi" 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 204)

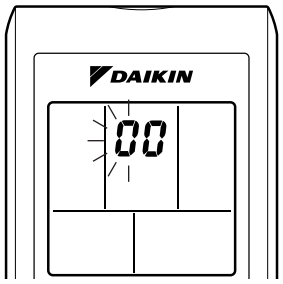
Check Method 2

1. Press the 3 buttons (TEMP▲, TEMP▼, MODE) simultaneously to enter the diagnosis mode.



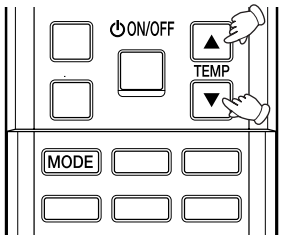
(R8381)

The figure of the ten's place blinks.



(R8382)

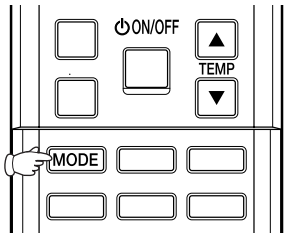
2. Press the TEMP ▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R8383)

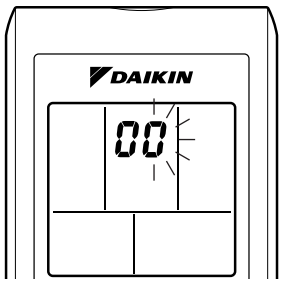
3. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 213, 214.)

4. Press the MODE button.



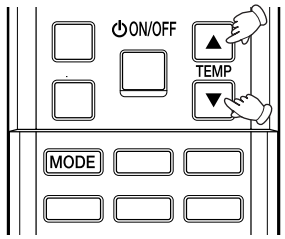
(R8384)

The figure of the one's place blinks.



(R8385)

5. Press the TEMP▲ or ▼ button and change the figure until you hear the sound of “beep”.

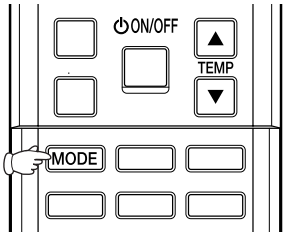


(R8383)

6. Diagnose by the sound.
   ★“pi” : The figure of the ten’s place does not accord with the error code.
   ★“pi pi” : The figure of the ten’s place accords with the error code but the one’s not.
   ★“beep” : The both figures of the ten’s and one’s place accord with the error code.

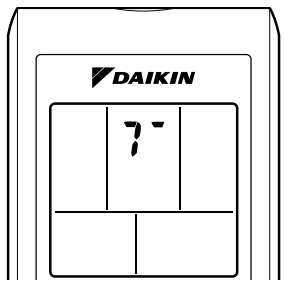
7. Determine the error code.
   The figures indicated when you hear the “beep” sound are error code.
   (Error codes and description → Refer to page 213, 214.)

8. Press the MODE button to exit from the diagnosis mode.



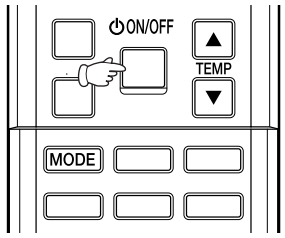
(R8384)

   The display “ ｱﾄﾞ ” means the trial operation mode.
   (Refer to page 300 for trial operation.)



(R9659)

9. Press the ON/OFF button twice to return to the normal mode.



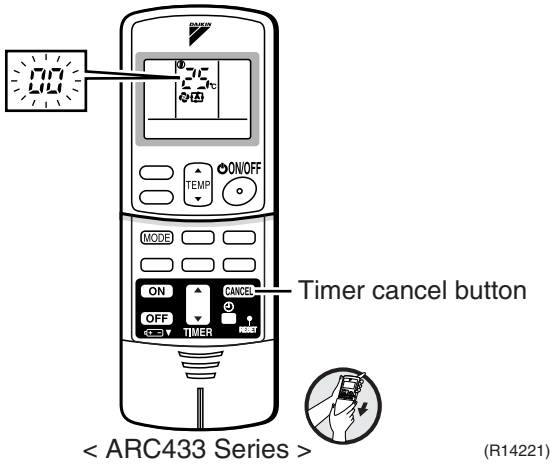
(R9660)

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" indication appears on the temperature display section.



< ARC433 Series > (R14221)

2. Press the timer cancel button repeatedly until a long beep sounds.

■ The code indication changes in the sequence shown below.

<ARC433B41>

No.	Code	No.	Code	No.	Code
1	00	12	F6	23	A1
2	U4	13	C7	24	E1
3	L5	14	A3	25	UA
4	E6	15	H8	26	UH
5	H6	16	H9	27	P4
6	H0	17	C9	28	L3
7	A6	18	C4	29	L4
8	E7	19	C5	30	H7
9	U0	20	J3	31	U2
10	F3	21	J6	32	EA
11	A5	22	E5	33	AH

<ARC433B67, B68, B69, B76>

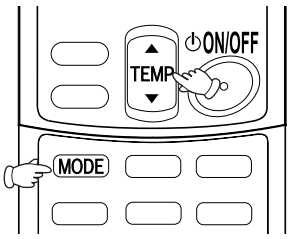
No.	Code	No.	Code	No.	Code
1	00	12	C7	23	H0
2	U4	13	H8	24	E1
3	F3	14	J3	25	P4
4	E6	15	A3	26	L3
5	L5	16	A1	27	L4
6	A6	17	C4	28	H6
7	E5	18	C5	29	H7
8	F6	19	H9	30	U2
9	C9	20	J6	31	UH
10	U0	21	UA	32	EA
11	E7	22	A5	33	AH

Note:

1. A short beep "pi" and two consecutive beeps "pi pi" 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 207)

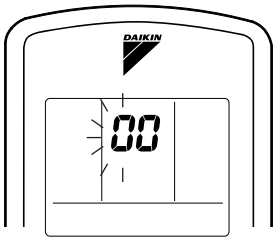
Check Method 2

1. Press the center of the TEMP button and the MODE button simultaneously to enter the diagnosis mode.



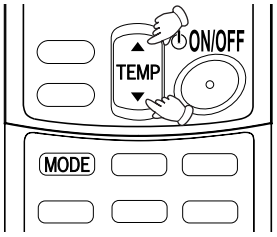
(R4272)

The figure of the ten's place blinks.



(R4273)

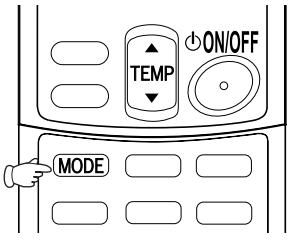
2. Press the TEMP ▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R4274)

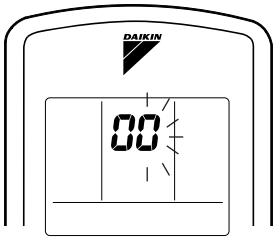
3. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 213, 214.)

4. Press the MODE button.



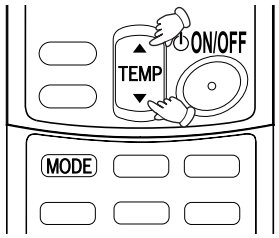
(R4275)

The figure of the one's place blinks.



(R4276)

5. Press the TEMP▲ or ▼ button and change the figure until you hear the sound of “beep”.

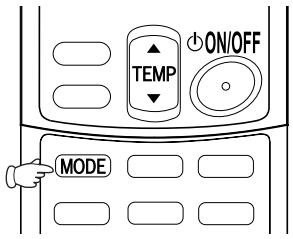


(R4277)

6. Diagnose by the sound.
   ★“pi” : The figure of the ten’s place does not accord with the error code.
   ★“pi pi” : The figure of the ten’s place accords with the error code but the one’s not.
   ★“beep” : The both figures of the ten’s and one’s place accord with the error code.

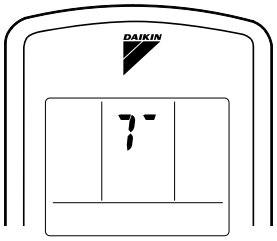
7. Determine the error code.
   The figures indicated when you hear the “beep” sound are error code.
   (Error codes and description → Refer to page 213, 214.)

8. Press the MODE button to exit from the diagnosis mode.



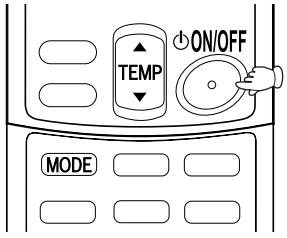
(R4278)

   The display “ ｱﾄﾞ ” means the trial operation mode.
   (Refer to page 300 for trial operation.)



(R9669)

9. Press the ON/OFF button twice to return to the normal mode.



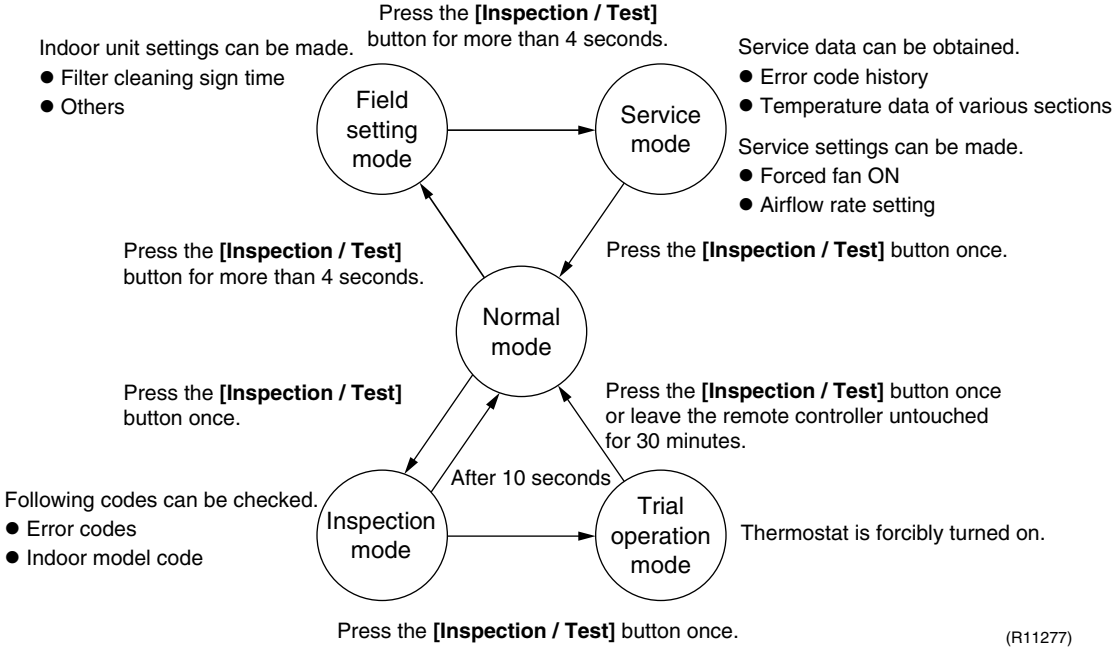
(R9670)

Note: When the remote controller is left untouched for 60 seconds, it returns to the normal mode.

3.2 SA Indoor Unit - FFQ Series

3.2.1 Relations between Modes

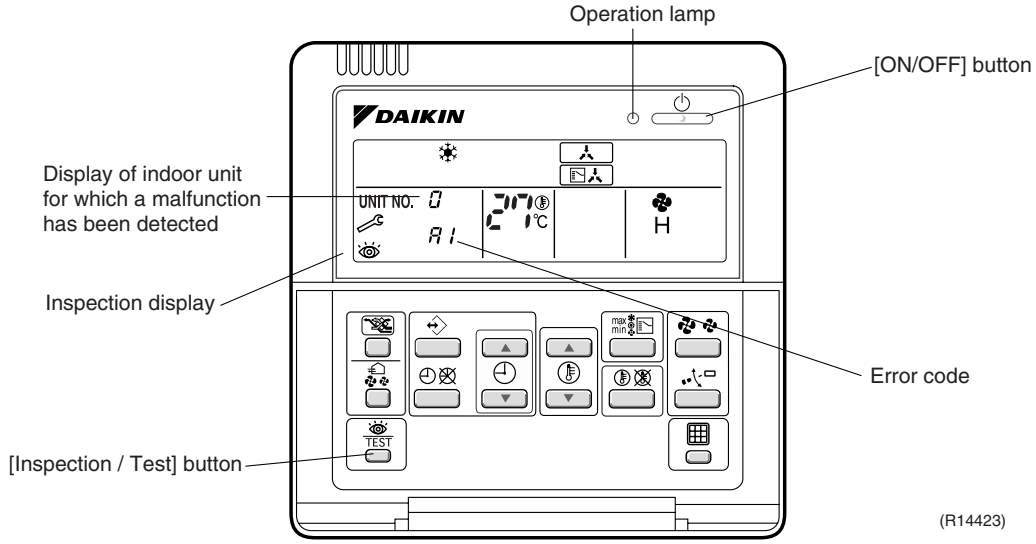
The following modes can be selected by using the [Inspection / Test] button on the remote controller.



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 213, 214 for error code and malfunction contents.

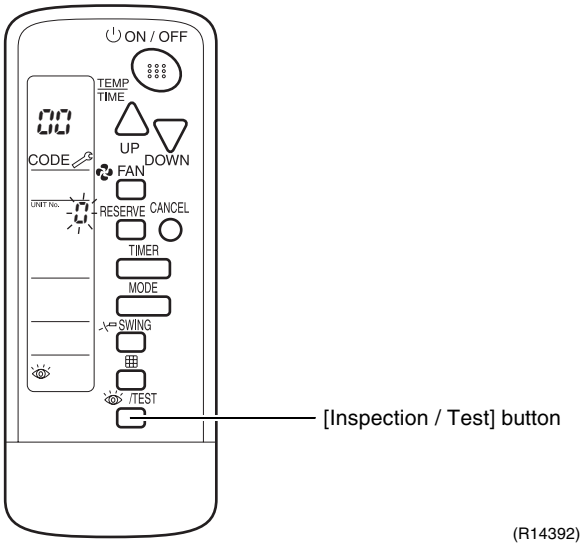
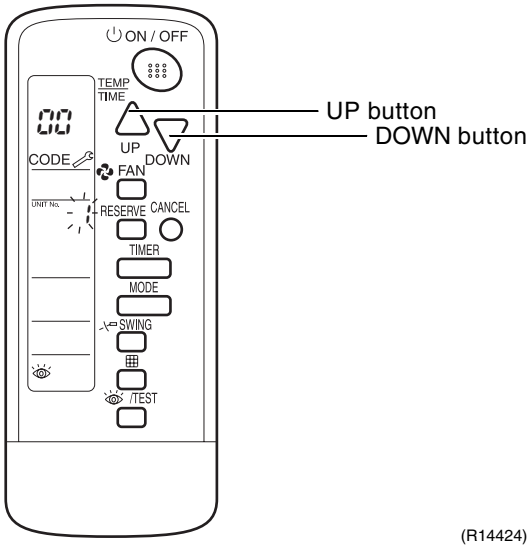


Note:

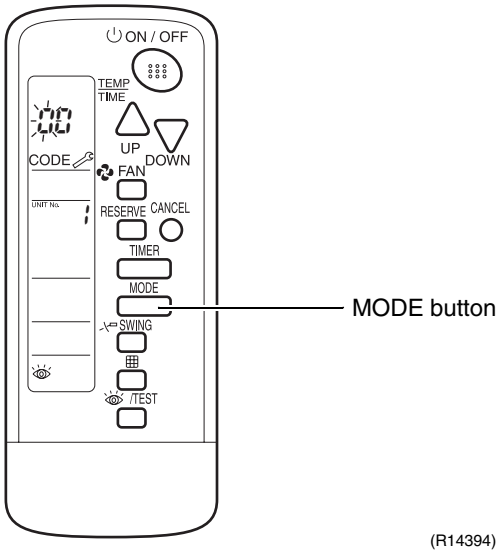
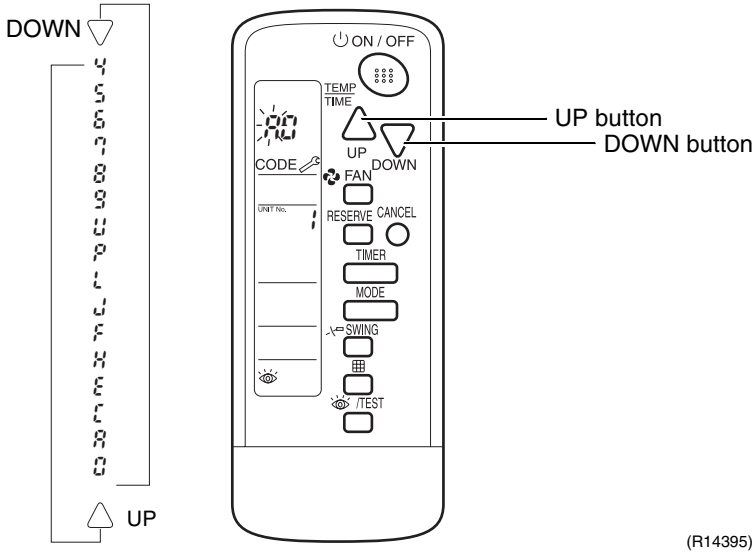
1. When you press the [Inspection / Test] button, the inspection display blinks.
2. While in the inspection mode, press the [ON/OFF] button for 5 seconds or more to clear the failure history indication. In this case, the error code blinks twice and then changes to "00" (= Normal), the UNIT No. changes to "0", and the operation mode automatically switches from the inspection mode to the normal mode (displaying the set temperature).

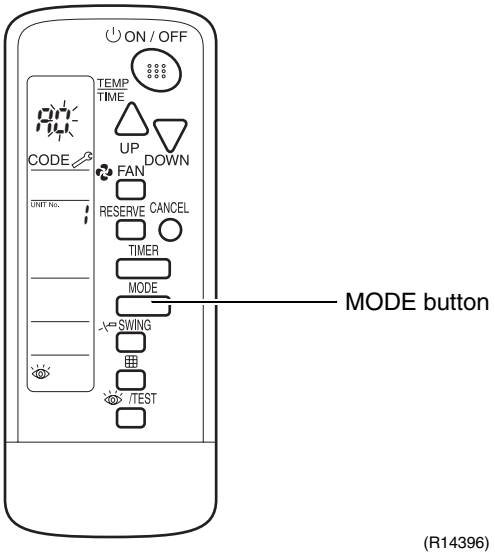
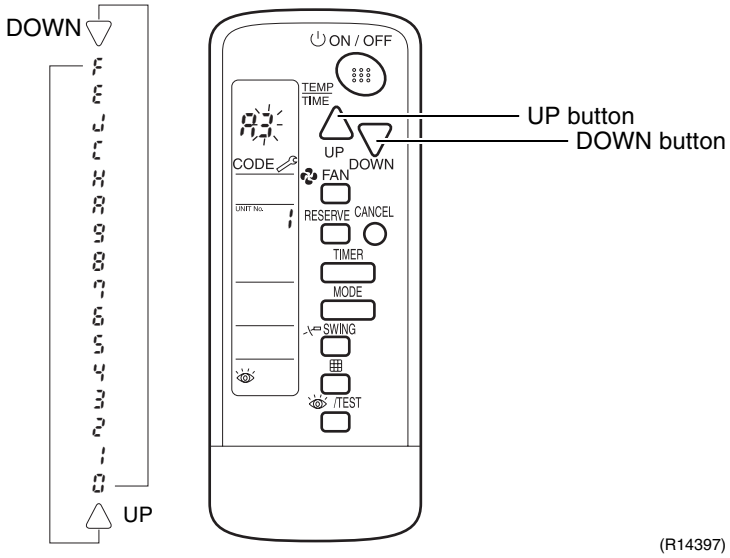
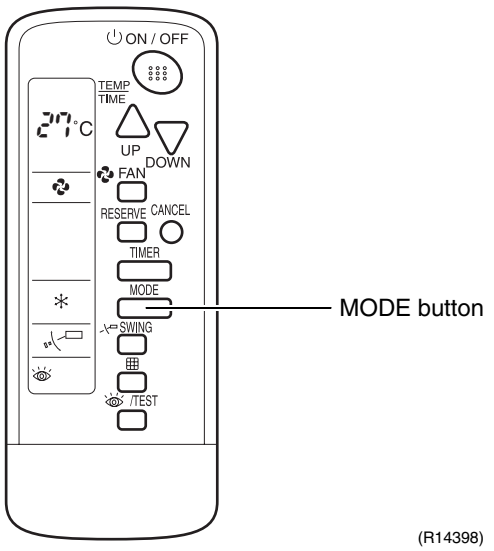
3.2.3 BRC7E530W/531W

To find the error code, proceed as follows:

Step	Action
1	Press the [Inspection / Test] button to enter the inspection mode. Then the figure "0" blinks on the UNIT No. display.  (R14392)
2	Press the UP or DOWN button and change the UNIT No. until the receiver of the remote controller starts to beep.  (R14424)

If you hear...	Then...
3 short beeps	Follow all steps below.
1 short beep	Follow steps 3 and 4. Continue the operation in step 4 until you hear a continuous beep. This continuous beep indicates that the error code is confirmed.
1 continuous beep	There is no abnormality.

Step	Action
3	Press the MODE button. The left "0" (upper digit) indication of the error code blinks.  (R14394)
4	Press the UP or DOWN button to change the error code upper digit until the receiver of the remote controller starts to beep.  (R14395) **If you hear...** / **Then...** 2 short beeps — The upper digit matches. 1 short beep — No digits match. 1 continuous beep — Both upper and lower digits match.

Step	Action
5	Press the MODE button. The right "0" (lower digit) indication of the error code blinks.  (R14396)
6	Press the UP or DOWN button and change the error code lower digit until the receiver of the remote controller generates a continuous beep.  (R14397)
7	Press the MODE button to return to the normal mode. If you do not press any button for 1 minutes, the remote controller automatically returns to the normal mode.  (R14398)

4. Code Indication on Remote Controller

4.1 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLK(X)S, FDK(X)S Series

Error Codes	Description		Reference Page
00	Normal condition		—
A1	Indoor unit PCB abnormality		215
A5	Freeze-up protection control or heating peak-cut control		216
A6	Fan motor or related abnormality	AC motor (duct, floor / ceiling)	218
		DC motor (wall, floor standing)	219
C4	Indoor heat exchanger thermistor or related abnormality		221
C7	Front panel open / close fault		222
C9	Room temperature thermistor or related abnormality		221

4.2 SA Indoor Unit - FFQ Series

Error Codes	Description	Reference Page
00	Normal condition	—
A1	Indoor unit PCB abnormality	223
A3	Drain water level system abnormality	224
A6	Fan motor or related abnormality (See the Note below.)	226
AF	Drain system abnormality	227
C4	Indoor heat exchanger thermistor or related abnormality	228
C9	Room temperature thermistor or related abnormality	228
CJ	Remote controller thermistor abnormality	230
U5	Signal transmission error (between indoor unit and remote controller)	231
U8	Signal transmission error (between MAIN remote controller and SUB remote controller)	232
UA	Field setting abnormality	233

: Error code displays automatically and system stops. Inspect and repair it.

: In the case of the shaded error codes, “inspection” is not displayed. The system operates, but be sure to inspect and repair it.

Note: When there is a possibility of open phase power supply, also check power supply.

4.3 Outdoor Unit

	Error Codes	Description	Reference Page
System	00	Normal	—
	U0★	Refrigerant shortage	254
	U2	Low-voltage detection or over-voltage detection	256
	U4	Outdoor unit PCB abnormality or signal transmission error	257
	U8	Unspecified voltage (between indoor unit and outdoor unit)	260
	UH	Anti-icing control in other room	260
Outdoor Unit	A5	Anti-icing control for indoor unit	235
	E5★	OL activation (compressor overload)	237
	E6★	Compressor lock	238
	E7	DC fan lock	239
	E8	Input overcurrent detection	240
	F3	Discharge pipe temperature control	241
	F6	High pressure control in cooling	242
	H0	Compressor system sensor abnormality	243
	H6	Position sensor abnormality	244
	H8	DC voltage / current sensor abnormality	246
	H9	Outdoor temperature thermistor or related abnormality	247
	J3	Discharge pipe thermistor or related abnormality	247
	J6	Outdoor heat exchanger thermistor or related abnormality	247
	J8	Liquid pipe temperature thermistor or related abnormality	247
	J9	Gas pipe temperature thermistor or related abnormality	247
	L3	Electrical box temperature rise	249
	L4	Radiation fin temperature rise	250
	L5	Output overcurrent detection	252
	P4	Radiation fin thermistor or related abnormality	247

★: Displayed only when system-down occurs.

5. Troubleshooting for RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLK(X)S, FDK(X)S 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

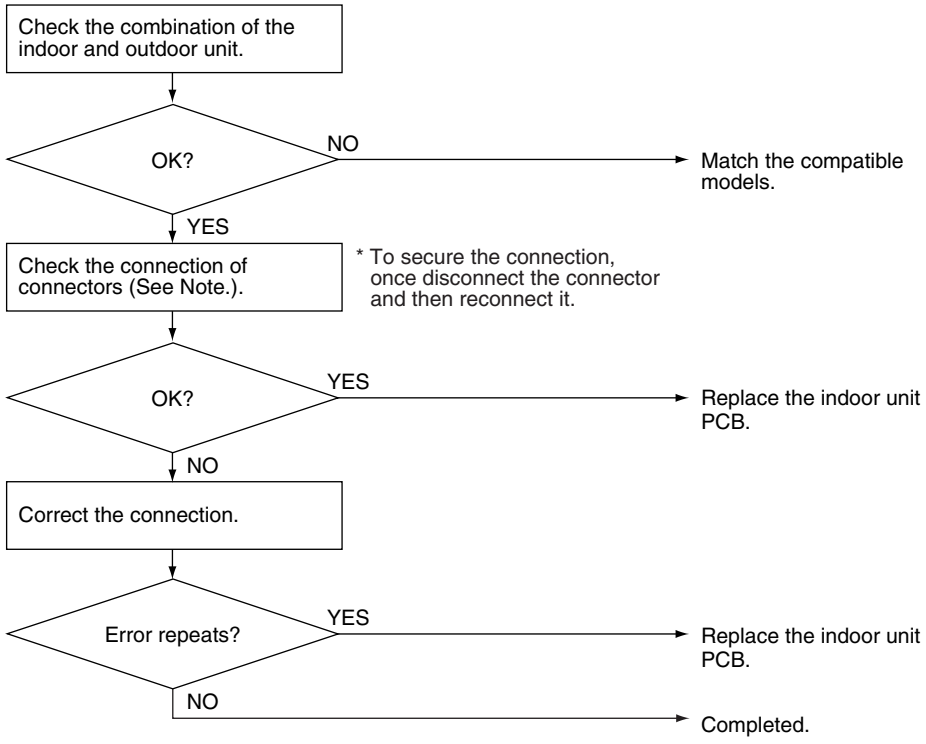
The system cannot set the internal settings.

Supposed Causes

- Wrong models interconnected
- Defective indoor unit PCB
- Disconnection of connector

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R11930)

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 temperature detected by the indoor heat exchanger thermistor is above 65°C.

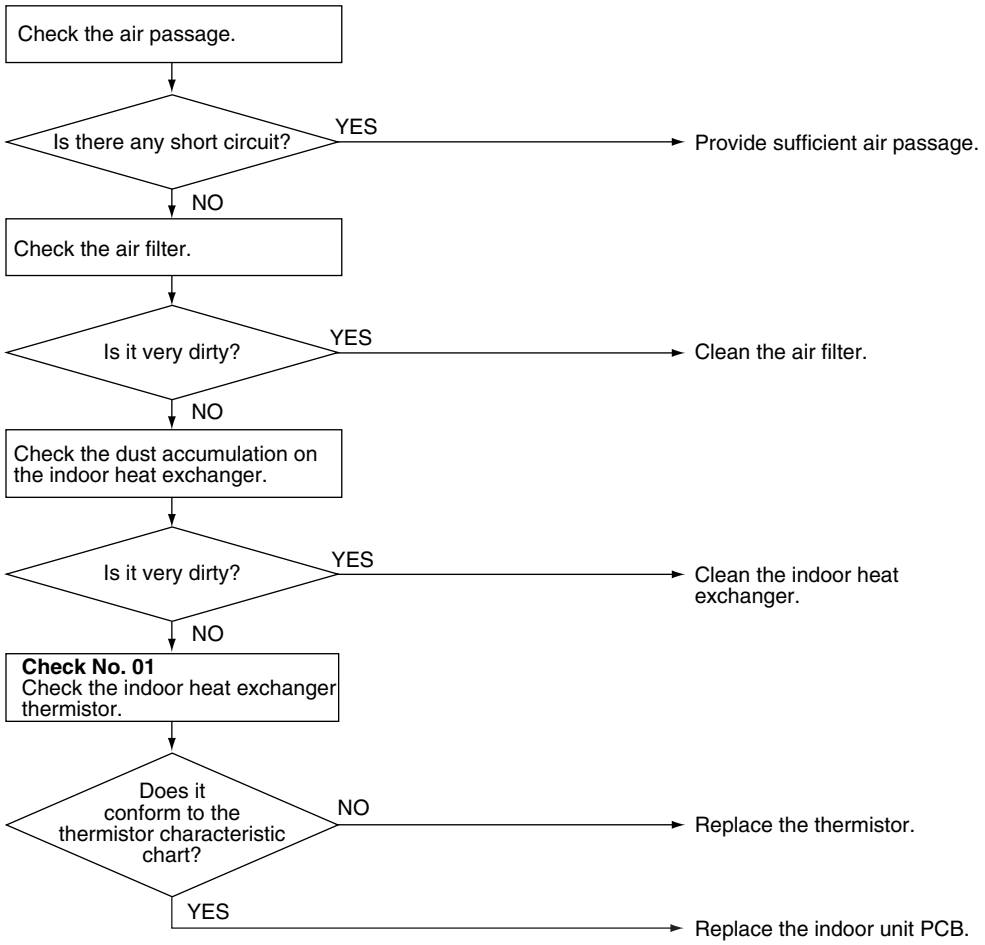
Supposed Causes

- Clogged air filter of the indoor unit
- Dust accumulation on the indoor heat exchanger
- Short-circuited air
- Defective indoor heat exchanger thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.261

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14402)

5.3 Fan Motor or Related Abnormality

5.3.1 AC Motor (Duct Connected Type, Floor / Ceiling Suspended Dual 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

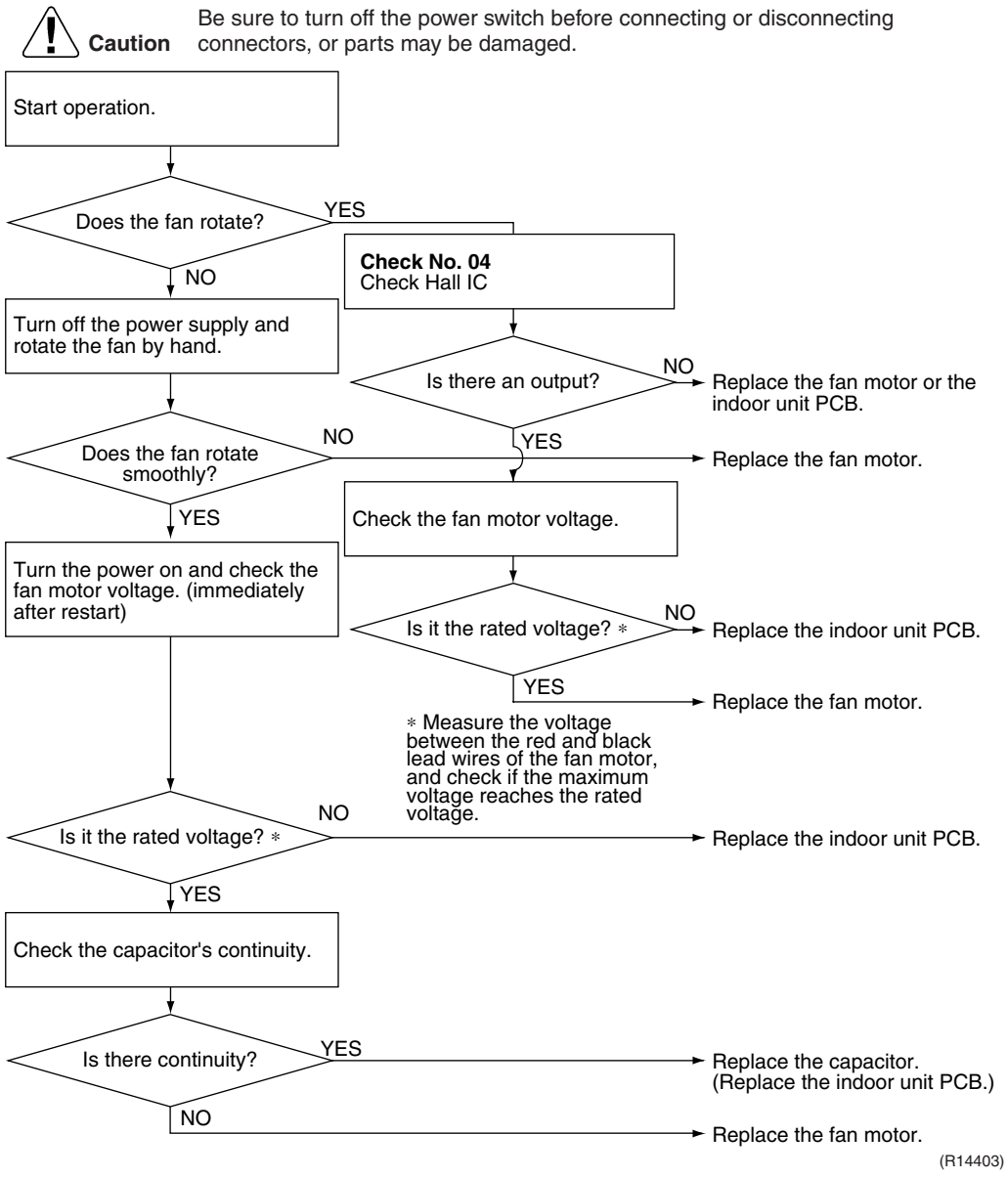
The detected rotation speed does not reach the demanded rotation speed of the target tap, and is less than 50% of the maximum fan motor rotation speed.

Supposed Causes

- 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.262



5.3.2 DC Motor (Wall Mounted Type, Floor Standing 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.

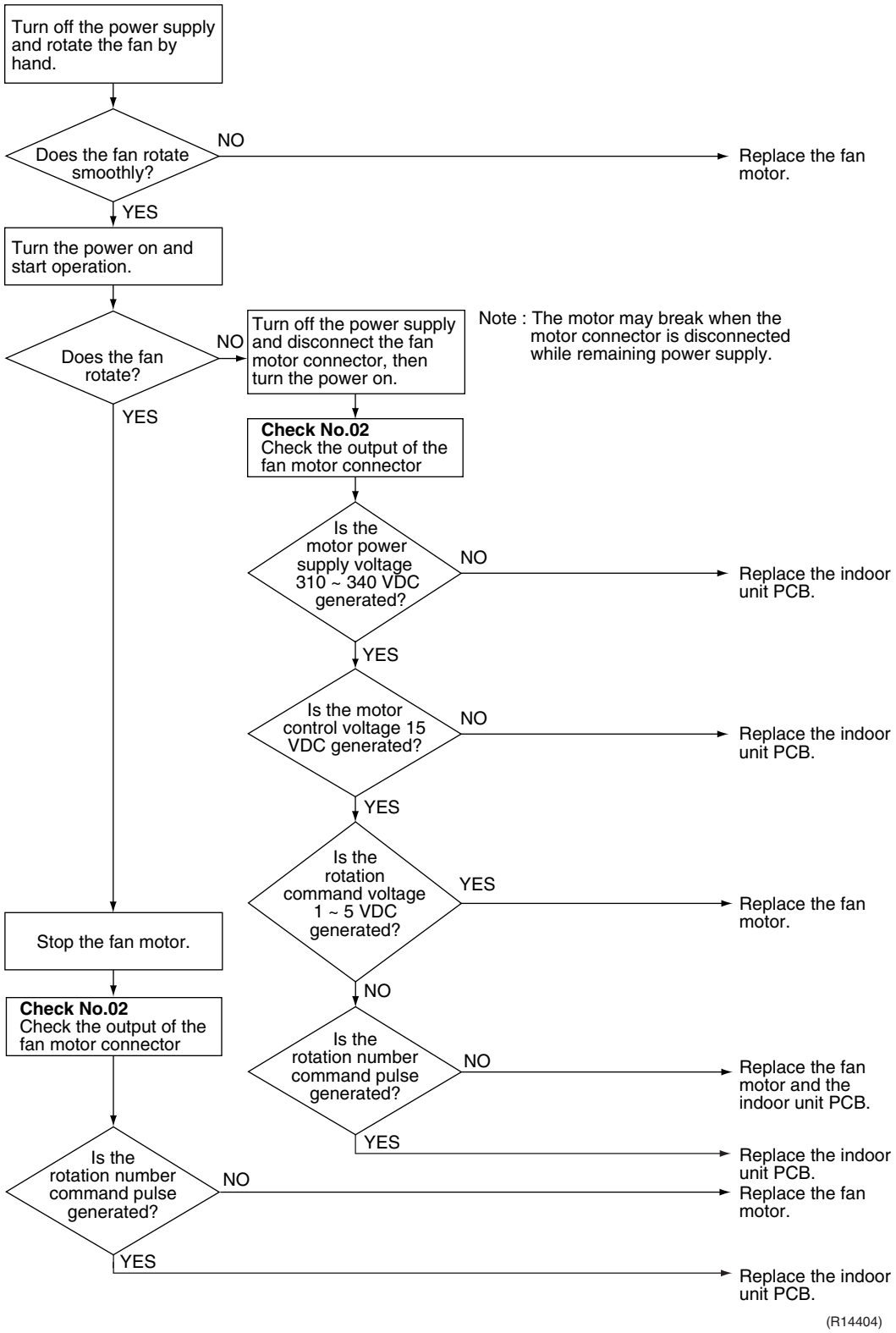
Supposed Causes

- 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

Check No.02
Refer to P.262

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14404)

5.4 Thermistor or Related Abnormality (Indoor Unit)

Remote Controller Display

C4, C9

Method of Malfunction Detection

The temperatures detected by the thermistors are used to determine thermistor errors.

Malfunction Decision Conditions

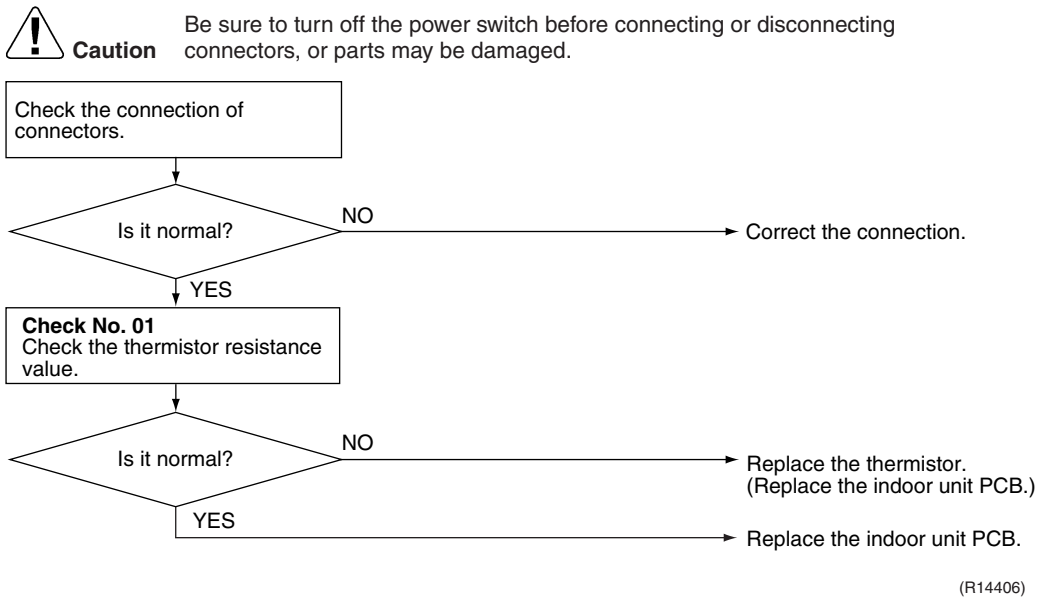
The thermistor input is more than 4.96 V or less than 0.04 V during compressor operation.

Supposed Causes

- Disconnection of connector
- Defective thermistor
- Defective indoor unit PCB

Troubleshooting

Check No.01
Refer to P.261



C4 : Indoor heat exchanger thermistor
C9 : Room temperature thermistor

5.5 Front Panel Open / Close Fault (FTXG, CTXG)

Remote Controller Display

C7

Method of Malfunction Detection

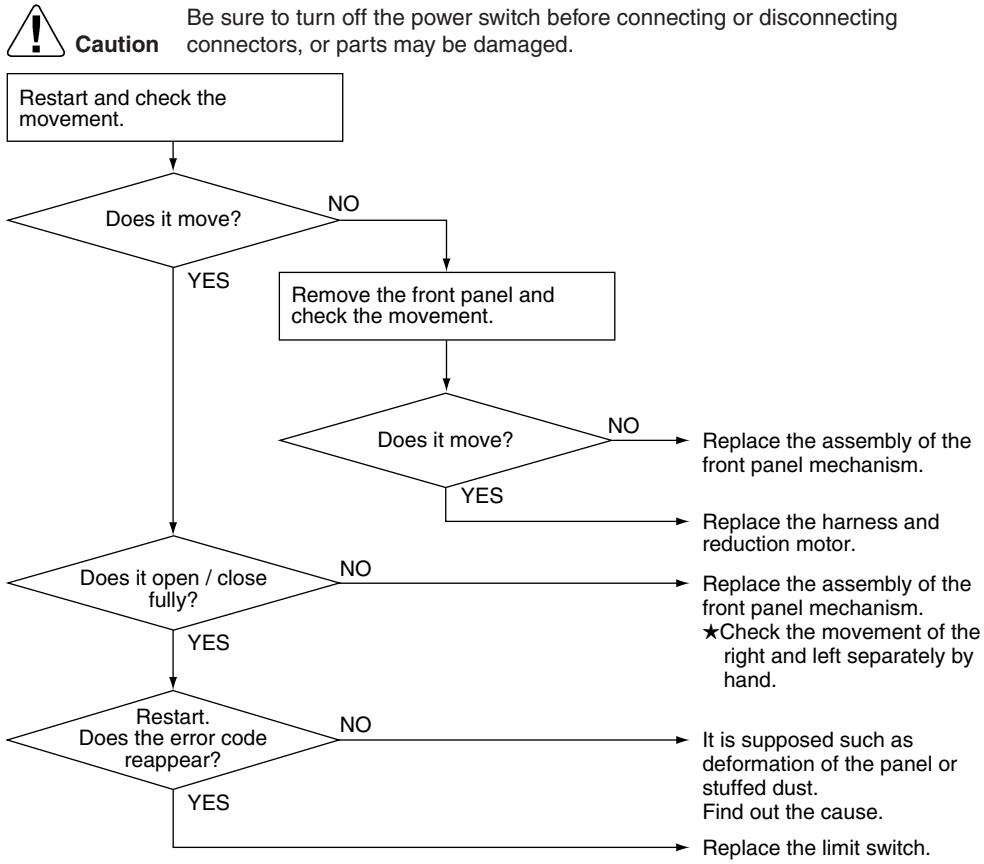
Malfunction Decision Conditions

- If the error repeats twice, the system is shut down.

Supposed Causes

- Defective reduction motor
- Malfunction or deterioration of the front panel mechanism
- Defective limit switch

Troubleshooting



(R12180)

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.

6. Troubleshooting for SA Indoor Unit - FFQ 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

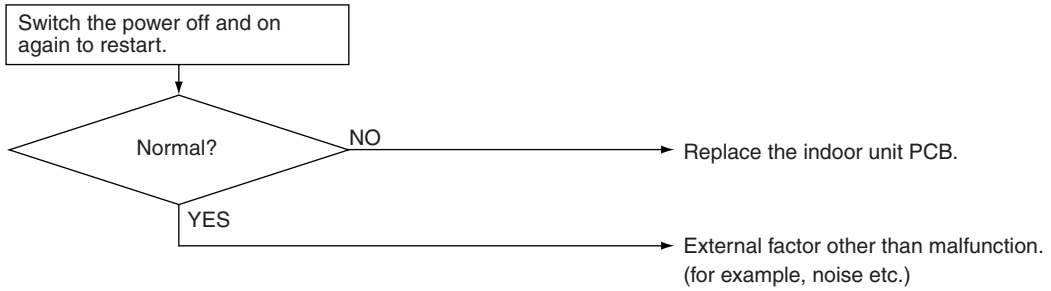
EEPROM (Electrically Erasable Programmable Read Only Memory): A memory chip that holds its content without power. It can be erased, either within the computer or externally and usually requires more voltage for erasure than the common +5 volts used in logic circuits. It functions like non-volatile RAM, 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

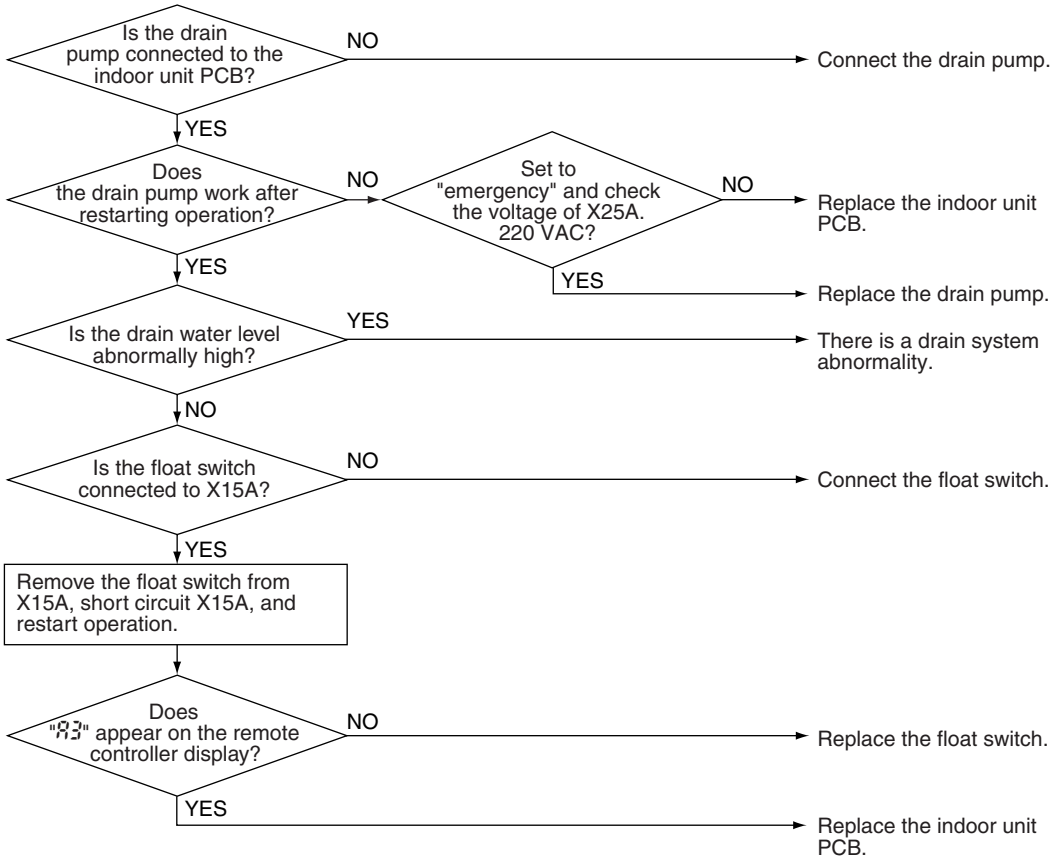
When the water level reaches its upper limit and when the float switch turns OFF

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.



(R11295)

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

A6

Method of Malfunction Detection

The signal from the fan motor detects abnormal fan speed.

Malfunction Decision Conditions

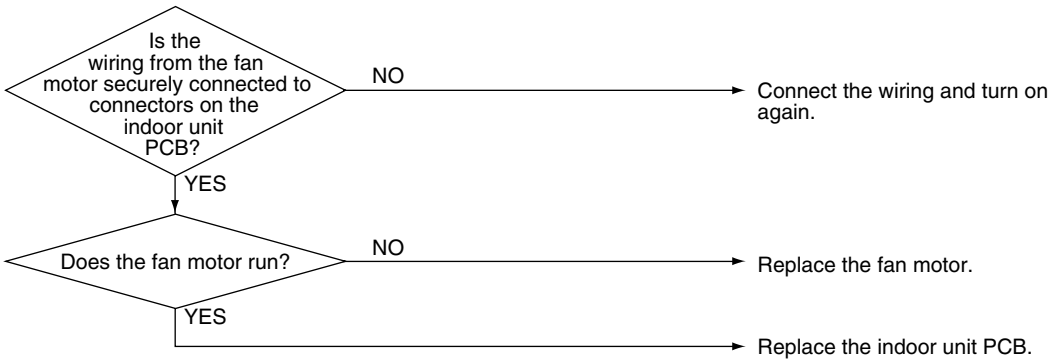
When the fan rotations are not detected while the output voltage to the fan is at its maximum

Supposed Causes

- Defective indoor fan motor
- Broken or disconnected wire
- Defective contact
- Defective indoor unit PCB

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R11296)

6.4 Drain System Abnormality

Remote Controller Display

AF

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

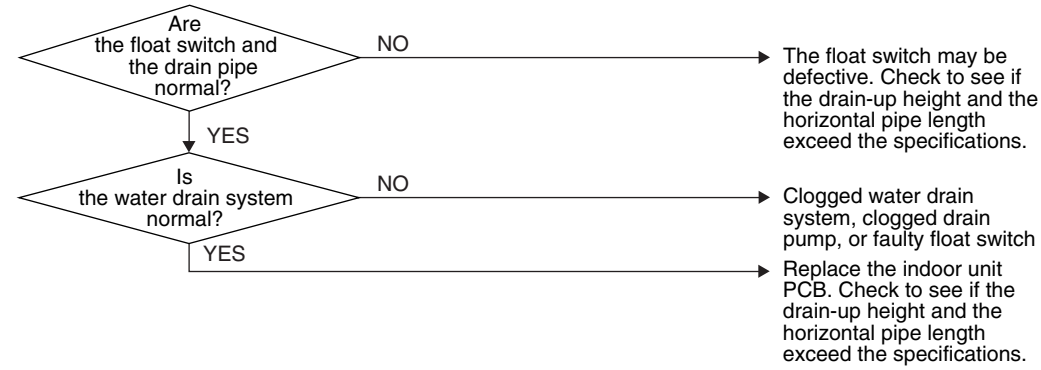
When the float switch changes from ON to OFF while the compressor is OFF

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.



(R14222)

6.5 Thermistor or Related Abnormality

Remote Controller Display

The table below describes the two thermistor abnormalities.

Error	Description
C4	Defective indoor heat exchanger thermistor system
C9	Defective room temperature thermistor system

Method of Malfunction Detection

Malfunction detection is carried out by the temperature detected by thermistor.

Malfunction Decision Conditions

When during compressor operation:

- Thermistor input > 4.96 V

or

- Thermistor output < 0.04 V.

Supposed Causes

- Disconnection of connector
- Defective thermistor
- Defective indoor unit PCB
- Broken or disconnected wire

Checking thermistors

If the cause of the problem is related to the thermistors, the thermistors should be checked prior to changing the indoor unit PCB.

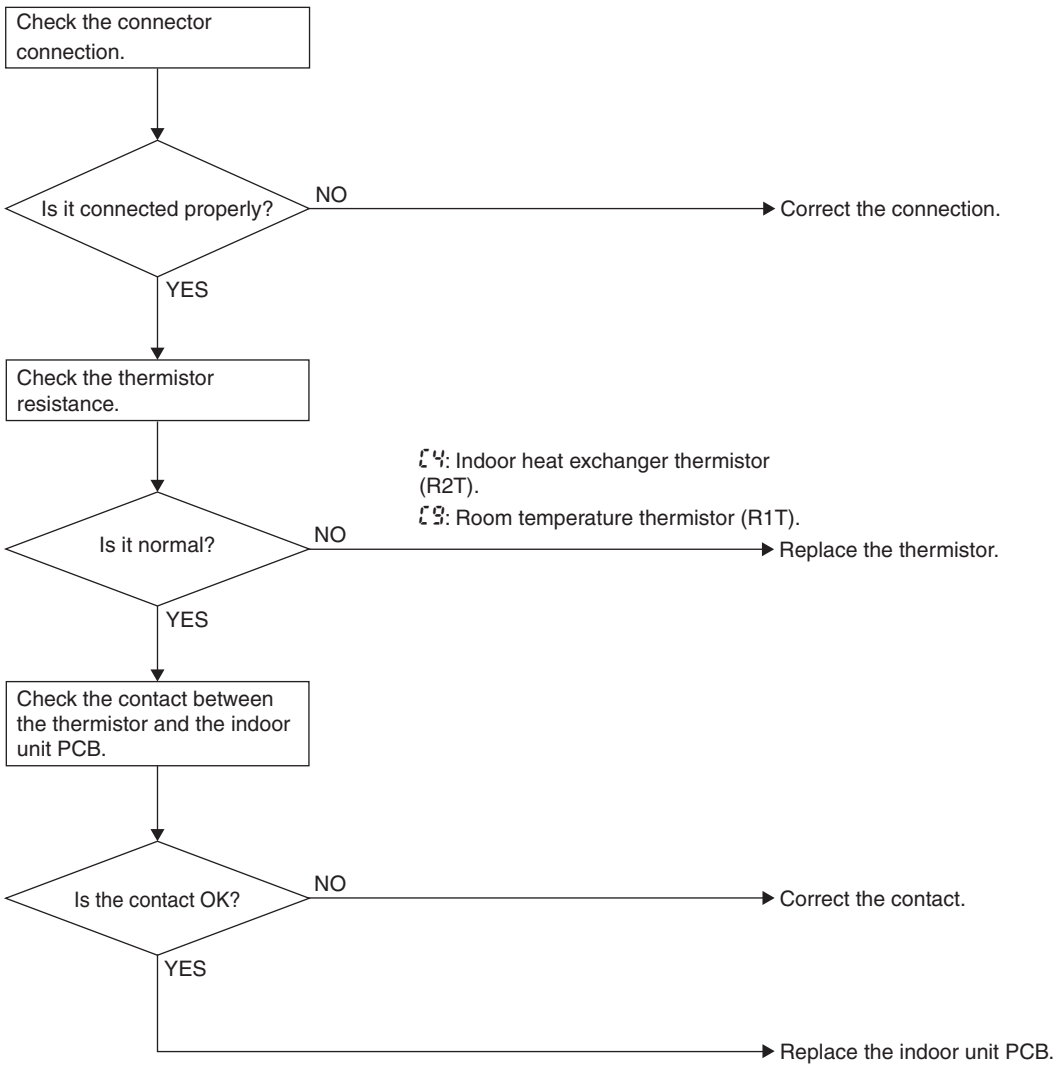
To check the thermistors, proceed as follows:

Step	Action
1	Disconnect the thermistor from the indoor unit PCB.
2	Read the temperature and the resistor value.
3	Check if the measured values correspond with the values in the table of thermistor resistance check.

Refer to “Thermistor resistance check” on page 261 for detail.

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R11299)

6.6 Remote Controller Thermistor Abnormality

Remote Controller Display

C J

Method of Malfunction Detection

Even if remote controller thermistor is malfunctioning, the system can operate with the system thermistor.
Malfunction detection is carried out by the temperature detected by the remote controller thermistor.

Malfunction Decision Conditions

When the remote controller thermistor disconnected or shorted while the unit is running

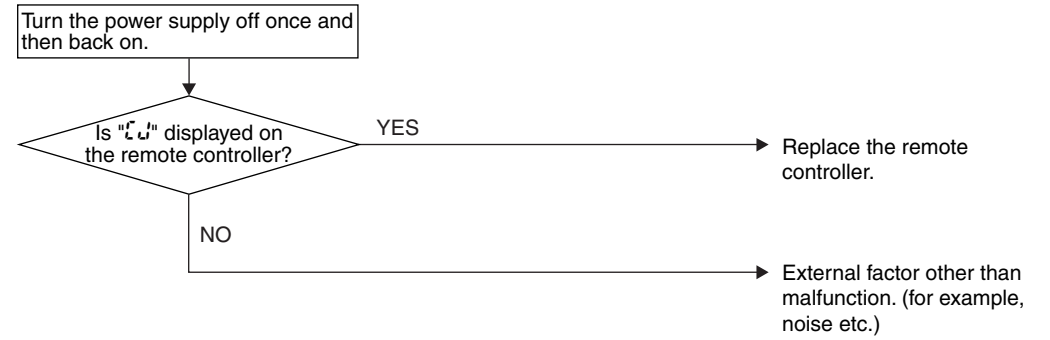
Even if the remote controller thermistor is malfunctioning, the system can operate with the system thermistor.

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.



(R11300)

6.7 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

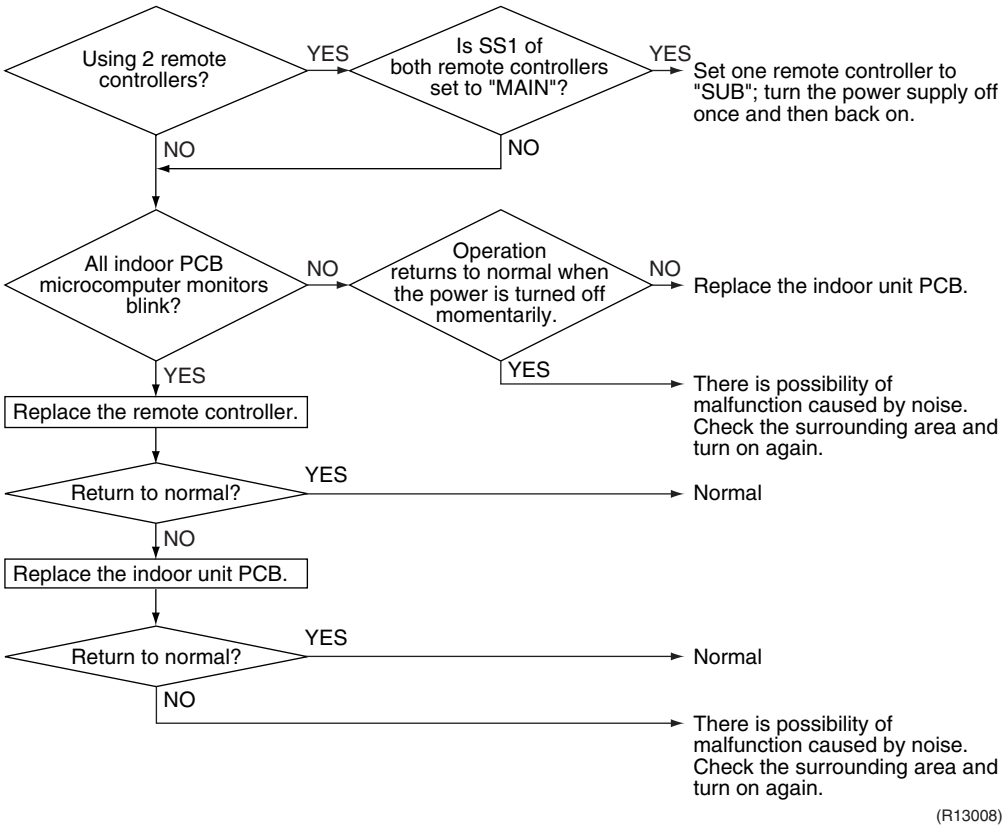
The error is generated when the micro-processor detects that the transmission between the indoor unit and the remote controller is not normal over a certain amount of time.

Supposed Causes

- Defective remote controller
- Defective indoor unit PCB
- External cause (noise...)
- Connection of 2 master remote controllers (when using 2 remote controllers)

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R13008)

6.8 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

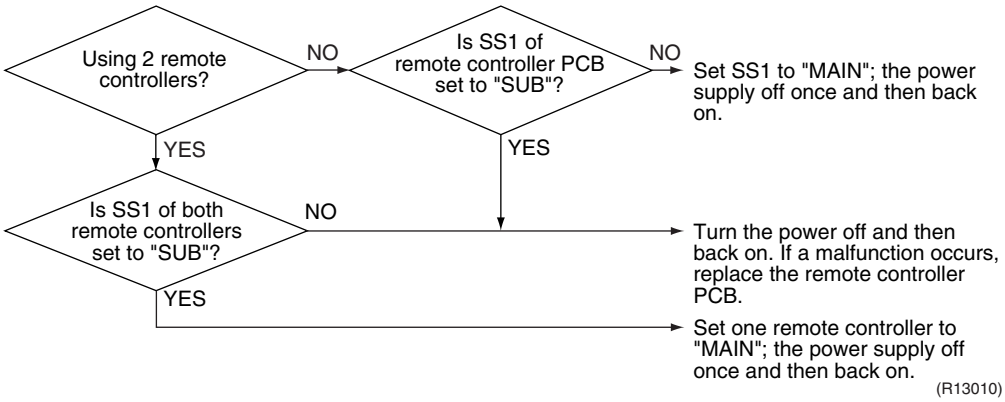
The error is generated when the microprocessor detects that the transmission between the indoor unit and the remote controllers (MAIN and SUB) is not normal over a certain amount of time in case of controlling with 2 remote controllers.

Supposed Causes

- Transmission error between MAIN remote controller and SUB remote controller
- Connection among SUB 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.



6.9 Field Setting Abnormality

Remote Controller Display

U8

Method of Malfunction Detection

Malfunction Decision Conditions

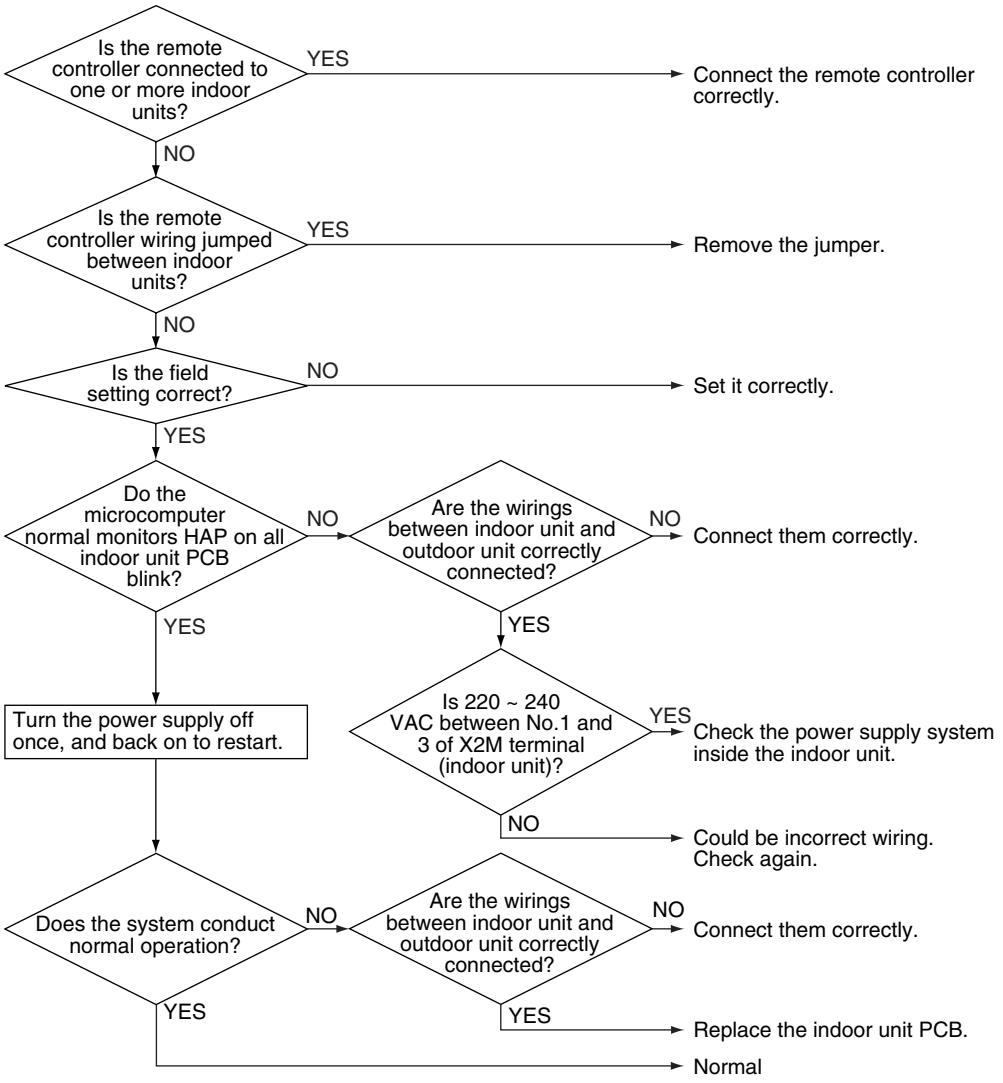
Incorrect field setting

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.



(R13067)

7. Troubleshooting for Outdoor Unit

7.1 Anti-icing Control for Indoor Unit

Remote Controller Display

A5

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, both the condition (A) and (B) are met for 5 minutes.
  (A) Stop room thermistor temperature – Indoor heat exchanger temperature ≥ 10°C
  (B) Indoor heat exchanger temperature ≤ –1°C
- If the error repeats 4 times, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

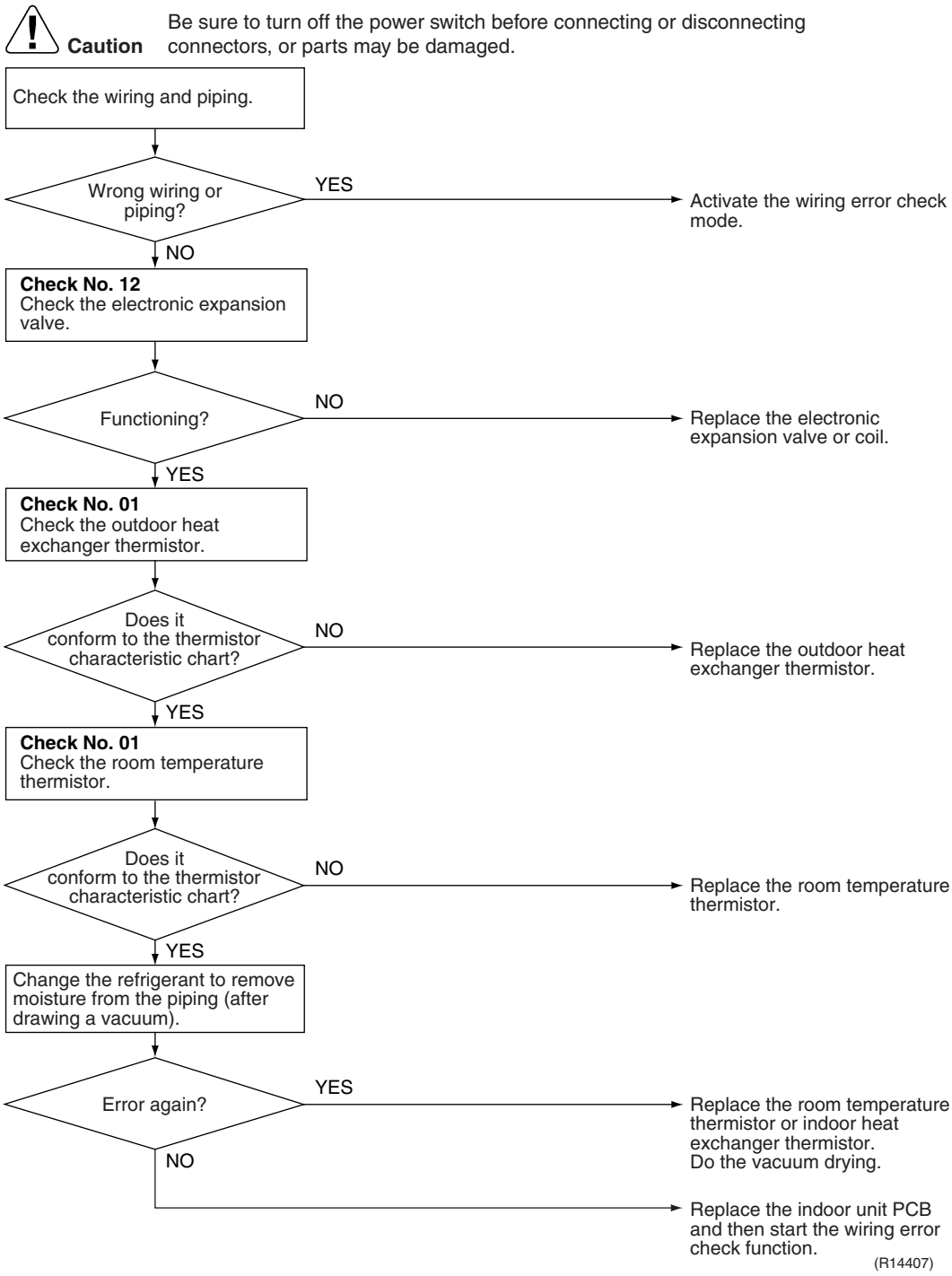
Supposed Causes

- Wrong wiring or piping
- Defective electronic expansion valve
- Short-circuited air
- Defective indoor heat exchanger thermistor
- Defective room temperature thermistor

Troubleshooting

Check No.01
Refer to P.261

Check No.12
Refer to P.263



7.2 OL Activation (Compressor Overload)

Remote Controller Display

E5

Method of Malfunction Detection

A compressor overload is detected through compressor OL.

Malfunction Decision Conditions

- If the error repeats twice, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

∗ The operating temperature condition is not specified.

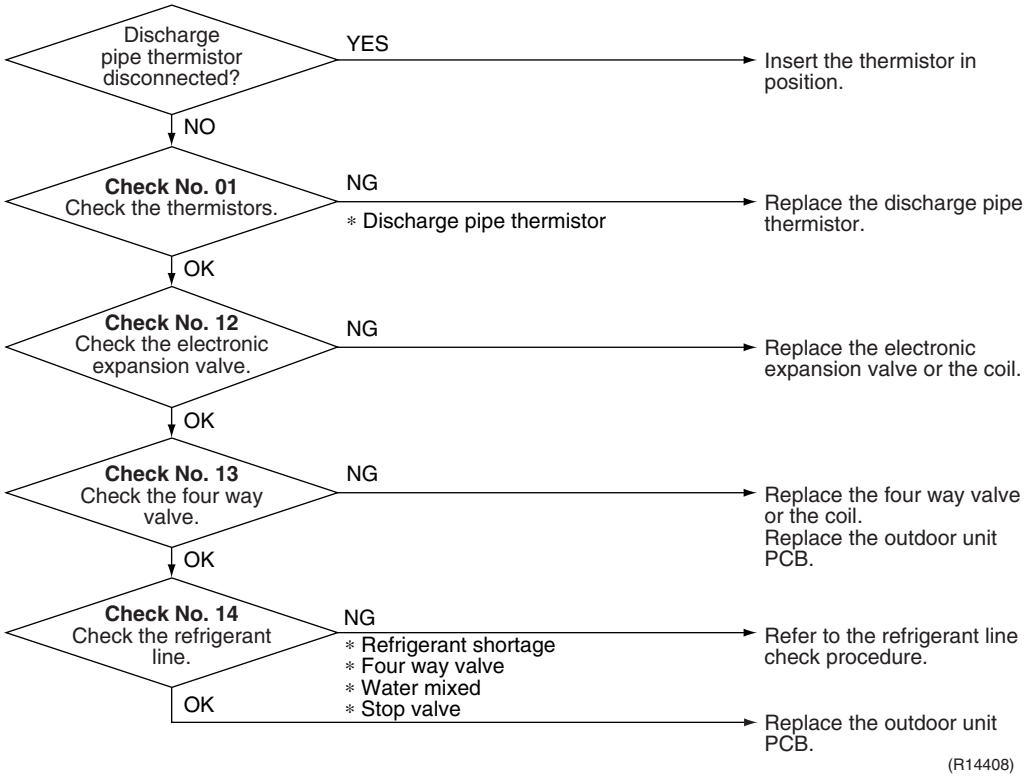
Supposed Causes

- Refrigerant shortage
- Defective four way valve
- Defective outdoor unit PCB
- Water mixed in refrigerant
- Defective electronic expansion valve
- Defective stop valve

Troubleshooting

Check No.01 Refer to P.261
Check No.12 Refer to P.263
Check No.13 Refer to P.264
Check No.14 Refer to P.265

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14408)

7.3 Compressor Lock

Remote Controller Display

E6

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 16 times, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

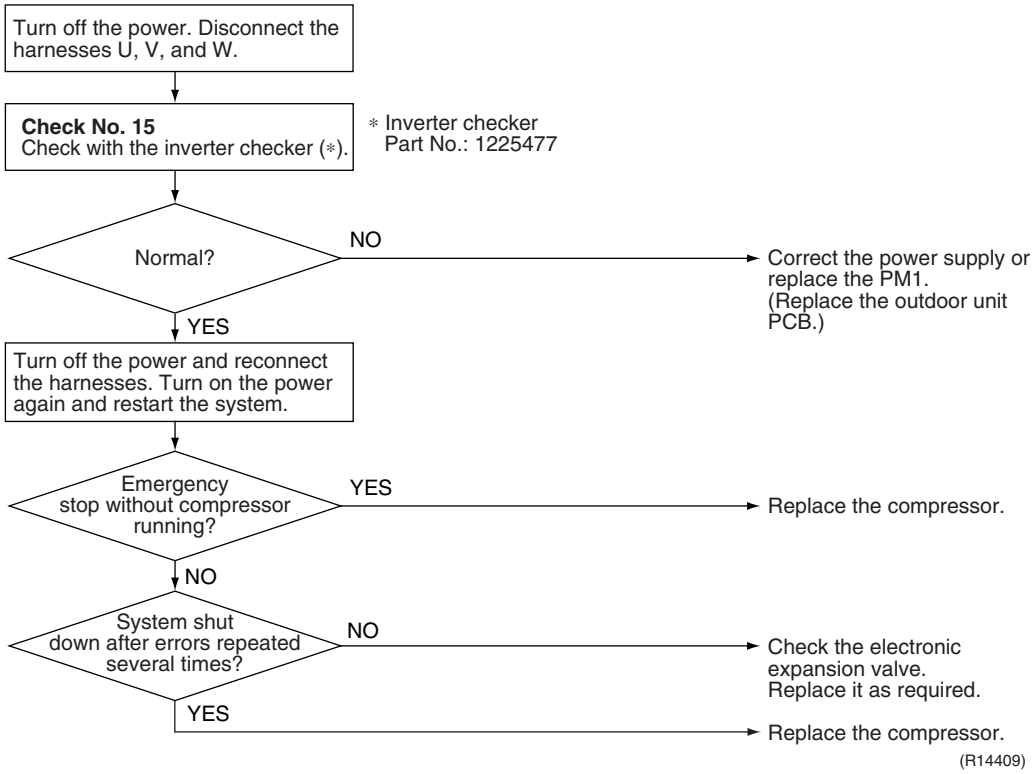
Supposed Causes

- Compressor locked

Troubleshooting

Check No.15
Refer to P.266

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.



(R14409)

7.4 DC Fan Lock

Remote Controller Display

E7

Method of Malfunction Detection

An error is determined with the high-voltage fan motor rotation speed detected by the Hall IC.

Malfunction Decision Conditions

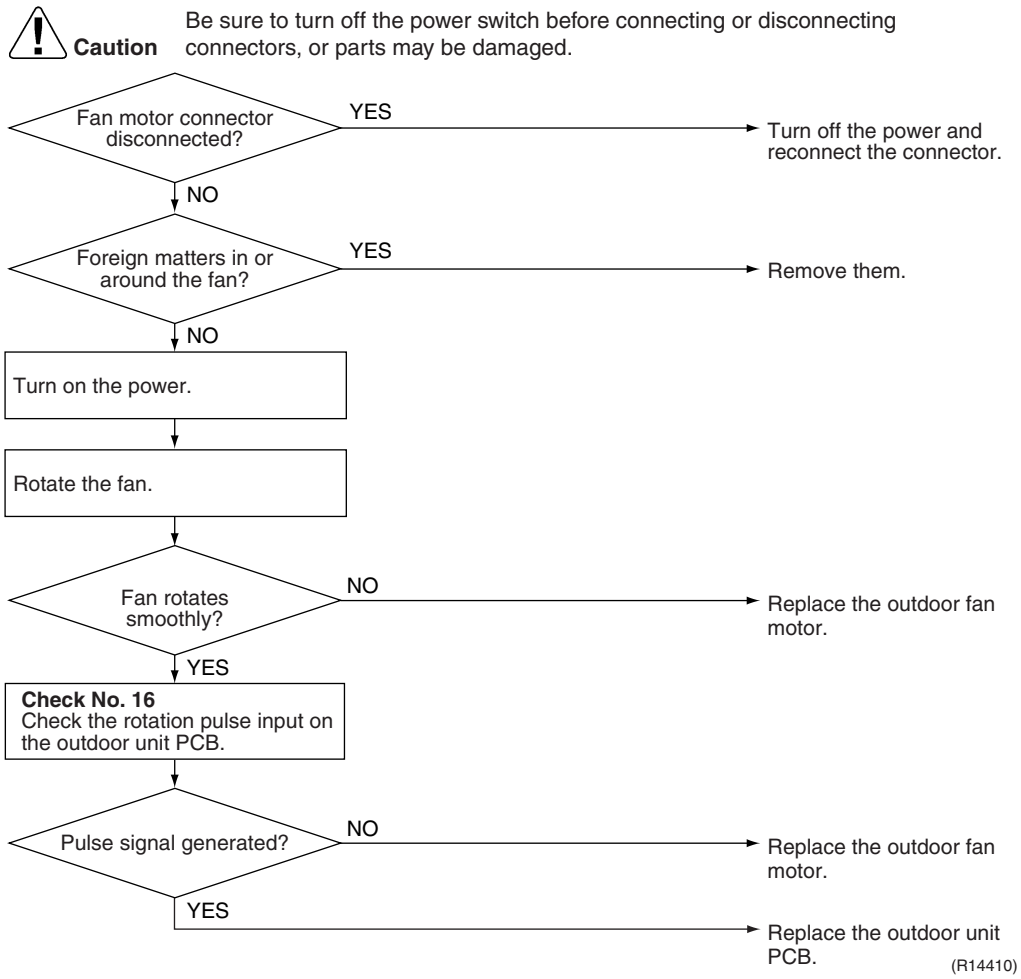
- The fan does not start in 60 seconds even when the fan motor is running.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

Supposed Causes

- Defective fan motor
- Disconnection of the fan motor
- Foreign matters stuck in the fan

Troubleshooting

Check No.16
Refer to P.268



7.5 Input Overcurrent Detection

Remote Controller Display

E8

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

- Defective compressor
- Defective power transistor
- Defective inverter main circuit electrolytic capacitor
- Defective outdoor unit PCB
- Short circuit

Troubleshooting

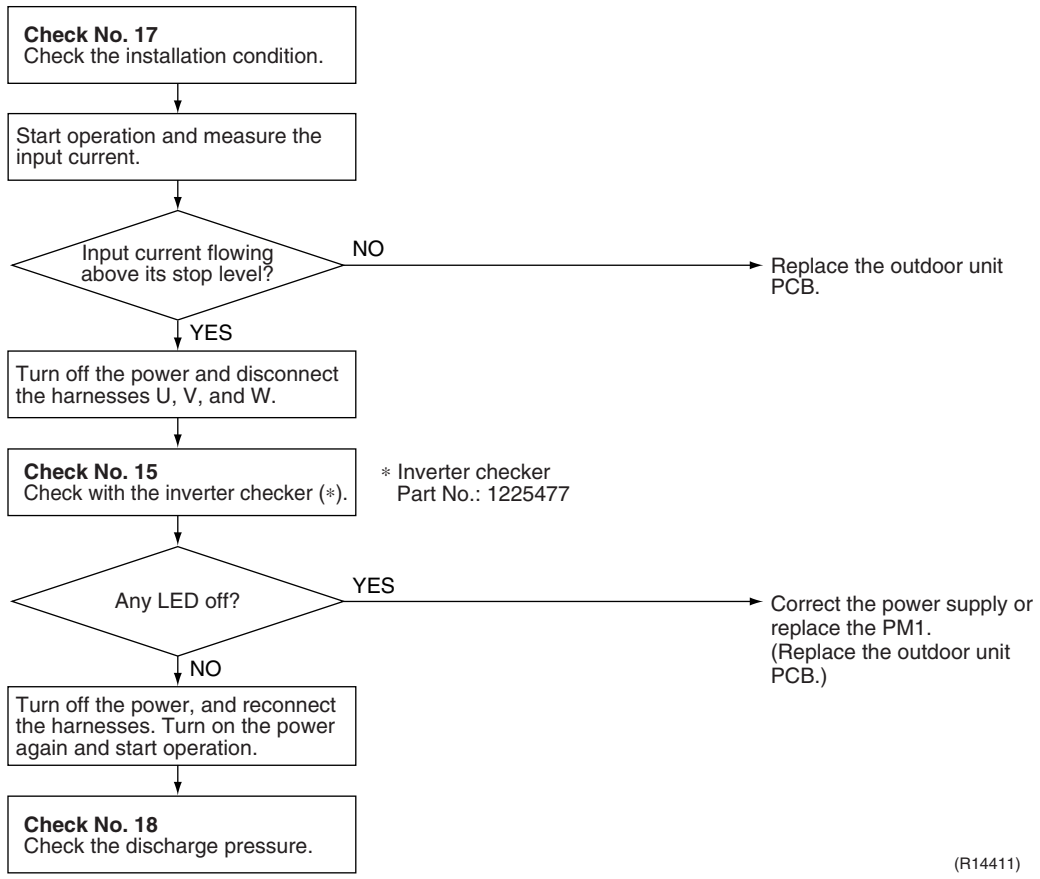
Check No.15
Refer to P.266

Check No.17
Refer to P.269

Check No.18
Refer to P.269

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 wires have been disconnected and reconnected for part replacement, for example, and the system is interrupted by an input overcurrent, take the following procedure.



(R14411)

7.6 Discharge Pipe Temperature Control

Remote Controller Display

F3

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 class	110	97
50 class	110	95

- If the error repeats 4 times, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

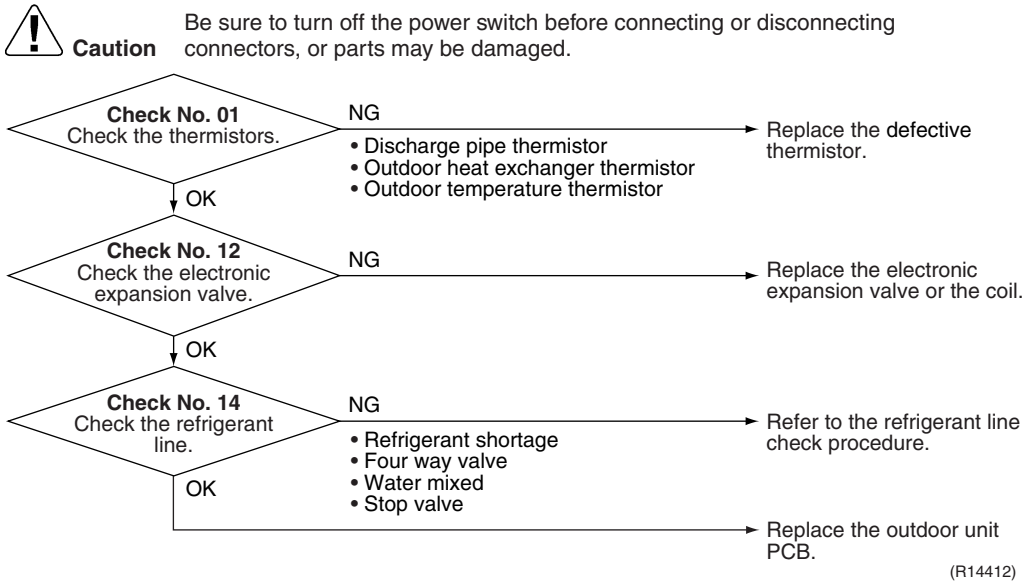
- Refrigerant shortage
- Defective four way valve
- Defective discharge pipe thermistor
  (Defective outdoor heat exchanger thermistor or outdoor temperature thermistor)
- Defective outdoor unit PCB
- Water mixed in refrigerant
- Defective electronic expansion valve
- Defective stop valve

Troubleshooting

Check No.01
Refer to P.261

Check No.12
Refer to P.263

Check No.14
Refer to P.265



7.7 High Pressure Control in Cooling

Remote Controller Display

F6

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.
- Defective outdoor unit fan
- Defective electronic expansion valve
- Defective outdoor heat exchanger thermistor
- Defective outdoor unit PCB
- Defective stop valve
- Dirty outdoor heat exchanger

Troubleshooting

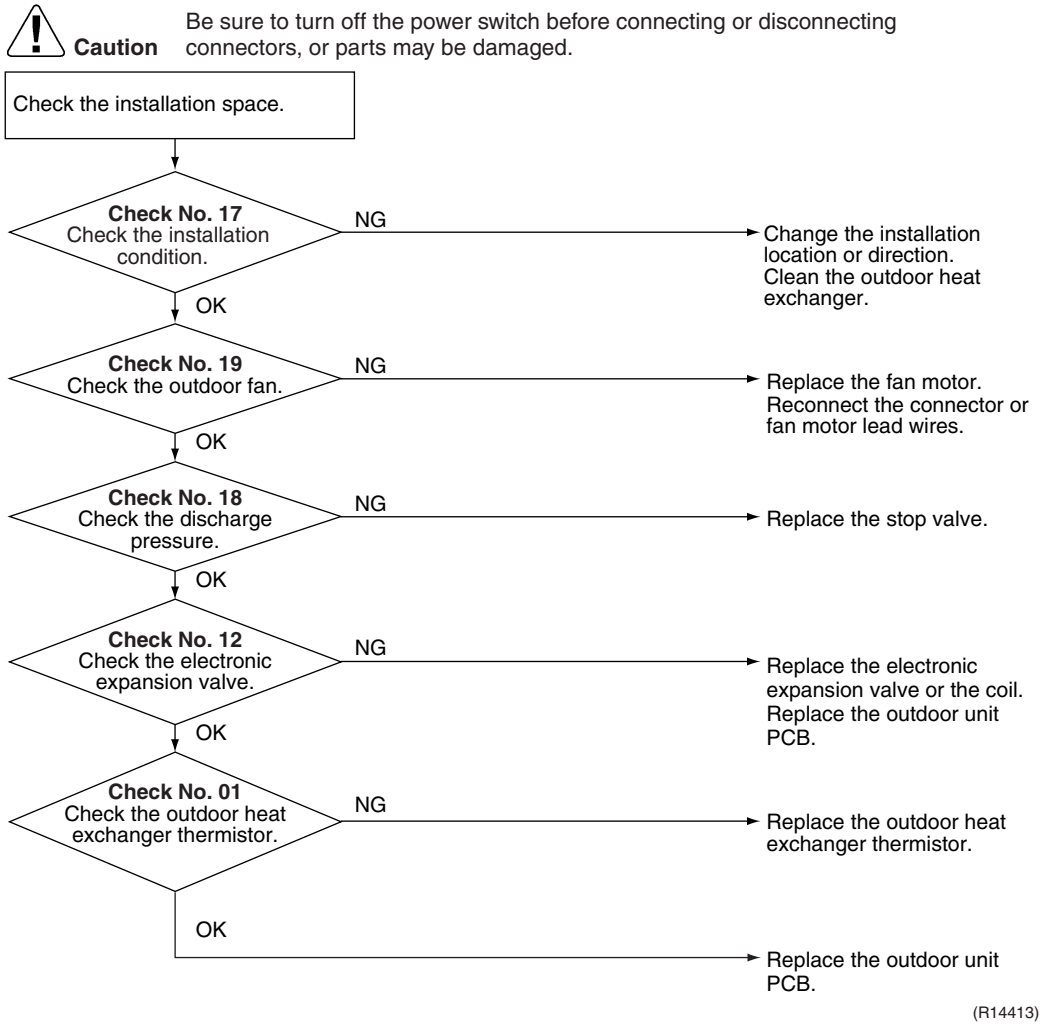
Check No.01 **Refer to P.261**

Check No.12 **Refer to P.263**

Check No.17 **Refer to P.269**

Check No.18 **Refer to P.269**

Check No.19 **Refer to P.270**



7.8 Compressor Sensor System Abnormality

Remote Controller Display

H0

Method of Malfunction Detection

Fault condition is identified by DC current which is detected before compressor startup.

Malfunction Decision Conditions

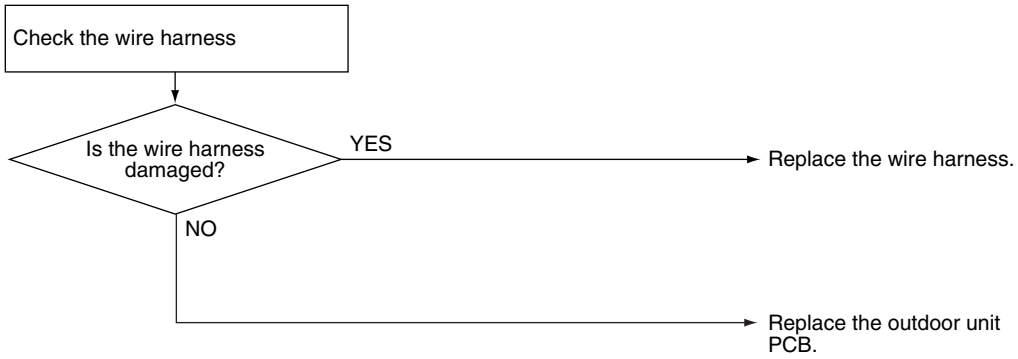
- When the DC current before compressor startup is other than 0.5 to 4.5 V (detected by converting the sensor output to voltage), or the DC voltage is 50 V or less.

Supposed Causes

- Defective PCB
- Harness disconnection / defective connection

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R7143)

7.9 Position Sensor Abnormality

Remote Controller Display

H6

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 16 times, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

Supposed Causes

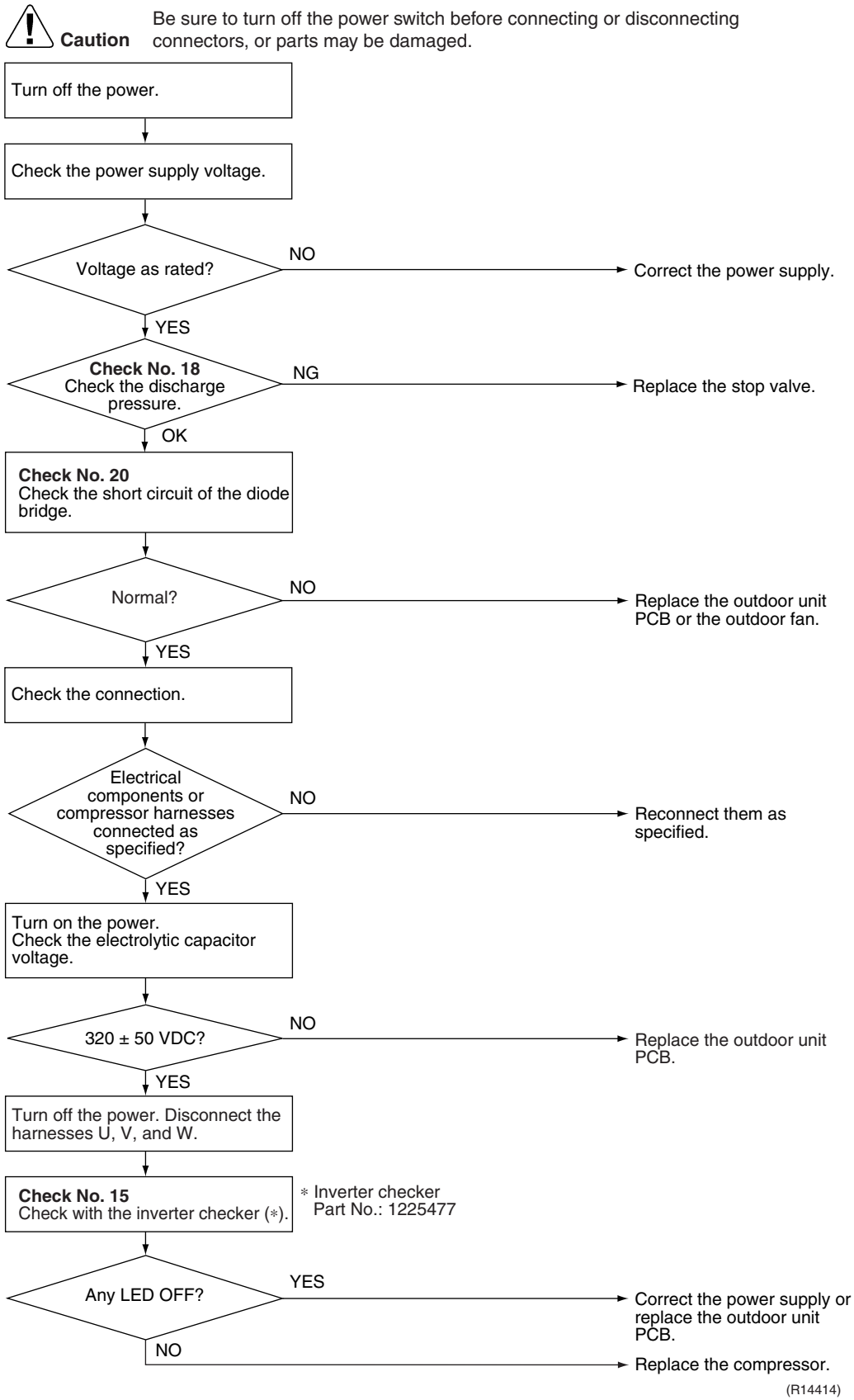
- Disconnection of the compressor relay cable
- Defective compressor
- Defective outdoor unit PCB
- Startup failure caused by the closed stop valve
- Input voltage out of specification

Troubleshooting

Check No.15
Refer to P.266

Check No.18
Refer to P.269

Check No.20
Refer to P.270



7.10 DC Voltage / Current Sensor Abnormality

Remote Controller Display

H8

Method of Malfunction Detection

DC voltage or DC current sensor abnormality is identified based on the compressor running frequency and the input current.

Malfunction Decision Conditions

- The compressor running frequency is above 52 Hz.
- If the error repeats 4 times, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

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.

Replace the outdoor unit PCB.

7.11 Thermistor or Related Abnormality (Outdoor Unit)

Remote Controller Display

H9, J3, J6, J8, J9, P4

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 4.98 V or below 0.02 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 or J9 error.

Supposed Causes

- Disconnection of the connector for the thermistor
- Defective thermistor
- Defective outdoor unit PCB
- Defective indoor unit PCB
- Defective heat exchanger thermistor in the case of J3 error (outdoor heat exchanger thermistor in cooling mode, or indoor heat exchanger thermistor in heating mode)

Troubleshooting

In case of "P4"

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

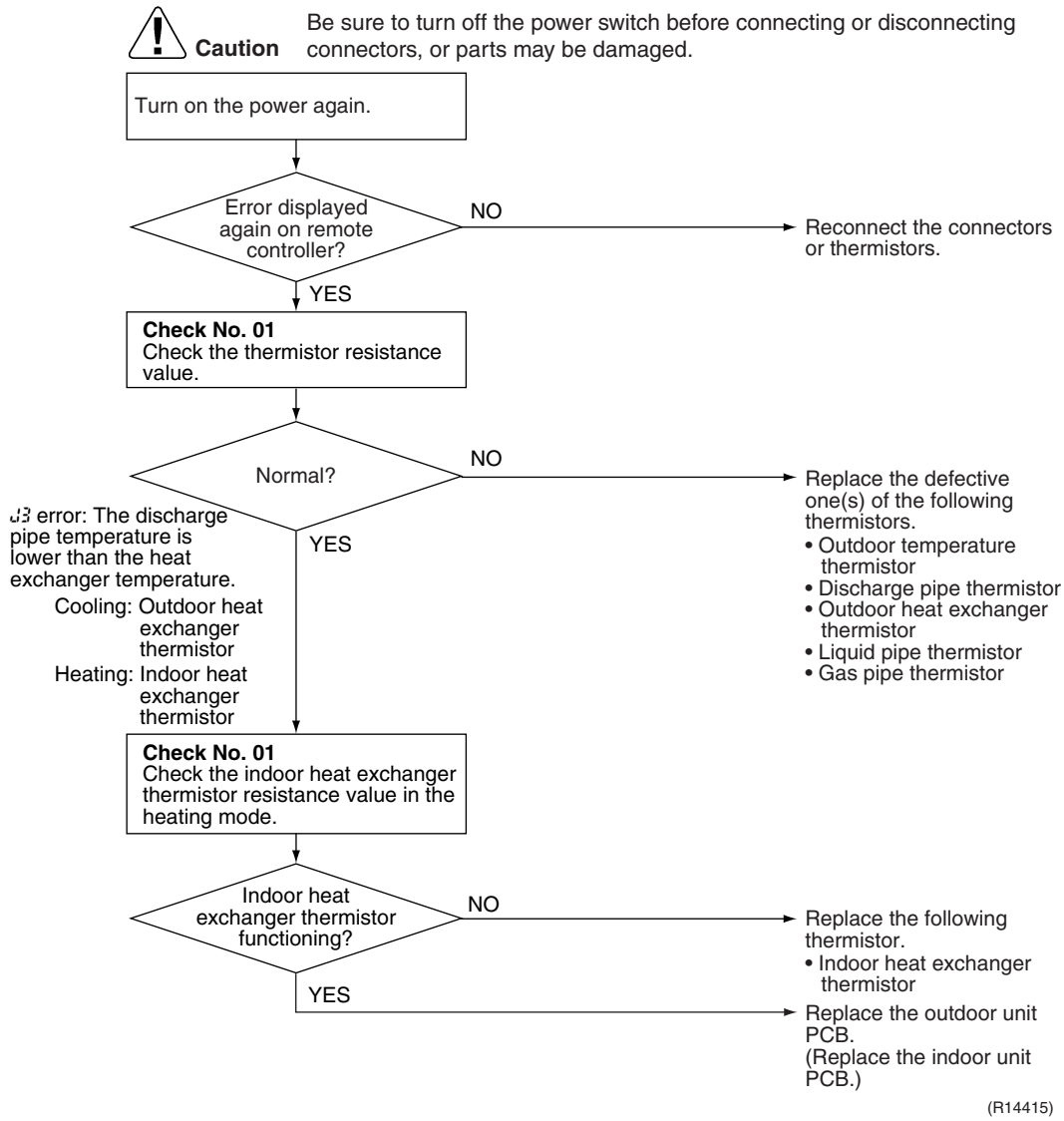
Replace the outdoor unit PCB.

P4 : Radiation fin thermistor

Troubleshooting

In case of "H9" "J3" "J6" "J8" "J9"

Check No.01
Refer to P.261



H9 : Outdoor temperature thermistor
J3 : Discharge pipe thermistor
J6 : Outdoor heat exchanger thermistor
J8 : Liquid pipe thermistor
J9 : Gas pipe thermistor

7.12 Electrical Box Temperature Rise

Remote Controller Display

L3

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)
80	70	75

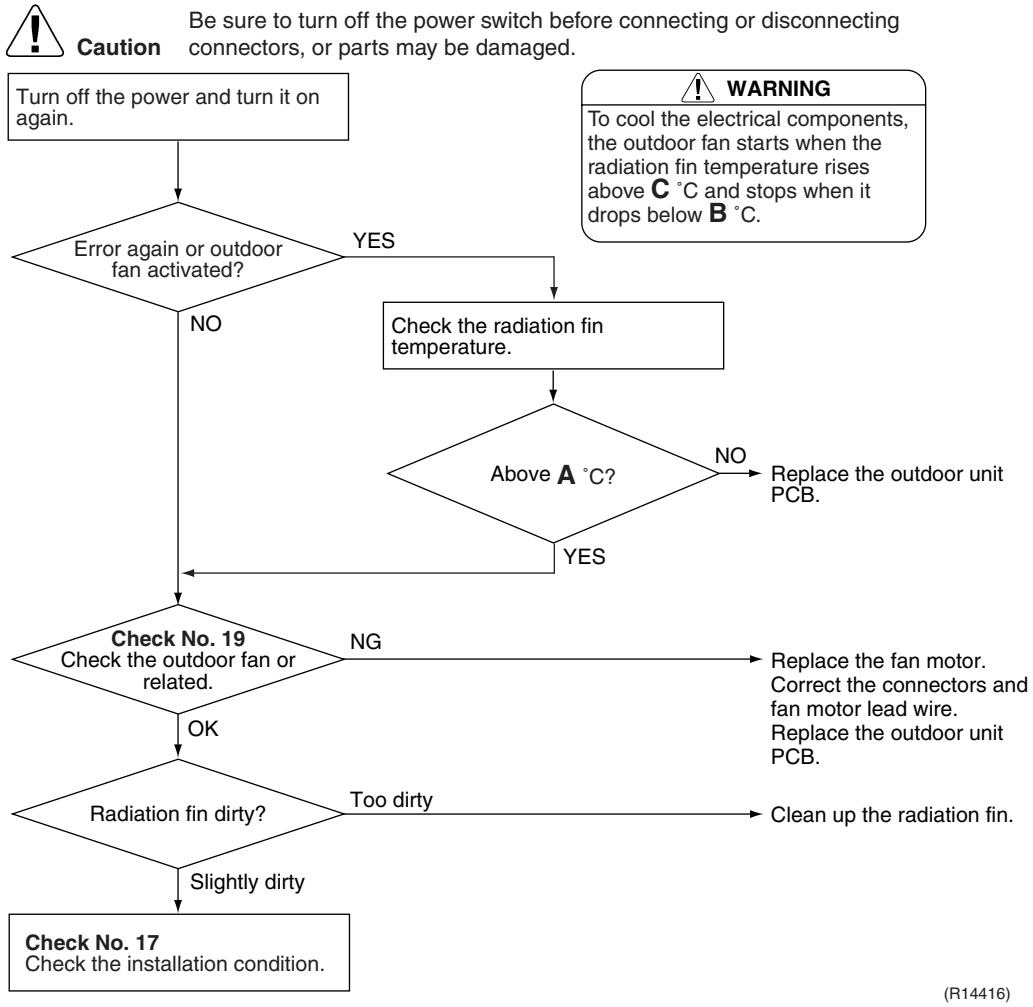
Supposed Causes

- Defective outdoor unit fan
- Short circuit
- Defective fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB

Troubleshooting

Check No.17 Refer to P.269

Check No.19 Refer to P.270



A (°C)	**B** (°C)	**C** (°C)
80	70	75

7.13 Radiation Fin Temperature Rise

Remote Controller Display

L4

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 class	95	85
50 class	92.5	85

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

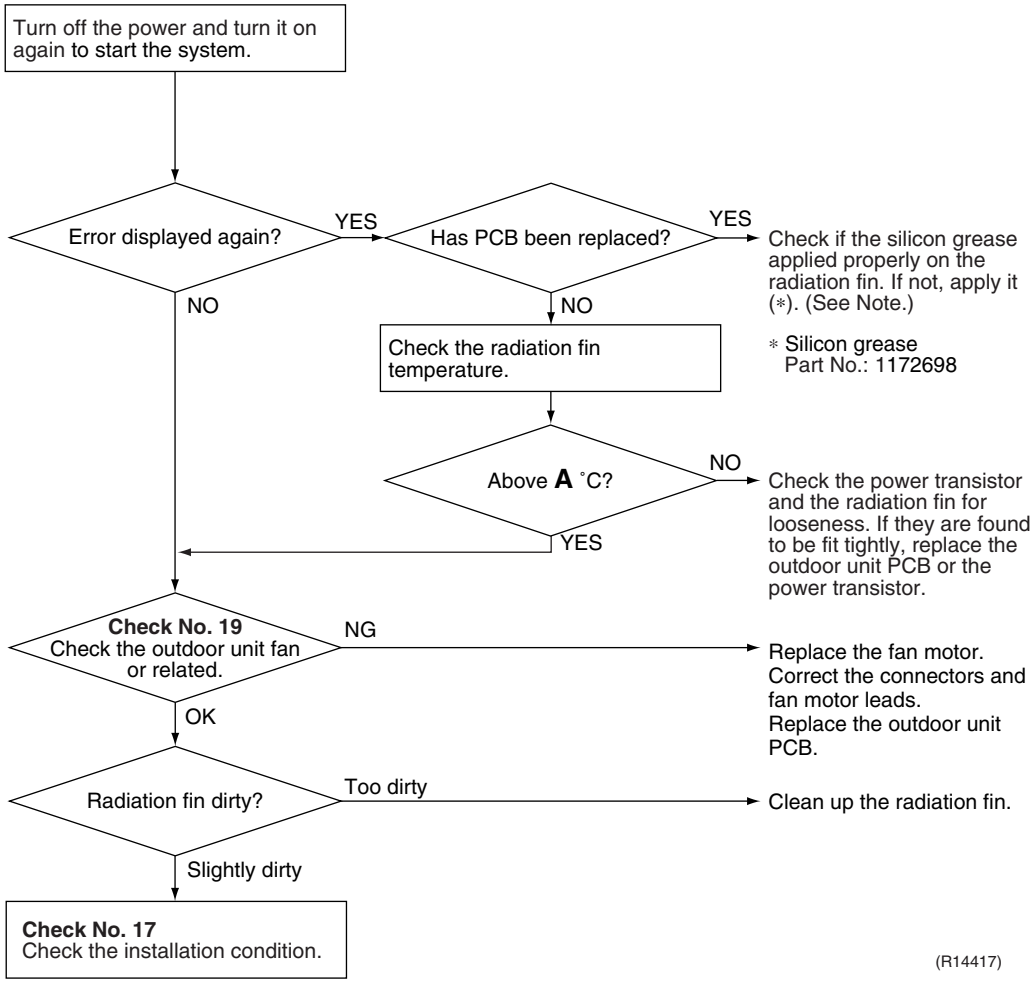
- Defective outdoor unit fan
- Short circuit
- Defective fin thermistor
- Disconnection of connector
- Defective outdoor unit PCB
- Silicon grease is not applied properly on the radiation fin after replacing the outdoor unit PCB.

Troubleshooting

Check No.17
Refer to P.269

Check No.19
Refer to P.270

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.



	A (°C)
40 class	95
50 class	92.5

Note: Refer to “Application of silicon grease to a power transistor and a diode bridge” on page 315 for detail.

7.14 Output Overcurrent Detection

Remote Controller Display

L5

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 11 minutes without any other error

Supposed Causes

- Defective power transistor
- Wrong internal wiring
- Abnormal supply voltage
- Defective outdoor unit PCB
- Closed stop valve
- Defective compressor
- Poor installation condition

Troubleshooting

Check No.15
Refer to P.266

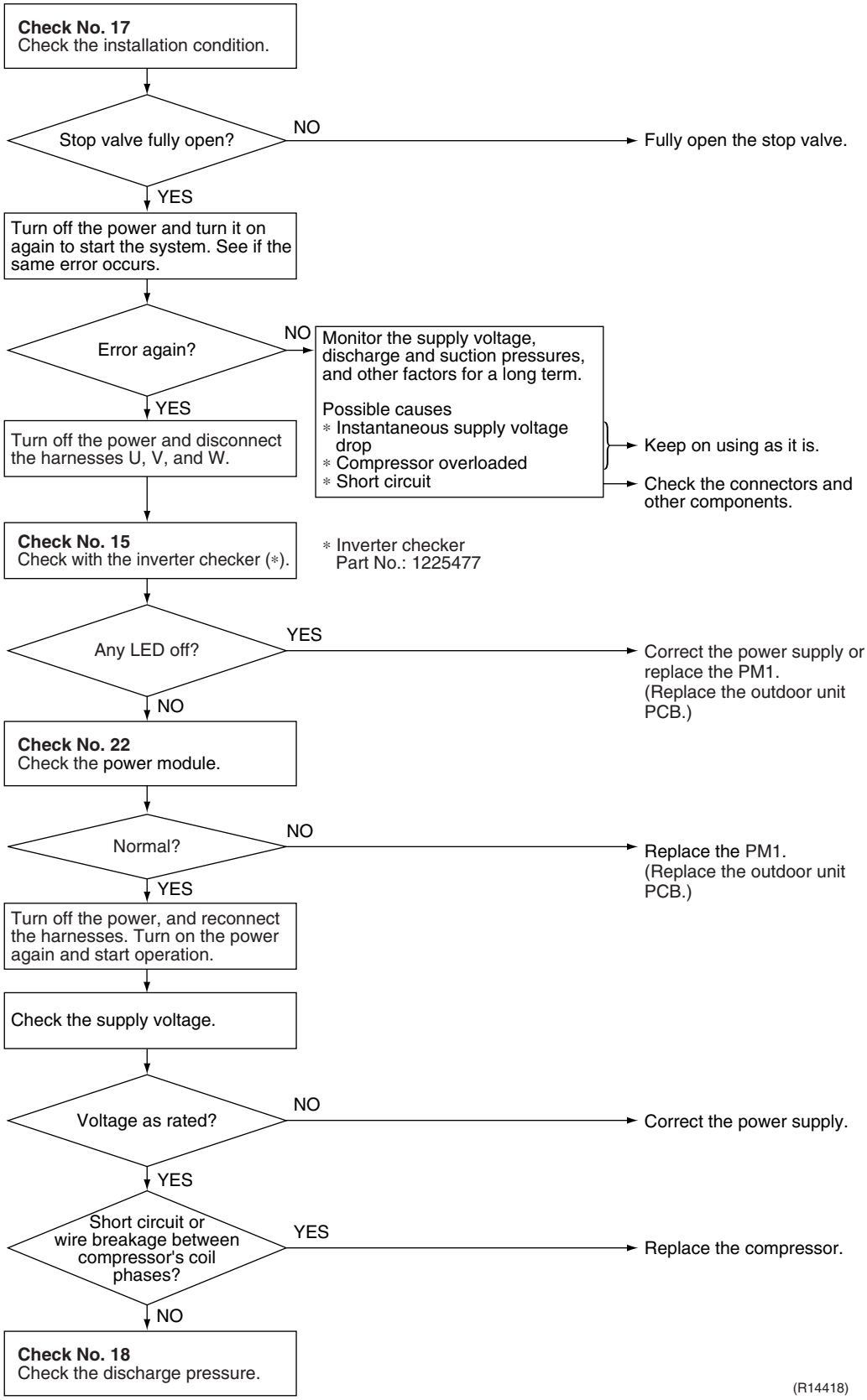
Check No.17
Refer to P.269

Check No.18
Refer to P.269

Check No.22
Refer to P.271

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

* An output overcurrent signal may result from wrong internal wiring. If the wires have been disconnected and reconnected and the system is interrupted by an output overcurrent, take the following procedure.



7.15 Refrigerant Shortage

Remote Controller Display

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 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 × DC voltage ≤ **A** × Compressor output frequency + **B**
- Output frequency > **C**

	A (–)	**B** (W)	**C** (Hz)
40 class	2111/256	–361	51
50 class	4628/256	–608	48

Refrigerant shortage detection II :
The following conditions continue for 80 seconds.

- Opening of the electronic expansion valve ≥ **D**
- Discharge pipe temperature > **E** × target discharge pipe temperature + **F**

D (pulse)	**E** (–)	**F** (°C)
450	255/256	20

- If the error repeats 4 times, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

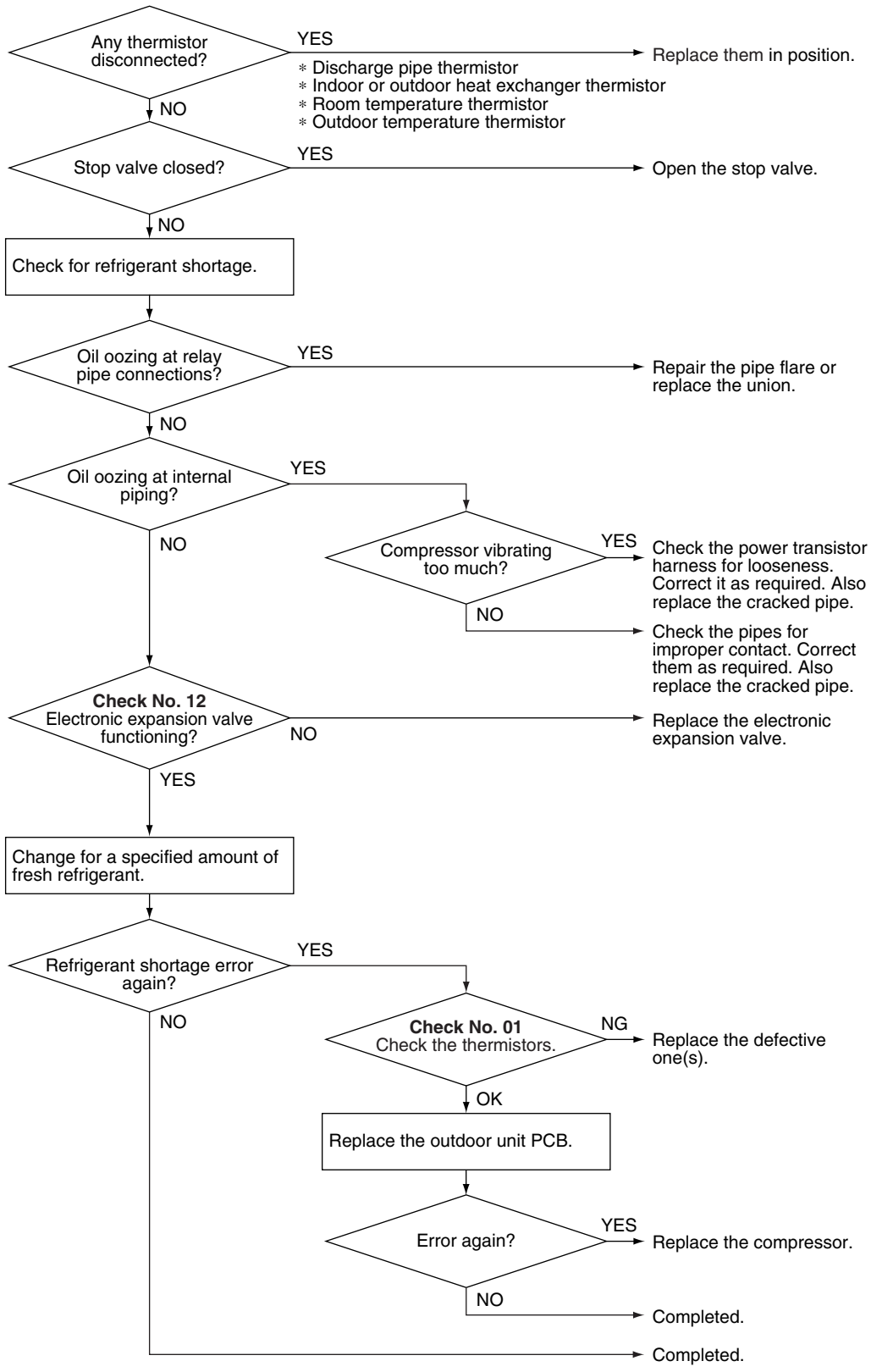
- Refrigerant shortage (refrigerant leakage)
- Poor compression performance of compressor
- Disconnection of the discharge pipe thermistor, indoor or outdoor heat exchanger thermistor, room or outdoor temperature thermistor
- Closed stop valve
- Defective electronic expansion valve

Troubleshooting

Check No.01
Refer to P.261

Check No.12
Refer to P.263

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



(R14419)

7.16 Low-voltage Detection or Over-voltage Detection

Remote Controller Display

U2

Method of Malfunction Detection

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

Low-voltage detection:
- The voltage detected by the DC voltage detection circuit is below 180 V.

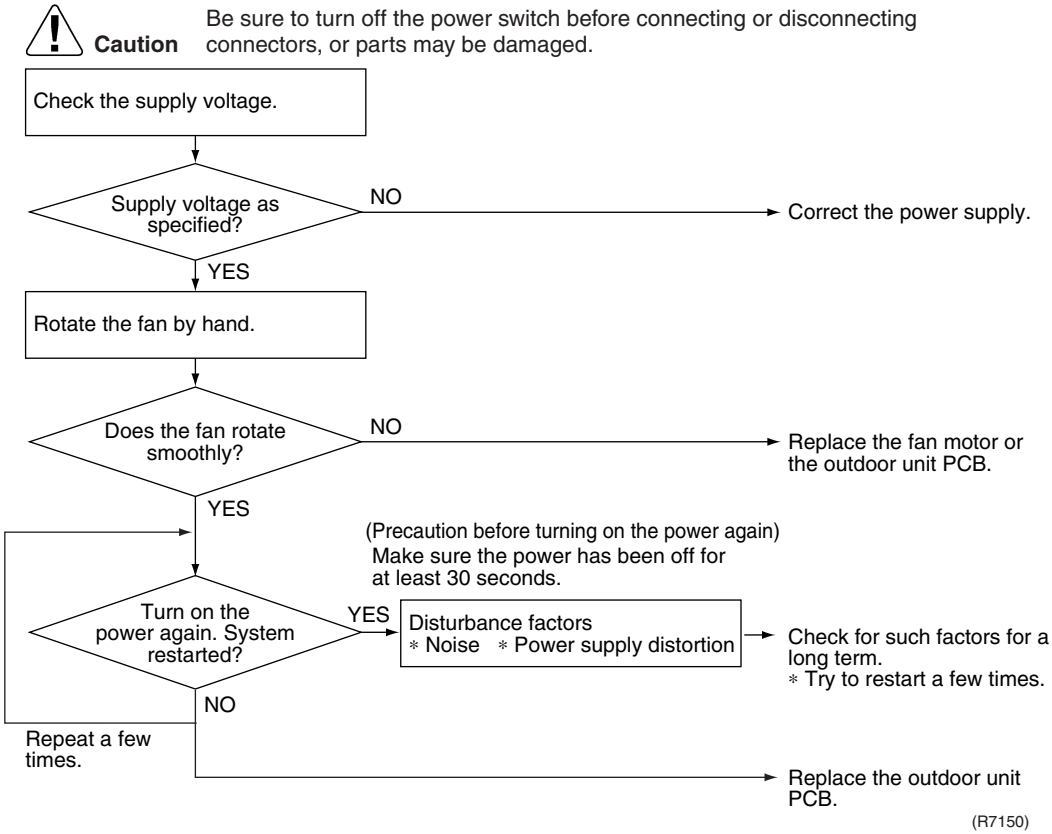
Over-voltage detection:
- An over-voltage signal is fed from the over-voltage detection circuit to the microcomputer.
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

Supposed Causes

- Supply voltage is not as specified.
- Defective DC voltage detection circuit
- Defective over-voltage detection circuit
- Defective PAM control part

Troubleshooting



7.17 Outdoor Unit PCB Abnormality or Signal Transmission Error

Remote Controller Display

U4

Method of Malfunction Detection

- Detection within the program of the microcomputer
- Indoor-outdoor unit signal transmission performance
- Presence or absence of zero-cross signal

Malfunction Decision Conditions

- The program of the microcomputer is in bad running order.
- Indoor-outdoor unit signal transmission can not be performed for more than 15 seconds.
- Zero-cross signal cannot be detected for more than 10 seconds.

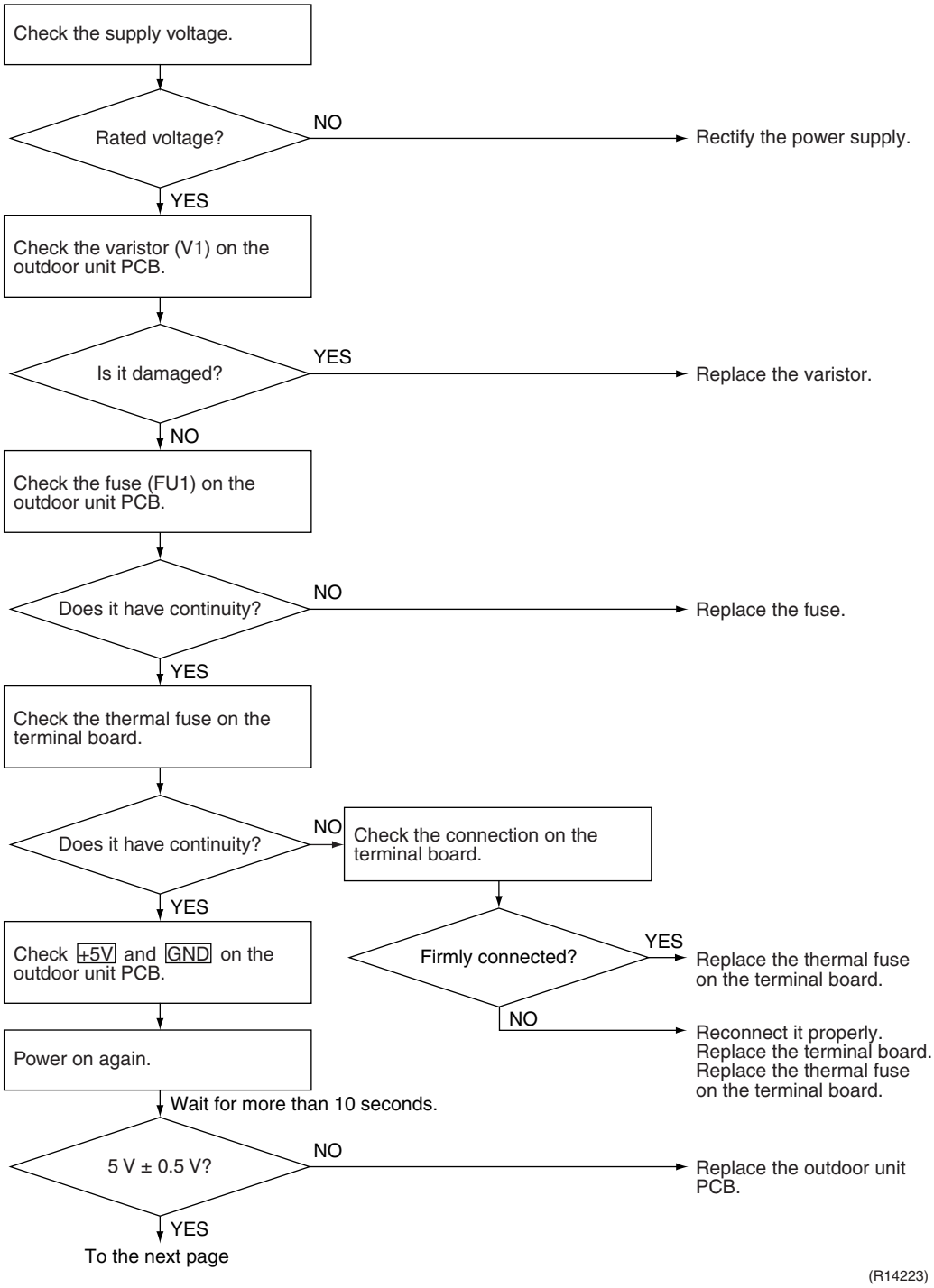
Supposed Causes

- Display disabled due to power supply fault
- Communication circuit fault in outdoor unit PCB
- Noise
- Momentary fall of voltage
- Momentary power failure
- Defective outdoor unit PCB
- Defective thermal fuse on outdoor terminal board

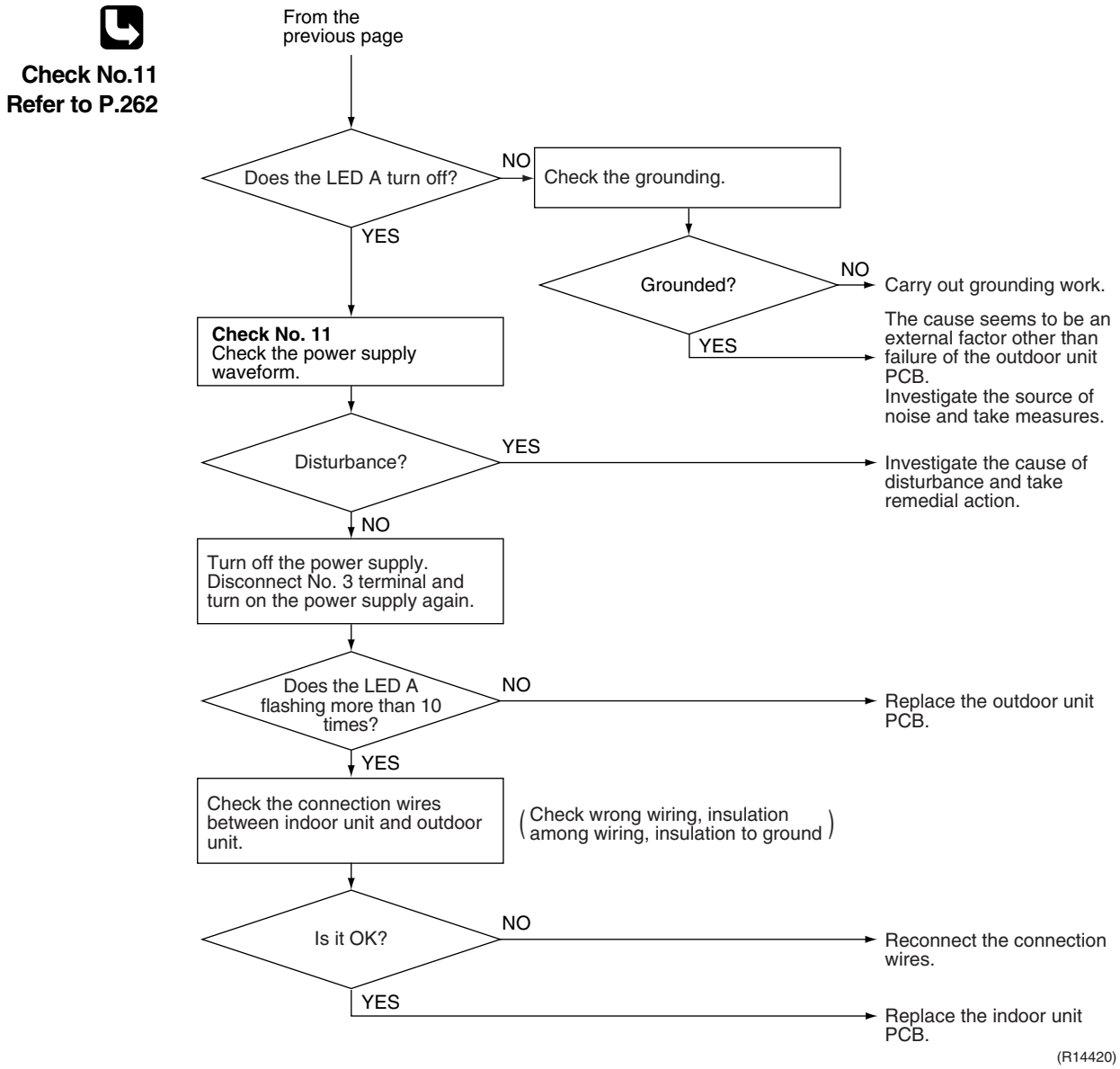
Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Check indoor unit also, because a communication circuit fault may be caused by the problem related to the indoor unit.



(R14223)


Check No.11
Refer to P.262
From the previous page
Does the LED A turn off?
NO
Check the grounding.
YES
Grounded?
NO
Carry out grounding work.
YES
The cause seems to be an external factor other than failure of the outdoor unit PCB.
Investigate the source of noise and take measures.
Check No. 11
Check the power supply waveform.
Disturbance?
YES
Investigate the cause of disturbance and take remedial action.
NO
Turn off the power supply.
Disconnect No. 3 terminal and turn on the power supply again.
Does the LED A flashing more than 10 times?
NO
Replace the outdoor unit PCB.
YES
Check the connection wires between indoor unit and outdoor unit.
(Check wrong wiring, insulation among wiring, insulation to ground)
Is it OK?
NO
Reconnect the connection wires.
YES
Replace the indoor unit PCB.
(R14420)

7.18 Unspecified Voltage (between Indoor Unit and Outdoor Unit) / Anti-icing control in Other Room

Remote Controller Display

UA, UH

Method of Malfunction Detection

A wrong connection is detected by checking the combination of indoor and outdoor units on the microcomputer.

Malfunction Decision Conditions

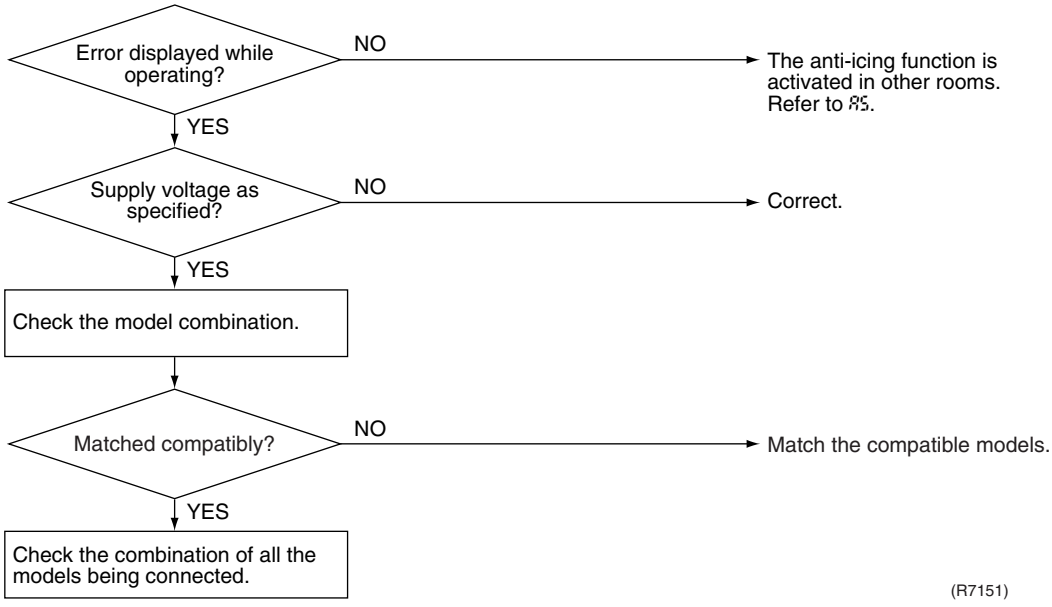
- Anti-icing control in other room
- Unspecified internal and/or external voltages
- Mismatching of indoor and outdoor units

Supposed Causes

- Anti-icing control in other room
- Wrong models interconnected
- Wrong indoor unit PCB or outdoor unit PCB mounted

Troubleshooting

Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



Note: Refer to “Anti-icing control for indoor unit” on page 235 for detail.

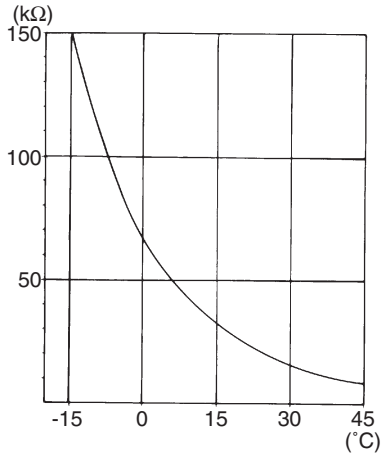
8. Check

8.1 Thermistor Resistance Check

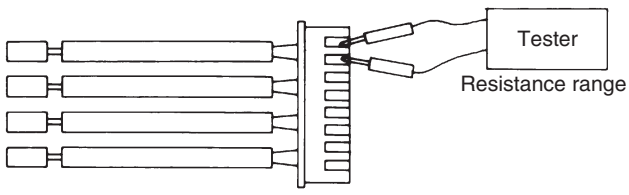
Check No.01 Disconnect the connectors of the thermistors from the PCB, and measure the resistance of each thermistor using tester.
The relationship between normal temperature and resistance is shown in the graph and the table below.

Thermistor temperature (°C)	Resistance (kΩ)
–20	211.0
–15	150.0
–10	116.5
–5	88.0
0	67.2
5	51.9
10	40.0
15	31.8
20	25.0
25	20.0
30	16.0
35	13.0
40	10.6
45	8.7
50	7.2

(R25°C = 20 kΩ, B = 3950 K)

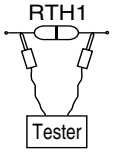


(R11905)



(R11906)

- For the models in which the thermistor is directly mounted on the PCB, disconnect the connector for the PCB and measure.

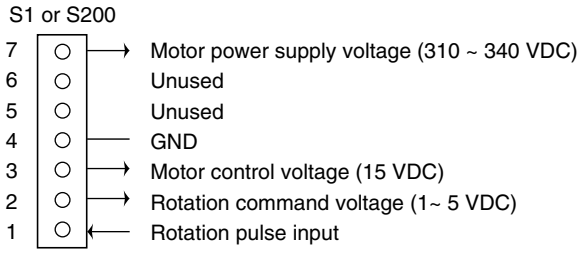


(R3460)

8.2 Fan Motor Connector Output Check

Check No.02

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).

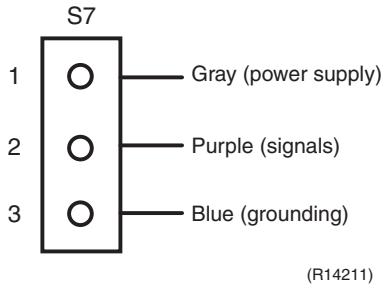


8.3 Hall IC Check

Check No.04

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.



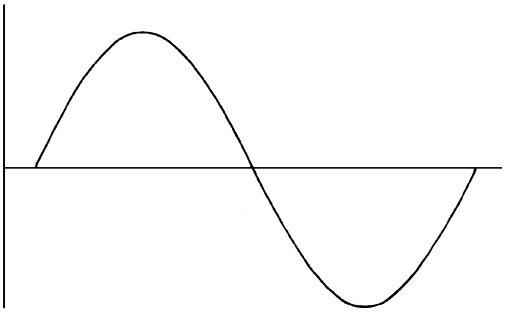
8.4 Power Supply Waveforms Check

Check No.11

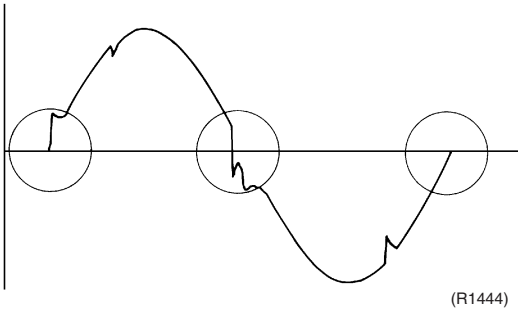
Measure the power supply waveform between No. 1 and No. 2 on the terminal board, and check the waveform disturbance.

- 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]



[Fig.2]



8.5 Electronic Expansion Valve Check

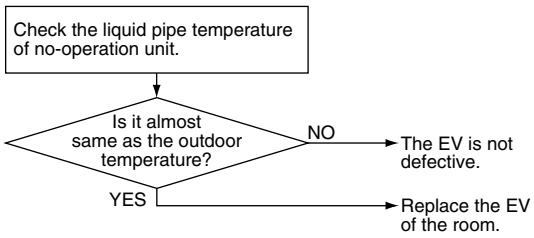
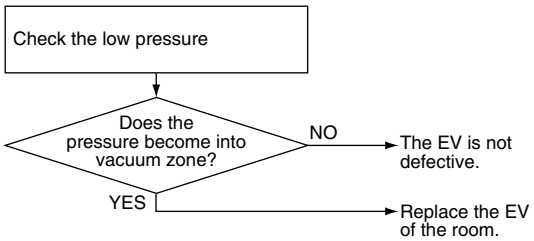
Check No.12

Conduct the followings to check the 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.

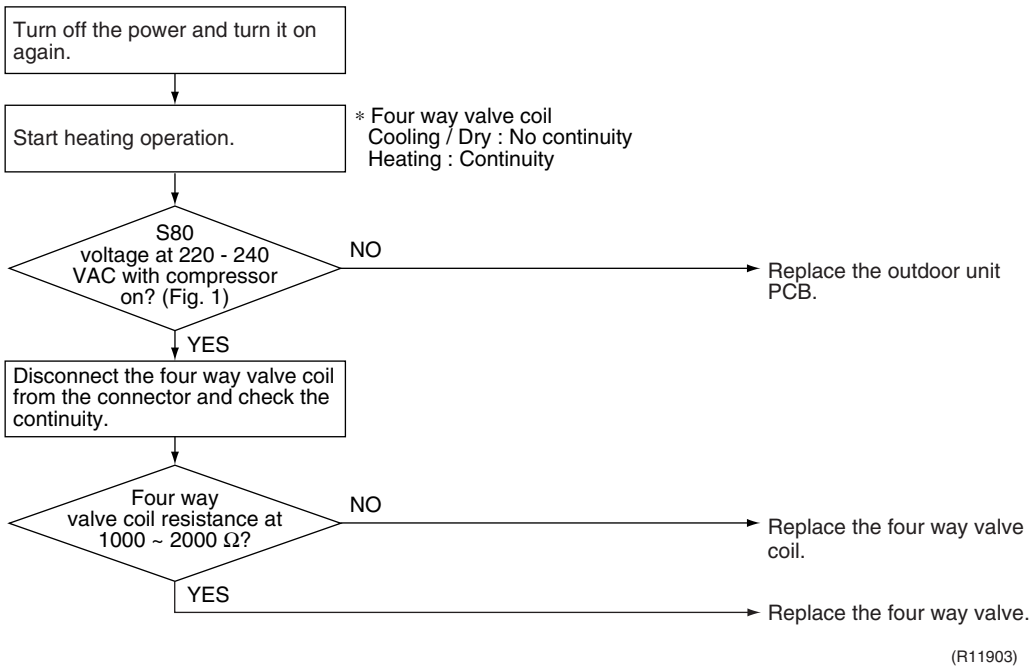
Note: Please note that the latching sound varies depending on the valve type.

If the system keeps operating with a defective electronic expansion valve, the following problem may occur.

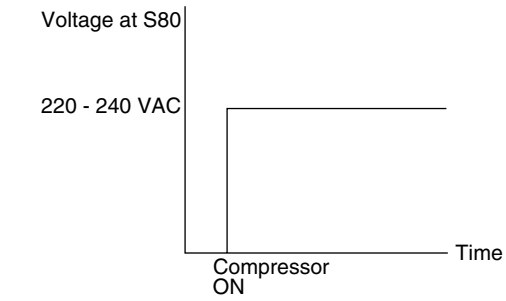
Valve opening position	Possible problem	Check method
Open	Cooling: ■ Flowing noise of refrigerant in the unit which is not in operation ■ Water leakage at the unit which is not in operation ■ Operation half due to anti-icing function	Reset power supply and conduct cooling operation unit by unit.  (R14357)
	Heating: ■ Flowing noise of refrigerant in the unit which is not in operation ■ The unit does not heat the room.	
Close	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	Reset power supply and conduct cooling operation unit by unit.  (R14358)
	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	

8.6 Four Way Valve Performance Check

Check No.13



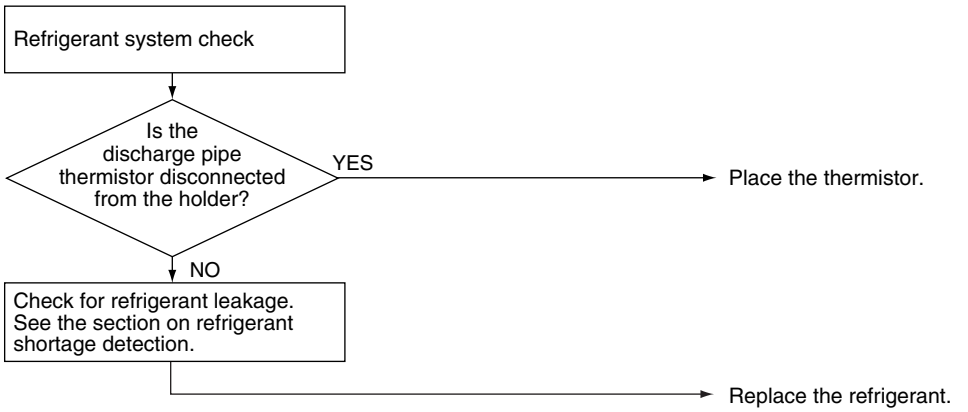
(Fig. 1)



(R11904)

8.7 Inverter Unit Refrigerant System Check

Check No.14



(R8380)

8.8 “Inverter Checker” Check

Check No.15

■ **Characteristics**

If abnormal stop occurs due to compressor startup failure or overcurrent output when using inverter unit, it is difficult to judge whether it is caused by the compressor failure or 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 compressor and check the output of inverter)

■ **Operation Method**

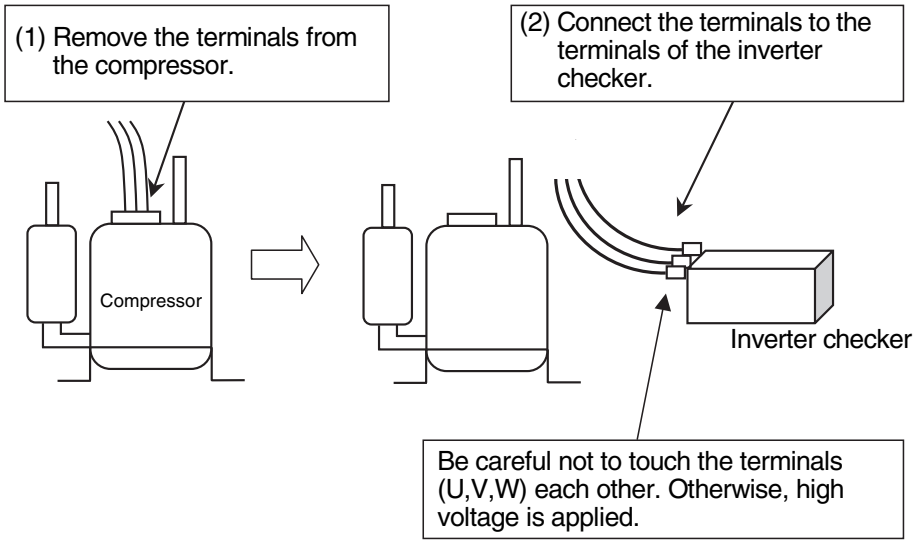
Step 1

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 power transistor test operation from the indoor unit.

FTXG-J, CTXG-J Series

1) Turn the power on.
2) Select FAN operation with the [MODE] button on the remote controller.
3) Press the 3 buttons (TEMP▲, TEMP▼, MODE) simultaneously.
   → SC is displayed.
4) Press the TEMP▲ or TEMP▼ button and select 7.
5) Press the [MODE] button.
   → Trial operation mode is activated.
6) Press the [ON/OFF] button.
   → Power transistor test operation starts.

FTXG-E, CTXG-E, FTXS, FVXS, FLK(X)S, FDK(X)S Series

1) Turn the power on.
2) Select FAN operation with the [MODE] button on the remote controller.
3) Press the 3 buttons (TEMP▲, TEMP▼, MODE) simultaneously.
   → 00 is displayed with the figure of ten's place blinking.
4) Press the [MODE] button.
   → 00 is displayed with the figure of one's place blinking.
5) Press the [MODE] button.
   → 7 is displayed.
6) Press the [ON/OFF] button.
   → Power transistor test operation starts.

FFQ models with wired remote controller:

1) Turn the power on.
2) Select FAN operation on the remote controller.
3) Press the [ON/OFF] button.
   → FAN operation starts.
4) Press the [TEST] button 4 times.
   → Power transistor test operation starts.

FFQ models with wireless remote controller:

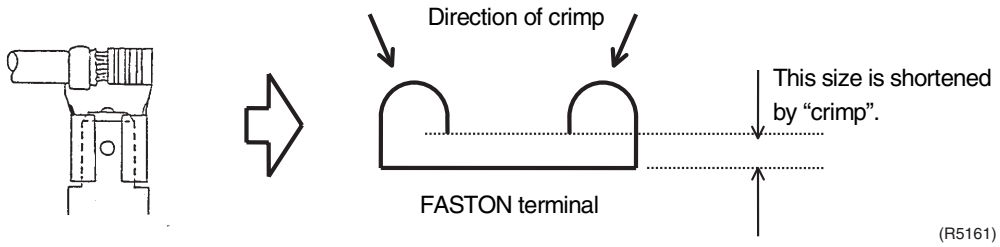
1) Turn the power on.
2) Select FAN operation on the remote controller.
3) Press the [ON/OFF] button.
   → FAN operation starts.
4) Press the [TEST] button twice.
   → Power transistor test operation starts.

■ **Diagnose method (Diagnose according to 6 LEDs lighting status.)**

(1) When all the LEDs are lit uniformly, the compressor is defective.
   → Replace the compressor.
(2) When the LEDs are not lit uniformly, check the power module.
   → Refer to **Check No.13**.
(3) If NG in **Check No.13**, replace the power module (PCB).
   If OK in **Check No.13**, 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 diagnose by the inverter checker, be sure to re-crimp the FASTON terminals. Otherwise, the terminals may be burned due to loosening.



8.9 Rotating Pulse Input on the Outdoor Unit PCB Check

Check No.16

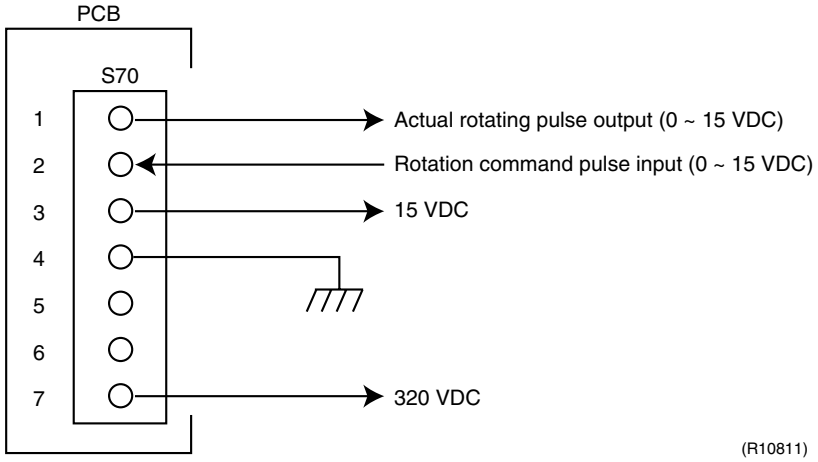
<Outdoor fan motor>

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.

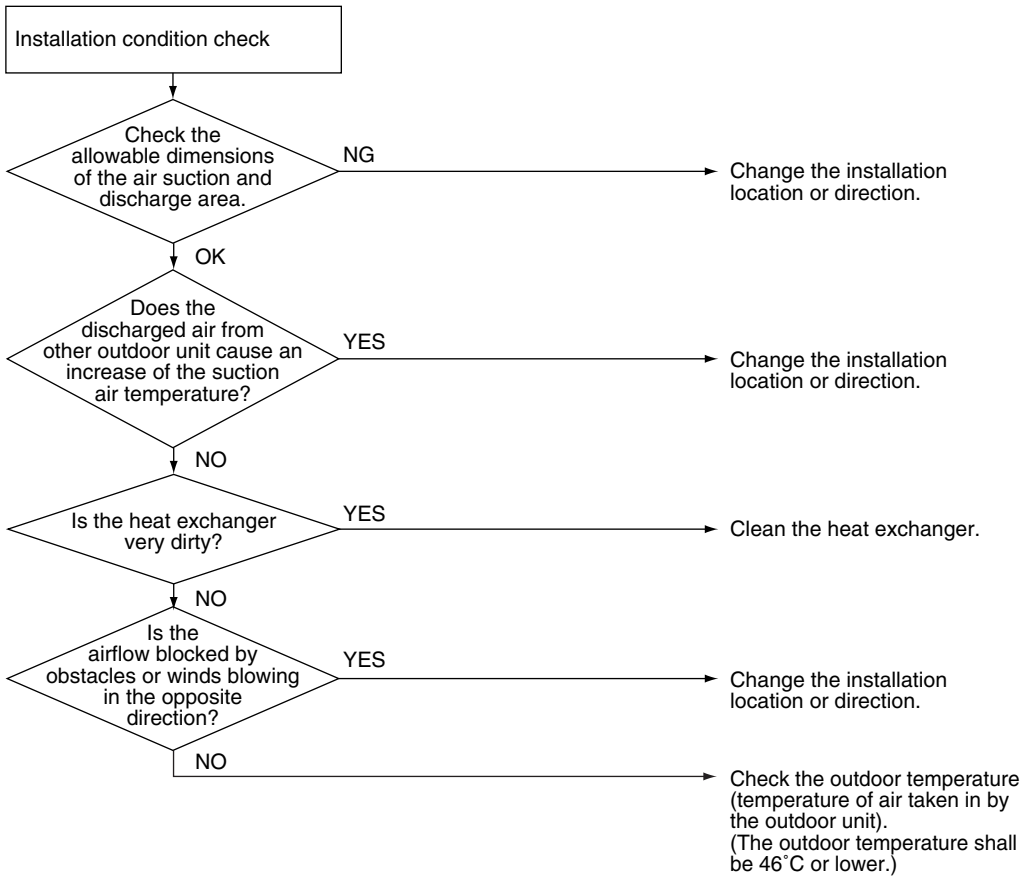
When the fuse is melted, check the outdoor fan motor for proper function.

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.



8.10 Installation Condition Check

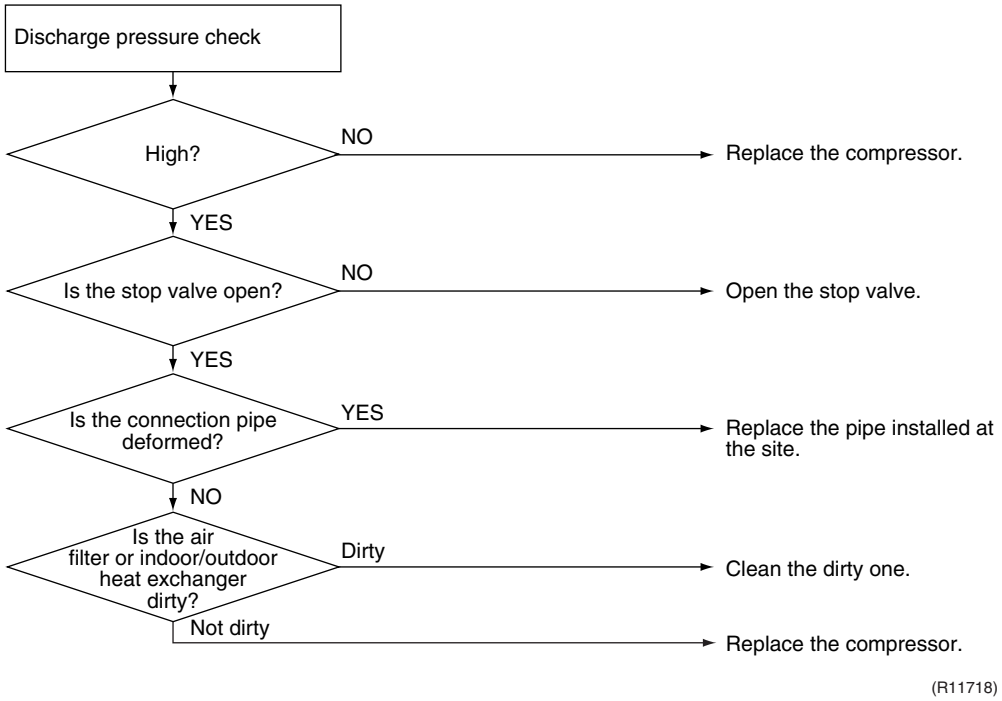
Check No.17



(R14359)

8.11 Discharge Pressure Check

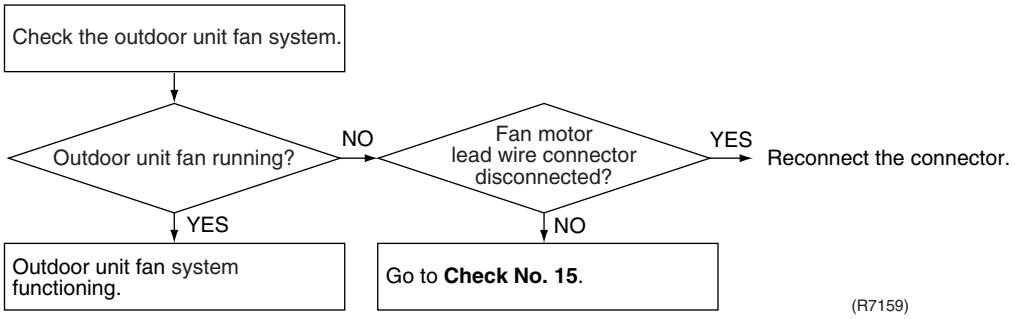
Check No.18



(R11718)

8.12 Outdoor Unit Fan System Check

Check No.19 **DC motor**



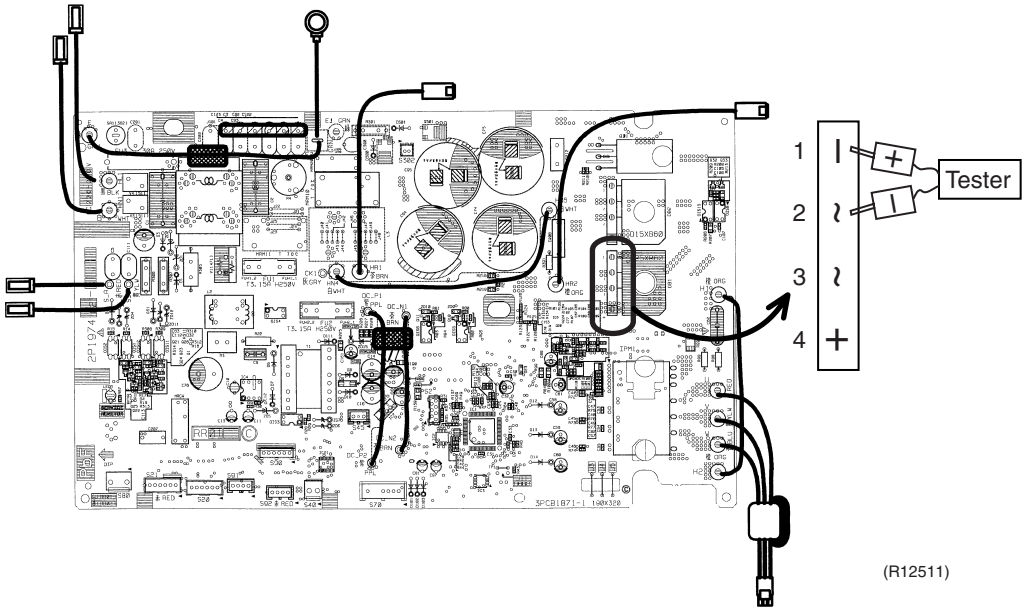
8.13 Main Circuit Short Check

Check No.20

Note: Check to make sure that the voltage between (+) and (–) of the diode bridge (DB1) is approx. 0 V before checking.

- Measure the resistance between the pins of the DB1 as below.
- If the resistance is ∞ or less than 1 kΩ, short circuit occurs on the main circuit.

(–) terminal of the tester (in case of digital, (+) terminal)	~ (2, 3)	+ (4)	~ (2, 3)	− (1)
(+) terminal of the tester (in case of digital, (–) terminal)	+ (4)	~ (2, 3)	− (1)	~ (2, 3)
Resistance in OK	several kΩ ~ several MΩ	∞	∞	several kΩ ~ several MΩ
Resistance in NG	0 Ω or ∞	0	0	0 Ω or ∞



★ The illustration is for 50 class model as representative.

8.14 Power Module Check

Check No.22

Note: Check to make sure that the voltage between (+) and (–) of the diode bridge (DB1) 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 DB1 and the terminals of the compressor with a multi-tester. Evaluate the measurement results for a judgment.

Negative (–) terminal of tester (positive terminal (+) for digital tester)	DB1 (+)	UVW	DB1 (–)	UVW
Positive (+) terminal of tester (negative terminal (–) for digital tester)	UVW	DB1 (+)	UVW	DB1 (–)
Resistance in OK	several kΩ ~ several MΩ			
Resistance in NG	0 Ω or ∞			

Part 7
Removal Procedure

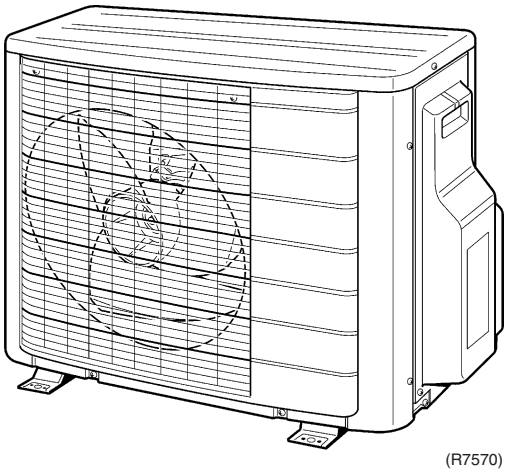
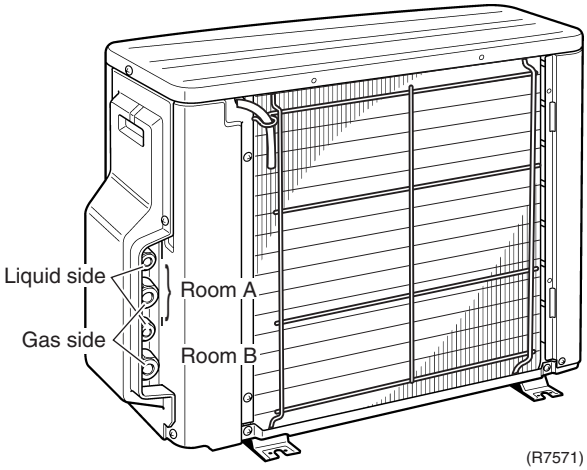
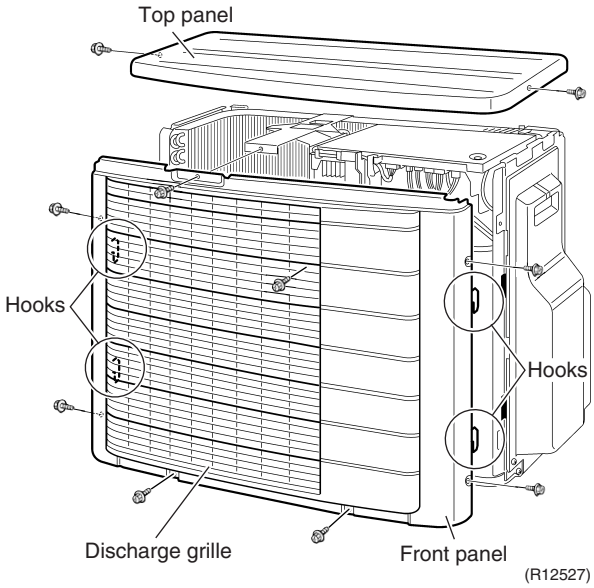
1. Outdoor Unit

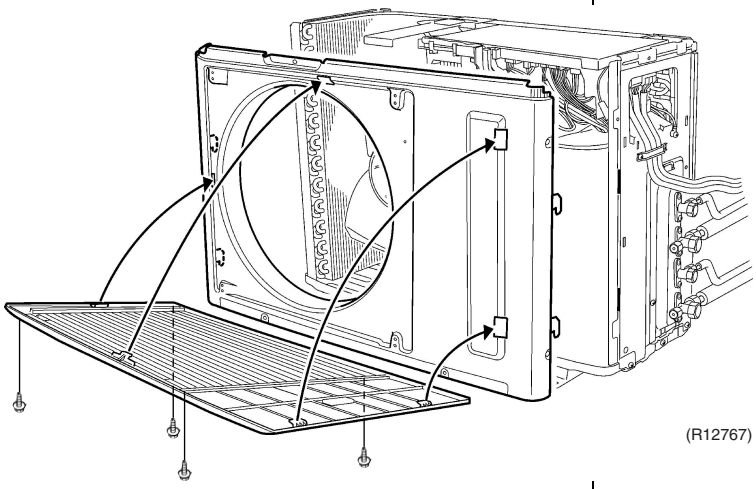
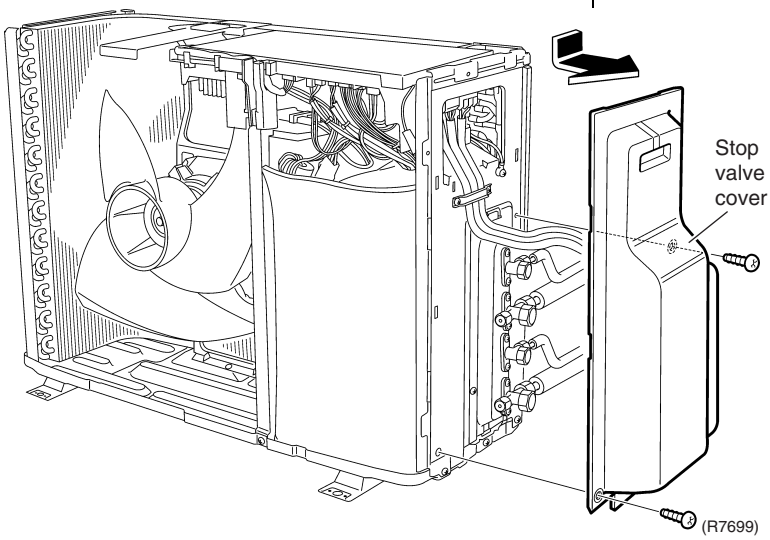
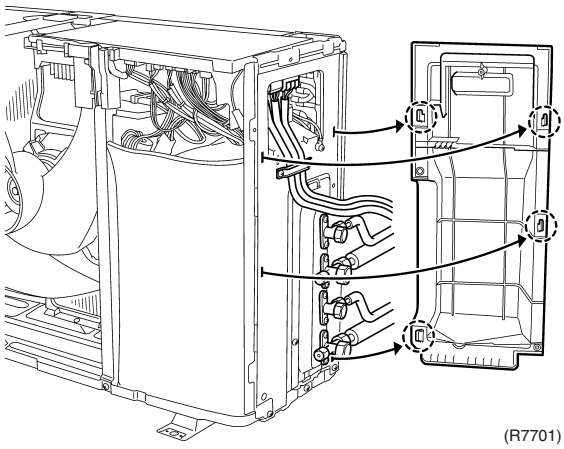
Note: The illustrations are for heat pump models as representative.

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.**

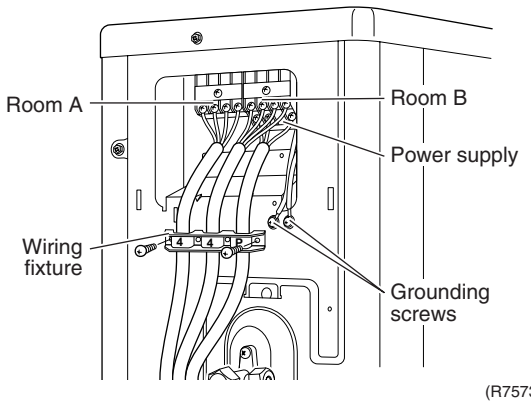
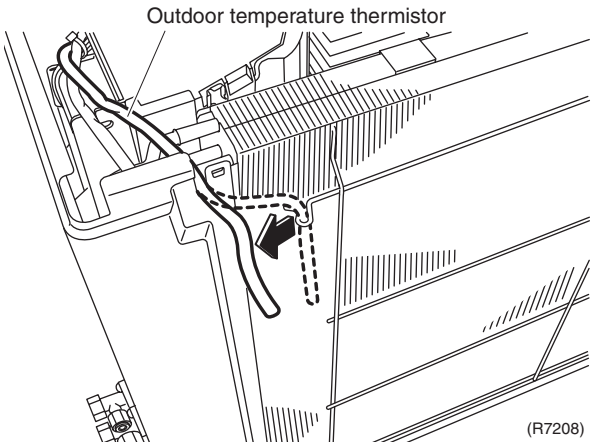
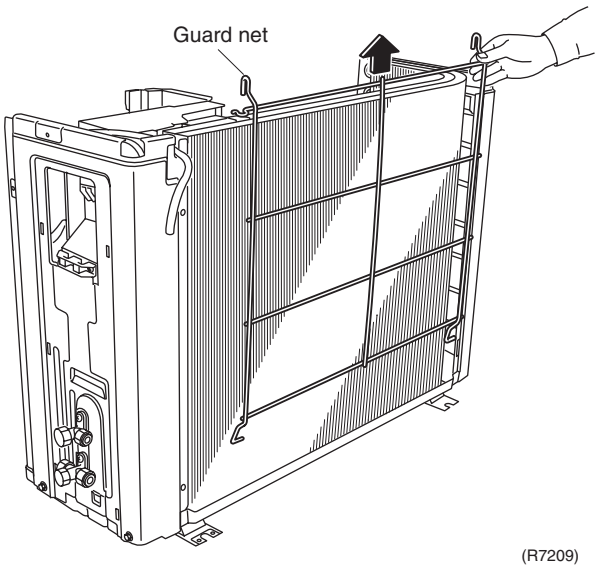
Step	Procedure		Points
1	External appearance	 (R7570)  (R7571)	
2	Remove the 2 screws and remove the top panel.		■ The front panel has 4 hooks.
3	Remove the 8 screws and remove the front panel.	 (R12527)	

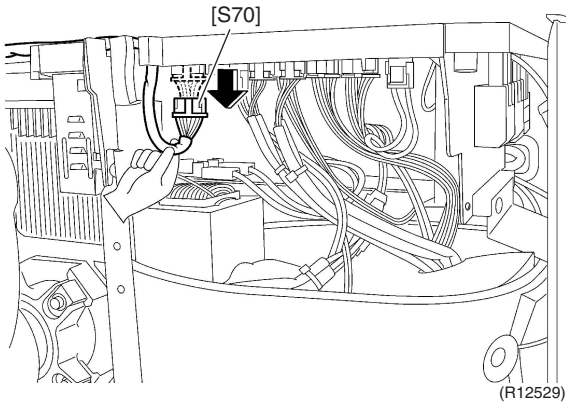
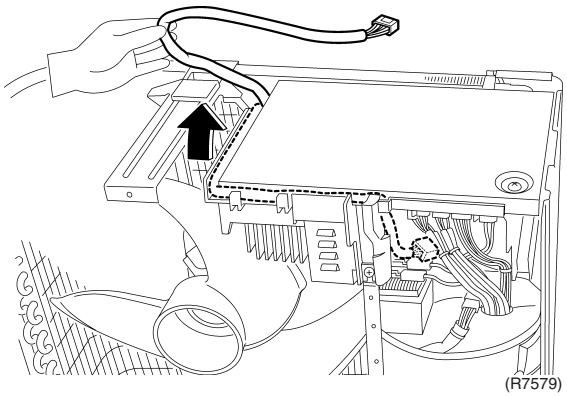
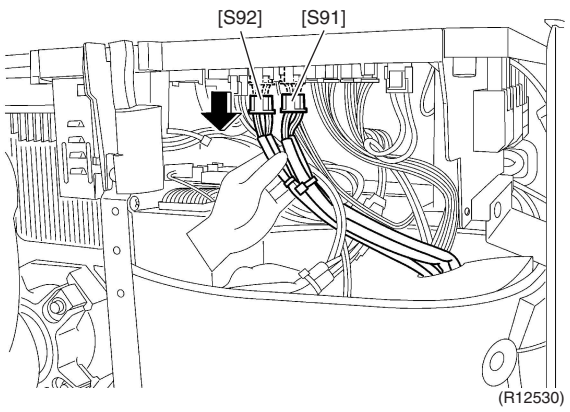
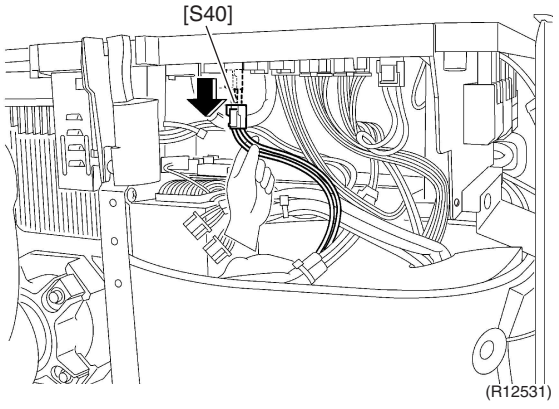
Step	Procedure		Points
4	Remove the 4 screws and remove the discharge grille.	 (R12767)	■ When reassembling, make sure to fit the 4 hooks.
5	Remove the 2 screws and remove the stop valve cover.	 (R7699)	■ When reassembling, make sure to fit the 4 hooks.
		 (R7701)	

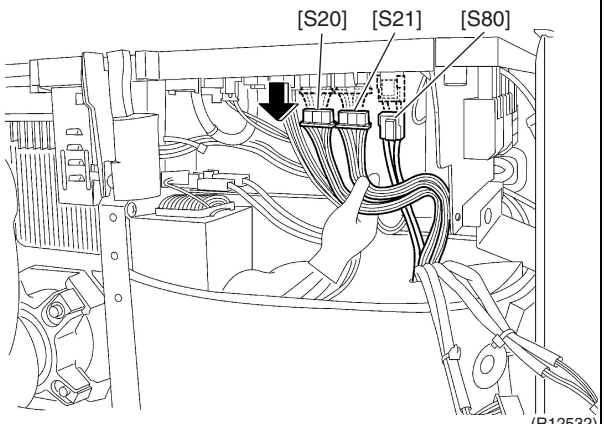
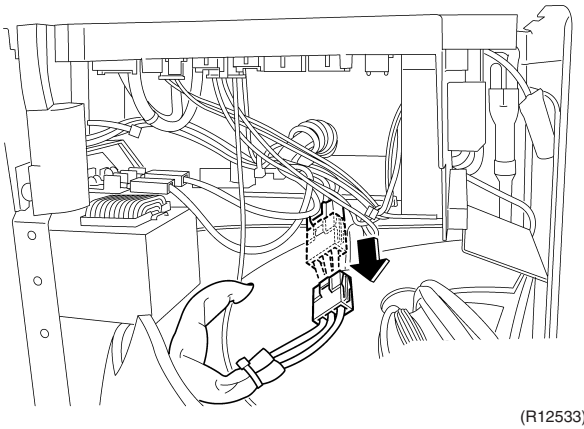
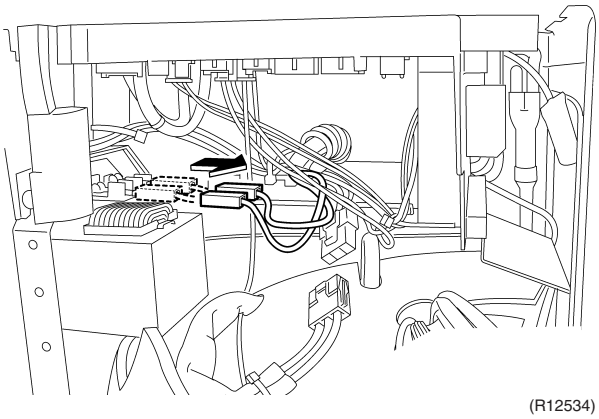
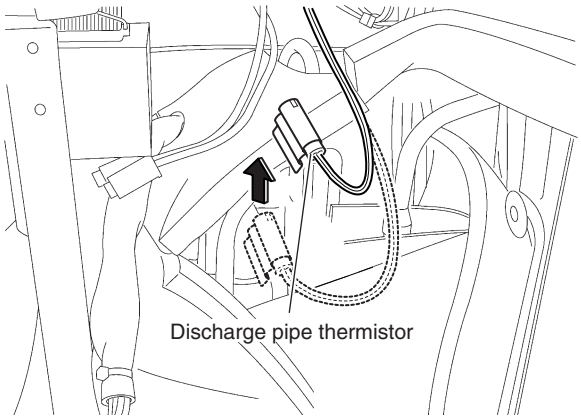
1.2 Removal of Electrical Box

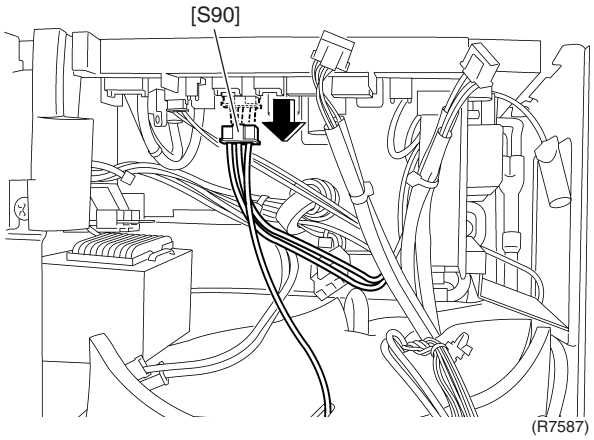
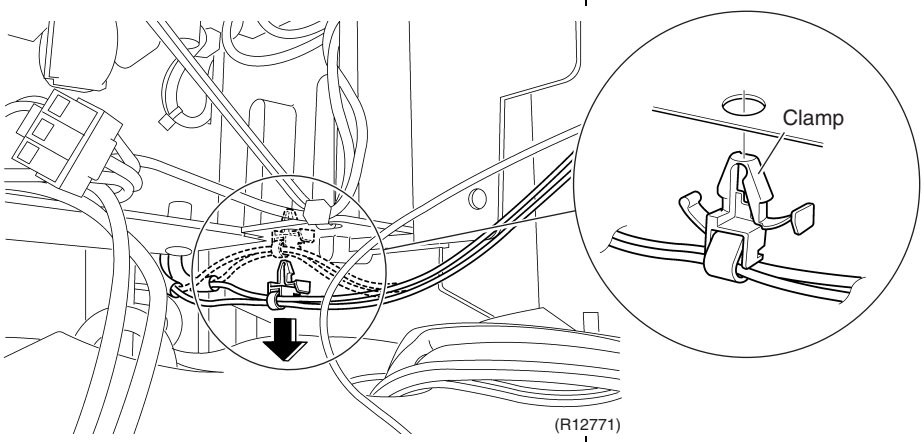
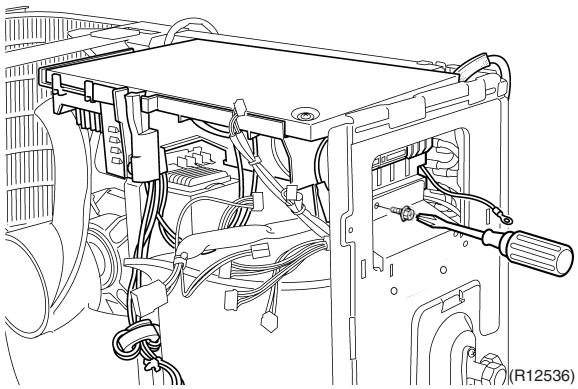
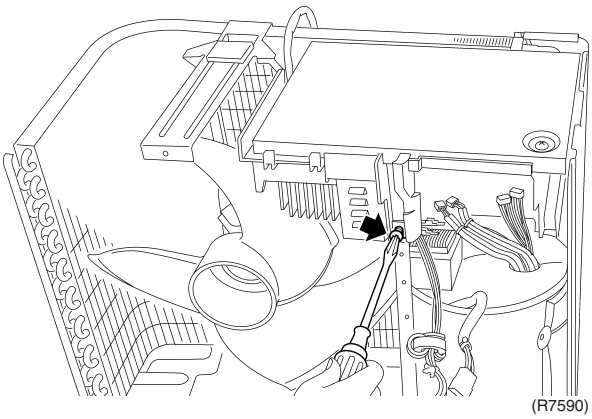
Procedure

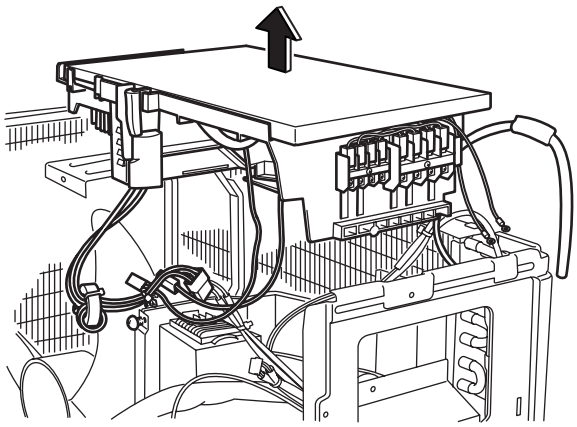
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1. Disconnect the connecting wires.			■ When reassembling, fasten the wires with screws on the terminal board.
1	Remove the 2 grounding screws. Remove the 2 screws and remove the wiring fixture. Then remove all the screws to disconnect the power supply cables and the connecting wires.		
2. Remove the electrical box.			
1	Release the outdoor temperature thermistor.		
2	Lift up the guard net and remove it.		

Step	Procedure		Points
3	Disconnect the connector for the fan motor [S70].		
4	Release the fan motor lead wire.		
5	Disconnect the connector for the gas pipe thermistor [S91] and for the liquid pipe thermistor [S92].		[S91]: gas pipe thermistor (white) [S92]: liquid pipe thermistor (red)
6	Disconnect the connector for the overload protector [S40].		[S40]: overload protector

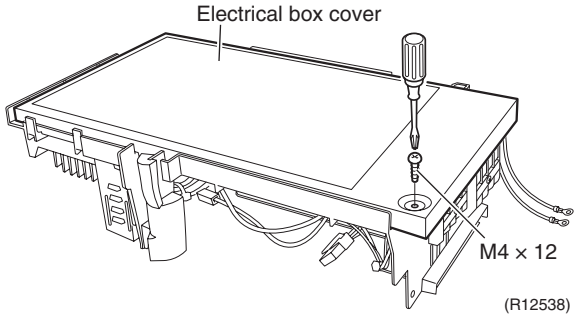
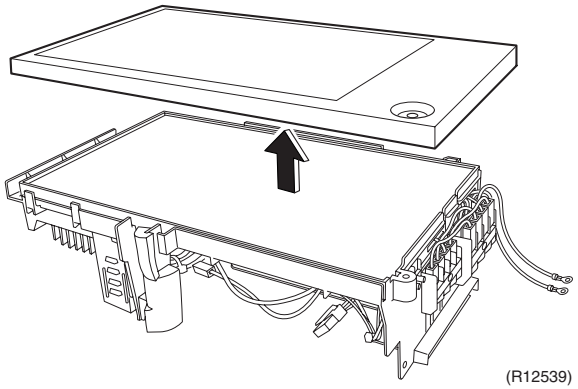
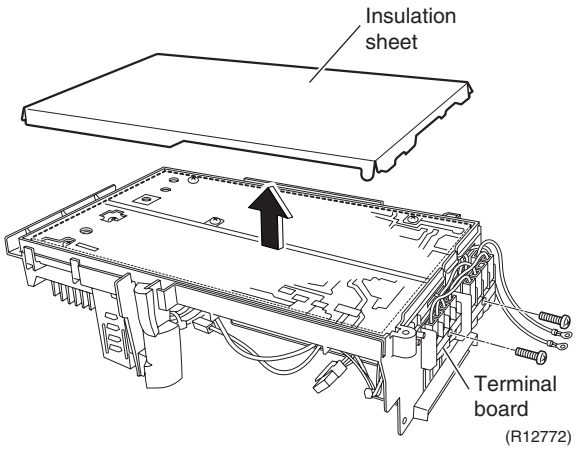
Step	Procedure		Points
7	Disconnect the connectors [S20], [S21], [S80].	 (R12532)	[S20]: electronic expansion valve coil for room A (white) [S21]: electronic expansion valve coil for room B (red) [S80]: four way valve coil
8	Disconnect the relay connector for the compressor.	 (R12533)	
9	Disconnect the 2 connectors for the reactor.	 (R12534)	
10	Release the discharge pipe thermistor.	 (R12535)	■ Meet the edge of the thermistor and the clip. ■ Be careful not to lose the clip for the thermistor.

Step	Procedure		Points
11	Disconnect the connector for the thermistors [S90].		[S90]: thermistors (outdoor temperature, outdoor heat exchanger, discharge pipe)
12	Detach the clamp for the thermistors from the electrical box.		
13	Remove the screw on the right side of the electrical box.		
14	Loosen the screw in front of the electrical box.		

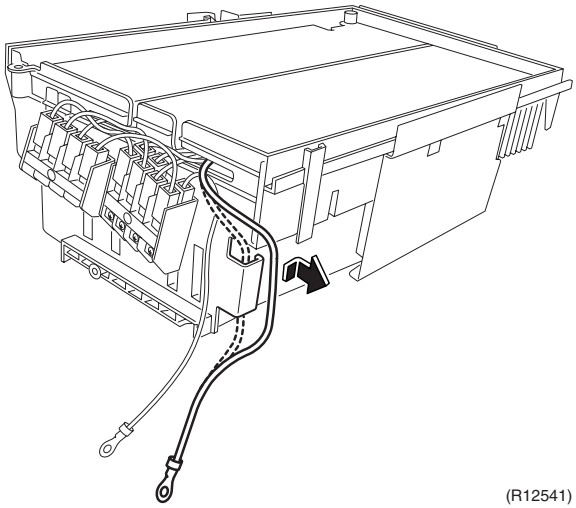
Step	Procedure		Points
15	Lift and remove the electrical box.	 (R12537)	

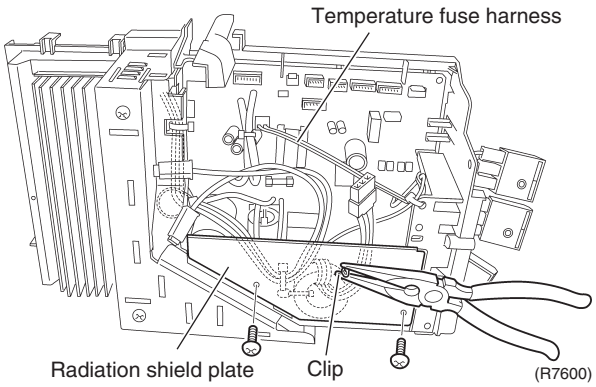
1.3 Removal of PCB

Procedure **Warning** **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

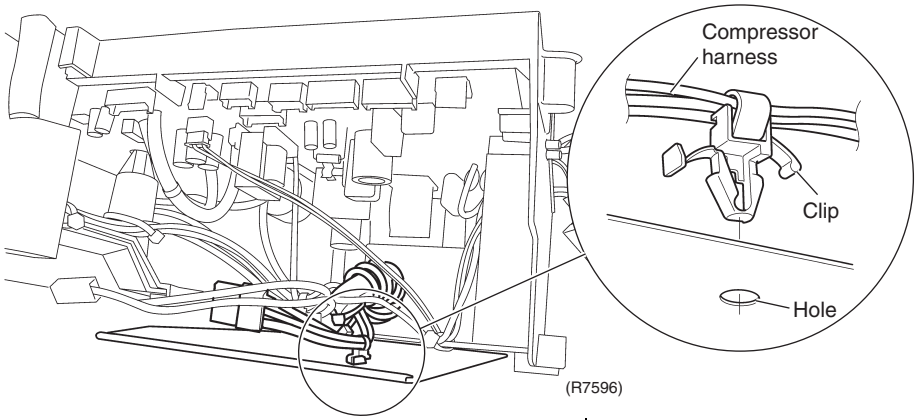
Step	Procedure		Points
1	Remove the screw and remove the electrical box cover.	 	**Preparation** ■ Remove the panels according to the “Removal of Outer Panels”. ■ Remove the electrical box according to the “Removal of Electrical Box”.
2	Detach the insulation sheet.		■ The trimmed part goes front.
3	Remove the 2 screws and remove the terminal boards.		■ The thermal fuse is united with terminal board.

Step	Procedure	Points
4	Release the earth wire from the hook.	
5	Remove the 2 screws and detach the clip to remove the radiation shield plate.	

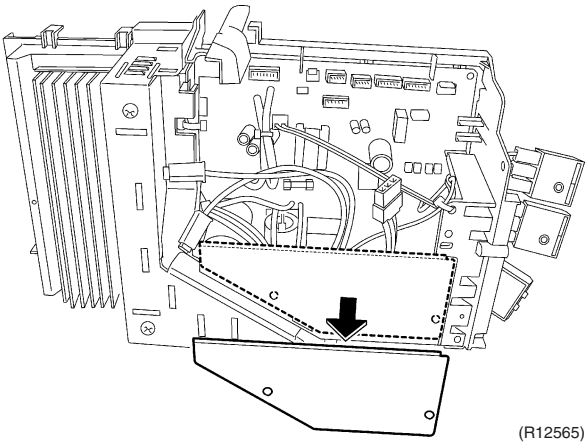

(R12541)

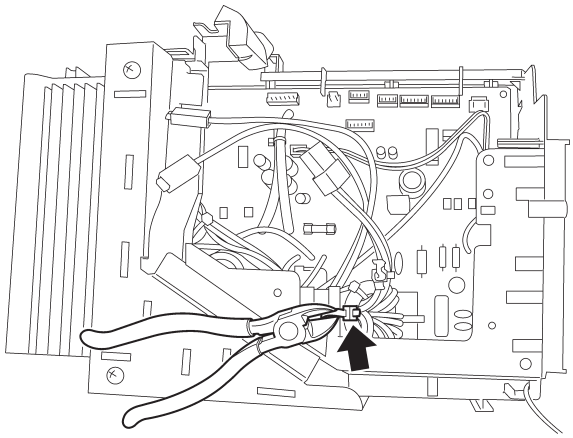
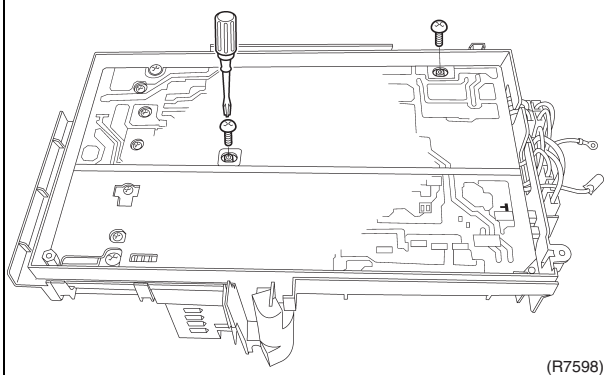
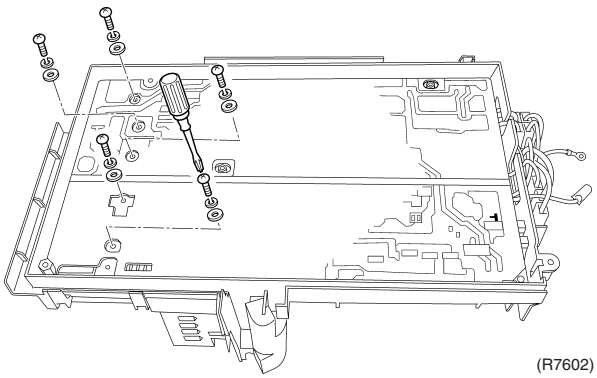
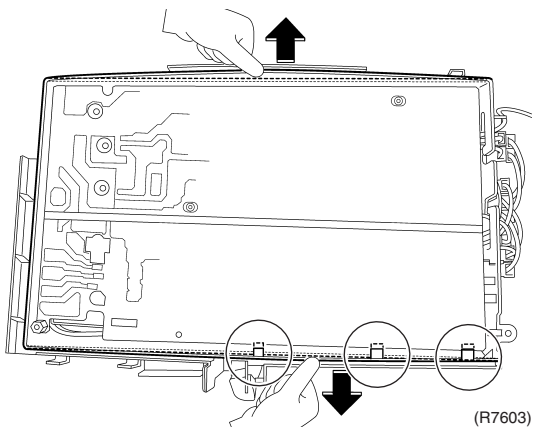


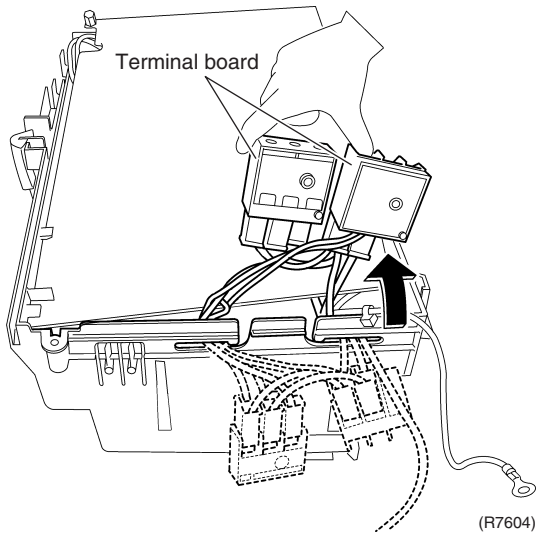
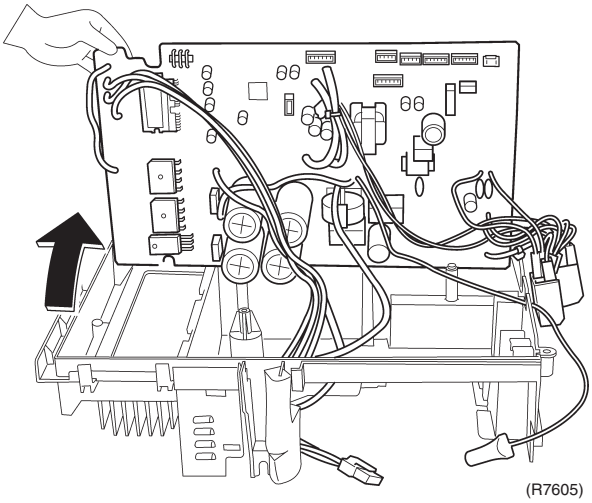
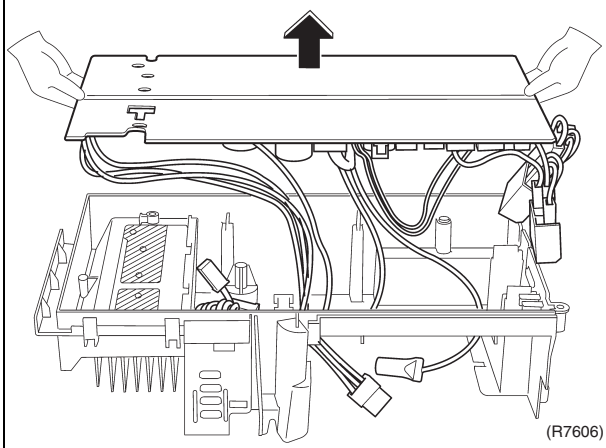
(R7600)



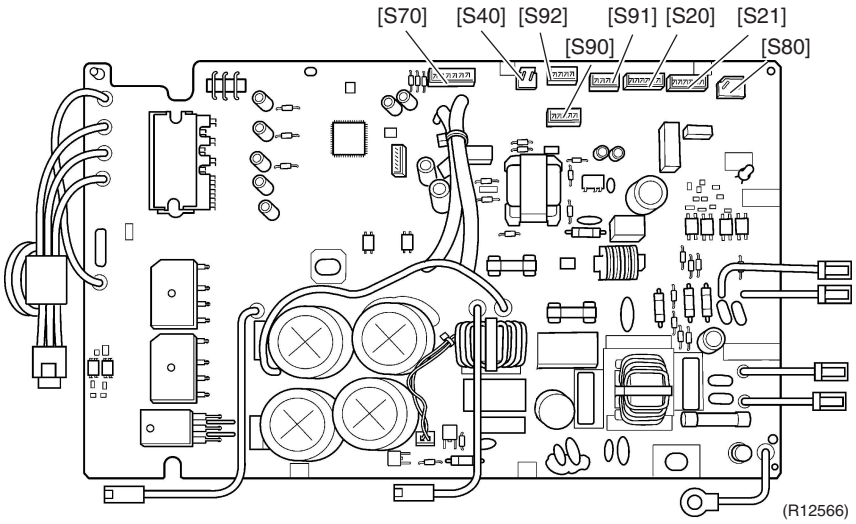
(R7596)


(R12565)

Step	Procedure		Points
6	Cut the clamp and release the wire harnesses.	 (R7597)	
7	Remove the 7 screws in total to remove the PCB.	 (R7598)	
		 (R7602)	
8	Lift up the back side of the electrical box slightly and unfasten the hooks of the front.	 (R7603)	■ When reassembling, make sure that the hooks of the electrical box are placed on the PCB.

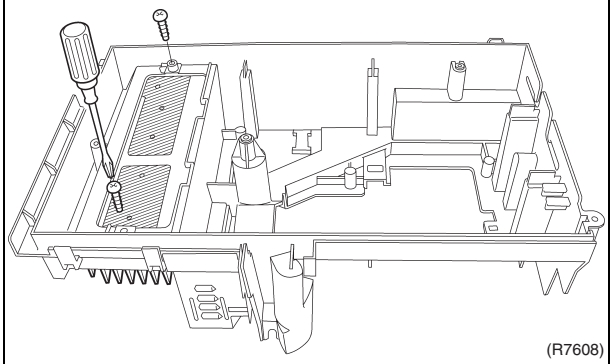
Step	Procedure		Points
9	Release the lead wires from the hooks and remove the terminal boards.	 (R7604)	
10	Lift up the PCB.	 (R7605)	
11	Remove the PCB.	 (R7606)	

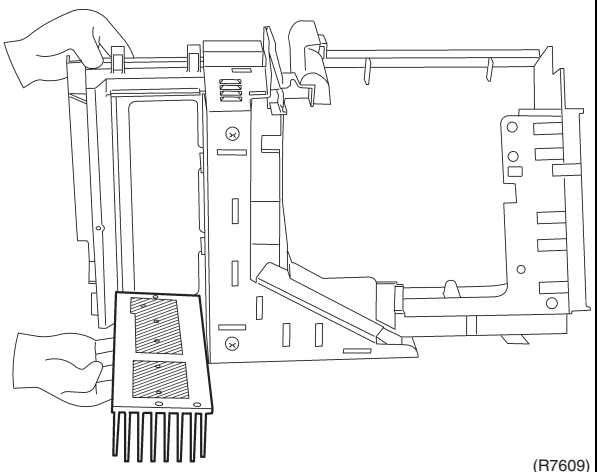
Step	Procedure	Points
12	Disconnect the connectors from the terminal board.	■ Refer to page 51 for detail.
13	Remove the 2 screws and remove the radiation fin.	



★This illustration is for 40 class model as representative.

[S20]: electronic expansion valve coil for room A
[S21]: electronic expansion valve coil for room B
[S40]: overload protector
[S70]: fan motor
[S80]: four way valve coil
[S90]: thermistors
[S91]: gas pipe thermistor
[S92]: liquid pipe thermistor

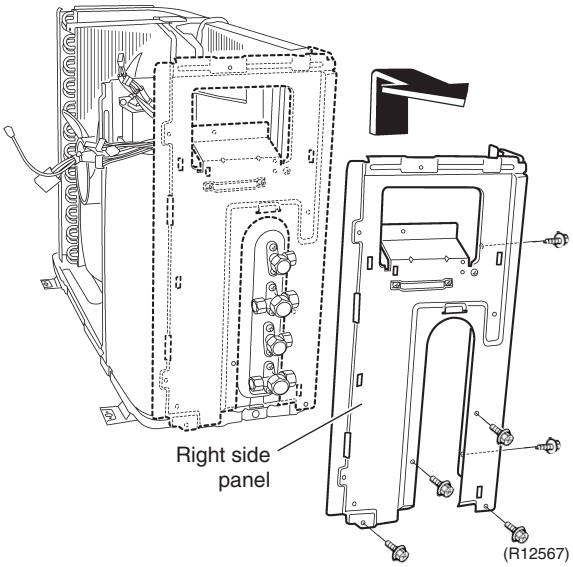
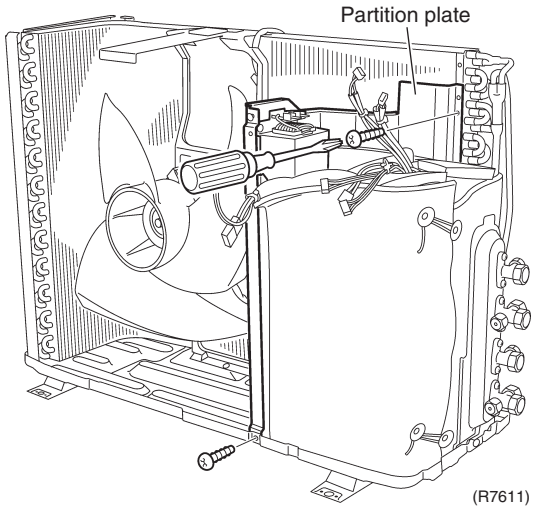
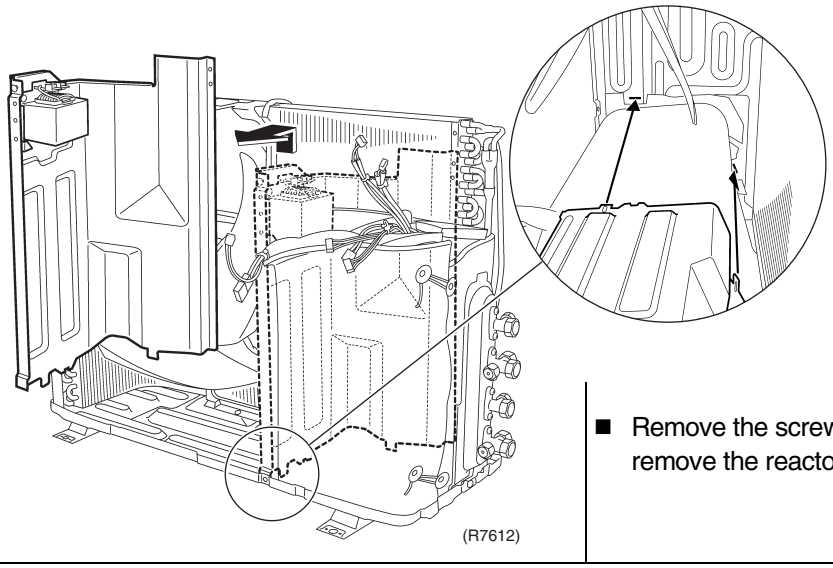


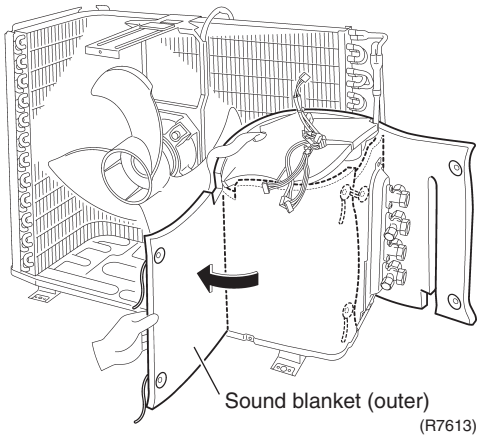
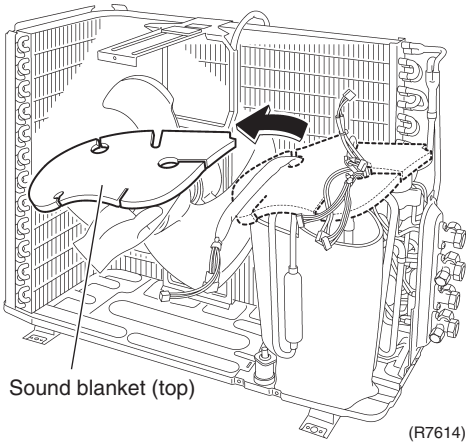
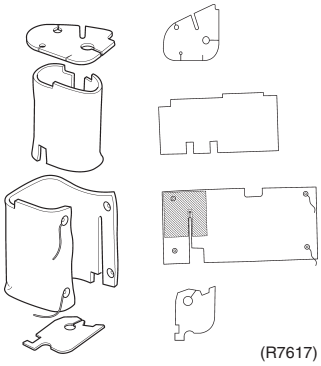
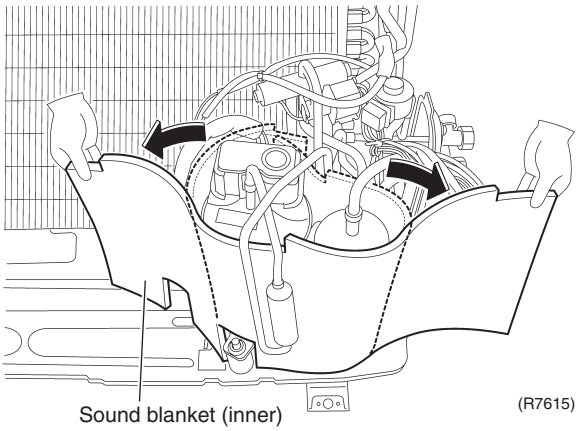
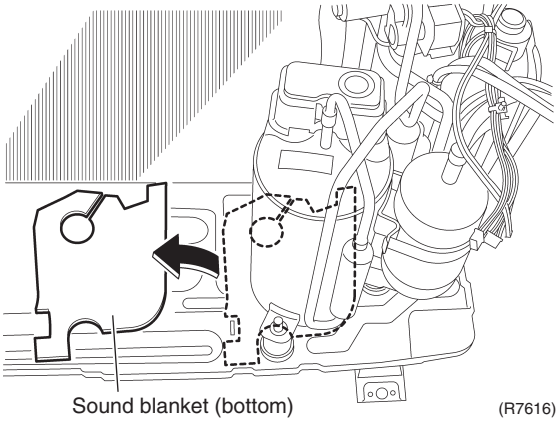


1.4 Removal of Sound Blankets

Procedure

Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

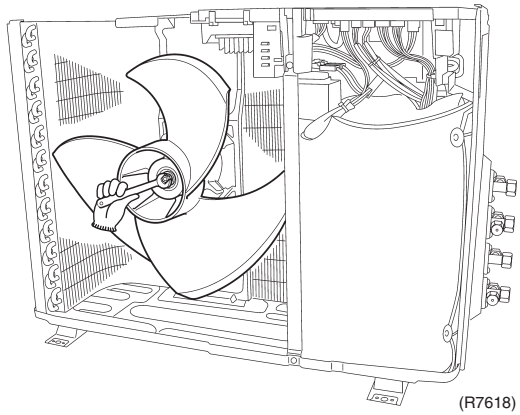
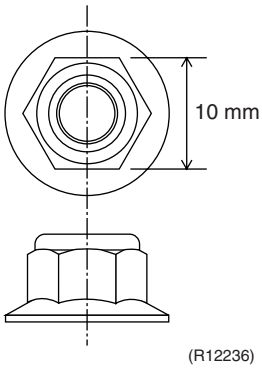
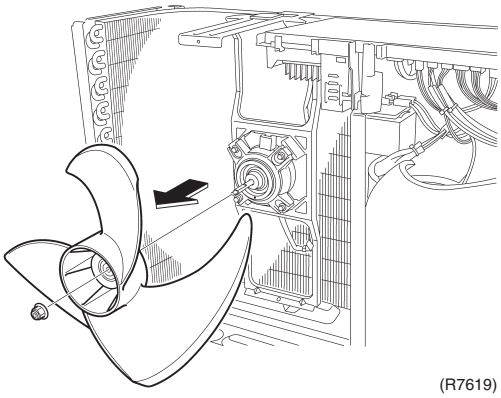
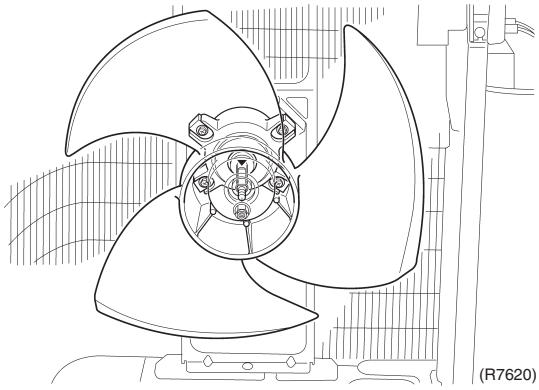
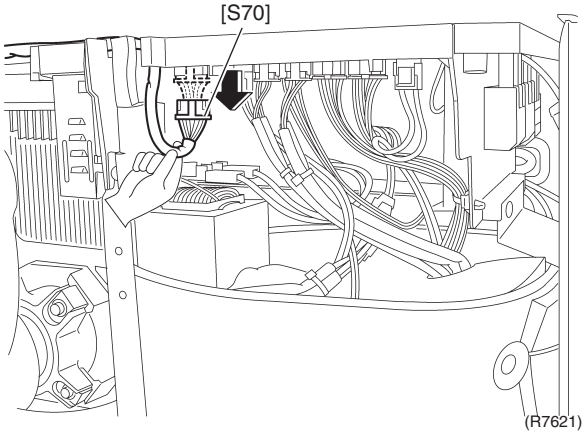
Step	Procedure	Points
1. Remove the right side panel.		**Preparation** ■ Remove the panels according to the “Removal of Outer Panels”. ■ Remove the electrical box according to the “Removal of Electrical Box”.
1 Remove the 6 screws and remove the right side panel.		
2. Remove the partition plate.		■ When reassembling, fit the lower hooks into the bottom frame.
1 Remove the 2 screws.		
2 The partition plate has 2 hooks on the lower side. Lift and pull the partition plate and remove it.		■ Remove the screw to remove the reactor.

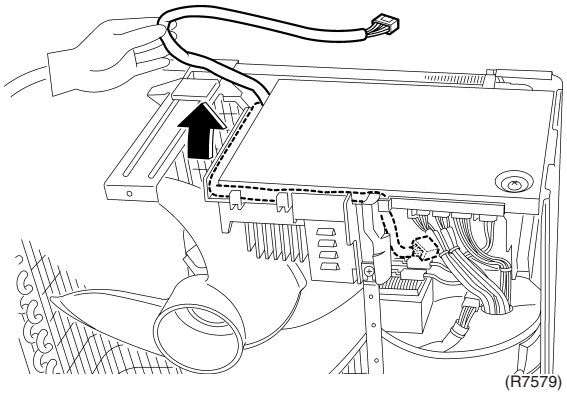
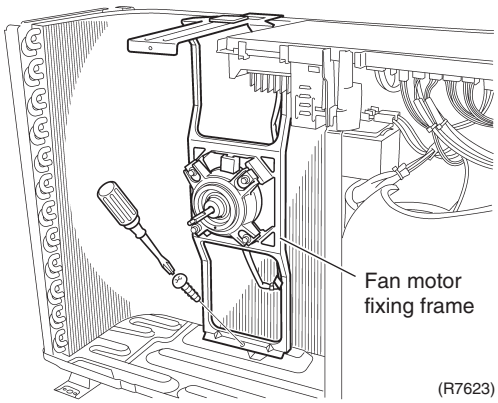
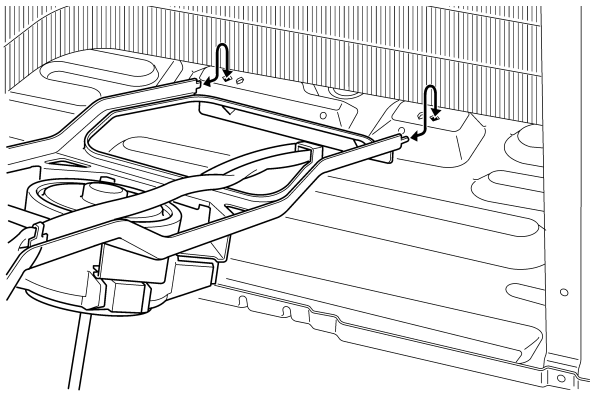
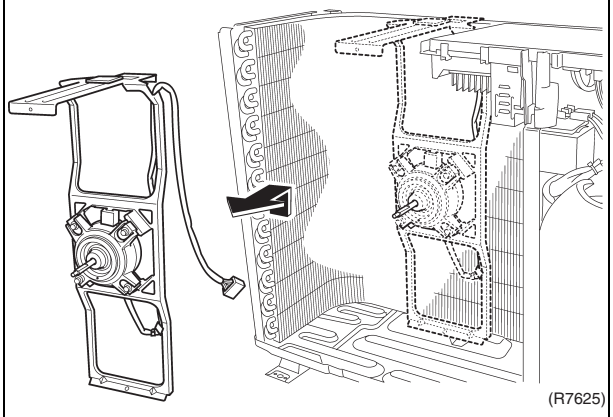
Step	Procedure	Points
3. Remove the sound blankets.		
1 Release the strings, open the sound blanket (outer) and pull it out.	 (R7613)	
2 Remove the sound blanket (top).	 (R7614)	■ Since the piping ports are torn easily, remove the sound blanket carefully.  (R7617)
3 Open the sound blanket (inner) and pull it out.	 (R7615)	
4 Pull out the sound blanket (bottom).	 (R7616)	

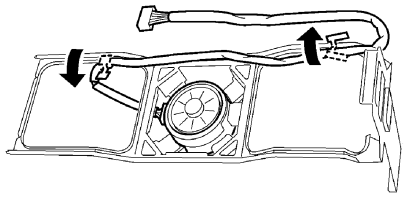
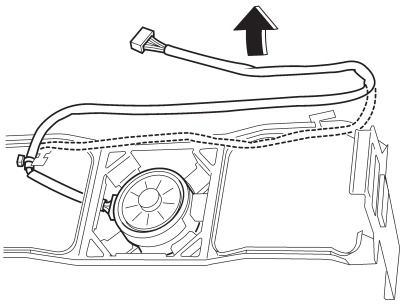
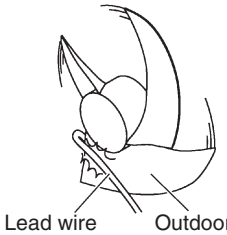
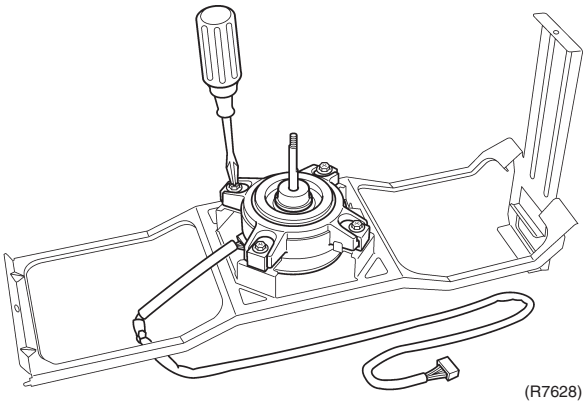
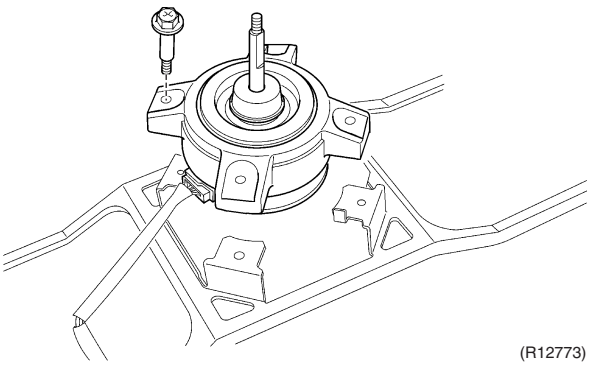
1.5 Removal of Outdoor Fan / Fan Motor

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 outdoor fan.	 (R7618)	■ Nut size: M6  (R12236)
1 Remove the washer fitted nut.		
2 Remove the outdoor fan.	 (R7619)  (R7620)	■ When reassembling, align ▼ mark of the outdoor fan with D-cut section of the motor shaft.
2. Remove the fan motor.		
1 Disconnect the connector for the fan motor [S70].	 (R7621)	

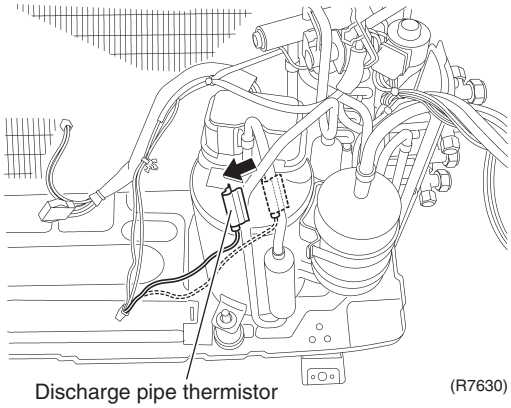
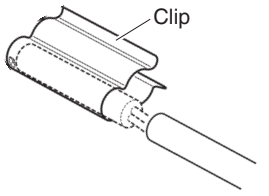
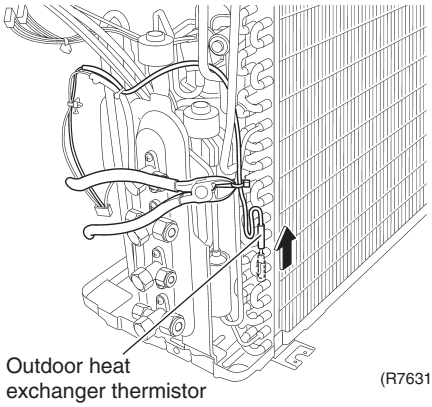
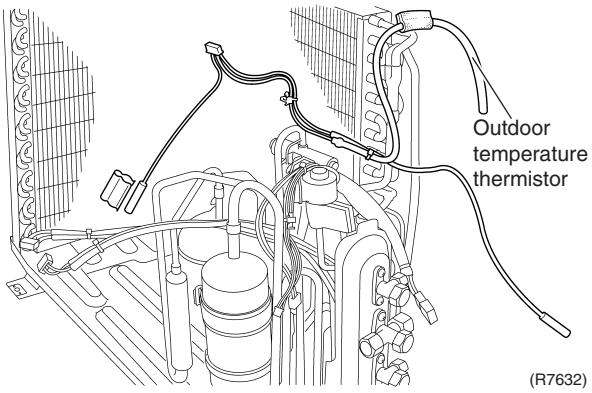
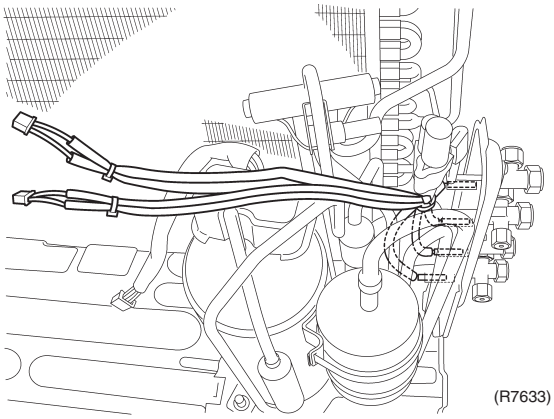
Step	Procedure	Points
2	Release the fan motor lead wire.  (R7579)	
3	Remove the screw of the fan motor fixing frame.  (R7623)	
4	Remove the fan motor fixing frame.  (R7624)  (R7625)	

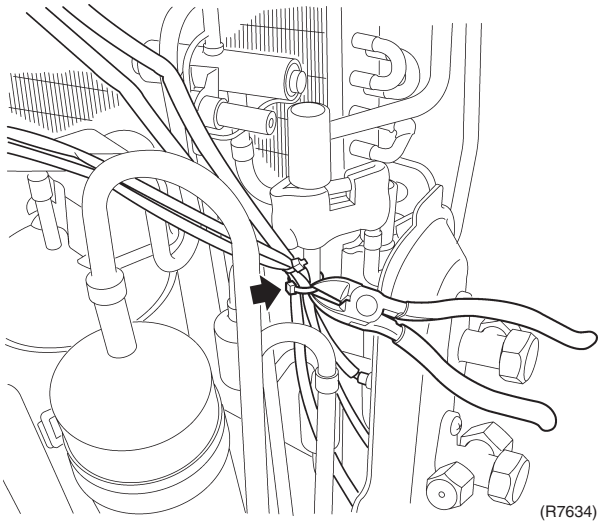
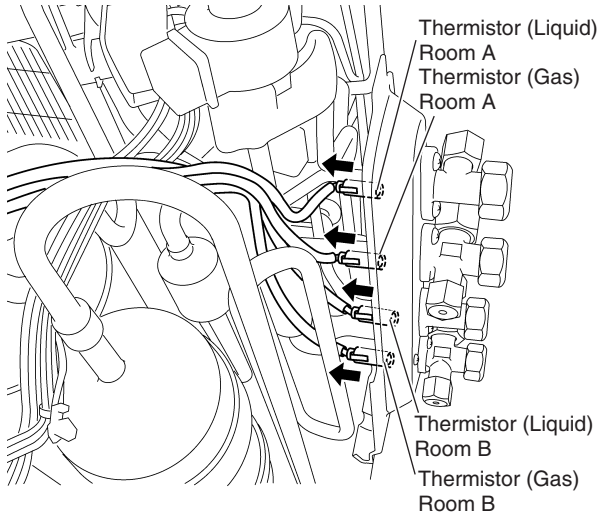
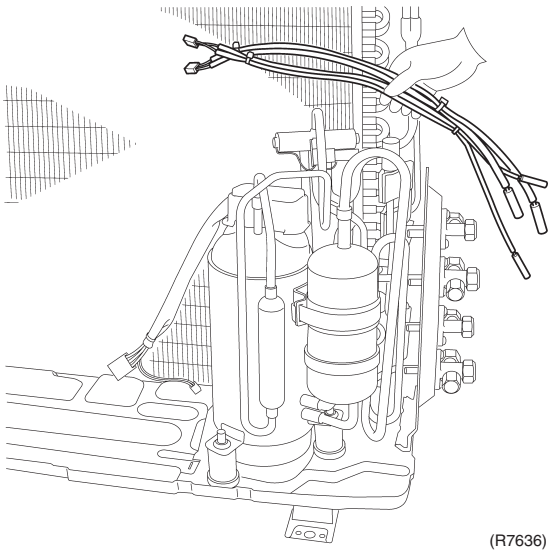
Step	Procedure		Points
5	Turn the fan motor fixing frame backward and open the 2 hooks of the fan motor lead wire.	 (R7626)	
6	Release the fan motor lead wire.	 (R7627)	■ When reassembling, put the fan motor lead wire through the back of the fan motor so as not to be entangled with the outdoor fan.  (R12215)
7	Remove the 4 screws and remove the fan motor.	 (R7628)  (R12773)	

1.6 Removal of Thermistors

Procedure

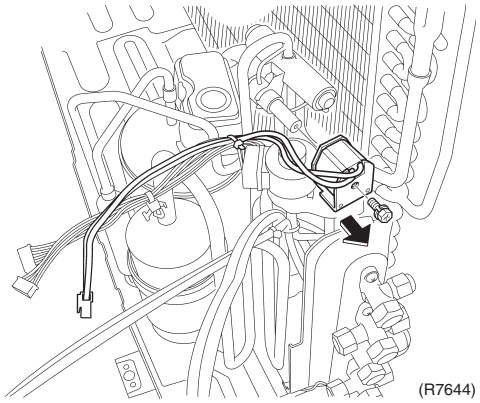
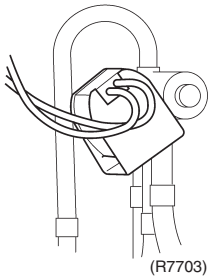
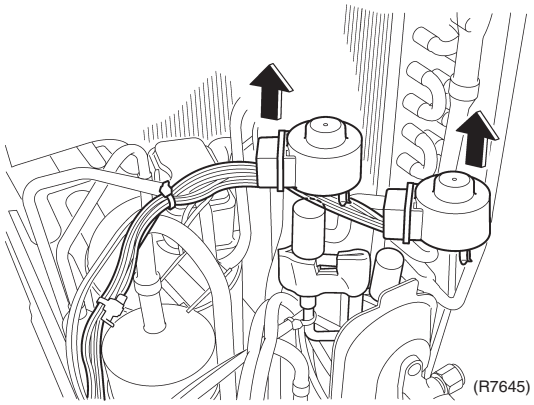
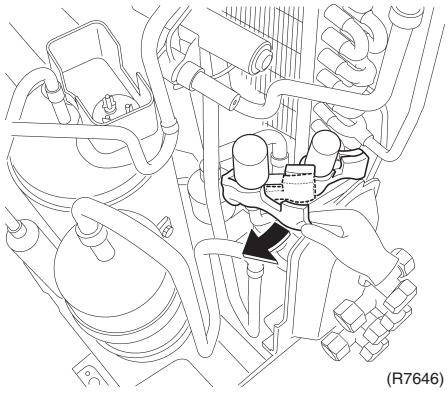
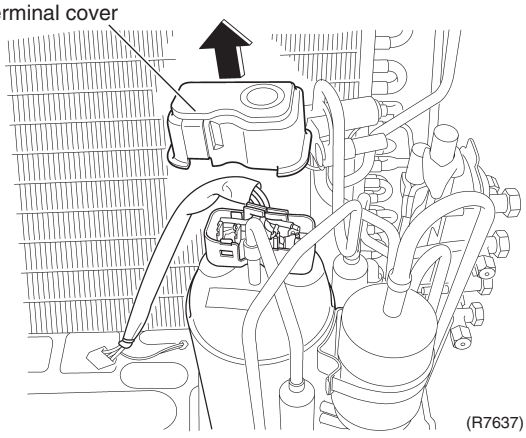
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

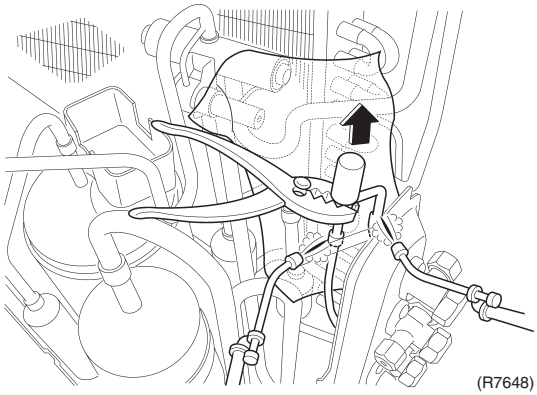
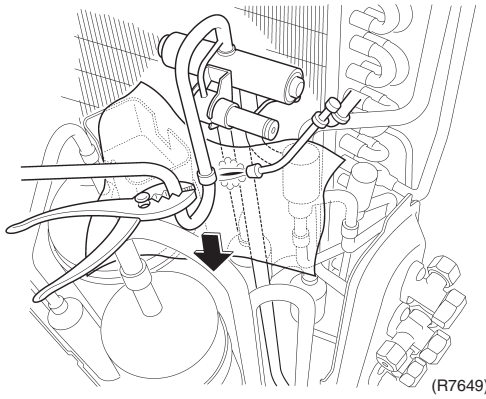
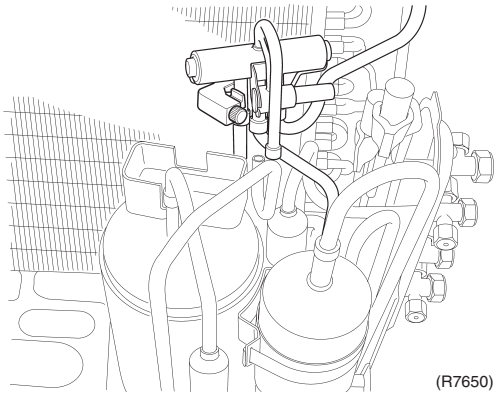
Step	Procedure	Points
1. Remove the assembly of thermistors.		■ Be careful not to lose the clip for the thermistor.
1 Release the discharge pipe thermistor.		
2 Cut the clamp and pull out the outdoor heat exchanger thermistor.		
3 The thermistors are united as an assembly.		
2. Remove the liquid / gas pipe thermistors.		
1 The figure shows the liquid / gas pipe thermistors.		

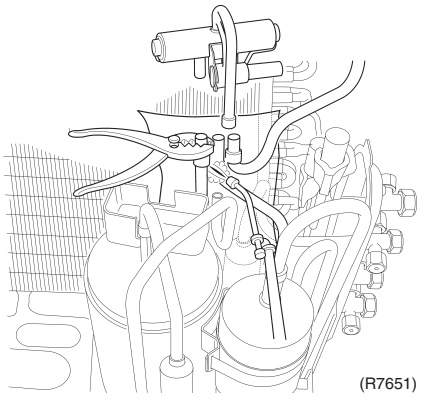
Step	Procedure		Points
2	Cut the clamp.	 (R7634)	
3	Peel the putty and remove the thermistors.	 (R7635)	[S91] : gas pipe thermistor room A (black) room B (gray) [S92] : liquid pipe thermistor room A (black) room B (gray)
4	The figure shows the arrangement of the assembly of the liquid / gas thermistors.	 (R7636)	

1.7 Removal of Four Way Valve / Electronic Expansion Valves

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 peripheries.	 (R7644)	**Preparation** ■ Remove the sound blankets.  (R7703)
1 Remove the screw and remove the four way valve coil.		
2 Pull out the electronic expansion valve coils.	 (R7645)	■ Detach the four way valve coil and the clamp, and then detach the wire harnesses.
3 Remove the putty.	 (R7646)	
4 Remove the terminal cover.	Terminal cover  (R7637)	

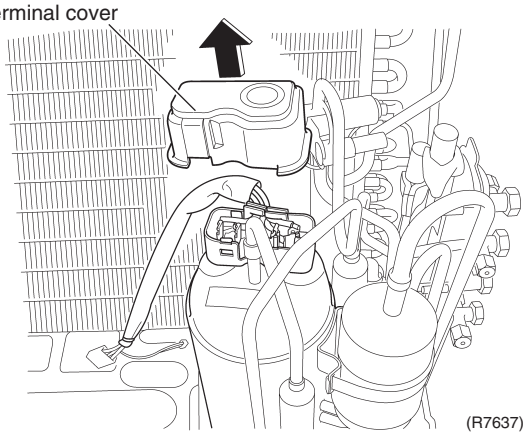
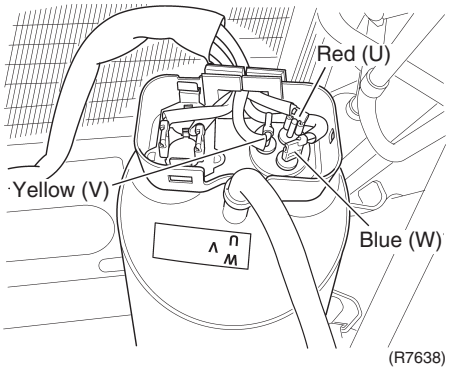
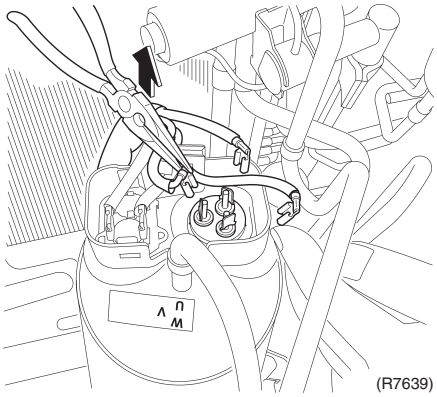
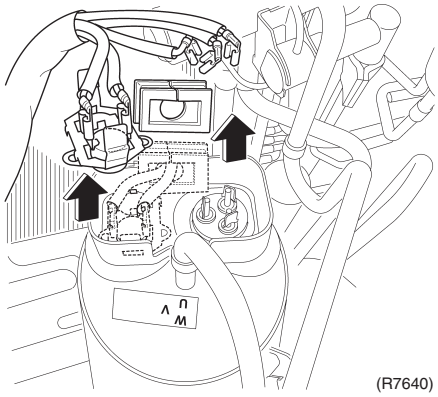
Step	Procedure	Points
■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.** **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.**
2. Remove the electronic expansion valves and the four way valve.		
1 Heat up the 2 brazed parts of the electronic expansion valve and remove it.	 (R7648)	
2 Heat up the brazed parts of the four way valve.	 (R7649)	**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.
3 Cut the pipes.	 (R7650)	**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.

Step	Procedure		Points
4	Heat up the brazed parts. Pull the pipe with pliers and disconnect.	 (R7651)	**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.

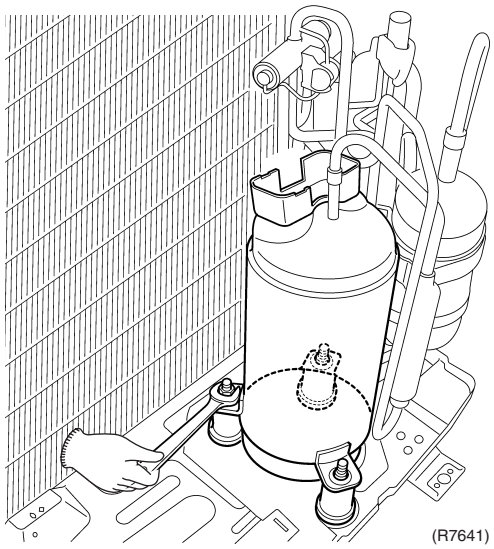
1.8 Removal of Compressor

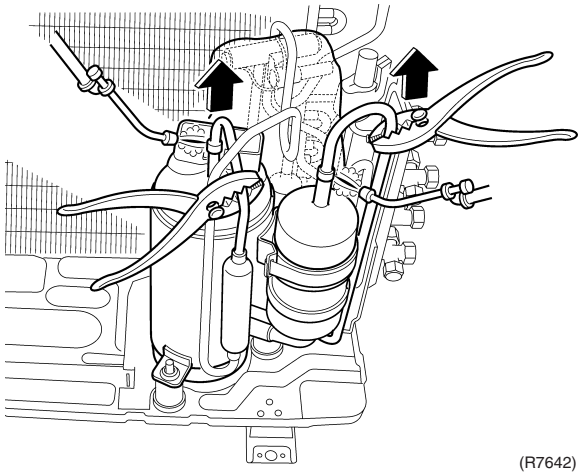
Procedure

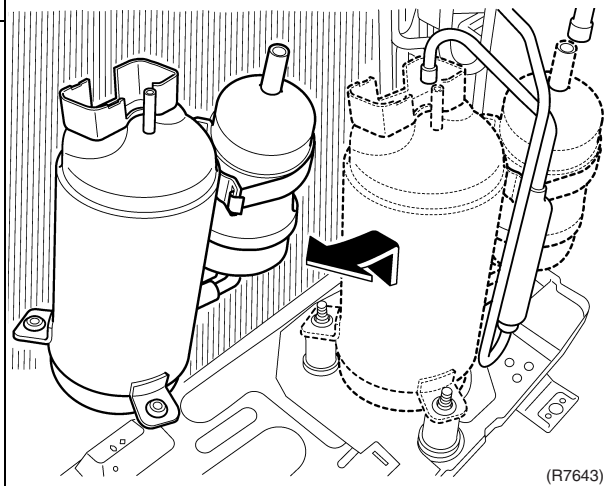
Warning **Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the terminal cover.	Terminal cover  (R7637)	
2	Disconnect the compressor terminals.	 (R7638)	
		 (R7639)	
3	Unfasten the hooks with a flat screwdriver and remove the overload protector.	 (R7640)	

Step	Procedure	Points
4	Remove the 2 nuts of the compressor.	**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.		
5	Heat up the brazed part of the discharge side and disconnect.	
6	Heat up the brazed part of the suction side and disconnect.	
7	Lift the compressor up to remove.	
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.		**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.


(R7641)


(R7642)


(R7643)

Part 8
Trial Operation and Field Settings

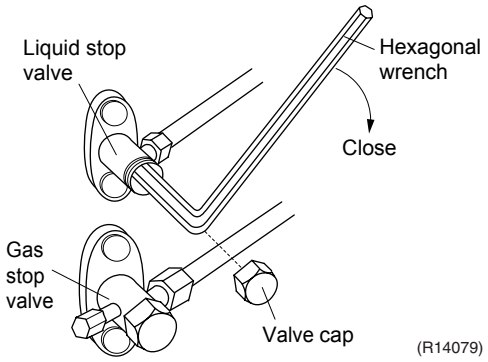
1. Pump Down Operation

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 at the pipes for rooms A and B.
2) Carry out forced cooling operation.
3) After 5 to 10 minutes, close the liquid stop valve at the pipes for rooms A and B with a hexagonal wrench.
4) After 2 to 3 minutes, close the gas stop valve and stop the forced cooling operation as quickly as possible after the gas stop valves at the pipes for rooms A and B have been shut off.
5) Turn the power breaker off.

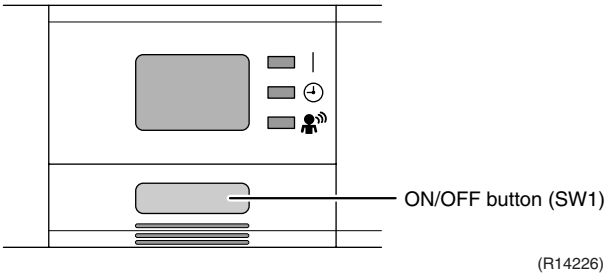


Refer to page 299 for forced cooling operation.

2. Forced Cooling Operation

Item	Forced Cooling
Conditions	The forced cooling operation is allowed when both the following conditions are met. 1) The outdoor unit is not abnormal and not in the 3-minute standby mode. 2) The outdoor unit is not operating.
Start	Press the forced cooling operation ON/OFF button (SW1) on the indoor unit for 5 seconds.
Operating room	All rooms
Command frequency	40 class: 70 Hz 50 class: 47 Hz
End	The forced cooling operation ends when any of the following conditions is fulfilled. 1) The operation ends automatically after 15 minutes. 2) Press the forced cooling operation ON/OFF button (SW1) on the indoor unit again.
Others	The protection functions are prior to all others in the forced cooling operation.

ex. Wall mounted type FTXS Series



3. Trial Operation

3.1 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLK(X)S, FDK(X)S Series

Outline

1. Measure the supply voltage and make sure that it falls in the specified range.
2. Trial operation should be carried out in either cooling or heating mode.
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 mode when the circuit breaker is restored.

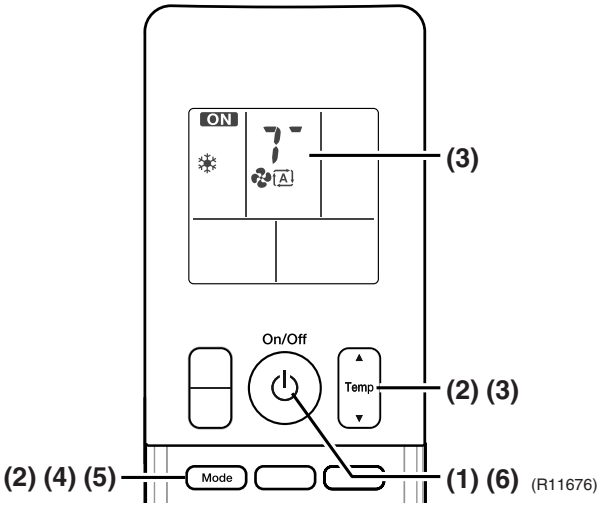
In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.

- Trial operation may be disabled in either mode depending on the room temperature.
- After trial operation is complete, set the temperature to a normal level. (26°C to 28°C in cooling mode, 20°C to 24°C in heating mode)
- For protection, the system does not start for 3 minutes after it is turned off.

Detail

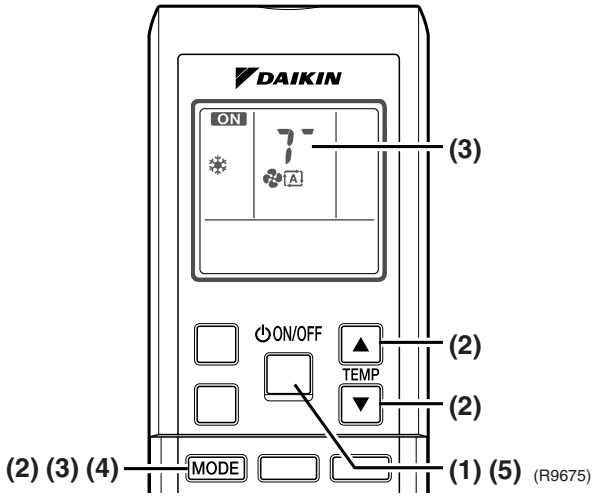
ARC466 Series

(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 "ﾃｽﾄ" (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.



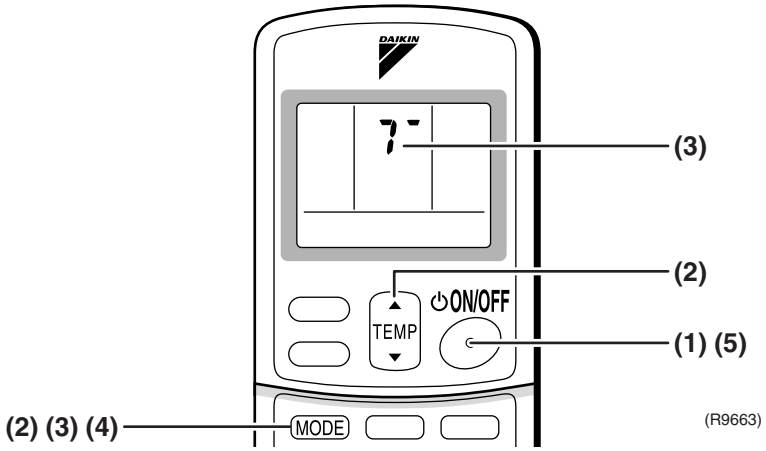
ARC452 Series

(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.
("ﾃｽﾄ" appears on the display to indicate that trial operation is selected.)
(4) Press the MODE button and select 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.
("ﾃｽﾄ" appears on the display to indicate that trial operation is selected.)
(4) Press the MODE button and select 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.



3.2 SA Indoor Unit - FFQ Series

3.2.1 Checkpoints

To carry out a trial operation, check the following:

- Check that the temperature setting of the remote controller is at the lowest level in cooling mode or use trial operation 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

3.2.2 Trial operation

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] 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] 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.

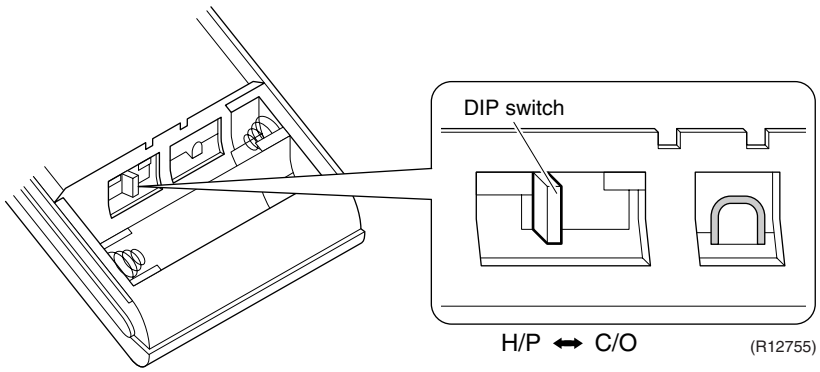
4. Field Settings

4.1 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLK(X)S, FDK(X)S Series

4.1.1 Model Type Setting

<ARC452A1, ARC452A3>

- This remote controller is common to the heat pump model and cooling only model. Use the DIP switch on the remote controller to set the heat pump model or cooling only model.
- Make the setting 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.



4.1.2 When 2 Units are Installed in 1 Room

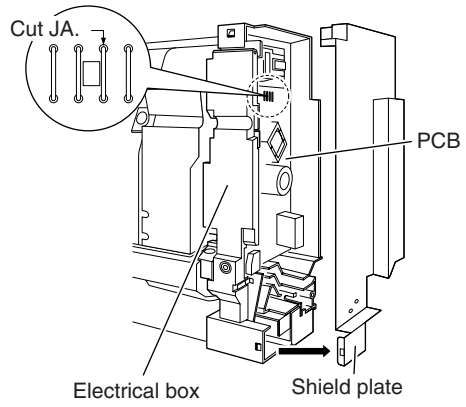
When 2 indoor units are installed in 1 room, 1 of the 2 pairs of indoor unit and wireless remote controller can be set for different address.
Both the indoor unit PCB and the wireless remote controller need alteration.

Indoor Unit PCB

<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.

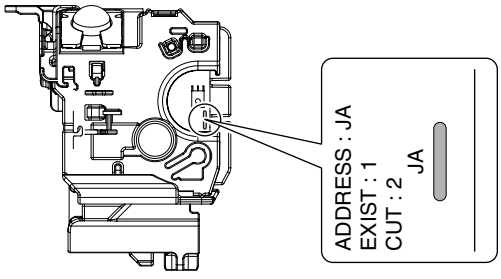
FTXG-E, CTXG-E Series



JA	ADDRESS
EXIST	1
CUT	2

(R12756)

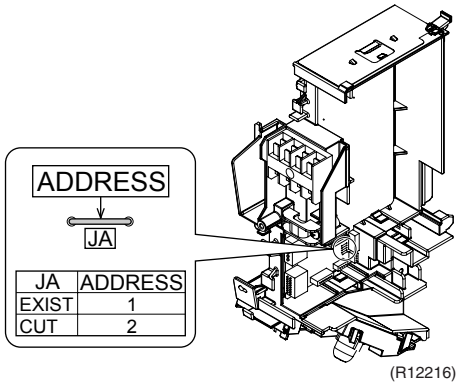
FTXG-J, CTXG-J Series



(Bottom of electrical box)

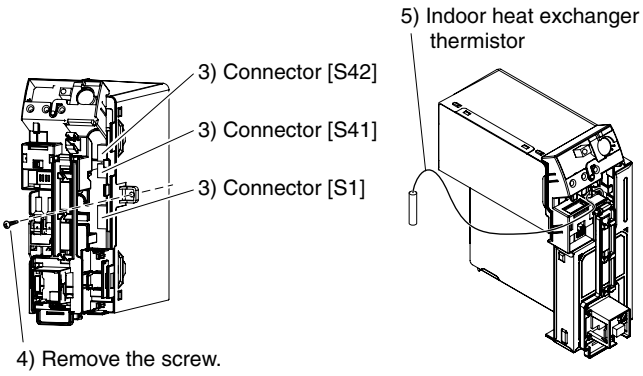
(R12036)

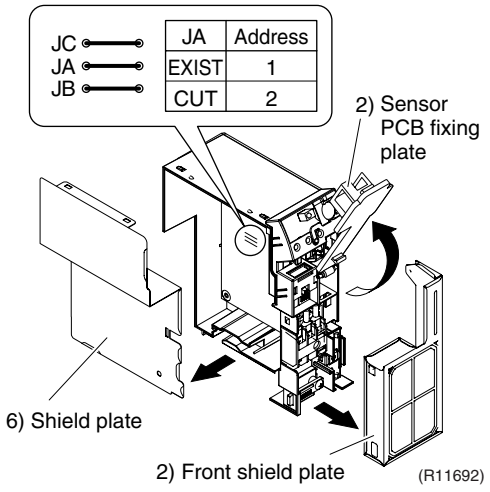
FTXS-G, FTXS-J Series



< Floor Standing Type>

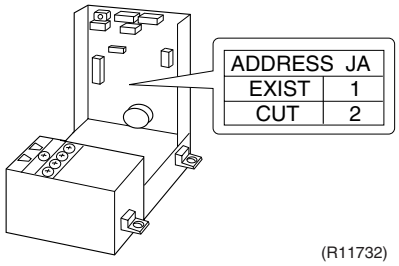
1) Remove the front grille.
2) Lift the sensor PCB fixing plate and remove the front shield plate.
3) Disconnect the connectors [S1] [S41] [S42].
4) Remove the electric box (1 screw).
5) Pull out the indoor heat exchanger thermistor.
6) Remove the shield plate (8 tabs).
7) Cut the address setting jumper JA on the indoor unit PCB.
8) Cut the address setting jumper in the remote controller.
   (Refer to “Wireless remote controller”.)





< Floor / Ceiling Suspended Dual Type >

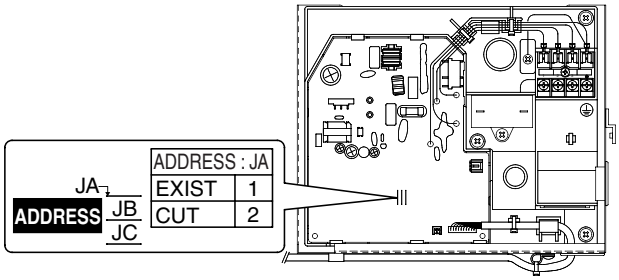
■ Cut the jumper JA on PCB.



(R11732)

< Duct Connected Type >

■ Cut the jumper JA on PCB.



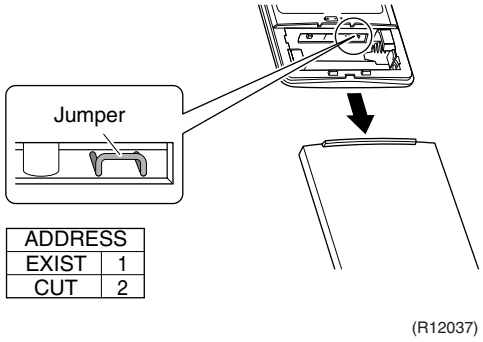
(R10276)

Wireless Remote Controller

(1) Remove the cover and take it off.

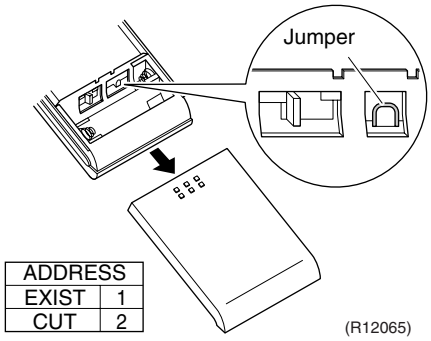
(2) Cut the address setting jumper.

<ARC466 series>



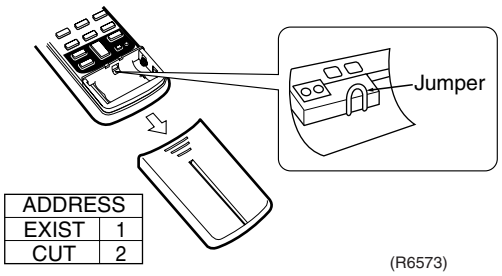
(R12037)

<ARC452 series>



(R12065)

<ARC433 series>



(R6573)

4.1.3 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>

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 33, 35, 38
Floor Standing Type: page 41
Floor / Ceiling Suspended Dual Type: page 43
Duct connected type: page 45

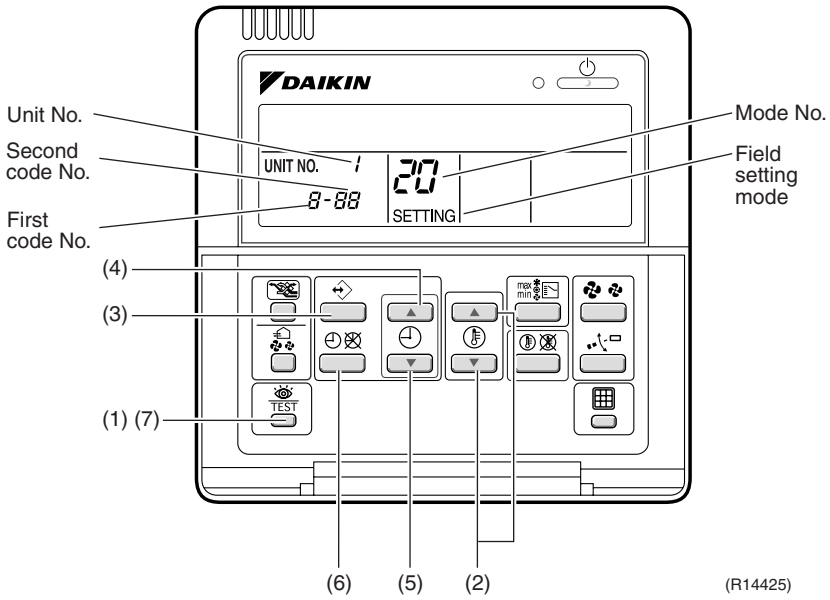
4.2 SA Indoor Unit - FFQ Series

4.2.1 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

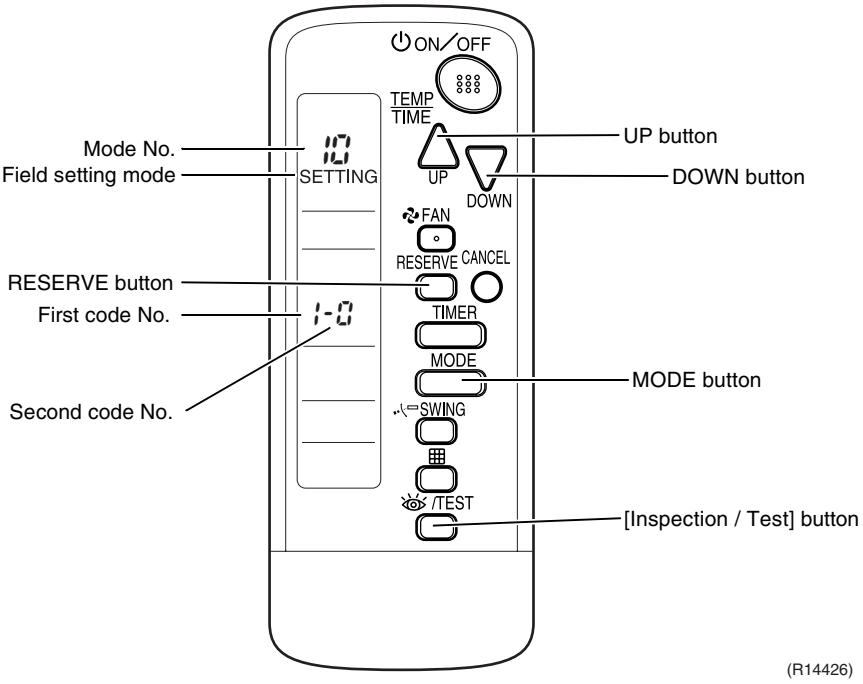


To set the field settings, you have to change:

- Mode No.
- First code No.
- Second code No.

Step	Action
1	Press the [INSPECTION / TEST] 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] button to return to normal mode.

Wireless remote controller



To set the field settings, you have to change:

- Mode No.
- First code No.
- Second code No.

Step	Action
1	Press the [Inspection / Test] button for 4 seconds during normal mode to enter the field setting mode.
2	Press the [MODE] button to select the desired mode No.
3	Press the [UP] button to select the first code No.
4	Press the [DOWN] button to select the second code No.
5	Press the [RESERVE] button to confirm the setting.
6	Press the [Inspection / Test] button to return to the normal mode.

4.2.2 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	Light: Approx. 2,500 hrs.	Heavy: 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		Standard	High	Low	—
15 (25)	3	Drain pump operation with humidifying		Not equipped	Equipped	—	—

: factory setting

Note: Any function that is not available on the indoor unit is not displayed.

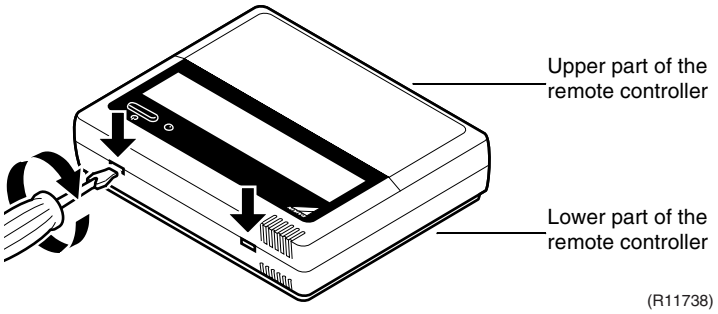
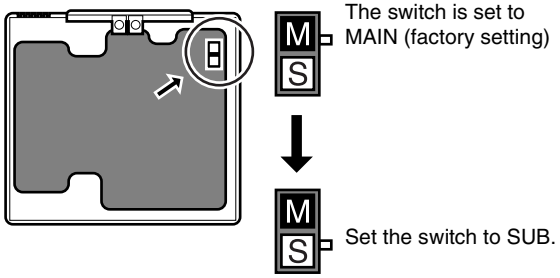
4.2.3 MAIN / SUB Setting when Using 2 Wired Remote Controllers

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.

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)

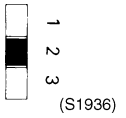
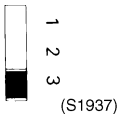
4.2.4 Address and MAIN / SUB Setting for Wireless Remote Controller

Outline

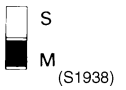
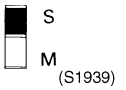
If several wireless remote controller units are used together in the same room (including the case where both group control and individual remote controller control are used together), be sure to set the addresses for the receiver and wireless remote controller. (For group control, see the attached installation manual for the indoor unit.) If using together with a wired remote controller, you have to change the MAIN / SUB setting on the signal receiver PCB.

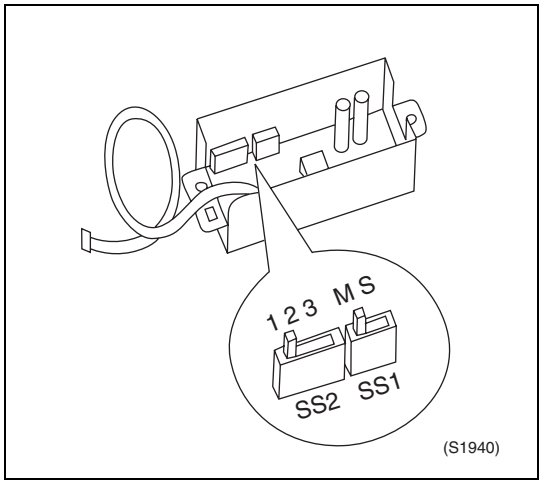
Signal Receiver PCB

Set the address setting switch (SS2) on the signal receiver PCB according to the table below.

Unit No.	No.1	No.2	No.3
Address setting switch (SS2)	 (S1935)	 (S1936)	 (S1937)

When using both a wired and a wireless remote controller for 1 indoor unit, the wired controller should be set to MAIN. Therefore, set the MAIN / SUB setting switch (SS1) on the signal receiver PCB to SUB.

	MAIN	SUB
MAIN / SUB setting switch (SS1)	 (S1938)	 (S1939)



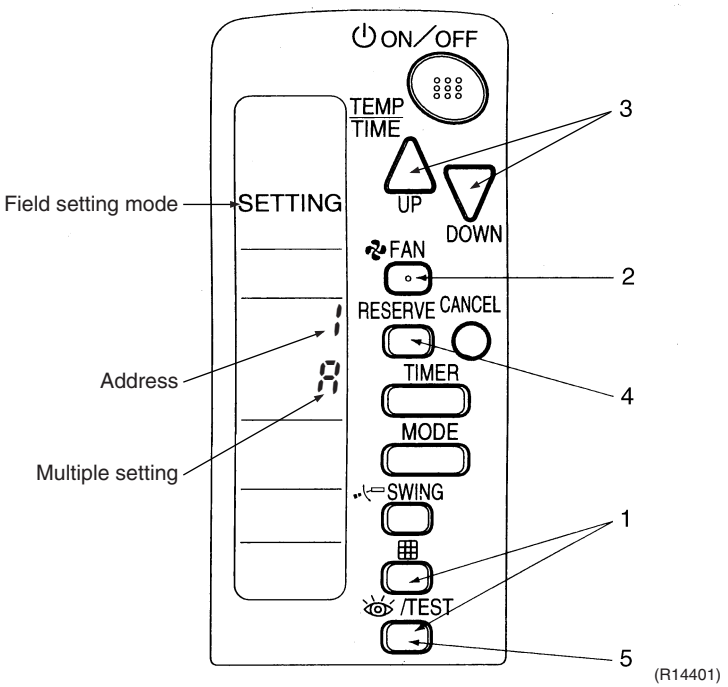
After completing setting, seal off the opening of the address setting switch (SS2) and the MAIN / SUB setting switch (SS1) with the attached sealing pad.

Wireless Remote Controller (Factory Set is "1")

1. Hold down the " ▦ " button and the " /TEST " button at the same time for at least 4 seconds to enter the field setting mode. ("SETTING" is indicated on the display).
2. Press the " FAN " button and select "A" or "b". Each time the button is pressed, the display switches between "A" and "b".
3. Press the " ▲ UP " button and " ▽ DOWN " button to set the address.

   1 → 2 → 3 → 4 → 5 → 6

   Address can be set from 1 ~ 6, but set it to 1 ~ 3 and to same address as the receiver. (The receiver does not work with address 4 ~ 6.)
4. Press the " RESERVE " button to confirm the setting.
5. Hold down the " /TEST " button for at least 1 second to exit the field setting mode and return to the normal display.



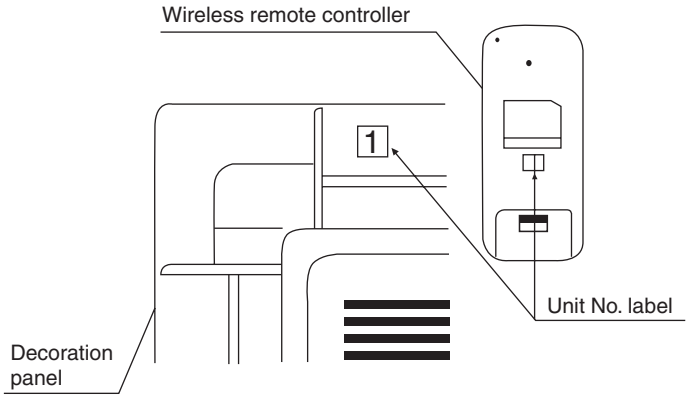
Multiple Settings A/b

When the indoor is controlled by outside controller (central remote controller, etc.), it sometimes does not respond to ON/OFF command or temperature setting command from the remote controller. Check what setting the customer needs and make the multiple setting as shown below.

Remote Controller		Indoor Unit	
Multiple Setting	Remote Controller Display	Controlled by other air conditioners or devices	Other condition
A: Standard	All items are displayed.	ON/OFF command and temperature setting command cannot be accepted. (1 long beep or 3 short beeps emitted)	
b: Multiple display	Operations set only is displayed shortly after execution.	All the commands can be accepted (2 short beeps)	

After Setting

Stick the unit No. label at the decoration panel air discharge outlet as well as on the back of the wireless remote controller.



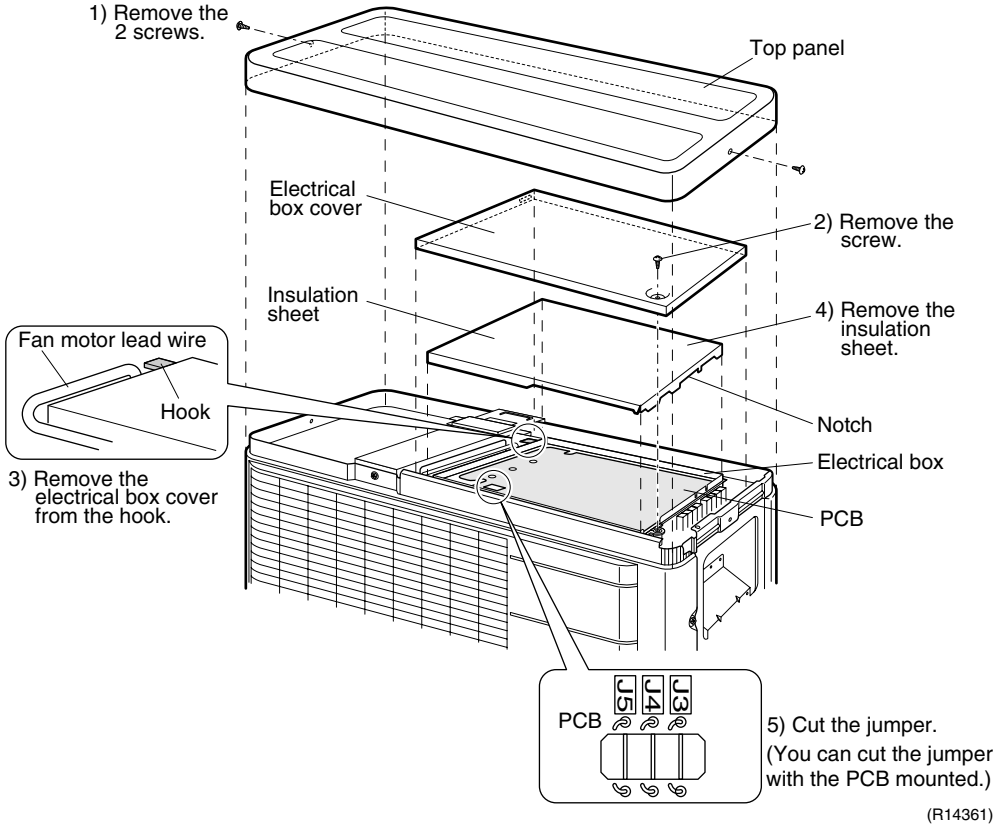
Note: Set the unit No. of the receiver and the wireless remote controller to be the same. If the settings differ, the signal from the remote controller cannot be received.

4.3 Outdoor Unit

4.3.1 Jumper Settings

Jumper (on outdoor unit PCB)	Function	When connected (factory set)	When cut
J3	ECONO mode prohibition setting	ECONO operation is available.	ECONO operation is disabled.
J4	Maximum power input limitation setting	Standard control	The power input is limited to 1700 W. It is recommended for the areas with circuit breakers of low-capacity.
J5	Improvement of defrost performance	Standard control	Reinforced control (ex. The frequency increases, the duration time of defrost lengthens.)

Location of the jumpers



5. 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

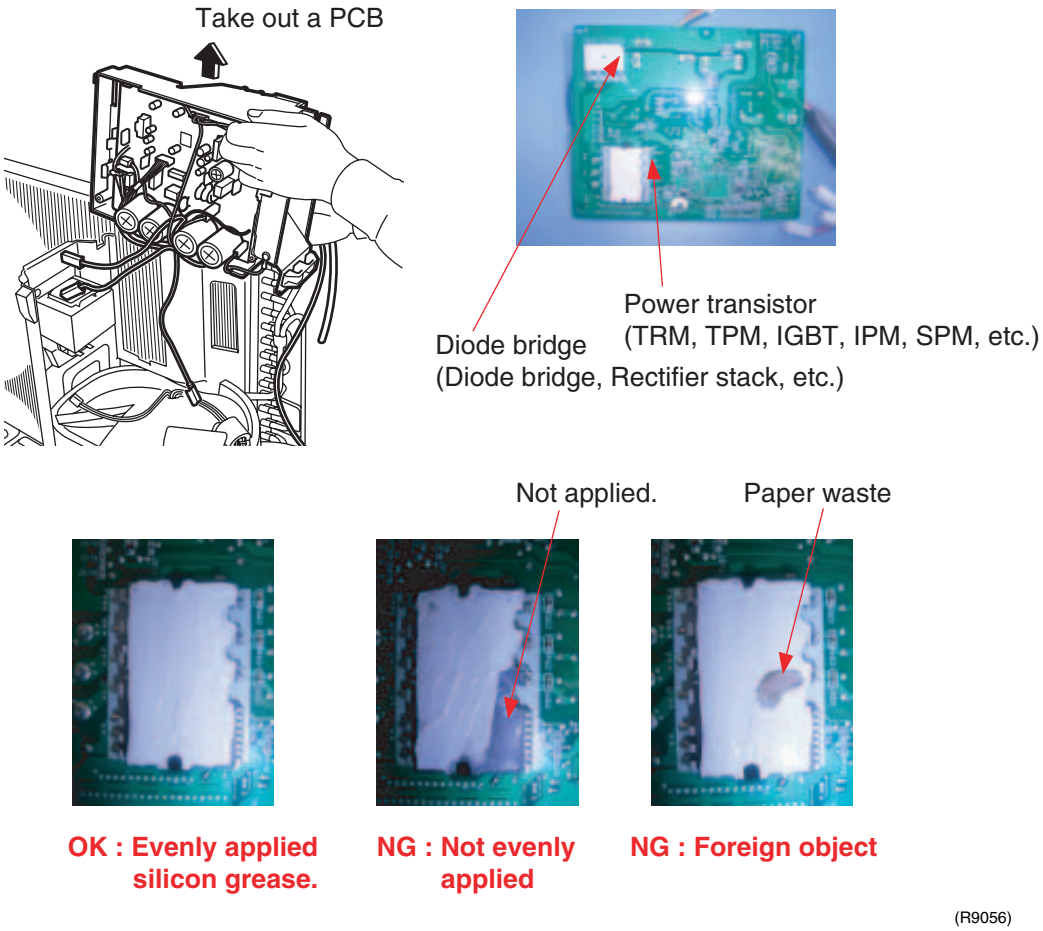
The silicon grease is an essential article for encouraging the heat radiation of the power transistor and the diode bridge. Applying the paste should be implemented in accordance with the following instruction.

Remark: 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)

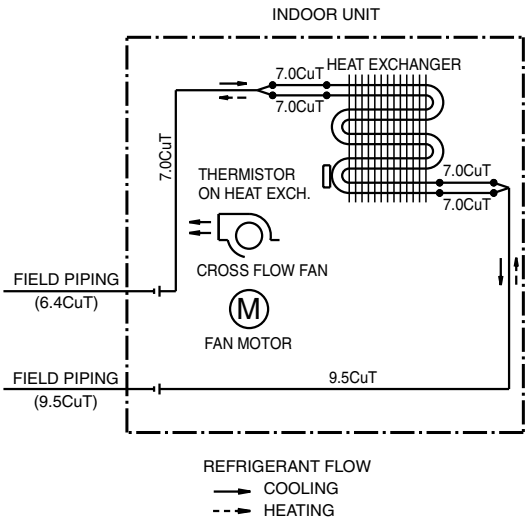
Part 9
Appendix

1. Piping Diagrams

1.1 Indoor Unit

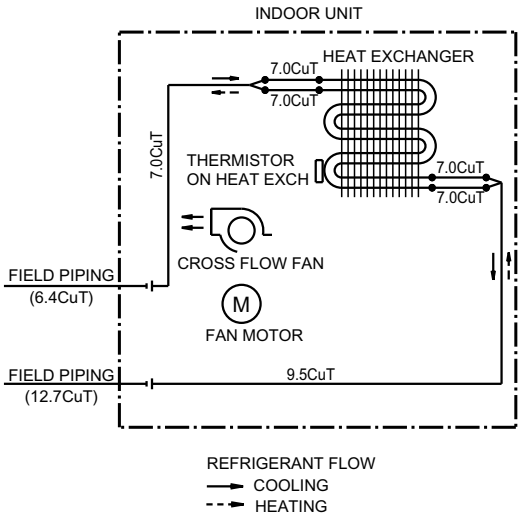
1.1.1 Wall Mounted Type

FTXG25/35EV1BW(S)



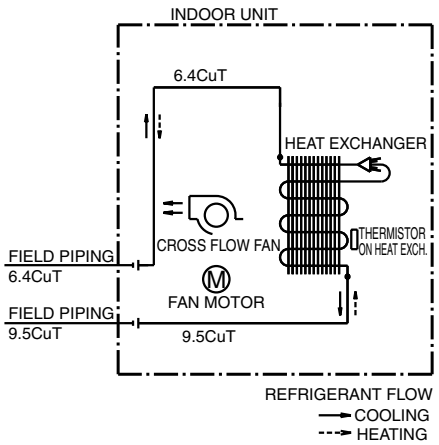
4D045301C

CTXG50EV1BW(S)



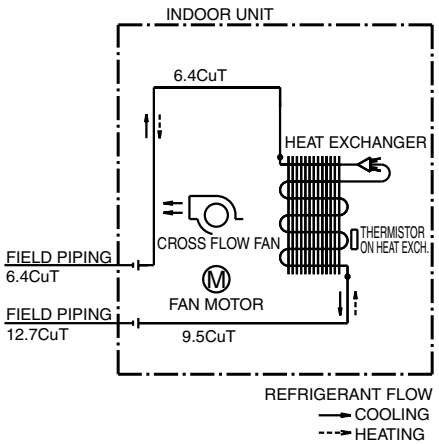
4D050924

FTXG25/35JV1BW(S)



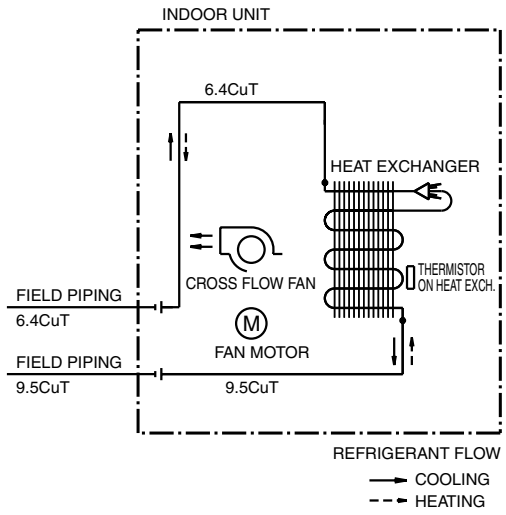
4D065855

CTXG50JV1BW(S)



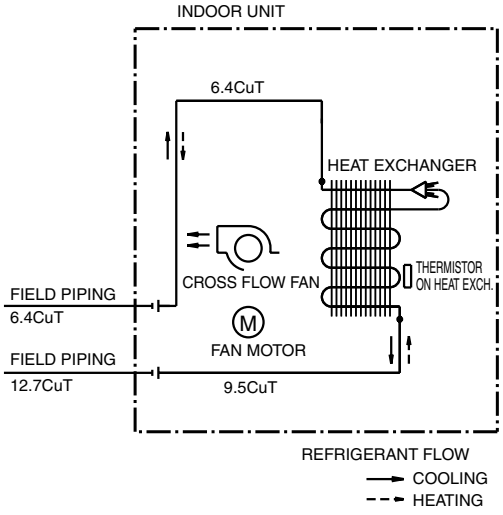
4D065856A

FTXS20/25/35/42G2V1B
FTXS20/25/35/42J2V1B



4D058897E

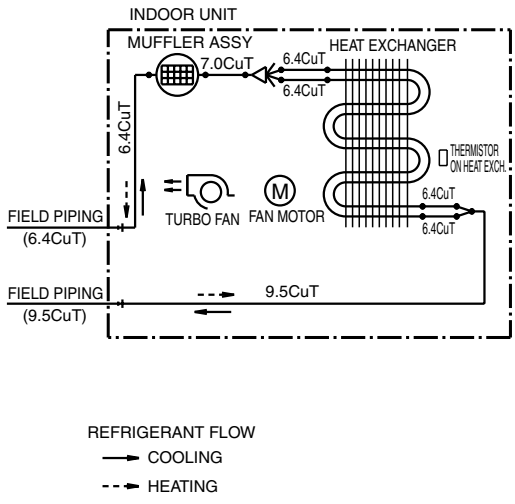
FTXS50G2V1B
FTXS50J2V1B



4D058898E

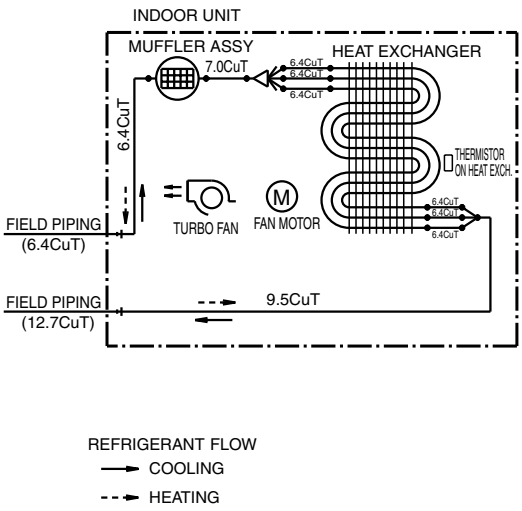
1.1.2 Floor Standing Type

FVXS25/35FV1B



4D056137B

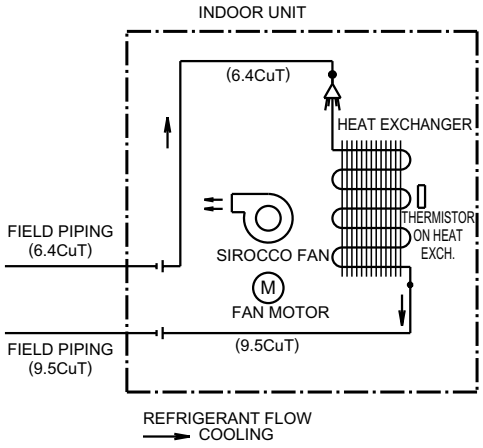
FVXS50FV1B



4D056138B

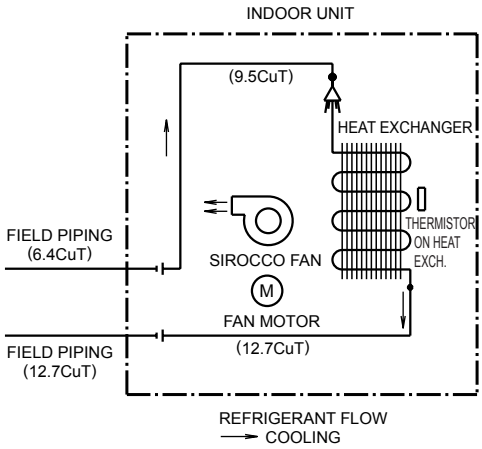
1.1.3 Floor / Ceiling Suspended Dual Type

FLKS25/35BAVMB



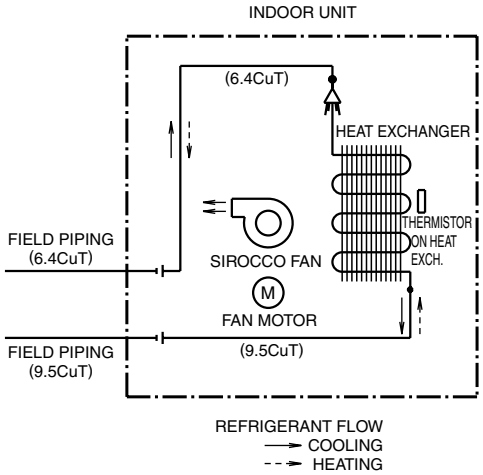
4D034012E

FLKS50BAVMB



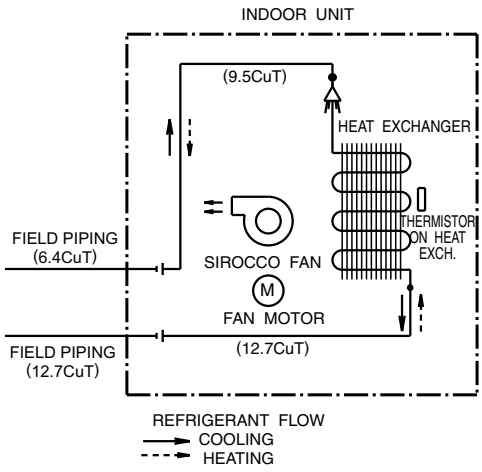
4D048723A

FLXS25/35BAVMB



4D048722B

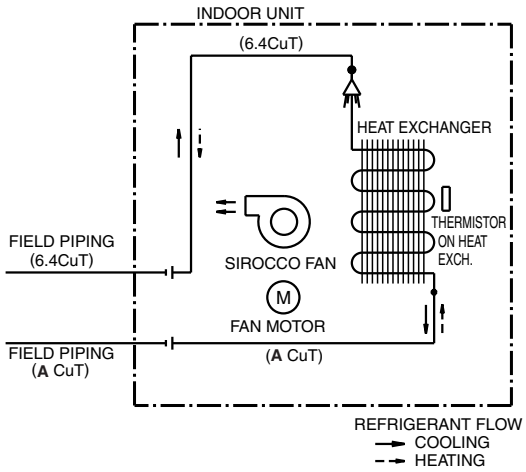
FLXS50BAVMB



4D048724B

1.1.4 Duct Connected Type

FDK(X)S25/35EAVMB, FDK(X)S50CVMB

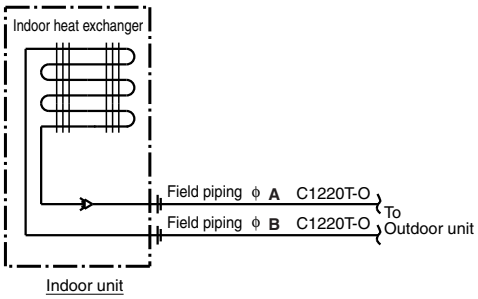


	A		A
FDXS25EAVMB FDXS35EAVMB FDKS25EAVMB FDKS35EAVMB	9.5	FDXS50CVMB FDKS50CVMB	12.7

C: 4D045449L

1.1.5 Ceiling Mounted Cassette Type

FFQ25/35/50B8V1B



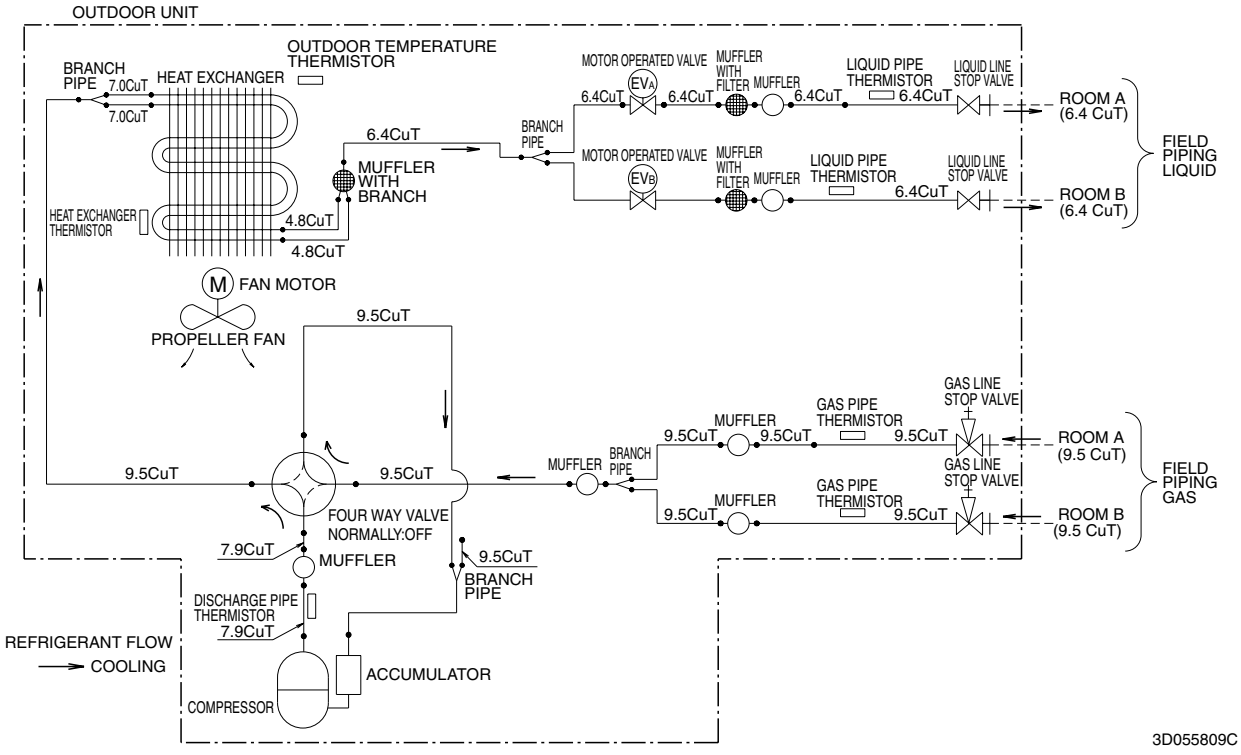
MODEL	A	B
FFQ25/35B8V1B	6.4	9.5
FFQ50B8V1B	6.4	12.7

C: 4D039335A

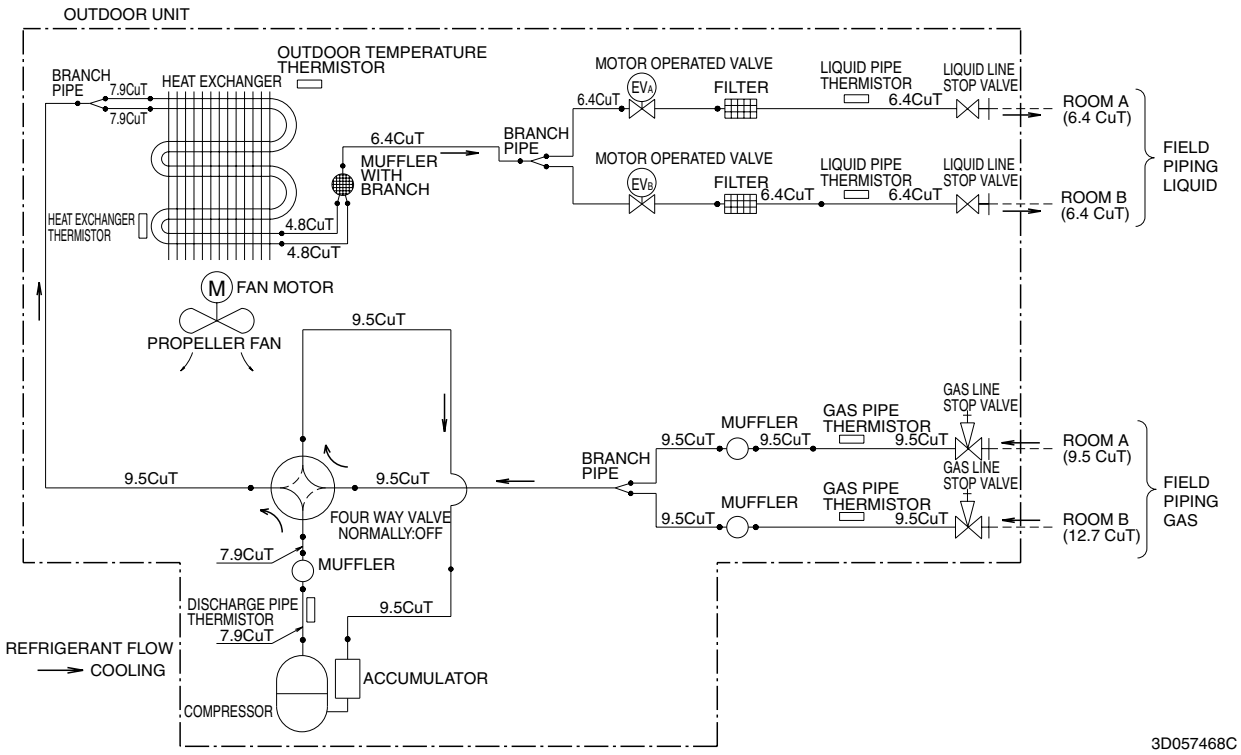
1.2 Outdoor Unit

1.2.1 Cooling Only

2MKS40GV1B, 2MKS40G2V1B

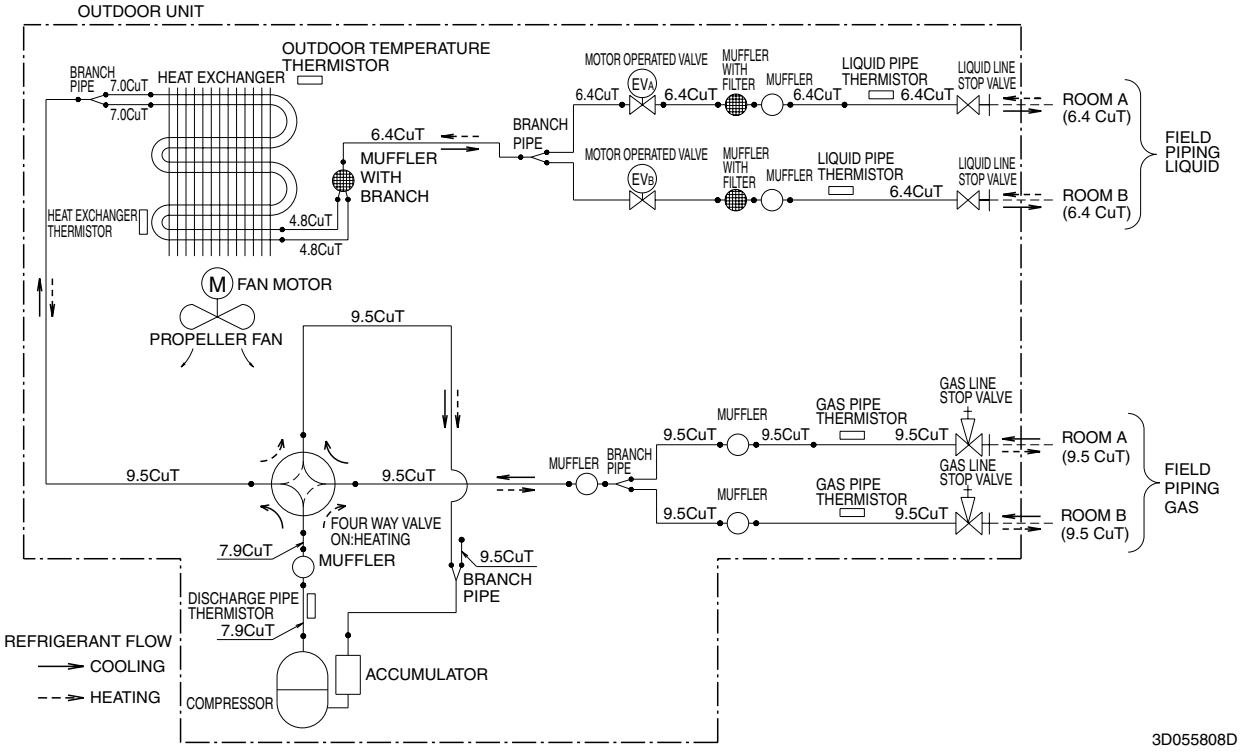


2MKS50GV1B, 2MKS50G2V1B

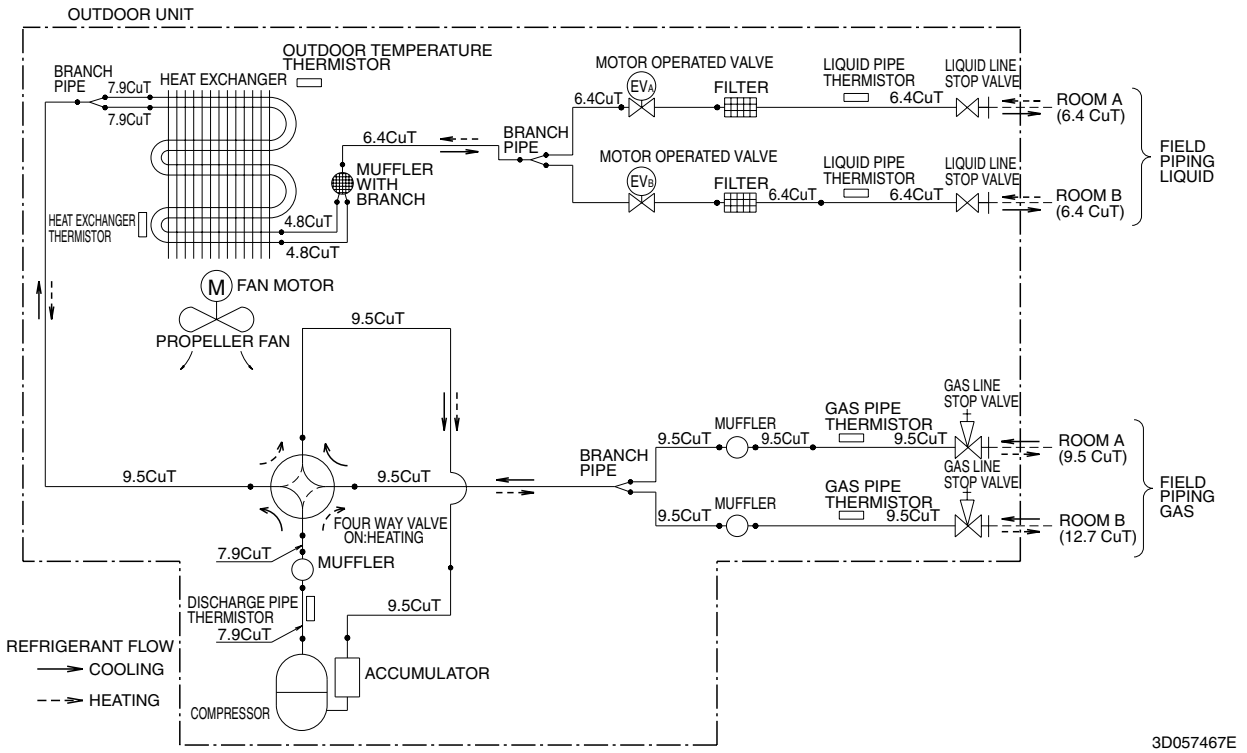


1.2.2 Heat Pump

2MXS40GV1B, 2MXS40G2V1B



2MXS50GV1B, 2MXS50G2V1B

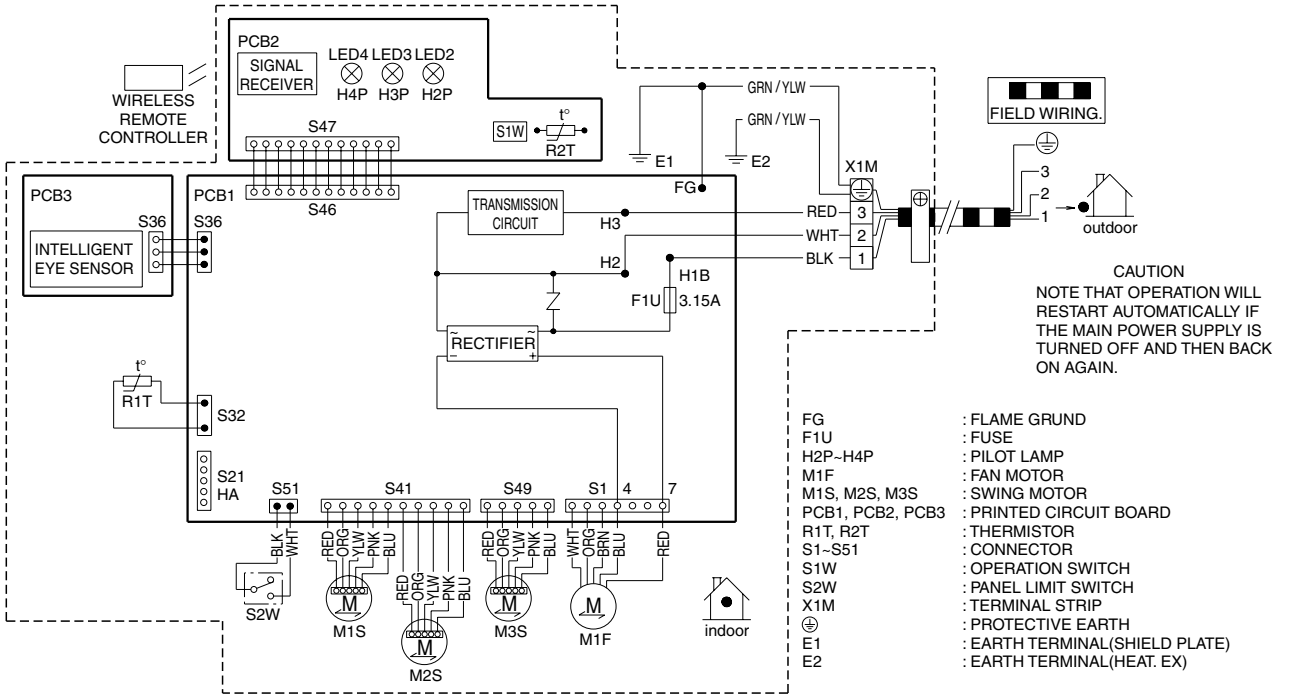


2. Wiring Diagrams

2.1 Indoor Unit

2.1.1 Wall Mounted Type

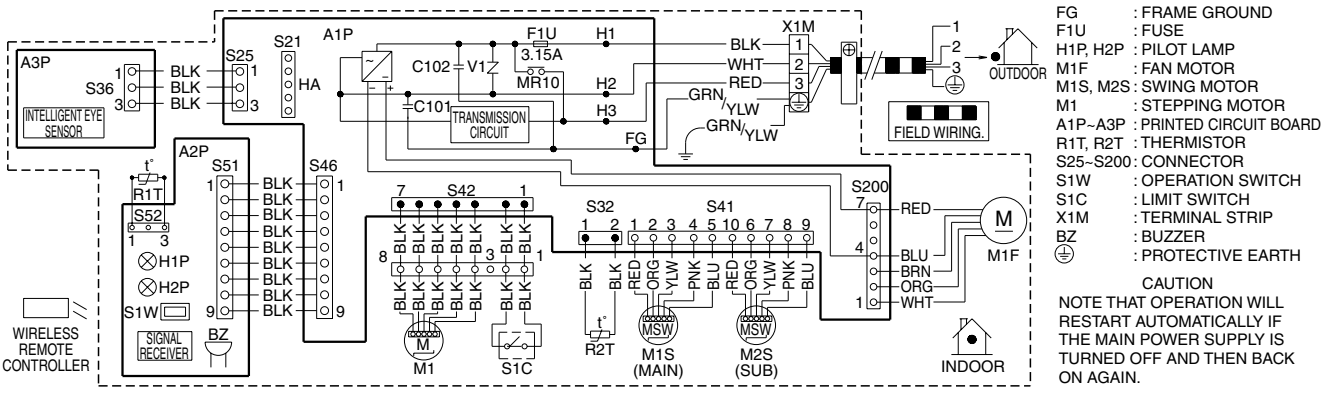
FTXG25/35EV1BW(S), CTXG50EV1BW(S)



FG	: FLAME GRUND
F1U	: FUSE
H2P~H4P	: PILOT LAMP
M1F	: FAN MOTOR
M1S, M2S, M3S	: SWING MOTOR
PCB1, PCB2, PCB3	: PRINTED CIRCUIT BOARD
R1T, R2T	: THERMISTOR
S1~S51	: CONNECTOR
S1W	: OPERATION SWITCH
S2W	: PANEL LIMIT SWITCH
X1M	: TERMINAL STRIP
⏚	: PROTECTIVE EARTH
E1	: EARTH TERMINAL(SHIELD PLATE)
E2	: EARTH TERMINAL(HEAT. EX)

3D050493B

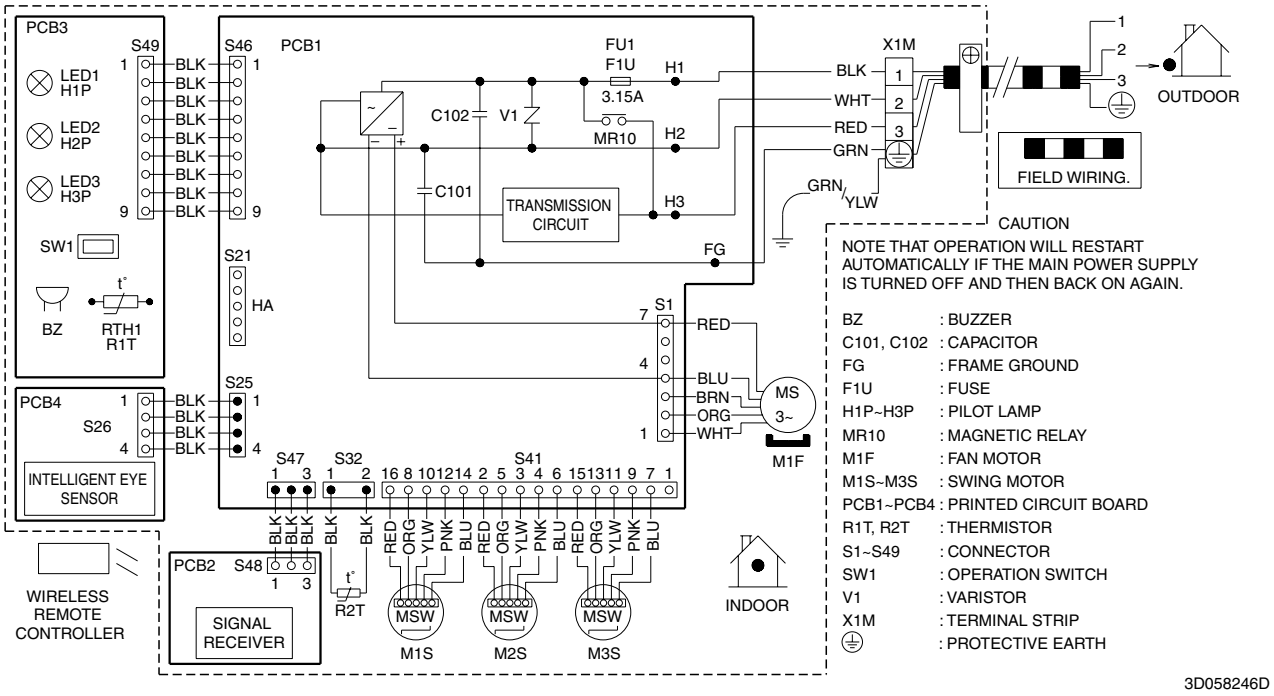
FTXG25/35JV1BW(S), CTXG50JV1BW(S)



FG	: FRAME GROUND
F1U	: FUSE
H1P, H2P	: PILOT LAMP
M1F	: FAN MOTOR
M1S, M2S	: SWING MOTOR
M1	: STEPPING MOTOR
A1P~A3P	: PRINTED CIRCUIT BOARD
R1T, R2T	: THERMISTOR
S25~S200	: CONNECTOR
S1W	: OPERATION SWITCH
S1C	: LIMIT SWITCH
X1M	: TERMINAL STRIP
BZ	: BUZZER
⏚	: PROTECTIVE EARTH

3D065507B

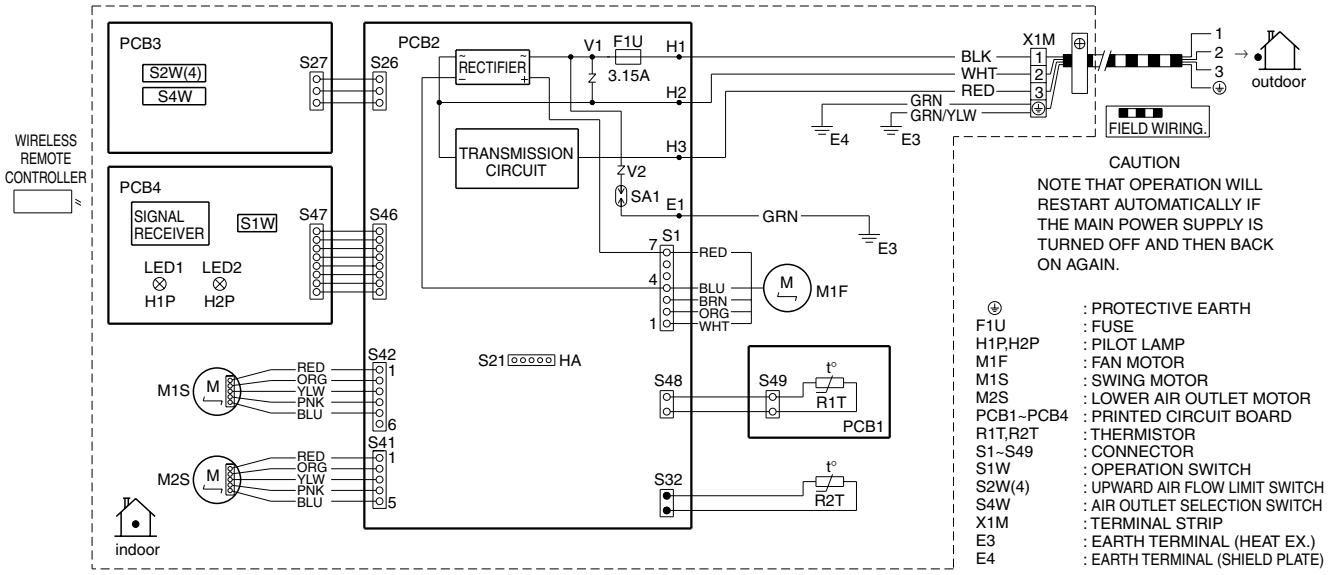
FTXS20/25/35/42/50G2V1B, FTXS20/25/35/42/50J2V1B



3D058246D

2.1.2 Floor Standing Type

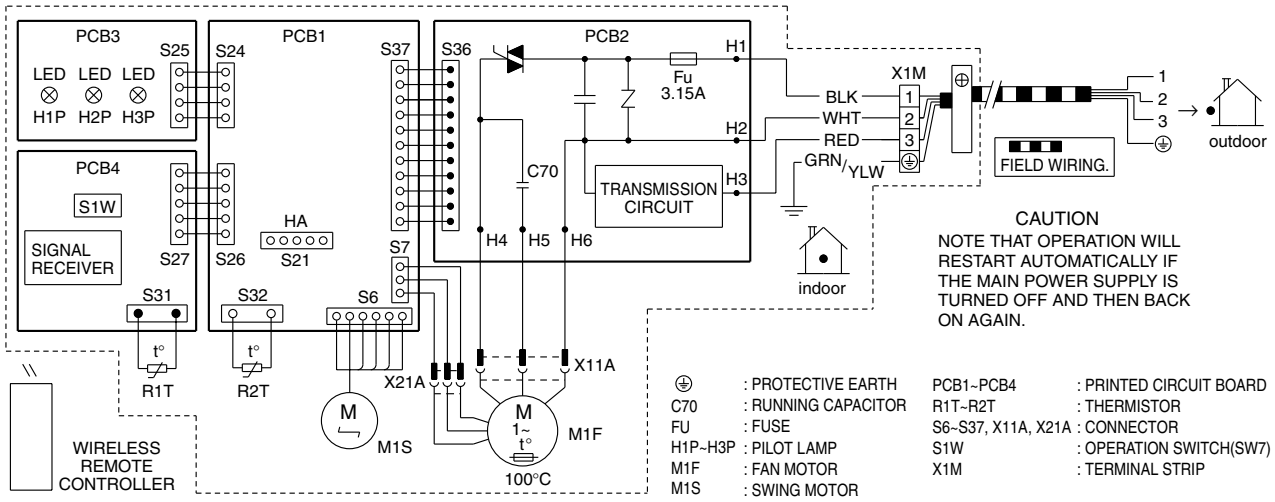
FVXS25/35/50FV1B



3D055953A

2.1.3 Floor / Ceiling Suspended Dual Type

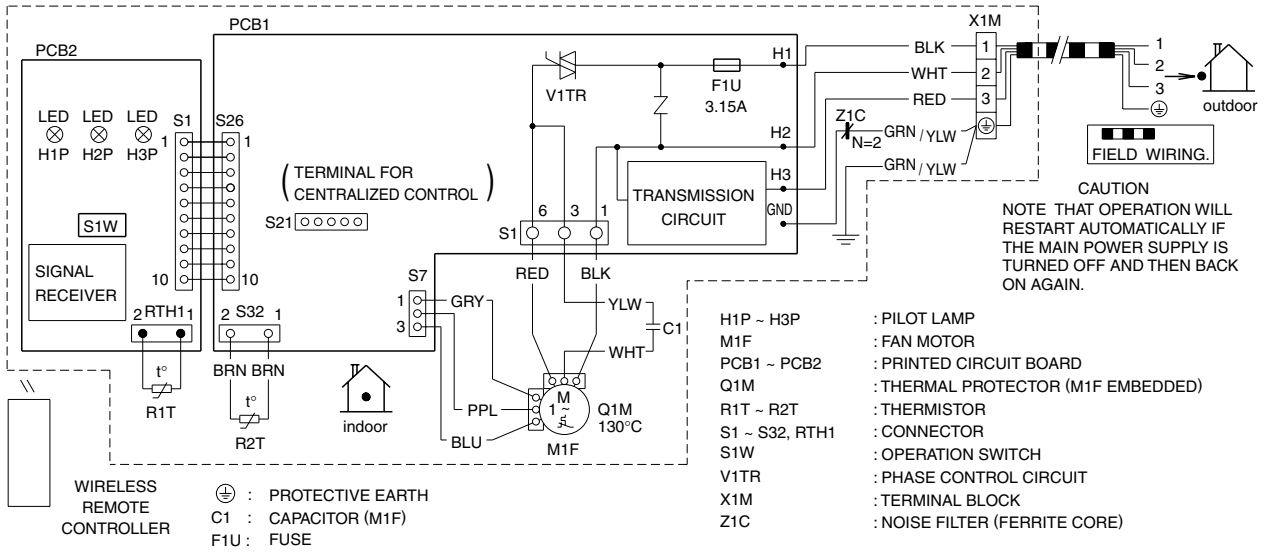
FLK(X)S25/35/50BAVMB



3D033909F

2.1.4 Duct Connected Type

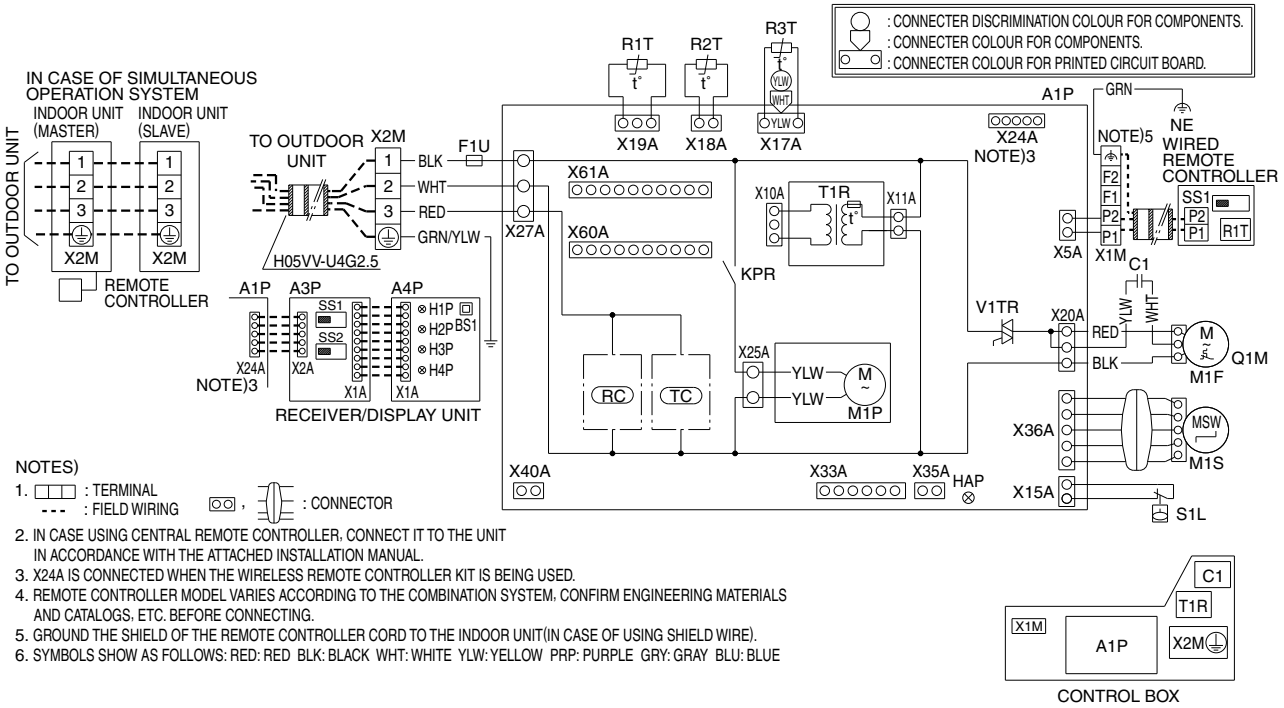
FDK(X)S25/35EAVMB, FDK(X)S50CVMB



3D045012L

2.1.5 Ceiling Mounted Cassette Type

FFQ25/35/50B8V1B



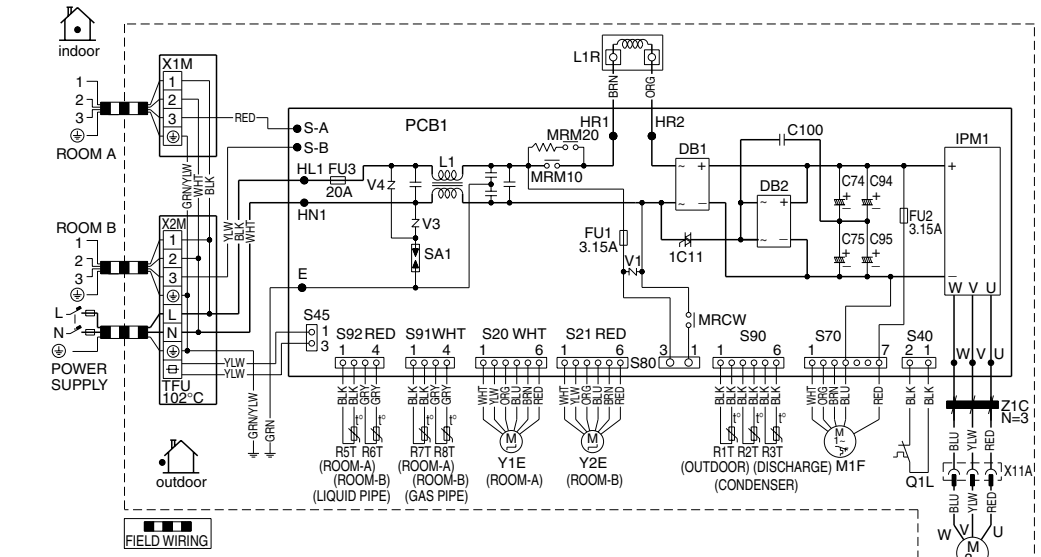
A1P	PRINTED CIRCUIT BOARD	BS1	PUSH BUTTON(ON/OFF)
C1	CAPACITOR (M1F)	H1P	LIGHT EMITTING DIODE (ON-RED)
F1U	FUSE (F5A 250V)		
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	H2P	LIGHT EMITTING DIODE (TIMER-GREEN)
KPR	MAGNETIC RELAY(M1P)	H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
M1F	MOTOR (INDOOR FAN)		
M1P	MOTOR (DRAIN PUMP)	H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
M1S	MOTOR (SWING FLAP)		
Q1M	THERMO SWITCH (M1F EMBEDDED)	SS1	SELECTOR SWITCH (MAIN/SUB)
R1T	THERMISTOR (AIR)		
R2T	THERMISTOR (COIL-1)	SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
R3T	THERMISTOR (COIL-2)		
S1L	FLOAT SWITCH	CONNECTOR FOR OPTIONAL PARTS	
T1R	TRANSFORMER (220-240V/22V)	X33A	CONNECTOR (ADAPTOR FOR WIRING)
V1TR	PHASE CONTROL CIRCUIT		
X1M	TERMINAL STRIP	X35A	CONNECTOR (GROUP CONTROL ADAPTOR)
X2M	TERMINAL STRIP		
(RC)	SIGNAL RECEIVER CIRCUIT	X40A	CONNECTOR (ON/OFF INPUT FROM OUTSIDE)
(TC)	SIGNAL TRANSMISSION CIRCUIT		
WIRED REMOTE CONTROLLER		X60A	CONNECTOR (INTERFACE ADAPTOR FOR SKYAIR SERIES)
R1T	THERMISTOR (AIR)	X61A	
SS1	SELECTOR SWITCH (MAIN/SUB)		
WIRELESS REMOTE CONTROLLER (RECEIVER/DISPLAY UNIT)			
A3P	PRINTED CIRCUIT BOARD		
A4P	PRINTED CIRCUIT BOARD		

3D038357B

2.2 Outdoor Unit

2.2.1 Cooling Only

2MKS40GV1B, 2MKS40G2V1B



C74, C75, C94		M1F	: FAN MOTOR	V1,V3,V4	: VARISTOR	BLK	: BLACK
C95, C100	: CAPACITOR	MRCW, MRM10,		X1M, X2M	: TERMINAL STRIP	BLU	: BLUE
DB1, DB2	: DIODE BRIDGE	MRM20	: MAGNETIC RELAY	Y1E, Y2E	: ELECTRONIC EXPANSION VALVE COIL	BRN	: BROWN
FU1, FU2, FU3	: FUSE	N	: NEUTRAL	Z1C	: FERRITE CORE	GRY	: GREY
IC11	: TRIAC	PCB1	: PRINTED CIRCUIT BOARD	⏚	: PROTECTIVE EARTH	ORG	: ORANGE
IPM1	: INTELLIGENT POWER MODULE	Q1L	: OVERLOAD PROTECTOR	S20, S21, S40,		RED	: RED
L	: LIVE	R1T~R8T	: THERMISTOR	S70, S80, S45,		WHT	: WHITE
L1	: COIL	SA1	: SURGE ARRESTER	S90, S91, S92,		YLW	: YELLOW
L1R	: REACTOR	TFU	: THERMAL FUSE	X11A	: CONNECTOR	GRN	: GREEN
M1C	: COMPRESSOR MOTOR						

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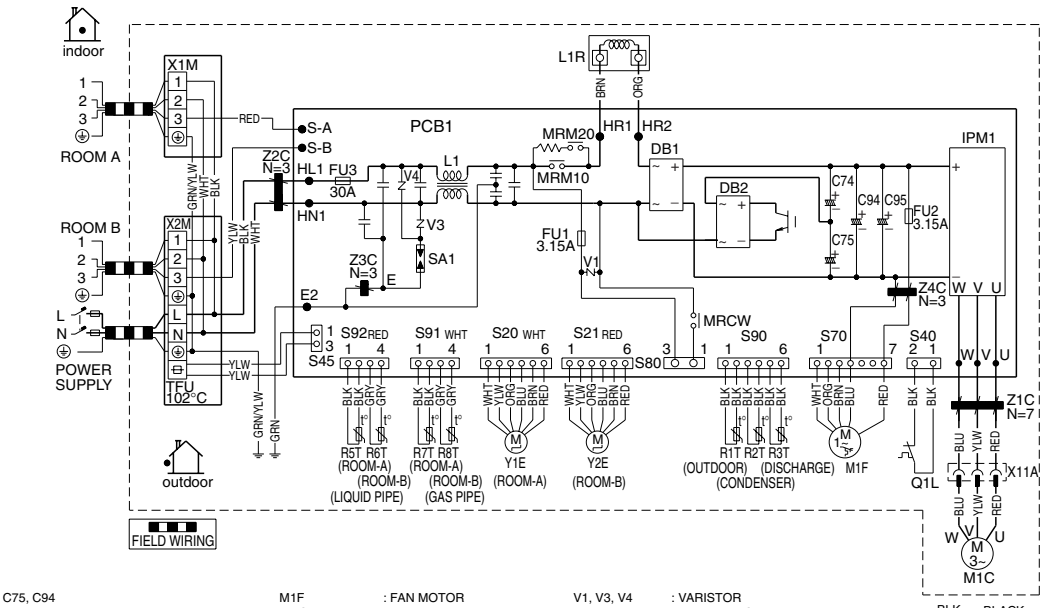
2MKS50GV1B, 2MKS50G2V1B



C74, C75, C94		M1F	: FAN MOTOR	V1, V3, V4	: VARISTOR	BLK	: BLACK
C95	: CAPACITOR	MRCW, MRM10,		X1M, X2M	: TERMINAL STRIP	BLU	: BLUE
DB1, DB2	: DIODE BRIDGE	MRM20	: MAGNETIC RELAY	Y1E, Y2E	: ELECTRONIC EXPANSION VALVE COIL	BRN	: BROWN
FU1, FU2, FU3	: FUSE	N	: NEUTRAL	Z1C, Z2C, Z3C		GRY	: GREY
IPM1	: INTELLIGENT POWER MODULE	PCB1	: PRINTED CIRCUIT BOARD	Z4C	: FERRITE CORE	ORG	: ORANGE
L	: LIVE	Q1L	: OVERLOAD PROTECTOR	⏚	: PROTECTIVE EARTH	RED	: RED
L1	: COIL	R1T~R8T	: THERMISTOR	S20, S21, S40,		WHT	: WHITE
L1R	: REACTOR	SA1	: SURGE ARRESTER	S70, S80, S45,		YLW	: YELLOW
M1C	: COMPRESSOR MOTOR	TFU	: THERMAL FUSE	S90, S91, S92,		GRN	: GREEN
				X11A	: CONNECTOR		

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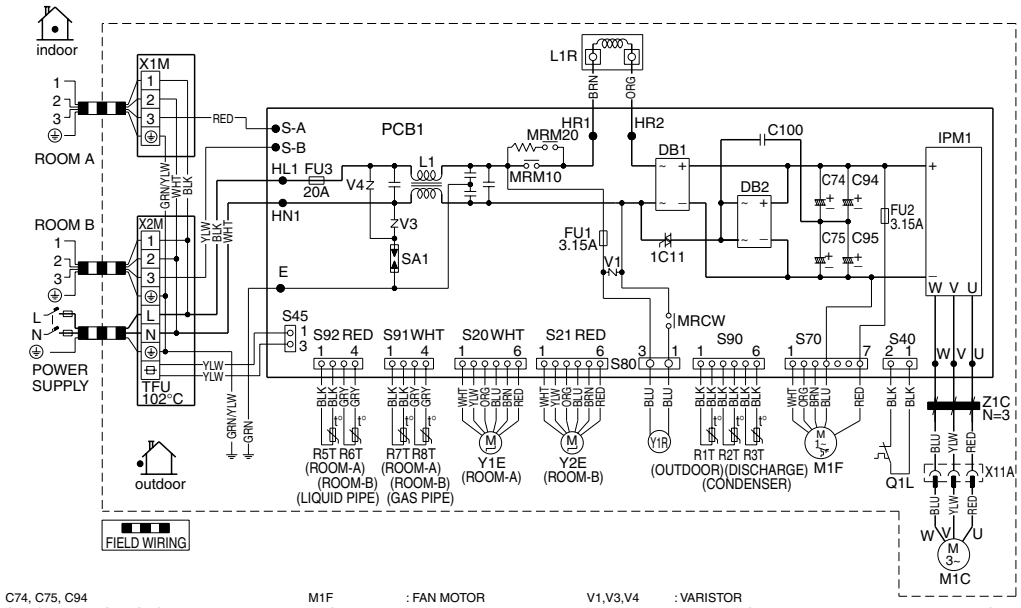
2.2.2 Heat Pump

2MXS40GV1B, 2MXS40G2V1B



C74, C75, C94		M1F	: FAN MOTOR	V1,V3,V4	: VARISTOR	BLK	: BLACK
C95, C100	: CAPACITOR	MRCW, MRM10,		X1M, X2M	: TERMINAL STRIP	BLU	: BLUE
DB1, DB2	: DIODE BRIDGE	MRM20	: MAGNETIC RELAY	Y1E, Y2E	: ELECTRONIC EXPANSION VALVE COIL	BRN	: BROWN
FU1, FU2, FU3	: FUSE	N	: NEUTRAL	Y1R	: REVERSING SOLENOID VALVE COIL	GRY	: GREY
IC11	: TRIAC	PCB1	: PRINTED CIRCUIT BOARD	Z1C	: FERRITE CORE	ORG	: ORANGE
IPM1	: INTELLIGENT POWER MODULE	Q1L	: OVERLOAD PROTECTOR	⏚	: PROTECTIVE EARTH	RED	: RED
L	: LIVE	R1T~R8T	: THERMISTOR	S20, S21, S40,		WHT	: WHITE
L1	: COIL	SA1	: SURGE ARRESTER	S70, S80, S45,		YLW	: YELLOW
L1R	: REACTOR	TFU	: THERMAL FUSE	S90, S91, S92,		GRN	: GREEN
M1C	: COMPRESSOR MOTOR			X11A	: CONNECTOR		

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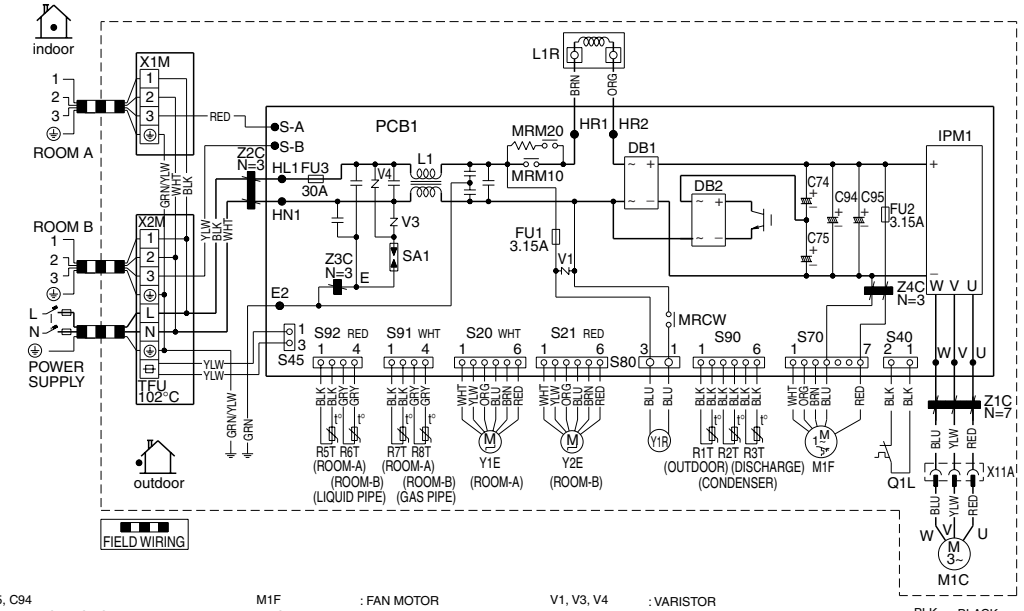
2MXS50GV1B, 2MXS50G2V1B



C74, C75, C94		M1F	: FAN MOTOR	V1, V3, V4	: VARISTOR	BLK	: BLACK
C95	: CAPACITOR	MRCW, MRM10,		X1M, X2M	: TERMINAL STRIP	BLU	: BLUE
DB1, DB2	: DIODE BRIDGE	MRM20	: MAGNETIC RELAY	Y1E, Y2E	: ELECTRONIC EXPANSION VALVE COIL	BRN	: BROWN
FU1, FU2, FU3	: FUSE	N	: NEUTRAL	Y1R	: REVERSING SOLENOID VALVE COIL	GRY	: GREY
IPM1	: INTELLIGENT POWER MODULE	PCB1	: PRINTED CIRCUIT BOARD	Z1C, Z2C, Z3C		ORG	: ORANGE
L	: LIVE	Q1L	: OVERLOAD PROTECTOR	Z4C	: FERRITE CORE	RED	: RED
L1	: COIL	R1T~R8T	: THERMISTOR	⏚	: PROTECTIVE EARTH	WHT	: WHITE
L1R	: REACTOR	SA1	: SURGE ARRESTER	S20, S21, S40,		YLW	: YELLOW
M1C	: COMPRESSOR MOTOR	TFU	: THERMAL FUSE	S70, S80, S45,		GRN	: GREEN
				S90, S91, S92,			
				X11A	: CONNECTOR		

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Revision History

Month / Year	Version	Revised contents
04/2008	SiBE12-816	–
06/2010	SiBE12-816_A	Addition of the wall mounted type FTXG-JV1BW(S), CTXG-JV1BW(S)
11/2010	SiBE12-816_B	M-10013: Correction of troubleshooting flowchart ☼F for SkyAir models
01/2011	SiBE12-816_C	Correction of data
02/2011	SiBE12-816_D	Addition of the wall mounted type FTXS-J2V1B for cooling only model

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.

JMI-0107

Organization:
DAIKIN INDUSTRIES, LTD.
AIR CONDITIONING MANUFACTURING DIVISION

Scope of Registration:
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF COMMERCIAL AIR CONDITIONING, HEATING, COOLING, REFRIGERATING EQUIPMENT, COMMERCIAL HEATING EQUIPMENT, RESIDENTIAL AIR CONDITIONING EQUIPMENT, HEAT RECLAIM VENTILATION, AIR CLEANING EQUIPMENT, MARINE TYPE CONTAINER REFRIGERATION UNITS, COMPRESSORS AND VALVES.

JQA-1452

Organization:
DAIKIN INDUSTRIES (THAILAND) LTD.

Scope of Registration:
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF AIR CONDITIONERS AND THE COMPONENTS INCLUDING COMPRESSORS USED FOR THEM

EC99J2044

All of the Daikin Group's business facilities and subsidiaries in Japan are certified under the ISO 14001 international standard for environment management.

Dealer

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● Specifications, designs and other content appearing in this brochure are current as of February 2011 but subject to change without notice.

SiBE12-816_D
Printed in Japan 02/2011 B AK