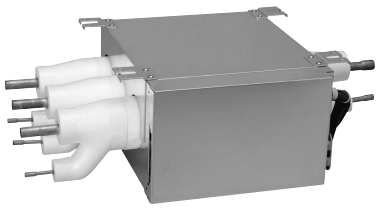
DAIKIN

SiBE18-821_C

Service Manual

SUPER MULTI PLUS

E-Series



[Applied Models]

● **Super Multi Plus : Heat Pump**

SUPER MULTI PLUS
E-Series

●Heat Pump

Outdoor Unit

RMXS112E8V1B
RMXS140E8V1B
RMXS160E8V1B

BP Unit

BPMKS967B2B
BPMKS967B3B

Indoor Unit

FTXG25EV1BW(S)
FTXG35EV1BW(S)
CTXG50EV1BW(S)
FTXG25JV1BW(S)
FTXG35JV1BW(S)
CTXG50JV1BW(S)
FTXS20G2V1B
FTXS25G2V1B
FTXS35G2V1B
FTXS42G2V1B
FTXS50G2V1B
FTXS60FV1B
FTXS71FV1B
FTXS60GV1B
FTXS71GV1B
FVXS25FV1B
FVXS35FV1B
FVXS50FV1B
FLXS25BAVMB
FLXS35BAVMB
FLXS50BAVMB
FLXS60BAVMB
FDXS25EAVMB
FDXS35EAVMB
FDXS50CVMB
FDXS60CVMB
FFQ25B8V1B
FFQ35B8V1B
FFQ50B8V1B
FFQ60B8V1B
FCQ35C7VEB
FCQ50C7VEB
FCQ60C7VEB
FDBQ25B8V1
FBQ35C7VEB
FBQ50C7VEB
FBQ60C7VEB
FHQ35BVV1B
FHQ50BVV1B
FHQ60BVV1B

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

Category	Functions	RMXS112/140/160E8V1B	Category	Functions	RMXS112/140/160E8V1B
Basic Function	Inverter (with Inverter Power Control)	○	Health & Clean	Air-Purifying Filter	—
	Operation Limit for Cooling (°CDB)	−5 ~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	○		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	—		Automatic Test Operation	○
Comfort Control	Auto Fan Speed	—		Memory Function	○
	Indoor Unit Quiet Operation	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	○
	NIGHT QUIET Mode (Automatic)	○	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	—
	OUTDOOR UNIT QUIET Operation (Manual)	○		H/P, C/O Compatible Indoor Unit	—
	2-Area INTELLIGENT EYE Operation	—		Flexible Power Supply Correspondence	—
	INTELLIGENT EYE Operation	—		High Ceiling Application	—
	Quick Warming Function (Preheating Operation)	○		Chargeless	—
	Hot-Start Function	—		Either Side Drain (Right or Left)	—
	Automatic Defrosting	○		Power Selection	—
Operation	Automatic Operation	—	Remote Control	5-Room Centralized Controller (Option)	—
	Program Dry Operation	—			
	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	—			
	COOL / HEAT Mode Lock	○		DIII-NET Compatible (Adaptor) (Option)	—
	HOME LEAVE Operation	—	Remote Controller	Wireless	—
	ECONO Operation	—		Wired	—
	Indoor Unit ON/OFF Button	—			
	Signal Receiving Sign	—			
	R/C with Back Light	—			
	Temperature Display	—			

Note: ○ : Holding Functions
— : No Functions

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	FTXS60/71FV1B	Category	Functions	FTXS20/25/35/42/50G2V1B	FTXS60/71FV1B
Basic Function	Inverter (with Inverter Power Control)	○	○	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	○	○
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Air Filter (Prefilter)	○	○
	Swing Compressor	—	—		Wipe-Clean Flat Panel	○	○
	Rotary Compressor	—	—		Washable Grille	—	—
	Reluctance DC Motor	—	—		MOLD PROOF Operation	—	—
Comfortable Airflow	Power-Airflow Flap	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Dual Flaps	○	○	Timer	WEEKLY TIMER Operation	○	—
	Power-Airflow Diffuser	—	—		24-Hour ON/OFF TIMER	○	○
	Wide-Angle Louvers	○	○		NIGHT SET Mode	○	○
	Vertical Auto-Swing (Up and Down)	○	○	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	○	○
	Horizontal Auto-Swing (Right and Left)	○	○		Self-Diagnosis (Digital, LED) Display	○	○
	3-D Airflow	○	○		Wiring Error Check Function	—	—
	COMFORT AIRFLOW Operation	○	—		Anti-Corrosion Treatment of Outdoor Heat Exchanger	—	—
Comfort Control	Auto Fan Speed	○	○	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	○	○
	Indoor Unit Quiet Operation	○	○		H/P, C/O Compatible Indoor Unit	○	—
	NIGHT QUIET Mode (Automatic)	—	—		Flexible Power Supply Correspondence	—	—
	OUTDOOR UNIT QUIET Operation (Manual)	○	○		High Ceiling Application	—	—
	2-Area INTELLIGENT EYE Operation	○	—		Chargeless	—	—
	INTELLIGENT EYE Operation	—	○		Either Side Drain (Right or Left)	○	○
	Quick Warming Function (Preheating Operation)	—	—		Power Selection	—	—
	Hot-Start Function	○	○	Remote Control	5-Room Centralized Controller (Option)	○	○
	Automatic Defrosting	—	—				
Operation	Automatic Operation	○	○		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	○	○
	Program Dry Operation	○	○				
	Fan Only	○	○		Remote Control Adaptor (Normal Open Contact) (Option)	○	○
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		DIII-NET Compatible (Adaptor) (Option)	○	○
	Inverter POWERFUL Operation	○	○	Remote Controller	Wireless	○	○
	Priority-Room Setting	—	—		Wired (Option)	○	○
	COOL / HEAT Mode Lock	—	—				
	HOME LEAVE Operation	—	○				
	ECONO Operation	○	—				
	Indoor Unit ON/OFF Button	○	○				
	Signal Receiving Sign	○	○				
	R/C with Back Light	—	—				
	Temperature Display	—	—				

Note: ○ : Holding Functions
— : No Functions

Category	Functions	FTXS60/71GV1B	FVXS25/35/50FV1B	Category	Functions	FTXS60/71GV1B	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	—	—				
Operation	Automatic Operation	○	○		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	○	○
	Program Dry Operation	○	○				
	Fan Only	○	○		Remote Control Adaptor (Normal Open Contact) (Option)	○	○
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—				
	Inverter POWERFUL Operation	○	○		DIII-NET Compatible (Adaptor) (Option)	○	○
	Priority-Room Setting	—	—	Remote Controller	Wireless	○	○
	COOL / HEAT Mode Lock	—	—		Wired (Option)	○	—
	HOME LEAVE Operation	—	—				
	ECONO Operation	○	○				
	Indoor Unit ON/OFF Button	○	○				
	Signal Receiving Sign	○	○				
	R/C with Back Light	—	○				
	Temperature Display	—	—				

Note: ○ : Holding Functions
— : No Functions

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

Note: ○ : Holding Functions
— : No Functions

Category	Functions	FFQ25/35/50/60B8V1B	FCQ35/50/60C7VEB	Category	Functions	FFQ25/35/50/60B8V1B	FCQ35/50/60C7VEB
Basic Function	Inverter (with Inverter Power Control)	○	○	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°CDB)	—	—		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°CWB)	—	—		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	—	—		Titanium Apatite Photocatalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Longlife Filter	○	○
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	○	○
	Reluctance DC Motor	—	—		Filter Cleaning Indicator	○	○
Comfortable Airflow	Power-Airflow Flap	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Dual Flaps	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Diffuser	—	—	Timer	Schedule Timer Operation	○ ★2	○ ★2
	Wide-Angle Louvers	—	—		72-Hour ON/OFF TIMER	○ ★1	○ ★1
	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	○	○				
	Program Dry Operation	○	○		Remote Control Adaptor (Normal Open Pulse Contact) (Option)	—	—
	Fan Only	○	○				
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open Contact) (Option)	—	—
	Inverter POWERFUL Operation	—	—		DIII-NET Compatible (Adaptor) (Option)	○	○
	Priority-Room Setting	—	—	Remote Controller	Wireless (Option)	○	○
	COOL / HEAT Mode Lock	—	—		Wired (Option)	○	○
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit ON/OFF Button	○ ★1	○ ★1				
	Signal Receiving Sign	○ ★1	○ ★1				
	Temperature Display	—	—				

Note: ○ : Holding Functions
— : No Functions

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

Category	Functions	FDBQ25B8V1 FBQ35/50/60C7VEB	FHQ35/50/60BVV1B	Category	Functions	FDBQ25B8V1 FBQ35/50/60C7VEB	FHQ35/50/60BVV1B
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 Photo catalytic Air-Purifying Filter	—	—
	Standby Electricity Saving	—	—				
Compressor	Oval Scroll Compressor	—	—		Longlife Filter	○	○
	Swing Compressor	—	—		Wipe-Clean Flat Panel	—	—
	Rotary Compressor	—	—		Washable Grille	—	○
	Reluctance DC Motor	—	—		Filter Cleaning Indicator	○	○
Comfortable Airflow	Power-Airflow Flap	—	—		MOLD PROOF Operation	—	—
	Power-Airflow Dual Flaps	—	—		Good-Sleep Cooling Operation	—	—
	Power-Airflow Diffuser	—	—	Timer	Schedule Timer Operation	○	○ ★2
	Wide-Angle Louvers	—	—		72-Hour ON/OFF TIMER	—	○ ★1
	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 (Option)	—	○
	Priority-Room Setting	—	—		Wired (Option)	○	○
	COOL / HEAT Mode Lock	—	—				
	HOME LEAVE Operation	—	—				
	ECONO Operation	—	—				
	Indoor Unit ON/OFF Button	—	○ ★1				
	Signal Receiving Sign	—	○ ★1				
	Temperature Display	—	—				

Note: ○ : Holding Functions
— : No Functions

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

Part 2
Specifications

1. Specifications

1.1 Outdoor Unit

50 Hz, 230 V

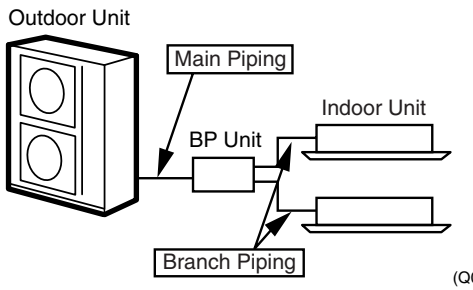
Model			RMXS112E8V1B	RMXS140E8V1B	RMXS160E8V1B
			4HP	5HP	6HP
Cooling Capacity		kW	11.2	14.0	15.5
Heating Capacity		kW	12.5	16.0	17.5
EER	Cooling		3.20	2.75	2.87
COP	Heating		3.18	3.07	3.22
Max. Total Indoor Unit Capacity Index			130	162.5	182
Min. Total Indoor Unit Capacity Index			50	62.5	70
Power Consumption		W	—		
Running Current		A	—		
Casing Color			Daikin White		
Compressor	Type		Hermetically Sealed Scroll Type		
	Model		JT100G-VDL		
	Motor Output	kW	2.5	3.0	3.5
Refrigerant Oil	Model		DAPHNE FVC68D		
	Charge	L	1.5		
Refrigerant	Type		R-410A		
	Charge	kg	4.0		
Airflow Rate (H)	Cooling	m³/min	106		
	Heating	m³/min	102	105	105
Fan	Type		Propeller		
	Motor Output	W	70 + 70		
Starting Current		A	15.9	20.2	22.2
Dimensions (H × W × D)		mm	1,345 × 900 × 320		
Packaged Dimensions (H × W × D)		mm	1,524 × 980 × 420		
Weight (Mass)		kg	125		
Gross Weight (Gross Mass)		kg	130		
Operation Sound	Cooling	dBA	51	52	54
	Heating	dBA	53	54	55
Sound Power	Cooling	dBA	67	68	70
Piping Connection	Liquid	mm	ϕ 9.52 (Flare Connection)		
	Gas	mm	ϕ 19.1 (Brazing Connection)		
	Drain	mm	O.D. ϕ 26		
No. of Wiring Connection			3 For Power Supply (Including Earth Wiring), 2 For Interunit Wiring (Outdoor Unit-BP)		
Total piping length	O.U. - BP	m	55		
	BP - I.U.	m	60	80	90
	System Total	m	115	135	145
Max. piping length	BP - I.U.	m	15		
	1st Branch - I.U.	m	40		
Max. level difference	O.U. - BP	m	30		
	O.U. - I.U.	m	30		
	BP - BP, I.U. - I.U.	m	15		
Necessity of Additional Charge ★		kg/m	Necessary		

Note:

1. ★ Refrigerant charge is required. (Chargeless piping length: 0 m)
   Formula for calculation charge: R (kg)
   R = [Total piping length (m) of ϕ 9.5] × 0.054 + [Total piping length (m) of ϕ 6.4] × 0.022
2. 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	Main Piping: 5 m Branch Piping: 3 m Level difference: 0 m

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



(Q0143)

1.2 BP Unit

50 Hz, 230 V

Model			BPMKS967B2B			BPMKS967B3B
Connectable Indoor Units			1 ~ 2 Units			1 ~ 3 Units
Casing Color			Paintingless			
Power Consumption		W	10			10
Running Current		A	0.05			0.05
Refrigerant Type			R-410A			
Dimension (H × W × D)		mm	180 × 294 (650)* × 350			
Package Dimension (H × W × D)		mm	257 × 738 × 427			
Machine Weight (Mass)		kg	7.5			8
Gross Weight (Gross Mass)		kg	11			12
Number of Wiring Connections			4 for Interunit Wiring			
Piping Connection (Brazing)	Liquid	mm	Main: ϕ 9.5 × 1 / Branch: ϕ 6.4 × 2			Main: ϕ 9.5 × 1 / Branch: ϕ 6.4 × 3
	Gas	mm	Main: ϕ 19.1 × 1 / Branch: ϕ 15.9 × 2			Main: ϕ 19.1 × 1 / Branch: ϕ 15.9 × 3
	Drain	mm	Drain Processingless			
Heat Insulation			Both Liquid and Gas Pipes			
Max. Piping Length		m	—			
Amount of Additional Charge		g/m	—			
Max. Height Difference		m	—			
Max. Combination		kW	14.2			20.8
Min. Combination		kW	2.0			2.0
Accessories	Installation Manual	pc.	1			
	Reducer	pc.	For Main	Liquid	1 (For I.D. ϕ 6.4)	
				Gas	1 (For I.D. ϕ 12.7)	
				Gas	1 (For I.D. ϕ 15.9, 19.1)	
			For Branch	Liquid	1 (For I.D. ϕ 9.5)	
				Gas	2 (For I.D. ϕ 12.7, 9.5)	3 (For I.D. ϕ 12.7, 9.5)
	Hanger Metal	pc.	4			
	Screws	pc.	8 (M4 × 8)			
	Heat Insulation (2pc. is 1 set)		3 Sets			4 Sets
	Binding Band	pc.	2			
Drawing No.			C: 4D050058B			

Note:

1. BP or Indoor Unit Max. Height - BP or Indoor Unit Min. Height → Max. 15 m.
   Set up BP and indoor unit within 15 m height difference.
2. The piping connection must be cut so as to suit the piping sizes of the indoor unit which will be connected.
   The same sizes should be used for the piping on the outdoor unit.
3. ( )* : including auxiliary piping length

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

1.3 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	m³/min (cfm)	H	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	dBA	38 / 32 / 25 / 22	38 / 33 / 28 / 25	38 / 32 / 25 / 22	38 / 33 / 28 / 25
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	39 / 33 / 26 / 23	39 / 34 / 29 / 26	39 / 33 / 26 / 23	39 / 34 / 29 / 26
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	47 / 41 / 35 / 32	47 / 41 / 35 / 32	47 / 41 / 35 / 32	47 / 41 / 35 / 32
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	38 / 32 / 25 / 22	39 / 34 / 28 / 25	38 / 32 / 25 / 22	39 / 34 / 28 / 25
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	42 / 34 / 26 / 23	42 / 36 / 29 / 26	42 / 34 / 26 / 23	42 / 36 / 29 / 26
Sound Power		dBA	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		White	
Airflow Rates	m³/min (cfm)	H	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	dBA	44 / 41 / 35 / 32	44 / 41 / 35 / 32	44 / 41 / 35 / 32	44 / 41 / 35 / 32
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	38 / 32 / 25 / 22	38 / 33 / 28 / 25	38 / 32 / 25 / 22	39 / 34 / 28 / 25
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	42 / 34 / 26 / 23	42 / 36 / 29 / 26	42 / 38 / 33 / 30	42 / 38 / 33 / 30
Sound Power		dBA	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	m³/min (cfm)	H	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	dBA	43 / 39 / 34 / 31	44 / 39 / 34 / 31
Sound Power		dBA	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	

50 Hz, 230 V

Model			FTXS60FV1B		FTXS71FV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			6.0 kW Class		7.1 kW Class	
Front Panel Color			White		White	
Airflow Rates	m³/min (cfm)	H	16.2 (572)	17.4 (614)	17.4 (614)	19.7 (696)
		M	13.6 (480)	15.1 (533)	14.6 (516)	16.9 (597)
		L	11.4 (403)	12.7 (448)	11.6 (410)	14.3 (505)
		SL	10.2 (360)	11.4 (403)	10.6 (374)	12.7 (448)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	43		43	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.18	0.20	0.20	0.27
Power Consumption (Rated)		W	40	45	45	60
Power Factor		%	96.6	97.8	97.8	96.6
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	290 × 1,050 × 238		290 × 1,050 × 238	
Packaged Dimensions (H × W × D)		mm	337 × 1,147 × 366		337 × 1,147 × 366	
Weight (Mass)		kg	12		12	
Gross Weight (Gross Mass)		kg	17		17	
Operation Sound	H / M / L / SL	dBA	45 / 41 / 36 / 33	44 / 40 / 35 / 32	46 / 42 / 37 / 34	46 / 42 / 37 / 34
Sound Power	H	dBA	61	60	62	62
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 15.9	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D056020		3D056021A	

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

50 Hz, 220 - 230 - 240 V

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

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

Floor Standing Type

50 Hz, 220 - 230 - 240 V

Model			FVXS25FV1B		FVXS35FV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Front Panel Color			White		White	
Airflow Rates	m^3/min (cfm)	H	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	dBA	38 / 32 / 26 / 23	38 / 32 / 26 / 23	39 / 33 / 27 / 24	39 / 33 / 27 / 24
Sound Power		dBA	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	m^3/min (cfm)	H	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	dBA	44 / 40 / 36 / 32	45 / 40 / 36 / 32
Sound Power		dBA	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 = m^3/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	m³/min (cfm)	H	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	dBA	37 / 34 / 31 / 28	37 / 34 / 31 / 29	38 / 35 / 32 / 29	39 / 36 / 33 / 30
Sound Power		dBA	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		FLXS60BAVMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Front Panel Color			Almond White		Almond White	
Airflow Rates	m³/min (cfm)	H	11.4 (402)	12.1 (427)	12.0 (424)	12.8 (452)
		M	10.0 (353)	9.8 (346)	10.7 (378)	10.6 (374)
		L	8.5 (300)	7.5 (265)	9.3 (328)	8.4 (297)
		SL	7.5 (265)	6.8 (240)	8.3 (293)	7.5 (265)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	34		34	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.48 - 0.45 - 0.43	0.47 - 0.45 - 0.44	0.47	0.45
Power Consumption (Rated)		W	96 - 96 - 96	96 - 96 - 96	98	96
Power Factor (Rated)		%	90.9 - 92.8 - 93.0	92.8 - 92.8 - 90.9	90.7	92.8
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	490 × 1,050 × 200		490 × 1,050 × 200	
Packaged Dimensions (H × W × D)		mm	566 × 1,100 × 280		280 × 1,100 × 566	
Weight (Mass)		kg	17		17	
Gross Weight (Gross Mass)		kg	24		24	
Operation Sound	H / M / L / SL	dBA	47 / 43 / 39 / 36	46 / 41 / 35 / 33	48 / 45 / 41 / 39	47 / 42 / 37 / 34
Sound Power		dBA	63	32	64	63
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	ϕ 18.0		ϕ 18.0	
Drawing No.			3D059830		3D050882	

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	m³/min (cfm)	H	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	dBA	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29	35 / 33 / 31 / 29
Sound Power		dBA	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		FDXS60CVMB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Front Panel Color			—		—	
Airflow Rates	m³/min (cfm)	H	12.0 (424)	12.0 (424)	16.0 (565)	16.0 (565)
		M	11.0 (388)	11.0 (388)	14.8 (523)	14.8 (523)
		L	10.0 (353)	10.0 (353)	13.5 (477)	13.5 (477)
		SL	8.4 (297)	8.4 (297)	11.2 (395)	11.2 (395)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	130		130	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.64	0.64	0.74	0.74
Power Consumption (Rated)		W	140	140	160	160
Power Factor (Rated)		%	95.1	95.1	94.0	94.0
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	200 × 900 × 620		200 × 1,100 × 620	
Packaged Dimensions (H × W × D)		mm	266 × 1,106 × 751		266 × 1,306 × 751	
Weight (Mass)		kg	27		30	
Gross Weight (Gross Mass)		kg	34		37	
Operation Sound	H / M / L / SL	dBA	37 / 35 / 33 / 31	37 / 35 / 33 / 31	38 / 36 / 34 / 32	38 / 36 / 34 / 32
Sound Power		dBA	55	55	56	56
External Static Pressure		Pa	40		40	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)		VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D060033		3D065477	

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

Ceiling Mounted Cassette Type

50 Hz, 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	m^3/min (cfm)	H	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	dBA	29.5 / 24.5		32.0 / 25.0	
Sound Power		dBA	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		FFQ60B8V1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Decoration Panel	Color		White		White	
	Dimensions (H × W × D)	mm	55 × 700 × 700		55 × 700 × 700	
Airflow Rates	m^3/min (cfm)	H	12.0 (424)	12.0 (424)	15.0 (530)	15.0 (530)
		M	—	—	—	—
		L	8.0 (283)	8.0 (283)	10.0 (353)	10.0 (353)
		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	0.49	0.45	0.61	0.56
Power Consumption (Rated)		W	97	89	120	111
Power Factor (Rated)		%	86.1	86.0	85.5	86.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D) ★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	dBA	36.0 / 27.0		41.0 / 32.0	41.0 / 32.0
Sound Power		dBA	53.0		58.0	—
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 12.7		ϕ 12.7	
	Drain	mm	VP20 (O.D ϕ 26 / I.D ϕ 20)		VP20 (O.D ϕ 26 / I.D ϕ 20)	
Drawing No.			3D060409		3D040436	

Note: ★1 ( ) : dimension including control box

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

50 Hz, 220 - 230 - 240 V / 60 Hz, 220 V

Model			FCQ35C7VEB		FCQ50C7VEB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			3.5 kW Class		5.0 kW Class	
Decoration Panel	Color		Pure White		Pure White	
	Dimensions (H × W × D)		50 × 950 × 950		50 × 950 × 950	
Airflow Rates	m^3/min	H	10.5	12.5	12.5	12.5
		L	8.5	10.0	8.5	8.5
Fan	Type		Turbo Fan		Turbo Fan	
	Motor Output	W	56		56	
	Speed	Steps	2 Steps		2 Steps	
Air Filter			Resin net with mold resistance		Resin net with mold resistance	
Dimensions (H × W × D)		mm	204 × 840 × 840		204 × 840 × 840	
Packaged Dimensions (H × W × D)		mm	220 × 882 × 882		220 × 882 × 882	
Weight (Mass)		kg	19		19	
Gross Weight (Gross Mass)		kg	24		24	
Operation Sound	H / L	dBA	31 / 27		31 / 27	
Sound Power	H	dBA	49	—	49	—
Heat Insulation			Foamed polystyrene / Foamed polyethylene		Foamed polystyrene / Foamed polyethylene	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 9.52 (Flare)		ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

Model			FCQ60C7VEB	
			Cooling	Heating
Rated Capacity			6.0 kW Class	
Decoration Panel	Color		Pure White	
	Dimensions (H × W × D)		50 × 950 × 950	
Airflow Rates	m^3/min	H	13.5	13.5
		L	8.5	8.5
Fan	Type		Turbo Fan	
	Motor Output	W	56	
	Speed	Steps	2 Steps	
Air Filter			Resin net with mold resistance	
Dimensions (H × W × D)		mm	204 × 840 × 840	
Packaged Dimensions (H × W × D)		mm	220 × 882 × 882	
Weight (Mass)		kg	19	
Gross Weight (Gross Mass)		kg	24	
Operation Sound	H / L	dBA	33 / 28	
Sound Power	H	dBA	51	—
Heat Insulation			Foamed polystyrene / Foamed polyethylene	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)	
	Gas	mm	ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

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

Ceiling Mounted Built-in Type

Model			FDBQ25B8V1		FBQ35C7VEB	
			50 Hz, 230 V		50 Hz, 220 - 230 - 240 V / 60 Hz, 220 V	
			Cooling	Heating	Cooling	Heating
Rated Capacity			2.5 kW Class		3.5 kW Class	
Decoration Panel	Color		—		White	
	Dimensions (H × W × D)		—		55 × 800 × 500	
Airflow Rates	m³/min	H	6.5	6.95	16.0	
		L	5.2	5.2	11.0	
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	10		140	
	Speed	Steps	2 Steps		2 Steps	
Air Filter			Resin net with mold resistance		Resin net with mold resistance	
Dimensions (H × W × D)		mm	230 × 652 × 502		300 × 700 × 700	
Packaged Dimensions (H × W × D)		mm	301 × 753 × 584		325 × 920 × 900	
Weight (Mass)		kg	17		25	
Gross Weight (Gross Mass)		kg	18		28	
Operation Sound	H / L	dBA	35 / 28	35 / 29	37 / 29	
Sound Power	H / L	dBA	55 / 49		63 / —	
Heat Insulation			—		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.35		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 9.52		ϕ 9.52 (Flare)	
	Drain	mm	O.D. ϕ 27.2		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

Model			FBQ50C7VEB		FBQ60C7VEB	
			Cooling	Heating	Cooling	Heating
Rated Capacity			5.0 kW Class		6.0 kW Class	
Decoration Panel	Color		White		White	
	Dimensions (H × W × D)		55 × 800 × 500		55 × 1,100 × 500	
Airflow Rates	m³/min	H	16.0		18.0	
		L	11.0		15.0	
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	140		350	
	Speed	Steps	2 Steps		2 Steps	
Air Filter			Resin net with mold resistance		Resin net with mold resistance	
Dimensions (H × W × D)		mm	300 × 700 × 700		300 × 1,000 × 700	
Packaged Dimensions (H × W × D)		mm	355 × 920 × 920		355 × 1,220 × 900	
Weight (Mass)		kg	25		34	
Gross Weight (Gross Mass)		kg	28		41	
Operation Sound	H / L	dBA	37 / 29		37 / 29	
Sound Power	H / L	dBA	63 / —		57 / —	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.35 (Flare)		ϕ 6.35 (Flare)	
	Gas	mm	ϕ 12.7 (Flare)		ϕ 12.7 (Flare)	
	Drain	mm	VP25 (O.D. ϕ 32 / I.D. ϕ 25)		VP25 (O.D. ϕ 32 / I.D. ϕ 25)	

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

Ceiling Suspended Type

50 Hz, 220 - 230 - 240 V

Model			FHQ35BVV1B		FHQ50BVV1B	
			Cooling	Heating	Cooling	Heating
Rated Capacity			3.5 kW Class		5.0 kW Class	
Panel Color			White		White	
Airflow Rates	m³/min	H	13.0 (459)	13.0 (459)	13.0 (459)	13.0 (459)
		L	10.0 (353)	10.0 (353)	10.0 (353)	10.0 (353)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	62		62	
	Speed	Steps	2 Steps		2 Steps	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable	
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		mm	195 × 960 × 680		195 × 960 × 680	
Packaged Dimensions (H × W × D)		mm	279 × 1,046 × 818		279 × 1,046 × 818	
Weight (Mass)		kg	24		25	
Gross Weight (Gross Mass)		kg	31		32	
Operation Sound	H / L	dBA	37 / 32		38 / 33	
Sound Power		dBA	53		54	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4		ϕ 6.4	
	Gas	mm	ϕ 9.5		ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)		VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D0660034		3D060035	

Model			FHQ60BVV1B	
			Cooling	Heating
Rated Capacity			6.0 kW Class	
Panel Color			White	
Airflow Rates	m³/min	H	17.0 (600)	16.0 (565)
		L	13.0 (459)	13.0 (459)
Fan	Type		Sirocco Fan	
	Motor Output	W	62	
	Speed	Steps	2 Steps	
Air Direction Control			Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable	
Temperature Control			Microcomputer Control	
Dimensions (H × W × D)		mm	195 × 1,160 × 680	
Packaged Dimensions (H × W × D)		mm	279 × 1,246 × 818	
Weight (Mass)		kg	27	
Gross Weight (Gross Mass)		kg	35	
Operation Sound	H / L	dBA	39 / 33	
Sound Power		dBA	55	
Heat Insulation			Both Liquid and Gas Pipes	
Piping Connection	Liquid	mm	ϕ 6.4	
	Gas	mm	ϕ 12.7	
	Drain	mm	VP20 (O.D. ϕ 26 / I.D. ϕ 20)	
Drawing No.			3D065476	

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

Part 3
Printed Circuit Board Connector Wiring Diagram

1. Outdoor Unit

1.1 RMXS112/140/160E8V1B

Connectors and Other Parts

[A1P]: Main PCB

1)	X5A	Connector to service PCB (A2P)
2)	X11A	Connector for outdoor temperature thermistor
3)	X12A	Connector for thermistors (suction pipe 1, suction pipe 2, outdoor heat exchanger, discharge pipe)
4)	X13A	Connector for thermistors (subcooling outlet, liquid pipe 1, liquid pipe 2)
5)	X17A	Connector for high pressure sensor
6)	X18A	Connector for low pressure sensor
7)	X21A	Connector for electronic expansion valve coil (main)
8)	X22A	Connector for electronic expansion valve coil (subcooling)
9)	X25A	Connector for solenoid valve coil (four way valve)
10)	X26A	Connector for solenoid valve coil (hot gas bypass valve)
11)	X27A	Connector for solenoid valve coil (unloading)
12)	X28A	Connector for crankcase heater
13)	X32A	Connector for high pressure switch
14)	X37A	Connector for power supply for optional PCB (16 VDC)
15)	X51A	Connector for capacity setting adaptor ∗ Refer to page 137 for detail.
16)	X66A	Connector for cool / heat selector PCB (A4P)
17)	X81A	Connector for terminal board (inter-unit wiring)
18)	X106A	Connector for fan motor (upper)
19)	X107A	Connector for fan motor (lower)
20)	X111A	Connector for fin thermistor
21)	LD, LE	Connector for reactor
22)	LC, NC	Terminal for noise filter PCB (A3P)
23)	P	Connector for capacitor C4 +
24)	N	Connector for capacitor C4 –
25)	U, V, W	Connector for compressor
26)	F4U	Fuse (6.3 A / 250 V)
27)	F6U	Fuse (5.0 A / 250 V)
28)	HAP	Operation pilot lamp (LED for service monitor: green)

[A2P]: Service PCB

1)	X205A	Connector for main PCB (A1P)
2)	H1P - H8P	LED for service monitor (orange)
3)	BS1 - BS5	Push button switch (mode, set, return, test, reset)
4)	DS1	DIP switch

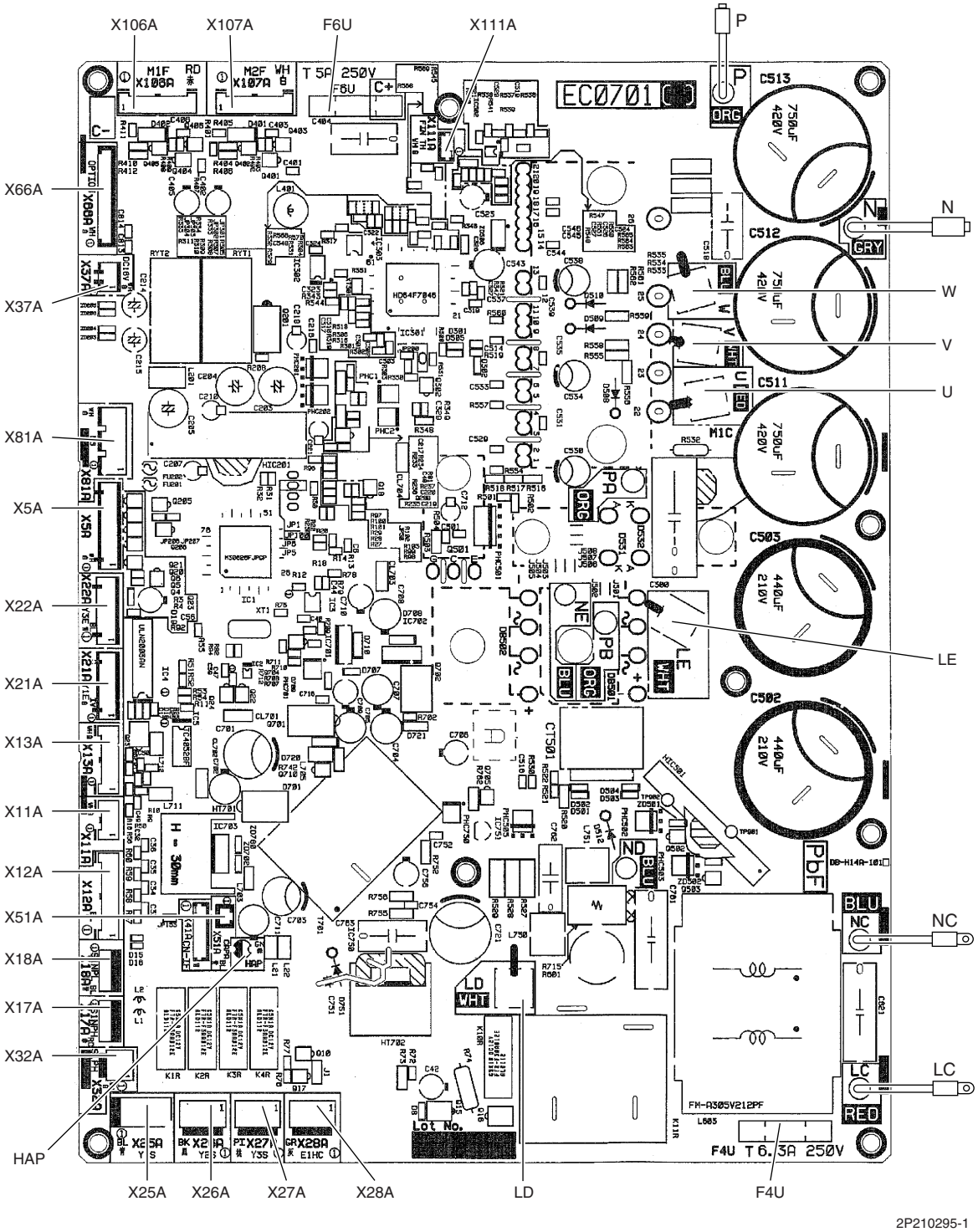
[A3P]: Noise Filter PCB

1)	LA, NA	Terminal for terminal board (power supply)
2)	LB, NB	Terminal for main PCB (A1P)
3)	E	Terminal for earth
4)	F1U	Fuse (6.3 A / 250 V)

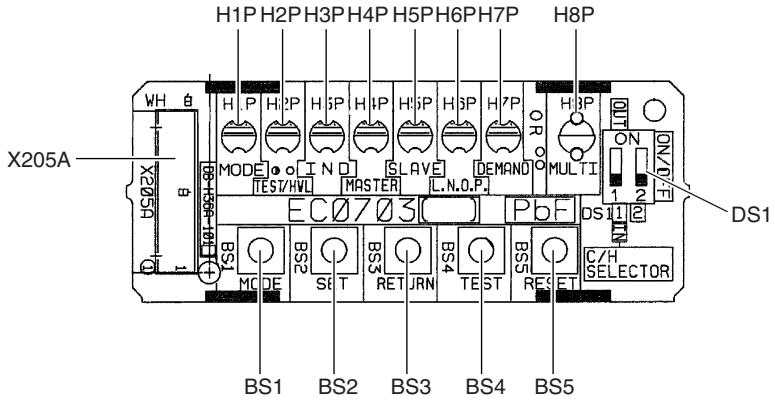
[A4P]: Cool / Heat Selector PCB

1)	X1A	Connector for main PCB (A1P)
2)	X1M	Terminal for cool / heat selector

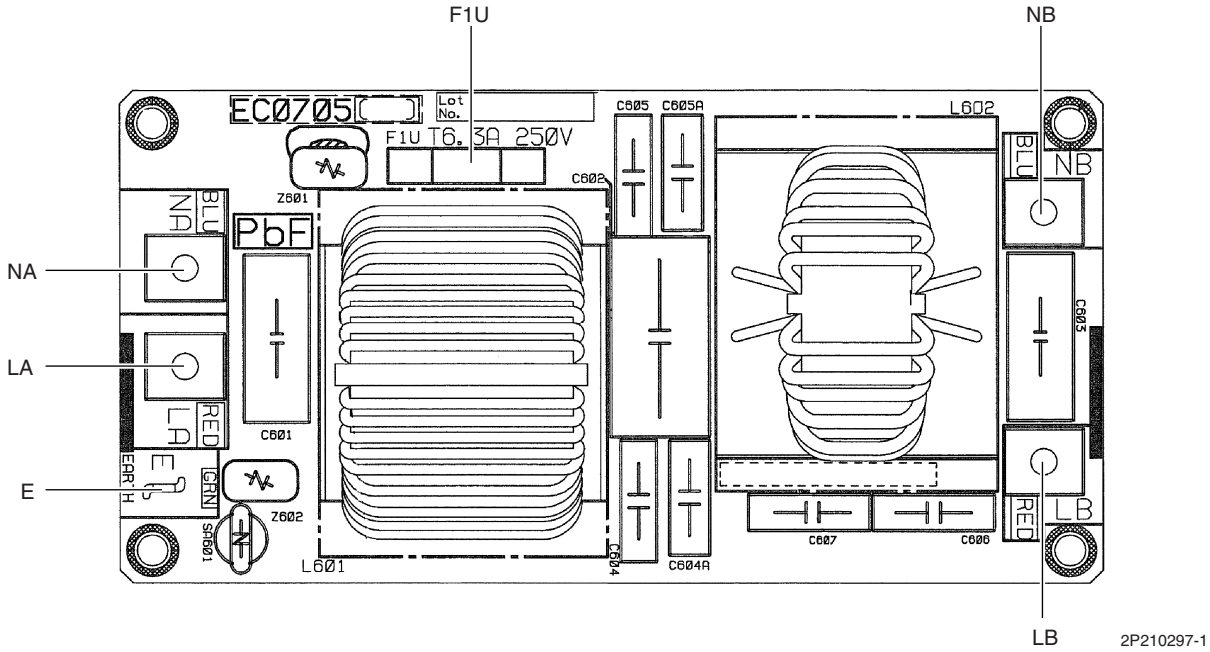
PCB Detail [A1P]: Main PCB



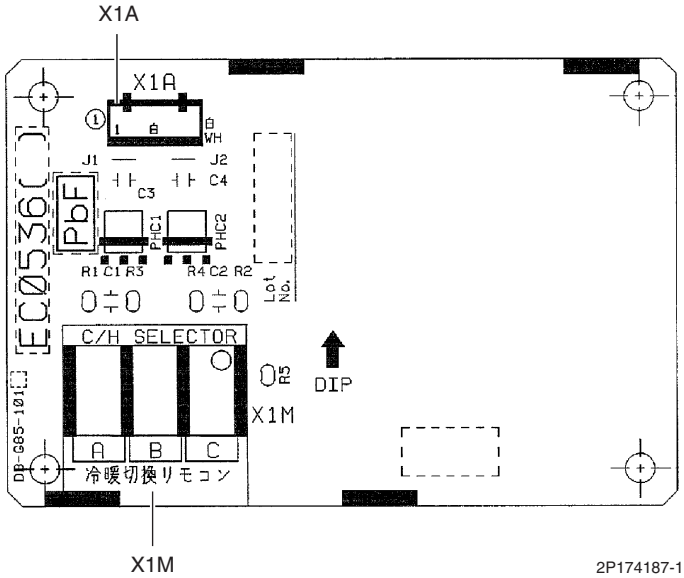
[A2P]: Service PCB



[A3P]: Noise Filter PCB



[A4P]: Cool / Heat Selector PCB



2. BP Unit

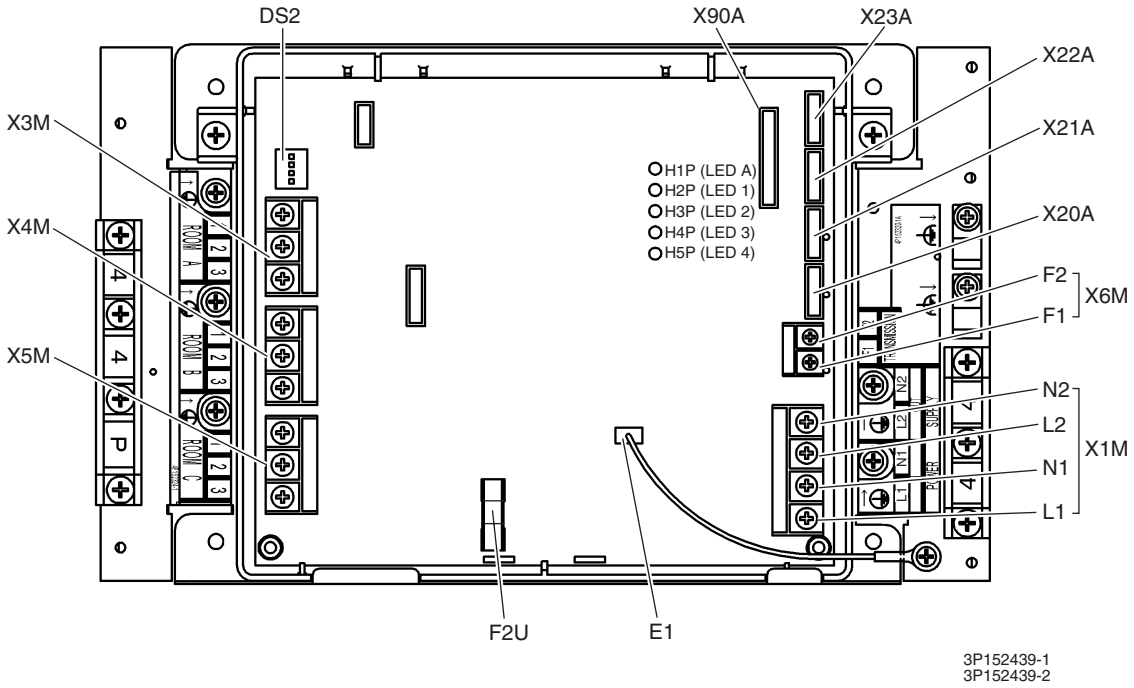
2.1 BPMKS967B2B/B3B

Connectors and Other Parts

1) X20A	Connector for bypass electronic expansion valve
2) X21A - X23A	Connector for electronic expansion valve for room A, B, C
3) X90A	Connector for thermistors
4) F2U	Fuse (3.15 A / 250 V)
5) X3M	Terminal for inter connecting wire to room A
6) X4M	Terminal for inter connecting wire to room B
7) X5M	Terminal for inter connecting wire to room C
8) F1, F2 (on X6M)	Terminal for transmission to outdoor unit or other BP units
9) L1, N1 (on X1M)	Terminal for power supply (50 Hz, 230 V)
10) L2, N2 (on X1M)	Terminal for power supply to other BP units
11) E1	Terminal for earth
12) H1P (LED A)	LED for service monitor
13) H2P - H5P (LED 1 - 4)	LED for error indication
14) DS2	Dip switch

Note: X23A and X5M are not used for BPMKS967B2B.

PCB Detail



3P152439-1
3P152439-2

3. Indoor Unit

3.1 Wall Mounted Type

3.1.1 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 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 157 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

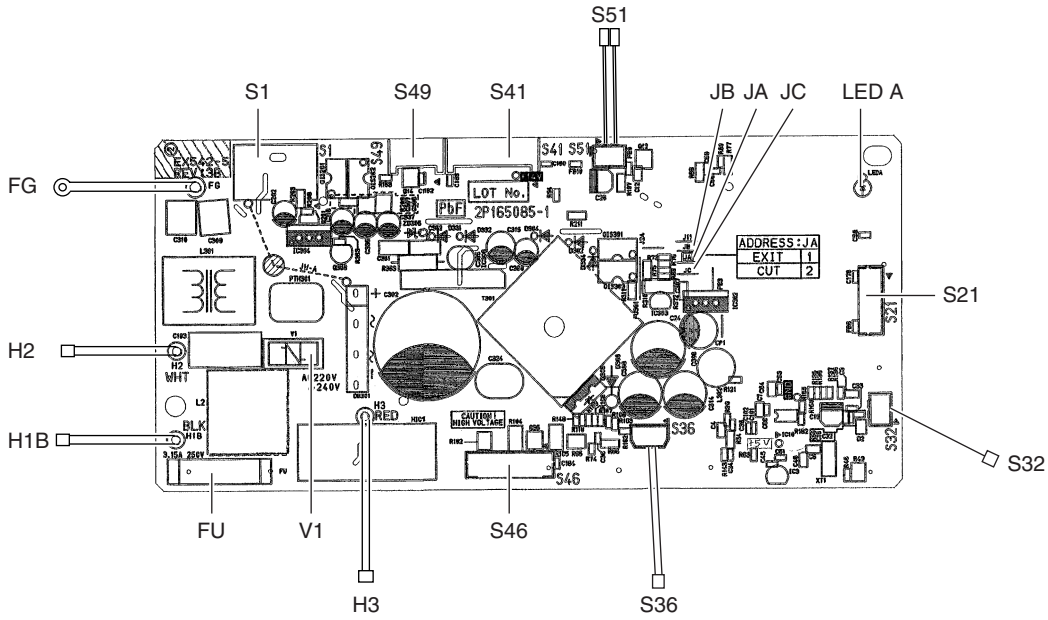
1)	S47	Connector for control PCB
2)	SW1 (S1W)	Forced operation ON/OFF button
3)	LED2 (H2P)	LED for INTELLIGENT EYE (green)
4)	LED3 (H3P)	LED for timer (yellow)
5)	LED4 (H4P)	LED for operation (green)
6)	RTH1 (R2T)	Room temperature thermistor

PCB (3): INTELLIGENT EYE Sensor PCB

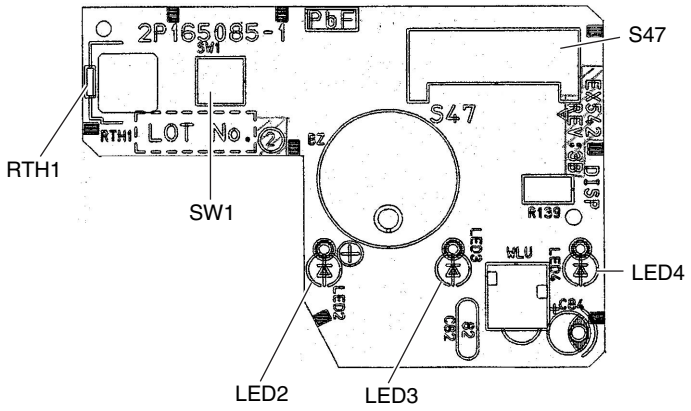
1)	S36	Connector for control PCB

PCB Detail

PCB (1): Control PCB

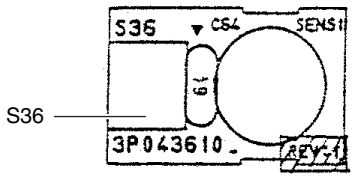


PCB (2): Signal Receiver PCB



2P165085-1

PCB (3): INTELLIGENT EYE Sensor PCB



3P043610-2

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

Connectors and Other Parts

[A1P]: Control PCB

1)	S21	Connector for centralized control (HA)
2)	S25	Connector for INTELLIGENT EYE sensor PCB
3)	S32	Indoor heat exchanger thermistor
4)	S41	Connector for swing motors
5)	S42	Connector for reduction motor (front panel mechanism) and limit switch
6)	S46	Connector for signal receiver / display PCB
7)	S200	Connector for fan motor
8)	H1, H2, H3, FG	Connector for terminal board
9)	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 157 for detail.
10)	LED A	LED for service monitor (green)
11)	F1U	Fuse (3.15 A, 250 V)
12)	V1	Varistor

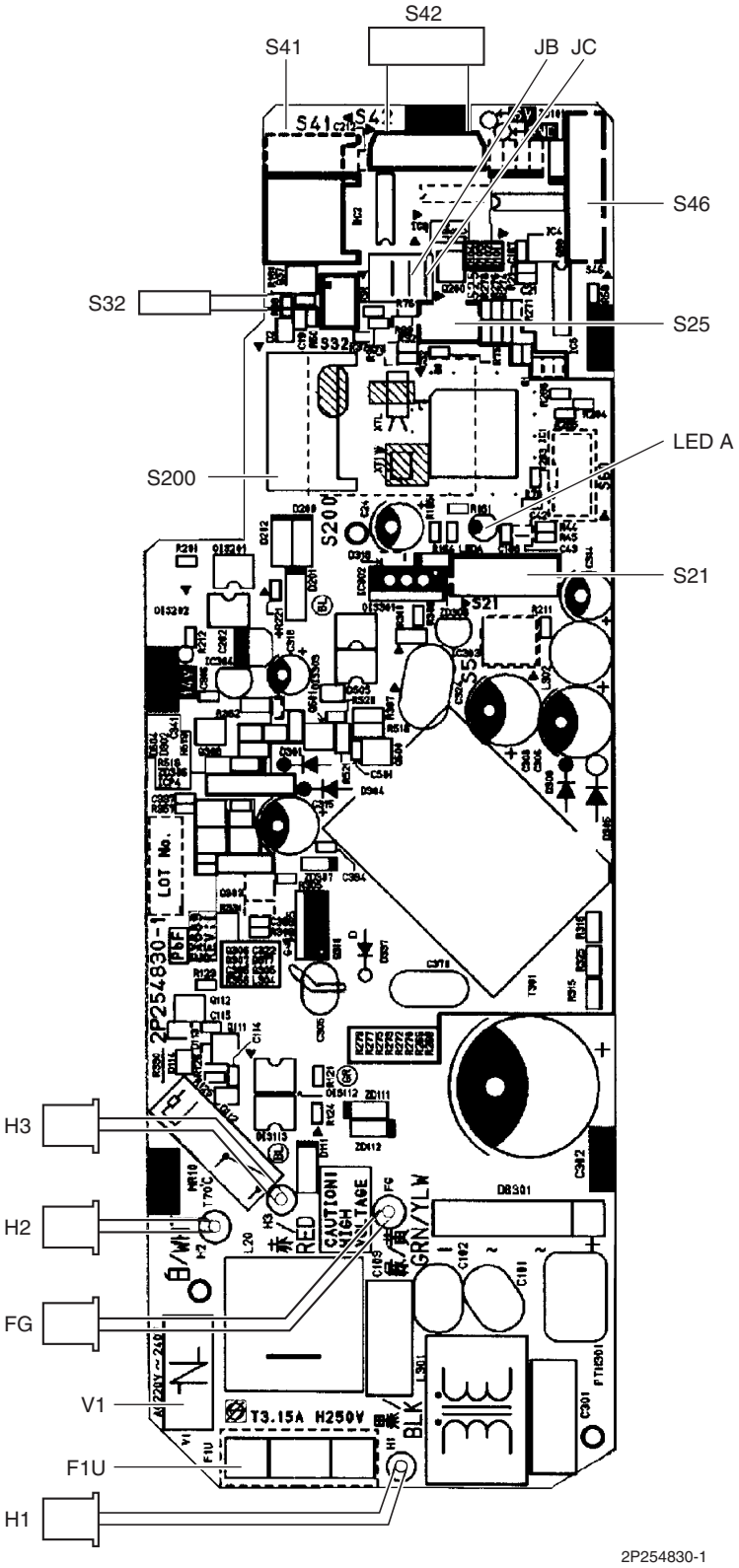
[A2P]: Signal Receiver / Display PCB

1)	S51	Connector for control PCB
2)	S52	Connector for room temperature thermistor
3)	S1W	Forced 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 154 for detail.

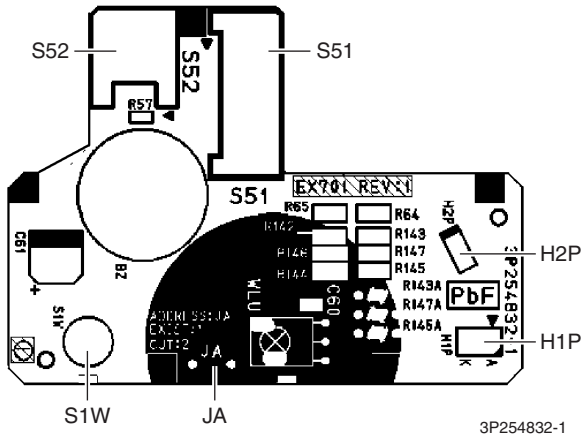
[A3P]: INTELLIGENT EYE Sensor PCB

1)	S36	Connector for control PCB

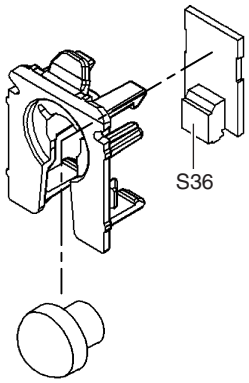
PCB Detail **[A1P]: Control PCB**



[A2P]: Signal Receiver / Display PCB



[A3P]: INTELLIGENT EYE Sensor PCB



3P255914-1

3.1.3 FTXS20/25/35/42/50G2V1B

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 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 157 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

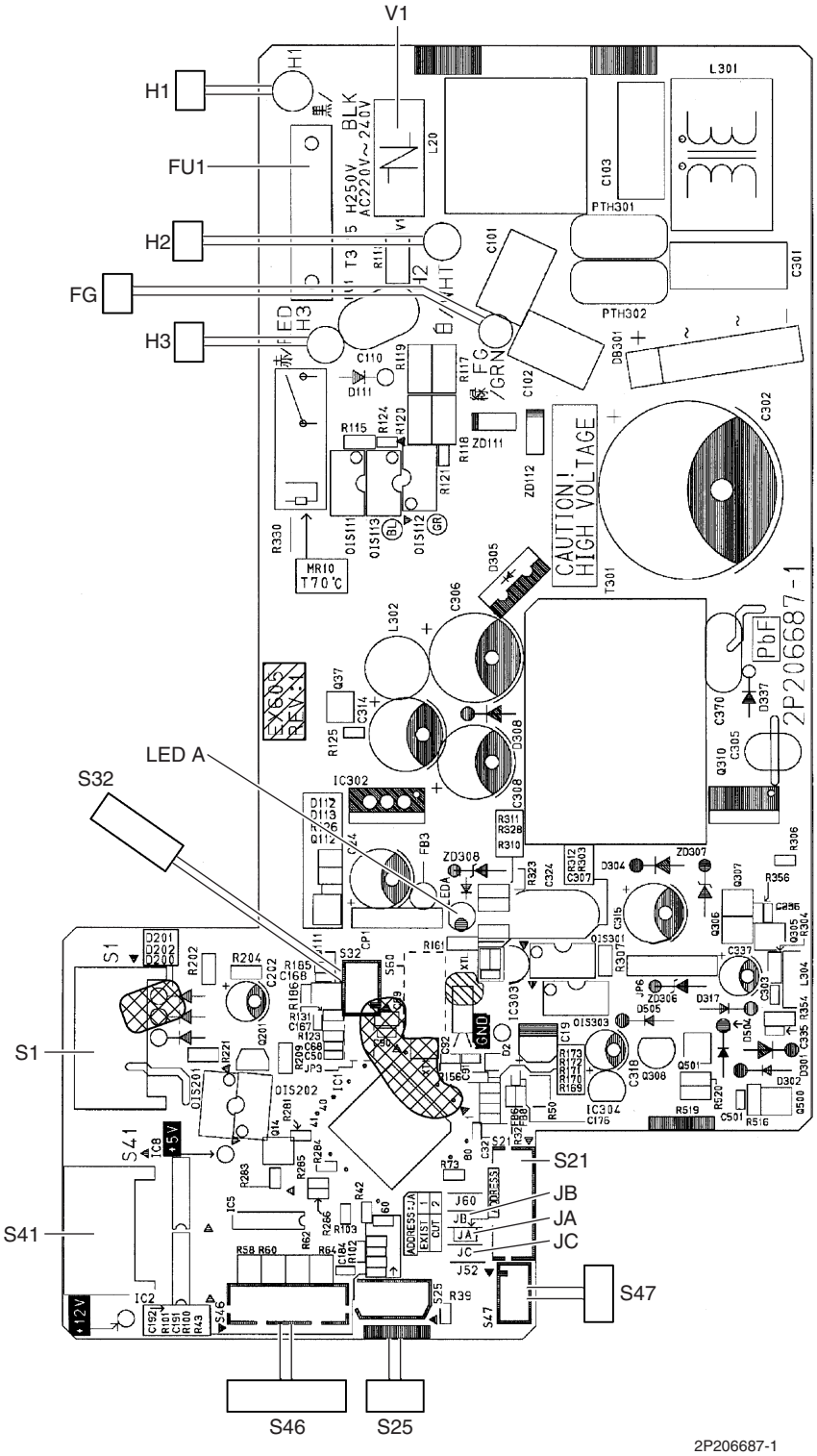
1)	S49	Connector for control PCB
2)	SW1	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (4): INTELLIGENT EYE Sensor PCB

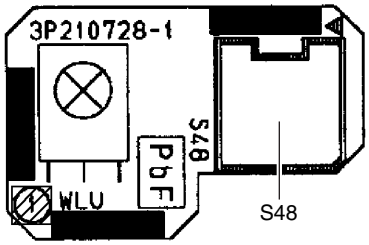
1)	S26	Connector for control PCB

PCB Detail

PCB (1): Control PCB

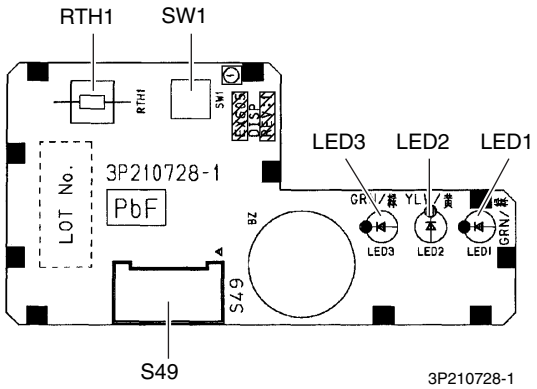


PCB (2): Signal Receiver PCB



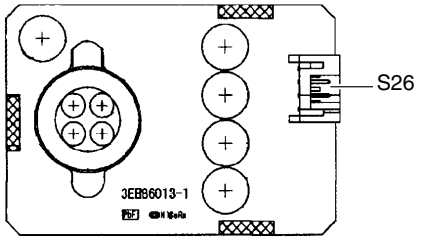
3P210728-1

PCB (3): Display PCB



3P210728-1

PCB (4): INTELLIGENT EYE Sensor PCB



3EB86013-1

3.1.4 FTXS60/71FV1B

Connectors and Other Parts

PCB (1): Control PCB

1)	S1	Connector for DC fan motor
2)	S6	Connector for swing motor (horizontal blades)
3)	S8	Connector for swing motor (vertical blades)
4)	S21	Connector for centralized control (HA)
5)	S26	Connector for buzzer PCB
6)	S28	Connector for signal receiver PCB
7)	S32	Indoor heat exchanger thermistor
8)	S35	Connector for INTELLIGENT EYE sensor PCB
9)	H1, H2, H3, FG	Connector for terminal board
10)	JA	Address setting jumper
		∗ Refer to page 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 157 for detail.
11)	LED A	LED for service monitor (green)
12)	FU1	Fuse (3.15 A, 250 V)
13)	V1	Varistor

PCB (2): Signal Receiver PCB

1)	S29	Connector for control PCB
2)	SW1 (S1W)	Forced operation ON/OFF button

PCB (3): Buzzer PCB

1)	S27	Connector for control PCB
2)	S38	Connector for display PCB
3)	RTH1 (R1T)	Room temperature thermistor

PCB (4): Display PCB

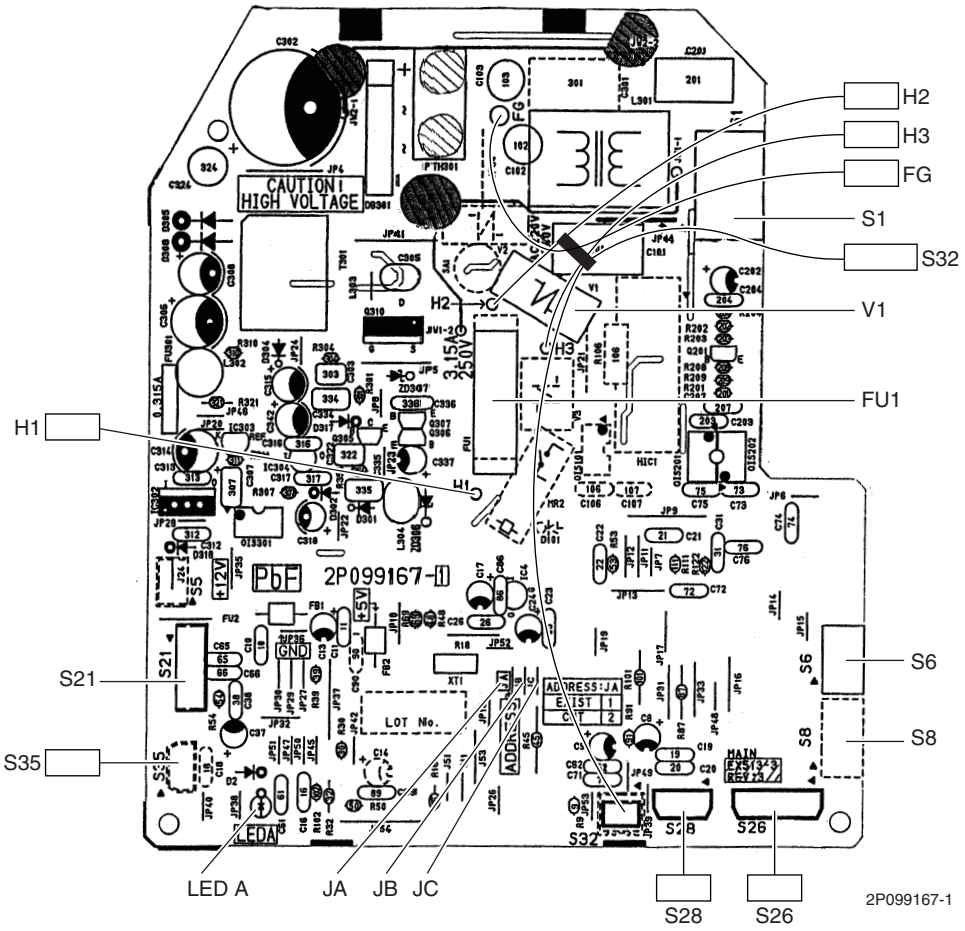
1)	S37	Connector for buzzer PCB
2)	LED1 (H1P)	LED for operation (green)
3)	LED2 (H2P)	LED for timer (yellow)
4)	LED3 (H3P)	LED for HOME LEAVE operation (red)

PCB (5): INTELLIGENT EYE Sensor PCB

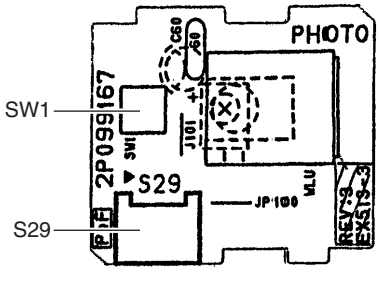
1)	S36	Connector for control PCB

PCB Detail

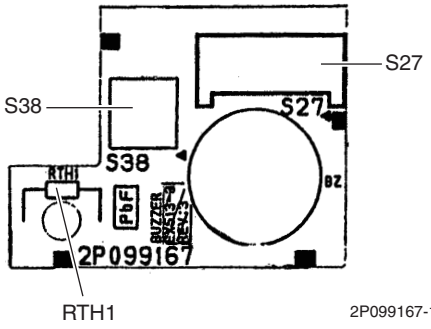
PCB (1): Control PCB



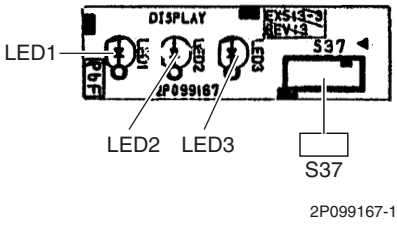
PCB (2): Signal Receiver PCB



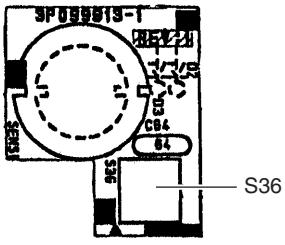
PCB (3): Buzzer PCB



PCB (4): Display PCB



PCB (5): INTELLIGENT EYE Sensor PCB



3.1.5 FTXS60/71GV1B

Connectors and Other Parts

PCB (1): Control PCB

1)	S1	Connector for DC fan motor
2)	S21	Connector for centralized control (HA)
3)	S25	Connector for INTELLIGENT EYE sensor PCB
4)	S32	Connector for indoor heat exchanger thermistor
5)	S41	Connector for swing motors
6)	S46	Connector for display PCB
7)	S47	Connector for signal receiver PCB
8)	H1, H2, H3, FG	Connector for terminal board
9)	V1	Varistor
10)	JA	Address setting jumper
		∗ Refer to page 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart)
		∗ Refer to page 157 for detail.
11)	LED A	LED for service monitor (green)
12)	FU1 (F1U)	Fuse (3.15 A, 250 V)

PCB (2): Signal Receiver PCB

1)	S48	Connector for control PCB

PCB (3): Display PCB

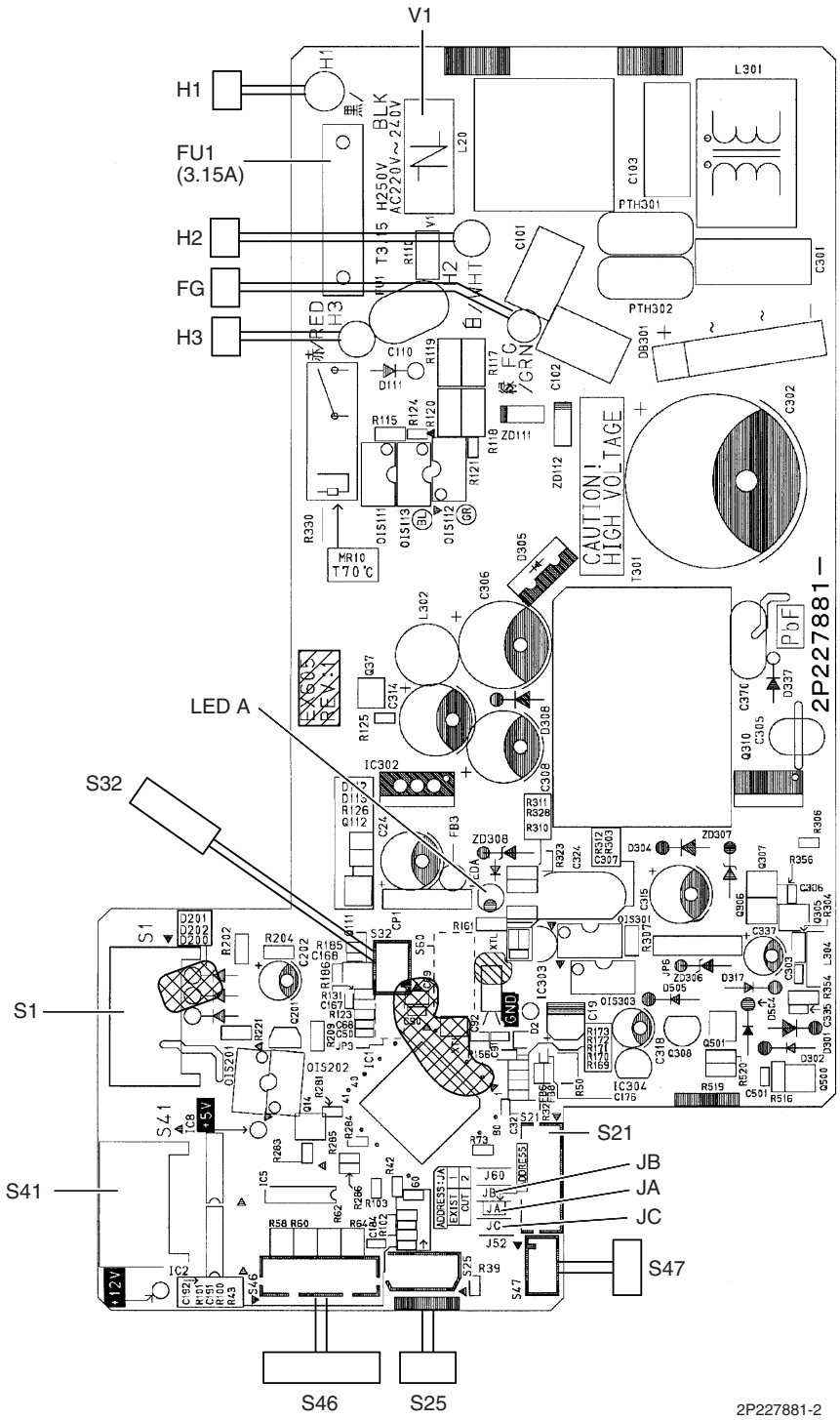
1)	S49	Connector for control PCB
2)	SW1	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for operation (green)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for INTELLIGENT EYE (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB (4): INTELLIGENT EYE Sensor PCB

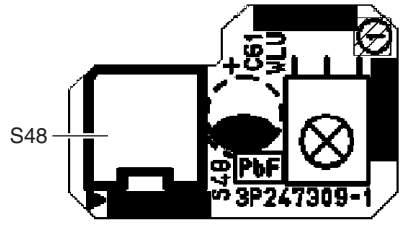
1)	S36	Connector for control PCB

PCB Detail

PCB (1): Control PCB

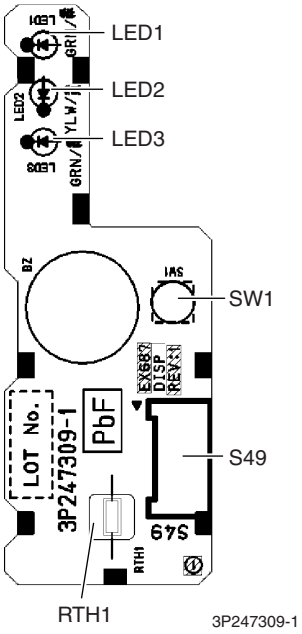


PCB (2): Signal Receiver PCB



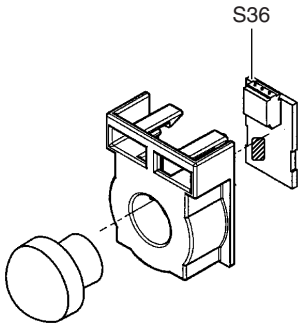
3P247309-1

PCB (3): Display PCB



3P247309-1

PCB (4): INTELLIGENT EYE Sensor PCB



3P227885-1

3.2 Floor Standing Type

3.2.1 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 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function ∗ Refer to page 157 for detail.
13)	FU1 (F1U)	Fuse (3.15A, 250V)
14)	LED A	LED for service monitor (green)

PCB (3): Service PCB

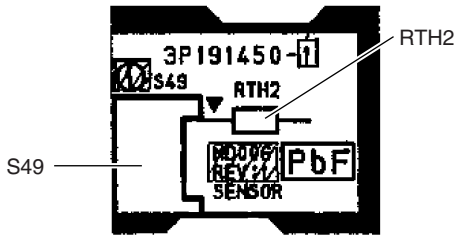
1)	S27	Connector for control PCB
2)	SW2-4 (S2W(4))	Switch for upward airflow limit setting ∗ Refer to page 157 for detail.
3)	SW4 (S4W)	Switch for air outlet selection ∗ Refer to page 199, 209 for detail.

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)

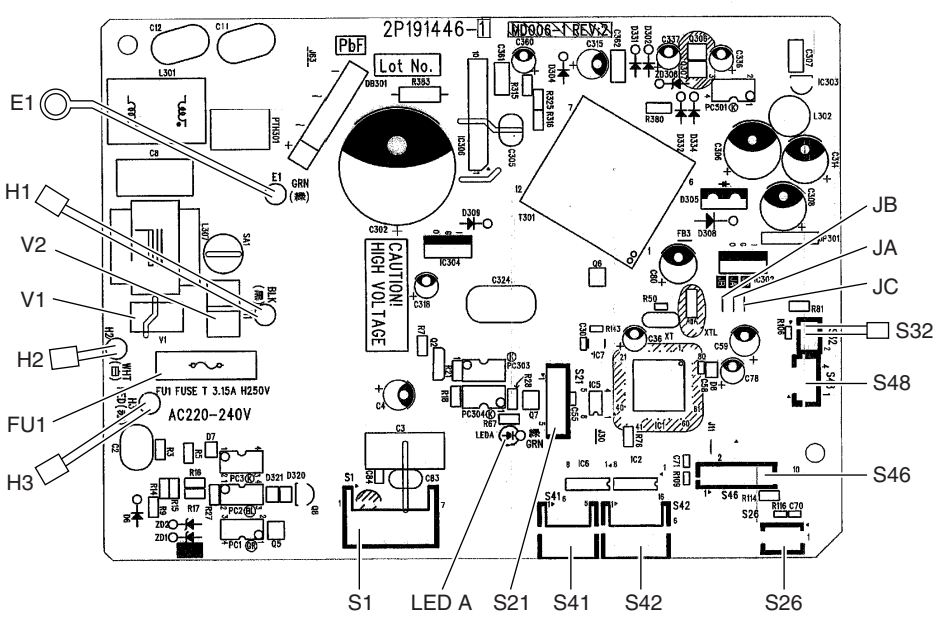
PCB Detail

PCB (1): Sensor PCB



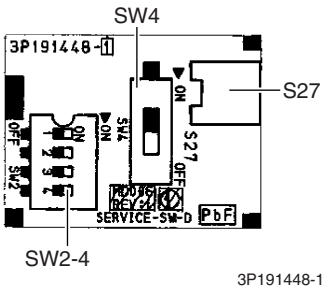
3P191450-1

PCB (2): Control PCB



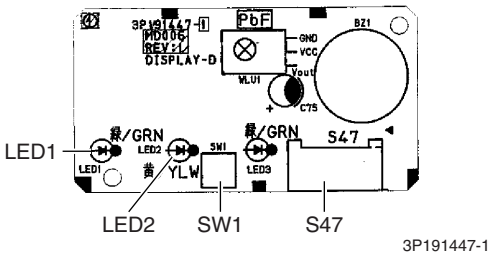
2P191446-1

PCB (3): Service PCB



3P191448-1

PCB (4): Display PCB



3P191447-1

★ LED3 does not function.

3.3 Floor / Ceiling Suspended Dual Type

3.3.1 FLXS25/35/50/60BAVMB

Connectors and Other Parts

PCB (1): Control PCB

1)	S6	Connector for swing motor (horizontal swing)
2)	S7	Connector for AC fan motor
3)	S21	Connector for centralized control (HA)
4)	S24	Connector for display PCB
5)	S26	Connector for signal receiver PCB
6)	S32	Connector for indoor heat exchanger thermistor
7)	S37	Connector for power supply PCB
8)	JA	Address setting jumper
		∗ Refer to page 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function
		∗ Refer to page 157 for detail.
9)	SW2	Select switch for installation (ceiling or floor)
		∗ Refer to page 157 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 (3.15 A, 250 V)

PCB (3): Display PCB

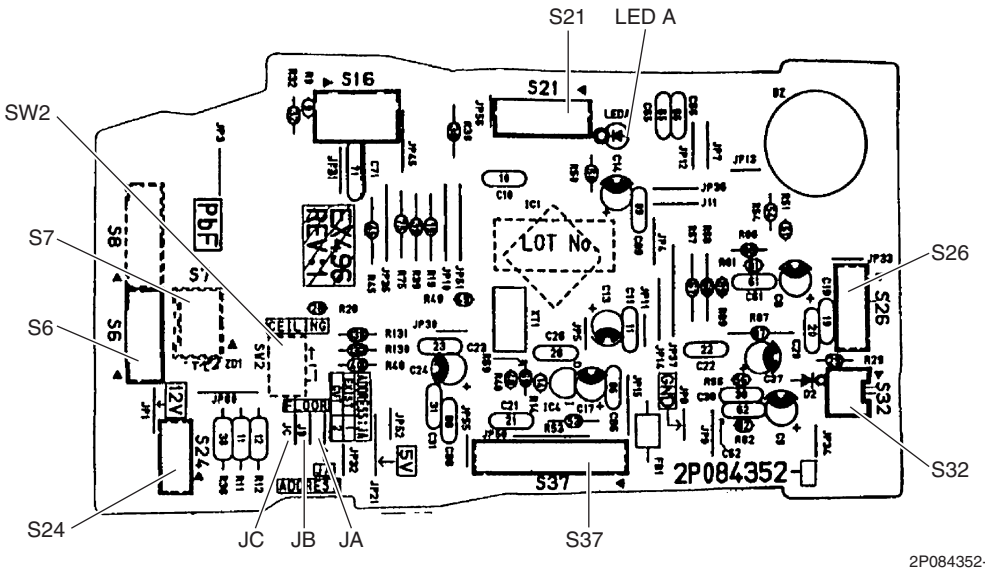
1)	S25	Connector for control PCB
2)	LED1 (H1P)	LED for operation (green)
3)	LED2 (H2P)	LED for timer (yellow)
4)	LED3 (H3P)	LED for HOME LEAVE operation (red)

PCB (4): Signal Receiver PCB

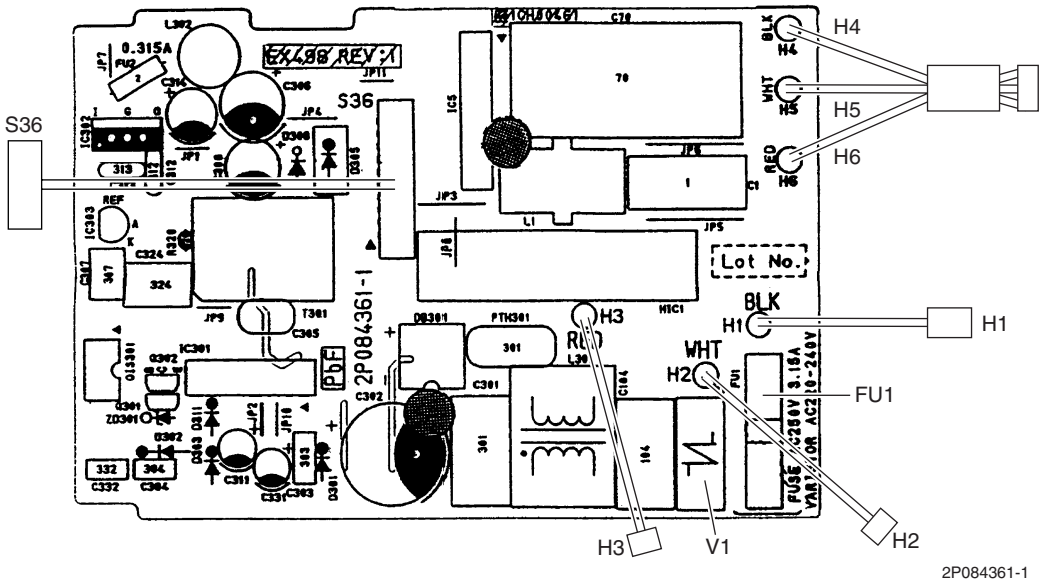
1)	S27	Connector for control PCB
2)	S31 (RTH)	Room temperature thermistor
3)	SW1 (S1W)	Forced operation ON/OFF button

PCB Detail

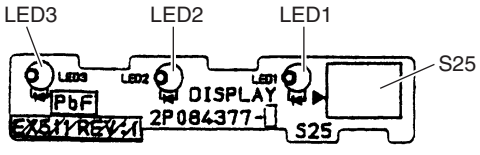
PCB (1): Control PCB



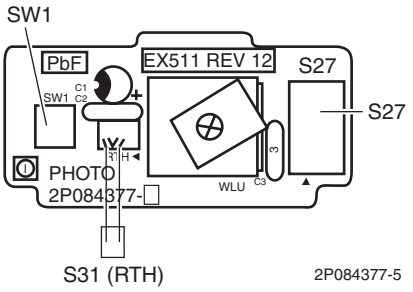
PCB (2): Power Supply PCB



PCB (3): Display PCB



PCB (4): Signal Receiver PCB



3.4 Duct Connected Type

3.4.1 FDXS25/35EAVMB, FDXS50/60CVMB

Connectors and Other Parts

PCB (1): Control PCB

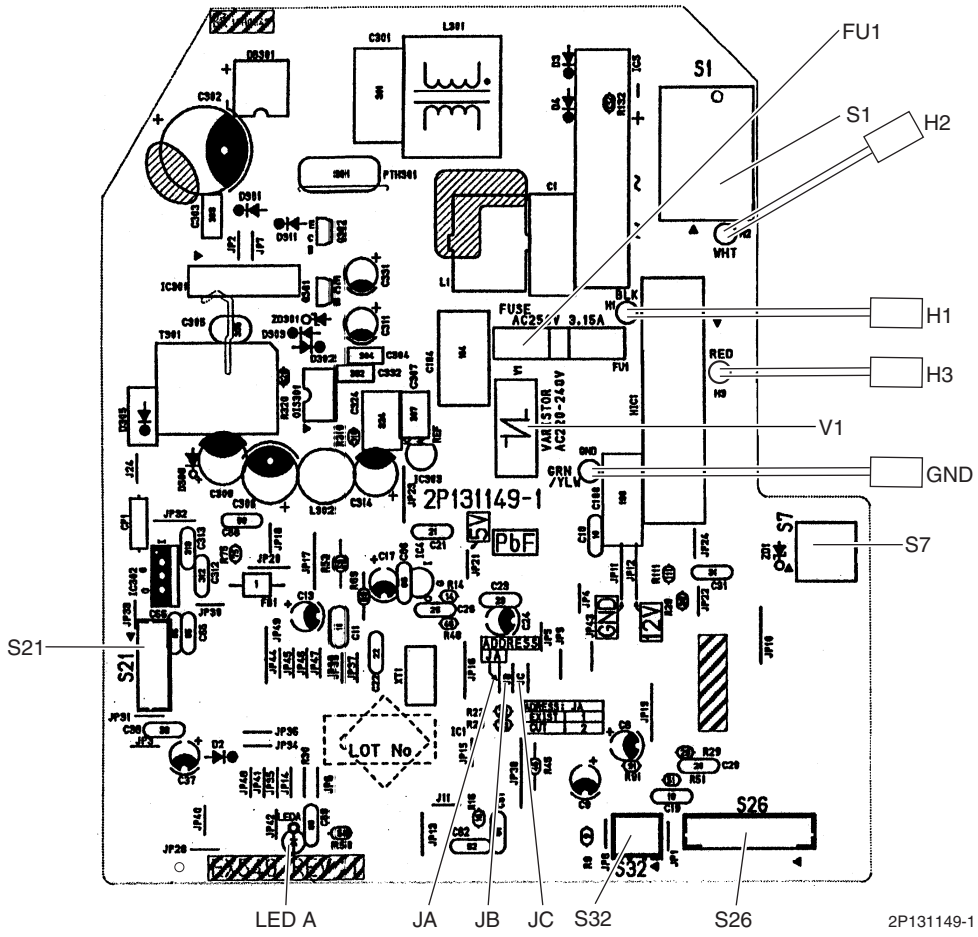
1)	S1	Connector for AC fan motor
2)	S7	Connector for AC fan motor (Hall IC)
3)	S21	Connector for centralized control (HA)
4)	S26	Connector for display PCB
5)	S32	Connector for indoor heat exchanger thermistor
6)	H1, H2, H3, GND	Connector for terminal board
7)	JA	Address setting jumper * Refer to page 154 for detail.
	JB	Fan speed setting when compressor stops for thermostat OFF
	JC	Power failure recovery function (auto-restart) Refer to page 157 for detail.
8)	LED A	LED for service monitor (green)
9)	FU1 (F1U)	Fuse (3.15 A, 250 V)
10)	V1 (V1TR)	Varistor

PCB (2): Display PCB

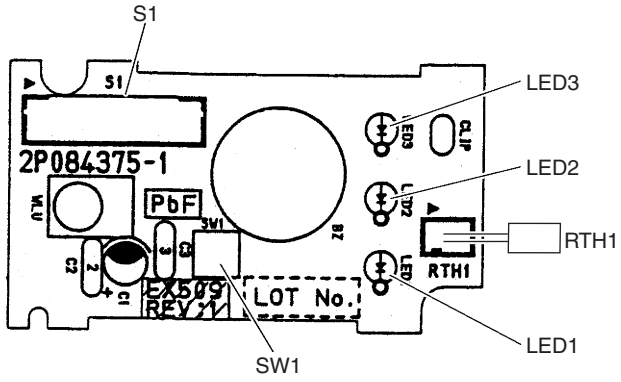
1)	S1	Connector for control PCB
2)	SW1 (S1W)	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for HOME LEAVE operation (red)
4)	LED2 (H2P)	LED for timer (yellow)
5)	LED3 (H3P)	LED for operation (green)
6)	RTH1 (R1T)	Room temperature thermistor

PCB Detail

PCB (1): Control PCB



PCB (2): Display PCB



3.5 Ceiling Mounted Cassette Type

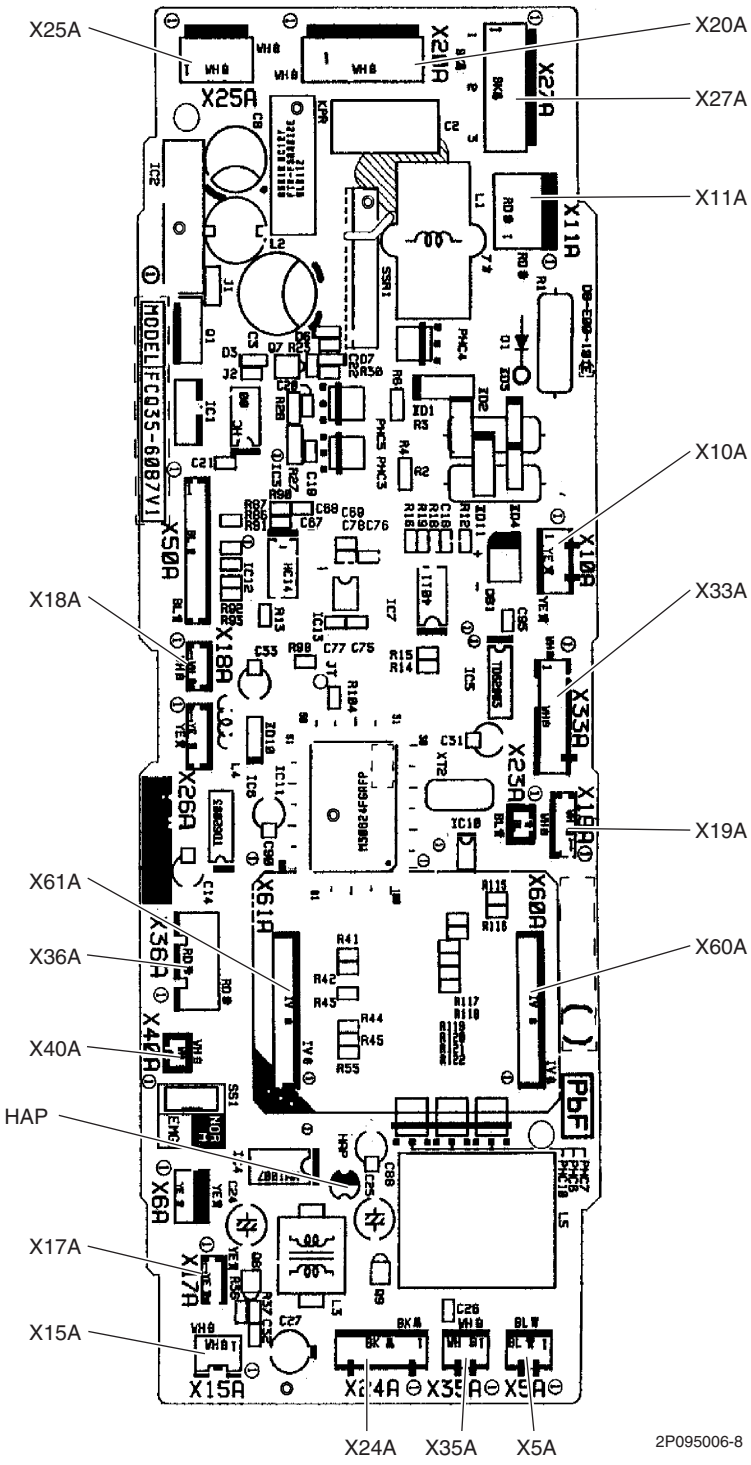
3.5.1 FFQ25/35/50/60B8V1B

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**



3.5.2 FCQ35/50/60C7VEB

Connectors and Other Parts

[A1P]: Control PCB

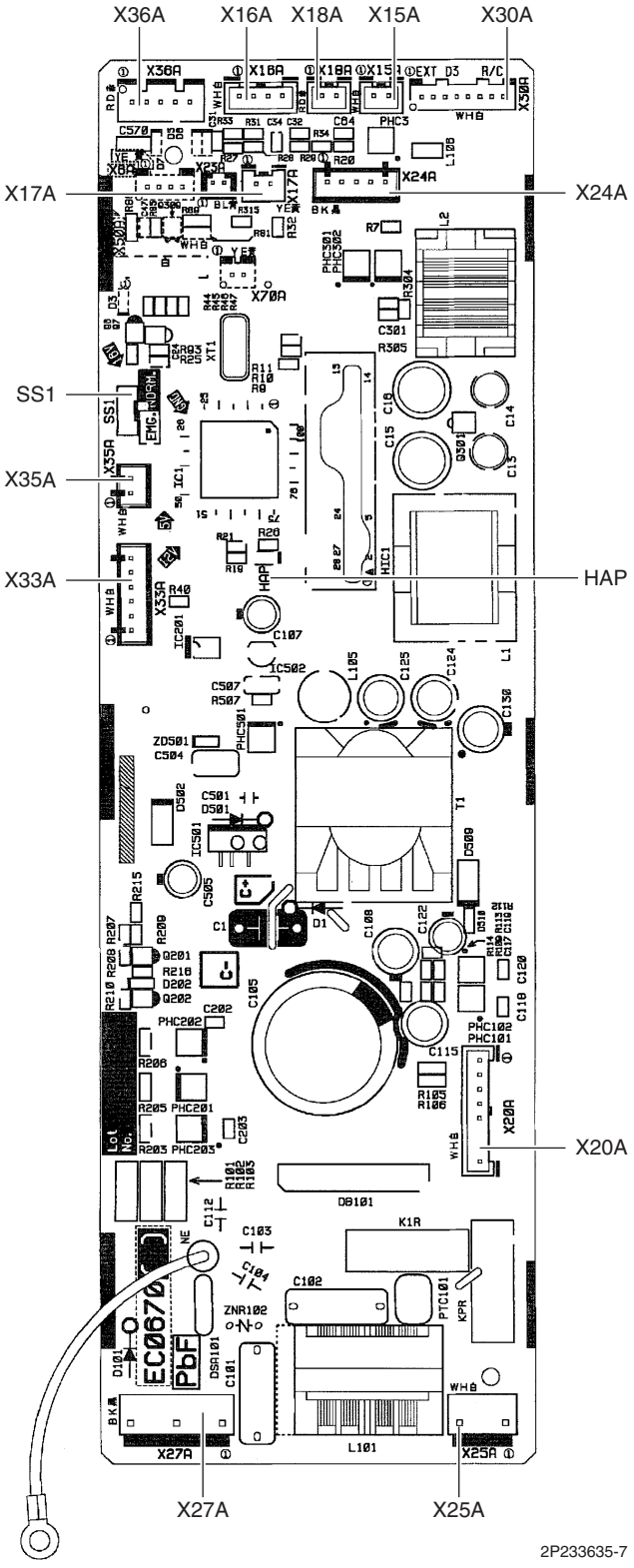
1)	X15A	Connector for float switch
2)	X16A	Connector for sensor PCB
3)	X17A, X18A	Connector for indoor heat exchanger thermistor
4)	X20A	Connector for fan motor
5)	X24A	Connector for signal receiver PCB (when the wireless remote controller is used)
6)	X25A	Connector for drain pump motor
7)	X27A	Connector for terminal board (for inter-unit wiring)
8)	X30A	Connector for terminal board (for wired remote controller)
9)	X33A	Connector for wiring adaptor PCB (option)
10)	X35A	Connector for group control adaptor (option)
11)	X36A	Connector for swing motor
12)	HAP	LED for service monitor (green)
13)	SS1	Selector switch for emergency

[A2P]: Sensor PCB

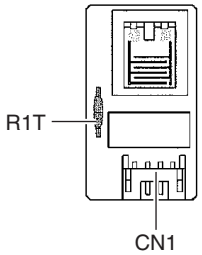
1)	CN1	Connector for control PCB
2)	R1T	Room temperature thermistor

PCB Detail

[A1P]: Control PCB



[A2P]: Sensor PCB



3.6 Ceiling Mounted Built-in Type

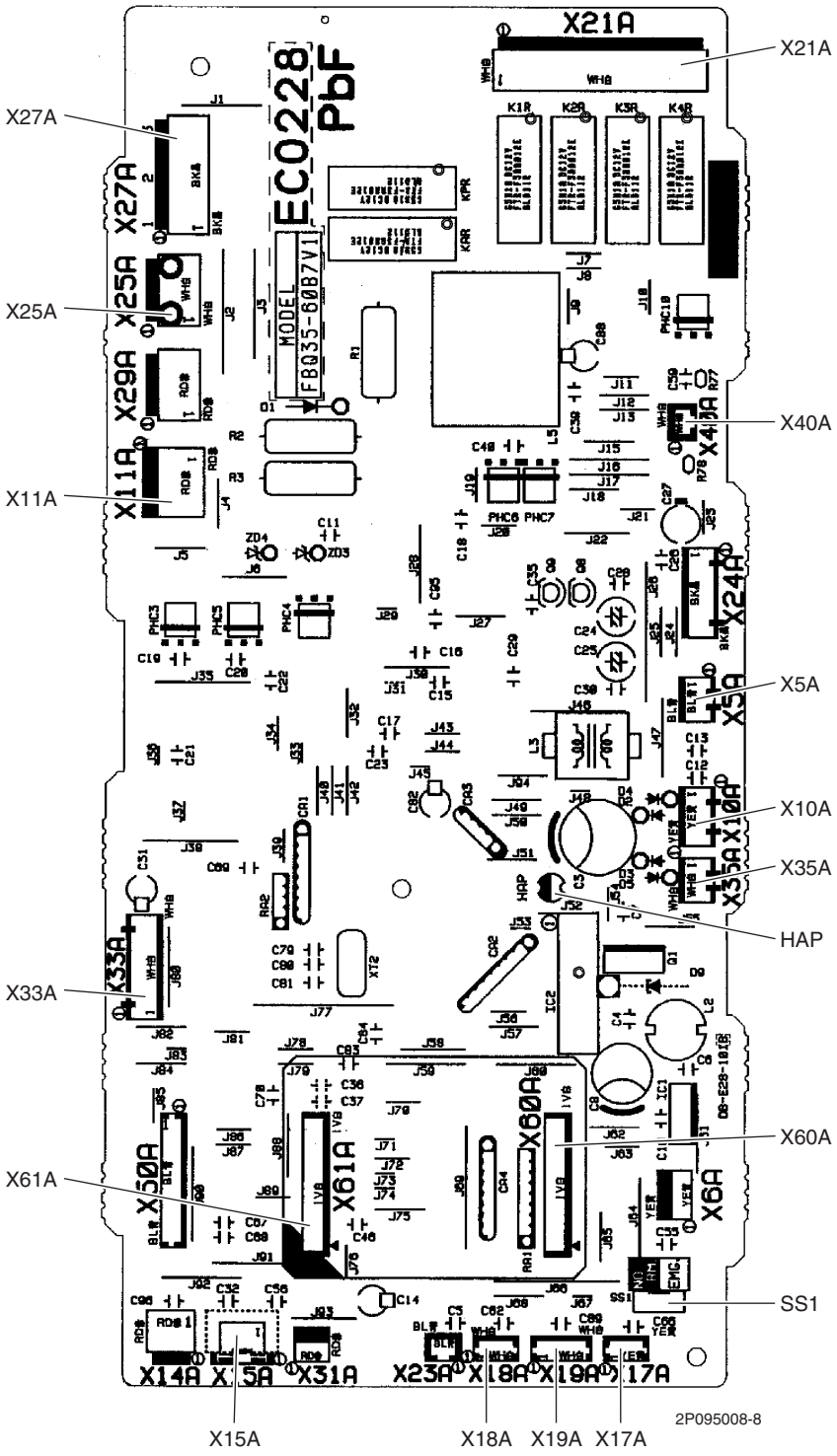
3.6.1 FDBQ25B8V1

Connectors and Other Parts

[A1P]: Control PCB

1)	X5A	Connector for terminal board (for wired remote controller)
2)	X10A, X11A	Connector for transformer
3)	X15A	Connector for float switch
4)	X17A	Connector for indoor heat exchanger thermistor
5)	X18A	Connector for liquid pipe thermistor
6)	X19A	Connector for room temperature thermistor
7)	X21A	Connector for fan motor
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)	X40A	Connector for ON/OFF input from outside (option)
13)	X60A, X61A	Connector for interface adaptor (option)
14)	HAP	LED for service monitor (green)
15)	SS1	Selector switch for emergency

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



3.6.2 FBQ35/50/60C7VEB

Connectors and Other Parts

[A1P]: Control PCB

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

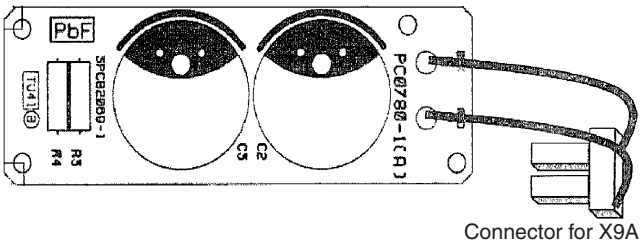
[A2P]: Fan PCB (for FBQ35/50C7VEB)

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

[A2P]: Fan PCB (for FBQ60C7EVB)

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

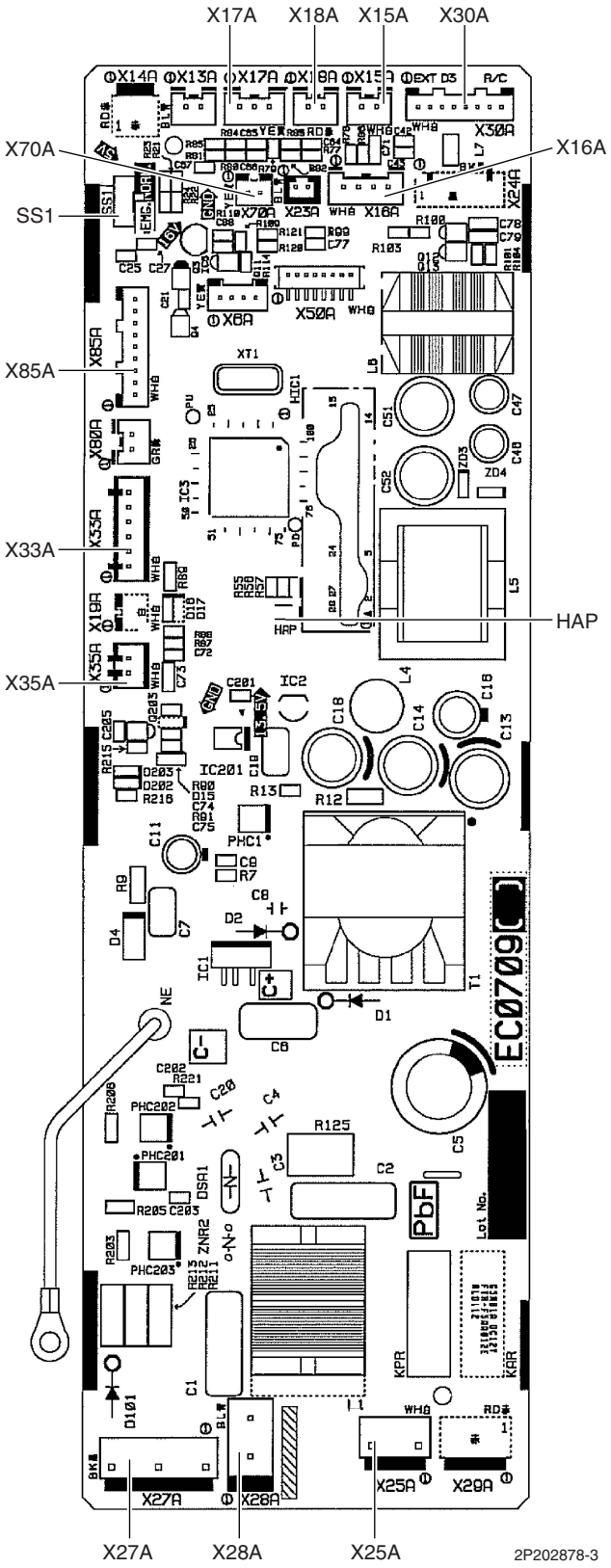
[A3P]: Capacitor PCB (FBQ60C7VEB only)



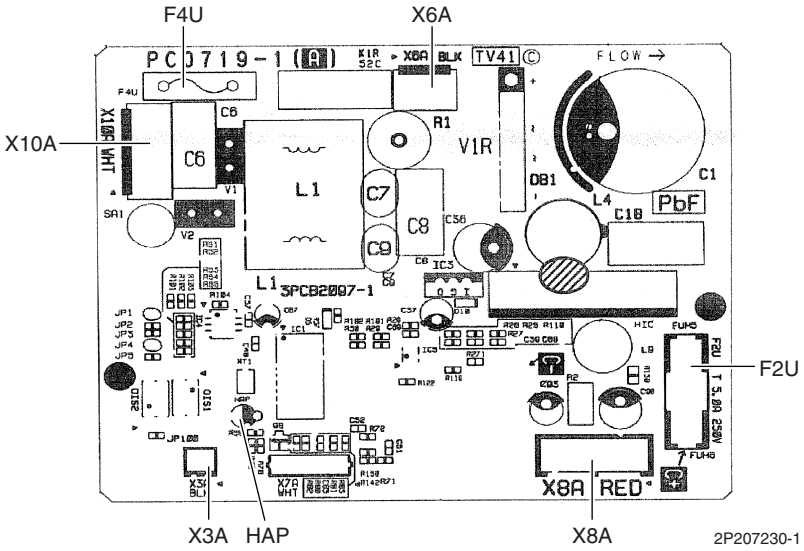
Connector for X9A on fan PCB

3P217472-1

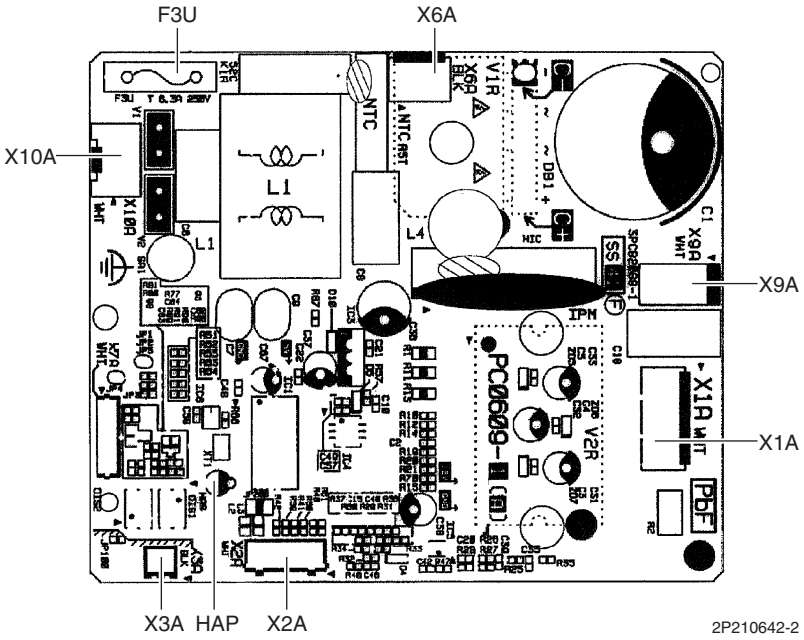
PCB Detail **[A1P]: Control PCB**



[A2P]: Fan PCB (for FBQ35/50C7VEB)



[A2P]: Fan PCB (for FBQ60C7VEB)



3.7 Ceiling Suspended Type

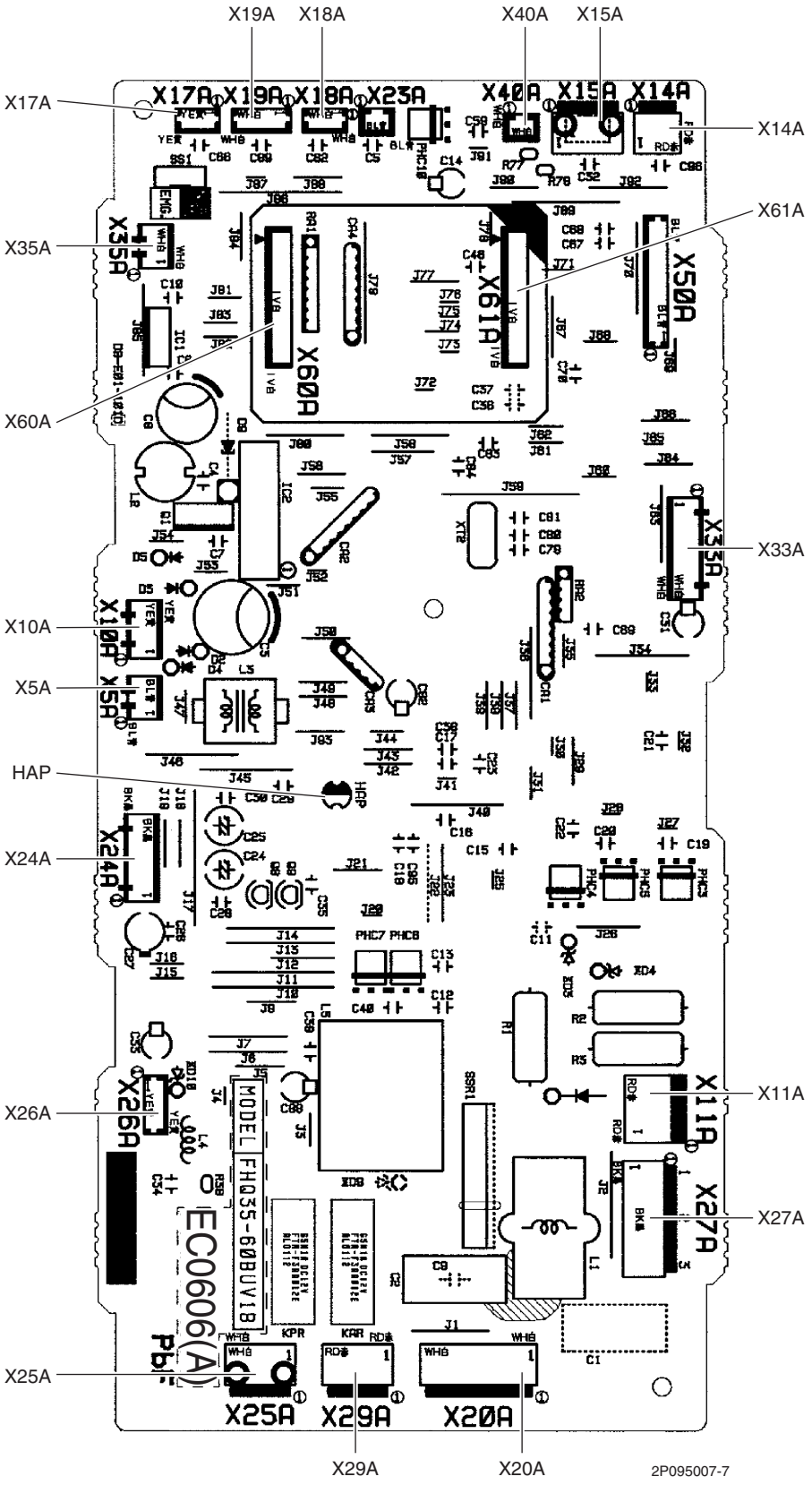
3.7.1 FHQ35/50/60BVV1B

Connectors and Other Parts

[A1P]: Control PCB

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

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



4. Remote Controller

4.1 Wired Remote Controller

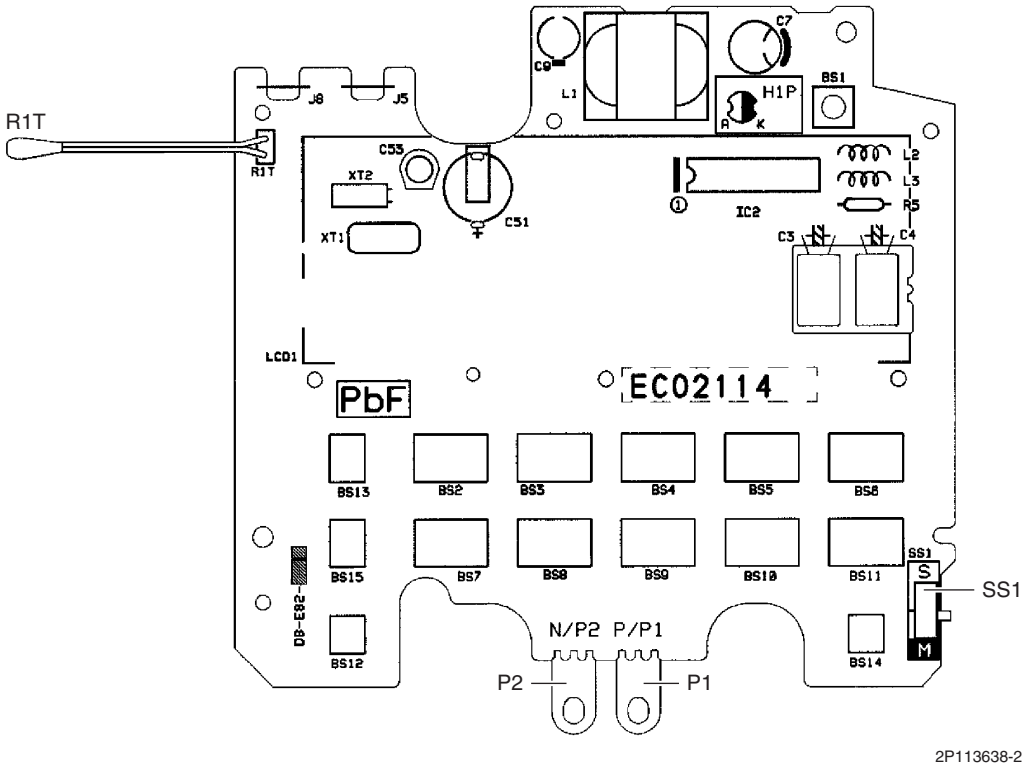
4.1.1 BRC1D528

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 162 for detail.

PCB Detail



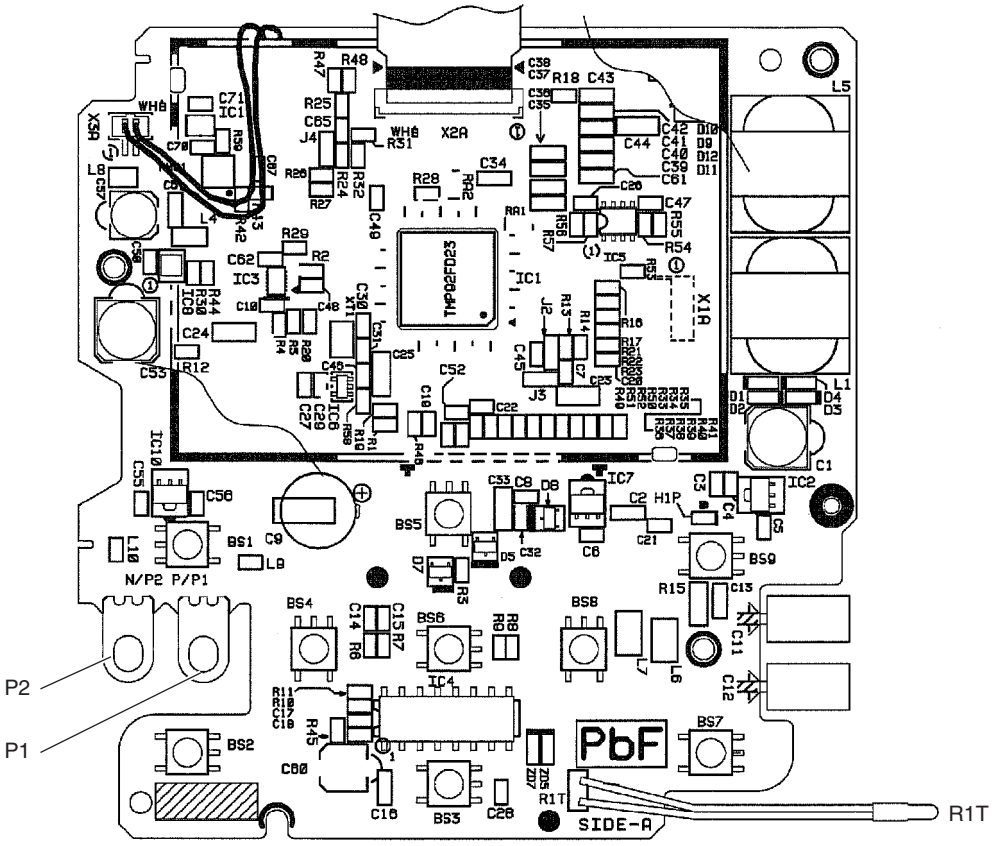
2P113638-2

4.1.2 BRC1E51A7

Connectors and Other Parts

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

PCB Detail



2P243326-1

4.2 Wireless Remote Controller

4.2.1 BRC7E530W, BRC7F532F, BRC7EA63W

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
4)	SS2	Address setting switch

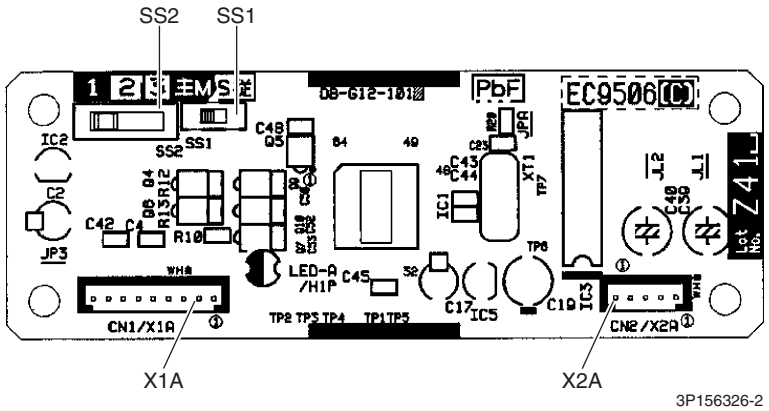
∗ Refer to page 163 for detail.

[A4P]: Display PCB

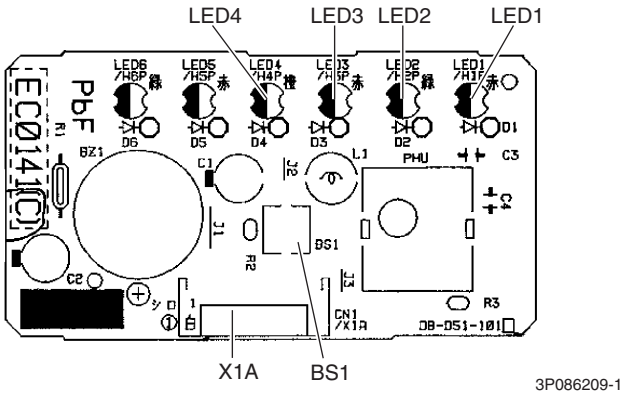
1)	X1A	Connector for signal receiver PCB
2)	BS1	Forced operation ON/OFF button
3)	LED1 (H1P)	LED for operation (red)
4)	LED2 (H2P)	LED for timer (green)
5)	LED3 (H3P)	LED for filter cleaning sign (red)
6)	LED4 (H4P)	LED for defrost operation (orange)

PCB Detail

[A3P]: Signal Receiver PCB

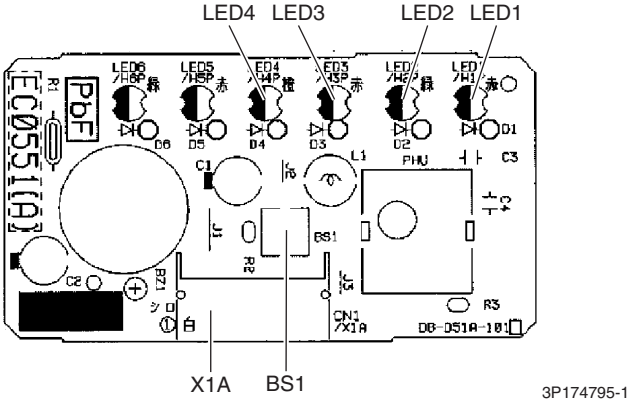


[A4P]: Display PCB (BRC7E530W)



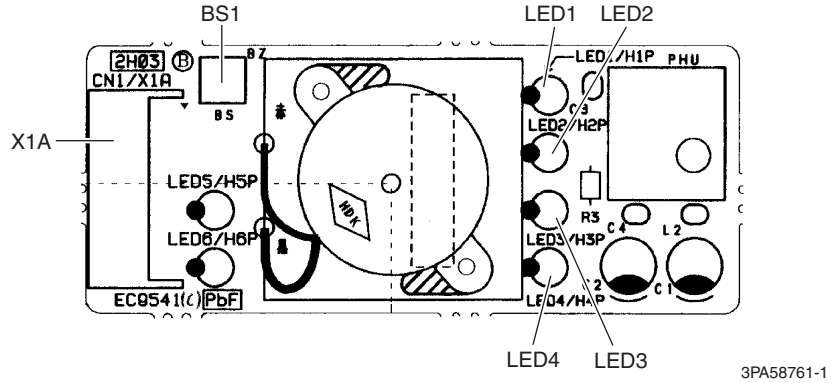
★ LED5 and LED6 do not function.

[A4P]: Display PCB (BRC7F532F)



★ LED5 and LED6 do not function.

[A4P]: Display PCB (BRC7EA63W)



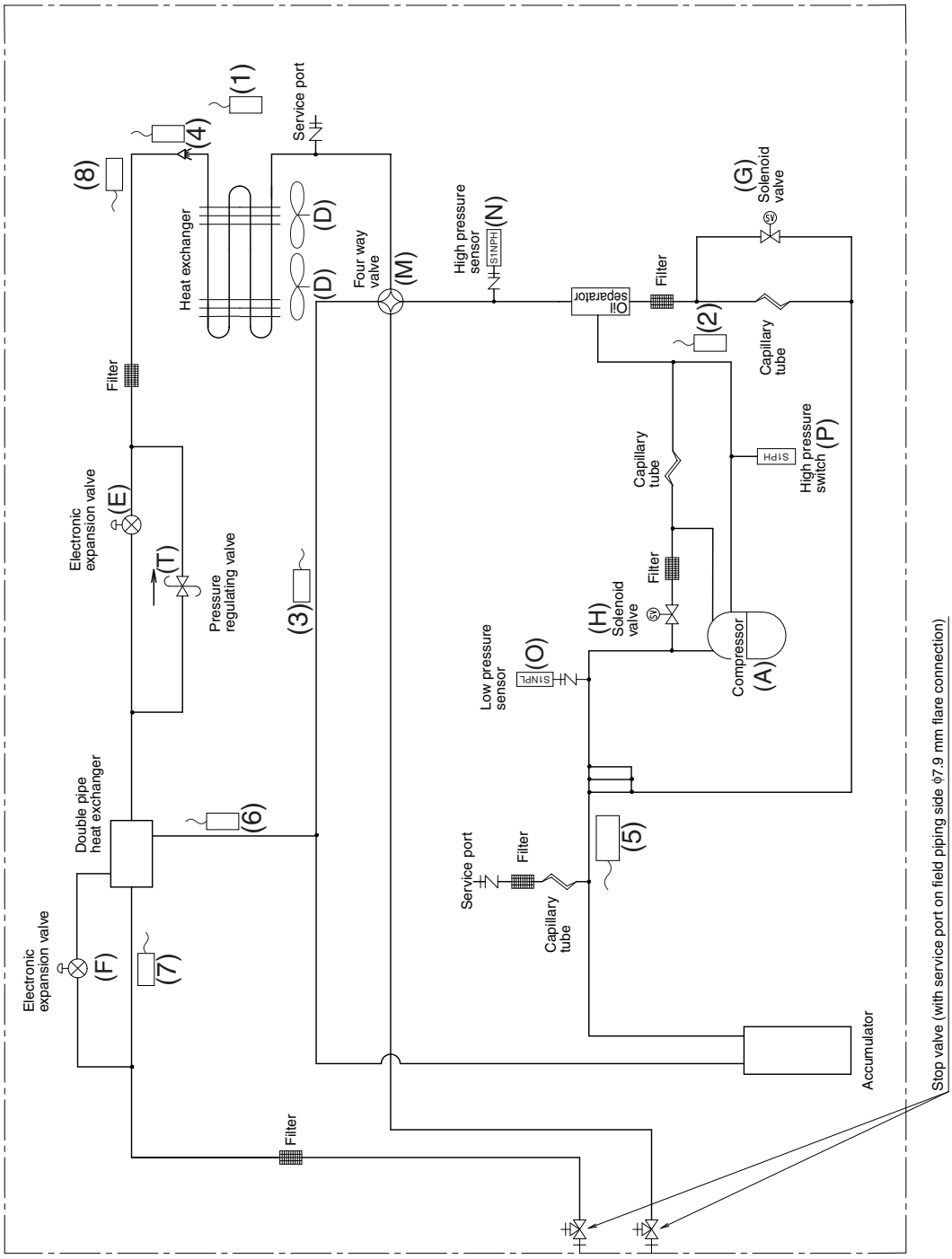
★ LED5 and LED6 do not function.

Part 4
Refrigerant Circuit

1. Refrigerant Circuit

1.1 Outdoor Unit

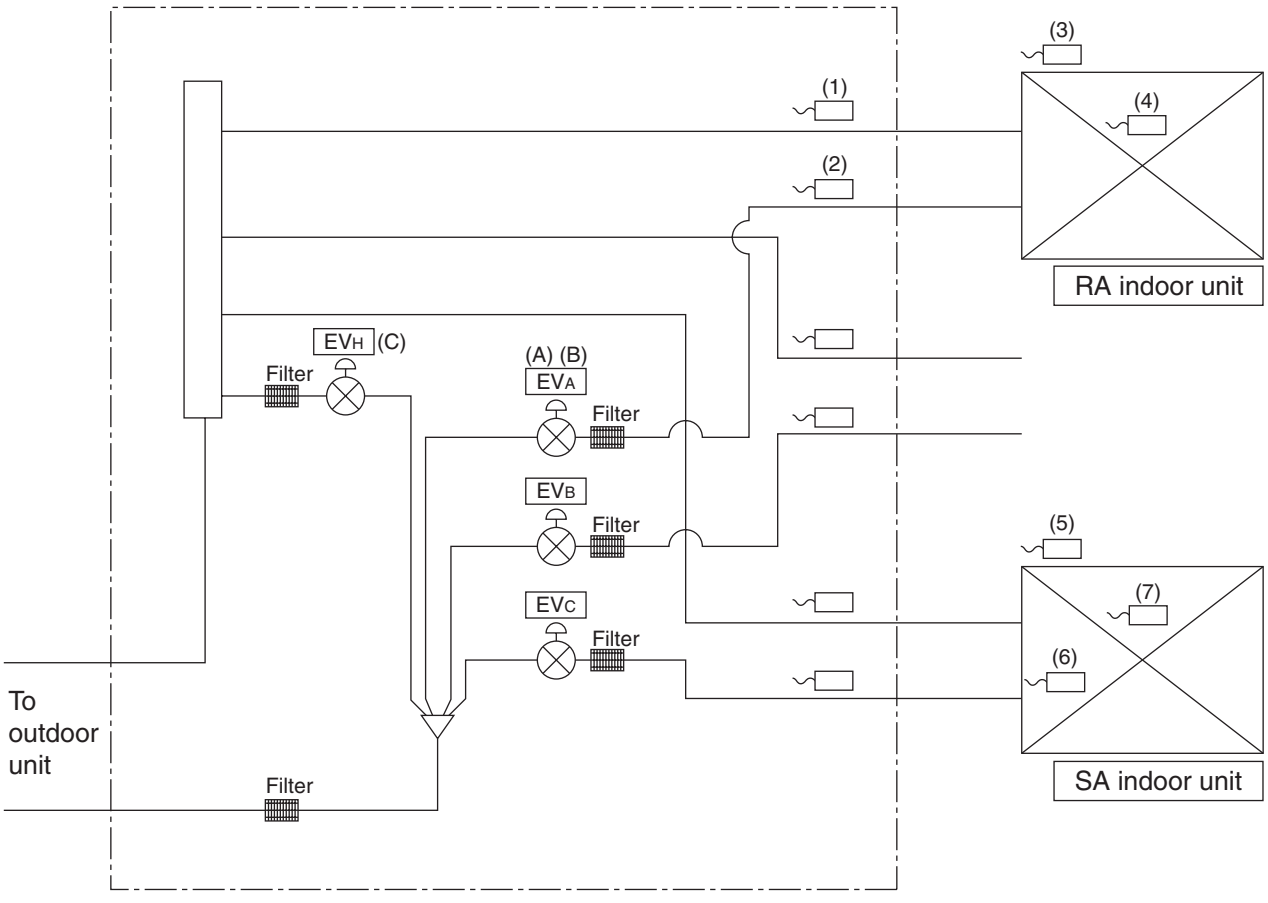
No. in diagram	Symbol	Name	Major Function
A	M1C	Compressor motor	The compressor is operated on frequencies between 36 Hz and 195 Hz by using inverter. 31 steps
D	M1F M2F	Fan motor	Since the system is of air heat exchanging type, the fan is operated at 8-step rotation speed by using the inverter.
E	Y1E	Electronic expansion valve (Main)	While in heating operation, PI control is applied to keep the outlet superheated degree of air heat exchanger constant.
F	Y3E	Electronic expansion valve (Subcooling)	PI control is applied to keep the outlet superheated degree of subcooling heat exchanger constant.
G	Y2S	Solenoid valve (Hot gas bypass valve)	Used to prevent the low pressure from temporary falling.
H	Y3S	Solenoid valve (Unload circuit)	Used to the unloading operation of compressor.
M	Y1S	Four way valve	Used to switch the operation mode between cooling and heating.
N	S1NPH	High pressure sensor	Used to detect high pressure.
O	S1NPL	Low pressure sensor	Used to detect low pressure.
P	S1PH	High pressure switch	In order to prevent the increase of high pressure when an error occurs, this switch is activated at high pressure of 4.0 MPa or more to stop the compressor operation.
T	—	Pressure regulating valve 1 (Receiver to discharge pipe)	This valve opens at a pressure of 4.0 MPa for prevention of pressure increase, thus resulting in no damage of functional parts due to the increase of pressure in transportation or storage.
1	R1T	Thermistor (Outdoor temperature: Ta)	Used to detect outdoor temperature, correct discharge pipe temperature, and others.
2	R2T	Thermistor (Discharge pipe: Tdi)	Used to detect discharge pipe temperature, make the temperature protection control of compressor, and others.
3	R3T	Thermistor (Suction pipe 1: Ts1)	Used to detect suction pipe temperature, keep the suction superheated degree constant in heating operation, and others.
4	R4T	Thermistor (Outdoor heat exchanger: Tb)	Used to detect liquid pipe temperature of outdoor heat exchanger, determine defrosting operation, and others.
5	R5T	Thermistor (Suction pipe 2: Ts2)	Used to the calculation of an internal temperature of compressor etc.
6	R6T	Thermistor (Subcooling heat exchanger gas pipe: Tsh)	Used to control of subcooling electronic expansion valve.
7	R7T	Thermistor (Liquid pipe: Tl1)	Used to detect refrigerant overcharge in check operation, and others.
8	R8T	Thermistor (Liquid pipe 2: Tl2)	Used to detect refrigerant over charge in check operation, and others.


(1)
Service port
(4)
(8)
Heat exchanger
(D)
(D)
Four way valve
(M)
High pressure sensor
(N)
S1NPH
(G)
Solenoid valve
Oil separator
Filter
(2)
Capillary tube
Filter
Capillary tube
High pressure switch
(P)
S1PH
Electronic expansion valve
(E)
(T)
Pressure regulating valve
(3)
(H)
Solenoid valve
Filter
Low pressure sensor
(O)
S1NPL
Compressor
(A)
Double pipe heat exchanger
(6)
Service port
Filter
(5)
Electronic expansion valve
(F)
(7)
Capillary tube
Accumulator
Filter
Stop valve (with service port on field piping side ϕ7.9 mm flare connection)

C : 3D052712

1.2 BP Unit

No. in diagram	Symbol	Name	Major Function
A	EVU	Electronic expansion valve (for operating room)	Among EVA, EVB and EVC, the electronic expansion valve of operating room is called EVU.
B	EVT	Electronic expansion valve (for non-operating room)	Among EVA, EVB and EVC, the electronic expansion valve of stopping room is called EVT.
C	EVH	Electronic expansion valve (Bypass)	While in oil return operation, used to adjust the refrigerant circulating rate of indoor unit.
1	DGA ~ DGC	Thermistor (Gas pipe)	While in cooling operation, used to carry out the indoor unit SH control and cooling gas pipe isothermal control.
2	DLA ~ DLC	Thermistor (Liquid pipe)	While in heating operation, used to carry out the indoor unit SC control.
3	R1T	Thermistor (Room temperature)	Used to detect room air temperature and instructs the capacity supply to BP unit.
4	R2T	Thermistor (Heat exchanger)	Used to detect heat exchanger temperature and carry out various protection functions and controls of capacity.
5	R1T	Thermistor (Room temperature)	Used to detect room air temperature and instructs the capacity supply to BP unit.
6	R2T	Thermistor (Heat exchanger 1)	Used to detect heat exchanger temperature and carry out various protection functions and controls of capacity.
7	R3T	Thermistor (Heat exchanger 2)	Used to detect heat exchanger temperature and carry out various protection functions and controls of capacity.

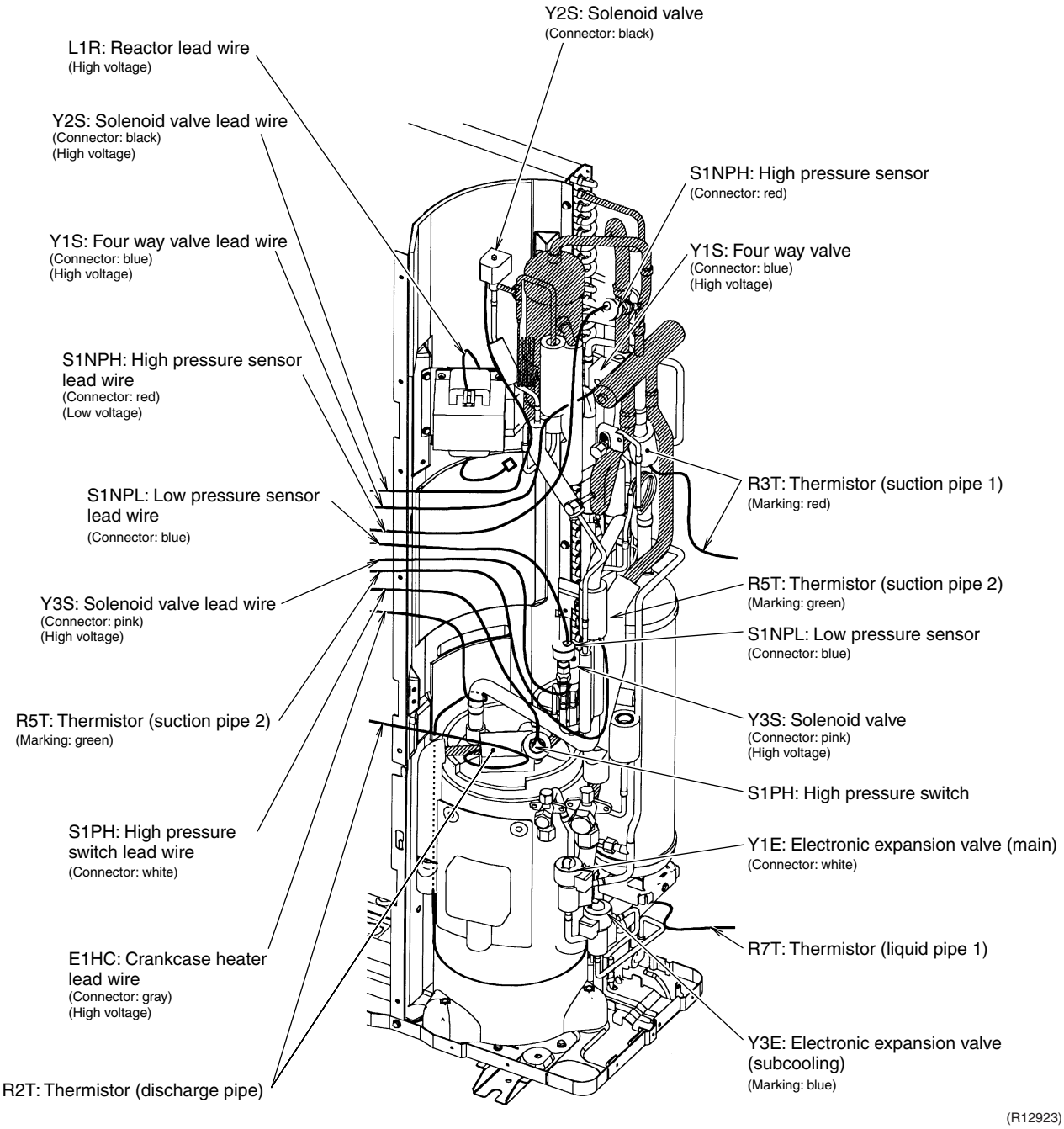


(Q0403)

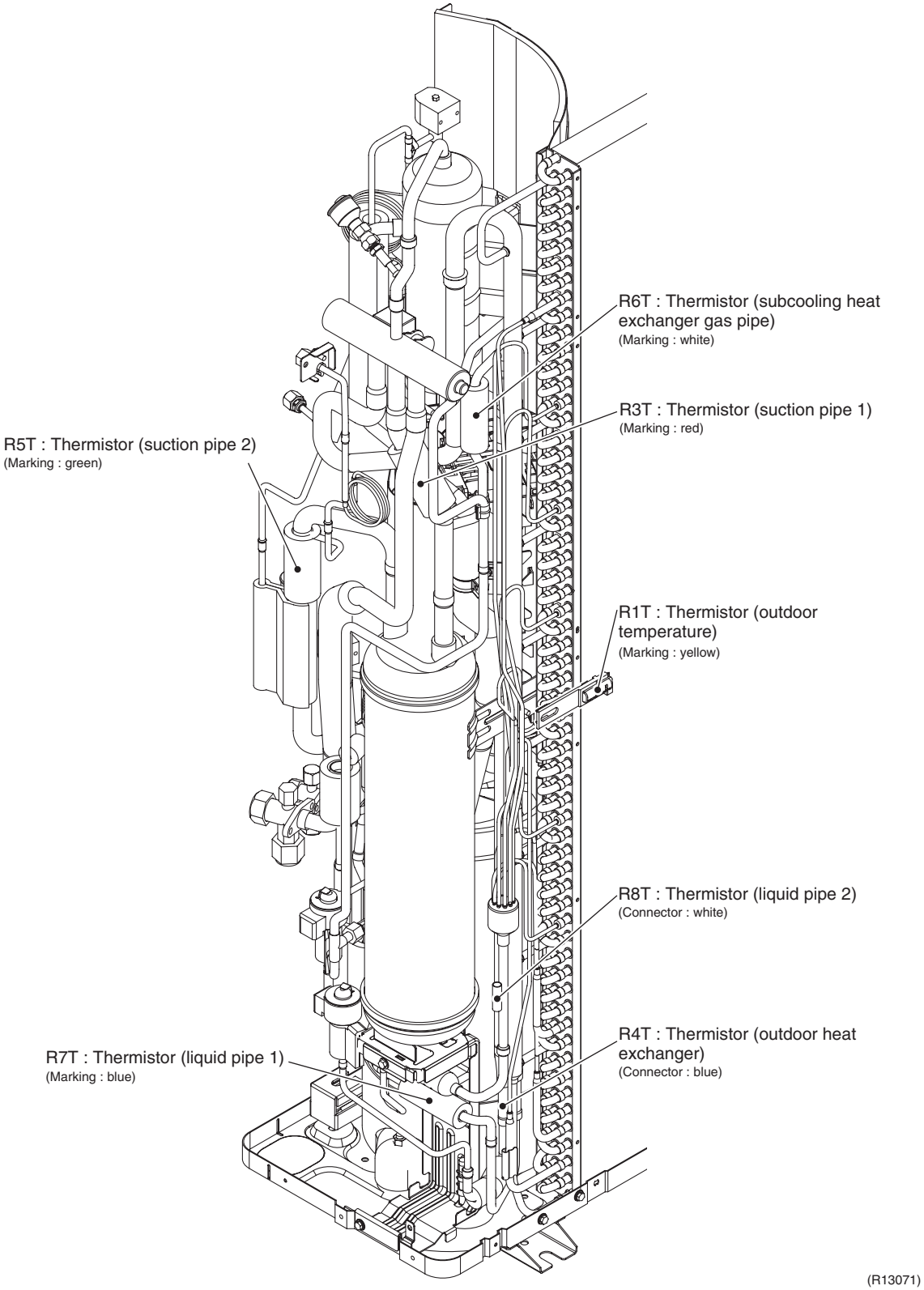
2. Functional Parts Layout

2.1 Outdoor Unit

Front View

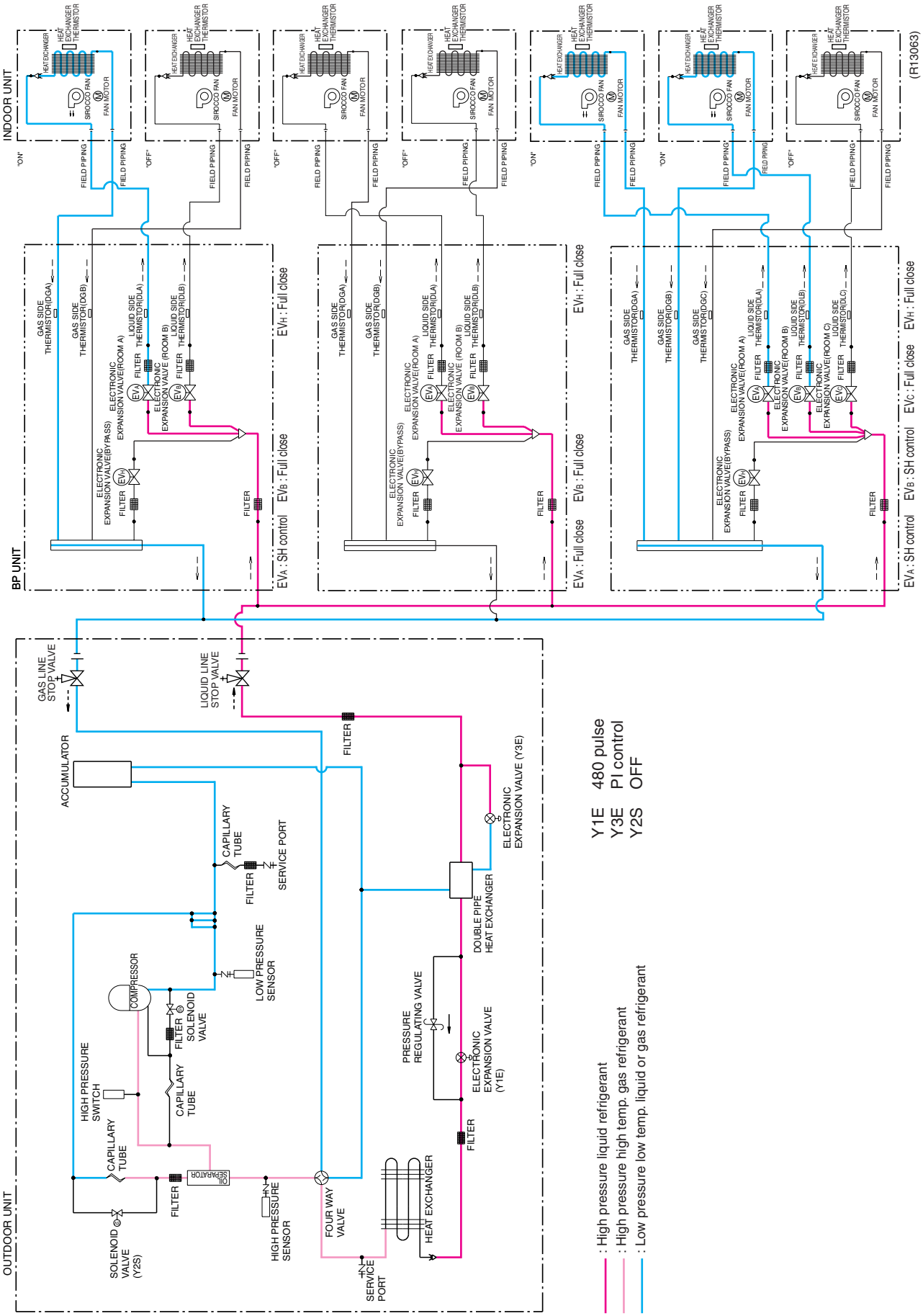


Back View

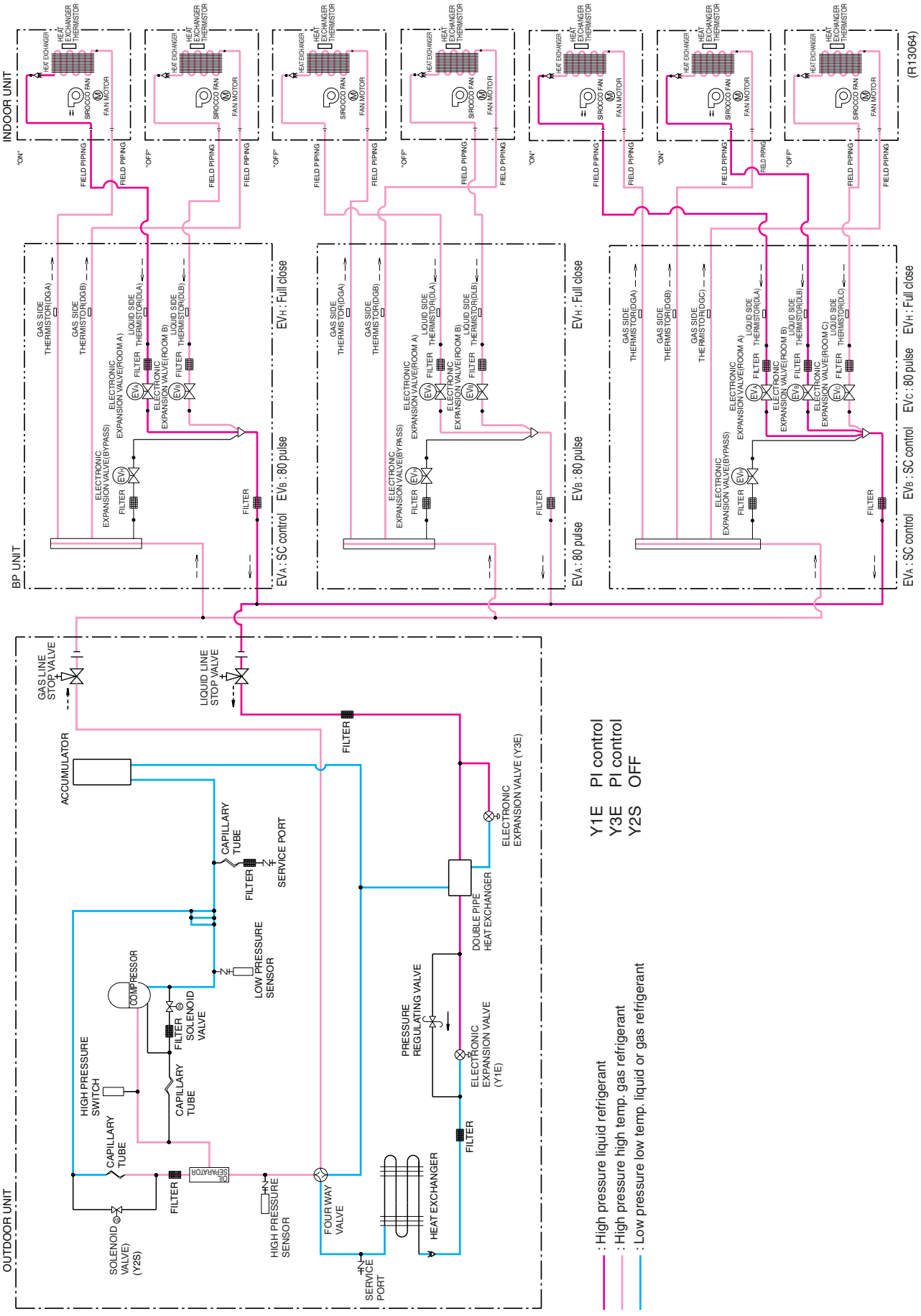

R6T : Thermistor (subcooling heat exchanger gas pipe)
(Marking : white)
R3T : Thermistor (suction pipe 1)
(Marking : red)
R5T : Thermistor (suction pipe 2)
(Marking : green)
R1T : Thermistor (outdoor temperature)
(Marking : yellow)
R8T : Thermistor (liquid pipe 2)
(Connector : white)
R4T : Thermistor (outdoor heat exchanger)
(Connector : blue)
R7T : Thermistor (liquid pipe 1)
(Marking : blue)
(R13071)

3. Refrigerant Flow for Each Operation Mode

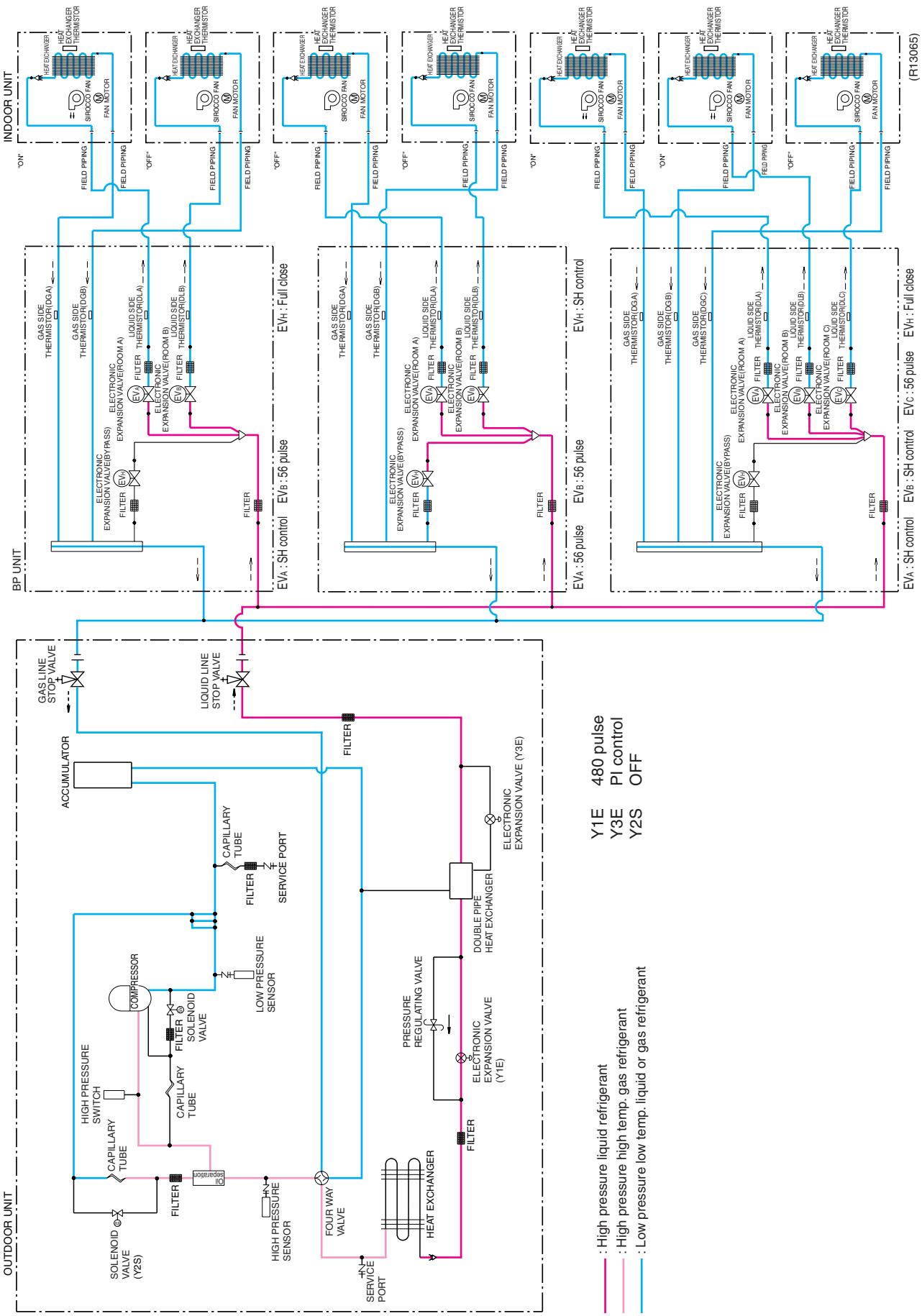
3.1 Cooling Operation



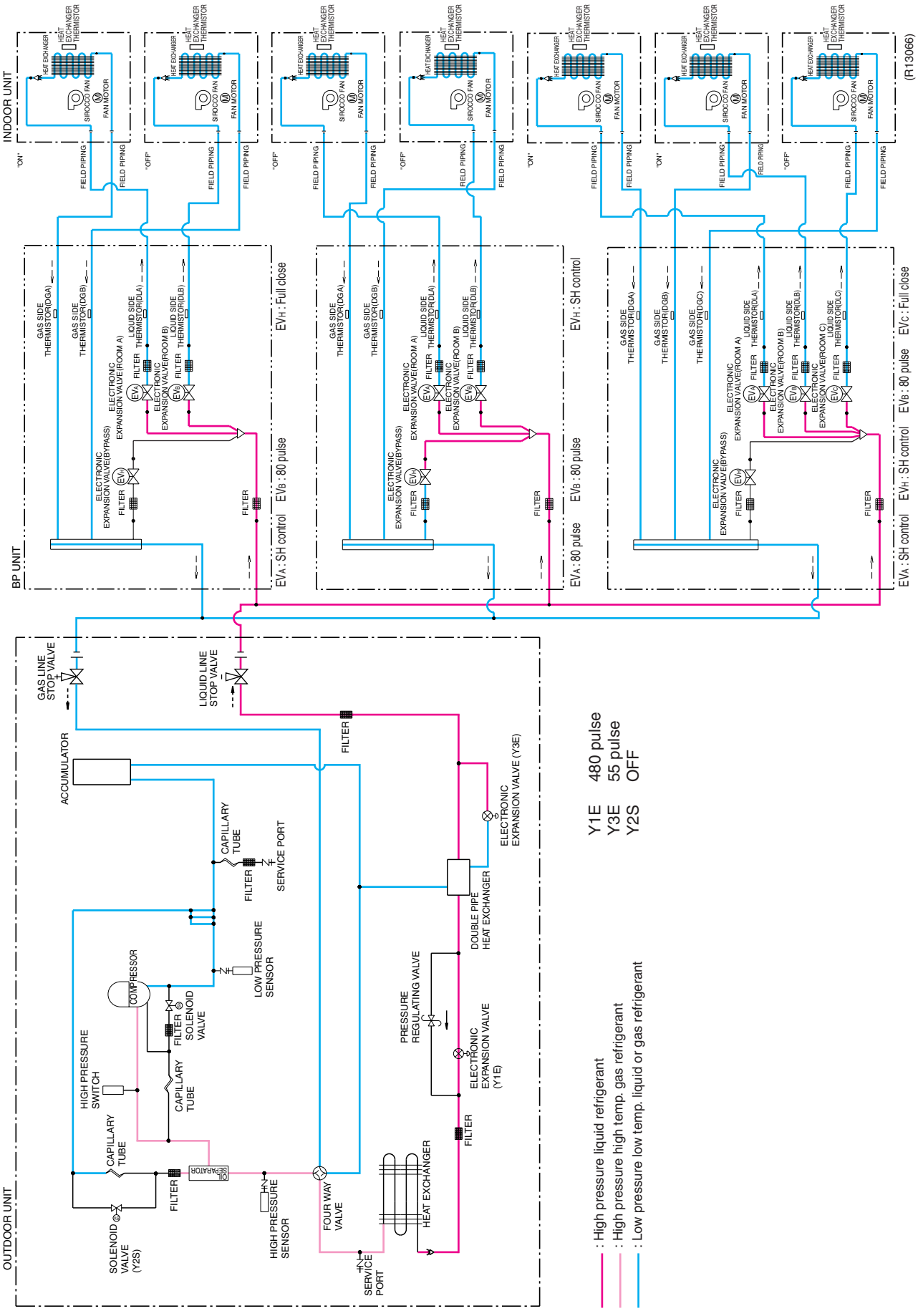
3.2 Heating Operation



3.3 Cooling Oil Return Operation

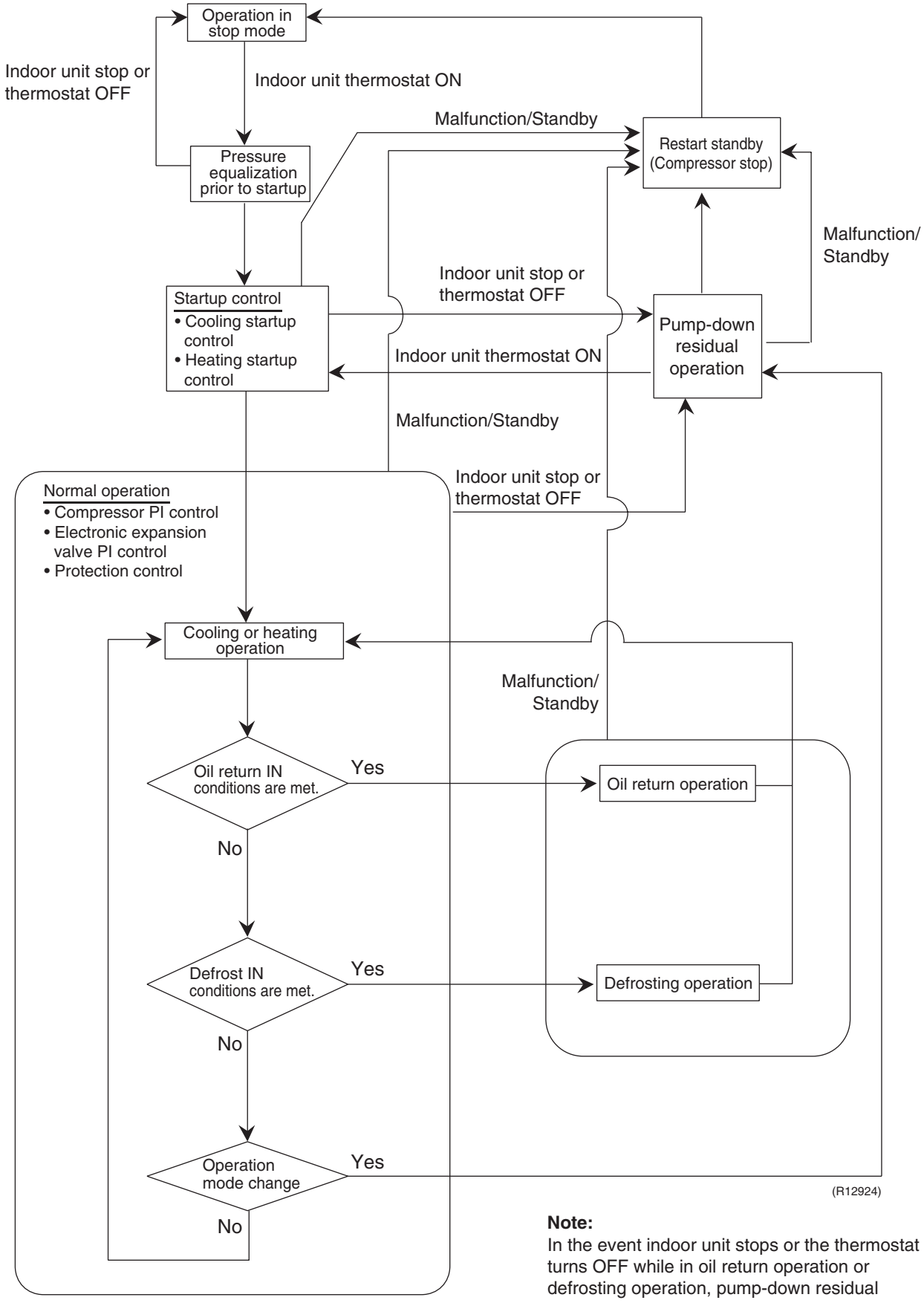


3.4 Heating Oil Return Operation & Defrost Operation



Part 5
Function

1. Operation Mode



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

2. Basic Control

2.1 Normal Operation

[Cooling Operation]

Actuator	Operation	Remarks
Compressor	Compressor PI control	Used for high pressure protection control, low pressure protection control, discharge pipe temperature protection control, and compressor operating frequency upper limit control with inverter protection control.
Outdoor fan	Cooling fan control	—
Four way valve (Y1S)	OFF	—
Main electronic expansion valve (Y1E)	480 pls	—
Subcooling electronic expansion valve (Y3E)	PI control	—
Hot gas bypass valve (Y2S)	OFF	This valve turns on with low pressure protection control.

[Heating Operation]

Actuator	Operation	Remarks
Compressor	Compressor PI control	Used for high pressure protection control, low pressure protection control, discharge pipe temperature protection control, and compressor operating frequency upper limit control with inverter protection control.
Outdoor fan	STEP 7 or 8	—
Four way valve (Y1S)	ON	—
Main electronic expansion valve (Y1E)	PI control	—
Subcooling electronic expansion valve (Y3E)	PI control	—
Hot gas bypass valve (Y2S)	OFF	This valve turns on with low pressure protection control.

★Heating operation does not function when the outdoor temperature is above 24°CDB.

2.2 Compressor PI Control

The PI control of compressor capacity is carried out to maintain Te at constant during cooling operation and Tc at constant during heating operation to ensure stable unit performance.

[Cooling operation]

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

Te : Low pressure equivalent saturation temperature (°C)

Te setting (Set in Set-up mode 2)

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

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

[Heating operation]

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

Tc : High pressure equivalent saturation temperature (°C)

Tc setting

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

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

Step	Full-load	Unload
1		36.0 Hz
2		39.0 Hz
3		43.0 Hz
4		47.0 Hz
5		52.0 Hz
6	52.0 Hz	57.0 Hz
7	57.0 Hz	64.0 Hz
8	62.0 Hz	71.0 Hz
9	68.0 Hz	78.0 Hz
10	74.0 Hz	
11	80.0 Hz	
12	86.0 Hz	
13	92.0 Hz	
14	98.0 Hz	
15	104.0 Hz	

Step	Full-load	Unload
16	110.0 Hz	
17	116.0 Hz	
18	122.0 Hz	
19	128.0 Hz	
20	134.0 Hz	
21	140.0 Hz	
22	146.0 Hz	
23	152.0 Hz	
24	158.0 Hz	
25	164.0 Hz	
26	170.0 Hz	
27	175.0 Hz	
28	180.0 Hz	
29	185.0 Hz	
30	190.0 Hz	
31	195.0 Hz	

* Compressors may operate in a pattern other than those listed in above tables subject to the operating conditions. Selection of full load operation to/from unload operation is made with the unload circuit solenoid valve (Y3S). The full load operation is performed with the Y3S set to OFF, while the unload operation is performed with the Y3S set to ON.

2.3 Electronic Expansion Valve PI Control

Main Electronic Expansion Valve

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

SH = Ts1 – Te

SH : Evaporator outlet superheated degree (°C)

Ts1 : Suction pipe temperature detected by thermistor R3T (°C)

Te : Low pressure equivalent saturation temperature (°C)

The optimum initial value of the evaporator outlet superheated degree is 3°C, but varies depending on the discharge pipe superheated degree of inverter compressor.

Subcooling Electronic Expansion Valve

The PI control of electronic expansion valve (Y3E) is carried out to keep the evaporator outlet superheated degree (SH) of gas pipe for the full use of the subcooling heat exchanger.

SH = Tsh – Te

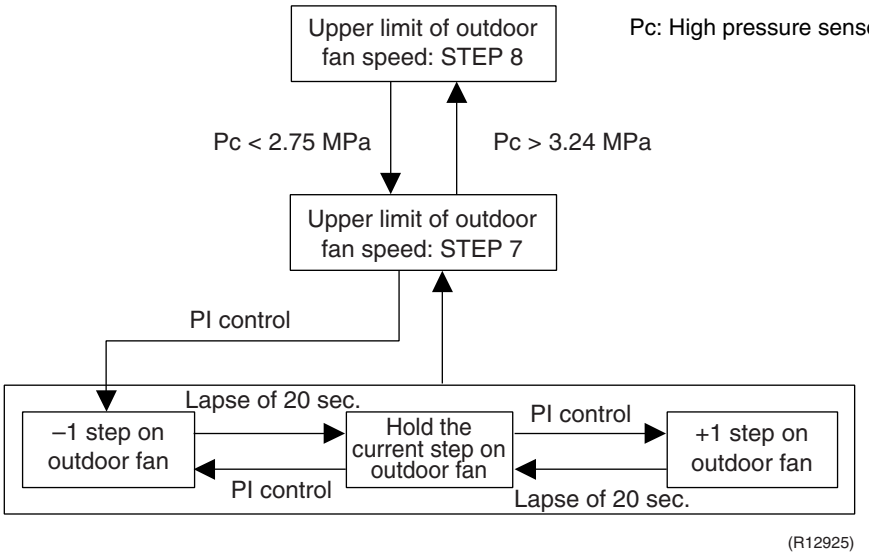
SH : Evaporator outlet superheated degree (°C)

Tsh : Subcooling heat exchanger gas pipe temperature detected by thermistor R6T (°C)

Te : Low pressure equivalent saturation temperature (°C)

2.4 Cooling Operation Fan Control

In cooling operation with low outdoor temperature, this control is used to provide the adequate amount of circulating air with liquid pressure secured by high pressure control using outdoor fan.
Furthermore, when outdoor temperature ≥ 20°C, the compressor runs in Step 7 or higher. When outdoor temperature ≥ 18°C, it runs in Step 5 or higher.
When outdoor temperature ≥ 12°C, it runs in Step 1 or higher.



(R12925)

Fan Steps

Cooling	M1F	M2F
STEP 0	0 rpm	0 rpm
STEP 1	250 rpm	0 rpm
STEP 2	400 rpm	0 rpm
STEP 3	285 rpm	250 rpm
STEP 4	360 rpm	325 rpm
STEP 5	445 rpm	410 rpm
STEP 6	580 rpm	545 rpm
STEP 7	715 rpm	680 rpm
STEP 8	850 rpm	815 rpm

3. Special Control

3.1 Startup Control

This control is used to equalize the pressure in the front and back of the compressor prior to the startup of the compressor, thus reducing startup loads. Furthermore, the inverter is turned ON to charge the capacitor.
In addition, to avoid stresses to the compressor due to oil return operation or else after the startup, the following control is made and the position of the four way valve is also determined.
To position the four way valve, the master and slave units simultaneously start up.

3.1.1 Startup Control in Cooling Operation

Thermostat ON

	Pressure equalization control prior to startup	Startup control	
		STEP 1	STEP 2
Compressor	0 Hz	57 Hz Unload	57 Hz Unload +2 steps / 20 sec. (until Pc – Pe > 0.39 MPa is achieved)
Outdoor fan	STEP 7	Ta < 20°C: OFF Ta ≥ 20°C: STEP 4	+1 step / 15 sec. (when Pc > 2.16 MPa) –1 step / 15 sec. (when Pc < 1.77 MPa)
Four way valve (Y1S)	Holds	OFF	OFF
Main electronic expansion valve (Y1E)	0 pls	480 pls	480 pls
Subcooling electronic expansion valve (Y3E)	0 pls	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	OFF	OFF
Ending conditions	or • Pc – Pe < 0.3 MPa • A lapse of 1 to 5 min.	A lapse of 10 sec.	or • A lapse of 130 sec. • Pc – Pe > 0.39 MPa

3.1.2 Startup Control in Heating Operation

Thermostat ON

	Pressure equalization control prior to startup	Startup control	
		STEP 1	STEP 2
Compressor	0 Hz	57 Hz Unload	57 Hz Unload +2 steps / 20 sec. (until Pc – Pe > 0.39 MPa is achieved)
Outdoor fan	From starting ~ 1 min. : STEP 7 1 ~ 3 min. : STEP 3 3 ~ 5 min. : OFF	STEP 8	STEP 8
Four way valve (Y1S)	Holds	ON	ON
Main electronic expansion valve (Y1E)	0 pls	0 pls	0 pls
Subcooling electronic expansion valve (Y3E)	0 pls	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	OFF	OFF
Ending conditions	or • Pc – Pe < 0.3 MPa • A lapse of 1 to 5 min.	A lapse of 10 sec.	or • A lapse of 130 sec. • Pc > 2.70 MPa • Pc – Pe > 0.39 MPa

3.2 Oil Return Operation

In order to prevent the compressor from running out of oil, the oil return operation is conducted to recover oil flown out from the compressor to the system side.

3.2.1 Oil Return Operation in Cooling Operation

[Conditions to start]

Referring to the set conditions for the following items, start the oil return operation in cooling.

- Cumulative oil feed rate
- Timer setting (Make this setting so as to start the oil return operation when the initial cumulative operating time reaches 2 hours after power supply is turned ON and then every eight hours.)

Furthermore, the cumulative oil feed rate is computed from Tc, Te, and compressor loads.

Outdoor unit actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Take the current step as the upper limit.	52 Hz Full load (→ Low pressure constant control)	Same as the “oil return operation” mode.
Outdoor fan	Fan control (Normal cooling)	Fan control (Normal cooling)	Fan control (Normal cooling)
Four way valve (Y1S)	OFF	OFF	OFF
Main electronic expansion valve (Y1E)	480 pls	480 pls	480 pls
Subcooling electronic expansion valve (Y3E)	SH control	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	OFF	OFF
Ending conditions	20 sec.	or • 3 min. • Ts – Te < 5°C	or • 3 min. • Pe < 0.6 MPa • HTdi > 110°C

Indoor unit actuator		Cooling oil return operation
Indoor fan	Thermostat ON unit	Remote controller setting
	Stopping unit	OFF
	Thermostat OFF unit	Remote controller setting
Electronic expansion valve of BP unit	Thermostat ON unit	SH control
	Stopping unit	77 pls
	Thermostat OFF unit	SH control

3.2.2 Oil Return Operation in Heating Operation

[Conditions to start]

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

- Integrated amount of displaced oil
- Timer
  (After the power is turned on, integrated operating-time is 2 hours and subsequently every 8 hours.)

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

Outdoor unit actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Upper limit control	140 Hz Full load	2-step increase from 36 Hz Unload to (Pc – Pe > 0.4 MPa) every 20 sec.
Outdoor fan	STEP 8	OFF	STEP 8
Four way valve (Y1S)	ON	OFF	ON
Main electronic expansion valve (Y1E)	SH control	480 pls	55 pls
Subcooling electronic expansion valve (Y3E)	0 pls	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	OFF	OFF
Ending conditions	2 min.	or (• 12 min. &• Ts1 – Te < 5°C &• Tb > 11°C)	or (• 160 sec. • Pc – Pe > 0.4 MPa)

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

Indoor unit actuator		Heating oil return operation
Indoor fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve of BP unit	Thermostat ON unit	SH control
	Stopping unit	80 pls
	Thermostat OFF unit	SH control

3.3 Defrosting Operation

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

[Conditions to start]

The defrosting operation is started referring following conditions.

- Outdoor heat exchanger heat transfer co-efficiency
- Outdoor heat exchanger temperature (Tb)
- Timer (2 hours at the minimum)

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

Outdoor unit actuator	Defrost preparation operation	Defrost operation	Post defrost operation
Compressor	Upper limit control	140 Hz Full load	2-step increase from 36 Hz Unload to (Pc – Pe > 0.4 MPa) every 20 sec.
Outdoor fan	STEP 8	OFF	STEP 8
Four way valve (Y1S)	ON	OFF	ON
Main electronic expansion valve (Y1E)	SH control	480 pls	55 pls
Subcooling electronic expansion valve (Y3E)	0 pls	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	ON	ON
Ending conditions	2 min.	or &{ • 15 min. • Tb > 11°C • Ts1 – Te < 5°C	or { • 160 sec. • Pc – Pe > 0.4 MPa

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

Indoor unit actuator		Operation
Indoor fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve of BP unit	Thermostat ON unit	SH control
	Stopping unit	80 pls
	Thermostat OFF unit	SH control

3.4 Pump-down Residual Operation

When activating compressor, if the liquid refrigerant remains in the heat exchanger, the liquid enters into the compressor and dilutes oil therein resulting in decrease of lubricity.
Therefore, the pump-down residual operation is performed to collect the refrigerant in the heat exchanger when the compressor is down.

3.4.1 Pump-down Residual Operation in Cooling Operation

Actuator	Pump-down residual operation	
	Step 1	Step 2
Compressor	124 Hz Full load	52 Hz Full load
Outdoor fan	Fan control	Fan control
Four way valve (Y1S)	OFF	OFF
Main electronic expansion valve (Y1E)	480 pls	240 pls
Subcooling electronic expansion valve (Y3E)	0 pls	0 pls
Hot gas bypass valve (Y2S)	OFF	OFF
Ending conditions	2 sec.	2 sec.

3.4.2 Pump-down Residual Operation in Heating Operation

Actuator	Pump-down residual operation
Compressor	124 Hz Full load
Outdoor fan	STEP 7
Four way valve (Y1S)	ON
Main electronic expansion valve (Y1E)	0 pls
Subcooling electronic expansion valve (Y3E)	0 pls
Hot gas bypass valve (Y2S)	OFF
Ending conditions	4 sec.

3.5 Restart Standby

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

Actuator	Operation	Remarks
Compressor	OFF	—
Outdoor fan	Ta > 30°C: STEP 4 Ta ≤ 30°C: OFF	—
Four way valve (Y1S)	Former condition remains.	—
Main electronic expansion valve (Y1E)	0 pls	—
Subcooling electronic expansion valve (Y3E)	0 pls	—
Hot gas bypass valve (Y2S)	OFF	—
Ending conditions	2 min.	—

3.6 Stopping Operation

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

3.6.1 When System is in Stop Mode

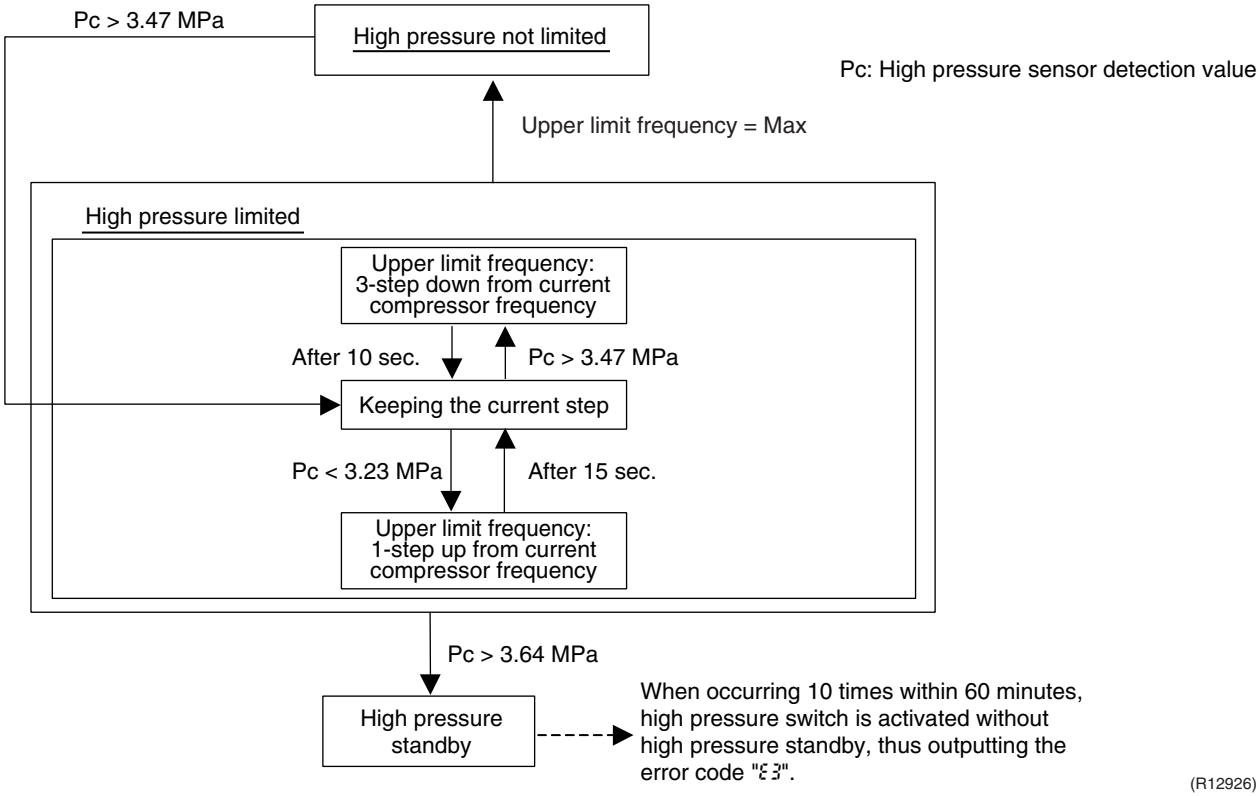
Actuator	Operation
Compressor	OFF
Outdoor fan	OFF
Four way valve (Y1S)	Former condition remains.
Main electronic expansion valve (Y1E)	0 pls
Subcooling electronic expansion valve (Y3E)	0 pls
Hot gas bypass valve (Y2S)	OFF
Ending conditions	Indoor unit thermostat is turned ON.

4. Protection Control

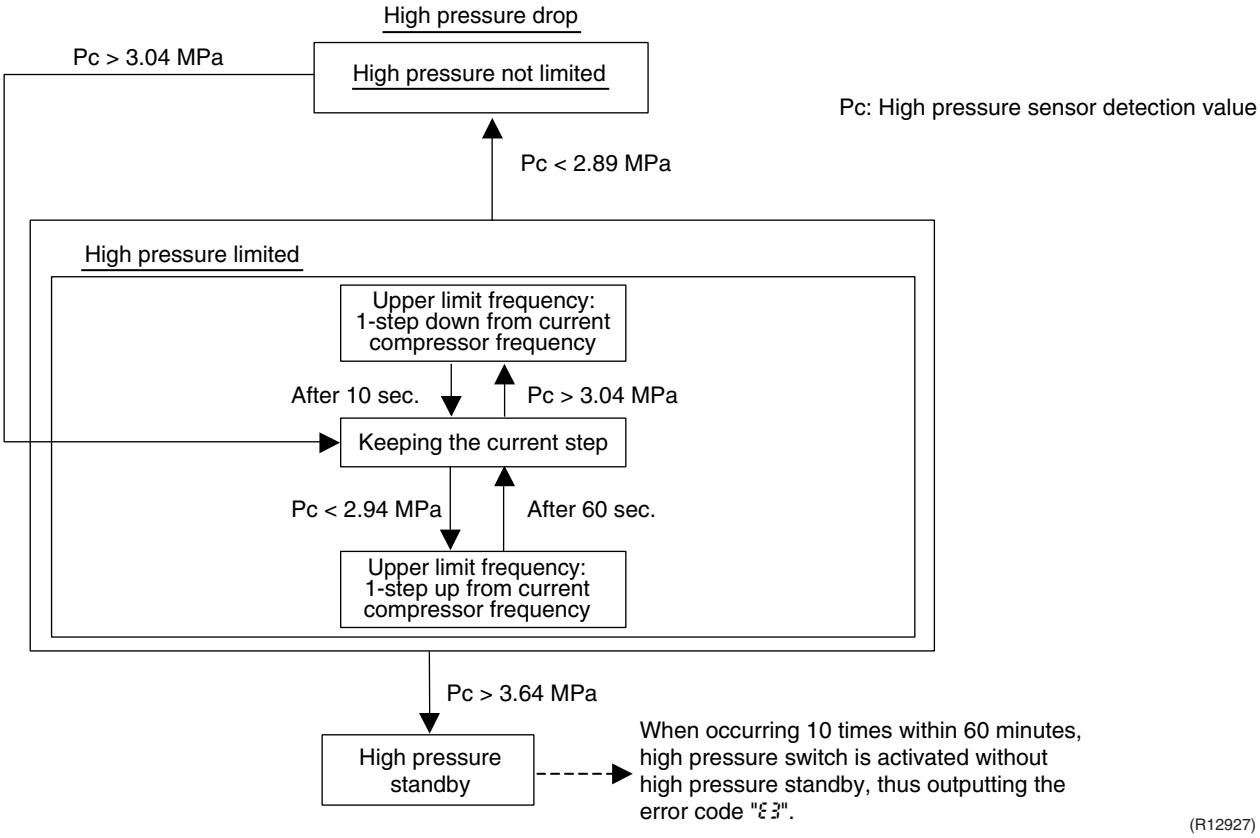
4.1 High Pressure Protection Control

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

[In cooling operation]



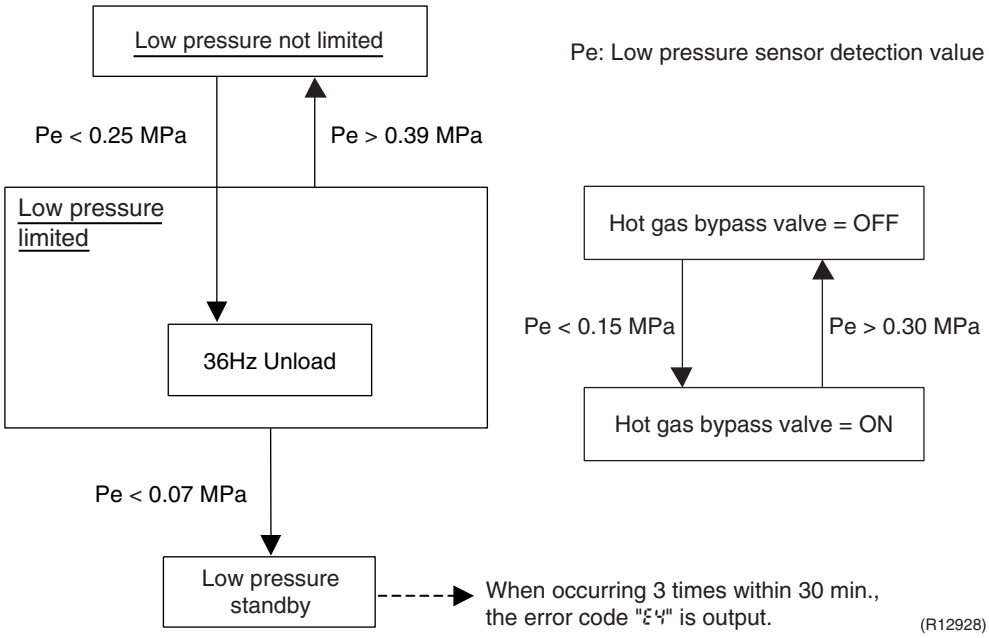
[In heating operation]



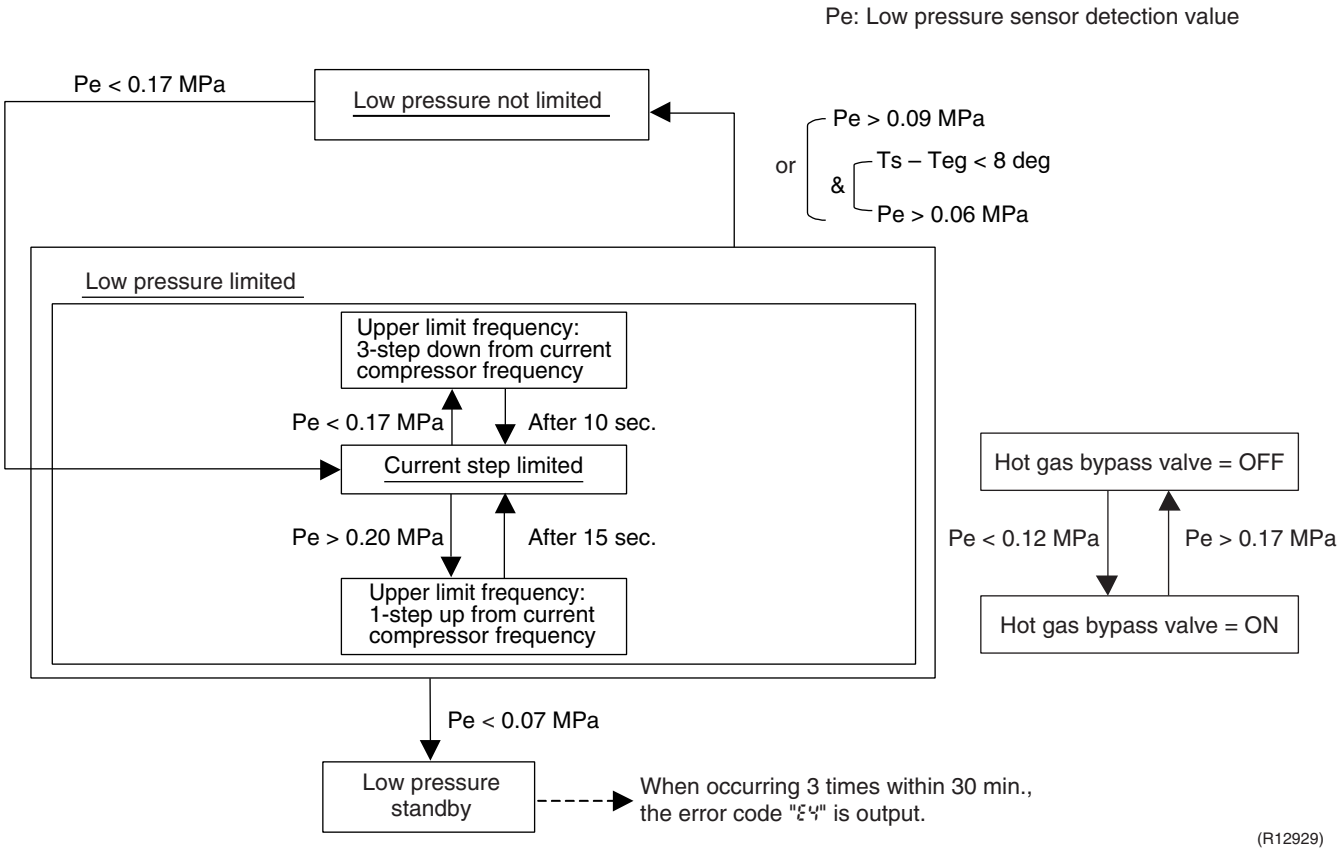
4.2 Low Pressure Protection Control

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

[In cooling operation]



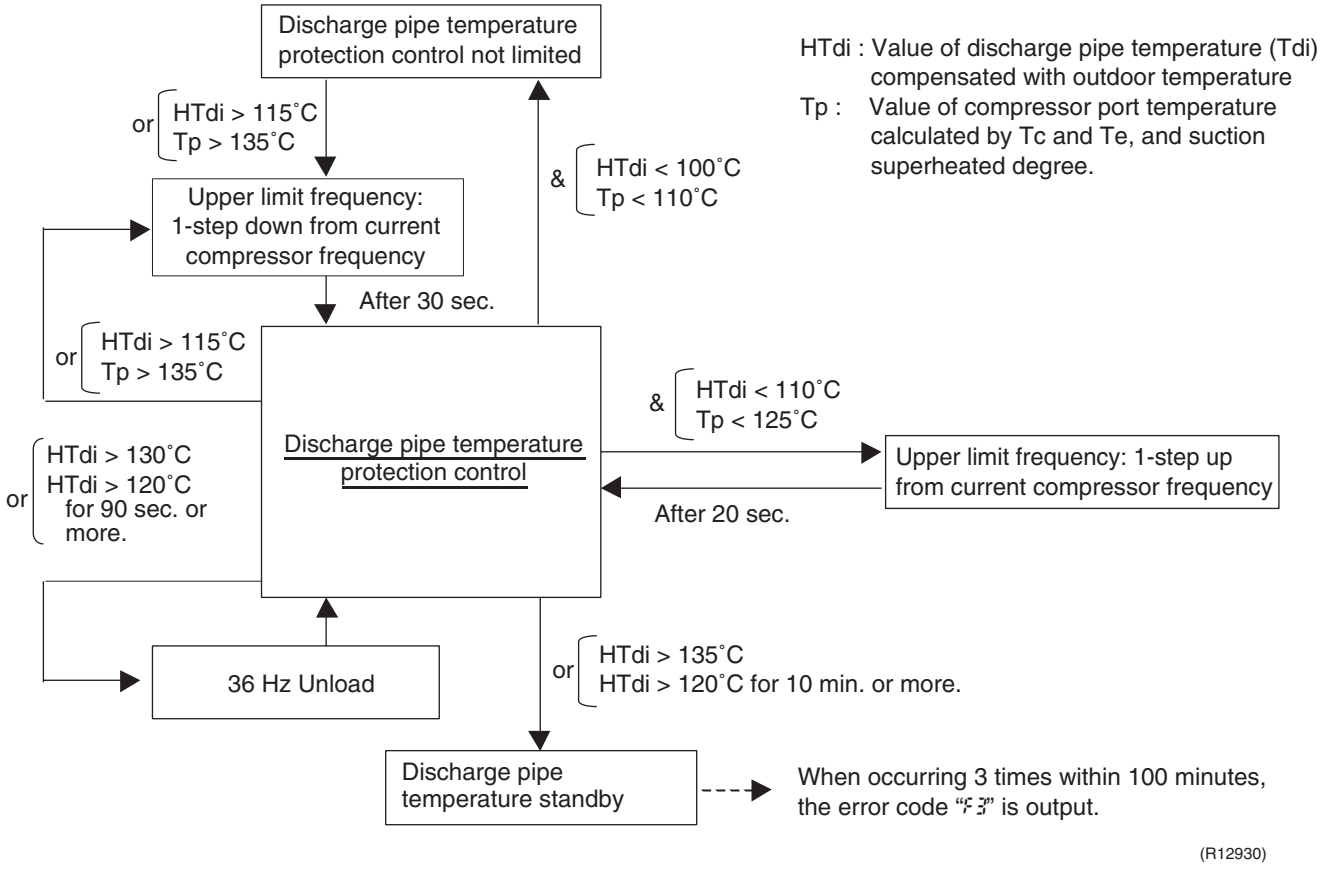
[In heating operation]



4.3 Discharge Pipe Temperature Protection Control

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

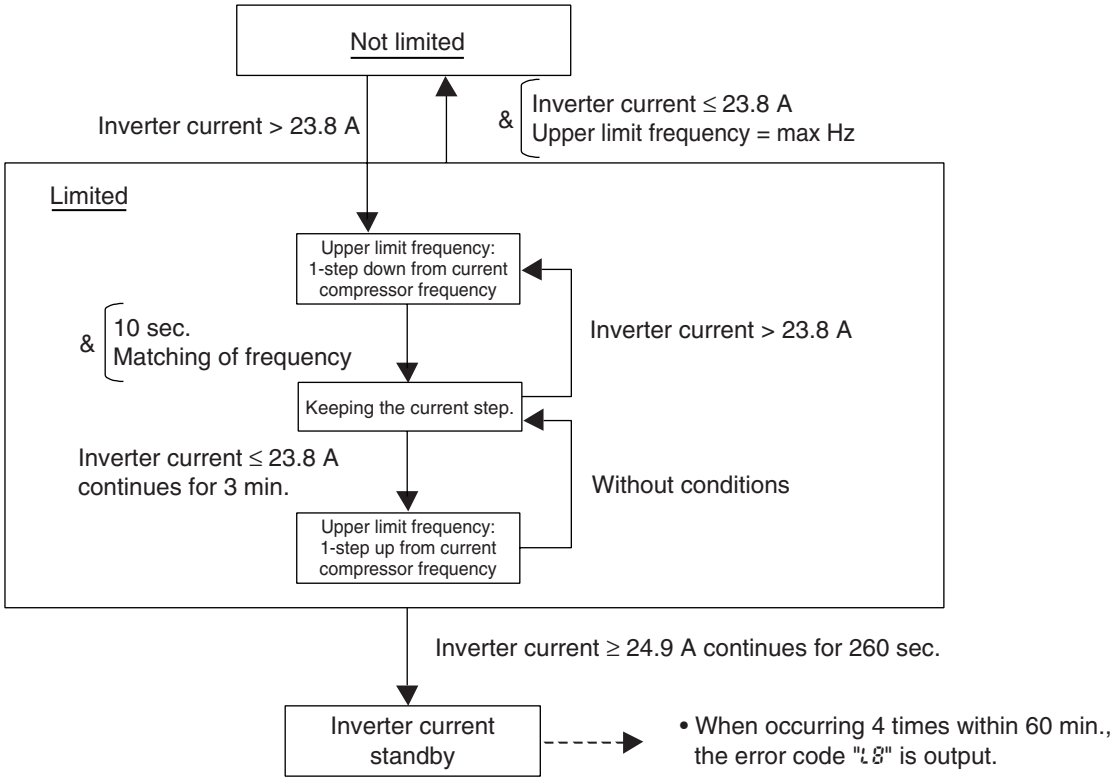
[Compressor]



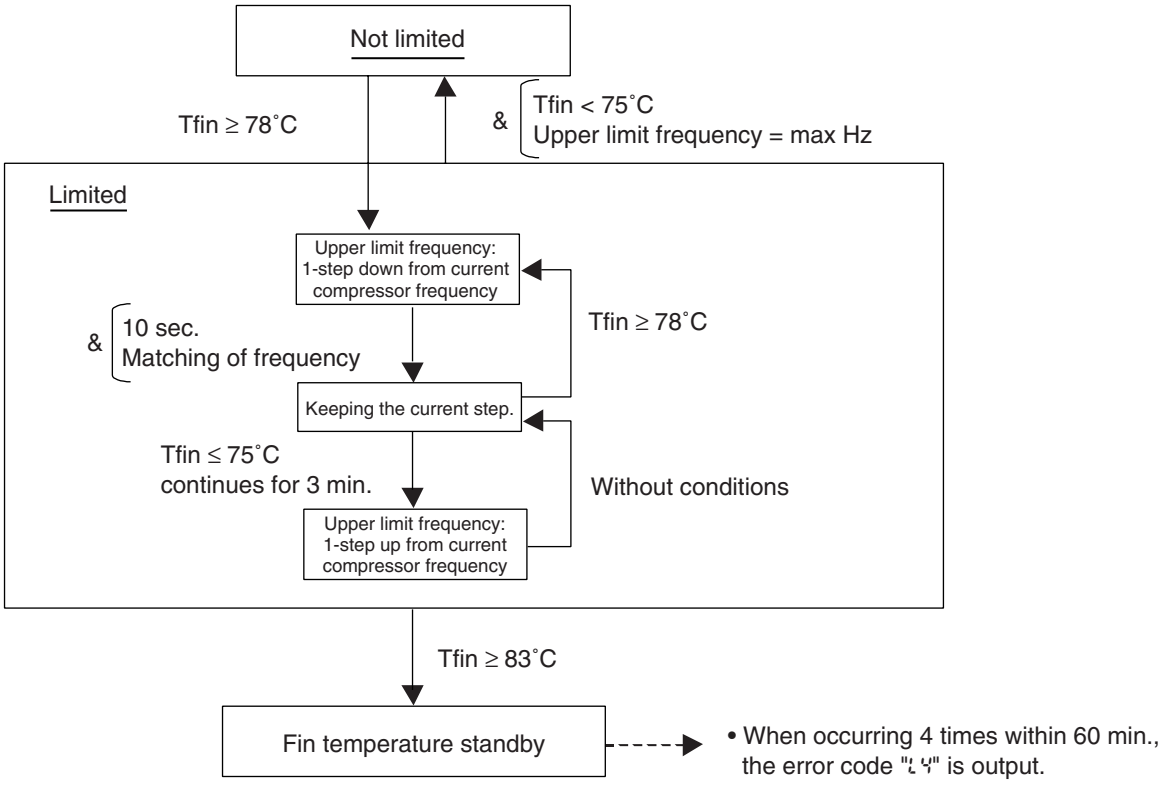
4.4 Inverter Protection Control

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

[Inverter overcurrent protection control]



[Inverter fin temperature control]



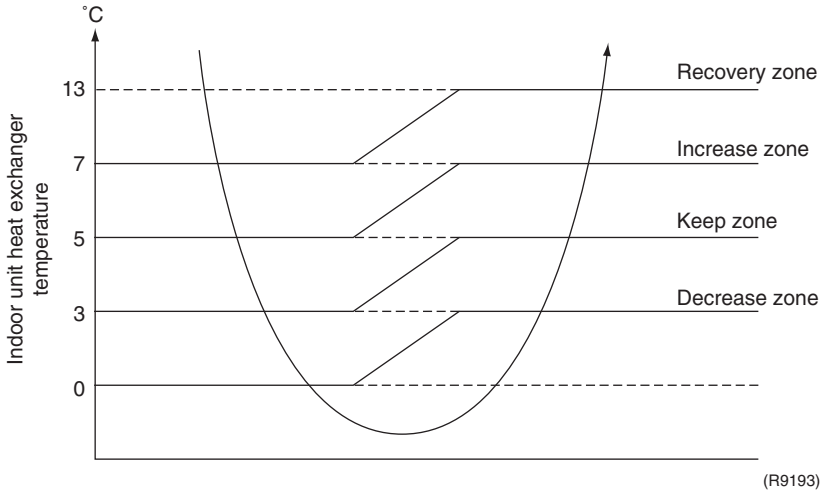
4.5 Freeze-up Protection Control

Outline

According to the freeze prevention status sent from the BP unit, the compressor output frequency is regulated to decrease the compressor capacity in order to prevent the indoor heat exchanger from freezing.

Detail

Zones are divided based on the freeze prevention status signal sent from the BP unit (indoor unit), and the freeze prevention control prevents freezing of the indoor unit.



Recovery zone: Lift the control
Increase zone: 1 step up / 60 sec.
Keep zone: Frequency is not controlled
Decrease zone: 1 step down / 60 sec.
Stop zone: Thermostat-OFF (only the target indoor unit)

The temperature in above figure depends on models. (Reference value)

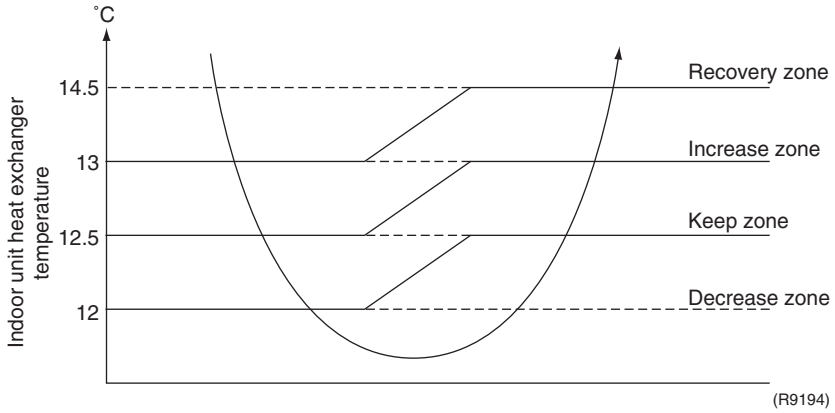
4.6 Dew Condensation Prevention Control

Outline

According to the dew condensation prevention status sent from the BP unit, the compressor output frequency is regulated to decrease the compressor capacity in order to prevent the indoor unit from dew condensation.

Detail

Zones are divided based on the dew condensation prevention status signal sent from the BP unit (indoor unit), and the dew condensation prevention control prevents dew condensation of the indoor unit.



Recovery zone: Lift the control
Increase zone: 1 step up / 60 sec.
Keep zone: Frequency is not controlled
Decrease zone: 1 step down / 60 sec.

The temperature in above figure depends on models and actual room temperature. (Reference value)

5. Other Control

5.1 Demand Control

In order to save the power consumption, the capacity of outdoor unit is saved with control forcibly by using “Demand 1 Setting”.
To operate the unit with this mode, additional setting of “Continuous Demand Setting”.

[Demand 1 setting]

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

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

5.2 Heating Operation Prohibition Control

Heating operation is prohibited when the outdoor temperature is above 24°CDB.

6. BP Unit Control

6.1 BP Unit Command Conversion

1. ∆D (room temperature – temperature setting) signals from BP units are converted to capacity up / down signal.

∆D signals from BP units are used as the capacity up / down signal in frequency commands (excludes during POWERFUL operation).

∆D Signal	Capacity up / down signal
0	Thermostat OFF
1	Down
2	
3	Keep
4	
5	Up
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

2. Processing during POWERFUL operation

(1) When POWERFUL command is received from indoor units (one or more units)

(2) Thermostats are not OFF at the indoor units from which POWERFUL commands are issued

When the above conditions are met, the POWERFUL operation is activated, and the POWERFUL operation signal is sent to outdoor unit.

6.2 BP Unit Electronic Expansion Valve Control

Purpose

This function provides instructions regarding the absolute flow rate, relative flow rate and fully closing from the outdoor unit to the BP unit in order to ensure outdoor unit compressor safety and optimum refrigerating cycle of the system.
With the transmission a permit/prohibit flag for each distribution control in the BP unit, the distribution control startup timing is controlled by the outdoor unit.

6.2.1 Electronic Expansion Valve Initial Opening Setting

Outline

This function improves stability of the system to set initial opening of electronic expansion valve at starting operation.
When the EV opening command from outdoor unit is lifted, the following opening setting is performed.

Detail

<Cooling Operation>

Target opening (pls) = 2.5 × (room temp. – 14) + **A** – **B** × (outdoor temp. – room temp.)

	A
20 ~ 35 class	140
42 ~ 50 class	156
60 ~ 71 class	170

	B
outdoor temperature ≤ room temperature	0
room temperature < outdoor temperature	2.5

<Heating Operation>

Target opening = 350 pls

6.2.2 Electronic Expansion Valve Flow Rate Restriction

Purpose

This function prevents the deviation from the electronic expansion valve specification range by restricting the electronic expansion valve flow rates of the operating and non-operating room units during compressor operation. It also prevents the generation of abnormal noise such as refrigerant flowing sound by restricting the circulation of refrigerant according to the operating conditions (unit ON/OFF) of room units.

Outline

Restriction of electronic expansion valve opening degrees of operating room units;
... Restriction of maximum and minimum flow rates based on constant
Restriction of electronic expansion valve opening degrees of non-heating room units;
... Restriction of minimum flow rate based on constant
... Maximum flow rate determined based on flow rates of operating room units

6.2.3 Full Closing of Electronic Expansion Valves

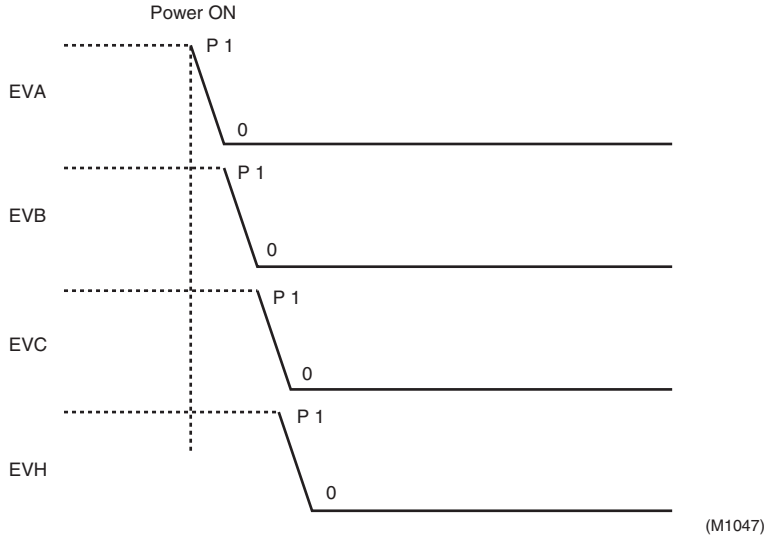
Purpose

The electronic expansion valves are initialized when the power is turned on.

Detail

The following processes are conducted.

1. Conducts P1 pulses close when power is turned on, and sets current opening to 0 pulse (fully closing process).
2. Sends electronic expansion valve initialization signal to outdoor unit.
3. Closes the electronic expansion valve of each chamber (sets the electronic expansion valve pulse to 0).
4. Stops transmission of electronic expansion valve initialization signal when EVH (bypass electronic expansion valve) retightening is completed.



6.2.4 Control Based on EV Opening Command from Outdoor Unit

Purpose

This function operates the electronic expansion valve based on EV opening command sent from the outdoor unit.

Outline

The electronic expansion valve operation based on EV opening command provides the following functions.

1) Pressure equalization prior to startup
2) Startup control
3) Restart standby
4) Pump-down residual operation
5) Oil return operation
6) Defrosting operation

6.3 SH Control in Cooling Operation

Purpose

This function ensures appropriate refrigerant distribution when many room units are operating in the cooling mode.

Detail

The heat exchanger temperatures and gas pipe temperatures of operating room units are detected by the gas pipe thermistors, and the electronic expansion valves' flow rates are corrected so as to adjust the difference between heat exchanger temperature and gas pipe temperature of each room unit (hereafter referred to as SH) close to the target values.

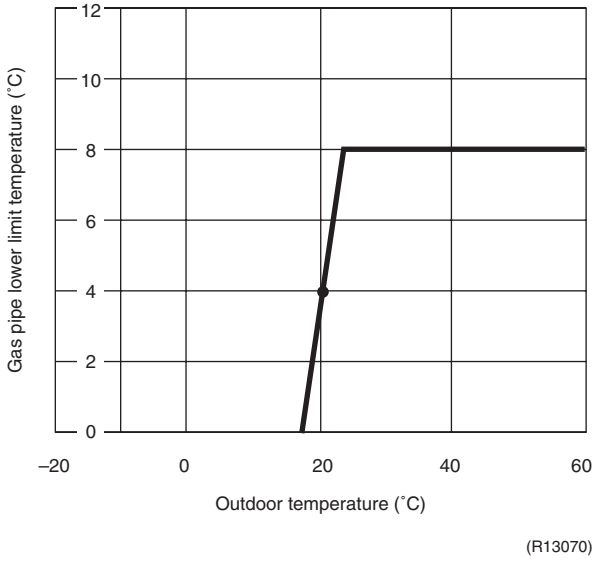
When SH is higher than target value → Opens the valve of that room unit
When SH is lower than target value → Closes the valve of that room unit

When the liquid pipe temperature is lower than the heat exchanger temperature, the electronic expansion valve is opened more than normal opening.
(Protection function to prevent rotor dew condensation)

The gas pipe temperature and indoor heat exchanger temperature are detected at the time of every sampling time of 40 second for the cooling SH control.

In order to prevent dew condensation in connection pipe, gas pipe lower-limit temperature is set as follows.

$$\text{Gas pipe lower limit temperature} = \frac{240}{256} \times \text{outdoor temperature} - 17 \text{ (however 8ºC or lower)}$$



(R13070)

Outdoor temperature (°C)	Gas pipe lower limit temperature (°C)
–5	–22
0	–17
5	–12
10	–6
15	–1
20	4
25	8
30	8
35	8
40	8
45	8

Note:
1. In SkyAir models, the indoor units are equipped with distribution capillary tubes; therefore, the heat exchangers may superheat even when the condition is met.
2. In SkyAir models, the heat exchanger intermediate position is provided on the liquid connection pipe side; as a result, superheated condition is difficult to detect.

6.4 SC Control in Heating Operation

Purpose

This function ensures appropriate refrigerant distribution when many room units are operating in the heating mode.

Outline

The heat exchanger temperatures and liquid pipe temperatures of operating room units are detected by the liquid pipe thermistors, and the electronic expansion valves' flow rates are corrected so as to adjust the difference between heat exchanger temperature and liquid pipe temperature of each room unit (hereafter referred to as SC) close to the target values.

When SC is higher than target value → Opens the valve of that room unit
When SC is lower than target value → Closes the valve of that room unit

The liquid pipe temperature and indoor heat exchanger temperature are detected at the time of every sampling time of 20 second for the heating SC control.

6.5 Heat Exchanger Isothermal Control in Heating Operation

Purpose

This function ensures appropriate refrigerant distribution when room units are operating in the heating mode.
It prevents abnormal increase of the high pressure and operation with gas shortage due to uneven refrigerant distribution (Protection function).

Outline

The indoor unit heat exchanger thermistors (of all connected indoor units to the same BP unit including non-operating room units) in heating operation are detected. Then, the highest heat exchanger temperature is compared with the heat exchanger temperature of each room unit. If the temperature difference exceeds the predetermined value, it is judged that indoor unit heat exchanger thermistor position in subcooled zone, and the electronic expansion valves of room units with the temperature difference exceeding the predetermined level is opened to return to the saturation zone.
Since this is a protection function, it is effective for all connected room units in heating operation excluding those in defrosting operation. This function is inactive in room units with transmission problems.

Detail

The heat exchanger temperature is detected at every sampling time of 20 second of the heat exchanger isothermal control, and maximum value of each heat exchanger temperature is obtained.

If the temperature difference between the heat exchanger temperature and maximum heat exchanger temperature value exceeds 8°C, it is judged that the heat exchanger intermediate is in the subcooled zone, and the electronic expansion valve is opened.

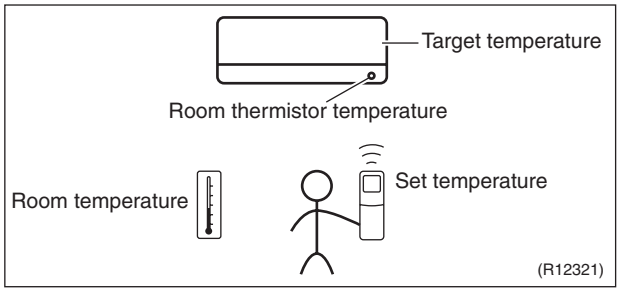
7. Indoor Unit Control (RA Models)

7.1 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”.

7.2 Operation Starting Control

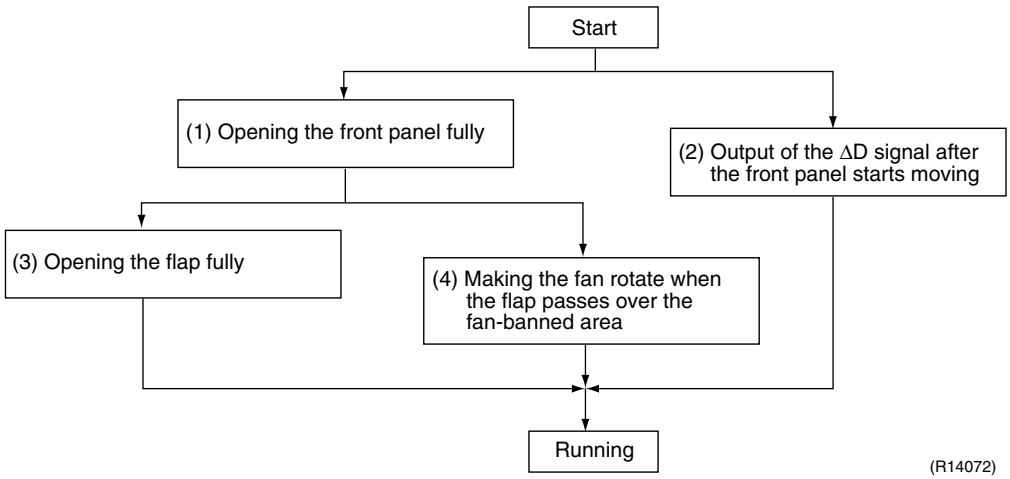
Wall Mounted Type E-Series, J-Series

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

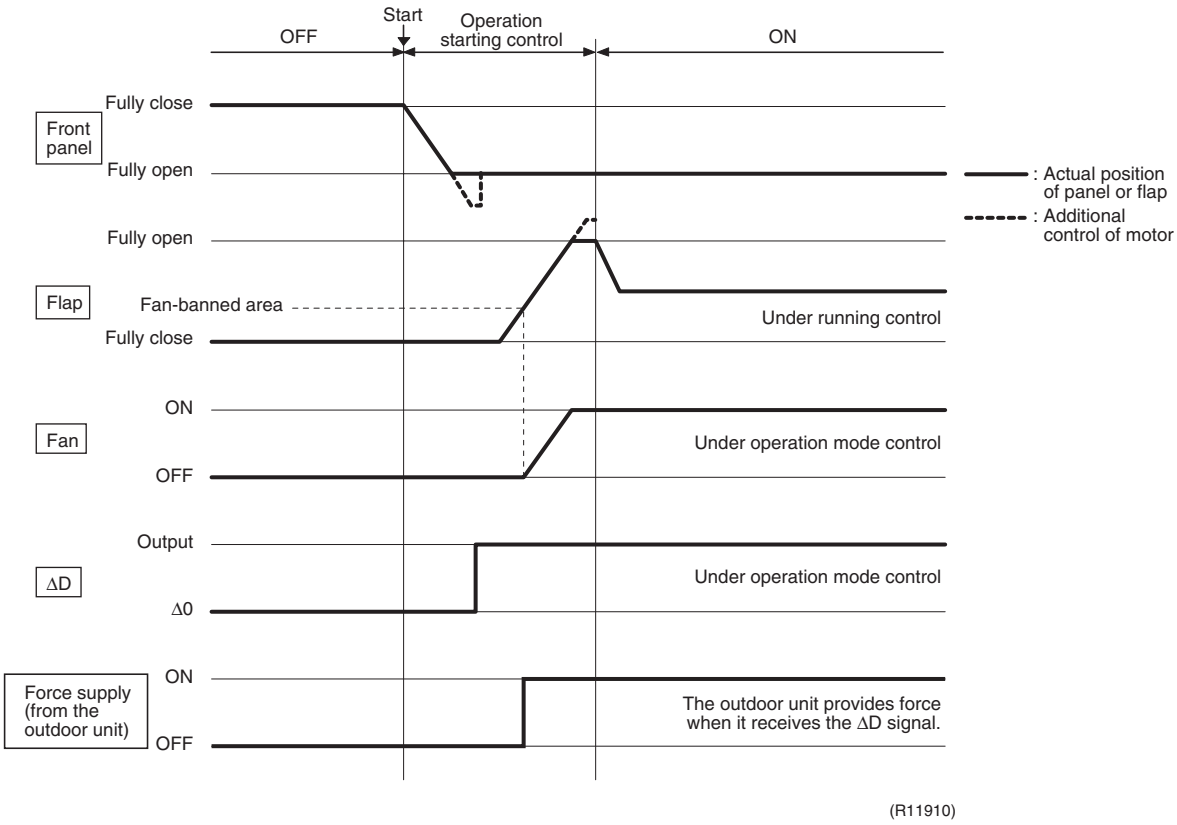
1. Opening the front panel fully
2. Output of the ΔD signal after the front panel starts moving
3. Opening the flap fully after the front panel opens fully
4. Making the fan rotate when the flap passes over the fan-banned area

Fan-banned area: The fan is prohibited to rotate until the flap angle exceeds certain level.

Control Flow



Timing Chart



7.3 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.

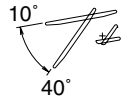
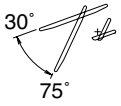
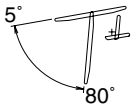
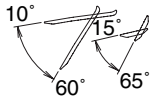
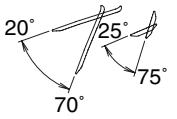
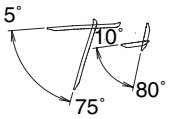
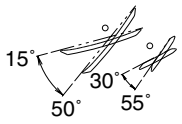
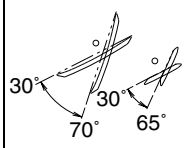
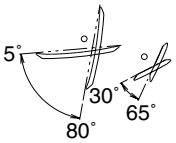
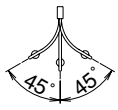
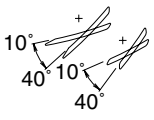
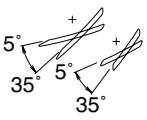
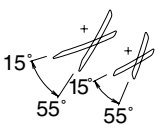
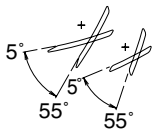
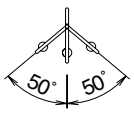
Heating Mode
During heating mode, the large flap directs airflow downwards to spread the warm air to the entire room.

Wide-Angle Louvers

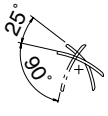
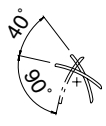
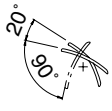
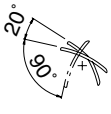
The louvers, made of elastic synthetic resin, provide a wide range of airflow that guarantees a comfortable air distribution.

Auto-Swing

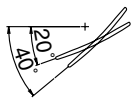
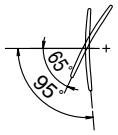
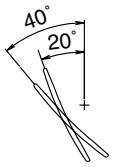
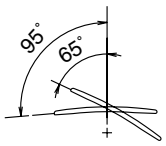
The following table explains the auto-swing process for cooling, dry, heating, and fan:
Wall Mounted Type

Series	Vertical Swing (up and down)			Horizontal Swing (right and left)
	Cooling / Dry	Heating	Fan	
E-Series	 (R3294)	 (R3293)	 (R3295)	 (R3296)
J-Series	 (R11662)	 (R11664)	 (R11663)	—
G-Series 20-50 Class	 (R12182)	 (R11402)	 (R11403)	 (R11404)
F-Series, G-Series 60/70 Class	 (R2814)	 (R2815)	 (R2813)	 (R2816)	 (R2817)

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)

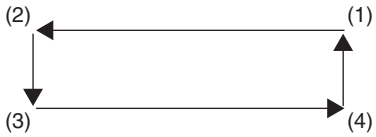
3-D Airflow

Wall Mounted Type E-Series, G-Series, F-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.

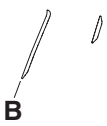


(R13524)

COMFORT AIRFLOW Operation

Wall Mounted Type E-Series, J-Series, G-Series

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

Cooling / Dry	Heating
 (R14073)	 (R14074)

	A	B
J-Series	5°	75°
E-Series G-Series 20-50 Class	5°	80°
G-Series 60/71 Class	5°	55°

7.4 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 355, 356.

Automatic Fan Speed Control

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

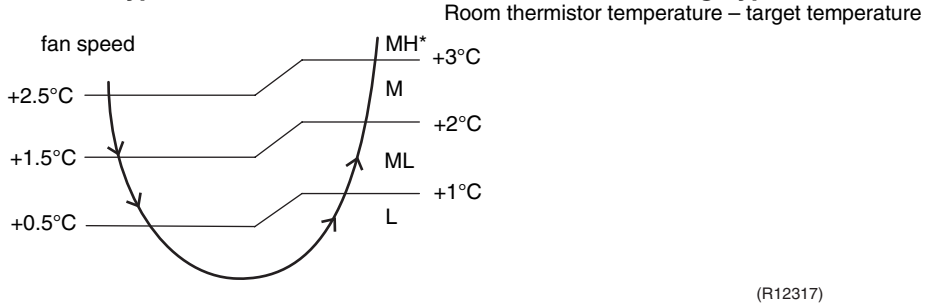
	Wall Mounted Type E-Series / J-Series / G-Series Floor Standing Type		Wall Mounted Type F-Series Floor / Ceiling Suspended Dual Type Duct Connected Type	
Step	**Cooling**	**Heating**	**Cooling**	**Heating**
LLL				
LL				
L				
ML				
M				
MH				
H				
HH (POWERFUL)	(R11681)	(R6834)	(R6833)	(R6834)

⟺ = 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.

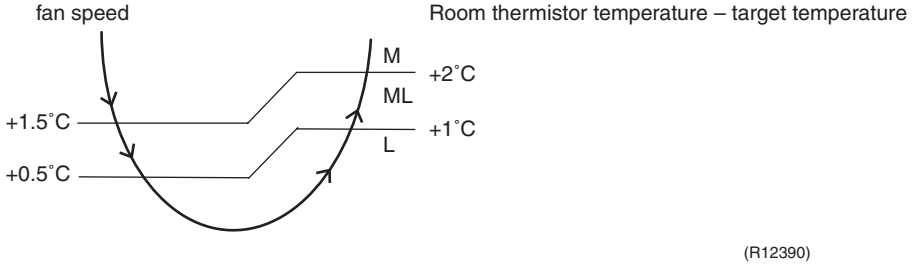
Wall Mounted Type E-Series / J-Series / G-Series, Floor Standing Type



(R12317)

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

Wall Mounted Type F-Series, 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 ~ 90 rpm.
2. Fan stops during defrost operation.

COMFORT AIRFLOW Operation

Wall Mounted Type E-Series, J-Series, G-Series

- 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.

7.5 Program Dry Operation

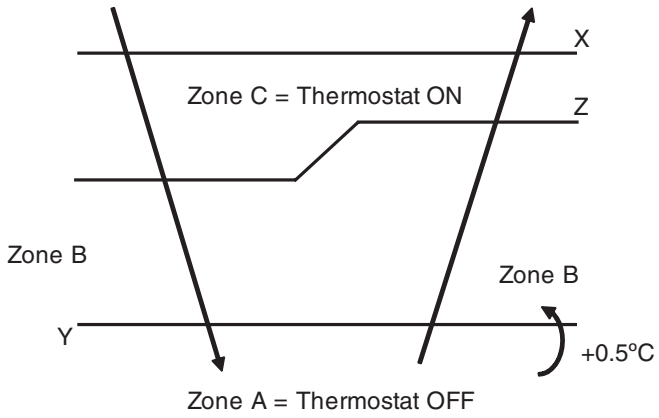
Outline

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 2 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)

7.6 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.

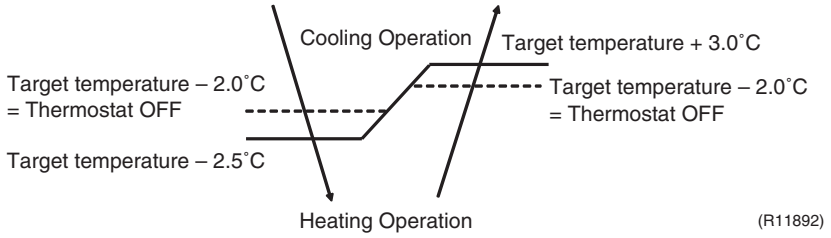
The unit automatically switches the operation mode to maintain the room temperature at the set temperature.

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

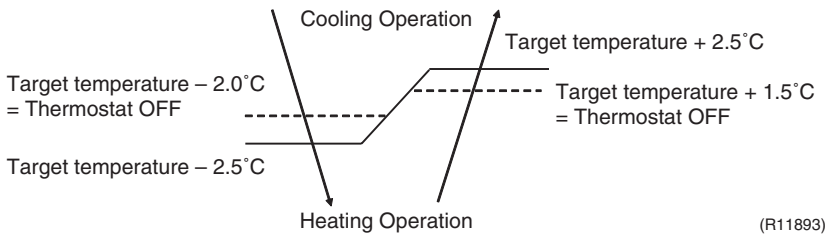
1. The set temperature (Ts) determines the target temperature (Tt).
   (Ts = 18 ~ 30°C).
2. The target temperature (Tt) is calculated as;
   Tt = Ts + C
   where C is the correction value.
   C = 0°C
3. Thermostat ON/OFF point and mode switching point are as follows.
   Tr means the room thermistor temperature.
   (1) Heating → Cooling switching point:
   Tr ≥ Tt + 3.0°C (wall mounted type J-series, G-series 60/71 class)
   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 J-Series, G-Series 60/71 Class



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

7.7 Thermostat Control

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

Thermostat OFF Condition

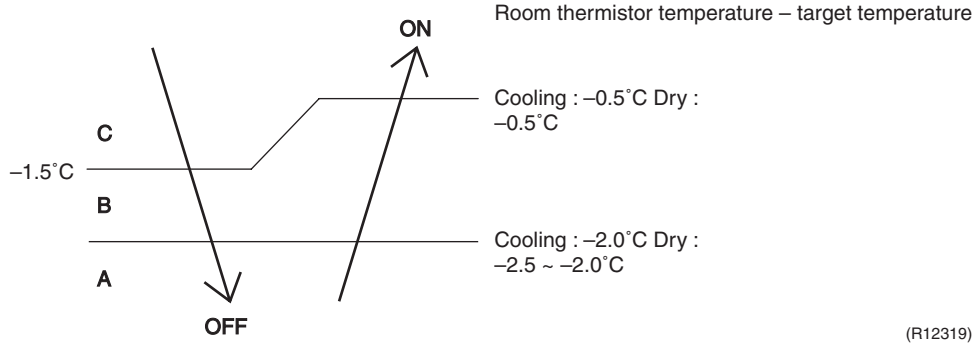
- The temperature difference is in the zone A.

Thermostat ON Condition

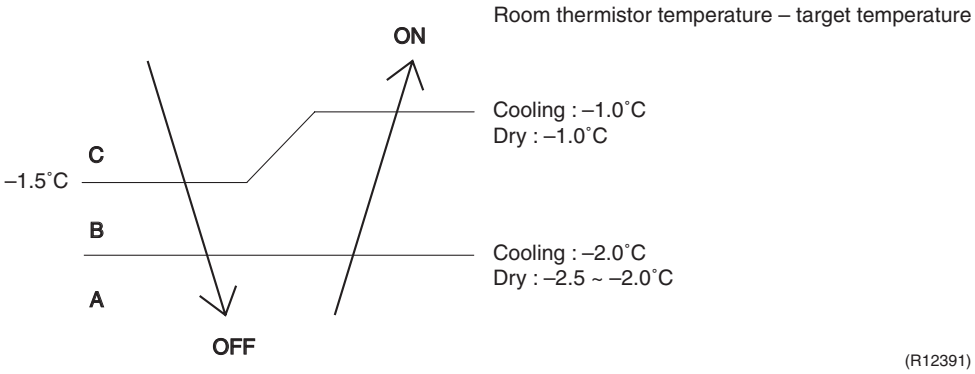
- The temperature difference returns to the zone C after being in the zone A.
- The system resumes from defrost control in any zones except A.
- The operation turns on in any zones except A.
- The monitoring time has passed while the temperature difference is in the zone B. (Cooling / Dry : 10 minutes,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

<Cooling / Dry>

Wall Mounted Type, Floor Standing Type

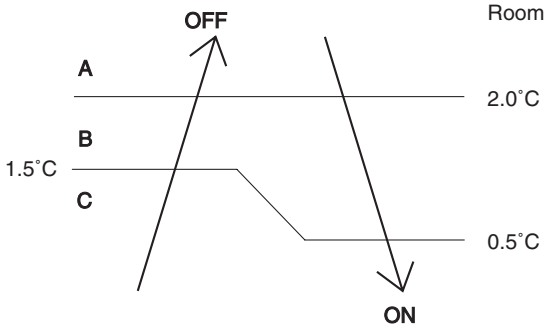


Floor / Ceiling Suspended Dual Type, Duct Connected Type



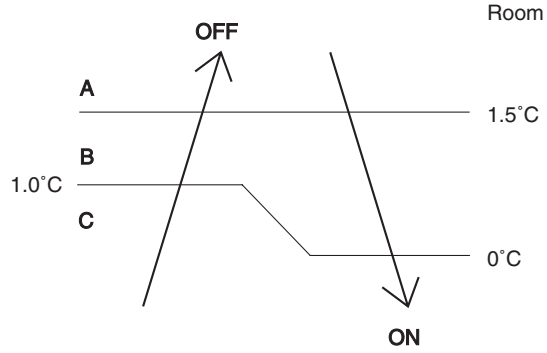
<Heating>

Wall Mounted Type J-Series, G-Series 60/71 Class



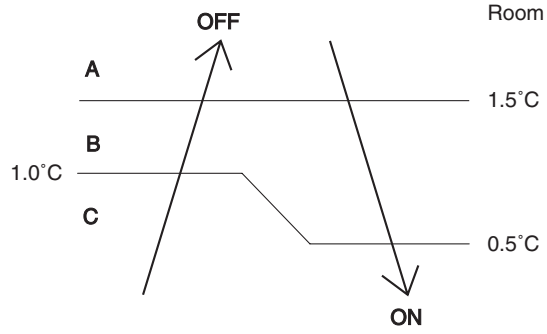
(R11894)

Wall Mounted Type E-Series, G-Series 20-50 Class, F-Series, Floor Standing Type



(R12320)

Floor / Ceiling Suspended Dual Type, Duct Connected Type



(R12392)

Refer to “Temperature Control” on page 100 for detail.

7.8 NIGHT SET Mode

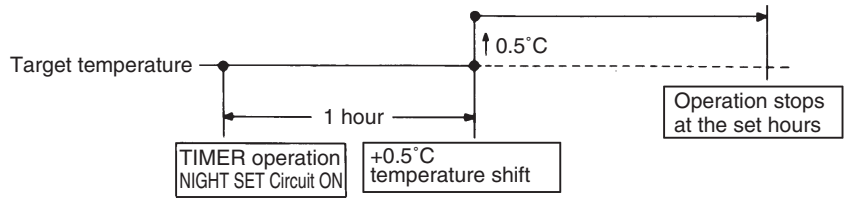
Outline

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

Detail

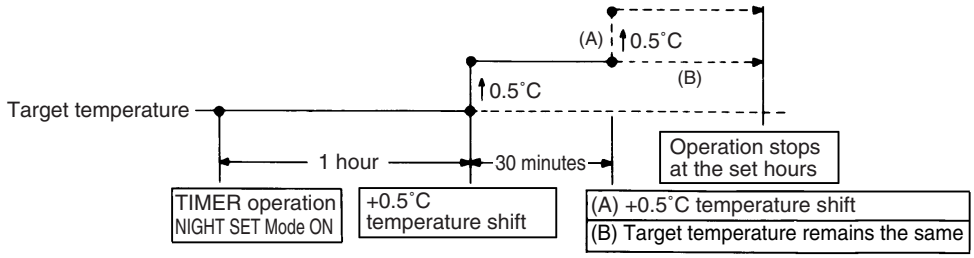
The NIGHT SET Mode continues operation at the target temperature for the first one hour, then automatically raises the target temperature slightly in the case of cooling, or lowers it slightly in the case of heating. This prevents excessive cooling in summer and excessive heating in winter to ensure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

<Cooling>
Wall Mounted Type E-Series, J-Series, G-Series
Floor Standing Type



(R10870)

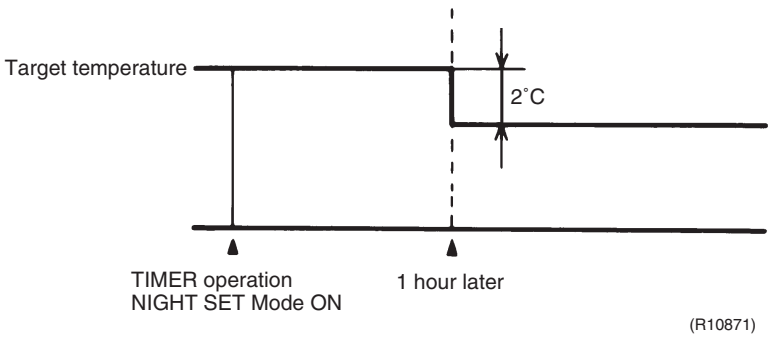
Wall Mounted Type F-Series
Floor / Ceiling Suspended Dual Type
Duct Connected Type



(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).

(R14075)

<Heating>

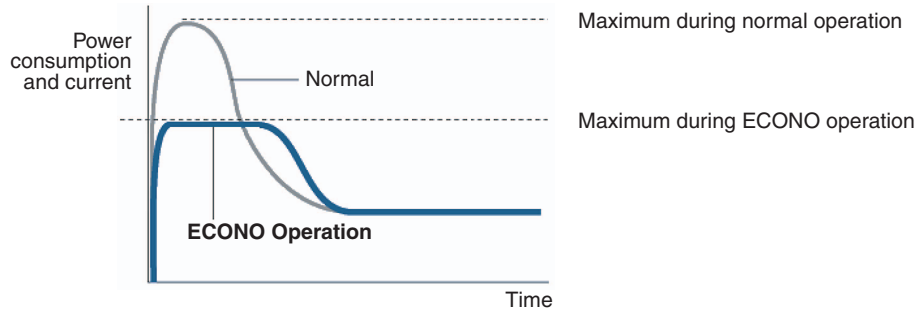


(R10871)

7.9 ECONO Operation

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.



(R9288)

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

7.10 HOME LEAVE Operation

Outline

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.

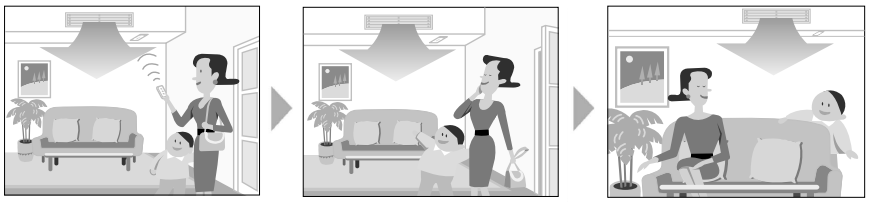
2. Details of Function

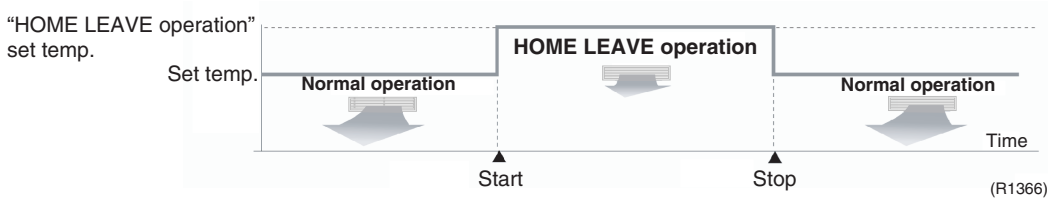
A mark representing HOME LEAVE is indicated on the display of the remote controller. The indoor unit is operated according to the set temperature and airflow rate for HOME LEAVE which were pre-set in the memory of the remote controller.
The LED (red) of indoor unit representing HOME LEAVE lights up. (It goes out when the operation is stopped.)

3. End of Function

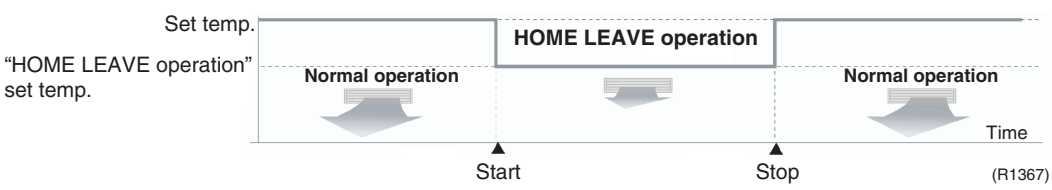
The function ends when the [HOME LEAVE] button is pressed again during HOME LEAVE operation or when the [POWERFUL] button is pressed.

<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.

7.11 2-Area INTELLIGENT EYE Operation

Outline

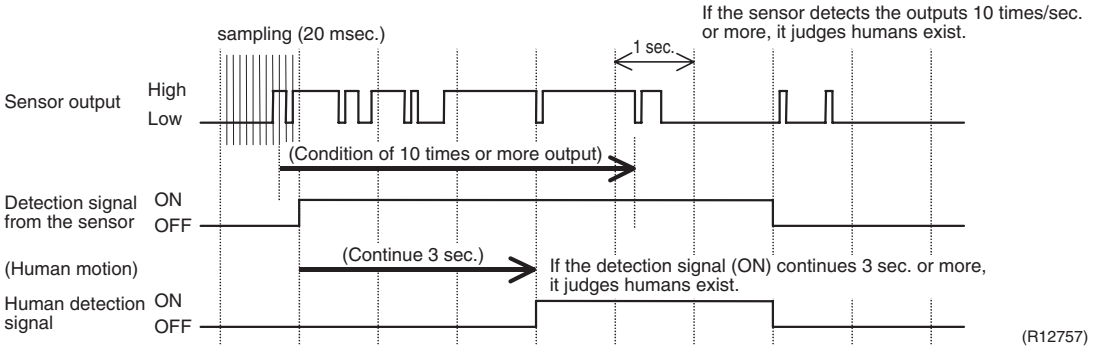
Wall Mounted Type G-Series 20-50 Class

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.

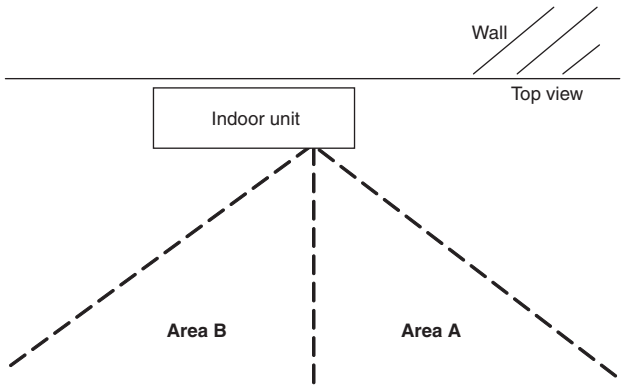
Detail

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.

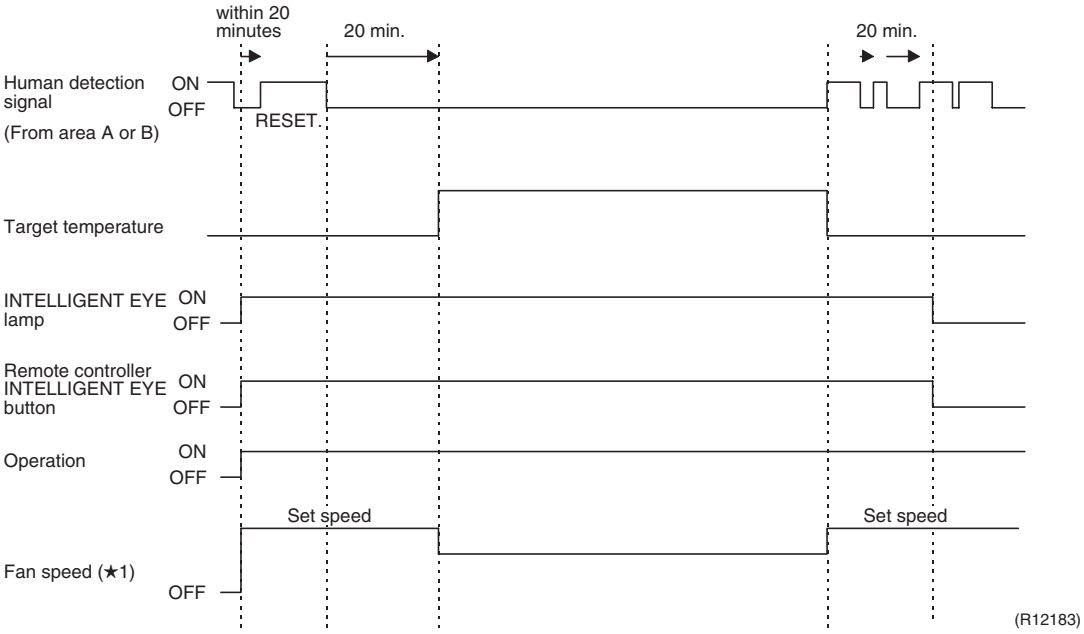
- Image of 2-area INTELLIGENT EYE



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

(R12276)

2. Motions (for example: in cooling)

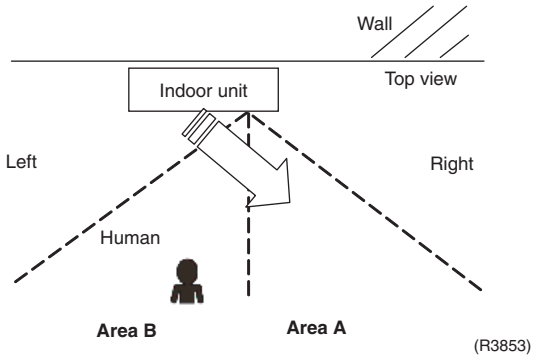


- When the microcomputer does not have a signal from the sensor in 20 minutes, it judges that nobody is in the room and operates the unit in temperature shifted from the target temperature. (Cooling / Dry : 2°C higher, Heating : 2°C lower, Auto : according to the operation mode at that time.)

★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.

7.12 INTELLIGENT EYE Operation

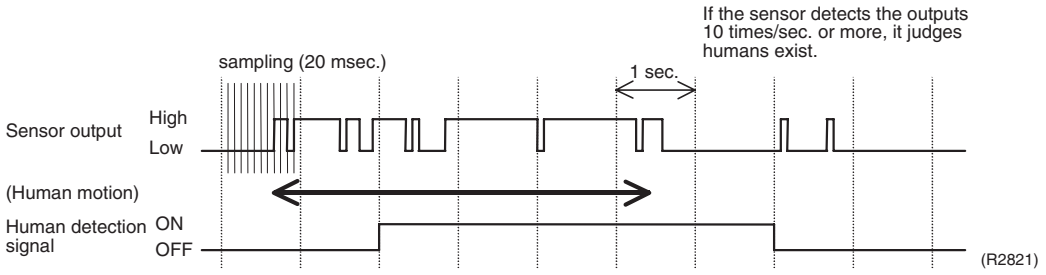
Outline

Wall Mounted Type E-Series, J-Series, F-Series, G-Series 60/71 Class

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.

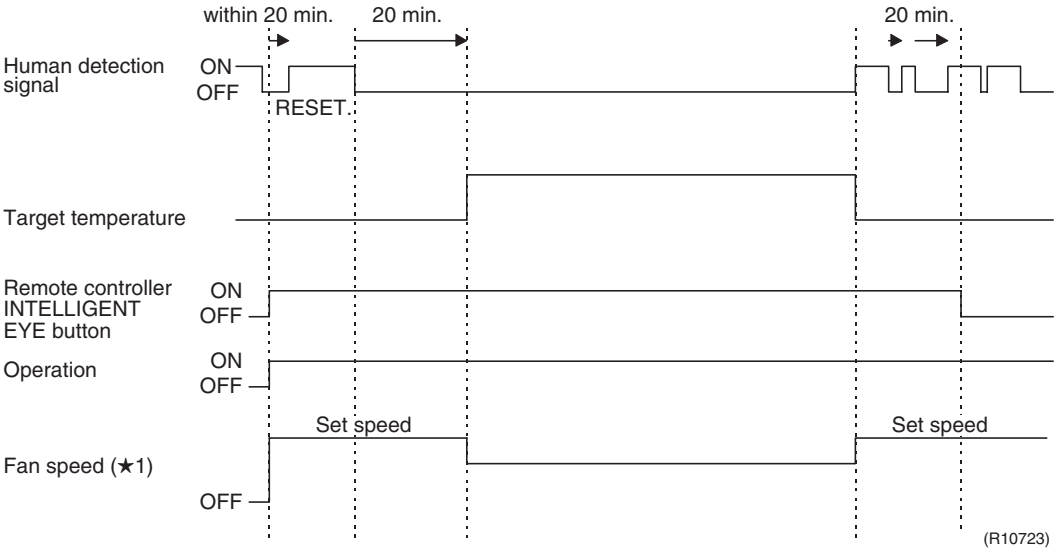
Detail

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 1 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.

7.13 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.

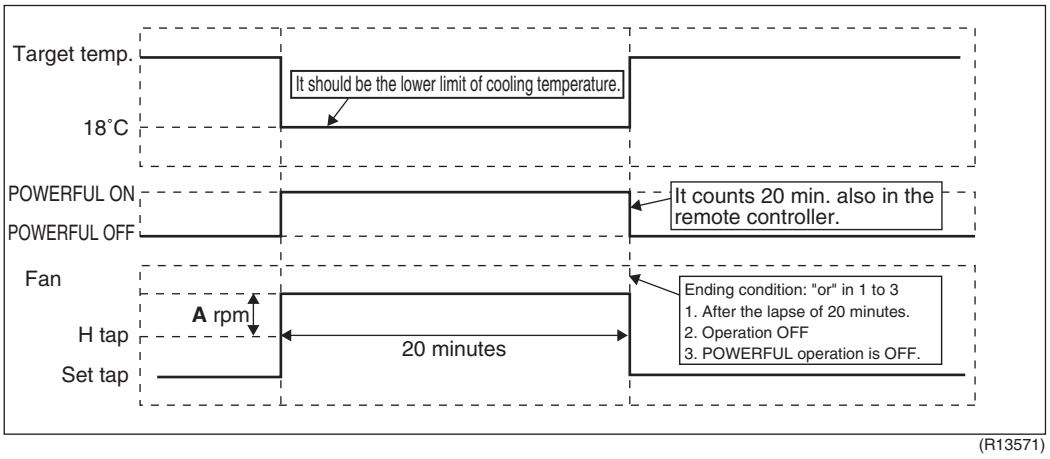
Detail

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 ~ 90 rpm (depending on the model)

Ex.) : POWERFUL operation in cooling mode.



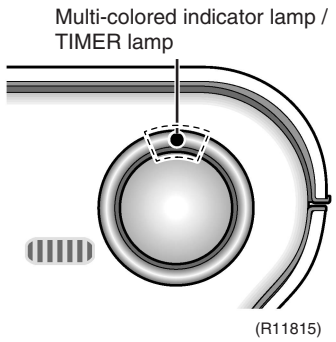
(R13571)

7.13.1 Multi-Colored Indicator Lamp / TIMER Lamp

Features

Wall Mounted Type 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)

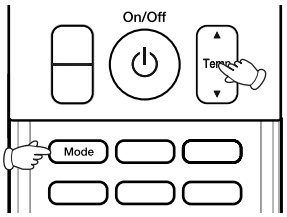
The lamp color changes according to the operation.

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

Brightness Setting

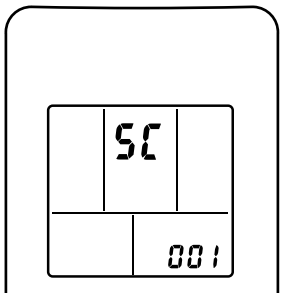
The brightness of the multi-colored indicator lamp can be adjusted L (low), H (high), or OFF.

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



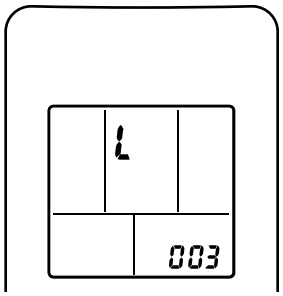
(R11669)

"SC" is displayed on the LCD.



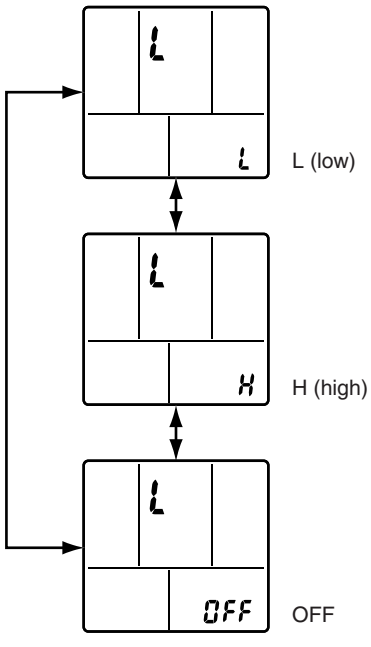
(R11911)

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.)

7.14 Other Functions

7.14.1 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.

7.14.2 Signal Receiving Sign

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

7.14.3 Indoor Unit ON/OFF Button

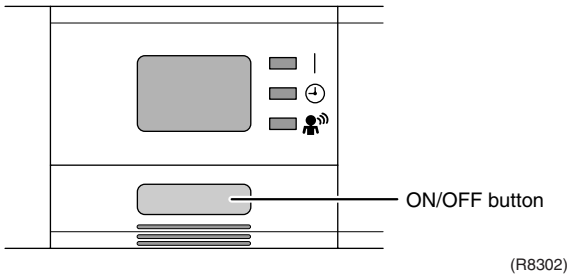
An ON/OFF button is provided on the display of the unit.

- 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
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 G-series 20-50 class



7.14.4 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, decompose odors and even deactivates bacteria and viruses. It lasts for 3 years without replacement if washed about once every 6 months.

7.14.5 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.

7.14.6 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.

7.14.7 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.

7.14.8 WEEKLY TIMER Operation

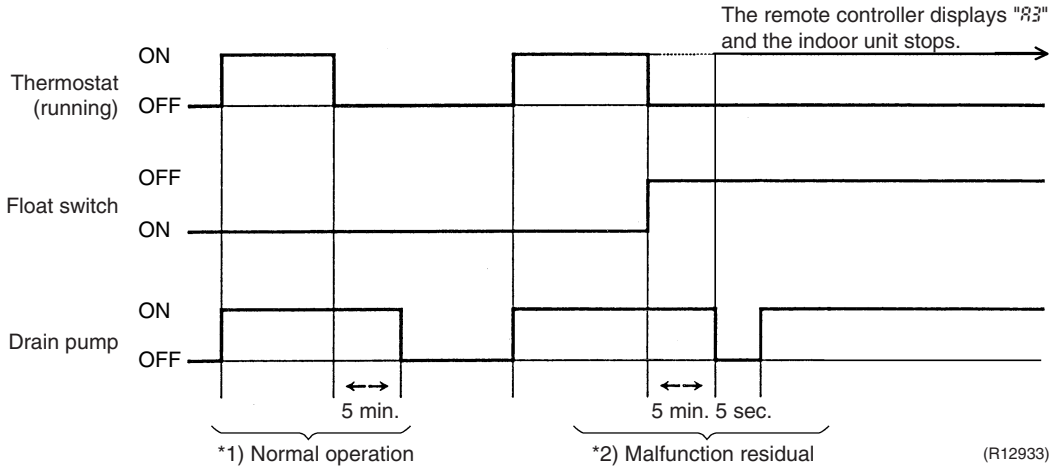
Up to 4 timer settings can be saved for each day of the week (up to 28 settings in total). Those 3 items of “ON/OFF”, “temperature” and “time” can be set.

Refer to “WEEKLY TIMER Operation” on the following pages for detail.
Wall mounted type J-series: page 185
Wall mounted type G-series, Floor standing type: page 221

8. Indoor Unit Control (SA Models)

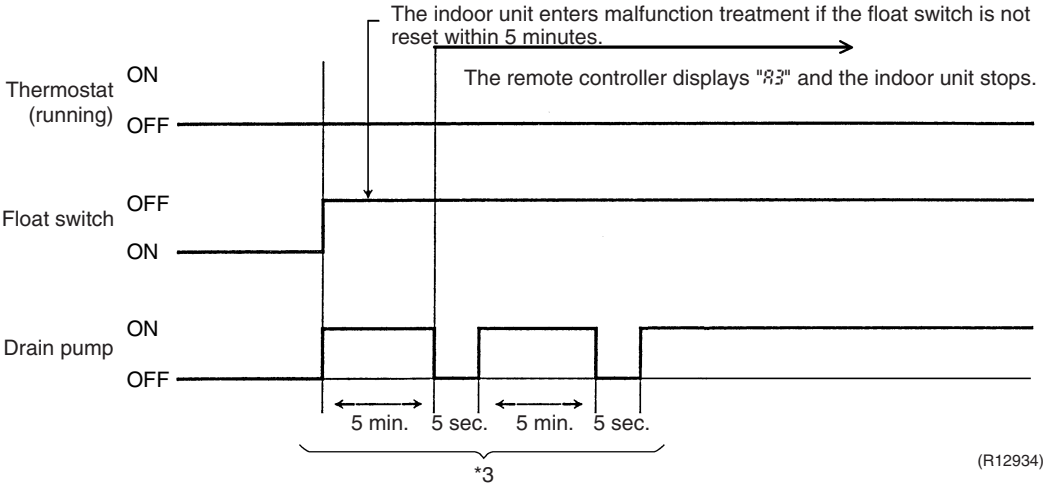
8.1 Drain Pump Control

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



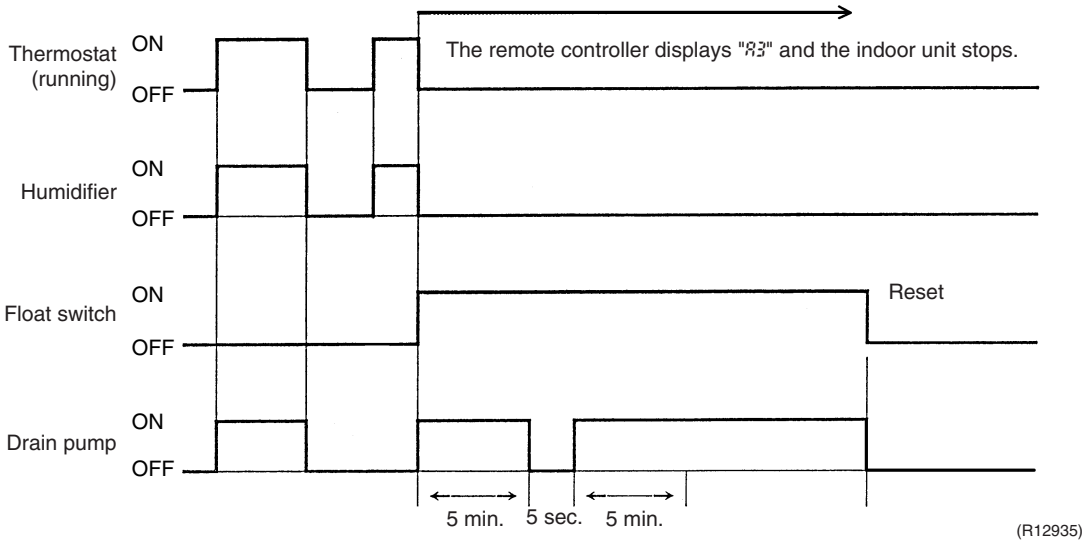
∗1. (Normal operation):
The purpose of residual operation is to completely drain any moisture adhering to the fin of the indoor heat exchanger when the thermostat goes off during cooling operation.
∗2. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal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

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



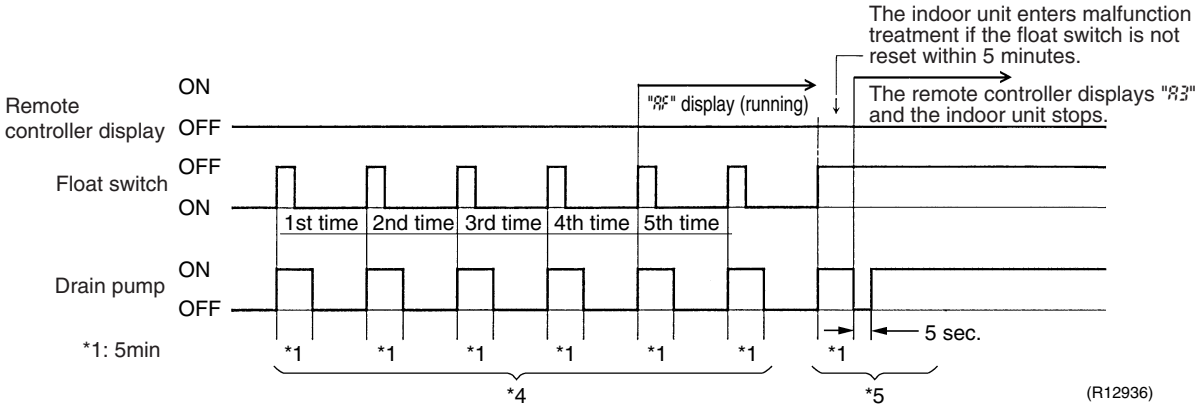
*3. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal stop if the float switch is turned OFF and not turned ON again within 5 minutes while the cooling thermostat is OFF.

8.1.3 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.

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



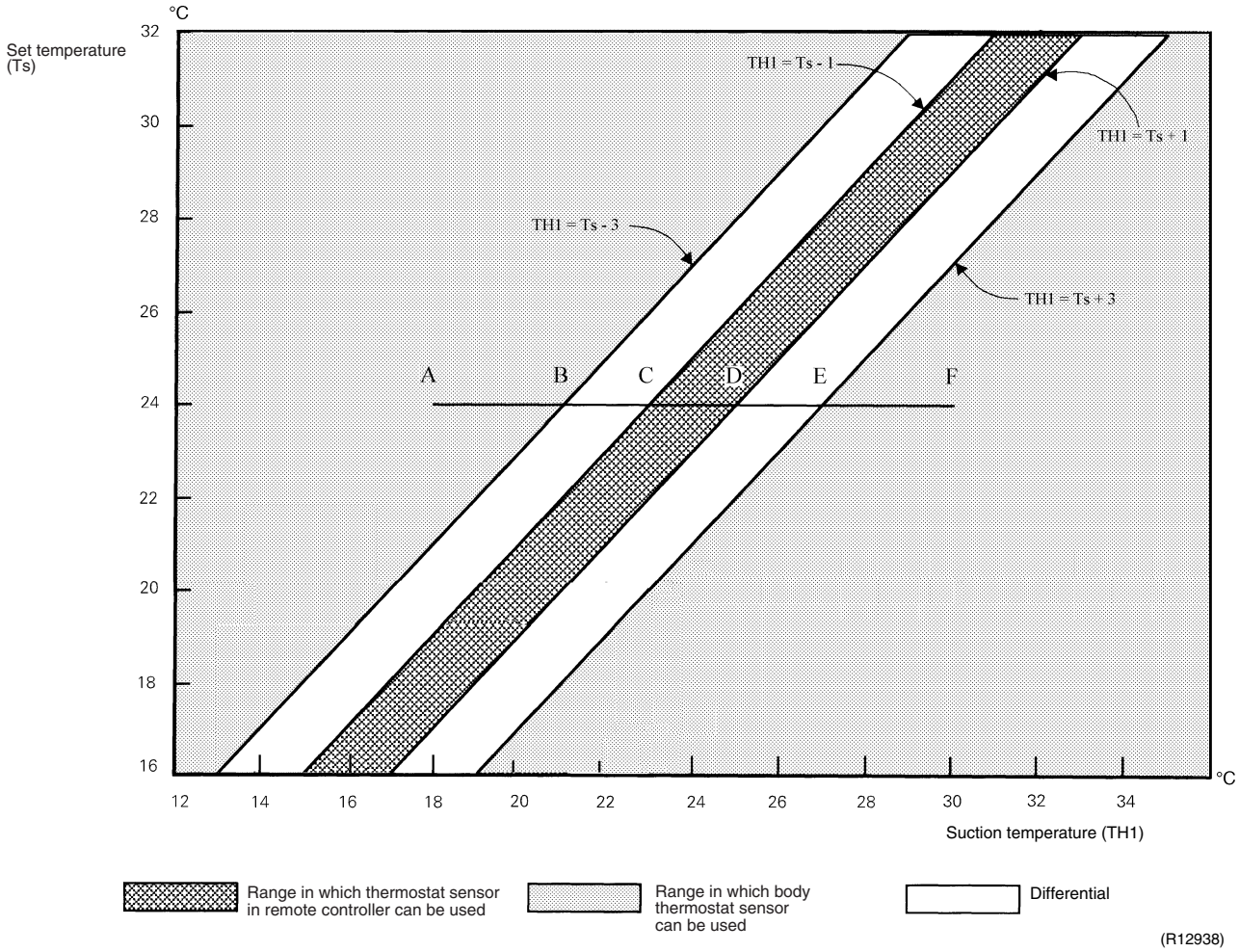
*4. (Malfunction residual):
If the float switch is tripped 5 times in succession, a drain malfunction is determined to have occurred. "8F" is then displayed as operation continues.
*5. (Malfunction residual):
The remote controller displays "83" and the air conditioner comes to an abnormal stop if the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

8.2 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):**

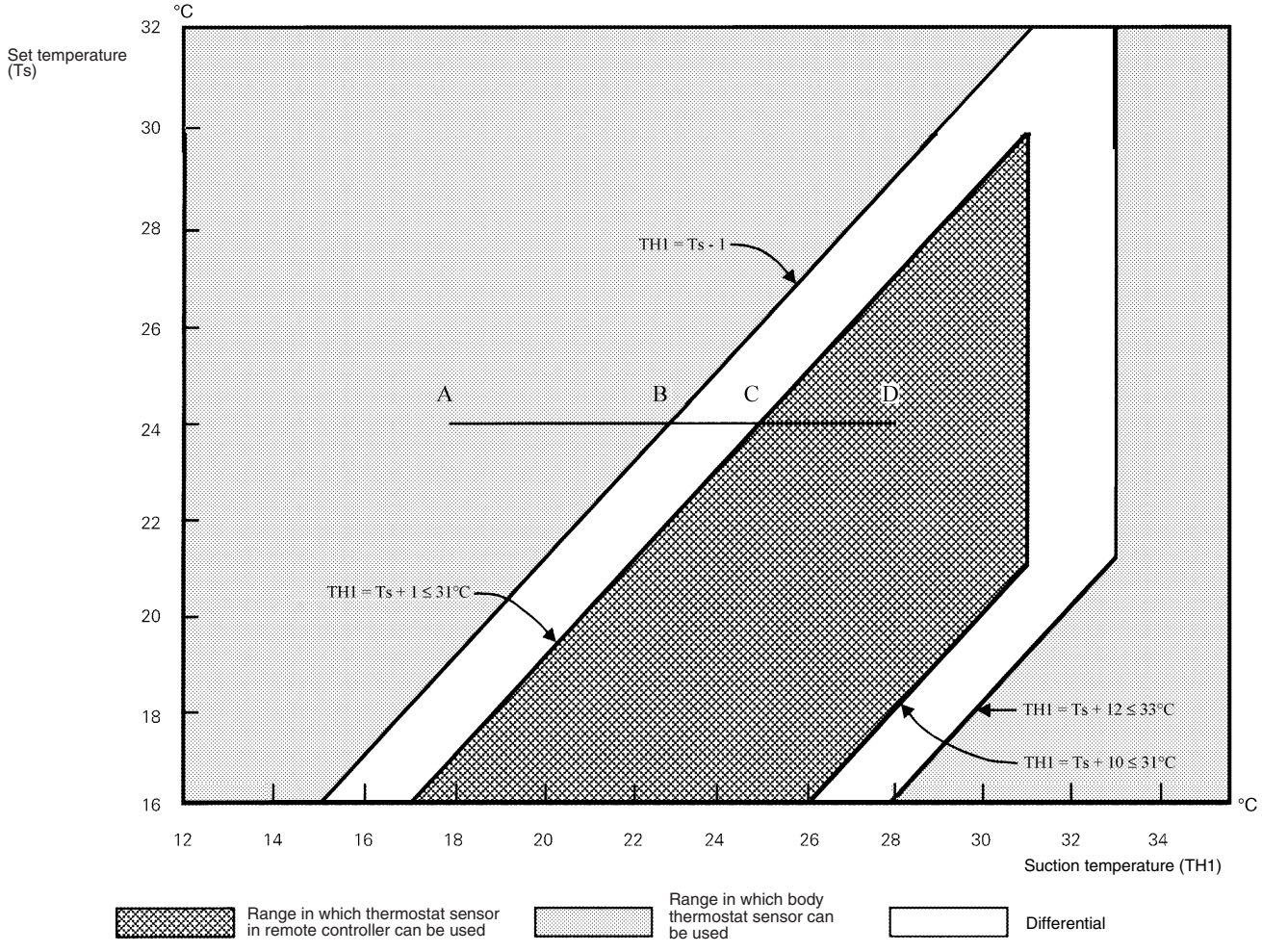
(This example also assumes there are several other air conditioners, and the suction temperature changes even when the thermostat sensor is off.)
Body thermostat sensor is used for temperatures from 18°C to 23°C (A → C).
Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C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



(R12939)

■ **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):**

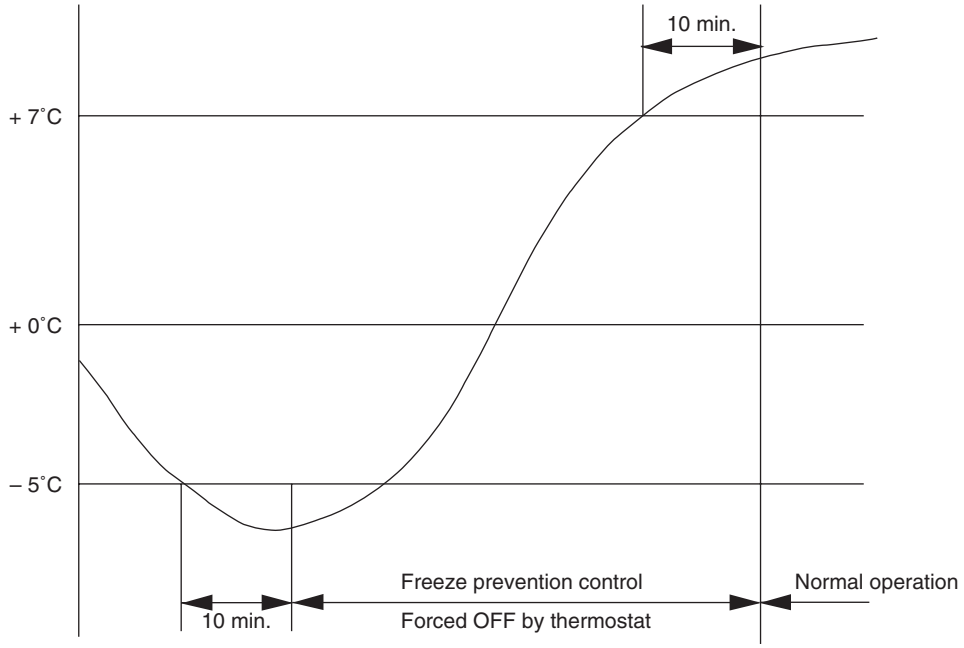
Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D → B).
Body thermostat sensor is used for temperatures from 23°C to 18°C (B → A).

8.3 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.



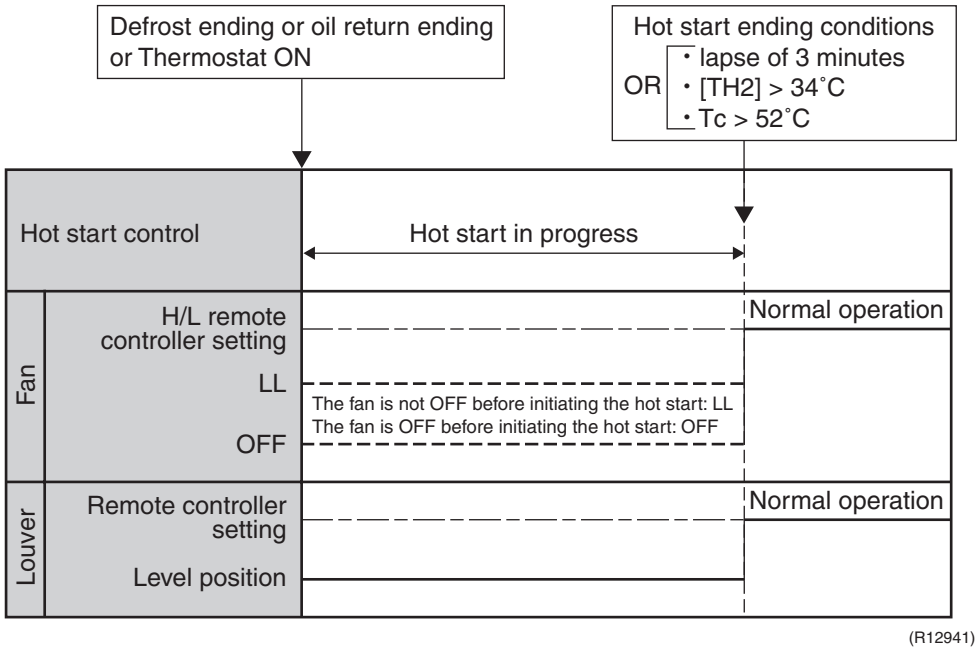
(R12940)

8.4 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

Part 6
Test Operation and Field Settings

1. Test Operation

1.1 Procedure and Outline

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

1.1.1 Check Work Prior to Turn Power Supply On

Check the below items.
- Power wiring
- Control transmission wiring between units
- Earth wire

⇩

Check on refrigerant piping

⇩

Check on amount of refrigerant charge

(R12942)

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

- ○ Is pipe size proper? (The design pressure of this product is 4.0 MPa.)
- ○ Are pipe insulation materials installed securely?
  Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)
- ○ Are respective stop valves on liquid and gas line securely open?

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

1.1.2 Turn Power On

Turn outdoor unit power on.

⇩

Turn indoor unit power on.

⇩

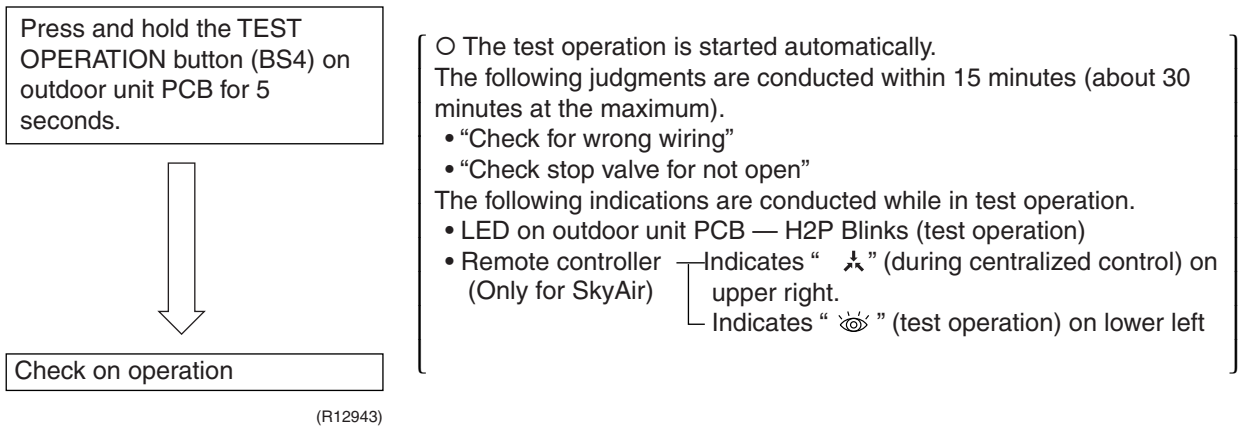
Carry out field setting on outdoor PCB

(R12995)

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

1.1.3 Check Operation

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



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

Error code	Nonconformity during installation	Remedial action
E3	The stop valve of the outdoor unit is left closed.	Open the gas-side stop valve and the liquid-side stop valve.
	Refrigerant overcharged	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
E4	The stop valve of the outdoor unit is left closed.	Open the gas-side stop valve and the liquid-side stop valve.
	Refrigerant shortage	Check if the additional refrigerant charge has been finished correctly.
		Recalculate the required amount of refrigerant from the piping length and add an adequate amount of refrigerant.
F3	Refrigerant overcharged	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
	The stop valve of the outdoor unit is left closed.	Open the gas-side stop valve and the liquid-side stop valve.
	Refrigerant shortage	Check if the additional refrigerant charge has been finished correctly.
		Recalculate the required amount of refrigerant from the piping length and add an adequate amount of refrigerant.
F6	Refrigerant overcharged	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
U2	Insufficient supply voltage	Check to see if the supply voltage is supplied properly.
U3	If a check operation has not been performed.	Perform a check operation.
U4	No power is supplied to the outdoor unit.	Turn the power on for the outdoor unit.
UA	If no dedicated indoor unit is being used.	Check the indoor unit. If it is not a dedicated unit, replace the indoor unit.
UF	The stop valve of the outdoor unit is left closed.	Open the gas-side stop valve and the liquid-side stop valve.
	If the right indoor unit piping and wiring are not properly connected to the outdoor unit.	Make sure that the right indoor unit piping and wiring are properly connected to the outdoor unit.
UH	If the interunit wiring has not be connected or it has shorted.	Make sure the interunit wiring is correctly attached to terminals (X2M) F1/F2 (TO IN/D UNIT) on the outdoor unit circuit board.

1.1.4 Confirmation on Normal Operation

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

1.2 Operation when Power is Turned On

1.2.1 When Turning On Power First Time

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

Status

Outdoor unit	Test lamp H2P .... Blinks Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the "UA" malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

1.2.2 When Turning On Power the Second Time and Subsequent

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

Status

Outdoor unit	Test lamp H2P .... Blinks Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the operation lamp lights but the compressor does not operate. (Returns to normal when automatic setting is complete.)

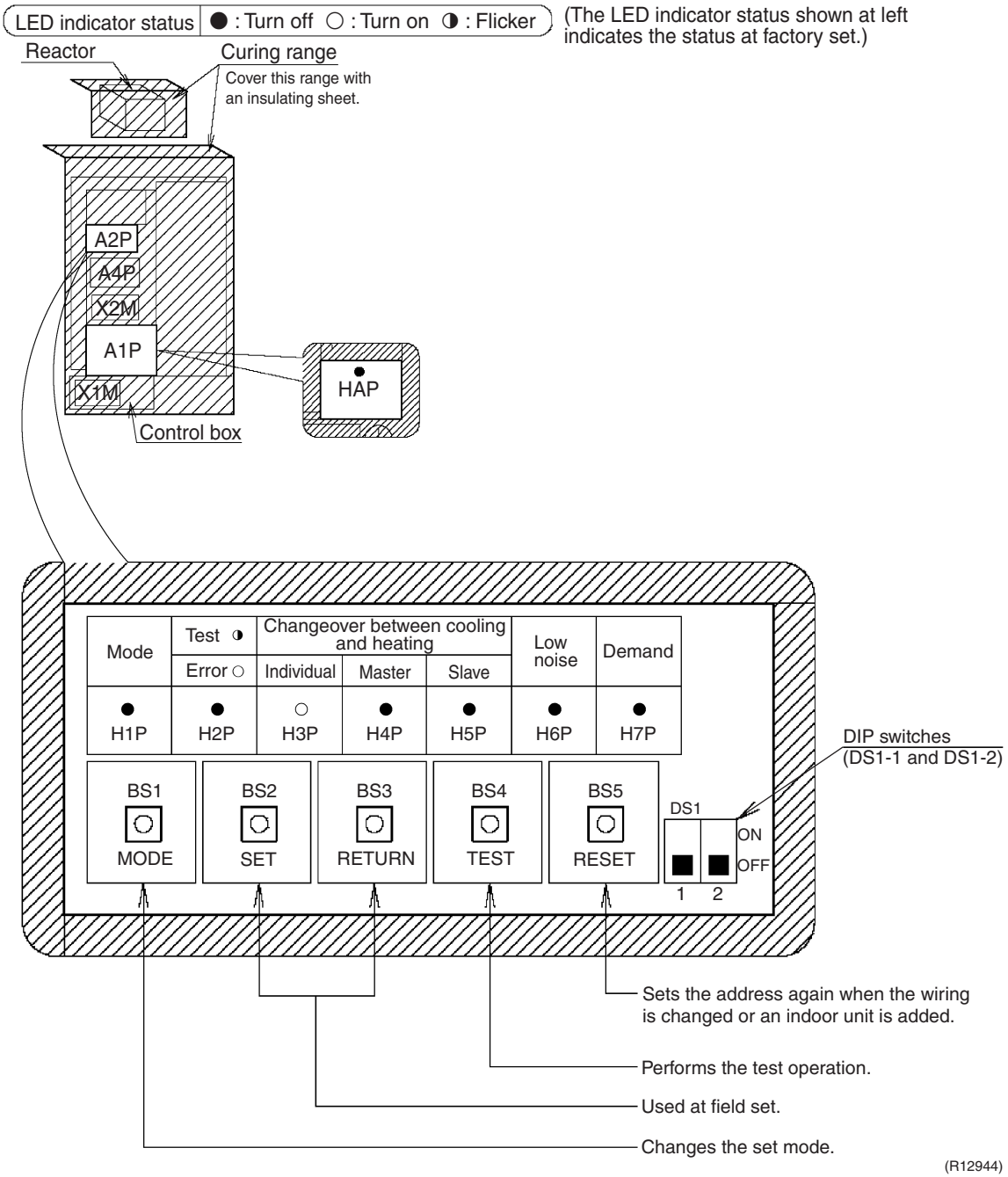
1.2.3 When an Indoor Unit or Outdoor Unit has been Added, or Indoor or Outdoor Unit PCB has been Changed

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

Status

Outdoor unit	Test lamp H2P .... ON Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the "UA" or "U4" malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

1.3 Outdoor Unit PCB Layout



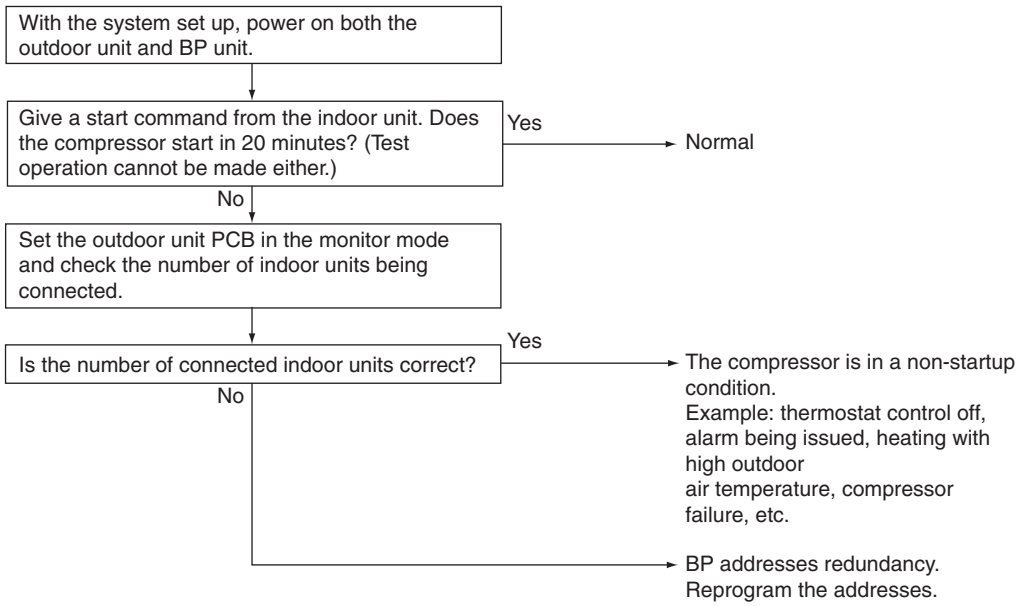
Caution Cover electric parts with an insulating sheet during inspection to prevent electric shock.

1.4 BP Unit

1.4.1 Judging and reprogramming in case of redundant BP addresses

The BP unit of this system is provided with specific addresses in its production stage. These addresses are used to conduct various controls. If by any chance (on 3 out of 260000 units) these addresses are redundant, the system may get in trouble. When replacing the PCB of the BP unit too, these addresses may be used repeatedly.

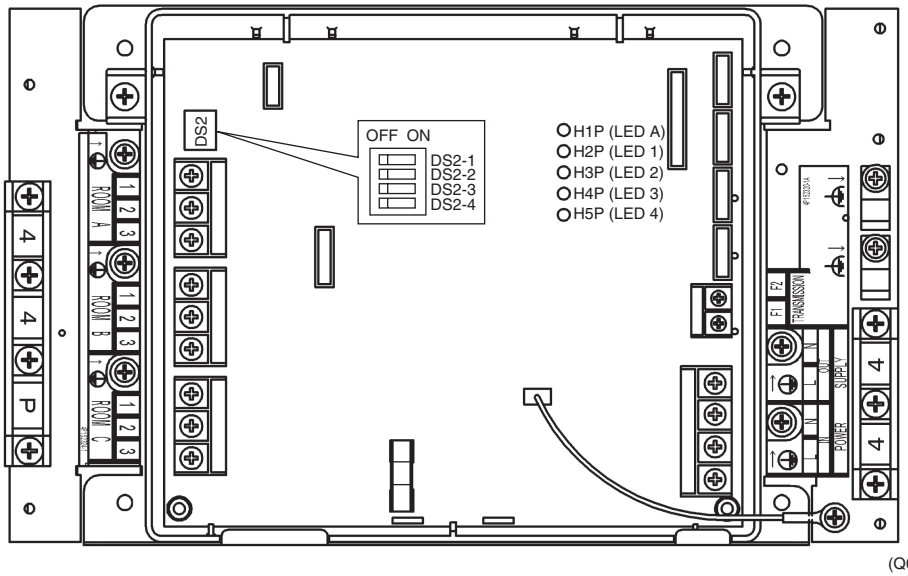
Address redundancy checking flowchart



(Q0517)

Reprogramming the PCB addresses of BP unit

Modify the DIP switch (DS2) settings on the BP unit's PCB in the following way.



(Q0444)

Example of DIP switch (DS2) settings on the BP unit's PCB

	DS2-1	DS2-2	DS2-3	DS2-4
BP unit 1	OFF	OFF	ON	OFF
BP unit 2	OFF	OFF	OFF	ON
BP unit 3	OFF	OFF	ON	ON

DS1 ~ 4 : Factory setting is OFF.
The BP unit 1 through 3 show the first through third unit, respectively. The order of these BP units is flexible.
The above table is only for your reference. The redundancy of addresses can be avoided when the DIP switch settings are individually specified.
With the DIP switch settings reprogrammed, power on the outdoor unit and BP unit again. Check for address redundancy.

Note: If an error display appears on the indoor unit, BP unit or outdoor unit, follow its code and description.

1.5 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLXS, FDXS 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.

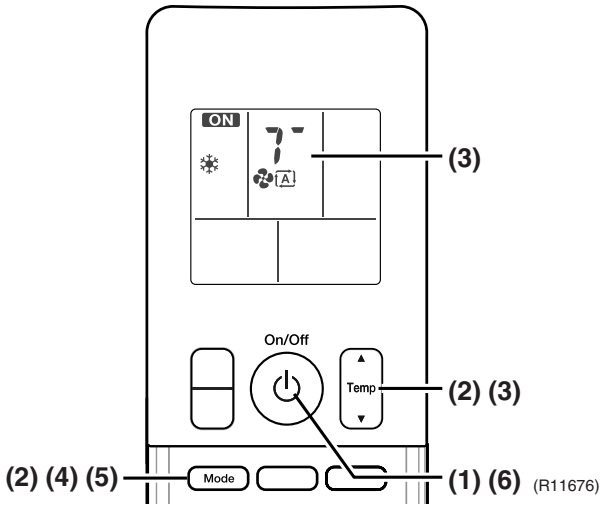
In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.

- 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

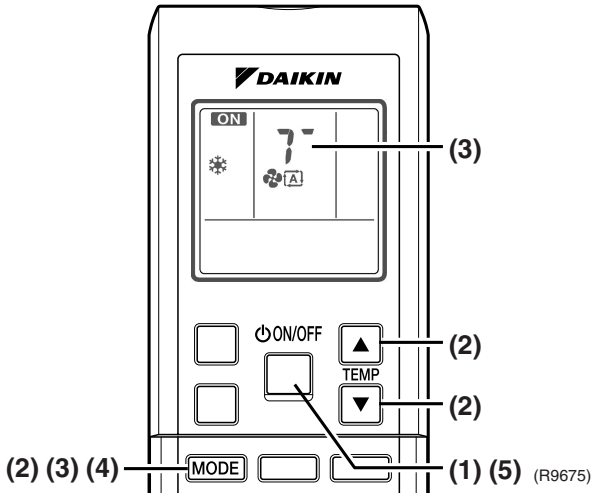
ARC466 Series

(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 "ｱﾞ" (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.



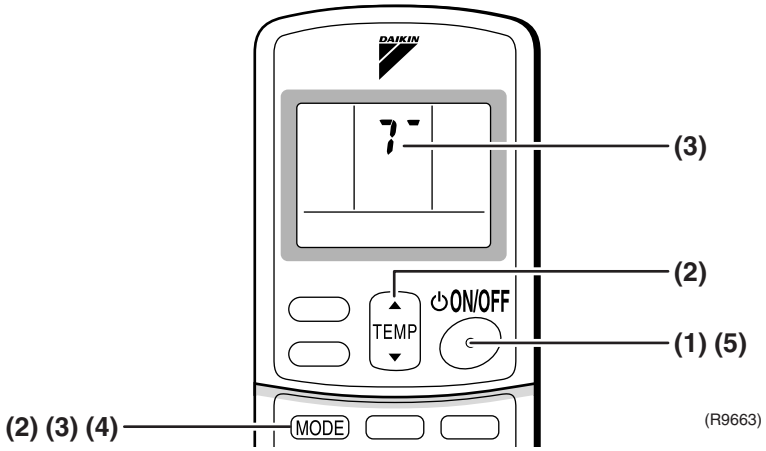
ARC452 Series

(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.



1.6 SA Indoor Unit - FFQ, FCQ, FDBQ, FBQ, FHQ Series

1.6.1 Check points

To carry out test operation, check the followings:

- Check that the temperature setting of the remote controller is at the lowest level in cooling mode.
- Go through the following checklist:

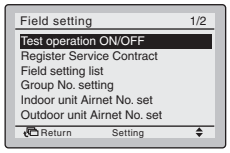
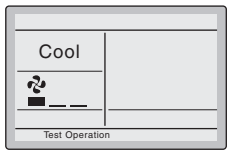
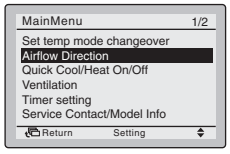
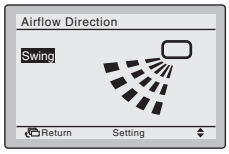
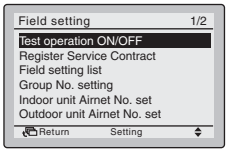
Checkpoints	Cautions or warnings
Are all units securely installed?	● Dangerous for turning over during storm ● Possible damage to pipe connections
Is the earth wire installed according to the applicable local standard?	Dangerous if electric leakage occurs.
Are all air inlets and outlets of the indoor and outdoor units unobstructed?	● Poor cooling ● Poor heating
Does the drain flow out smoothly?	Water leakage
Is piping adequately heat-insulated?	Water leakage
Have the connections been checked for refrigerant leakage?	● Poor cooling ● Poor heating ● Stop
Is the supply voltage conform to the specifications on the name plate?	Incorrect operation
Are the cable sizes as specified and according to local regulations?	Damage of cables
Are the remote controller signals received by the unit?	No operation

1.6.2 Test operation

BRC1D528, BRC7E530W, BRC7F532F, BRC7EA63W

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.

BRC1E51A7

Step	Action	Remote controller
Before test operation		
1	Turn on the power supply more than 6 hours before test operation.	
2	Open the gas stop valve.	
3	Open the liquid stop valve.	
How to activate test operation		
4	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
5	Use the ▼▲ buttons to select **Test operation ON/OFF** and push the [Menu/Enter] button ( ).	 (R12872)
6	**Test operation** is displayed on the bottom of the basic screen.	 (R12873)
7	Push the [ON/OFF] button ( ) within 10 seconds to start the test operation.	
How to check airflow direction		
8	Push the [Menu/Enter] button ( ) to enter the **Main Menu**.	
9	Use the ▼▲ buttons to select **Airflow direction** and push the [Menu/Enter] button ( ).	 (R12874)
10	Check that the airflow direction is actuated according to the setting and push the [Menu/Enter] button ( ).	 (R12875)
How to deactivate test operation		
11	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
12	Use the ▼▲ buttons to select **Test operation ON/OFF** in the menu and push the [Menu/Enter] button ( ).	 (R12876)

2. Field Settings

2.1 Outdoor Unit

2.1.1 Setting by Dip Switches

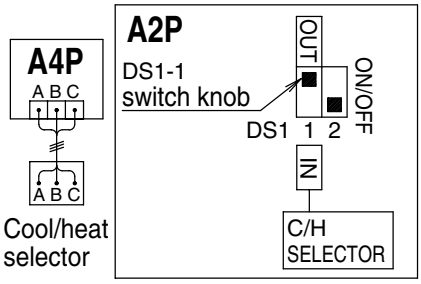
The following field settings are made by dip switches on PCB.

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

Cool/heat selector connection procedure

- Set the remote controller only when changing over the operation mode between cooling and heating using the remote controller installed in the outdoor.

1. Connect the cool/heat selector (optional accessory) to the terminals (A, B and C) on the outdoor PCB (A4P).
2. Set the cool/heat selector switch DS1-1 from “IN (inside) ” (which is selected at the factory before shipment) to “OUT (outside) ”.



(R9205)

Caution

DIP switch setting after changing main PCB (A1P) to spare part PCB

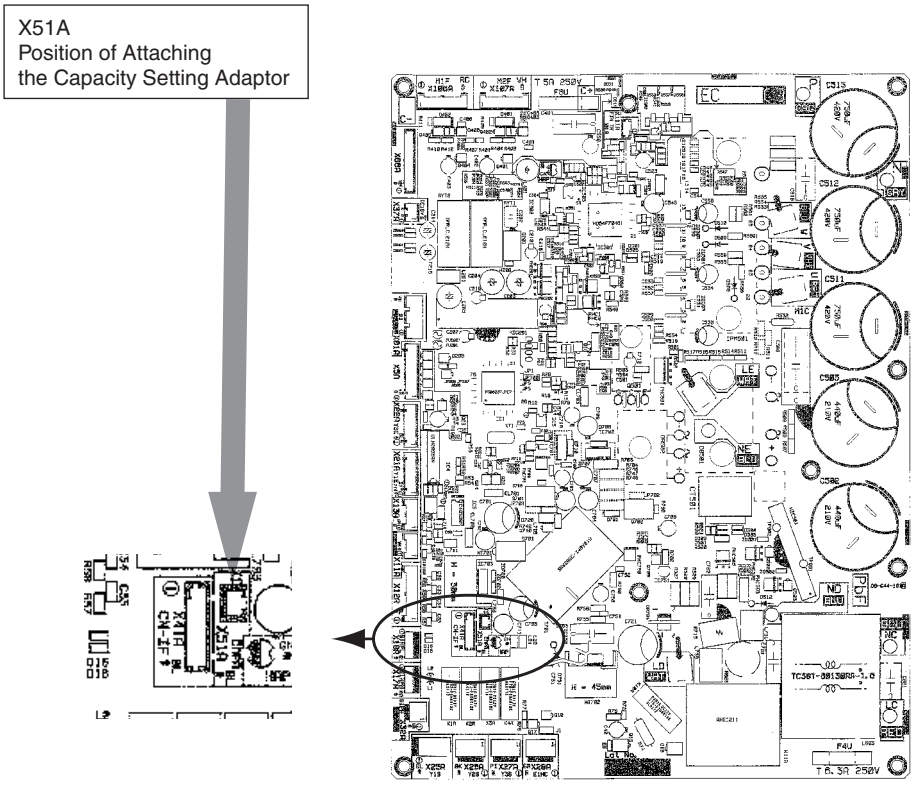
When you change the main PCB (A1P) to spare part PCB, please carry out the following setting.

Please Attach the Capacity Setting Adaptor corresponding to Capacity Class (ex. 112, 140, 160) in connector X51A. (See Below)

Capacity Setting Adaptor

	Capacity Class	Note
(1)	4 (112)	CAPACITY SETTING ADAPTOR (for 100/J112)
(2)	5 (140)	CAPACITY SETTING ADAPTOR (for 125/J140)
(3)	6 (160)	CAPACITY SETTING ADAPTOR (for 140/J160)

Position of Attaching the Capacity Setting Adaptor



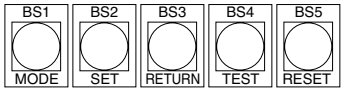
(R14078)

■ **Setting by push button switches**

The following settings are made by push button switches on PCB.

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

(Factory setting)



There are the following 3 setting modes.

(1) **Setting mode 1 (H1P off)**

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

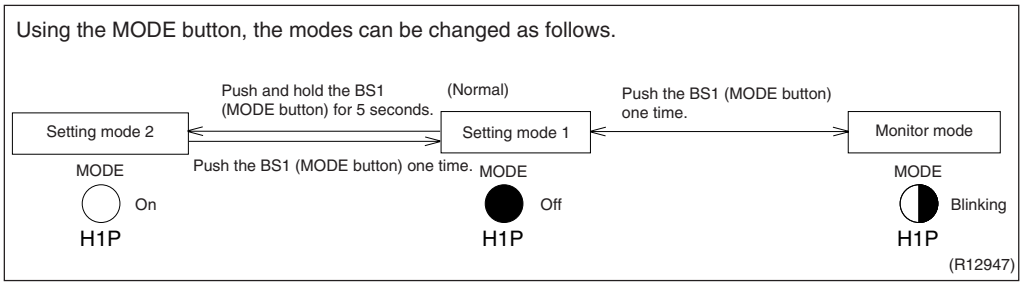
(2) **Setting mode 2 (H1P on)**

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

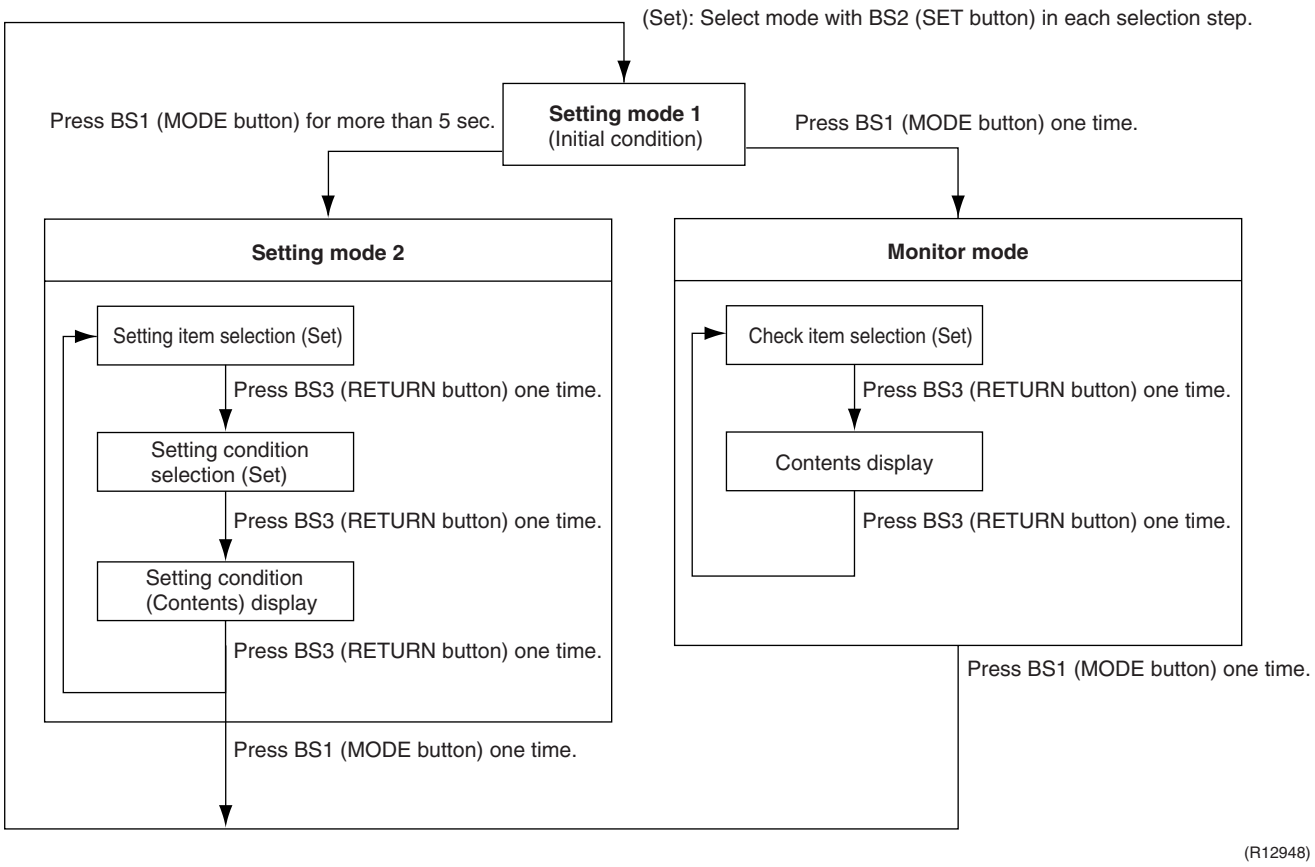
(3) **Monitor mode (H1P blinks)**

Used to check the program made in Setting mode 2.

■ **Mode changing procedure**



■ **Mode changing procedure**

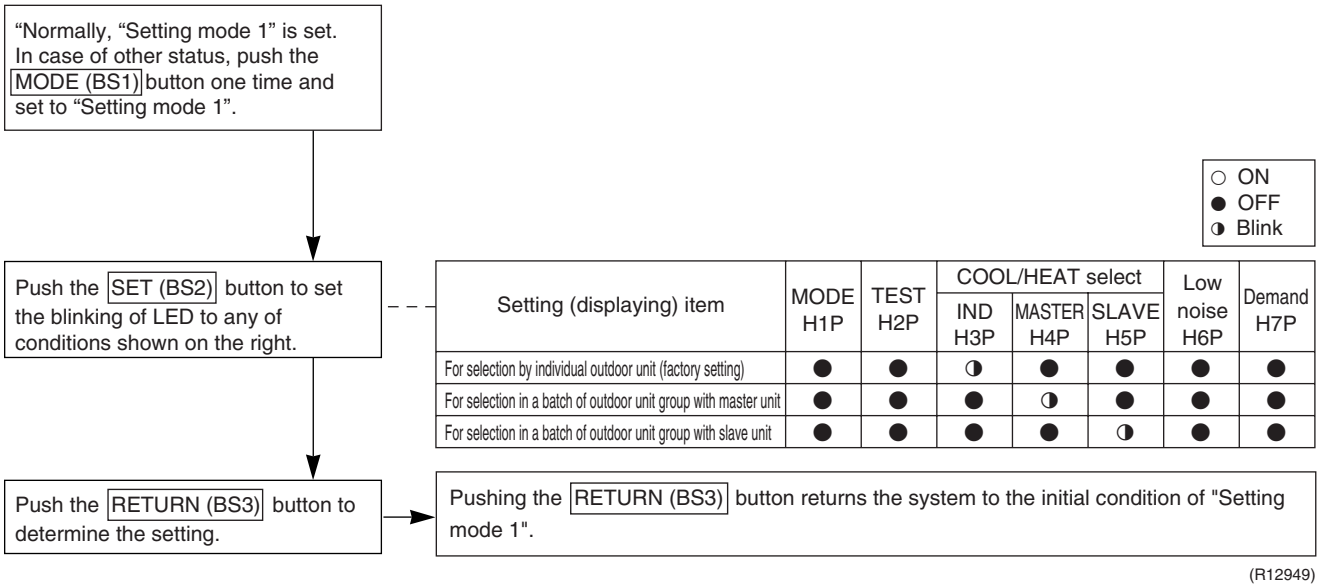


a. “Setting mode 1”

This mode is used to set and check the following items.

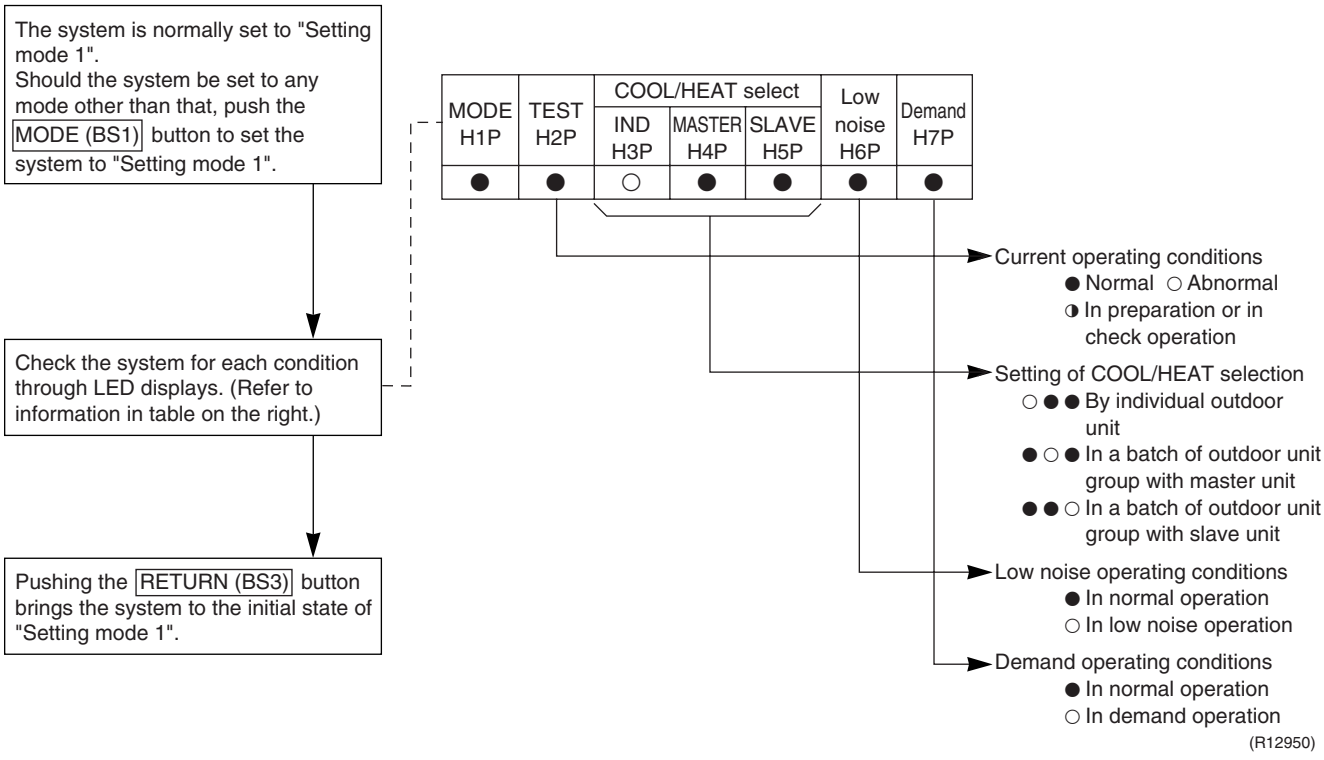
1. Set items ····· In order to make COOL/HEAT selection in a batch of outdoor unit group, change the setting.
   - COOL/HEAT selection (IND) ····· Used to select COOL or HEAT by individual outdoor unit (factory setting).
   - COOL/HEAT selection (MASTER) ····· Used to select COOL or HEAT by outdoor unit group with the master unit.
   - COOL/HEAT selection (SLAVE) ····· Used to select COOL or HEAT by outdoor unit group with the slave unit.
2. Check items ····· The following items can be checked.
   (1) Current operating conditions (Normal / Abnormal / In check operation)
   (2) Setting conditions of COOL/HEAT selection (Individual / Batch master / Batch slave)
   (3) Low noise operating conditions (In normal operation / In low noise operation)
   (4) Demand operating conditions (In normal operation / In demand operation)

Procedure for changing COOL/HEAT selection setting



Setting (displaying) item	MODE H1P	TEST H2P	COOL/HEAT select IND H3P	COOL/HEAT select MASTER H4P	COOL/HEAT select SLAVE H5P	Low noise H6P	Demand H7P
For selection by individual outdoor unit (factory setting)	●	●	◑	●	●	●	●
For selection in a batch of outdoor unit group with master unit	●	●	●	◑	●	●	●
For selection in a batch of outdoor unit group with slave unit	●	●	●	●	◑	●	●

Procedure for checking check items



b. “Setting mode 2”

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

<Selection of setting items>

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

<Selection of setting conditions>

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

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

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

No.	Setting item	Description
1	Cool/heat unified address	Sets address for cool/heat unified operation.
2	Low noise/demand address	Address for low noise/demand operation
3	Test operation settings	Used to conduct test operation without making changes to the PCB and replacing the refrigerant, after the completion of maintenance.
5	Indoor unit forced fan H	Allows forced operation of indoor unit fan while unit is stopped. (H tap)
6	Indoor unit forced operation	Allows forced operation of indoor unit.
8	Te setting	Target evaporation temperature for cooling
9	Tc setting	Target condensation temperature for heating
10	Defrost changeover setting	Changes the temperature condition for defrost and sets to quick defrost or slow defrost.
12	External low noise setting / Demand setting	Reception of external low noise or demand signal
13	AIRNET address	Set address for AIRNET.
16	Setting of hot water heater	Make this setting to conduct heating operation with hot water heater.
20	Additional refrigerant charge operation setting	Carries out additional refrigerant charge operation.
21	Refrigerant recovery / vacuuming mode setting	Sets to refrigerant recovery or vacuuming mode.
22	Night-time low noise setting	Sets automatic nighttime low noise operation in a simple way. The operating time is based on “Starting set” and “Ending set”.
25	Setting of external low noise level	Sets low noise level when the low noise signal is input from outside.
26	Night-time low noise operation start setting	Sets starting time of nighttime low noise operation. (Night-time low noise setting is also required.)
27	Night-time low noise operation end setting	Sets ending time of nighttime low noise operation. (Night-time low noise setting is also required.)
28	Power transistor check mode ∗Check after disconnection of compressor wires	Used for trouble diagnosis of DC compressor. Since the waveform of inverter is output without wiring to the compressor, it is convenient to probe whether the trouble comes from the compressor or PCB.
29	Capacity precedence setting	If the capacity control is required, the low noise control is automatically released by this setting during carrying out low noise operation and nighttime low noise operation.
30	Demand setting 1	Changes target value of power consumption when demand control 1 is input.
32	Normal demand setting	Normally enables demand control 1 without external input. (Effective to prevent a problem that circuit breaker of small capacity is shut down due to large load.)

The numbers in the "No." column represent the number of times to press the SET (BS2) button.

No.	Setting item display								Setting condition display			
	Setting item	MODE H1P	TEST H2P	C/H selection			Low noise H6P	Demand H7P				✻ Factory setting
				IND H3P	Master H4P	Slave H5P						
1	Cool / heat unified address	○	●	●	●	●	●	○	Address Binary number (6 digits)	0 1 ~ 31	○●●●●●● ○●●●●●○ ○●○○○○○	✻
2	Low noise/demand address	○	●	●	●	●	○	●	Address Binary number (6 digits)	0 1 ~ 31	○●●●●●● ○●●●●●○ ○●○○○○○	✻
3	Test operation settings	○	●	●	●	●	○	○	Test operation : OFF Test operation : ON		○●●●●●○ ○●●●●○●	✻
5	Indoor unit forced fan H	○	●	●	●	○	●	○	Normal operation Indoor forced fan H		○●●●●●○ ○●●●●○●	✻
6	Indoor unit forced operation	○	●	●	●	○	○	●	Normal operation Indoor forced operation		○●●●●●○ ○●●●●○●	✻
8	Te setting	○	●	●	○	●	●	●	High Normal (factory setting) Low		○●●●○●● ○●●●●○● ○●●●●●○	✻
9	Tc setting	○	●	●	○	●	●	○	High Normal (factory setting) Low		○●●●○●● ○●●●●○● ○●●●●●○	✻
10	Defrost changeover setting	○	●	●	○	●	○	●	Quick defrost Normal (factory setting) Slow defrost		○●●●○●● ○●●●●○● ○●●●●●○	✻
12	External low noise setting/demand setting	○	●	●	○	○	●	●	External low noise/demand: NO External low noise/demand: YES		○●●●●●○ ○●●●●○●	✻
13	AIRNET address	○	●	●	○	○	●	○	Address Binary number (6 digits)	0 1 ~ 63	○●●●●●● ○●●●●●○ ○○○○○○○	✻
16	Setting of hot water heater	○	●	○	●	●	●	●	OFF ON		○●●●●●○ ○●●●●○●	✻
20	Additional refrigerant charge operation setting	○	●	○	●	○	●	●	Refrigerant charging: OFF Refrigerant charging: ON		○●●●●●○ ○●●●●○●	✻
21	Refrigerant recovery / vacuuming mode setting	○	●	○	●	○	●	○	Refrigerant recovery / vacuuming: OFF Refrigerant recovery / vacuuming: ON		○●●●●●○ ○●●●●○●	✻
22	Night-time low noise setting	○	●	○	●	○	○	●	OFF Level 1 (outdoor fan with 6 step or lower) Level 2 (outdoor fan with 5 step or lower) Level 3 (outdoor fan with 4 step or lower)		○●●●●●● ○●●●●●○ ○●●●●○● ○●●●●○○	✻

The numbers in the "No." column represent the number of times to press the SET (BS2) button.

No.	Setting item display								Setting condition display
	Setting item	MODE H1P	TEST H2P	C/H selection			Low noise H6P	Demand H7P	✻ Factory setting
				IND H3P	Master H4P	Slave H5P			
25	Setting of external low noise setting	○	●	○	○	●	●	○	Level 1 (outdoor fan with 6 step or lower) ○●●●●●○ Level 2 (outdoor fan with 5 step or lower) ○●●●●○● ✻ Level 3 (outdoor fan with 4 step or lower) ○●●●○●●
26	Night-time low noise operation start setting	○	●	○	○	●	○	●	About 20:00 ○●●●●●○ About 22:00 (factory setting) ○●●●●○● ✻ About 24:00 ○●●●○●●
27	Night-time low noise operation end setting	○	●	○	○	●	○	○	About 6:00 ○●●●●●○ About 7:00 ○●●●●○● About 8:00 (factory setting) ○●●●○●● ✻
28	Power transistor check mode	○	●	○	○	○	●	●	OFF ○●●●●●○ ✻ ON ○●●●●○●
29	Capacity precedence setting	○	●	○	○	○	●	○	OFF ○●●●●●○ ✻ ON ○●●●●○●
30	Demand setting 1	○	●	○	○	○	○	●	60 % demand ○●●●●●○ 70 % demand ○●●●●○● ✻ 80 % demand ○●●●○●●
32	Normal demand setting	○	○	●	●	●	●	●	OFF ○●●●●●○ ✻ ON ○●●●●○●

The numbers in the "No." column represent the number of times to press the SET (BS2) button.

c. Monitor mode

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

<Selection of setting item>

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

<Confirmation on setting contents>

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

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

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

No.	Setting item	LED display							Data display
		H1P	H2P	H3P	H4P	H5P	H6P	H7P	
0	Various setting	◑	●	●	●	●	●	●	See below
1	Cool / heat unified address	◑	●	●	●	●	●	○	Lower 6 digits
2	Low noise/demand address	◑	●	●	●	●	○	●	
3	Not used	◑	●	●	●	●	○	○	
4	AIRNET address	◑	●	●	●	○	●	●	
5	Number of connected indoor units	◑	●	●	●	○	●	○	
7	Number of connected zone units (excluding outdoor and BS unit)	◑	●	●	●	○	○	○	
8	Number of outdoor units	◑	●	●	○	●	●	●	
11	Number of zone units (excluding outdoor and BS unit)	◑	●	●	○	●	○	○	Lower 6 digits
12	Number of terminal blocks	◑	●	●	○	○	●	●	Lower 4 digits: upper
13	Number of terminal blocks	◑	●	●	○	○	●	○	Lower 4 digits: lower
14	Contents of malfunction (the latest)	◑	●	●	○	○	○	●	Error code table Refer to page 326.
15	Contents of malfunction (1 cycle before)	◑	●	●	○	○	○	○	
16	Contents of malfunction (2 cycle before)	◑	●	○	●	●	●	●	
20	Contents of retry (the latest)	◑	●	○	●	○	●	●	
21	Contents of retry (1 cycle before)	◑	●	○	●	○	●	○	
22	Contents of retry (2 cycle before)	◑	●	○	●	○	○	●	
25	Normal judgment of outdoor units PCB	◑	●	○	○	●	●	○	Lower 2 digits: ○● Abnormal ●○ Normal ●● Unjudgment

The numbers in the "No." column represent the number of times to press the SET (BS2) button.

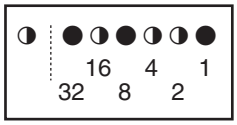
Setting item 0 Display contents of "Various setting"

EMG operation / backup operation setting	ON	◑	●	●	○	●	●	●
	OFF	◑	●	●	●	●	●	●
Defrost select setting	Short	◑	●	●	●	○	●	●
	Medium	◑	●	●	●	◑	●	●
	Long	◑	●	●	●	●	●	●
Te setting	H	◑	●	●	●	●	○	●
	M	◑	●	●	●	●	◑	●
	L	◑	●	●	●	●	●	●
Tc setting	H	◑	●	●	●	●	●	○
	M	◑	●	●	●	●	●	◑
	L	◑	●	●	●	●	●	●

Push the BS2 (SET button) and match with the LEDs No. 1 - 15, push the BS3 (RETURN button), and confirm the data for each setting.

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

Figure 1

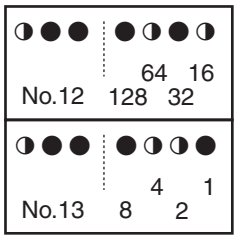


(R12951)

The No. 1 cool/heat unified address is expressed as a binary number consisting of the lower 6 digits. (0 - 63)

In the figure 1, the address is 010110 (binary number), which translates to 16 + 4 + 2 = 22 (base 10 number). In other words, the address is 22.

Figure 2



(R12952)

The number of terminal blocks for No. 12 and 13 is expressed as an 8-digit binary number, which is the combination of four upper, and four lower digits for No. 12 and 13 respectively. (0 - 128)
In the figure 2, the address for No. 12 is 0101, the address for No. 13 is 0110, and the combination of the two is 01010110 (binary number), which translates to 64 + 16 + 4 + 2 = 86 (base 10 number). In other words, the number of terminal block is 86.

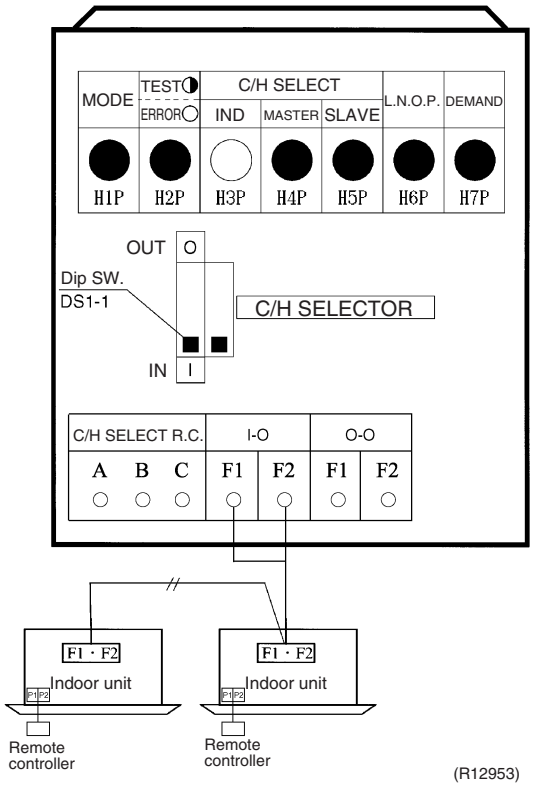
★ See the preceding page for a list of data, etc. for No. 0 - 25.

2.1.2 Cool / Heat Mode Switching

There are the following 4 cool/heat switching modes.
(1) Set cool/heat separately for each outdoor unit system by indoor unit remote controller.
(2) Set cool/heat separately for each outdoor unit system by cool/heat switching remote controller.
(3) Set cool/heat for more than one outdoor unit system simultaneously in accordance with unified master outdoor unit by indoor unit remote controller.
(4) Set cool/heat for more than one outdoor unit system simultaneously in accordance with unified master outdoor unit by cool/heat switching remote controller.

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

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



(R12953)

<Set the master unit (= indoor unit having the right to select the cooling/heating operation mode).>

In the case of wired remote controllers

- After the check operation, **"CHANGEOVER UNDER CONTROL"** is flashing in all connected remote controllers.
- Select an indoor unit to be used as the master unit in accordance with the request from the customer. (It is recommended to select an indoor unit which will be used most often as the master unit.)
- Press the operation mode selector button in the remote controller of the indoor unit selected as the master unit.
- In that remote controller, **"CHANGEOVER UNDER CONTROL"** disappears. That remote controller controls changeover of the cooling/heating operation mode.
- In other remote controllers, **"CHANGEOVER UNDER CONTROL"** lights.

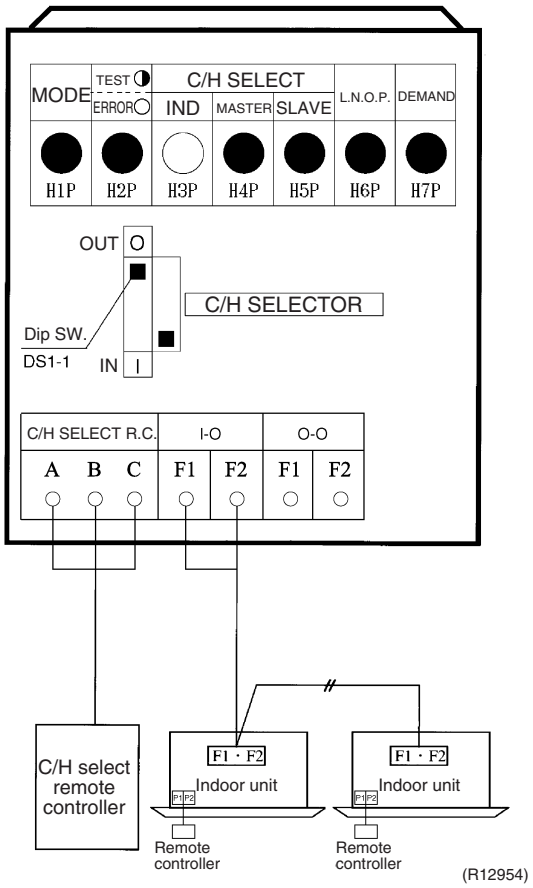
For the details, refer to the installation manual supplied together with the indoor unit.

In the case of wireless remote controllers

- After the check operation, the timer lamp is flashing in all connected indoor units.
- Select an indoor unit to be used as the master unit in accordance with the request from the customer. (It is recommended to select an indoor unit which will be used most often as the master unit.)
- Press the operation selector mode button in the remote controller of the indoor unit selected as the master unit. A "peep" sound is emitted, and the timer lamp turns off in all indoor units.
- That indoor unit controls changeover of the cooling/heating operation mode.

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

- ◆ It does not matter whether or not there is outdoor - outdoor unit wiring.
- ◆ Set outdoor unit PCB DS1-1 to OUT (factory setting).
- ◆ Set cool/heat switching to IND (individual) for “Setting mode 1” (factory setting).



2.1.3 Setting of Low Noise Operation and Demand Operation

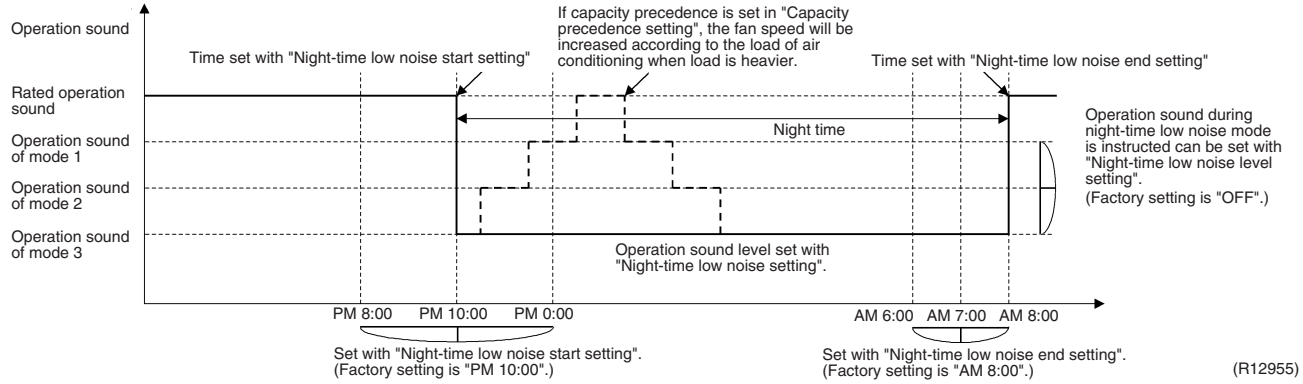
Setting of Low Noise Operation

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

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

1. While in "Setting mode 2", select the setting condition (i.e., "Mode 1", "Mode 2", or "Mode 3") for set item No. 22 (Setting of nighttime low noise level).
2. If necessary, while in "Setting mode 2", select the setting condition (i.e., "20:00", "22:00", or "24:00") for set item No. 26 (Setting of start time of nighttime low noise operation).
   (Use the start time as a guide since it is estimated according to outdoor temperatures.)
3. If necessary, while in "Setting mode 2", select the setting condition (i.e., "06:00", "07:00", or "08:00") for set item No. 27 (Setting of end time of nighttime low noise operation).
   (Use the end time as a guide since it is estimated according to outdoor temperatures.)
4. If necessary, while in "Setting mode 2", set the setting condition for set item No. 29 (Setting of capacity precedence) to "ON".
   (If the condition is set to "ON", when the air-conditioning load reaches a high level, the system enters to normal operation mode even during nighttime.)

Image of operation



Setting of Demand Operation

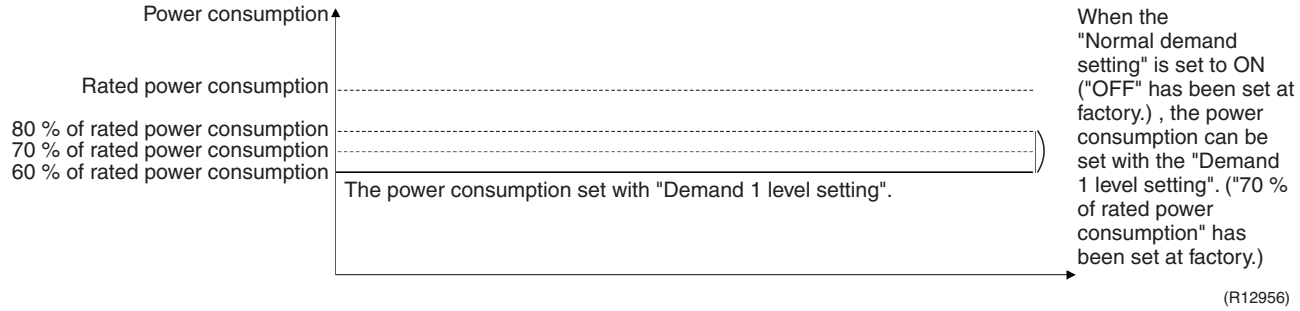
By connecting the external contact input to the demand input of the outdoor unit external control adaptor (optional), the power consumption of unit operation can be saved suppressing the compressor operating condition.

Set item	Condition	Content
Demand	Mode 1	The compressor operates at approx. 60% or less of rating.
	Mode 2	The compressor operates at approx. 70% or less of rating.
	Mode 3	The compressor operates at approx. 80% or less of rating.

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

1. While in "Setting mode 2", make setting of the set item No. 32 (Setting of constant demand) to "ON".
2. While in "Setting mode 2", select the set item No. 30 (Setting of Demand 1 level) and then set the setting condition to targeted mode.

Image of operation



Detailed Setting Procedure of Low Noise Operation and Demand Control

1. Setting mode 1 (H1P off)

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

2. Setting mode 2 (H1P on)

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

○: ON ●: OFF ◑: Blink

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

Setting mode indication section

Setting No. indication section

Set contents indication section

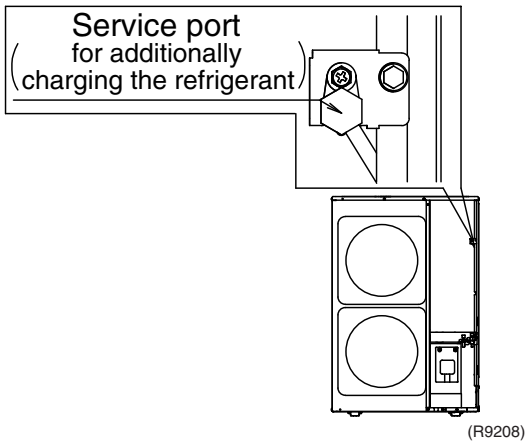
2.1.4 Setting of Refrigerant Additional Charging Operation

*** When the outdoor unit is stopped and the entire quantity of refrigerant cannot be charged from the stop valve on the liquid side, make sure to charge the remaining quantity of refrigerant using this procedure. If the refrigerant quantity is insufficient, the unit may malfunction.**

(1) Turn ON the power of the indoor unit and the outdoor unit.
(2) Make sure to completely open the stop valve on the gas side and the stop valve on the liquid side.
(3) Connect the refrigerant charge hose to the service port (for additionally charging the refrigerant).
(4) In the stopped status, set to ON the refrigerant additional charging operation (A) in set mode 2 (H1P: Turn on).
(5) The operation is automatically started.
(The LED indicator H2P flickers, and "Test operation" and "Under centralized control" are displayed in the remote controller.)
(6) After charging the specified quantity of refrigerant, press the RETURN button (BS3) to stop the operation.

(The operation is automatically stopped within 30 minutes.
If charging is not completed within 30 minutes, set and perform the refrigerant additional charging operation (A) again.
If the refrigerant additional charging operation is stopped soon, the refrigerant may be overcharged.
Never charge extra refrigerant.)

(7) Disconnect the refrigerant charge hose.



(R9208)

2.1.5 Setting of Refrigerant Recovery Mode

When carrying out the refrigerant collection on site, fully open the respective expansion valve of indoor and outdoor units
All indoor and outdoor unit's operation are prohibited.

[Operation procedure]

(1) In "setting mode 2" with units in stop mode, set the item No.21 (refrigerant recovery / vacuuming mode) to ON. The respective expansion valve of indoor and outdoor units are fully opened. "TEST OPERATION" and "UNDER CENTRALIZED CONTROL" are displayed on the remote controller, and the indoor / outdoor unit operation is prohibited. After setting, do not cancel "setting mode 2" until completion of refrigerant recovery operation.

(2) Collect the refrigerant using a refrigerant recovery unit. (See the instruction attached to the refrigerant recovery unit for more detail.)

(3) Press the MODE button (BS1) once and return to "setting mode 2".

2.1.6 Setting of Vacuuming Mode

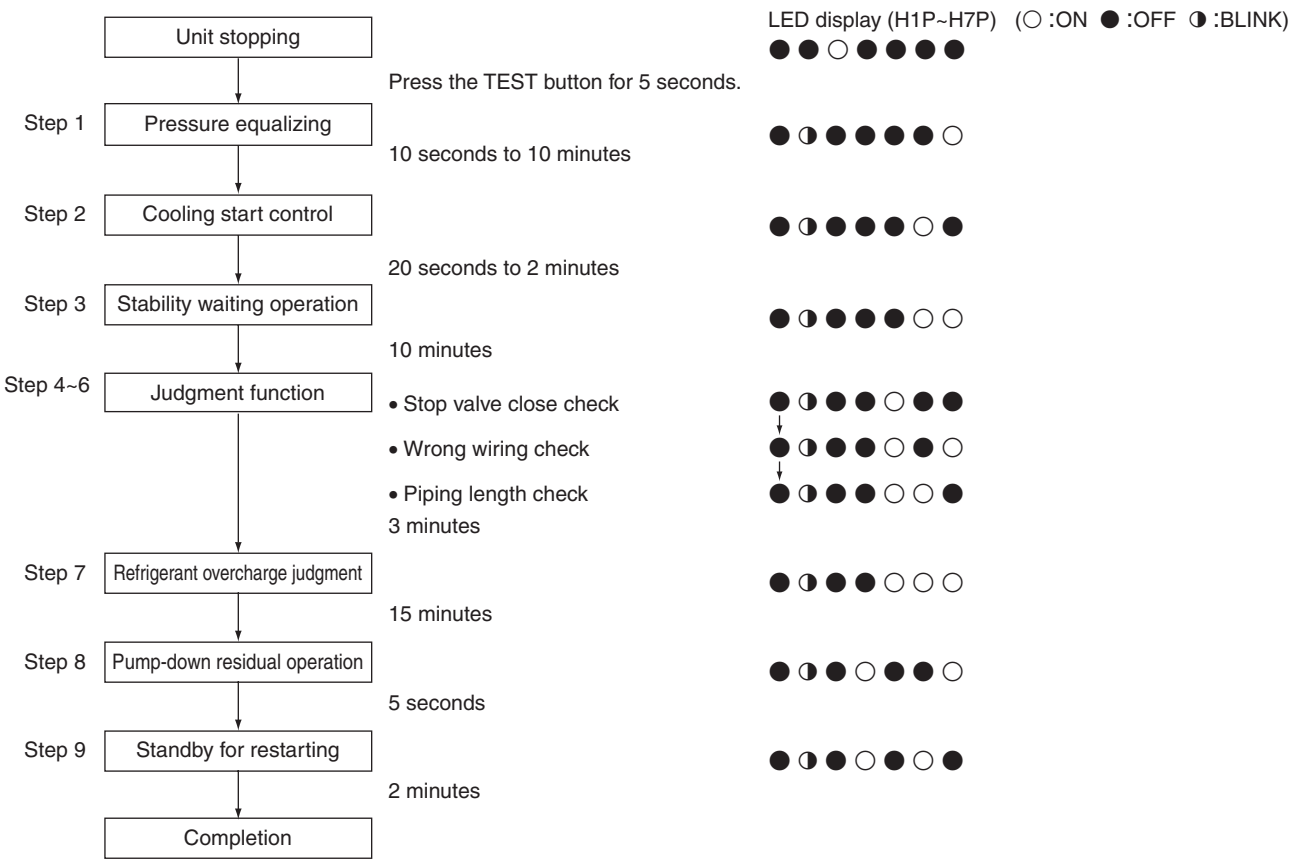
In order to perform vacuuming operation at site, fully open the expansion valves of indoor and outdoor units and turn on some solenoid valves.

[Operating procedure]

(1) In “setting mode 2” with units in stop mode, set the item No.21 (refrigerant recovery / vacuuming mode) to ON. The respective expansion valve of indoor and outdoor units are fully opened. “TEST OPERATION” and “UNDER CENTRALIZED CONTROL” are displayed on the remote controller, and the indoor / outdoor unit operation is prohibited. After setting, do not cancel “setting mode 2” until completion of Vacuuming operation.
(2) Use the vacuum pump to perform vacuuming operation.
(3) Press the MODE button (BS1) once and reset “setting mode 2”.

2.1.7 Check Operation

To prevent any trouble in the period of installation at site, the system is provided with a test operation mode enabling check for incorrect wiring, stop valve left in closed, coming out (or misplacing with suction pipe thermistor) or discharge pipe thermistor and judgment of piping length, refrigerant overcharging, and learning for the minimum opening degree of electronic expansion valve.



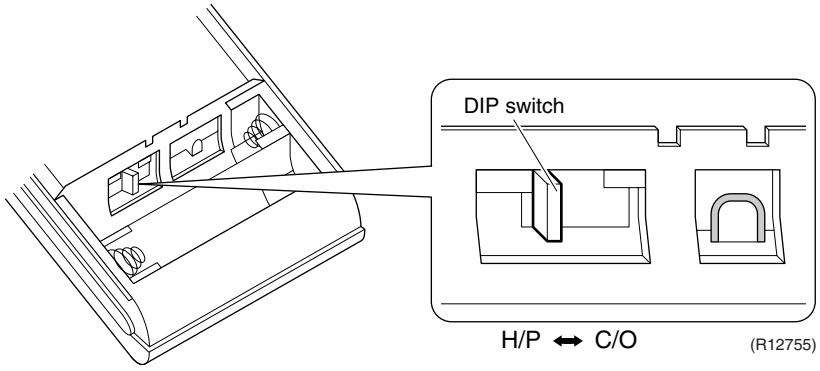
(R12957)

2.2 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLXS, FDXS Series

2.2.1 Model Type Setting

<ARC452A1, A3>

- 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.



2.2.2 When 2 Units are Installed in 1 Room

Outline

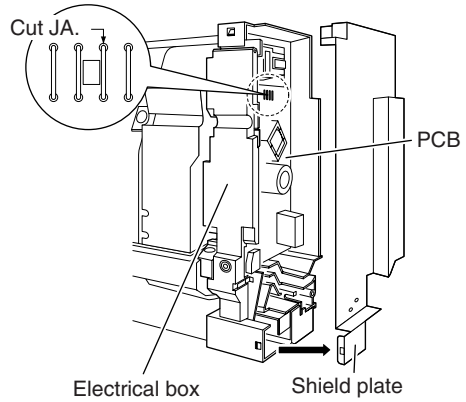
When 2 indoor units are installed in 1 room, 1 of the 2 pairs of indoor unit and wireless remote controller can be set for different address.
Both the indoor unit PCB and the wireless remote controller need alteration.

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.

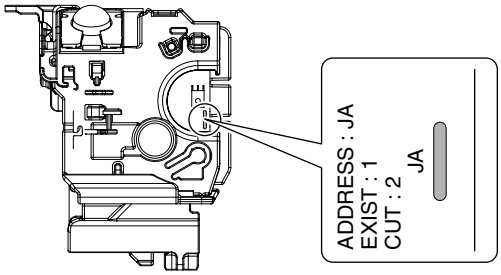
E-Series



JA	ADDRESS
EXIST	1
CUT	2

(R12756)

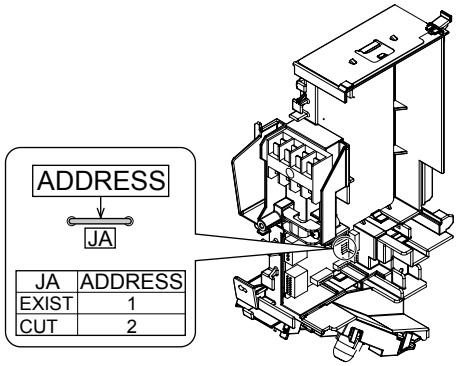
J-Series



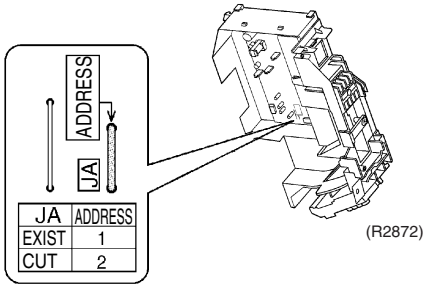
(Bottom of electrical box)

(R12036)

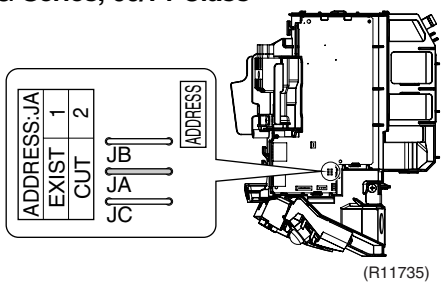
G-Series, 20-50 Class



F-Series

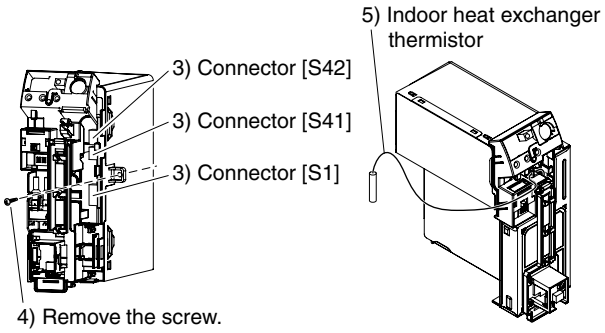


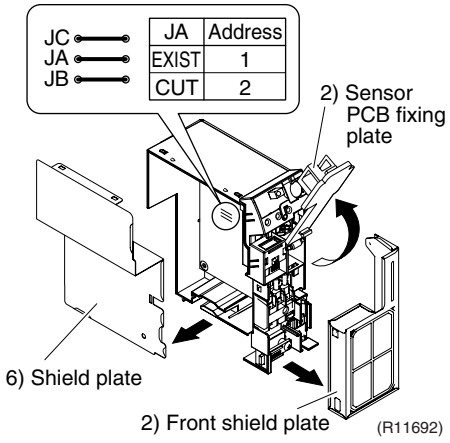
G-Series, 60/71 Class



< Floor Standing Type>

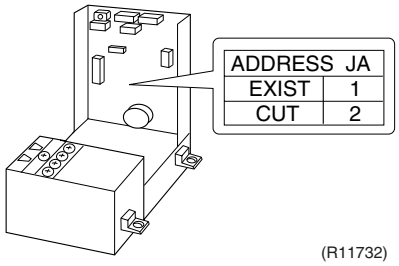
1) Remove the front grille.
2) Lift the sensor PCB fixing plate and remove the front shield plate.
3) Disconnect the connectors [S1] [S41] [S42].
4) Remove the electric box (1 screw).
5) Pull out the indoor heat exchanger thermistor.
6) Remove the shield plate (8 tabs).
7) Cut the address jumper JA on the indoor unit PCB.
8) Cut the address jumper J4 in the remote controller.
(Refer to “Wireless remote controller”.)





< Floor / Ceiling Suspended Dual Type >

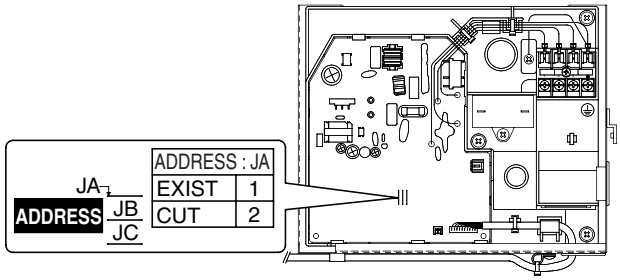
■ Cut the jumper JA on PCB.



(R11732)

< Duct Connected Type >

■ Cut the jumper JA on PCB.

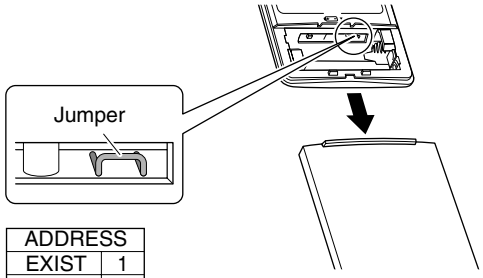


(R10276)

Wireless Remote Controller

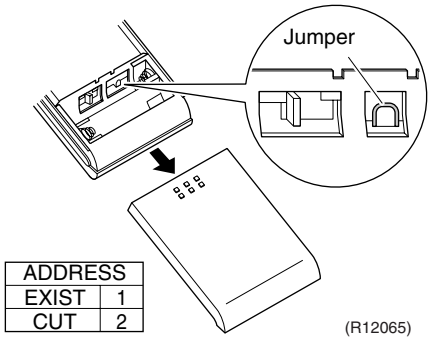
(1) Remove the cover and take it off.
(2) Cut the address setting jumper.

<ARC466 series>



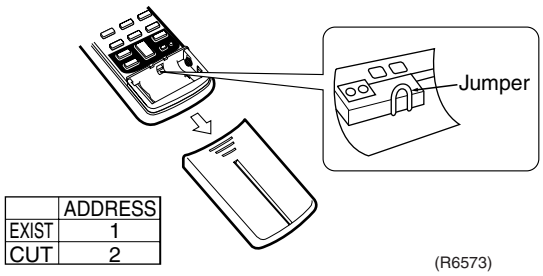
(R12037)

<ARC452 series>



(R12065)

<ARC433 series>



(R6573)

2.2.3 Jumper and Switch Settings

Jumper (on indoor unit PCB)	Function	When connected (factory set)	When cut
JB	Fan speed setting when compressor stops for thermostat OFF. (effective only at cooling operation)	Fan speed setting; Remote controller setting	Fan speed setting; “0” (The fan stops.)
JC	Power failure recovery function	Auto-restart	The unit does not resume operation after recovering from a power failure. Timer settings are cleared.

<Floor Standing Type>

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 32, 34, 37, 40, 42
Floor Standing Type: page 45
Floor / Ceiling Suspended Dual Type: page 47
Duct connected type: page 49

2.3 SA Indoor Unit - FFQ, FCQ, FDBQ, FBQ, FHQ Series

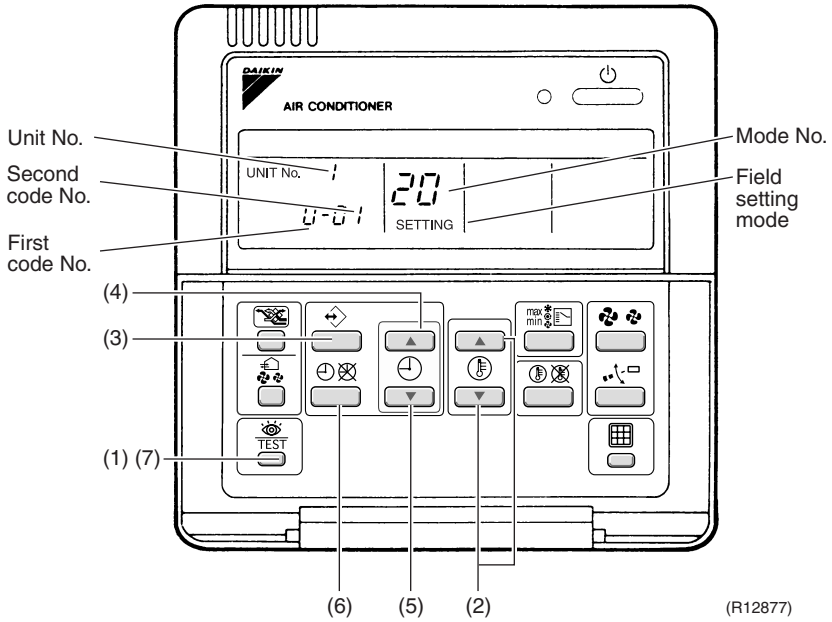
2.3.1 How to Change the Field Settings

Outline

If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.

Wired remote controller

BRC1D528

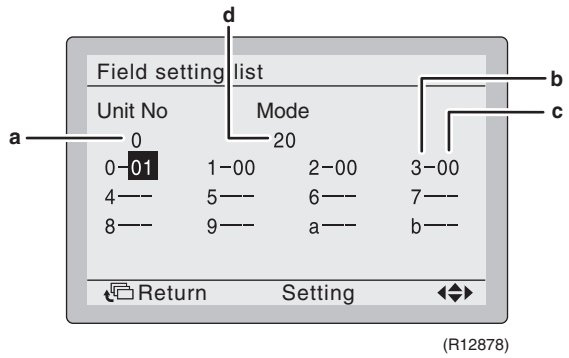


To set the field settings, you have to change:

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

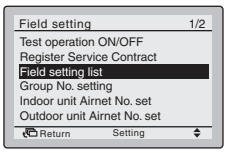
Step	Action
1	Press the [INSPECTION / TEST] button for 4 seconds during normal mode to enter the field setting mode.
2	Press the [TEMPERATURE ADJUST] button to select the desired mode No.
3	■ If the indoor unit is under group control, all settings for all the indoor units are set at the same time. Use 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.

BRC1E51A7



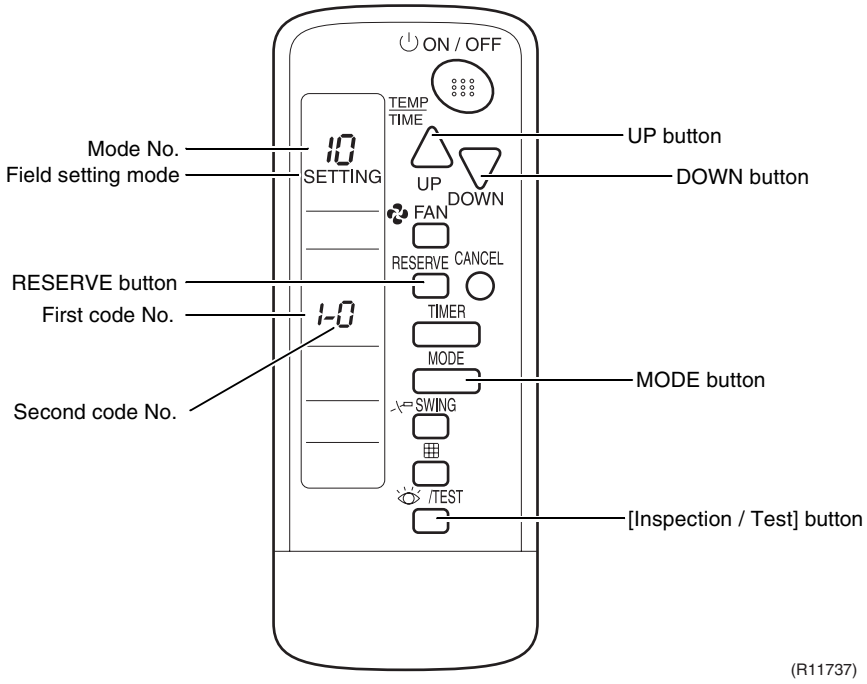
(R12878)

a Unit No.
b First code No.
c Second code No.
d Mode

Step	Action	Remote controller
1	Press and hold the [Cancel] button ( ) for 4 seconds to enter the **Field setting** menu.	
2	Use the ▼▲ buttons to select **Field setting list** and push the [Menu/Enter] button ( ).	 (R12879)
3	Use the ▼▲ buttons to select the desired **Mode**.	
4	During group control, when setting by each indoor unit (**Mode 20, 21, 22** and **23** have been selected), push the ◄ button to highlight and ▼▲ buttons to select the INDOOR UNIT NO. to be set. This operation is unnecessary when setting by group.	
5	Highlight the second code No. to be changed using the ◄► buttons, and use the ▼▲ buttons to select the desired second code No.	When setting by group, all of the second code No. that may be set are displayed as "*".
6	Push the [Menu/Enter] button ( ) to display the confirmation screen.	
7	Use the ◄► buttons to select **Yes** and push the [Menu/Enter] button ( ).	When multiple setting changes are needed, repeat steps 3 to 7.
8	Push the [Cancel] button ( ) 2 times to return to basic screen.	

Wireless remote controller

BRC7E530W, BRC7F532F, BRC7EA63W



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.

2.3.2 Overview of the Field Settings

Mode No.	First Code No.	Description of setting		Second Code No.			
				01	02	03	04
10 (20)	0	Filter cleaning sign interval	Ultra longlife filter	Light: Approx. 10,000 hrs.	Heavy: Approx. 5,000 hrs.	—	—
			Longlife filter	Light: Approx. 2,500 hrs.	Heavy: Approx. 1,250 hrs.		
	1	Long-life filter type		Longlife filter	Ultra longlife filter	—	—
	2	Remote controller thermistor		Enabled	Disabled	—	—
	3	Filter cleaning sign		Display	No display	—	—
11 (21)	0	Indoor unit number of simultaneous operation system		Pair	Twin	Triple	Double twin
	1	Simultaneous operation system individual setting		Unified setting	Individual setting	—	—
	7	External static pressure setting		Airflow adjustment is OFF	Completion of airflow adjustment	Start of airflow adjustment	—
12 (22)	1	Forced ON/OFF function		Forced OFF	ON/OFF operation	—	—
	2	Thermostat differential changeover (setting for when using remote sensor)		1°C	0.5°C	—	—
13 (23)	0	High air outlet velocity (for high ceiling applications)		≤ 2.7 m	2.7 ~ 3.0 m	3.0 ~ 3.5 m	—
	1	Selection of airflow direction (setting for when a blocking pad kit has been installed)		4-way flow	3-way flow	2-way flow	—
	3	Selection of airflow function (setting for when using a decoration panel for outlet)		Equipped	Not equipped	—	—
	4	Airflow direction range setting		Upper	Normal	Lower	—
	6	External static pressure		Refer to Note 2.			
15 (25)	3	Drain pump operation with humidifying		Not equipped	Equipped	—	—

: factory set

Note: 1. Any function that is not available on the indoor unit is not displayed.

2.

			External static pressure (Pa)		
Mode No.	First code No.	Second code No.	FBQ		
			35 class	50 class	60 class
13 (23)	6	03	30	30	30
		04	35	35	40
		05	40	40	50
		06	45	45	60
		07	50	50	70
		08	60	60	80
		09	70	70	90
		10	80	80	100
		11	90	90	—
		12	100	100	—

: factory set

2.3.3 MAIN / SUB Setting when Using 2 Wired Remote Controllers

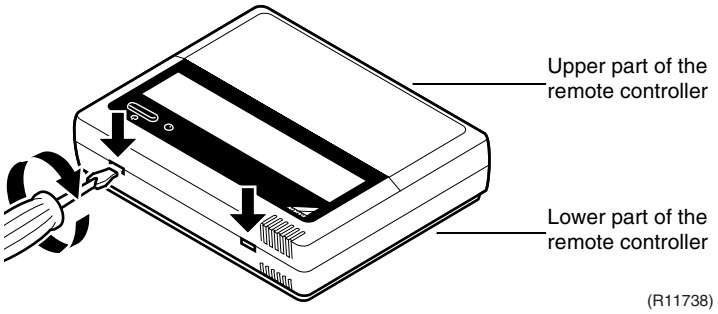
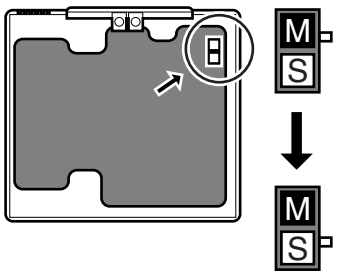
Outline

The MAIN / SUB setting is necessary when 1 indoor unit is controlled by 2 remote controllers. When you use 2 remote controllers (control panel and separate remote controller), set one to MAIN and the other to SUB.

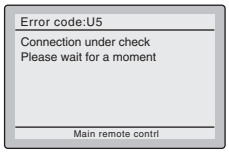
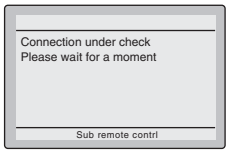
Detail

The remote controllers are factory set to MAIN, so you only have to change one remote controller from MAIN to SUB.

BRC1D528

Step	Action
1	Insert a flat screwdriver into the groove between the upper and lower part of the remote controller, as shown in the illustration below. Gently pry off the upper part of the controller, working from the two possible positions.  (R11738)
2	Set the [MAIN / SUB changeover] switch on the PCB to “S”.  (R11739)

BRC1E51A7

Step	Action	Remote controller
1	Put on the power for both remote controllers.	
2	Determine which one is the sub/main remote controller.	
3	When **Error code: U5 - Connection under check Please wait for a moment** is displayed on both remote controllers, push and hold the [Operation mode selector] button (🌡) of the sub remote controller for 4 seconds.	 (R12880)
4	The sub remote controller now displays **Sub remote contrl.** Note) The main remote controller still displays **Main remote contrl.**	 (R12881)
5	After a few seconds, the basic screen is displayed.	

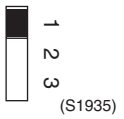
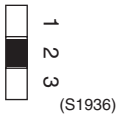
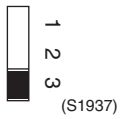
2.3.4 Address and MAIN / SUB Setting for Wireless Remote Controller

Outline

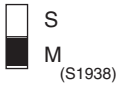
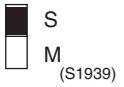
If several wireless remote controller units are used together in the same room (including the case where both group control and individual remote controller control are used together), be sure to set the addresses for the receiver and wireless remote controller. (For group control, see the attached installation 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.

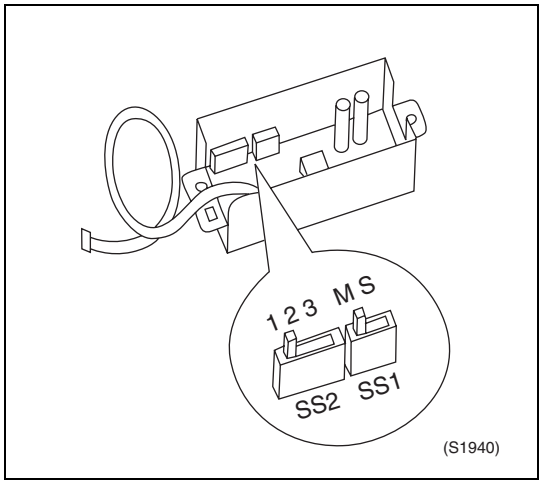
Signal Receiver PCB

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)



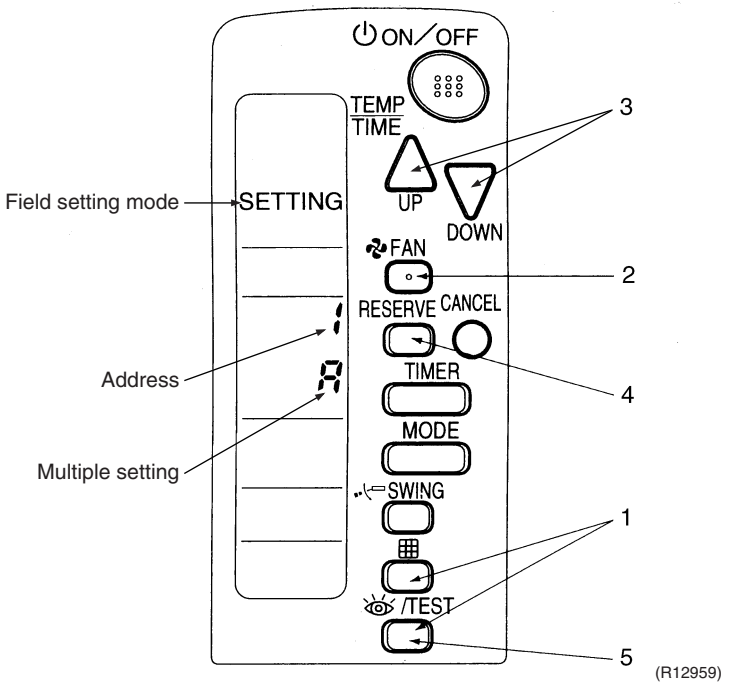
After completing setting, seal off the opening of the address setting switch (SS2) and the MAIN / SUB setting switch (SS1) with the attached sealing pad.

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 " ▲ " button and " ▽ " 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.



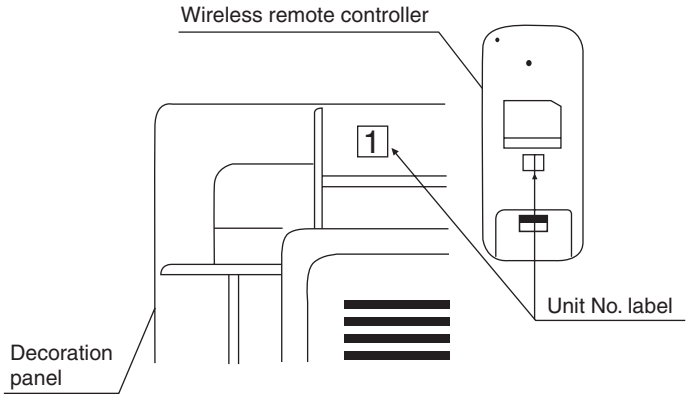
Multiple Settings A/b

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.

Part 7
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. Outdoor Unit

2.1 RMXS Series

REGARDING USE
Super Multi Plus System air conditioner

POINTS THE CUSTOMER SHOULD BE AWARE OF

■ COMFORT

At startup

- After the power is initially turned on, it will take approx. 10 minutes until startup. Usually the unit will start in 3 minutes.

Heating operation

- The colder it is outside or the greater the number of indoor units, the longer the time required from the start of operation until the emission of warm air (around 35°C). When the outside temperature is -5 to 2°C, the inside temperature is 5 to 10°C, and total indoor unit combination is 100% capacity, the first startup of all indoor units in the morning will take approximately 20 to 30 minutes.
- Oil return operation will be performed once every 8 hours to preserve the lubrication of oil to the compressor.
  Since operation is switched to cooling cycle during heating operation in order to return the oil, heating operation will not be possible for around 5 to 10 minutes.
- When the outside temperature is 28°C or higher, the unit will be set to the standby mode for protection.

■ OPERATING NOISE

At startup

- During startup, in order to emit warm or cool air as quickly as possible, the sound of refrigerant flowing will be heard for a short time (1 to 2 minutes) from the outdoor unit.

At shutdown

- In order to ensure smooth startup the next time this unit is operated, the outdoor unit will continue to operate for around 1 minutes after shutdown. (The time of continued operation depends on the outside temperature, capacity of connected indoor units, and connection pipe length.)

Cooling at low outside temperatures

- During cooling operation when the outside temperature is 20°C or less, the fan of the outdoor unit will operate at low speed to preserve capacity and the outdoor unit valve will be opened depending on the pressure conditions, making it more likely that the sound of refrigerant flowing will be heard.

Defrost

- When the outside unit is performing defrosting operation, the fan of the indoor unit will stop temporarily, and the slight sound of refrigerant flowing will be heard.

Excessive heating load

- During heating operation when the outside temperature is high (15 to 24°C), the fan of the outdoor unit will be operated at low speed, making it more likely that the sound of refrigerant flowing will be heard from the outdoor unit.

3. RA Indoor Unit

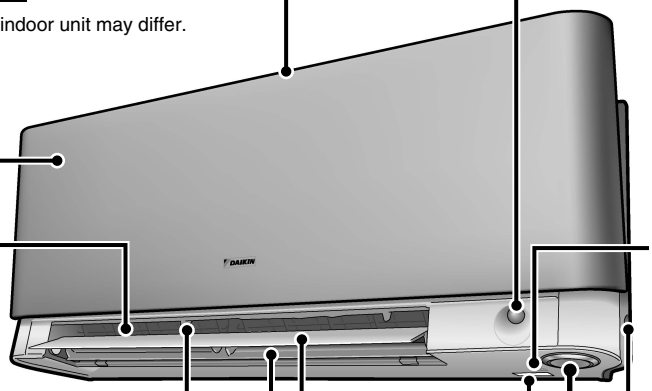
3.1 FTXG-J, CTXG-J Series - ARC466A1

3.1.1 Name of Parts

Name of Parts

Indoor Unit

Appearance of the indoor unit may differ.



Air inlet

INTELLIGENT EYE sensor

It detects the movements of people and automatically switches between normal operation and energy saving operation. ▶Page 16

Front panel

Air outlet

Room temperature sensor

It detects the air temperature around the unit.

Louvers (vertical blades)

The louvers are inside of the air outlet. ▶Page 13

Flaps (horizontal blades) ▶Page 13

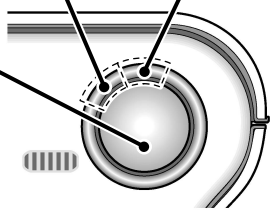
Model name plate

Panel tab

Display

INTELLIGENT EYE lamp (green) ▶Page 16

Signal receiver and Indoor unit ON/OFF switch



Multi-monitor lamp and TIMER lamp

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

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

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.

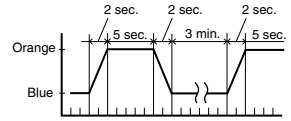
Mode	Temperature setting	Airflow rate
AUTO	25 C	AUTO

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

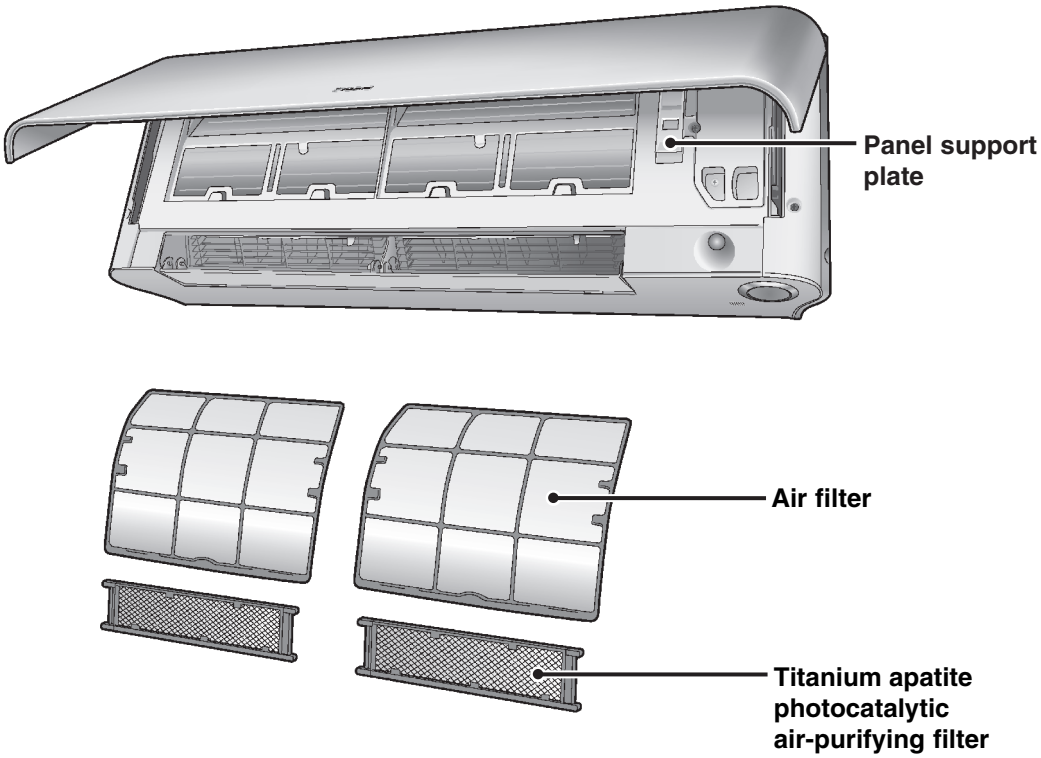


TIMER lamp colour

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

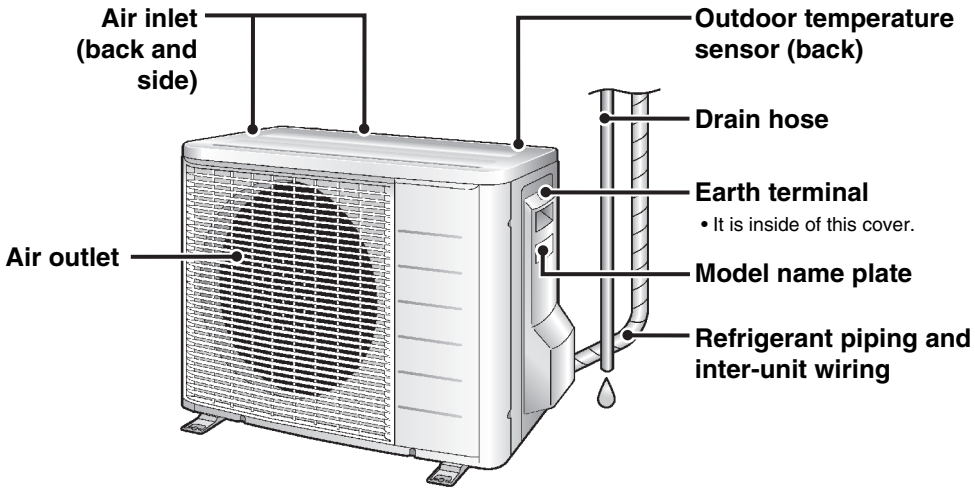
5

■ Open the front panel



Outdoor Unit

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

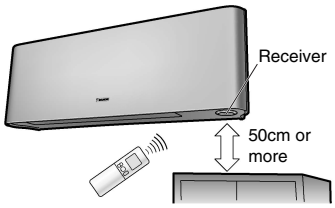


6

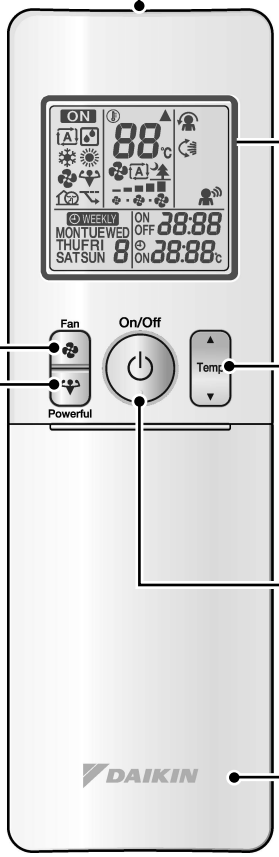
Name of Parts

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

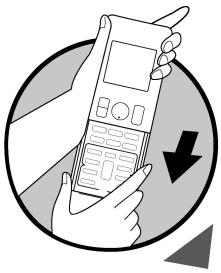
POWERFUL button

- POWERFUL operation. ▶Page 18

Model	ARC466A1

7

■ Open the front cover



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

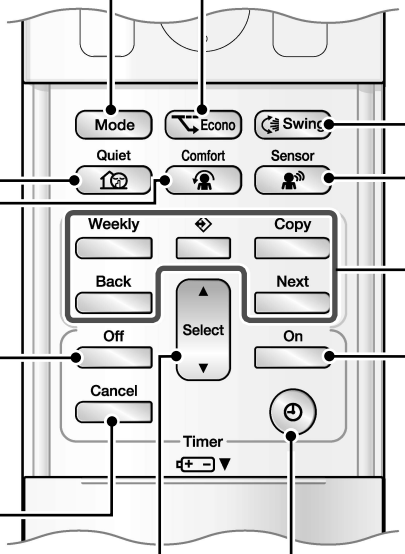
ECONO button
ECONO operation. ▶Page 20

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

3.1.2 AUTO · DRY · COOL · HEAT · FAN Operation

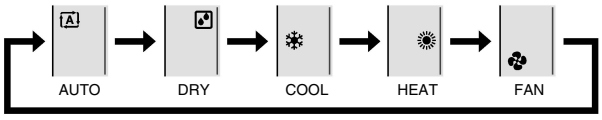
AUTO · DRY · COOL · HEAT · FAN Operation

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

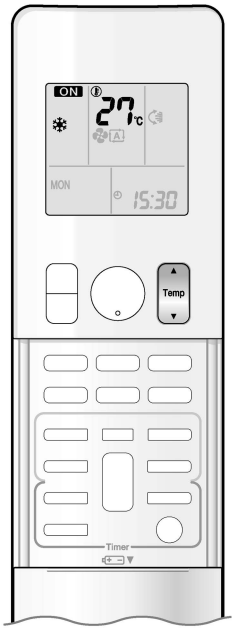
Press On/Off again.

• " 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.

3.1.3 Adjusting the Airflow Direction and Rate

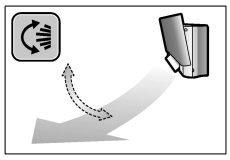
Adjusting the Airflow Direction and Rate

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

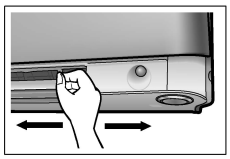
- This function is effective while flaps are in auto swing mode.

Press Swing when the flaps have reached the desired position.

- " " disappears from the LCD.

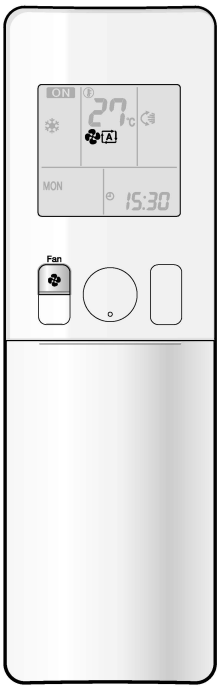
■ To adjust the louvers at desired position

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.

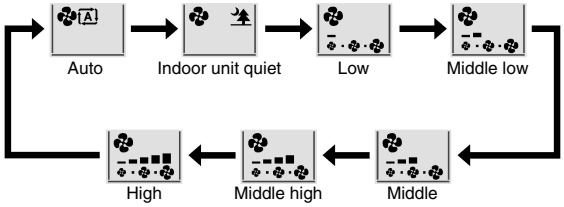
13



■ To adjust the airflow rate setting

Press Fan **.**

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

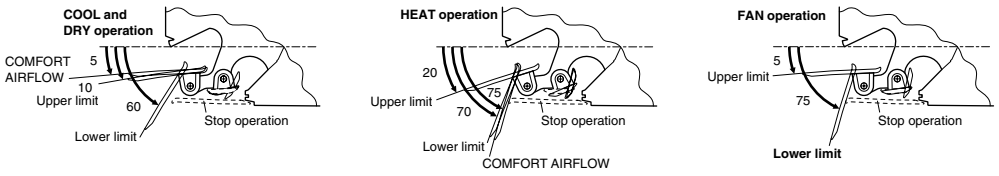


When the airflow is set to , indoor unit quiet operation will start and the noise from the unit will become quieter.
In indoor unit quiet operation, the airflow rate is set to a weak level.
In DRY mode, the airflow rate setting is not variable.

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.

3.1.4 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

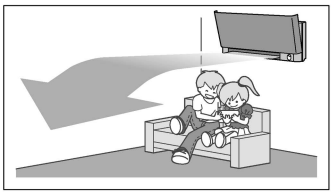
Press Comfort **.**

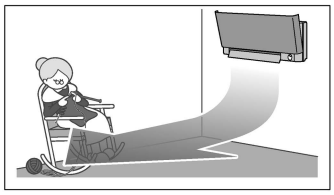
- "" is displayed on the LCD.
- Airflow rate is set to Auto.
  COOL/DRY: The flaps will go up.
  HEAT: The flaps will go down.

■ 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

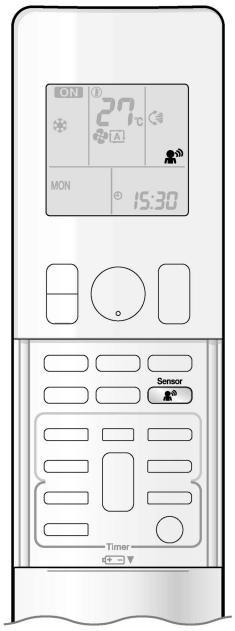
■ **Notes on COMFORT AIRFLOW operation**

- 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.

15

3.1.5 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

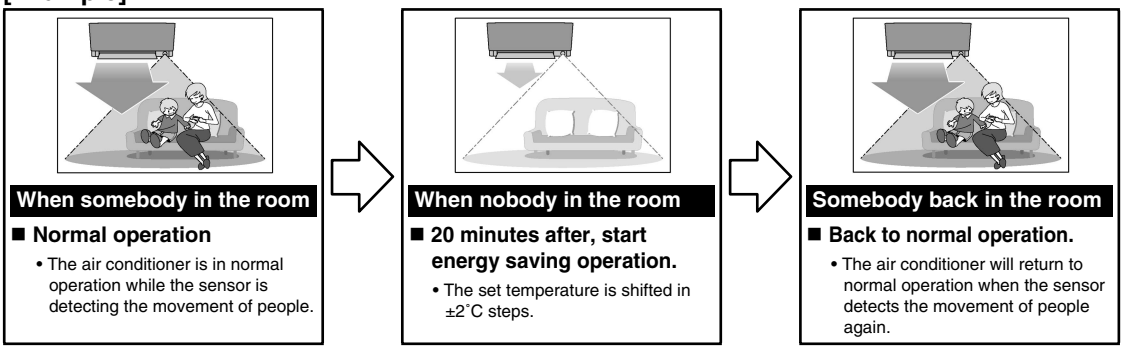
Sensor
Press again.

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

16

INTELLIGENT EYE Operation

[Example]



INTELLIGENT EYE operation is useful for energy saving

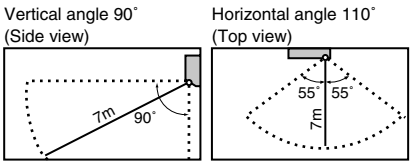
■ **Energy saving operation**

- 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.



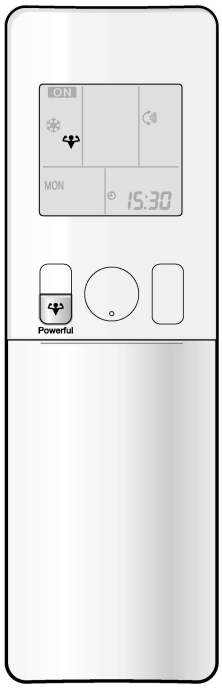
- Sensor may not detect moving objects further than 7m away. (Check the application range.)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected 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.

3.1.6 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.

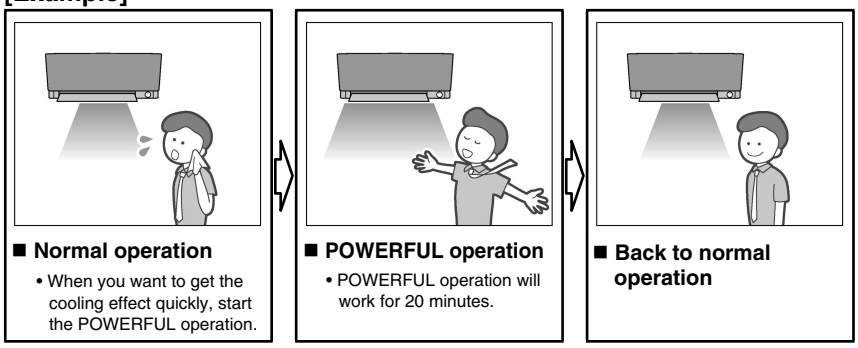
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- "Powerful" is displayed on the LCD.

■ 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.

18

3.1.7 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 **.**

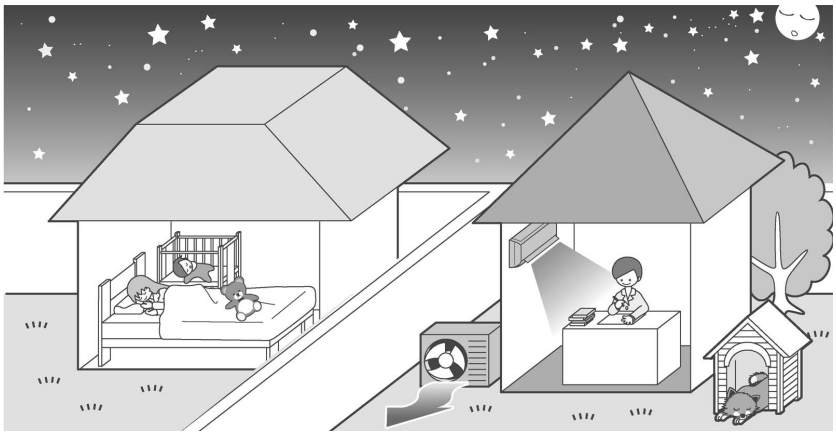
is displayed on the LCD.

■ 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.

3.1.8 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.

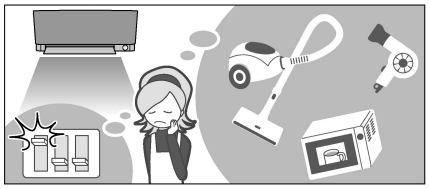
■ To cancel ECONO operation

Press Econo again.

disappears from the LCD.

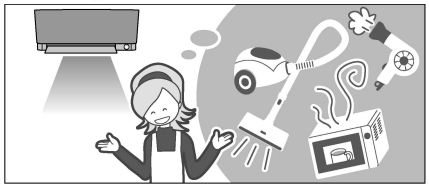
[Example]

Normal operation

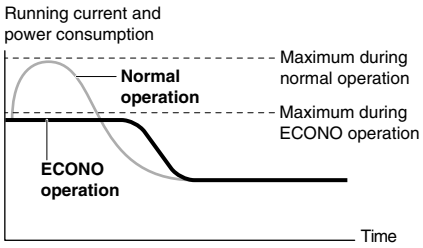


In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

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.

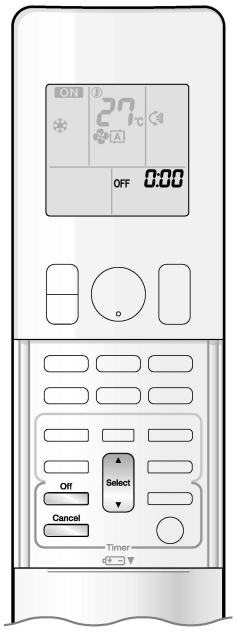
POWERFUL and ECONO operation cannot be used at the same time.

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.

3.1.9 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.

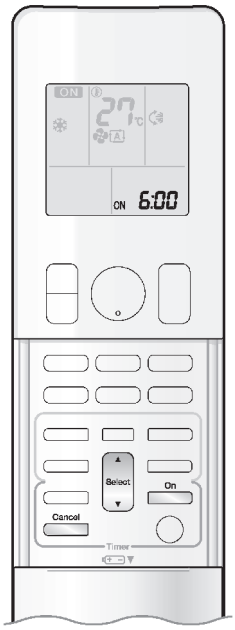
NOTE

■ **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.

3.1.10 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.

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

NOTE

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

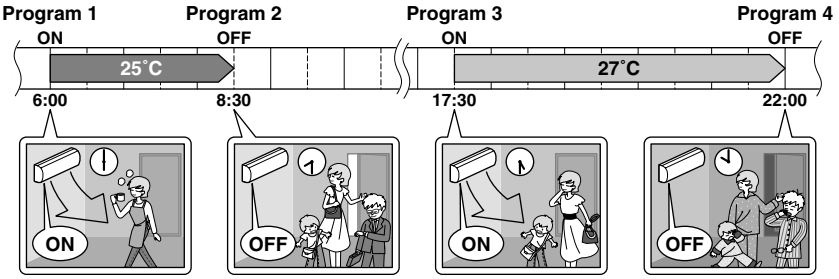
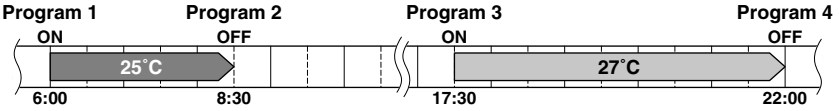
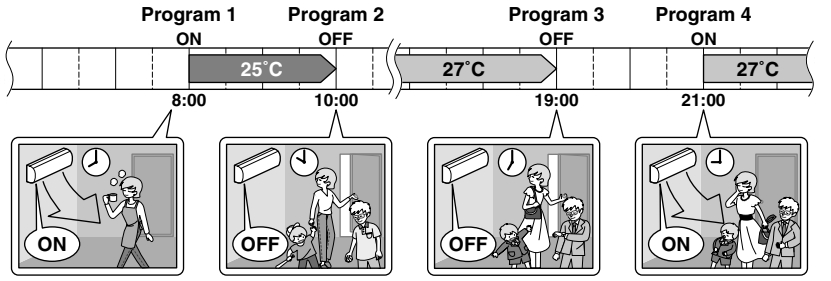
3.1.11 WEEKLY TIMER Operation

WEEKLY TIMER Operation

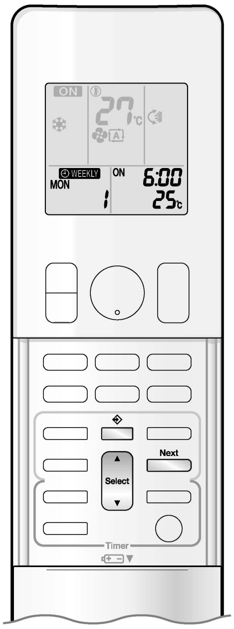
Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

■ 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 

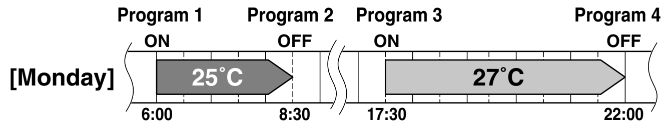
- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by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



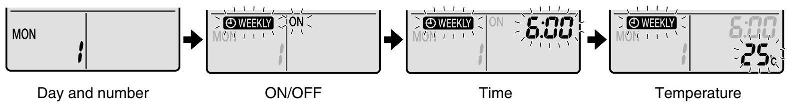
■ To use WEEKLY TIMER operation

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.

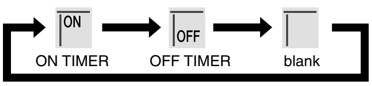
3. Press Next .

- 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.

24

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

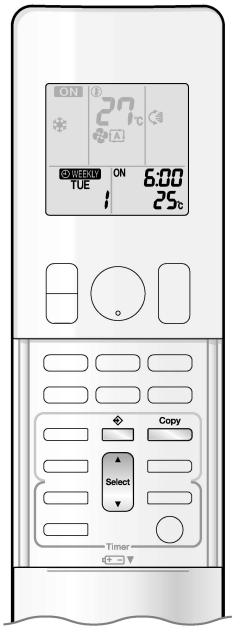
10. Press ◈ to complete the setting.

- "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

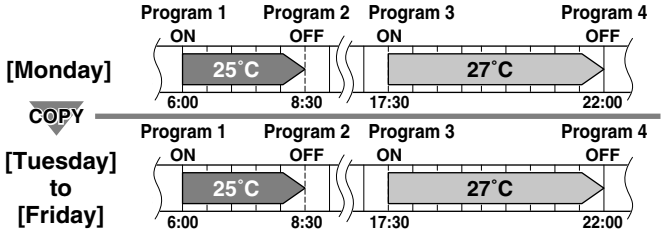
■ **Notes on WEEKLY TIMER operation**

- 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.

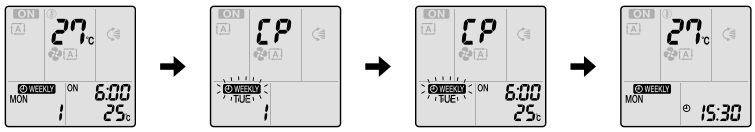


Copy mode

• 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.

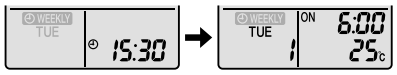
In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press [◈] and change the settings in the steps of setting mode. ▶Page 24

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.

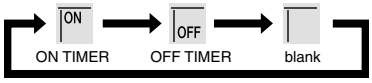
3. Press Next.

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 .



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

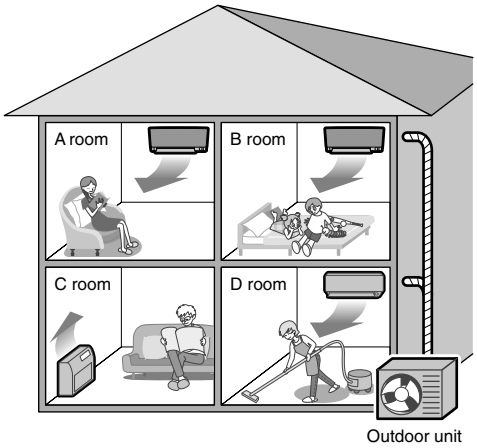
Hold Weekly for 5 seconds while normal display.

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.

3.1.12 Note for Multi System

Note for Multi System

Multi 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 as the first unit.
Otherwise, they will enter the standby state, and the multimonitor lamp will flash: this does not indicate malfunction.

NOTE

■ **Notes on operation mode for multi system**

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

⚠ CAUTION

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

■ NIGHT QUIET mode (Available only for COOL operation)

NIGHT QUIET mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET mode reduces the operation noise of the outdoor unit during the nighttime hours to prevent annoyance to neighbors.

- The NIGHT QUIET mode is activated when the temperature drops 5˚C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5˚C, this function will not be activated.
- NIGHT QUIET mode reduces slightly the cooling efficiency of the unit.

■ OUTDOOR UNIT QUIET operation

Refer to OUTDOOR UNIT QUIET operation. ▶Page 19
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.

■ COOL/HEAT mode lock

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

3P255639-1

3.2 FTXS-G, FVXS Series - ARC452A1, A3

3.2.1 Manual Contents and Reference Page

Model Series	Wall Mounted Type		Floor Standing Type
	FTXS20-50G2V1B	FTXS60/71GV1B	FVXS25-50FV1B
Read Before Operation			
Names of Parts	193	196	199
Operation			
AUTO · DRY · COOL · HEAT · FAN Operation ★	202	202	202
Adjusting the Airflow Direction	204	206	208
COMFORT AIRFLOW and INTELLIGENT EYE Operation	210	213	—
POWERFUL Operation ★	216	216	216
OUTDOOR UNIT QUIET Operation ★	217	217	217
ECONO Operation ★	218	218	218
TIMER Operation ★	219	219	219
WEEKLY TIMER Operation ★	221	221	221
Note for Multi System ★	226	226	226
Drawing No.	3P207037-1D	3P248442-3	3P191290-1K

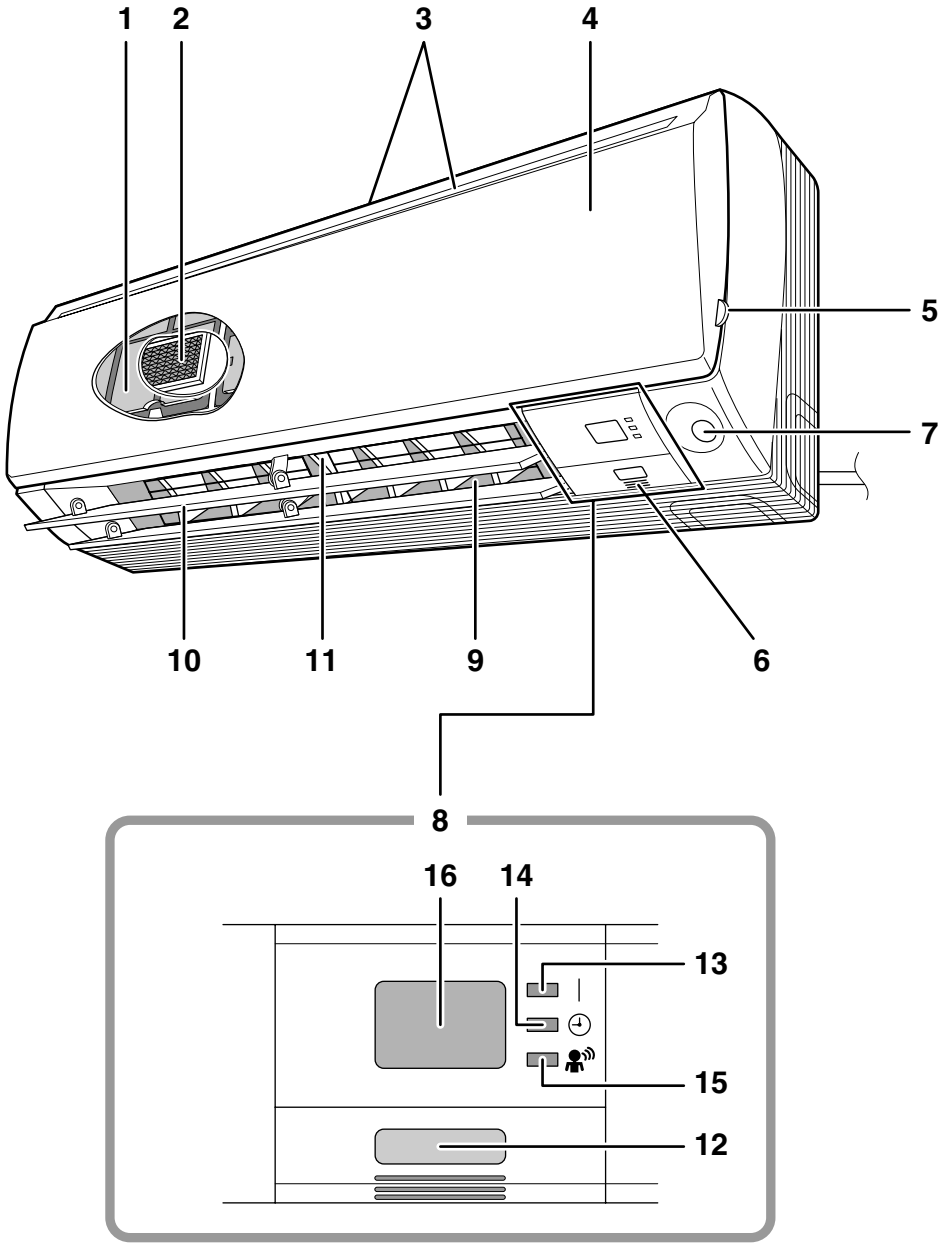
★ : Illustrations are for FTXS20-50G2V1B model as representative.

3.2.2 Names of Parts

FTXS20/25/35/42/50G2V1B

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)

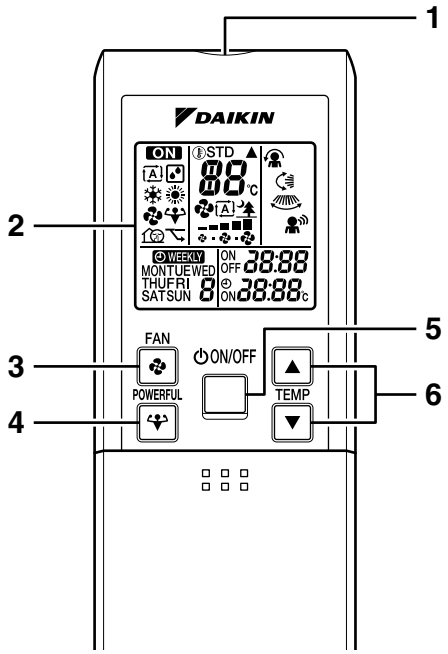
14. TIMER lamp (yellow)

15. INTELLIGENT EYE lamp (green)

16. Signal receiver:

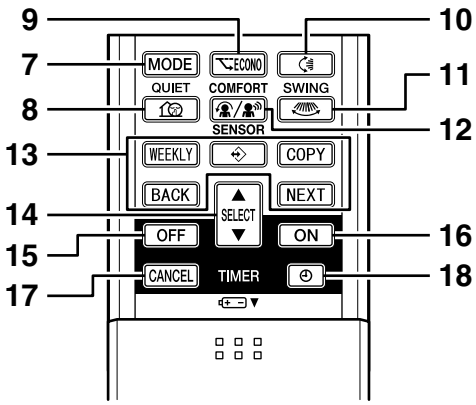
- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a short beep.
  - Operation start .....beep-beep
  - Settings changed.....beep
  - Operation stop.....beeeeep

■ 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

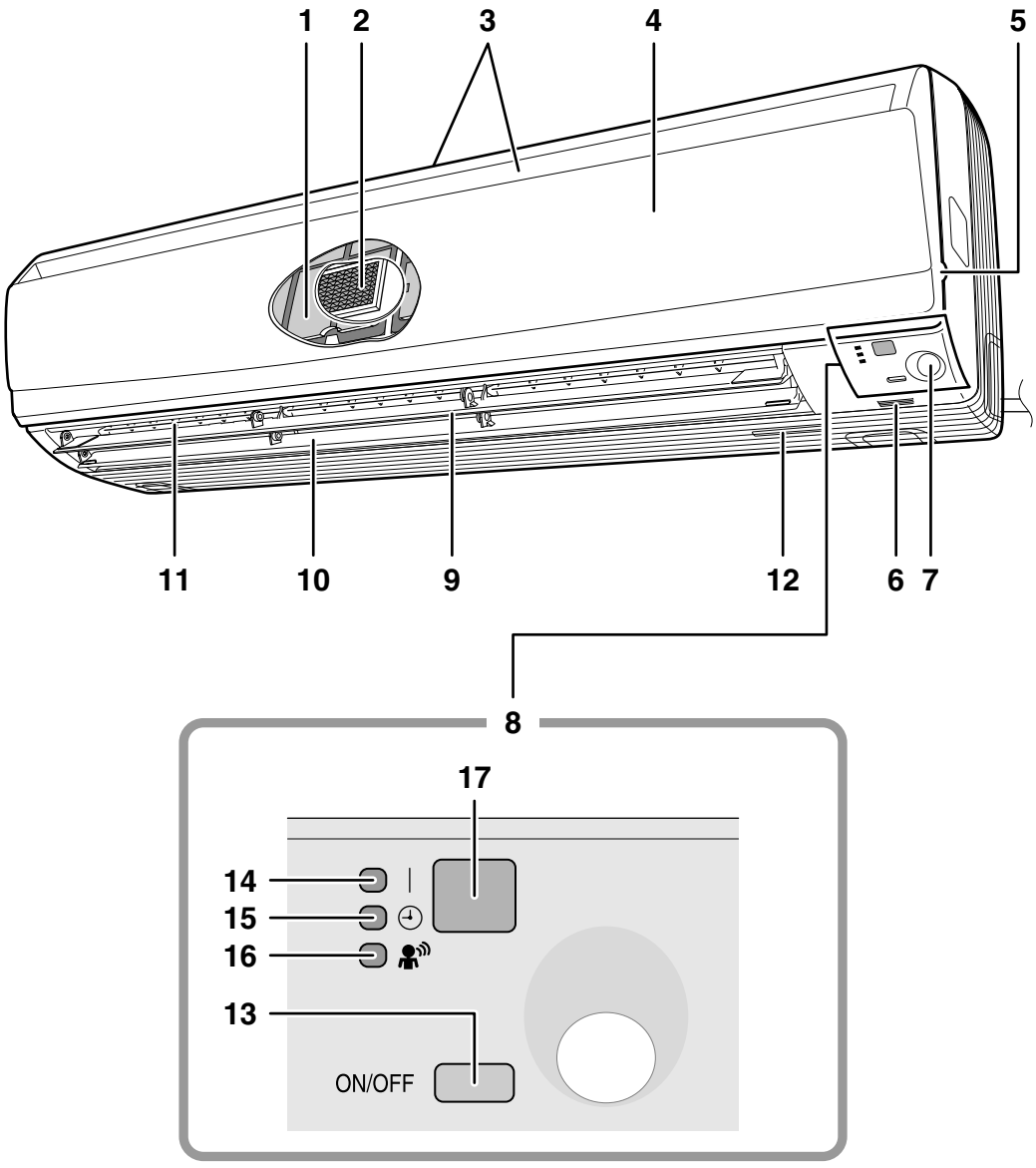
17. TIMER CANCEL button:
- It cancels the timer setting.
- It cannot be used for the WEEKLY TIMER operation.

18. CLOCK button

FTXS60/71GV1B

Names of Parts

■ Indoor Unit



■ Indoor Unit

1. Air filter

2. Titanium Apatite Photocatalytic Air-Purifying Filter:

- These filters are attached to the inside of the air filters.

3. Air inlet

4. Front panel

5. Panel tab

6. Room temperature sensor:

- It senses the air temperature around the unit.

7. INTELLIGENT EYE sensor

8. Display

9. Air outlet

10. Flaps (horizontal blades)

11. Louvers (vertical blades):

- The louvers are inside of the air outlet.

12. Model name plate

13. Indoor Unit ON/OFF switch

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

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

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

14. OPERATION lamp (green)

15. TIMER lamp (yellow)

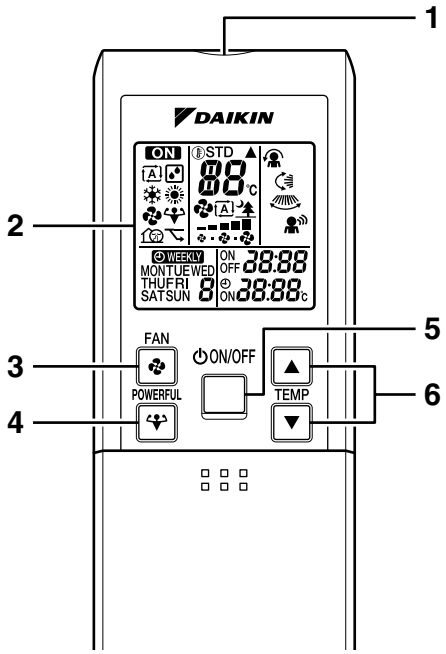
16. INTELLIGENT EYE lamp (green)

17. Signal receiver:

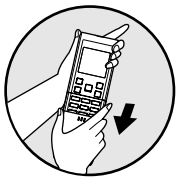
- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a short beep.
  - Operation start .....beep-beep
  - Settings changed.....beep
  - Operation stop.....long beep

Names of Parts

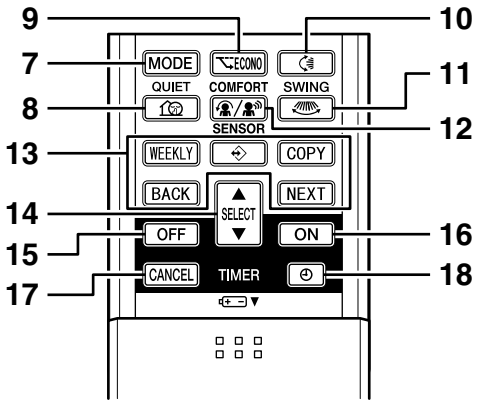
■ Remote Controller



<ARC452A3>



<Open the front cover>



1. Signal transmitter:
- It sends signals to the indoor unit.

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

3. FAN setting button:
- It selects the airflow rate setting.

4. POWERFUL button:
POWERFUL operation

5. ON/OFF button:
- Press this button once to start operation. Press once again to stop it.

6. TEMPERATURE adjustment buttons:
- It changes the temperature setting.

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

8. QUIET button:
OUTDOOR UNIT QUIET operation

9. ECONO button:
ECONO operation

10. SWING button:
- Flaps (horizontal blades)

11. SWING button:
- Louvers (vertical blades)

12. COMFORT/SENSOR button:
- COMFORT AIRFLOW and INTELLIGENT EYE operation

13. WEEKLY/PROGRAM/COPY/BACK/NEXT button:
- WEEKLY TIMER operation

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

15. OFF TIMER button

16. ON TIMER button

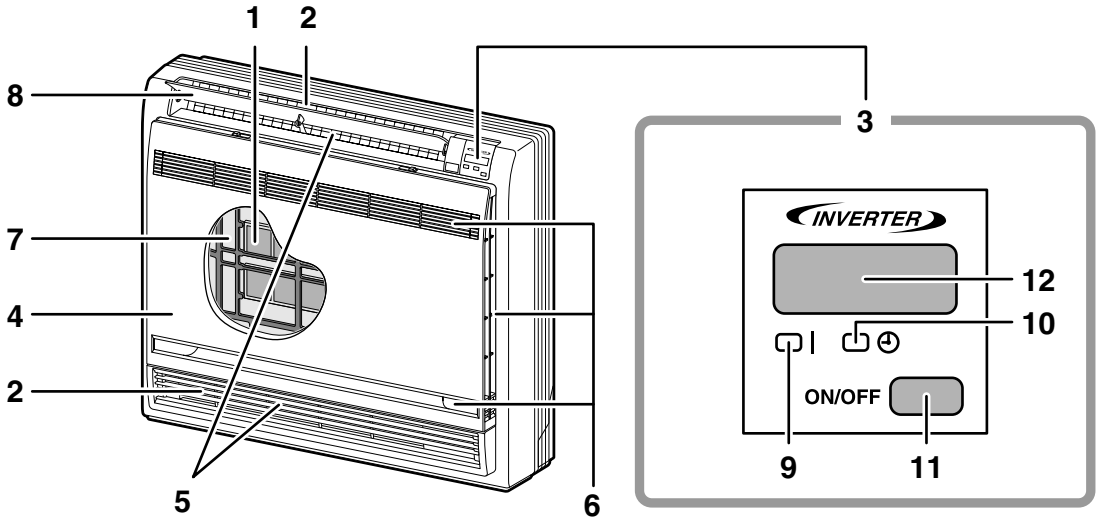
17. TIMER CANCEL button:
- It cancels the timer setting.
- It cannot be used for the WEEKLY TIMER operation.

18. CLOCK button

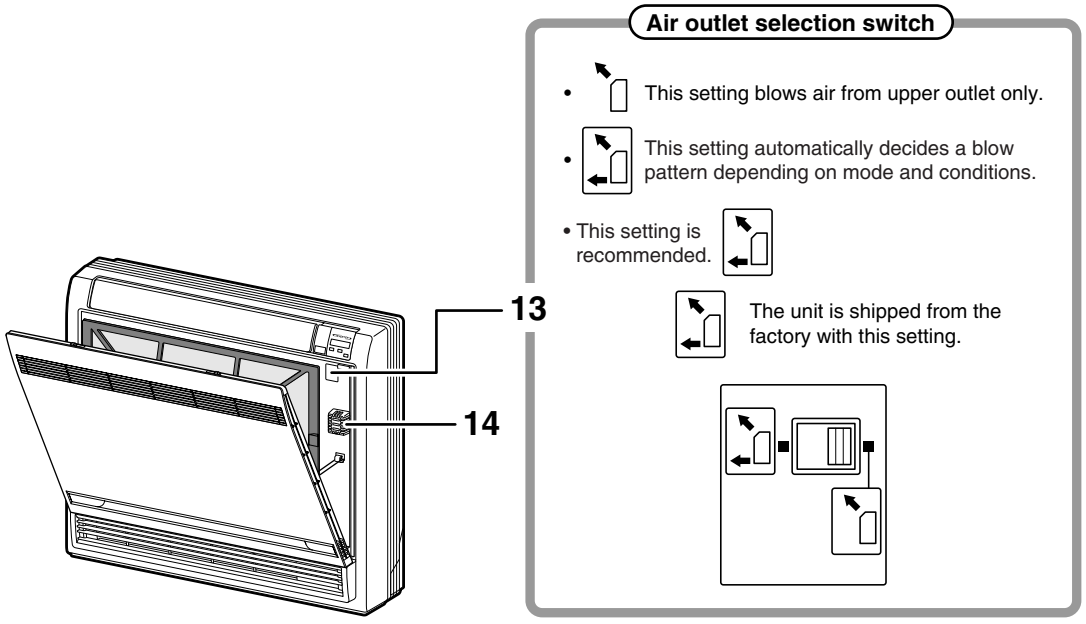
FVXS25/35/50FV1B

Names of parts

■ Indoor Unit



■ Opening the Front Panel



⚠ 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.

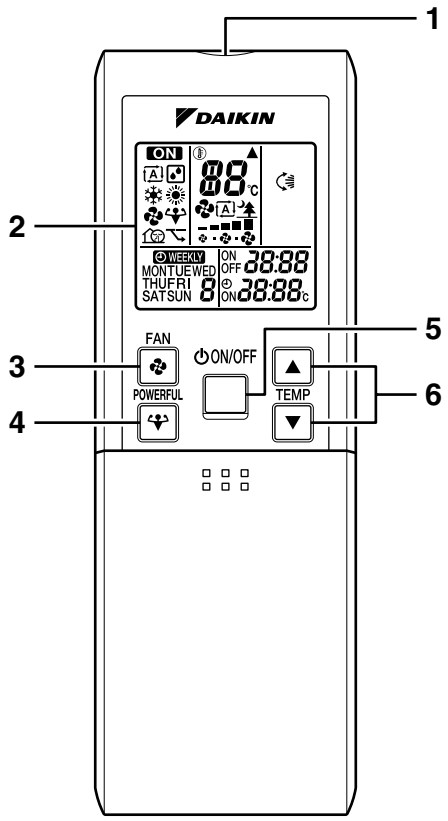
■ Indoor Unit

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

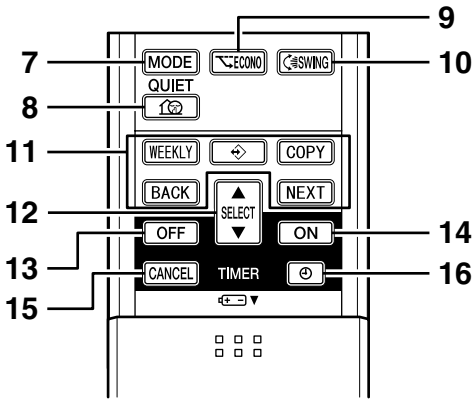
    - This switch is useful when the remote controller is missing.
12. **Signal receiver:**
    - It receives signals from the remote controller.
    - When the unit receives a signal, you will hear a short beep.
    - Operation start ..... beep-beep
    - Settings changed ..... beep
    - Operation stop.....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

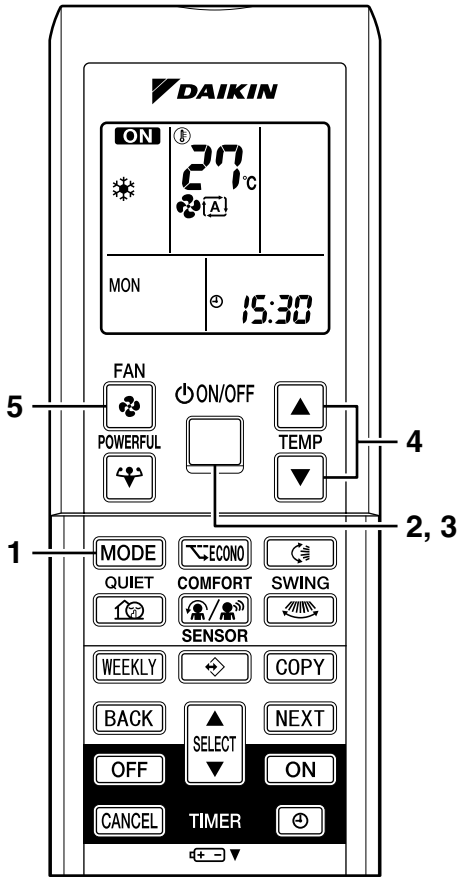
15. TIMER CANCEL button:
- It cancels the timer setting.
- It cannot be used for the WEEKLY TIMER operation.

16. CLOCK button

3.2.3 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

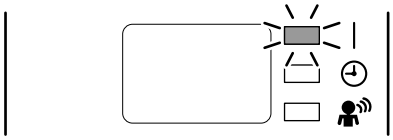
: FAN

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.

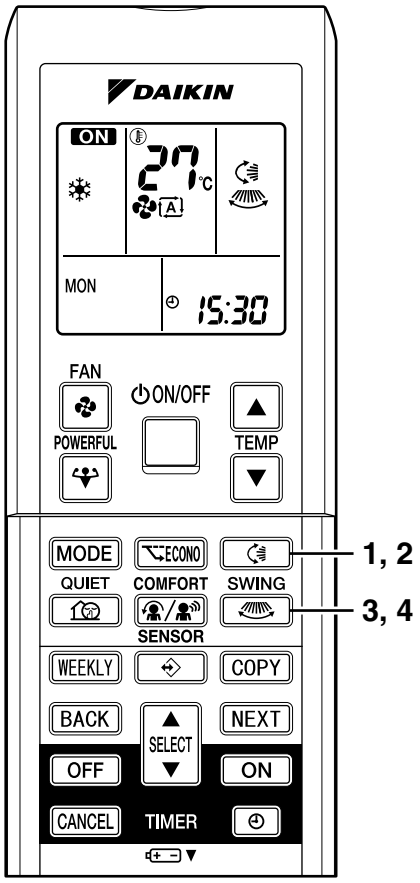
■ **Note on airflow rate setting**
- At smaller airflow rates, the cooling (heating) effect is also smaller.

3.2.4 Adjusting the Airflow Direction

FTXS20/25/35/42/50G2V1B

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

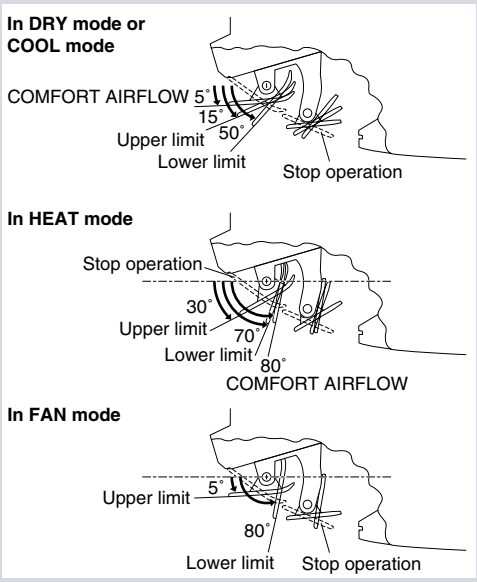
- When "**SWING button**" is selected, the flaps swinging range depends on the operation mode. (See the figure.)

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

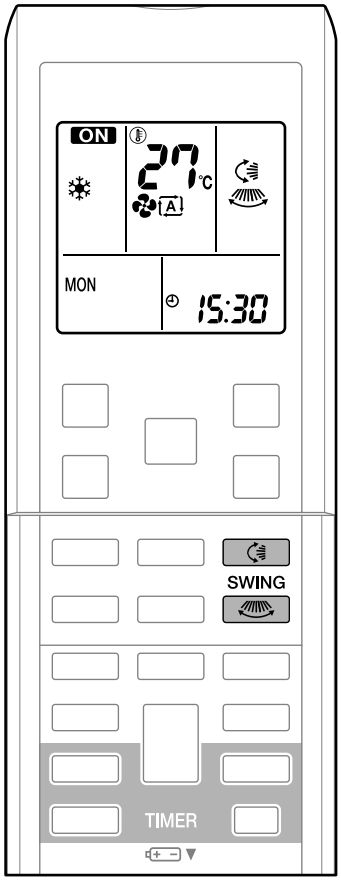
- Always use a remote controller to adjust the angles of the flaps and louvers. If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.
- Always use a remote controller to adjust the louvers angles. In side the air outlet, a fan is rotating at a high speed.



FTXS60/71GV1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.



■ To start auto swing

Upper and lower airflow direction

Press .

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

Right and left airflow direction

Press .

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

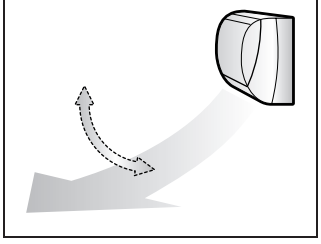
The 3-D airflow direction

Press **and** .

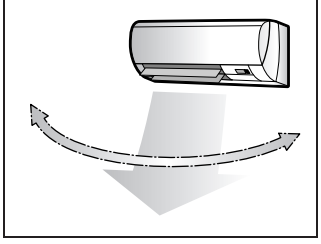
- "" and "" are displayed on the LCD.
- The flaps and louvers move in turn.
- To cancel 3-D airflow, press either or again.
- The flaps or louvers will stop moving.

- The following illustrations show respective airflow directions.

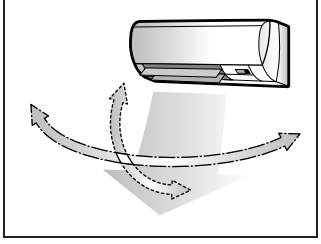
Upper/Lower



Right/Left



3-D



■ To set the flaps or louvers at desired position

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

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

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

• "" or "" disappears from the LCD.

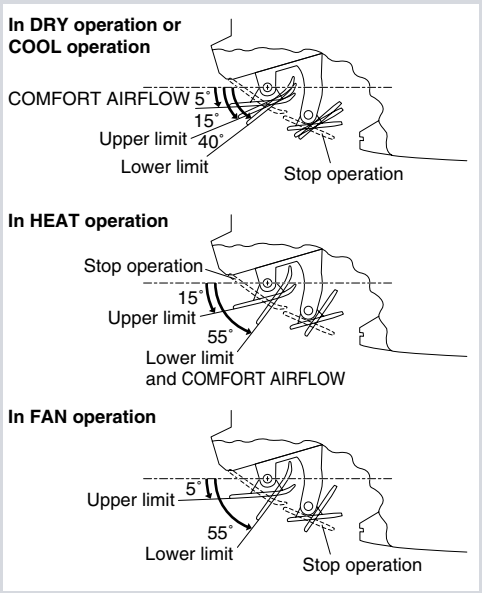
⚠ CAUTION

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

NOTE

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

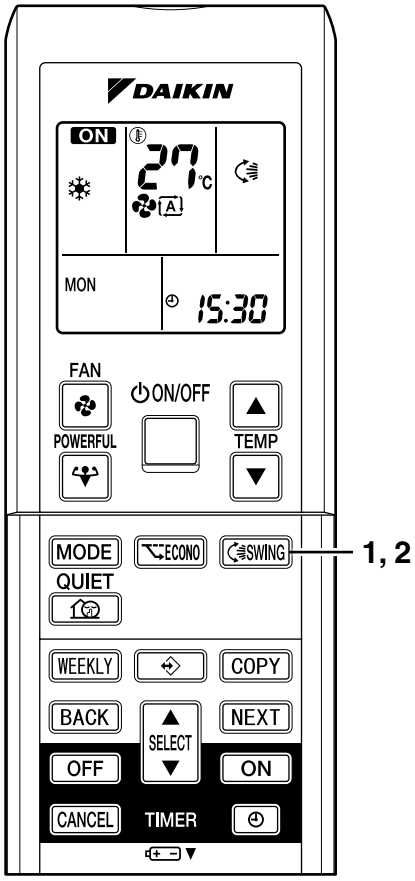
■ **Note on 3-D airflow**
• Using 3-D airflow circulates cold air, which tends to collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing areas of cold and hot developing.



FVXS25/35/50FV1B

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.



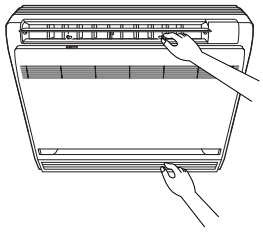
1, 2

■ To adjust the horizontal blade (flap)

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

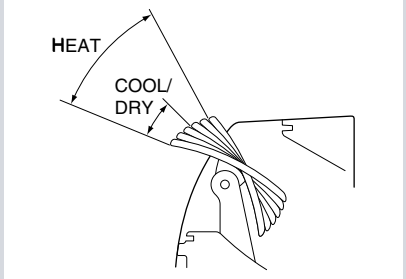
■ To adjust the vertical blades (louvers)

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



Notes on flap and louvers angle

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



■ **ATTENTION**

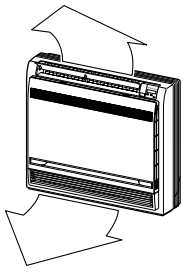
- When adjusting the flap by hand, turn off the unit, and use the remote controller to restart the unit.
- Be careful when adjusting the louvers. Inside the air outlet, a fan is rotating at a high speed.

■ Airflow selection

- Make airflow selection according to what suits you.

When setting the airflow selection switch to .

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

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

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

When setting the air outlet selection switch to .

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

⚠ CAUTION

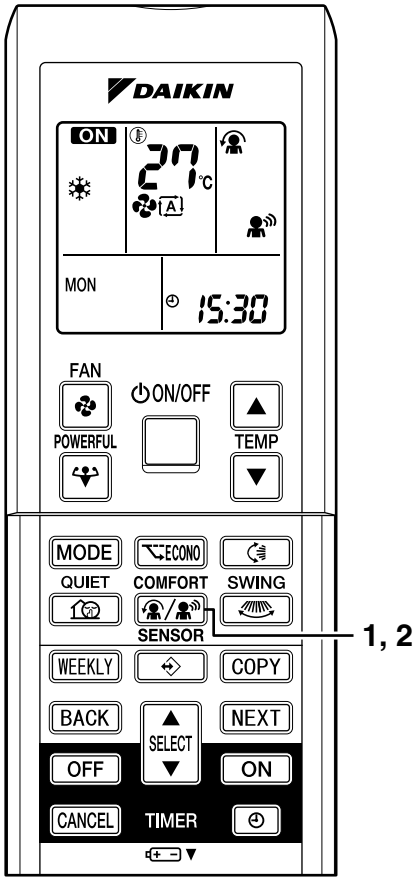
- Do not try to adjust the flap by hand.
- When adjusting by hand, the mechanism may not operate properly or condensation may drip from air outlets.

3.2.5 COMFORT AIRFLOW and INTELLIGENT EYE Operation

FTXS20/25/35/42/50G2V1B

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.

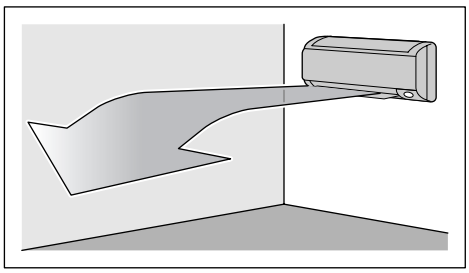
■ To cancel operation

2. **Press "COMFORT/SENSOR button".**
   - Press the button to select "Blank".

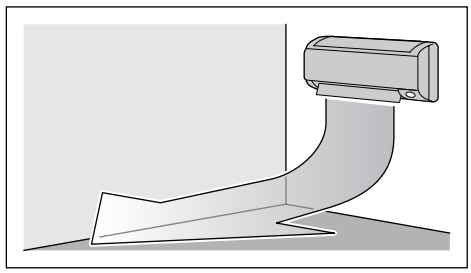
Display	Operation mode	Explanation
	COMFORT AIRFLOW	The flaps will adjust the airflow direction upward while cooling, and adjust the airflow direction downward while heating.
	INTELLIGENT EYE	The sensors will detect the movement of people in the sensing areas and the louvers will adjust the airflow direction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

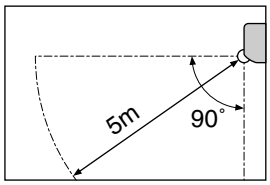


Heating operation

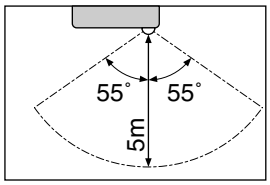
Notes on “INTELLIGENT EYE Operation”

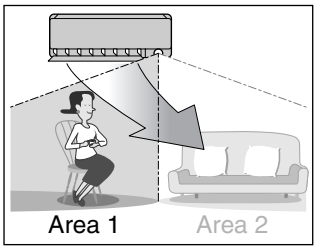
- The INTELLIGENT EYE sensor according to the following situations.

Vertical angle 90˚
(Side View)

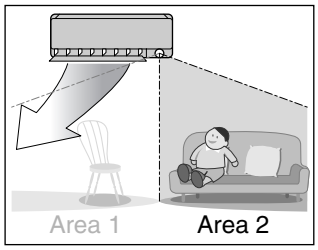


Horizontal angle 110˚
(Top View)

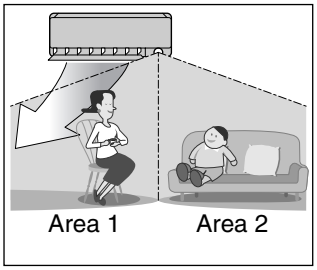




A person is detected in area 1.

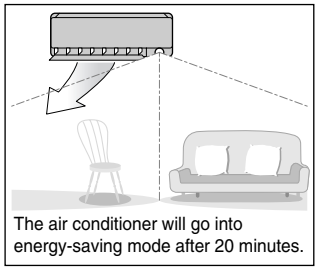


A person is detected in area 2.



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

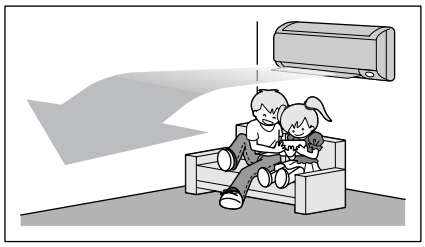
- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor’s detection area. This sensor can detect undesirable objects.
- Do not hit or violently push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

FTXS60/71GV1B

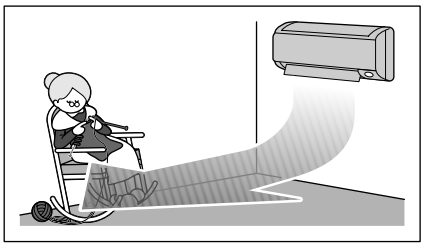
COMFORT AIRFLOW and INTELLIGENT EYE Operation

■ COMFORT AIRFLOW operation

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



COOL operation

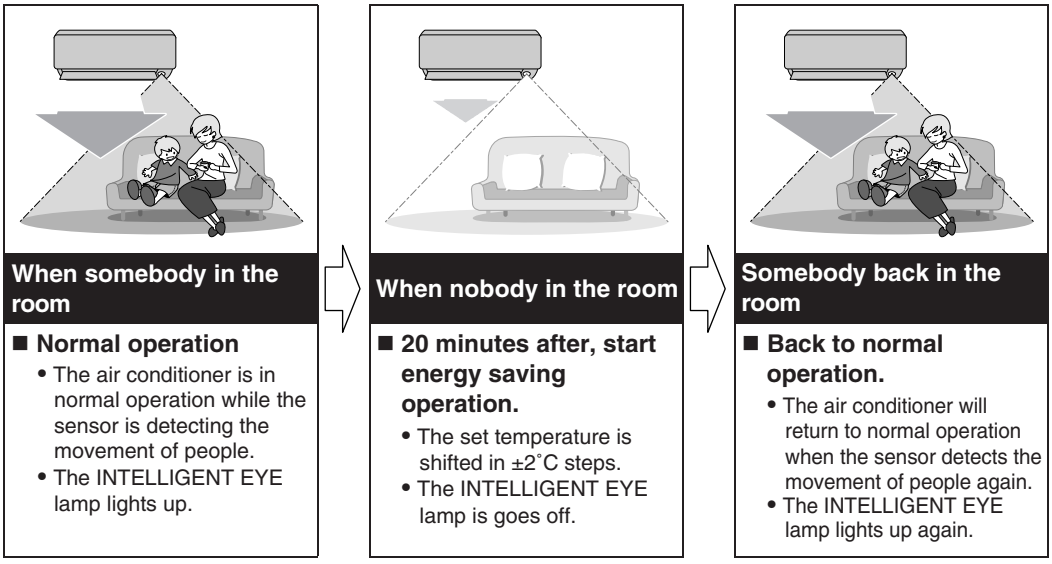


HEAT operation

■ INTELLIGENT EYE operation

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

[Example]



■ To combine COMFORT AIRFLOW and INTELLIGENT EYE operation

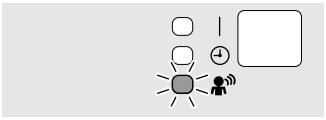
The air conditioner can go into operation with the COMFORT AIRFLOW and INTELLIGENT EYE operation combined.

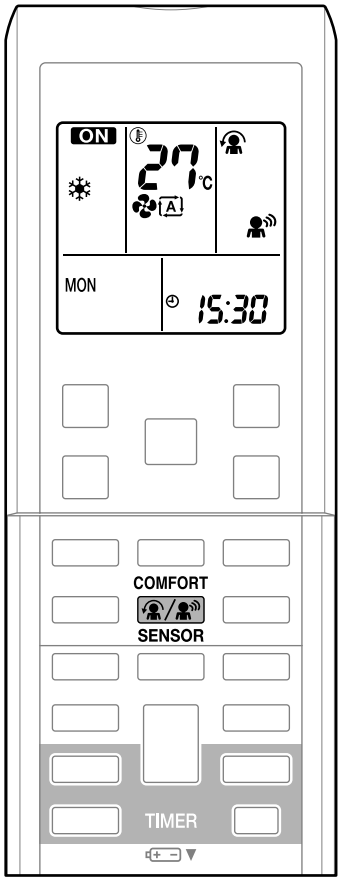
■ To start operation

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

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

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





■ To cancel operation

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

INTELLIGENT EYE operation is useful for energy saving

■ **Energy saving operation**

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

COMFORT AIRFLOW and INTELLIGENT EYE Operation

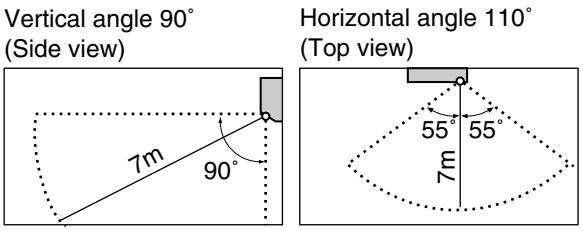
NOTE

■ **Notes on COMFORT AIRFLOW operation**

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

■ **Notes on INTELLIGENT EYE operation**

- Application range is as follows.



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

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

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

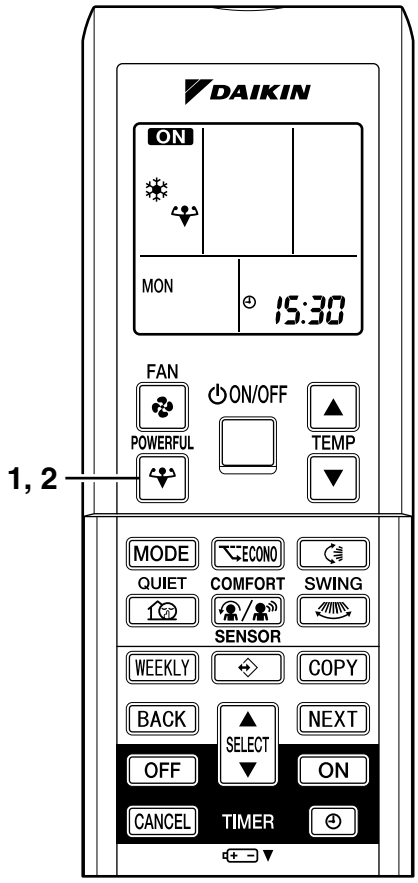
⚠ CAUTION

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

3.2.6 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

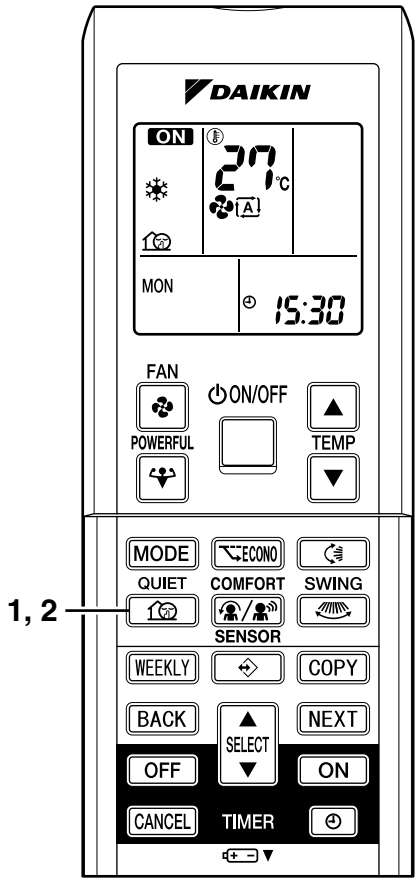
■ **Notes on POWERFUL operation**

- 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.

3.2.7 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

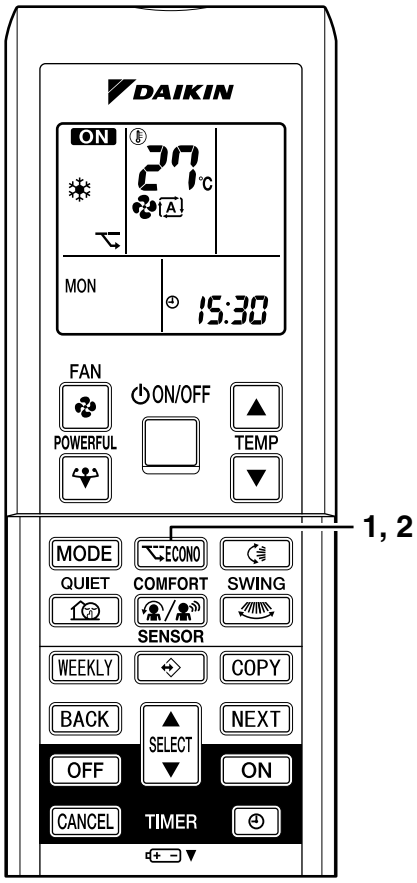
■ **Note on OUTDOOR UNIT QUIET operation**

- 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.

3.2.8 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

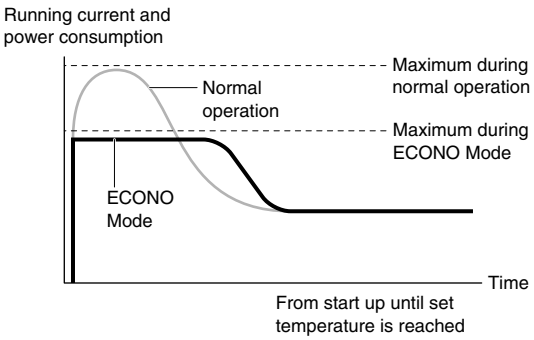
1. Press “ECONO button”.

• “ ⌥ ” 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.

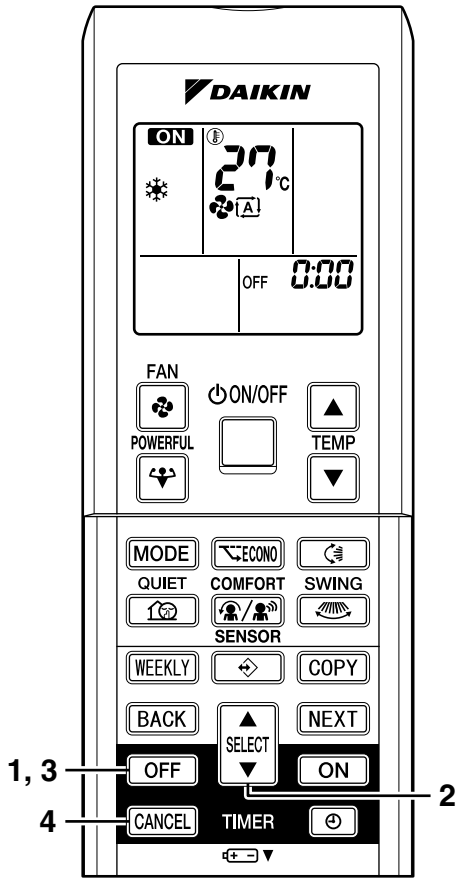
NOTE

- 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.

3.2.9 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.

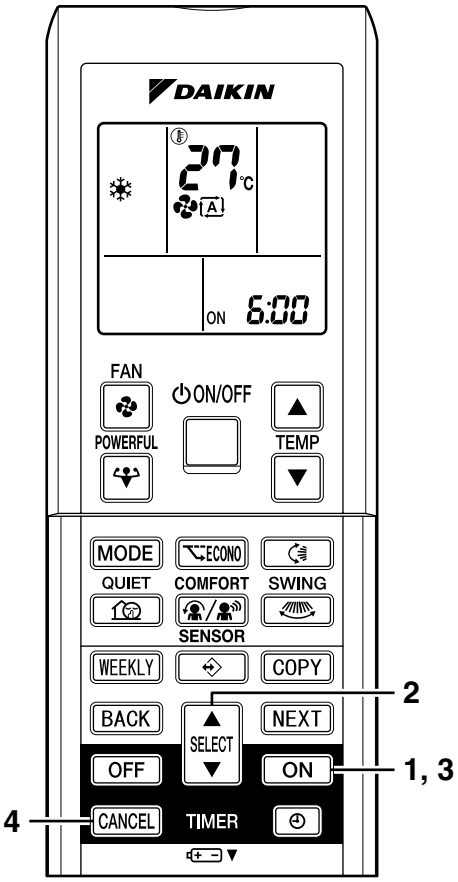
1. **Press "ON TIMER button".**

   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.

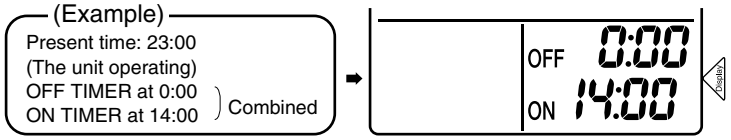


■ To cancel ON TIMER operation

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.

3.2.10 WEEKLY TIMER Operation

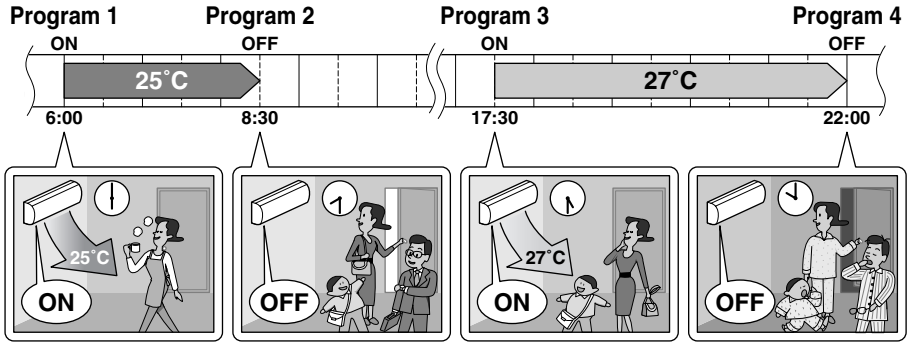
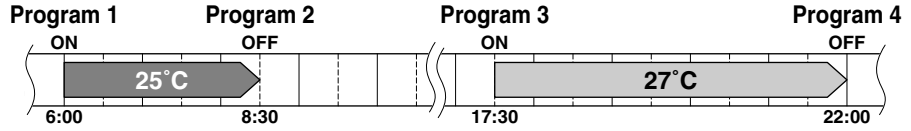
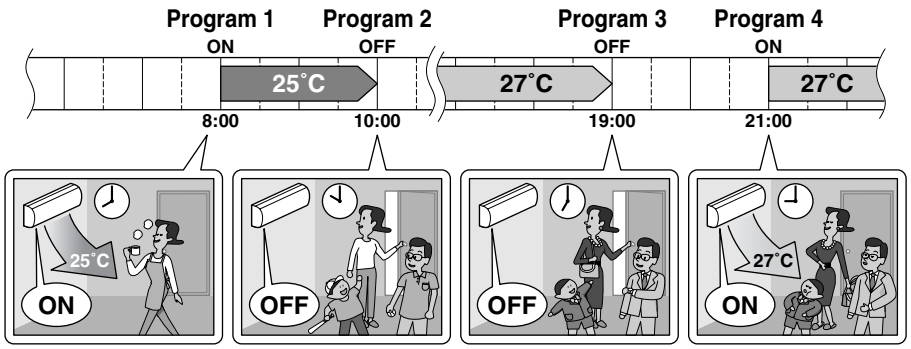
WEEKLY TIMER Operation

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.

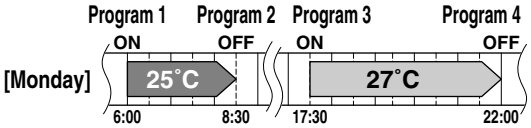
<table>
<tr><td>[Monday]</td><td>Make timer settings up to programs 1-4.
 
</td></tr>
<tr><td>[Tuesday] to [Friday]</td><td>Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday.
 
</td></tr>
<tr><td>[Saturday]</td><td>No timer settings</td>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

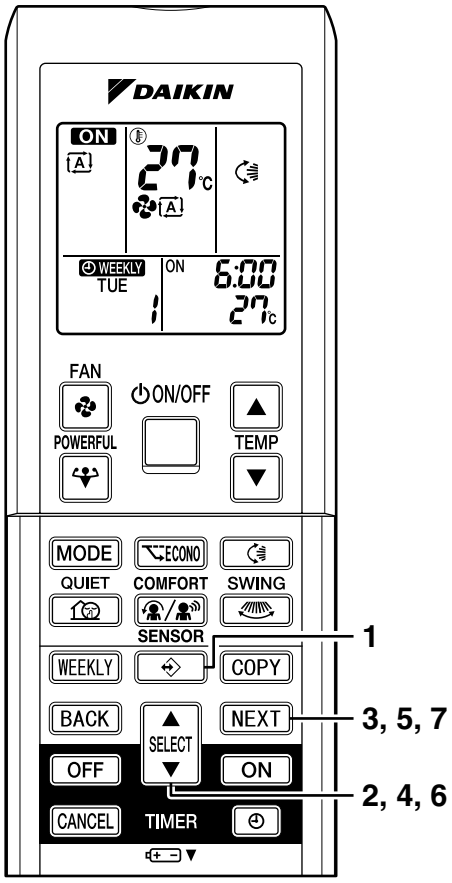
- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by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

ON	OFF	Blank
ON TIMER	OFF TIMER	blank

- 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.

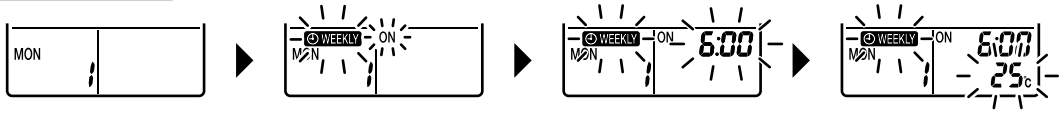
6. Press “SELECT button” to select the desired time.

- 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.

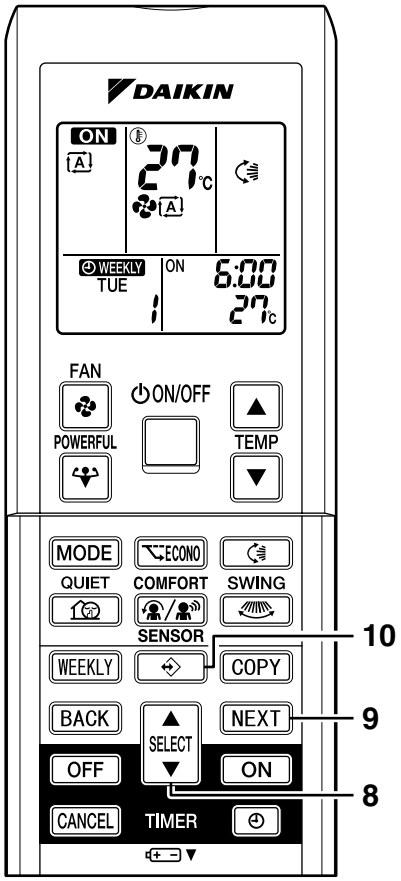
- The temperature can be set between 10˚C and 32˚C.
- Cooling: The unit operates at 18˚C even if it is set at 10 to 17˚C.
  Heating: The unit operates at 30˚C even if it is set at 31 to 32˚C.
- To return to the time setting, press “BACK button”.
- The set temperature is only displayed when the mode setting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



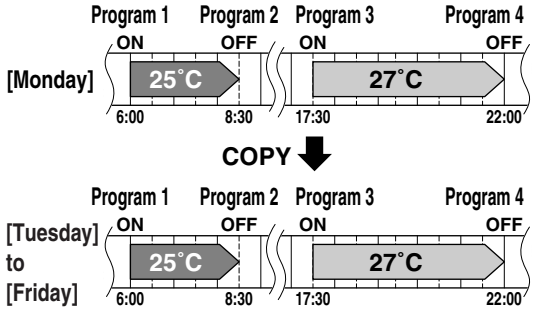
NOTE

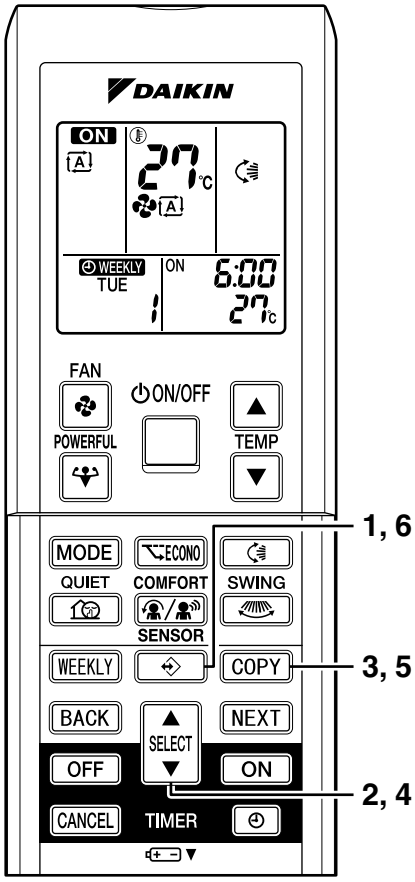
■ Notes on WEEKLY TIMER operation

- 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

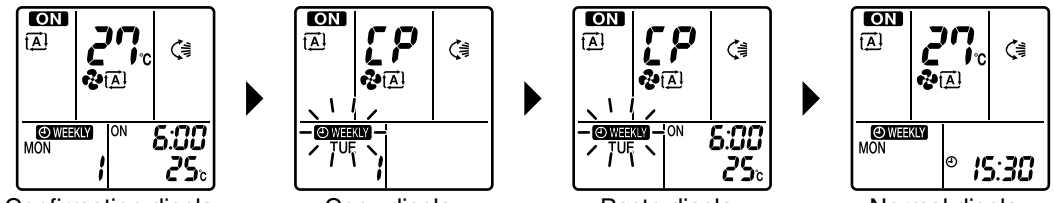
- A reservation made once can be copied another day of the week. The whole reservation of the selected day of the week will be copied.





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.

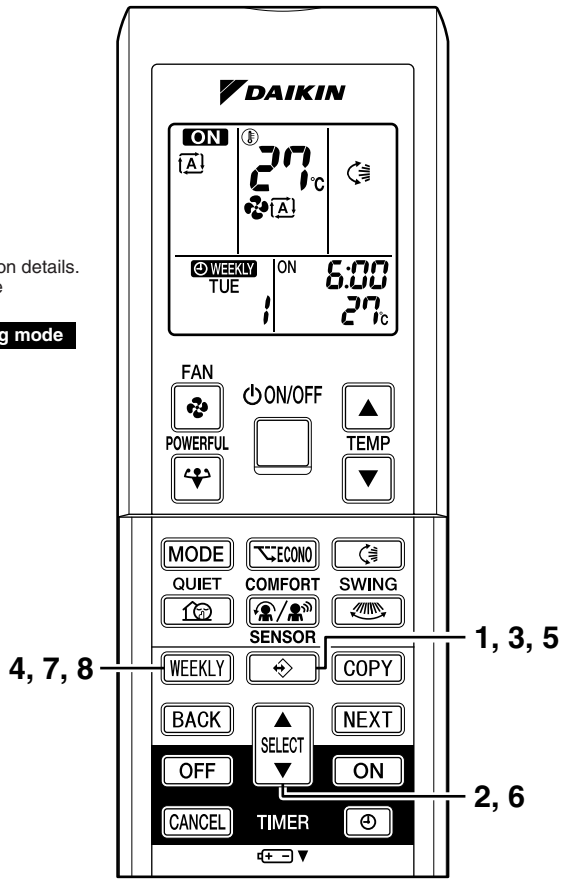
- Pressing the “SELECT button” displays the reservation details.
- To change the confirmed reserved settings, select the reservation number and press “NEXT button”.
  The mode is switched to setting mode. Go to **Setting mode** STEP **4**.

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.

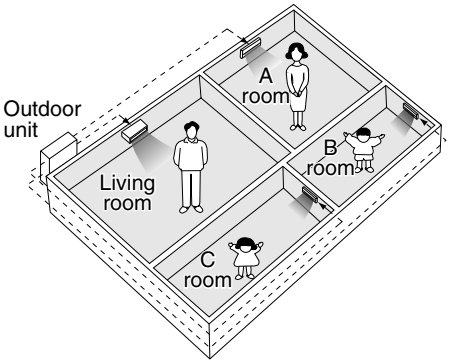
- Be sure to direct the remote control toward the main unit and check for a receiving tone.
- This operation is not effective while WEEKLY TIMER is being set.
- All reservations will be deleted.

3.2.11 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.

■ NIGHT QUIET Mode (Available only for cooling operation)

NIGHT QUIET Mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET Mode reduces the operation noise of the outdoor unit during the night time hours to prevent annoyance to neighbors.

- The NIGHT QUIET Mode is activated when the temperature drops 5°C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5°C, this function will not be activated.
- NIGHT QUIET Mode reduces slightly the cooling (heating) efficiency of the unit.

■ 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.

■ Cooling / Heating mode lock (Available only for heat pump models)

The Cooling / Heating Mode Lock requires initial programming during installation. Please consult your retailer or dealer for assistance. The Cooling / Heating Mode Lock sets the unit forcibly to either Cooling or Heating Mode. This function is convenient when you wish to set all indoor units connected to the Multi system to the same operation mode.

3.3 FTXG-E, CTXG-E, FTXS-F, FLXS, FDXS Series - ARC433B41, B67, B69, B70

3.3.1 Manual Contents and Reference Page

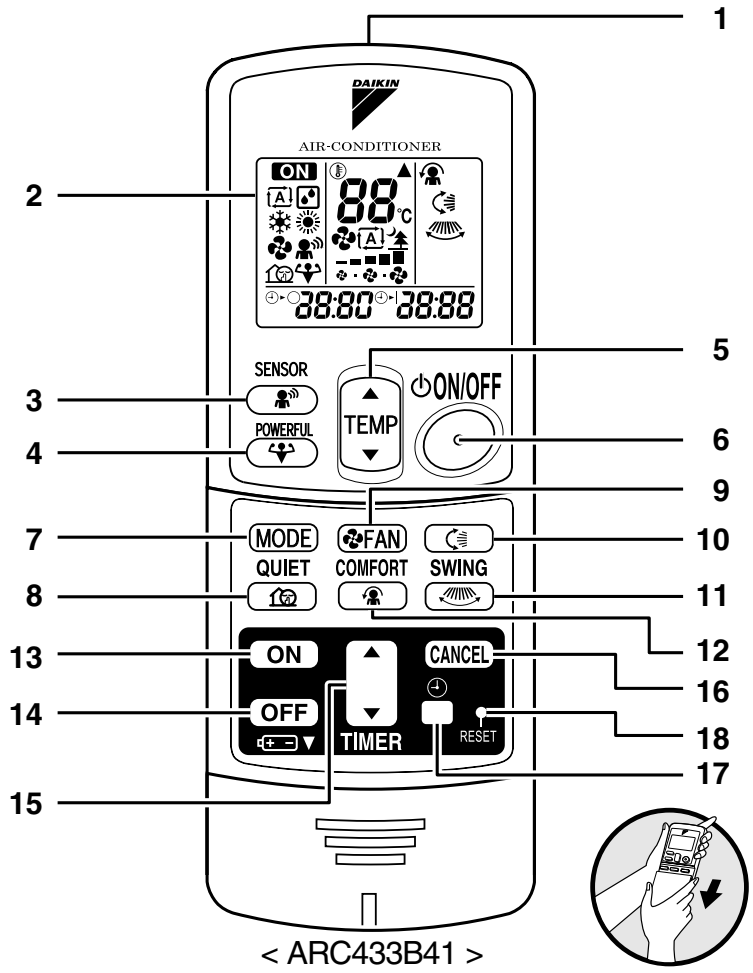
Model Series	Wall Mounted Type		Floor/Ceiling Suspended Dual Type	Duct Connected Type
	FTXG25/35EV1BW(S) CTXG50EV1BW(S)	FTXS60/71FV1B	FLXS25-60BAVMB	FDXS25/35EAVMB FDXS50/60CVMB
Read Before Operation				
Remote Controller	228	229	230	231
Operation				
AUTO, DRY, COOL, HEAT, FAN Operation ★1	232	232	232	232
Adjusting the Airflow Direction	234	236	238	—
POWERFUL Operation ★1	240	240	240	240
OUTDOOR UNIT QUIET Operation ★1	241	241	241	241
HOME LEAVE Operation ★2	—	242	242	242
INTELLIGENT EYE Operation	244	246	—	—
TIMER Operation ★1	248	248	248	248
Note for Multi System	250	250	250	250
Drawing No.	3P194513-2C	3P190111-1C	3P194444-5C	3P196326-9C

★1 : Illustrations are for F(C)TXG-E series as representative.
★2 : Illustrations are for duct connected type as representative.

3.3.2 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.

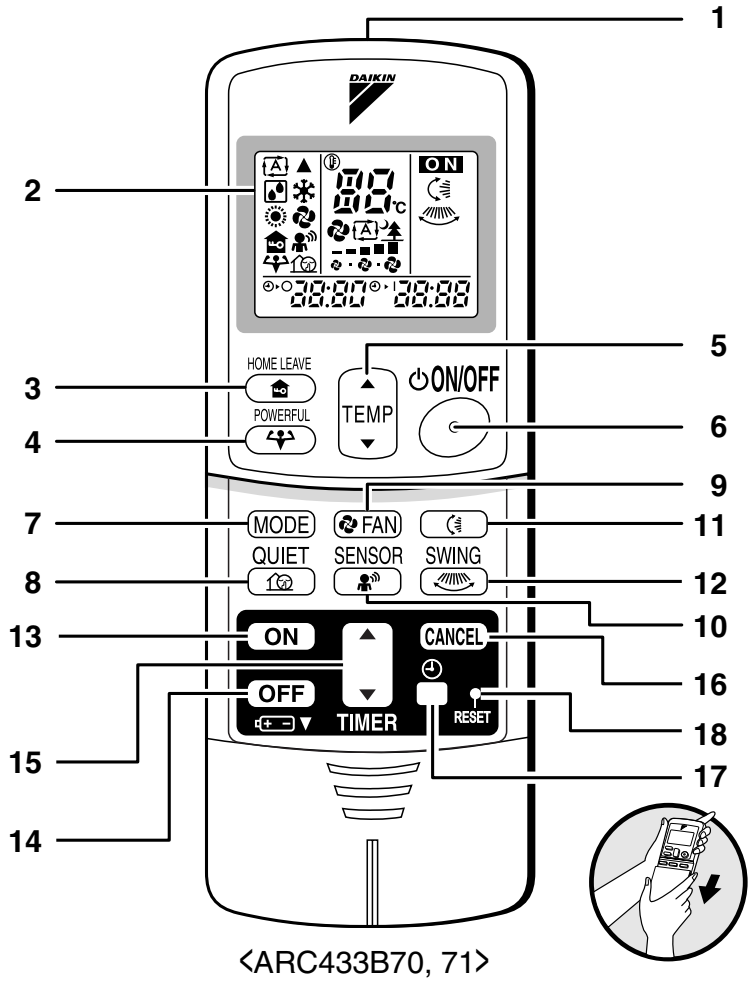
16. TIMER CANCEL button:
- It cancels the timer setting.

17. CLOCK button

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

FTXS60/71FV1B

■ Remote Controller

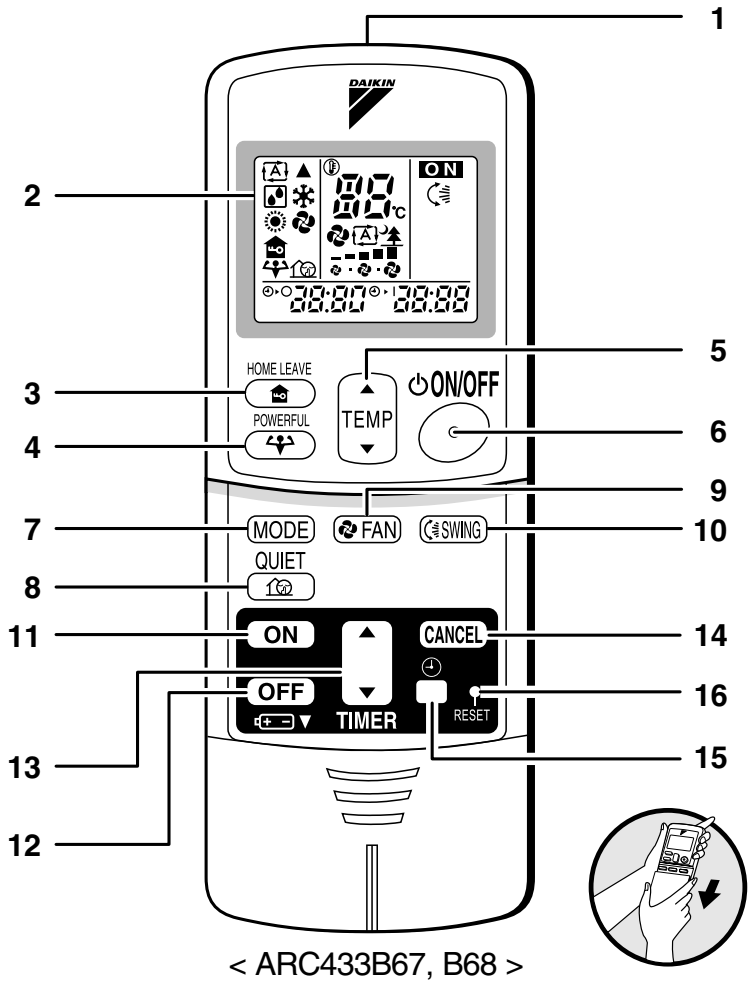


<ARC433B70, 71>

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. **SENSOR button:** INTELLIGENT EYE operation
11. **SWING button:**
    - Flap (Horizontal blade)
12. **SWING button:**
    - Louver (Vertical blades)
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.
    - Use a thin object to push.

FLXS25/35/50/60BAVMB

■ Remote Controller



< ARC433B67, B68 >

1. Signal transmitter:
- It sends signals to the indoor unit.

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

3. HOME LEAVE button:
HOME LEAVE operation

4. POWERFUL button:
POWERFUL operation

5. TEMPERATURE adjustment buttons:
- It changes the temperature setting.

6. ON/OFF button:
- Press this button once to start operation. Press once again to stop it.

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

8. QUIET button: OUTDOOR UNIT QUIET operation

9. FAN setting button:
- It selects the air flow rate setting.

10. SWING button

11. ON TIMER button

12. OFF TIMER button

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

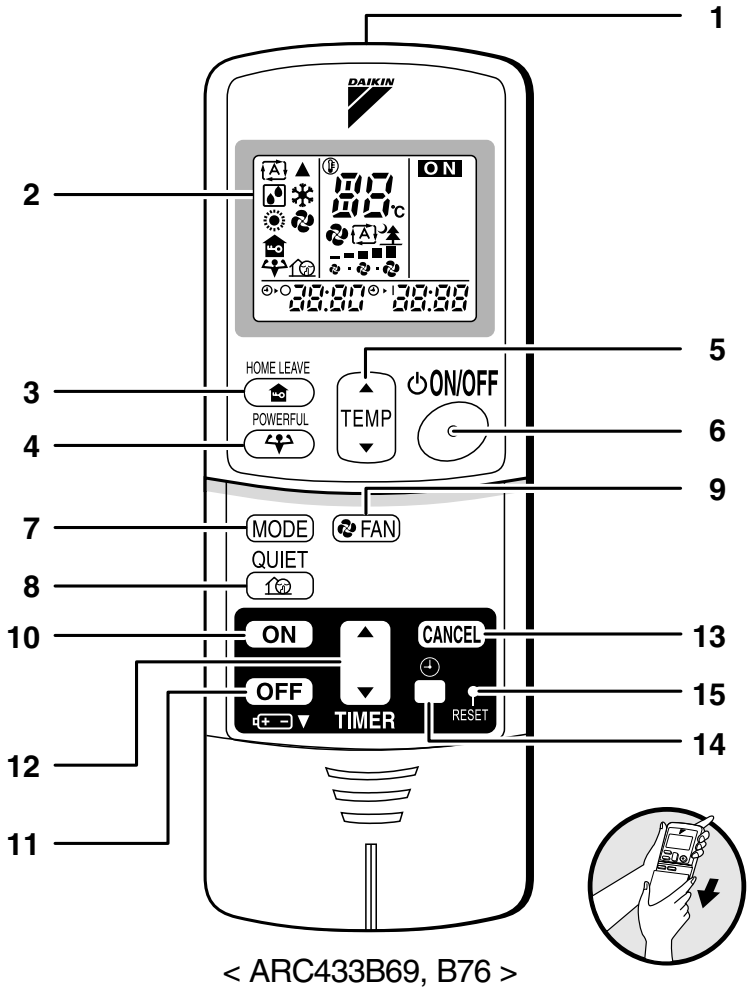
14. TIMER CANCEL button:
- It cancels the timer setting.

15. CLOCK button

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

FDXS25/35EAVMB, FDXS50/60CVMB

■ 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.

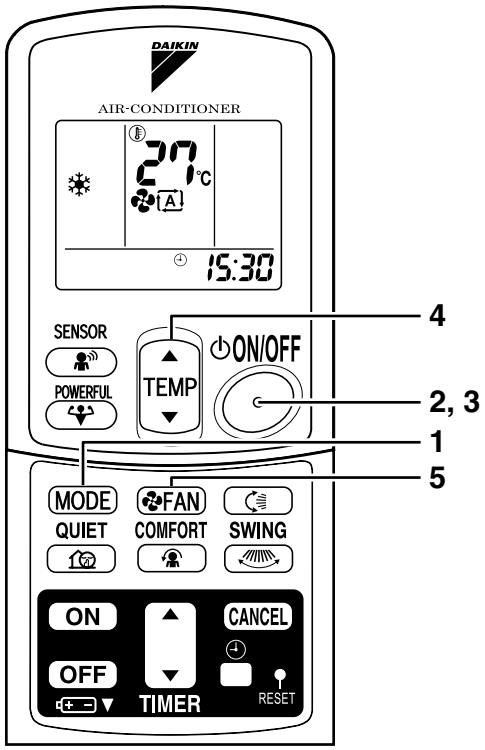
14. CLOCK button

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

3.3.3 AUTO · DRY · COOL · HEAT · FAN Operation

AUTO · DRY · COOL · HEAT · FAN Operation

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



■ To start operation

1. Press “MODE selector button” and select a operation mode.

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

: AUTO

: DRY

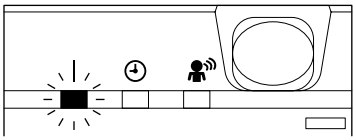
: COOL

: HEAT

: FAN

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.

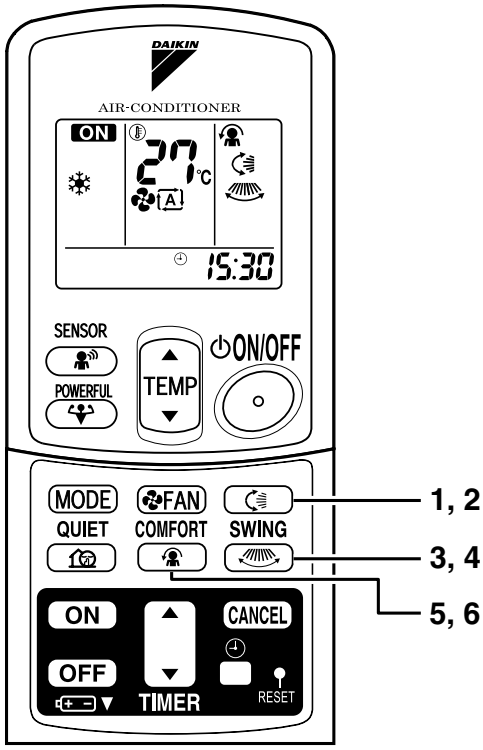
■ **Note on air flow rate setting**
- At smaller air flow rates, the cooling (heating) effect is also smaller.

3.3.4 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.

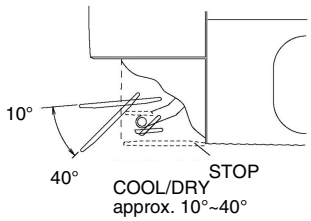
Comfort Airflow

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

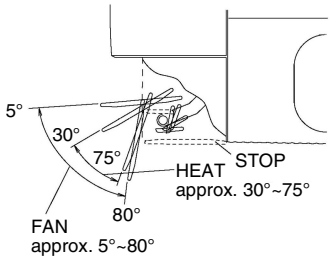
■ **ATTENTION**

- 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.

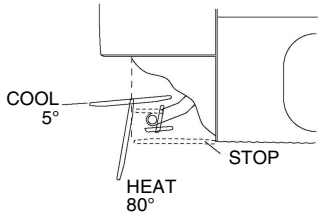
In COOL or DRY mode



In HEAT or FAN mode



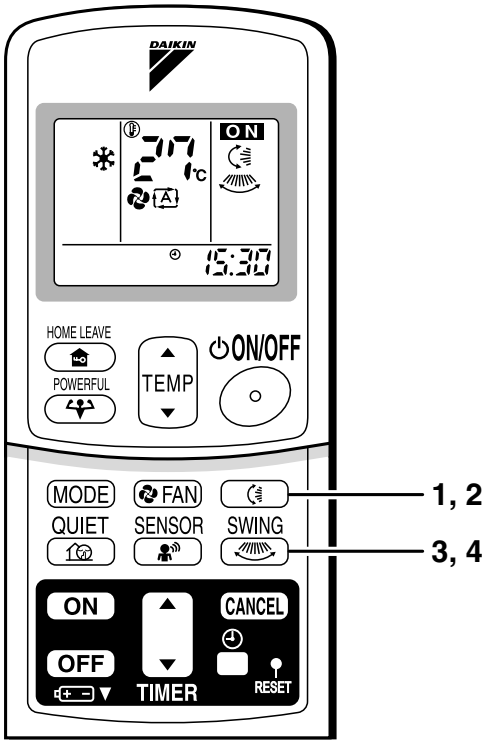
In COMFORT AIRFLOW mode



FTXS60/71FV1B

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 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.
   - " " disappears from the LCD.

■ 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".

Notes on louvers angles

■ **ATTENTION**

- Always use a remote controller to adjust the louvers angles. In side the air outlet, a fan is rotating at a high speed.

Notes on flap angle

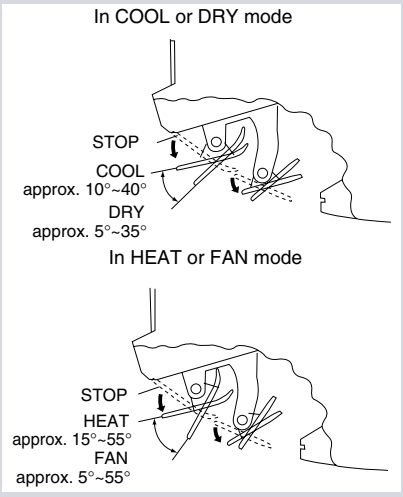
- When "**SWING button**" is selected, the flaps swinging range depends on the operation mode. (See the figure.)

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 flaps 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, fan is rotating at a high speed.



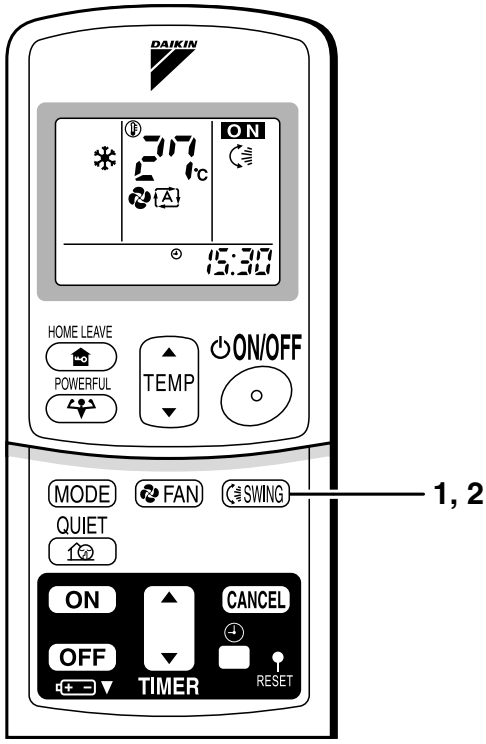
FLXS25/35/50/60BAVMB

Adjusting the Airflow Direction

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

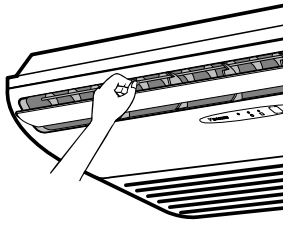
■ To adjust the horizontal blade (flap)

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



■ To adjust the vertical blades (louvers)

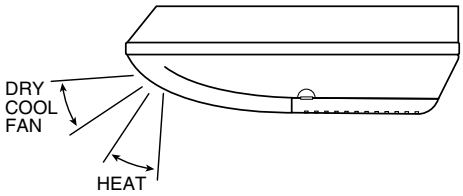
• When adjusting the louver, use a robust and stable stool and watch your steps carefully.
Hold the knob and move the louvers.
(You will find a knob on the left side and the right side blades.)



Notes on flap and louvers angles.

• Unless [SWING] is selected, you should set the flap at a near- horizontal angle in COOL or DRY mode to obtain the best performance.

• In COOL or DRY mode, if the flap is fixed at a downward position, the flap automatically moves in about 60 minutes to prevent condensation on it.



■ **ATTENTION**

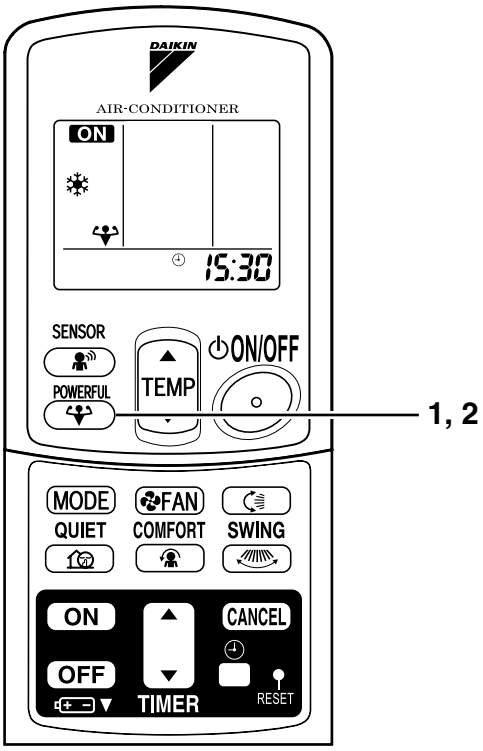
• Always use a remote controller to adjust the flap angle.
If you attempt to move it forcibly with hand when it is swinging, the mechanism may be broken.

• Be careful when adjusting the louvers. Inside the air outlet, a fan is rotating at a high speed.

3.3.5 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

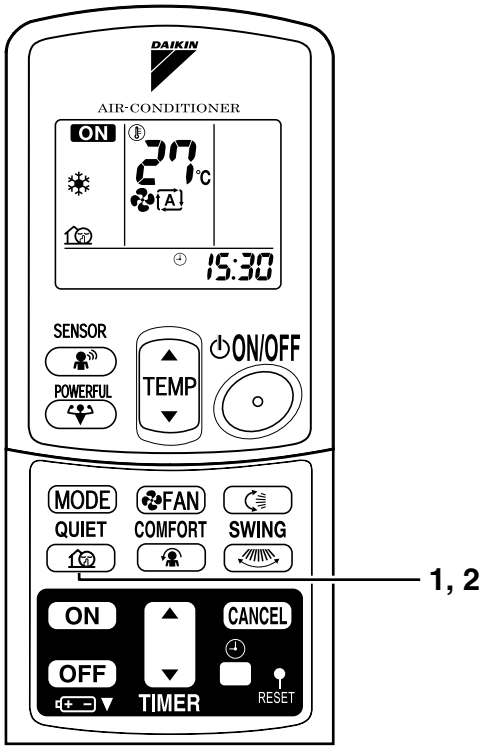
■ **Notes on POWERFUL operation**

- 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.

3.3.6 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.

3.3.7 HOME LEAVE Operation

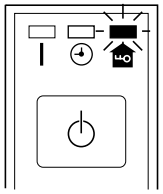
HOME LEAVE Operation

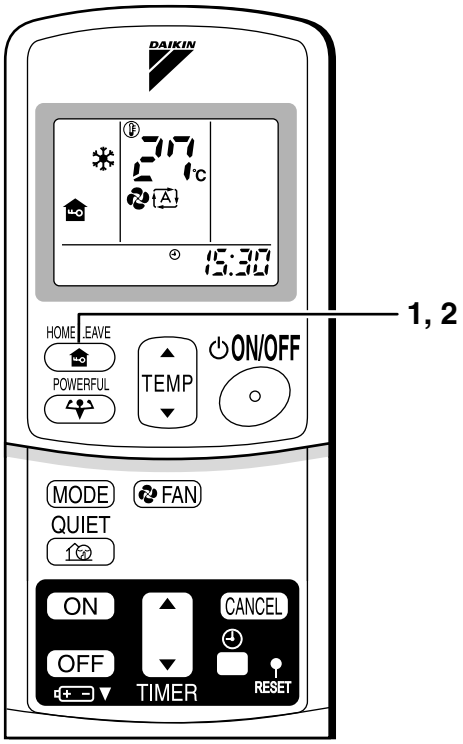
HOME LEAVE operation is a function which allows you to record your preferred temperature and air flow rate settings.

■ 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

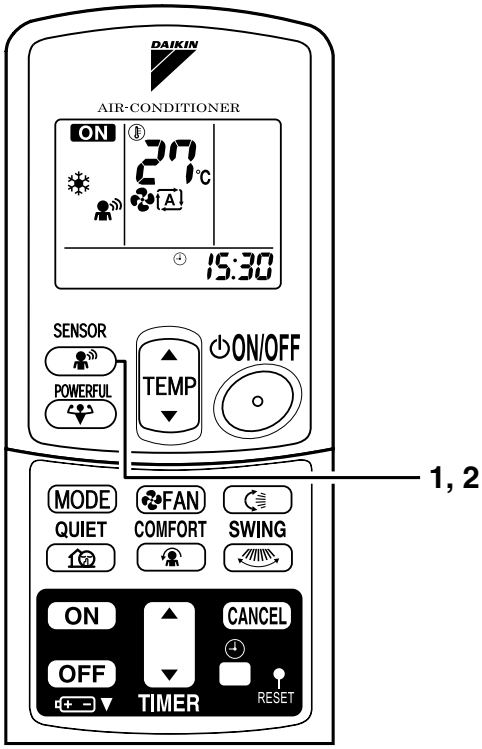
- Once the temperature and air flow rate for HOME LEAVE operation are set, those settings will be used whenever HOME LEAVE operation is used in the future. To change these settings, please refer to the "Before using HOME LEAVE operation" section above.
- HOME LEAVE operation is only available in COOL 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.

3.3.8 INTELLIGENT EYE Operation

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

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

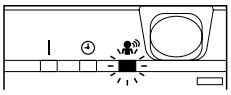
2. Press "SENSOR button" again.

• " " disappears from the LCD.

[EX.]

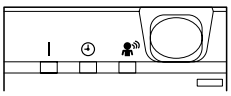
When somebody in the room

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



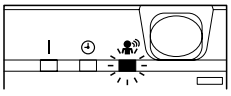
When somebody in the room

- **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.**



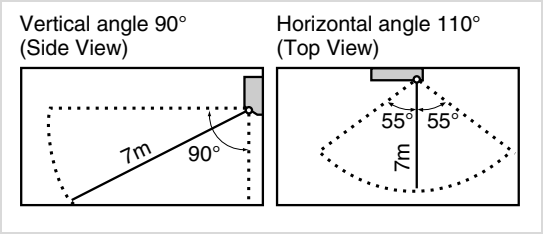
“INTELLIGENT EYE” is useful for Energy Saving

■ **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 passerby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passerby.
- INTELLIGENT EYE operation will not go on during powerful operation.
- Night set mode will not go on during you use INTELLIGENT EYE operation.

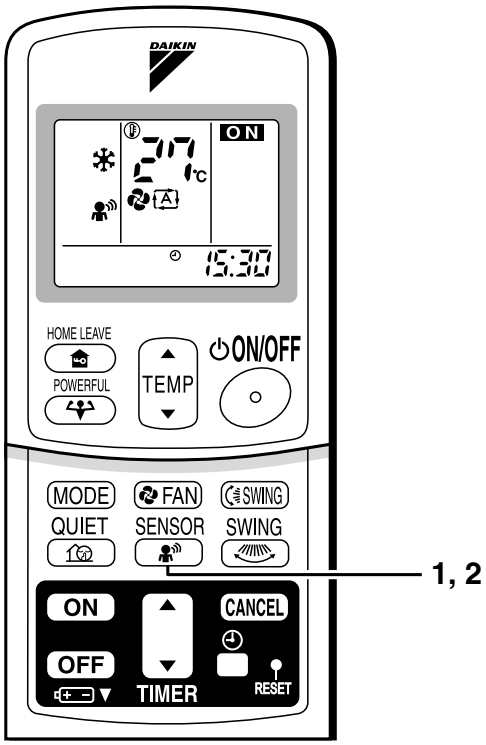
⚠ CAUTION

- 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.

FTXS60/71FV1B

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**

⇩

When nobody in the room
- **20 min. after, start energy saving operation.**

⇩

Somebody back in the room
- **Back to normal operation.**

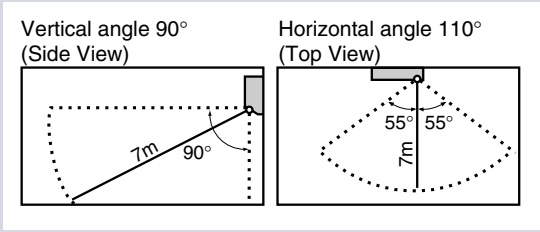
“INTELLIGENT EYE” is useful for Energy Saving.

■ **Energy saving operation**

- Change the temperature –2°C in heating / +2°C in cooling / +1°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.

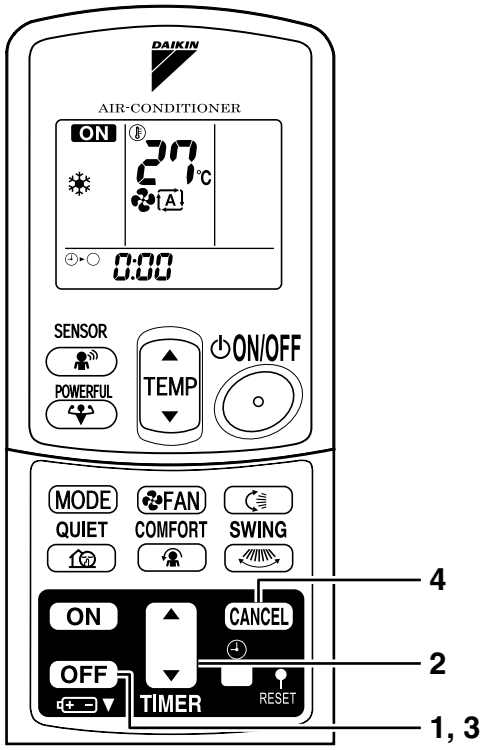
⚠ CAUTION

- 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.

3.3.9 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.

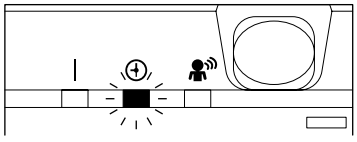
1. **Press "OFF TIMER button".**

   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 up.

NOTE

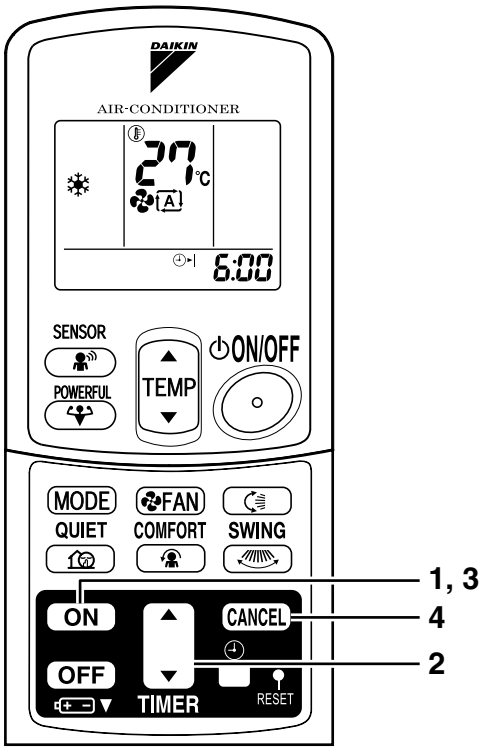
- When TIMER is set, the present time is not displayed.
- Once you set ON, OFF TIMER, the time setting is kept in the memory. (The memory is canceled when remote controller batteries are replaced.)
- When operating the unit via the ON/OFF Timer, the actual length of operation may vary from the time entered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



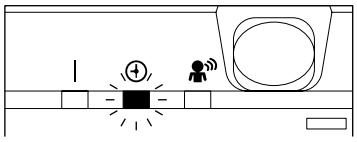
1. **Press “ON TIMER button”.**

   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.

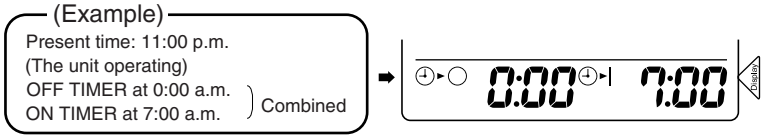


■ To cancel ON TIMER operation

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

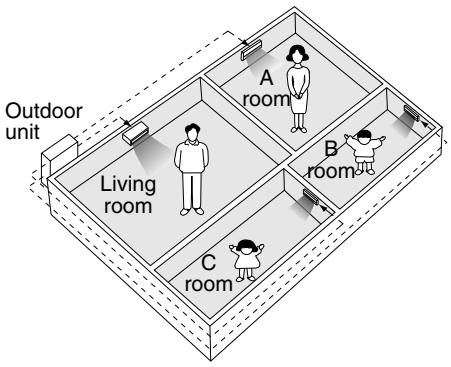
■ In the following cases, set the timer again.
- After a breaker has turned OFF.
- After a power failure.
- After replacing batteries in the remote controller.

3.3.10 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.

■ NIGHT QUIET Mode (Available only for cooling operation)

NIGHT QUIET Mode requires initial programming during installation. Please consult your retailer or dealer for assistance.
NIGHT QUIET Mode reduces the operation noise of the outdoor unit during the night time hours to prevent annoyance to neighbors.

- The NIGHT QUIET Mode is activated when the temperature drops 5°C or more below the highest temperature recorded that day. Therefore, when the temperature difference is less than 5°C, this function will not be activated.
- NIGHT QUIET Mode reduces slightly the cooling efficiency of the unit.

■ OUTDOOR UNIT QUIET Operation

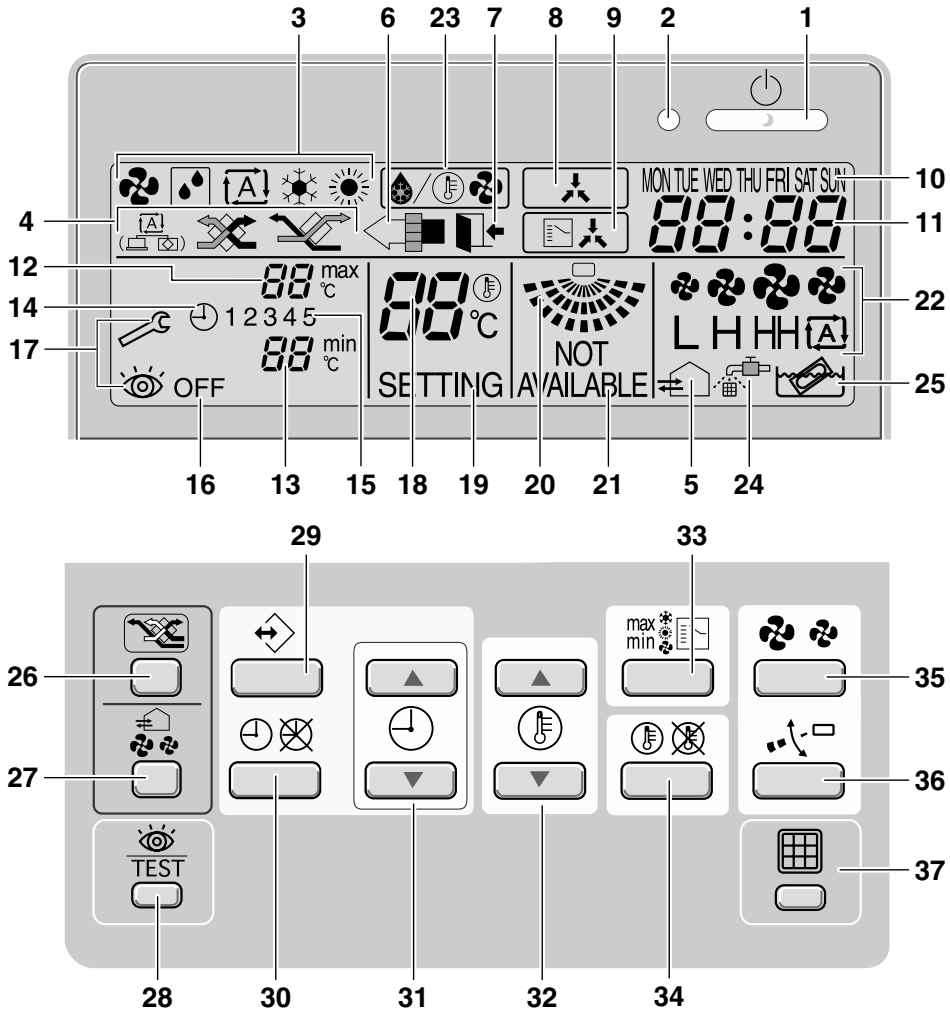
When using the OUTDOOR UNIT QUIET operation feature with the Multi system, set all indoor units to OUTDOOR UNIT QUIET operation using their remote controllers.
When clearing OUTDOOR UNIT QUIET operation, clear one of the operating indoor units using their remote controller. However OUTDOOR UNIT QUIET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

■ Cooling / Heating Mode Lock (Available only for heat pump models)

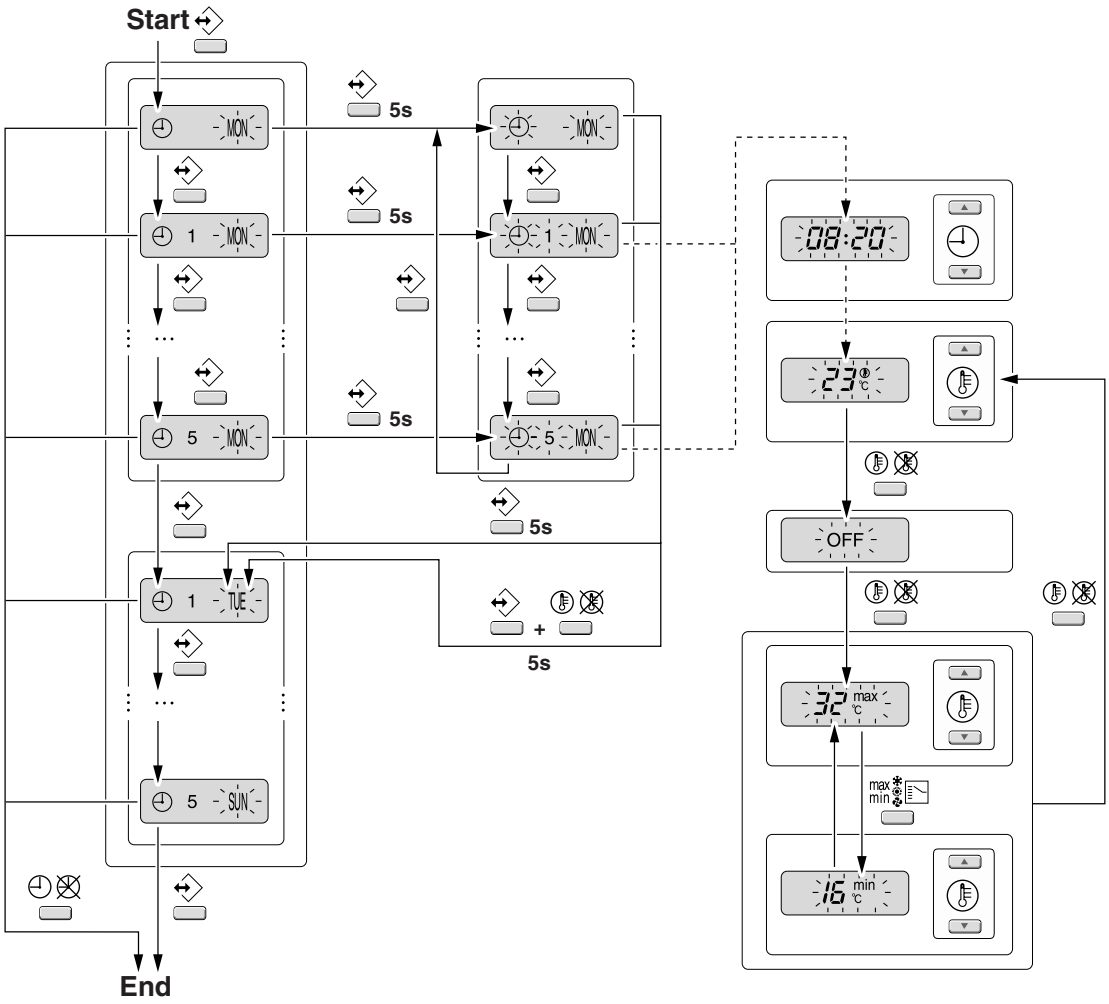
The Cooling / Heating Mode Lock requires initial programming during installation. Please consult your retailer or dealer for assistance. The Cooling / Heating Mode Lock sets the unit forcibly to either Cooling or Heating Mode. This function is convenient when you wish to set all indoor units connected to the Multi system to the same operation mode.

4. SA Indoor Unit - FFQ, FCQ, FDBQ, FBQ, FHQ Series

4.1 BRC1D528



1


Start
5s
5s
5s
5s
5s
+
MON
1 MON
5 MON
1 TUE
5 SUN
08:20
23 °C
OFF
32 max °C
max
min
16 min °C
End

2

DAIKIN

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 °C

The maximum set temperature indicates the maximum set temperature when in limit operation.

13 MINIMUM SET TEMPERATURE 88 min °C

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 °C

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

It is of utmost importance to understand that the number assigned to the programmed action, DOES NOT DETERMINE WHEN the programmed action will be executed. Only the TIME, being a part of the data entered when programming the action, will determine when the programmed action will be executed.

What will the schedule timer do?

If enabled, the schedule timer will execute the programmed actions.

It will order the installation to:

- cool or heat, depending on the current operation, if applicable; the setpoint will be displayed,

OR

- switch off the installation (the schedule timer remains enabled and reactivates the installation as programmed); the operation lamp will turn off,

OR

- cool or heat, whichever is required to keep the room temperature within a specified range (limit operation); $^{min}_{\circ C}$ and $^{max}_{\circ C}$ are displayed

The schedule timer will change the operation mode in LIMIT operation only.

To be able to verify the programmed actions, you can browse the programmed actions, see below.

What will the schedule timer NOT do?

The schedule timer will not:

- control fan speed,
- control air flow direction,
- control ventilation mode,
- control ventilation amount,
- change the operation mode for a scheduled setpoint.

The parameters listed above can be set manually, without interfering with the schedule timer.¡

More sophisticated remote controllers are available. Consult your dealer for more information.

Browsing the programmed actions in the schedule timer (read-out only)

Refer to figure 2.

Browsing the programmed actions of the schedule timer is a sequential process. Only 2 buttons are used to browse the entire schedule timer program.

The ⇔ button is used to start browsing, to display the next programmed action or to exit browsing when displaying the last programmed action.

The ⏲⊗ button is used to exit browsing at once (without having to scroll through all programmed actions).

Press the ⇔ button to enter the browse mode, the ⏲ icon appears, MON will blink.

NOTE Browsing always starts on Monday and ends on Sunday.

Check the 1 2 3 4 5 icon. If at least 1 action is programmed for Monday, 1 will appear.

The clock indicates the time when the programmed action is scheduled, either 24°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 icons might be displayed but all other fields remain blank, indicating that no actions are programmed for Monday.
- Enter the program mode by holding down the button for 5 seconds, the icon will now blink too.
- Press the button to activate the first programmed action.
- A blinking 1 is displayed indicating that the first programmed action for Monday is being programmed; The set temperature and clock display are blinking.
- Press the button to select either set temperature, OFF, or limit operation.
- Enter the desired temperature using the & buttons.
- Press the button to toggle between minimum set temperature and maximum set temperature in limit operation, the selected temperature will blink.
- Enter the time when the action must start using the & buttons (min. step = 10 minutes).

NOTE If, by accident, you pressed the button, you activated the next action; 1 2 is displayed (1 steady and 2 blinking). Press the button repeatedly until a blinking 1 is displayed. You can now continue adjusting the settings for the first schedule timer action.

If the action and the corresponding time are correct, you can proceed to the second schedule timer action. This is done by pressing the ↔ button, the data is saved and the next schedule timer action can be programmed.

Programming the remaining schedule timer actions for the same day is similar.

You can browse the schedule timer actions by pressing the ↔ button.

NOTE Don't worry if you add additional schedule timer actions by pressing the ↔ button repeatedly, they can be deleted when finishing the current day.

When all data for the schedule timer actions for Monday are entered, you must confirm the programmed actions.

Make sure the last schedule timer action you want to keep is selected (schedule timer actions with a higher number will be deleted).

Now you must choose between 2 options:

1 CONFIRM AND COPY TO NEXT

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 tapid 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)

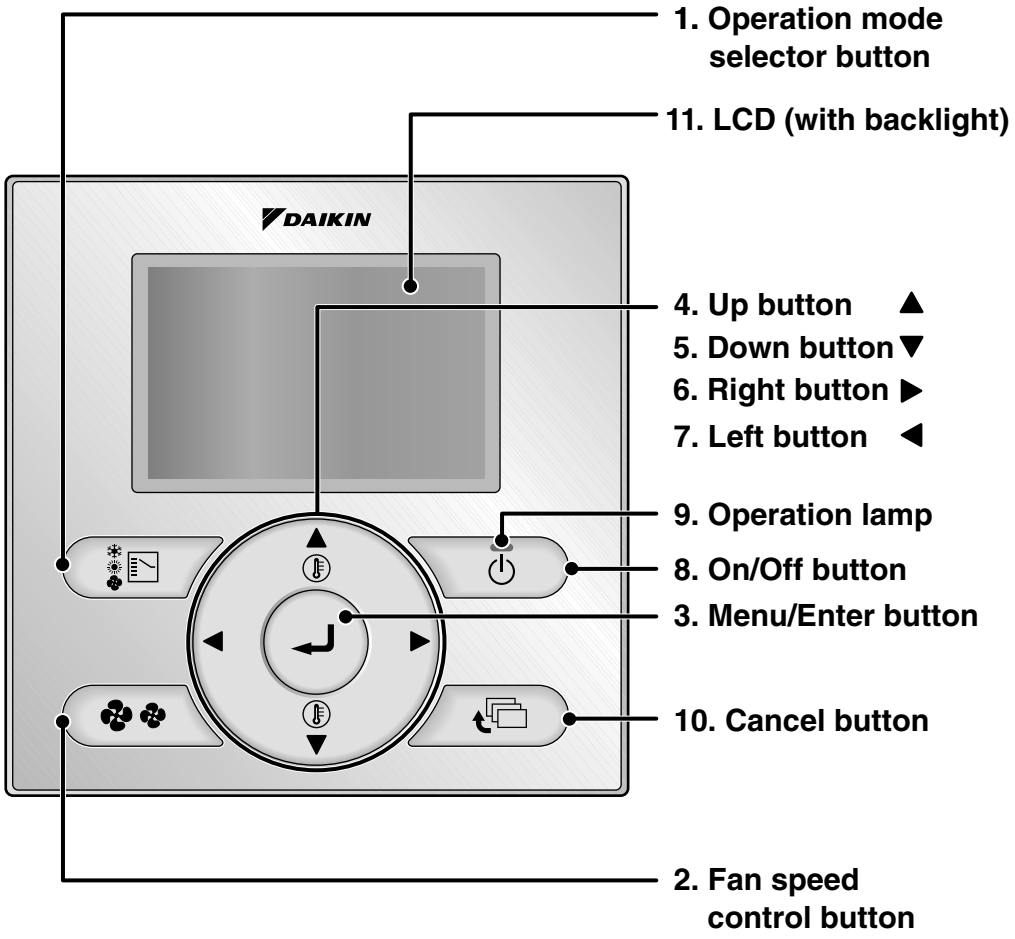
The schedule timer can not be enabled when a centralised control is connected.

Limit operation cannot be selected

Limit operation is not available for cooling only installations.

4.2 BRC1E51A7

Names and Functions



Functions other than basic operation items (i.e., On/Off, Operation mode selector, Fan speed control, and temperature settings) are set from the menu screen.

NOTE

- **Do not install the remote controller in places exposed to direct sunlight. Otherwise, the LCD may become discolored and nothing may be displayed.**
- **Do not pull or twist the remote controller cord. Otherwise, the remote controller may error.**
- **Do not press the buttons on the remote controller with objects with sharp ends. Otherwise, the remote controller may receive damage or error.**

1. Operation mode selector button

- Press this button to select the operation mode of your preference. **(See page 14.)**
  *Available modes vary with the connecting model.

2. Fan speed control button

- Press this button to select the fan speed of your preference. **(See page 15.)**
  *Available fan speed vary with the connecting model.

3. Menu/Enter button

- Used to indicate the main menu. **(See page 24 for the menu items.)**
- Used to enter the setting item selected.

4. Up button ▲ (Be sure to press the part with the symbol ▲)

- Used to raise the set temperature.
- The next items on the upper side will be highlighted.
- (The highlighted items will be scrolled continuously when the button is kept pressed.)
- Used to change the item selected.

5. Down button ▼ (Be sure to press the part with the symbol ▼)

- Used to lower the set temperature.
- The next items on the lower side will be highlighted.
- (The highlighted items will be scrolled continuously when the button is kept pressed.)
- Used to change the item selected.

6. Right button ▶ (Be sure to press the part with the symbol ▶)

- Used to highlight the next items on the right-hand side.
- Each screen is scrolled in the right-hand direction.
- Home leave settings are enabled with this button kept pressed for at least four seconds. **(See page 19.)**

7. Left button ◀ (Be sure to press the part with the symbol ◀)

- Used to highlight the next items on the left-hand side.
- Each screen is scrolled in the left-hand direction.
- Home leave settings are enabled with this button kept pressed for at least four seconds. **(See page 19.)**

8. On/Off button

- Press this button and system will start.
- Press this button again and system will stop.

9. Operation lamp (Green)

- This lamp lights up during operation.
- This lamp blinks if a error occurs.

10. Cancel button

- Used to return to the previous screen.

11. LCD (with backlight)

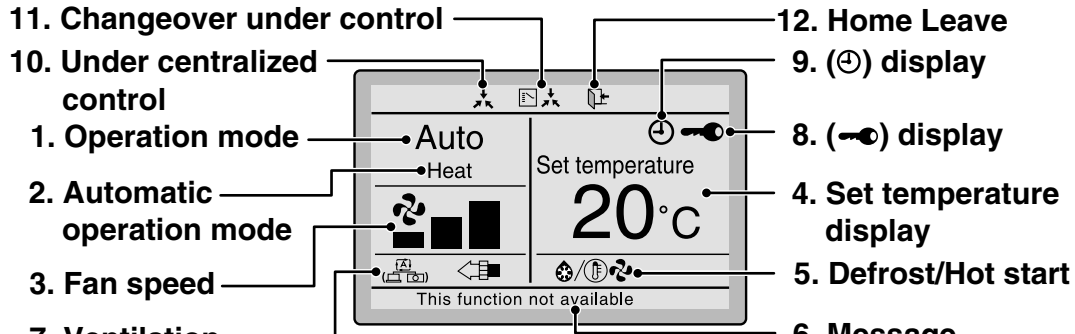
- The backlight will be light for approximately 30 seconds by pressing any operation button. Operate buttons excluding the On/ Off button while the backlight is lit.
- If two remote controllers are used to control a single indoor unit, the backlight of the remote controller operated earlier than the other one will be lit.

Names and Functions

Liquid Crystal Display

- Two types of liquid crystal display (LCD) are available. The standard display is by default set.
- To go to the detailed display, select the detailed display in the main menu. **(See page 46.)**
- The displayed contents of the screen vary with the operation mode of the equipment interlocked. (The following display will appear when the air conditioner is in automatic heating operation.)

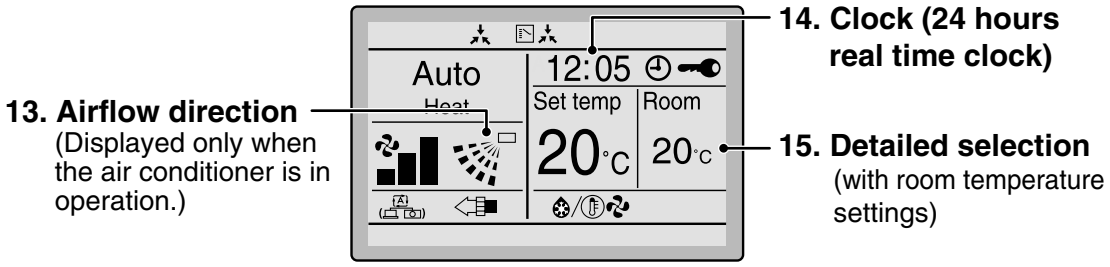
Standard display



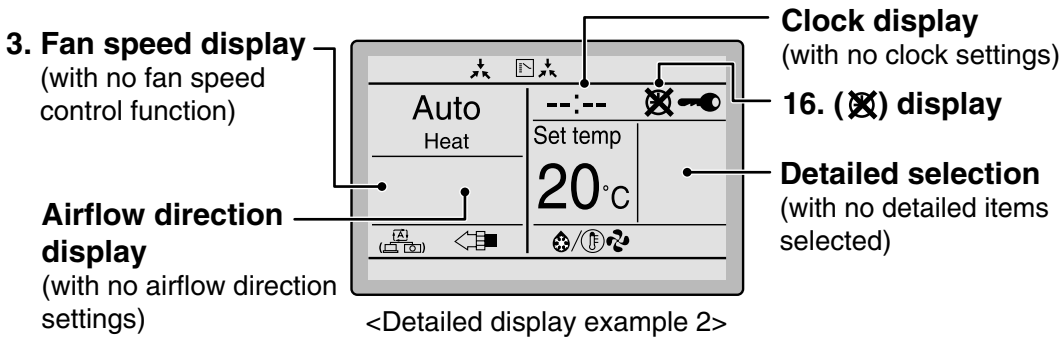
<Standard display example>

Detailed display

■ **The airflow direction, clock, and detailed selection items appear on the detailed display screen in addition to the items appearing on the standard display.**



<Detailed display example 1>



<Detailed display example 2>

1. Operation mode

- Used to display the present operation mode Cool, Heat, Vent, Fan, Dry or Auto mode.

2. Automatic operation mode

- Used to display the present automatic operation mode (Cool or Heat).

3. Fan speed

- Used to display the fan speed that is set for the air conditioner.
- The fan speed will not be displayed if the air conditioner does not have fan speed control function.

4. Set temperature display

- Used to display the temperature set for the air conditioner.

5. Defrost/Hot start "/" (See page 16.)

If Ventilating operation "" is displayed:

- Displayed when a total heat exchanger unit, such as the Ventiair, is connected.
  For details, refer to the Operation Manual of the Ventiair.

6. Message

The following messages are displayed.
"This function not available."

- Displayed for a few seconds when an operation button is pressed if the indoor unit is not provided with the corresponding function.
- If a number of indoor units are in operation, the message will appear only if none of the indoor units is provided with the corresponding function, i.e., the message will not appear if at least one of the indoor units is provided with the corresponding function.

"Error: Press Menu Button."
"Warning: Press Menu Button."

- Displayed if the error or warning is detected **(see page 53)**.

"Quick Cool/Heat" (SkyAir only)

- Displayed if the quick cooling/heating function is turned ON **(see page 31)**.

"Clean the filter."
"Clean the element."
"Clean the filter and element."

- Displayed when the time to clean the filter or element has come **(see page 51)**.

7. Ventilation/Purifying

- Displayed when a total heat exchanger unit, such as the Ventiair, is connected.
- **Ventilation mode icon. "** **"**
  These icons indicate the current ventilation mode (HRV only) (AUTOMATIC, HEAT EXCHANGE, BYPASS).
- **AIR Purifying ICON "** **"**
  This icon indicates that the air cleaning unit (option) is operational.

8. display (See page 23.)

- Displayed when the key lock is set.

9. display (See page 34.)

- Displayed if the schedule timer or OFF reminder timer is enabled.

10. Under Centralized control ""

- Displayed if the system is under the management of central control equipment (optional accessories) and the operation of the system through the remote controller is prohibited.

11. Changeover under control "" (VRV only)

- Displayed on the remote controller if the remote controller has no cooling/heating selection eligibility mode **(see page 21)**.

Names and Functions

12. Home leave " " (See page 19.)

- The home leave icon shows the status of the home leave function.

ON	Home leave is enabled
FLASHING	Home Leave is active
OFF	Home Leave is disabled

13. Airflow direction " "

- Displayed when the airflow direction and swing are set **(see page 28)**.
- This item is not displayed if the system is not provided with a function to set airflow directions.

14. Clock (24 hours real time clock)

- Displayed if the clock is set **(see page 48)**.
- If the clock is not set, " -- : -- " will be displayed.

15. Detailed selection

- Displayed if the detailed display items are selected **(see page 47)**.
- No detailed items are by default selected.

16. display

- Displayed to inform that the clock needs setting again.
- The schedule timer function will not work unless the clock is set again.

Basic Operation Method (Use of Direct Buttons)

Cool/Heat/Auto/Fan Operation (SkyAir and VRV)

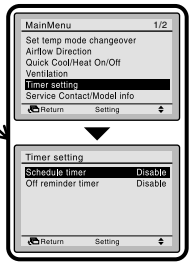
Remote Controller Functions

Operation procedure
Explains a button operation procedure for the remote controller. Operate the buttons according to the procedure.

Operation button display
Displays the positions of buttons to be operated.

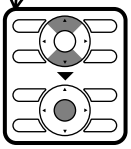
Operation Method

Operation screen display
Describes screens that will be displayed on the remote controller in operation.



- Displays the main menu screen. (See page 26.)
- Press ▼▲ buttons to select Timer setting on the main menu screen.
  Press Menu/Enter button to display the timer settings screen.

* Items presently enabled or disabled are displayed.

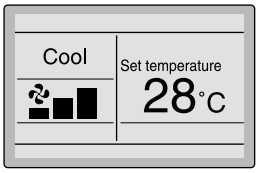


Preparation

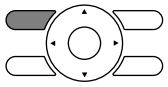
- For mechanical protection purposes, turn ON the system at least six hours before starting the operation of the system.
- Do not turn OFF the system in season in order to ensure the smooth starting of the system.

Operation Method

1



- Press Operation Mode Selector button several times until the desired mode Cooling, Heating, Fan, or Auto mode is selected.

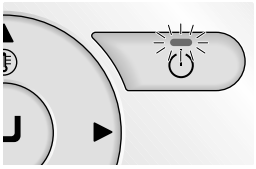


* Unavailable operation modes are not displayed.
* Only the Cooling or Fan mode can be selected if the air conditioner is a cooling-only model.
* The Auto mode can be set in the case of the VRV cooling/heating simultaneous operation system.
* Changeover under control will appear on each remote controller, but only the Cooling or Fan mode can be set in the case of the VRV cooling-only system.

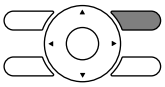
Note

- Before making a mode change, make sure that Changeover under control is not displayed on the remote controller. The cooling or heating mode cannot be selected if the above is displayed on the remote controller. See page 21 if Changeover under control display blinks.

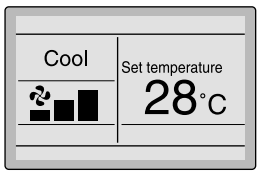
2



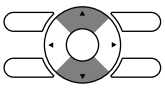
• Press On/Off button.
The Operation lamp (green) will be lit and the system will start operating.



3

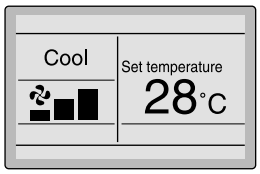


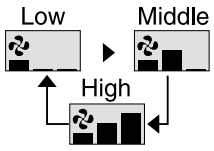
• The set temperature will increase by 1°C when ▲ button is pressed and decrease by 1°C when ▼ button is pressed.



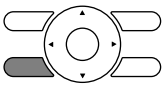
* No temperature settings are possible while in fan mode.

4





• To make fan speed control, press Fan speed control button and select the desired fan speed from Low, Middle or High.



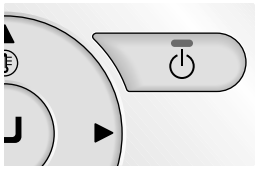
* Two fan speed adjustment levels Low, High may be available depending on the type of indoor unit.
* The system may be in automatic fan speed control for mechanical protection purposes.
* The system may be in automatic fan speed control according to the room temperature.
The fan may stop operating, which, however, is not a failure.
* The completion of fan speed selection may take time, which, however, is not a failure.

5

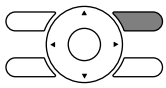
• Make airflow direction settings from the main menu (see page 28).

* The airflow direction of the system cannot be changed unless the system is provided with a function to allow airflow direction changes.

Basic Operation Method (Use of Direct Buttons)

6 

• The Operation lamp will be turned OFF and the system will stop operating when On/Off button is pressed again.



* While the system is in heating operation, the system will be in fan operation for approximately one minute in order to eliminate the heat in the indoor unit after the heating operation comes to a stop.

Note

• Do not turn power OFF soon after the system stops operating. Be sure to wait for at least five minutes so that the drain discharging device will finish discharging the residual drain. Otherwise, water leakage or failures may result.

Characteristics of Heating Operation

Starting operation

• The system in heating operation generally requires a long time to attain the set temperature compared with the system in cooling operation.
It is recommended to start operating the system in advance by utilizing the timer.

Perform the following operation of the system in order to prevent the degradation of the heating capability or cold winds from blowing out.

Defrosting operation

• The heating capability of the system will drop if the outdoor unit frosts up. Therefore, the system will go into defrosting operation automatically.
• The system will stop blowing out hot air, and " " (Defrost/Hot start) will be displayed on the remote controller.
• The system will return to normal operation with an elapse of approximately six to eight minutes (but not more than 10 minutes).

Hot start (VRV only)

• When the system goes into heating operation, the wind will stop in order to prevent cold air from blowing out of the system in defrosting operation.
(In that case, " " (Defrost/Hot start) will be displayed on the remote controller.)

Outdoor temperature and heating capability

- The heating capability of the system will drop with a decrease in outdoor temperature.
  If that happens, use the system along with another heating appliance. (In the above case, be sure to ventilate the room as frequently as possible.)
  Do not use the heating appliance in places where the heating appliance is exposed to the wind from the system.
- The system is of hot air circulation type. Therefore, it takes some time for the room to become warm after the system starts operating.
  The indoor fan will automatically go into breezing operation until the inner temperature of the system rises to a certain level.
- If the hot air stays around the ceiling and your feet feel cold, the use of a circulator is recommended.
  For details, consult your Daikin dealer.

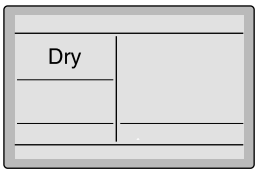
Program Dry Operation

Preparation

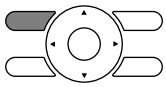
- For mechanical protection purposes, turn ON the system at least six hours before starting the operation of the system.
- Do not turn OFF the system in season in order to ensure the smooth starting of the system.
- The dry mode may not be selected if the remote controller has no right to select cooling/heating mode (see page 22 for details).

Operation Method

1



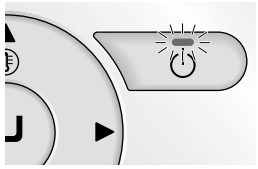
- Press Operation Mode Selector button several times until the Dry operation is selected.



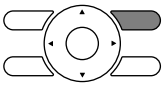
* The dry operation may not be available depending on the type of indoor unit.

Basic Operation Method (Use of Direct Buttons)

2



• Press On/Off button.
The Operation lamp (green) will be lit and the system will start operating.



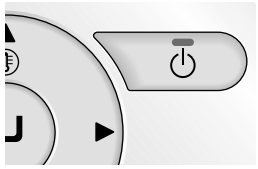
* The microcomputer is in automatic temperature and fan speed control. Therefore, temperature or fan speed settings cannot be made or changed while the air conditioner is in operation.

3

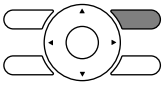
• Make airflow direction settings from the main menu (see page 28).

***** The airflow direction of the system cannot be changed unless the system is provided with a function to allow airflow direction changes.

4



• The Operation lamp will be turned OFF and the system will stop operating when On/Off button is pressed again.



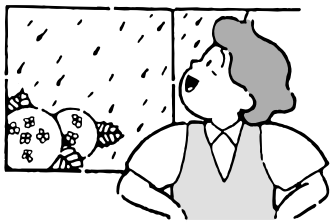
Note

- Do not turn power OFF soon after the system stops operating. Be sure to wait for at least five minutes so that the drain discharging device will finish discharging the residual drain. Otherwise, water leakage or failures may result.

Operation Contents

Program Dry

The Program dry function of the system repeats the weak cooling operation of the system intermittently to dehumidify the room without dropping the room temperature as much as possible for the prevention of excessive cooling.



Program Dry Operation

- The microcomputer is in automatic temperature and fan speed control. Therefore, temperature or fan speed settings cannot be made or changed while the air conditioner is in operation.

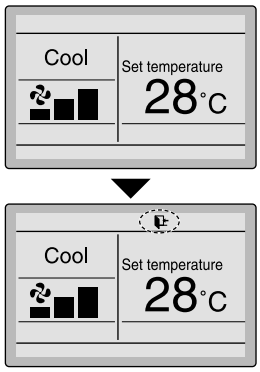
Home Leave

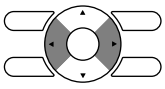
Home Leave is a feature that enables to keep the room temperature above 10°C when the occupants are out.

Note
- This function will switch on heating if the installation is switched off.
- For the setting, please contact your local dealer.

Operation Method The home leave can not be enabled when a centralized control is connected.

1





- Press and hold the "▶" or "◀" button for at least four seconds. (During backlight lit)
- The Home Leave icon displays and function is enabled.

The Home Leave icon shows the status of the home leave function.

ON	Home leave is enabled
FLASHING	Home leave is active
OFF	Home leave is disabled

- To cancel the home leave mode, continue pressing Menu/Enter button for at least four seconds. (During backlight lit)

Basic Operation Method (Use of Direct Buttons)

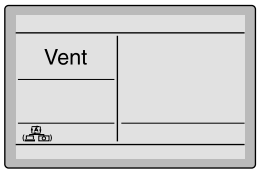
Ventilation Operation When Air Conditioner Interlocked with Total Heat Exchanger

Preparation

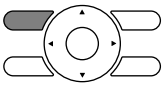
- For mechanical protection purposes, turn ON the system at least six hours before starting the operation of the system.
- Do not turn OFF the system in season in order to ensure the smooth starting of the system.

Operation Method

1



- Set the Operation mode selector button to Ventilation in the case of operating the total heat exchanger without the system between seasons.



2

- To change the ventilation mode setting, make necessary settings from the main menu (see page 33).

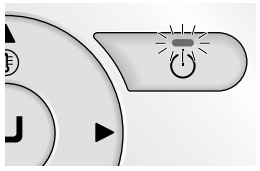
  * Ventilation mode: Automatic, Heat exchange, and Bypass

3

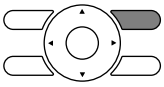
- To change the ventilation rate, make necessary settings from the main menu (see page 32).

  * Ventilation rate: Low or High

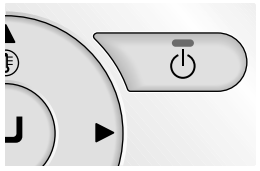
4



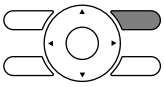
- Press On/Off button.
  The Operation lamp (green) will be lit and the system will start operating.



5



- The Operation lamp will be turned OFF and the system will stop operating when On/Off button is pressed again.

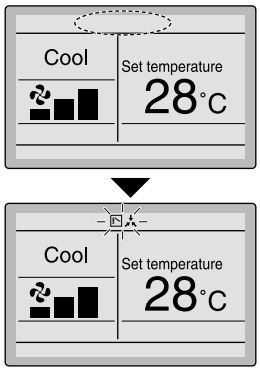


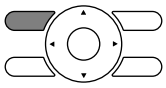
Setting Method of the Cooling/Heating Selection Eligibility

(VRV only)

Setting Changes See page 22 for an explanation of the cooling/heating selection eligibility.

1





- Continue pressing Operation Mode Selector button of the remote controller for at least four seconds. (During backlight lit)
  A remote controller will not display "⊡⁂" (Changeover under control) if a cooling/heating selection eligibility is granted to the remote controller.
- The display "⊡⁂" (Changeover under control) on each remote controller connected to the same outdoor unit or BS unit will start blinking.

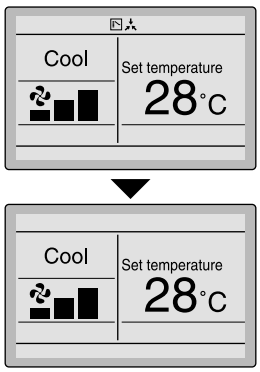
  * Vent mode setting changes are possible regardless of the cooling/heating selection eligibility.
  * If a cooling/heating selection eligibility is set in the cooling/heating selection remote controller (★), all the remote controllers will display "⊡⁂" (Changeover under control). In this case, no cooling/heating selection eligibility can be set in the remote controllers.

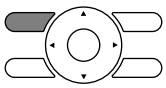
  ★Refer to the operation manual provided to the outdoor unit for the details of the cooling/heating selection remote controller.

- Set a cooling/heating selection eligibility as explained below.

Selection Settings The display "⊡⁂" (Changeover under control) will blink when the power is turned ON for the first time.

2



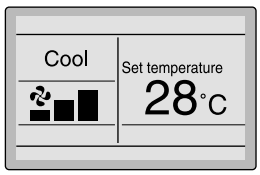


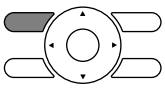
- Press Operation Mode Selector button of the remote controller for which the selection eligibility to be set.
  Then the cooling/heating selection eligibility will be set and the display "⊡⁂" (Changeover under control) will disappear.
  The display "⊡⁂" (Changeover under control) will appear on the other remote controllers.

Basic Operation Method (Use of Direct Buttons)

Operation Selection

3





- Press the remote controller that has the cooling/heating selection eligibility (or the remote controller without the display "⛶" (Changeover under control)) several times until the desired mode is selected. The display will change to "Fan", "Dry", "Auto", "Cool", "Heat" each time the button is pressed.
- The display "Auto" will appear for the heating/cooling simultaneous operation system only.
  At that time, the other remote controllers with no selection right will follow suit and change the display automatically.

Cool/Heat Selection Eligibility

- The "Cool", "Heat", "Auto" can be set for only the remote controller for which the cooling/heating selection eligibility is set.
  (The display "Auto" will appear for the heating/cooling simultaneous operation system only.)

1. The remote controller with the selection eligibility (without "⛶" (Changeover under control) displayed) → Set to "Cool", "Heat", "Dry", "Auto" mode. → Other remote controllers (with "⛶" (Changeover under control) displayed)

- The system will go into the mode set in the remote controller. No other modes are available.
- The system, however, can be switched to fan mode or from "Cool" to "Dry".

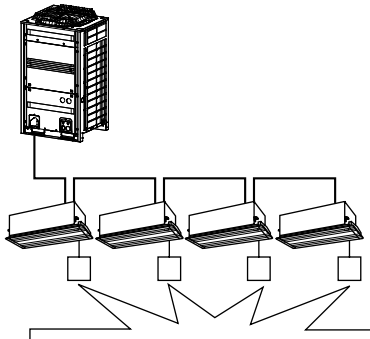
2. The remote controller with the selection eligibility (without "⛶" (Changeover under control) displayed) → Set to "Fan" mode. → Other remote controllers (with "⛶" (Changeover under control) displayed)

- The system cannot be set to other modes except fan mode.

Precautions for Setting Cooling/Heating Selection Eligibility

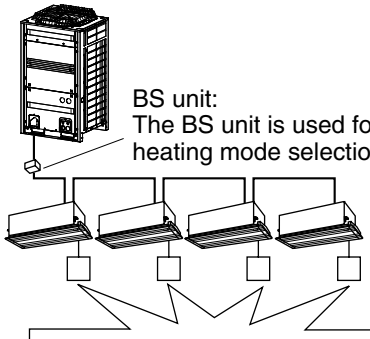
- The cooling/heating selection eligibility needs to be set for a single remote controller in the following case.

(Cooling/Heating selected operation system)



A number of indoor units are connected to a single outdoor unit.
Set the cooling/heating/fan selection eligibility in one of the remote controllers.

(Cooling/Heating simultaneous operation system)

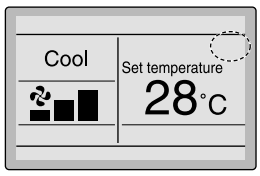


A single BS unit is connected to a number of indoor units.
Set the cooling/heating/auto/fan selection eligibility in one of the remote controllers.

Key Lock

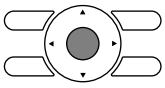
Operation Method Make settings and cancel settings in the basic screen.

1

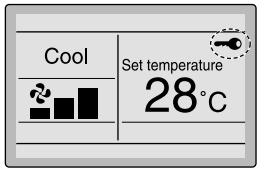


Basic screen

- Continue pressing Menu/Enter button for at least four seconds. (During backlight lit)



2



- "🔑" will appear.
  All buttons are disabled when the keys are locked.
- To cancel the key lock mode, continue pressing Menu/Enter button for at least four seconds. (During backlight lit)

Quick Reference of Main Menu Items

■The main menu has the following items.

Setting and display items		Description	Reference page
Set temp mode changeover		Select normal set temperature or limit control.	27
Airflow direction setting		**Used to make airflow direction settings.** • The airflow direction blade are automatically operated up and down (left and right). • The fixed airflow directions are set to five positions. * This function is not available to all models.	28
Quick Cooling/Heating On/Off (SkyAir only)		**Used to set the room to a conformable temperature quickly (unless the system is not in program dry or fan operation).** • The maximum quick cooling/heating operation period is 30 minutes.	31
Ventilation (Ventilation operation settings for total heat exchanger)	**Ventilation rate**	Used to set to “Low” “High”	32
	Ventilation mode	Used to set Automatic, Heat exchange, and Bypass.	33

Timer setting	**Schedule timer**	• Operation start time and stop time can be set according to the day of the week. Either one of the following operation modes can be selected.
		  • Operation at set temperature: Normal operation
		  • Operation within set temperature range (between max. and min. temperatures): Limit operation
		  Up to 5 actions can be set for each day.
		• Convenient holiday settings and temporary closure settings are possible.
		* Clock settings are necessary.
		* The system goes into schedule timer operation in the previous mode set for the system.
			35

	Off reminder timer	**Used to set each operation period of the system.** • Possible to set in 10 minute units from 30 to 180 minutes.	42
Service Contact/Model Information		Used to display the service contact and model information.	44

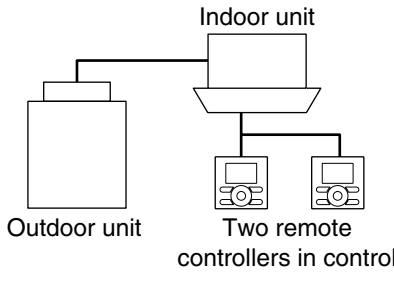
Setting and display items		Description	Reference page
Convenient functions	**Contrast adjustment**	Used to make LCD contrast adjustment.	45
	Display changeover Standard or detailed display	**Used to set to standard or detailed display mode.** • Display Standard or detailed display • Detailed display settings Selectable from the display room temperature, outdoor temperature, system, or without any display items.	46
Setting status list		• Used to display a list of current settings for available items.	48
Clock setting		**Used to make date and time settings and corrections.** • The clock is in 24 hours real time clock. • The accuracy of the clock is within ±30 seconds per month. • If there is a power failure for a period not exceeding 48 hours, the clock will continue working with the built-in backup power supply. The clock needs settings again if the power failure period exceeds 48 hours.	48
Language changeover		The displayed language can be selected from the following language. (English/Deutsch/ Français/Español/Italiano/Ελληνικά/ Nederlands/Portugues/Русский/Türkçe)	50

Note: Available setting items vary with the model connected.
Only the available setting items appear in the menu.

Menu Items of Sub Remote Controller

If two remote controllers are in control of a single indoor unit, the following menu items are not set in the sub remote controller. Set them in the main remote controller.

- Set temp mode changeover
- Schedule timer
- Off reminder timer
- Home leave



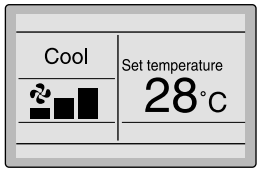
Menu Manipulation

Manipulating the Main Menu Screen

■Display Method for Main Menu

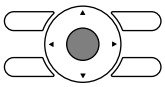
Operation Method

1

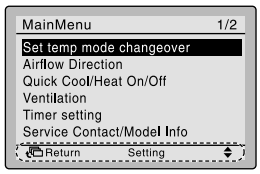


Basic screen

• Press Menu/Enter button.



2



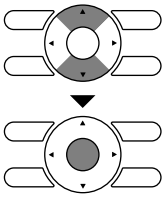
Main menu screen

• The main menu screen will appear.

⇦ Instructions for manipulating the buttons will appear.

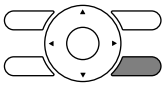
3

• Selecting items from the main menu.
  1. Press ▼▲ buttons to select the desired item to be set.
  2. Press Menu/Enter button to display the selected settings screen.



4

• To go back to the basic screen from the main menu screen, press the Cancel button.



Caution

• While setting items, if a button is not pressed for 5 minutes, the screen will automatically go back to the basic screen.

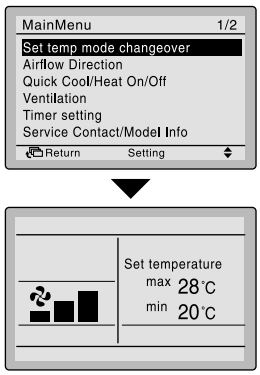
Set temp mode changeover

■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.

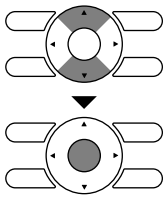
Operation Method The limit operation can not be enabled when a centralized control is connected.

1



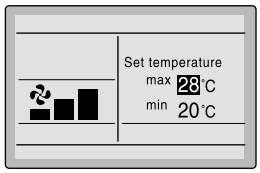
Basic screen

- Display the main menu screen. (See page 26.)
- Press ▼▲ buttons to select “Set temp mode changeover” on the main menu screen.
- Pressing Menu/Enter button takes you back to the basic screen, and the set temperature is displayed in max °C min °C. (Limit Operation)

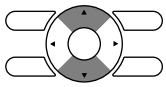


* To return to the normal set temperature screen, use “Set temp mode changeover” in the Main Menu again.

2

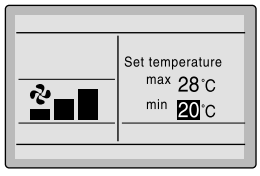


- To change the set temperature, press ▼▲ buttons. The set temperature is highlighted and ready to be changed.
- The set temperature will increase by 1°C when the ▲ button is pressed and decrease by 1°C when the ▼ button is pressed.

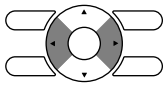


Note
- The difference between the maximum and minimum temperatures cannot be set to less than 6°C. (* Maximum temperature – Minimum temperature ≥ 6°C)

3



- Pressing ◀▶ buttons switches the variable set temperature between max. and min.



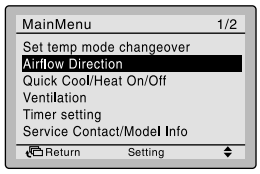
Menu Manipulation

Airflow Direction Setting

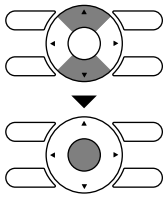
■Manipulating Airflow Direction Setting

Operation Method

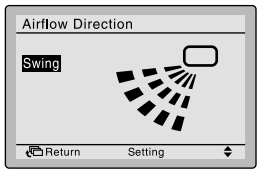
1



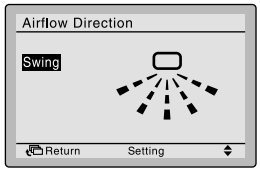
- Display the main menu screen.
  (See page 26.)
- Press ▼▲ buttons to select Airflow Direction on the main menu screen and press the Menu/Enter button.
  (For models with no airflow direction adjustment, Airflow Direction will not be displayed on the main menu screen.)



2



Airflow direction setting (up/down)



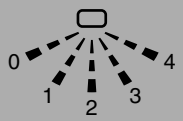
Airflow direction setting (left/right)

- The airflow direction setting screen will appear.

Note

- Airflow direction appears on the screen as below.

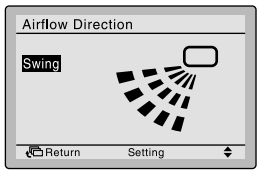
Up/down direction



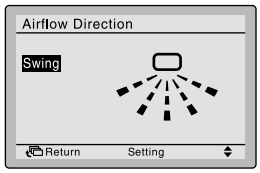
Left/right direction

0 : Position 0
1 : Position 1
2 : Position 2
3 : Position 3
4 : Position 4

3



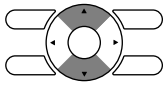
Up/down direction



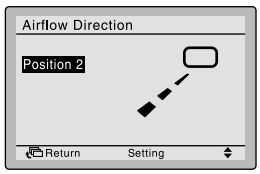
Left/right direction

- Pressing ▼▲ buttons changes the setting to (in order) Swing, Position 0, Position 1, Position 2, Position 3, and Position 4.
- Selecting Swing will cause the airflow direction blades to swing back and forth.

  For the swing setting only, all positions will be displayed.



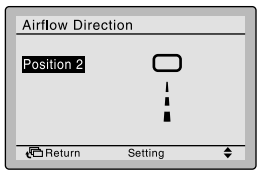
4



Up/down direction

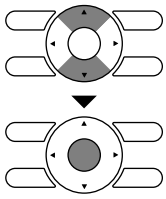
- When you select one of positions 0 to 4, the airflow direction blades stay in a fixed position.

  * The illustration is a display when position 2 is selected.



Left/right direction

- Press ▼▲ buttons to select the desired airflow direction. Press Menu/Enter button to return to the basic screen.



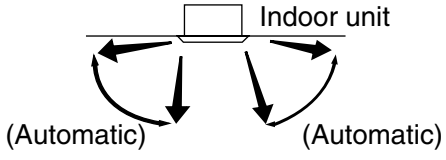
Menu Manipulation

Operational Details and Functions

There are two types of airflow direction setting.

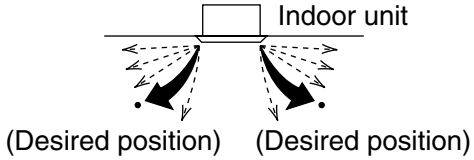
Airflow direction swing

The airflow direction blades automatically swing up and down.



Airflow direction

You can select from one of five fixed directions. (This has no relation to the angle of the louvers.)



Movement of airflow direction blades

Under the operation conditions shown below, airflow direction is controlled automatically. Actual operation may thus be different than what is displayed on the remote controller.

Operation condition	• Room temperature is higher than the remote controller's set temperature (in heating mode). • When defrosting (in heating mode). (The airflow is blowing horizontally so that people in the room are not in direct line of the cold air.) • Under continuous operation with the airflow blowing horizontally.

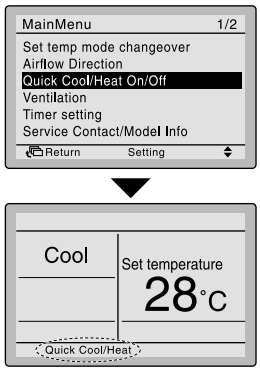
Heating mode includes automatic operation.

Quick Cooling/Heating On/Off

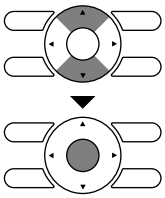
■Quick Cooling/Heating On

Operation Method

1



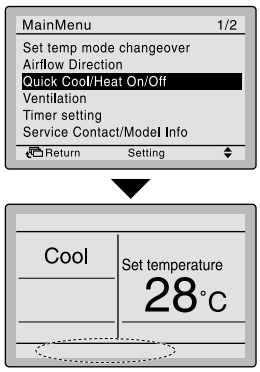
- While operating in Cooling, Heating, or Auto mode, display the main menu screen (see page 26).
- Press ▼▲ buttons to select Quick Cool/Heat On/Off on the main menu screen.
  Press Menu/Enter button to return to the basic screen.
- Quick Cooling/Heating will appear on the basic screen.
  Quick Cooling/Heating is now on.



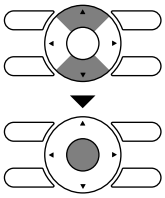
■Quick Cooling/Heating Off

Operation Method

2



- While Quick Cooling/Heating is displayed on the basic screen, display the main menu screen (see page 26).
- Press ▼▲ buttons to select Quick Cool/Heat On/Off on the main menu screen.
  Press Menu/Enter button to return to the basic screen.
- Quick Cooling/Heating will no longer appear on the basic screen.
- Quick Cooling/Heating is now off.



Menu Manipulation

Quick Cooling/Heating

Quick Cooling/Heating The indoor unit is automatically controlled, increasing the power of the outdoor unit and quickly bringing the room to a comfortable temperature.

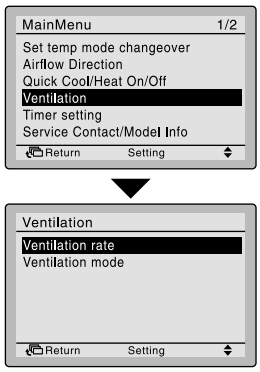
- Fan speed display goes off and fan speed can no longer be switched.
- Cannot be set when in fan and dry modes.
- Quick Cooling/Heating mode will run for a maximum of 30 minutes before the unit automatically returns to normal operation.
- Activating mode selector will return the air conditioner to normal operation.
- In heating mode, fan speed may increase and the wind temperature may decrease. Adjust the operation as desired.

Ventilation

■Display method for ventilation settings screen

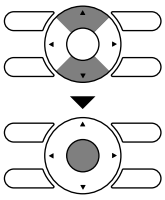
Operation Method

1



- Display the main menu screen. (See page 26.)
- Press ▼▲buttons to select Ventilation on the main menu screen. (For models with no ventilation function, Ventilation will not be displayed on the main menu screen.)

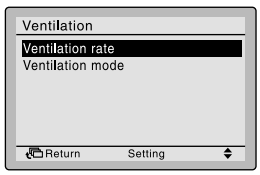
Press Menu/Enter button to display the ventilation settings screen.



■Changing the ventilation rate

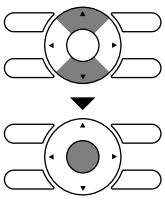
Operation Method

1

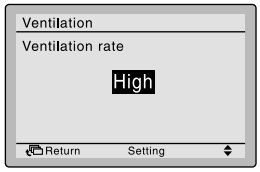


- Bring up the ventilation settings screen (see above).
- Press ▼▲buttons to select Ventilation rate on the ventilation settings screen.

Press Menu/Enter button to display the ventilation rate settings screen.



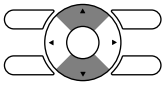
2



Low ⟷ High

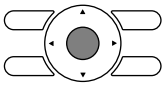
- Pressing ▼▲ buttons changes the setting to in order Low and High.

* Only modes that can be set are displayed.



3

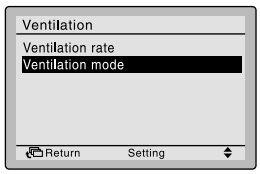
- Selecting the desired ventilation rate and pressing Menu/Enter button selects the setting and takes you back to the basic screen.
  (Pressing Cancel button takes you back to the previous screen without changing the ventilation rate.)



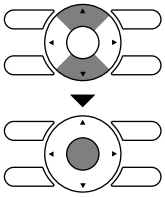
■Changing ventilation mode

Operation Method

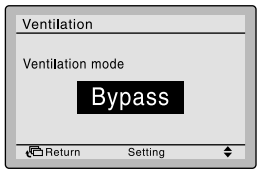
1



- Display the ventilation settings screen.
  (See page 32.)
- Press ▼▲ buttons to select Ventilation mode on the ventilation settings screen.
  Press Menu/Enter button to display the ventilation mode settings screen.



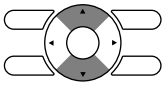
2



- Pressing ▼▲ buttons changes the settings in order as shown below.

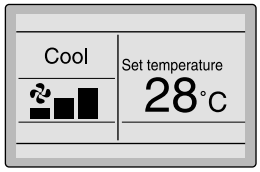
Bypass ◆▶ Heat exchange ◆▶ Automatic

* Only modes that can be set are displayed.

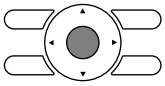


Menu Manipulation

3



- Selecting the desired ventilation mode and pressing Menu/Enter button enters the settings and takes you back to the basic screen.
  (Pressing the Cancel button takes you back to the previous screen without changing the ventilation mode.)



Ventilation Mode

Automatic mode Using information from the air conditioner (cooling, heating, fan, and set temperature) and the total heat exchanger unit (indoor and outdoor temperatures), mode is automatically changed between Heat exchanger and Bypass.

Heat exchange mode Outside air undergoes Heat exchange and is supplied to inside the room.

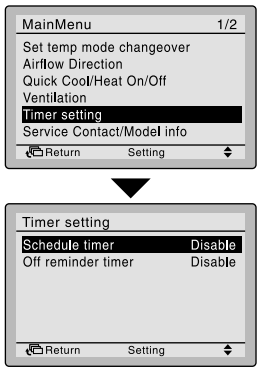
Bypass mode Outside air is supplied to inside the room without undergoing heat exchange.

Timer Settings

■Display method for timer settings screen

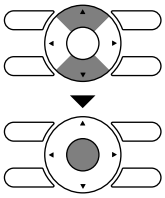
Operation Method

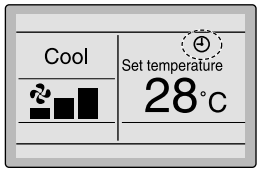
1



- Display the main menu screen.
  (See page 26.)
- Press ▼▲ buttons to select Timer setting on the main menu screen.
  Press Menu/Enter button to display the timer settings screen.

* Currently enabled/disabled is displayed.



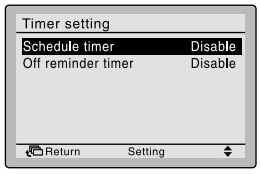


- When either schedule timer or off reminder timer is enabled, ⏲ appears on the basic screen.

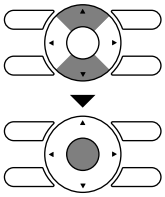
■Setting the schedule timer
Display method for the schedule timer settings screen

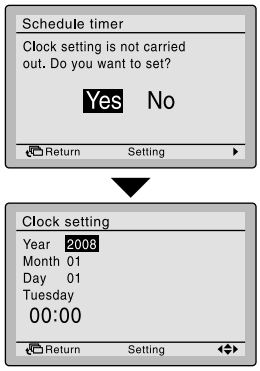
Operation Method The schedule timer can not be enabled when a centralized control is connected.

1

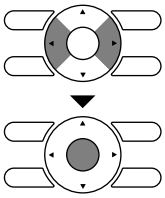


- Bring up the timer settings screen.
  (See page 34.)
- Press ▼▲ buttons to select the Schedule timer on the timer settings screen.
  Press Menu/Enter button to display the schedule timer settings screen.

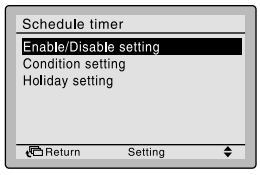




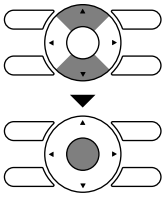
- Before setting the schedule timer, the clock must be set.
- If the clock has not been set, a screen like the one on the left will appear.
  Press ◀▶ buttons to select Yes and press Menu/Enter button.
  Set the current year, month, day, and time.
  (See clock settings on page 48.)



2



- Press ▼▲ buttons to select the desired setting items on the schedule timer settings screen and press Menu/Enter button.



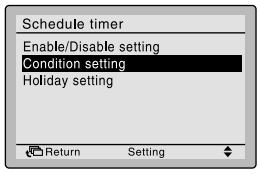
Menu Manipulation

■Schedule timer

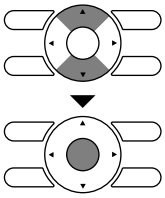
Condition setting

Operation Method

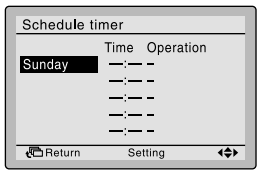
1



- Display the schedule timer settings screen. (See page 35.)
- Press ▼▲ buttons to select Condition setting on the schedule timer settings screen.
  Press Menu/Enter button to display the condition setting screen.

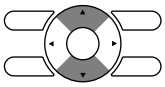


2

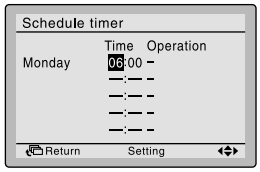


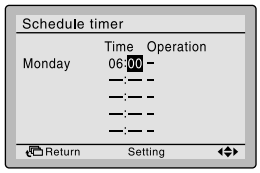
- Press ▼▲ buttons to select the day to be set on the condition setting screen.
- Input the program for the selected day next.

  The schedule timer can accept a maximum of 5 operations per day.

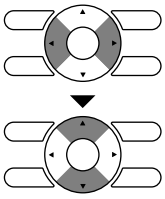


3

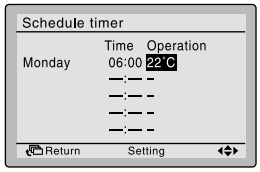


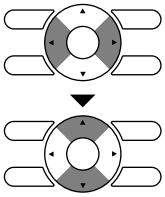


- Press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to input the desired operation start time. Each press of ▼▲ buttons moves the numbers by 1 hour or 1 minute. Holding down the button causes the number to change continuously.



4





- Press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to select the desired operation.

The following three types of operations are available.

*1. switch on the installation at a scheduled time, in combination with a set point (exact temperature control)

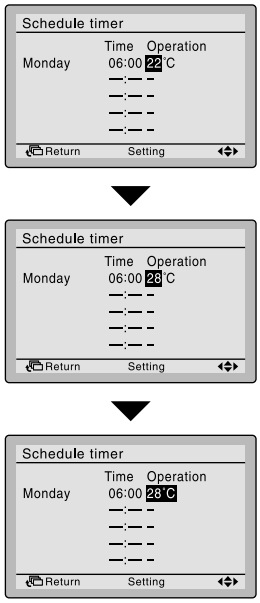
*2. switch on the installation at a scheduled time, in limit operation

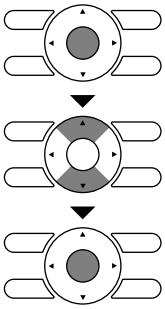
*3. switch off the installation (end of control)

* The status remain unchanged in the case of "–".

The display changes in sequence as shown below when ▼▲ buttons are pressed.

- To make an operation change at set temperature, press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to set the operation to 22°C.

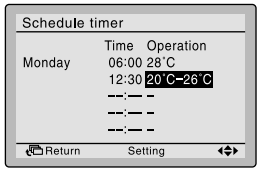




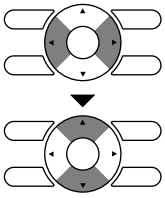
- To change the set temperature, press the Menu/Enter button so that the set temperature will be highlighted and ready to be changed.
- Press ▼▲ buttons to change the set temperature.
  The set temperature will increase by 1°C when the ▲ button is pressed and decrease by 1°C when the ▼ button is pressed.
- Pressing Menu/Enter button enters the set temperature change.

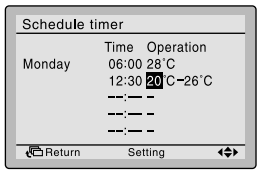
Menu Manipulation

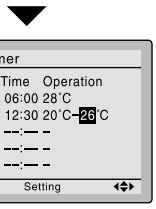
5



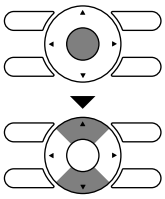
- To make limit operation settings, press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to input the desired set time.
- Press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to set the operation to 20°C - 26°C.

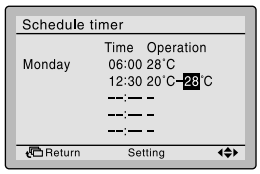


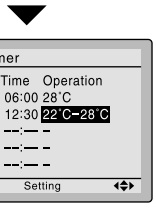




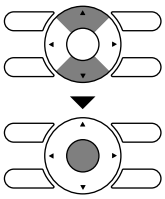
- To change the maximum and minimum temperatures, press the Menu/Enter button so that the temperatures will be ready to be changed.
- Press ◀▶ buttons to select the desired temperature to be changed.







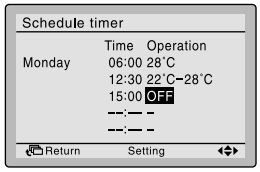
- Press ▼▲ buttons to change the set temperature.
  The set temperature will increase by 1°C when the ▲ button is pressed and decrease by 1°C when the ▼ button is pressed.



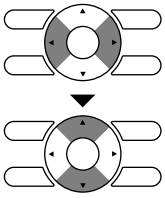
Note
- The difference between the maximum and minimum temperatures cannot be set to less than 6°C.
  (* Maximum temperature – Minimum temperature ≥ 6°C)

- Pressing Menu/Enter button enters the set temperature change.

6

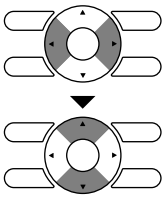


- To make operation stop settings, press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to input the desired operation stop time.
- Press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to turn OFF the operation.



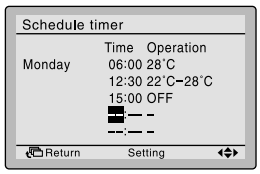
7

- To set a different day of the week, press ◀▶ buttons to highlight the day presently set.
- Press ▼▲ buttons to change the day and input the program in the same manner.

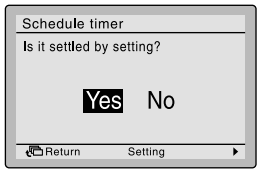


* To copy the settings for the previous day, select the operation mode selector button so that the settings will be copied as they are.
Example: The contents for Monday are copied by pressing the operation mode selector button after selecting Tuesday.

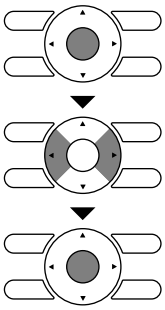
8



- When the entire day settings are completed, highlight the items other than the operation and press the Menu/Enter button.
  The settings confirmation screen will appear.



- Press ◀▶ button to select Yes on the settings confirmation screen.
  Pressing Menu/Enter button enters the schedule timer settings and takes you back to the basic screen.



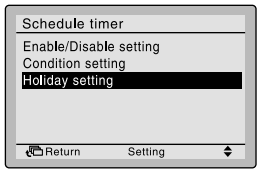
Menu Manipulation

Holiday setting

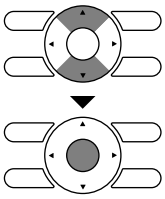
(The schedule timer will be disabled for days that have been set as holiday.)

Operation Method

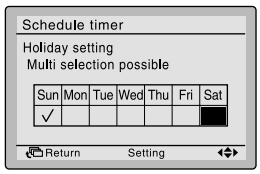
1



- Bring up the schedule timer settings screen. (See page 35.)
- Press ▼▲ buttons to select Holiday setting on the schedule timer settings screen.
  Press Menu/Enter button to display the holiday settings screen.

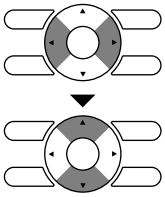


2

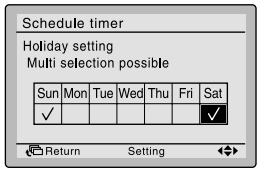


- Press ◀▶ buttons to select the desired day.
  Press ▼▲ buttons to display "✓" to make the holiday settings.
  Pressing ▼▲ buttons switches the setting between set and release.
  Multiple days can be selected as holidays.

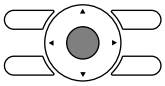
  Note: To able the schedule timer for the day selected as a holiday, the holiday setting must be released.



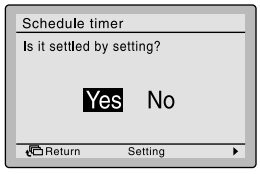
3



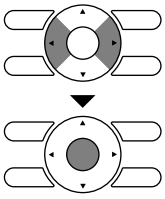
- To complete the holiday settings, press Menu/Enter button.
  The settings confirmation screen will appear.

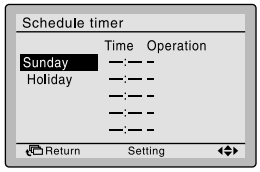


4



- Press ◀▶ button to select Yes on the settings confirmation screen.
  Pressing Menu/Enter button enters the holiday settings and takes you back to the schedule timer settings screen.



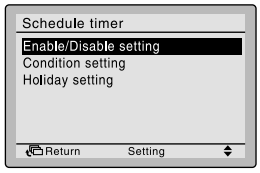


- Holiday that are set will be displayed on the condition settings screen.

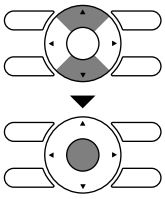
Enabling or disabling the schedule timer without changing the set day or time

Operation Method

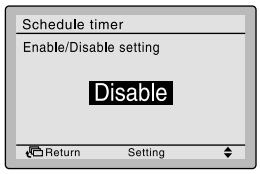
1



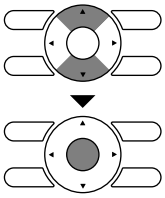
- Bring up the schedule timer settings screen. (See page 35.)
- Press ▼▲ buttons to select Enable/Disable setting on the schedule timer settings screen.
  Press Menu/Enter button to display the enable/disable settings screen.



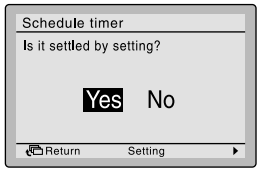
2



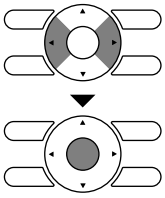
- Press ▼▲ buttons to select Enable or Disable on the enable/disable settings screen.
  Press Menu/Enter button after selecting the item. Then the settings confirmation screen will appear.



3



- Press ◀▶ button to select Yes on the settings confirmation screen.
  Pressing Menu/Enter button enters the enable/disable settings for the schedule timer and takes you back to the basic screen.

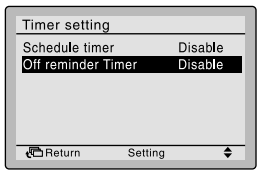


Menu Manipulation

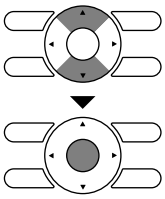
■Making and checking the off reminder timer settings

Operation Method

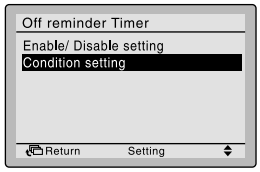
1



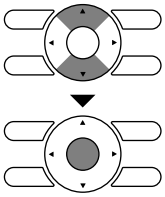
- Bring up the timer settings screen.
  (See page 34.)
- Press ▼▲ buttons to select the Off reminder timer on the timer settings screen.
  Press Menu/Enter button to display the off reminder timer settings screen.



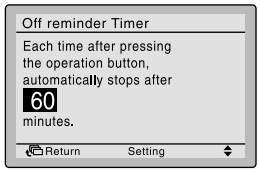
2



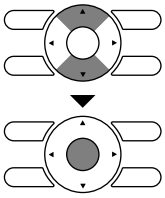
- Press ▼▲ buttons to select Condition setting on the off reminder timer settings screen.
  Press Menu/Enter button to display the condition settings screen.



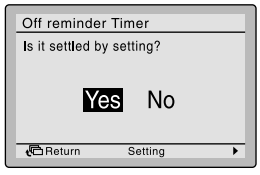
3



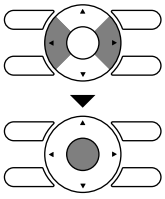
- Use ▼▲ buttons to set the time from operation start until the unit automatically stops.
  Selections can be made in increments of 10 minutes from 30 to 180 minutes.
  Holding down the button causes the number to change continuously.
- Select the desired time and press Menu/Enter button.
  The settings confirmation screen will appear.



4



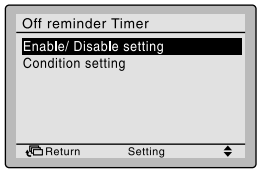
- Press ◀▶ button to select Yes on the settings confirmation screen.
  Pressing Menu/Enter button enters the off reminder timer settings and takes you back to the basic screen.



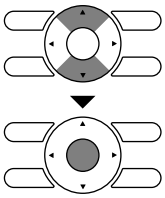
Enabling or disabling the off reminder timer without changing the set time

Operation Method

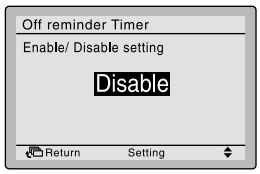
1



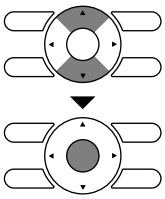
- Bring up the off reminder timer settings screen. (See page 42.)
- Press ▼▲ buttons to select Enable/Disable setting on the off reminder timer settings screen.
  Press Menu/Enter button to display the enable/disable settings screen.



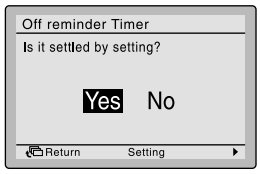
2



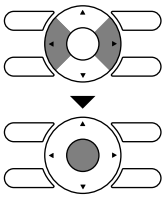
- Press ▼▲ buttons to select Enable or Disable on the enable/disable settings screen.
  Press Menu/Enter button after selecting the item. Then the settings confirmation screen will appear.



3



- Press ◀▶ button to select Yes on the settings confirmation screen.
  Pressing Menu/Enter button enters the enable/disable settings for the off reminder timer settings and takes you back to the basic screen.



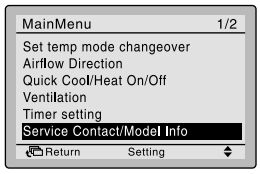
Menu Manipulation

Service Contact/Model Information

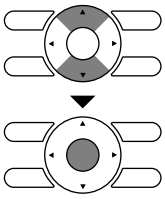
■Display method for service contact and model information

Operation Method

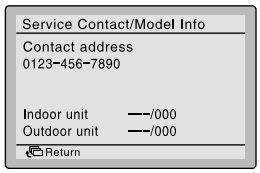
1



- Display the main menu screen.
  (See page 26.)
- Press ▼▲ buttons to select Service Contact/Model Info on the main menu screen and press Menu/Enter button.



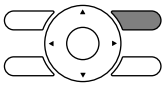
2



- The phone number for the contact address will appear at the top of the screen.
  (If you have not yet registered your product, it will not appear.)
- The model information of the indoor and outdoor units of your product will appear on the bottom of the screen.
  (For some models the product code may appear.)

  * The model name will not appear if you have had the circuit board replaced.

* The error code record may also appear.
  If it is not blinking, the unit is working properly.
  The error code record will disappear if you press On/Off button for more than 4 seconds.

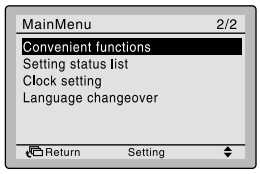


Convenient Functions

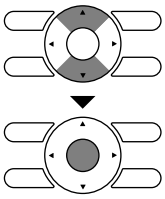
■Contrast Adjustment

Operation Method

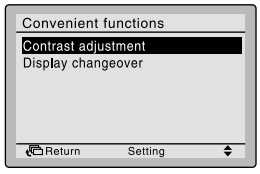
1



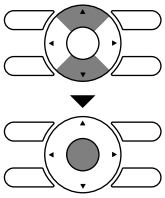
- Display the main menu screen.
(See page 26.)
- Press ▼▲ buttons to select Convenient functions on the main menu screen.
Press Menu/Enter button to display the convenient functions settings screen.



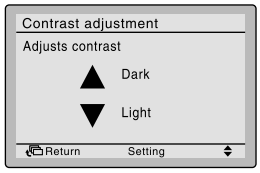
2



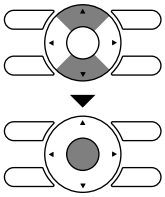
- Bring up the convenient functions settings screen.
- Press ▼▲ buttons to select Contrast adjustment on the convenient functions settings screen.
Press Menu/Enter button to display the convenient functions settings screen.



3



- On the contrast adjustment settings screen press ▼▲ buttons until you reach the desired contrast.
After setting, press Menu/Enter button and return to the basic screen.



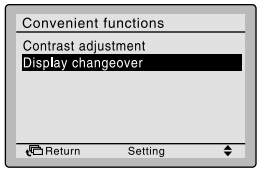
Menu Manipulation

■Display chageover

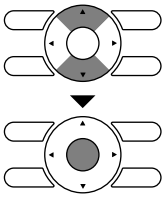
Display selection

Operation Method

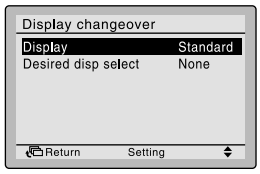
1



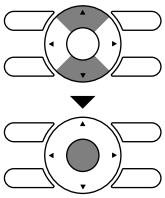
- Bring up the convenient functions settings screen. (See page 45.)
- Press ▼▲ buttons to select Display chageover on the convenient functions settings screen.
  Press Menu/Enter button to display the display selection settings screen.



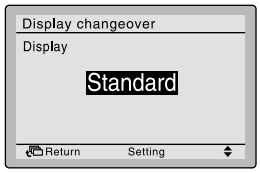
2



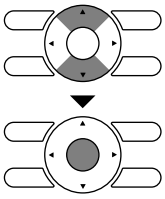
- Press ▼▲ buttons to select Display on the convenient functions settings screen.
  Press Menu/Enter button to display the display settings screen.



3



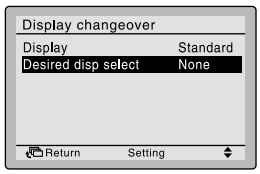
- Press ▼▲ buttons to select Standard or Details on the display settings screen.
- Then, press Menu/Enter button to confirm settings and return to the basic screen.
  * Refer to **Setting the detailed display selection** to change detailed display selection. (See page 47.)



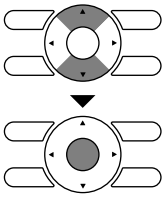
Setting the detailed display selection

Operation Method

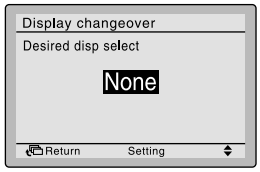
1



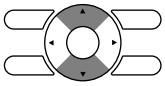
- Bring up the display selection settings screen. (See page 46.)
- Press ▼▲ buttons to select **Desired disp select** on the convenient functions settings screen.
  Press Menu/Enter button to display the detailed display selection screen.



2



- Pressing ▼▲ buttons displays the following.
  None ◂▸* **Outdoor temperature** ◂
  ▸ * **System** ◂▸ **Room temperature** ◂



* Some models may not display these items even if they are selected.

- Be sure to read the following notes regarding display of room temperature and outdoor temperature.

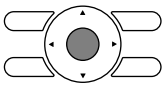
Room temperature

..... An estimate of the temperature near the remote controller.
The temperature that is detected may be affected by the location of the unit.

Outdoor temperature

..... An estimate of the temperature near the outdoor unit.
The temperature that is detected may be affected by factors such as the location of the unit (if it is in direct sunlight, for e.g.) and unit operation during defrosting.

- After setting, press Menu/Enter button to confirm settings and return to the basic screen.



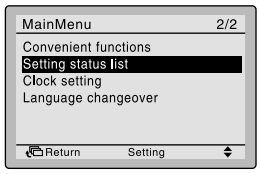
Menu Manipulation

Setting Status List

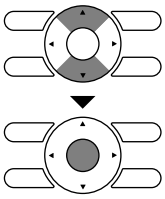
■Manipulating the setting status list

Operation Method

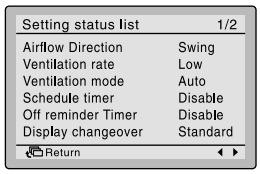
1



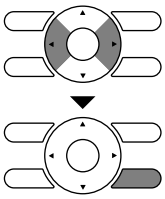
- Display the main menu screen. (See page 26.)
- Press ▼▲ buttons to select Setting status list on the main menu screen and press Menu/Enter button.



2



- A list showing the current setting status will appear.
  Press ◀▶ buttons to go to the next item.
- Pressing Cancel button takes you back to the main menu screen.



Display items

Airflow direction	Off reminder timer
Ventilation rate	Quick Cool/Heat
Ventilation mode	Display changeover
Schedule timer	Desired disp select

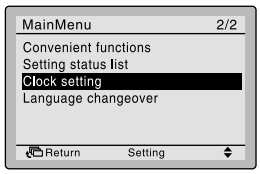
* Display items may differ depending on the model.
Only the items that can be set are displayed.

Clock Setting

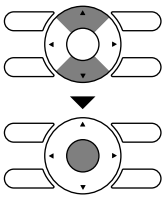
■Setting the clock

Operation Method

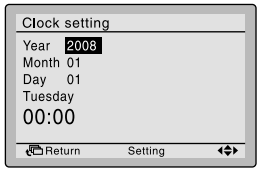
1



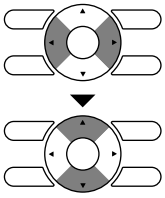
- Display the main menu screen. (See page 26.)
- Press ▼▲ buttons to select Clock setting on the main menu screen.
  Press Menu/Enter button to display the clock settings screen.



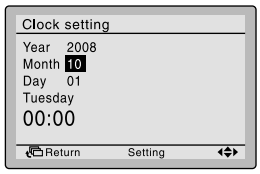
2



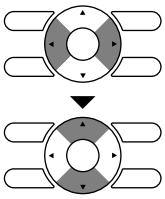
- Select “Year” with ◀▶buttons.
  Input the year with ▼▲buttons.
  Holding down the button causes the number to change continuously.



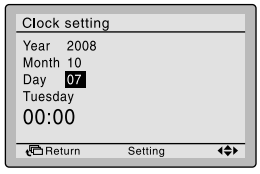
3



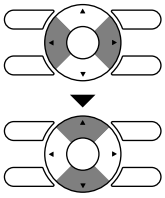
- Select “Month” with ◀▶buttons.
  Input the month with ▼▲buttons.
  Holding down the button causes the number to change continuously.



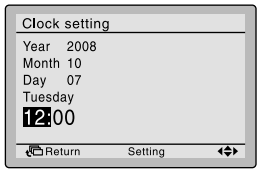
4



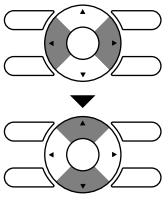
- Select “Day” with ◀▶buttons.
  Input the day with ▼▲buttons.
  Holding down the button causes the number to change continuously.
  Days of the week change automatically.



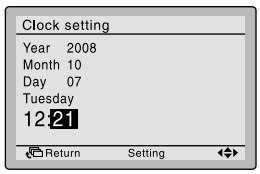
5



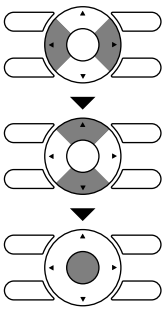
- Select “Hour” with ◀▶buttons.
  Input the hour with ▼▲buttons.
  Holding down the button causes the number to change continuously.



6



- Select “Minute” with ◀▶ buttons.
  Input the minute with ▼▲buttons.
  Holding down the button causes the number to change continuously.
- Press Menu/Enter button.
  The settings confirmation screen will appear.

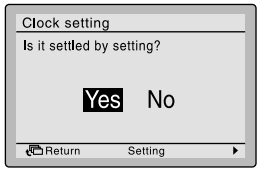


Note:

The date can be set between January 1, 2008 and December 31, 2099.

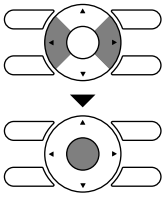
Menu Manipulation

7



- Press ◀▶ button to select Yes on the settings confirmation screen.
  Press Menu/Enter button to set the clock and return to the basic screen.

  * When setting schedule timer, the display return to the settings screens.



Caution

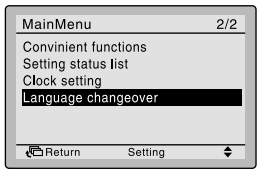
■ Daylight Saving Time
Caution : The following period has adopted Daylight Saving Timer.
[Start] Last Sunday, March AM 2:00
[End] Last Sunday, October AM 3:00
Please consult with your Daikin dealer to change a setup.

Language changeover

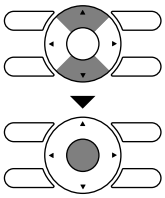
■Selectable languages

Operation Method

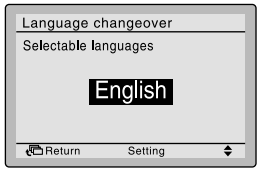
1



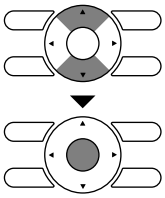
- Display the main menu screen.
  (See page 26.)
- Press ▼▲ buttons to select Language changeover on the main menu screen and press the Menu/Enter button.



2



- Press ▼▲ buttons to select “Language” on the language changeover screen. English/Deutsch/Français/Español/ Italiano/Ελληνικά/Nederlands/ Portugues/Русский/Türkçe
- Pressing Menu/Enter button to confirm settings and return to the basic screen.

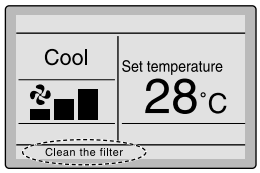


Maintenance

Filter Sign Resetting

Operation Method

1

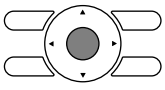


- When the time to clean the filter or element has come, one of the following messages will appear on the bottom of the basic screen.
  “Clean the filter”
  “Clean the filter and element”
  “Clean the element”

- Wash, clean, or replace the filter or element. For details, refer to the operation manual of the indoor unit.

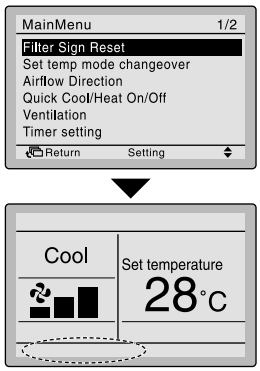
2

- Reset the filter sign when the filter or element is washed, cleaned, or replaced.
- Press Menu/Enter button.
  The main menu screen will appear.

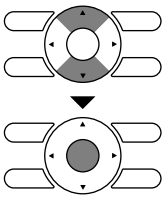


Maintenance

3



- Press ▼▲ buttons to select Filter Sign Reset on the main menu screen and press Menu/Enter button.



- The display shown in *1* will disappear from the basic screen when the filter sign is reset.

⚠ Caution

- **Do not wash the remote controller.**
  Doing so may cause electric leakage and result in electric shocks or fire.

- **Be sure to stop the operation of the air conditioner and turn off the power supply breaker at the time of maintenance.**
  Failure to do so may result in electric shocks or injury.

Maintenance of Unit and LCD

- Wipe the LCD and other surface part of the remote controller with a dry cloth when they become dirty.
- If the dirt on the surface cannot be removed, soak the cloth in neutral detergent diluted with water, squeeze the cloth tightly, and clean the surface. Wipe the surface with a dry cloth then.

Note

- Do not use any paint thinner, organic solvent, or strong acid.

⚠ Warning

- **Do not use flammable materials (e.g., hairspray or insecticide) near the air conditioner.**
  Do not clean the product with organic solvents such as benzine or paint thinner.
  The use of organic solvents may cause crack damage to the product, electric shocks, or fire.

Useful Information

Error code Display

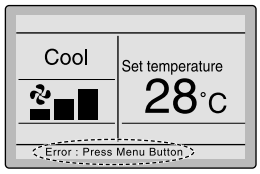
■Contact your Daikin dealer in the following cases

⚠ Warning

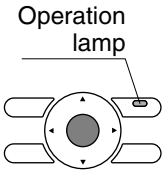
- **When the air conditioner is malfunctioning (e.g., giving off a burning odor), stop the air conditioner and turn off power.**
  Continued operation under such circumstances may result in failure, electric shocks, or fire. Contact your Daikin dealer.

Operation Method

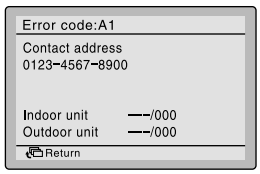
1



- If an error occurs, either one of the following items will blink in the basic screen.
  "Error: Press Menu Button."
  * The operation indicator will blink.
  "Warning: Press Menu Button."
  * The operation indicator will not blink.
- Press Menu/Enter button.



2

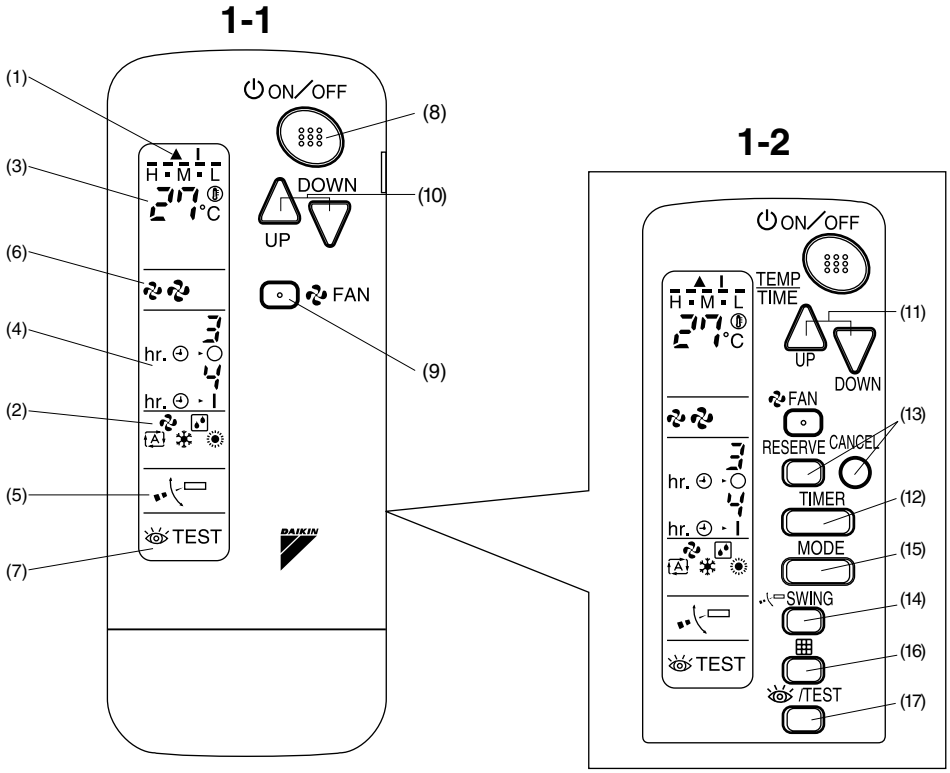


- The error code blinks and the contact address and model name will appear.
- Notify your Daikin dealer of the Error code and Model name.

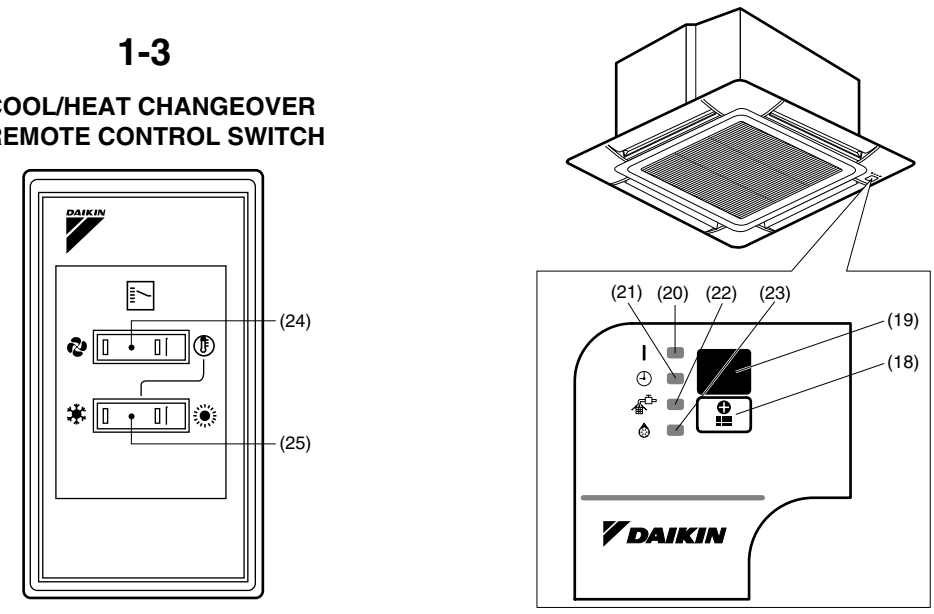
4PWEN52911-1

4.3 BRC7E530W, BRC7F532F, BRC7EA63W

★The illustrations of indoor unit are for FFQ model as representative.



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 " " " " " " " " " " (OPERATION MODE)**
	This display shows the current OPERATION MODE. For cooling only type, " " (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 hr. 4 " (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.

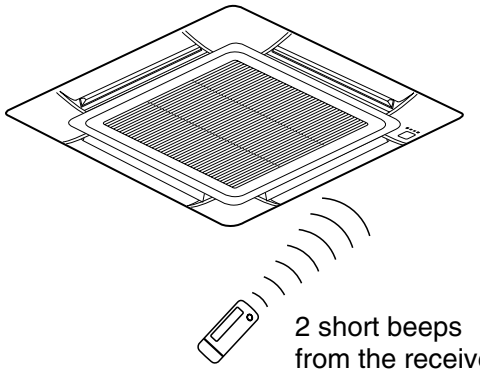
19	**RECEIVER**
	This receives the signals from the remote controller.
20	**OPERATING INDICATOR LAMP (Red)**
	This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.
21	**TIMER INDICATOR LAMP (Green)**
	This lamp stays lit while the timer is set.
22	**AIR FILTER CLEANING 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.

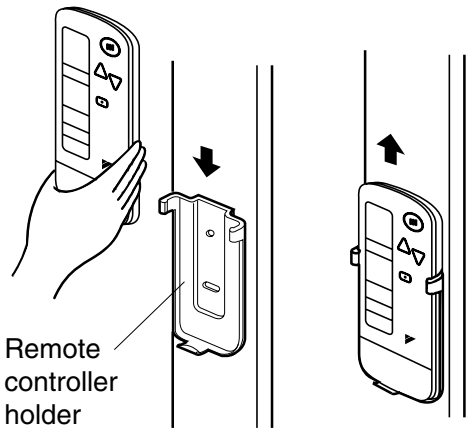
Installation site

- 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

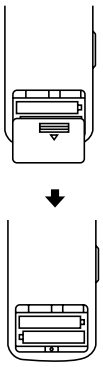


How to put the dry batteries

(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.....
- 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.

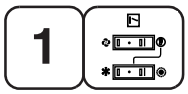
ON/OFF

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

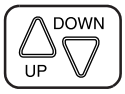
• As the frost on the coil of an outdoor unit increase, heating effect decreases and the system goes into DEFROST OPERATION.
• The fan operation stops and the DEFROST lamp of the indoor unit goes on. After 6 to 8 minutes (maximum 10 minutes) of DEFROST OPERATION, the system returns to HEATING OPERATION.

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.

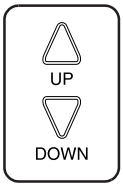
ADJUSTMENT

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



TEMPERATURE SETTING

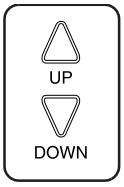
Press TEMPERATURE SETTING button and program the setting temperature



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

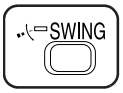
• The setting is impossible for fan operation.

NOTE

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

FAN SPEED CONTROL

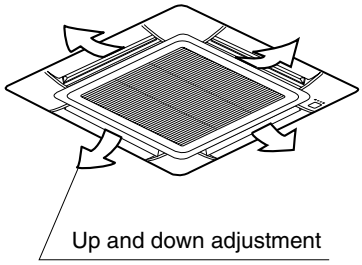
Press FAN SPEED CONTROL button.
High or Low fan speed can be selected.
The micro computer may sometimes control the fan speed in order to protect the unit.



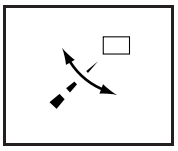
AIR FLOW DIRECTION ADJUST

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

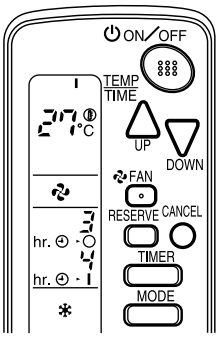
Press the TIMER RESERVE button.

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

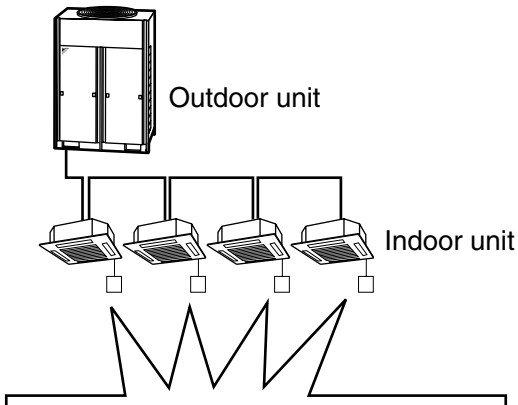
- When the timer is programmed to stop the system after 3 hours and start the system after 4 hours, the system will stop after 3 hours and then 1 hour later the system will start.
- After the timer is programmed, the display shows the remaining time.

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.

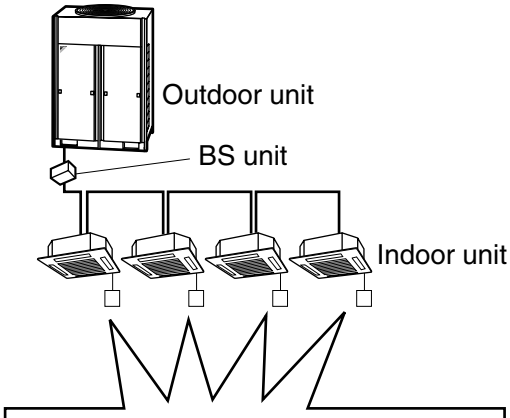
■ For Heat pump system

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.

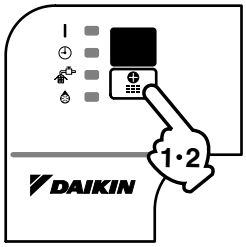
EMERGENCY OPERATION

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.

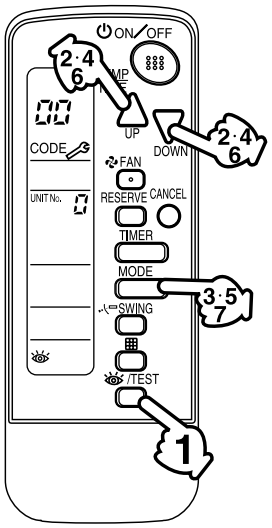
6 UP DOWN

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.

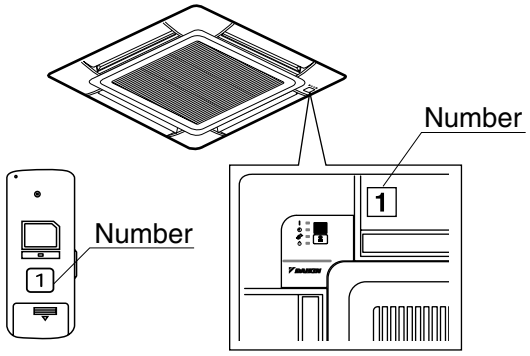
7 MODE **Reset of the display**

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.

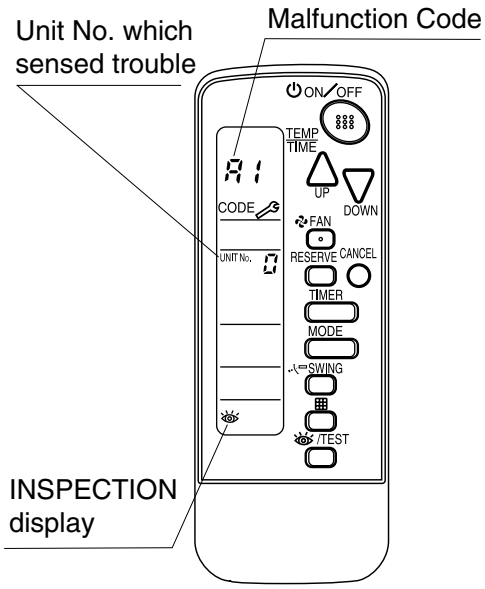
Contact the place of purchase in the following case.

⚠ 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

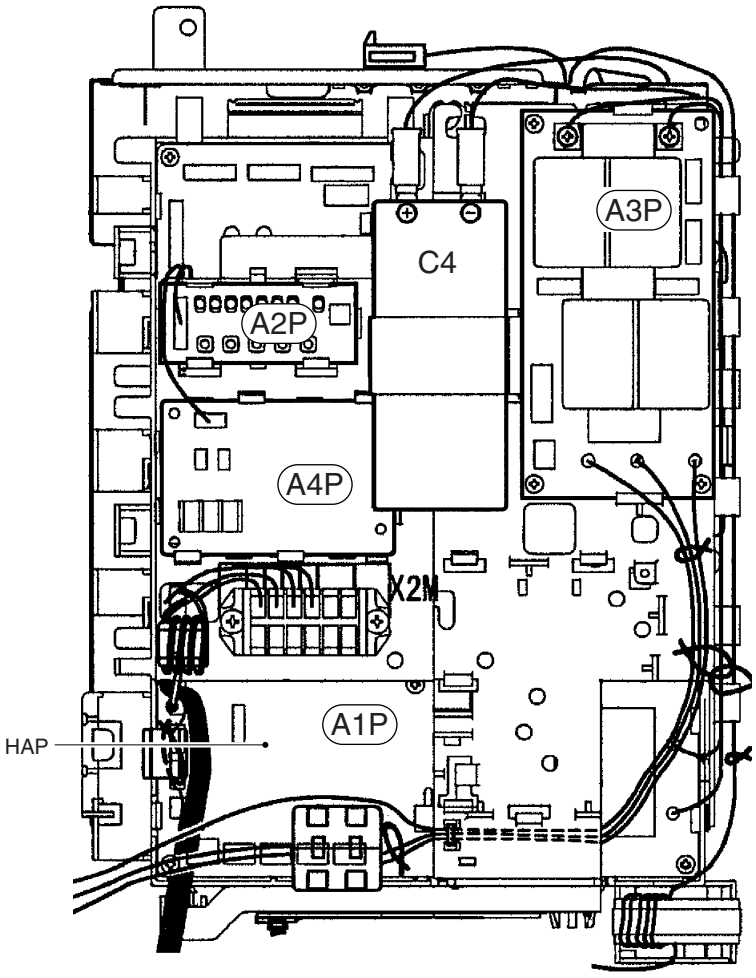
Part 8
Troubleshooting

1. Troubleshooting with LED

1.1 Outdoor Unit

1.1.1 Main PCB (A1P)

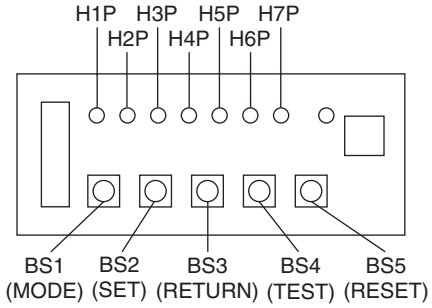
The main PCB (A1P) has a green LED (HAP). When the microcomputer works in order, the LED blinks.



(R13068)

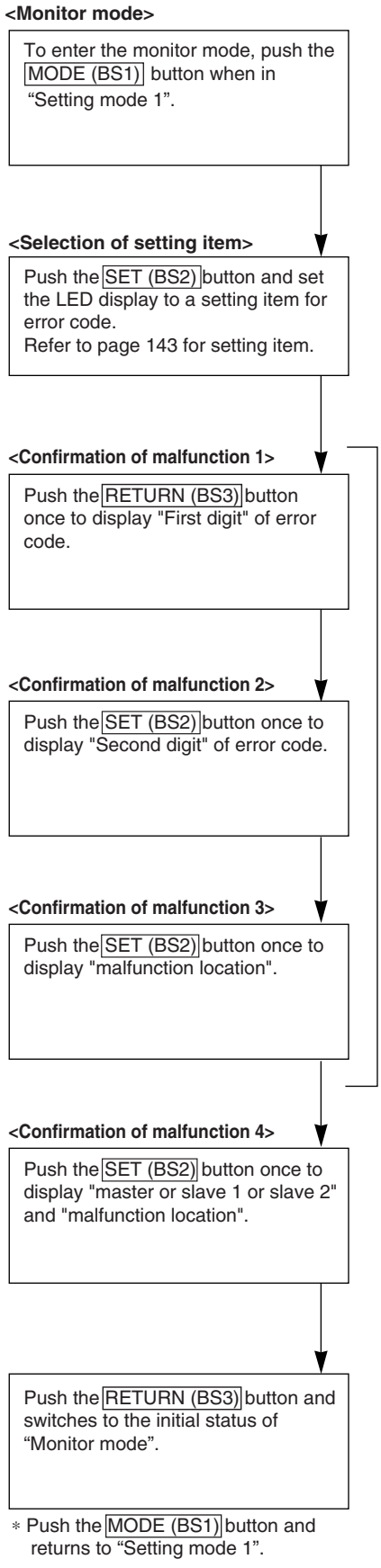
1.1.2 Service PCB (A2P)

The service PCB (A2P) has orange LEDs (H1P ~ H7P). You can identify the error code with these LEDs in monitor mode.



(R13069)

Error code indication in monitor mode



Detail description on next page.

Contents of malfunction		Error code
Outdoor unit PCB abnormality	Detection of DIII-Net	E1
Actuation of high pressure switch	High pressure switch activated (S1PH)	E3
Actuation of low pressure switch	Abnormal Pe	E4
Compressor motor lock	Detection of compressor lock	E5
Outdoor fan motor abnormality	Detection of fan motor lock (M1F)	E7
	Detection of fan motor lock (M2F)	
Moving part of electronic expansion valve (Y1E, Y3E) abnormality	Y1E (main)	E9
	Y3E (subcooling)	
Outdoor temperature thermistor (R1T) abnormality	Short or open circuit (R1T)	H9
Discharge pipe temperature abnormality	Abnormal Td	F3
Refrigerant overcharged	Refrigerant overcharge	F6
Discharge pipe thermistor (R2T) abnormality	Short or open circuit (R2T)	J3
Suction pipe thermistor (R3T, R5T) abnormality	Short or open circuit (suction 1: R3T)	J5
	Short or open circuit (suction 2: R5T)	
Outdoor heat exchanger thermistor (R4T) abnormality	Short or open circuit (R4T)	J6
Outdoor liquid pipe thermistor (R7T) abnormality	Short or open circuit (R7T)	J7
Subcooling heat exchanger gas pipe thermistor (R6T) abnormality	Short or open circuit (R6T)	J9
High pressure sensor abnormality	Short or open circuit (S1NPH)	JA
Low pressure sensor abnormality	Short or open circuit (S1NPL)	JC
Outdoor unit PCB abnormality	Faulty IPM	L1
	Abnormal current sensor offset	
	Abnormal IGBT	
	Faulty current sensor	
	Abnormal SP-PAM overvoltage	
Radiation fin temperature rise	Overheating (FINTH)	L4
Inverter compressor abnormality	Inverter instantaneous overcurrent	L5
Inverter current abnormality	Electronic thermal switch 1	L8
	Electronic thermal switch 2	
	Out-of-step	
	Speed down after startup	
	Lightening detection	
Inverter start-up error	Stall prevention (Current increasing)	L9
	Stall prevention (Faulty start up)	
	Abnormal waveform in startup	
	Out-of-step	

○ : ON ● : OFF ◑ : Blink

Error code	Confirmation of malfunction 1							Confirmation of malfunction 2							Confirmation of malfunction 3							Confirmation of malfunction 4						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P
E1	◑			●	●	◑	◑	◑			●	●	●	◑	◑	○	●	●	●	●	●	◑	○	○	●	●	◑	◑
E3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		
E4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●		
E5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
E7								◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	◑	∗1	
															◑			●	●	●	◑	◑			●	◑		
E9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			◑	●		
H9	◑			●	◑	●	●	◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●	∗1	
F3	◑			●	◑	●	◑	◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●	∗1	
F6								◑			●	◑	◑	●	◑			●	●	●	●	◑			●	●	◑	◑
J3	◑			●	◑	◑	●	◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		
J5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
J6								◑			●	◑	◑	●	◑			●	●	●	●	◑			●	●	∗1	
J7								◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	●		
J9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
JA								◑			◑	●	◑	●	◑			●	●	●	●	◑			●	●		
JC								◑			◑	◑	●	●	◑			●	●	●	●	◑			●	●		
L1	◑			●	◑	◑	◑	◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	●	●
								◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	●	◑
								◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	◑	●
								◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	◑	◑
								◑			●	●	●	◑	◑			●	●	●	●	◑			●	◑	●	●
L4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●		
L5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
L8								◑			◑	●	●	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●	∗1	
															◑			●	●	●	◑	◑			●	●		
L9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●		

Display of contents of malfunction (first digit)

Display of contents of malfunction (second digit)

Display 1 of malfunction in detail

Display 2 of malfunction in detail

∗1		
	● ●	Master
	● ◑	Slave1
	◑ ●	Slave2
	◑ ◑	System

<Monitor mode>

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

<Selection of setting item>

Push the SET (BS2) button and set the LED display to a setting item for error code.
Refer to page 143 for setting item.

<Confirmation of malfunction 1>

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

<Confirmation of malfunction 2>

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

Detail description on next page.

<Confirmation of malfunction 3>

Push the SET (BS2) button once to display "malfunction location".

<Confirmation of malfunction 4>

Push the SET (BS2) button once to display "master or slave 1 or slave 2" and "malfunction location".

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

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

Contents of malfunction		Error code
High voltage of capacitor in main inverter circuit	Imbalance of inverter power supply voltage	P1
Radiation fin thermistor abnormality	Faulty thermistor of inverter fin	P4
Low pressure drop due to refrigerant shortage or electronic expansion valve abnormality	Refrigerant shortage alarm	U0
Power supply insufficient or instantaneous failure	Insufficient Inverter voltage	U2
	Faulty charge of capacitor in main inverter circuit	
	Malfunction due to SP-PAM overvoltage	
	Malfunction due to P-N short circuit	
Check operation is not conducted.		U3
Transmission error between indoor unit and BP unit	I/O transmission error	U4
	I/O transmission error	
Transmission error between indoor unit and outdoor unit in the same system	Indoor unit system abnormal in other system or other indoor unit system abnormal in own system	U9
Field setting switch abnormality or Excessive number of indoor unit	System transmission malfunction	UA
	Overconnection malfunction of indoor units	
	Malfunction of field setting	
	Refrigerant abnormal	
	Connection error (BP unit)	
System abnormality refrigerant system address undefined	Wiring error (Auto-address error)	UH
System is not set yet	Conflict in wiring and piping	UF

○ : ON ● : OFF ◑ : Blink

Error code	Confirmation of malfunction 1							Confirmation of malfunction 2							Confirmation of malfunction 3								Confirmation of malfunction 4						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P
P1	◑			◑	●	●	●	◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	∗1	
P4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●		
U0	◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●	●	●	◑			●	●	◑	◑
U2								◑			●	●	◑	●	◑			●	●	●	●	◑			●	●	∗1	
															◑			●	●	●	●				●	◑		
															◑			●	●	●	●	◑			●	●	◑	●
															◑			●	●	●	●	◑			●	●	●	◑
U3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
U4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
U9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●	◑	◑
UA								◑			◑	●	◑	●	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
															◑			●	●	●	●	◑			◑	●	◑	◑
															◑			●	●	●	◑	◑			●	●	◑	◑
															◑			●	●	◑	●	◑			●	◑	◑	◑
UH								◑			◑	●	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑
UF								◑			◑	◑	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑

Display of contents of malfunction (first digit)

Display of contents of malfunction (second digit)

Display 1 of malfunction in detail

Display 2 of malfunction in detail

∗1		
●	●	Master
●	◑	Slave1
◑	●	Slave2
◑	◑	System

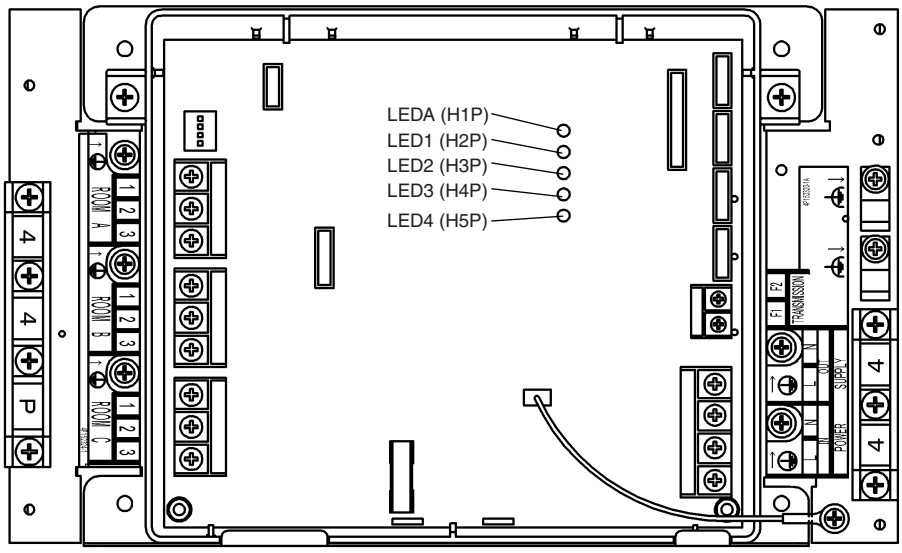
1.2 BP Unit

☼: ON, ●: OFF, ◑: Blinks, —: No matter

Green : Blinks in normal condition
Red : OFF in normal condition

BP Unit LED Indication					Description
Green	Red				
A	1	2	3	4	
◑	●	●	●	●	Normal condition
◑	☼	●	●	●	Defective electronic expansion valve or anti-icing control in non-operating indoor unit
◑	☼	☼	●	●	Defective thermistor
◑	☼	●	☼	☼	Freeze-up protection control in operating indoor unit or standby indoor unit
☼	—	—	—	—	Defective BP unit PCB (see note.)
●	—	—	—	—	Power supply abnormality (see note.)

Note: Turn the power off then on again. If the LED display recurs, the BP unit PCB is defective.



(Q0395)

1.3 Indoor Unit

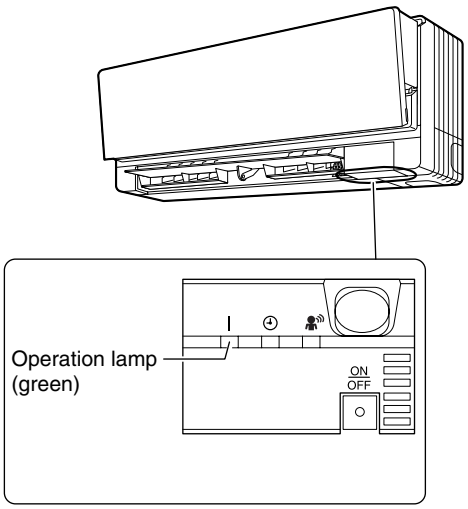
1.3.1 Operation Lamp

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.

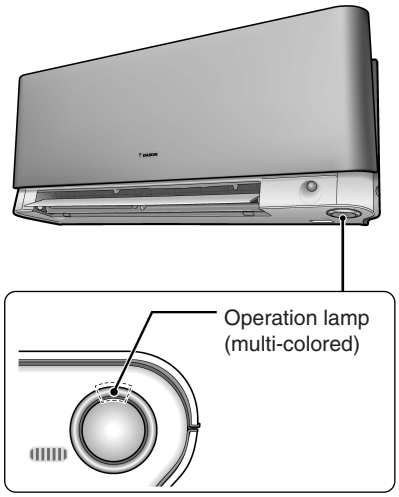
In either case, conduct the diagnostic procedure described in the following pages.

Wall Mounted Type E-Series



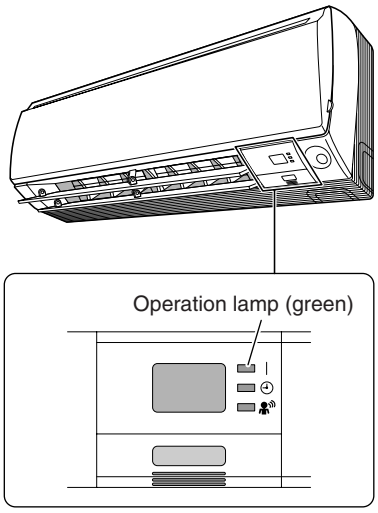
(R12749)

Wall Mounted Type J-Series



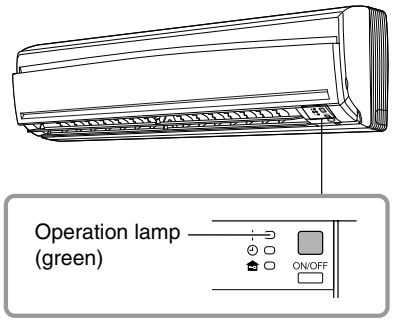
(R12750)

Wall Mounted Type G-Series 20-50 Class



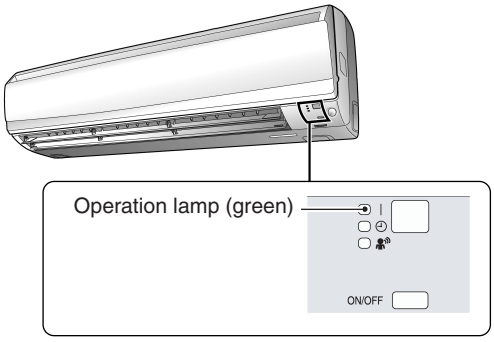
(R12187)

Wall Mounted Type F-Series



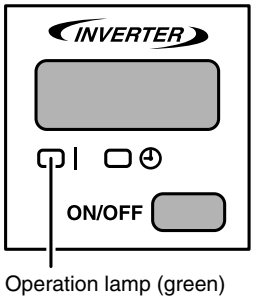
(R11686)

Wall Mounted Type G-Series 60/71 Class



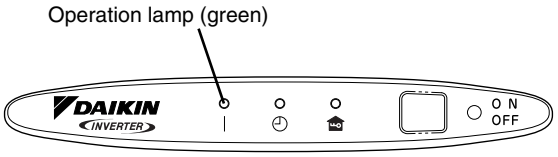
(R11689)

Floor Standing Type



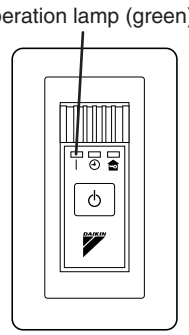
(R11687)

Floor / Ceiling Suspended Dual Type



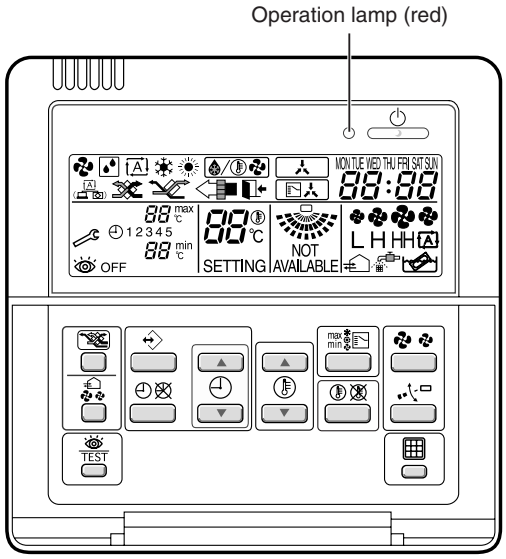
(R11688)

Duct Connected Type



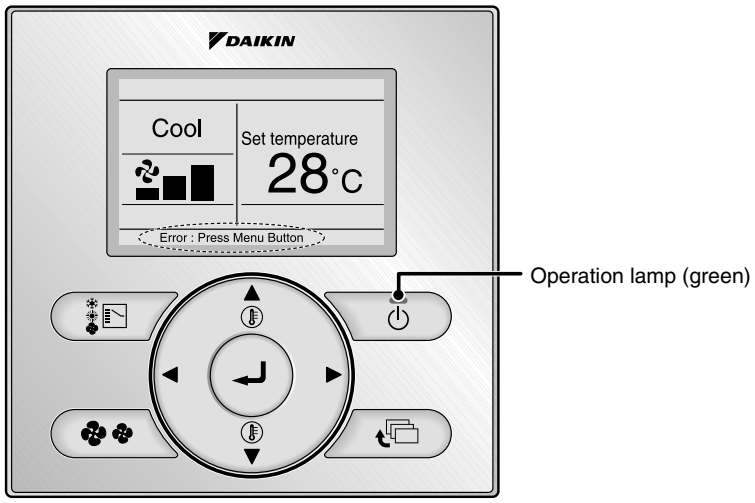
(Q0340)

BRC1D528



(R12851)

BRC1E51A7



★ The error or warning message also blinks on the basic screen.

(R12852)

BRC7E530W, BRC7F532F, BRC7EA63W

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.)

1.3.2 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.

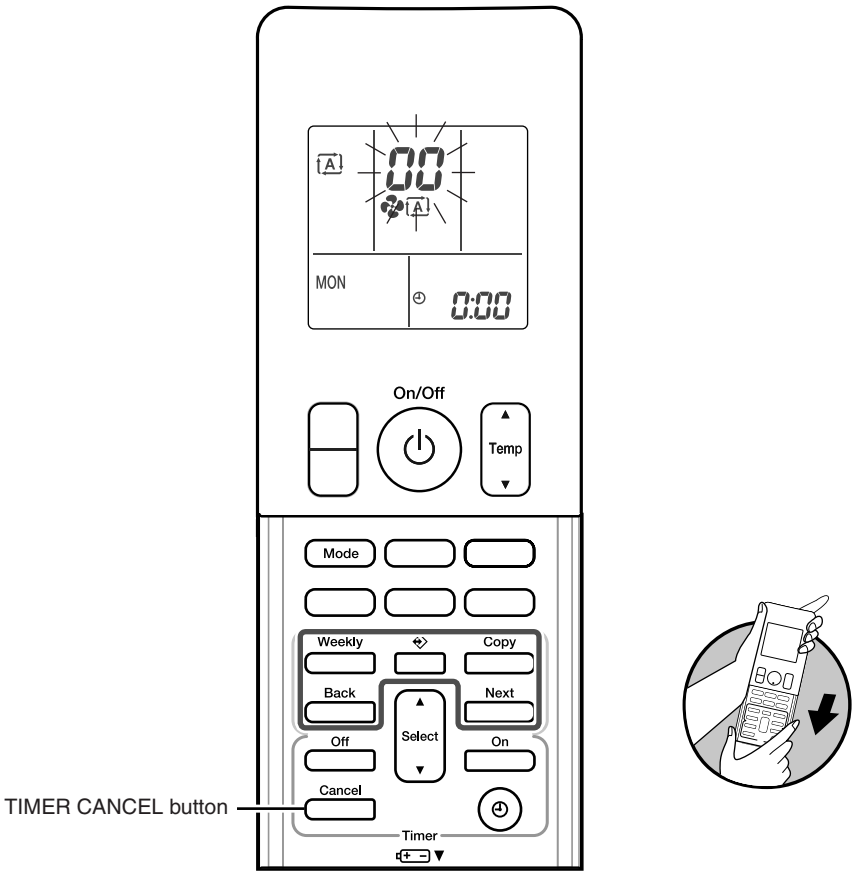
2. Service Check Function

2.1 RA Indoor Unit - F(C)TXG, FTXS, FVXS, FLXS, FDXS Series

2.1.1 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 >

(R11668)

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

■ The code indication changes in the sequence shown below.

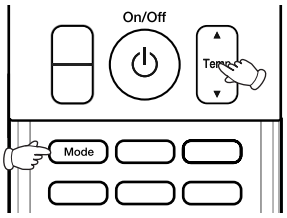
No.	Code	No.	Code	No.	Code
1	00	13	C7	25	U8
2	U4	14	A3	26	UR
3	L5	15	R8	27	P4
4	E6	16	R9	28	L3
5	R6	17	C9	29	L4
6	R0	18	C4	30	R7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1	35	H1
12	F6	24	E1	36	P9

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.

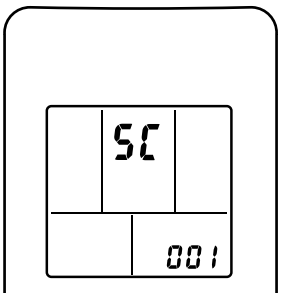
Check Method 2

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



(R11669)

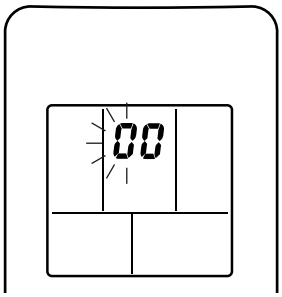
"SC" is displayed on the LCD.



(R11821)

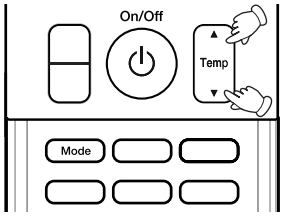
2. Select "SC" (service check) with the Temp▲ or ▼ button.

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



(R11670)

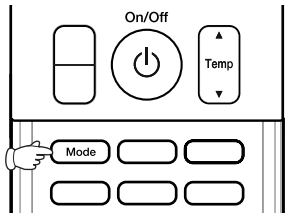
4. Press the Temp▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R11671)

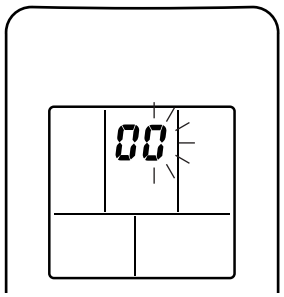
5. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 350, 351.)

6. Press the Mode button.



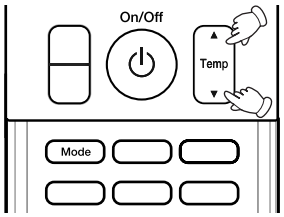
(R11672)

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".

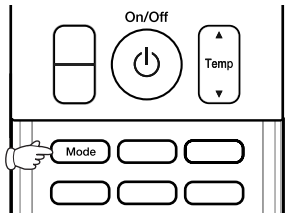


(R11671)

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 350, 351.)

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.)

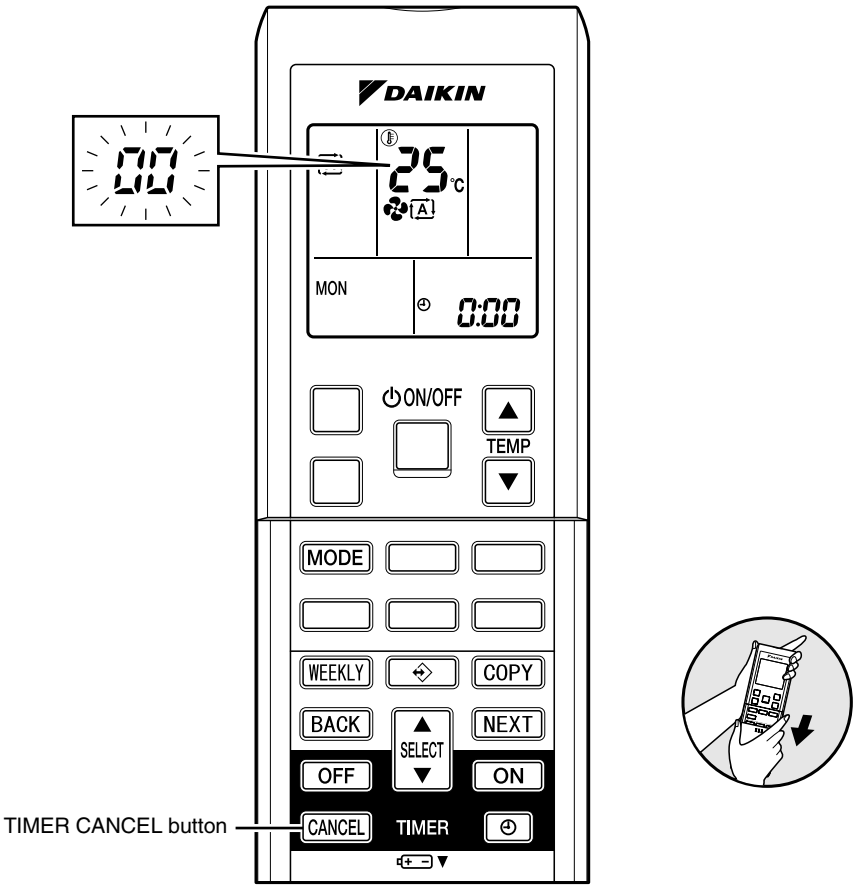


(R11672)

2.1.2 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 >

(R11385)

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

■ The code indication changes in the sequence shown below.

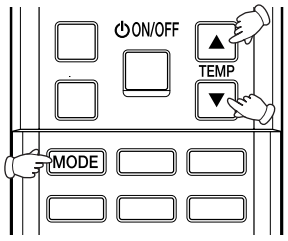
No.	Code	No.	Code	No.	Code
1	00	13	C7	25	UA
2	U4	14	A3	26	UH
3	L5	15	H8	27	P4
4	E6	16	H9	28	L3
5	H6	17	C9	29	L4
6	H0	18	C4	30	H7
7	A6	19	C5	31	U2
8	E7	20	J3	32	EA
9	U0	21	J6	33	AH
10	F3	22	E5	34	FA
11	A5	23	A1		
12	F6	24	E1		

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.

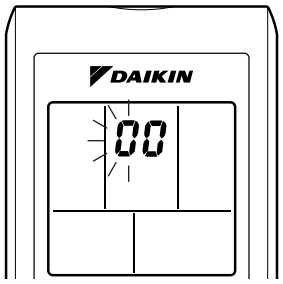
Check Method 2

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



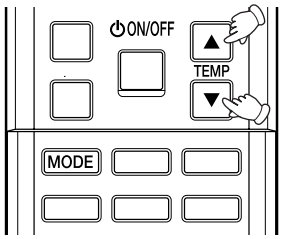
(R8381)

The figure of the ten's place blinks.



(R8382)

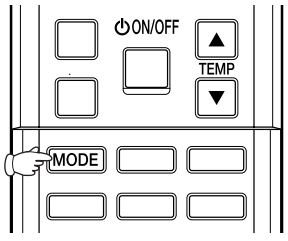
2. Press the TEMP▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R8383)

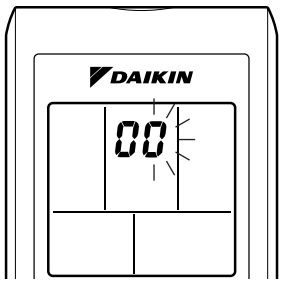
3. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 350, 351.)

4. Press the MODE button.



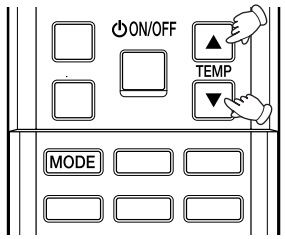
(R8384)

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”.

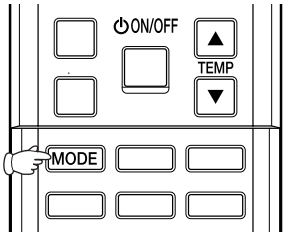


(R8383)

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.

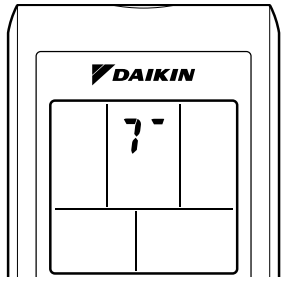
7. Determine the error code.
   The figures indicated when you hear the “beep” sound are error code.
   (Error codes and description → Refer to page 350, 351.)

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



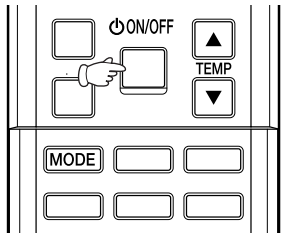
(R8384)

   The display “ ｱｰ ” means the trial operation mode.
   (Refer to page 132 for trial operation.)



(R9659)

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



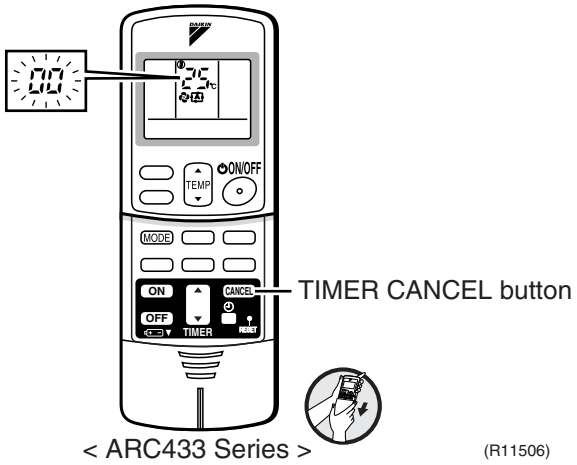
(R9660)

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

2.1.3 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.



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, B69, B70>

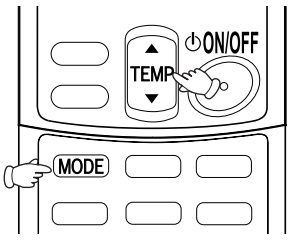
No.	Code	No.	Code	No.	Code
1	00	12	C7	23	H0
2	U4	13	H8	24	E1
3	F3	14	J3	25	P4
4	E6	15	A3	26	L3
5	L5	16	A1	27	L4
6	A6	17	C4	28	H6
7	E5	18	C5	29	H7
8	F6	19	H9	30	U2
9	C9	20	J6	31	UH
10	U0	21	UA	32	EA
11	E7	22	A5	33	AH

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.

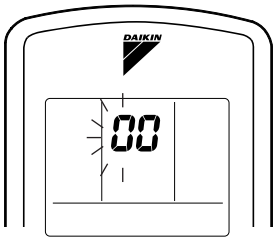
Check Method 2

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



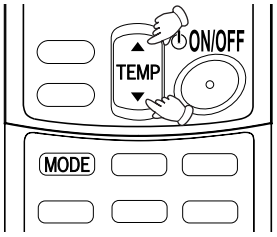
(R4272)

The figure of the ten's place blinks.



(R4273)

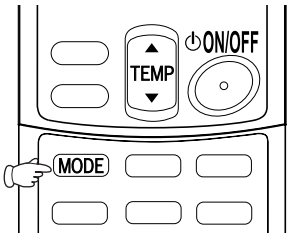
2. Press the TEMP▲ or ▼ button and change the figure until you hear the sound of "beep" or "pi pi".



(R4274)

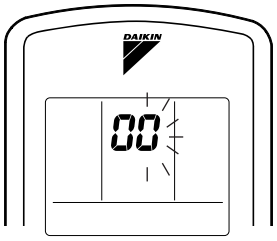
3. Diagnose by the sound.
   ★"pi" : The figure of the ten's place does not accord with the error code.
   ★"pi pi" : The figure of the ten's place accords with the error code but the one's not.
   ★"beep" : The both figures of the ten's and one's place accord with the error code.
   (The figures indicated when you hear the "beep" sound are error code.
   → Refer to page 350, 351.)

4. Press the MODE button.



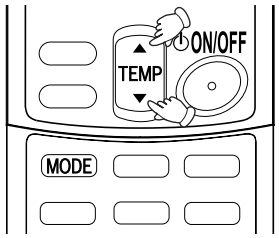
(R4275)

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”.

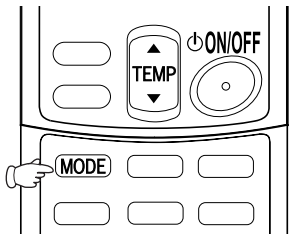


(R4277)

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.

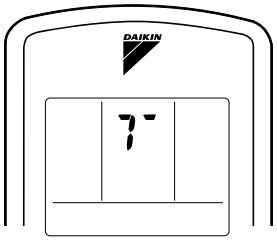
7. Determine the error code.
   The figures indicated when you hear the “beep” sound are error code.
   (Error codes and description → Refer to page 350, 351.)

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



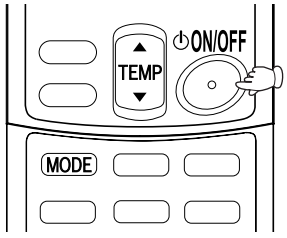
(R4278)

   The display “ ｱｰ ” means the trial operation mode.
   (Refer to page 132 for trial operation.)



(R9669)

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



(R9670)

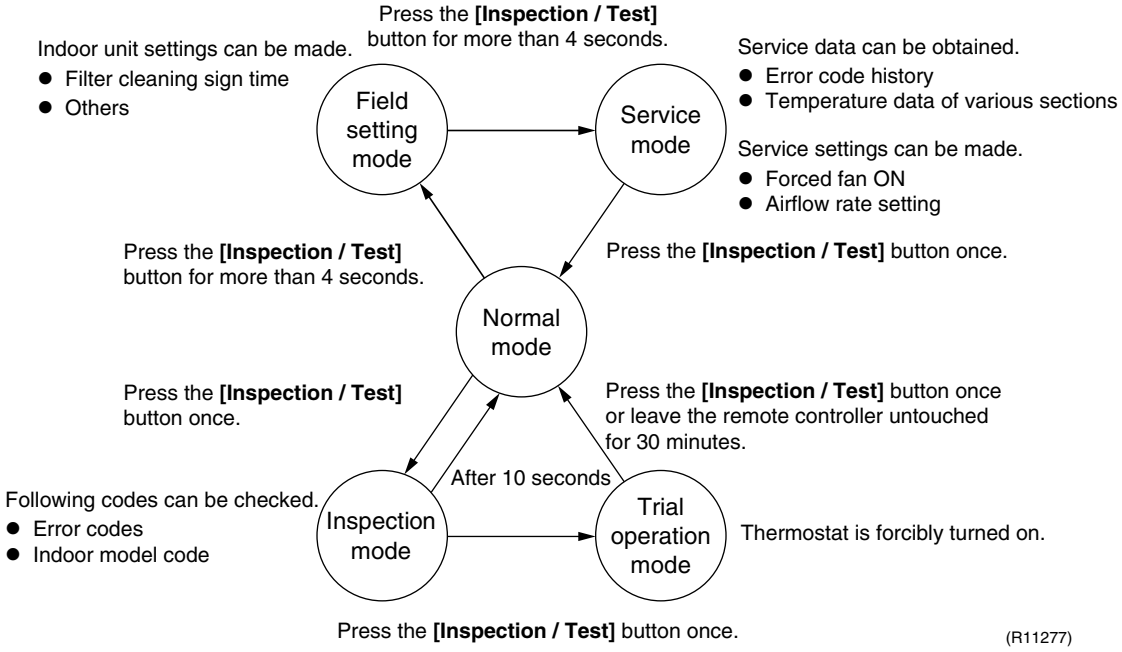
Note: When the remote controller is left untouched for 60 seconds, it returns to the normal mode.

2.2 SA Indoor Unit - FFQ, FCQ, FDBQ, FBQ, FHQ Series

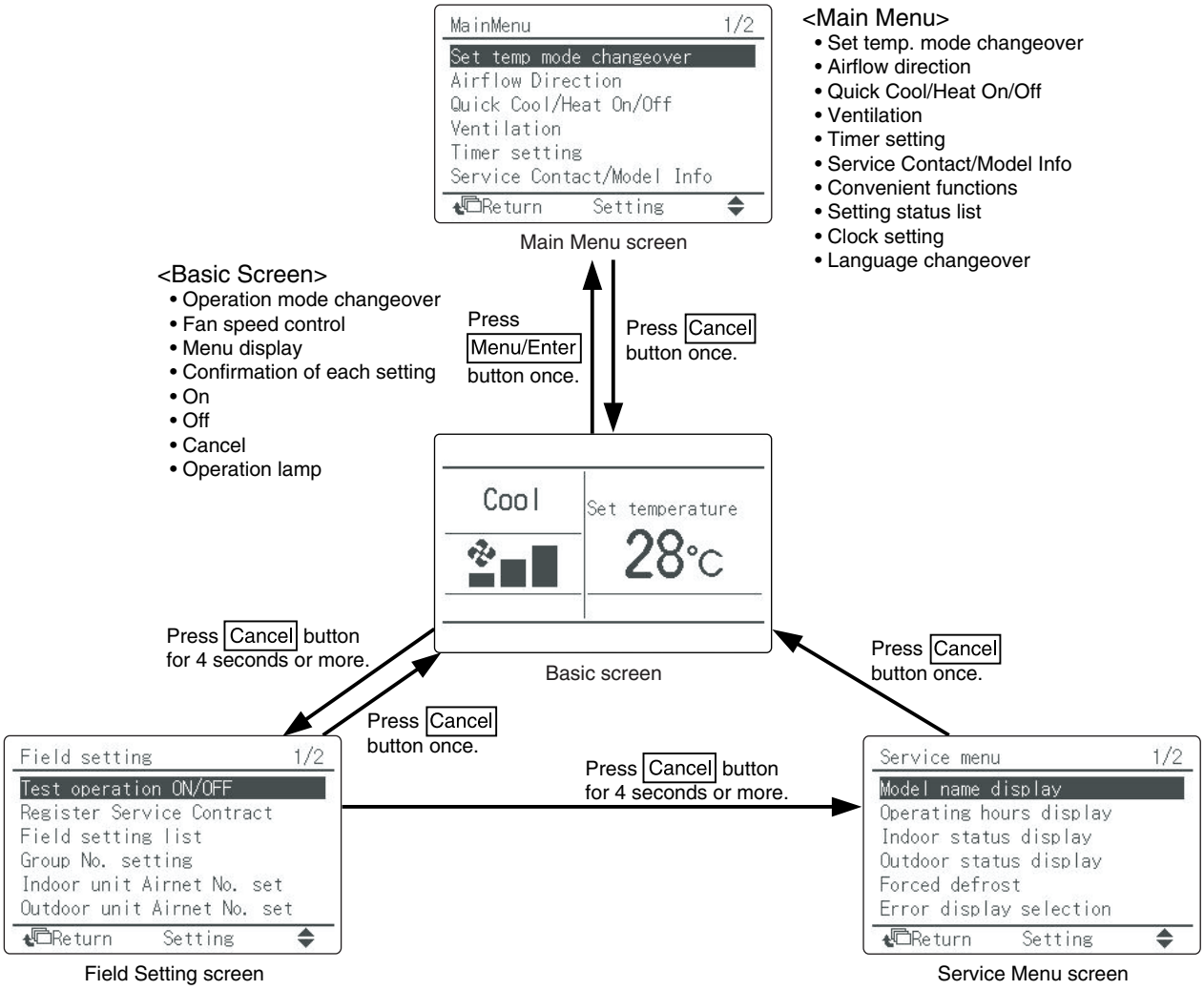
2.2.1 Relations between Modes

BRC1D528, BRC7E530W, BRC7F532F, BRC7EA63W

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



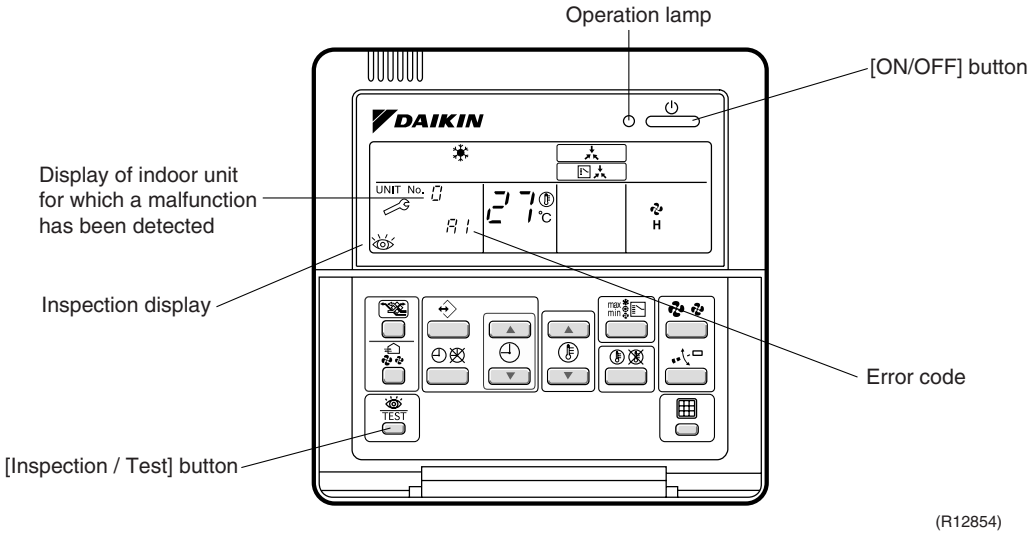
BRC1E51A7



(R12855)

2.2.2 BRC1D528

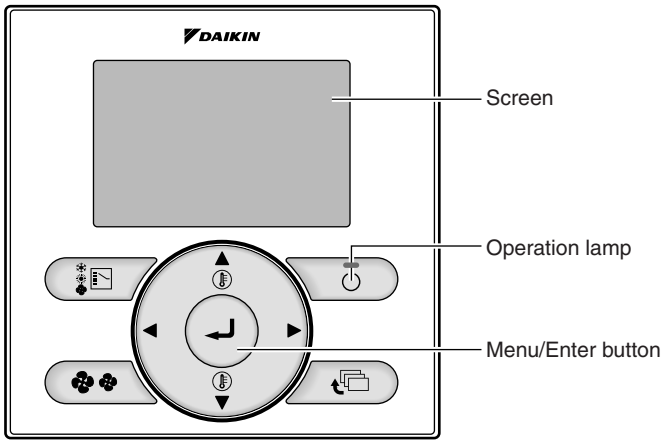
If operation stops due to malfunction, the operation lamp on the remote controller blinks, and error code is displayed. (Even if stop operation is carried out, malfunction contents are displayed when inspection mode is entered.) The error code enables you to tell what kind of malfunction caused operation to stop.
Refer to page 350, 351 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).

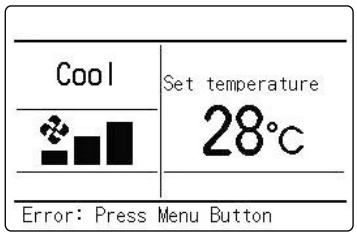
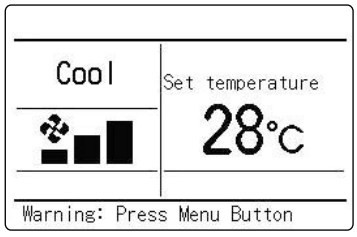
2.2.3 BRC1E51A7

The following display appears on the screen when a error (or a warning) occurs during operation.
Check the error code and take the corrective action specified for the particular model.



(R12856)

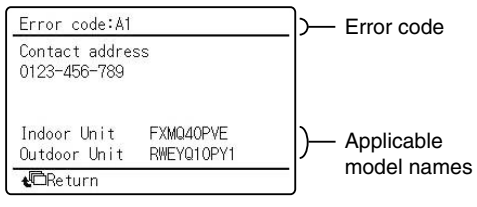
(1) Check if it is error or warning.

	Operation status	Display	
Abnormal shutdown	The system stops operating.	The operation lamp (green) starts to blink. The message "Error: Press Menu Button" appears and blinks at the bottom of the screen.	 (R12858)
Warning	The system continues its operation.	The operation lamp (green) remains on. The message "Warning: Press Menu Button" appears and blinks at the bottom of the screen.	 (R12857)

(2) Take corrective action.

· Press the [Menu/Enter] button to check the error code.

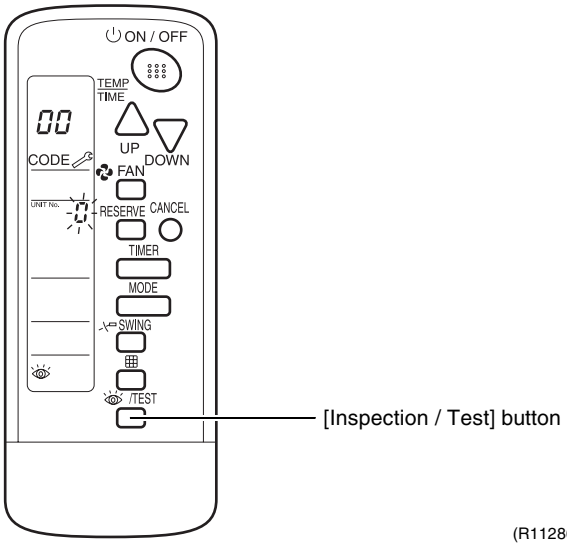
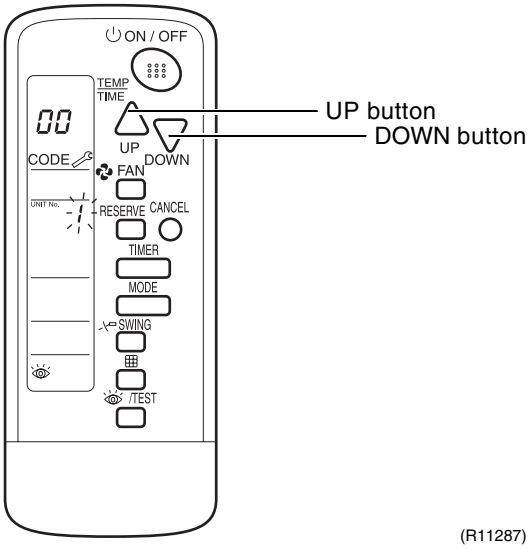
· Take the corrective action specific to the model.

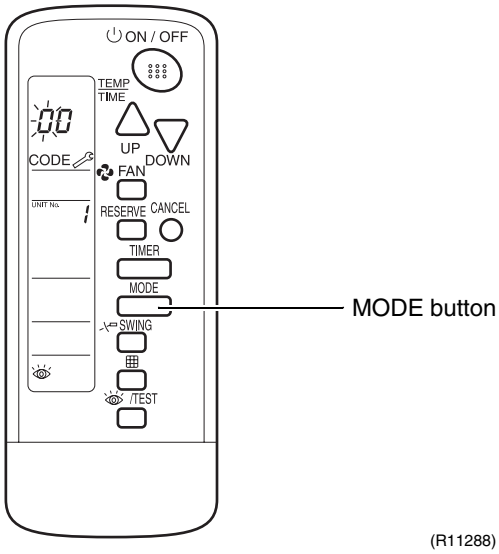
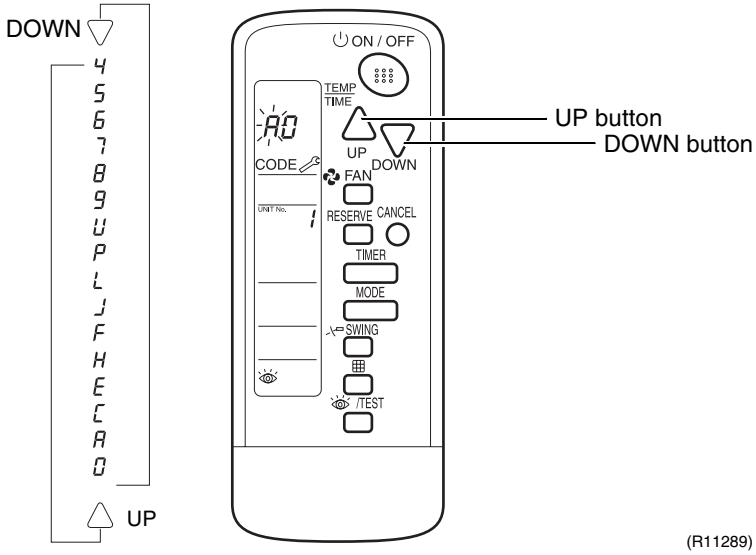


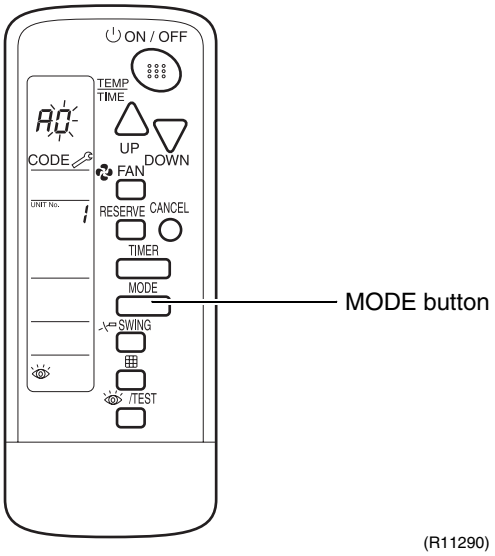
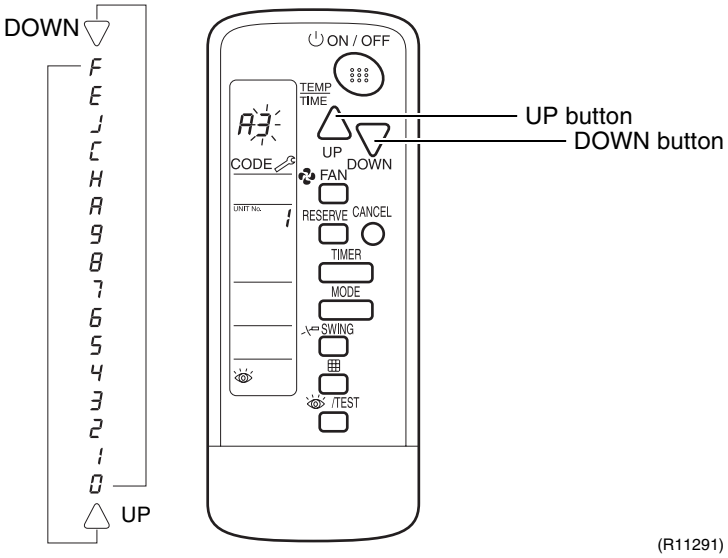
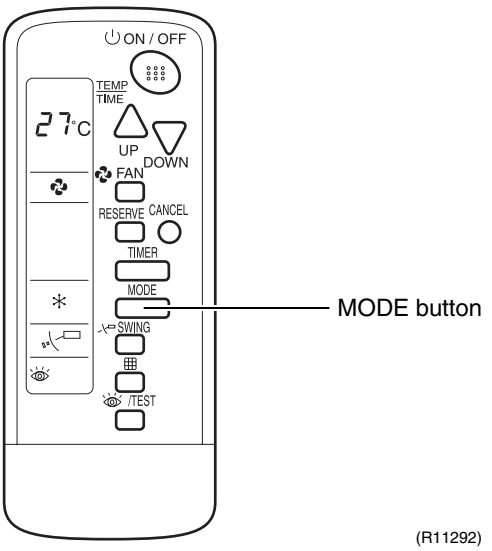
(R12859)

2.2.4 BRC7E530W, BRC7F532F, BRC7EA63W

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.  (R11286)
2	Press the UP or DOWN button and change the UNIT No. until the receiver of the remote controller starts to beep.  (R11287) **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.  (R11288)
4	Press the UP or DOWN button to change the error code upper digit until the receiver of the remote controller starts to beep.  (R11289) **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.  (R11290)
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.  (R11291)
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.  (R11292)

3. Error Codes and Description

	Error code	Description	Reference page			
			RA Indoor Unit	SA Indoor Unit	BP Unit	Outdoor Unit
Indoor Unit	A1	Indoor unit PCB abnormality	352	363	—	—
	A3	Drain level control system abnormality	—	364	—	—
	A5	Freeze-up protection control or heating peak-cut control	353	—	—	—
	A6	Fan motor or related abnormality	355, 356	366	—	—
	A7	Swing motor look	—	367	—	—
	A9	Electronic expansion valve abnormality	—	—	376	—
	AF	Drain system abnormality	—	368	—	—
	C4	Thermistor or related abnormality	358	369	—	—
	C5	Thermistor or related abnormality	—	370	—	—
	C7	Front panel open / close fault	359	—	—	—
	C9	Thermistor or related abnormality	358	371	—	—
	CJ	Remote controller thermistor abnormality	—	372	—	—
Outdoor Unit	E1	Outdoor unit PCB abnormality	—	—	—	383
	E2	BP unit PCB abnormality	—	—	377	—
	E3	Actuation of high pressure switch	—	—	—	384
	E4	Actuation of low pressure switch	—	—	—	386
	E5	Compressor motor lock	—	—	—	388
	E7	Outdoor fan motor abnormality	—	—	—	389
	E9	Moving part of electronic expansion valve (Y1E, Y3E) abnormality	—	—	—	390
	F3	Discharge pipe temperature abnormality	—	—	—	392
	F6	Refrigerant overcharged	—	—	—	393
	H9	Outdoor temperature thermistor (R1T) abnormality	—	—	—	394
	J0	BP liquid or gas pipe thermistor abnormality	—	—	378	—
	J3	Discharge pipe thermistor (R2T) abnormality	—	—	—	395
	J5	Suction pipe thermistor (R3T, R5T) abnormality	—	—	—	396
	J6	Outdoor heat exchanger thermistor (R4T) abnormality	—	—	—	397
	J7	Outdoor liquid pipe thermistor (R7T) abnormality	—	—	—	398
	J9	Subcooling heat exchanger gas pipe thermistor (R6T) abnormality	—	—	—	399
	JA	High pressure sensor abnormality	—	—	—	400
	JC	Low pressure sensor abnormality	—	—	—	401
	L1	Outdoor unit PCB abnormality	—	—	—	402
	L4	Radiation fin temperature rise	—	—	—	403
	L5	Inverter compressor abnormality	—	—	—	404
	L8	Inverter current abnormality	—	—	—	405
	L9	Inverter start-up error	—	—	—	406
	P1	High voltage of capacitor in main inverter circuit	—	—	—	407
	P4	Radiation fin thermistor abnormality	—	—	—	408
System	U0	Low pressure drop due to refrigerant shortage or electronic expansion valve abnormality	—	—	—	409
	U2	Power supply insufficient or instantaneous failure	—	—	—	411
	U3	Check operation is not conducted.	—	—	—	412
	U4	Transmission error between indoor unit and BP unit	—	—	379	—
	U5	Transmission error between remote controller and indoor unit	—	373	—	413
	U8	Transmission error between main and sub remote controllers	—	374	—	414
	U9	Transmission error between indoor unit and outdoor unit in the same system	—	—	—	415

	Error code	Description	Reference page			
			RA Indoor Unit	SA Indoor Unit	BP Unit	Outdoor Unit
System	UA	Field setting switch abnormality	—	375	—	—
		Excessive number of indoor units	—	—	—	417
	UC	Address duplication of central remote controller	—	—	—	418
	UE	Transmission error between centralized remote controller and indoor unit	—	—	—	419
	UF	System is not set yet	—	—	—	421
	UH	System abnormality refrigerant system address undefined	—	—	—	422
	UJ	Transmission error between outdoor unit and BP unit	—	—	381	—

The system keeps operating even though the error code is indicated, however, be sure to check and repair.

4. Troubleshooting for RA Indoor Unit

4.1 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

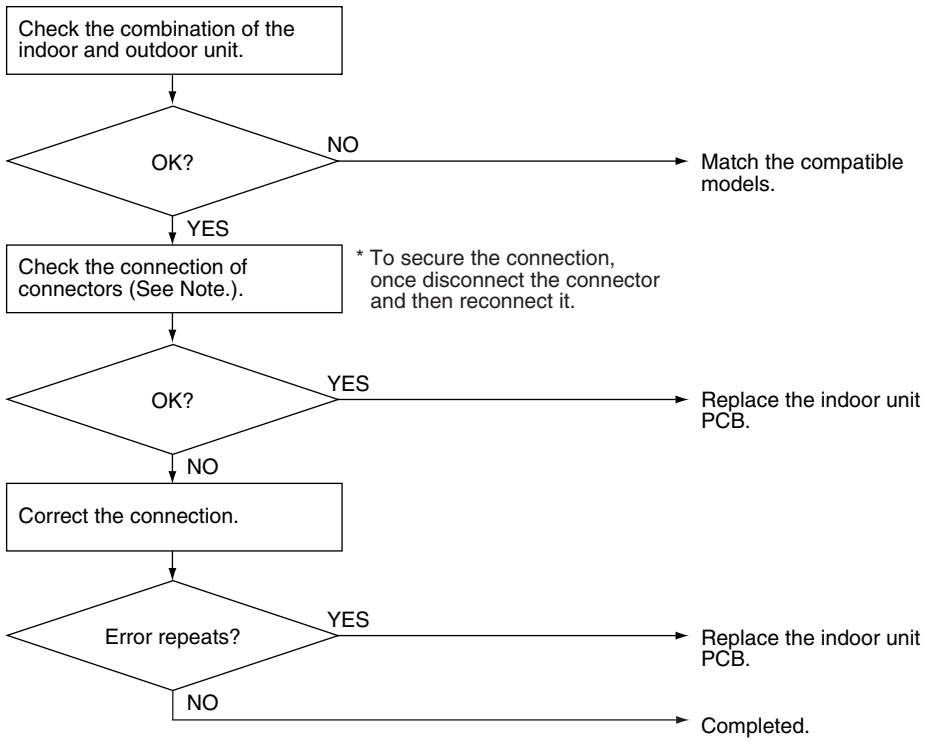
The system cannot set the internal settings.

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

4.2 Freeze-up Protection Control or Heating Peak-cut Control

Remote Controller Display

A5

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.

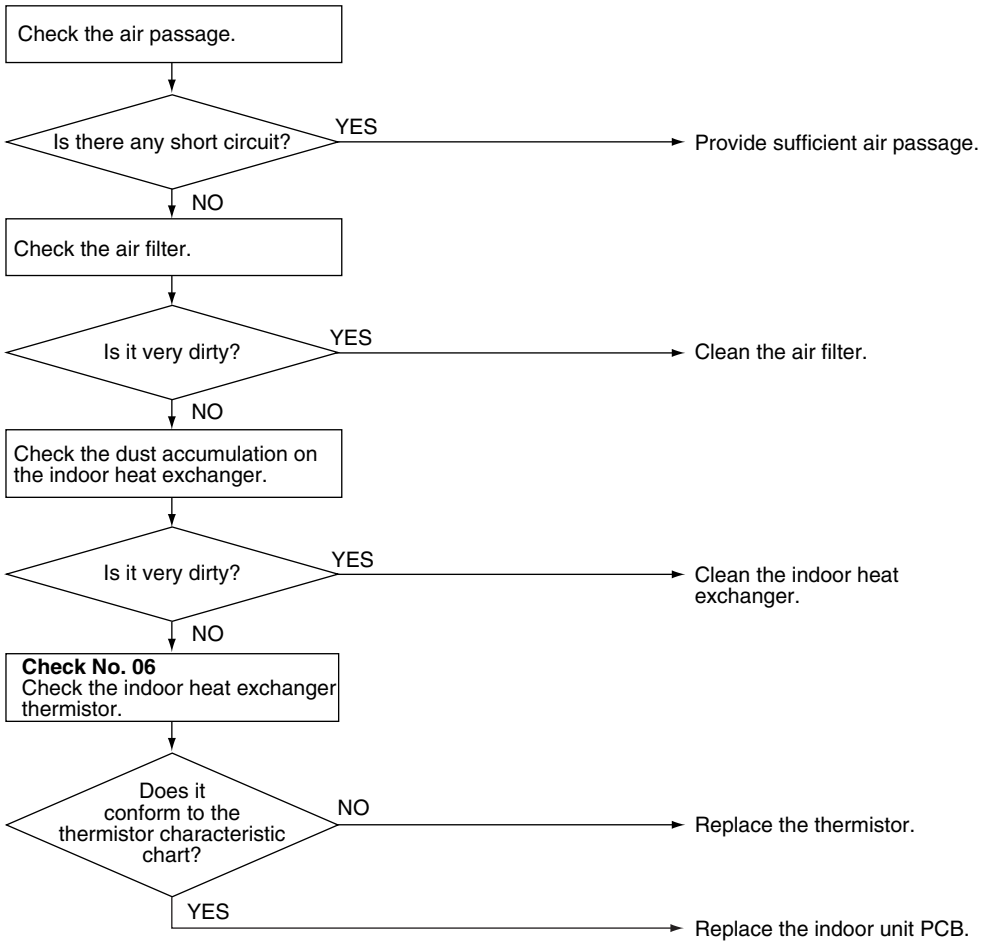
Supposed Causes

- 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.06
Refer to P.361

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



(R7131)

4.3 Fan Motor or Related Abnormality

4.3.1 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

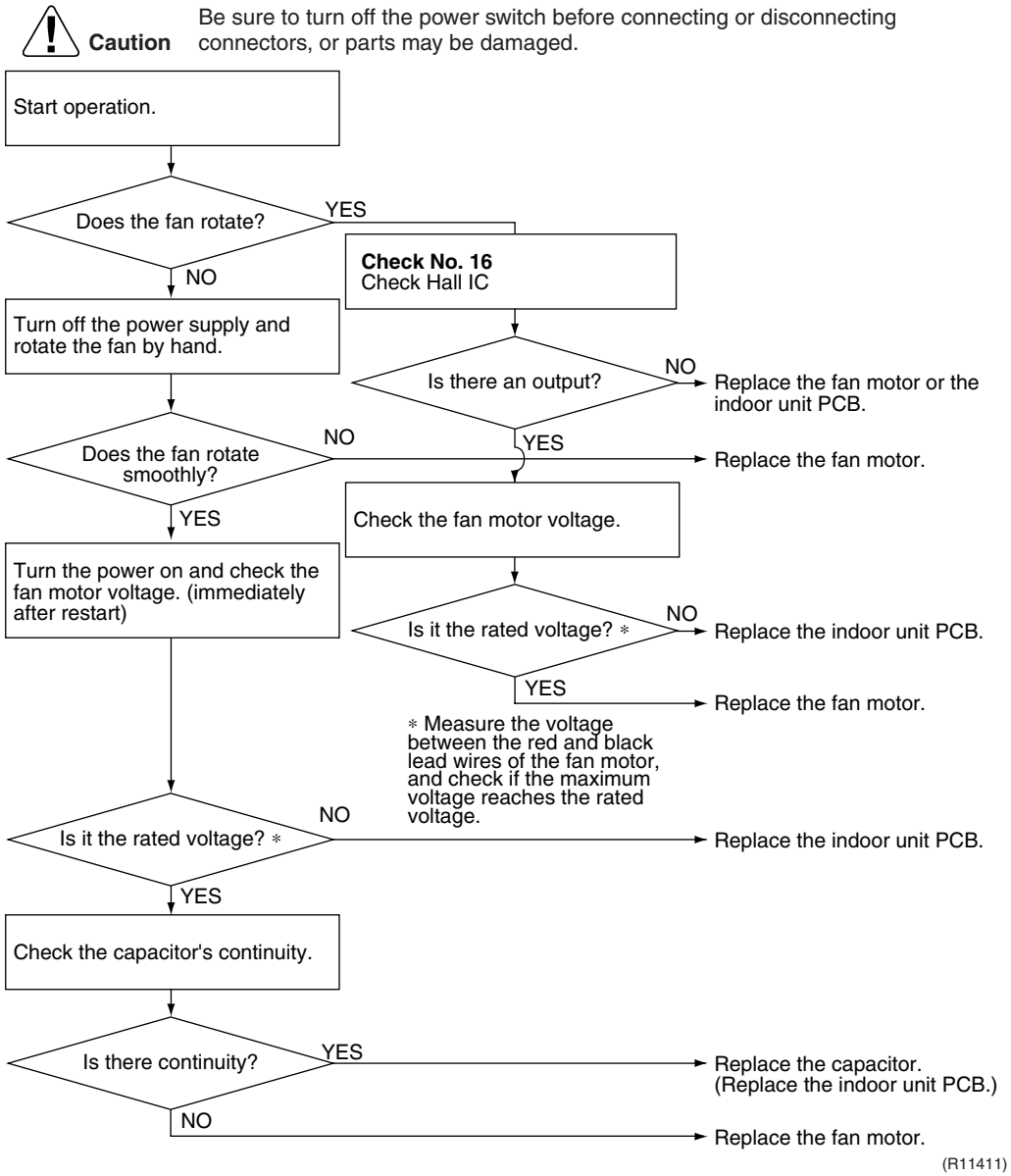
The detected rotation speed does not reach the demanded rotation speed of the target tap, and is less than 50% of the maximum fan motor rotation speed.

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.16
Refer to P.362



4.3.2 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.

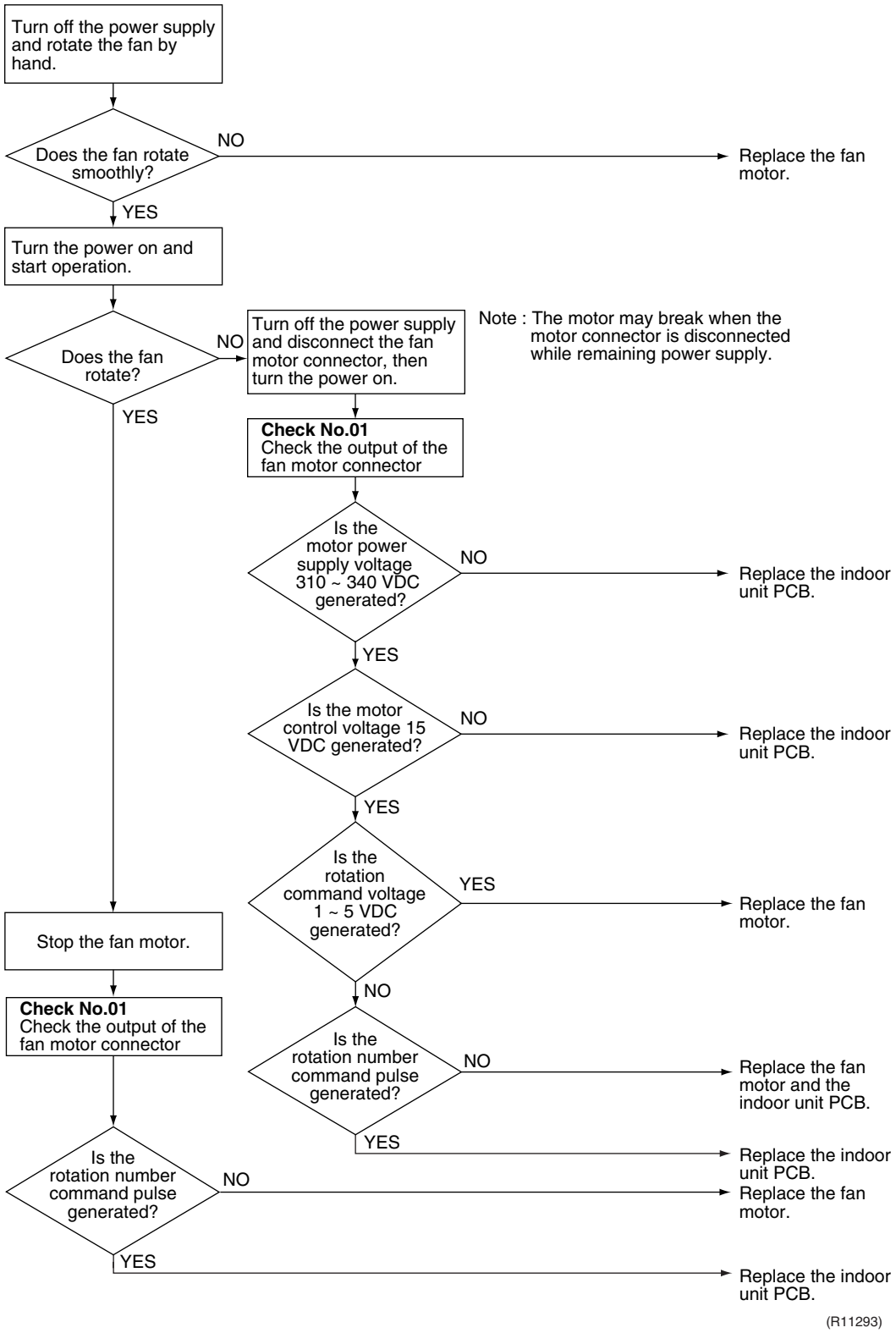
Supposed Causes

- 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.01
Refer to P.360

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



(R11293)

4.4 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

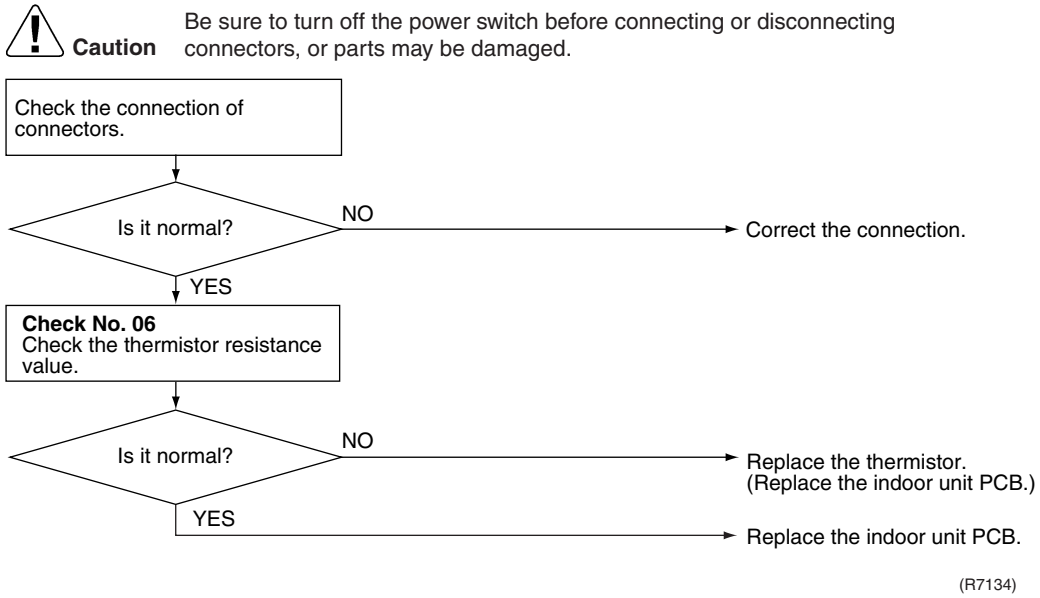
The thermistor input is more than 4.96 V or less than 0.04 V during compressor operation.

Supposed Causes

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

Troubleshooting

Check No.06
Refer to P.361



C4 : Indoor heat exchanger thermistor
C9 : Room temperature thermistor

4.5 Front Panel Open / Close Fault

Remote Controller Display

C7

Method of Malfunction Detection

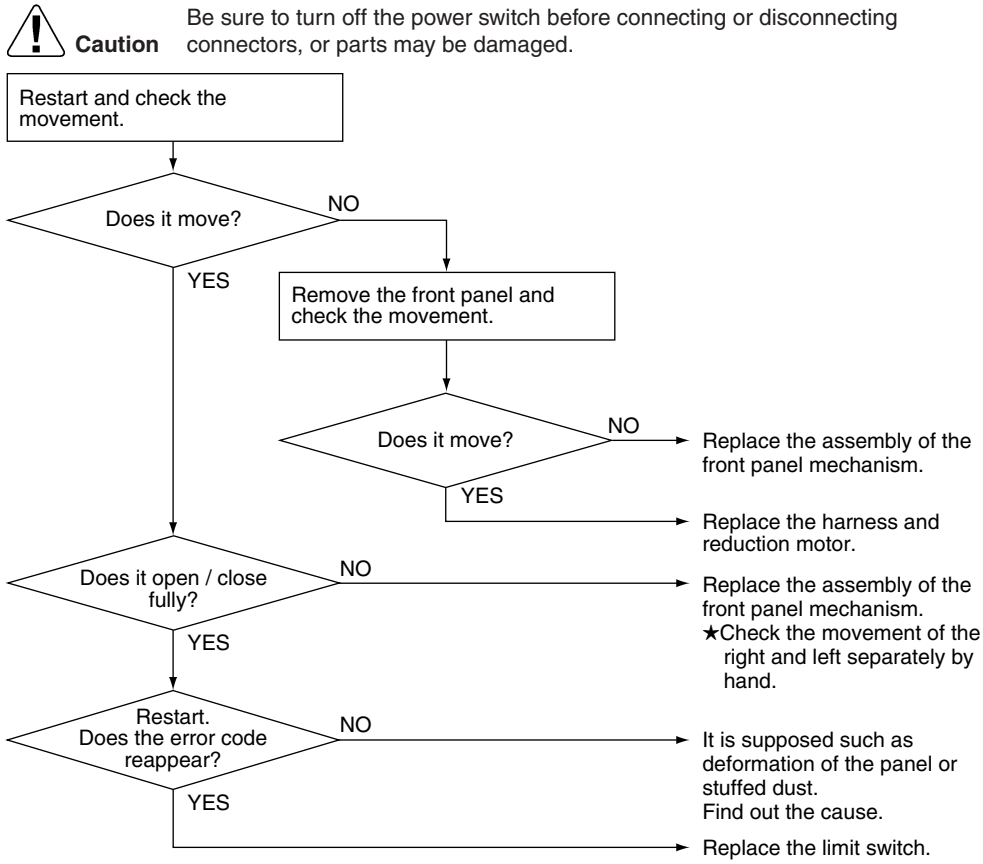
Malfunction Decision Conditions

- 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>

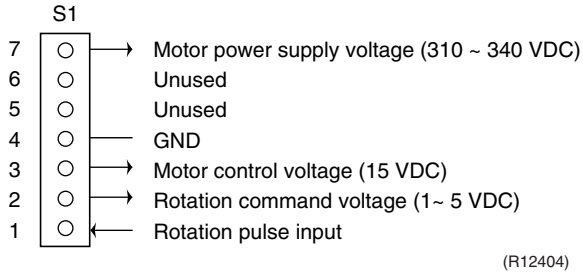
1. Turn off the power.
2. Remove the front panel.
3. Turn on the power.
   (Wait until the initialization finishes.)
4. Operate the unit by the indoor unit ON/OFF button.

4.6 Check for RA Indoor Unit

4.6.1 Fan Motor Connector Output Check

Check No.01

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).



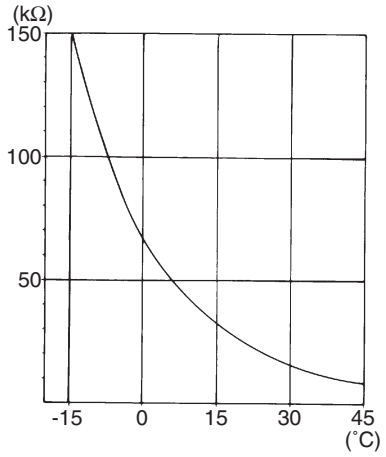
4.6.2 Thermistor Resistance Check

Check No.06

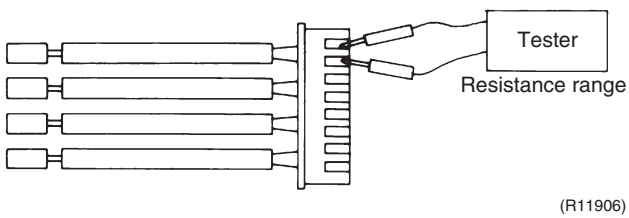
Disconnect the connectors of the thermistors from the PCB, and measure the resistance of each thermistor using tester.
The relationship between normal temperature and resistance is shown in the graph and the table below.

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)

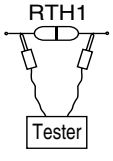


(R11905)



(R11906)

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



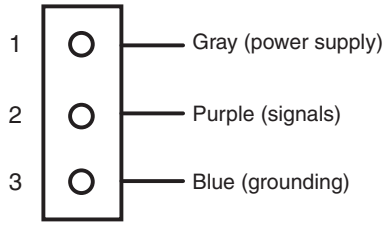
(R3460)

4.6.3 Hall IC Check

Check No.16

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.



(R1990)

5. Troubleshooting for SA Indoor Unit

5.1 Indoor Unit PCB Abnormality

Remote Controller Display

A1

Method of Malfunction Detection

Check data from EEPROM.

Malfunction Decision Conditions

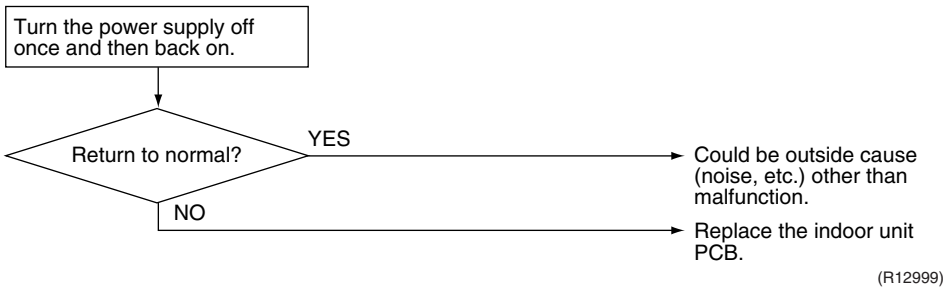
When data could not be correctly received from the EEPROM
EEPROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- External factor (noise etc.)
- Defective indoor unit PCB

Troubleshooting

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



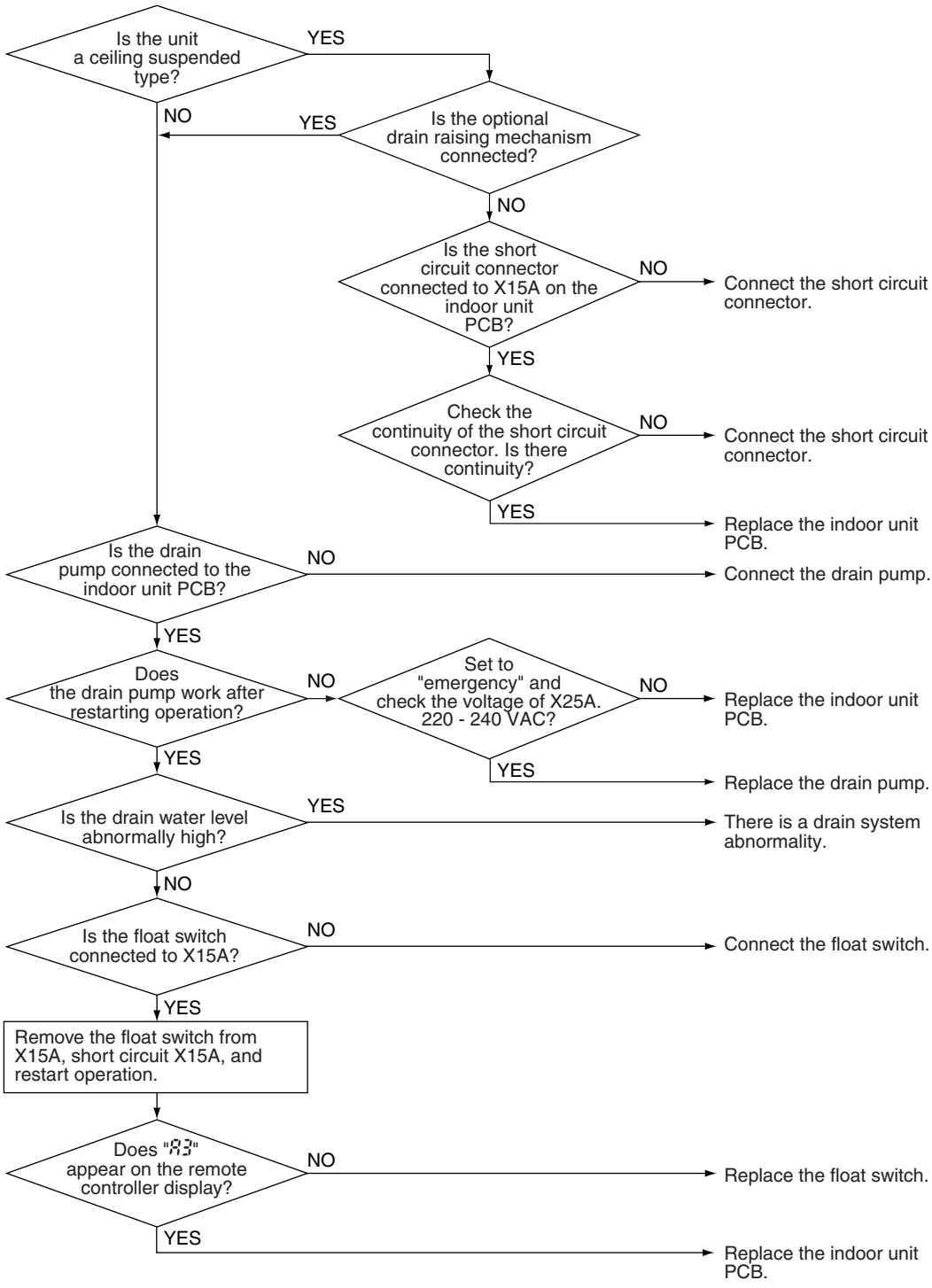
(R12999)

5.2 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.



(R12861)

Note: If "83" is detected by the indoor unit PCB which is not mounted with X15A, the indoor unit PCB is defective.

5.3 Fan Motor or Related Abnormality (FHQ Series)

Remote Controller Display

A6

Method of Malfunction Detection

The signal from the fan motor detects abnormal fan speed.

Malfunction Decision Conditions

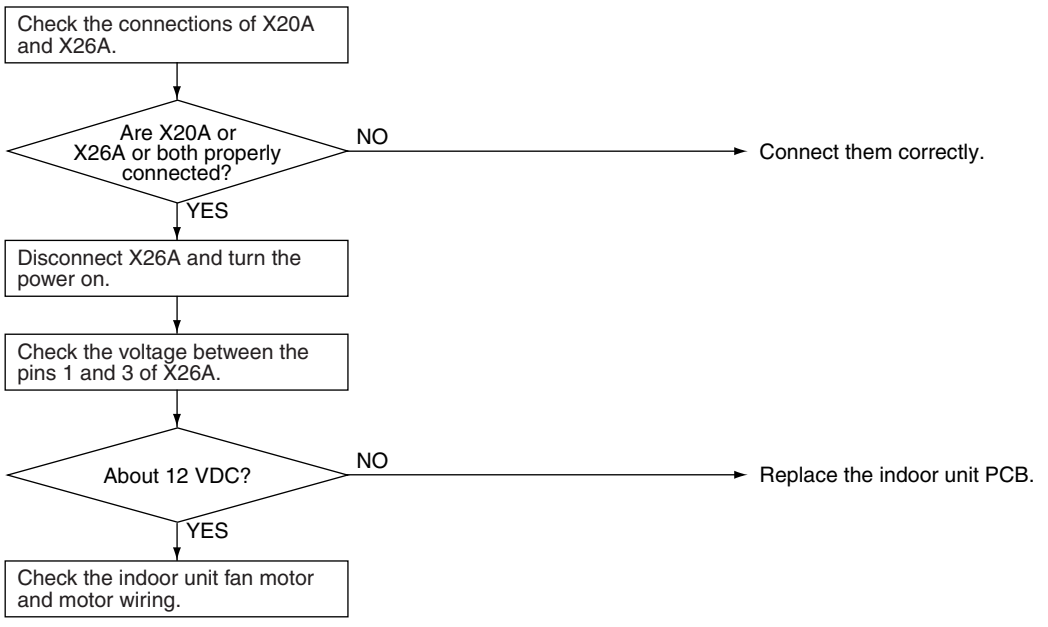
When the fan rotations are not detected while the output voltage to the fan is at its maximum

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.



(R12862)

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

5.4 Swing Motor Lock (FHQ Series)

Remote Controller Display

A7

Method of Malfunction Detection

The error is detected by the limit switch when the motor turns.

Malfunction Decision Conditions

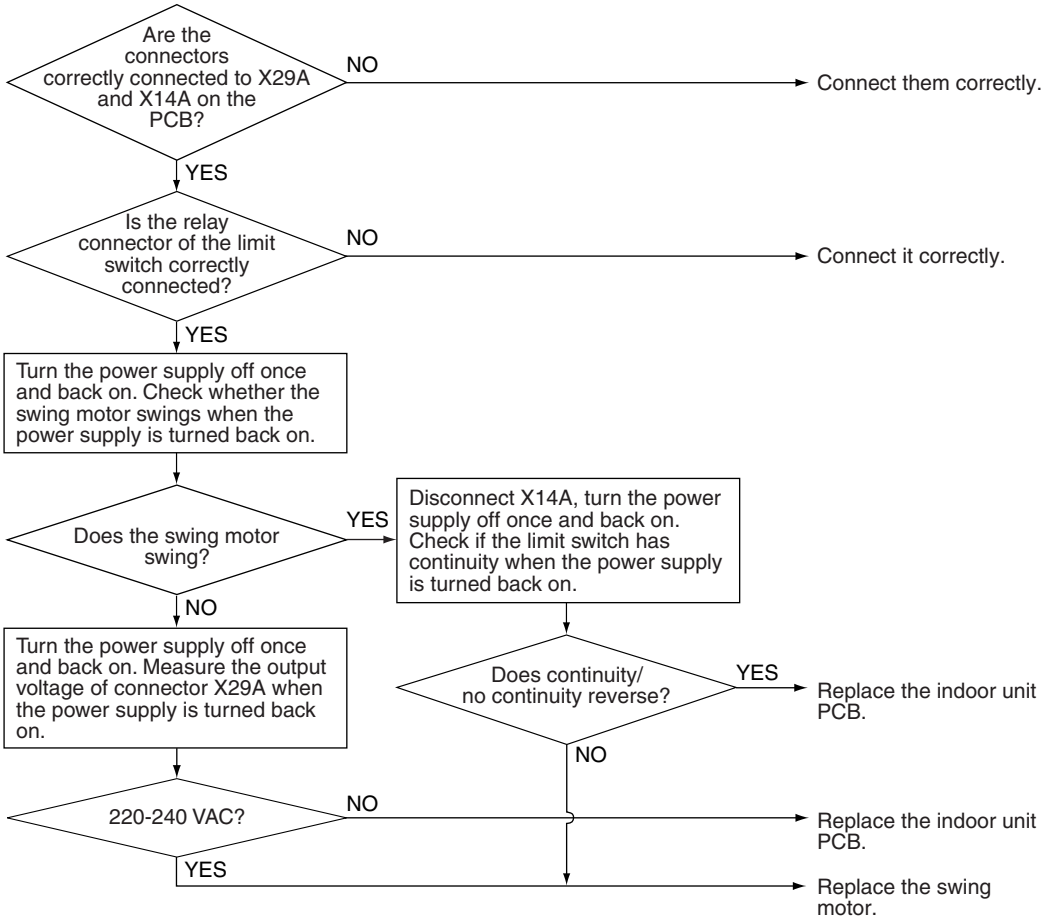
When the ON/OFF micro-switch for position detection cannot be reversed even though the swing motor is energized for a specified amount of time (about 30 seconds).

Supposed Causes

- Defective swing motor
- Defective micro-switch
- Disconnection of connector
- Defective indoor unit PCB

Troubleshooting

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



(R12863)

5.5 Drain System Abnormality

Remote Controller Display

Method of Malfunction Detection

Water leakage is detected based on the float switch ON/OFF changeover while the compressor is not operating.

Malfunction Decision Conditions

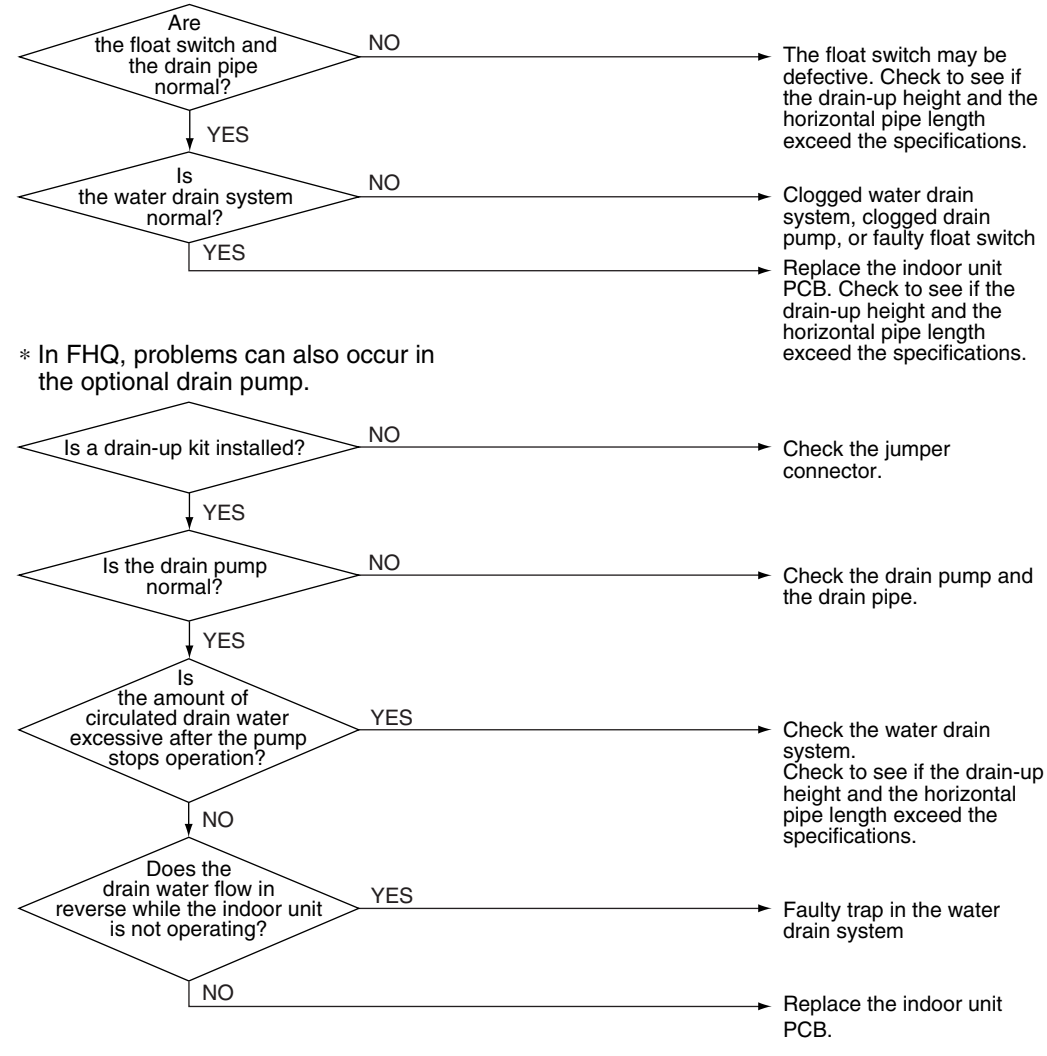
When the float switch changes from ON to OFF while the compressor is OFF

Supposed Causes

- Error in the drain pipe installation
- Defective float switch
- Defective indoor unit PCB

Troubleshooting

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



(R13752)

5.6 Indoor Liquid Pipe Thermistor (R2T) Abnormality

Remote Controller Display

C4

Method of Malfunction Detection

The temperature detected by indoor liquid pipe thermistor (R2T)

Malfunction Decision Conditions

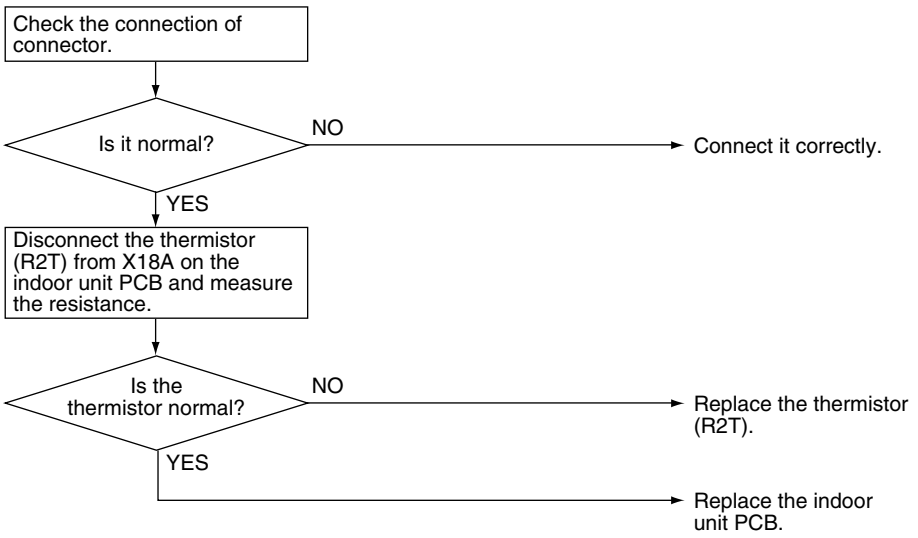
When the indoor liquid pipe thermistor becomes disconnected or shorted while the indoor unit is running.

Supposed Causes

- Defective thermistor
- 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.



Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

5.7 Indoor Heat Exchanger Thermistor (R3T) Abnormality

Remote Controller Display

C5

Method of Malfunction Detection

The temperature detected by indoor heat exchanger thermistor (R3T)

Malfunction Decision Conditions

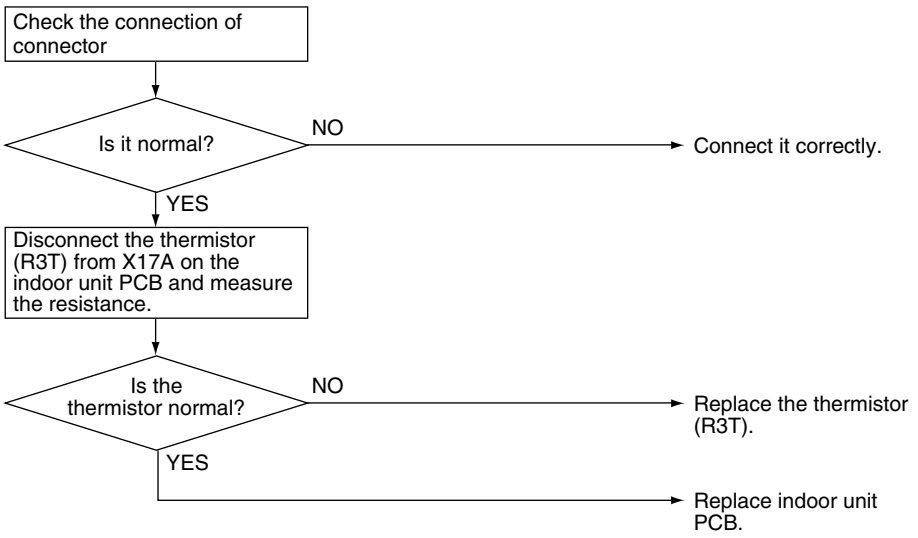
When the indoor heat exchanger thermistor becomes disconnected or shorted while the indoor unit is running.

Supposed Causes

- Defective thermistor
- 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.



(R13005)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

5.8 Suction Air Thermistor (R1T) Abnormality

Remote Controller Display

C9

Method of Malfunction Detection

The temperature detected by suction air thermistor (R1T)

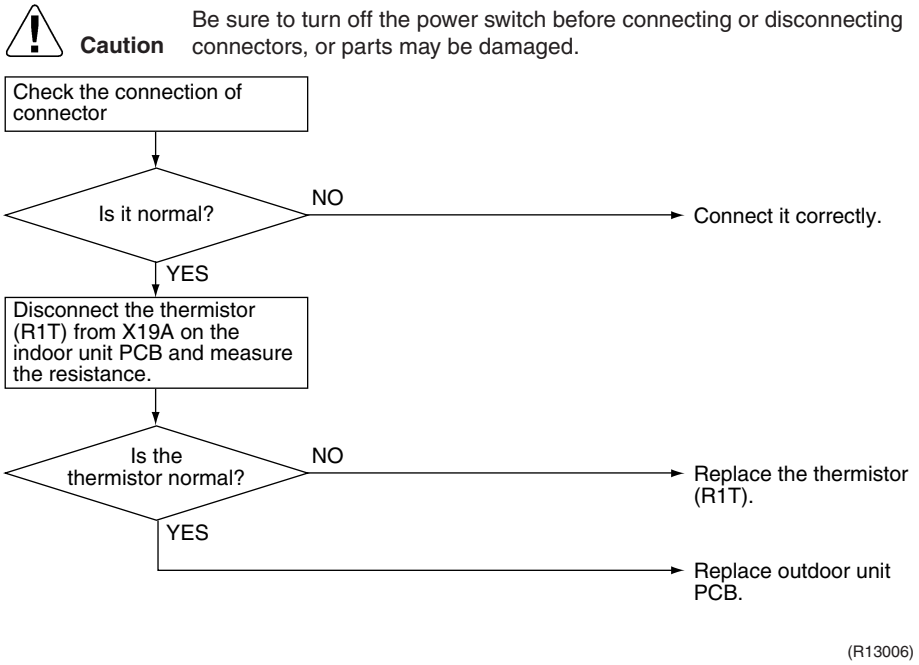
Malfunction Decision Conditions

When the suction air thermistor becomes disconnected or shorted while the indoor unit is running.

Supposed Causes

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

Troubleshooting



Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

5.9 Remote Controller Thermistor Abnormality

Remote Controller Display

C J

Method of Malfunction Detection

Even if remote controller thermistor is faulty, system is possible to operate by system thermistor. Malfunction detection is carried out by the temperature detected by remote controller thermistor.

Malfunction Decision Conditions

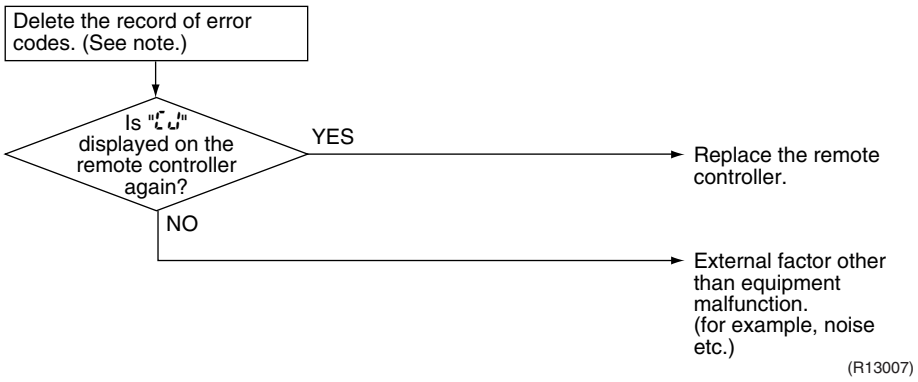
When the remote controller thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defective thermistor
- Broken wire

Troubleshooting

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



Note: To delete the record of error codes, press the ON / OFF button for 4 seconds or more while the error code is displayed in the inspection mode.

5.10 Transmission Error between Remote Controller and Indoor Unit

Remote Controller Display

U5

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and remote controller is normal.

Malfunction Decision Conditions

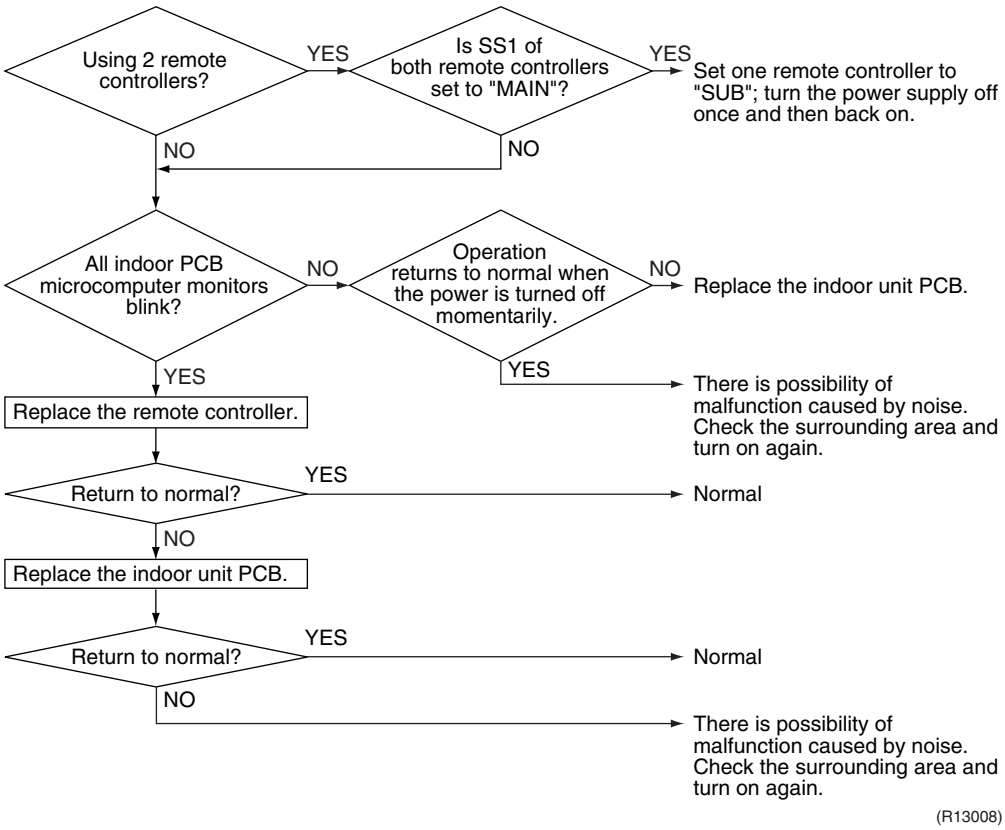
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Connection of 2 main remote controllers (when using 2 remote controllers)
- Defective indoor unit PCB
- Defective remote controller PCB
- Transmission error caused by noise

Troubleshooting

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



(R13008)

5.11 Transmission Error between Main and Sub Remote Controllers

Remote Controller Display

U8

Method of Malfunction Detection

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

Malfunction Decision Conditions

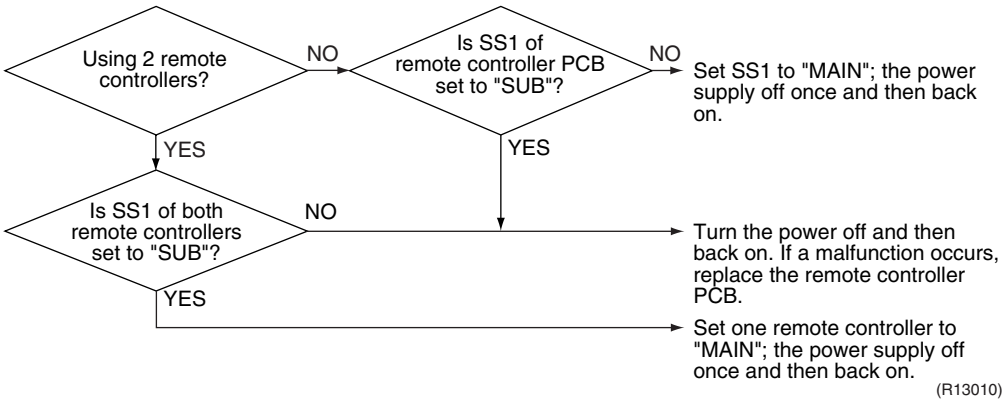
Normal transmission does not continue for specified period.

Supposed Causes

- Remote controller is set to “SUB” when using 1 remote controller
- Connection of 2 sub remote controllers (when using 2 remote controllers)
- Defective remote controller PCB

Troubleshooting

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



5.12 Field Setting Switch Abnormality

Remote Controller Display

UA

Method of Malfunction Detection

Malfunction Decision Conditions

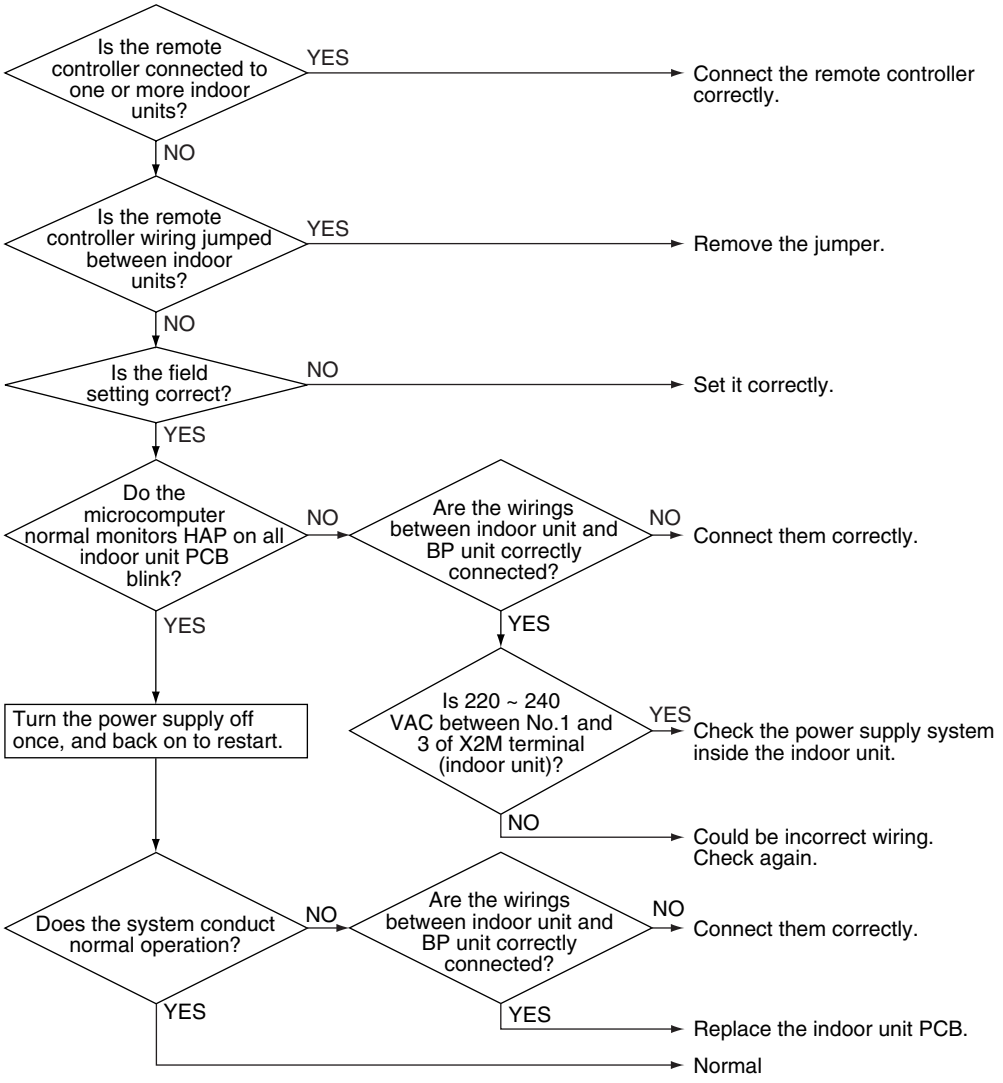
Incorrect field setting

Supposed Causes

- Incorrect wiring between indoor unit and BP unit
- Incorrect wiring of remote controller

Troubleshooting

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



(R13011)

6. Troubleshooting for BP Unit

6.1 Electronic Expansion Valve Abnormality

Remote Controller Display

A9

Method of Malfunction Detection

Detection by checking continuity and lack of connector

Malfunction Decision Conditions

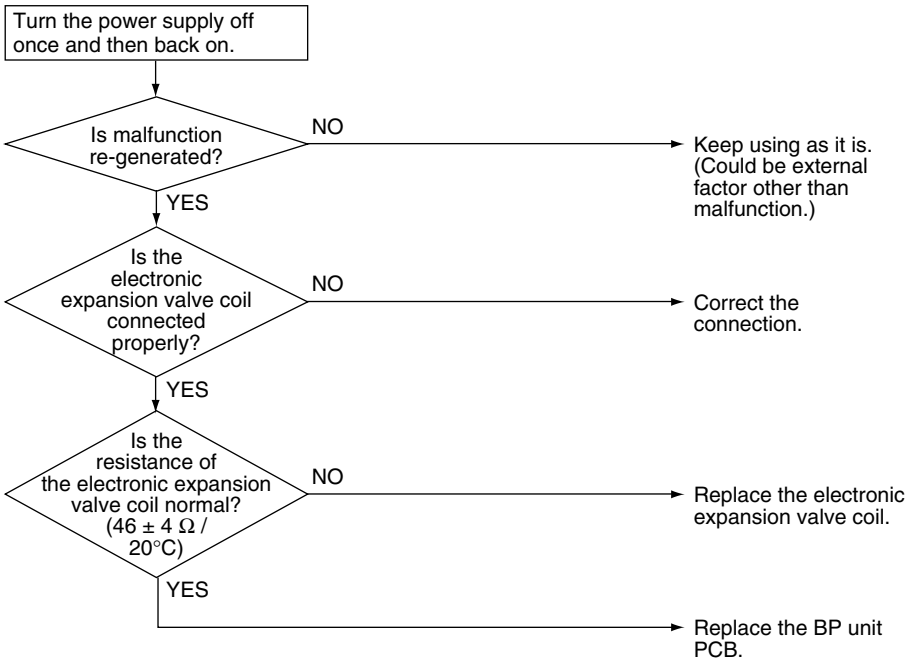
No voltage applied when turning the power supply on

Supposed Causes

- Broken harness of electronic expansion valve coil
- Incorrect connection of connectors for electronic expansion valve coil

Troubleshooting

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



(R13012)

6.2 BP Unit PCB Abnormality

Remote Controller Display

E2

Method of Malfunction Detection

Check data from EEPROM

Malfunction Decision Conditions

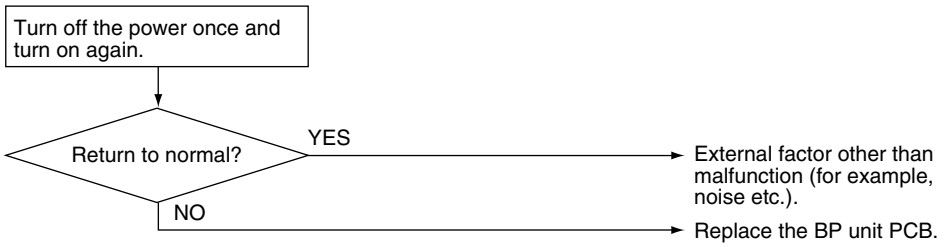
When data could not be correctly received from the EEPROM
EEPROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Defective BP unit PCB

Troubleshooting

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



(R13019)

6.3 BP Liquid or Gas Pipe Thermistor Abnormality

Remote Controller Display

Method of Malfunction Detection

Malfunction Decision Conditions

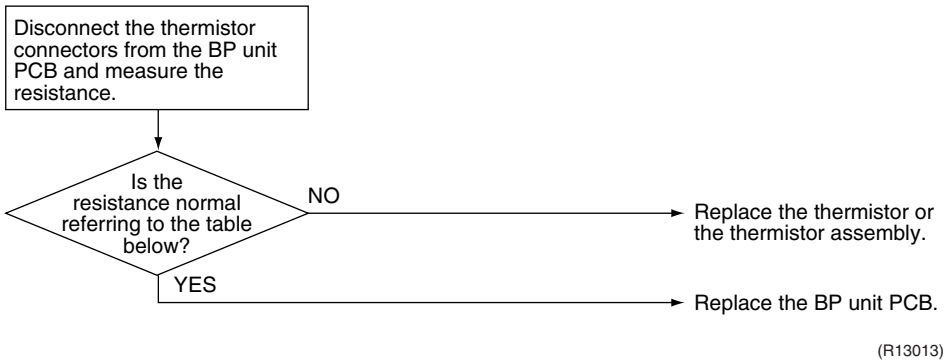
When the BP liquid or gas pipe thermistor became short circuited or open.

Supposed Causes

- Defective BP liquid or gas pipe thermistor
- Incorrect connection of BP liquid or gas pipe thermistor

Troubleshooting

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



(R13013)

Temperature	Resistance
–10°C	117 kΩ
0°C	67 kΩ
10°C	40 kΩ
20°C	25 kΩ
30°C	16 kΩ
40°C	10 kΩ
50°C	7 kΩ
60°C	5 kΩ
70°C	3 kΩ

6.4 Transmission Error between Indoor Unit and BP Unit

Outdoor Unit Indication

U4

Method of Malfunction Detection

The data received from the BP unit in signal transmission is checked whether it is normal.

Malfunction Decision Conditions

When the data sent from the BP unit cannot be received normally, or when the content of the data is abnormal.

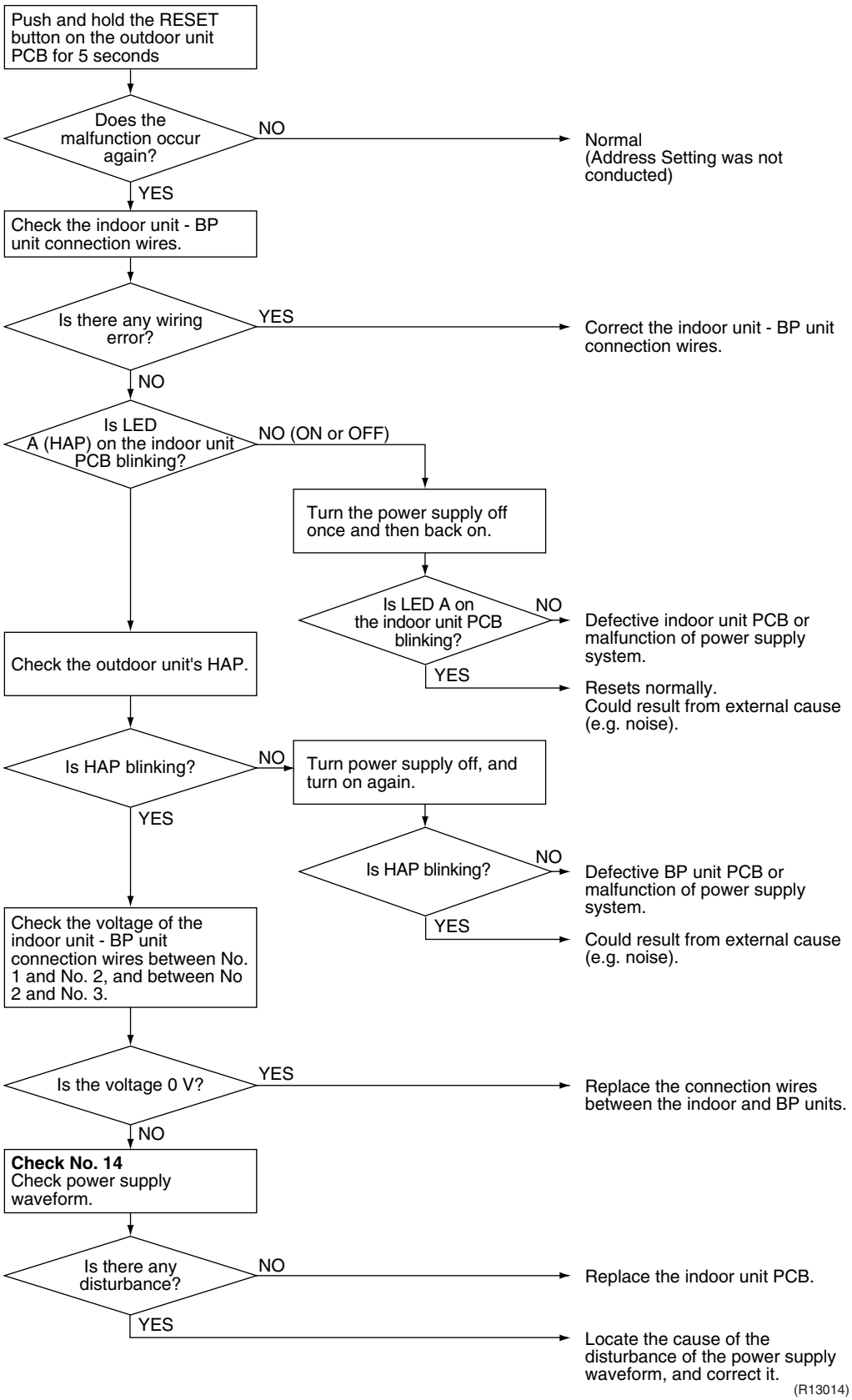
Supposed Causes

- Defective BP unit PCB
- Defective indoor unit PCB
- Signal transmission error due to wiring error
- Signal transmission error due to disturbed power supply waveform
- Signal transmission error due to breaking of connection wires (wire No. 2).

Troubleshooting

Check No.14
Refer to P.382

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



6.5 Transmission Error between Outdoor Unit and BP Unit

Outdoor Unit Indication

UJ

Method of Malfunction Detection

Transmission error is detected when the outdoor unit could not received the data from BP unit correctly.

Malfunction Decision Conditions

When the data from BP unit could not be correctly received continuously for 10 minutes

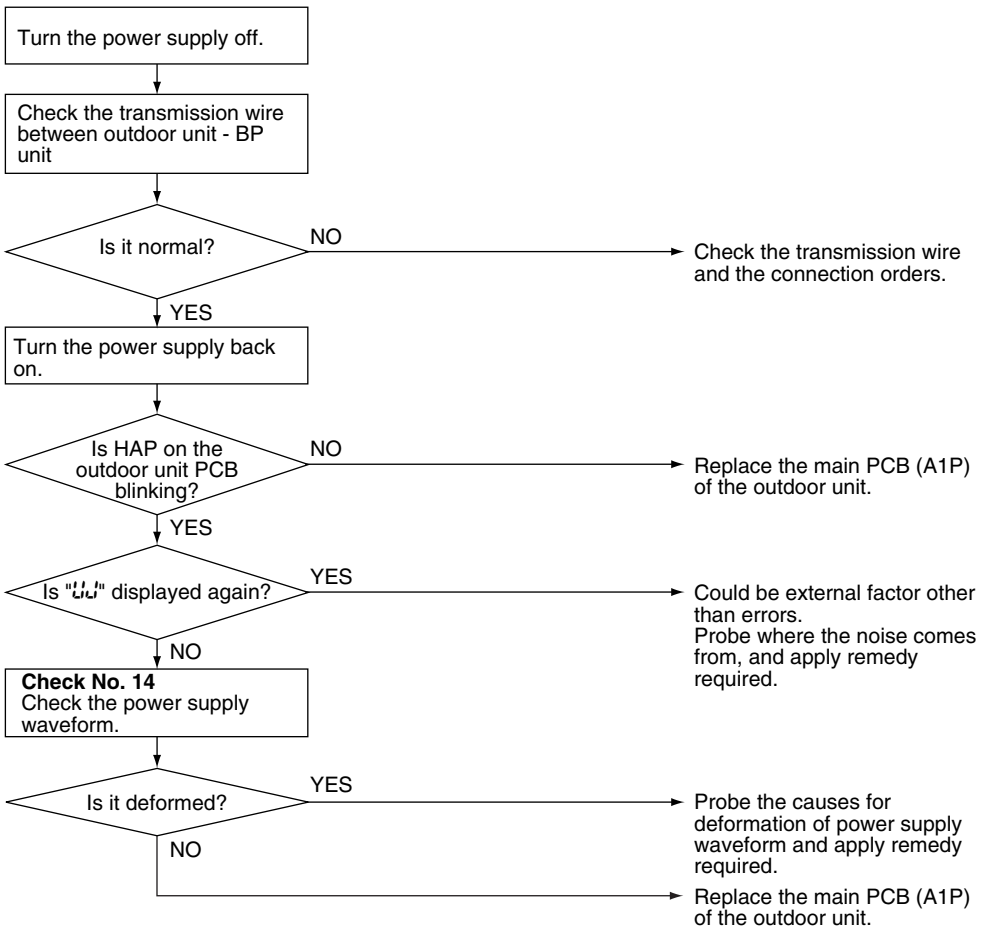
Supposed Causes

- Incorrect connection of transmission wire
- Faulty outdoor unit power supply
- Defective BP unit PCB
- Defective outdoor unit PCB
- Distortion of power supply waveform

Troubleshooting

Check No.14
Refer to P.382

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



(R13015)

6.6 Check for BP Unit

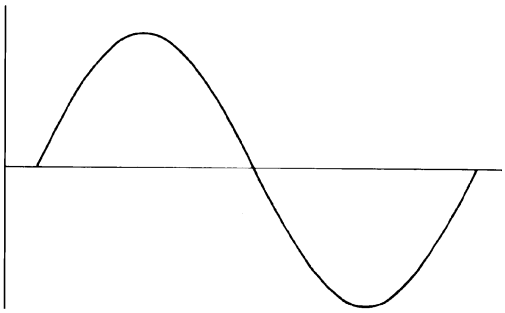
6.6.1 Power Supply Waveforms Check

Check No.14

Measure the power supply waveform between the pins 1 and 3 on the terminal board, and check the waveform disturbance.

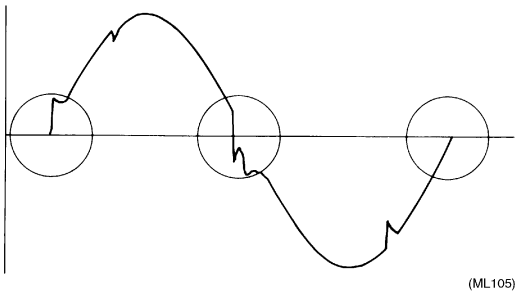
- Check to see if the power supply waveform is a sine wave (Fig.1).
- Check to see if there is waveform disturbance near the zero cross (sections circled in Fig.2)

[Fig.1]



(ML104)

[Fig.2]



(ML105)

7. Troubleshooting for Outdoor Unit

7.1 Outdoor Unit PCB Abnormality

Remote Controller Display

E1

Method of Malfunction Detection

Check data from EEPROM

Malfunction Decision Conditions

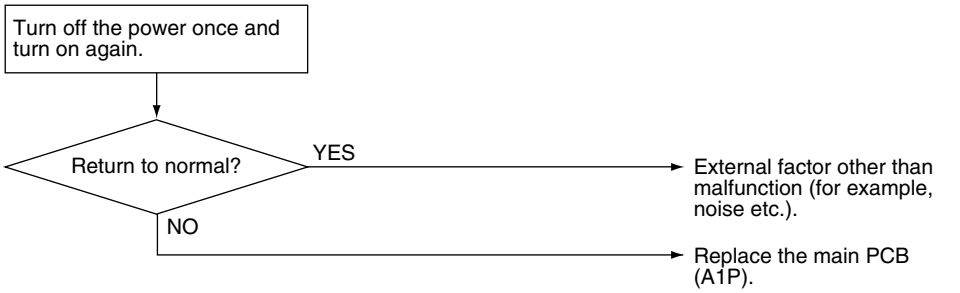
When data could not be correctly received from the EEPROM
EEPROM: Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Defective main PCB (A1P)

Troubleshooting

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



(R13016)

7.2 Actuation of High Pressure Switch

Remote Controller Display

E3

Method of Malfunction Detection

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

Malfunction Decision Conditions

When the high pressure switch activation count reaches the number specific to the operation mode
(Reference) Operating pressure of high pressure switch
Operating pressure: 4.0 MPa
Reset pressure: 3.0 MPa

Supposed Causes

- Actuation of high pressure switch
- Defective high pressure switch
- Defective outdoor unit PCB
- Instantaneous power failure
- Defective high pressure sensor

Troubleshooting

Check No.01
Refer to P.423

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

Check for the points shown below.
(1) Is the stop valve open?
(2) Is the high pressure switch connector properly connected to the main PCB (A1P)?
(3) Does the high pressure switch have continuity?

Are the three points above OK?
- NO → Rectify the defective points.
- YES

(1) Mount a pressure gauge on the high pressure service port.
(2) Reset the operation using the remote controller, and then restart the operation.

Does the stop due to malfunction (E3) recur?
- YES → Is the high pressure switch operating value normal (4.0 MPa)?
  - NO → Replace the high pressure switch.
  - YES
- NO

Are the characteristics of the high pressure sensor normal? (See ∗1.)
- NO → Replace the high pressure sensor.
- YES

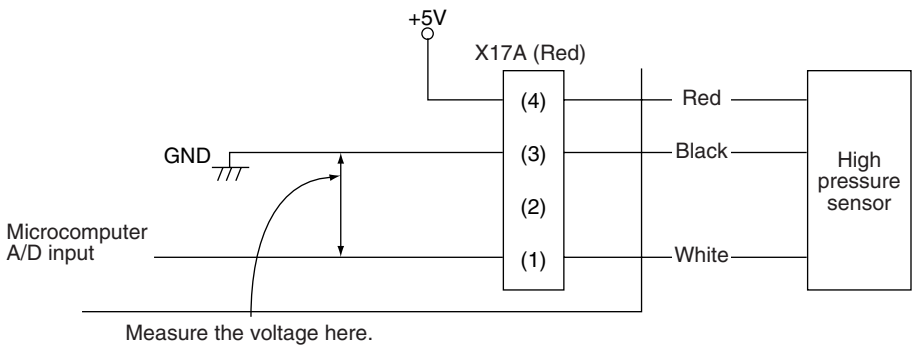
Service Checker
Connect the service checker to compare the “high pressure” value and the actual measurement value by pressure sensor (Refer to ∗1) by using the service checker.

Check if the “high pressure” value and the actual measurement value by pressure sensor are the same.
- NO → Replace the main PCB (A1P).
- YES

· The high pressure sensor is normal, and the pressure detected with the PCB is also normal.
· The high pressure has really become high.

Check No.01 Remove the causes by which the high pressure has become high.

∗1: Make a comparison between the voltage of the pressure sensor and that read by the pressure gauge.
(As to the voltage of the pressure sensor, make measurement of voltage at the connector, and then convert it to pressure according to information on page 429.)
∗2: Make measurement of voltage of the pressure sensor.



(R13017)

7.3 Actuation of Low Pressure Sensor

Remote Controller Display	E4
Method of Malfunction Detection	Detection by the pressure value with the low pressure sensor
Malfunction Decision Conditions	When the low pressure is dropped under specific pressure Operating pressure: 0.07 MPa
Supposed Causes	■ Abnormal drop of low pressure (Lower than 0.07 MPa) ■ Defective low pressure sensor ■ Defective outdoor unit PCB ■ Stop valve is not opened.

Troubleshooting

Check No.02
Refer to P.424

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

Is the stop valve open?
- NO → Open the stop valve.
- YES ↓

(1) Mount a pressure gauge on the low pressure service port.
(2) Reset the operation using the remote controller, and then restart the operation.

Are the characteristics of the low pressure sensor normal? (See ∗1.)
- NO → Replace the low pressure sensor.
- YES ↓

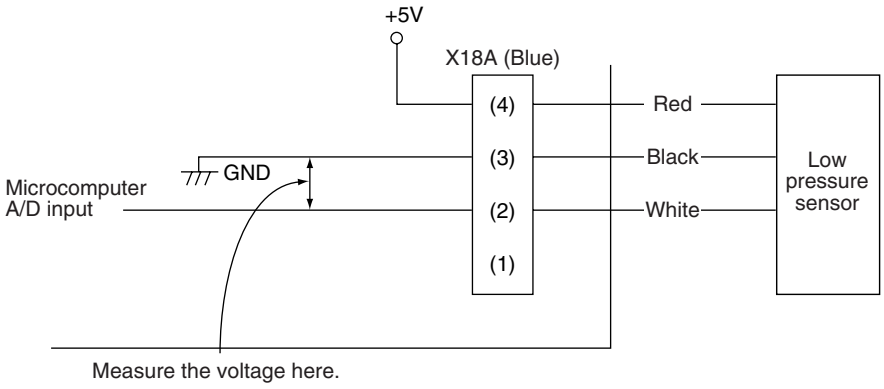
Service Checker
Connect the service checker to compare the “low pressure” value and the actual measurement value by pressure sensor (Refer to *1) by using the service checker.

Check if the “low pressure” value and the actual measurement value by pressure sensor are the same.
- NO → Replace the main PCB (A1P).
- YES ↓

· The low pressure sensor is normal, and the pressure detected with the PCB is also normal.
· The low pressure has really become low.

Check No.02 Remove the causes by which the low pressure has become low.

∗1: Make a comparison between the voltage of the pressure sensor and that read by the pressure gauge.
(As to the voltage of the pressure sensor, make measurement of voltage at the connector, and then convert it to pressure according to information on page 429.)
∗2: Make measurement of voltage of the pressure sensor.



(R13018)

7.4 Compressor Motor Lock

Remote Controller Display

E5

Method of Malfunction Detection

The position signal is taken from UVW line, and the malfunction is detected when any abnormality is observed in the phase-current waveform.

Malfunction Decision Conditions

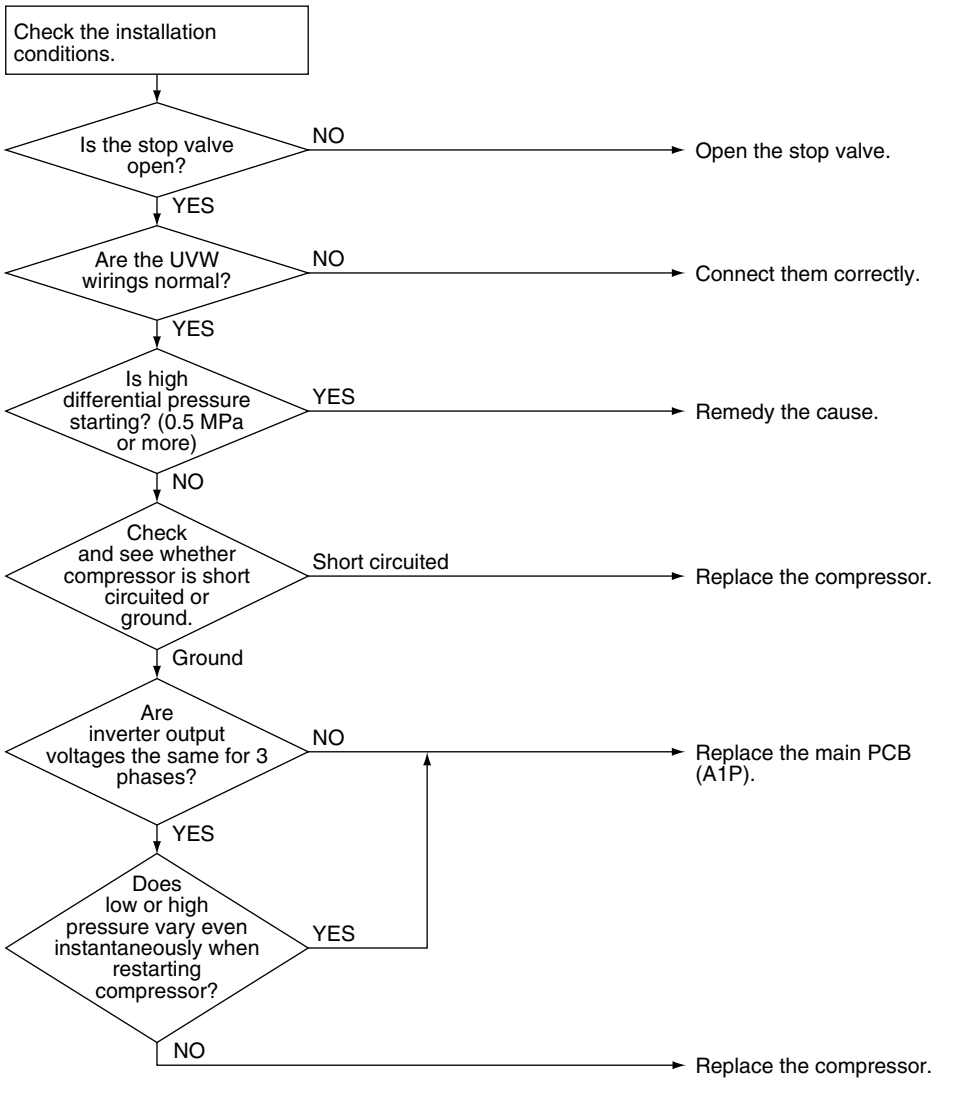
When the compressor motor does not start up even in forced startup mode

Supposed Causes

- Compressor lock
- High differential pressure (0.5 MPa or more)
- Incorrect UVW wiring
- Defective outdoor unit PCB
- Stop valve is left closed.

Troubleshooting

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



(R13020)

7.5 Outdoor Fan Motor Abnormality

Remote Controller Display

E7

Method of Malfunction Detection

The error is determined according to the fan speed detected by Hall IC when the fan motor runs.

Malfunction Decision Conditions

- When the fan runs with speed less than a specified one for 6 seconds or more when the fan motor running conditions are met
- When the error is generated 4 times, the system shuts down.
- Clearing condition: Operate for 5 minutes (normal)

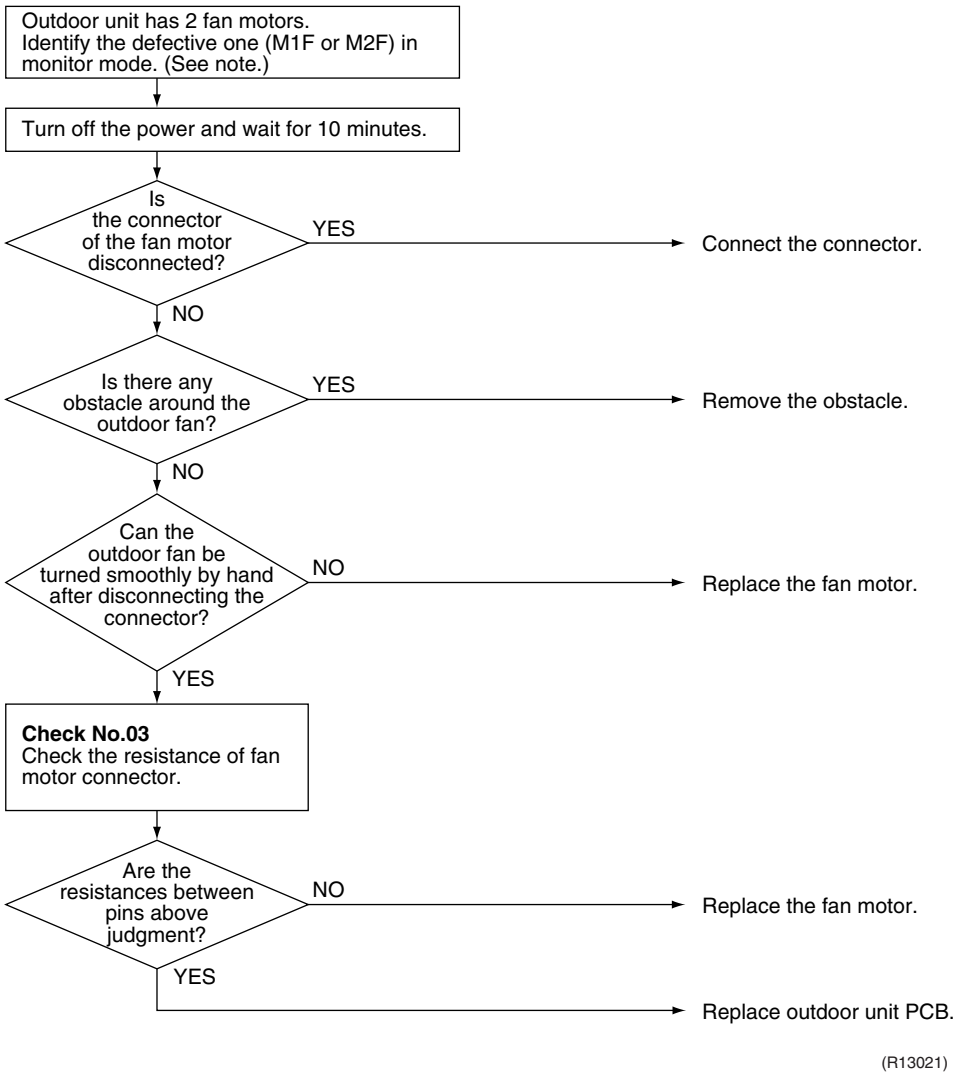
Supposed Causes

- Defective fan motor
- Disconnection of connector
- Fan does not rotate due to tangled foreign matters

Troubleshooting

Check No.03
Refer to P.425

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



(R13021)

Note: Refer to page 326 for detail about monitor mode.

7.6 Moving Part of Electronic Expansion Valve (Y1E, Y3E) Abnormality

Remote Controller Display

E9

Method of Malfunction Detection

System checks if the connector is disconnected, and the detection is based on the continuity of electronic expansion valve coil.

Malfunction Decision Conditions

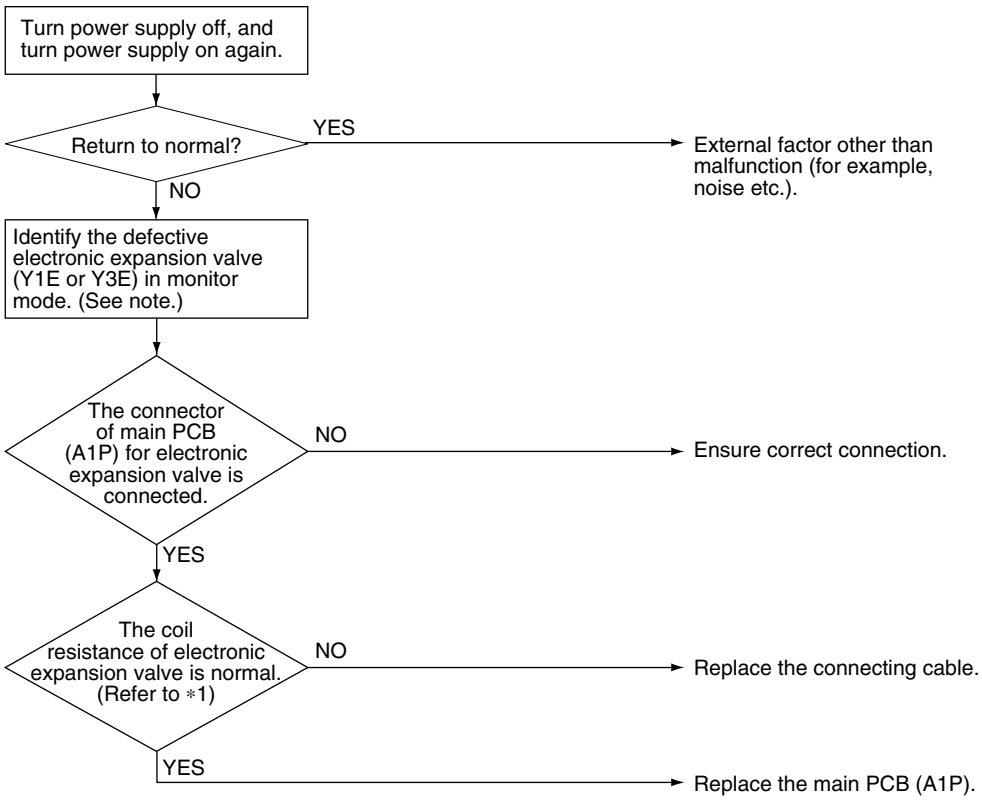
No current is detected in the common (COM [+]) when power supply is ON.

Supposed Causes

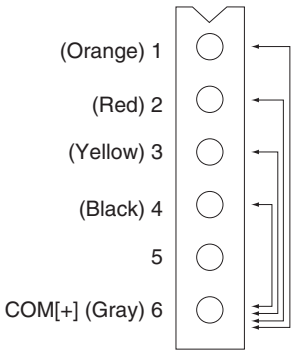
- Disconnection of connectors for electronic expansion valve Y1E or Y3E
- Defective moving part of electronic expansion valve
- Defective main PCB (A1P)

Troubleshooting

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



∗ Make measurement of resistance between the connector pins, and then make sure the resistance falls in the range of 40 to 50 Ω.



Measuring points	Judgment criteria
1 - 6	40~50 Ω
2 - 6	
3 - 6	
4 - 6	

(R13022)

Note: Refer to page 326 for detail about monitor mode.

7.7 Discharge Pipe Temperature Abnormality

Remote Controller Display

F3

Method of Malfunction Detection

The temperature detected by the discharge pipe thermistor determines the error.

Malfunction Decision Conditions

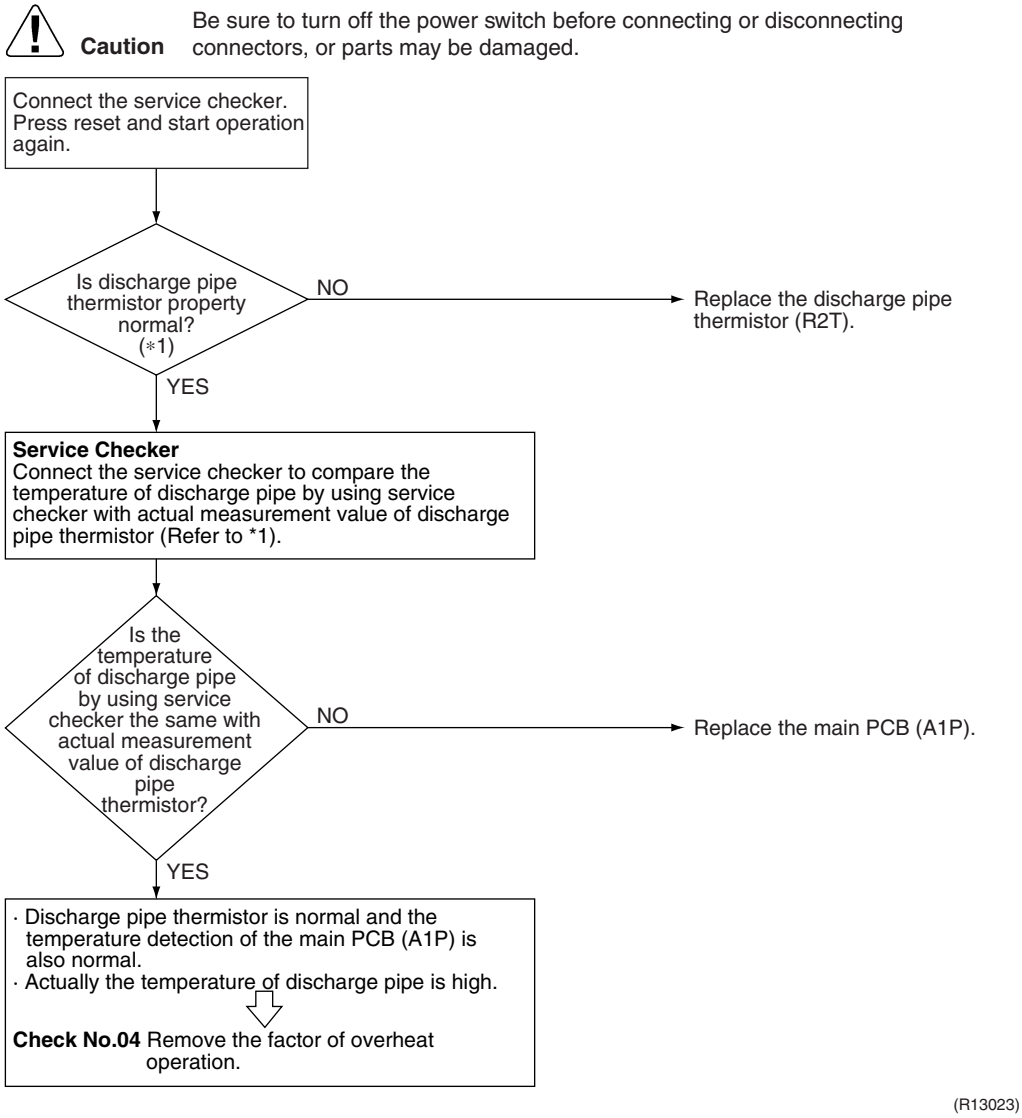
- When the discharge pipe temperature rises to an abnormally high level (135 °C and above)
- When the discharge pipe temperature rises suddenly (120 °C and above for 10 successive minutes)

Supposed Causes

- Defective discharge pipe thermistor
- Disconnection of discharge pipe thermistor (R2T)
- Defective main PCB (A1P)

Troubleshooting

Check No.04
Refer to P.426



(R13023)

*1: Compare the resistance value of discharge pipe thermistor and the value based on the surface thermometer.

Refer to “Thermistor Resistance / Temperature Characteristics” table 3 on page 428.

7.8 Refrigerant Overcharged

Remote Controller Display

F6

Method of Malfunction Detection

Excessive charging of refrigerant is detected during check operation by using outdoor temperature, outdoor heat exchanger temperature, and liquid pipe temperature.

Malfunction Decision Conditions

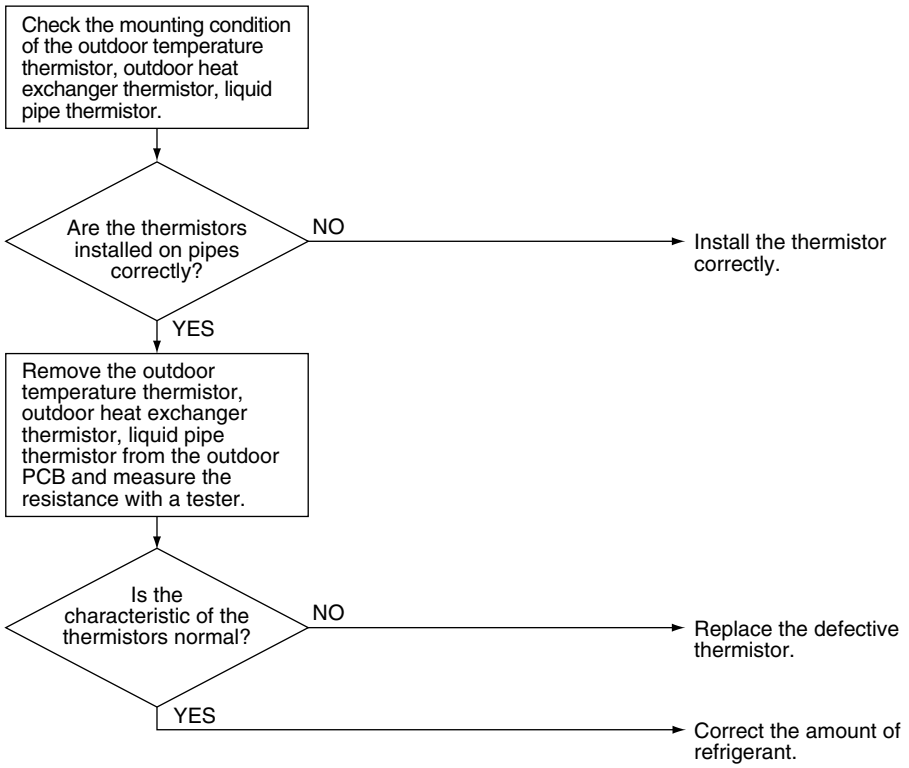
When the amount of refrigerant, which is calculated during check operation by using outdoor temperature, outdoor heat exchanger temperature, and liquid pipe temperature, exceeds the standard.

Supposed Causes

- Refrigerant overcharge
- Incorrect installation of outdoor temperature thermistor, outdoor heat exchanger thermistor, liquid pipe thermistor
- Defective outdoor temperature thermistor, outdoor heat exchanger thermistor, liquid pipe thermistor

Troubleshooting

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



(R13024)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

7.9 Outdoor Temperature Thermistor (R1T) Abnormality

Remote Controller Display

H9

Method of Malfunction Detection

The temperature detected by the outdoor temperature thermistor determines the error.

Malfunction Decision Conditions

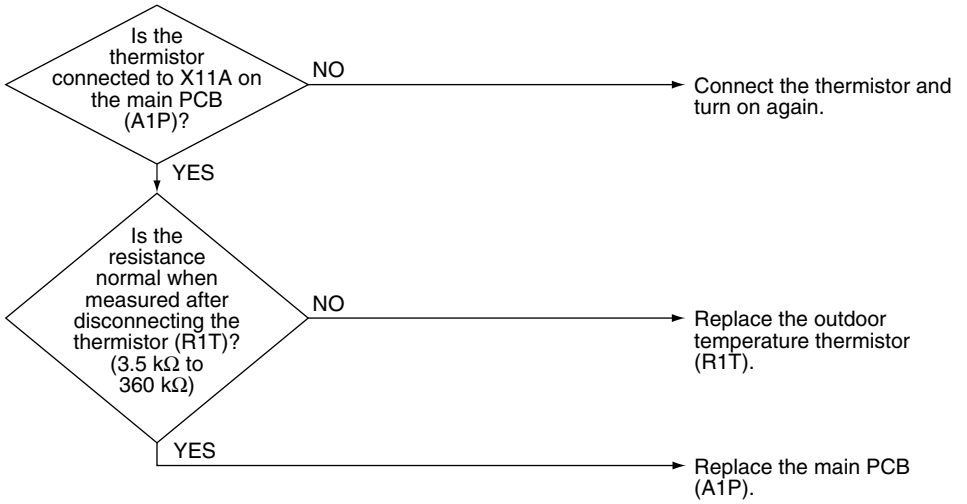
When the outdoor temperature thermistor has short circuit or open circuit

Supposed Causes

- Disconnection of thermistor
- Defective outdoor temperature thermistor (R1T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13025)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

7.10 Discharge Pipe Thermistor (R2T) Abnormality

Remote Controller Display

J3

Method of Malfunction Detection

The temperature detected by discharge pipe thermistor determines the error.

Malfunction Decision Conditions

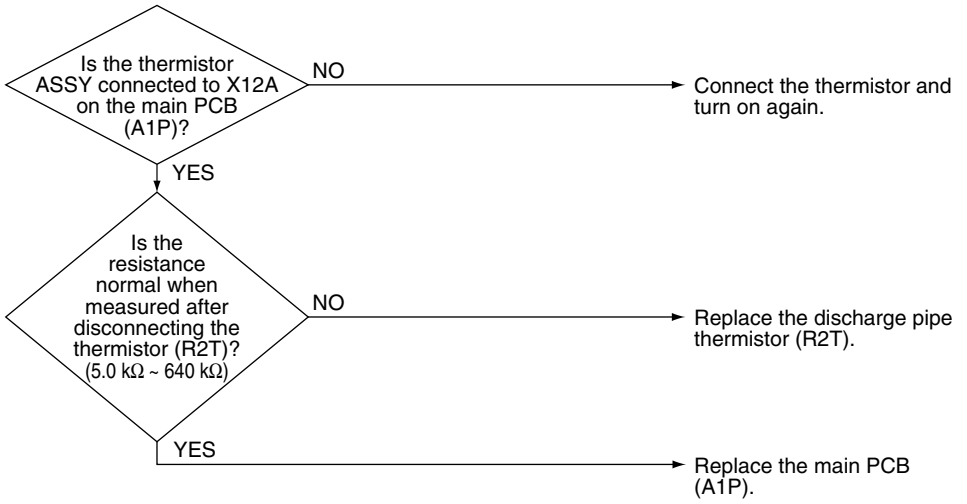
When a short circuit or an open circuit in the discharge pipe thermistor is detected

Supposed Causes

- Disconnection of thermistor
- Defective discharge pipe thermistor (R2T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13026)

Refer to “Thermistor Resistance / Temperature Characteristics” table 3 on page 428.

7.11 Suction Pipe Thermistor (R3T, R5T) Abnormality

Remote Controller Display

U5

Method of Malfunction Detection

The temperature detected by the suction pipe thermistor determines the error.

Malfunction Decision Conditions

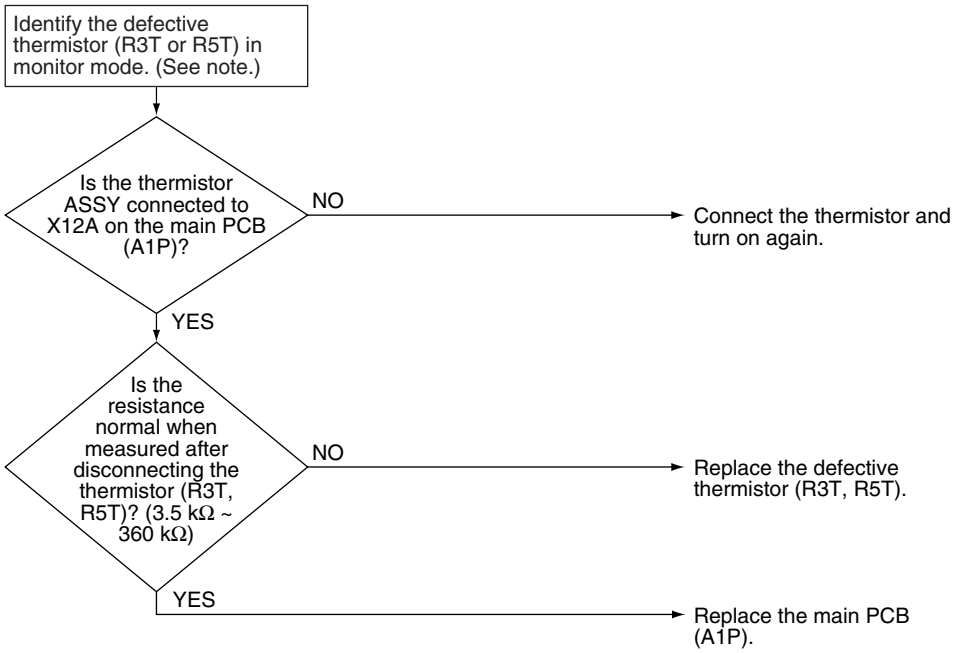
When a short circuit or an open circuit in the suction pipe thermistor is detected

Supposed Causes

- Disconnection of thermistor
- Defective suction pipe thermistor (R3T, R5T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13027)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

Note: Refer to page 326 for detail about monitor mode.

7.12 Outdoor Heat Exchanger Thermistor (R4T) Abnormality

Remote Controller Display

U6

Method of Malfunction Detection

The temperature detected by the outdoor heat exchanger thermistor determines the error.

Malfunction Decision Conditions

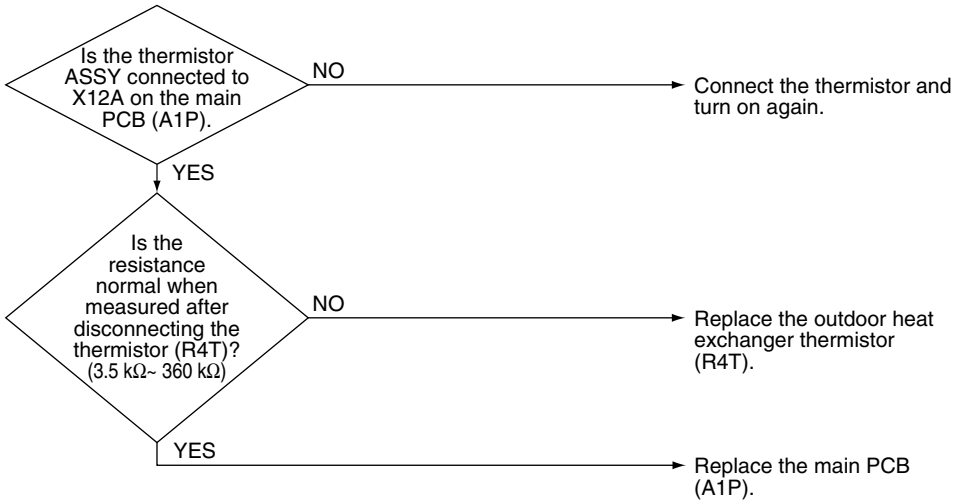
When a short circuit or an open circuit in the outdoor heat exchanger thermistor is detected

Supposed Causes

- Disconnection of thermistor
- Defective outdoor heat exchanger thermistor (R4T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13028)

Refer to “Thermistor Rsistance / Temperature Characteristics” table 2 on page 427.

7.13 Outdoor Liquid Pipe Thermistor (R7T) Abnormality

Remote Controller Display

Method of Malfunction Detection

The temperature detected by the outdoor liquid pipe thermistor determines the error.

Malfunction Decision Conditions

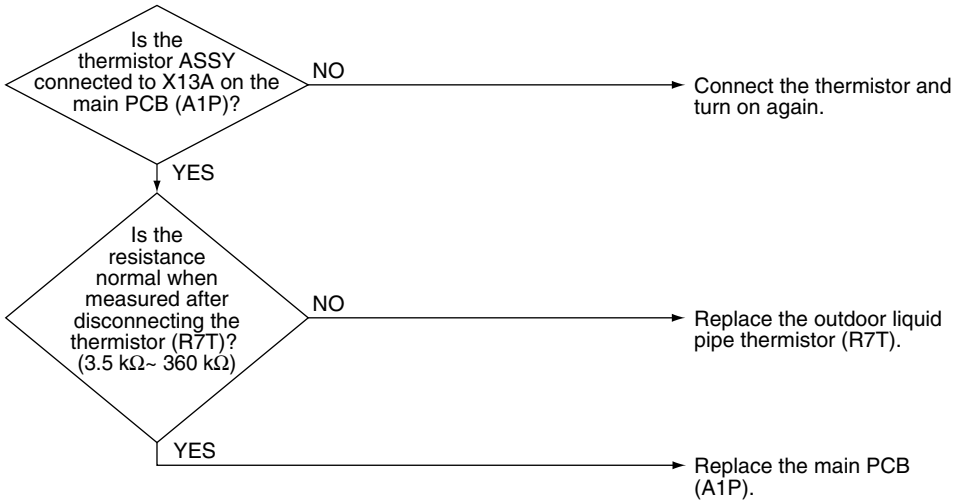
When a short circuit or an open circuit in the outdoor liquid pipe thermistor is detected

Supposed Causes

- Disconnection of thermistor
- Defective outdoor liquid pipe thermistor (R7T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13029)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

7.14 Subcooling Heat Exchanger Gas Pipe Thermistor (R6T) Abnormality

Remote Controller Display

Method of Malfunction Detection

The temperature detected by subcooling heat exchanger gas pipe thermistor determines the error.

Malfunction Decision Conditions

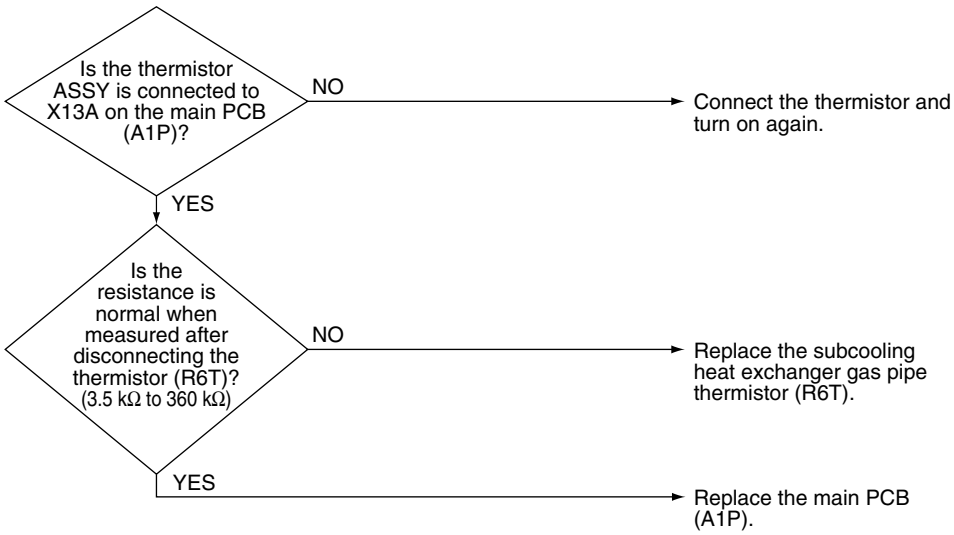
When the subcooling heat exchanger gas pipe thermistor is short circuited or open

Supposed Causes

- Disconnection of thermistor
- Defective subcooling heat exchanger gas pipe thermistor (R6T)
- Defective main PCB (A1P)

Troubleshooting

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



(R13030)

Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.

7.15 High Pressure Sensor Abnormality

Remote Controller Display

UP

Method of Malfunction Detection

The pressure detected by high pressure sensor determines the error.

Malfunction Decision Conditions

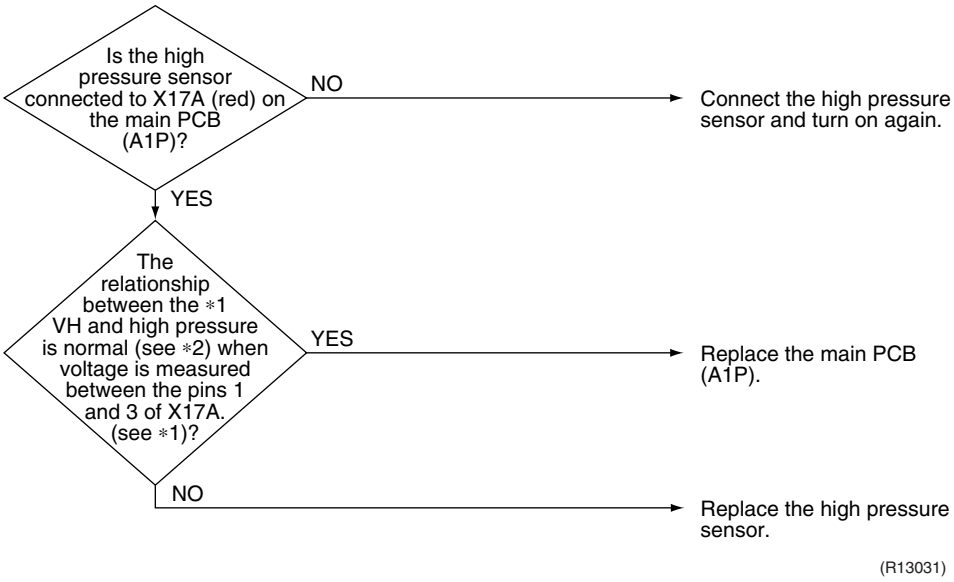
When the high pressure sensor is short circuit or open circuit

Supposed Causes

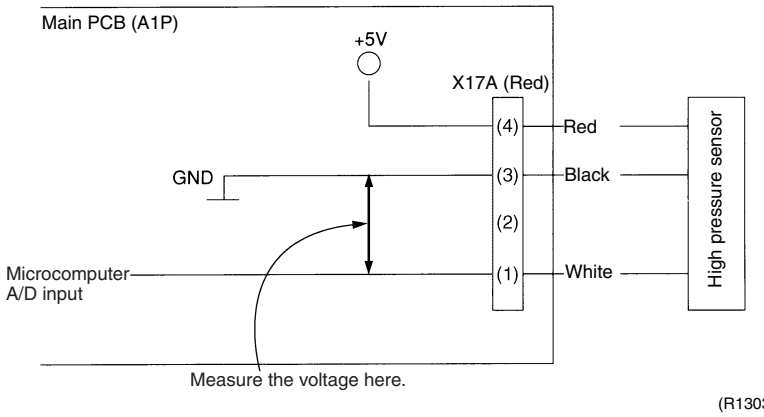
- Defective high pressure sensor
- Wrong connection with low pressure sensor
- Defective main PCB (A1P)

Troubleshooting

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



∗1: Voltage measurement point



∗2: For pressure / voltage characteristics graph, refer to “Pressure Sensor” on page 429.

7.16 Low Pressure Sensor Abnormality

Remote Controller Display

UL

Method of Malfunction Detection

The pressure detected by low pressure sensor determines the error.

Malfunction Decision Conditions

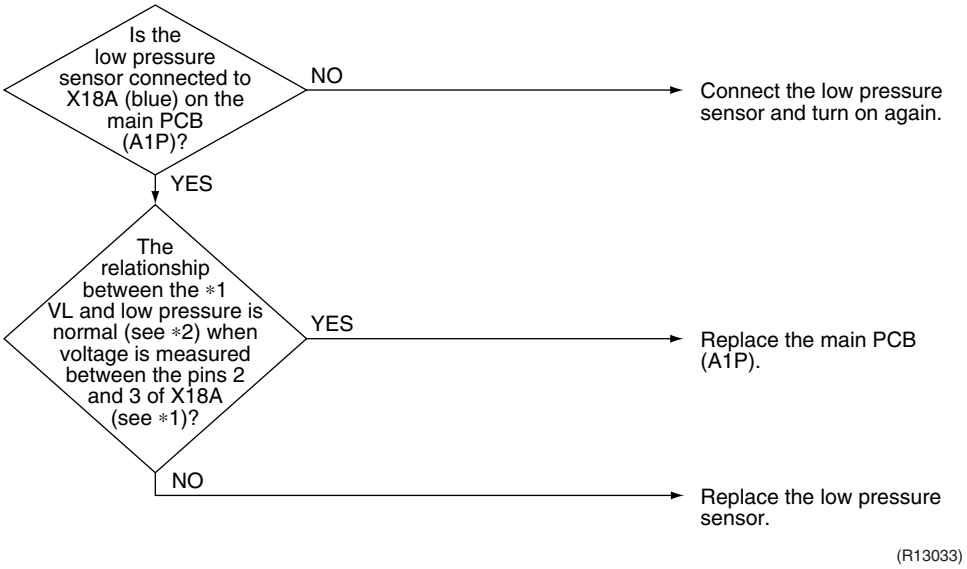
When the low pressure sensor is short circuit or open circuit

Supposed Causes

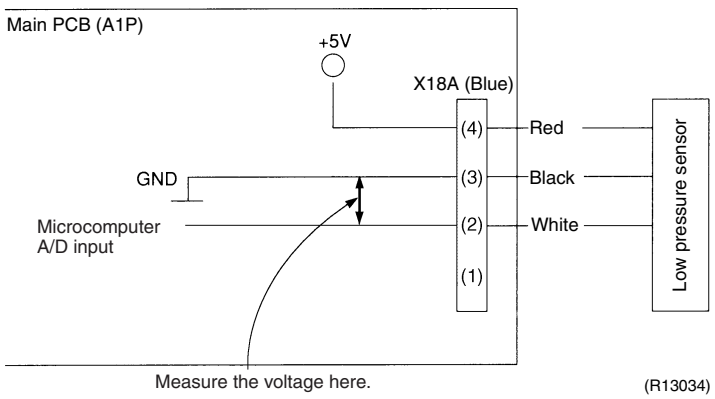
- Defective low pressure sensor
- Wrong connection with high pressure sensor
- Defective main PCB (A1P)

Troubleshooting

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



∗1: Voltage measurement point



∗2: For pressure / voltage characteristics graph, refer to “Pressure Sensor” on page 429.

7.17 Outdoor Unit PCB Abnormality

Remote Controller Display

L1

Method of Malfunction Detection

- The error is detected based on the current value during waveform output before starting compressor.
- The error is detected based on the value from current sensor during synchronous operation when starting the unit.

Malfunction Decision Conditions

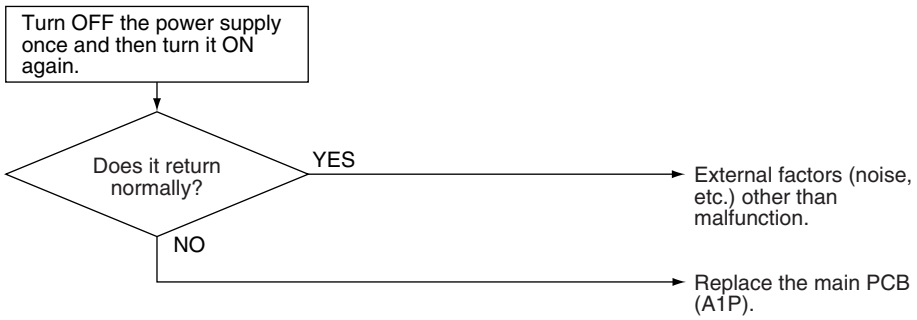
- Overcurrent (OCP) flows during waveform output.
- Malfunction of current sensor during synchronous operation
- IPM failure

Supposed Causes

- Defective main PCB (A1P)
  - IPM failure
  - Current sensor failure
  - Failure of IGBT or drive circuit

Troubleshooting

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



(R13035)

7.18 Radiation Fin Temperature Rise

Remote Controller Display

L4

Method of Malfunction Detection

Fin temperature is detected by the thermistor of the radiation fin.

Malfunction Decision Conditions

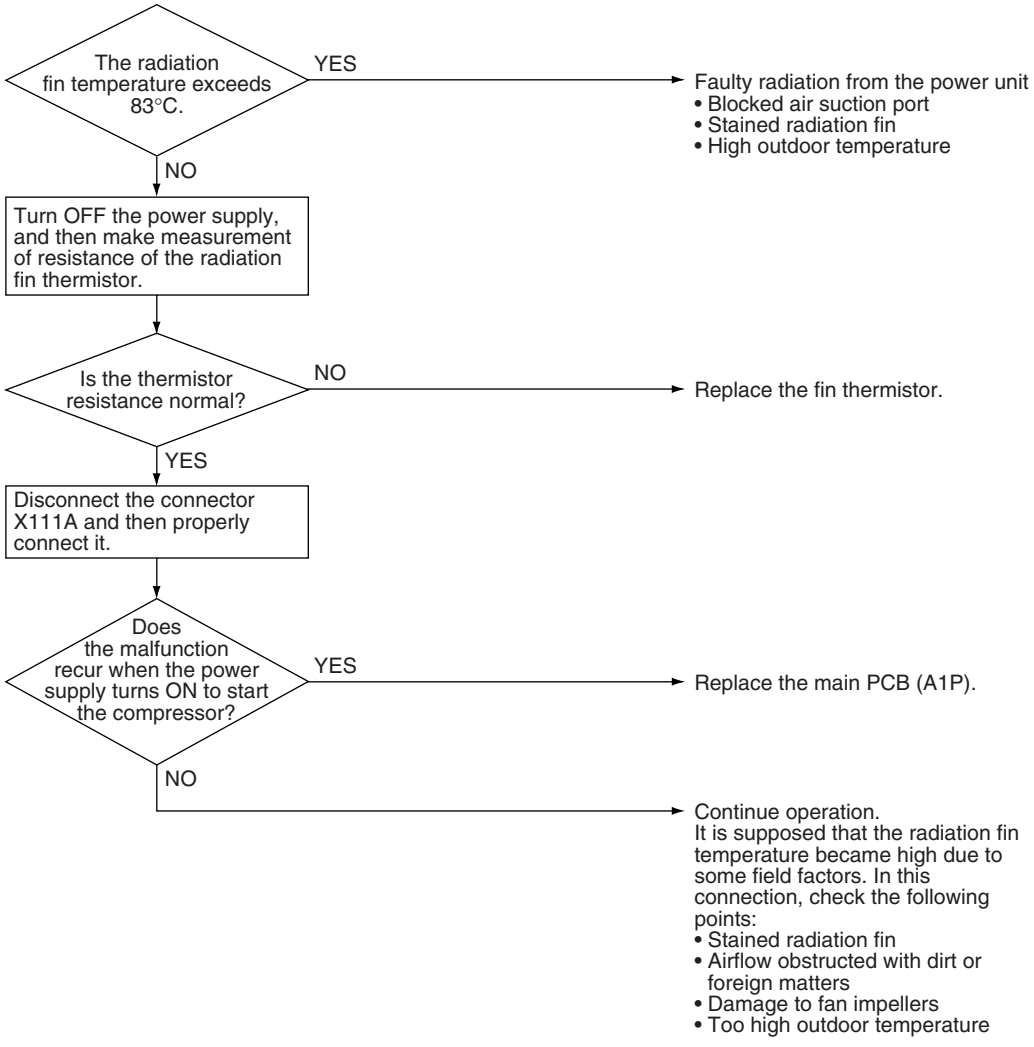
When the temperature of the radiation fin increases above 83°C

Supposed Causes

- Defective main PCB (A1P)
- Defective radiation fin thermistor (FINTH)

Troubleshooting

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



(R13036)

Refer to “Thermistor Resistance / Temperature Characteristics” table 1 on page 427.

7.19 Inverter Compressor Abnormality

Remote Controller Display

L5

Method of Malfunction Detection

The error is detected from current flowing in the power transistor.

Malfunction Decision Conditions

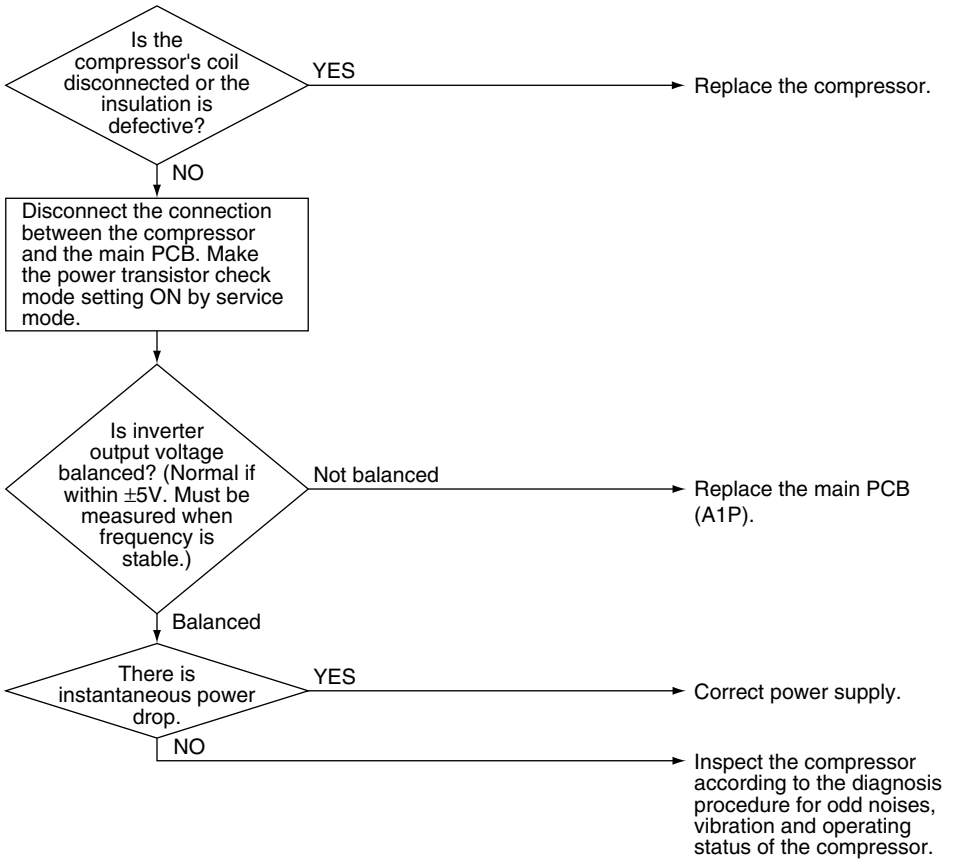
When an excessive current flows in the power transistor
(Instantaneous overcurrent also causes activation.)

Supposed Causes

- Defective compressor coil (disconnected, defective insulation)
- Compressor start-up malfunction (mechanical lock)
- Defective main PCB (A1P)

Troubleshooting

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



(R13037)

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

7.20 Inverter Current Abnormality

Remote Controller Display

L8

Method of Malfunction Detection

The error is detected by current flowing in the power transistor.

Malfunction Decision Conditions

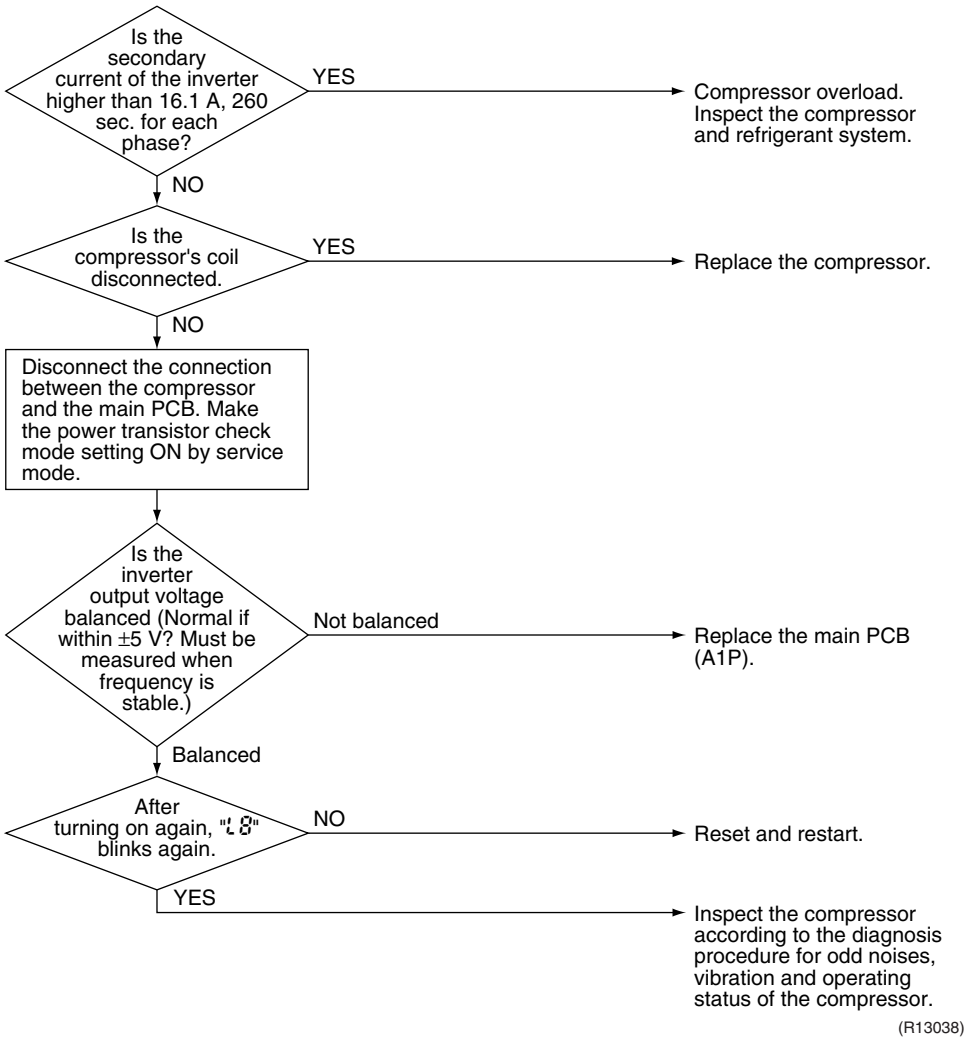
When overload in the compressor is detected. (Inverter secondary current 16.1 A)
(1) 19.0 A and over continues for 5 seconds.
(2) 16.1 A and over continues for 260 seconds.

Supposed Causes

- Compressor overload
- Compressor coil disconnected
- Defective main PCB (A1P)

Troubleshooting

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



(R13038)

7.21 Compressor Start-up Error

Remote Controller Display

L9

Method of Malfunction Detection

The error is detected from current flowing in the power transistor.

Malfunction Decision Conditions

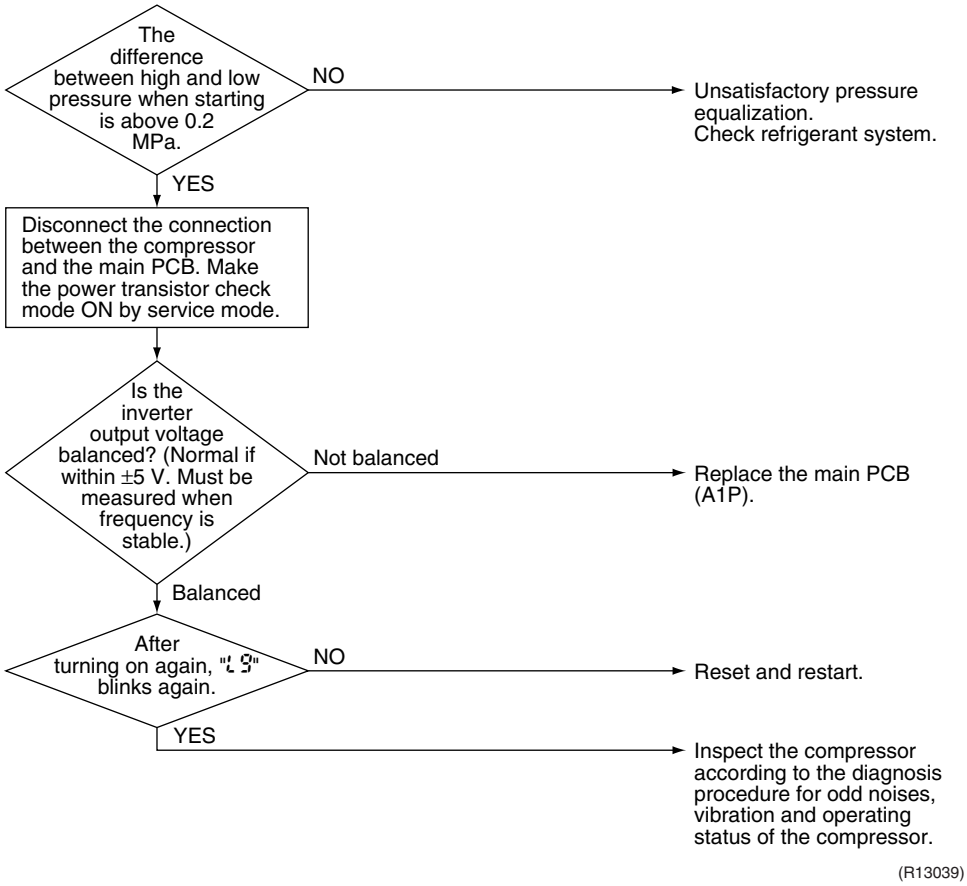
Starting control of the compressor does not complete.

Supposed Causes

- Defective compressor
- Large pressure difference before starting the compressor
- Defective main PCB (A1P)

Troubleshooting

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



(R13039)

7.22 High Voltage of Capacitor in Main Inverter Circuit

Remote Controller Display

P1

Method of Malfunction Detection

The error is detected according to the voltage waveform of main circuit capacitor built in the inverter.

Malfunction Decision Conditions

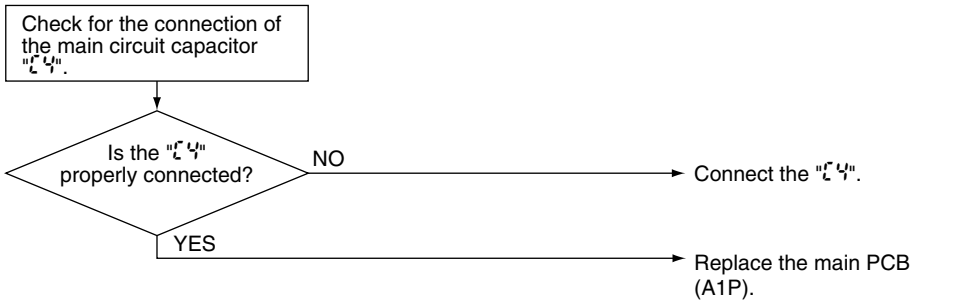
When the voltage waveform becomes identical with the waveform of the power supply open phase

Supposed Causes

- Defective main circuit capacitor
- Improper main circuit wiring
- Defective main PCB (A1P)

Troubleshooting

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



(R13040)

7.23 Radiation Fin Thermistor Abnormality

Remote Controller Display

P4

Method of Malfunction Detection

Resistance of radiation fin thermistor is detected when the compressor is not operating.

Malfunction Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open or short circuited status

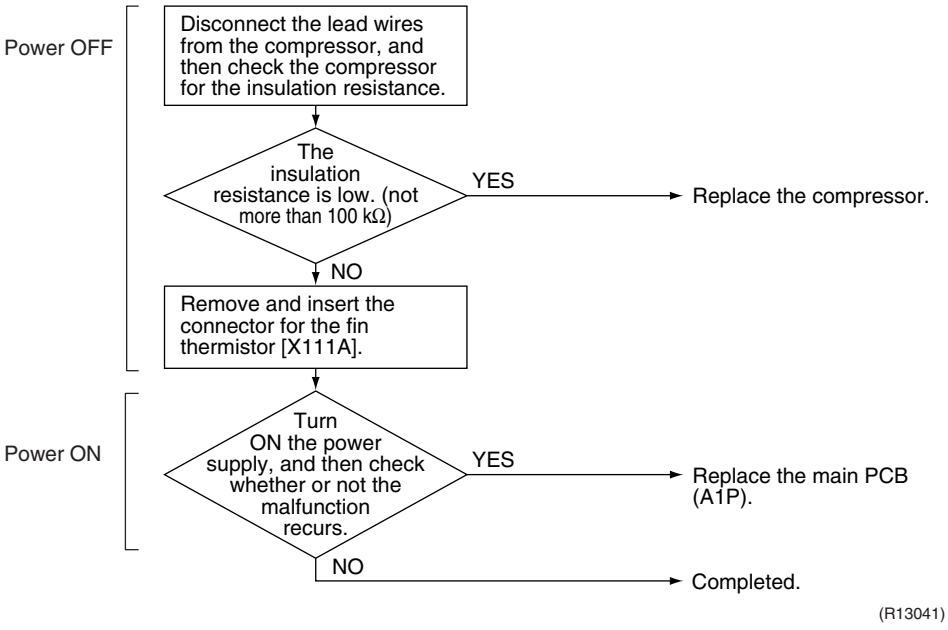
★ Malfunction is not decided while the unit operation is continued.
"P4" is displayed by pressing the inspection button.

Supposed Causes

- Defective radiation fin thermistor
- Defective main PCB (A1P)

Troubleshooting

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



(R13041)

7.24 Low Pressure Drop due to Refrigerant Shortage or Electronic Expansion Valve Abnormality

Remote Controller Display

UD

Method of Malfunction Detection

Refrigerant shortage is detected by discharge pipe thermistor and low pressure saturation temperature.

Malfunction Decision Conditions

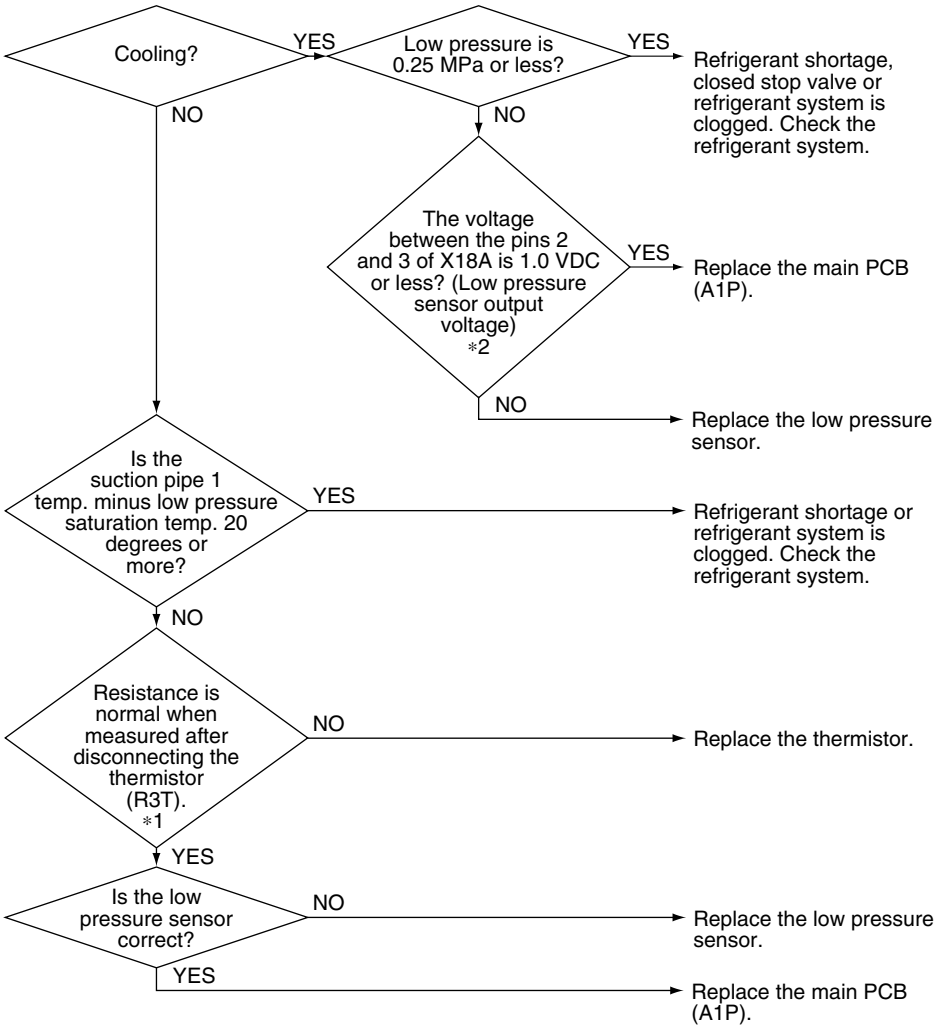
Microcomputer judge and detect if the system is short of refrigerant.
★The error is not decided while the operation continues.

Supposed Causes

- Refrigerant shortage or refrigerant system clogging (incorrect piping)
- Defective low pressure sensor
- Defective main PCB (A1P)
- Defective thermistor (R3T)

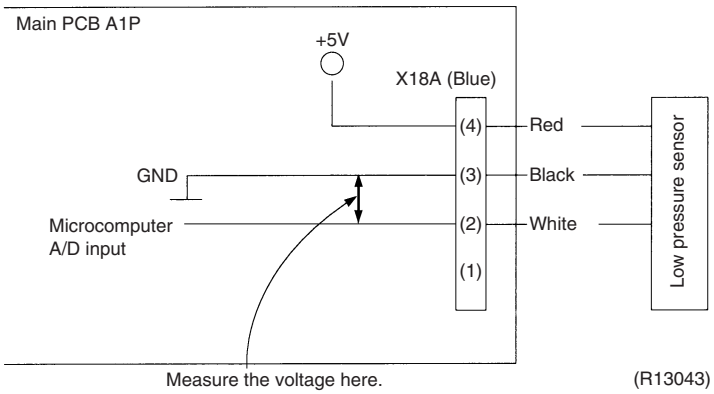
Troubleshooting

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



(R13042)

∗2: Voltage measurement point



(R13043)

∗1: Refer to “Thermistor Resistance / Temperature Characteristics” table 2 on page 427.
∗2: For pressure / voltage characteristics graph, refer to “Pressure Sensor” on page 429.

7.25 Power Supply Insufficient or Instantaneous Failure

Remote Controller Display

U2

Method of Malfunction Detection

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

Malfunction Decision Conditions

When the abnormal voltage of main circuit capacitor built in the inverter and abnormal power supply voltage are detected

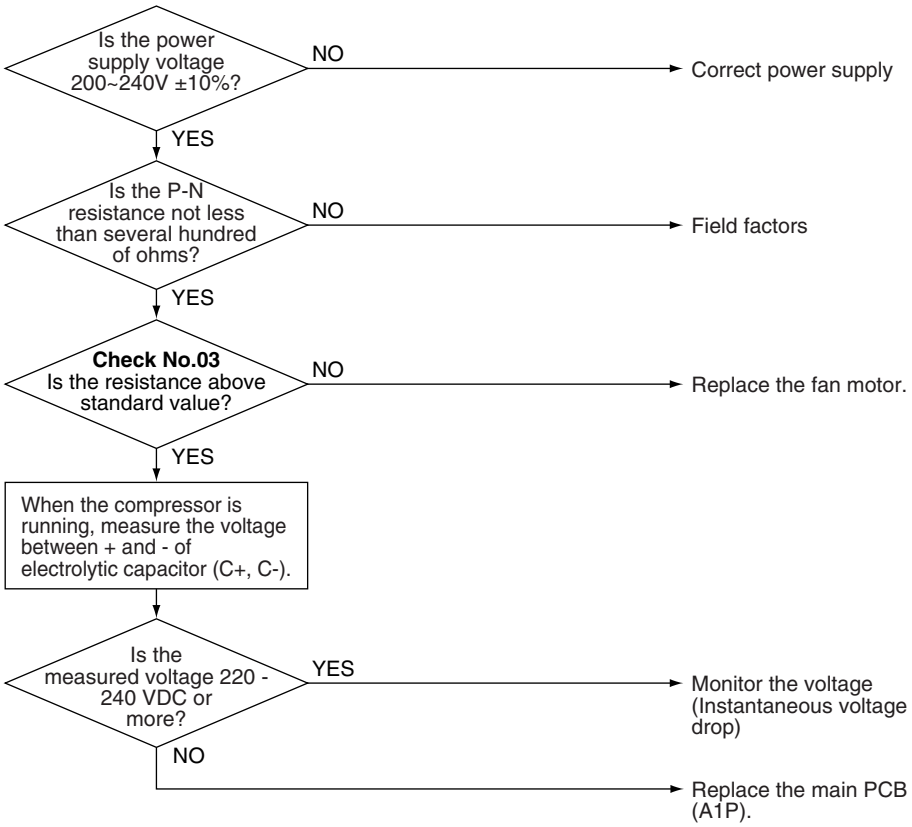
Supposed Causes

- Power supply insufficient
- Instantaneous power failure
- Defective outdoor fan motor
- Defective main PCB (A1P)

Troubleshooting

Check No.03
Refer to P.425

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



(R13044)

7.26 Check Operation is not Conducted

Remote Controller Display

U3

Method of Malfunction Detection

Check operation is executed or not

Malfunction Decision Conditions

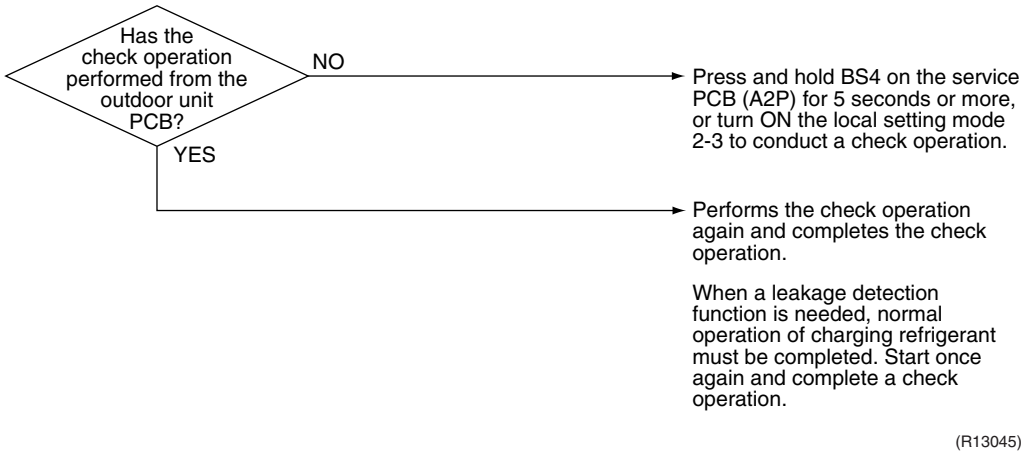
When the unit starts operation without check operation

Supposed Causes

- Check operation is not executed.

Troubleshooting

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



(R13045)

7.27 Transmission Error between Remote Controller and Indoor Unit

Remote Controller Display

U5

Method of Malfunction Detection

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

Malfunction Decision Conditions

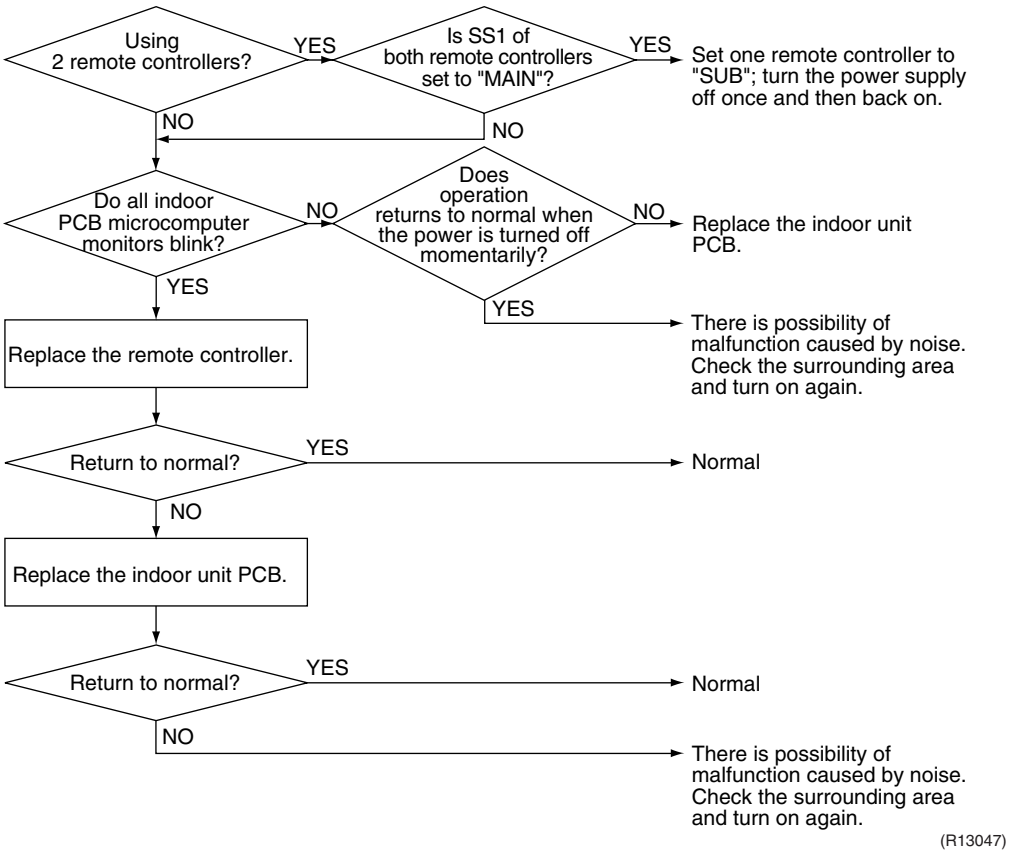
Normal transmission does not continue for specified period.

Supposed Causes

- Malfunction of indoor unit remote controller transmission
- Connection of 2 main remote controllers (when using 2 remote controllers)
- Defective indoor unit PCB
- Defective remote controller PCB
- Transmission error caused by noise

Troubleshooting

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



(R13047)

7.28 Transmission Error between Main and Sub Remote Controllers

Remote Controller Display

U8

Method of Malfunction Detection

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

Malfunction Decision Conditions

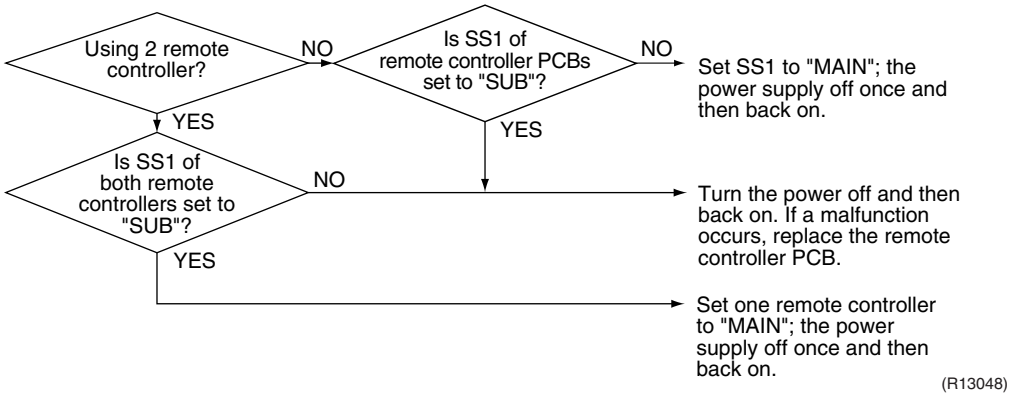
Normal transmission does not continue for specified period.

Supposed Causes

- Remote controller is set to “SUB” when using 1 remote controller.
- Transmission error between main and sub remote controller
- Connection of 2 sub remote controllers (when using 2 remote controllers)
- Defective remote controller PCB

Troubleshooting

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



7.29 Transmission Error Between Indoor Unit and Outdoor Unit in the Same System

Remote Controller Display

U9

Method of Malfunction Detection

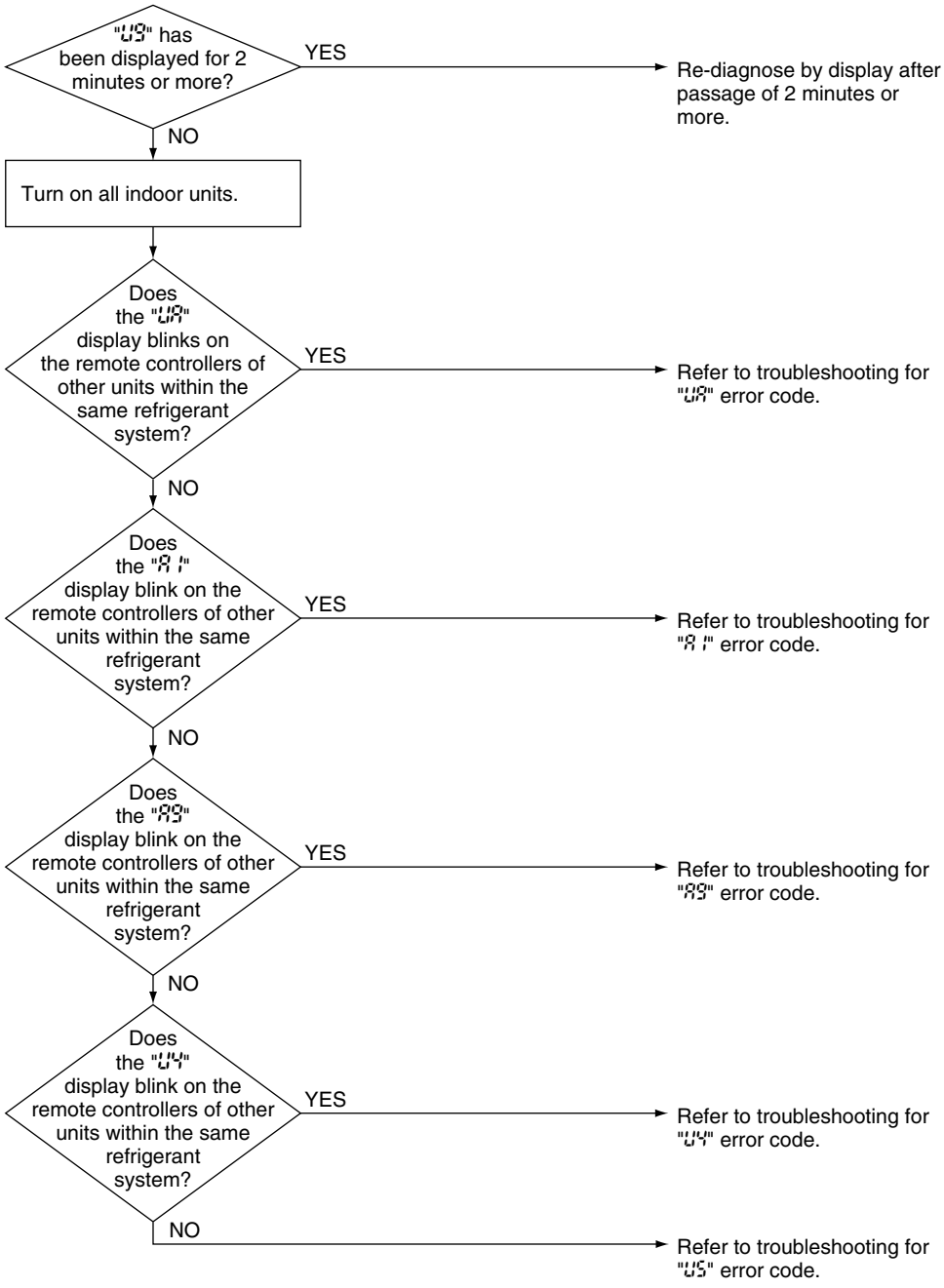
Malfunction Decision Conditions

Supposed Causes

- Transmission error within or outside of other system
- Defective electronic expansion valve in indoor unit of other system
- Defective indoor unit PCB in other system
- Improper connection of transmission wiring between indoor and outdoor unit

Troubleshooting

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



(R13049)

7.30 Excessive Number of Indoor Units

Remote Controller Display

UA

Method of Malfunction Detection

- A difference occurs in data by the type of refrigerant between indoor and outdoor units.
- The number of indoor units is out of the allowable range.
- Incorrect signals are transmitted among the indoor unit, BP unit, and outdoor unit.

Malfunction Decision Conditions

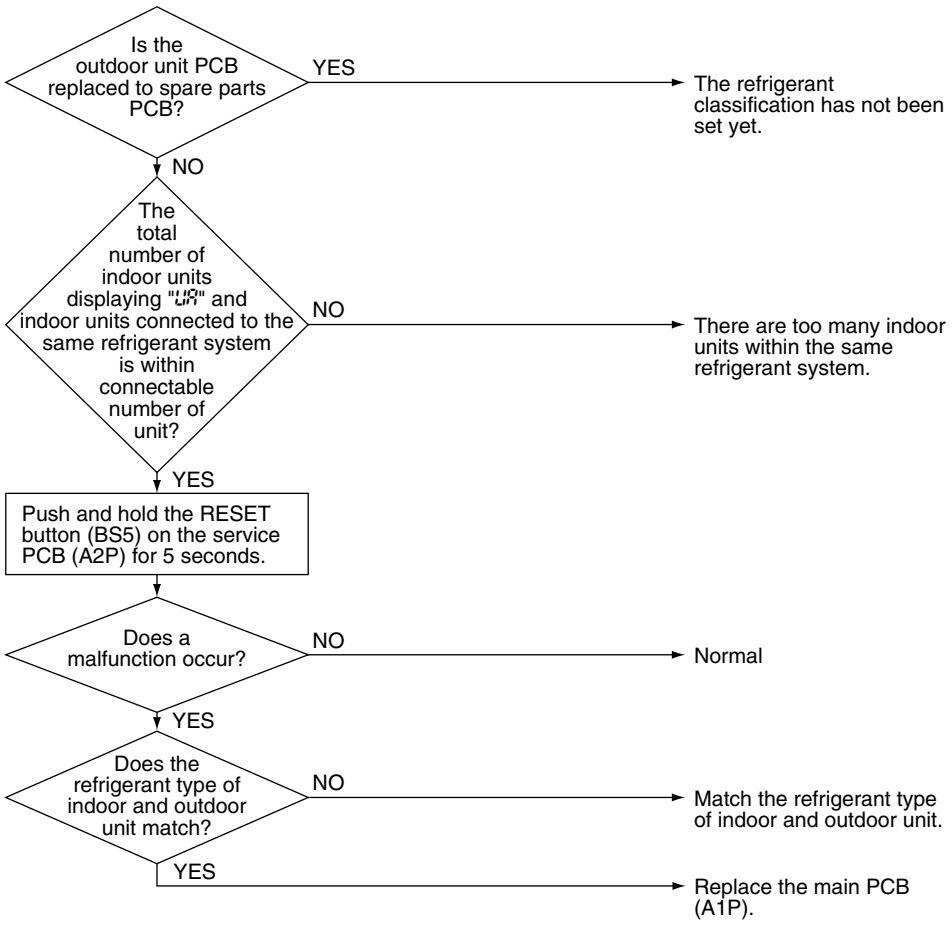
The malfunction decision is made as soon as either of the abnormalities is detected.

Supposed Causes

- Excess of connected indoor units
- Defective main PCB (A1P)
- Mismatching of the refrigerant type of indoor and outdoor unit.
- Setting of outdoor unit PCB was not conducted after replacing to spare parts PCB.

Troubleshooting

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



(R13050)

7.31 Address Duplication of Central Remote Controller

Remote Controller Display

UC

Method of Malfunction Detection

The principal indoor unit detects the same address as that of its own on any other indoor unit.

Malfunction Decision Conditions

The malfunction decision is made as soon as the abnormality is detected.

Supposed Causes

- Address duplication of centralized remote controller
- Defective indoor unit PCB

Troubleshooting

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

The centralized address is duplicated. → Make setting change so that the centralized address is not be duplicated.

(R13051)

7.32 Transmission Error between Centralized Remote Controller and Indoor Unit

Remote Controller Display

UE

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and centralized remote controller is normal.

Malfunction Decision Conditions

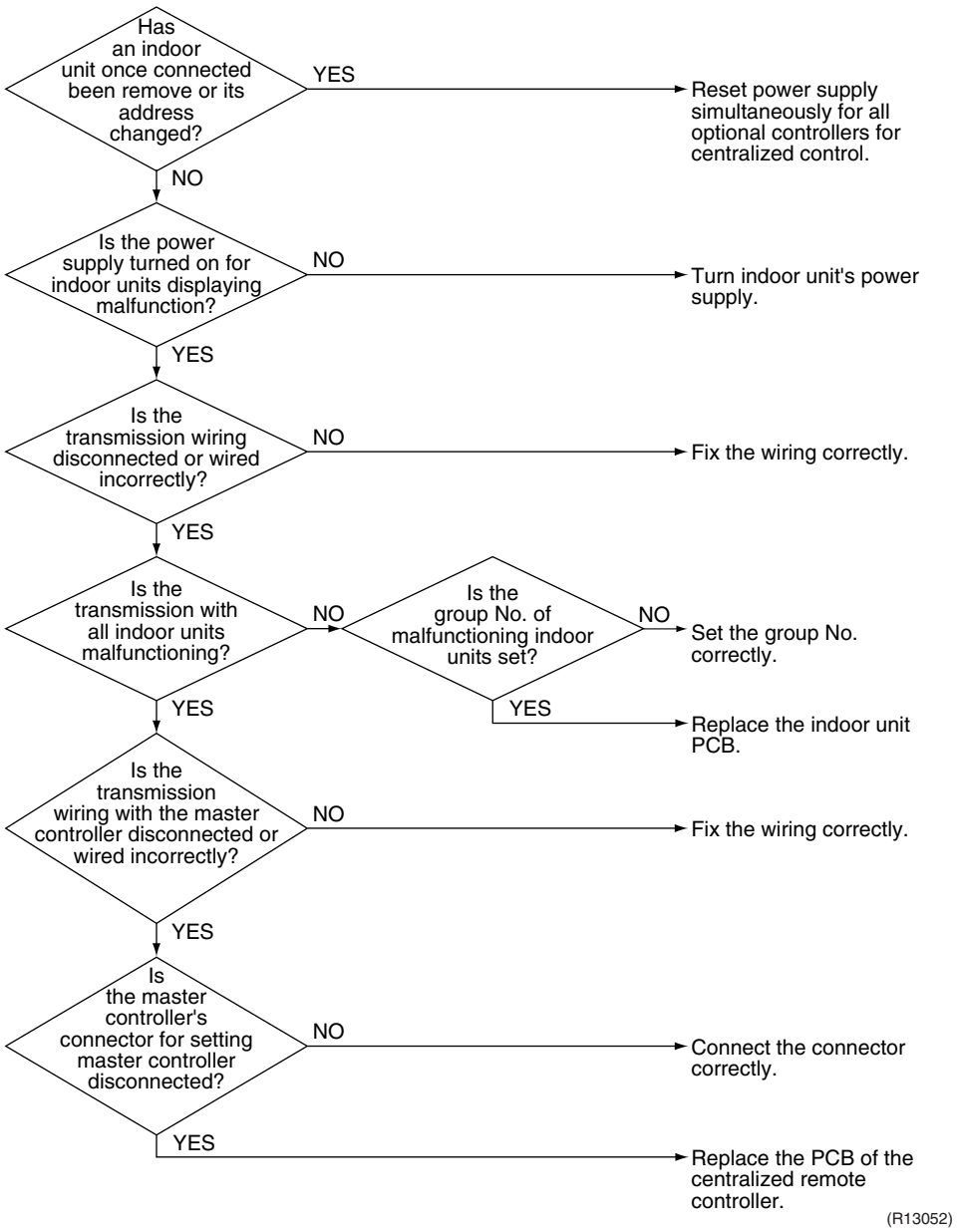
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Transmission error between optional controllers for centralized control and indoor unit
- Connector for setting master controller is disconnected.
- Defective PCB of centralized remote controller
- Defective indoor unit PCB

Troubleshooting

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



7.33 System is not Set yet

Remote Controller Display

UF

Method of Malfunction Detection

On check operation, the number of indoor units in terms of transmission is not corresponding to that of indoor units that have made changes in temperature.

Malfunction Decision Conditions

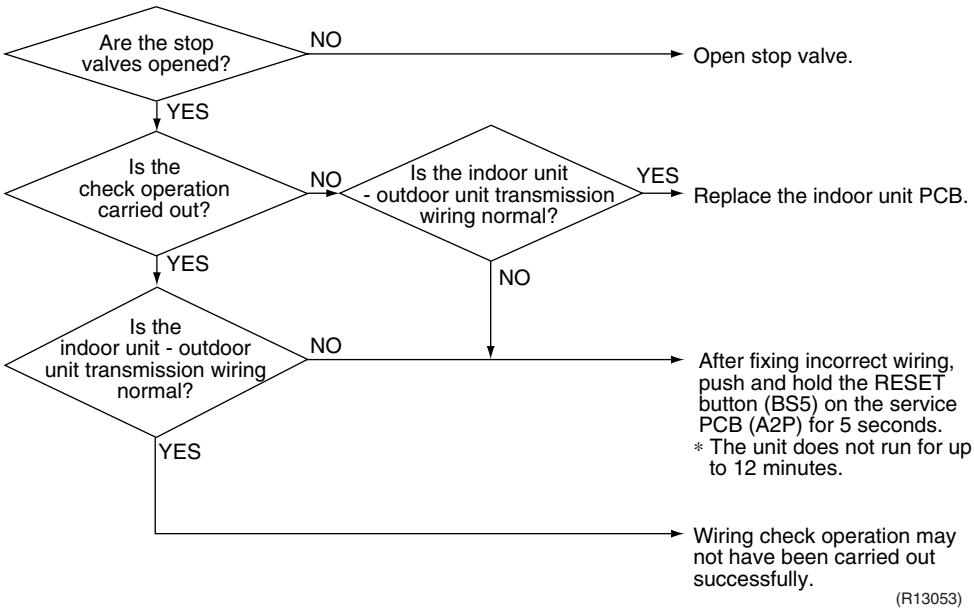
The malfunction is determined as soon as the abnormality aforementioned is detected through checking the system for any erroneous connection of units on the check operation.

Supposed Causes

- Improper connection of transmission wiring between indoor unit - outdoor unit
- Failure to execute check operation
- Defective indoor unit PCB
- Stop valve is left closed

Troubleshooting

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



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

7.34 System Abnormality, Refrigerant System Address Undefined

Remote Controller Display

LH

Method of Malfunction Detection

The system detects an indoor unit to which auto address has not been assigned.

Malfunction Decision Conditions

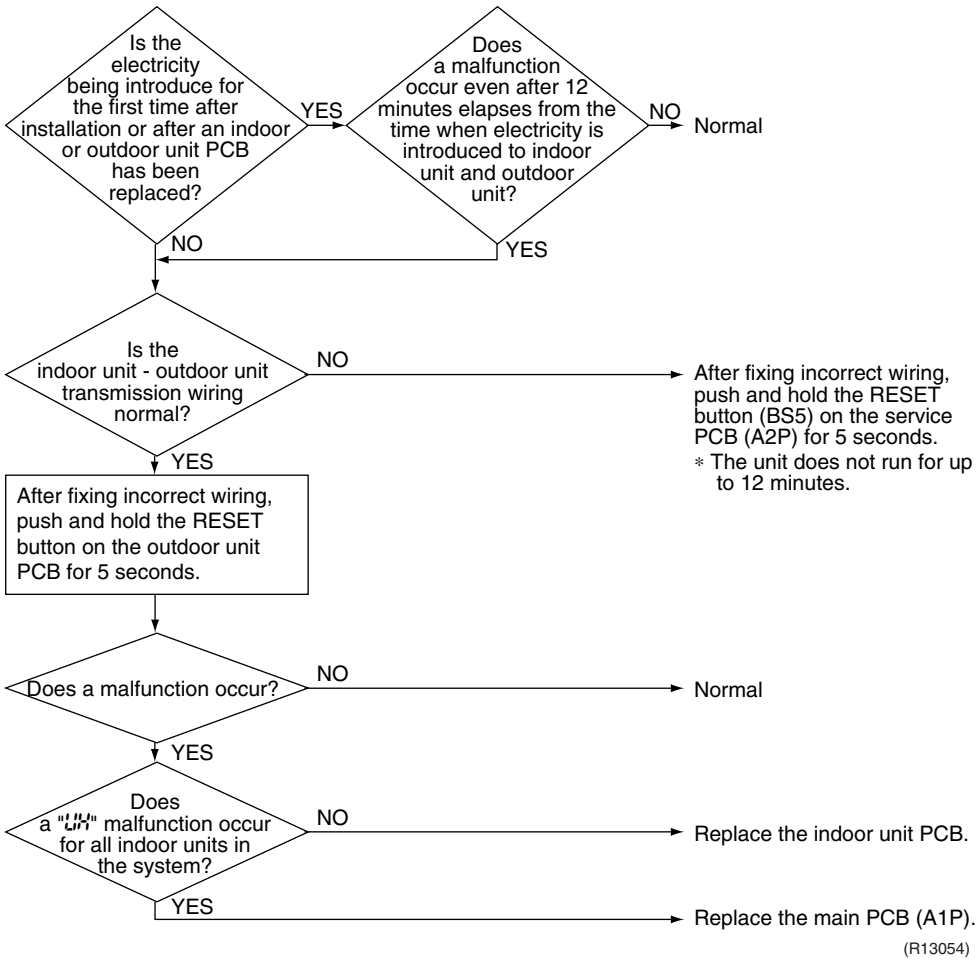
The malfunction decision is made as soon as the abnormality is detected.

Supposed Causes

- Improper connection of transmission wiring between indoor and outdoor unit
- Defective indoor unit PCB
- Defective main PCB (A1P)

Troubleshooting

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

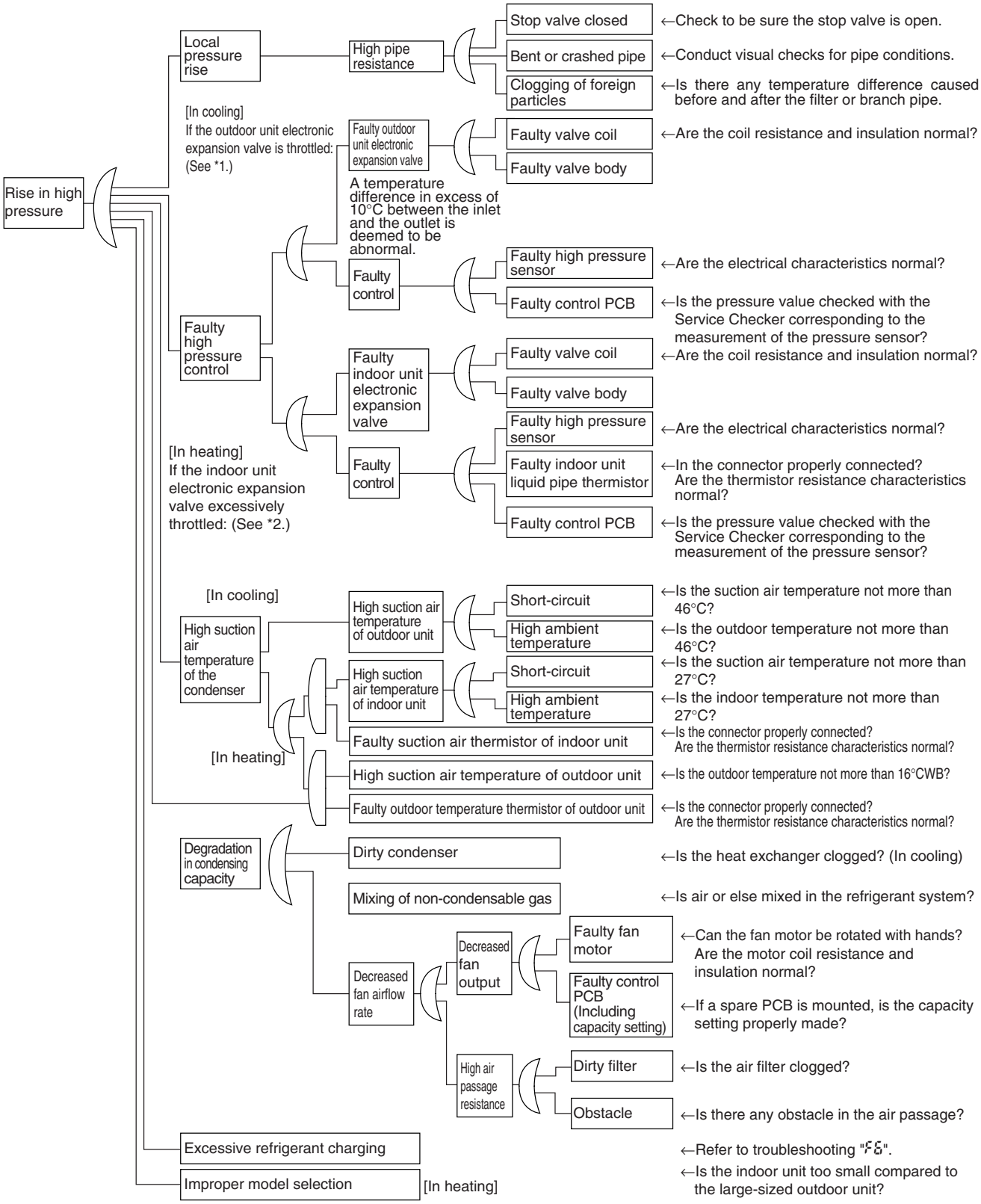


(R13054)

7.35 Check for Outdoor Unit

7.35.1 Check for Causes of Rise in High Pressure

Check No.01 Referring to the Fault Tree Analysis (FTA) shown below, probe the faulty points.

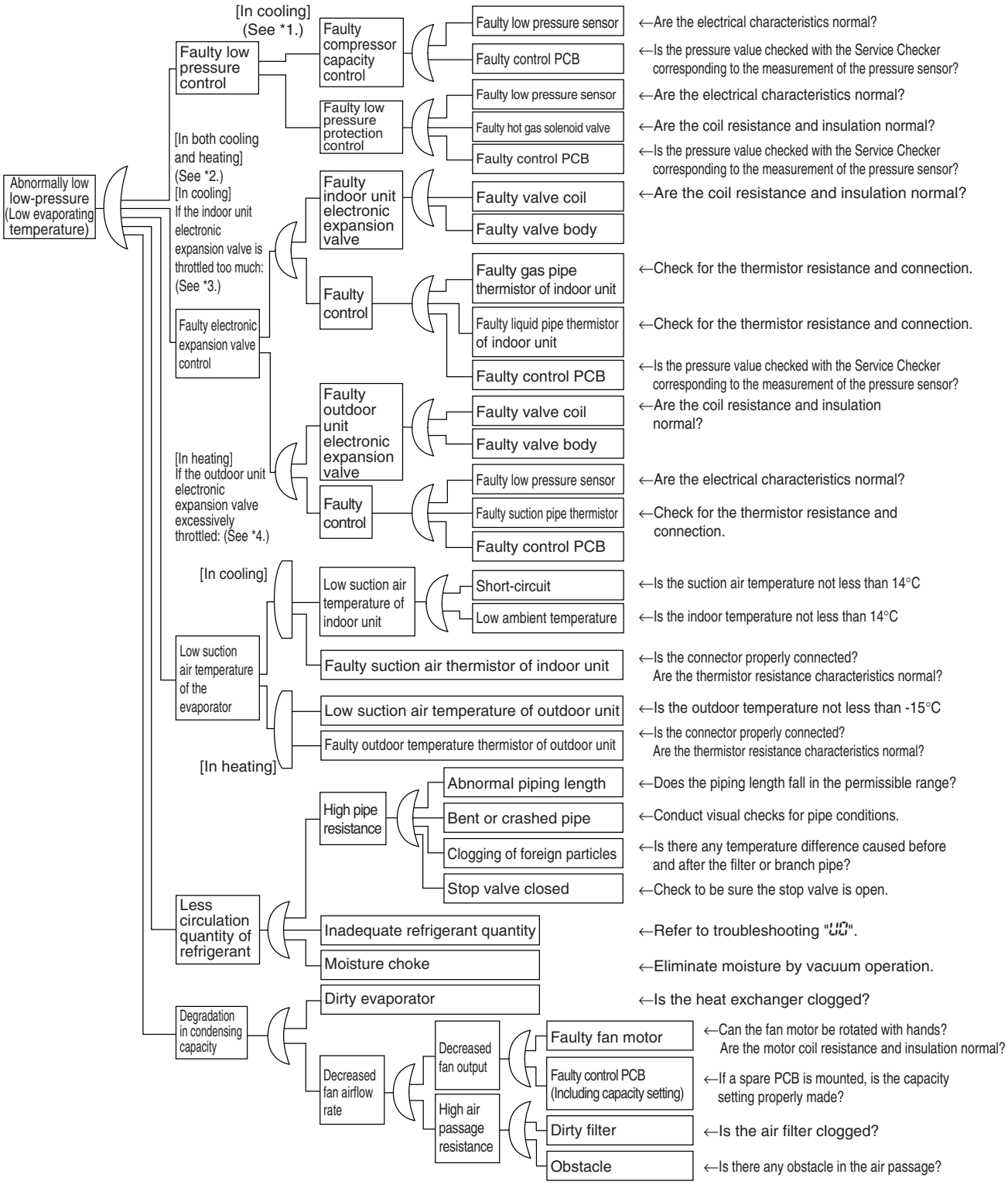


*1: In cooling, it is normal if the outdoor unit electronic expansion valve (Y1E) is fully open.
*2: In heating, the indoor unit electronic expansion valve is used for “subcooled degree control”. (For details, refer to “Electronic Expansion Valve Control”.)

(R13055)

7.35.2 Check for Causes of Drop in Low Pressure

Check No.02 Referring to the Fault Tree Analysis (FTA) shown below, probe the faulty points.



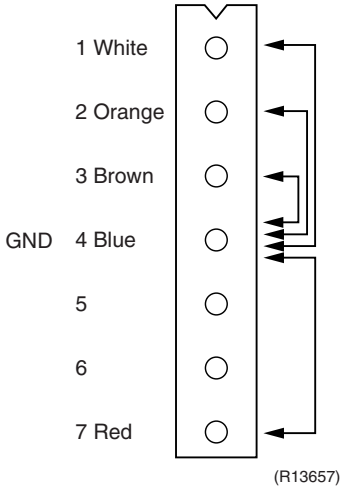
*1: For details of the compressor capacity control while in cooling, refer to “Compressor PI Control”.
*2: The “Low Pressure Protection Control” includes low pressure protection control and hot gas bypass control.
*3: In cooling, the indoor unit electronic expansion valve is used for “superheated degree control”. (For details, refer to "Electronic Expansion Valve Control.)
*4: In heating, the outdoor unit electronic expansion valve (Y1E) is used for “superheated degree control of outdoor unit heat exchanger”. (For details, refer to "Electronic Expansion Valve PI Control".)

(R13056)

7.35.3 Fan Motor Connector Check

Check No. 03

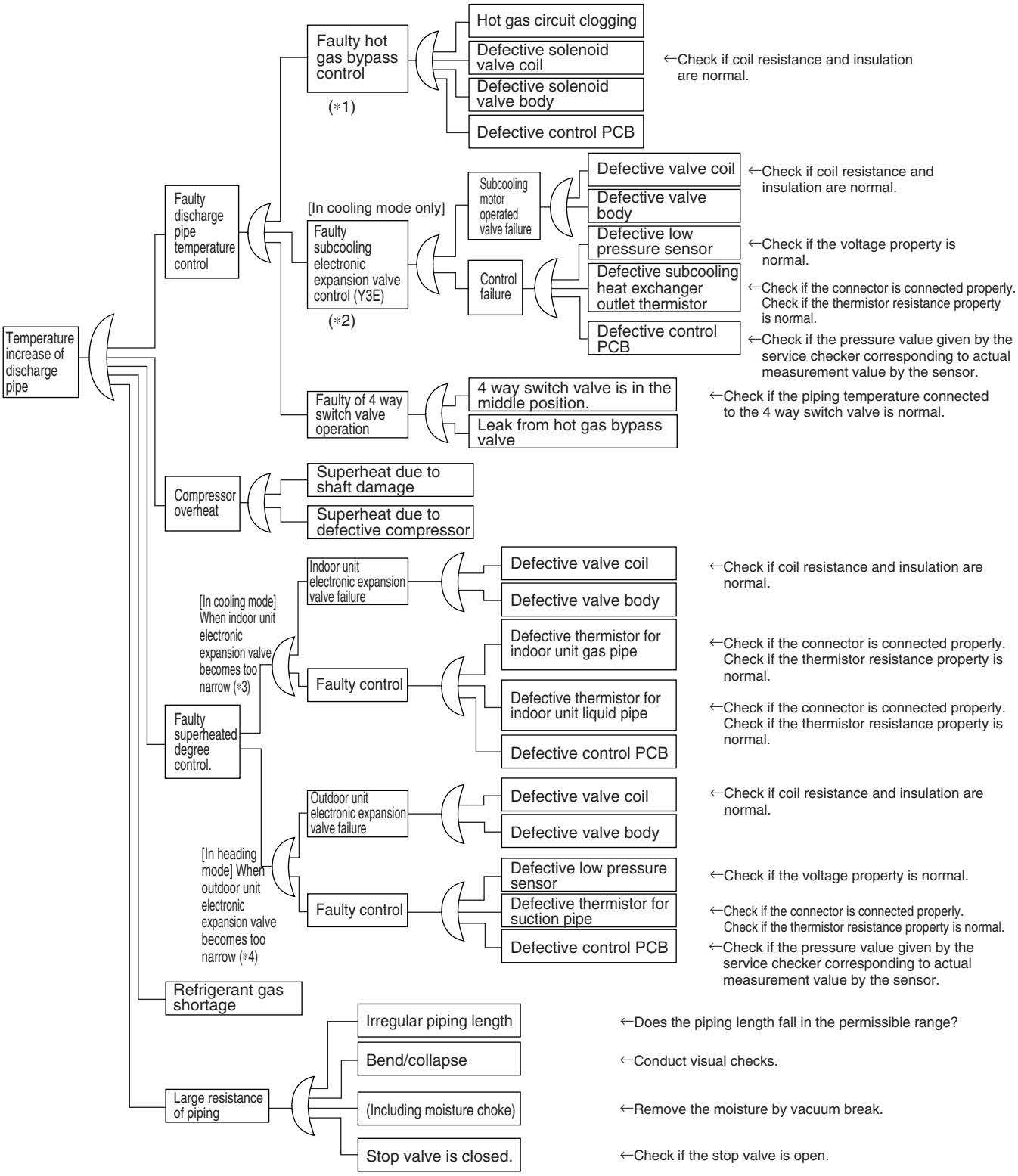
(1) Turn the power supply off.
(2) With the fan motor connector disconnected, measure the resistance between each pin, then make sure that the resistance is more than the value mentioned in the following table.



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

7.35.4 Check for the Factors of Overheat Operation

Check No. 04 Identify the defective points referring to the failure factor analysis (FTA) as follows.



∗1: Refer to “Low Pressure Protection Control” for hot gas bypass control.
∗2: Refer to "Electronic Expansion Valve PI Control" for "subcooling electronic expansion valve control".
∗3: “Superheating temperature control” in cooling mode is conducted by indoor unit electronic expansion valve. (Refer to "Electronic Expansion Valve Control")
∗4: Superheating temperature control in heating mode is conducted by outdoor unit electronic expansion valve. (Refer to "Electronic Expansion Valve PI Control").
∗5: Judgment criteria of superheat operation:
(1) Suction gas superheating temperature: 10 degrees and over. (2) Discharge gas superheating temperature: 45 degrees and over, except for immediately after starting and drooping control, etc..
(Use the above stated values as a guide. Depending on the other conditions, the unit may be normal despite the values within the above scope.)

(R13058)

8. Thermistor Resistance / Temperature Characteristics

Table 1

Outdoor unit : fin thermistor FINTH

T°C	kΩ
–10	-
–8	-
–6	88.0
–4	79.1
–2	71.1
0	64.1
2	57.8
4	52.3
6	47.3
8	42.9
10	38.9
12	35.3
14	32.1
16	29.2
18	26.6
20	24.3
22	22.2
24	20.3
26	18.5
28	17.0
30	15.6
32	14.2
34	13.1
36	12.0
38	11.1
40	10.3
42	9.5
44	8.8
46	8.2
48	7.6
50	7.0
52	6.7
54	6.0
56	5.5
58	5.2
60	4.79
62	4.46
64	4.15
66	3.87
68	3.61
70	3.37
72	3.15
74	2.94
76	2.75
78	2.51
80	2.41
82	2.26
84	2.12
86	1.99
88	1.87
90	1.76
92	1.65
94	1.55
96	1.46
98	1.38

Table 2

Indoor unit	: suction air	R1T
	: liquid pipe	R2T
	: indoor heat exchanger	R3T
Outdoor unit	: outdoor temperature	R1T
	: suction pipe 1	R3T
	: outdoor heat exchanger	R4T
	: suction pipe 2	R5T
	: subcooling heat exchanger gas pipe	R6T
	: liquid pipe 1	R7T
	: liquid pipe 2	R8T

T°C	kΩ	T°C	kΩ	T°C	kΩ	T°C	kΩ
–20	197.81	–19.5	192.08	30	16.10	30.5	15.76
–19	186.53	–18.5	181.16	31	15.43	31.5	15.10
–18	175.97	–17.5	170.94	32	14.79	32.5	14.48
–17	166.07	–16.5	161.36	33	14.18	33.5	13.88
–16	156.80	–15.5	152.38	34	13.59	34.5	13.31
–15	148.10	–14.5	143.96	35	13.04	35.5	12.77
–14	139.94	–13.5	136.05	36	12.51	36.5	12.25
–13	132.28	–12.5	128.63	37	12.01	37.5	11.76
–12	125.09	–11.5	121.66	38	11.52	38.5	11.29
–11	118.34	–10.5	115.12	39	11.06	39.5	10.84
–10	111.99	–9.5	108.96	40	10.63	40.5	10.41
–9	106.03	–8.5	103.18	41	10.21	41.5	10.00
–8	100.41	–7.5	97.73	42	9.81	42.5	9.61
–7	95.14	–6.5	92.61	43	9.42	43.5	9.24
–6	90.17	–5.5	87.79	44	9.06	44.5	8.88
–5	85.49	–4.5	83.25	45	8.71	45.5	8.54
–4	81.08	–3.5	78.97	46	8.37	46.5	8.21
–3	76.93	–2.5	74.94	47	8.05	47.5	7.90
–2	73.01	–1.5	71.14	48	7.75	48.5	7.60
–1	69.32	–0.5	67.56	49	7.46	49.5	7.31
0	65.84	0.5	64.17	50	7.18	50.5	7.04
1	62.54	1.5	60.96	51	6.91	51.5	6.78
2	59.43	2.5	57.94	52	6.65	52.5	6.53
3	56.49	3.5	55.08	53	6.41	53.5	6.53
4	53.71	4.5	52.38	54	6.65	54.5	6.53
5	51.09	5.5	49.83	55	6.41	55.5	6.53
6	48.61	6.5	47.42	56	6.18	56.5	6.06
7	46.26	7.5	45.14	57	5.95	57.5	5.84
8	44.05	8.5	42.98	58	5.74	58.5	5.43
9	41.95	9.5	40.94	59	5.14	59.5	5.05
10	39.96	10.5	39.01	60	4.96	60.5	4.87
11	38.08	11.5	37.18	61	4.79	61.5	4.70
12	36.30	12.5	35.45	62	4.62	62.5	4.54
13	34.62	13.5	33.81	63	4.46	63.5	4.38
14	33.02	14.5	32.25	64	4.30	64.5	4.23
15	31.50	15.5	30.77	65	4.16	65.5	4.08
16	30.06	16.5	29.37	66	4.01	66.5	3.94
17	28.70	17.5	28.05	67	3.88	67.5	3.81
18	27.41	18.5	26.78	68	3.75	68.5	3.68
19	26.18	19.5	25.59	69	3.62	69.5	3.56
20	25.01	20.5	24.45	70	3.50	70.5	3.44
21	23.91	21.5	23.37	71	3.38	71.5	3.32
22	22.85	22.5	22.35	72	3.27	72.5	3.21
23	21.85	23.5	21.37	73	3.16	73.5	3.11
24	20.90	24.5	20.45	74	3.06	74.5	3.01
25	20.00	25.5	19.56	75	2.96	75.5	2.91
26	19.14	26.5	18.73	76	2.86	76.5	2.82
27	18.32	27.5	17.93	77	2.77	77.5	2.72
28	17.54	28.5	17.17	78	2.68	78.5	2.64
29	16.80	29.5	16.45	79	2.60	79.5	2.55
30	16.10	30.5	15.76	80	2.51	80.5	2.47

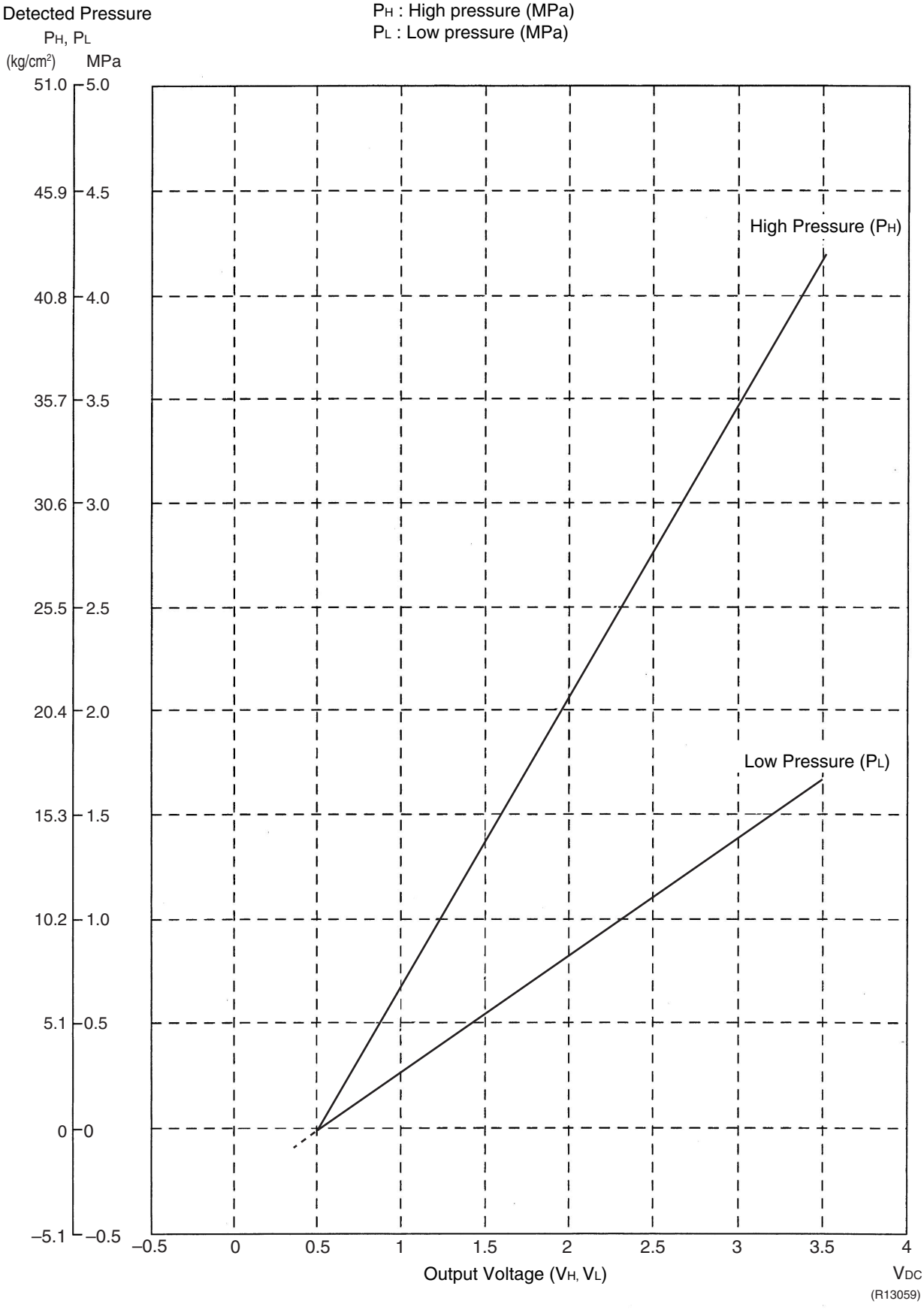
Table 3
Outdoor unit : discharge pipe R2T

T°C	kΩ	T°C	kΩ	T°C	kΩ	T°C	kΩ	T°C	kΩ	T°C	kΩ
0	640.44	0.5	624.65	50	72.32	50.5	70.96	100	13.35	100.5	13.15
1	609.31	1.5	594.43	51	69.64	51.5	68.34	101	12.95	101.5	12.76
2	579.96	2.5	565.78	52	67.06	52.5	65.82	102	12.57	102.5	12.38
3	552.00	3.5	538.63	53	64.60	53.5	63.41	103	12.20	103.5	12.01
4	525.63	4.5	512.97	54	62.24	54.5	61.09	104	11.84	104.5	11.66
5	500.66	5.5	488.67	55	59.97	55.5	58.87	105	11.49	105.5	11.32
6	477.01	6.5	465.65	56	57.80	56.5	56.75	106	11.15	106.5	10.99
7	454.60	7.5	443.84	57	55.72	57.5	54.70	107	10.83	107.5	10.67
8	433.37	8.5	423.17	58	53.72	58.5	52.84	108	10.52	108.5	10.36
9	413.24	9.5	403.57	59	51.98	59.5	50.96	109	10.21	109.5	10.06
10	394.16	10.5	384.98	60	49.96	60.5	49.06	110	9.92	110.5	9.78
11	376.05	11.5	367.35	61	48.19	61.5	47.33	111	9.64	111.5	9.50
12	358.88	12.5	350.62	62	46.49	62.5	45.67	112	9.36	112.5	9.23
13	342.58	13.5	334.74	63	44.86	63.5	44.07	113	9.10	113.5	8.97
14	327.10	14.5	319.66	64	43.30	64.5	42.54	114	8.84	114.5	8.71
15	312.41	15.5	305.33	65	41.79	65.5	41.06	115	8.59	115.5	8.47
16	298.45	16.5	291.73	66	40.35	66.5	39.65	116	8.35	116.5	8.23
17	285.18	17.5	278.80	67	38.96	67.5	38.29	117	8.12	117.5	8.01
18	272.58	18.5	266.51	68	37.63	68.5	36.98	118	7.89	118.5	7.78
19	260.60	19.5	254.72	69	36.34	69.5	35.72	119	7.68	119.5	7.57
20	249.00	20.5	243.61	70	35.11	70.5	34.51	120	7.47	120.5	7.36
21	238.36	21.5	233.14	71	33.92	71.5	33.35	121	7.26	121.5	7.16
22	228.05	22.5	223.08	72	32.78	72.5	32.23	122	7.06	122.5	6.97
23	218.24	23.5	213.51	73	31.69	73.5	31.15	123	6.87	123.5	6.78
24	208.90	24.5	204.39	74	30.63	74.5	30.12	124	6.69	124.5	6.59
25	200.00	25.5	195.71	75	29.61	75.5	29.12	125	6.51	125.5	6.42
26	191.53	26.5	187.44	76	28.64	76.5	28.16	126	6.33	126.5	6.25
27	183.46	27.5	179.57	77	27.69	77.5	27.24	127	6.16	127.5	6.08
28	175.77	28.5	172.06	78	26.79	78.5	26.35	128	6.00	128.5	5.92
29	168.44	29.5	164.90	79	25.91	79.5	25.49	129	5.84	129.5	5.76
30	161.45	30.5	158.08	80	25.07	80.5	24.66	130	5.69	130.5	5.61
31	154.79	31.5	151.57	81	24.26	81.5	23.87	131	5.54	131.5	5.46
32	148.43	32.5	145.37	82	23.48	82.5	23.10	132	5.39	132.5	5.32
33	142.37	33.5	139.44	83	22.73	83.5	22.36	133	5.25	133.5	5.18
34	136.59	34.5	133.79	84	22.01	84.5	21.65	134	5.12	134.5	5.05
35	131.06	35.5	128.39	85	21.31	85.5	20.97	135	4.98	135.5	4.92
36	125.79	36.5	123.24	86	20.63	86.5	20.31	136	4.86	136.5	4.79
37	120.76	37.5	118.32	87	19.98	87.5	19.67	137	4.73	137.5	4.67
38	115.95	38.5	113.62	88	19.36	88.5	19.05	138	4.61	138.5	4.55
39	111.35	39.5	109.13	89	18.75	89.5	18.46	139	4.49	139.5	4.44
40	106.96	40.5	104.84	90	18.17	90.5	17.89	140	4.38	140.5	4.32
41	102.76	41.5	100.73	91	17.61	91.5	17.34	141	4.27	141.5	4.22
42	98.75	42.5	96.81	92	17.07	92.5	16.80	142	4.16	142.5	4.11
43	94.92	43.5	93.06	93	16.54	93.5	16.29	143	4.06	143.5	4.01
44	91.25	44.5	89.47	94	16.04	94.5	15.79	144	3.96	144.5	3.91
45	87.74	45.5	86.04	95	15.55	95.5	15.31	145	3.86	145.5	3.81
46	84.38	46.5	82.75	96	15.08	96.5	14.85	146	3.76	146.5	3.72
47	81.16	47.5	79.61	97	14.62	97.5	14.40	147	3.67	147.5	3.62
48	78.09	48.5	76.60	98	14.18	98.5	13.97	148	3.58	148.5	3.54
49	75.14	49.5	73.71	99	13.76	99.5	13.55	149	3.49	149.5	3.45
50	72.32	50.5	70.96	100	13.35	100.5	13.15	150	3.41	150.5	3.37

9. Pressure Sensor

$P_H = 1.38V_H - 0.69$
$P_L = 0.57V_L - 0.28$
P_H : High pressure (MPa)
P_L : Low pressure (MPa)

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



10.Method of Replacing Inverter's Power Transistors Modules

Check the power semiconductors mounted on the main PCB (A1P) with a multiple tester.

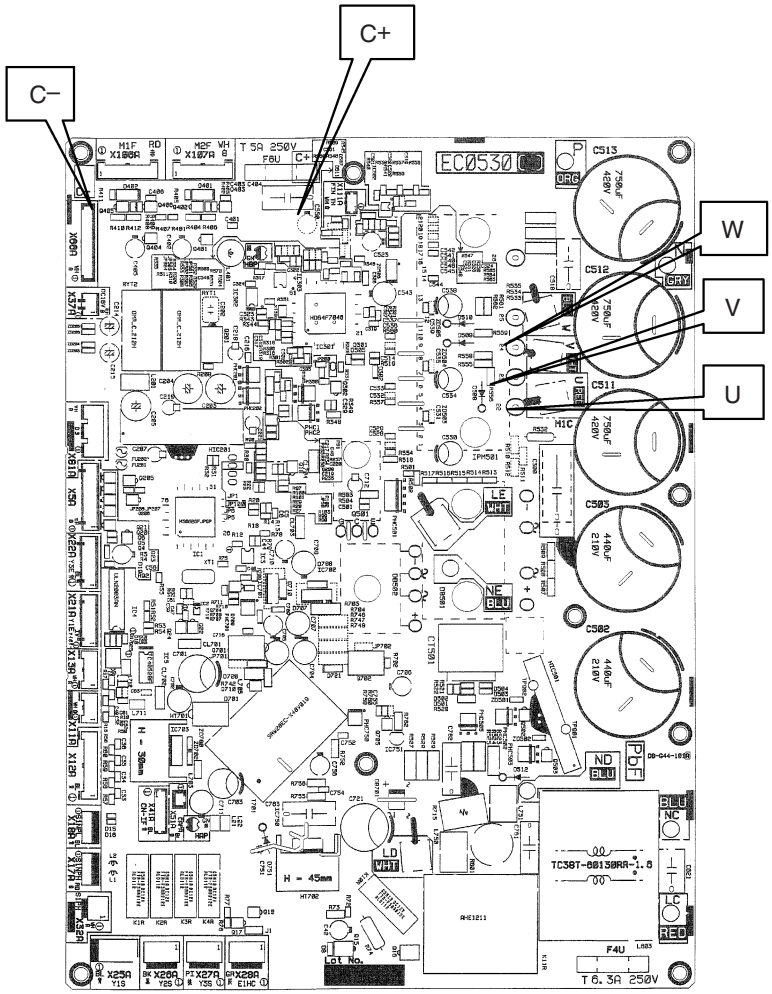
<Items to be prepared>

- Multiple tester : Prepare the digital type of multiple tester with diode check function.

<Preparation>

- Turn OFF the power supply. Then, after a lapse of 10 minutes or more, make measurement of resistance.
- To make measurement, disconnect all connectors and terminals.

Main PCB (A1P)



(R13060)

Power module checking

When using the digital type of multiple tester, make measurement in diode check mode.

Tester terminal		Criterion	Remark
+	–		
C+	U	Not less than 0.3 V (including ∞)*	It may take time to determine the voltage due to capacitor charge or else.
	V		
	W		
U	C–	Not less than 0.3 V (including ∞)*	
V			
W			
U	C+	0.3 ~ 0.7 V (including ∞)*	
V			
W			
C–	U	0.3 ~ 0.7 V (including ∞)*	
	V		
	W		

*There needs to be none of each value variation.

The following abnormalities are also doubted besides the PCB abnormality.

- Defective compressor (ground fault, ground leakage)
- Defective fan motor (ground leakage)

Part 9
Removal Procedure

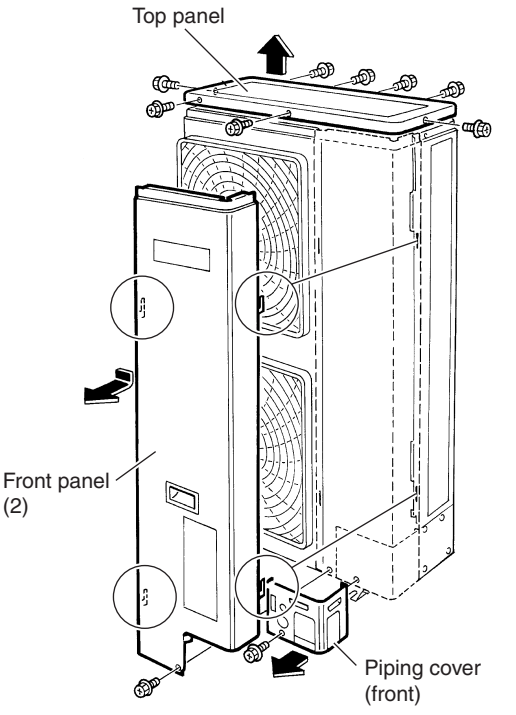
1. Outdoor Unit

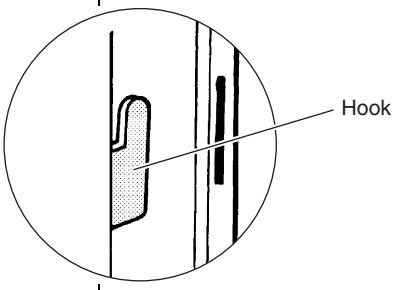
1.1 Removal of Outer Panels

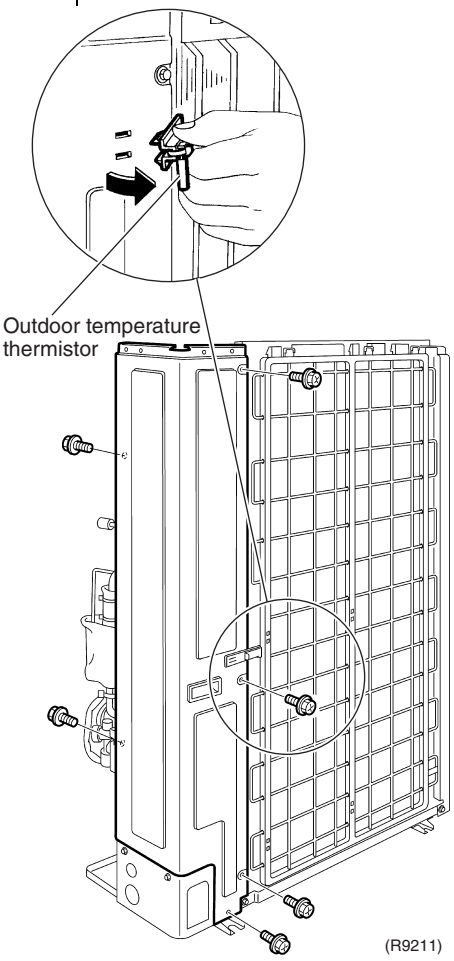
Procedure

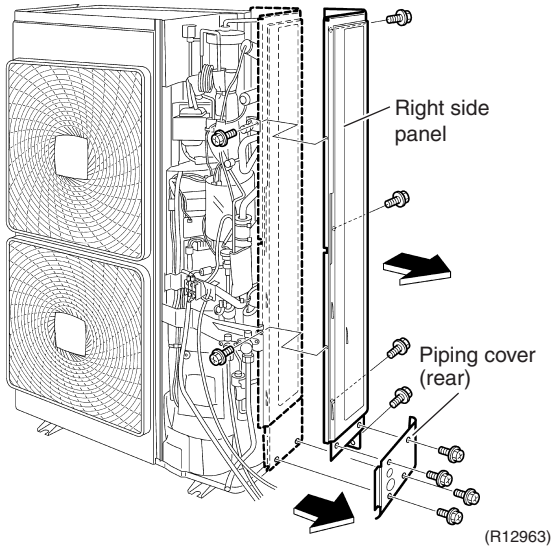
Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

Step	Procedure	Points
1	Remove the 8 screws and remove the top panel.	■ It is possible to remove only the front panel (2) without removing the top panel.
2	Remove the screw of the front panel (2). Push the front panel (2) downward to release the hook and remove it.	
3	Remove the screw and remove the piping cover (front).	
4	Remove the 4 screws and remove the piping cover (rear).	
5	Detach the outdoor temperature thermistor. Remove the 6 screws and remove the right side panel.	

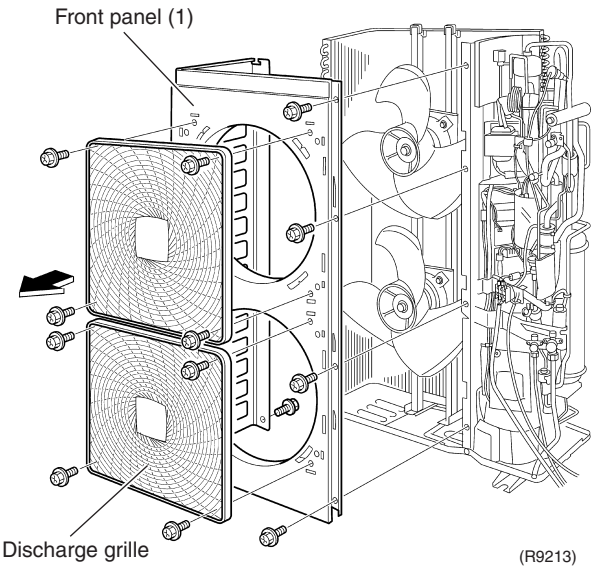


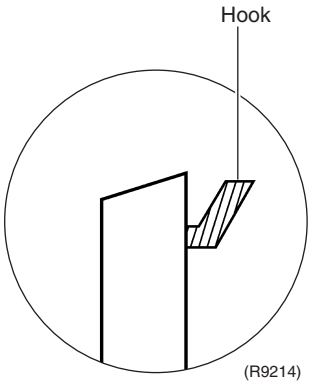


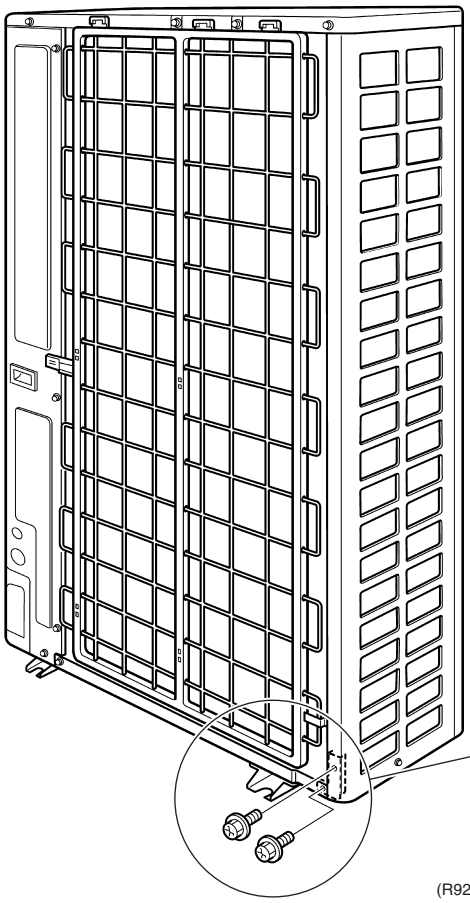




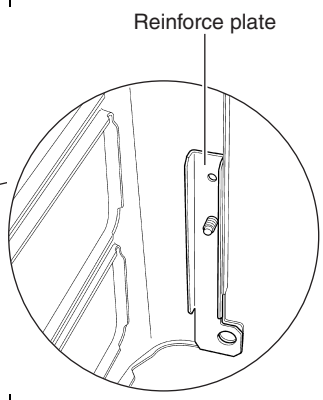
Step	Procedure	Points
6	The outdoor unit has 2 discharge grilles. Remove the 4 screws and unfasten the 4 hooks to remove a discharge grille.	
7	Remove the 7 screws of the front panel (1). Push the front panel (1) upward and remove it.	



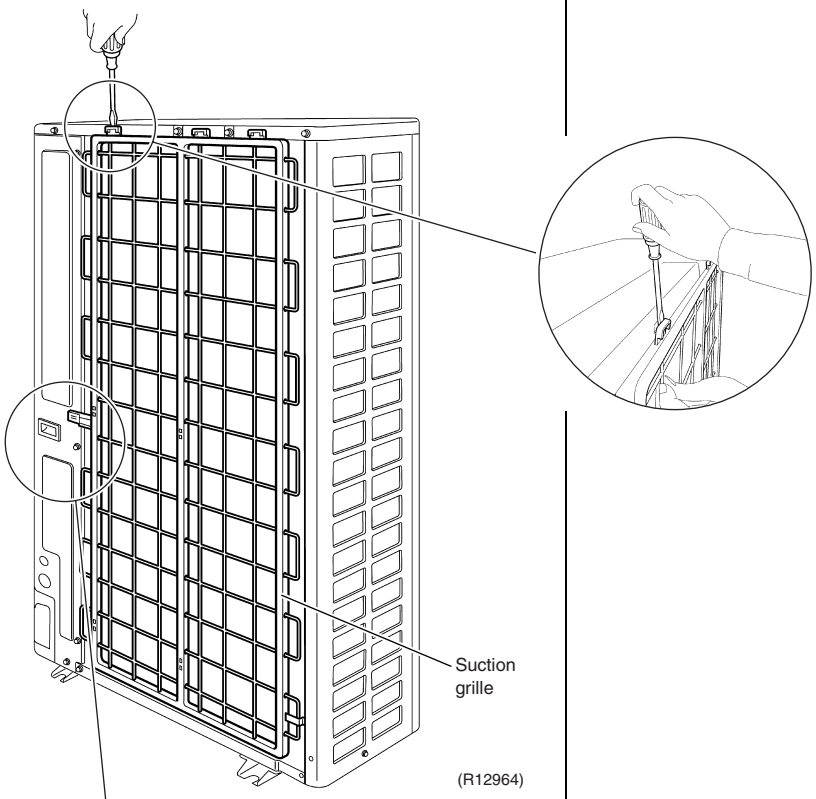


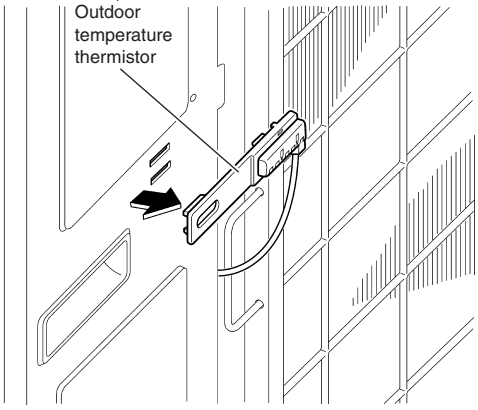


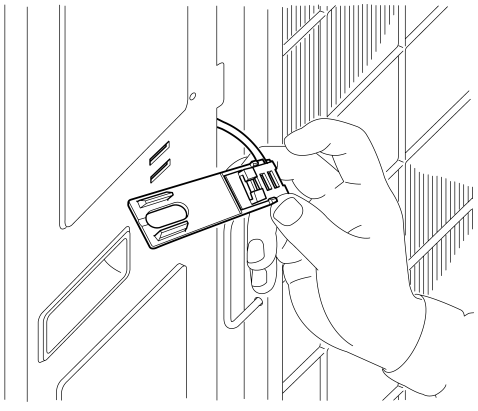
- On the rear side of the front panel (1), a reinforce plate is attached. Be careful not to lose it while removing the front panel (1).



Step	Procedure	Points
8	Unfasten the 3 hooks with a flat screwdriver and remove the suction grille.	
9	Pull the outdoor temperature thermistor and slide it to the right. Detach the outdoor temperature thermistor.	



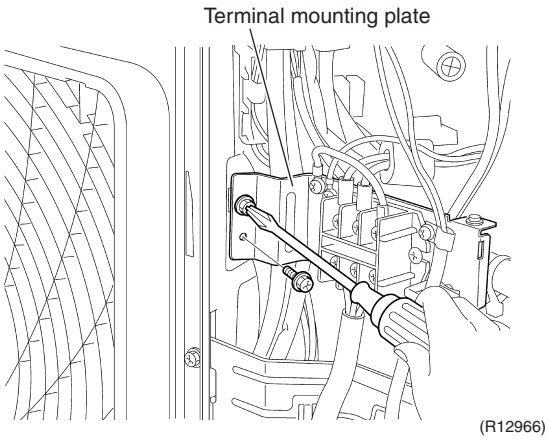
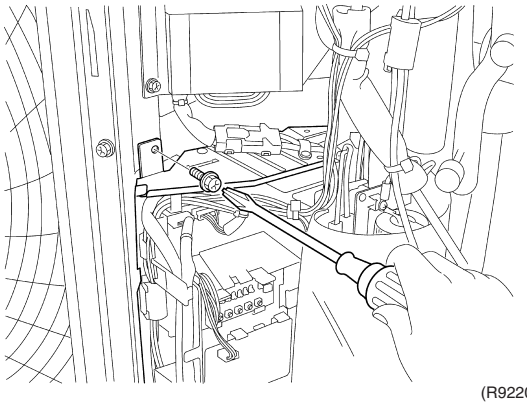
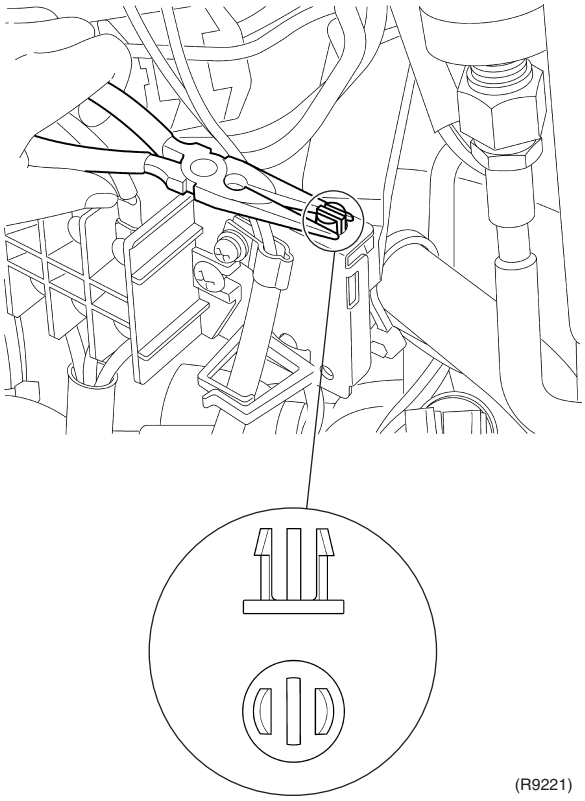


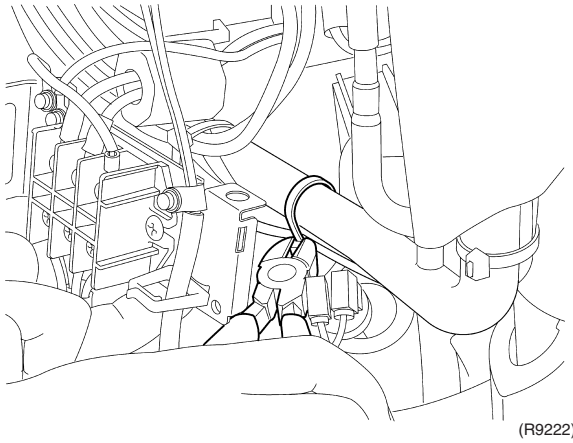
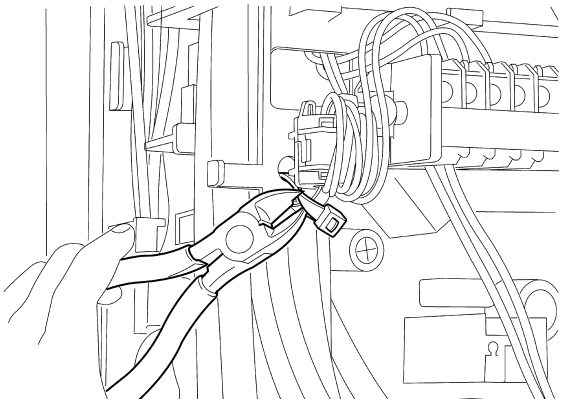
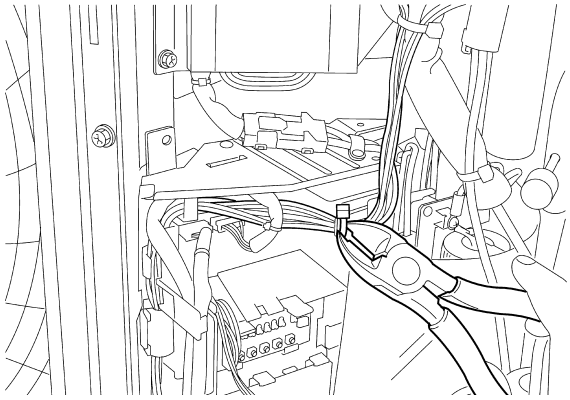
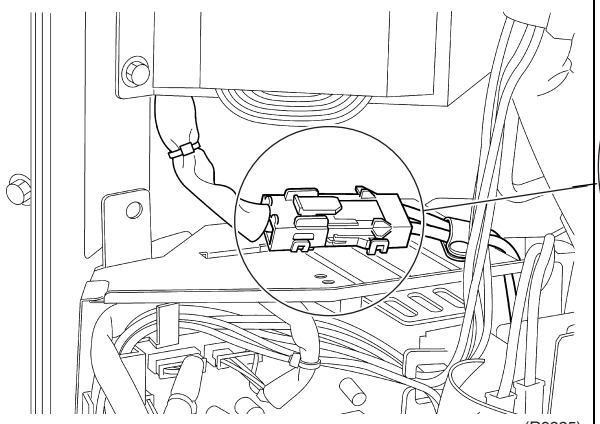
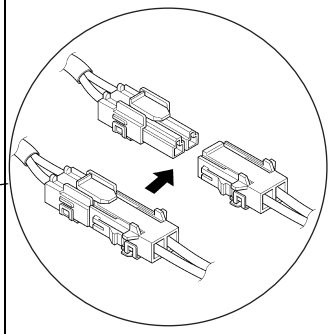


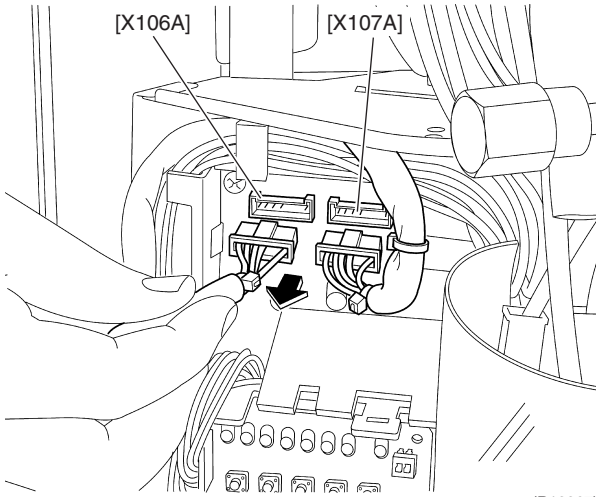
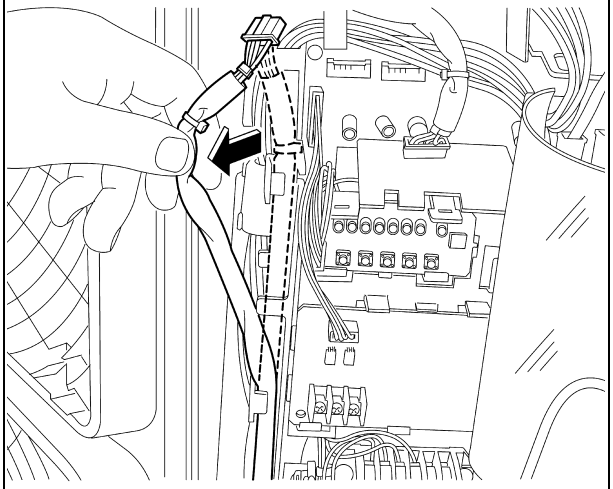
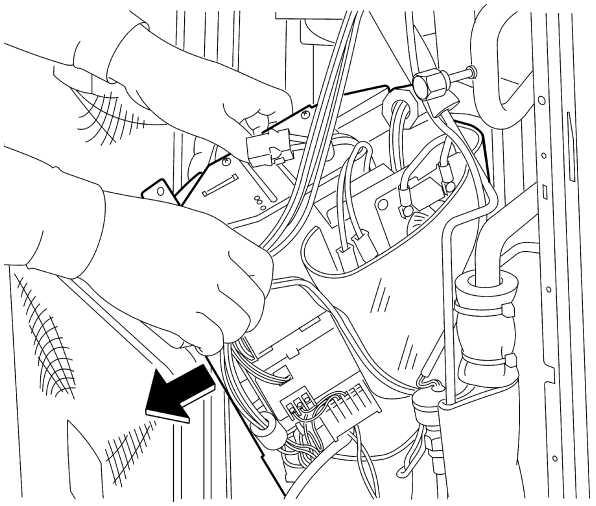
1.2 Removal of PCBs / Electrical Components

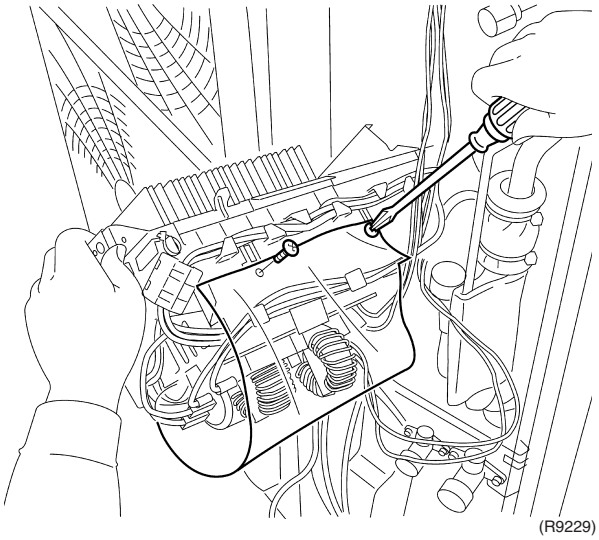
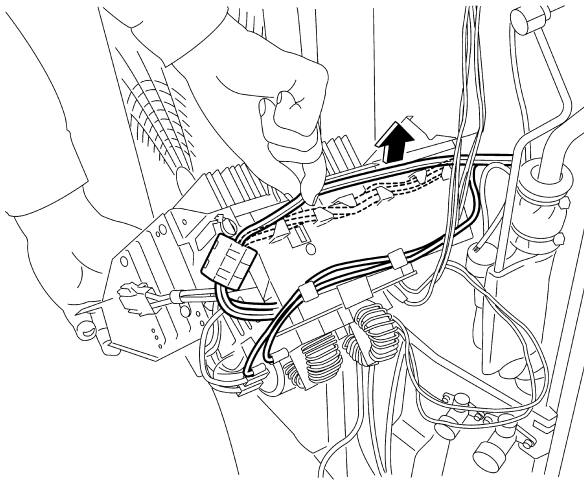
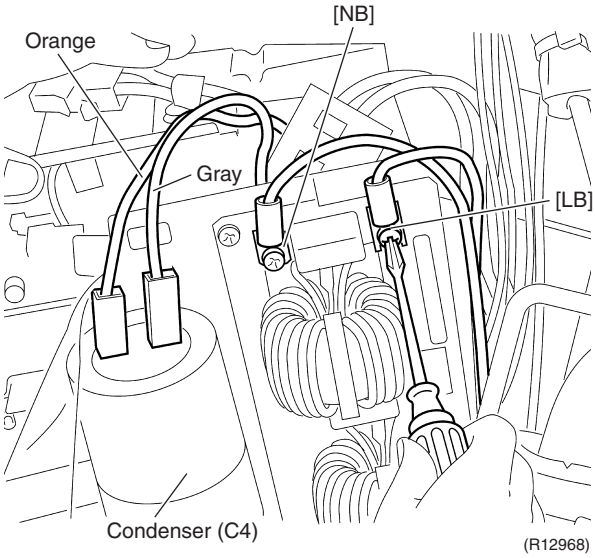
Procedure

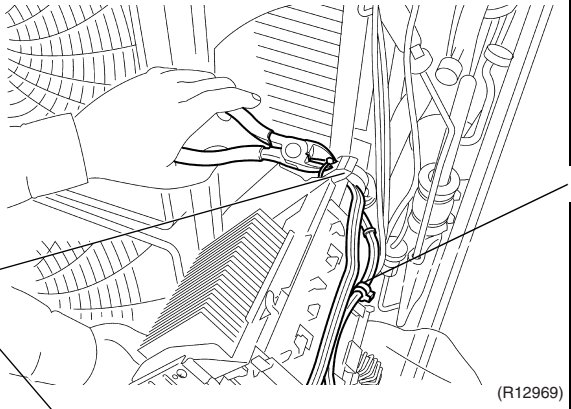
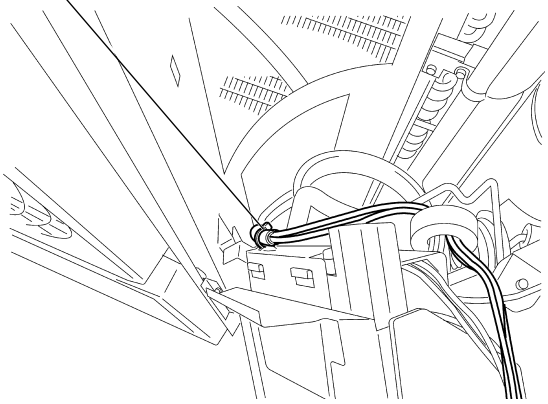
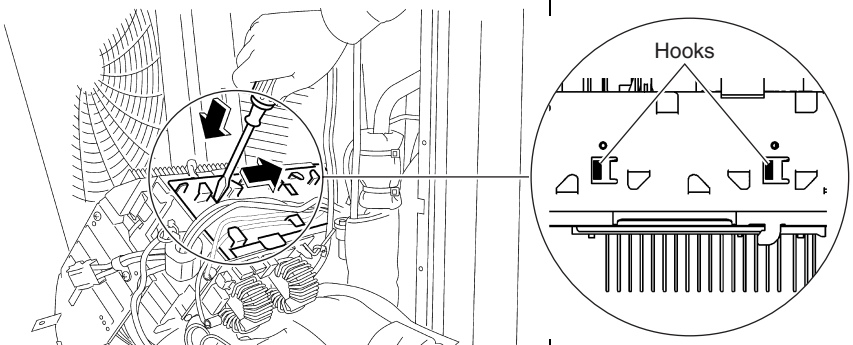
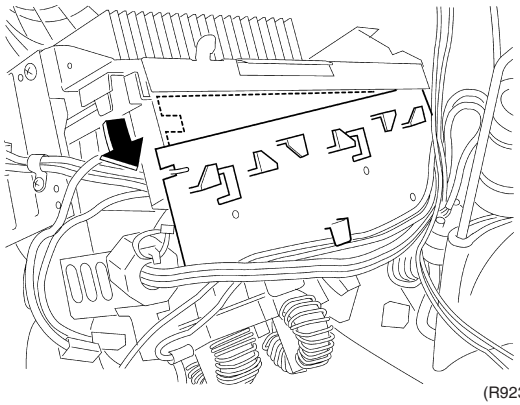
Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

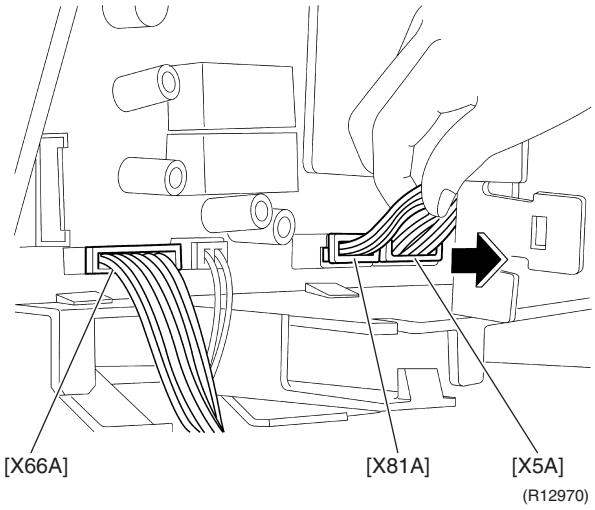
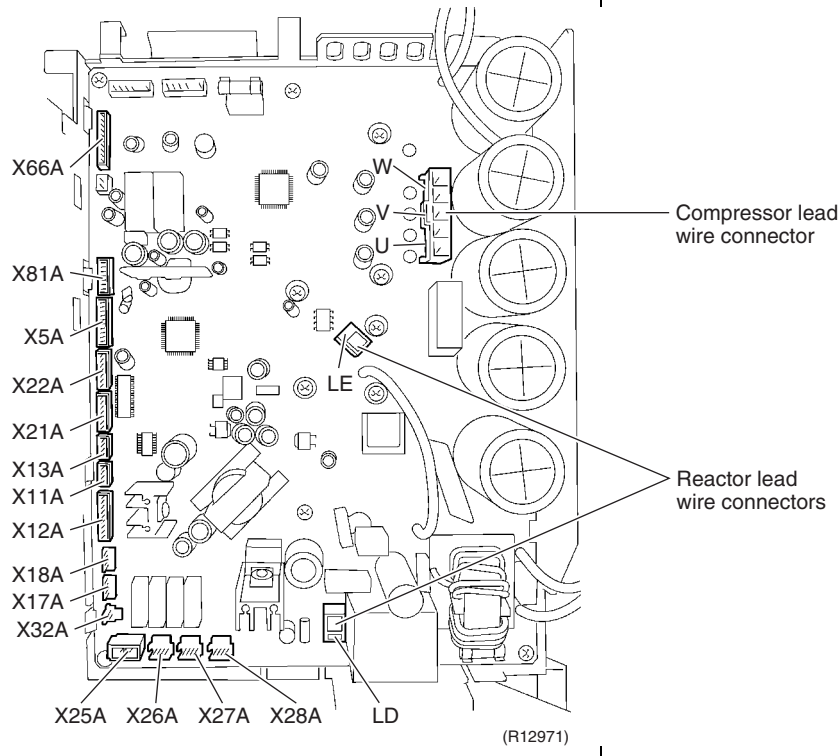
Step	Procedure		Points
1	Remove the 2 screws of the terminal mounting plate.	 (R12966)	**Preparation** ■ Remove the outer panels according to the “Removal of Outer Panels”. ■ M5(3) × 12
2	Remove the screw above the electrical component assembly.	 (R9220)	■ M5(3) × 12
3	Unfasten the clamp from the terminal mounting plate.	 (R9221)	

Step	Procedure		Points
4	Cut off the 3 clamps.	 (R9222)	
		 (R9223)	
		 (R9224)	
5	Disconnect the relay connector for the reactor lead wire from each other.	 (R9225)	

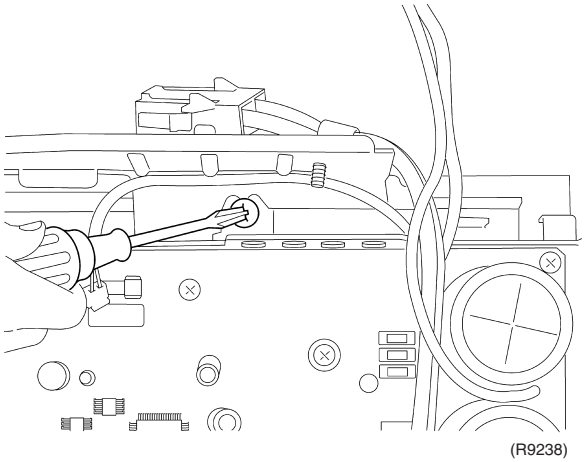
Step	Procedure		Points
6	Disconnect the 2 connectors for the fan motor [X106A] [X107A].	 (R12967)	
7	Release the fan motor lead wires from the hooks.	 (R9227)	
8	Release the lead wires of the solenoid valves and four way valve from the fixing plate and then remove the electrical component assembly.	 (R9228)	

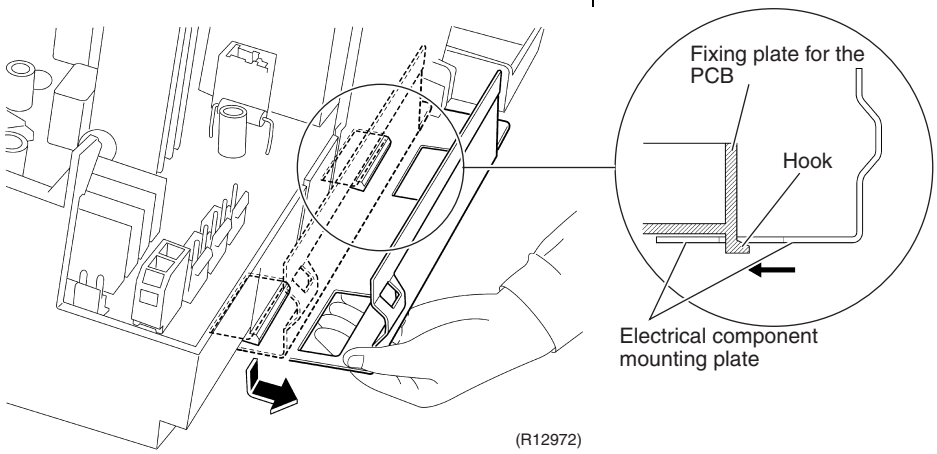
Step	Procedure		Points
9	Remove the 2 screws of the insulation sheet and then release the compressor lead wires (blue, red, white) and the lead wires between A1P and A3P (red, blue) from the hooks.	 (R9229)  (R9230)	
10	Remove the 2 screws from [LB] (red) and [NB] (blue) on A3P and disconnect the 2 lead wires of condenser (orange, gray).	 (R12968)	■ M4 × 8 with spring washer

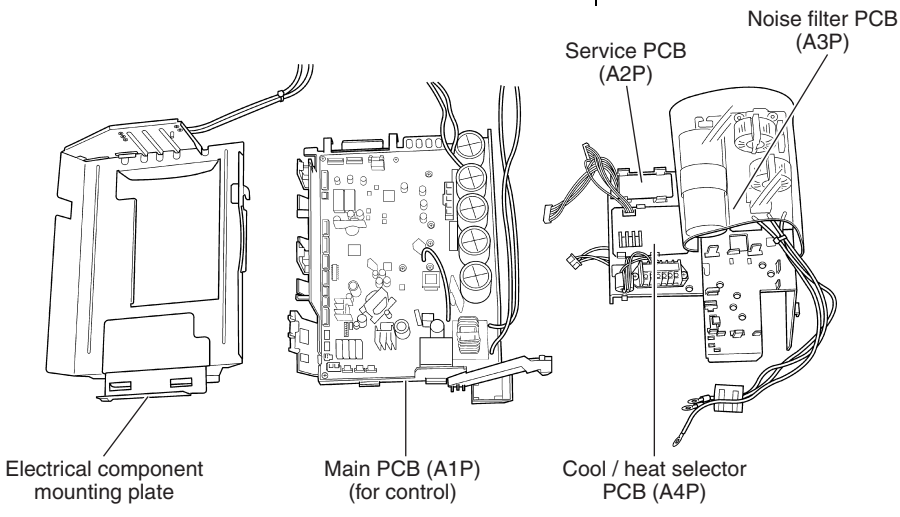
Step	Procedure	Points
11	Cut the 2 clamps, for the compressor lead wires. Cut the clamp for the lead wires from A3P to A1P (red, blue) and for the earth (green).	Clamp for the lead wires from A3P to A1P and for the earth Clamps (2 places) for the compressor lead wires  (R12969)  (R9233)
12	Push and unfasten the 2 hooks and slide the casing to the right and remove the casing from the electrical component assembly.	 (R9234)  (R9235)

Step	Procedure		Points
13	Disconnect the connectors [X66A] [X81A] [X5A].		
14	Disconnect the reactor lead wire connectors, compressor lead wire connector, and all the other connectors from the main PCB. [X22A] [X21A] [X13A] [X11A] [X12A] [X18A] [X17A] [X32A] [X25A] [X26A] [X27A] [X28A]		■ Refer to page 28 for detail.

Step	Procedure	Points
15	Remove the screw at the top of the electrical component assembly.	■ M4(2) × 12
16	Unfasten the 2 hooks at the rear side.	
17	The figures in the right are PCB assembly.	■ Refer to page 28, 29 for detail.



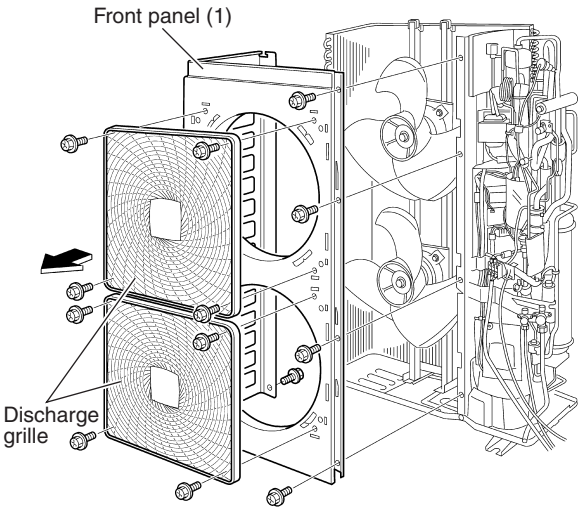
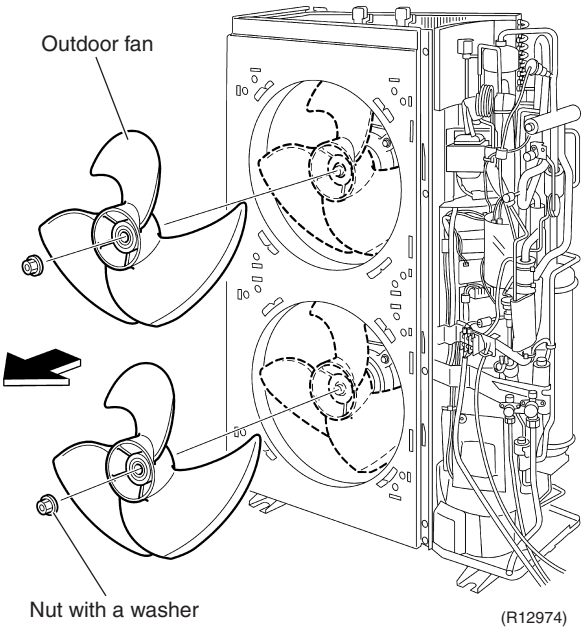
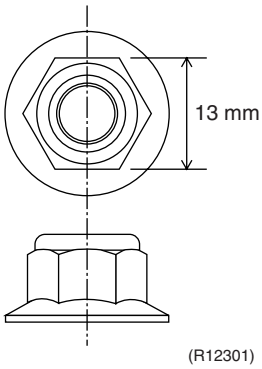


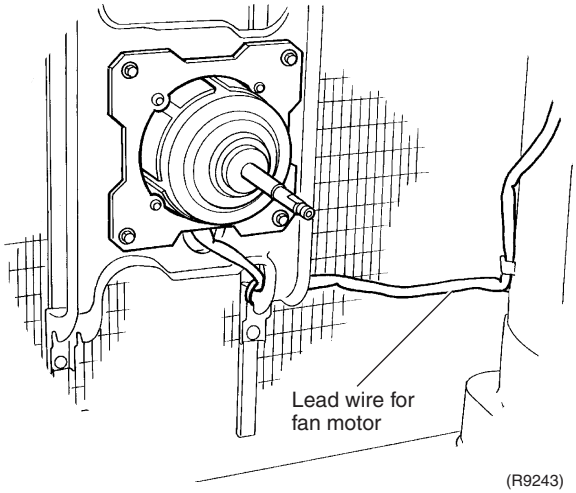
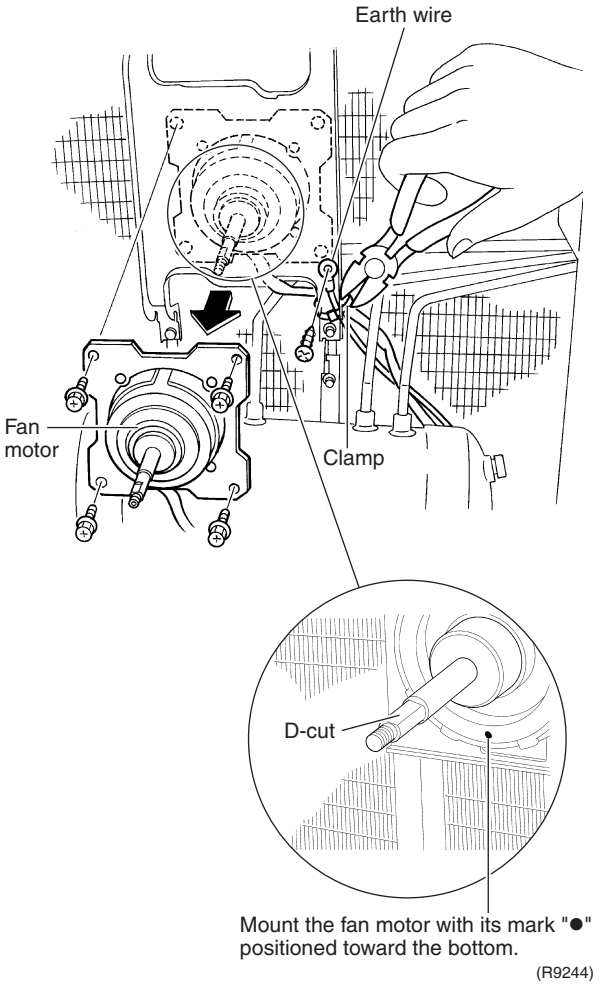


1.3 Removal of Outdoor Fans / Fan Motors

Procedure

Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

Step	Procedure		Points
			**Preparation** ■ Remove the discharge grille, front panels (1) and (2), and piping cover (front), according to the "Removal of Outer Panels".
1	Remove the nuts which fixing the outdoor fan.		■ The screw has reverse winding. ■ Nut size : M8  ■ When reassembling, align ▼ mark of the outdoor fan with D-cut section of the motor shaft.

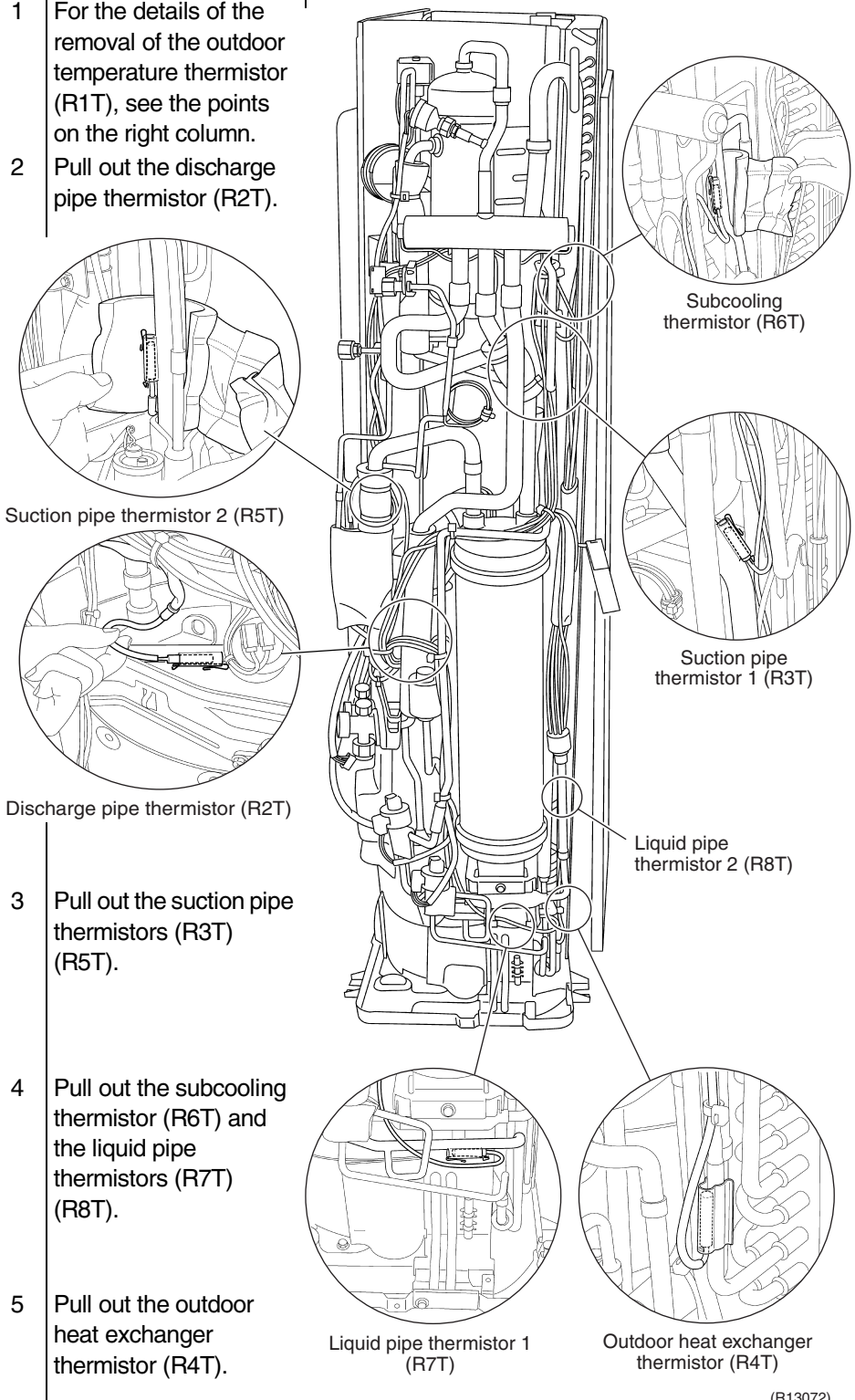
Step	Procedure		Points
		 (R9243)	
2	Cut the clamp.		■ Pull out the connector while supporting the fan motor and pushing the engaging hook, without pulling its lead wires.
3	Remove the 4 screws and remove the fan motor.	 (R9244)	■ When reassembling, put the fan motor lead wire through the back of the fan motor (so as not to be entangled with the outdoor fan).  (R3249) ■ Be sure to remove the lower screws first. If the upper screws are removed first, the fan motor, the center of gravity of which is toward the front, may tilt down or fall, getting you injured.

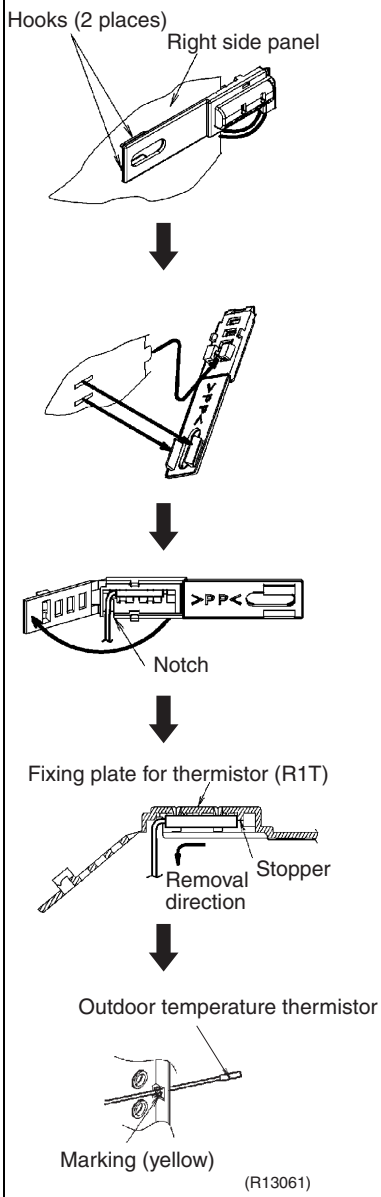
1.4 Removal of Thermistors

Procedure

Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

Step	Procedure	Points
1	For the details of the removal of the outdoor temperature thermistor (R1T), see the points on the right column.	**Preparation** ■ Remove the front panel (2) and the right side panel according to the "Removal of Outer Panels". ■ Removal of the outdoor temperature thermistor (R1T)
2	Pull out the discharge pipe thermistor (R2T).	
3	Pull out the suction pipe thermistors (R3T) (R5T).	
4	Pull out the subcooling thermistor (R6T) and the liquid pipe thermistors (R7T) (R8T).	
5	Pull out the outdoor heat exchanger thermistor (R4T).	■ When reassembling, pass the outdoor temperature thermistor through the hole of the tube plate so as the yellow marking comes to the inside edge of the tube plate.

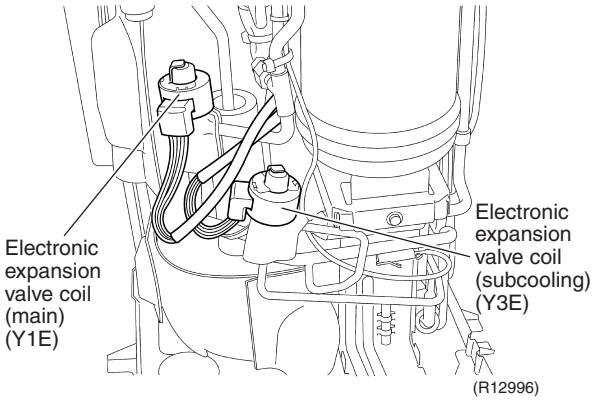
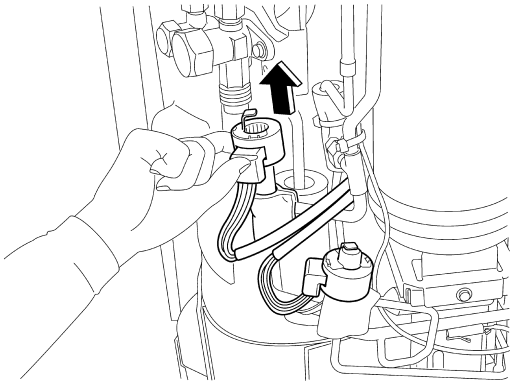
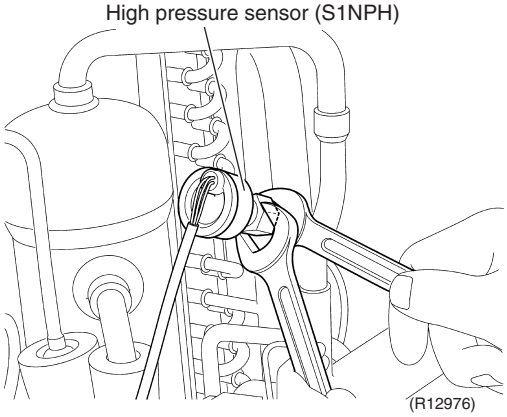
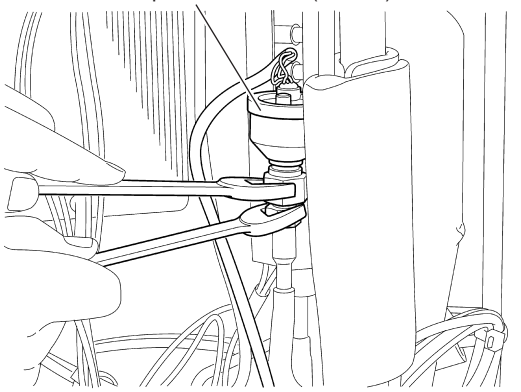


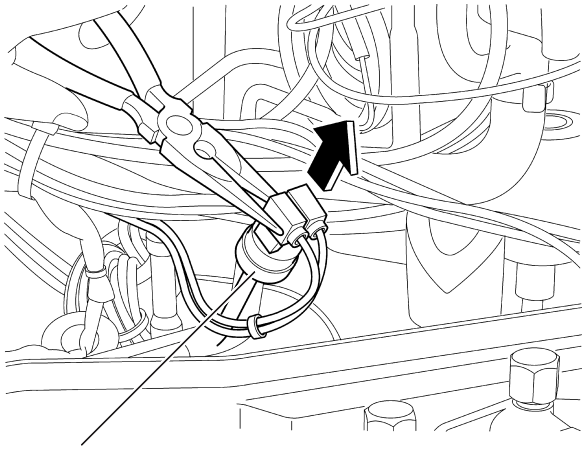
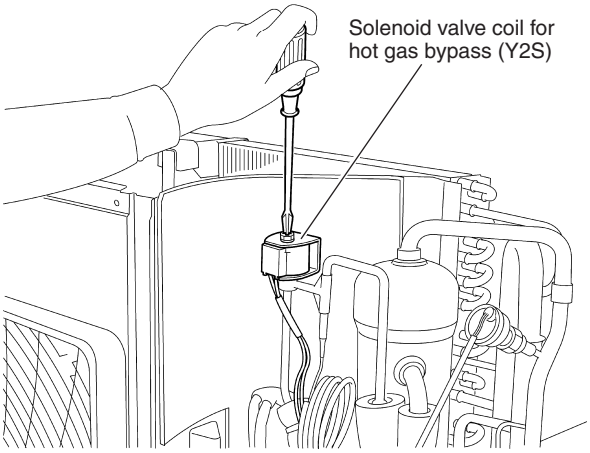
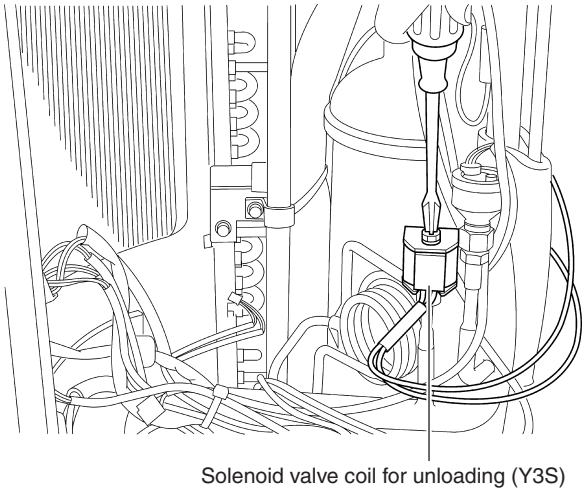


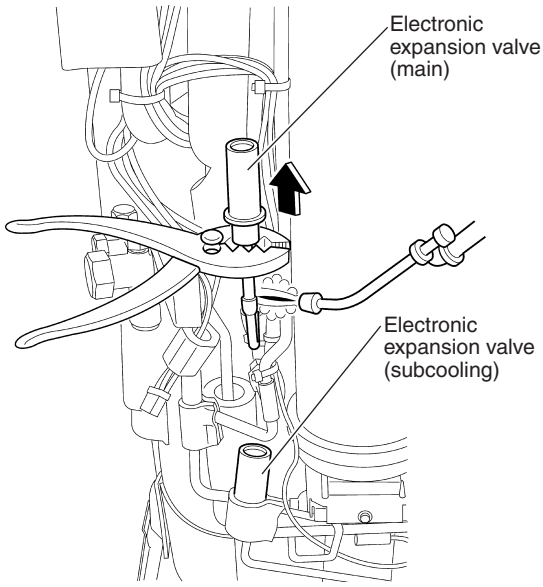
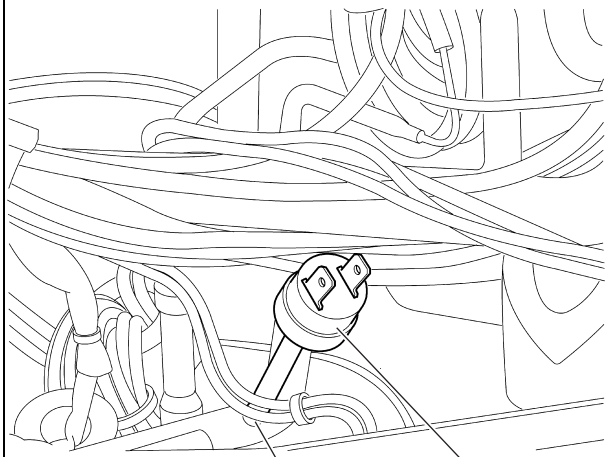
1.5 Removal of Electronic Expansion Valves / Peripheral Equipments

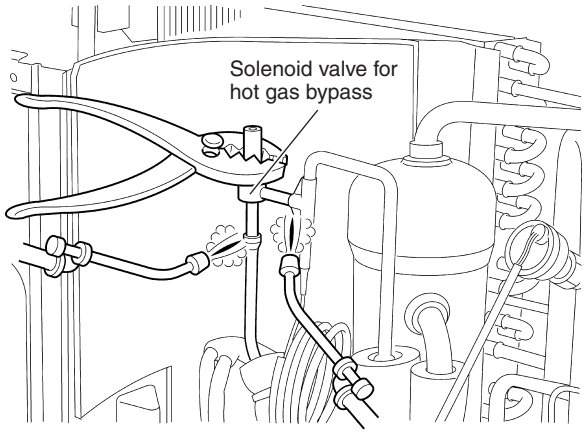
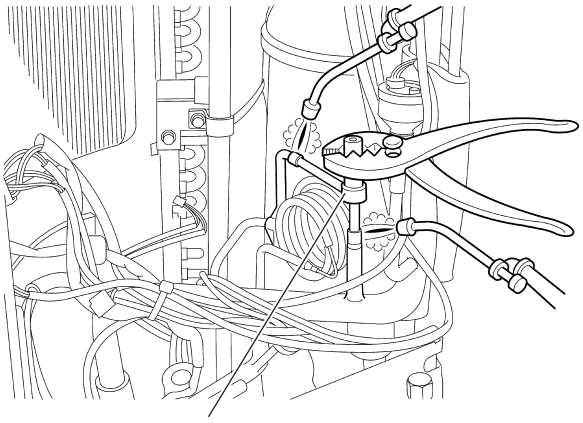
Procedure

Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

Step	Procedure		Points
1	Pull out the 2 electronic expansion valve coils.	 (R12996)  (R9252)	
2	Remove the 2 pressure sensors.	High pressure sensor (S1NPH)  (R12976) Low pressure sensor (S1NPL)  (R12977)	■ When removing the pressure sensor, be sure to use 2 wrench as the left figure shows. ■ The pressure sensor is equipped with a gauge port with check valve. Therefore, when loosening the nut, refrigerant leak stops.

Step	Procedure		Points
3	Disconnect the lead wires of the high pressure switch.	 (R12978)	
4	Remove the screw and remove the solenoid valve coil for hot gas bypass.	 (R12979)	
5	Remove the screw and remove the solenoid valve coil for unloading.	 (R12980)	

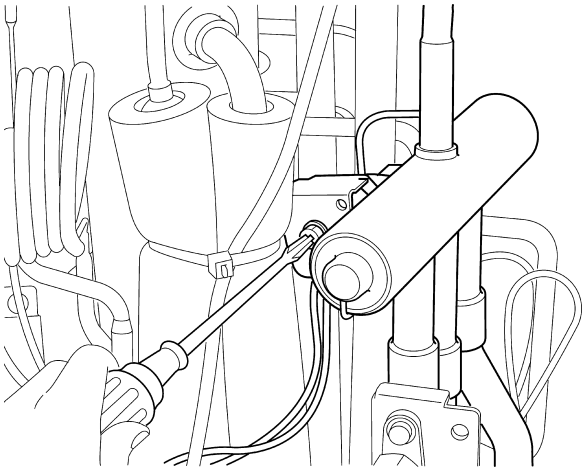
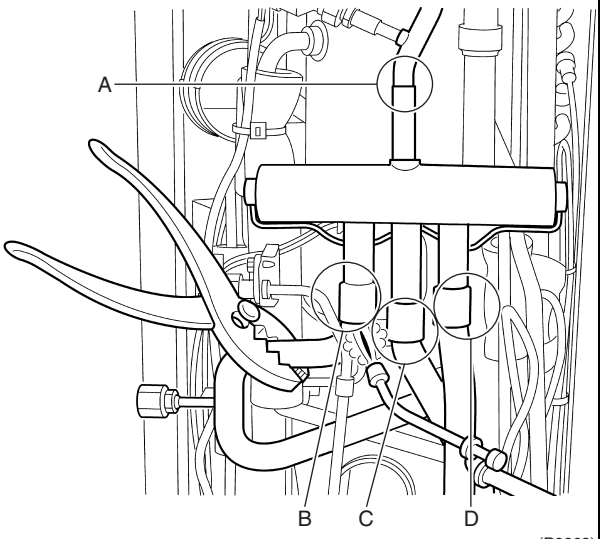
Step	Procedure	Points
■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.	 (R12981)	**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.** **Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)** **Caution** **From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.** **Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry. **In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.
6 Disconnect the brazed part of the electronic expansion valve.		
7 Disconnect the brazed part of the high pressure switch.	 (R13062)	

Step	Procedure		Points
8	Disconnect the brazed part of the solenoid valve.	 (R12983)  Solenoid valve for unloading (R12984)	**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.

1.6 Removal of Four Way Valve

Procedure

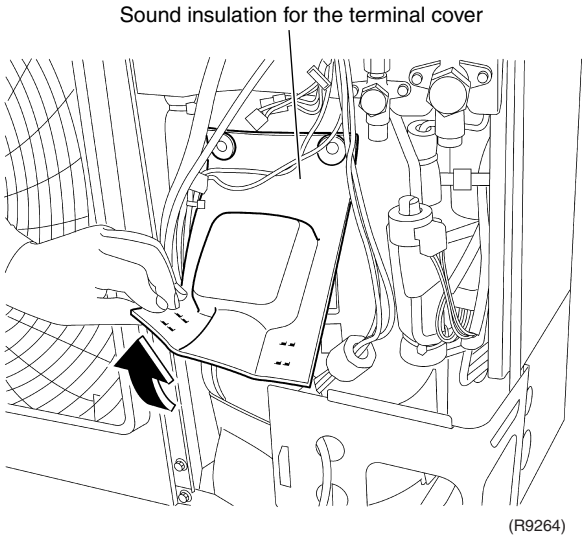
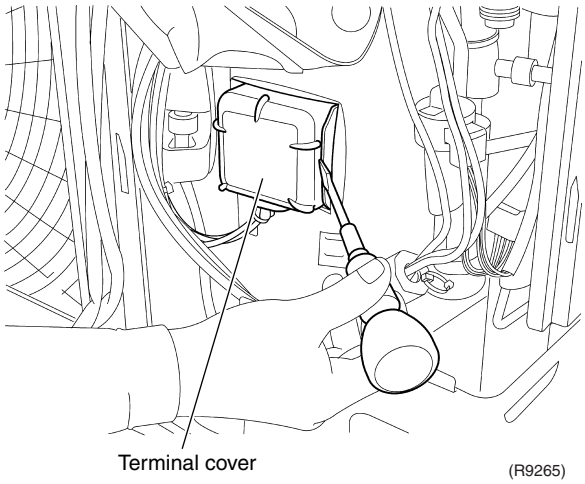
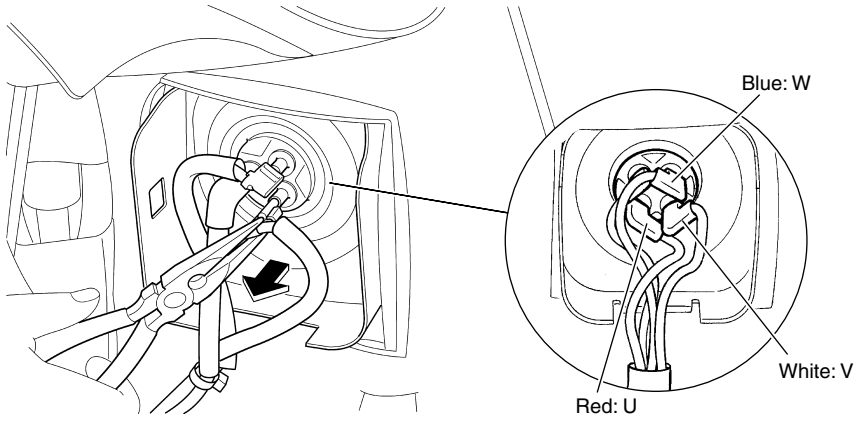
Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

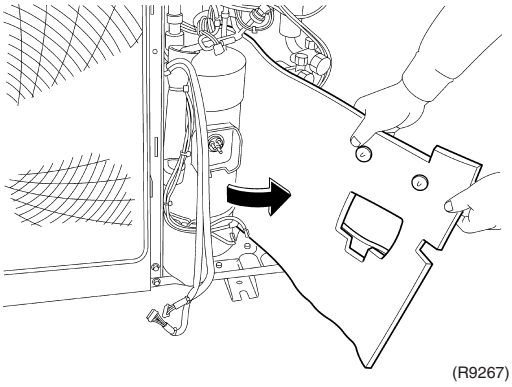
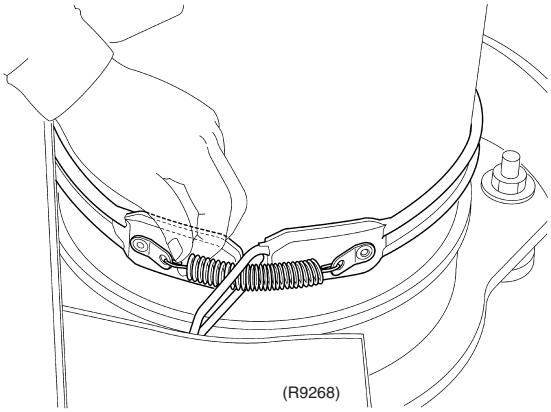
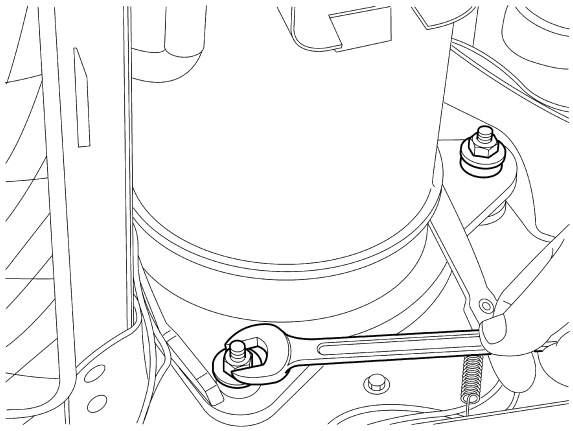
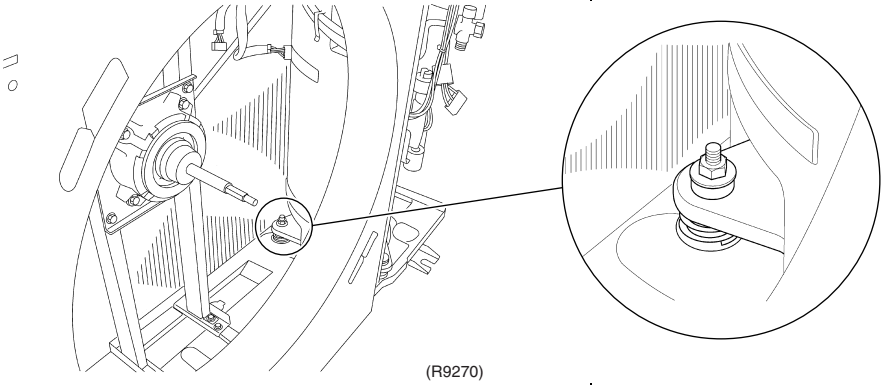
Step	Procedure		Points
1	Remove the screw and remove the four way valve coil.	 (R9262)	**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.**
	■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		**Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)**
2	Disconnect the brazed part of the four way valve (A, B, C, D).	 (R9263)	**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.**
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.			**Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry. **In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

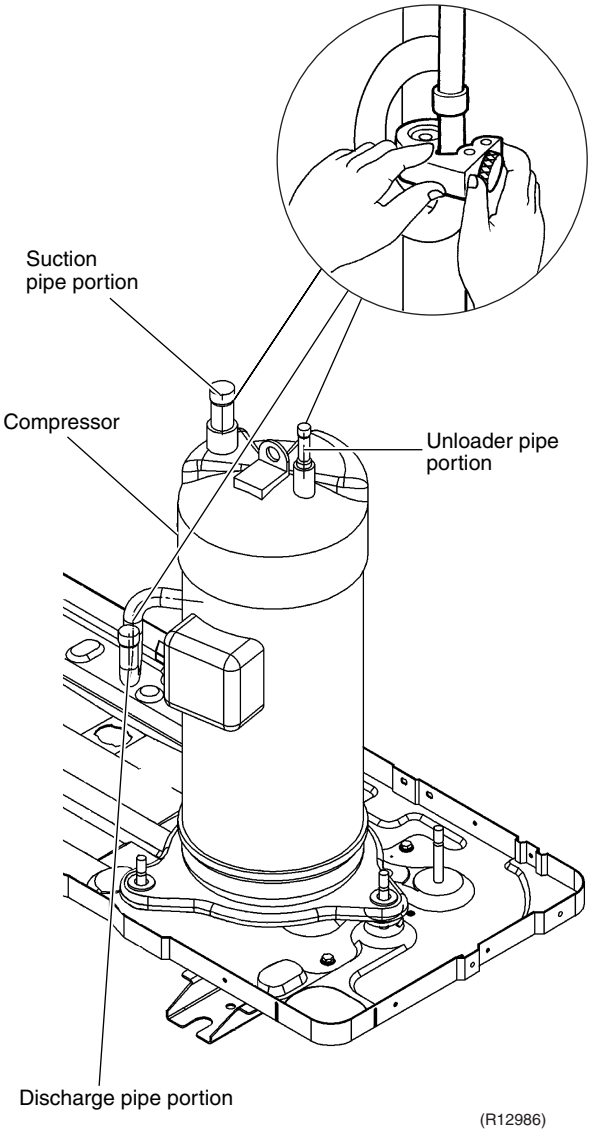
1.7 Removal of Compressor

Procedure

Warning **Be sure to commence the disassembling work after 10 minutes or more elapsed from all power supplies have been turned off.**

Step	Procedure		Points
1	Open upward the sound insulation for the terminal cover.	 (R9264)	**Preparation** ■ Remove the outer panels, electrical components, and peripheral equipments.
2	Remove the terminal cover with a flat screwdriver.	 (R9265)	
3	Disconnect the terminals of the compressor.	 (R12985)	

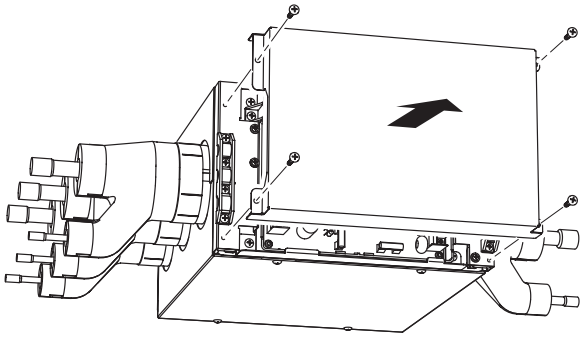
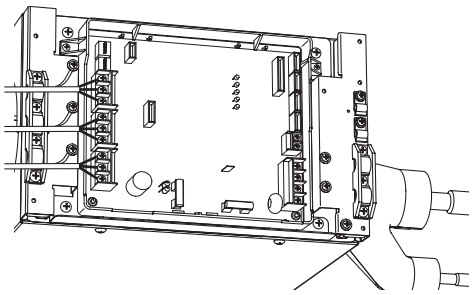
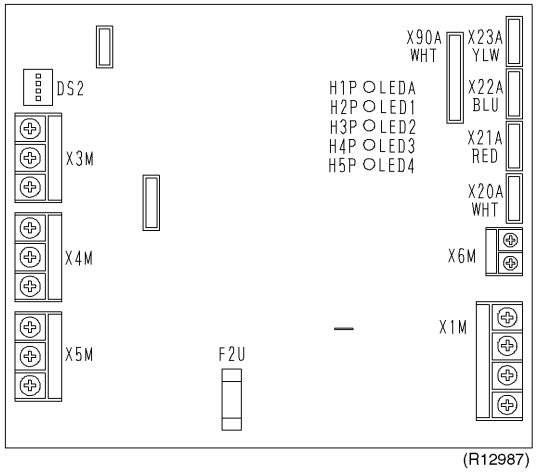
Step	Procedure		Points
4	Remove the sound insulation for the compressor.	 (R9267)	
5	Remove the crankcase heater at the lower of the compressor.	 (R9268)	■ Pull the spring to release the catch.
6	Remove the 3 nuts of the compressor.	 (R9269)	■ You can see the rear side nut when the lower discharge grille is removed. Remove the nuts in view first.
		 (R9270)	

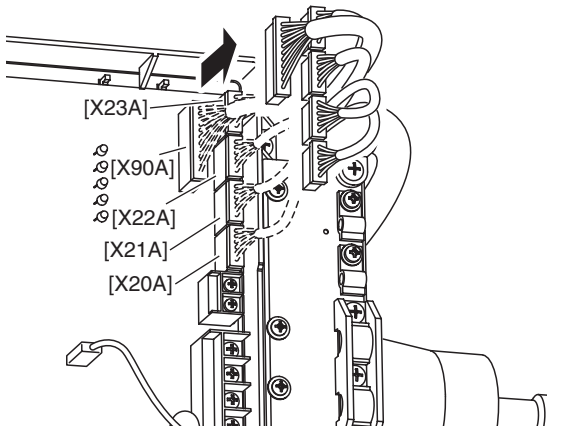
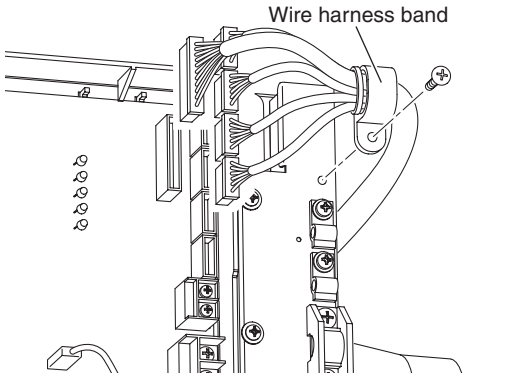
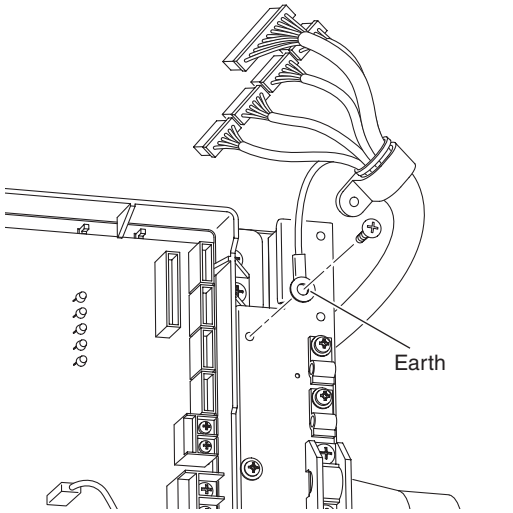
Step	Procedure	Points
■ Before working, make sure that the refrigerant is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part.		**Warning** **Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.**
7	Cut off the suction pipe, discharge pipe and unloader pipe of compressor with a pipe cutter (3 places).	**Warning** **If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)**
8	Remove the compressor.	**Warning** **Since it may happen that the refrigerant oil in the compressor catches fire, prepare wet cloth so as to extinguish fire immediately.**
9	Disconnect the brazed parts and remove the remained pipes.	**Caution** **From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.** **Cautions for restoration** 1. Restore the piping by non-oxidation brazing. 2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry. **In case of difficulty with gas brazing machine** 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.
Note: ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries. ■ Be careful so as not to burn the compressor terminals, the name plate, the heat exchanger fin.		

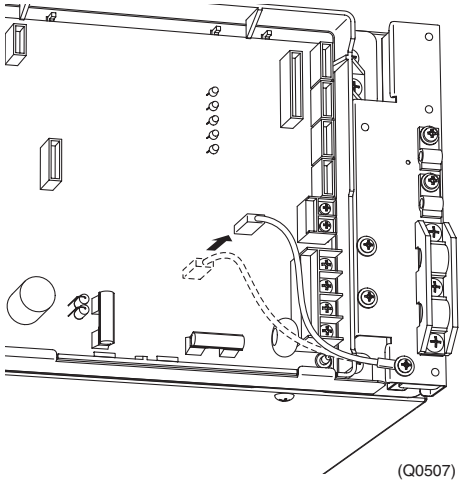
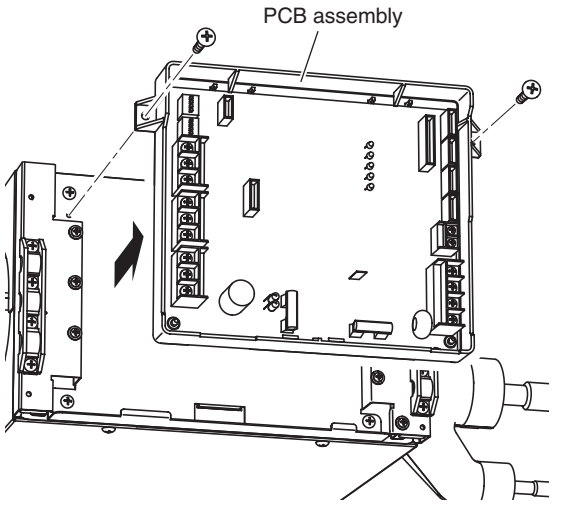
2. BP Unit

2.1 Removal of PCB Assembly

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

Step	Procedure		Points
1	Remove the 4 screws and remove the electrical box cover.	 (Q0501)	
2	The PCB is as shown at the right. Disconnect all the relay cables.	 (Q0502)	■ The PCB is waterproof with resin. This means that the fuse and varistor cannot be replaced. When reassembling, have test operation for checking wrong wiring.
		 (R12987)	■ Refer to page 30 for detail.

Step	Procedure		Points
3	Disconnect the connectors for the electronic expansion valve [X20A] [X21A] [X22A] [X23A] and the connector for the thermistors [X90A].	 (R12988)	■ [X20A]: bypass [X21A]: for room A [X22A]: for room B [X23A]: for room C ■ BPMKS967B2B model does not have [X23A].
4	Remove the screw of the wire harness band.	 (Q0505)	
5	Remove the screw of the earth.	 (R12989)	

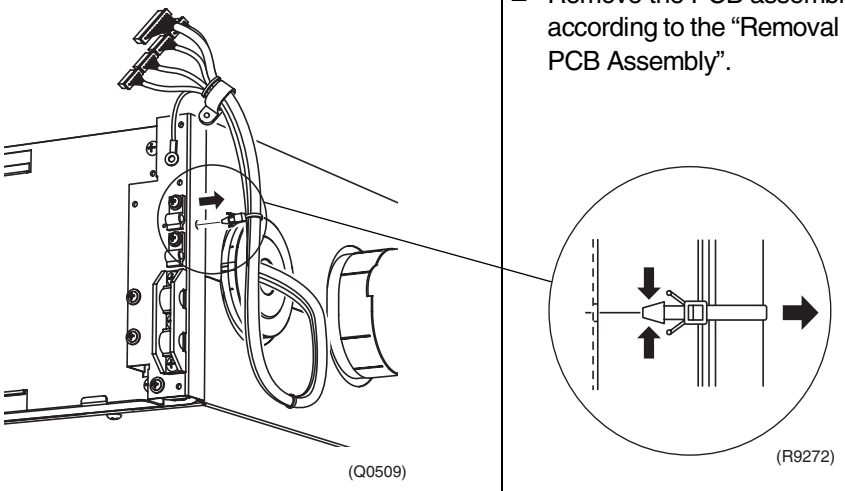
Step	Procedure		Points
6	Disconnect the terminal of the earth.	 (Q0507)	
7	Remove the 2 screws and remove the PCB assembly.	 (R12990)	

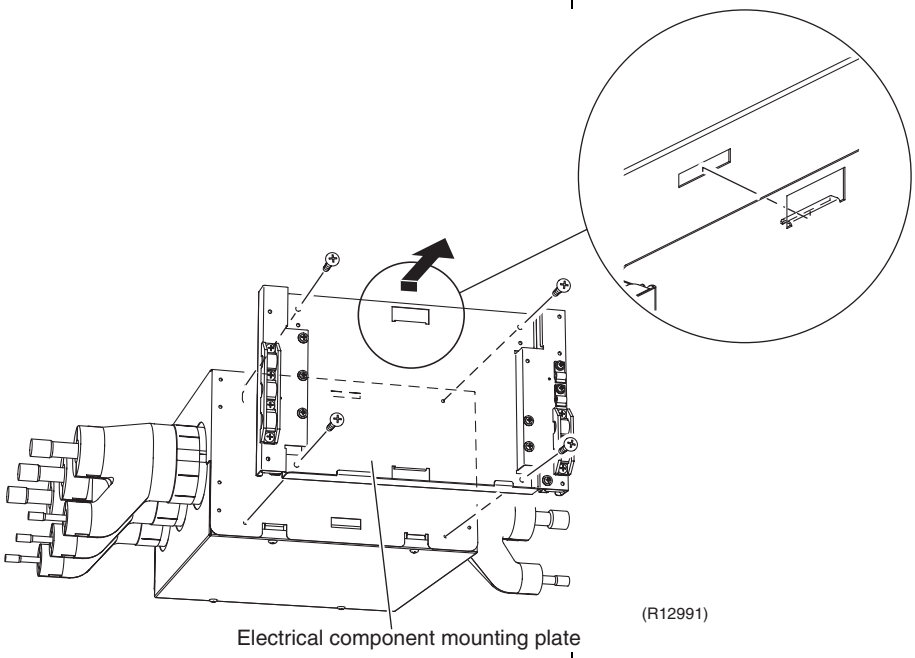
2.2 Removal of Electronic Expansion Valve Coils

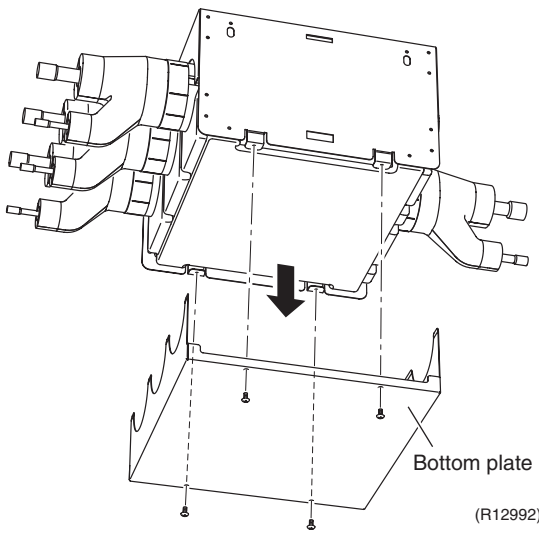
Procedure

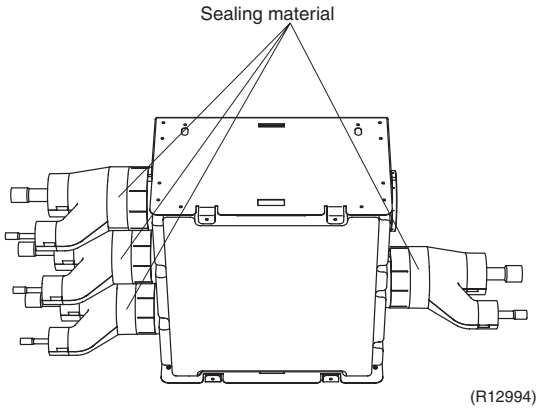
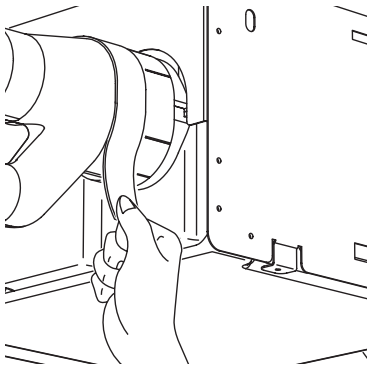
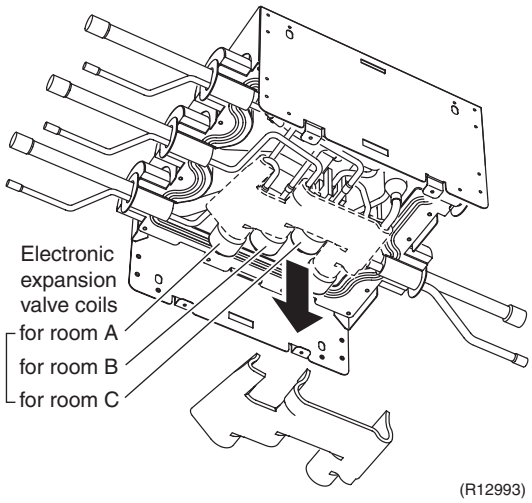
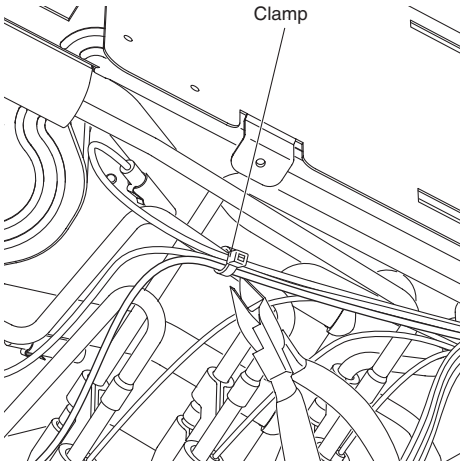
Warning **Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.**

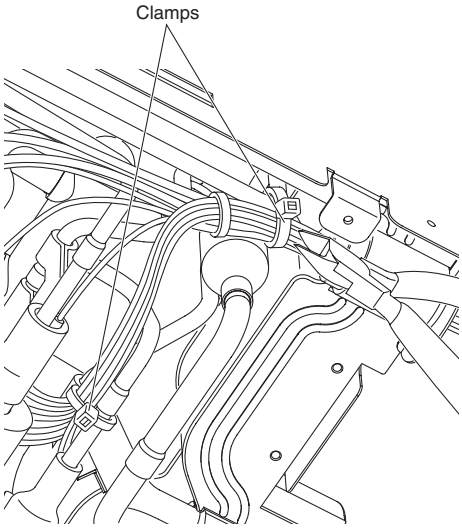
Step	Procedure	Points
1	Detach the clamp of the wire harnesses.	**Preparation** ■ Remove the PCB assembly according to the “Removal of PCB Assembly”.
2	Remove the 4 screws and remove the electrical component mounting plate.	
3	Remove the 4 screws and remove the bottom plate.	







Step	Procedure		Points
4	Remove the sealing materials of the pipe insulation sleeves.	 (R12994)  (Q0513)	
5	Remove the putty.	 (R12993)	■ BPMKS967B2B model does not have an electronic expansion valve for room C.
6	Cut off the clamps and pull out the electronic expansion valve coils.	 (Q0528)	

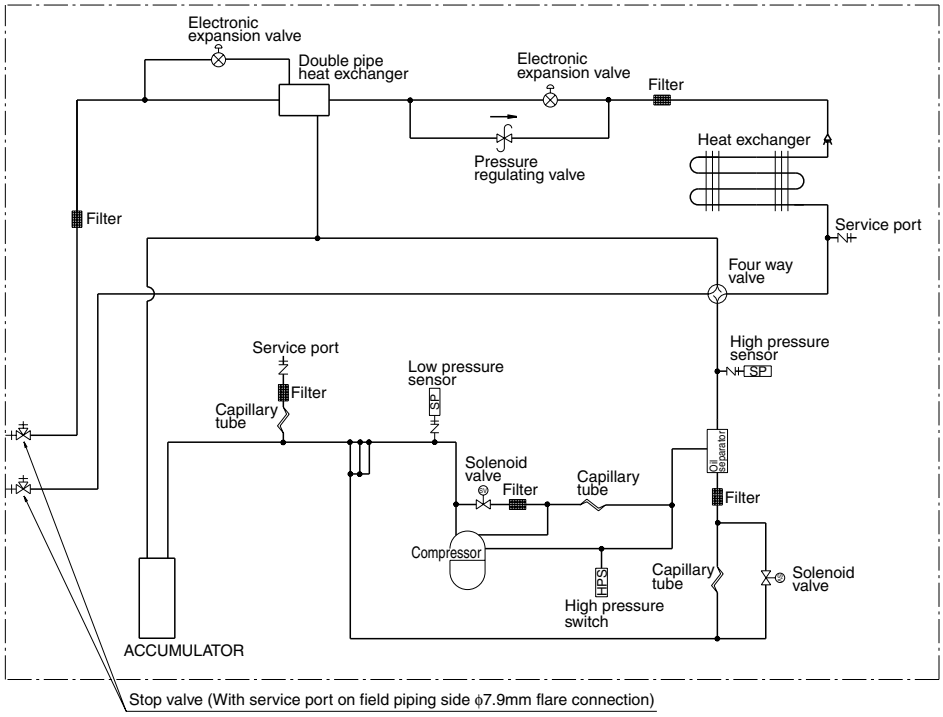
Step	Procedure		Points
		 (Q0529)	

Part 10
Appendix

1. Piping Diagrams

1.1 Outdoor Unit

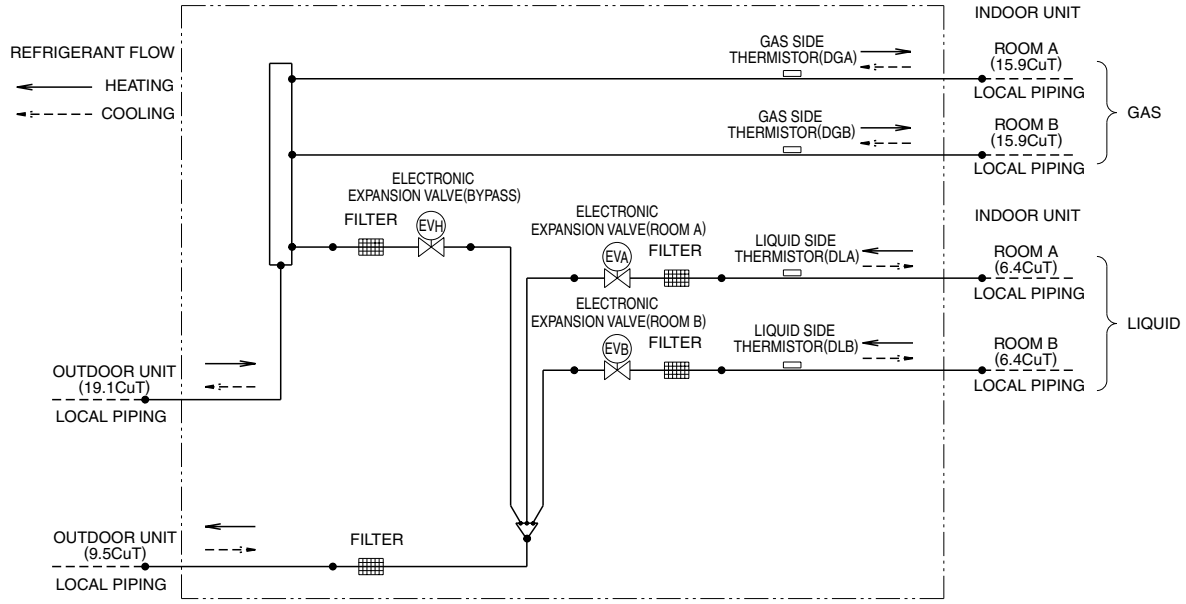
RMXS112/140/160E8V1B



3D052712

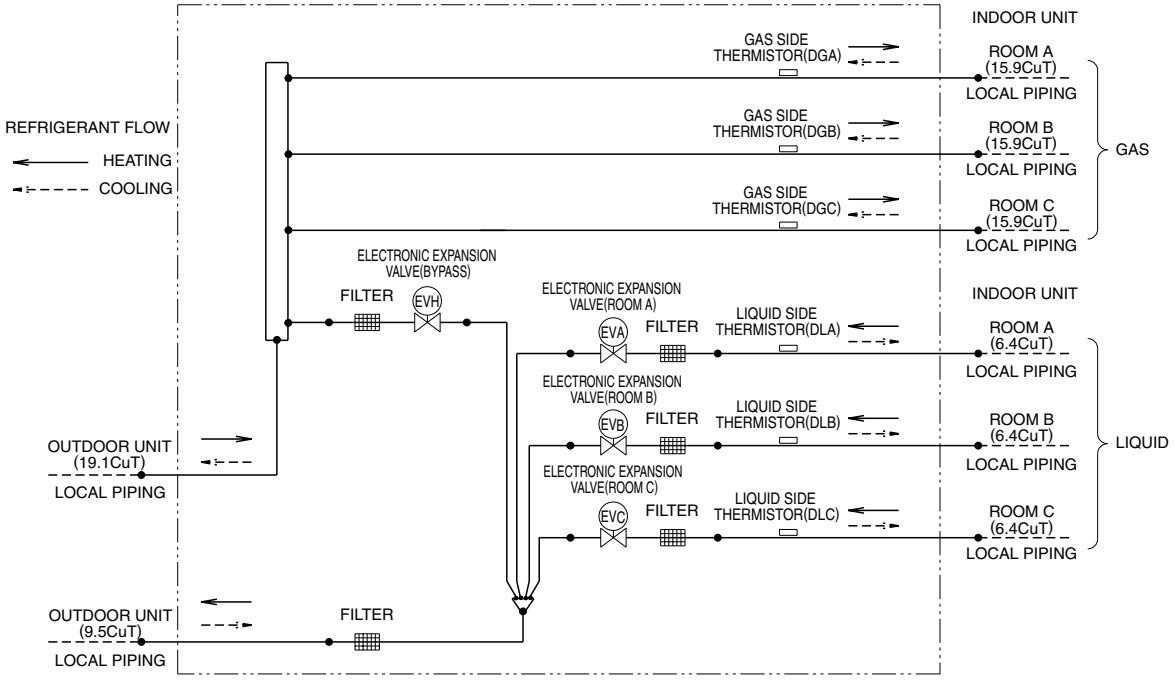
1.2 BP Unit

BPMKS967B2B



3D048286B

BPMKS967B3B

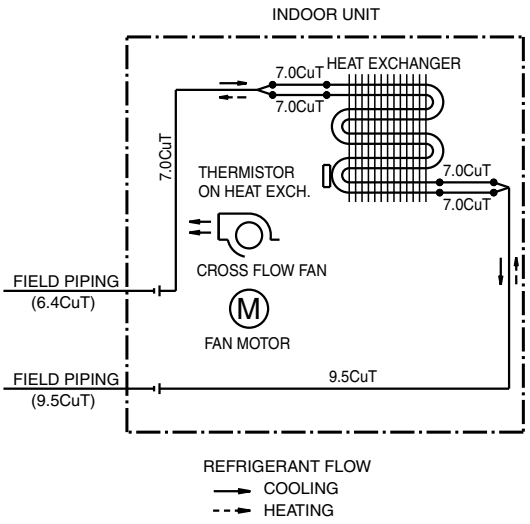


3D048285A

1.3 Indoor Unit

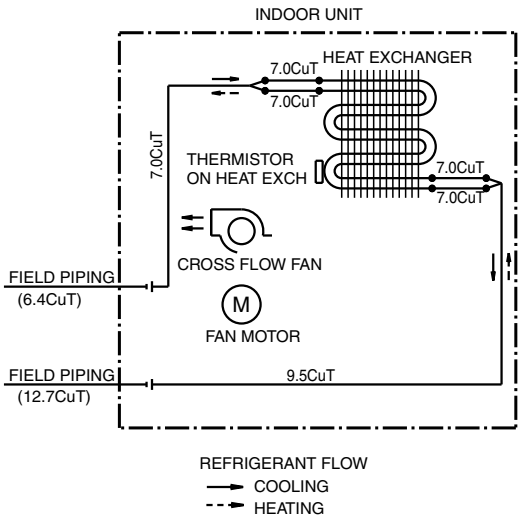
1.3.1 Wall Mounted Type

FTXG25/35EV1BW(S)



4D045301C

CTXG50EV1BW(S)



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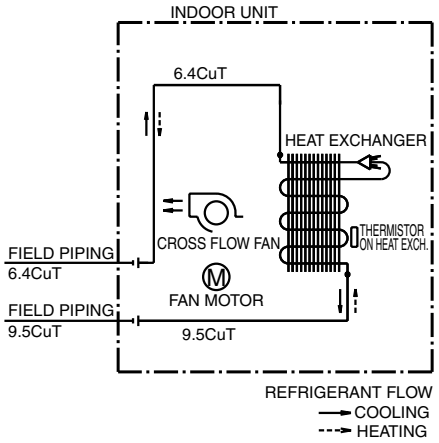
FTXG25/35JV1BW(S)



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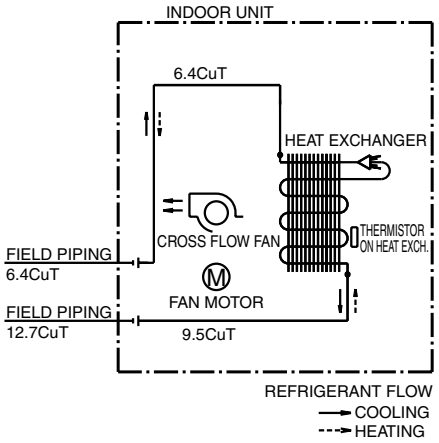
CTXG50JV1BW(S)



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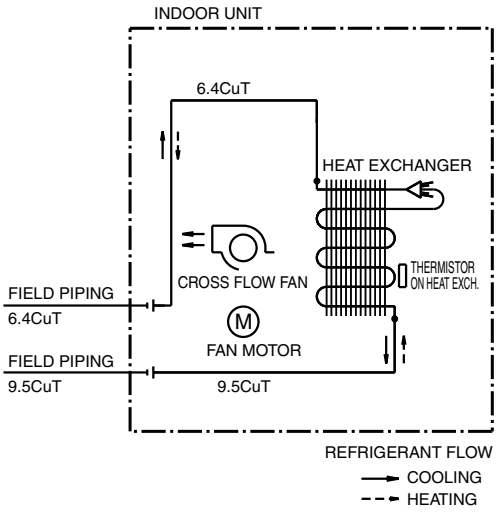
FTXS20/25/35/42G2V1B



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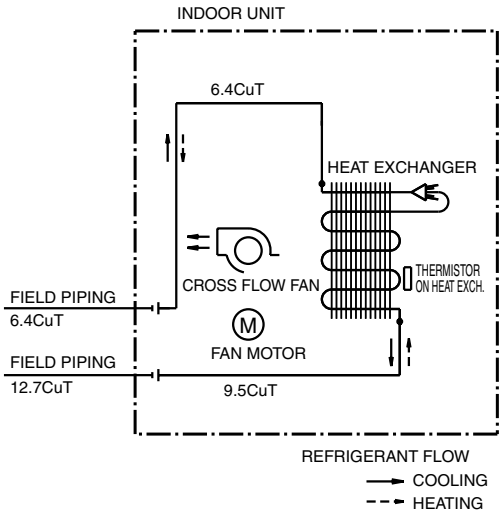
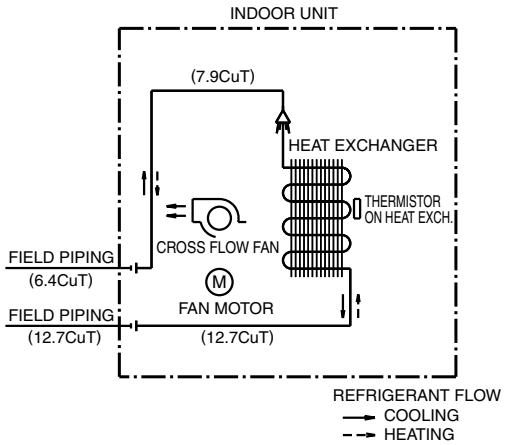
FTXS50G2V1B



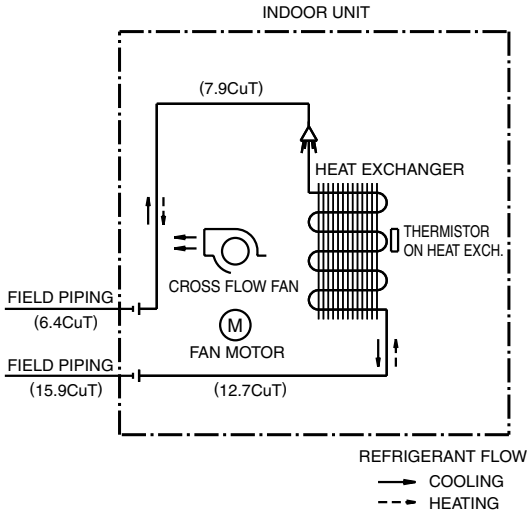
4D058898D

FTXS60FV1B, FTXS60GV1B



4D040081W

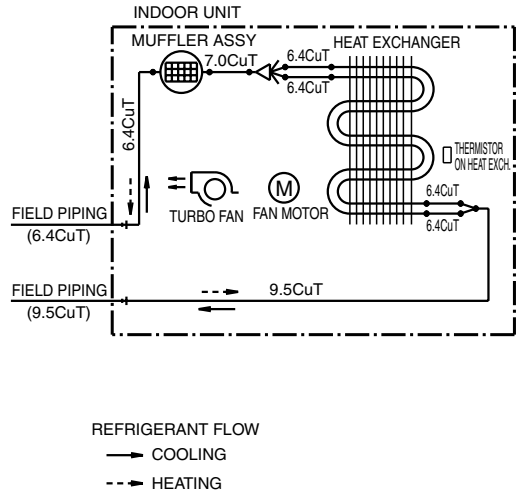
FTXS71FV1B, FTXS71GV1B



4D040082U

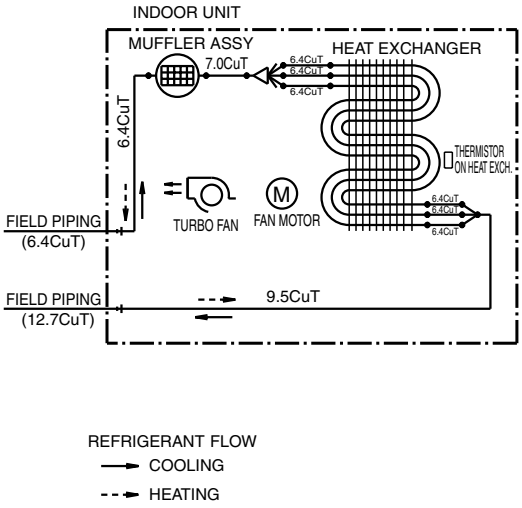
1.3.2 Floor Standing Type

FVXS25/35FV1B



4D056137A

FVXS50FV1B



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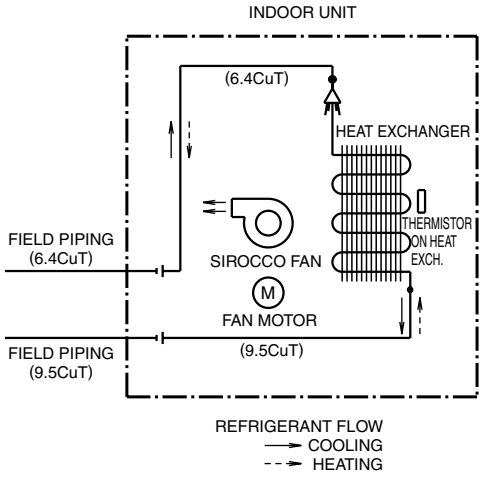
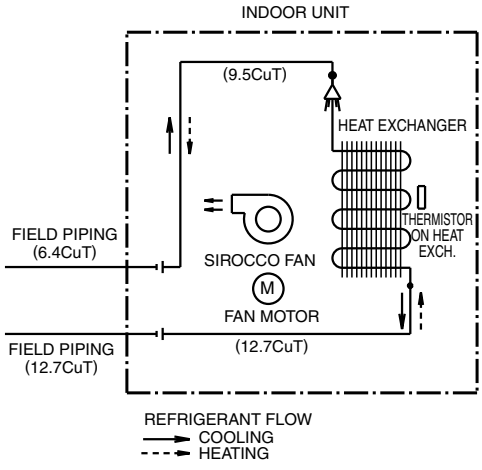
1.3.3 Floor / Ceiling Suspended Dual Type

FLXS25/35BAVMB



4D048722B

FLXS50/60BAVMB



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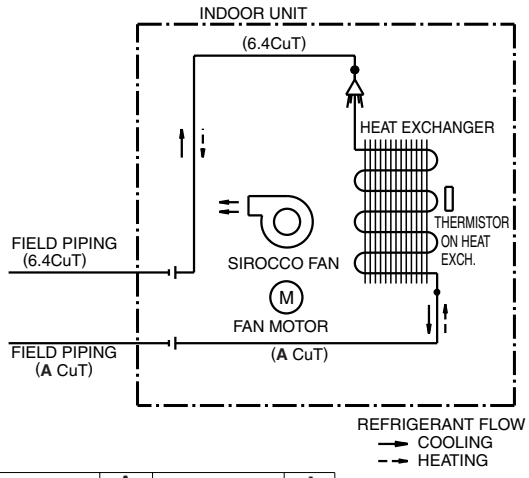
1.3.4 Duct Connected Type

FDXS25/35EAVMB, FDXS50/60CVMB

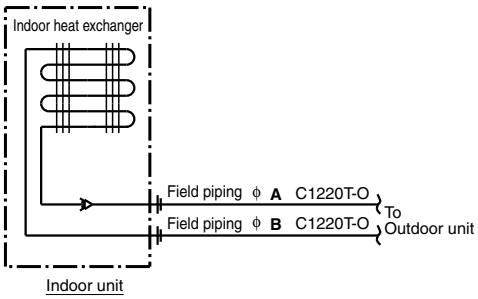


	A		A
FDXS25EAVMB FDXS35EAVMB	9.5	FDXS50CVMB FDXS60CVMB	12.7

C: 4D045449L

1.3.5 Ceiling Mounted Cassette Type

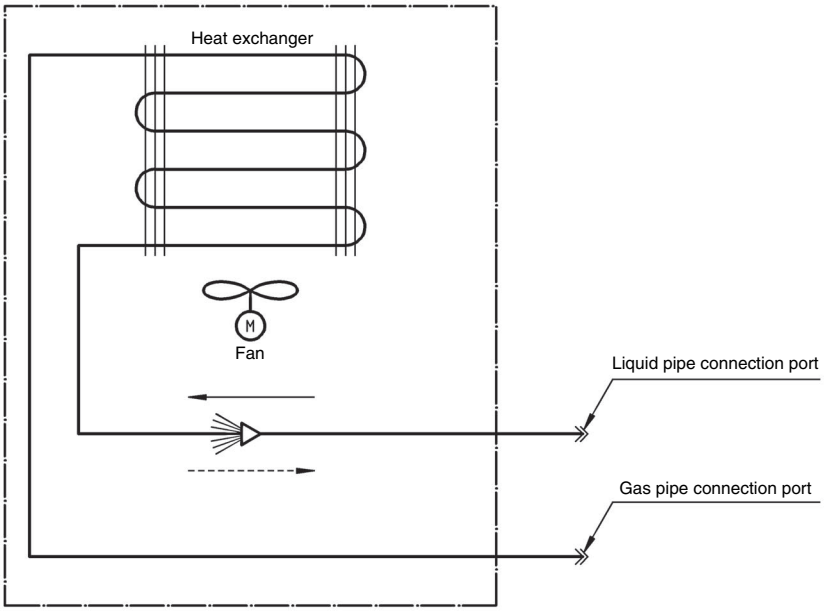
FFQ25/35/50/60B8V1B



MODEL	A	B
FFQ25·35B8V1B	6.4	9.5
FFQ50·60B8V1B	6.4	12.7

C: 4D039335A

FCQ35/50/60C7VEB



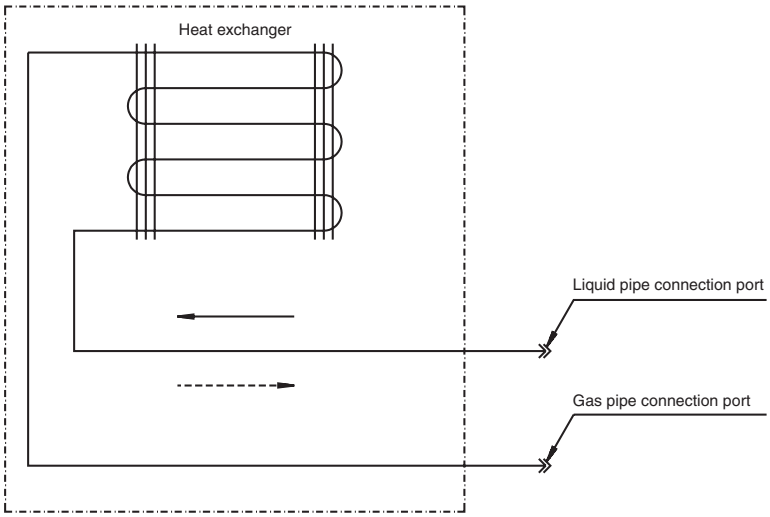
Model	Gas	Liquid
FCQ35C	ϕ9.52	ϕ6.35
FCQ50C FCQ60C	ϕ12.70	ϕ6.35

Cooling ——————
Heating - - - - - -

C: 3TW28925-1A

1.3.6 Ceiling Mounted Built-in Type

FDBQ25B8V1



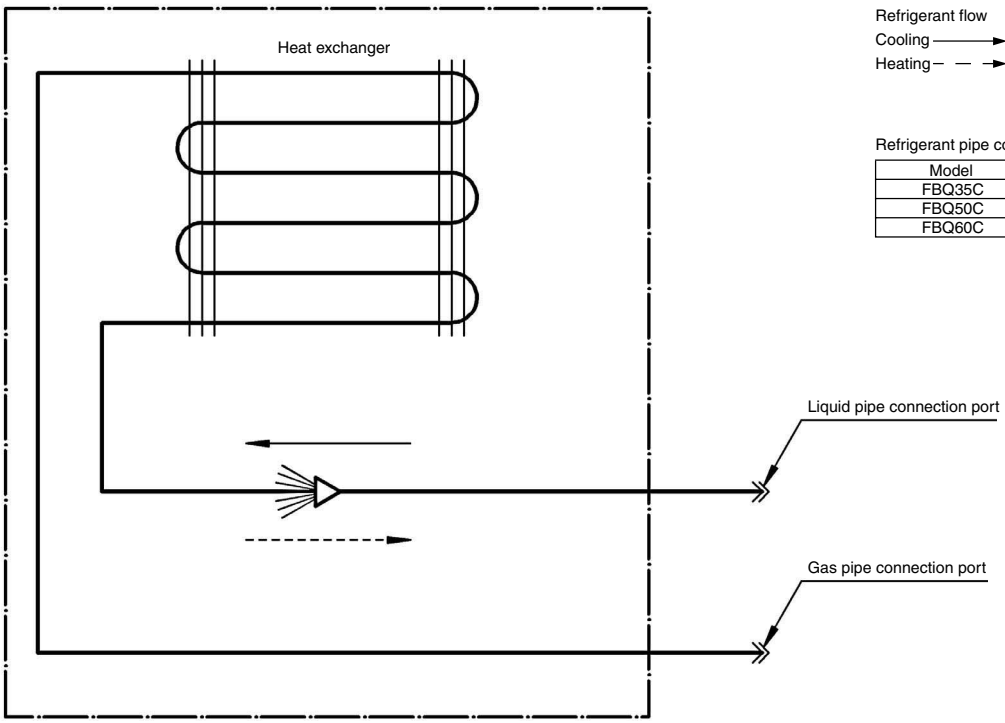
Refrigerant flow
Cooling ——————→
Heating - - - - - - - →

Refrigerant pipe connection port diameters

Model	Gas	Liquid
FDBQ25B8V1	ϕ9.52	ϕ6.35

C: 3TW20815-1B

FBQ35/50/60C7VEB



Refrigerant flow
Cooling ——►
Heating – — –►

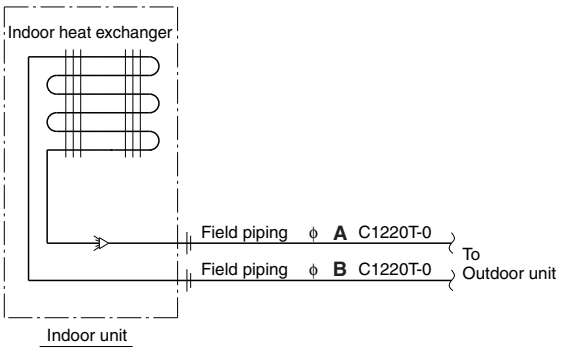
Refrigerant pipe connection port diameters

Model	Gas	Liquid
FBQ35C	9.52	6.35
FBQ50C	12.70	6.35
FBQ60C	12.70	6.35

C: 3TW31275-1

1.3.7 Ceiling Suspended Type

FHQ35/50/60BVV1B



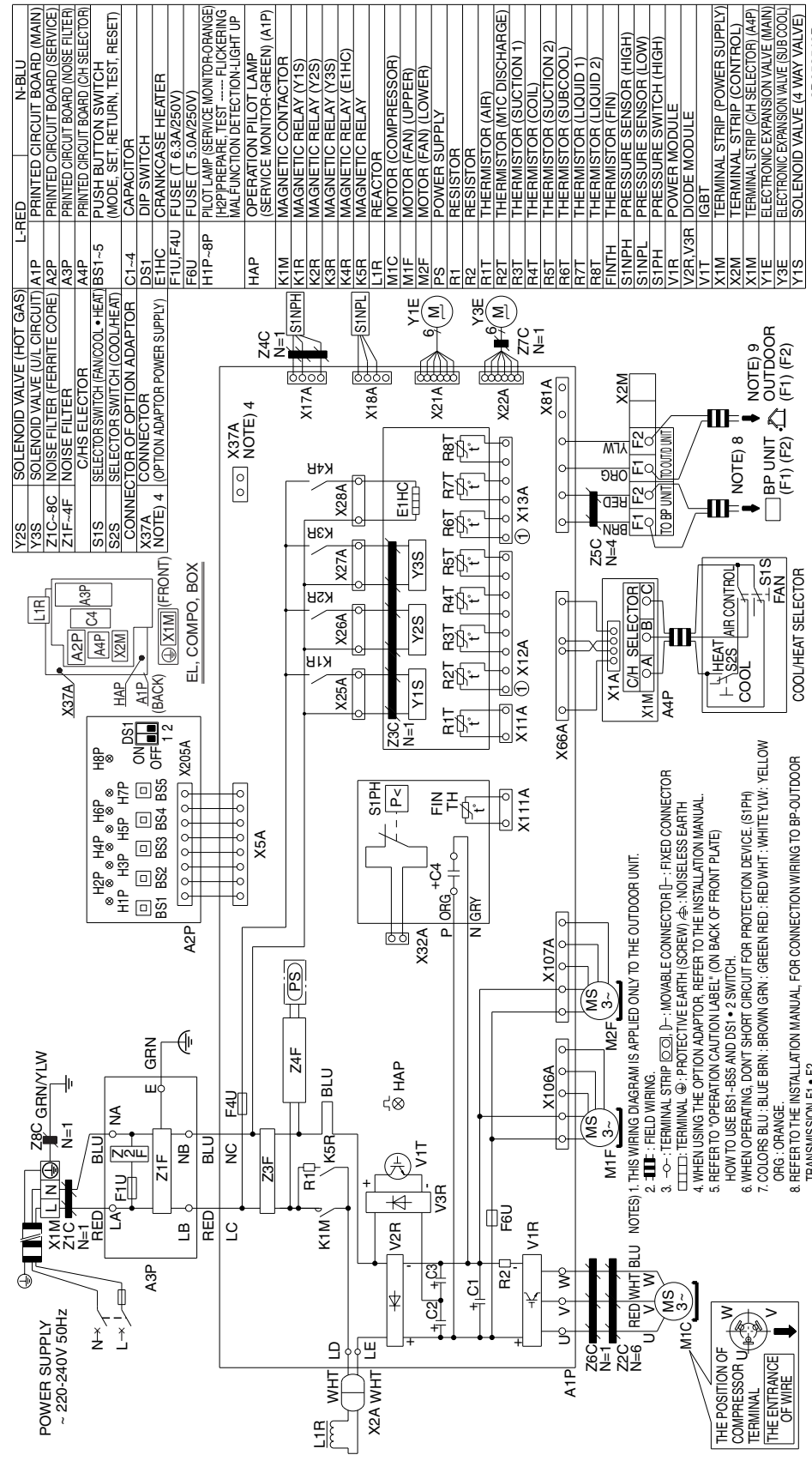
MODEL	A	B
FHQ35BVV1B	6.4	9.5
FHQ50, 60BVV1B	6.4	12.7

C: 4D037995H

2. Wiring Diagrams

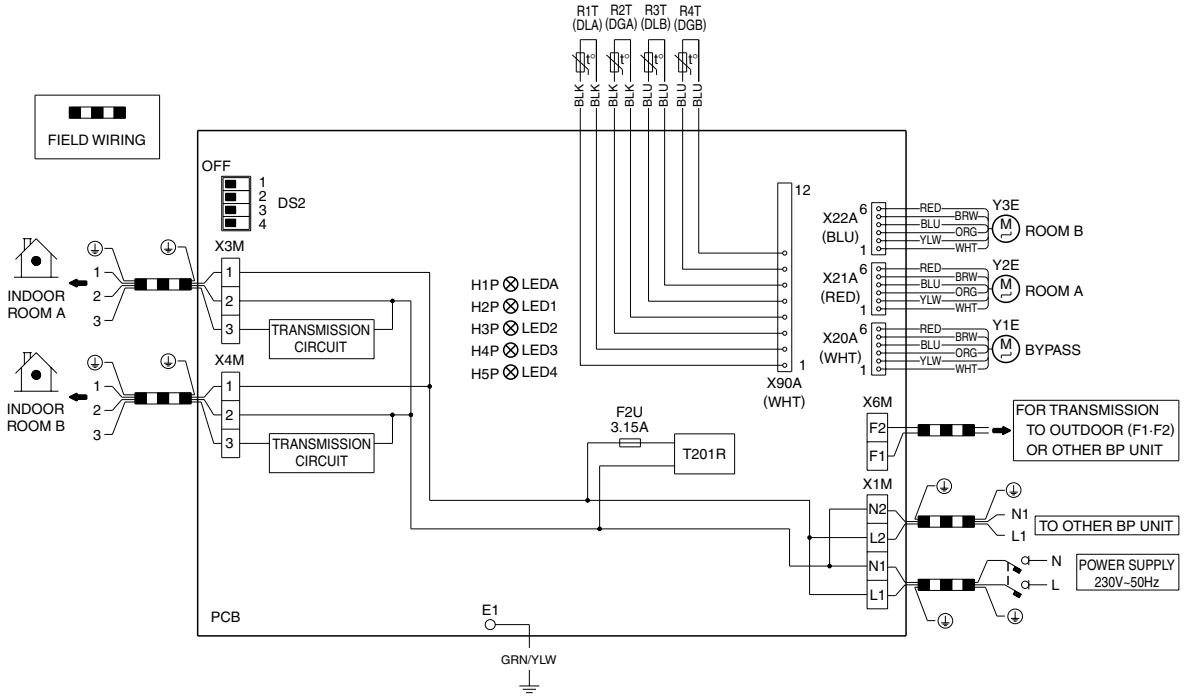
2.1 Outdoor Unit

RMXS112/140/160E8V1B



2.2 BP Unit

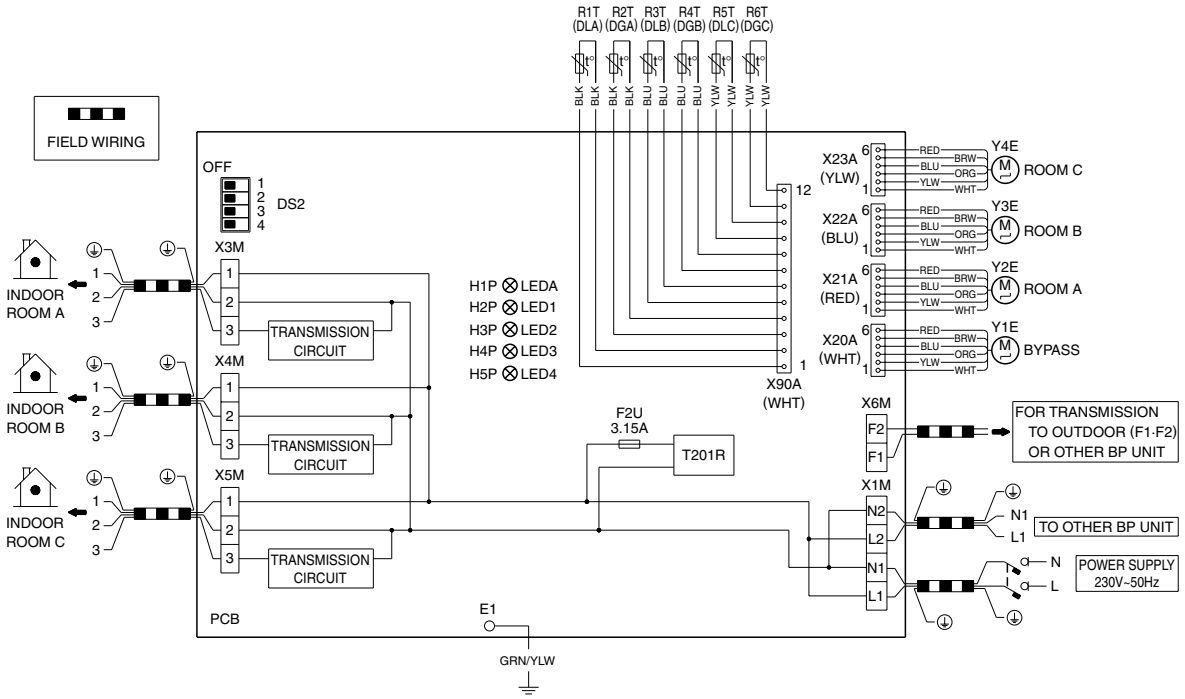
BPMKS967B2B



X20A~X22A, X90A : CONNECTOR
PCB : PRINTED CIRCUIT BOARD
F2U : FUSE
H1P~H5P : PILOT LAMP
R1T~R4T : THERMISTOR
DS2 : DIP SWITCH
T201R : TRANSFORMAR
X1M, X3M, X4M, X6M : TERMINAL STRIP
Y1E~Y3E : MOTOR OPERATED VALVE COIL

3D048565B

BPMKS967B3B



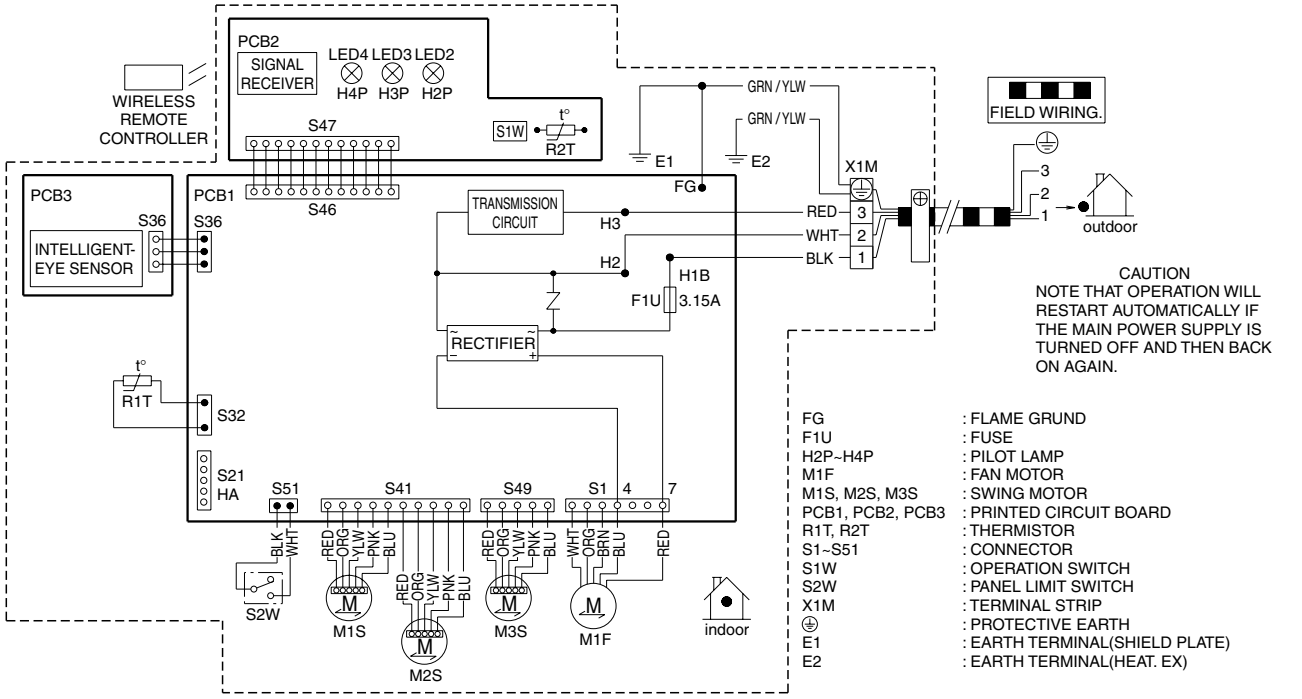
X20A~X23A, X90A : CONNECTOR
PCB : PRINTED CIRCUIT BOARD
F2U : FUSE
H1P~H5P : PILOT LAMP
R1T~R6T : THERMISTOR
DS2 : DIP SWITCH
T201R : TRANSFORMAR
X1M, X3M~X6M : TERMINAL STRIP
Y1E~Y4E : MOTOR OPERATED VALVE COIL

3D048566A

2.3 Indoor Unit

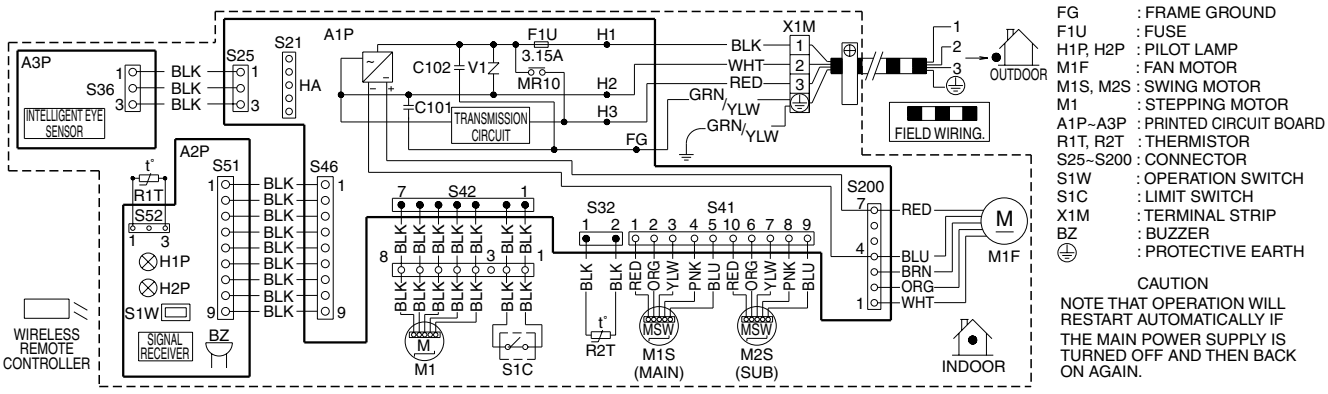
2.3.1 Wall Mounted Type

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



3D050493B

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



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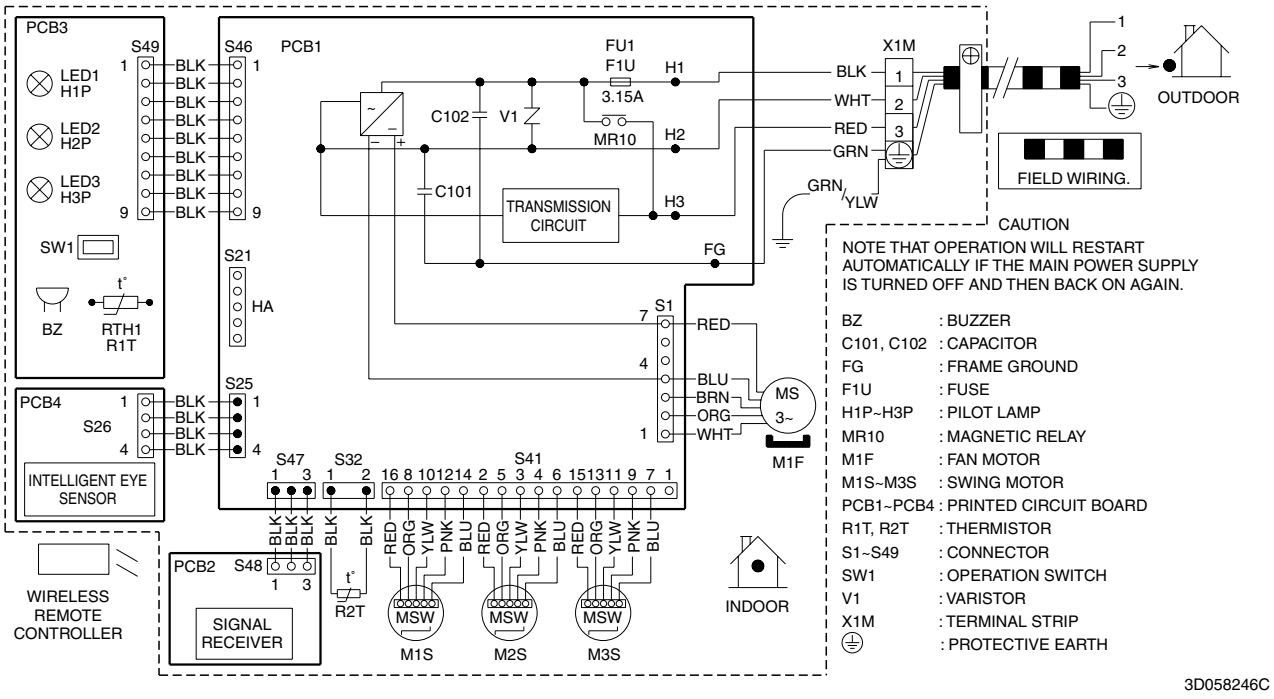
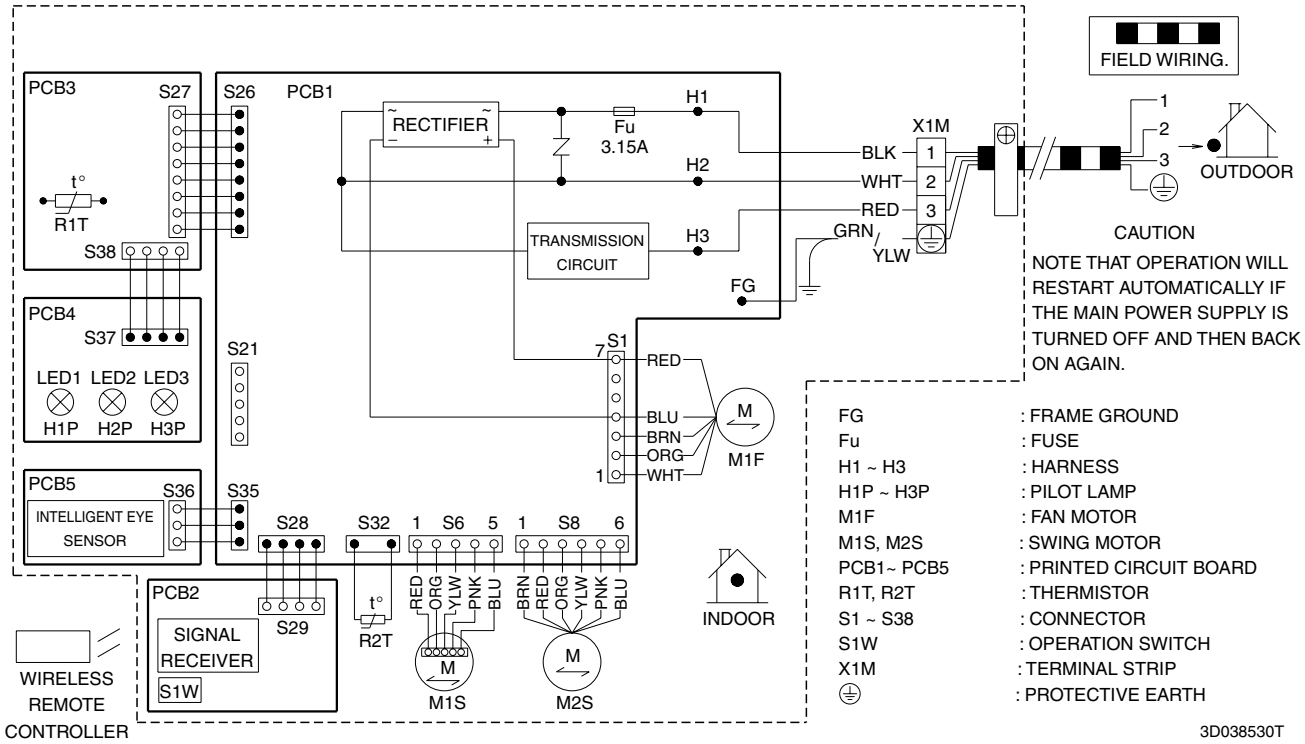
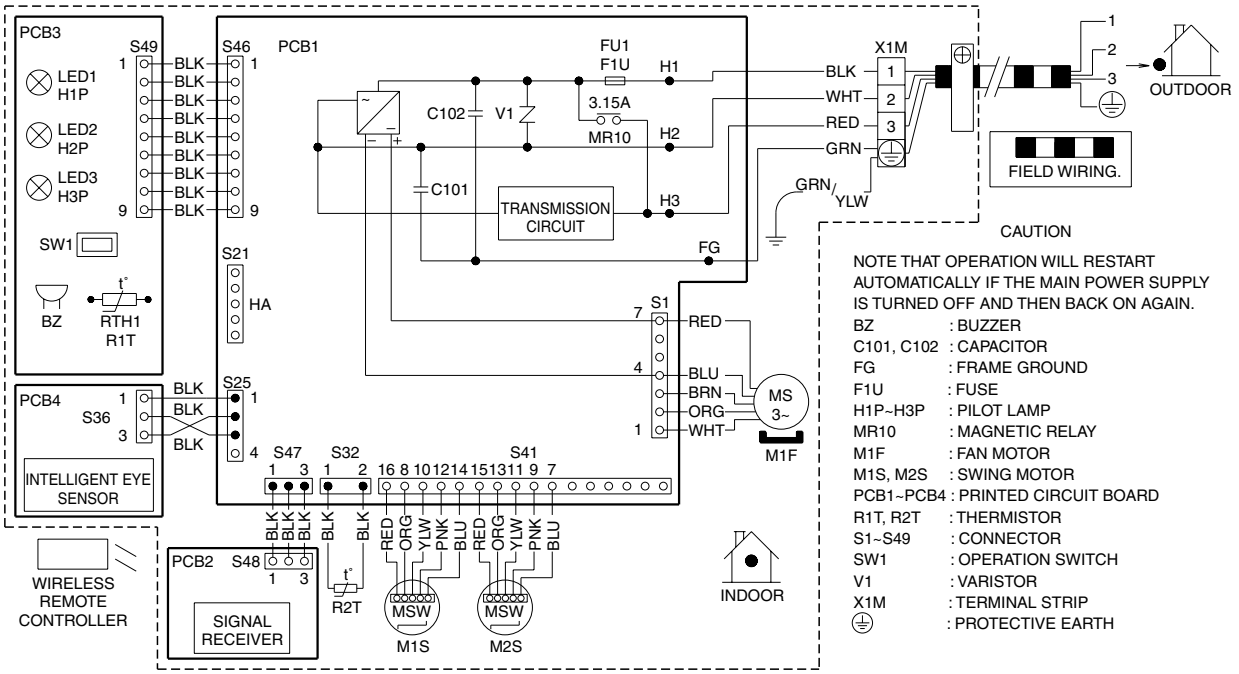
FTXS20/25/35/42/50G2V1B



FTXS60/71FV1B



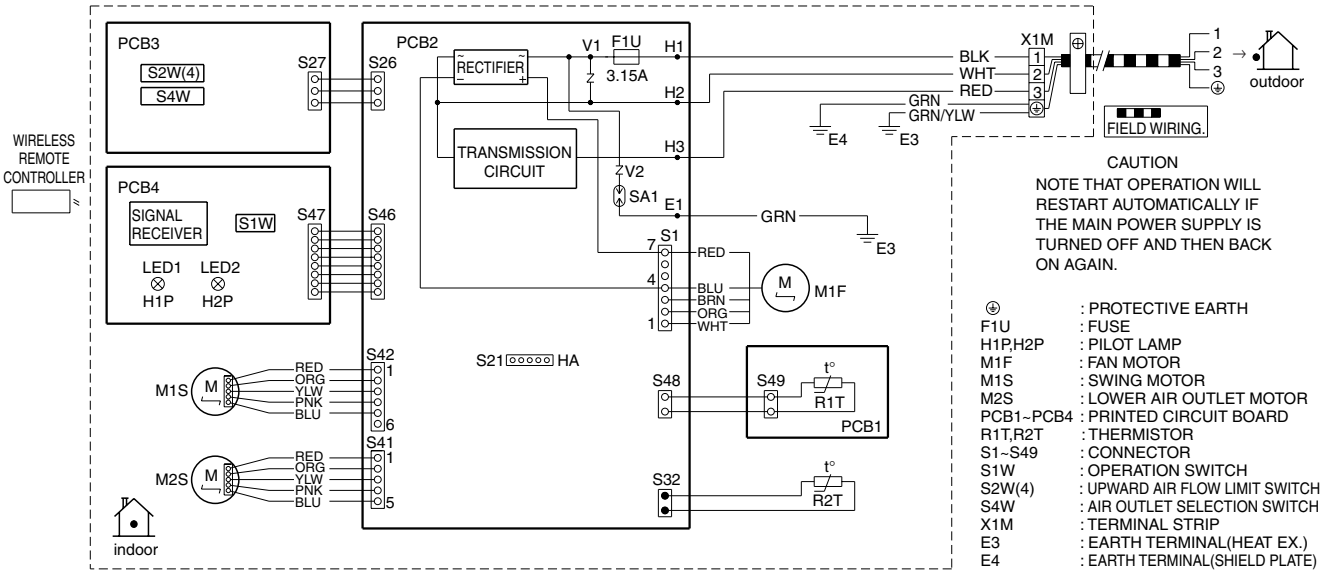
FTXS60/71GV1B



3D064800A

2.3.2 Floor Standing Type

FVXS25/35/50FV1B



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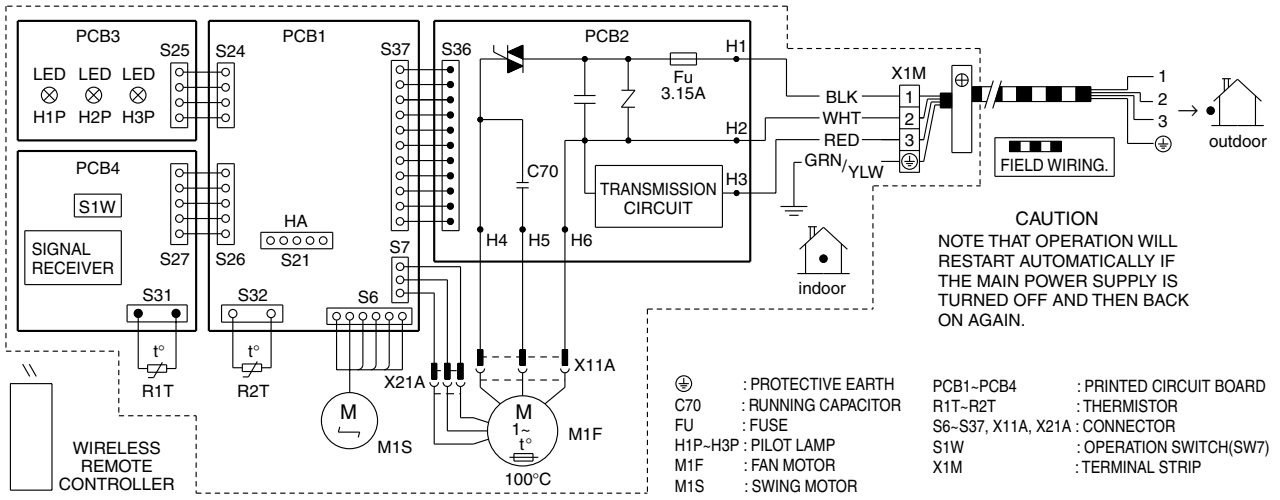
2.3.3 Floor / Ceiling Suspended Dual Type

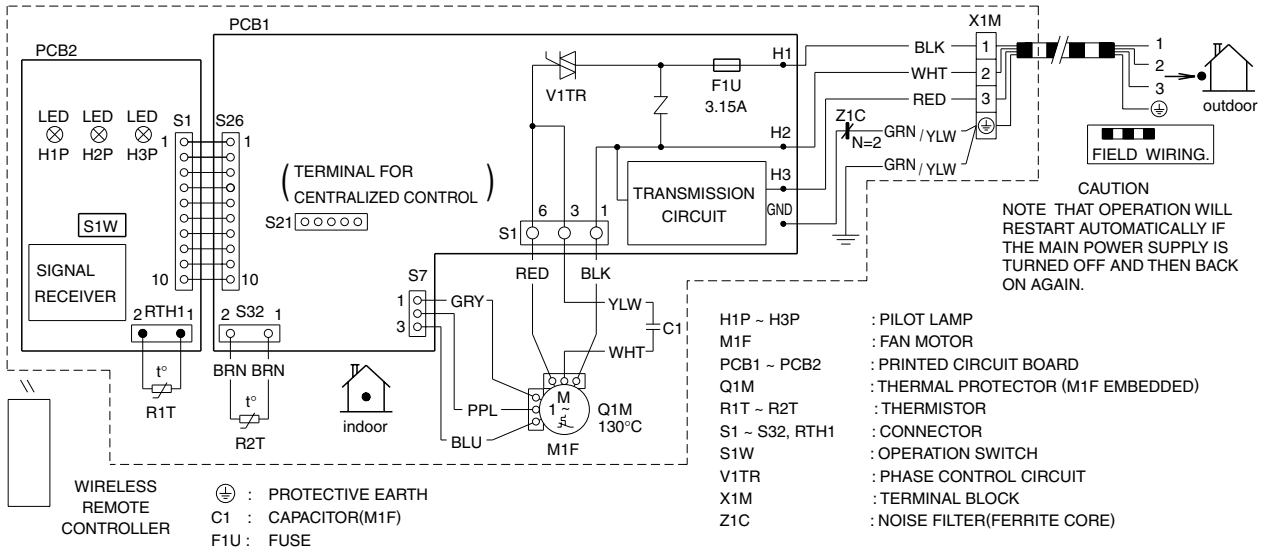
FLXS25/35/50/60BAVMB



3D033909F

2.3.4 Duct Connected Type

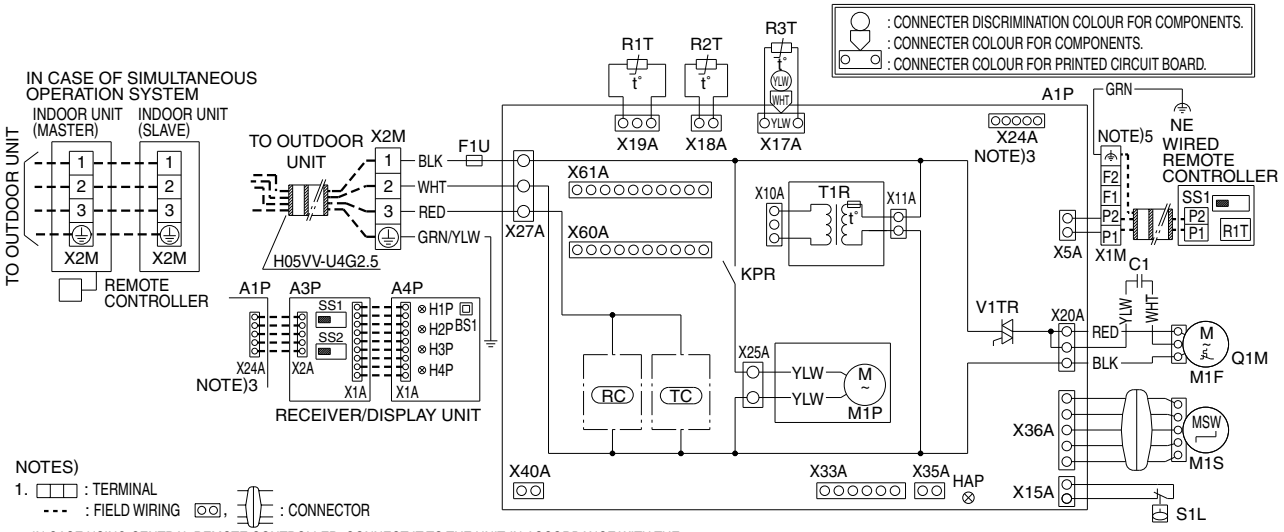
FDXS25/35EAVMB, FDXS50/60CVMB



3D045012L

2.3.5 Ceiling Mounted Cassette Type

FFQ25/35/50/60B8V1B



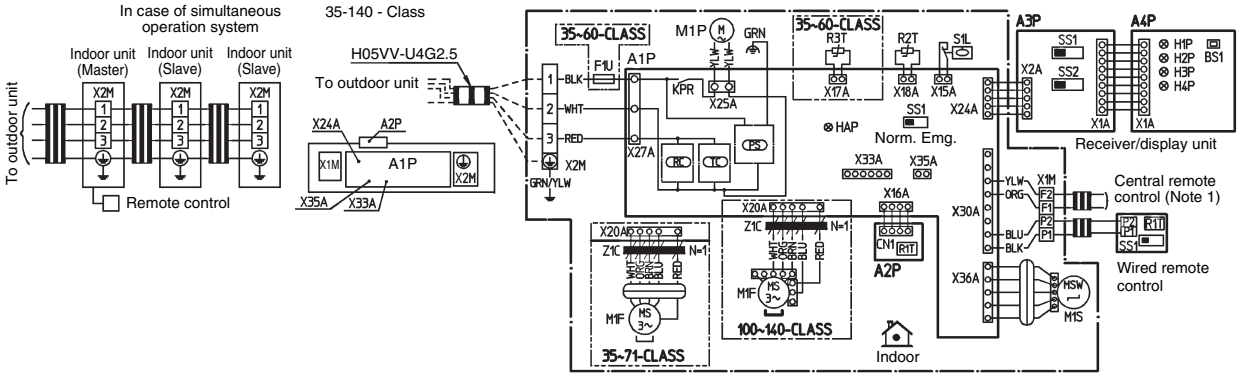
NOTES)

1. □□□ : TERMINAL
   --- : FIELD WIRING ⊡⊡, : CONNECTOR
2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
3. X24A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
4. REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM, CONFIRM ENGINEERING MATERIALS AND CATALOGS, ETC.
5. GROUND THE SHIELD OF THE REMOTE CONTROLLER CORD TO THE INDOOR UNIT (IN CASE OF USING SHIELD WIRE). BEFORE CONNECTING.
6. SYMBOLS SHOW AS FOLLOWS: RED: RED BLK: BLACK WHT: WHITE YLW: YELLOW PRP: PURPLE GRY: GRAY BLU: BLUE

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 X61A	CONNECTOR (INTERFACE ADAPTOR FOR SKYAIR SERIES)
R1T	THERMISTOR(AIR)		
SS1	SELECTOR SWITCH(MAIN/SUB)		
WIRELESS REMOTE CONTROLLER (RECEIVER/DISPLAY UNIT)			
A3P	PRINTED CIRCUIT BOARD		
A4P	PRINTED CIRCUIT BOARD		

3D038357B

FCQ35/50/60C7VEB



INDOOR UNIT		R3T	Thermistor (coil)	H1P	Light emitting diode (on-red)
A1P	Printed circuit board	RC	Signal receiver circuit	H2P	Light emitting diode (timer-green)
A2P	Printed circuit board (humidity sensor unit)	S1L	Float switch	H3P	Light emitting diode (filter sign-red)
F1U	Fuse (T, 5A, 250V)	SS1	Selector switch (emergency)	H4P	Light emitting diode (defrost-orange)
HAP	Light emitting diode (service monitor green)	TC	Signal transmission circuit	SS1	Selector switch (main/sub)
KPR	Magnetic relay (M1P)	X1M	Terminal strip	SS2	Selector switch (wireless address set)
M1F	Motor (indoor fan)	X2M	Terminal strip	**CONNECTOR FOR OPTIONAL PARTS**	
M1P	Motor (drain pump)	Z1C	Ferrite core	X24A	Connector (infrared remote control)
M1S	Motor (swing flap)	**RECEIVER/DISPLAY UNIT (ATTACHED TO INFRARED REMOTE CONTROL)**		X33A	Connector (adapter for wiring)
PS	Power supply circuit			X35A	Connector (group control adapter)
R1T	Thermistor (air)	A3P	Printed circuit board	**WIRED REMOTE CONTROL**	
R2T	Thermistor (coil)	A4P	Printed circuit board	R1T	Thermistor (air)
		BS1	Push button (on/off)	SS1	Selector switch (main/sub)

: Terminal block
: Connector
: Field wiring

Colors:
RED: Red
BLK: Black
WHT: White
YLW: Yellow
GRN: Green
ORG: Orange
BRN: Brown
GRY: Grey
BLU: Blue

NOTES

1 In case of using central remote control, connect it to the unit in accordance with the attached installation manual.
2 X24A, X33A, and X35A are connected when the optional accessories are being used.
3 Remote control model varies according to the combination system, confirm engineering data and catalogs, etc. before connecting
4 Confirm the method of setting the selector switch (SS1, SS2) by installation manual and engineering data, etc.

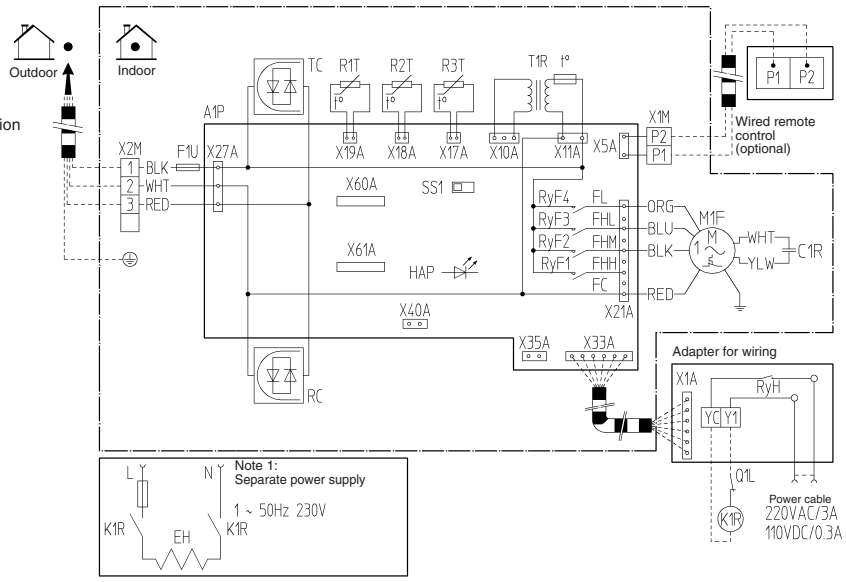
3TW28926-1

2.3.6 Ceiling Mounted Built-in Type

FDBQ25B8V1

Notes

1. When using the central remote control, see manual for connection to the unit.
2. The remote control model varies according to the combination system. See technical materials and catalogues, etc. before connecting.

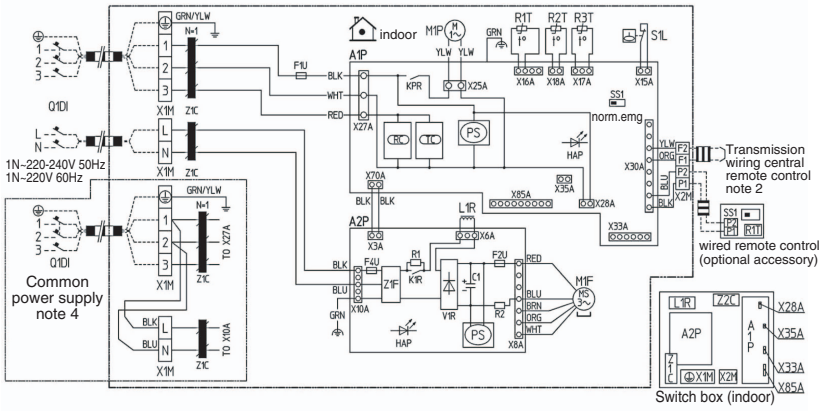


Field wiring Terminal
: Connector
: Wire clamp
: Protective earth (screw)
Colours
BLK: Black / WHT: White / RED: Red / BLU: Blue / ORG: Orange

A1P	Printed circuit board	R1T	Thermistor (air)	Adapter for wiring		Field supply	
T1R	Power supply transformer (transformer 220-240V/218V)	R2T	Thermistor (liquid)	RyH	Magnetic relay	K1R	Magnetic relay
C1R	Capacitor (fan)	R3T	Thermistor (coil)	Q1L	Thermal protector	EH	Electrical heater kit
F1U	Fuse (5A, 250V)	RyF1-4	Magnetic relay (fan)	Connector for optional parts			
F1T	Thermal fuse (152°C) (M1F embedded)	SS1	Selector switch (emergency)	X60A, X61A	Connector (interface adaptor for SKY AIR / US series)		
HAP	Light emitting diode (service monitor green)	X1M	Terminal strip	X33A	Connector (adapter for wiring)		
M1F	Motor(Fan)	X2M	Terminal strip	X35A	Connector (group control adapter)		
		RC	Signal receiver circuit	X40A	Connector (remote ON/OFF forced OFF)		
		TC	Signal transmission circuit				

2TW25856-1

FBQ35/50C7VEB



: Field wiring
L : Live
N : Neutral
: Connector
: Wire clamp
: Protective earth (screw)

Colors
BLK : Black
BLU : Blue
BRN : Brown
GRY : Gray
ORG : Orange
PNK : Pink
RED : Red
WHT : White
YLW : Yellow
GRN : Green

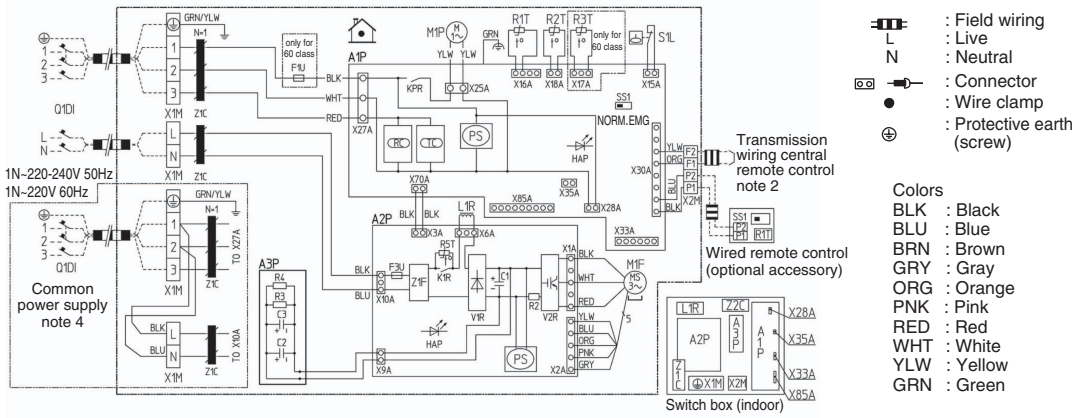
Indoor unit		M1F	Motor (fan)	SS1	Selector switch (emergency)	TC	Signal transmission circuit
A1P	Printed circuit board	M1P	Motor (drain pump)	S1L	Float switch	Connector optional accessory	
A2P	Printed circuit board (fan)	PS	Switching power supply	V1R	Diode bridge	X28A	Connector (Power supply for wiring)
C1	Capacitor	Q1DI	Earth leak detector	V2R	Power module	X33A	Connector (for wiring)
F1U, F2U	Fuse (T, 5A, 250V)	R1	Resistor (current limiting)	X1M	Terminal strip (power supply)	X35A	Connector (adapter)
F4U	Fuse (T, 6.3A, 250V)	R2	Current sensing device	X2M	Terminal strip (control)	X85A	Connector (for multizoning)
HAP	Light emitting diode (Service monitor green)	R1T	Thermistor (suction air)	Z1C	Noise filter (ferrite core)	X33A	Connector (for wiring)
KPR, K1R	Magnetic relay	R2T	Thermistor (liquid)	Z1F	Noise filter	Wired remote control	
L1R	Reactor	R3T	Thermistor (gas)	RC	Signal receiver circuit	SS1	Selectorswitch (emergency)

2TW31276-1A

NOTES

1 Use copper conductors only.
2 When using the central remote controller, see manual for connection to the unit.
3 The remote control model varies according to the combination system. See technical materials and catalogues, etc. before connecting.
4 Refer to installation manual.

FBQ60C7VEB



Indoorunit		L1R	Reactor	R3T	Thermistor (gas)	TC	Terminal strip (control)
A1P	Printed circuit board	M1F	Motor (fan)	R5T	Thermistor NTC (Current limiting)	Y1E	Electronic expansion valve
A2P	Printed circuit board (fan)	M1P	Motor (drain pump)	SS1	Selector switch (emergency)	Connector optional accessory	
A3P	Printed circuit board (capacitor)	PS	Switching power supply	S1L	Float switch	X33A	Connector (for wiring)
C1, C2, C3	Capacitor	Q1DI	Earth leak detector	V1R	Diode bridge	X35A	Connector (adapter)
F1U	Fuse (T, 5A, 250V)	R2	Current sensing device	V2R	Power module	X38A	Connector (for wiring)
F3U	Fuse (T, 6.3A, 250V)	R3, R4	Resistor (electric discharge)	Z1C	Noise filter (ferrite core)		Wired remote control
HAP	Light emitting diode (service monitor green)	R1T	Thermistor (suction air)	Z1F	Noise filter	R1T	Thermistor (air)
KPR, K1R	Magnetic relay	R2T	Thermistor (liquid)	RC	Terminal strip (power supply)	SS1	Selector switch (main/sub)

2TW31296-1A

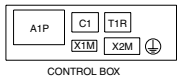
NOTES

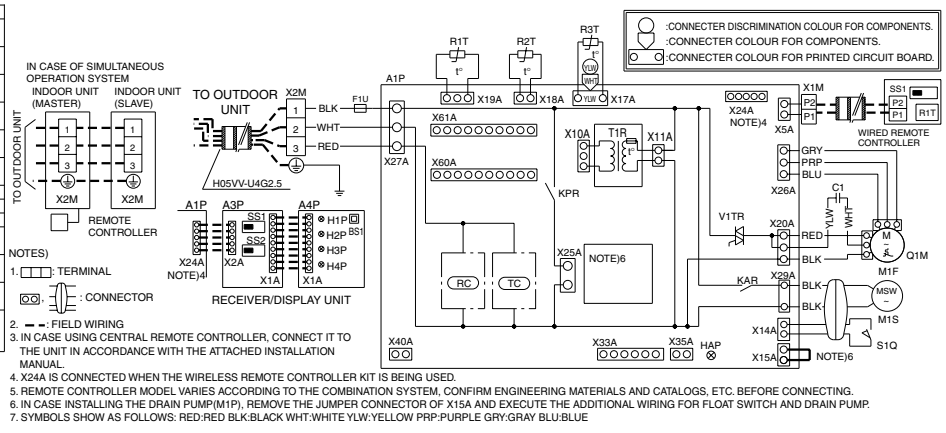
1 Use copper conductors only.
2 When using the central remote controller, see manual for connection to the unit.
3 The remote control model varies according to the combination system. See technical materials and catalogues, etc. before connecting.
4 Refer to installation manual.

2.3.7 Ceiling Suspended Type

FHQ35/50/60BVV1B

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)
KAR	MAGNETIC RELAY(M1S)	H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
KPR	MAGNETIC RELAY(M1P)		
M1F	MOTOR(INDOOR FAN)	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)		
S1Q	LIMIT SWITCH(SWING FLAP)	CONNECTOR FOR OPTIONAL PARTS	
T1R	TRANSFORMER(220-240V/22V)	X15A	CONNECTOR(FLOAT SWITCH)
V1TR	PHASE CONTROL CIRCUIT	X25A	CONNECTOR(DRAIN PUMP)
X1M	TERMINAL BLOCK	X33A	CONNECTOR (ADAPTOR FOR WIRING)
X2M	TERMINAL BLOCK		
RC	SIGNAL RECEIVER CIRCUIT	X35A	CONNECTOR (GROUP CONTROL ADAPTOR)
TC	SIGNAL TRANSMISSION CIRCUIT		
WIRED REMOTE CONTROLLER		X40A	CONNECTOR (ON/OFF INPUT FROM OUTSIDE)
R1T	THERMISTOR(AIR)		
SS1	SELECTOR SWITCH(MAIN/SUB)	X60A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
WIRELESS REMOTE CONTROLLER (RECEIVER/DISPLAY UNIT)		X61A	
A3P	PRINTED CIRCUIT BOARD		
A4P	PRINTED CIRCUIT BOARD		





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Revision History

Date	News No.	Contents
2010/11/9	M-10013	Correction of troubleshooting flowchart RF for SkyAir models

Warning

- Daikin Industries, Ltd.'s products are manufactured for export to numerous countries throughout the world. Daikin Industries, Ltd. does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

JMI-0107

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

DAIKIN INDUSTRIES, LTD.
Head Office:
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan

Tokyo Office:
JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan

http://www.daikin.com/global_ac/

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