DAIKIN

SiUS301716EE

R-410A

Service Manual

VRV

T-Series Water Cooled System

RWEQ-TA/TB Series

Heat Pump 60 Hz
Heat Recovery 60 Hz

Introduction

1. Safety Cautions

Be sure to read the following safety cautions before conducting repair work.
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.

	This manual is for the person in charge of maintenance and inspection.

Caution Items

The caution items are classified into ⚠**Warning** and ⚠**Caution**. The ⚠**Warning** items are especially important since death or serious injury can result 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.

Pictograms

△ This symbol indicates an item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.
◯ This symbol indicates a prohibited action.
The prohibited item or action is shown in the illustration or near the symbol.
● This symbol indicates an action that must be taken, or an instruction.
The instruction is shown in the illustration or near the symbol.

1.1 Warnings and Cautions Regarding Safety of Workers

⚠ Warning	
Do not store equipment in a room with fire sources (e.g., naked flames, gas appliances, electric heaters).	
Be sure to disconnect the power cable from the socket before disassembling equipment for repair. Working on 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 inspect the circuits, do not touch any electrically charged sections of the equipment.	
If refrigerant gas is discharged during repair work, do not touch the discharged refrigerant gas. Refrigerant gas may cause frostbite.	
When disconnecting the suction or discharge pipe of the compressor at the welded section, evacuate the refrigerant gas completely at a well-ventilated place first. If there is gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it may cause injury.	
If refrigerant gas leaks during repair work, ventilate the area. Refrigerant gas may generate toxic gases when it contacts flames.	

Warning	
Be sure to discharge the capacitor completely before conducting repair work. The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. A charged capacitor may cause an electrical shock.	
Do not turn the air conditioner on or off by plugging in or unplugging the power cable. Plugging in or unplugging the power cable to operate the equipment may cause an electrical shock or fire.	
Be sure to wear a safety helmet, gloves, and a safety belt when working in a high place (more than 2 m (6.5 ft)). Insufficient safety measures may cause a fall.	
In case of R-410A refrigerant models, be sure to use pipes, flare nuts and tools intended for the exclusive use with the R-410A refrigerant. The use of materials for other refrigerant models may cause a serious accident, such as damage to the refrigerant cycle or equipment failure.	
Do not mix air or gas other than the specified refrigerant (R-410A) in the refrigerant system. If air enters the refrigerant system, an excessively high pressure results, causing equipment damage and injury.	

Caution	
Do not repair electrical components with wet hands. Working on the equipment with wet hands may cause an electrical shock.	
Do not clean the air conditioner with water. Washing the unit with water may cause an electrical shock.	
Be sure to provide an earth / grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and may cause injury.	
Be sure to conduct repair work with appropriate tools. The use of inappropriate tools may cause injury.	

Caution	
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.	
Conduct welding work in a well-ventilated place. Using the welder in an enclosed room may cause oxygen deficiency.	

1.2 Warnings and Cautions Regarding Safety of Users

Warning	
Do not store the equipment in a room with fire sources (e.g., naked flames, gas appliances, electric heaters).	
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 are scratched or have 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 cables may cause an electrical shock or fire. Placing heavy items on the power cable, or heating or pulling the power cable may damage it.	

⚠ Warning	
Do not mix air or gas other than the specified refrigerant (R-410A) in the refrigerant system. If air enters the refrigerant 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 the refrigerant, make sure that there is no leak. If the leaking point cannot be located and the repair work must be stopped, be sure to pump-down, and close the service valve, to prevent refrigerant gas from leaking into the room. Refrigerant gas itself is harmless, but it may generate toxic gases when it contacts flames, such as those from fan type 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 or the installation work is not conducted securely, the equipment may fall and cause injury.	
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 is dusty or has a loose connection, it may cause an electrical shock or fire.	
When replacing the coin battery in the remote controller, be sure to dispose of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

⚠ Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If combustible gas leaks and remains around the unit, it may cause a fire.	
Check to see if parts and wires are mounted and connected properly, and if 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. A corroded installation platform or frame may cause the unit to fall, resulting in injury.	
Check the earth / grounding, and repair it if the equipment is not properly earthed / grounded. Improper earth / grounding may cause an electrical shock.	

Caution	
Be sure to measure insulation resistance after the repair, and make sure that the resistance is 1 MΩ or greater. Faulty insulation may cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage may cause 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.	

2. Icons Used

The following icons are used to attract the attention of the reader to specific information.

Icon	Type of Information	Description
 Warning	Warning	**Warning** is used when there is danger of personal injury.
 Caution	Caution	**Caution** is used when there is danger that the reader, through incorrect manipulation, may damage equipment, lose data, get an unexpected result or have to restart (part of) a procedure.
 Note	Note	**Note** provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 Reference	Reference	**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.

3. Revision History

Month / Year	Version	Revised contents
01 / 2018	SiUS301716E	First edition
11 / 2018	SiUS301716EA	Model addition: RWEQ96-432TAYCU, FXSQ05-54TAVJU
03 / 2020	SiUS301716EB	Model addition: RWEQ96-432TATJA, RWEQ96-432TAYDA
02 / 2021	SiUS301716EC	Model addition: BSF4-8Q54TVJ, BRC1H71W
03 / 2022	SiUS301716ED	Model addition: FXZQ05-18TBVJU, FXUQ18-36PAVJU, BSQ36-96TAVJ, BS4-12Q54TAVJ
01 / 2024	SiUS301716EE	Model addition: RWEQ72-432TBTJA, RWEQ72-432TBYDA, RWEQ72-432TBYCU, FXFQ07-54AAVJU, FXSQ05-54TBVJU, FXMQ15-54TBVJU, FXMQ72/96TAVJU, FXTQ09-60TBVJUA, FXTQ09-60TBVJUD

Part 1
General Information

1. Features and Benefits

- Wide offering with 6, 8, 10, and 12 ton single module and up to 36 tons (35.5 tons for 575 V units) with multi-module
- Flexible System design with increased diversity up to 150% (∗1)
- Up to 50% (∗1) and 38% (∗1) reduction in space and weight respectively to install systems of similar capacity when compared to RWEYQ-PC series
- Triple-stack capable to deliver up to 36 tons (35.5 tons for 575 V units) in 3.2 m (10.5 ft) ceiling height
- Flexible and easy installation with field selectable top or front refrigerant connections
- Design flexibility with long piping lengths up to 300 m (980 ft) total (165 m (540 ft) max. linear liquid piping length) and up to 30 m (100 ft) vertical separation between indoor units
- Engineered with heat rejection cancelation technology (∗2) to minimize mechanical room conditioning requirements
- Year round comfort and energy efficiency by combining ***VRV*** and Variable Refrigerant Temperature (VRT) technologies
- 2-9 V variable water flow control logic as standard to increase waterside system operational efficiencies
- Refrigerant cooled inverter technology to deliver consistent and reliable printed circuit board operations
- Factory ships ready for Geothermal applications
- Easy commissioning with ability to program settings off site using new configurator tool
- 3-digit 7-segment digital display on the unit for improved and faster configuration, commissioning, and troubleshooting
- Engineered for easy service with drop-down switch box to access key components
- Seamless integration to full suite of Daikin Control Solutions for complete system control
- Backed by 10 year parts limited warranty and 10 years replacement compressor limited warranty (∗3)

∗1 Model specific, check product specification for details
∗2 Refer to installation manual for field settings required to activate this feature
∗3 Complete warranty details available from local distributor or manufacturer's representative

2. Model Names

2.1 Outside Units

Capacity Range			6 ton	8 ton	10 ton	12 ton	14 ton	16 ton	18 ton	20 ton	Power Supply, Standard
Capacity Index			72	96	120	144	168	192	216	240	
Heat Pump / Heat Recovery	208/230 V	RWEQ	—	96TA	120TA	144TA	—	192TA	216TA	240TA	TJU TJA
			72TB	96TB	120TB	144TB	168TB	192TB	216TB	240TB	TJA
	460 V	RWEQ	—	96TA	120TA	144TA	—	192TA	216TA	240TA	YDU YDA
			72TB	96TB	120TB	144TB	168TB	192TB	216TB	240TB	YDA
	575 V	RWEQ	—	96TA	120TA	144TA	—	192TA	216TA	240TA	YCU
			72TB	96TB	120TB	144TB	168TB	192TB	216TB	240TB	

Capacity Range			22 ton	24 ton	26 ton	28 ton	30 ton	32 ton	34 ton	36 ton *	Power Supply, Standard
Capacity Index			264	288	312	336	360	384	408	432	
Heat Pump / Heat Recovery	208/230 V	RWEQ	264TA	288TA	312TA	336TA	360TA	384TA	408TA	432TA	TJU TJA
			264TB	288TB	312TB	336TB	360TB	384TB	408TB	432TB	TJA
	460 V	RWEQ	264TA	288TA	312TA	336TA	360TA	384TA	408TA	432TA	YDU YDA
			264TB	288TB	312TB	336TB	360TB	384TB	408TB	432TB	YDA
	575 V	RWEQ	264TA	288TA	312TA	336TA	360TA	384TA	408TA	432TA	YCU
			264TB	288TB	312TB	336TB	360TB	384TB	408TB	432TB	

* 35.5 ton for 575 V units

TJ: 3 phase, 208/230 V, 60 Hz
YD: 3 phase, 460 V, 60 Hz
YC: 3 phase, 575 V, 60 Hz
U: Standard Symbol
A: Minor revision

2.2 Branch Selector Unit

Single Branch Selector Unit

Series	Model name			Power supply, Standard
BSQ	36T	60T	96T	VJ
	36TA	60TA	96TA	

Note: No interchangeability with BSVQ36/60/96PVJU.
VJ: 1 phase, 208/230 V, 60 Hz

Multi Branch Selector Unit

Series		Model name					Power supply, Standard
Standard series	BS	4Q54T	6Q54T	8Q54T	10Q54T	12Q54T	VJ
		4Q54TA	—	—	10Q54TA	12Q54TA	
Flex series	BSF	4Q54T	6Q54T	8Q54T	—	—	

Note: No interchangeability with BSV4/6Q36PVJU.
VJ: 1 phase, 208/230 V, 60 Hz

2.3 Indoor Unit

Capacity range (ton)		0.5	0.6	0.8	1	1.25	1.5		2	2.5	3	3.5	4	4.5	5	6	8	Power supply, Standard
Capacity index		5.8	7.5	9.5	12	15	18	20	24	30	36	42	48	54	60	72	96	
Ceiling mounted cassette (Round flow with sensing) type	FXFQ	—	07AA	09AA	12AA	15AA	18AA	—	24AA	30AA	36AA	—	48AA	54AA	—	—	—	VJU
		—	07T	09T	12T	15T	18T	—	24T	30T	36T	—	48T	—	—	—	—	
Ceiling mounted cassette (Round flow) type		—	—	09P	12P	—	18P	—	24P	30P	36P	—	48P	—	—	—	—	
VISTA™ 2 × 2 cassette type	FXZQ	05TA	07TA	09TA	12TA	15TA	18TA	—	—	—	—	—	—	—	—	—	—	
		05TB	07TB	09TB	12TB	15TB	18TB	—	—	—	—	—	—	—	—	—	—	
4-way ceiling mounted cassette (2'×2') type		—	07M	09M	12M	15M	18M	—	—	—	—	—	—	—	—	—	—	VJU9
4-way blow ceiling-suspended type	FXUQ	—	—	—	—	—	—	18P	24P	30P	36P	—	—	—	—	—	—	VJU
		—	—	—	—	—	—	18PA	24PA	30PA	36PA	—	—	—	—	—	—	
One way blow cassette type	FXEQ	—	07P	09P	12P	15P	18P	—	24P	—	—	—	—	—	—	—	—	
Slim ceiling mounted duct Type	FXDQ	—	07M	09M	12M	—	18M	—	24M	—	—	—	—	—	—	—	—	
MSP concealed ducted type	FXSQ	05TA	07TA	09TA	12TA	15TA	18TA	—	24TA	30TA	36TA	—	48TA	54TA	—	—	—	
		05TB	07TB	09TB	12TB	15TB	18TB	—	24TB	30TB	36TB	—	48TB	54TB	—	—	—	
Ceiling mounted duct type (Middle and high static pressure)	FXMQ	—	07PB	09PB	12PB	15PB	18PB	—	24PB	30PB	36PB	—	48PB	54PB	—	—	—	
Ceiling mounted duct type (High static pressure)		—	—	—	—	15TB	18TB	—	24TB	30TB	36TB	—	48TB	54TB	—	—	—	
Ceiling mounted duct type		—	—	—	—	—	—	—	—	—	—	—	—	—	—	72TA	96TA	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	72M	96M	
Ceiling suspended type	FXHQ	—	—	—	12M	—	—	—	24M	—	36M	—	—	—	—	—	—	
Wall mounted type	FXAQ	—	07P	09P	12P	—	18P	—	24P	—	—	—	—	—	—	—	—	
Floor standing type	FXLQ	—	07M	09M	12M	—	18M	—	24M	—	—	—	—	—	—	—	—	
Concealed floor standing type	FXNQ	—	07M	09M	12M	—	18M	—	24M	—	—	—	—	—	—	—	—	
Air handling unit	FXTQ	—	—	09TA	12TA	—	18TA	—	24TA	30TA	36TA	42TA	48TA	54TA	60TA	—	—	VJUA
		—	—	09TB	12TB	—	18TB	—	24TB	30TB	36TB	42TB	48TB	54TB	60TB	—	—	
		—	—	09TA	12TA	—	18TA	—	24TA	30TA	36TA	42TA	48TA	54TA	60TA	—	—	VJUD
		—	—	09TB	12TB	—	18TB	—	24TB	30TB	36TB	42TB	48TB	54TB	60TB	—	—	

VJ: 1 phase, 208/230 V, 60 Hz
U(VJU): Standard symbol

2.4 Air Treatment Equipment

Outdoor-Air Processing Unit

Series	Model name			Power supply, Standard
FXMQ	48MF	72MF	96MF	VJU

Energy Recovery Ventilator (VAM series)

Series	Model name				Power supply, Standard
VAM	300G	470G	600G	1200G	VJU

VJ: 1 phase, 208/230 V, 60 Hz
U(VJU): Standard symbol

3. External Appearance

3.1 Outside Units

6, 8, 10, 12 ton

	RWEQ96TA	RWEQ120TA	RWEQ144TA	
RWEQ72TB	RWEQ96TB	RWEQ120TB	RWEQ144TB	

14, 16, 18, 20, 22, 24 ton

RWEQ192TA	RWEQ216TA	RWEQ240TA	RWEQ264TA	RWEQ288TA	
RWEQ168TB	RWEQ192TB	RWEQ216TB	RWEQ240TB	RWEQ264TB	RWEQ288TB

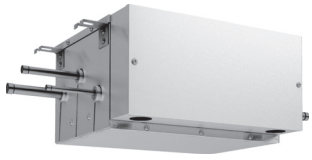
26, 28, 30, 32, 34, 36 ton (35.5 ton for 575 V units)

RWEQ312TA	RWEQ336TA	RWEQ360TA	RWEQ384TA	RWEQ408TA	RWEQ432TA
RWEQ312TB	RWEQ336TB	RWEQ360TB	RWEQ384TB	RWEQ408TB	RWEQ432TB

3.2 Branch Selector Unit

Single Branch Selector Unit

BSQ-T
BSQ-TA

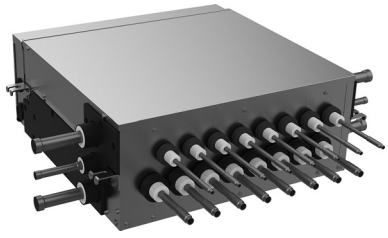


Multi Branch Selector Unit (Standard Series)

BS-Q54T
BS-Q54TA

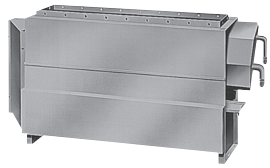
Multi Branch Selector Unit (Flex Series)

BSF-Q54T

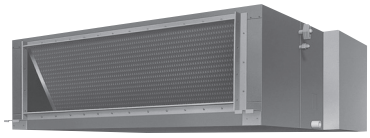
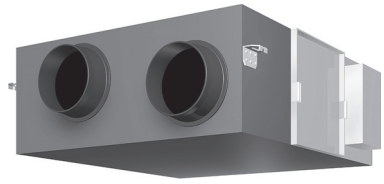


3.3 Indoor Unit

Ceiling mounted cassette (Round flow with sensing) type FXFQ-AA  Shown with BYCQ54EEFU	Slim ceiling mounted duct type FXDQ-M 
Ceiling mounted cassette (Round flow with sensing) type FXFQ-T  Shown with BYCQ125B-W1	MSP concealed ducted type FXSQ-TA FXSQ-TB 
Ceiling mounted cassette (Round flow) type FXFQ-P  Shown with BYCP125K-W1	Ceiling mounted duct type (Middle and high static pressure) FXMQ-PB 
VISTA^{TM} 2'×2' cassette type FXZQ-TA FXZQ-TB  Shown with BYFQ60C3W1W/ BYFQ60C3W2W  Shown with BYFQ60C3W1S	Ceiling mounted duct type (High static pressure) FXMQ-TB 
4-way ceiling mounted cassette (2'×2') type FXZQ-M  Shown with BYFQ60B8W1U	Ceiling mounted duct type FXMQ-TA 
4-way blow ceiling suspended type FXUQ-P FXUQ-PA 	Ceiling mounted duct type FXMQ-M 
One way blow cassette type FXEQ-P 	Ceiling suspended type FXHQ-M 

Wall mounted type FXAQ-P 	Concealed floor standing type FXNQ-M 
Floor standing type FXLQ-M 	Air handling unit FXTQ-TA FXTQ-TB 

3.4 Air Treatment Equipment

Outdoor-air processing unit FXMQ-MF 	Energy recovery ventilator (VAM series) VAM-G 

4. Combination of Outside Units

Model name	System capacity		Number of units	Module				Outside unit multi connection piping kit (option) ∗1
	Ton	HP		6 ton	8 ton	10 ton	12 ton	
RWEQ72TB	6	7.5	1	●				—
RWEQ96TA RWEQ96TB	8	10.0	1		●			
RWEQ120TA RWEQ120TB	10	12.5	1			●		
RWEQ144TA RWEQ144TB	12	15.0	1				●	
RWEQ168TB	14	17.5	2	●	●			Heat pump: BHFP22T84U Heat recovery: BHFP26T84U
RWEQ192TA RWEQ192TB	16	20.0	2		●●			
RWEQ216TA RWEQ216TB	18	22.5	2		●	●		
RWEQ240TA RWEQ240TB	20	25.0	2			●●		
RWEQ264TA RWEQ264TB	22	27.5	2			●	●	
RWEQ288TA RWEQ288TB	24	30.0	2				●●	
RWEQ312TA RWEQ312TB	26	32.5	3		●●	●		Heat pump: BHFP22T126U Heat recovery: BHFP26T126U
RWEQ336TA RWEQ336TB	28	35.0	3		●	●●		
RWEQ360TA RWEQ360TB	30	37.5	3			●●●		
RWEQ384TA RWEQ384TB	32	40.0	3			●●	●	
RWEQ408TA RWEQ408TB	34	42.5	3			●	●●	
RWEQ432TA RWEQ432TB	36 ∗2	45.0	3				●●●	

Notes: ∗1. An outside unit multi connection piping kit (option) is necessary for multiple connections of 14 ton systems and above.
∗2. 35.5 ton for 575 V units

5. Capacity Range

5.1 Connection Ratio

$$\text{Connection ratio} = \frac{\text{Total capacity index of the indoor units}}{\text{Capacity index of the outside units}}$$

Type		Min. connection ratio	Max. connection ratio				
			Types of connected indoor units			Type of connected air treatment equipment	
			When using only FXDQ-M, FXSQ07-54TA, FXSQ07-54TB, FXMQ-PB, FXAQ-P	When using at least one FXFQ07/09AA, FXFQ07/09T, FXFQ09P, FXZQ05TA, FXZQ05TB, FXSQ05TA, FXSQ05TB	When using other indoor unit models	FXMQ-MF	
						When FXMQ-MF is only connected	When FXMQ-MF and indoor units are connected
Single outside units	6 ton (72 class)	70%	150% ∗1	150% ∗1	150% ∗1	100%	100% ∗3 ∗4
	8-12 ton (96-144 class)	50%					
Double outside units				130%	130%		
Triple outside units				130% ∗2	130% ∗2		

Notes:

∗1. If the operational capacity of indoor units is more than 130%, low airflow operation is enforced in all the indoor units. This limitation can be deactivated through field setting.

∗2. 120% for RWEQ432TA, RWEQ432TB

∗3. When outdoor-air processing units (FXMQ-MF) and standard indoor units are connected, the total connection capacity of the outdoor-air processing units (FXMQ-MF) must not exceed 30% of the capacity index of the outside units. And the connection ratio must not exceed 100%.

∗4. It is permitted to use a maximum connection ratio of 130% in some circumstances – please contact your local Daikin representative for further details.

∗5. For indoor units used for cooling only (do not connect to Branch Selector unit when using for heat recovery), total capacity index of cooling only indoor units must be 50% or less than the total capacity index of the outside units.

5.2 Indoor Unit Connection Capacity

Type	ton	Capacity index	Model name	Combination	Outside unit multi connection piping kit (∗1)	Total capacity index of connectable indoor units (∗2)	Maximum number of connectable indoor units
Single outside units	6	72	RWEQ72TB	RWEQ72TB	—	48 to 93 (108)	12
	8	96	RWEQ96TA	RWEQ96TA		48 to 124 (144)	16
			RWEQ96TB	RWEQ96TB			
	10	120	RWEQ120TA	RWEQ120TA		60 to 156 (180)	20
			RWEQ120TB	RWEQ120TB			
	12	144	RWEQ144TA	RWEQ144TA		72 to 187 (216)	24
			RWEQ144TB	RWEQ144TB			
Double outside units	14	168	RWEQ168TB	RWEQ72TB+ RWEQ96TB	Heat pump: BHFP22T84U Heat recovery: BHFP26T84U	84 to 218 (252)	28
	16	192	RWEQ192TA	RWEQ96TA+ RWEQ96TA		96 to 249 (288)	33
			RWEQ192TB	RWEQ96TB+ RWEQ96TB			
	18	216	RWEQ216TA	RWEQ96TA+ RWEQ120TA		108 to 280 (324)	37
			RWEQ216TB	RWEQ96TB+ RWEQ120TB			
	20	240	RWEQ240TA	RWEQ120TA+ RWEQ120TA		120 to 312 (360)	41
			RWEQ240TB	RWEQ120TB+ RWEQ120TB			
	22	264	RWEQ264TA	RWEQ120TA+ RWEQ144TA		132 to 343 (396)	45
			RWEQ264TB	RWEQ120TB+ RWEQ144TB			
	24	288	RWEQ288TA	RWEQ144TA+ RWEQ144TA		144 to 374 (432)	49
			RWEQ288TB	RWEQ144TB+ RWEQ144TB			

Type	ton	Capacity index	Model name	Combination	Outside unit multi connection piping kit (∗1)	Total capacity index of connectable indoor units (∗2)	Maximum number of connectable indoor units
Triple outside units	26	312	RWEQ312TA	RWEQ96TA+ RWEQ96TA+ RWEQ120TA	Heat pump: BHFP22T126U Heat recovery: BHFP26T126U	156 to 405 (468)	54
			RWEQ312TB	RWEQ96TB+ RWEQ96TB+ RWEQ120TB			
	28	336	RWEQ336TA	RWEQ96TA+ RWEQ120TA+ RWEQ120TA		168 to 436 (504)	58
			RWEQ336TB	RWEQ96TB+ RWEQ120TB+ RWEQ120TB			
	30	360	RWEQ360TA	RWEQ120TA+ RWEQ120TA+ RWEQ120TA		180 to 468 (540)	62
			RWEQ360TB	RWEQ120TB+ RWEQ120TB+ RWEQ120TB			
	32	384	RWEQ384TA	RWEQ120TA+ RWEQ120TA+ RWEQ144TA		192 to 499 (576)	64
			RWEQ384TB	RWEQ120TB+ RWEQ120TB+ RWEQ144TB			
	34	408	RWEQ408TA	RWEQ120TA+ RWEQ144TA+ RWEQ144TA		204 to 530 (612)	64
			RWEQ408TB	RWEQ120TB+ RWEQ144TB+ RWEQ144TB			
	36 (∗4)	432	RWEQ432TA	RWEQ144TA+ RWEQ144TA+ RWEQ144TA		216 to 561 (648)	64
			RWEQ432TB	RWEQ144TB+ RWEQ144TB+ RWEQ144TB			

Notes:
∗1. For multiple connection, the outside unit multi connection piping kit (separately sold) is required.
∗2. Values inside brackets are based on connection of indoor units rated at maximum capacity, 150% for single outside units, 150% for double outside units, and 150% for triple outside units.
∗3. For indoor units used for cooling only (do not connect to Branch selector unit when using for heat recovery), total capacity index of cooling only indoor units must be 50% or less than the total capacity index of the outside units.
∗4. 35.5 ton for 575 V units

5.3 Limitation of Capacity Index for Heat Recovery

Single Branch Selector Unit

Model	BSQ36TVJ BSQ36TAVJ	BSQ60TVJ BSQ60TAVJ	BSQ96TVJ BSQ96TAVJ
Maximum number of connectable indoor units	4	8	8
Total capacity index of connectable indoor units	36 or less	More than 36 and 60 or less	More than 60 and 96 or less

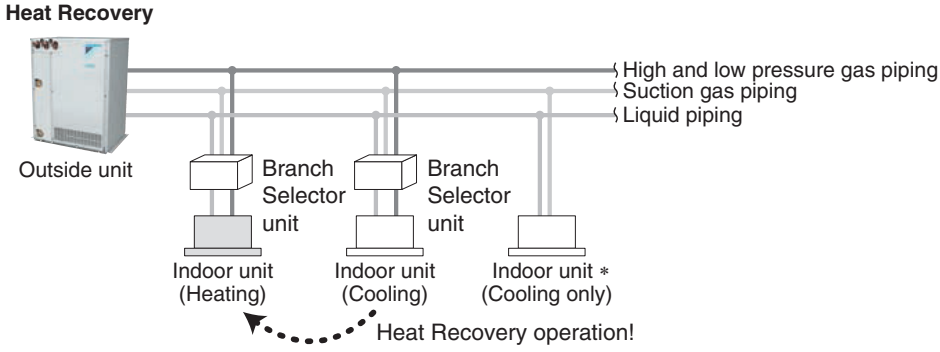
Multi Branch Selector Unit (Standard Series)

Model	BS4Q54TVJ BS4Q54TAVJ	BS6Q54TVJ	BS8Q54TVJ	BS10Q54TVJ BS10Q54TAVJ	BS12Q54TVJ BS12Q54TAVJ
Maximum number of connectable indoor units per branch	5	5	5	5	5
Number of branches	4	6	8	10	12
Maximum capacity index of connectable indoor units	144 or less	216 or less	290 or less	290 or less	290 or less
Maximum capacity index of connectable indoor units per branch ∗1	54 or less	54 or less	54 or less	54 or less	54 or less

Multi Branch Selector Unit (Flex Series)

Model		BSF4Q54TVJ	BSF6Q54TVJ	BSF8Q54TVJ
Maximum number of connectable indoor units per branch		5	5	5
Number of branches		4	6	8
Maximum capacity index of connectable indoor units per branch ∗1		54 or less	54 or less	54 or less
Series configuration	Maximum capacity index of connectable indoor units per branch selector unit	144 or less	162 or less	162 or less
	Maximum capacity index of connectable indoor units with branch selector units connected in series	230 or less	230 or less	230 or less
Parallel configuration	Maximum capacity index of connectable indoor units	144 or less	216 or less	290 or less

Notes: ∗1. When the total capacity index of indoor units to be connected downstream is larger than 54 (Max. 96), use a joint kit (KHRP26A250T, optional parts) to join 2 branches downstream from the Branch Selector unit.



∗ For indoor units used for cooling only (do not connect to Branch Selector unit when using for Heat Recovery), total capacity index of must be 50% or less than the capacity index of the outside units.

6. Specifications

6.1 RWEQ-TATJU, RWEQ-TATJA, RWEQ-TBTJA

Model Name				RWEQ72TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	72,000 (21.1)
		Rated		69,000 (20.2)
★2 Heating Capacity		Nominal	Btu/h (kW)	81,000 (23.7)
		Rated		69,000 (20.2)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m^3/h)	447 (12.7)
	Number of Revolutions		r/min	3,738
	Motor Output		kW	3.9
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing connection)
	Suction Gas Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) ★3
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ5/8 (15.9) C1220T, ★5 ϕ3/4 (19.1) C1220T (Brazing connection)
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	434.3 (197)
★6 Sound Pressure Level (Reference Data)			dB(A)	54
★6 Sound Power Level (Reference Data)			dB	71
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	15-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 (7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D149918

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ96TATJU	RWEQ96TATJA	RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	96,000 (28.1)		
		Rated		92,000 (27.0)		
★2 Heating Capacity		Nominal	Btu/h (kW)	108,000 (31.7)		
		Rated		103,000 (30.2)		92,000 (27.0)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m³/h)	544 (15.4)		559 (15.8)
	Number of Revolutions		r/min	4,542		4,668
	Motor Output		kW	4.7		4.8
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ7/8 (22.2) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ7/8 (22.2) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	432.1 (196)	434.3 (197)	
★6 Sound Pressure Level (Reference Data)			dB(A)	54		
★6 Sound Power Level (Reference Data)			dB	71		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	15-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	17.4 (7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109377G	4D127020	4D149848

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ120TATJU	RWEQ120TATJA	RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	120,000 (35.2)		119,000 (34.9)
		Rated		114,000 (33.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	135,000 (39.6)		
		Rated		129,000 (37.8)		114,000 (33.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m³/h)	669 (19.0)		698 (19.8)
	Number of Revolutions		r/min	5,592		5,832
	Motor Output		kW	5.8		6.0
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 (198)	438.7 (199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	55		
★6 Sound Power Level (Reference Data)			dB	72		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	12-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 (9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109378G	4D127021	4D149849

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ144TATJU	RWEQ144TATJA	RWEQ144TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	144,000 (42.2)		
		Rated		138,000 (40.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	162,000 (47.5)		
		Rated		154,000 (45.1)		138,000 (40.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m³/h)	848 (24.0)		896 (25.4)
	Number of Revolutions		r/min	7,080		7,488
	Motor Output		kW	7.4		7.8
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ7/8 (22.2) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 (198)	438.7 (199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60.5		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	11-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 (9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109379F	4D127022	4D149850

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ168TBTJA
Model (Independent unit)				RWEQ72TBTJA RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	162,000 (47.5)
		Rated		156,000 (45.7)
★2 Heating Capacity		Nominal	Btu/h (kW)	189,000 (55.4)
		Rated		156,000 (45.7)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m³/h)	473 + 473 (13.4 + 13.4)
	Number of Revolutions		r/min	3,948 + 3,948
	Motor Output		kW	4.1 + 4.1
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3 -Main line-
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection) -Main line-
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	434.3 + 434.3 (197 + 197)
★6 Sound Pressure Level (Reference Data)			dB(A)	57
★6 Sound Power Level (Reference Data)			dB	74
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	8-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D149919A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ192TATJU	RWEQ192TATJA	RWEQ192TBTJA
Model Name (Independent Unit)				RWEQ96TATJU RWEQ96TATJU	RWEQ96TATJA RWEQ96TATJA	RWEQ96TBTJA RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	192,000 (56.3)		
		Rated		184,000 (53.9)		
★2 Heating Capacity		Nominal	Btu/h (kW)	216,000 (63.3)		
		Rated		206,000 (60.4)		184,000 (53.9)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	551 + 551 (15.6 + 15.6)		567 + 567 (16.1 + 16.1)
	Number of Revolutions		r/min	4,602 + 4,602		4,734 + 4,734
	Motor Output		kW	4.8 + 4.8		4.9 + 4.9
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	432.1 + 432.1 (196 + 196)	434.3 + 434.3 (197 + 197)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57		
★6 Sound Power Level (Reference Data)			dB	74		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	8-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109380G	4D127023	4D149851

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ216TATJU	RWEQ216TATJA	RWEQ216TBTJA
Model Name (Independent Unit)				RWEQ120TATJU RWEQ96TATJU	RWEQ120TATJA RWEQ96TATJA	RWEQ120TBTJA RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	216,000 (63.3)		
		Rated		206,000 (60.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	243,000 (71.2)		
		Rated		232,000 (68.0)		206,000 (60.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	669 + 669 (19.0 + 19.0)		670 + 670 (19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592		
	Motor Output		kW	5.8 + 5.8		
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 432.1 (198 + 196)	438.7 + 434.3 (199 + 197)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57.5		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	7-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 17.4 (9.6 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109381H	4D127024	4D149852

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ240TATJU	RWEQ240TATJA	RWEQ240TBTJA
Model Name (Independent Unit)				RWEQ120TATJU RWEQ120TATJU	RWEQ120TATJA RWEQ120TATJA	RWEQ120TBTJA RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	240,000 (70.3)		238,000 (69.8)
		Rated		228,000 (66.8)		
★2 Heating Capacity		Nominal	Btu/h (kW)	270,000 (79.1)		
		Rated		258,000 (75.6)		228,000 (66.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	708 + 708 (20.0 + 20.0)		718 + 718 (20.3 + 20.3)
	Number of Revolutions		r/min	5,910 + 5,910		5,994 + 5,994
	Motor Output		kW	6.2 + 6.2		6.3 + 6.3
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 (198 + 198)	438.7 + 438.7 (199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	58		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	6-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109382H	4D127025	4D149854

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ264TATJU	RWEQ264TATJA	RWEQ264TBTJA
Model Name (Independent Unit)				RWEQ144TATJU RWEQ120TATJU	RWEQ144TATJA RWEQ120TATJA	RWEQ144TBTJA RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	264,000 (77.4)		
		Rated		252,000 (73.9)		
★2 Heating Capacity		Nominal	Btu/h (kW)	297,000 (87.0)		
		Rated		284,000 (83.2)		252,000 (73.9)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	860 + 860 (24.3 + 24.3)		813 + 813 (23.0 + 23.0)
	Number of Revolutions		r/min	7,182 + 7,182		6,792 + 6,792
	Motor Output		kW	7.5 + 7.5		7.1 + 7.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 (198 + 198)	438.7 + 438.7 (199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	61.5		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	6-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109383G	4D127026	4D149855A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ288TATJU	RWEQ288TATJA	RWEQ288TBTJA
Model Name (Independent Unit)				RWEQ144TATJU RWEQ144TATJU	RWEQ144TATJA RWEQ144TATJA	RWEQ144TBTJA RWEQ144TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	288,000 (84.4)		286,000 (83.8)
		Rated		274,000 (80.3)		
★2 Heating Capacity		Nominal	Btu/h (kW)	324,000 (95.0)		
		Rated		308,000 (90.3)		274,000 (80.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m³/h)	961 + 961 (27.2 + 27.2)		922 + 922 (26.1 + 26.1)
	Number of Revolutions		r/min	8,028 + 8,028		7,698 + 7,698
	Motor Output		kW	8.4 + 8.4		8.1 + 8.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 (198 + 198)	438.7 + 438.7 (199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	63.5		
★6 Sound Power Level (Reference Data)			dB	78		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	5-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109384G	4D127027	4D149856A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ312TATJU	RWEQ312TATJA	RWEQ312TBTJA
Model Name (Independent Unit)				RWEQ120TATJU RWEQ96TATJU RWEQ96TATJU	RWEQ120TATJA RWEQ96TATJA RWEQ96TATJA	RWEQ120TBTJA RWEQ96TBTJA RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	312,000 (91.4)		
		Rated		298,000 (87.3)		
★2 Heating Capacity		Nominal	Btu/h (kW)	351,000 (102.9)		
		Rated		334,000 (97.9)		298,000 (87.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	669 + 669 + 669 (19.0 + 19.0 + 19.0)		670 + 670 + 670 (19.0 + 19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592 + 5,592		
	Motor Output		kW	5.8 + 5.8 + 5.8		
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 432.1 + 432.1 (198 + 196 + 196)	438.7 + 434.3 + 434.3 (199 + 197 + 197)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59		
★6 Sound Power Level (Reference Data)			dB	76		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	5-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 17.4 + 17.4 (9.6 + 7.9 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109385G	4D127028	4D149857

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ336TATJU	RWEQ336TATJA	RWEQ336TBTJA
Model Name (Independent Unit)				RWEQ120TATJU RWEQ120TATJU RWEQ96TATJU	RWEQ120TATJA RWEQ120TATJA RWEQ96TATJA	RWEQ120TBTJA RWEQ120TBTJA RWEQ96TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	336,000 (98.5)		
		Rated		320,000 (93.8)		
★2 Heating Capacity		Nominal	Btu/h (kW)	378,000 (110.8)		
		Rated		360,000 (105.5)		320,000 (93.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	688 + 688 + 688 (19.5 + 19.5 + 19.5)		698 + 698 + 698 (19.8 + 19.8 + 19.8)
	Number of Revolutions		r/min	5,748 + 5,748 + 5,748		5,832 + 5,832 + 5,832
	Motor Output		kW	6.0 + 6.0 + 6.0		6.1 + 6.1 + 6.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 + 432.1 (198 + 198 + 196)	438.7 + 438.7 + 434.3 (199 + 199 + 197)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59.5		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 17.4 (9.6 + 9.6 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109386H	4D127029	4D149858

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2 + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ360TATJU	RWEQ360TATJA	RWEQ360TBTJA
Model Name (Independent Unit)				RWEQ120TATJU RWEQ120TATJU RWEQ120TATJU	RWEQ120TATJA RWEQ120TATJA RWEQ120TATJA	RWEQ120TBTJA RWEQ120TBTJA RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	360,000 (105.5)		358,000 (104.9)
		Rated		342,000 (100.2)		
★2 Heating Capacity		Nominal	Btu/h (kW)	405,000 (118.7)		
		Rated		386,000 (113.1)		342,000 (100.2)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	825 + 825 + 825 (23.4 + 23.4 + 23.4)		759 + 759 + 759 (21.5 + 21.5 + 21.5)
	Number of Revolutions		r/min	6,888 + 6,888 + 6,888		6,336 + 6,336 + 6,336
	Motor Output		kW	7.2 + 7.2 + 7.2		6.6 + 6.6 + 6.6
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 + 435.9 (198 + 198 + 198)	438.7 + 438.7 + 438.7 (199 + 199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109387H	4D127030	4D149920

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ384TATJU	RWEQ384TATJA	RWEQ384TBTJA
Model Name (Independent Unit)				RWEQ144TATJU RWEQ120TATJU RWEQ120TATJU	RWEQ144TATJA RWEQ120TATJA RWEQ120TATJA	RWEQ144TBTJA RWEQ120TBTJA RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	384,000 (112.5)		
		Rated		366,000 (107.3)		
★2 Heating Capacity		Nominal	Btu/h (kW)	432,000 (126.6)		
		Rated		410,000 (120.2)		366,000 (107.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	860 + 860 + 860 (24.3 + 24.3 + 24.3)		848 + 848 + 848 (24.0 + 24.0 + 24.0)
	Number of Revolutions		r/min	7,182 + 7,182 + 7,182		7,080 + 7,080 + 7,080
	Motor Output		kW	7.5 + 7.5 + 7.5		7.4 + 7.4 + 7.4
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 + 435.9 (198 + 198 + 198)	438.7 + 438.7 + 438.7 (199 + 199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	62		
★6 Sound Power Level (Reference Data)			dB	78		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111941F	4D127042	4D149921

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ408TATJU	RWEQ408TATJA	RWEQ408TBTJA
Model Name (Independent Unit)				RWEQ144TATJU RWEQ144TATJU RWEQ120TATJU	RWEQ144TATJA RWEQ144TATJA RWEQ120TATJA	RWEQ144TBTJA RWEQ144TBTJA RWEQ120TBTJA
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	408,000 (119.6)		406,000 (119.0)
		Rated		388,000 (113.7)		
★2 Heating Capacity		Nominal	Btu/h (kW)	459,000 (134.5)		
		Rated		435,000 (127.5)		388,000 (113.7)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	1,006 + 1,006 + 884 (28.5 + 28.5 + 25.0)		934 + 934 + 934 (26.5 + 26.5 + 26.5)
	Number of Revolutions		r/min	8,400 + 8,400 + 7,386		7,806 + 7,806 + 7,806
	Motor Output		kW	8.8 + 8.8 + 7.7		8.1 + 8.1 + 8.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 + 435.9 (198 + 198 + 198)	438.7 + 438.7 + 438.7 (199 + 199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	64		
★6 Sound Power Level (Reference Data)			dB	79		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111942F	4D127043	4D149922

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2 + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				**RWEQ432TATJU**	**RWEQ432TATJA**	**RWEQ432TBTJA**
Model Name (Independent Unit)				**RWEQ144TATJU RWEQ144TATJU RWEQ144TATJU**	**RWEQ144TATJA RWEQ144TATJA RWEQ144TATJA**	**RWEQ144TBTJA RWEQ144TBTJA RWEQ144TBTJA**
Power Supply				3 phase, 208/230 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	432,000 (126.6)		422,000 (123.7)
		Rated		410,000 (120.2)		402,000 (117.8)
★2 Heating Capacity		Nominal	Btu/h (kW)	486,000 (142.4)		
		Rated		460,000 (134.8)		402,000 (117.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	1,006 + 1,006 + 1,006 (28.5 + 28.5 + 28.5)		1,002 + 1,002 + 1,002 (28.4 + 28.4 + 28.4)
	Number of Revolutions		r/min	8,400 + 8,400 + 8,400		8,370 + 8,370 + 8,370
	Motor Output		kW	8.8 + 8.8 + 8.8		
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	435.9 + 435.9 + 435.9 (198 + 198 + 198)	438.7 + 438.7 + 438.7 (199 + 199 + 199)	
★6 Sound Pressure Level (Reference Data)			dB(A)	65		
★6 Sound Power Level (Reference Data)			dB	80		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111943E	4D127044	4D149923

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

6.2 RWEQ-TAYDU, RWEQ-TAYDA, RWEQ-TBYDA

Model Name				RWEQ72TBYDA
Power Supply				3 phase, 460 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	72,000 (21.1)
		Rated		69,000 (20.2)
★2 Heating Capacity		Nominal	Btu/h (kW)	81,000 (23.7)
		Rated		69,000 (20.2)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m^3/h)	447 (12.7)
	Number of Revolutions		r/min	3,738
	Motor Output		kW	3.9
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing connection)
	Suction Gas Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) ★3
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ5/8 (15.9) C1220T, ★5 ϕ3/4 (19.1) C1220T (Brazing connection)
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	440.9 (200)
★6 Sound Pressure Level (Reference Data)			dB(A)	54
★6 Sound Power Level (Reference Data)			dB	71
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	15-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 (7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D149902

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ96TAYDU	RWEQ96TAYDA	RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	96,000 (28.1)		
		Rated		92,000 (27.0)		
★2 Heating Capacity		Nominal	Btu/h (kW)	108,000 (31.7)		
		Rated		103,000 (30.2)		92,000 (27.0)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m³/h)	544 (15.4)		559 (15.8)
	Number of Revolutions		r/min	4,542		4,668
	Motor Output		kW	4.7		4.8
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ7/8 (22.2) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ7/8 (22.2) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	438.7 (199)	440.9 (200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	54		
★6 Sound Power Level (Reference Data)			dB	71		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	15-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	17.4 (7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109388G	4D127031	4D149903

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ120TAYDU	RWEQ120TAYDA	RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	120,000 (35.2)		119,000 (34.9)
		Rated		114,000 (33.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	135,000 (39.6)		
		Rated		129,000 (37.8)		114,000 (33.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	669 (19.0)		698 (19.8)
	Number of Revolutions		r/min	5,592		5,832
	Motor Output		kW	5.8		6.0
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 (201)	445.3 (202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	55		
★6 Sound Power Level (Reference Data)			dB	72		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	12-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 (9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109389G	4D127032	4D149904

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ144TAYDU	RWEQ144TAYDA	RWEQ144TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	144,000 (42.2)		
		Rated		138,000 (40.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	162,000 (47.5)		
		Rated		154,000 (45.1)		138,000 (40.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	848 (24.0)		896 (25.4)
	Number of Revolutions		r/min	7,080		7,488
	Motor Output		kW	7.4		7.8
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing Connection)		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ7/8 (22.2) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection)		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 (201)	445.3 (202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60.5		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	11-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 (9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109390F	4D127033	4D149905

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ168TBYDA
Model (Independent unit)				RWEQ72TBYDA RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	162,000 (47.5)
		Rated		156,000 (45.7)
★2 Heating Capacity		Nominal	Btu/h (kW)	189,000 (55.4)
		Rated		156,000 (45.7)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m³/h)	473 + 473 (13.4 + 13.4)
	Number of Revolutions		r/min	3,948 + 3,948
	Motor Output		kW	4.1 + 4.1
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3 -Main line-
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection) -Main line-
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	440.9 + 440.9 (200 + 200)
★6 Sound Pressure Level (Reference Data)			dB(A)	57
★6 Sound Power Level (Reference Data)			dB	74
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	8-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D149906A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ192TAYDU	RWEQ192TAYDA	RWEQ192TBYDA
Model Name (Independent Unit)				RWEQ96TAYDU RWEQ96TAYDU	RWEQ96TAYDA RWEQ96TAYDA	RWEQ96TBYDA RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	192,000 (56.3)		
		Rated		184,000 (53.9)		
★2 Heating Capacity		Nominal	Btu/h (kW)	216,000 (63.3)		
		Rated		206,000 (60.4)		184,000 (53.9)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	551 + 551 (15.6 + 15.6)		567 + 567 (16.1 + 16.1)
	Number of Revolutions		r/min	4,602 + 4,602		4,734 + 4,734
	Motor Output		kW	4.8 + 4.8		4.9 + 4.9
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	438.7 + 438.7 (199 + 199)	440.9 + 440.9 (200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57		
★6 Sound Power Level (Reference Data)			dB	74		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	8-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109391G	4D127034	4D149907

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ216TAYDU	RWEQ216TAYDA	RWEQ216TBYDA
Model Name (Independent Unit)				RWEQ120TAYDU RWEQ96TAYDU	RWEQ120TAYDA RWEQ96TAYDA	RWEQ120TBYDA RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	216,000 (63.3)		
		Rated		206,000 (60.4)		
★2 Heating Capacity		Nominal	Btu/h (kW)	243,000 (71.2)		
		Rated		232,000 (68.0)		206,000 (60.4)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	669 + 669 (19.0 + 19.0)		670 + 670 (19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592		
	Motor Output		kW	5.8 + 5.8		
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 438.7 (201 + 199)	445.3 + 440.9 (202 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57.5		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	7-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 17.4 (9.6 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109392H	4D127035	4D149908

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ240TAYDU	RWEQ240TAYDA	RWEQ240TBYDA
Model Name (Independent Unit)				RWEQ120TAYDU RWEQ120TAYDU	RWEQ120TAYDA RWEQ120TAYDA	RWEQ120TBYDA RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	240,000 (70.3)		238,000 (69.8)
		Rated		228,000 (66.8)		
★2 Heating Capacity		Nominal	Btu/h (kW)	270,000 (79.1)		
		Rated		258,000 (75.6)		228,000 (66.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	708 + 708 (20.0 + 20.0)		718 + 718 (20.3 + 20.3)
	Number of Revolutions		r/min	5,910 + 5,910		5,994 + 5,994
	Motor Output		kW	6.2 + 6.2		6.3 + 6.3
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 (201 + 201)	445.3 + 445.3 (202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	58		
★6 Sound Power Level (Reference Data)			dB	75		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	6-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109393H	4D127036	4D149909B

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ264TAYDU	RWEQ264TAYDA	RWEQ264TBYDA
Model Name (Independent Unit)				RWEQ144TAYDU RWEQ120TAYDU	RWEQ144TAYDA RWEQ120TAYDA	RWEQ144TBYDA RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	264,000 (77.4)		
		Rated		252,000 (73.9)		
★2 Heating Capacity		Nominal	Btu/h (kW)	297,000 (87.0)		
		Rated		284,000 (83.2)		252,000 (73.9)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	860 + 860 (24.3 + 24.3)		813 + 813 (23.0 + 23.0)
	Number of Revolutions		r/min	7,182 + 7,182		6,792 + 6,792
	Motor Output		kW	7.5 + 7.5		7.1 + 7.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 (201 + 201)	445.3 + 445.3 (202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	61.5		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	6-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109394G	4D127037	4D149910

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				**RWEQ288TAYDU**	**RWEQ288TAYDA**	**RWEQ288TBYDA**
Model Name (Independent Unit)				**RWEQ144TAYDU RWEQ144TAYDU**	**RWEQ144TAYDA RWEQ144TAYDA**	**RWEQ144TBYDA RWEQ144TBYDA**
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity	Nominal		Btu/h (kW)	288,000 (84.4)		286,000 (83.8)
	Rated			274,000 (80.3)		
★2 Heating Capacity	Nominal		Btu/h (kW)	324,000 (95.0)		
	Rated			308,000 (90.3)		274,000 (80.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	961 + 961 (27.2 + 27.2)		922 + 922 (26.1 + 26.1)
	Number of Revolutions		r/min	8,028 + 8,028		7,698 + 7,698
	Motor Output		kW	8.4 + 8.4		8.1 + 8.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 (201 + 201)	445.3 + 445.3 (202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	63.5		
★6 Sound Power Level (Reference Data)			dB	78		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	5-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109395G	4D127038	4D149911A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ312TAYDU	RWEQ312TAYDA	RWEQ312TBYDA
Model Name (Independent Unit)				RWEQ120TAYDU RWEQ96TAYDU RWEQ96TAYDU	RWEQ120TAYDA RWEQ96TAYDA RWEQ96TAYDA	RWEQ120TBYDA RWEQ96TBYDA RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	312,000 (91.4)		
		Rated		298,000 (87.3)		
★2 Heating Capacity		Nominal	Btu/h (kW)	351,000 (102.9)		
		Rated		334,000 (97.9)		298,000 (87.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	669 + 669 + 669 (19.0 + 19.0 + 19.0)		670 + 670 + 670 (19.0 + 19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592 + 5,592		
	Motor Output		kW	5.8 + 5.8 + 5.8		
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 438.7 + 438.7 (201 + 199 + 199)	445.3 + 440.9 + 440.9 (202 + 200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59		
★6 Sound Power Level (Reference Data)			dB	76		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	5-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 17.4 + 17.4 (9.6 + 7.9 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109396G	4D127039	4D149912A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ336TAYDU	RWEQ336TAYDA	RWEQ336TBYDA
Model Name (Independent Unit)				RWEQ120TAYDU RWEQ120TAYDU RWEQ96TAYDU	RWEQ120TAYDA RWEQ120TAYDA RWEQ96TAYDA	RWEQ120TBYDA RWEQ120TBYDA RWEQ96TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	336,000 (98.5)		
		Rated		320,000 (93.8)		
★2 Heating Capacity		Nominal	Btu/h (kW)	378,000 (110.8)		
		Rated		360,000 (105.5)		320,000 (93.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	688 + 688 + 688 (19.5 + 19.5 + 19.5)		698 + 698 + 698 (19.8 + 19.8 + 19.8)
	Number of Revolutions		r/min	5,748 + 5,748 + 5,748		5,832 + 5,832 +5,832
	Motor Output		kW	6.0 + 6.0 + 6.0		6.1 + 6.1 + 6.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 + 438.7 (201 + 201 + 199)	445.3 + 445.3 + 440.9 (202 + 202 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59.5		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 17.4 (9.6 + 9.6 + 7.9)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109397H	4D127040	4D149913

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2 + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ360TAYDU	RWEQ360TAYDA	RWEQ360TBYDA
Model Name (Independent Unit)				RWEQ120TAYDU RWEQ120TAYDU RWEQ120TAYDU	RWEQ120TAYDA RWEQ120TAYDA RWEQ120TAYDA	RWEQ120TBYDA RWEQ120TBYDA RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	360,000 (105.5)		358,000 (104.9)
		Rated		342,000 (100.2)		
★2 Heating Capacity		Nominal	Btu/h (kW)	405,000 (118.7)		
		Rated		386,000 (113.1)		342,000 (100.2)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	825 + 825 + 825 (23.4 + 23.4 + 23.4)		759 + 759 + 759 (21.5 + 21.5 + 21.5)
	Number of Revolutions		r/min	6,888 + 6,888 + 6,888		6,336 + 6,336 + 6,336
	Motor Output		kW	7.2 + 7.2 + 7.2		6.6 + 6.6 + 6.6
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 + 442.5 (201 + 201 + 201)	445.3 + 445.3 + 445.3 (202 + 202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60		
★6 Sound Power Level (Reference Data)			dB	77		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D109398H	4D127041	4D149914

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ384TAYDU	RWEQ384TAYDA	RWEQ384TBYDA
Model Name (Independent Unit)				RWEQ144TAYDU RWEQ120TAYDU RWEQ120TAYDU	RWEQ144TAYDA RWEQ120TAYDA RWEQ120TAYDA	RWEQ144TBYDA RWEQ120TBYDA RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	384,000 (112.5)		
		Rated		366,000 (107.3)		
★2 Heating Capacity		Nominal	Btu/h (kW)	432,000 (126.6)		
		Rated		410,000 (120.2)		366,000 (107.3)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	860 + 860 + 860 (24.3 + 24.3 + 24.3)		848 + 848 + 848 (24.0 + 24.0 + 24.0)
	Number of Revolutions		r/min	7,182 + 7,182 + 7,182		7,080 + 7,080 + 7,080
	Motor Output		kW	7.5 + 7.5 + 7.5		7.4 + 7.4 + 7.4
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 + 442.5 (201 + 201 + 201)	445.3 + 445.3 + 445.3 (202 + 202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	62		
★6 Sound Power Level (Reference Data)			dB	78		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111944F	4D127050	4D149915

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				RWEQ408TAYDU	RWEQ408TAYDA	RWEQ408TBYDA
Model Name (Independent Unit)				RWEQ144TAYDU RWEQ144TAYDU RWEQ120TAYDU	RWEQ144TAYDA RWEQ144TAYDA RWEQ120TAYDA	RWEQ144TBYDA RWEQ144TBYDA RWEQ120TBYDA
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	408,000 (119.6)		406,000 (119.0)
		Rated		388,000 (113.7)		
★2 Heating Capacity		Nominal	Btu/h (kW)	459,000 (134.5)		
		Rated		435,000 (127.5)		388,000 (113.7)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	1,006 + 1,006 + 884 (28.5 + 28.5 + 25.0)		934 + 934 + 934 (26.5 + 26.5 + 26.5)
	Number of Revolutions		r/min	8,400 + 8,400 + 7,386		7,806 + 7,806 + 7,806
	Motor Output		kW	8.8 + 8.8 + 7.7		8.1 + 8.1 + 8.1
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 + 442.5 (201 + 201 + 201)	445.3 + 445.3 + 445.3 (202 + 202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	64		
★6 Sound Power Level (Reference Data)			dB	79		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111945F	4D127045	4D149916

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2 + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name (Combination Unit)				**RWEQ432TAYDU**	**RWEQ432TAYDA**	**RWEQ432TBYDA**
Model Name (Independent Unit)				**RWEQ144TAYDU** **RWEQ144TAYDU** **RWEQ144TAYDU**	**RWEQ144TAYDA** **RWEQ144TAYDA** **RWEQ144TAYDA**	**RWEQ144TBYDA** **RWEQ144TBYDA** **RWEQ144TBYDA**
Power Supply				3 phase, 460 V, 60 Hz		
★1 Cooling Capacity		Nominal	Btu/h (kW)	432,000 (126.6)		422,000 (123.7)
		Rated		410,000 (120.2)		402,000 (117.8)
★2 Heating Capacity		Nominal	Btu/h (kW)	486,000 (142.4)		
		Rated		460,000 (134.8)		402,000 (117.8)
Casing Color				Ivory White (5Y7.5/1)		
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)		
Heat Exchanger				Stainless Steel Plate Type		
Compressor	Type			Hermetically Sealed Scroll Type		
	Displacement		ft.³/h (m^3/h)	1,006 + 1,006 + 1,006 (28.5 + 28.5 + 28.5)		1,002 + 1,002 + 1,002 (28.4 + 28.4 + 28.4)
	Number of Revolutions		r/min	8,400 + 8,400 + 8,400		8,370 + 8,370+ 8,370
	Motor Output		kW	8.8 + 8.8 + 8.8		8.8 + 8.8 + 8.8
	Starting Method			Soft Start		
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing Connection) -Main Line-		
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing Connection) ★3 -Main Line-		
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing Connection) -Main Line-		
	Water Inlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Water Outlet		in.	ISO 228-1-G1 1/4B (External Thread)		
	Drain Outlet		in. (mm)	For ID 3/8 (10)		
Weight			lbs (kg)	442.5 + 442.5 + 442.5 (201 + 201 + 201)	445.3 + 445.3 + 445.3 (202 + 202 + 202)	
★6 Sound Pressure Level (Reference Data)			dB(A)	65		
★6 Sound Power Level (Reference Data)			dB	80		
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse		
Capacity Control			%	4-100		
Refrigerant	Refrigerant Name			R-410A		
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)		
	Control			Electronic Expansion Valve		
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose	Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose, Strainer, Pipe adaptor	
Drawing No.				4D111946E	4D127046	4D149917

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

6.3 RWEQ-TAYCU, RWEQ-TBYCU

Model Name				RWEQ72TBYCU
Power Supply				3 phase, 575 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	72,000 (21.1)
		Rated		69,000 (20.2)
★2 Heating Capacity		Nominal	Btu/h (kW)	81,000 (23.7)
		Rated		69,000 (20.2)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m^3/h)	447 (12.7)
	Number of Revolutions		r/min	3,738
	Motor Output		kW	3.9
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing connection)
	Suction Gas Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) ★3
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ5/8 (15.9) C1220T, ★5 ϕ3/4 (19.1) C1220T (Brazing connection)
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	436.5 (198)
★6 Sound Pressure Level (Reference Data)			dB(A)	54
★6 Sound Power Level (Reference Data)			dB	71
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	15-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 (7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D148503

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ96TAYCU	RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	96,000 (28.1)	
		Rated		92,000 (27.0)	
★2 Heating Capacity		Nominal	Btu/h (kW)	108,000 (31.7)	
		Rated		103,000 (30.2)	92,000 (27.0)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	544 (15.4)	559 (15.8)
	Number of Revolutions		r/min	4,542	4,668
	Motor Output		kW	4.7	4.8
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/8 (9.5) C1220T (Brazing connection)	
	Suction Gas Pipe		in. (mm)	ϕ7/8 (22.2) C1220T (Brazing connection) ★3	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ7/8 (22.2) C1220T (Brazing connection)	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	436.5 (198)	
★6 Sound Pressure Level (Reference Data)			dB(A)	54	
★6 Sound Power Level (Reference Data)			dB	71	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	15-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	17.4 (7.9)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117549B	4D148504

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 50 ft. (15.5 m) for non-ducted indoor units, level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ120TAYCU	RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	120,000 (35.2)	119,000 (34.9)
		Rated		114,000 (33.4)	
★2 Heating Capacity		Nominal	Btu/h (kW)	135,000 (39.6)	
		Rated		129,000 (37.8)	114,000 (33.4)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	669 (19.0)	698 (19.8)
	Number of Revolutions		r/min	5,592	5,832
	Motor Output		kW	5.8	6.0
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing connection)	
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ3/4 (19.1) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection)	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 (200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	55	
★6 Sound Power Level (Reference Data)			dB	72	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	12-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 (9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117550B	4D148505

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 25 ft. (7.6 m) for ducted indoor units, 75 ft. (23 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model Name				RWEQ144TAYCU	RWEQ144TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	144,000 (42.2)	
		Rated		138,000 (40.4)	
★2 Heating Capacity		Nominal	Btu/h (kW)	162,000 (47.5)	
		Rated		154,000 (45.1)	138,000 (40.4)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	38-9/16 × 30-1/8 × 22-1/16 (980 × 765 × 560)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	848 (24.0)	896 (25.4)
	Number of Revolutions		r/min	7,080	7,488
	Motor Output		kW	7.4	7.8
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ1/2 (12.7) C1220T (Brazing connection)	
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ7/8 (22.2) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection)	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 (200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60.5	
★6 Sound Power Level (Reference Data)			dB	75	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	11-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 (9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117551B	4D148506

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ168TBYCU
Model (Independent unit)				RWEQ72TBYCU RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz
★1 Cooling Capacity		Nominal	Btu/h (kW)	162,000 (47.5)
		Rated		156,000 (45.7)
★2 Heating Capacity		Nominal	Btu/h (kW)	189,000 (55.4)
		Rated		156,000 (45.7)
Casing Color				Ivory white (5Y7.5/1)
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)
Heat Exchanger				Stainless steel plate type
Compressor	Type			Hermetically sealed scroll type
	Displacement		ft.³/h (m³/h)	473 + 473 (13.4 + 13.4)
	Number of Revolutions		r/min	3,948 + 3,948
	Motor Output		kW	4.1 + 4.1
	Starting Method			Soft start
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3 -Main line-
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection) -Main line-
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)
	Drain Outlet		in. (mm)	For ID 3/8 (10)
Weight			lbs (kg)	436.5 + 436.5 (198 + 198)
★6 Sound Pressure Level (Reference Data)			dB(A)	57
★6 Sound Power Level (Reference Data)			dB	74
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse
Capacity Control			%	8-100
Refrigerant	Refrigerant Name			R-410A
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)
	Control			Electronic expansion valve
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)
Drawing No.				4D148507

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ192TAYCU	RWEQ192TBYCU
Model (Independent unit)				RWEQ96TAYCU RWEQ96TAYCU	RWEQ96TBYCU RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	192,000 (56.3)	
	Rated			184,000 (53.9)	
★2 Heating Capacity	Nominal		Btu/h (kW)	216,000 (63.3)	
	Rated			206,000 (60.4)	184,000 (53.9)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	551 + 551 (15.6 + 15.6)	567 + 567 (16.1 + 16.1)
	Number of Revolutions		r/min	4,602 + 4,602	4,734 + 4,734
	Motor Output		kW	4.8 + 4.8	4.9 + 4.9
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	436.5 + 436.5 (198 + 198)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57	
★6 Sound Power Level (Reference Data)			dB	74	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	8-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	17.4 + 17.4 (7.9 + 7.9)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117552B	4D148508

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ216TAYCU	RWEQ216TBYCU
Model (Independent unit)				RWEQ120TAYCU RWEQ96TAYCU	RWEQ120TBYCU RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	216,000 (63.3)	
	Rated			206,000 (60.4)	
★2 Heating Capacity	Nominal		Btu/h (kW)	243,000 (71.2)	
	Rated			232,000 (68.0)	206,000 (60.4)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	669 + 669 (19.0 + 19.0)	670 + 670 (19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592	
	Motor Output		kW	5.8 + 5.8	
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-1/8 (28.6) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-1/8 (28.6) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 436.5 (200 + 198)	
★6 Sound Pressure Level (Reference Data)			dB(A)	57.5	
★6 Sound Power Level (Reference Data)			dB	75	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	7-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 17.4 (9.6 + 7.9)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117553B	4D148509

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ240TAYCU	RWEQ240TBYCU
Model (Independent unit)				RWEQ120TAYCU RWEQ120TAYCU	RWEQ120TBYCU RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	240,000 (70.3)	238,000 (69.8)
	Rated			228,000 (66.8)	
★2 Heating Capacity	Nominal		Btu/h (kW)	270,000 (79.1)	
	Rated			258,000 (75.6)	228,000 (66.8)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m^3/h)	708 + 708 (20.0 + 20.0)	718 + 718 (20.3 + 20.3)
	Number of Revolutions		r/min	5,910 + 5,910	5,994 + 5,994
	Motor Output		kW	6.2 + 6.2	6.3 + 6.3
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ5/8 (15.9) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 (200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	58	
★6 Sound Power Level (Reference Data)			dB	75	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	6-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117554B	4D148510

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ264TAYCU	RWEQ264TBYCU
Model (Independent unit)				RWEQ144TAYCU RWEQ120TAYCU	RWEQ144TBYCU RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	264,000 (77.4)	
	Rated			252,000 (73.9)	
★2 Heating Capacity	Nominal		Btu/h (kW)	297,000 (87.0)	
	Rated			284,000 (83.2)	252,000 (73.9)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	860 + 860 (24.3 + 24.3)	813 + 813 (23.0 + 23.0)
	Number of Revolutions		r/min	7,182 + 7,182	6,792 + 6,792
	Motor Output		kW	7.5 + 7.5	7.1 + 7.1
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 (200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	61.5	
★6 Sound Power Level (Reference Data)			dB	77	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	6-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117555B	4D148511

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ288TAYCU	RWEQ288TBYCU
Model (Independent unit)				RWEQ144TAYCU RWEQ144TAYCU	RWEQ144TBYCU RWEQ144TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	288,000 (84.4)	286,000 (83.8)
	Rated			274,000 (80.3)	
★2 Heating Capacity	Nominal		Btu/h (kW)	324,000 (95.0)	
	Rated			308,000 (90.3)	274,000 (80.3)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 2 ((980 × 765 × 560) × 2)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m^3/h)	961 + 961 (27.2 + 27.2)	922 + 922 (26.1 + 26.1)
	Number of Revolutions		r/min	8,028 + 8,028	7,698 + 7,698
	Motor Output		kW	8.4 + 8.4	8.1 + 8.1
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 (200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	63.5	
★6 Sound Power Level (Reference Data)			dB	78	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	5-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 (9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117556B	4D148512

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ312TAYCU	RWEQ312TBYCU
Model (Independent unit)				RWEQ120TAYCU RWEQ96TAYCU RWEQ96TAYCU	RWEQ120TBYCU RWEQ96TBYCU RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	312,000 (91.4)	
		Rated		298,000 (87.3)	
★2 Heating Capacity		Nominal	Btu/h (kW)	351,000 (102.9)	
		Rated		334,000 (97.9)	298,000 (87.3)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	669 + 669 + 669 (19.0 + 19.0 + 19.0)	670 + 670 + 670 (19.0 + 19.0 + 19.0)
	Number of Revolutions		r/min	5,592 + 5,592 + 5,592	
	Motor Output		kW	5.8 + 5.8 + 5.8	
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 436.5 + 436.5 (200 + 198 + 198)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59	
★6 Sound Power Level (Reference Data)			dB	76	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	5-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 17.4 + 17.4 (9.6 + 7.9 + 7.9)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117557B	4D148513A

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) + 2,730 Btu/h (0.8 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ336TAYCU	RWEQ336TBYCU
Model (Independent unit)				RWEQ120TAYCU RWEQ120TAYCU RWEQ96TAYCU	RWEQ120TBYCU RWEQ120TBYCU RWEQ96TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	336,000 (98.5)	
		Rated		320,000 (93.8)	
★2 Heating Capacity		Nominal	Btu/h (kW)	378,000 (110.8)	
		Rated		360,000 (105.5)	320,000 (93.8)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	688 + 688 + 688 (19.5 + 19.5 + 19.5)	698 + 698 + 698 (19.8 + 19.8 + 19.8)
	Number of Revolutions		r/min	5,748 + 5,748 + 5,748	5,832 + 5,832 + 5,832
	Motor Output		kW	6.0 + 6.0 + 6.0	6.1 + 6.1 + 6.1
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-3/8 (34.9) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-1/8 (28.6) C1220T, ★5 ϕ1-3/8 (34.9) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 +436.5 (200 + 200 + 198)	
★6 Sound Pressure Level (Reference Data)			dB(A)	59.5	
★6 Sound Power Level (Reference Data)			dB	77	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	4-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 + 17.4 (9.6 + 9.6 + 7.9)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117558B	4D148514

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 2 + 2,730 Btu/h (0.8 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ360TAYCU	RWEQ360TBYCU
Model (Independent unit)				RWEQ120TAYCU RWEQ120TAYCU RWEQ120TAYCU	RWEQ120TBYCU RWEQ120TBYCU RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	360,000 (105.5)	358,000 (104.9)
		Rated		342,000 (100.2)	
★2 Heating Capacity		Nominal	Btu/h (kW)	405,000 (118.7)	
		Rated		386,000 (113.1)	342,000 (100.2)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	825 + 825 + 825 (23.4 + 23.4 + 23.4)	759 + 759 + 759 (21.5 + 21.5 + 21.5)
	Number of Revolutions		r/min	6,888 + 6,888 + 6,888	6,336 + 6,336 + 6,336
	Motor Output		kW	7.2 + 7.2 + 7.2	6.6 + 6.6 + 6.6
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 + 440.9 (200 + 200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	60	
★6 Sound Power Level (Reference Data)			dB	77	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	4-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117559B	4D148515

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 50 ft. (15.5 m) for ducted indoor units, 100 ft. (30.5 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 3,412 Btu/h (1.0 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ384TAYCU	RWEQ384TBYCU
Model (Independent unit)				RWEQ144TAYCU RWEQ120TAYCU RWEQ120TAYCU	RWEQ144TBYCU RWEQ120TBYCU RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity	Nominal		Btu/h (kW)	384,000 (112.5)	
	Rated			366,000 (107.3)	
★2 Heating Capacity	Nominal		Btu/h (kW)	432,000 (126.6)	
	Rated			410,000 (120.2)	366,000 (107.3)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m^3/h)	860 + 860 + 860 (24.3 + 24.3 + 24.3)	848 + 848 + 848 (24.0 + 24.0 + 24.0)
	Number of Revolutions		r/min	7,182 + 7,182 + 7,182	7,080 + 7,080 + 7,080
	Motor Output		kW	7.5 + 7.5 + 7.5	7.4 + 7.4 + 7.4
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 +440.9 (200 + 200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	62	
★6 Sound Power Level (Reference Data)			dB	78	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	4-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117560B	4D148516

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) + 3,412 Btu/h (1.0 kW) × 2
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				RWEQ408TAYCU	RWEQ408TBYCU
Model (Independent unit)				RWEQ144TAYCU RWEQ144TAYCU RWEQ120TAYCU	RWEQ144TBYCU RWEQ144TBYCU RWEQ120TBYCU
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	408,000 (119.6)	406,000 (119.0)
		Rated		388,000 (113.7)	
★2 Heating Capacity		Nominal	Btu/h (kW)	459,000 (134.5)	
		Rated		435,000 (127.5)	388,000 (113.7)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m³/h)	1,006 + 1,006 + 884 (28.5 + 28.5 + 25.0)	934 + 934 + 934 (26.5 + 26.5 + 26.5)
	Number of Revolutions		r/min	8,400 + 8,400 + 7,386	7,806 + 7,806 + 7,806
	Motor Output		kW	8.8 + 8.8 + 7.7	8.1 + 8.1 + 8.1
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 + 440.9 (200 + 200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	64	
★6 Sound Power Level (Reference Data)			dB	79	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	4-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117561B	4D148517

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 2 + 3,412 Btu/h (1.0 kW)
4. There are some cases where capacity decreases depending on operating states.

Model (Combination unit)				**RWEQ432TAYCU**	**RWEQ432TBYCU**
Model (Independent unit)				**RWEQ144TAYCU** **RWEQ144TAYCU** **RWEQ144TAYCU**	**RWEQ144TBYCU** **RWEQ144TBYCU** **RWEQ144TBYCU**
Power Supply				3 phase, 575 V, 60 Hz	
★1 Cooling Capacity		Nominal	Btu/h (kW)	426,000 (124.8)	422,000 (123.7)
		Rated		410,000 (120.2)	402,000 (117.8)
★2 Heating Capacity		Nominal	Btu/h (kW)	486,000 (142.4)	
		Rated		460,000 (134.8)	402,000 (117.8)
Casing Color				Ivory white (5Y7.5/1)	
Dimensions: (H × W × D)			in. (mm)	(38-9/16 × 30-1/8 × 22-1/16) × 3 ((980 × 765 × 560) × 3)	
Heat Exchanger				Stainless steel plate type	
Compressor	Type			Hermetically sealed scroll type	
	Displacement		ft.³/h (m^3/h)	1,006 + 1,006 + 1,006 (28.5 + 28.5 + 28.5)	1,002 + 1,002 + 1,002 (28.4 + 28.4 + 28.4)
	Number of Revolutions		r/min	8,400 + 8,400 + 8,400	8,370 + 8,370 + 8,370
	Motor Output		kW	8.8 + 8.8 + 8.8	
	Starting Method			Soft start	
Connecting Pipes	Liquid Pipe		in. (mm)	ϕ3/4 (19.1) C1220T (Brazing connection) -Main line-	
	Suction Gas Pipe		in. (mm)	ϕ1-5/8 (41.3) C1220T (Brazing connection) ★3 -Main line-	
	High/low pressure Gas Pipe		in. (mm)	★4 ϕ1-3/8 (34.9) C1220T, ★5 ϕ1-5/8 (41.3) C1220T (Brazing connection) -Main line-	
	Water Inlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Water Outlet		in.	ISO 228-1 - G1 1/4B (external thread)	
	Drain Outlet		in. (mm)	For ID 3/8 (10)	
Weight			lbs (kg)	440.9 + 440.9 +440.9 (200 + 200 + 200)	
★6 Sound Pressure Level (Reference Data)			dB(A)	65	
★6 Sound Power Level (Reference Data)			dB	80	
Safety Devices				High pressure switch, Inverter overload protector, Fusible plug, Leak detecting device, Overcurrent fuse	
Capacity Control			%	4-100	
Refrigerant	Refrigerant Name			R-410A	
	Charge		lbs (kg)	21.2 + 21.2 + 21.2 (9.6 + 9.6 + 9.6)	
	Control			Electronic expansion valve	
Standard Accessories				Installation manual, Operation manual, Connection pipes, Clamps, Conduit mounting plates, Drain hose Strainer (water line) (50mesh, ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female) Pipe adaptor (water line) (ISO 228-1 - G1 1/4B → ANSI-ASME B1.20.1 · 1 1/4-11.5 NPT female)	
Drawing No.				4D117562C	4D148518

Notes:

1. ★1 Indoor temp.: 80.6°FDB (27°CDB), 66.2°FWB (19°CWB)/Entering water temp.: 86°F (30°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★2 Indoor temp.: 68°FDB (20°CDB), 59°FWB (15°CWB)/Entering water temp.: 68°F (20°C)
   Equivalent piping length: 75 ft. (23 m) for ducted indoor units, 150 ft. (45.7 m) for non-ducted indoor units, Level difference: 0 ft. (0 m).
   ★3 In the case of heat pump system, the suction gas pipe is not used.
   ★4 In the case of heat recovery system.
   ★5 In the case of heat pump system.
   ★6 Anechoic chamber conversion value. During actual operation, these value may be higher as a result of ambient conditions.
2. This unit cannot be installed outdoors. Install indoors (Machine room, etc.).
3. Hold ambient condition at 35~104°FDB (2~40°CDB), ~80%RH. Heat release from the unit (approx.): 4,436 Btu/h (1.3 kW) × 3
4. There are some cases where capacity decreases depending on operating states.

Part 2
Refrigerant Circuit

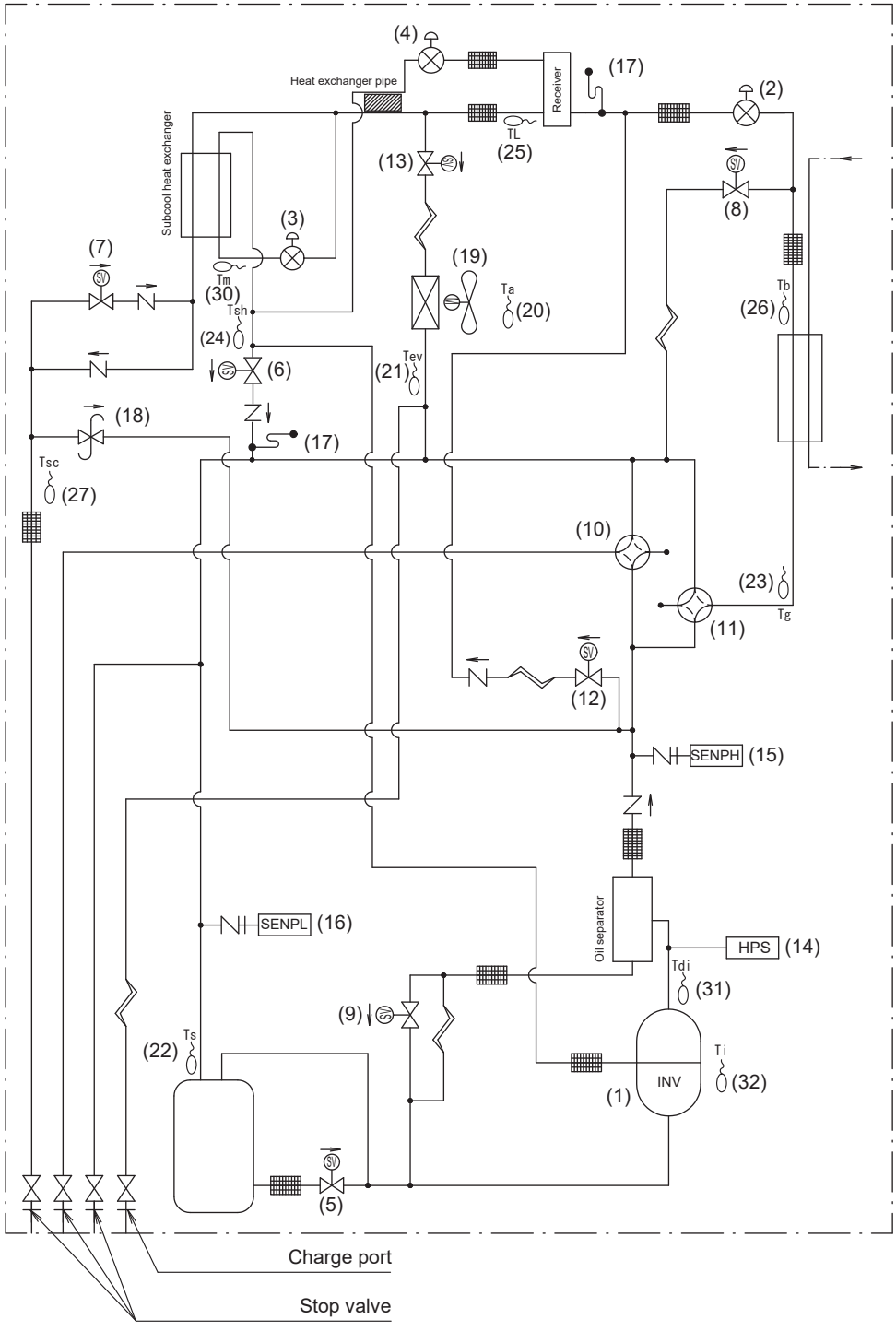
1. Refrigerant Circuit (Piping Diagrams)

1.1 Outside Unit

No. in piping diagram	Electric symbol	Name		Function
(1)	M1C	Compressor	COMP	Compressor is operated in multi-steps according to Te or Tc by using inverter.
(2)	Y1E	Electronic expansion valve (Main)	EVM	In cooling : High pressure control In heating or simultaneous cooling/heating operation : • When the heat exchanger is used as the evaporator : SH control • When the heat exchanger is used as the condenser : SC and high pressure control
(3)	Y2E	Electronic expansion valve (Subcool)	EVT	PI control is applied to keep the outlet superheating degree of subcooling heat exchanger constant.
(4)	Y3E	Electronic expansion valve (Receiver gas vent)	EVG	Used to collect the refrigerant to receiver.
(5)	Y1S	Solenoid valve (Oil return)	SVO	Used to collect the refrigerant oil from accumulator.
(6)	Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS	Used to change of the injection use of the compressor.
(7)	Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL	Used to prevent the accumulation of refrigerant in non-operating outside units in the case of multiple outside unit system.
(8)	Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE	Used to collect the refrigerant oil from water heat exchanger.
(9)	Y5S	Solenoid valve (Hot gas)	SVP	Used to prevent low pressure from transient falling.
(10)	Y6S	Four way valve (Main)	20S1	Changes the operation into cooling, heating or simultaneous cooling/heating operation.
(11)	Y7S	Four way valve (Sub)	20S2	Changes the water heat exchanger into condenser or evaporator.
(12)	Y8S	Solenoid valve (Receiver gas charging)	SVL	Used to maintain high pressure while in cooling at low water temperature. And also used to prevent the accumulation of refrigerant in non-operating outside units in the case of multiple outside unit system.
(13)	Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva	Used in the exhaust heat cancellation heat exchanger.
(14)	S1PH	High pressure switch	HPS	In order to prevent the increase of high pressure when an error occurs, this switch is activated at high pressure of 4.0 MPa (580 psi) or more to stop the compressor operation.
(15)	S1NPH	High pressure sensor	SENPH	Used to detect high pressure.
(16)	S1NPL	Low pressure sensor	SENPL	Used to detect low pressure.
(17)	—	Fusible plug	—	In order to prevent the increase of high pressure when abnormal heating is caused by fire or others, the fusible part of the plug is molten at a temperature of 70 - 75°C (158 - 167°F) to release the pressure into the atmosphere.
(18)	—	Pressure regulating valve (liquid pipe to discharge pipe)	—	This valve opens at a pressure of 4.0 MPa (580 psi) or more for prevention of pressure increase, thus resulting in no damage of function at parts due to the increase of pressure in transportation or storage.
(19)	M1F M2F M3F	Fan motor (Electrical component cooling)	M1F M2F M3F	When the temperature in the electrical component box rises, drive for cooling. (M3F: 208/230 V units only)
(20)	R1T	Outside unit inside thermistor	Ta	Cooling an exhaust heat by heat exchanger inside the unit to maintain the set temperature and this function reduces machine room temperature rise caused by equipment operation.
(21)	R2T	Exhaust heat cancellation heat exchanger gas pipe thermistor	Tev	Used to detect gas pipe temperature on the evaporating side of exhaust heat cancellation heat exchanger, keeping the superheating degree at the outlet of exhaust heat cancellation heat exchanger constant, and others.
(22)	R3T	Suction pipe thermistor	Ts	Used to detect suction pipe temperature, keeping the suction superheating degree constant in heating, and others.
(23)	R4T	Plate heat exchanger gas thermistor	Tg	Used to detect gas pipe temperature of water heat exchanger.

No. in piping diagram	Electric symbol	Name		Function
(24)	R5T	Subcooling heat exchanger outlet gas pipe thermistor	Tsh	Used to detect gas pipe temperature on the evaporating side of subcooling heat exchanger, keeping the superheating degree at the outlet of subcooling heat exchanger constant, and others.
(25)	R6T	Receiver outlet liquid pipe thermistor	TL	Used to detect receiver outlet liquid pipe temperature, preventing the drift between outside units while in heating in the case of multiple outside unit system, and others.
(26)	R7T	Plate heat exchanger liquid thermistor	Tb	Used to detect liquid pipe temperature of water heat exchanger.
(27)	R8T	Subcooling heat exchanger outlet liquid pipe thermistor	Tsc	Used to detect liquid pipe temperature on the evaporating side of subcooling heat exchanger, keeping the subcooling degree at the outlet of subcooling heat exchanger constant, and others.
(28)	R9T	Water inlet thermistor	Tw1	Used to detect water inlet pipe temperature of water heat exchanger.
(29)	R10T	Water outlet thermistor	Tw2	Used to detect water outlet pipe temperature of water heat exchanger.
(30)	R11T	Injection pipe thermistor	Tm	Used to detect gas pipe temperature on the evaporating side of subcooling heat exchanger, keeping the superheating degree at the outlet of subcooling heat exchanger constant, and others.
(31)	R12T	Discharge pipe thermistor	Tdi	Used to detect discharge pipe temperature, allowing the temperature protection control of compressor, and others.
(32)	R13T	Compressor body thermistor	Ti	Used to detect compressor surface temperature. This switch is activated at surface temperature of 120°C (248°F) or more to stop the compressor.
(33)	R14T R15T	Reactor thermistor	—	Because the reactors are equipped in parallel, an electric current concentrates on one of the reactors when the other one has snapped. Reactor thermistor is used to detect and prevent an abnormal rise by current concentration on the reactor (208/230 V units only).

RWEQ96/120/144TATJU, RWEQ96/120/144TATJA, RWEQ72/96/120/144TBTJA
RWEQ96/120/144TAYDU, RWEQ96/120/144TAYDA, RWEQ72/96/120/144TBYDA
RWEQ96/120/144TAYCU, RWEQ72/96/120/144TBYCU



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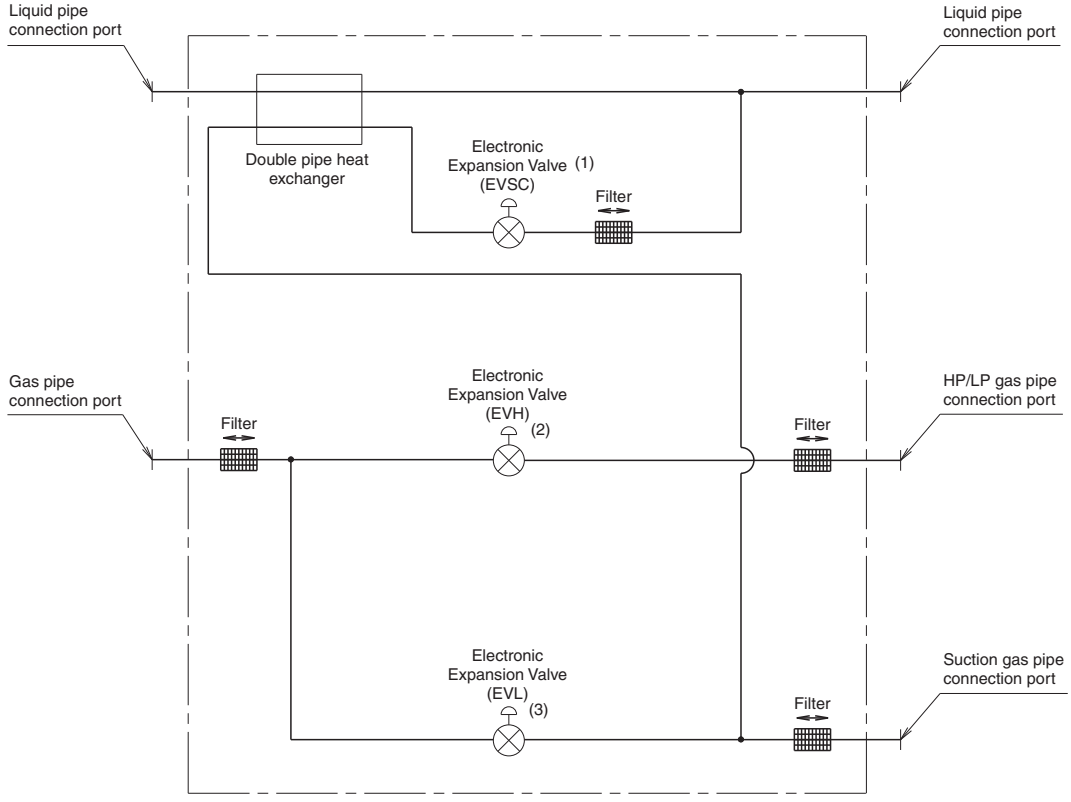
1.2 Branch Selector Unit

No.	Name	Electric Symbol	Function
(1)	Electronic expansion valve (EVSC)	Y1E	In simultaneous cooling and heating, it is used to subcooling liquid refrigerants when an indoor unit downstream of this Branch Selector unit is in heating. (Max : 480 pulse)
(2)	Electronic expansion valve (EVH)	Y2E	Opens while in heating or all indoor units are in cooling. (Max : 6,000 pulse)
(3)	Electronic expansion valve (EVL)	Y3E	Opens while in cooling. (Max : 6,000 pulse)

Note(s) Factory setting of each electronic expansion valve opening
EVSC: 0 pulse
EVH, EVL: 3,000 pulse

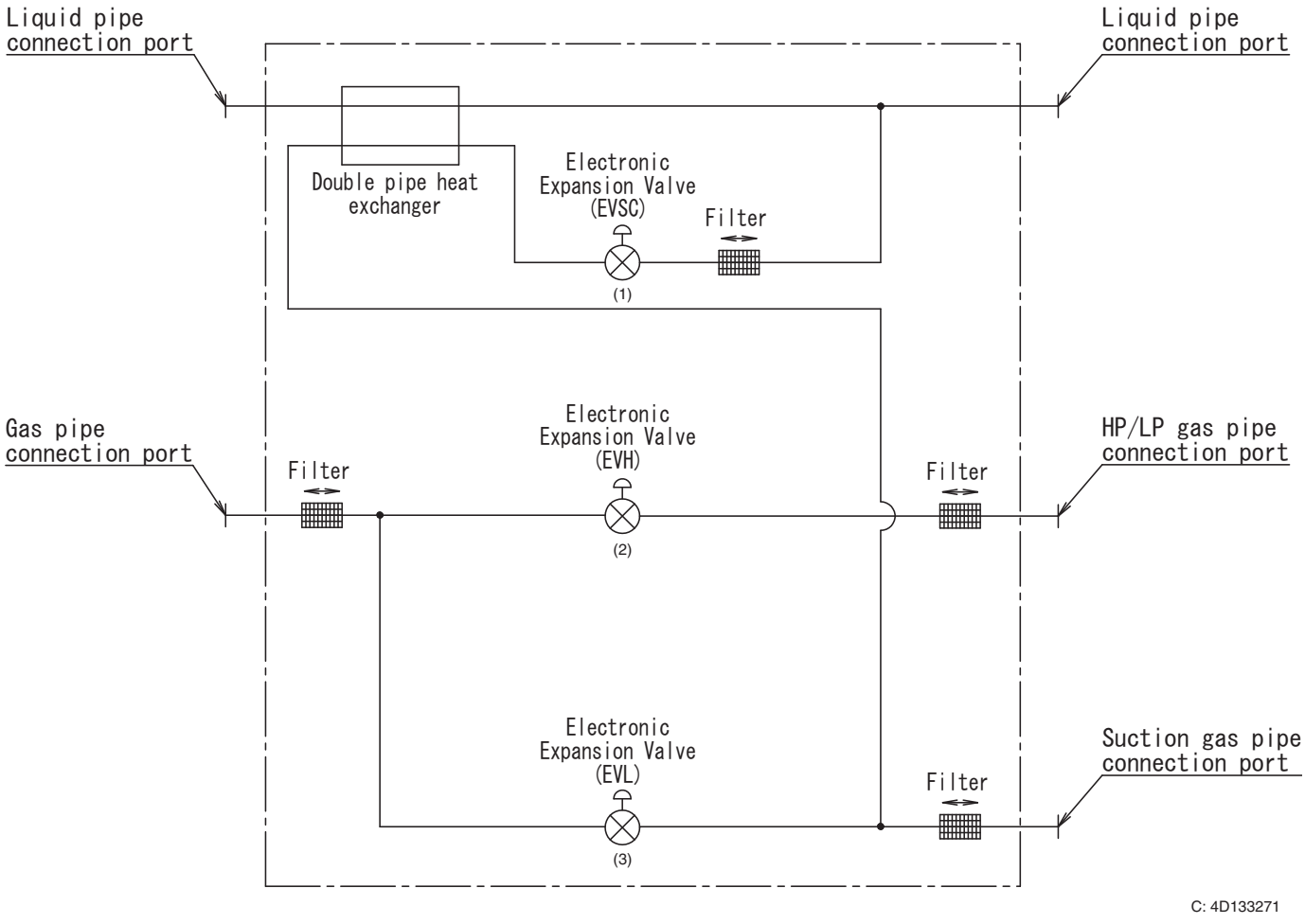
1.2.1 Single Branch Selector Unit

BSQ36/60/96TVJ



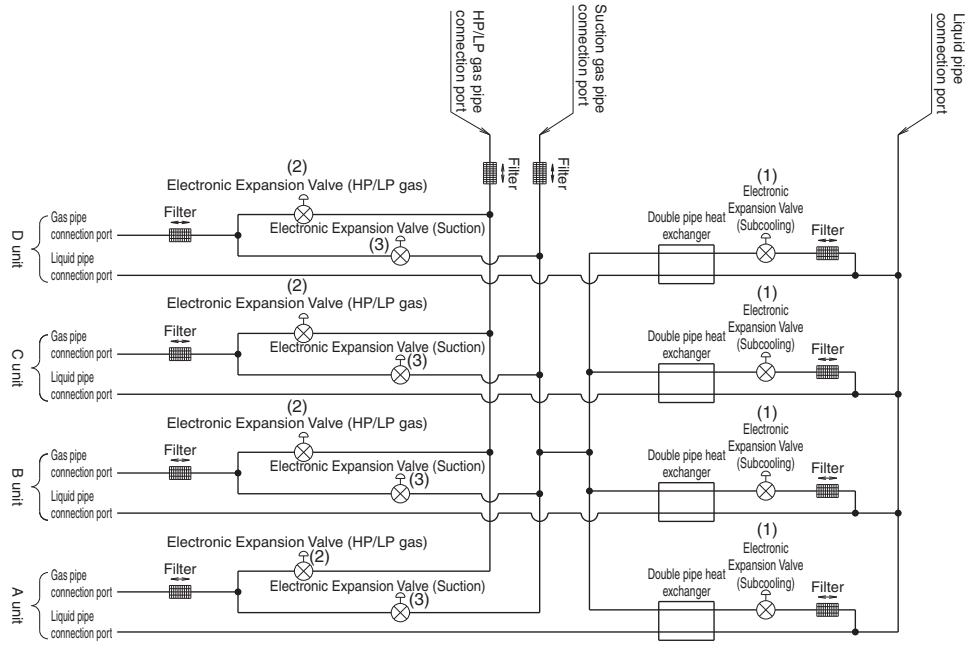
C: 4D085545B

BSQ36/60/96TAVJ



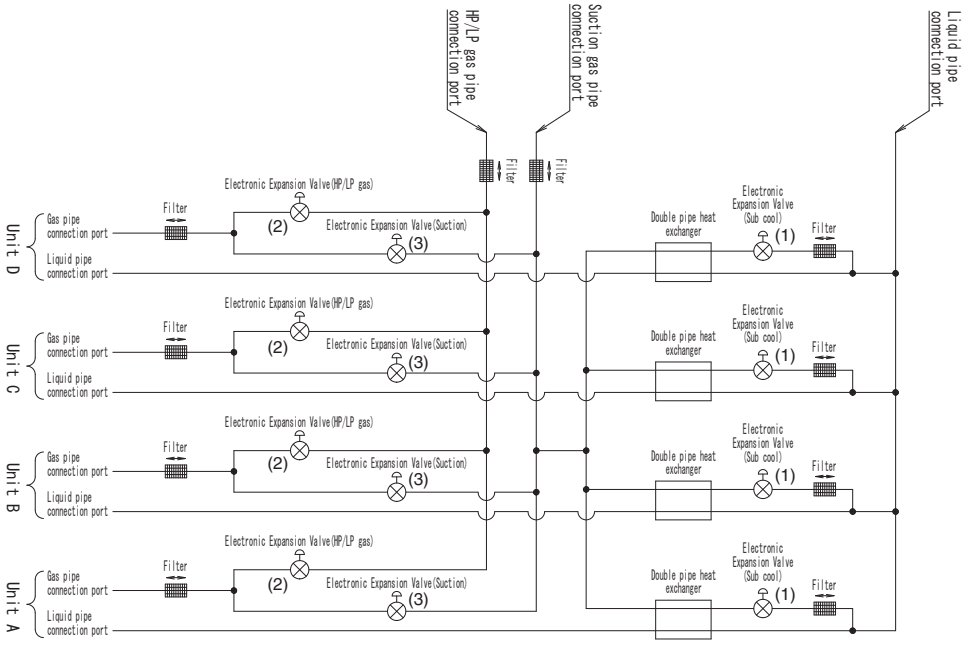
1.2.2 Multi Branch Selector Unit (Standard Series)

BS4Q54TVJ



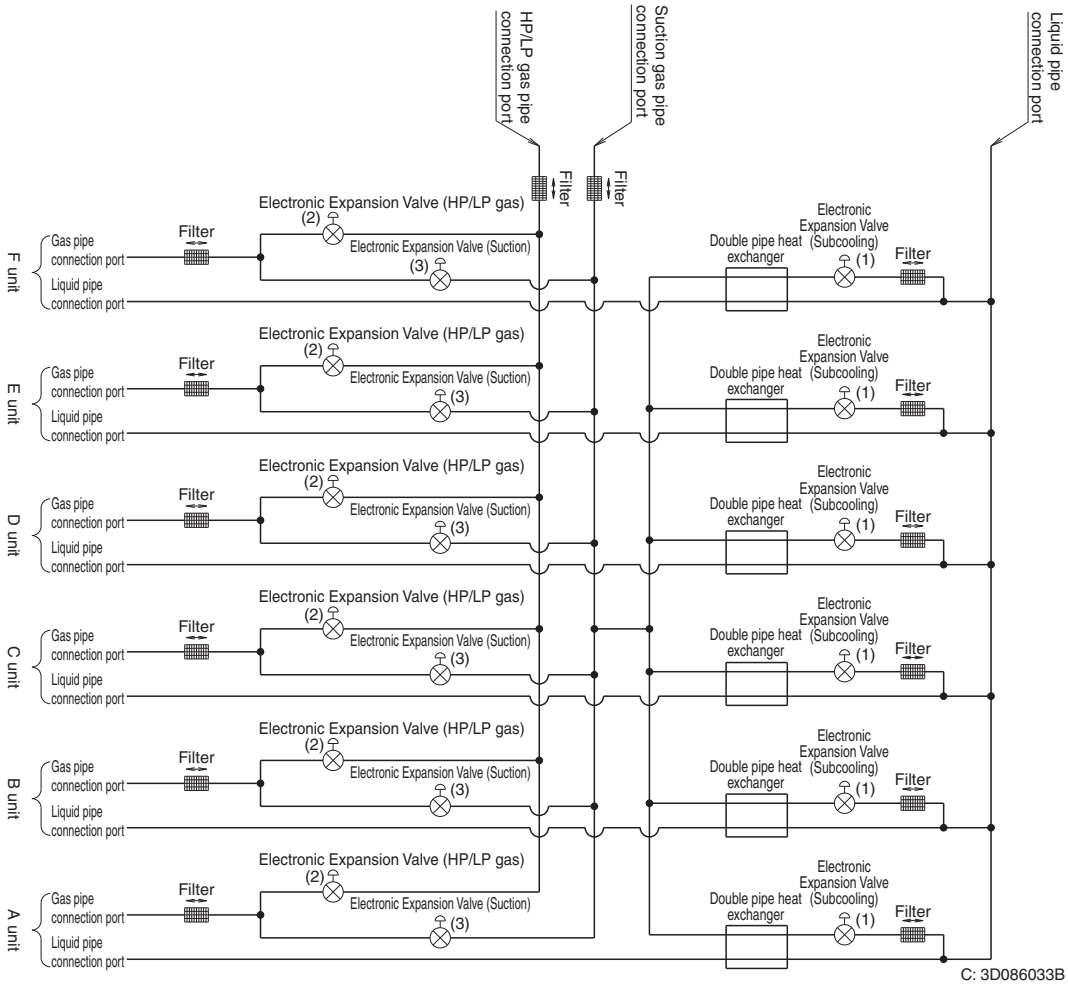
C: 3D086032B

BS4Q54TAVJ

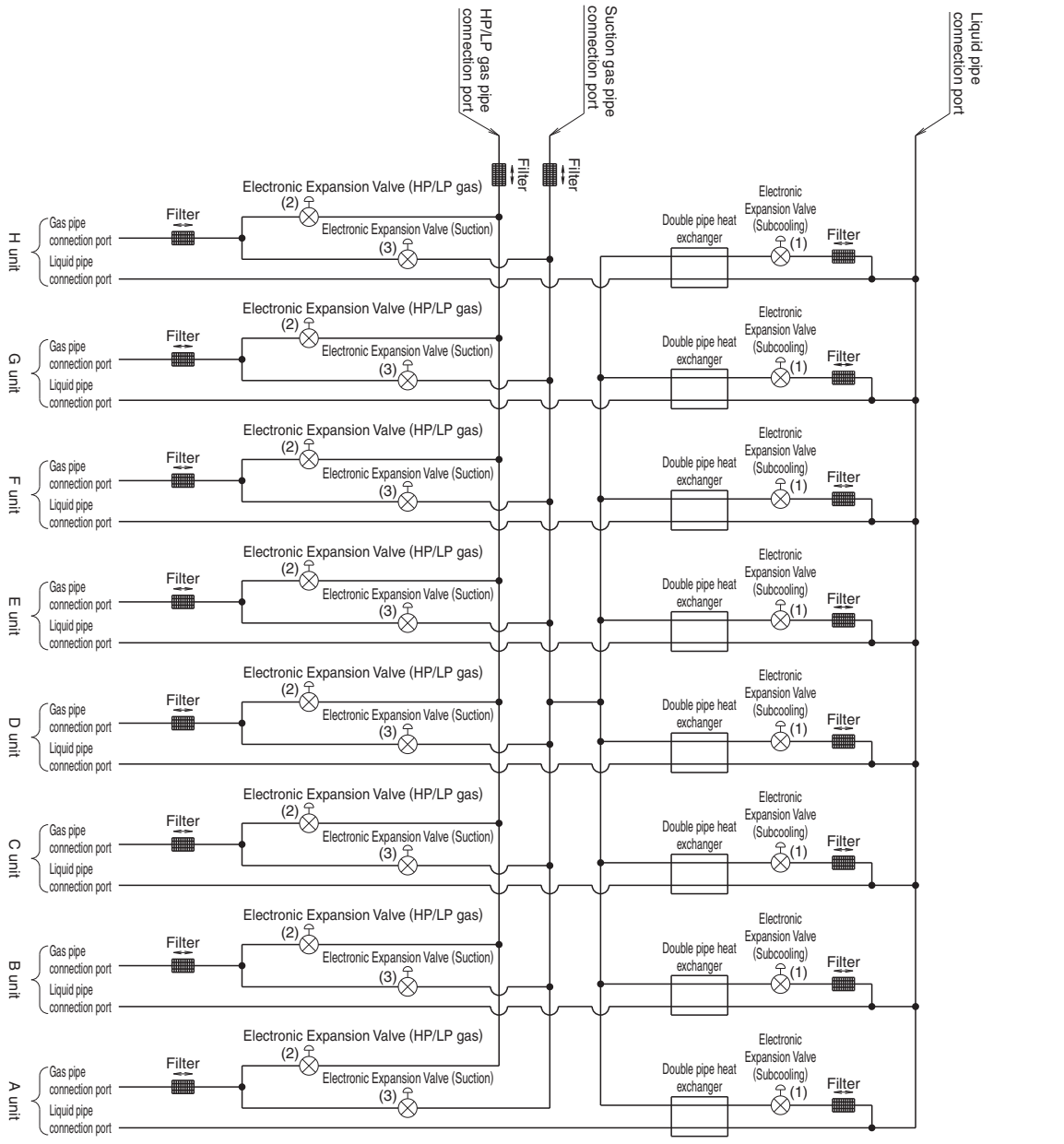


C: 3D133292

BS6Q54TVJ

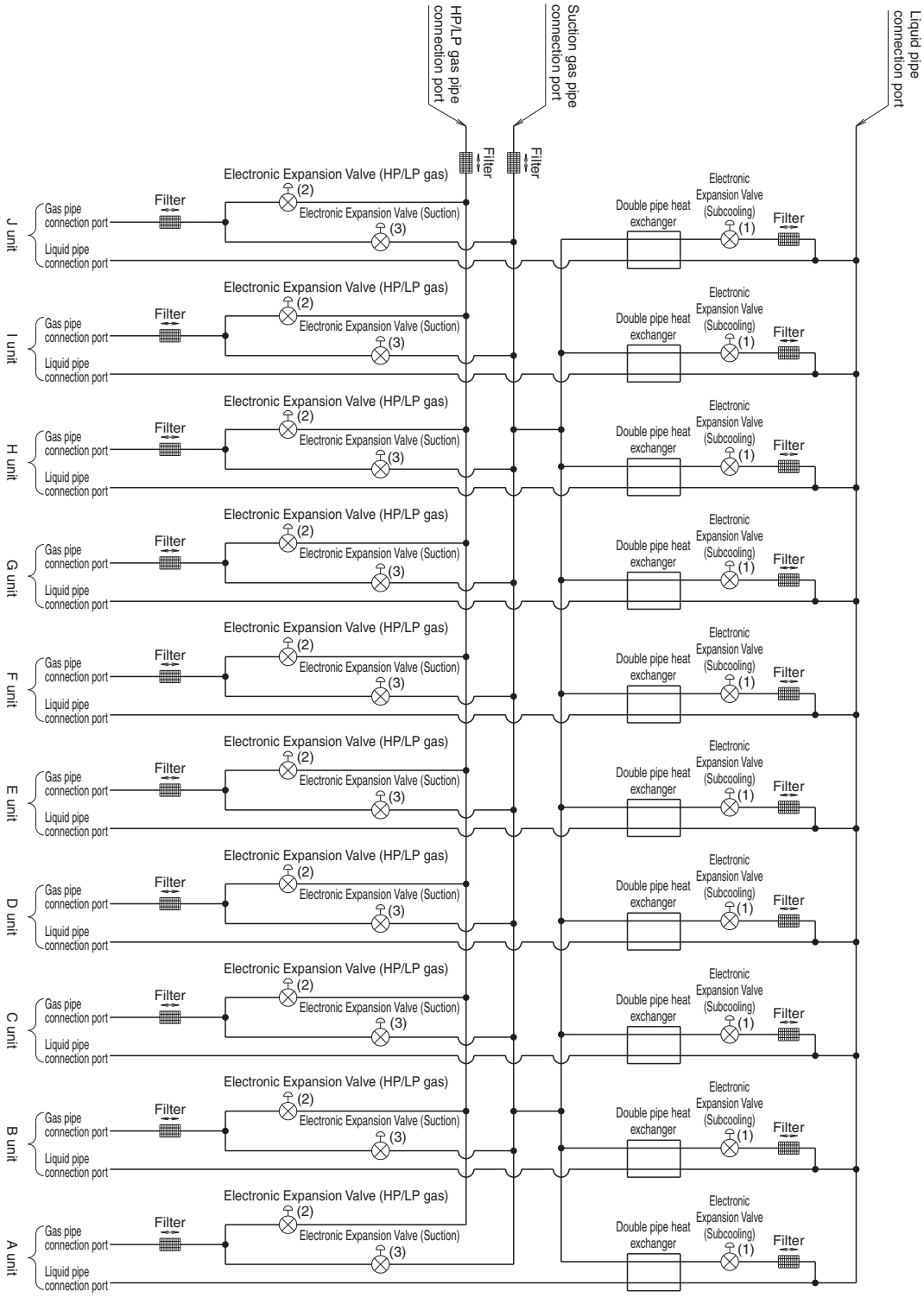

HP/LP gas pipe connection port
Suction gas pipe connection port
Liquid pipe connection port
Filter
Filter
F unit
E unit
D unit
C unit
B unit
A unit
Gas pipe connection port
Liquid pipe connection port
Filter
Electronic Expansion Valve (HP/LP gas) (2)
Electronic Expansion Valve (Suction) (3)
Double pipe heat exchanger
Electronic Expansion Valve (Subcooling) (1)
Filter
C: 3D086033B

BS8Q54TVJ



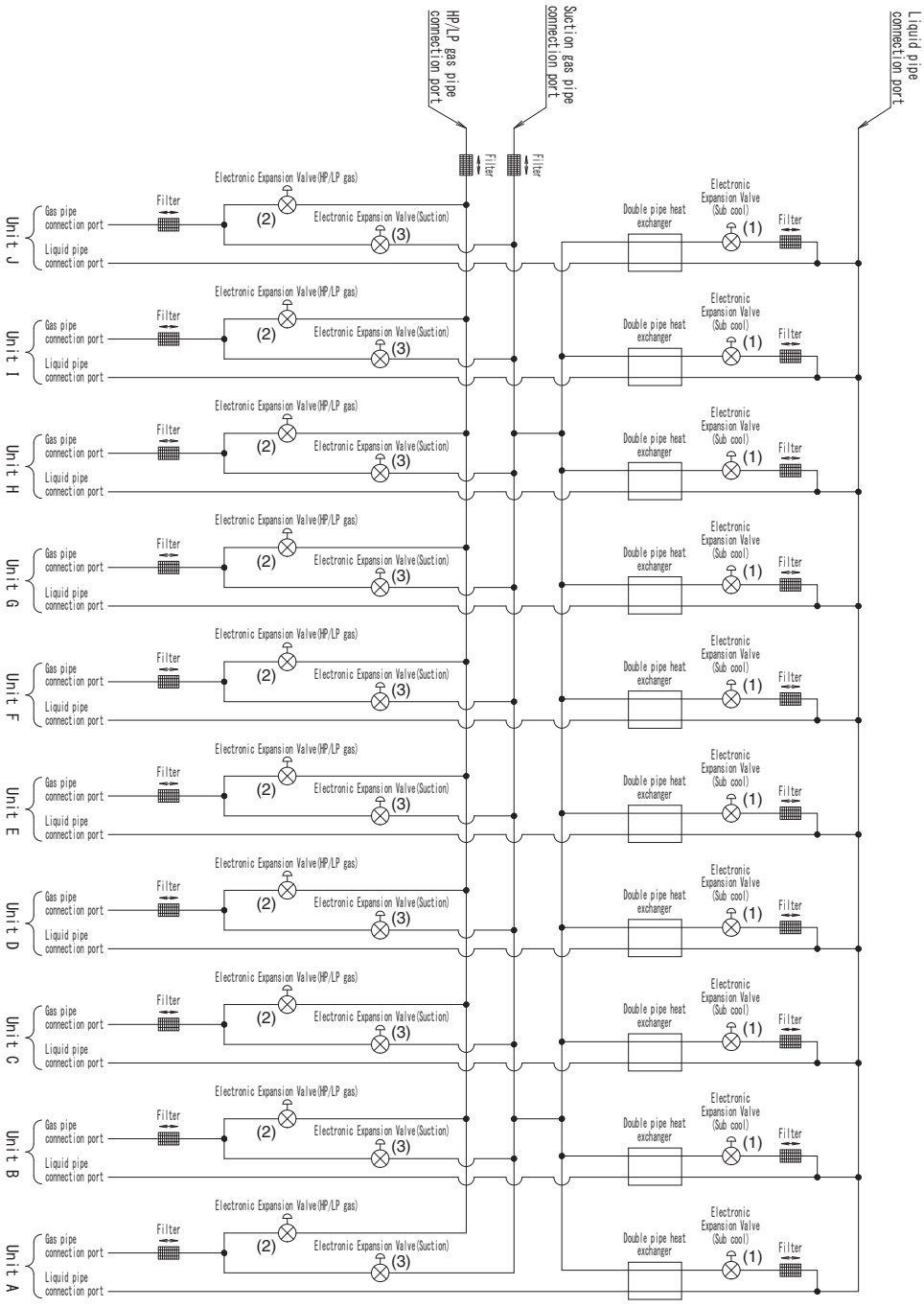
C: 3D086034B

BS10Q54TVJ



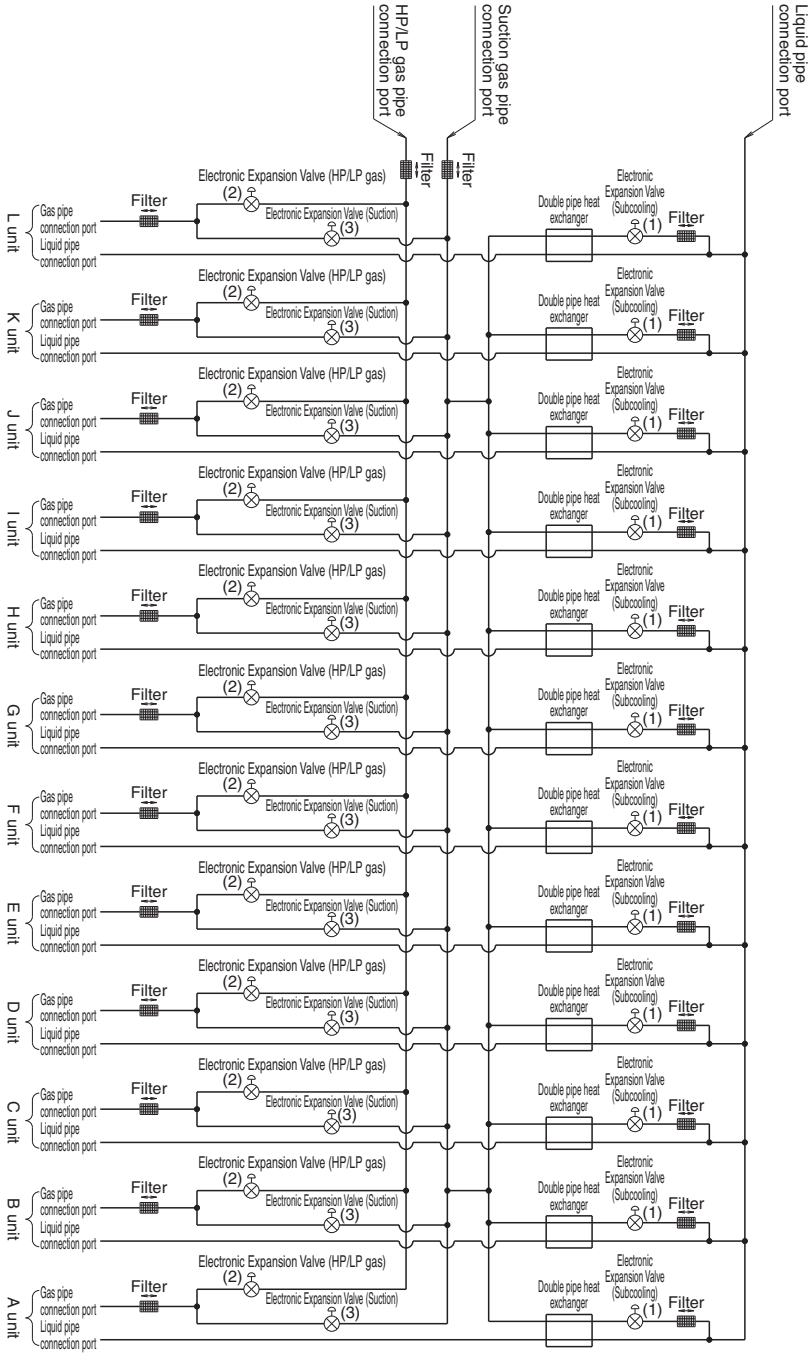
C: 3D086035B

BS10Q54TAVJ



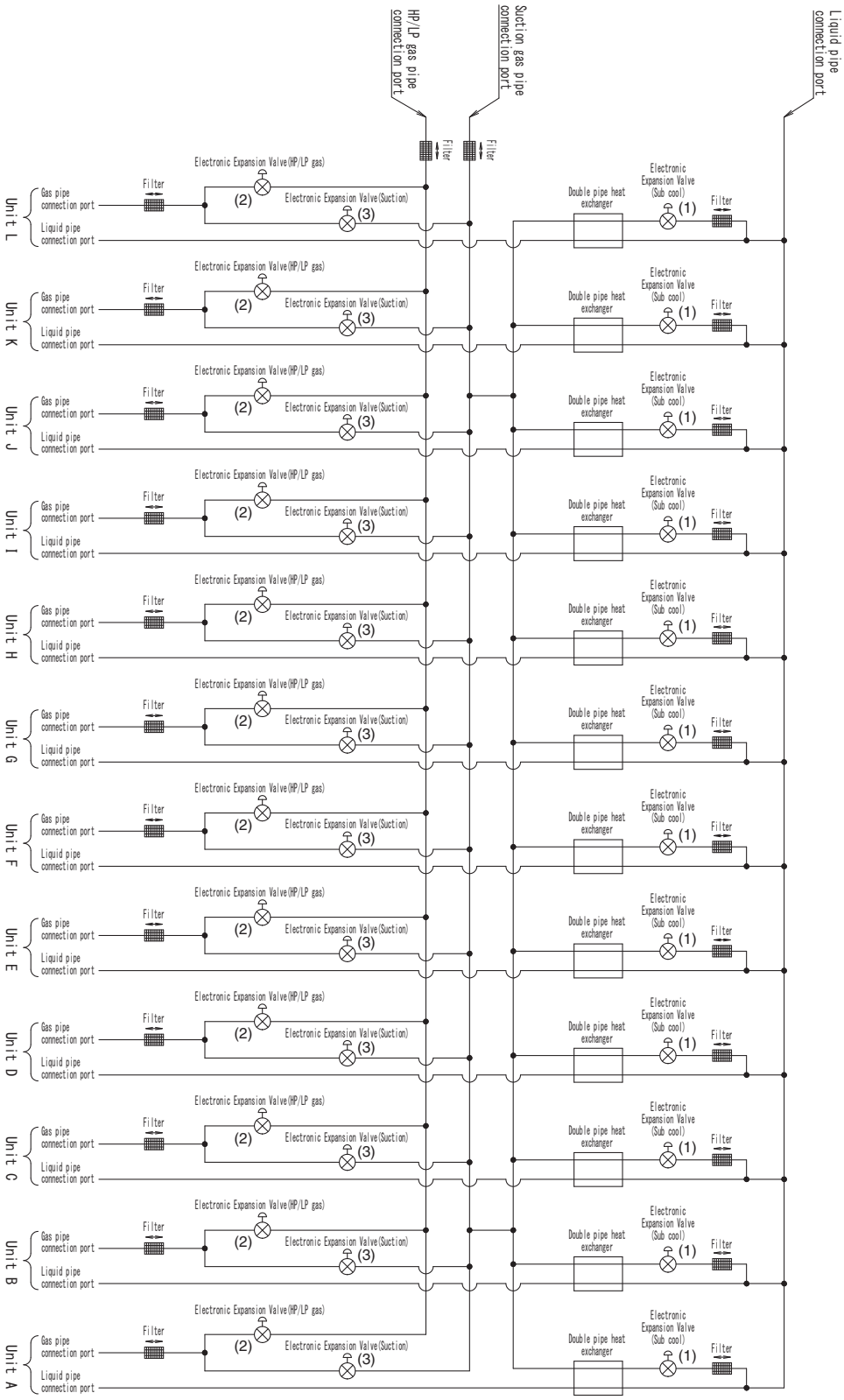
C: 3D133293

BS12Q54TVJ



C: 3D086036B

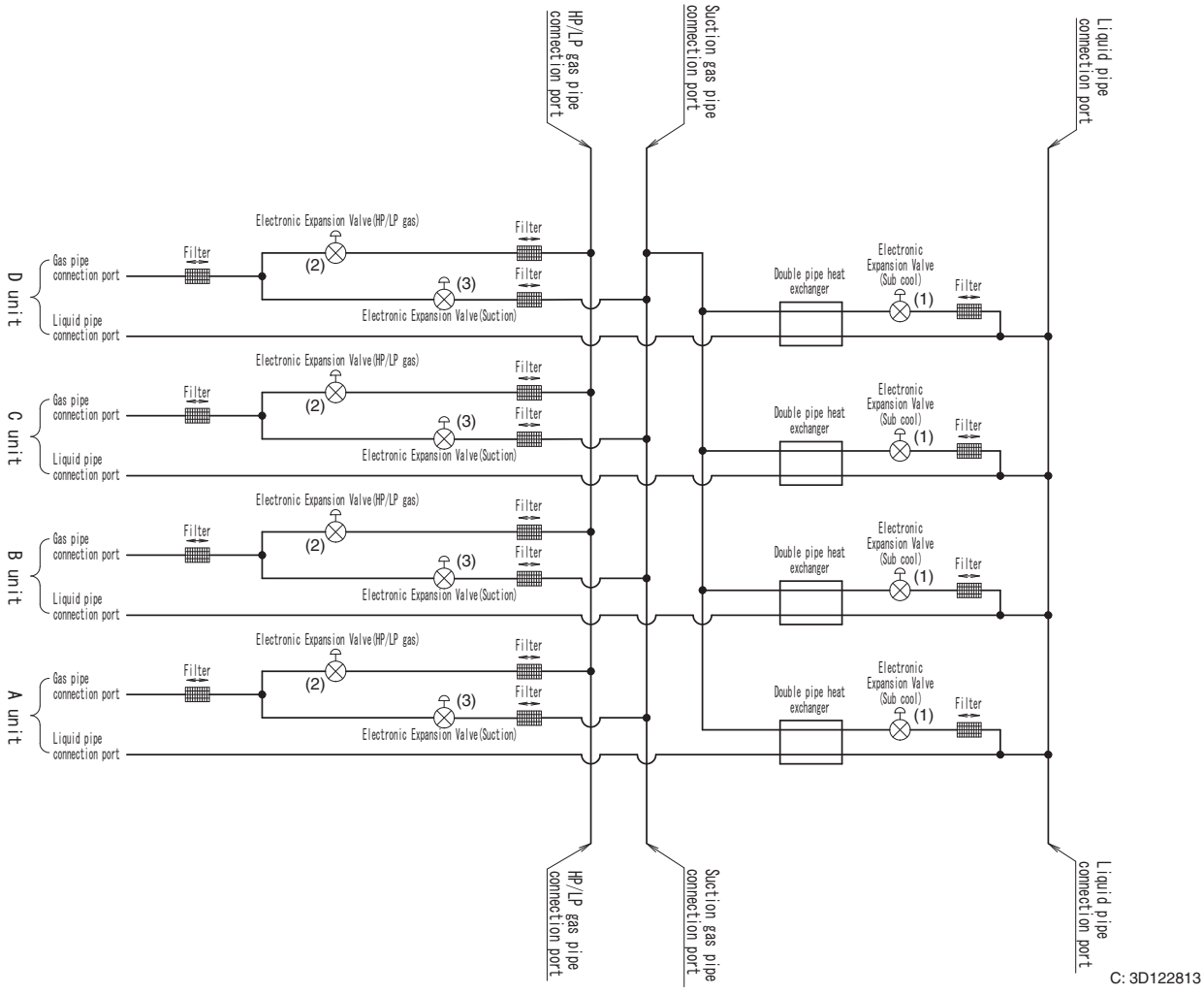
BS12Q54TAVJ



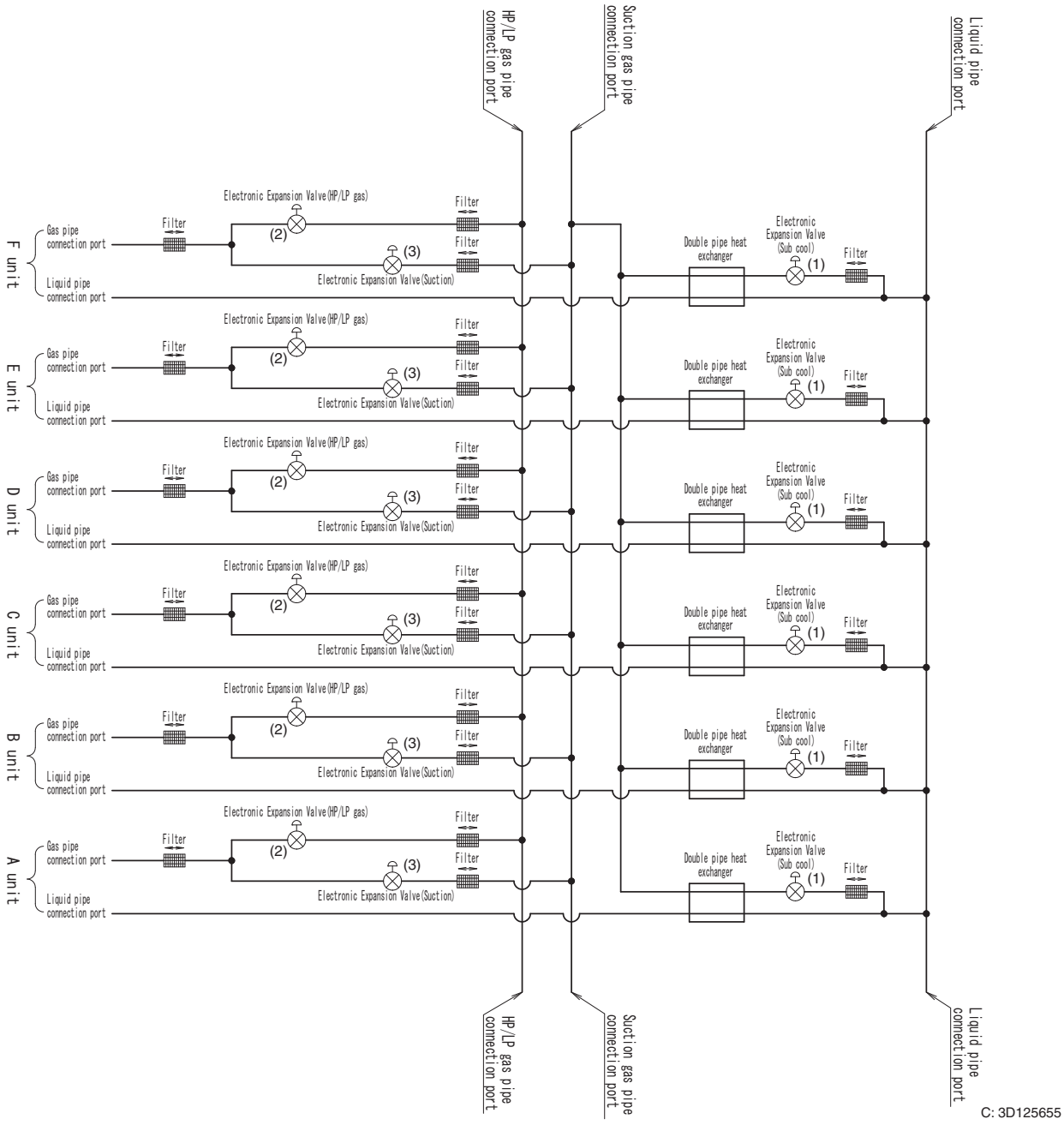
C: 3D133294

1.2.3 Multi Branch Selector Unit (Flex Series)

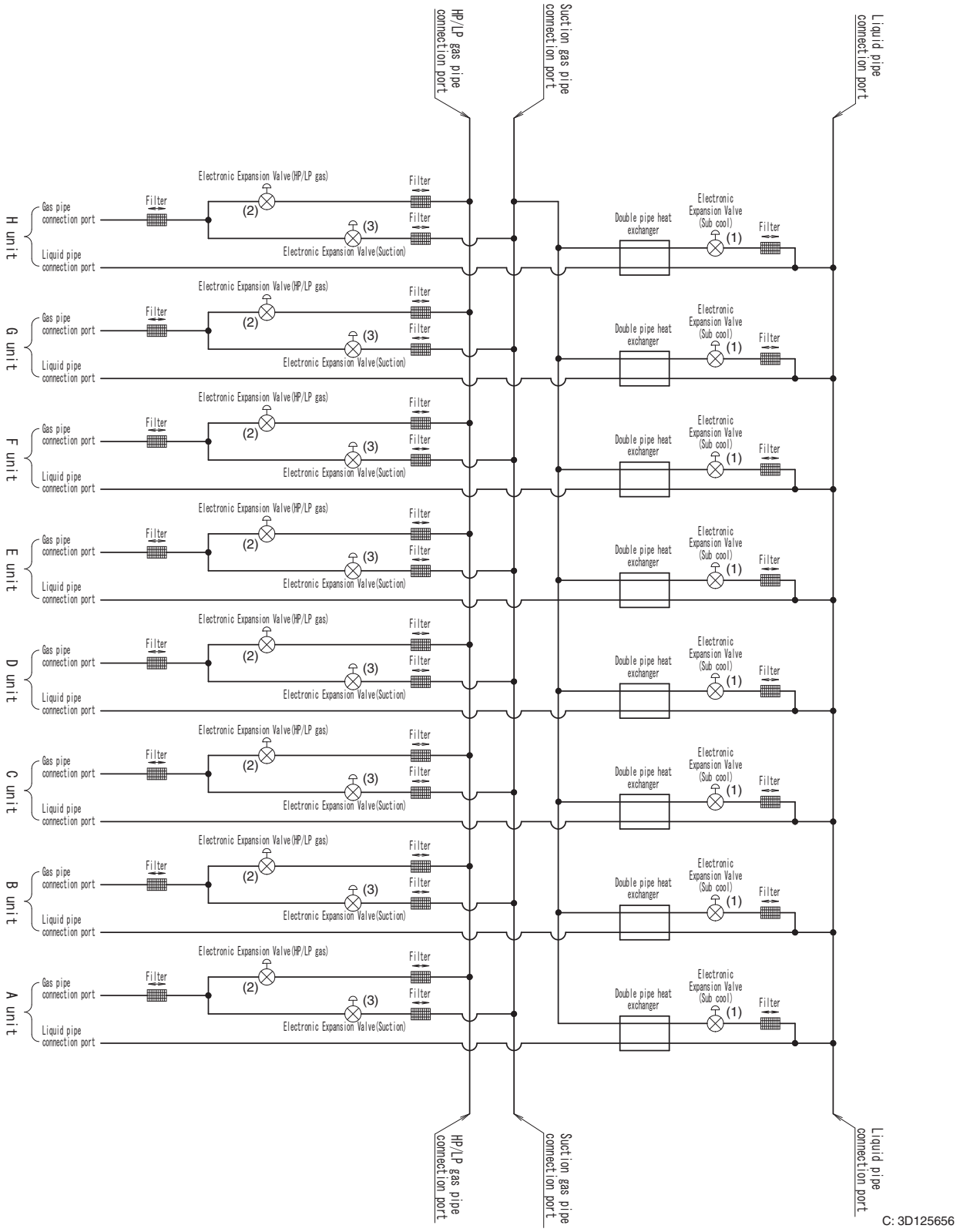
BSF4Q54TVJ



BSF6Q54TVJ


HP/LP gas pipe connection port
Suction gas pipe connection port
Liquid pipe connection port
F unit
E unit
D unit
C unit
B unit
A unit
Gas pipe connection port
Liquid pipe connection port
Filter
Electronic Expansion Valve(HP/LP gas)
(2)
(3)
Electronic Expansion Valve(Suction)
Double pipe heat exchanger
Electronic Expansion Valve (Sub cool)
(1)
C: 3D125655

BSF8Q54TVJ

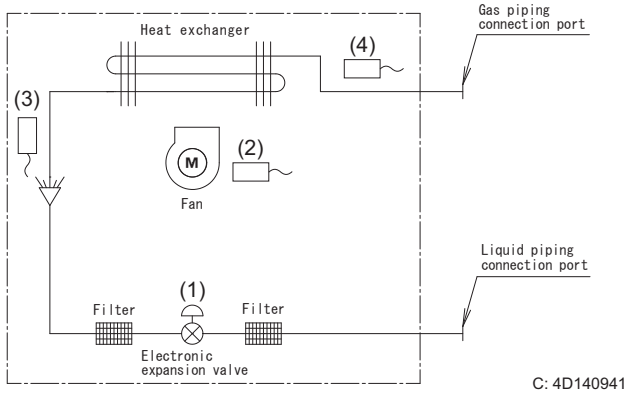

HP/LP gas pipe connection port
Suction gas pipe connection port
Liquid pipe connection port
H unit
G unit
F unit
E unit
D unit
C unit
B unit
A unit
Gas pipe connection port
Liquid pipe connection port
Filter
Electronic Expansion Valve(HP/LP gas)
(2)
(3)
Electronic Expansion Valve(Suction)
Double pipe heat exchanger
Electronic Expansion Valve (Sub cool)
(1)
C: 3D125656

1.3 Indoor Unit

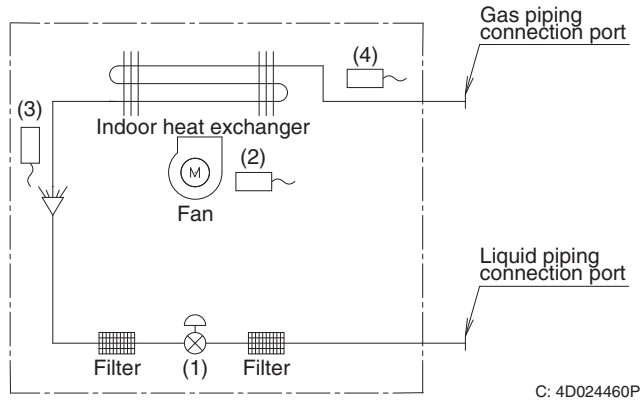
No. in piping diagram	Name	Symbol			Function
		Except FXMQ-PB FXTQ-TA FXTQ-TB	FXMQ-PB	FXTQ-TA FXTQ-TB	
(1)	Electronic expansion valve	Y1E	Y1E	Y1E	Used for gas superheating degree control while in cooling or subcooling degree control while in heating.
(2)	Suction air thermistor	R1T	R1T	R1T (∗1)	Used for thermostat control.
(3)	Liquid pipe thermistor	R2T	R2T	R2T	Used for gas superheating degree control while in cooling or subcooling degree control while in heating.
(4)	Gas pipe thermistor	R3T	R3T	R3T	Used for gas superheating degree control while in cooling.
(5)	Discharge air thermistor	—	R4T	—	Used for discharge air temperature control.

∗1. R1T is for remote controller thermistor or optional remote sensor.

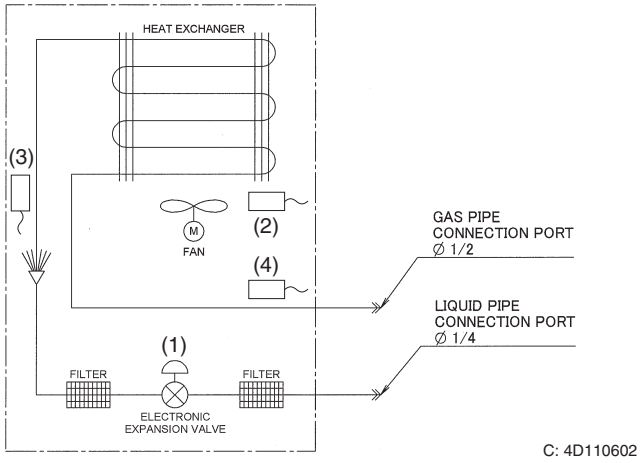
■ **FXFQ-AA**



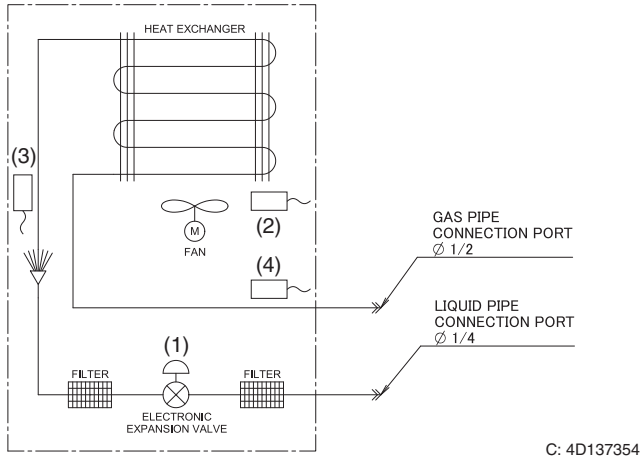
■ **FXFQ-T, FXFQ-P, FXHQ-M**



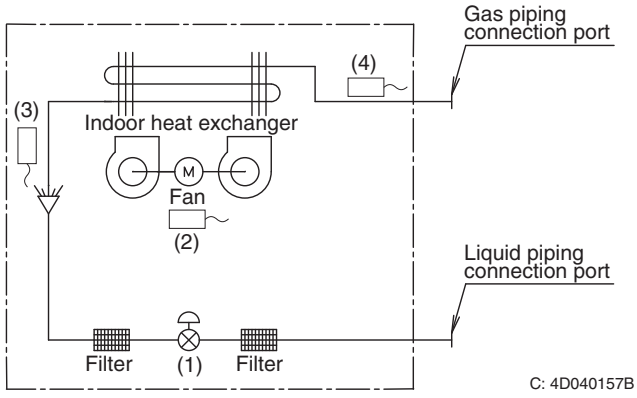
■ **FXZQ-TA**



■ **FXZQ-TB**

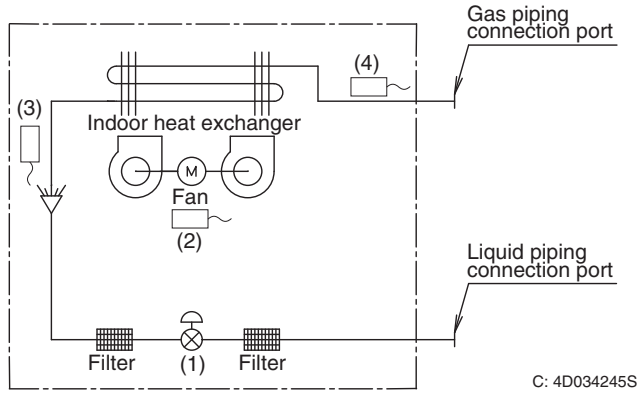


■ **FXZQ-M**



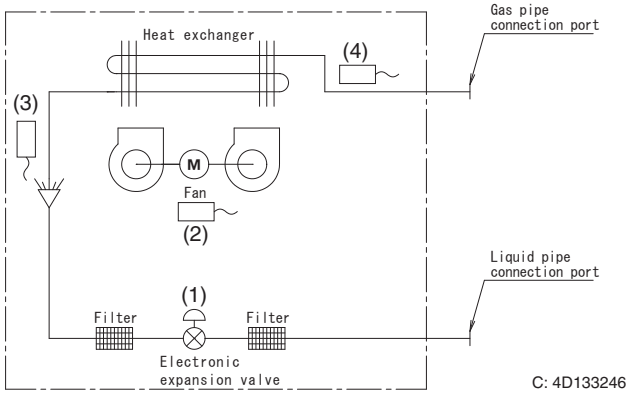
C: 4D040157B

■ **FXUQ-P, FXEQ-P, FXSQ-TA, FXMQ-M, FXAQ-P, FXLQ-M, FXNQ-M**



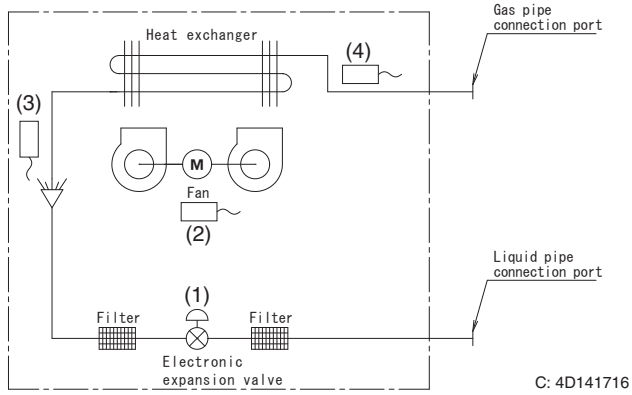
C: 4D034245S

■ **FXUQ-PA**



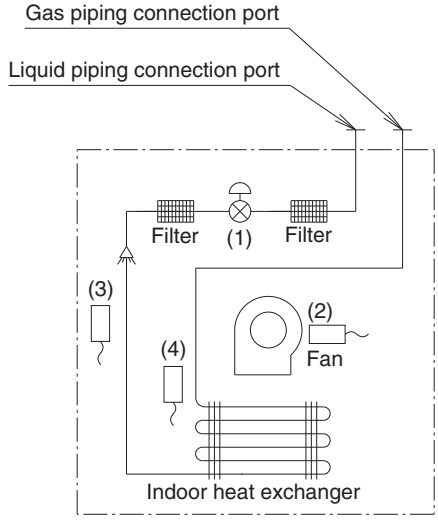
C: 4D133246

■ **FXSQ-TB, FXMQ-TB**



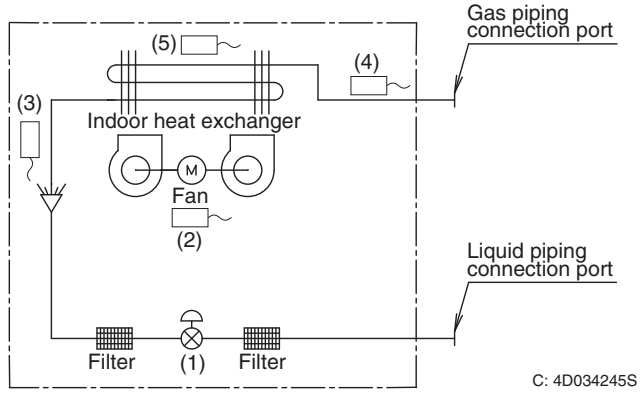
C: 4D141716

■ **FXDQ-M**



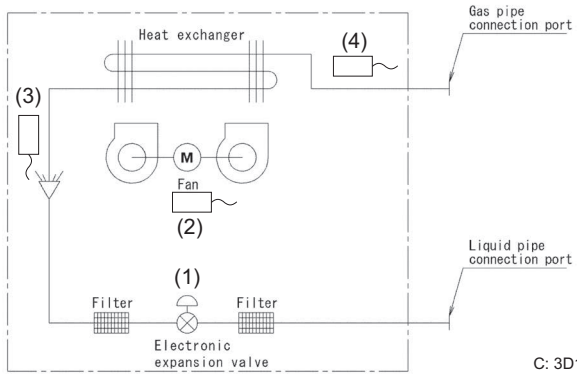
C: 4D043864N

■ **FXMQ-PB**



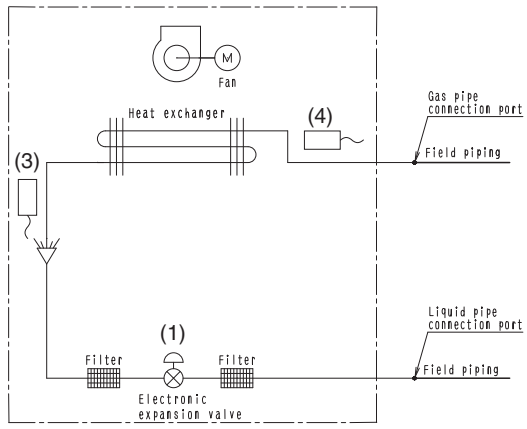
C: 4D034245S

■ **FXMQ-TA**



C: 3D117738B

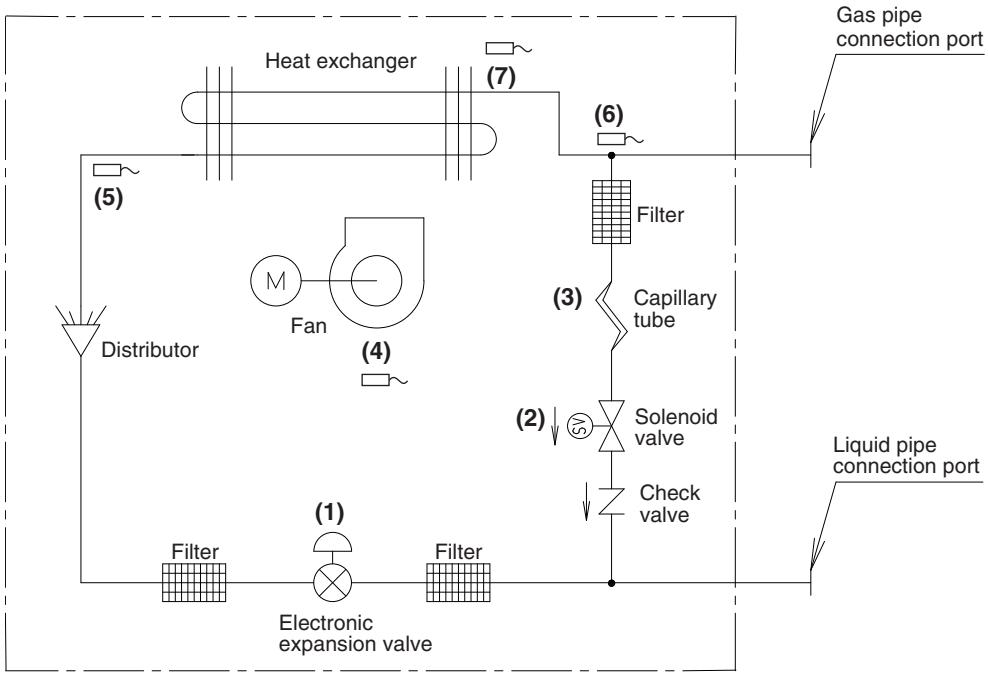
■ **FXTQ-TA, FXTQ-TB**



C: 4D068194

1.4 Outdoor-Air Processing Unit

FXMQ48/72/96MFVJU*



C: 4D018650D

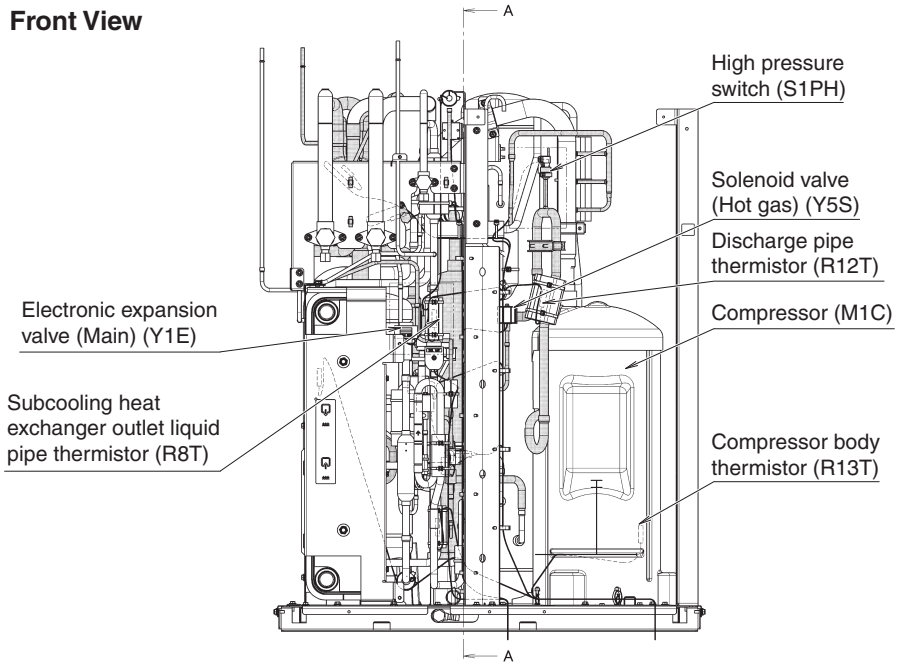
No. in piping diagram	Electric symbol	Name	Function
(1)	Y1E	Electronic expansion valve	Used to control the flow rate of refrigerant, and make the SH control (∗1) while in cooling.
(2)	Y1S	Solenoid valve	Used to bypass hot gas while in heating with thermostat OFF. Closed while in cooling.
(3)	—	Capillary tube	Used to reduce pressure from high to low in bypassing hot gas.
(4)	R1T	Suction air thermistor	Used to turn ON or OFF the thermostat.
(5)	R2T	Liquid pipe thermistor	Used to control the opening degree of electronic expansion valve under the SC control (∗2).
(6)	R3T	Gas pipe thermistor	Used to control the opening degree of electronic expansion valve under the SH control.
(7)	R4T	Discharge air thermistor	Used to control the electronic expansion valve opening and thermostat ON/OFF so as to keep the discharge air temperature at the set temperature.

Note(s)

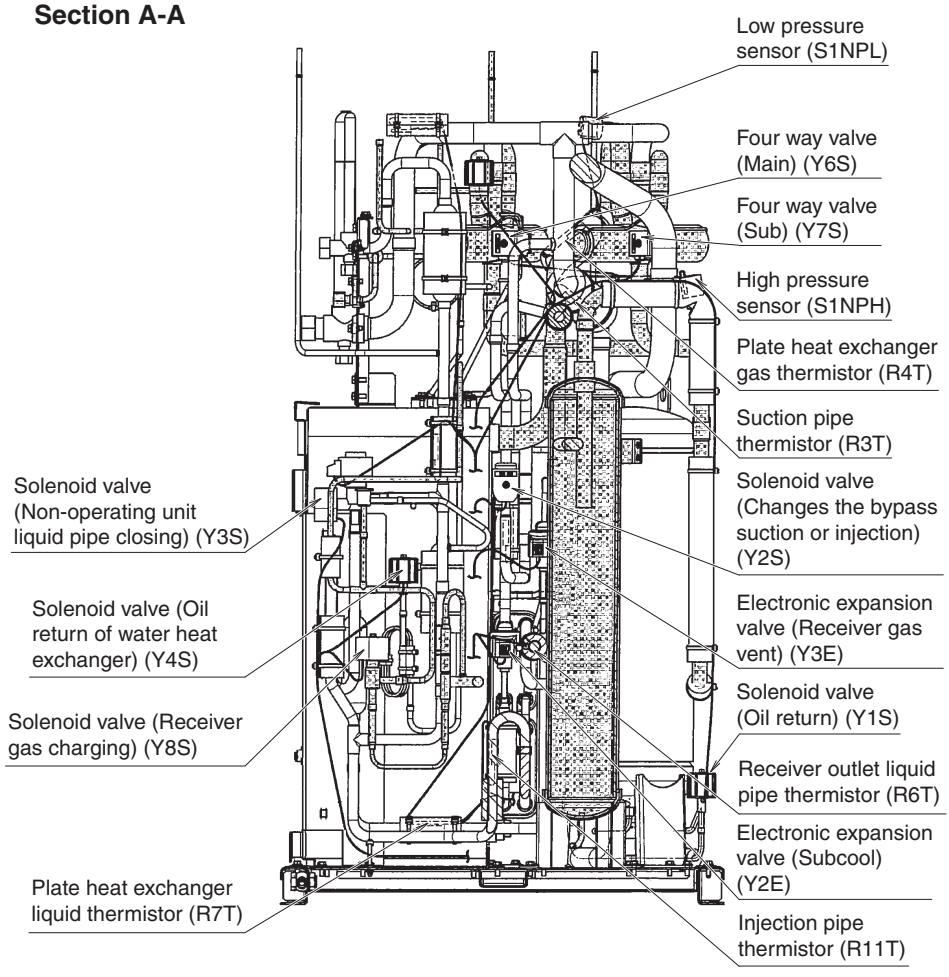
∗1. SH control: Superheating control of heat exchanger outlet
∗2. SC control: Subcooling control of heat exchanger outlet

2. Functional Parts Layout

Front View

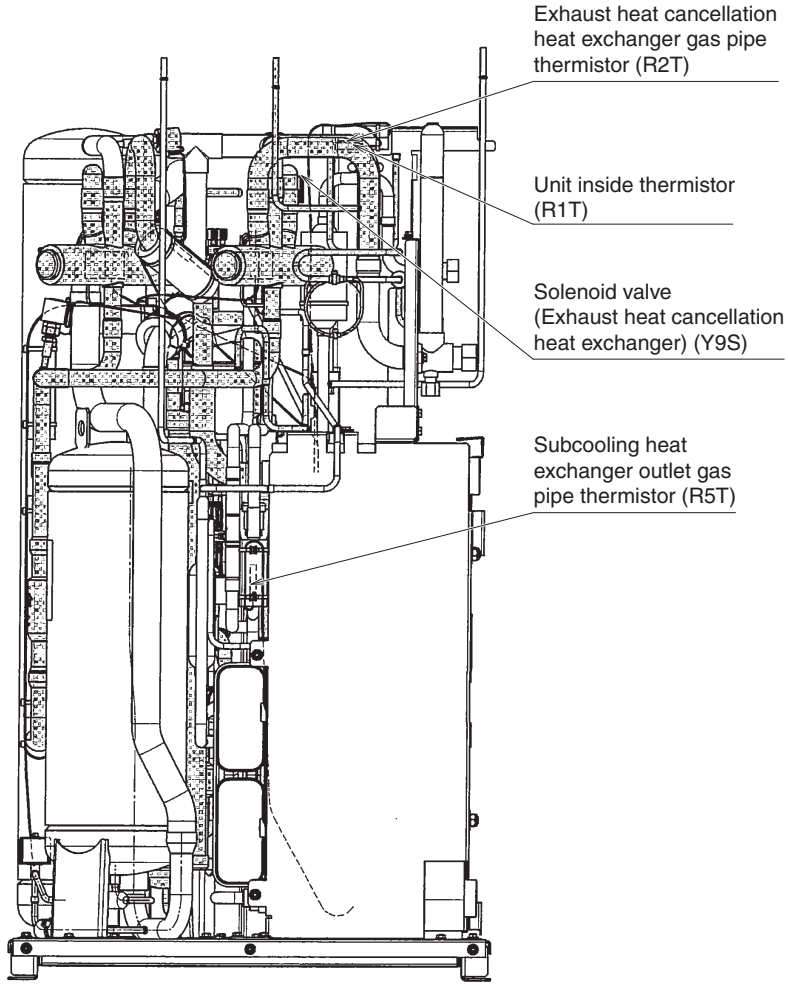


Section A-A



C: 0P452200N

Right View

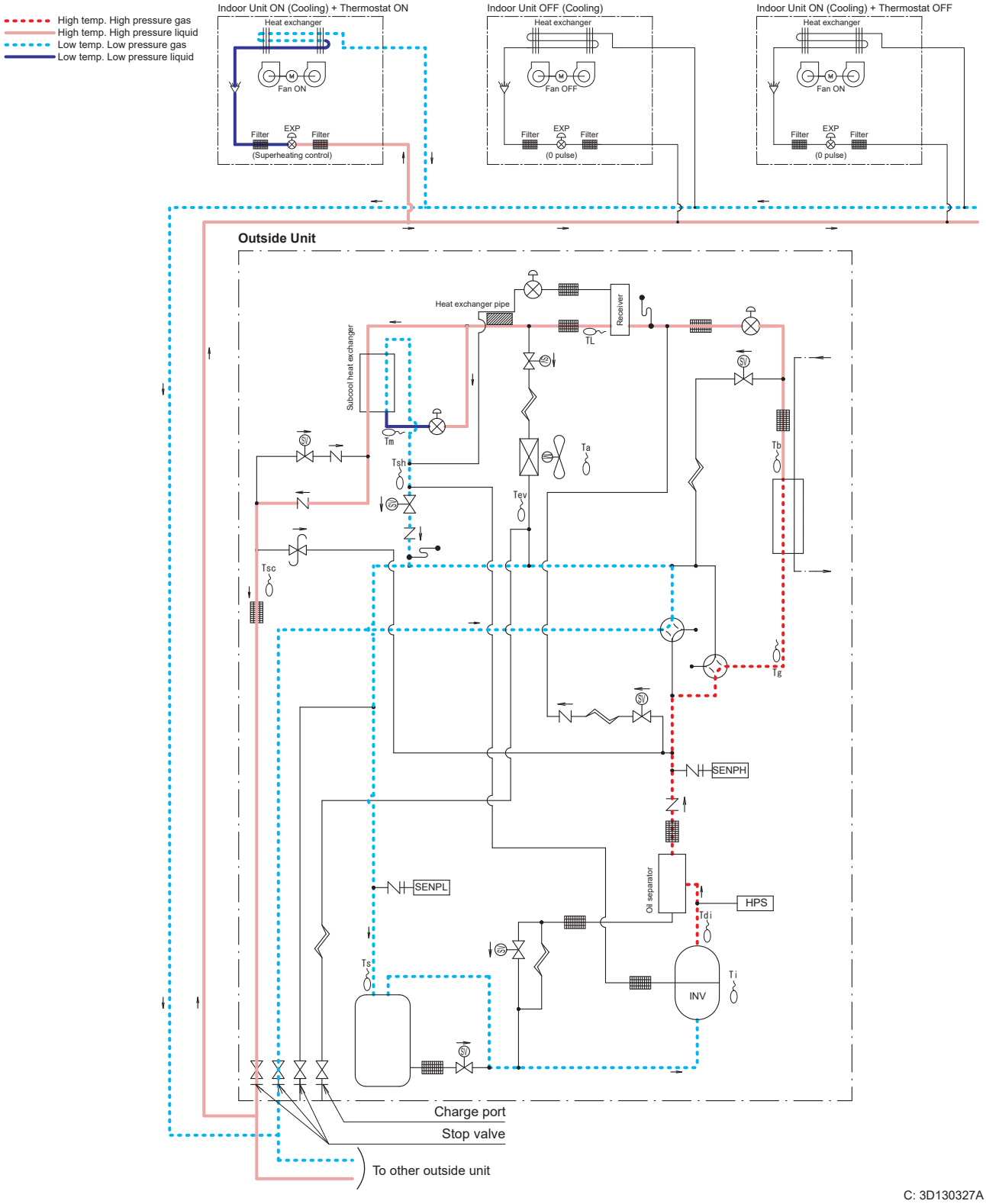


C: 0P452200N

3. Refrigerant Flow for Each Operation Mode

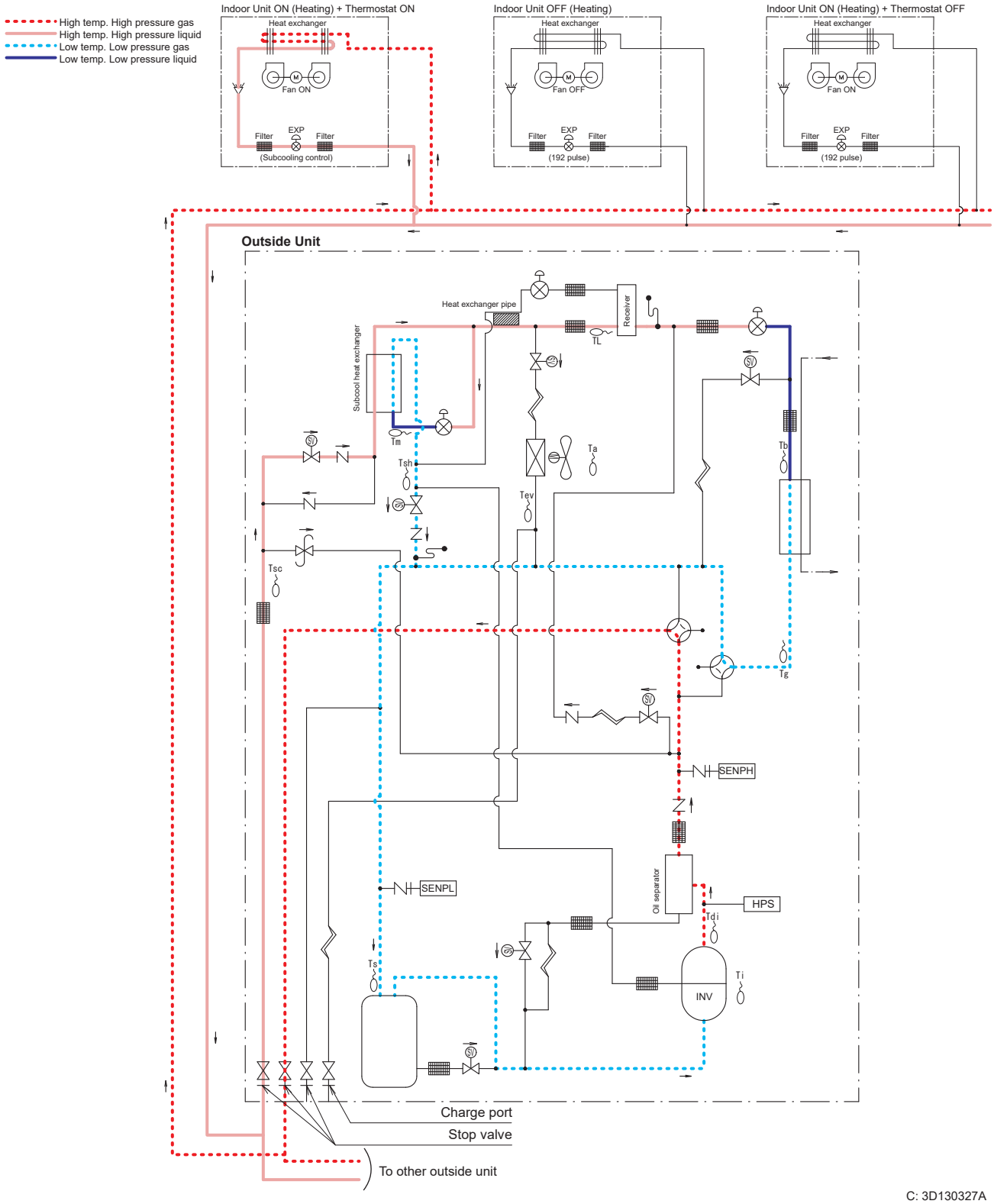
3.1 In Case of Heat Pump Connection

A. Cooling Operation



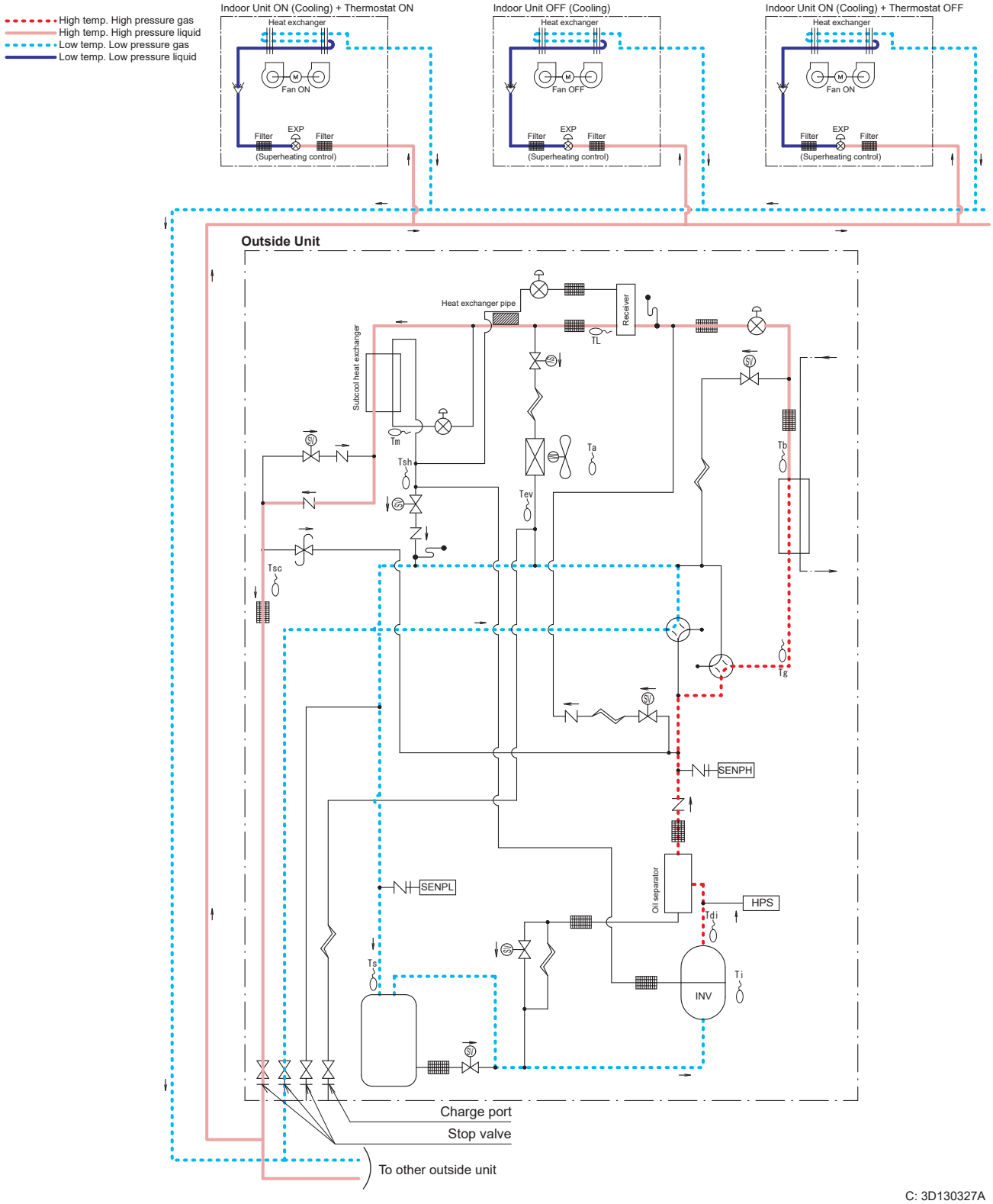
C: 3D130327A

B. Heating Operation



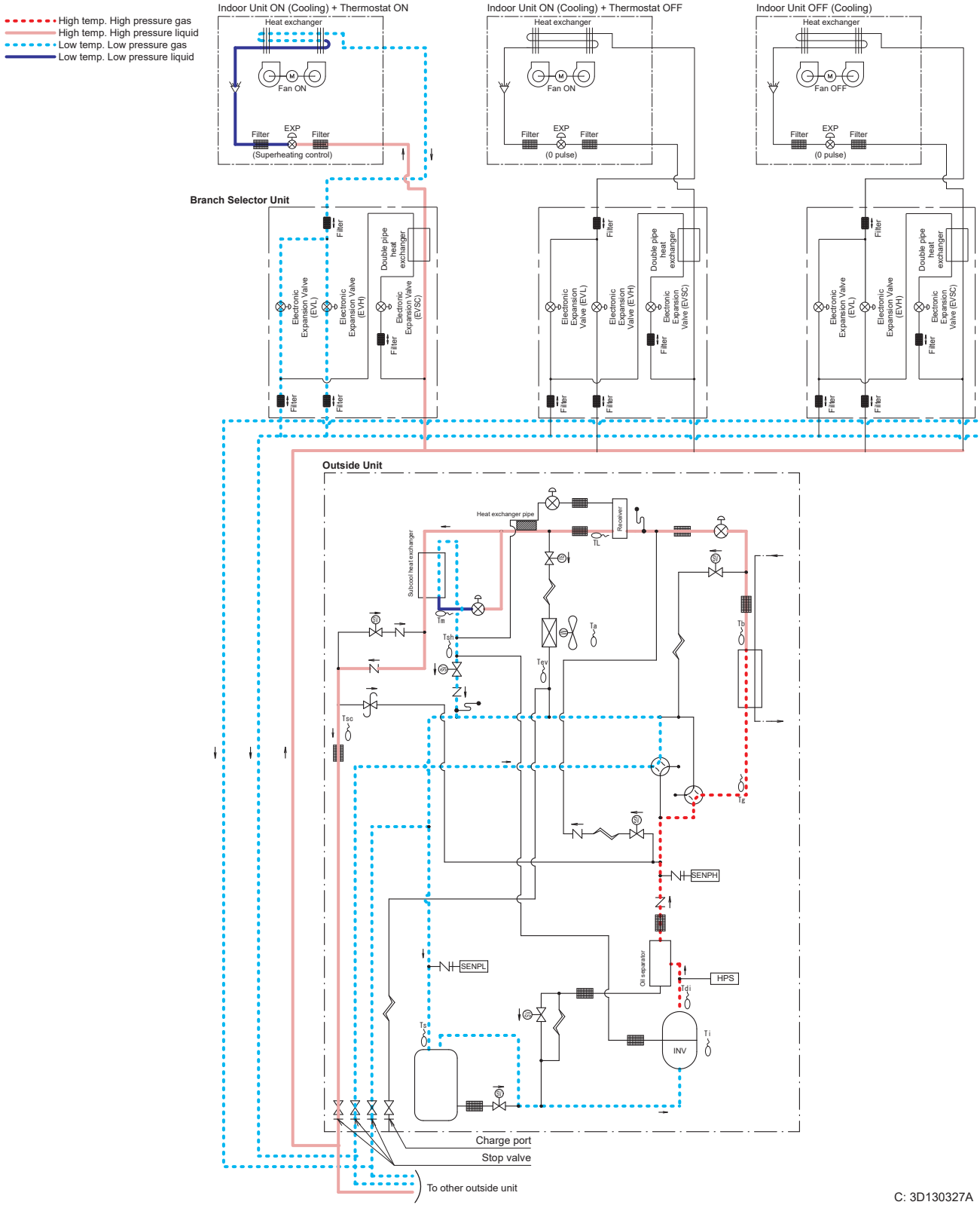
C: 3D130327A

C. Oil Return Operation

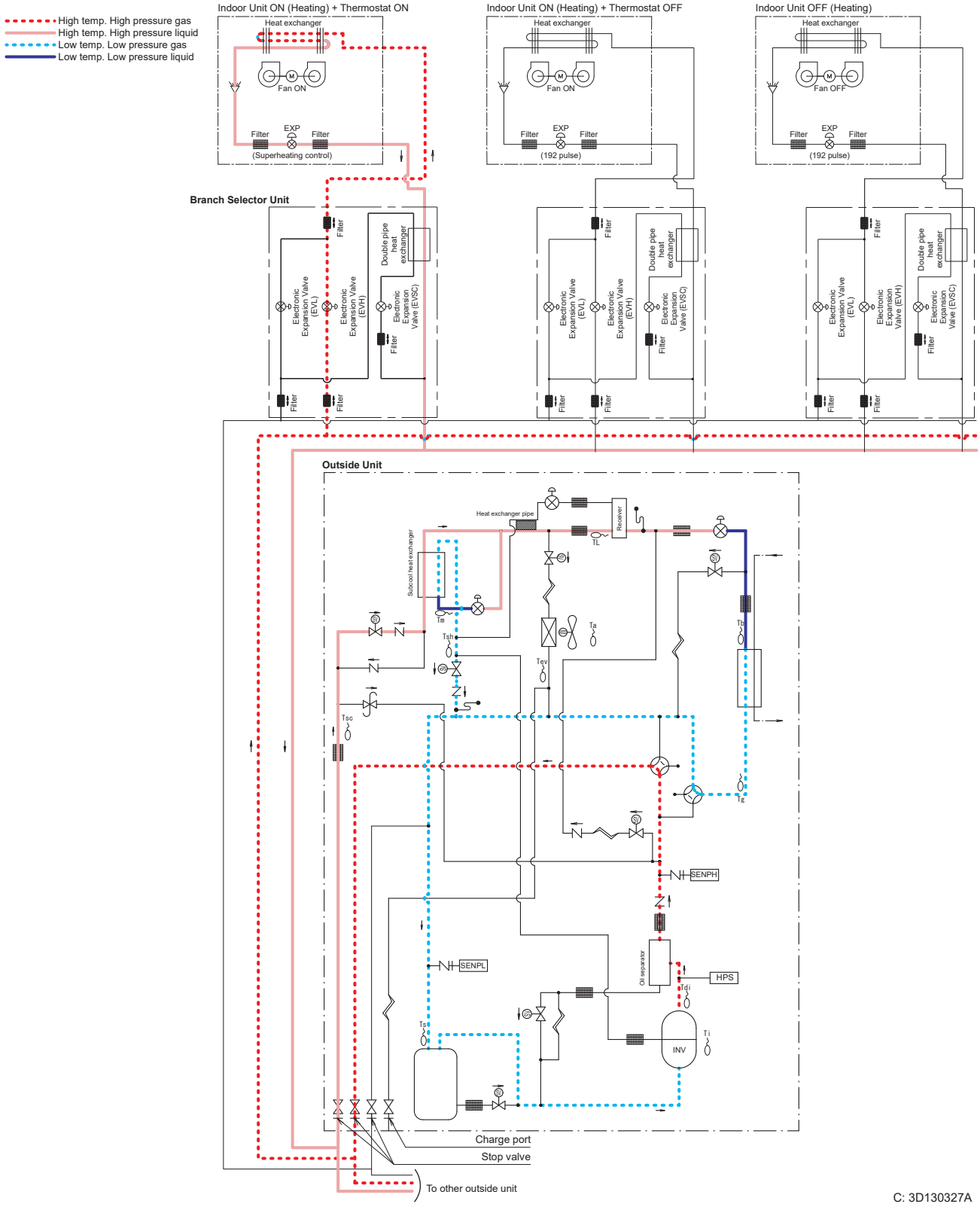


3.2 In Case of Heat Recovery Connection (Single Outside Unit Installation)

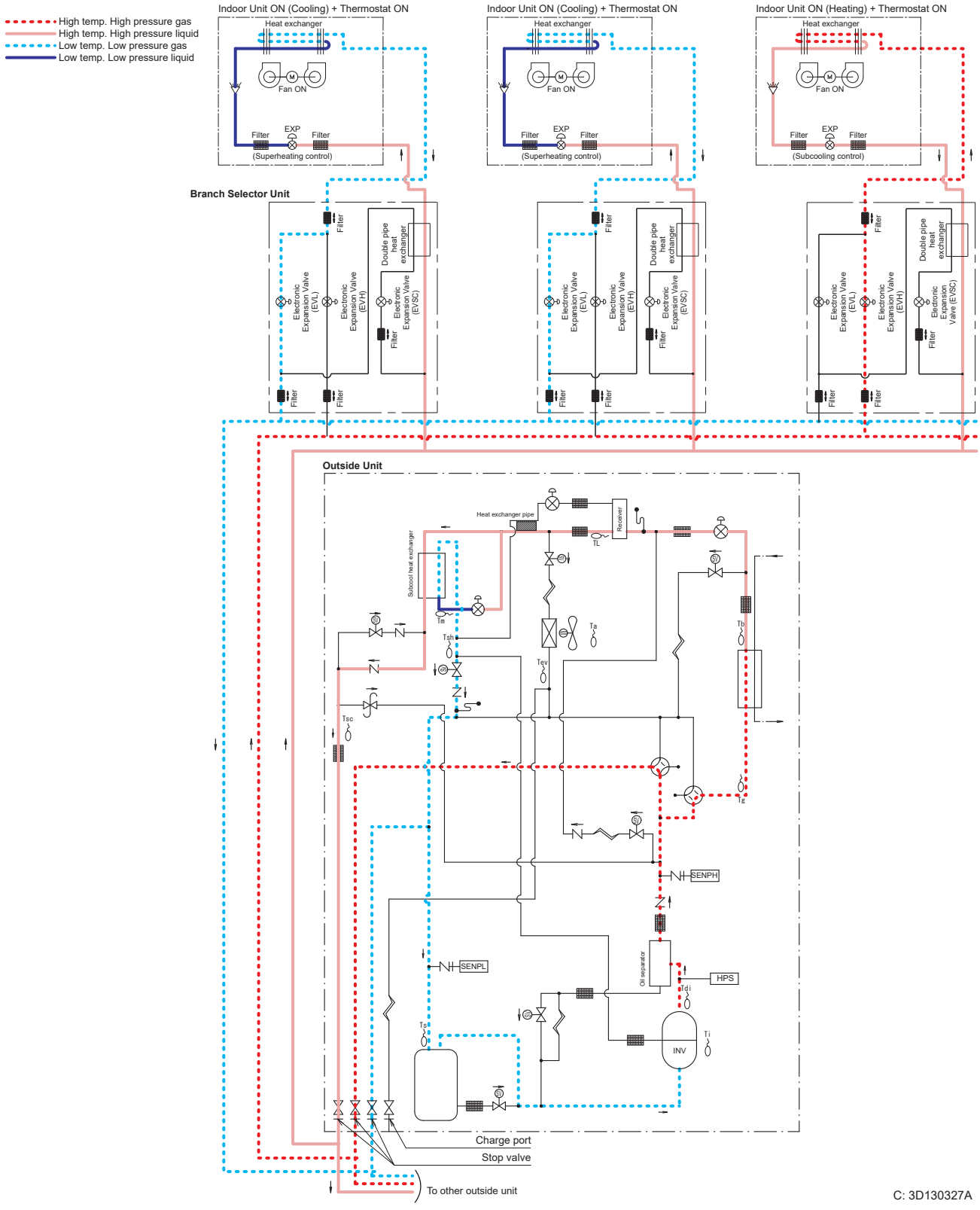
A. Cooling Operation



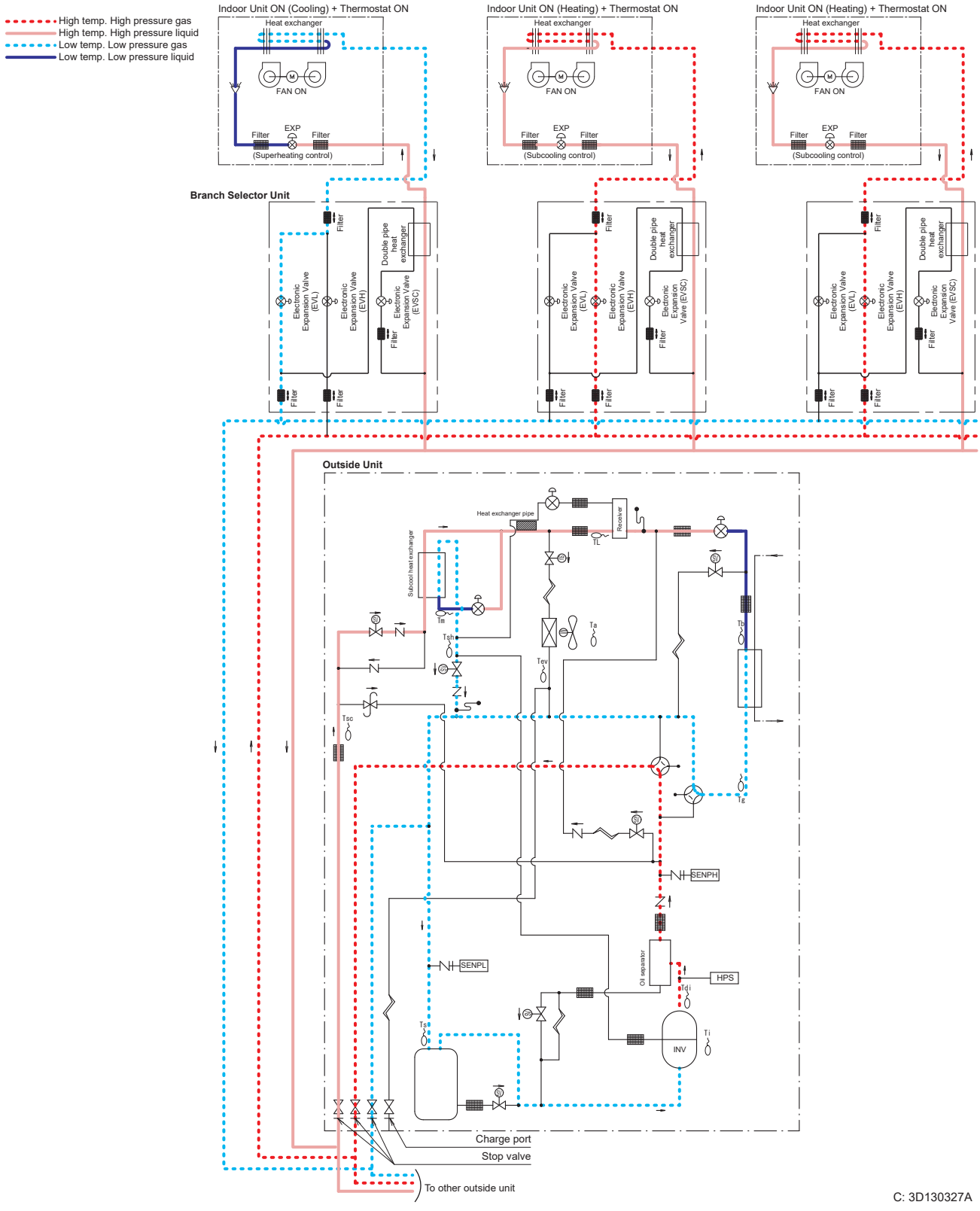
B. Heating Operation



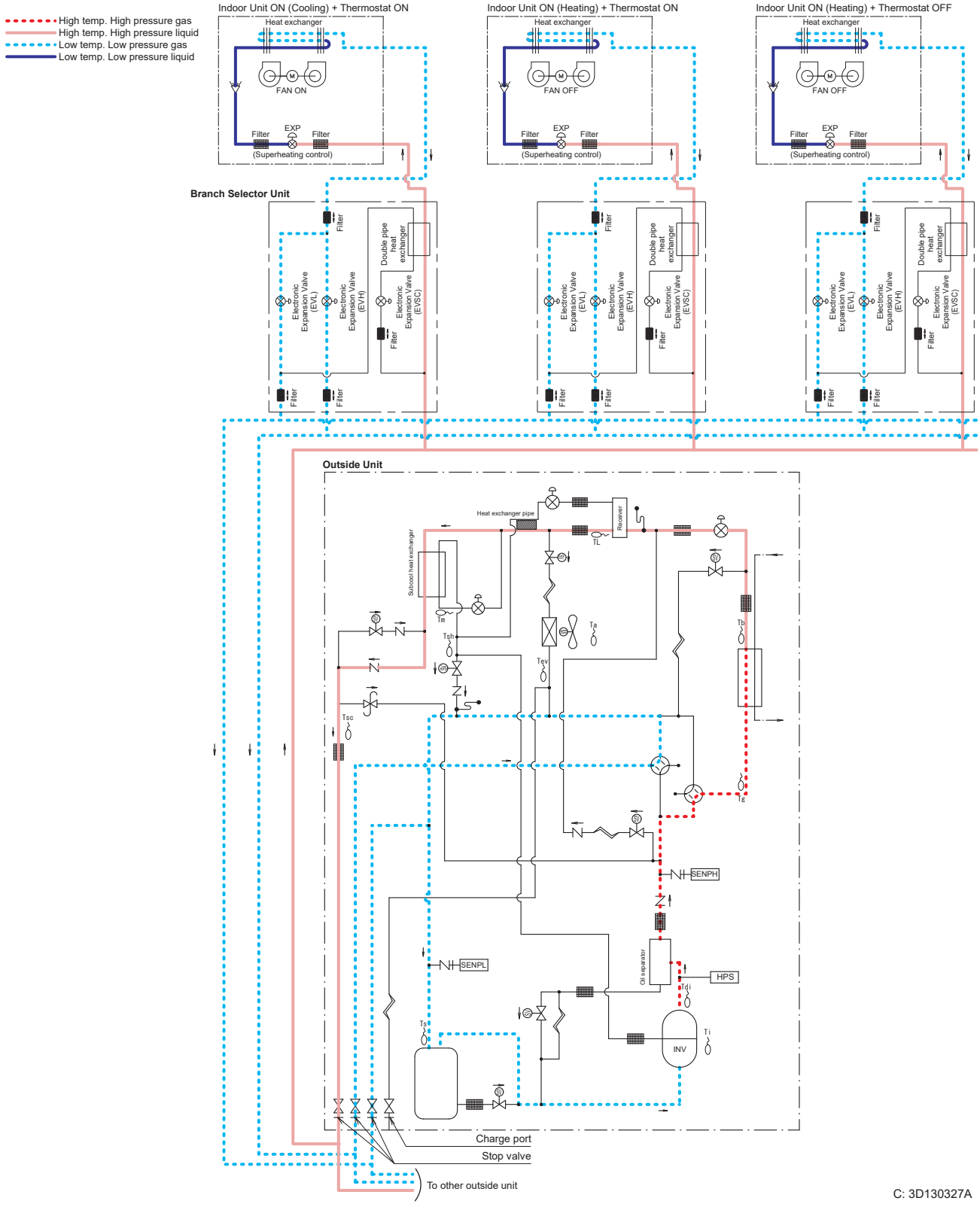
C. Heating and Simultaneous Cooling/Heating Operation (When the outside water cooled heat exchanger is used as condenser.)



D. Heating and Simultaneous Cooling/Heating Operation (When the outside water cooled heat exchanger is used as evaporator.) (In case there are indoor units operating with cooling thermostat “ON”.)



E. Oil Return Operation at Simultaneous Cooling/Heating Operation



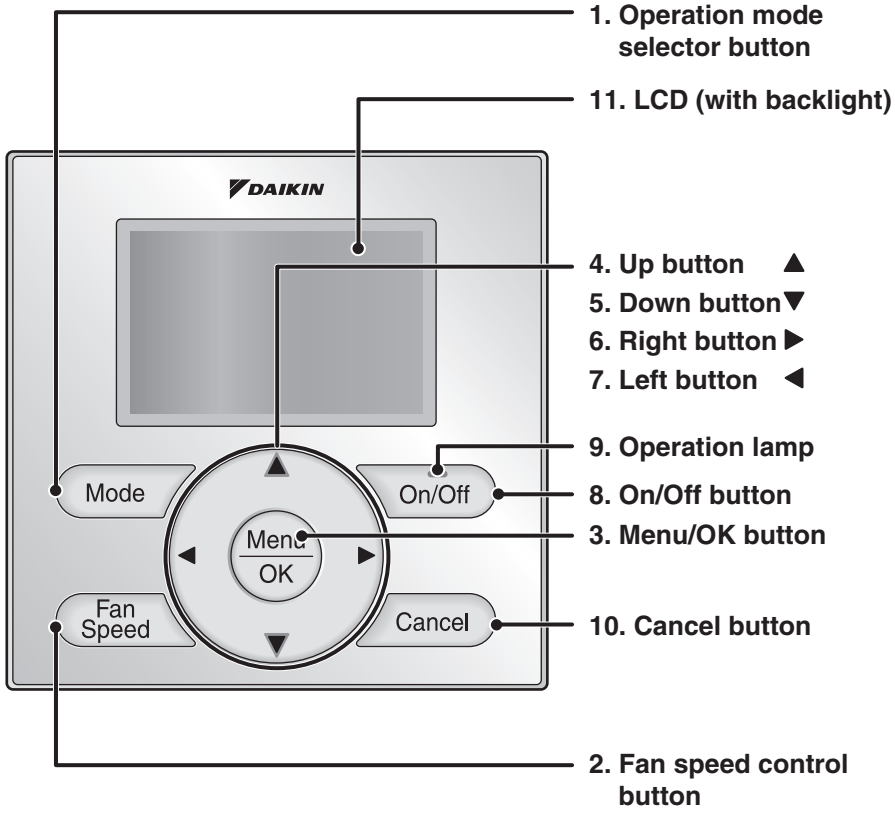
Part 3
Remote Controller

1. Applicable Models

<table>
<tr><th rowspan="2">Series</th><th colspan="2">Wired remote controller</th><th rowspan="2">Wireless remote controller</th></tr>
<tr><th>Navigation</th><th>Madoka</th></tr>
<tr><td>FXFQ-AA</td><td rowspan="16">BRC1E73</td><td rowspan="25">BRC1H71W</td><td rowspan="3">—</td></tr>
<tr><td>FXFQ-T</td></tr>
<tr><td>FXFQ-P</td></tr>
<tr><td>FXZQ-TA</td><td>BRC082A42W (for BYFQ60C3W1W)
BRC082A42S (for BYFQ60C3W1S)
BRC082A41W (for BYFQ60B3W1)</td></tr>
<tr><td>FXZQ-TB</td><td>BRC082A42W (for BYFQ60C3W2W)
BRC082A41W (for BYFQ60B3W1)</td></tr>
<tr><td>FXZQ-M</td><td>BRC7E830</td></tr>
<tr><td>FXUQ-P</td><td rowspan="4">—</td></tr>
<tr><td>FXUQ-PA</td></tr>
<tr><td>FXEQ-P</td></tr>
<tr><td>FXDQ-M</td><td>BRC4C82</td></tr>
<tr><td>FXSQ-TA</td><td rowspan="2">BRC082A43</td></tr>
<tr><td>FXSQ-TB</td></tr>
<tr><td>FXMQ-PB</td><td>BRC4C82 (Fan: 2 steps)
BRC082A43 (Fan: 3 steps)</td></tr>
<tr><td>FXMQ-TB</td><td rowspan="2">BRC082A43</td></tr>
<tr><td>FXMQ-TA</td><td>—</td></tr>
<tr><td>FXMQ-M</td><td rowspan="9">BRC1E73</td><td>BRC4C82</td></tr>
<tr><td>FXHQ-M</td><td>BRC7E83</td></tr>
<tr><td>FXAQ-P</td><td>BRC7E818</td></tr>
<tr><td>FXLQ-M</td><td rowspan="2">—</td></tr>
<tr><td>FXNQ-M</td></tr>
<tr><td>FXTQ-TA</td><td rowspan="3">BRC4C82</td></tr>
<tr><td>FXTQ-TB</td></tr>
<tr><td>FXMQ-MF</td></tr>
<tr><td>VAM-G</td><td>—</td></tr>
</table>

2. Names and Functions

2.1 BRC1E73



Functions other than basic operation items (i.e., On/Off, Operation Mode, Fan Speed, and Setpoint) are set from the menu screen.

Note(s)

- Do not install the remote controller in places exposed to direct sunlight, the LCD will be damaged.
- Do not pull or twist the remote controller cord, the remote controller may be damaged.
- Do not use objects with sharp ends to press the buttons on the remote controller damage may result.

1. Operation mode selector button

- Press this button to select the operation mode of your preference.

∗ Available modes vary with the indoor unit model.

2. Fan speed control button

- Press this button to select the fan speed of your preference.

∗ Available fan speeds vary with the indoor unit model.

3. Menu/OK button

- Used to enter the main menu.
- Used to enter the selected item.

4. Up button ▲
- Used to raise the setpoint.
- The item above the current selection will be highlighted. (The highlighted items will be scrolled continuously when the button is continuously pressed.)
- Used to change the selected item.

5. Down button ▼
- Used to lower the setpoint.
- The item below the current selection will be highlighted. (The highlighted items will be scrolled continuously when the button is continuously pressed.)
- Used to change the selected item.

6. Right button ▶
- Used to highlight the next items on the right-hand side.
- Each screen is scrolled in the right-hand direction.

7. Left button ◀
- Used to highlight the next items on the left-hand side.
- Each screen is scrolled in the left-hand direction.

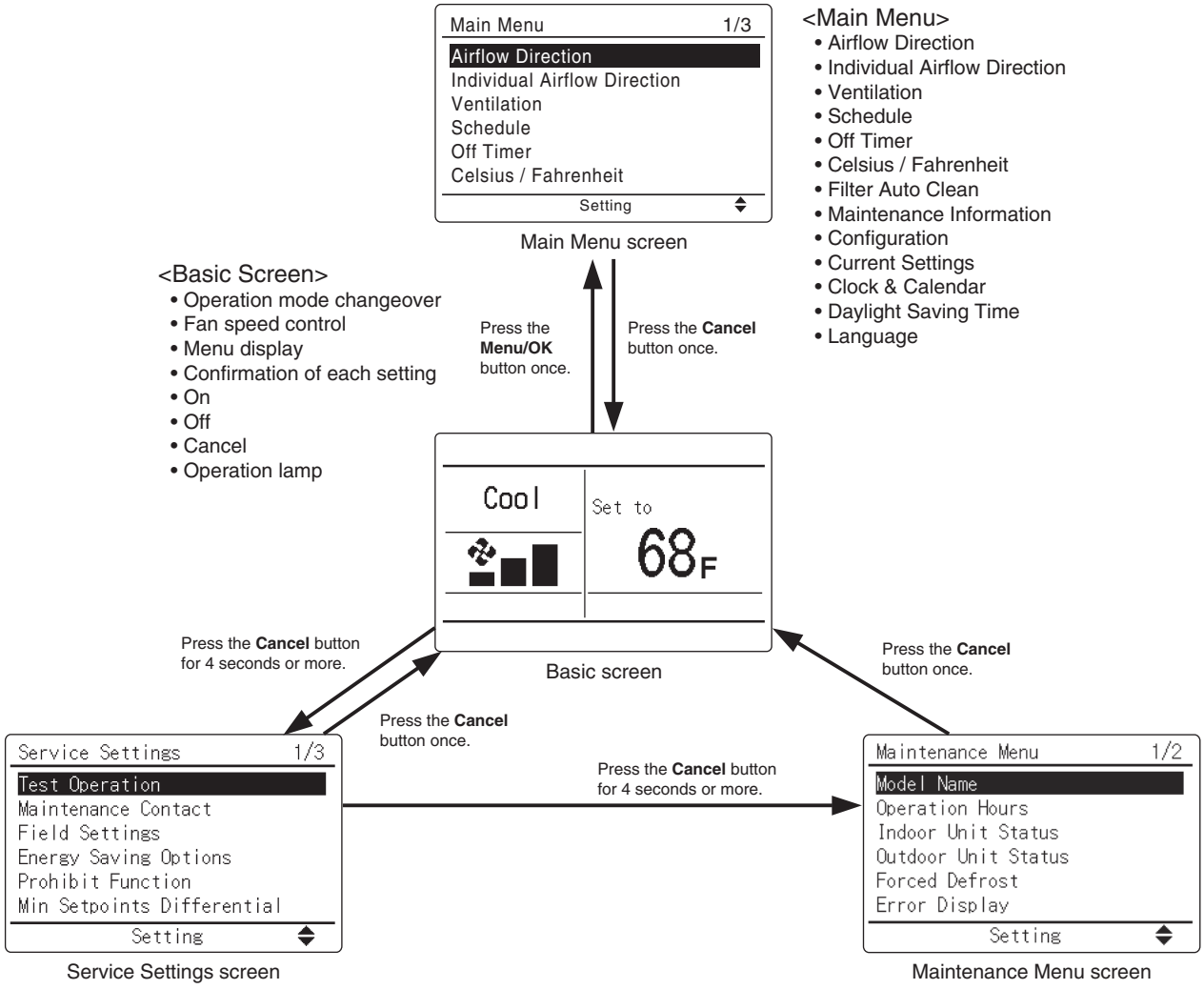
8. On/Off button
- Press this button and system will start.
- Press this button again to stop the system.

9. Operation lamp
- This lamp illuminates solid green during normal operation.
- This lamp blinks if an error occurs.

10. Cancel button
- Used to return to the previous screen.

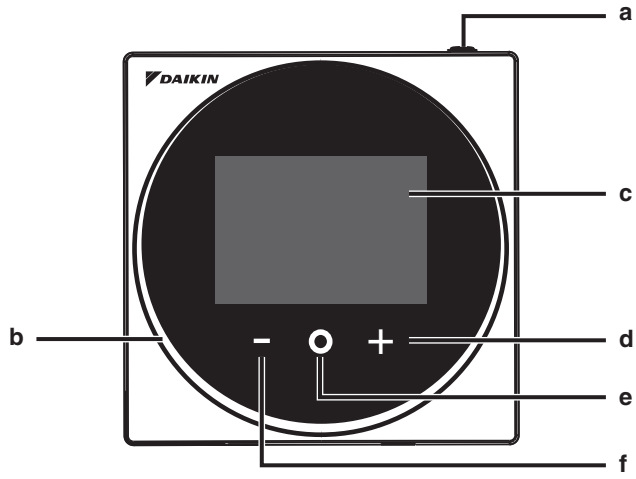
11. LCD (with backlight)
- The backlight will be illuminated for approximately 30 seconds by pressing any button.
- If two remote controllers are used to control a single indoor unit, only the controller accessed first will have backlight functionality.

Service Check Function



2.2 BRC1H71W

2.2.1 Button Locations and Descriptions



a ⏻ ON/OFF button
- Press this button to turn on the system.
- Press this button again to turn off the system.

b Status indicator (LED)
- During operation, the light ring around the display lights up blue/red/green.
  Lights up blue: Operating, Blinks red: Error is occurring, Lights up/blinks green: Bluetooth connecting

c LCD
- Displays the current setpoint and air conditioner operation status.

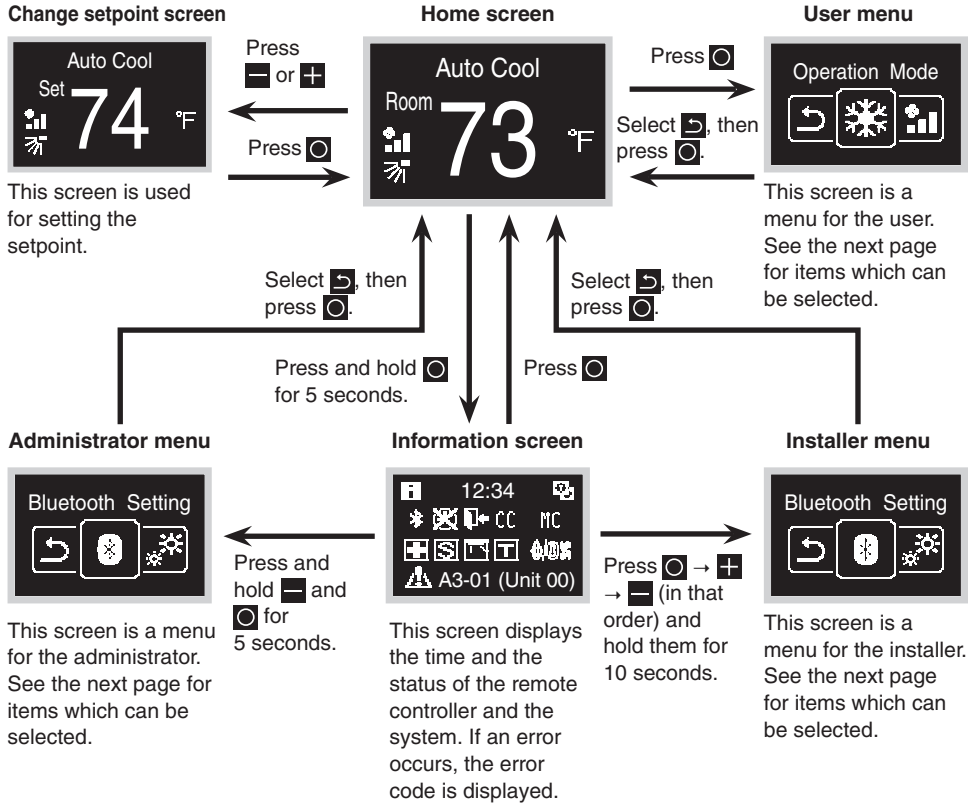
d + NAVIGATE/ADJUST button
- Navigate right.
- Adjust a setting.

e ○ SELECT/ACTIVATE/SET button
- From the home screen, enter the user menu.
- From the user menu, enter one of the submenus.
- From their respective submenu, activate an operation/ventilation mode.

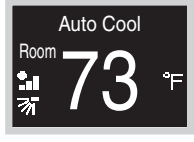
f − NAVIGATE/ADJUST button
- Navigate left.
- Adjust the setting.

2.2.2 Overview of Screens

The following is just an example. The items available for setting vary depending on the indoor unit you are using. If there is no button operation for about 10 seconds, the screen returns to the home screen.



There are 2 screen display modes, text mode and icon mode.
Change the mode according to your preference.
* All of the above explanations are shown with screens from text mode.



Text mode

Icon mode

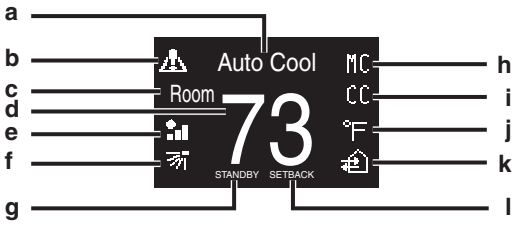
2.2.3 Setting Screen List

Setting list			User menu	Administrator menu	Installer menu
Icon	Name	Description			
Depends on current setting	Operation Mode	Operation mode setting	●		
Depends on current setting	Fan Speed	Airflow rate setting	●		
Depends on current setting	Airflow Direction	Airflow direction 1 setting	●		
Depends on current setting	Vertical Airflow	Airflow direction 2 setting	●		
Depends on current setting	Ventilation Mode	Ventilation mode setting	●		
Depends on current setting	Ventilation Rate	Ventilation rate setting	●		
	Adjust LED (ON)	LED brightness adjustment when backlight lights up	●		
	Adjust LED (OFF)	LED brightness adjustment when backlight lights up dimly	●		
	Celsius/Fahrenheit	Fahrenheit/Celsius changeover	●		
	Setpoint	Setpoint setting when in auto operation mode	●		
	Sign Reset	Filter sign reset	●		

Setting list			User menu	Administrator menu	Installer menu
Icon	Name	Description			
	Bluetooth Setting	Bluetooth setting		●	●
	Backlight	Backlight brightness setting		●	●
	Contrast	Contrast setting		●	●
	Clock Setting	Clock setting		●	●
	Standard Temp	Scale reference temperature setting		●	●
	About	Administrator information		●	●
	Admin Password	Administrator password setting		●	
	Installer Password	Installer password setting			●
	Field Setting	Field Setting			●
	R/C Setting	R/C Setting			●
	Address Setting	Address Setting			●
	Forced Fan ON	Forced Fan ON Setting			●
	Rel Master Control	Release changeover master			●

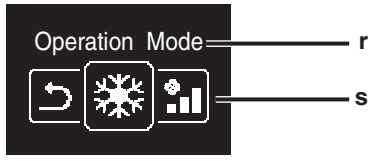
2.2.4 Names and Functions

Home screen

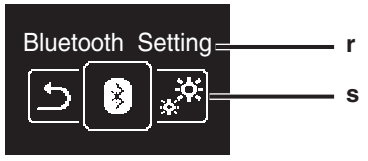


Information screen

User menu/Administrator menu/Installer menu



User menu



Administrator menu/Installer menu

Screen display explanation

a Operation mode/OFF display
- Displays the operation status.

b Error/Filter/Test icon
- Error, filter and test icons are displayed.

c Room/Set
- Indicates whether it's a room temperature display (Room) or setpoint display (Set).

d Room temperature/Set temperature
- Displays the current room or setpoint temperature.

e Fan speed
- Displays the set fan speed.

f Airflow direction
- Displays the set airflow direction.

g STANDBY
- Displays during defrost/hot start.

h Changeover controlled by the master indoor unit
- Displayed when another indoor unit on the system has the authority to change the operation mode between cool and heat.

i Under centralized control
- Displayed if the system is under the management of a multi-zone controller (Optional) and the operation of the system through the remote controller is limited.

j Fahrenheit/Celsius
- Depending on the setting, Fahrenheit/ Celsius display can be selected.

k Ventilation operation/Air Purify
- Displayed when a Heat Reclaim Ventilator is connected.

l Setback
- Blinks during setback operation.
- Displayed during setback setting.

m Information icon

n Clock (24 hours time display)

o MAIN/SUB remote controller sign

p Status
- Notifies the status.

q Error display
- If an error occurs, the icon, an error code and unit number are displayed.

r Settings menu name

s Settings menu icon

INFORMATION

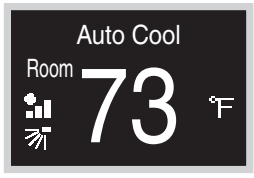
Depending on the connected model, some items may not be displayed.
The controller is equipped with a power-saving function that darkens the display if there is no operation for a certain period of time. To make the screen light up again, press one of the buttons.
Note that pressing one of the buttons will only make the display bright again, not cause remote controller operation.

* All screens shown are from text mode.

Home screen list

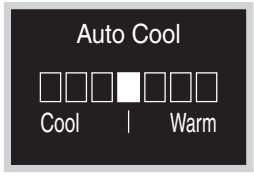
There are 4 types of home screen.
The home screen type can be changed by the remote controller setting.

Text mode

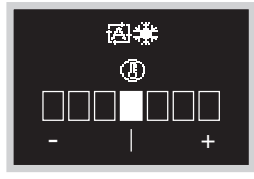


Icon mode

Text mode (Scale screen)



Icon mode (Scale screen)



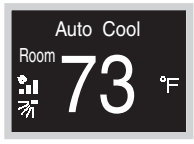
When in the scale screen, the setpoint can be changed in the range of ±3°C/°F of the reference temperature.
The reference temperature can be changed from the smartphone application or the remote controller (from the administrator menu).

2.2.5 Information Screen

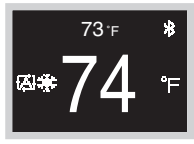
The functions of the connected indoor unit are displayed as icons.

How to display the information screen

Home screen



Text mode



Icon mode

Press and hold ◯ on the Home screen for 5 seconds.

Information screen

The screen switches to the Information screen.

How to exit the information screen

Information screen

Press ◯ or there is no button operation for about 10 seconds, the screen returns to the home screen.

About icons on the information screen

The items displayed vary depending on the indoor unit you are using.

Icon	Name	Description
	**Information**	Indicates an information screen.
	**MAIN/SUB remote controller**	Displayed when used as the MAIN/SUB remote controller. 1=main, 2=sub
	**Bluetooth***	Indicates that the controller is communicating with a mobile device, for use with the app.
	**Clock not set**	Indicates that the clock needs to be set again.
	**Setback**	Indicates that the indoor unit is operating under setback conditions.
	**Under centralized control**	Indicates that the system is controlled by central control equipment (optional accessory) and that control of the system by the controller is limited.
	**Changeover controlled by the master indoor unit**	**Displayed:** The remote controller does not have master control. Unable to select heating/cooling operation. **Blinking:** None of the remote controllers in the system have master control. Can be set as the master controller during this time. **Not Displayed:** The remote controller has master control. Able to select heating/cooling operation.
	**Backup**	Indicates that backup operation is being carried out.
	**Energy savings**	Indicates that the system's energy consumption is being limited, and that it is running with restricted capacity.
	**Individual airflow direction**	Indicates that the individual airflow direction setting is enabled.
	**Test operation**	Indicates that Test Operation mode is active.
	**Stand by for Defrost/ Hot start**	Indicates that the defrost/hot start mode is active.
	**Self-cleaning filter operation**	Indicates that self-cleaning filter operation is active.
	**Inspection**	Indicates that the indoor or outdoor unit is being inspected.
	**Periodic inspection**	Indicates that the indoor or outdoor unit is being inspected.
	**Ventilating operation**	Indicates that ventilating operation is being carried out.
	**Warning**	Indicates that an error occurred, or that an indoor unit component needs to be maintained.

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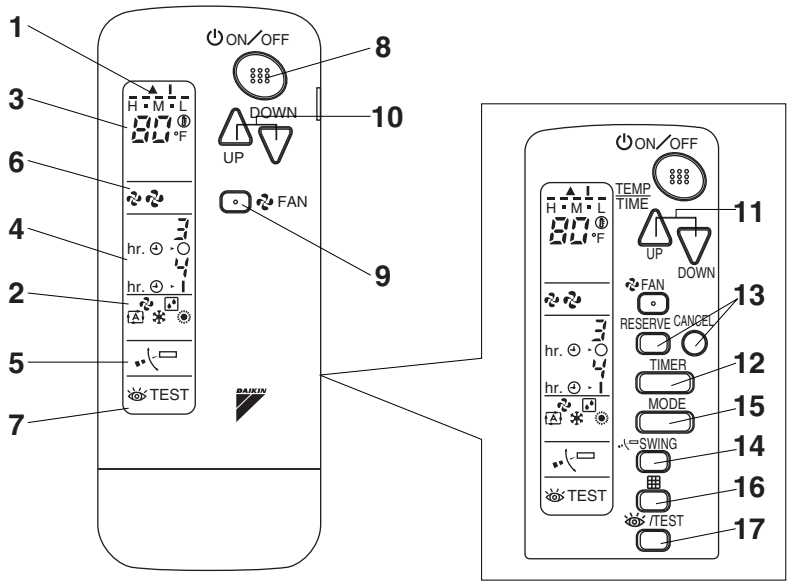
2.3 Wireless Remote Controller



1	**DISPLAY ▲ (SIGNAL TRANSMISSION)**
	This lights up when a signal is being transmitted.
2	**DISPLAY (OPERATION MODE)**
	This display shows the current OPERATION MODE.
3	**DISPLAY (SET TEMPERATURE)**
	This display shows the set temperature.
4	**DISPLAY (PROGRAMMED TIME)**
	This display shows programmed time of the system start or stop.
5	**DISPLAY (AIRFLOW FLAP)**
6	**DISPLAY (FAN SPEED)**
	The display shows the set fan speed.
7	**DISPLAY** TEST **(INSPECTION/ TEST)**
	When the **INSPECTION/TEST** 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**
13	**TIMER RESERVE/CANCEL BUTTON**
14	**AIRFLOW DIRECTION ADJUST BUTTON**
15	**OPERATION MODE SELECTOR BUTTON**
	Press this button to select operation mode.
16	**FILTER SIGN RESET BUTTON**
17	**INSPECTION/TEST BUTTON**
	This button is used only by qualified service persons for maintenance purposes.

3. Main/Sub Setting

3.1 BRC1E73

Situation

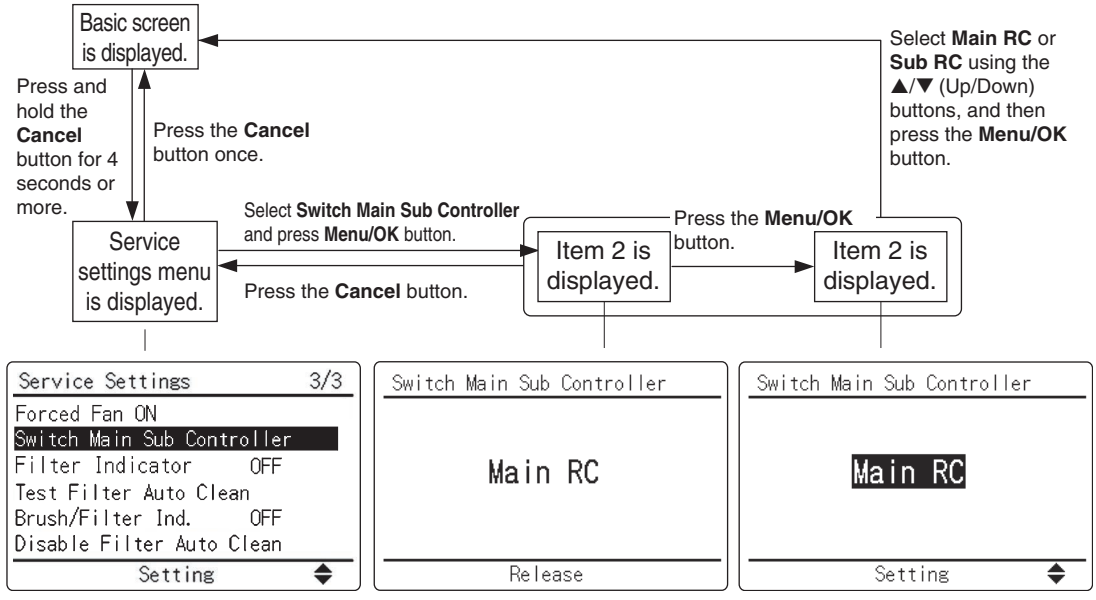
The Main/Sub setting is necessary when 1 indoor unit is controlled by 2 remote controllers. When you use 2 remote controllers (control panel and separate remote controller), set one to Main and the other to Sub.

Setting

The remote controllers are factory setting to Main, so you only have to change one remote controller from Main to Sub. To change a remote controller from Main to Sub, proceed as follows:

3.1.1 Field Settings

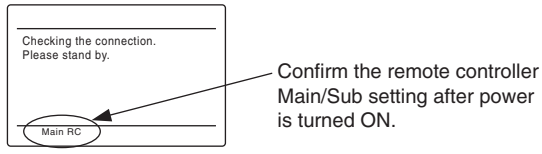
The designation of the main and sub remote controllers can be swapped. Note that this change requires turning the power OFF and then ON again.



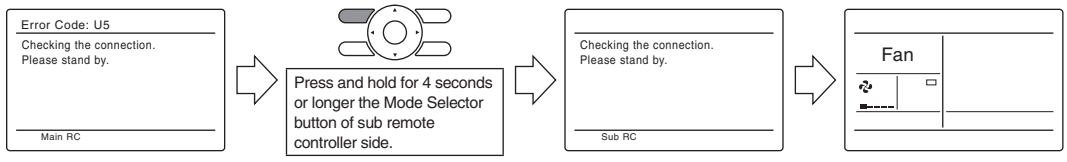
3.1.2 When an Error Occurred

U5: there are 2 main remote controllers when power is turned ON
→Change the setting from Main to Sub on the remote controller you want to be Sub.
U8: there are 2 sub remote controllers when power is turned ON
→Change the setting from Sub to Main on the remote controller you want to be Main.

How to confirm Main/Sub setting
The Main/Sub setting of the remote controller is displayed on the bottom of the screen while **Checking the connection. Please stand by.** is displayed.



How to change Main/Sub setting
You may change the Main/Sub setting of the remote controller while **Checking the connection. Please stand by.** is displayed by pressing and holding the **Mode Selector** button for 4 seconds or longer.

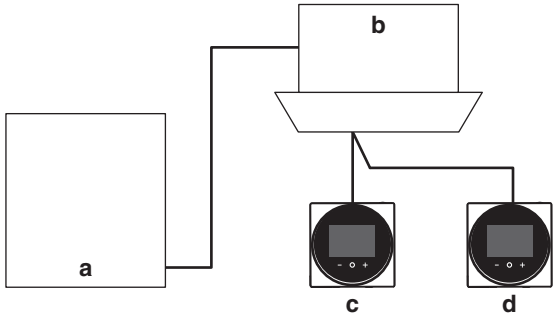


Note(s)

1. It is not possible to change the Main/Sub setting from Main to Sub when only one remote controller is connected.
2. When 2 remote controllers are being used, it is not possible to change the setting from Main to Sub if one of the remote controllers is already set as Main.

3.2 BRC1H71W

3.2.1 Main and Sub Controller



a Outdoor unit
b Indoor unit
c Main remote controller
d Sub remote controller

- On the information screen, main/sub status is indicated by the following icons:

Icon	Description
	Main
	Sub

INFORMATION

It is only possible to use a main and a sub controller of the same type.

INFORMATION

If a sub controller does not display the home screen 2 minutes after its designation, turn off the power and check the wiring.

INFORMATION

After re-designating a controller, the system requires a power reset.

INFORMATION

The following functions are not available for sub controllers:
- “Auto” operation mode
- Individual airflow direction
- Filter auto clean
- Setback temperature setpoints
- Draft prevention

3.2.2 Designating a Controller as Main or Sub

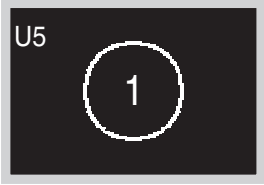
Prerequisite: A remote controller is already connected to the indoor unit.

Connect a second controller.
After turning on the power, perform setting of the second controller.

Result: It will start up automatically.

▼

Home screen



Wait for a U5 or U8 error code to appear on the screen.
Screen display explanation
1 main
2 sub

▼

Home screen

When the U5 error code appears, press — and hold until "2" appears on the screen.
When the U8 error code appears, press — and hold until "1" appears on the screen.

Result:
A controller displaying 1 is set as main, and a controller displaying 2 is set as sub.

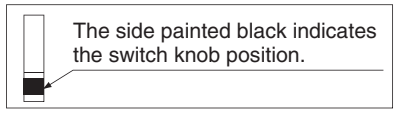
INFORMATION

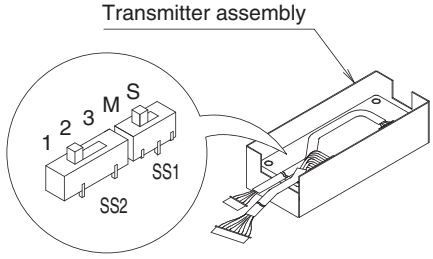
If sub remote controller is not set at power-on in the case of one indoor unit controlled by two remote controllers, Error Code: U5 is displayed in the connection checking screen.
If the sub remote controller does not display the home screen two minutes after its designation, turn off the power and check the wiring.

3.3 When Wireless Remote Controller is Used Together

When using both a wired and a wireless remote controller for 1 indoor unit, the wired controller should be set to Main. Therefore, the Main/Sub switch (SS1) of the signal receiver PCB must be set to Sub.

Main/Sub	Main	Sub
Main/Sub switch (SS1)		





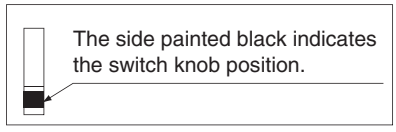
4. Address Setting for Wireless Remote Controller

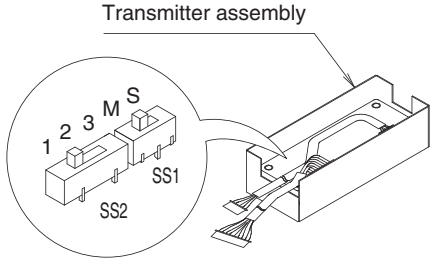
If setting multiple wireless remote controllers to operate in one room, perform address setting for the receiver and the wireless remote controller.
(This includes an individual remote controller control using the group operation.)
(For the wiring for the group operation, please refer to the installation manual attached to the indoor unit.)

Setting for signal receiver PCB

The address for the receiver is set to 1 at the factory. To change the setting, set the wireless address switch (SS2) on the signal receiver PCB according to the table below.

Unit No.	No. 1	No. 2	No. 3
Wireless address switch (SS2)			

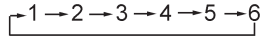




Setting for wireless remote controller

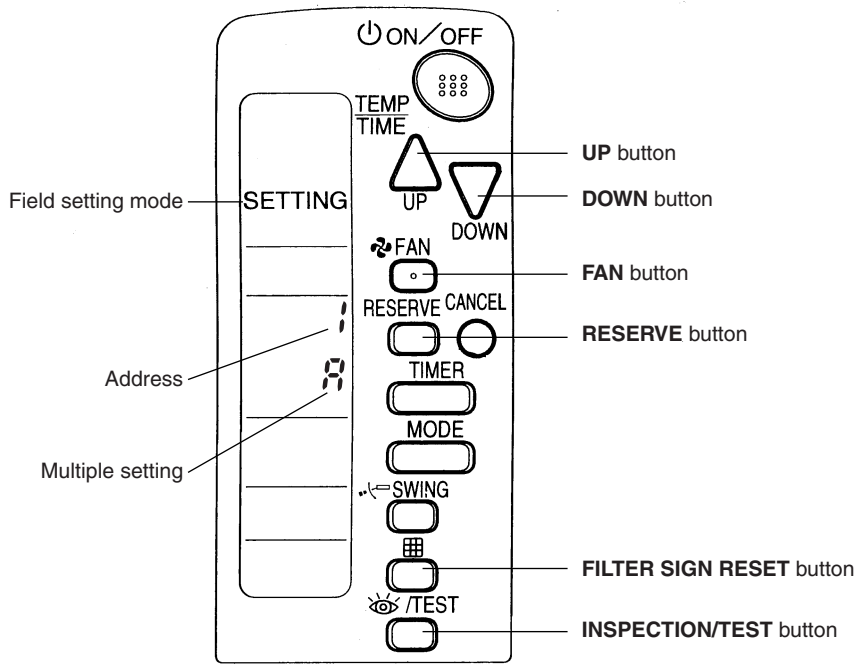
The address for the wireless remote controller is set to 1 at the factory. To change the setting, proceed as follows:

1. Press **FILTER SIGN RESET** button and **INSPECTION/TEST** button at the same time for 4 seconds to enter field setting mode. (**SETTING** is indicated on the display.)
2. Press **FAN** button and select **A** or **b**. Each time the button is pressed, the display switches between **A** and **b**.
3. Press **UP** button or **DOWN** button to select an address from 1-3 as same as the receiver. Address can be set from 1-6, but the receiver does not work with addresses 4-6.



4. Press **RESERVE** button to confirm the setting.

5. Press **INSPECTION/TEST** button for 1 second to return to normal mode.



Multiple Settings A/b

The command such as operation mode or temperature setting by this remote controller will be rejected when the target indoor unit operation is restricted as by an external control such as centralized control.

Since the setting acceptance is hard to discriminate with such circumstances there are two setting options provided to enable discriminating by a beeping sound according to the operation:

A: Standard or **b**: Multi System. Set the setting according to the customer's intention.

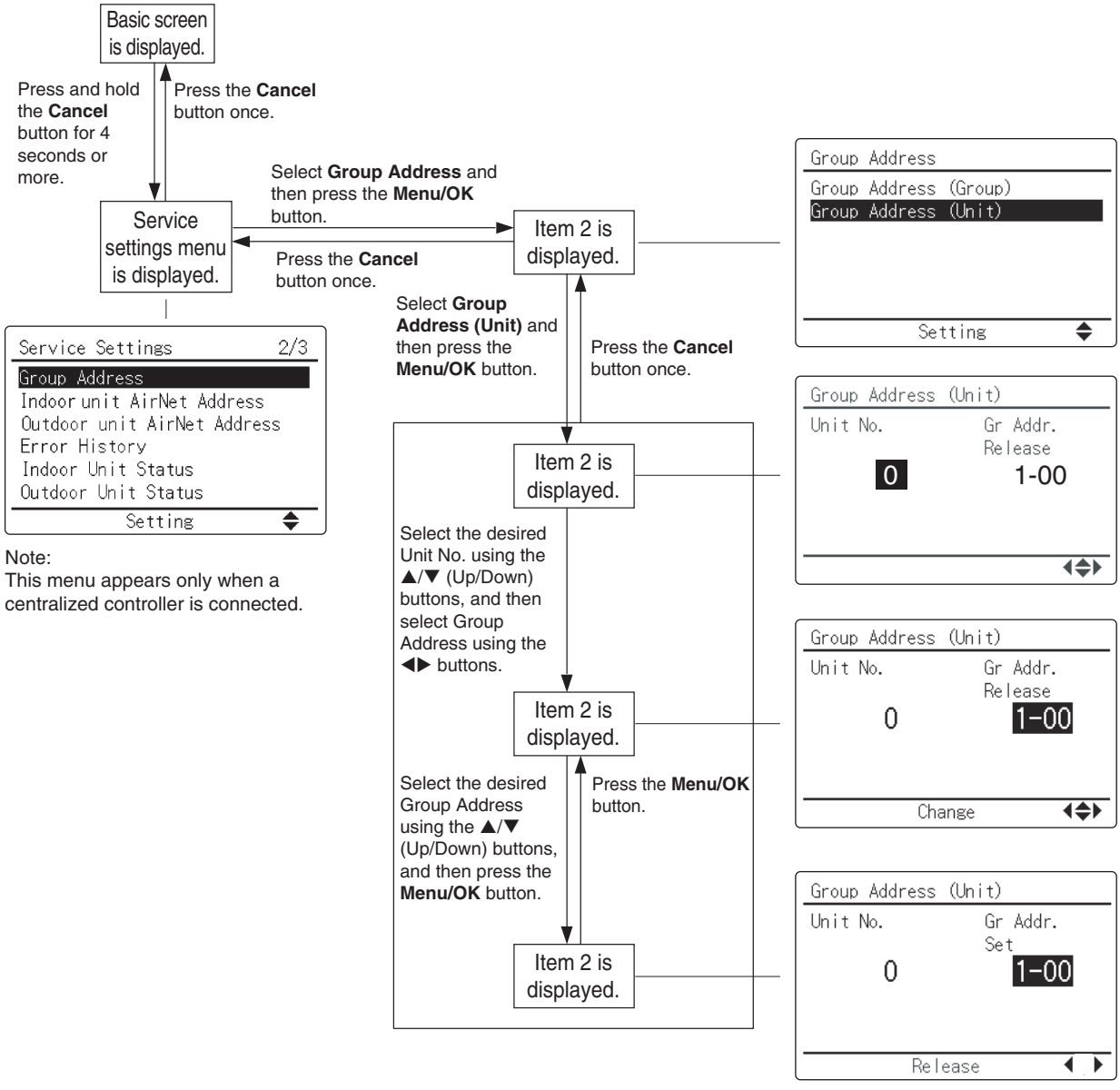
Remote Controller		Indoor Unit	
Multiple setting	Display on remote controller	Behavior to the remote controller operation when the functions are restricted as by an external control.	Other than the left
A: Standard (factory set)	All items displayed.	Accepts the functions except restricted. (Sounds one long beep or three short beeps) There may be a difference from the indoor unit status with remote controller display.	Accepts all items transmitted (Sounds two short beeps) The remote controller display agrees with the indoor unit status.
b: Multi System	Display only items transmitted for a while.	**When some restricted functions are included in the transmitted items** Accepts the functions except restricted. (Sounds one long beep or three short beeps) There may be a difference from the indoor unit status with remote controller display. **When no restricted function is included** Accepts all items transmitted (Sounds two short beeps) The remote controller display agrees with the indoor unit status.	

5. Centralized Control Group No. Setting

5.1 BRC1E73

In order to conduct the centralized remote control using the central remote controller and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote controller.
Make Group No. settings for centralized remote control using the operating remote controller.

When initializing Group Address



Service settings menu	Item 2
Group Address	Group Address (Group)
	Group Address (Unit)

■ **Description**

This menu is used to make group address setting for centralized control.
It is also used to make group address setting by indoor unit.

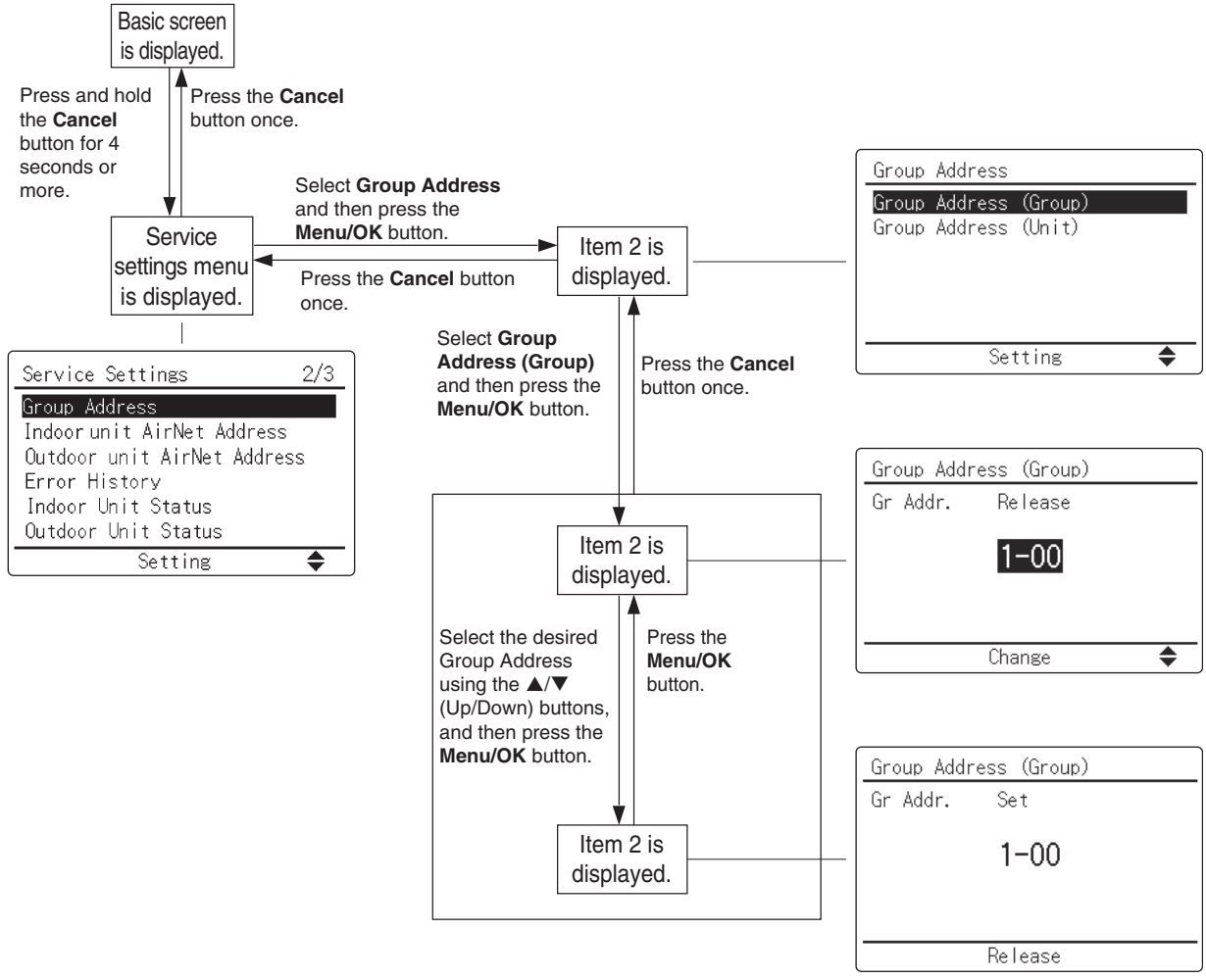
Note(s)

- For setting group No. of Energy recovery ventilator and wiring adaptor for other air conditioners, etc., refer to the instruction manual.

NOTICE

Enter the group No. and installation place of the indoor unit into the installation table. Be sure to keep the installation table with the operation manual for maintenance.

Group Address (Group)



5.2 BRC1H71W

Group Address

- Assign the group address and unit number for centralized control.
- The group and unit address can only be set when a centralized controller is connected. This menu is only visible when a centralized controller is connected.
- The group and unit address can be “set” and “released”.

NOTICE

Don’t forget to release the group address before disconnecting the centralized controller because the menu will not be accessible afterwards.

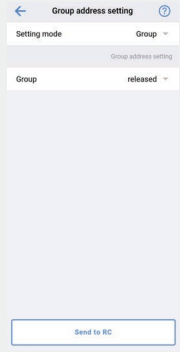
For BRC1H series, group address setting cannot be set via the remote controller. Please set the group address setting via smartphone application as follows.

Manual setting mode

- Installer setting
- RC settings
- Maintenance

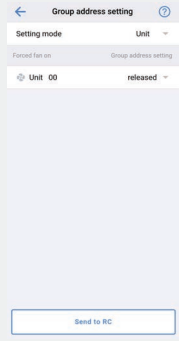
Group address setting Main

Set the indoor unit group address. After all settings are complete, press the “Send to RC” button.



Manual setting mode

- Installer setting
- RC settings
- Maintenance



▶ **Setting mode**

You can switch between setting the indoor unit group address for each group, or for each unit.

Manual setting mode

- Installer setting
- RC settings
- Maintenance

▶ **Group**

Set the group address on a per-group basis.

* Set a group address only for the MAIN unit.

▶ **Unit**

Set the group address on a per-unit basis.

▶ **Forced fan on**

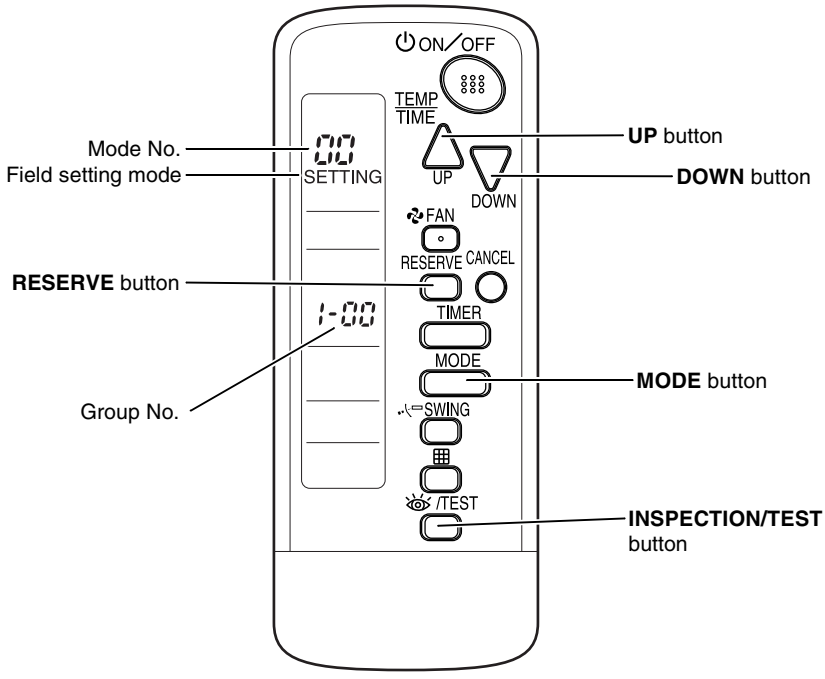
Force operation of the fan of the unit number whose icon has been tapped. You can confirm the location of the device on which you are performing settings.

5.3 Wireless Remote Controller

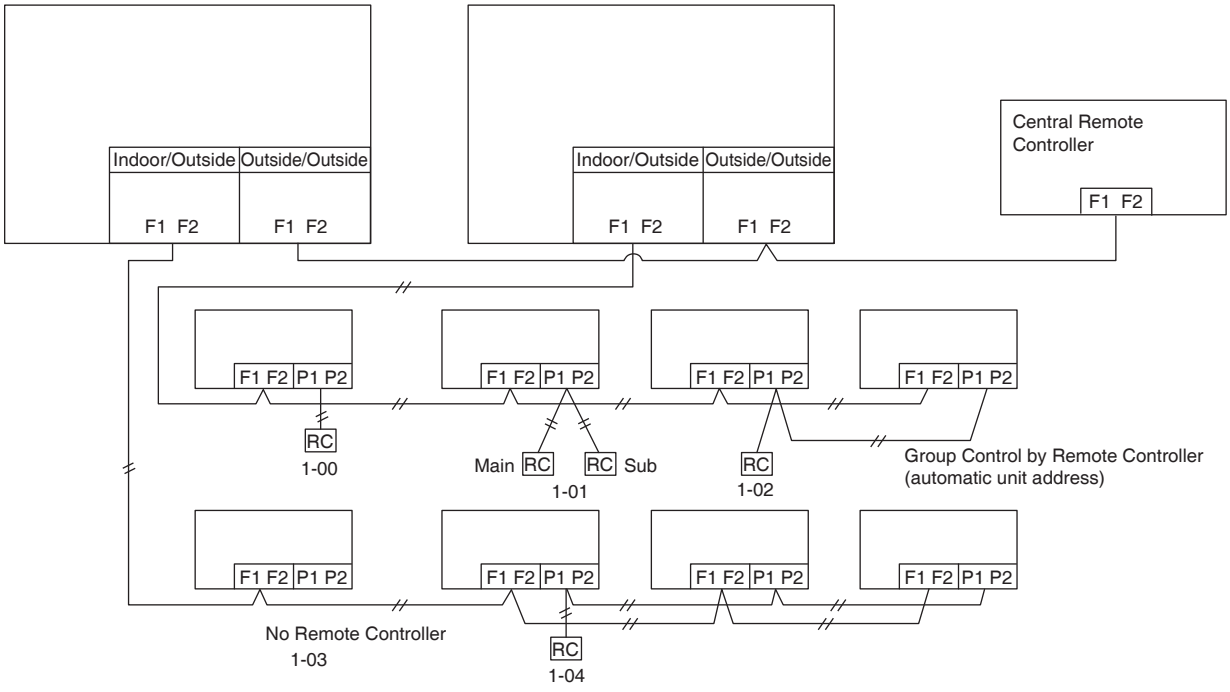
Group No. setting by wireless remote controller for centralized control

1. When in the normal mode, press **INSPECTION/TEST** button for 4 seconds or more to enter field setting mode.
2. Set mode No. 00 with **MODE** button.
3. Set the group No. for each group with **UP** button or **DOWN** button.
4. Enter the selected group numbers by pressing **RESERVE** button.

5. Press **INSPECTION/TEST** button and return to the normal mode.



5.4 Group No. Setting Example

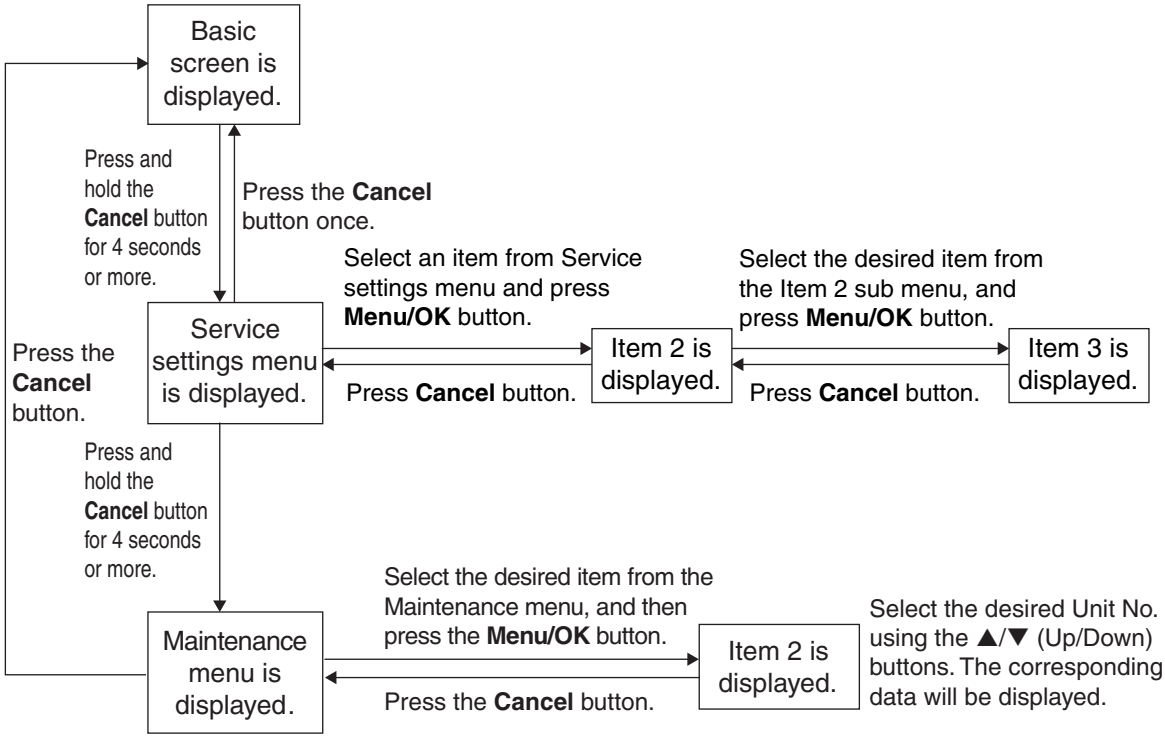


Caution When turning the power supply on, the unit may often not accept any operation while **88** is displaying after all indications were displayed once for about 1 minute on the liquid crystal display. This is not an operative fault.

6. Service Settings Menu, Maintenance Menu

6.1 BRC1E73

Operating the remote controller allows service data to be acquired and various services to be set.



6.1.1 Service Settings Menu

Service settings menu	Item 2	Remarks
Test Operation	—	—
Maintenance Contact	None	—
	Maintenance Contact	—, 0 to 9 (in order)
Field Settings	Indoor Unit No.	—
	Mode No.	—
	First Code No.	—
	Second Code No.	—
Energy Saving Options	Setpoint Range Limitation	Temperature
	Setback Configuration	Recovery Differential
	Auto-setback by Sensor	Enable/Disable, Settings
	Auto-off by Sensor	Enable/Disable, Auto-off in (hours)
Prohibit Function	Prohibit Buttons	Up/Down, Left, Right, On/Off, Mode, Fan Speed
	Prohibit Mode	Fan, Cool, Heat, Auto, Dry, Vent Clean
Min setpoints Differential	None, Single SP, 0 to 8°F	—
Group Address	Group Address (Group)	Gr Addr. Set
	Group Address (Unit)	Unit No., Gr Addr. Set
Indoor unit Airnet Address	Unit No., Address Set	—
Outdoor unit Airnet Address	Unit No., Address Set	—
Error History	RC Error History	Unit No., Error, Date, Time (Up to 10 errors received by the remote controller can be displayed.)
	Indoor Unit Error History	Unit No., Error, Date, Time (Up to 5 errors from the indoor unit error record can be displayed.)
Indoor Unit Status	Unit No.	—
	Th1	Suction air thermistor
	Th2	Heat exchanger liquid pipe thermistor
	Th3	Heat exchanger gas pipe thermistor
	Th4	Discharge air thermistor
	Th5	Remote controller thermistor (FXSQ-TA, FXSQ-TB, FXMQ-TB, FXTQ-TA, FXTQ-TB) Floor temperature thermistor (FXFQ-AA, FXFQ-T, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P)
	Th6	Control temperature (FXFQ-AA, FXFQ-T, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P, FXSQ-TA, FXSQ-TB, FXMQ-TB, FXTQ-TA, FXTQ-TB)
Outdoor Unit Status	Unit No.	—
	Th1	—
	Th2	—
	Th3	—
	Th4	—
	Th5	—
	Th6	—
Forced Fan ON	Unit No.	—
Switch Main Sub controller	—	—
Filter Indicator	—	—
Test Filter Auto Clean	—	—
Brush / Filter Ind	—	—
Disable Filter Auto Clean	No, Yes	—

6.1.2 Maintenance Menu

Maintenance Menu	Item 2	Remarks
Model Name	Unit No.	Select the unit number you want to check.
	Indoor unit	The model names are displayed. (A model code may be displayed instead, depending on the particular model.)
	Outdoor unit	
Operation Hours	Unit No.	Select the unit number you want to check.
	Indoor unit operation hours	All of these are displayed in hours.
	Indoor fan operation hours	
	Indoor unit energized hours	
	Outdoor unit operation hours	
	Outdoor fan 1 operation hours	
	Outdoor fan 2 operation hours	
	Outdoor compressor 1 operation hours	
	Outdoor compressor 2 operation hours	
Indoor Unit Status	Unit No.	Select the unit number you want to check.
	FAN	Fan tap (∗1)
	Speed	Fan speed (rpm) (∗2)
	FLAP	Swing, fixed
	EV	Degree that electronic expansion valve is open (pulse)
	MP	Drain pump ON/OFF
	EH	Electric heater ON/OFF
	Hu	Humidifier ON/OFF (∗3)
	TBF	Anti-freezing control ON/OFF
	FLOAT	Float switch OPEN/CLOSE
	T1/T2	T1/T2 external input OPEN/CLOSE
	Th1	Suction air thermistor
	Th2	Heat exchanger liquid pipe thermistor
	Th3	Heat exchanger gas pipe thermistor
	Th4	Discharge air thermistor
	Th5	Remote controller thermistor (FXFQ-T, FXSQ-TA, FXSQ-TB, FXMQ-TB, FXTQ-TA, FXTQ-TB) Floor temperature thermistor (FXFQ-AA, FXFQ-T, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P)
	Th6	Control temperature (FXFQ-AA, FXFQ-T, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P, FXSQ-TA, FXSQ-TB, FXMQ-TB, FXTQ-TA, FXTQ-TB)
Outdoor Unit Status	Unit No.	Select the Unit No. you want to check.
	FAN step	Fan tap
	COMP	Compressor power supply frequency (Hz)
	EV1	Degree that electronic expansion valve is open (pulse)
	SV1	Solenoid valve ON/OFF
	Th1	—
	Th2	—
	Th3	—
	Th4	—
	Th5	—
	Th6	—
Forced Defrost	Forced defrost ON	Enables the forced defrost operation.
	Forced defrost OFF	Disables the forced defrost operation.

Maintenance Menu	Item 2	Remarks
Error Display	Display error ON	Displays the error on the screen.
	Display error OFF	Displays neither errors nor warnings.
	Display warning ON	Displays a warning on the screen if an error occurs.
	Display warning OFF	No warning is displayed.
Swap Unit No.	Current Unit No.	A unit No. can be transferred to another.
	Transfer Unit No.	
Addressed Sensor Value	Unit No.: 0 - 15	Select the unit number you want to check.
	Code 00: 01: 02: 03: 04: 05: 06: 07: 08: 09: 10 and over:	 Remote controller thermistor (°C) Suction air thermistor (°C) Heat exchanger liquid pipe thermistor (°C) Heat exchanger gas pipe thermistor (°C) Indoor unit address No. Outdoor unit address No. Branch Selector unit address No. Zone control address No. Cooling/Heating batch address No. Demand/low-noise address No. Differs depending on the connected indoor/outdoor unit.
	Data	The corresponding data will be displayed, based on the unit number and Code selected.

∗1 (For FXTQ-TA, FXTQ-TB models)
The actual fan speed is converted into the fan tap to be displayed. Therefore, if the fan speed is changed by controls or external factors, the airflow rate set with the remote controller may differ from the fan tap display.

∗2 (For FXTQ-TA, FXTQ-TB models)
0 rpm is displayed even if the fan is rotating.

∗3 (For FXTQ-TA, FXTQ-TB models)
The ON/OFF status of the humidifier connected to HUMIDIFIER on the X1M terminal of the indoor unit PCB is not displayed. The ON/OFF status of the humidifier connected to the wiring adaptor is displayed.

7. Administrator Menu, Installer Menu

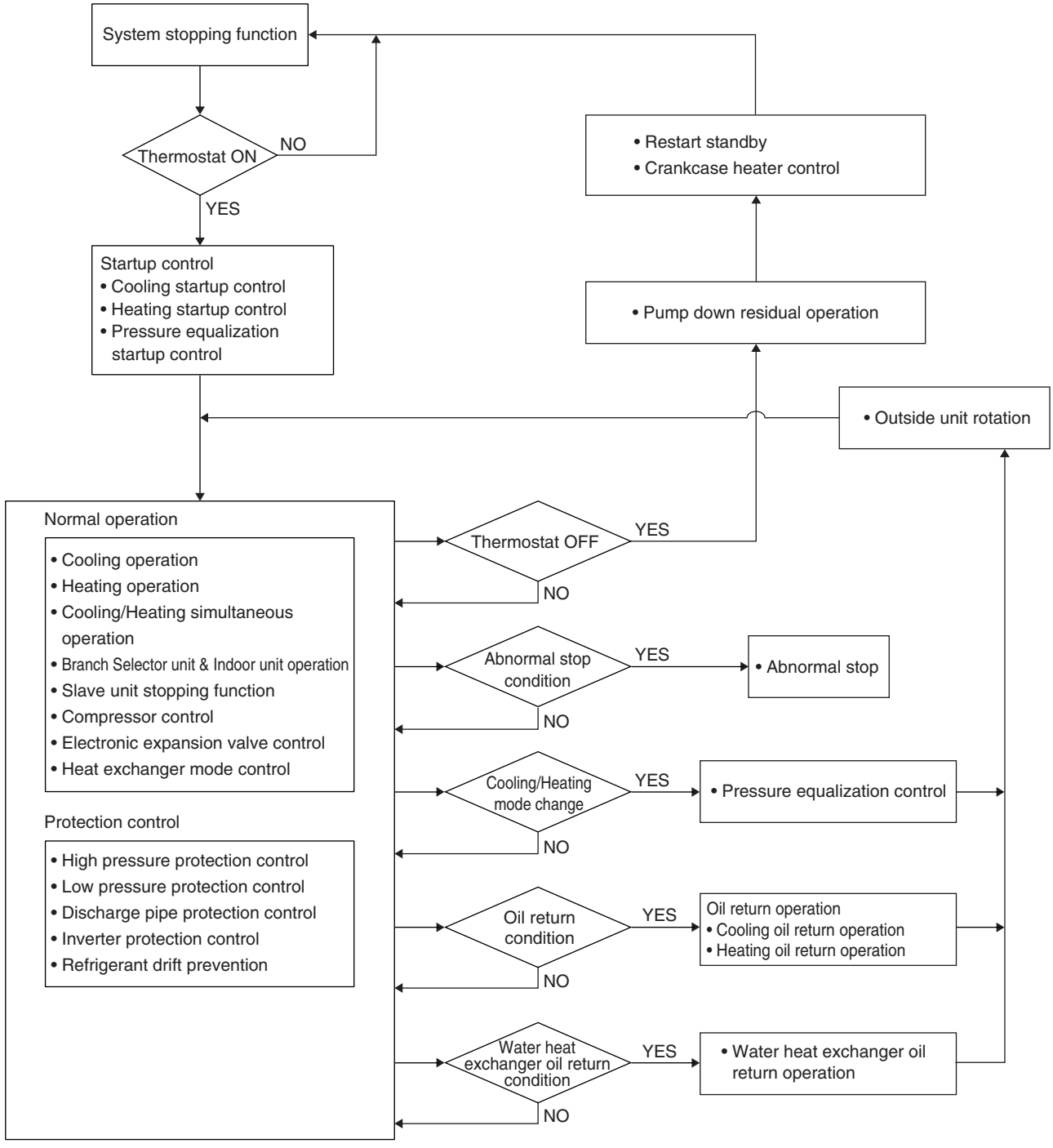
7.1 BRC1H71W

Refer to page 107 for details.

Part 4
Functions and Control

1. Function General

1.1 Operation Mode



1.2 Normal Operation

Parts Name	Electric Symbol	Actuator Function	
		Normal cooling	Normal heating or normal cooling/ heating simultaneous operation
Compressor	M1C	PI control, High pressure protection, Low pressure protection, Discharge pipe temperature protection, Inverter protection control.	PI control, High pressure protection, Low pressure protection, Discharge pipe temperature protection, Inverter protection control.
Fan motor (Electrical component cooling)	M1F, M2F, M3F	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control
Electronic expansion valve (Main)	Y1E	Heat exchanger mode control (In case of cooling operation)	Heat exchanger mode control (In case of heating operation and simultaneous cooling/heating operation)
Electronic expansion valve (Subcool)	Y2E	Y2E control	Y2E control
Electronic expansion valve (Receiver gas vent)	Y3E	Y3E control	Drift protection control
Solenoid valve (Oil return)	Y1S	Oil control, Protection control	Oil control, Protection control
Solenoid valve (Changes the bypass suction or injection)	Y2S	Injection control	Injection control
Solenoid valve (Non-operating unit liquid pipe closing)	Y3S	ON	ON
Solenoid valve (Oil return of water heat exchanger)	Y4S	OFF	Water heat exchanger oil return control
Solenoid valve (Hot gas)	Y5S	Protection control	Protection control
Four way valve (Main)	Y6S	OFF	ON
Four way valve (Sub)	Y7S	OFF	Heat exchanger mode control (In case of heating operation and simultaneous cooling/heating operation)
Solenoid valve (Receiver gas charging)	Y8S	Receiver pressurizing control	Receiver pressurizing control and drift protection control
Solenoid valve (Exhaust heat cancellation heat exchanger)	Y9S	Exhaust heat cancellation heat exchanger control, Protection control	Exhaust heat cancellation heat exchanger control, Protection control

2. Stop Control

This operation defines the operation of the actuator while the system stops.

2.1 When System is in Stop Control

Parts Name	Electric Symbol	Actuator Function
Compressor	M1C	OFF
Fan motor (Electrical component cooling)	M1F, M2F, M3F	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control
Electronic expansion valve (Main)	Y1E	Protection control
Electronic expansion valve (Subcool)	Y2E	0 pulse
Electronic expansion valve (Receiver gas vent)	Y3E	0 pulse
Solenoid valve (Oil return)	Y1S	OFF
Solenoid valve (Changes the bypass suction or injection)	Y2S	ON
Solenoid valve (Non-operating unit liquid pipe closing)	Y3S	Protection control
Solenoid valve (Oil return of water heat exchanger)	Y4S	OFF
Solenoid valve (Hot gas)	Y5S	OFF
Four way valve (Main)	Y6S	Holding
Four way valve (Sub)	Y7S	Holding
Solenoid valve (Receiver gas charging)	Y8S	OFF
Solenoid valve (Exhaust heat cancellation heat exchanger)	Y9S	OFF

2.2 Stop Control of Slave Units While Master Unit is in Operation on Multi Outside Unit System

This operation makes adjustments of required refrigerant amount with non-operating slave units while the master unit is in operation.

The system operates in mode A or mode B listed in the table below.

Parts Name	Electric Symbol	Mode A Operation (∗1)	Mode B Operation (∗1)
Compressor	M1C	OFF	OFF
Fan motor (Electrical component cooling)	M1F, M2F, M3F	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control
Electronic expansion valve (Main)	Y1E	0 to 288 pulse	0 pulse
Electronic expansion valve (Subcool)	Y2E	0 pulse	0 pulse
Electronic expansion valve (Receiver gas vent)	Y3E	0 pulse	0 pulse
Solenoid valve (Oil return)	Y1S	OFF	OFF
Solenoid valve (Changes the bypass suction or injection)	Y2S	ON	ON
Solenoid valve (Non-operating unit liquid pipe closing)	Y3S	OFF	Refrigerant control
Solenoid valve (Oil return of water heat exchanger)	Y4S	OFF	OFF
Solenoid valve (Hot gas)	Y5S	OFF	OFF
Four way valve (Main)	Y6S	Holding	Holding
Four way valve (Sub)	Y7S	Holding	Holding
Solenoid valve (Receiver gas charging)	Y8S	OFF	OFF
Solenoid valve (Exhaust heat cancellation heat exchanger)	Y9S	Exhaust heat cancellation heat exchanger control, Protection control	Exhaust heat cancellation heat exchanger control, Protection control
Ending conditions		Slave units are required to operate.	

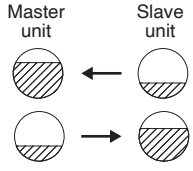
Note(s)

∗1 Mode A or B operation

.

Mode A: Master unit collects refrigerant.

Mode B: Slave unit storage refrigerant.



The changeover operation for mode A and B is performed because the required refrigerant amount varies depending on the indoor unit operation capacity.

2.3 Abnormal Stop

In order to protect compressors, if any of the following items has an abnormal value, the system will stop with thermostat OFF and the error will be determined according to the number of retry times.

Item	Judgment Value	Retry Number	Error Code
Low pressure abnormality	0.07 MPa (10.2 psi)	3 times in 60 minutes	E4
High pressure abnormality	4.0 MPa (580 psi)	3 times in 40 minutes	E3
Discharge pipe temperature abnormality	135°C (275°F)	2 times in 100 minutes	F3
Suction pipe temperature abnormality	60°C (140°F) and Min(Pc – Pe) < 0.2 MPa (29 psi)	2 times in 100 minutes	F4
Power supply abnormality	Reverse phase	No retry	U1
Inverter current abnormality	208/230 V units: 47.0 A for 240 seconds or 50.0 A for 5 seconds 460 V units: 22.5 A for 240 seconds or 25.0 A for 5 seconds 575 V units: 17.3 A for 240 seconds or 18.5 A for 5 seconds	3 times in 60 minutes	L8
Radiation fin temperature abnormality	208/230 V units: 105°C (221°F) 460 V units: 100°C (212°F) 575 V units: 95°C (203°F)	3 times in 60 minutes	L4

3. Standby Control

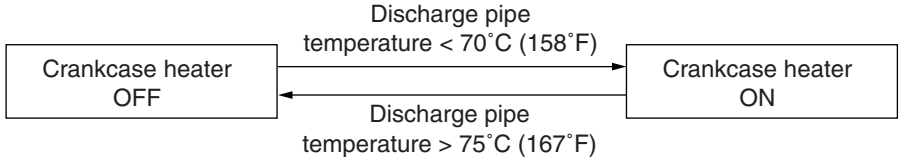
3.1 Restart Standby

Forced standby is performed to prevent frequent repetition of ON/OFF of the compressor, and to equalize pressure in the refrigerant system.

Parts Name	Electric Symbol	Actuator Function
Compressor	M1C	0 rps
Fan motor (Electrical component cooling)	M1F, M2F, M3F	Inverter cooling fan control, Exhaust heat cancellation heat exchanger control, Protection control
Electronic expansion valve (Main)	Y1E	0 pulse
Electronic expansion valve (Subcool)	Y2E	0 pulse
Electronic expansion valve (Receiver gas vent)	Y3E	0 pulse
Solenoid valve (Oil return)	Y1S	ON
Solenoid valve (Changes the bypass suction or injection)	Y2S	ON
Solenoid valve (Non-operating unit liquid pipe closing)	Y3S	Protection control
Solenoid valve (Oil return of water heat exchanger)	Y4S	OFF
Solenoid valve (Hot gas)	Y5S	OFF
Four way valve (Main)	Y6S	Holding
Four way valve (Sub)	Y7S	Holding
Solenoid valve (Receiver gas charging)	Y8S	OFF
Solenoid valve (Exhaust heat cancellation heat exchanger)	Y9S	OFF
Ending conditions		4 minutes

3.2 Crankcase Heater Control

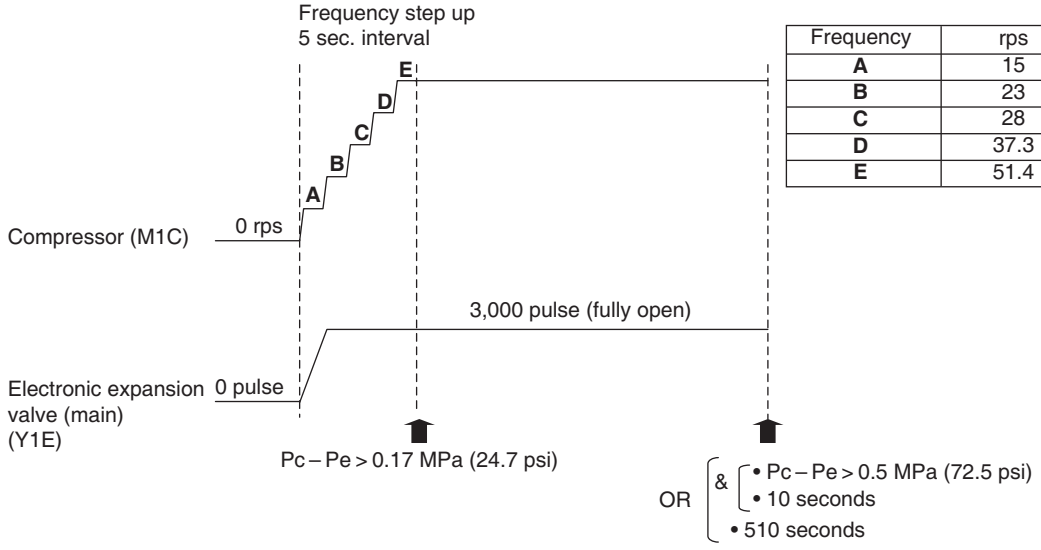
In order to prevent the refrigerant from migrating into the compressor oil in the stopped mode, this mode is used to control the crankcase heater.



4. Startup Control

This control is used to equalize the pressure in the suction and discharge sides of the compressor prior to the startup of the compressor, thus reducing startup loads. Furthermore, the inverter is turned ON to charge the capacitor.
To avoid stresses to the compressor due to oil return or else after the startup, the following control is made and the position of the four way valve is also determined. Start both the master and the slave units simultaneously to position the four way valve.

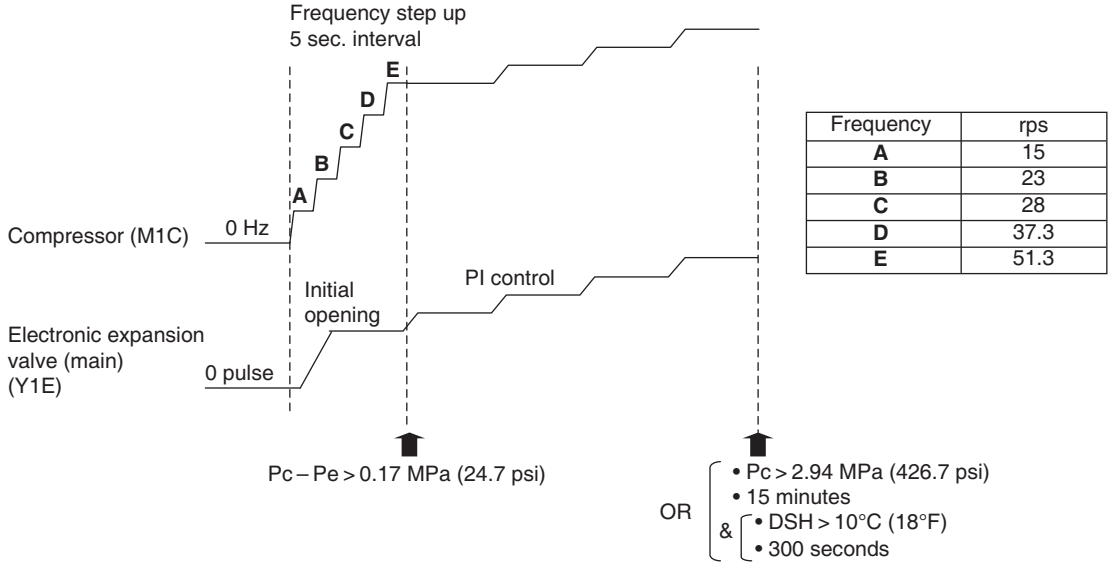
4.1 Startup Control in Cooling



Frequency	rps
A	15
B	23
C	28
D	37.3
E	51.4

Pc : High pressure sensor detection value
Pe : Low pressure sensor detection value

4.2 Startup Control in Heating



Frequency	rps
A	15
B	23
C	28
D	37.3
E	51.3

DSH: Discharge pipe superheating degree
Pc : High pressure sensor detection value
Pe : Low pressure sensor detection value

5. Normal Control

5.1 Compressor PI Control

In order to provide a steady capacity, the compressor capacity is controlled to achieve temperature Te/Tc during cooling/heating operation.

5.1.1 VRTsmart Control

■ When all the connected indoor units are VRTsmart control applicable models

The required capacity is calculated based on the operation condition of each individual indoor unit and this data is transmitted to the outside unit. The outside unit adjusts the refrigerant temperature of the whole system to an adequate value according to the indoor unit that needs the most capacity.

In case of target evaporation/condensation temperature adjustment, first the capacity is adjusted by changing the indoor unit airflow to L tap. If the capacity is still too much, the target evaporation/condensation temperature is elevated further to adjust.

5.1.2 VRT Control

■ When one or more of the connected indoor units are not VRTsmart control applicable models

If the required capacity becomes low/high in all indoor units (Room temperature Th1 - set temperature), the target evaporation/condensation temperature is elevated further to adjust. In the outside unit, the difference of temperature (ΔT) in all indoor units is checked and the set temperature is changed. Unlike VRTsmart control, there is no airflow control of the indoor units.

5.1.3 Cooling Operation

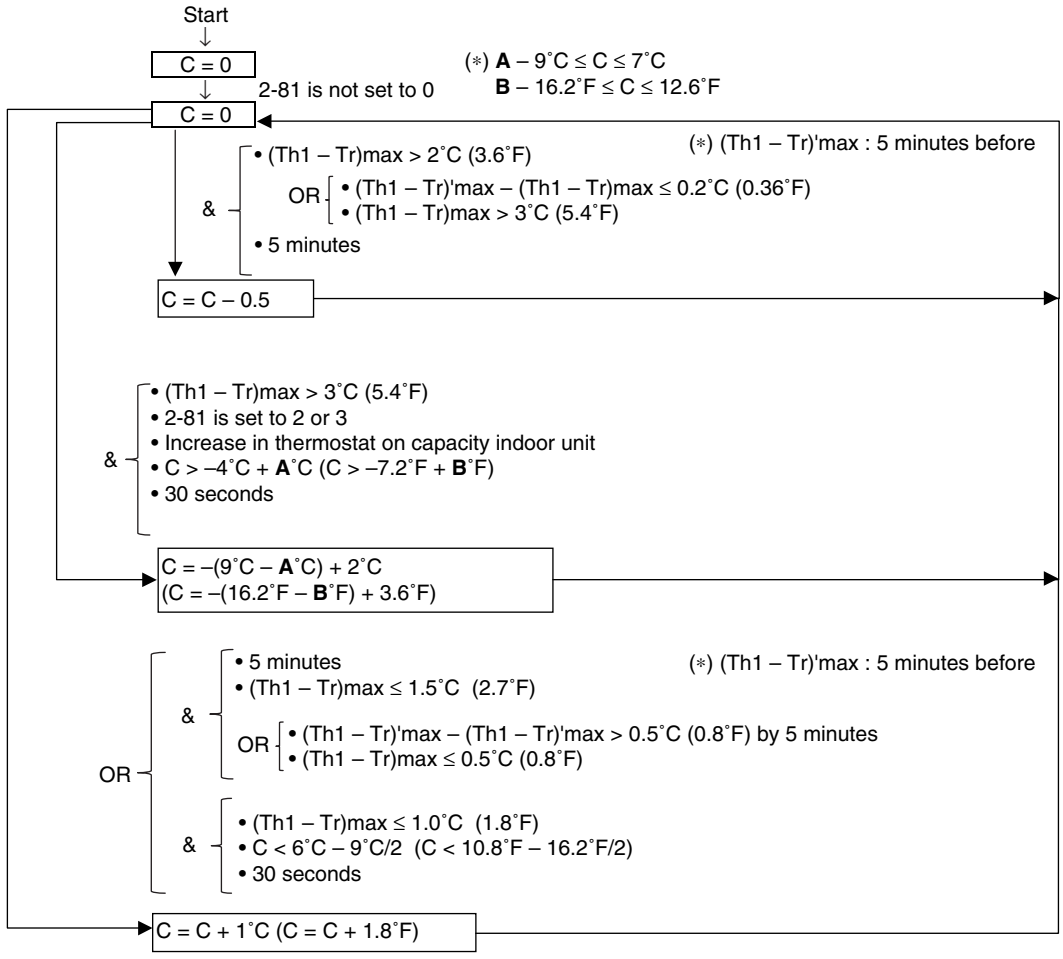
Te setting

9˚C + C (48.2˚F + C)

Te: Low pressure equivalent saturation temperature
Th1 : Indoor unit inlet air temperature
Tr : Remote controller set temperature
C: Comfort setting Te control

2-81: Cooling comfort setting

Position	0	1	2	3
Mode	ECO	MILD	Quick	Powerful
A (˚C)	4	4	4	1
B (˚F)	7.2	7.2	7.2	1.8



5.1.4 Heating Operation

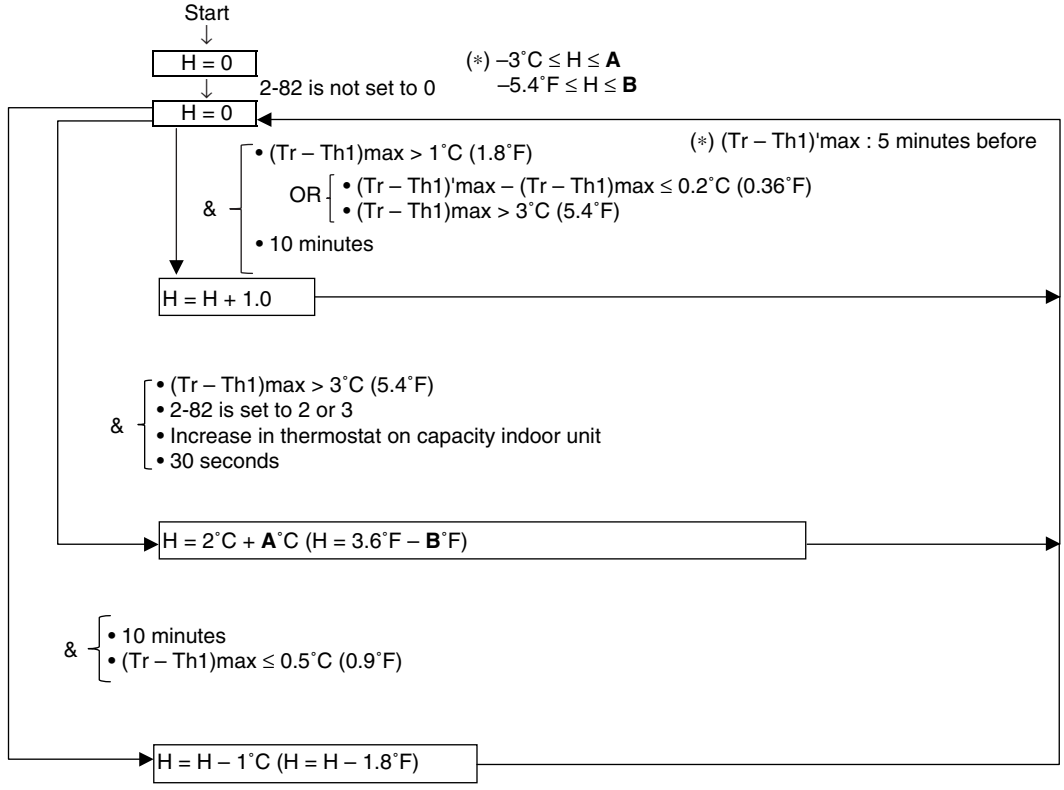
Tc setting

42˚C + H (107.6˚F + H)

Tc: High pressure equivalent saturation temperature
H : Comfort setting Tc control

2-82: Heating comfort setting

Position	0	1	2	3
Mode	ECO	MILD	Quick	Powerful
A (˚C)	5	5	5	2
B (˚F)	9	9	9	3.6



5.1.5 Cooling/Heating Simultaneous Operation

Controls compressor capacity to adjust Te to achieve target value (TeS) and Tc to achieve target value (TcS) at the same time.

Te setting

L	M (Normal): factory setting	H
3°C (37.4°F)	6°C (42.8°F)	9°C (48.2°F)

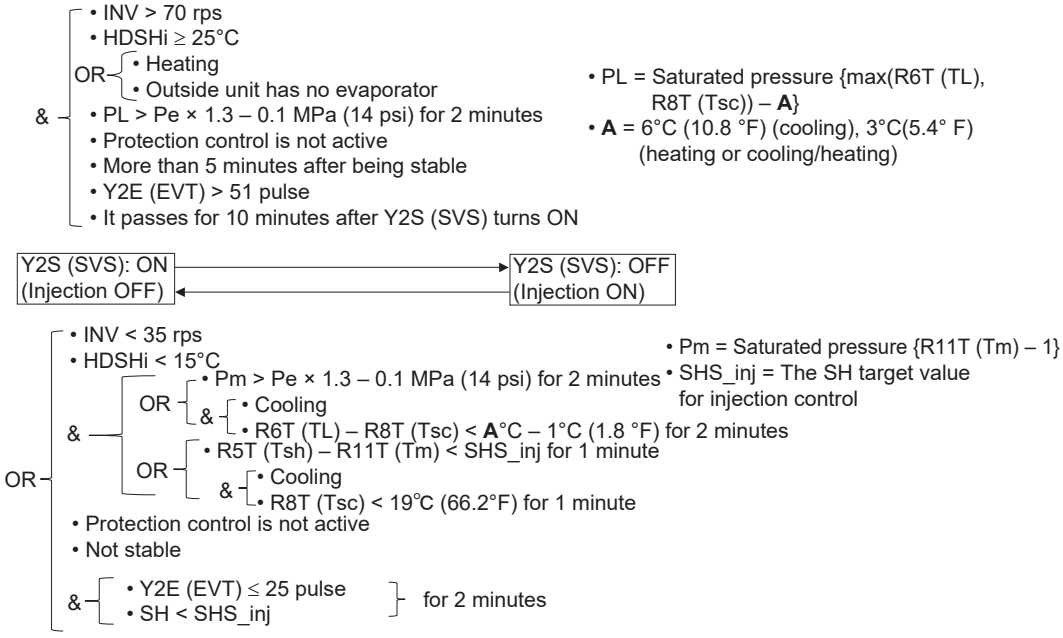
Te: Low pressure equivalent saturation temperature
TeS: Target temperature of Te
(Varies depending on Te setting, operating frequency, etc.)

Tc setting

L	M (Normal): factory setting	H
43°C (109.4°F)	46°C (114.8°F)	49°C (120.2°F)

Tc: High pressure equivalent saturation temperature
TcS: Target temperature of Tc
(Varies depending on Tc setting, operating frequency, etc.)

5.1.6 Injection Control



5.2 Compressor Operation Frequency Steps

Single outside unit installation

Step No.	rps	Step No.	rps	Step No.	rps	
1	15.0	53	32.8	105	67.7	
2	15.2	54	33.3	106	68.6	
3	15.4	55	33.8	107	69.6	
4	15.6	56	34.2	108	70.6	
5	15.9	57	34.7	109	71.6	
6	16.2	58	35.2	110	72.6	
7	16.5	59	35.7	111	73.6	
8	16.8	60	36.2	112	74.6	
9	17.1	61	36.7	113	75.7	
10	17.4	62	37.2	114	76.7	
11	17.7	63	37.7	115	77.8	
12	18.0	64	38.3	116	78.9	
13	18.3	65	38.8	117	80.0	
14	18.6	66	39.3	118	81.1	
15	19.0	67	39.9	119	82.2	
16	19.4	68	40.5	120	83.4	
17	19.8	69	41.0	121	84.5	
18	20.1	70	41.6	122	85.7	
19	20.5	71	42.2	123	86.9	
20	20.7	72	42.8	124	93.2	
21	21.0	73	43.4	125	94.5	
22	21.3	74	44.0	126	95.8	
23	21.6	75	44.6	127	97.2	72/96 class upper limit
24	21.9	76	45.2	128	98.5	
25	22.2	77	45.8	129	99.9	
26	22.5	78	46.5	130	101.3	
27	22.9	79	47.1	131	102.7	
28	23.2	80	47.8	132	104.2	
29	23.5	81	48.5	133	105.6	
30	23.8	82	49.1	134	107.1	
31	24.2	83	49.8	135	108.6	
32	24.5	84	50.5	136	110.1	
33	24.9	85	51.2	137	111.7	
34	25.2	86	52.0	138	113.2	
35	25.5	87	52.7	139	114.8	
36	25.9	88	53.4	140	116.4	
37	26.3	89	54.2	141	118.0	
38	26.6	90	54.9	142	119.7	
39	27.0	91	55.7	143	121.4	
40	27.4	92	56.5	144	123.1	120 class upper limit
41	27.8	93	57.3	145	124.8	
42	28.1	94	58.1	146	126.5	
43	28.5	95	58.9	147	128.3	
44	29.0	96	59.7	148	130.1	
45	29.4	97	60.5	149	132.0	
46	29.8	98	61.4	150	133.8	
47	30.2	99	62.3	151	135.7	
48	30.6	100	63.1	152	137.6	
49	31.0	101	64.0	153	139.5	
50	31.5	102	64.9	154	140.0	144 class upper limit
51	31.9	103	65.8			
52	32.4	104	66.8			

∗ Depending on operational conditions, operation pattern may be different from the description above.

Double outside units connection installation

A : 1-Compressor operation

Step No.	rps
1	15.0
2	15.2
3	15.4
4	15.6
5	15.9
6	16.2
7	16.5
8	16.8
9	17.1
10	17.4
11	17.7
12	18.0
13	18.3
14	18.6
15	19.0
16	19.4
17	19.8
18	20.1
19	20.5
20	20.7
21	21.0
22	21.3
23	21.6
24	21.9
25	22.2
26	22.5
27	22.9
28	23.2
29	23.5
30	23.8
31	24.2
32	24.5
33	24.9
34	25.2
35	25.5
36	25.9
37	26.3
38	26.6
39	27.0
40	27.4
41	27.8
42	28.1
43	28.5
44	29.0
45	29.4
46	29.8
47	30.2
48	30.6
49	31.0
50	31.5
51	31.9
52	32.4
53	32.8
54	33.3
55	33.8
56	34.2
57	34.7
58	35.2
59	35.7
60	36.2
61	36.7
62	37.2
63	37.7
64	38.3

B : 2-Compressor operation

Step No.	rps	
46	15.0	← Startup
47	15.2	
48	15.4	
49	15.6	
50	15.9	
51	16.2	
52	16.5	
53	16.8	
54	17.1	
55	17.4	
56	17.7	
57	18.0	
58	18.3	
59	18.6	
60	19.0	
61	19.4	
62	19.8	
63	20.1	
64	20.5	
65	20.7	
66	21.0	
67	21.3	
68	21.6	
69	21.9	
70	22.2	

Step No.	rps
71	22.5
72	22.9
73	23.2
74	23.5
75	23.8
76	24.2
77	24.5
78	24.9
79	25.2
80	25.5
81	25.9
82	26.3
83	26.6
84	27.0
85	27.4
86	27.8
87	28.1
88	28.5
89	29.0
90	29.4
91	29.8
92	30.2
93	30.6
94	31.0
95	31.5
96	31.9
97	32.4
98	32.8
99	33.3
100	33.8
101	34.2
102	34.7
103	35.2
104	35.7
105	36.2
106	36.7
107	37.2
108	37.7
109	38.3
110	38.8
111	39.3
112	39.9
113	40.5
114	41.0
115	41.6
116	42.2
117	42.8
118	43.4
119	44.0
120	44.6
121	45.2
122	45.8
123	46.5
124	47.1
125	47.8
126	48.5
127	49.1
128	49.8
129	50.5
130	51.2
131	52.0
132	52.7
133	53.4
134	54.2
135	54.9
136	55.7
137	56.5
138	57.3
139	58.1
140	58.9

Step No.	rps	
141	59.7	
142	60.5	
143	61.4	
144	62.3	
145	63.1	
146	64.0	
147	64.9	
148	65.8	
149	66.8	
150	67.7	
151	68.6	
152	69.6	
153	70.6	
154	71.6	
155	72.6	
156	73.6	
157	74.6	
158	75.7	
159	76.7	
160	77.8	
161	78.9	
162	80.0	
163	81.1	
164	82.2	
165	83.4	
166	84.5	
167	85.7	
168	86.9	
169	93.2	
170	94.5	
171	95.8	
172	97.2	72/96 class upper limit
173	98.5	
174	99.9	
175	101.3	
176	102.7	
177	104.2	
178	105.6	
179	107.1	
180	108.6	
181	110.1	
182	111.7	
183	113.2	
184	114.8	
185	116.4	
186	118.0	
187	119.7	
188	121.4	
189	123.1	120 class upper limit
190	124.8	
191	126.5	
192	128.3	
193	130.1	
194	132.0	
195	133.8	
196	135.7	
197	137.6	
198	139.5	
199	140.0	144 class upper limit

* Depending on operational conditions, operation pattern may be different from the description above.

Triple outside units connection installation

B : 2-Compressor operation C : 3-Compressor operation

Step No.	rps
1	15.0
2	15.2
3	15.4
4	15.6
5	15.9
6	16.2
7	16.5
8	16.8
9	17.1
10	17.4
11	17.7
12	18.0
13	18.3
14	18.6
15	19.0
16	19.4
17	19.8
18	20.1
19	20.5
20	20.7
21	21.0
22	21.3
23	21.6
24	21.9
25	22.2
26	22.5
27	22.9
28	23.2
29	23.5
30	23.8
31	24.2
32	24.5
33	24.9
34	25.2
35	25.5
36	25.9
37	26.3
38	26.6
39	27.0
40	27.4
41	27.8
42	28.1
43	28.5
44	29.0
45	29.4
46	29.8
47	30.2
48	30.6
49	31.0
50	31.5
51	31.9
52	32.4
53	32.8
54	33.3
55	33.8
56	34.2
57	34.7
58	35.2
59	35.7
60	36.2
61	36.7
62	37.2
63	37.7
64	38.3

Step No.	rps
46	15.0
47	15.2
48	15.4
49	15.6
50	15.9
51	16.2
52	16.5
53	16.8
54	17.1
55	17.4
56	17.7
57	18.0
58	18.3
59	18.6
60	19.0
61	19.4
62	19.8
63	20.1
64	20.5
65	20.7
66	21.0
67	21.3
68	21.6
69	21.9
70	22.2
71	22.5
72	22.9
73	23.2
74	23.5
75	23.8
76	24.2
77	24.5
78	24.9
79	25.2
80	25.5
81	25.9
82	26.3
83	26.6
84	27.0
85	27.4
86	27.8
87	28.1
88	28.5
89	29.0
90	29.4
91	29.8
92	30.2
93	30.6
94	31.0
95	31.5
96	31.9
97	32.4
98	32.8
99	33.3

Step No.	rps	
70	15.0	← Startup
71	15.2	
72	15.4	
73	15.6	
74	15.9	
75	16.2	
76	16.5	
77	16.8	
78	17.1	
79	17.4	
80	17.7	
81	18.0	
82	18.3	
83	18.6	
84	19.0	
85	19.4	
86	19.8	
87	20.1	
88	20.5	
89	20.7	
90	21.0	
91	21.3	
92	21.6	
93	21.9	
94	22.2	
95	22.5	
96	22.9	
97	23.2	
98	23.5	
99	23.8	
100	24.2	
101	24.5	
102	24.9	
103	25.2	
104	25.5	
105	25.9	
106	26.3	
107	26.6	
108	27.0	
109	27.4	
110	27.8	
111	28.1	
112	28.5	
113	29.0	
114	29.4	
115	29.8	
116	30.2	
117	30.6	
118	31.0	
119	31.5	

Step No.	rps
120	31.9
121	32.4
122	32.8
123	33.3
124	33.8
125	34.2
126	34.7
127	35.2
128	35.7
129	36.2
130	36.7
131	37.2
132	37.7
133	38.3
134	38.8
135	39.3
136	39.9
137	40.5
138	41.0
139	41.6
140	42.2
141	42.8
142	43.4
143	44.0
144	44.6
145	45.2
146	45.8
147	46.5
148	47.1
149	47.8
150	48.5
151	49.1
152	49.8
153	50.5
154	51.2
155	52.0
156	52.7
157	53.4
158	54.2
159	54.9
160	55.7
161	56.5
162	57.3
163	58.1
164	58.9
165	59.7
166	60.5
167	61.4
168	62.3
169	63.1
170	64.0
171	64.9

Step No.	rps	
172	65.8	
173	66.8	
174	67.7	
175	68.6	
176	69.6	
177	70.6	
178	71.6	
179	72.6	
180	73.6	
181	74.6	
182	75.7	
183	76.7	
184	77.8	
185	78.9	
186	80.0	
187	81.1	
188	82.2	
189	83.4	
190	84.5	
191	85.7	
192	86.9	
193	93.2	
194	94.5	
195	95.8	
196	97.2	72/96 class upper limit
197	98.5	
198	99.9	
199	101.3	
200	102.7	
201	104.2	
202	105.6	
203	107.1	
204	108.6	
205	110.1	
206	111.7	
207	113.2	
208	114.8	
209	116.4	
210	118.0	
211	119.7	
212	121.4	
213	123.1	120 class upper limit
214	124.8	
215	126.5	
216	128.3	
217	130.1	
218	132.0	
219	133.8	
220	135.7	
221	137.6	
222	139.5	
223	140.0	144 class upper limit

∗ Depending on operational conditions, operation pattern may be different from the description above.

5.3 Electronic Expansion Valve Control

Main Electronic Expansion valve (EVM) Control

When the outside unit heat exchanging is performed via condenser (Y7S (20S2) is set to OFF), this function is used to exert PI control on the electronic expansion valve (Y1E) so that the condenser outlet subcooling degree (SC) will become constant.

SC = Tb – Tc

SC: Condenser outlet subcooling degree
Tb: Liquid pipe temperature detected by heat exchanger liquid pipe thermistor (R7T)
Tc: High pressure equivalent saturated temperature

When the outside unit heat exchanging is performed via the evaporator (Y7S (20S2) is set to ON), this function is used to exert PI control on the electronic expansion valve (Y1E) so that the evaporator outlet superheating degree (SH) will become constant.

SH = Ts – Te

SH: Evaporator outlet superheating degree
Ts: Suction pipe temperature detected by thermistor (R3T)
Te: Low pressure equivalent saturation temperature

Subcooling Electronic Expansion Valve (EVT) control

In order to make maximum use of the subcooling heat exchanger, this function is used to exert PI control on the electronic expansion valve (Y2E) to keep the evaporator outlet superheating degree (SH) constant. Discharge temperature of the compressor, and liquid pipe temperature (when the water heat exchanger is used as a condenser) are also controlled.

SH = Tsh – Tm

SH: Evaporator outlet superheating degree
Tsh: Suction pipe temperature detected with the thermistor (R5T)
Tm: Low or middle pressure equivalent saturated temperature

5.4 Heat Exchange Mode in Heating Operation or Simultaneous Cooling/Heating Operation

In heating or simultaneous cooling/heating operation, a target condensing and evaporating temperature can be secured by switching the water heat exchanger of the outside unit into evaporator or condenser with load.

Single outside unit installation

	Master unit
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	OFF (Condenser)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance

ΔGR > 0 ↓ ↑ ΔGR < 0

	Master unit
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	ON (Evaporator)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance

Double outside units installation

	Master unit	Slave unit 1
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	OFF (Condenser)	OFF (Condenser)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance	Control of heat exchange capacity balance

ΔGR > 0 ↓ ↑ ΔGR < 0

	Master unit	Slave unit 1
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	OFF (Condenser)	ON (Evaporator)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance	0 pulse

ΔGR > 0 ↓ ↑ ΔGR < 0

ΔGR > 0 ↓

	Master unit	Slave unit 1
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	OFF (Condenser)	ON (Evaporator)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance	Control of heat exchange capacity balance

ΔGR < 0 ↑

	Master unit	Slave unit 1
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	ON (Evaporator)	ON (Evaporator)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance	0 pulse

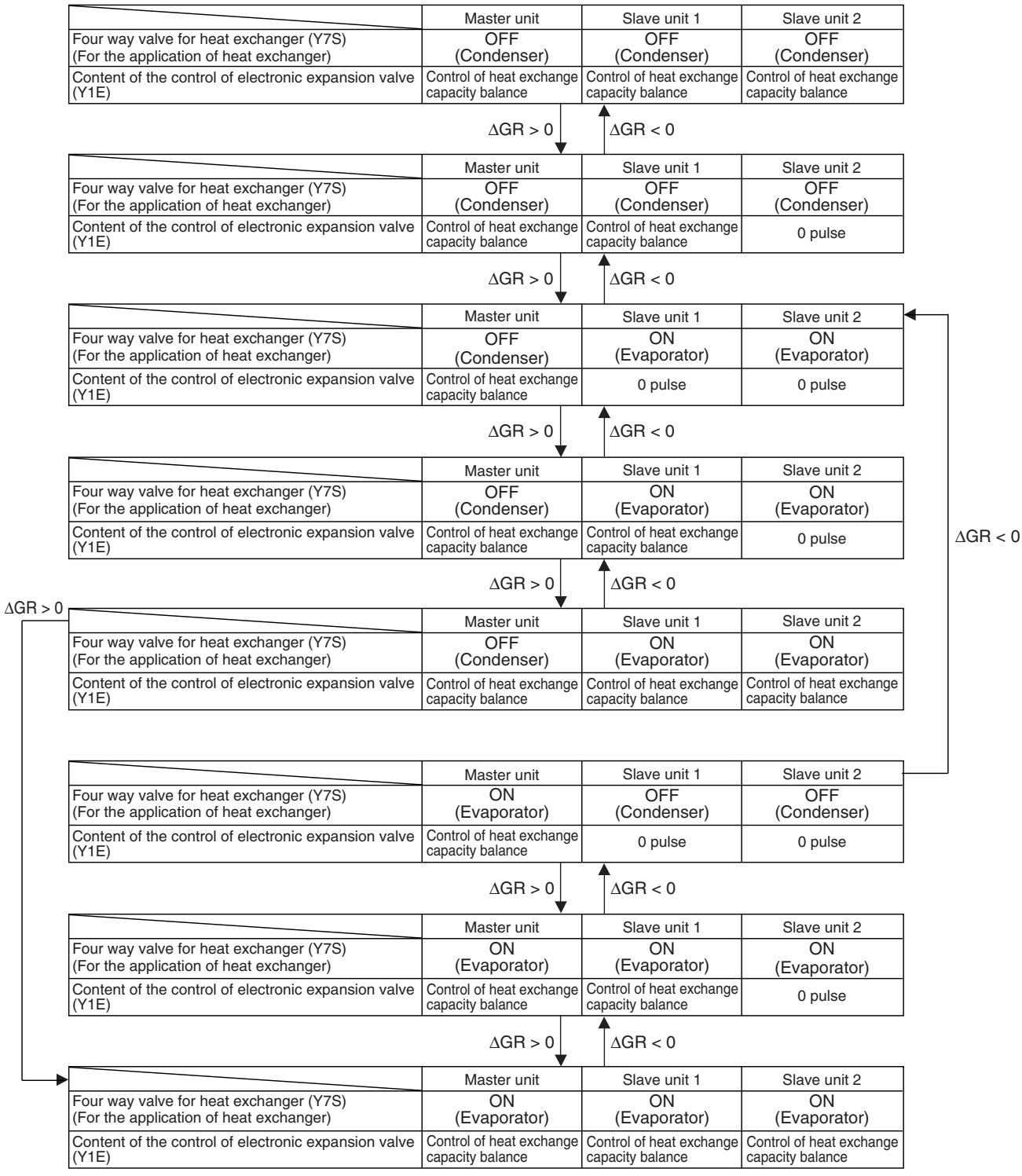
ΔGR > 0 ↓ ↑ ΔGR < 0

	Master unit	Slave unit 1
Four way valve for heat exchanger (Y7S) (For the application of heat exchanger)	ON (Evaporator)	ON (Evaporator)
Content of the control of electronic expansion valve (Y1E)	Control of heat exchange capacity balance	Control of heat exchange capacity balance

Note(s)

1. Tc: High pressure equivalent saturation temperature
   Te: Low pressure equivalent saturation temperature
   ΔGR = Target of heat exchange capacity balance – Actual measurement of heat balance
   (1) ΔGR > 0: Insufficient evaporation (Excessive condensation)
   (2) ΔGR < 0: Insufficient condensation (Excessive evaporation)
2. Control of heat exchange capacity balance
   Control the electronic expansion valve so that Te or Tc will obtain the target value.

Triple outside units installation



Note(s)

1. Tc: High pressure equivalent saturation temperature
   Te: Low pressure equivalent saturation temperature
   ∆GR = Target of heat exchange capacity balance – Actual measurement of heat balance
   (1) ∆GR > 0: Insufficient evaporation (Excessive condensation)
   (2) ∆GR < 0: Insufficient condensation (Excessive evaporation)
2. Control of heat exchange capacity balance
   Control the electronic expansion valve so that Te or Tc will obtain the target value.

6. Protection Control

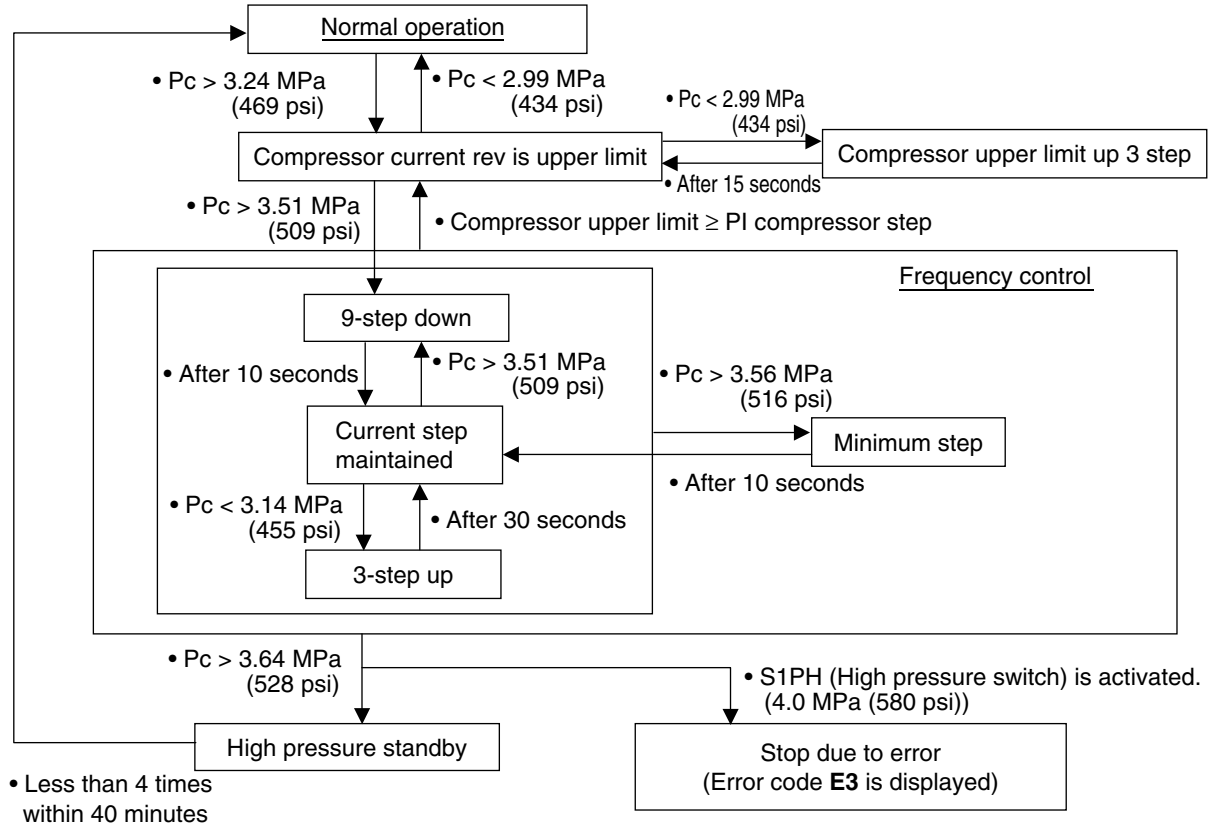
6.1 High Pressure Protection Control

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.

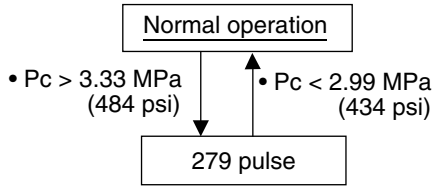
In cooling

Pc: High pressure sensor detection value for each outside unit
Tsh: Suction pipe temperature detected with the thermistor (R5T)
Tm: Low or middle pressure equivalent saturated temperature

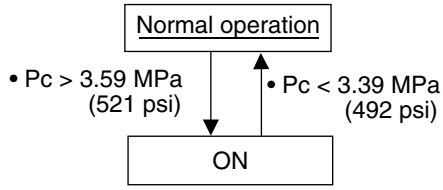
Compressor



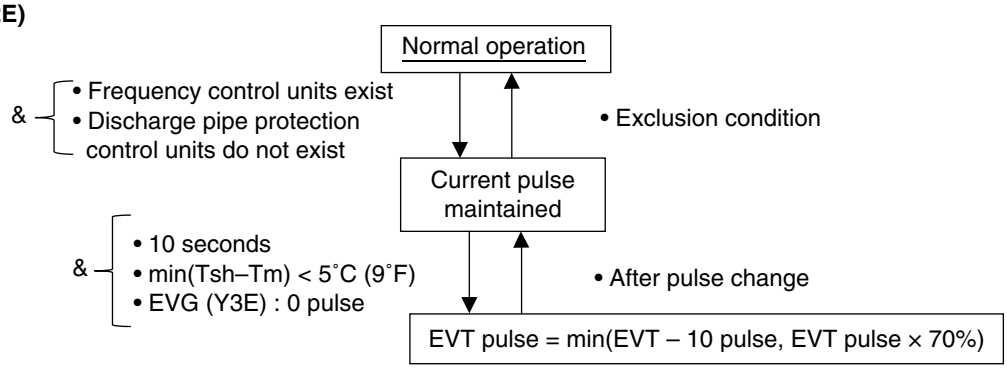
EVG (Y3E)



SVP (Y5S)



EVT (Y2E)

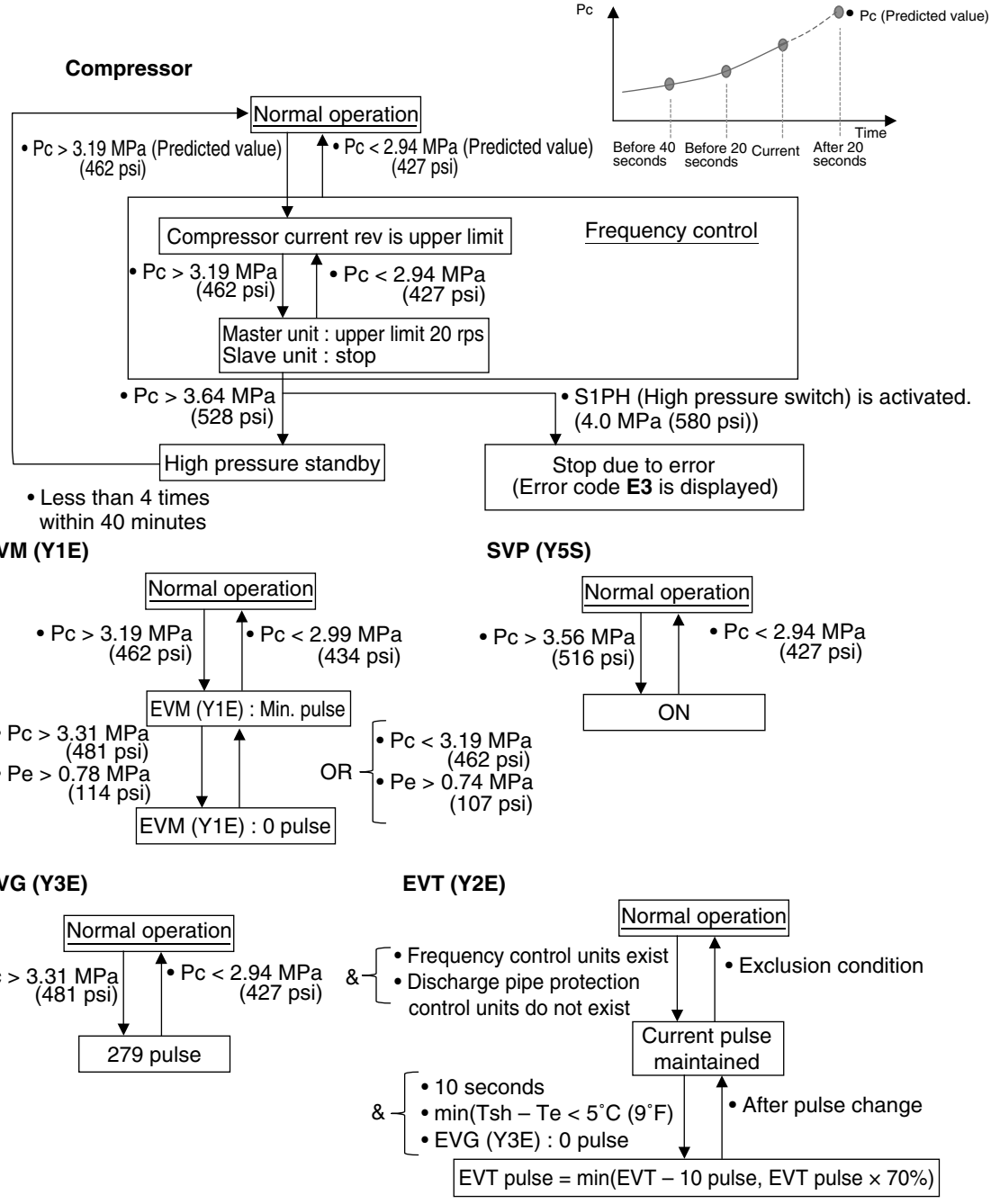


In heating or simultaneous cooling/heating

Pc: High pressure sensor detection value for each outside unit

Tsh: Suction pipe temperature detected with the thermistor (R5T)

Te: Low pressure equivalent saturation temperature

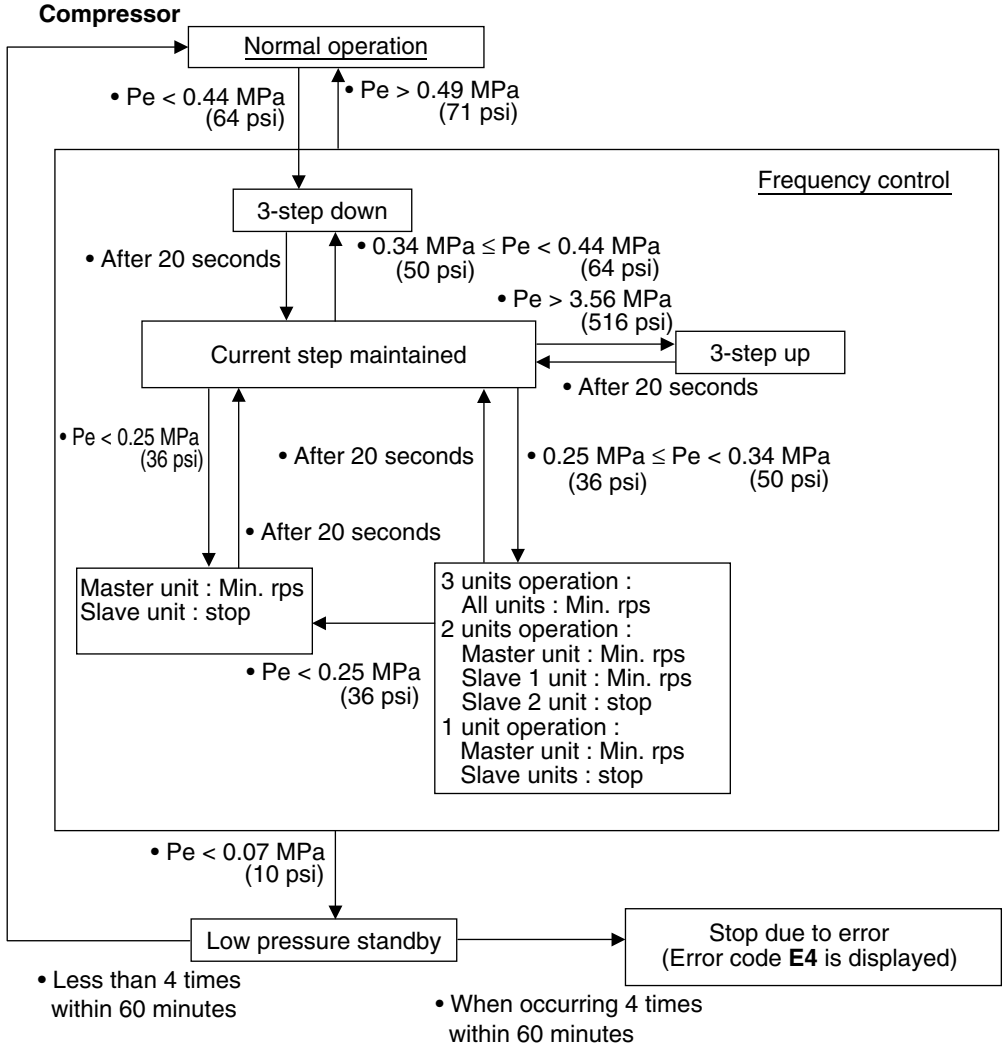


6.2 Low Pressure Protection Control

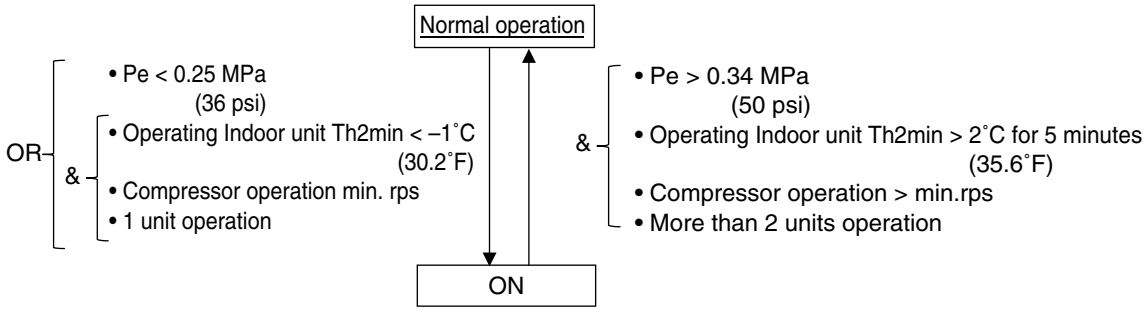
This low pressure protection control is used to protect compressors against the transient decrease of low pressure.

In cooling

Pe: Value detected by low pressure sensor for master unit



SVP (Y5S)



In heating or simultaneous cooling/heating

(When the outside unit heat exchanger is used as evaporator.)

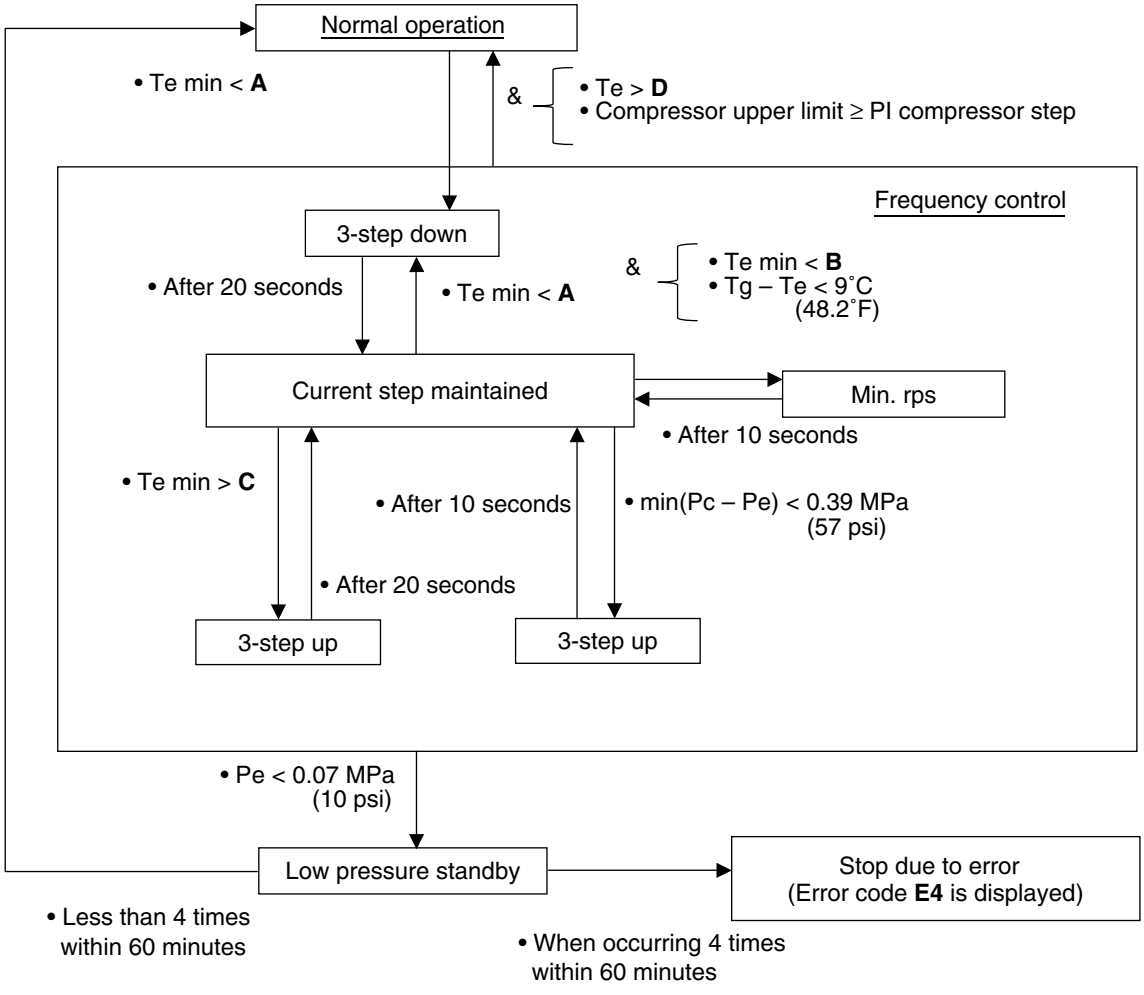
Pc: High pressure sensor detection value for each outside unit

Pe: Value detected by low pressure sensor for each outside unit

Te: Low pressure equivalent saturation temperature

Compressor

■Master unit : 20S2 (Y7S) = ON



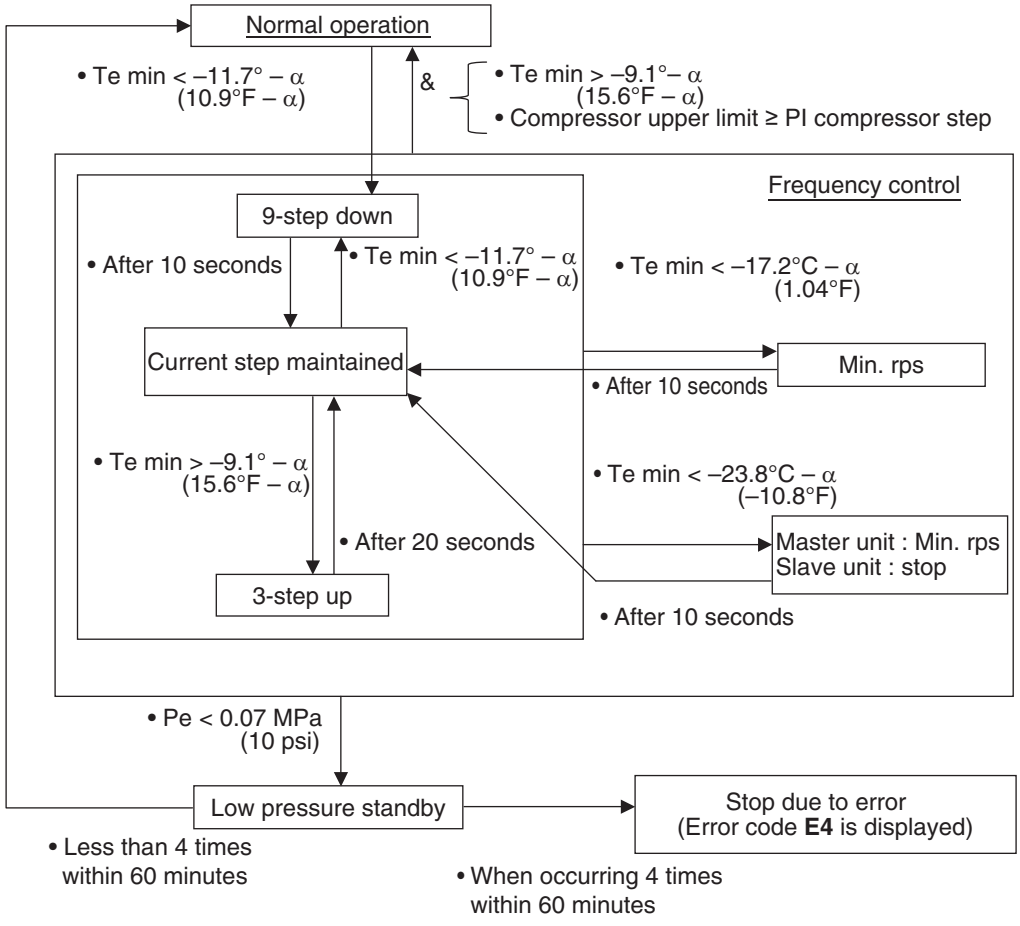
		A	B	C	D
Less than 12 minutes from compressor on	**˚C**	–0.4–α	–2.4–α	1.5–α	2.6–α
	˚F	31.3–α	27.7–α	34.7–α	36.7–α
From compressor on to 12 minutes later	**˚C**	–0.8–α	–6.3–α	1.3–α	1.3–α
	˚F	30.6–α	20.7–α	34.3–α	34.3–α

2-50: Field setting for freeze protection by brine and concentration

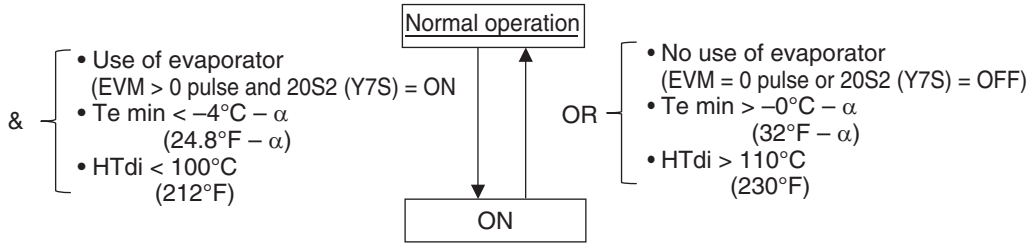
	0	**1**	**2**	**3**	**4**	**5**	**6**
α **(˚C)**	0	2.2	10.2	15.2	4.8	7.9	11.6
α **(˚F)**	0	4.0	18.4	27.4	8.6	14.2	20.9

	7	**8**	**9**	**10**	**11**	**12**
α **(˚C)**	16.3	21.9	0	0	0.3	2.3
α **(˚F)**	29.34	39.4	0.0	0.0	0.5	4.1

■**Master unit : 20S2 (Y7S) = OFF**



SVP (Y5S)



SVeva (Y9S)

2-50: Field setting for freeze protection by brine and concentration

	0	1	2	3	4	5	6
α **(°C)**	0	2.2	10.2	15.2	4.8	7.9	11.6
α **(°F)**	0	4.0	18.4	27.4	8.6	14.2	20.9

	7	8	9	10	11	12
α **(°C)**	16.3	21.9	0	0	0.3	2.3
α **(°F)**	29.34	39.4	0.0	0.0	0.5	4.1

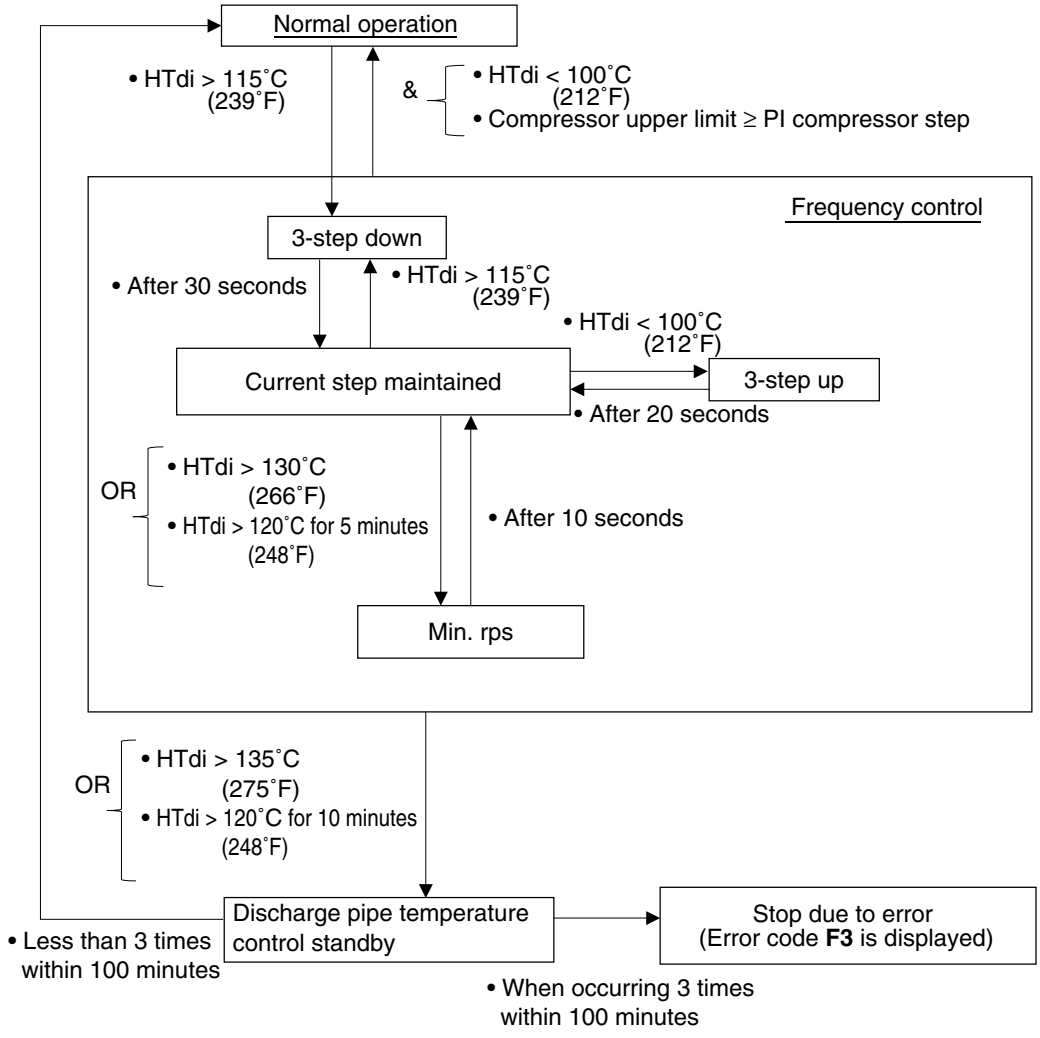
Reference Refer to exhaust heat cancellation on page 169.

6.3 Discharge Pipe Protection Control

This discharge pipe protection control protects the compressor internal temperature against an error or transient increase of discharge pipe temperature.
Discharge pipe protection control is carried out in each outside unit.

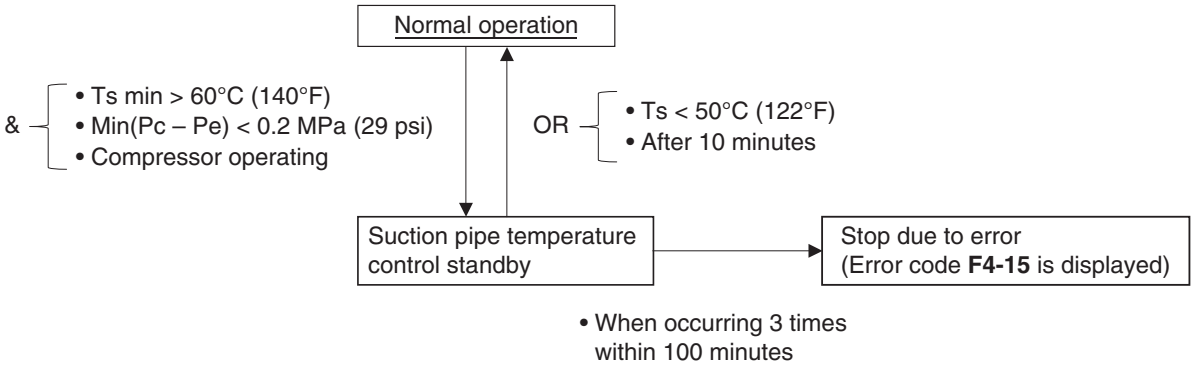
Compressor

HTdi: Value of compressor discharge pipe temperature compensated with outdoor air temperature



6.4 Suction Pipe Protection Control

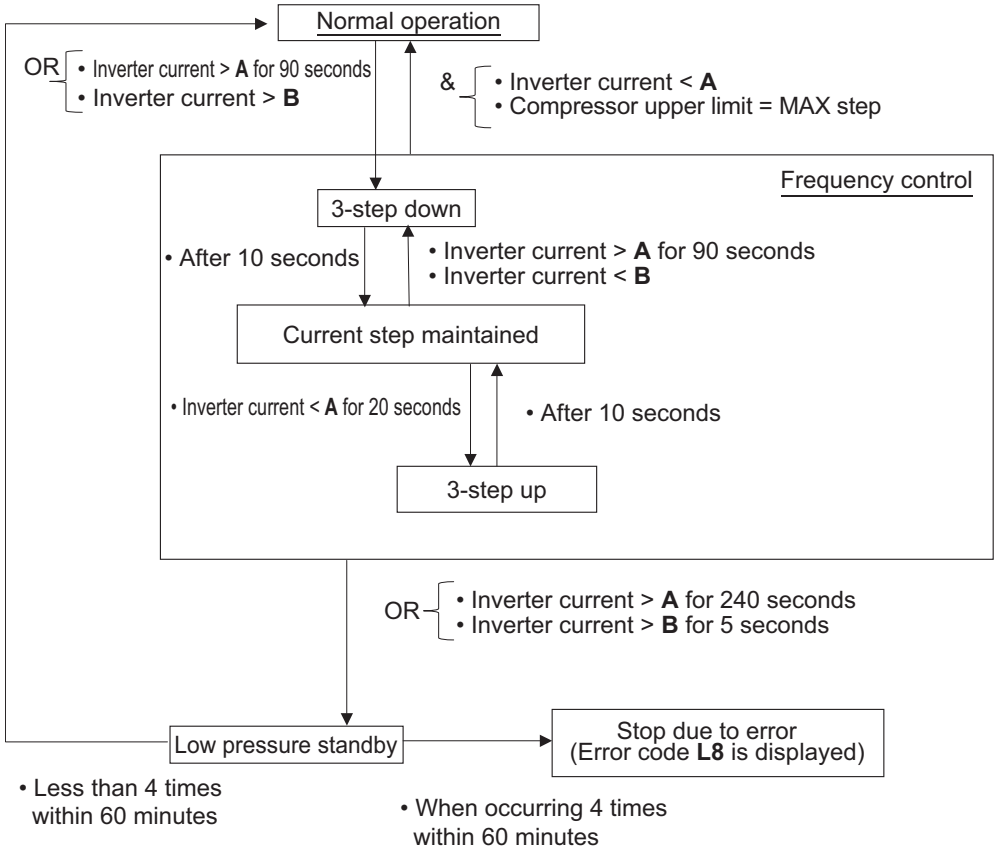
This suction pipe protection control protects the fusible plug and compressor internal temperature for the accumulator against hot gas due to a switching error of the 4-way valves.
Suction pipe protection control is carried out in each outside unit.
Ts: Suction pipe temperature detected by thermistor (R3T)



6.5 Inverter Protection Control

Inverter current protection control and radiation fin temperature control are performed to prevent tripping due to an error, or transient inverter overcurrent, and radiation fin temperature increase. This control is carried out in each outside unit.

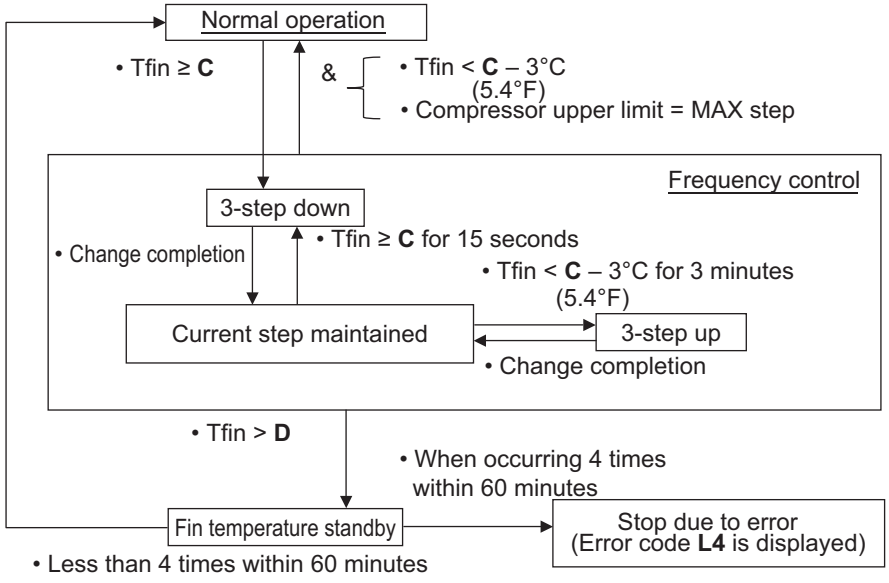
Inverter overcurrent protection control



208/230 V units	**A**	45.0 A
	B	47.0 A
460 V units	**A**	22.0 A
	B	22.5 A
575 V units	**A**	16.3 A
	B	16.8 A

Radiation fin temperature control

Tfin: Radiation fin temperature



208/230 V units	**C**	Chart below	
	D	Chart below	
460 V units	**C**	95°C	203°F
	D	100°C	212°F
575 V units	**C**	90°C	194°F
	D	95°C	203°F

C, D (208/230 V units) : OR
- Compressor frequency > 110 rps
- Inverter current > 45.7 A

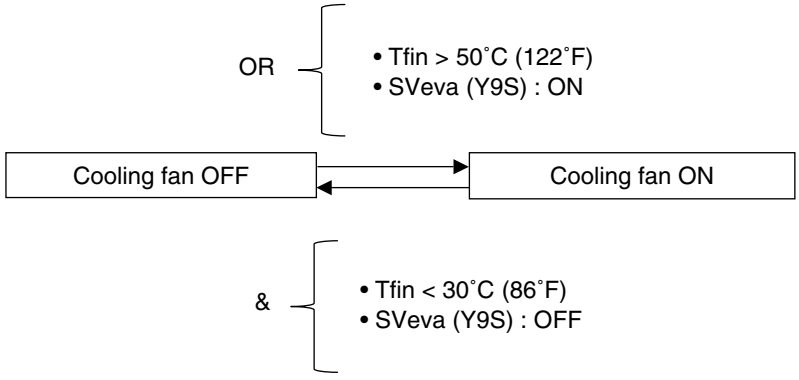
C	100°C	212°F	→	**C**	95°C	203°F
D	105°C	221°F	←	**D**	100°C	212°F

& (• Compressor frequency ≤ 110 rps, • Inverter current ≤ 45.7 A) • for 10 seconds

6.6 Cooling Fan Control

This function is used for ON/OFF control of the cooling fan to cool the inverter and to cool within outside unit for exhaust heat cancellation. This cooling fan operates only when the temperature of the inverter or inside of outside unit is high, in order to reduce the operating time of the fan.
Tfin: Radiation fin temperature

Details
Control the cooling fan by each outside unit.



7. Special Control

7.1 Oil Return Control

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

7.1.1 Oil Return Control in Cooling

Tc: High pressure equivalent saturation temperature
Te: Low pressure equivalent saturation temperature

Starting conditions

- Oil return operation is not conducted before 2 hours have elapsed from the activation of power supply.
- After 2 hours have elapsed, oil return operation starts when the following item meets the reference value.
  - Total amount of oil discharged from the compressor
    (The total amount of oil discharged from the compressor is computed from Tc, Te, and compressor loads.)
- Oil return operation starts every 8 hours of cumulative operation of the compressor, even if the reference value is not met.

Cooling Oil Return

Electric Symbol	Parts Name		Preparation	During Oil Return Control	After Oil Return Control
M1C	Compressor	COMP	Same as normal cooling operation	Constant low pressure control	Constant low pressure control
Y1E	Electronic expansion valve (Main)	EVM		3,000 pulse	3,000 pulse
Y2E	Electronic expansion valve (Subcool)	EVT		0 pulse	0 pulse
Y3E	Electronic expansion valve (Receiver gas vent)	EVG		0 pulse	0 pulse
Y1S	Solenoid valve (Oil return)	SVO		ON	ON
Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS		ON	ON
Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL		ON	ON
Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE		OFF	OFF
Y5S	Solenoid valve (Hot gas)	SVP		OFF	OFF
Y6S	Four way valve (Main)	20S1		OFF	OFF
Y7S	Four way valve (Sub)	20S2		OFF	OFF
Y8S	Solenoid valve (Receiver gas charging)	SVL		Maintained Pc > 2.94 MPa (427 psi) → OFF	Maintained
Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva		OFF	OFF
M1F, M2F, M3F	Fan motor (Electrical component cooling)	M1F, M2F, M3F		Same as normal cooling operation	Same as normal cooling operation
Ending condition			20 seconds	Max. 20 minutes	Max. 10 minutes

Indoor unit actuator		Oil return control	2-41
Fan	Thermostat ON unit	Remote controller setting	—
	Non-operating unit	OFF	—
	Thermostat OFF unit	Remote controller setting	0 (Default)
		OFF	1
Electronic expansion valve	Thermostat ON unit	Normal control	—
	Non-operating unit	192 pulse → SH control	—
	Thermostat OFF unit	Forced thermostat ON 192 pulse → SH control	—

Branch selector unit actuator			Oil return control
Electronic expansion valve (EVSC)	Y1E	Thermostat ON unit	0 pulse
		Non-operating unit	0 pulse
		Thermostat OFF unit	0 pulse
Electronic expansion valve (EVH)	Y2E	Thermostat ON unit	6,000 pulse
		Non-operating unit	6,000 pulse
		Thermostat OFF unit	6,000 pulse
Electronic expansion valve (EVL)	Y3E	Thermostat ON unit	6,000 pulse
		Non-operating unit	6,000 pulse
		Thermostat OFF unit	6,000 pulse

7.1.2 Oil Return Control in Heating or Cooling/Heating Simultaneous Operation

Tc: High pressure equivalent saturation temperature

Te: Low pressure equivalent saturation temperature

Starting conditions

- Oil return operation is not conducted before 2 hours have elapsed from the activation of power supply.
- After 2 hours have elapsed, oil return operation starts when the following item meets the reference value.
  - Total amount of oil discharged from the compressor
    (The total amount of oil discharged from the compressor is computed from Tc, Te, and compressor loads.)
- Oil return operation starts every 8 hours of cumulative operation of the compressor, even if the reference value is not met.

Electric Symbol	Part Name		Preparation	During Oil Return Control	After Oil Return Control
M1C	Compressor	COMP	15 rps	0 rps → 15 rps → +25% rps → 0 rps → Constant low pressure control	Constant low pressure control
Y1E	Electronic expansion valve (Main)	EVM	Same as normal Heating operation	0 pulse → 3,000 pulse	3,000 pulse
Y2E	Electronic expansion valve (Subcool)	EVT	0 pulse	0 pulse	0 pulse
Y3E	Electronic expansion valve (Receiver gas vent)	EVG	Same as normal Heating operation	0 pulse	0 pulse
Y1S	Solenoid valve (Oil return)	SVO	Same as normal Heating operation	OFF → Same as normal Heating operation	OFF
Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS	ON	ON	ON
Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL	Same as normal Heating operation	ON	OFF → ON
Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE	Same as normal Heating operation	OFF	OFF
Y5S	Solenoid valve (Hot gas)	SVP	Same as normal Heating operation	ON → OFF	OFF
Y6S	Four way valve (Main)	20S1	ON	Maintained → OFF	OFF
Y7S	Four way valve (Sub)	20S2	Maintained	OFF	OFF
Y8S	Solenoid valve (Receiver gas charging)	SVL	Same as normal Heating operation	OFF	OFF
Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva	Same as normal Heating operation	OFF	OFF
M1F, M2F, M3F	Fan motor (Electrical component cooling)	M1F, M2F, M3F	Same as normal Heating operation	Same as normal Heating operation	Same as normal Heating operation
Ending condition			2 minutes	Max. 20 minutes	Max. 30 seconds

Indoor unit actuator		Cooling	Heating
Fan	Thermostat ON unit	Remote controller setting	Remote controller setting → OFF
	Non-operating unit	Remote controller setting → OFF	Remote controller setting → OFF
	Thermostat OFF unit	Remote controller setting	Remote controller setting → OFF
Electronic expansion valve	Thermostat ON unit	0 pulse → SH control	0 pulse → SH control
	Non-operating unit	0 pulse → SH control	0 pulse → SH control
	Thermostat OFF unit	0 pulse → SH control	0 pulse → SH control

Indoor unit actuator			Cooling	Heating
Electronic expansion valve (EVSC)	Y1E	Thermostat ON unit	0 pulse	0 pulse
		Non-operating unit	0 pulse	0 pulse
		Thermostat OFF unit	0 pulse	0 pulse
Electronic expansion valve (EVH)	Y2E	Thermostat ON unit	6,000 pulse	6,000 pulse
		Non-operating unit	6,000 pulse	6,000 pulse
		Thermostat OFF unit	6,000 pulse	6,000 pulse
Electronic expansion valve (EVL)	Y3E	Thermostat ON unit	6,000 pulse	6,000 pulse
		Non-operating unit	6,000 pulse	6,000 pulse
		Thermostat OFF unit	6,000 pulse	6,000 pulse

7.2 Oil Return Control of Water Heat Exchanger

Oil return control of water heat exchanger

When the water heat exchanger is used as evaporator during heating or simultaneous cooling/heating operation, the operation that the oil accumulated in the water heat exchanger is returned to compressor is conducted.

Starting condition

Tg: Gas pipe temperature of water heat exchanger

Te: Low pressure equivalent saturation temperature

After a certain continuous period of time has passed under the following conditions, oil return operation starts.

& {
- Y7S (20S2) : ON (Water heat exchanger is an evaporator.)
- Tg – Te > 10°C (18°F)
- Elapse of a certain period of time
- Refrigerant speed is less than predetermined numerical value
- Y1E (EVM) is more than 0 pulse

Electric Symbol	Parts Name		Water Heat Exchanger Oil Return Control
M1C	Compressor	COMP	15 rps → Differential pressure control
Y1E	Electronic expansion valve (Main)	EVM	Min. pulse → 281 pulse → Min. pulse
Y2E	Electronic expansion valve (Subcool)	EVT	0 pulse → Min pulse → 0 pulse
Y3E	Electronic expansion valve (Receiver gas vent)	EVG	0 pulse
Y1S	Solenoid valve (Oil return)	SVO	OFF
Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS	ON
Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL	ON
Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE	ON
Y5S	Solenoid valve (Hot gas)	SVP	ON
Y6S	Four way valve (Main)	20S1	ON
Y7S	Four way valve (Sub)	20S2	ON → OFF → ON
Y8S	Solenoid valve (Receiver gas charging)	SVL	OFF
Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva	OFF
M1F, M2F, M3F	Fan motor (Electrical component cooling)	M1F, M2F, M3F	Same as normal Heating operation
Ending condition			Max. 105 seconds

7.3 Pump Down Residual Control

If any liquid refrigerant remains in the heat exchanger during compressor startup, the liquid refrigerant will enter the compressor, resulting in the dilution of the refrigerating oil in the compressor and the degradation of lubricating capacity.

Therefore, before the compressor stops, pump down residual control is conducted to collect the refrigerant in the heat exchanger.

7.3.1 Cooling Operation Mode

Electric Symbol	Parts Name		Master Unit Operation	Slave Unit Operation
M1C	Compressor	COMP	15 rps → Pressure control	0 rps
Y1E	Electronic expansion valve (Main)	EVM	3,000 pulse	0 pulse
Y2E	Electronic expansion valve (Subcool)	EVT	0 pulse	0 pulse
Y3E	Electronic expansion valve (Receiver gas vent)	EVG	320 pulse → 0 pulse	0 pulse
Y1S	Solenoid valve (Oil return)	SVO	ON	ON
Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS	ON	ON
Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL	OFF	OFF
Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE	OFF	OFF
Y5S	Solenoid valve (Hot gas)	SVP	ON	OFF
Y6S	Four way valve (Main)	20S1	OFF	OFF
Y7S	Four way valve (Sub)	20S2	OFF	OFF
Y8S	Solenoid valve (Receiver gas charging)	SVL	OFF	OFF
Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva	OFF	OFF
M1F, M2F, M3F	Fan motor (Electrical component cooling)	M1F, M2F, M3F	Same as normal Heating operation	Same as normal Heating operation
Ending condition			Max. 5 minutes	

7.3.2 Heating & Cooling/Heating Simultaneous Mode

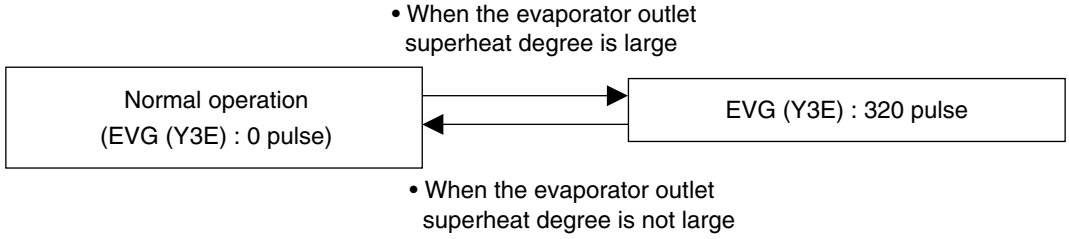
Electric Symbol	Parts Name		Master Unit Operation	Slave Unit Operation
M1C	Compressor	COMP	15 rps → Pressure control	0 rps
Y1E	Electronic expansion valve (Main)	EVM	20S2 (Y7S) = OFF : 3,000 pulse 20S2 (Y7S) = ON : 0 pulse	0 pulse
Y2E	Electronic expansion valve (Subcool)	EVT	0 pulse	0 pulse
Y3E	Electronic expansion valve (Receiver gas vent)	EVG	320 pulse → 0 pulse	0 pulse
Y1S	Solenoid valve (Oil return)	SVO	ON	ON
Y2S	Solenoid valve (Changes the bypass suction or injection)	SVS	ON	ON
Y3S	Solenoid valve (Non-operating unit liquid pipe closing)	SVSL	OFF	ON
Y4S	Solenoid valve (Oil return of water heat exchanger)	SVE	OFF	OFF
Y5S	Solenoid valve (Hot gas)	SVP	ON	OFF
Y6S	Four way valve (Main)	20S1	ON	ON
Y7S	Four way valve (Sub)	20S2	Maintained	Maintained
Y8S	Solenoid valve (Receiver gas charging)	SVL	OFF	OFF
Y9S	Solenoid valve (Exhaust heat cancellation heat exchanger)	SVeva	OFF	OFF
M1F, M2F, M3F	Fan motor (Electrical component cooling)	M1F, M2F, M3F	Same as normal Heating operation	Same as normal Heating operation
Ending condition			Max. 5 minutes	

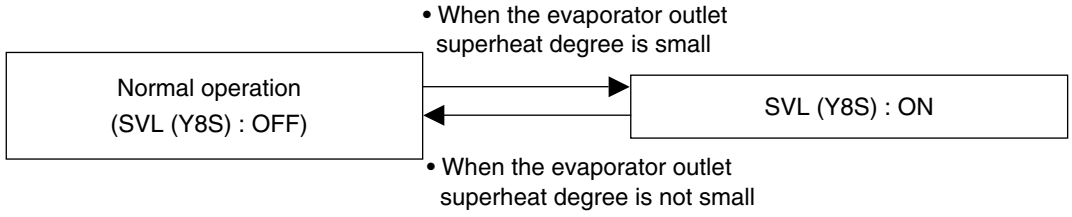
7.4 Refrigerant Drift Prevention

Refrigerant drift prevention control is carried out in order to prevent refrigerant drift among outside units during heating operation using outside multiple connection. Refrigerant overcharged in outside units is collected and transferred to other outside units that present refrigerant shortage by controlling the electronic expansion valve.

7.4.1 In case of cooling/heating simultaneous connection

When the evaporator outlet superheating degree is large, open the electronic expansion valve (Y3S) for venting receiver refrigerant of the outside units that are refrigerant shortage and the solenoid valve SVL (Y8S) for pressurizing the receiver of the overcharged outside units.





8. Other Control

8.1 Outside Unit Rotation

In the case of multi outside unit system, this outside unit rotation prevents the compressor from burning out due to unbalanced oil level between outside units.

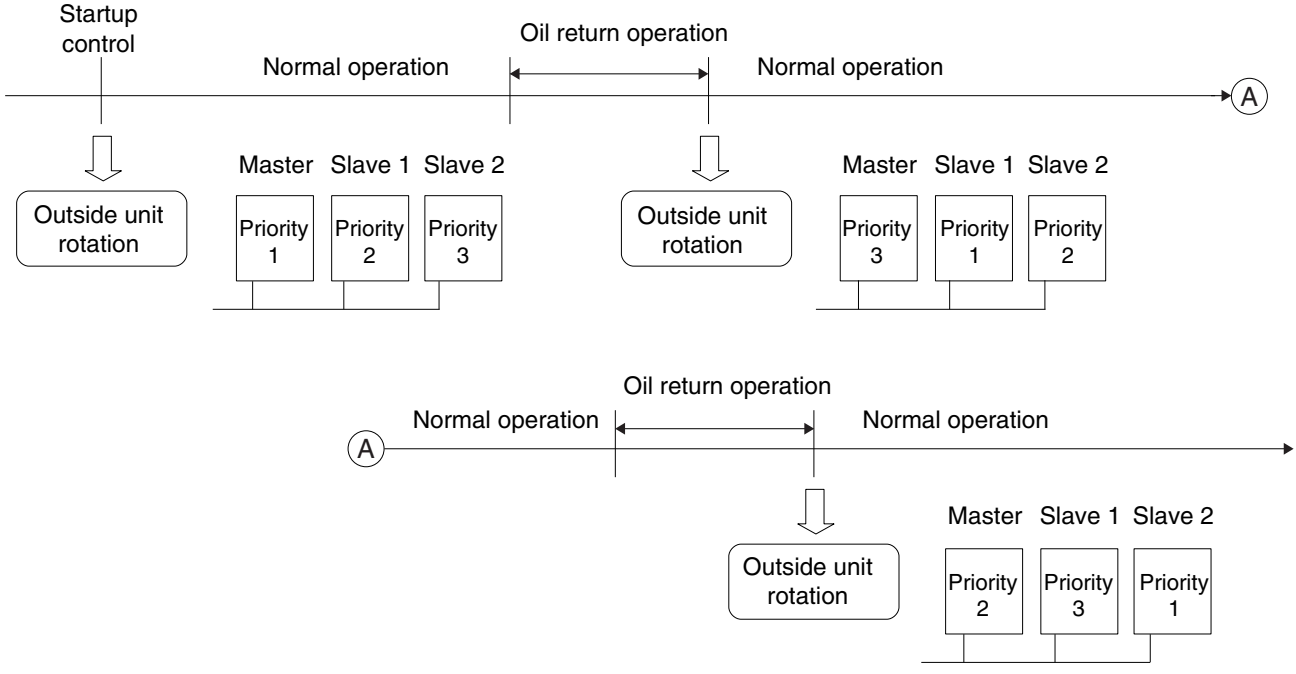
Details of outside unit rotation

In the case of multi outside unit system, each outside unit is given an operating priority for the control.
Outside unit rotation makes it possible to change the operating priority of outside units.
Thus, the system becomes free of compressors that stop over an extended period of time at the time of partial loading, preventing unbalanced oil level.

Timing of outside unit rotation

- After oil return operation
- At the beginning of the startup control
- When a driving outside unit was mixed with a stop outside unit and 15 minutes have elapsed (Other than cooling/heating simultaneous driving)

Example) The following diagram shows outside unit rotation in combination of 3 outside units.



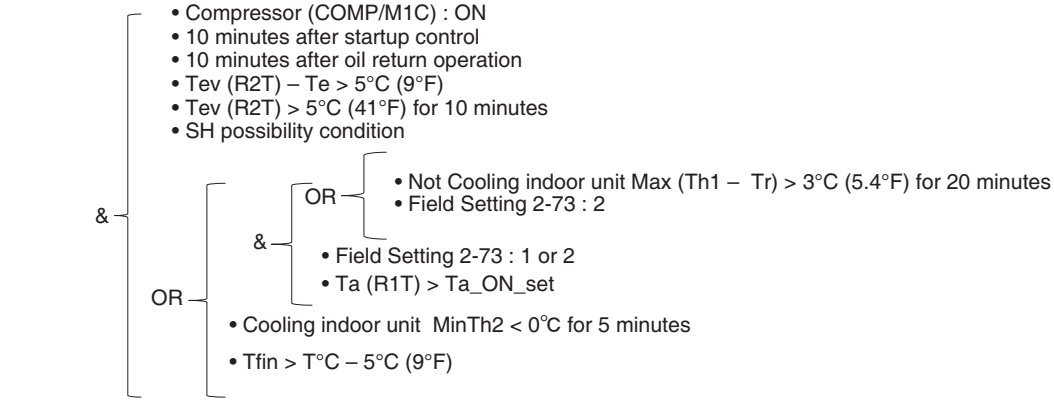
Note(s)

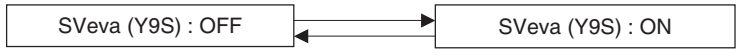
Master unit, slave unit 1 and slave unit 2 in this section are the names for installation.
They are determined in installation work, and not changed thereafter. (These names are different from master unit and slave unit for control.)
The outside unit connected the control wires (F1 and F2) for the indoor unit should be designated as master unit.
Consequently, the LED displays on the outside unit main PCB for master unit, slave unit 1 and slave unit 2 do not change.

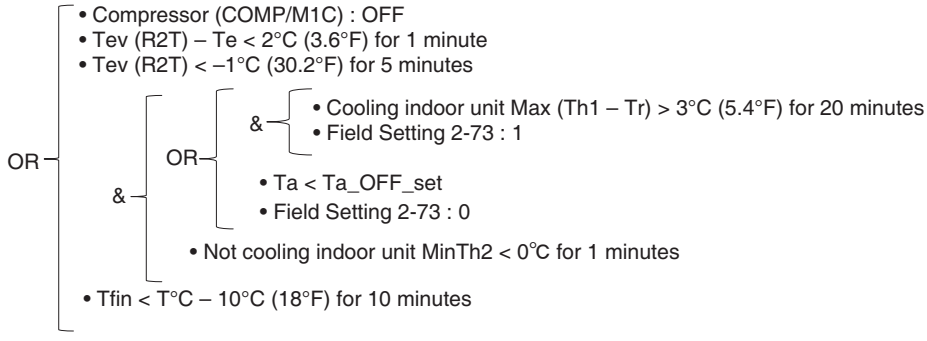
8.2 Exhaust Heat Cancellation Operation

Cooling the exhaust heat by heat exchanger inside the unit to maintain the set temperature and exhaust heat cancellation operation reduce machine room temperature rise caused by equipment operation.
(Factory setting is OFF. The heat exhaust cancellation operation temperature can be changed in the field setting.)

Ta: Outside unit inside temperature detected with the thermistor (R1T)
Tc: High pressure equivalent saturation temperature
Te: Low pressure equivalent saturation temperature
Tev: Exhaust heat cancellation heat exchanger gas pipe temperature detected with the thermistor (R2T)
Th1: Indoor unit inlet air temperature
Tr: Remote controller set temperature
Tfin: Radiation fin temperature
T: Refer to Inverter Protection Control on page 158.







Ta_Off_set = Ta_ON_set – Differential

2-73: Exhaust heat cancellation operation

No.	0	1	2
Exhaust Heat Cancellation Operation	OFF	ON	ON
Temperature priority	–	Indoor unit	Outside unit

2-74: Exhaust heat cancellation temperature

No.	0	1	2	3	4	5	6	7
Ta_ON_set	25°C	27°C	29°C	31°C	33°C	35°C	37°C	39°C
	77.0°F	80.6°F	84.2°F	87.8°F	91.4°F	95.0°F	98.6°F	102.2°F

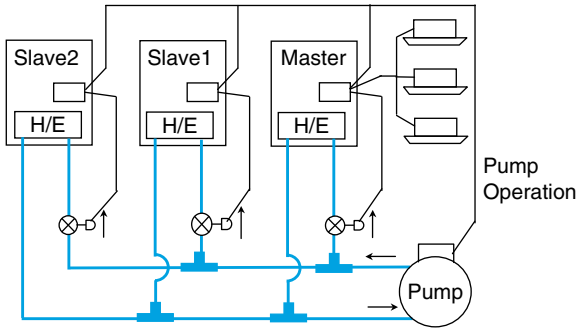
2-75: Differential temperature

No.	0	1	2	3
Differential	3°C	2°C	1°C	5°C
	37.4°F	35.6°F	33.8°F	41.0°F

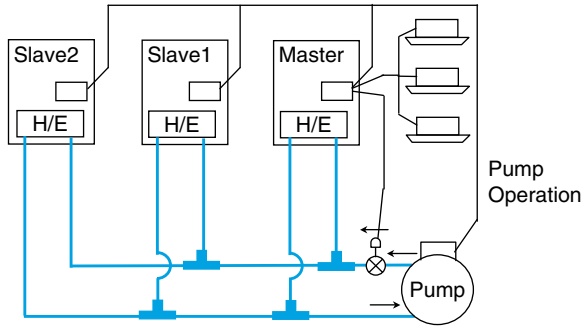
8.3 Water Quantity Control

Water quantity is controlled to be the required amount of water.
There are two cases: (1) every unit performs individually; or (2) all units perform as a whole system.

(1) every unit performs individually
Field setting 2-24 : 1,3

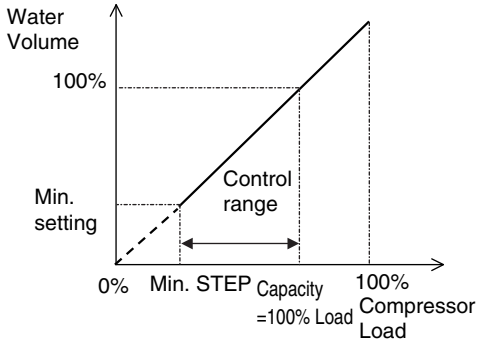


(2) all units perform as a whole system
Field setting 2-24 : 2

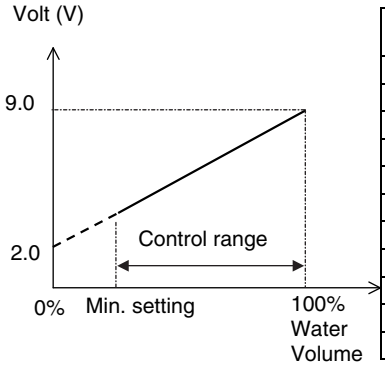


Water Quantity Control

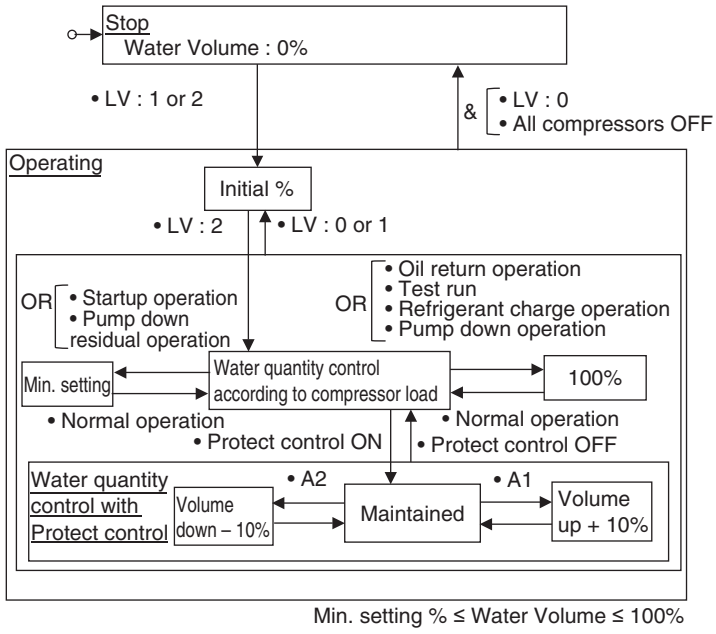
Quantity of water is controlled according to the compressor load.



Voltage output (Field use) for water quantity control



Water Volume	Volt (V)
100%	9.0
90%	8.3
80%	7.6
70%	6.9
60%	6.2
50%	5.5
40%	4.8
30%	4.1
20%	3.4
10%	2.7
0%	2.0



Min. setting % ≤ Water Volume ≤ 100%

2-24: Water pump/valve control

LV	1	2	3
0	All indoor units Thermostat : OFF		
1	Indoor units Thermostat : ON		
2	EVM (Y1E) is more than 0 pulse	Operation outside units more than 1 unit	EVM (Y1E) is more than 0 pulse

Calculation of initial percentage of water quantity

1. When the system is powered for the first time:
The water quantity is set according to the minimum setting percentage.

2. When the following condition is met:

& • Field setting 2-24 is set to 3.
• LV: 0 or 1

The water quantity is set to 0%.

3. For all other conditions:
The water quantity is set according to the following:

Min(100%, Max(Capacity difference / outside unit total capacity × 100% × N, Min. setting %))

Where,
Capacity difference (ΔC):
When cooling thermostat ON capacity is higher than heating thermostat ON capacity,
ΔC = Cooling thermostat ON capacity – heating thermostat ON capacity
When heating thermostat ON capacity is higher than cooling thermostat ON capacity,
ΔC = Heating thermostat ON capacity – cooling thermostat ON capacity

N:
When field setting 2-24 is set to 1 or 3,
N = Capacity of each outside unit / total system capacity.
When field setting 2-24 is set to 2,
N = 1.

In case each unit performs individually (Field setting 2-24 = 1, 3)

A1 :

- & • 5 minutes
- & OR
  - OR & • High pressure protection control; • 20S2 (Y7S) : OFF; • EVM (Y1E) > 0 pulse
  - & • Low pressure protection control; • 20S2 (Y7S) : ON; • EVM (Y1E) > 0 pulse
  - • Discharge pipe protection control
  - • Inverter protection control

  → • Protection 1
- & • 20S2 (Y7S) : OFF; • EVM (Y1E) > 0 pulse; • TL (R6T) > 35˚C(95˚F) → • Protection 2 out
- & • Water Volume control based on the compressor load % > Current %

A2 :

- OR & • 5 minutes
- & OR
  - & OR • Not high pressure protection control; • 20S2 (Y7S) : ON; • EVM (Y1E) = 0 pulse
  - OR • Not low pressure protection control; • 20S2 (Y7S) : OFF; • EVM (Y1E) = 0 pulse
  - • Not Discharge pipe protection control
  - • Not Inverter protection control

  → • Protection 1 out
- OR & • 20S2 (Y7S) : OFF; • EVM (Y1E) > 0 pulse; • TL (R6T) < 25˚C (77˚F) → • Protection 2
- & • Water Volume control based on the compressor load % < Current %

In case all units perform as a whole system (Field setting 2-24 = 2)

A1 :

- & • 5 minutes
- & OR • More than 1 unit Protection 1
- & • 20S2 (Y7S) : OFF; • EVM (Y1E) > 0 pulse; • Protection 2 out unit; • Water Volume control based on the compressor load % > Current %
- • No unit Protection 2

A2 :

- & • 5 minutes
- & • All units Protection 1 out
- & OR & • 20S2 (Y7S) : OFF; • EVM (Y1E) > 0 pulse; • Protection 2 unit
- & • Water Volume control based on the compressor load % < Current %
- • No unit Protection 2 out

8.4 Backup Operation

If any of the compressors goes wrong, disable the relevant compressor or the relevant outside unit from operating, and then conduct emergency operation only with operational compressors or outside units.
"Emergency operation with remote controller reset" and "Emergency operation with outside unit PCB setting" are available.

Applicable model	Operating method	
	(1) Emergency operation with remote controller reset (Auto backup operation)	(2) Emergency operation with outside unit PCB setting (Manual backup operation)
RWEQ192-432TA RWEQ168-432TB	Backup operation by outside unit	Backup operation by outside unit

(1) Emergency operation with remote controller reset
Operating method
Reset the remote controller.
Details of operation
Disable the defective outside unit from operating temporarily, and then only operate other outside units.
(On the system with 1 outside unit, this emergency operation is not available.)

(2) Emergency operation with outside unit PCB setting
Setting method
Make setting of the unit, "the operation of which is to be disabled", in field setting mode (setting mode 2).
Details of operation
Disable the defective outside unit from operating, and then only operate other outside units.
(On the system with 1 outside unit, this emergency operation is not available.)

8.5 Demand Operation

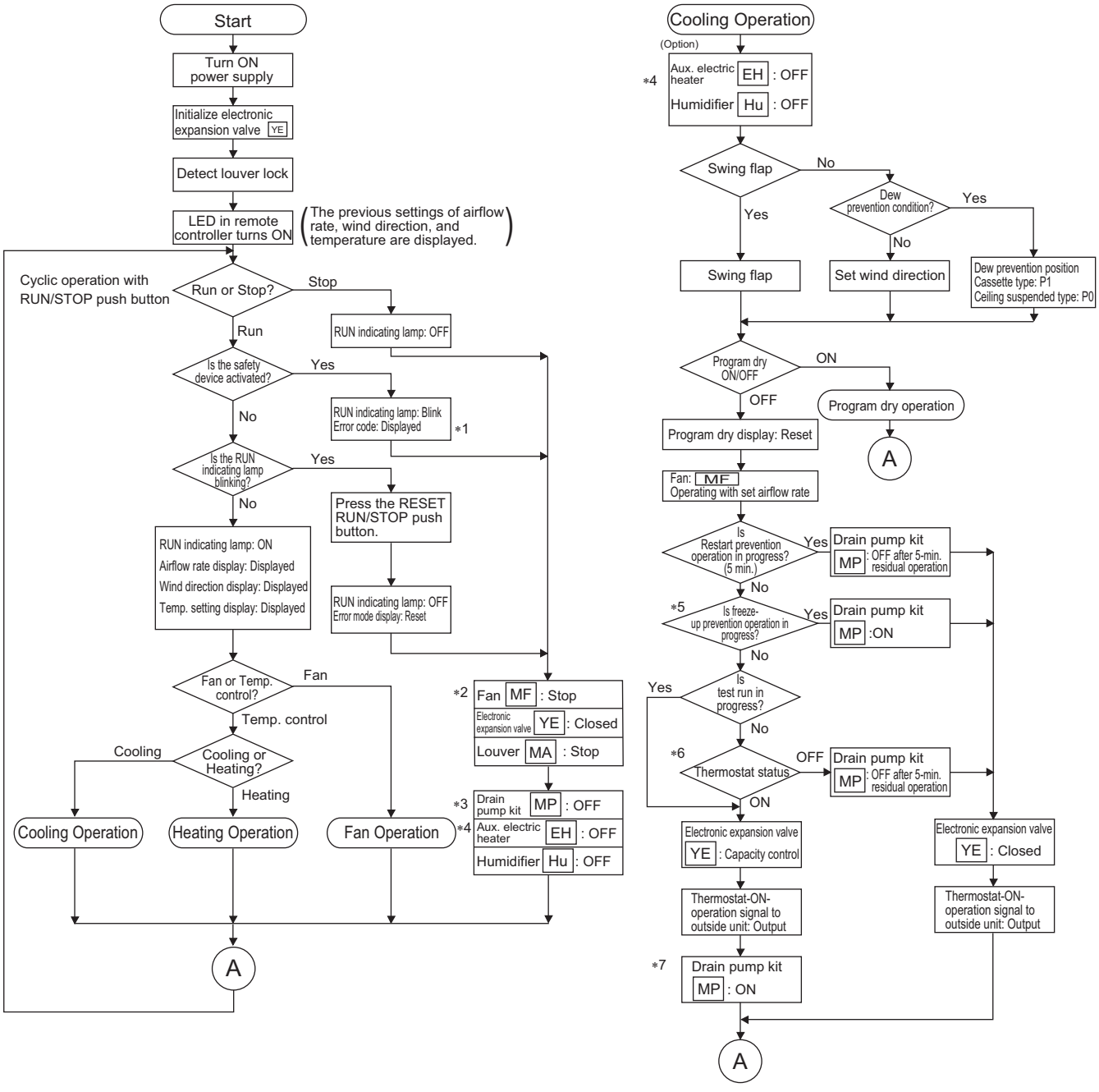
In order to limit the power consumption, the capacity of outside unit forcibly reduced by using “Demand 1 Setting” or “Demand 2 Setting”.
To operate the unit with this mode, additional setting of “Continuous Demand Setting” or external input by external control adaptor for outside unit is required.

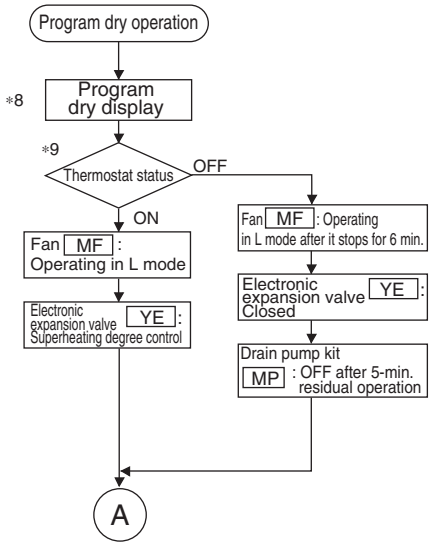
Setting item	Content
Demand 1	The compressor operates at the power of 60-95% or less of the rating.
Demand 2	The compressor operates at the power of 40-55% or less of the rating.
Demand 3	Forced thermostat OFF

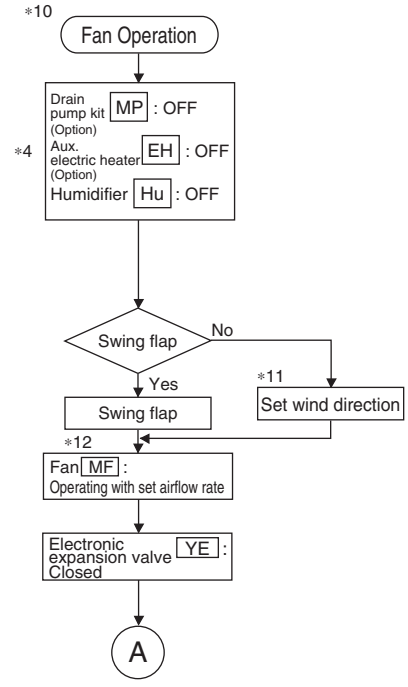
Reference Refer to page 247 for the power consumption limitation details.

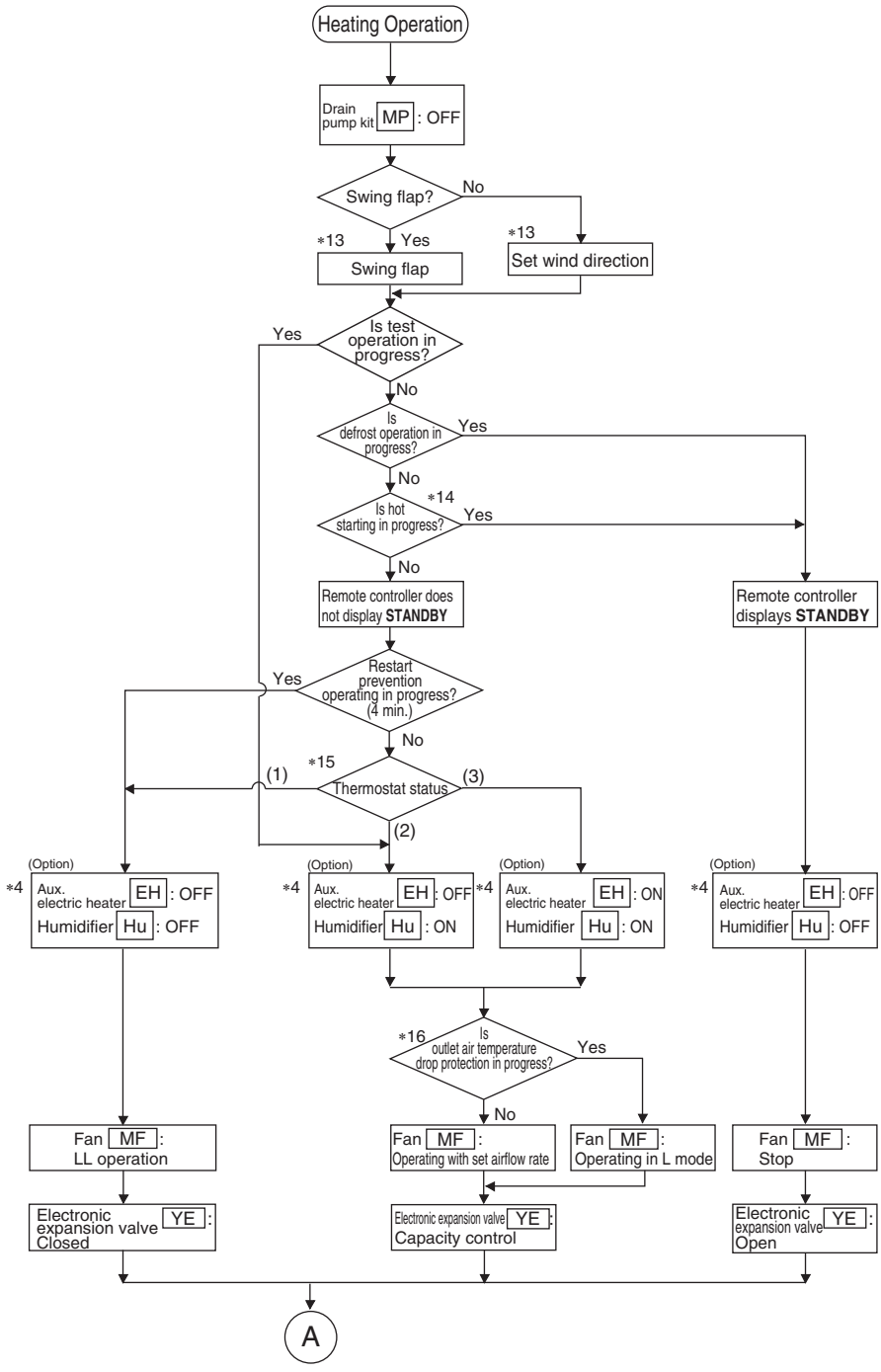
9. Outline of Control (Indoor Unit)

9.1 Operation Flowchart




Program dry operation
∗8
Program dry display
∗9
Thermostat status
OFF
ON
Fan MF : Operating in L mode
Electronic expansion valve YE : Superheating degree control
Fan MF : Operating in L mode after it stops for 6 min.
Electronic expansion valve YE : Closed
Drain pump kit MP : OFF after 5-min. residual operation
A


∗10
Fan Operation
∗4
Drain pump kit MP : OFF
(Option)
Aux. electric heater EH : OFF
(Option)
Humidifier Hu : OFF
Swing flap
No
Yes
∗11
Set wind direction
Swing flap
∗12
Fan MF : Operating with set airflow rate
Electronic expansion valve YE : Closed
A



Note(s)

∗1. If any error occurs, the relevant error code will be displayed according to the error code display of the remote controller.

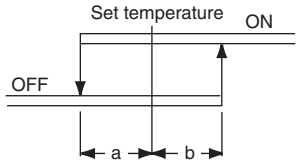
∗2. When the auxiliary electric heater turns ON, the fan will stop after it conducts residual operation.

∗3. When the drain pump kit turns ON, the drain pump kit will stop after it conducts residual operation for a period of 5 min.

∗4. The control of auxiliary electric heater connected to FXTQ-TA, FXTQ-TB models differ from this flowchart. For details, refer to **Heater Control (FXTQ-TA, FXTQ-TB Models)** on page 194.

∗5. If the evaporator inlet temperature is kept at less than –5°C (23°F) for a period of cumulative 10 min. or less than –1°C (30.2°F) for a cumulative period of 40 min., freeze-up prevention operation will be conducted. If the evaporator inlet temperature is kept at more than 7°C (44.6°F) for a consecutive period of 10 min., the freeze-up prevention operation will be reset.

∗6. Thermostat status

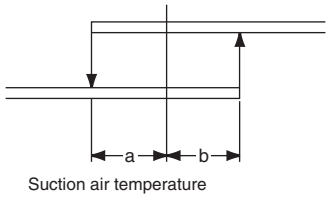


a = b = 1°C (1.8°F) or 0.5°C (0.9°F)
The values a and b depend on the field setting 12(22)-2.

∗7. The following models have the drain pump as standard equipment.
FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXZQ-M, FXUQ-P, FXUQ-PA, FXEQ-P, FXDQ-M, FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB

∗8. Program dry display
No set temperature and airflow rate of the remote controller are displayed.

∗9. Thermostat status
Set temperature when operating the program dry mechanism.



∗10. Fan operation
By setting the remote controller to Fan, the fan will operate with thermostat OFF in set temperature control operation mode.

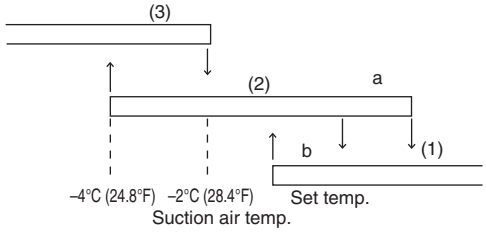
∗11. Set wind direction
According to wind direction instruction from the remote controller, the wind direction is set to 100% horizontal while in heating operation.

∗12. Fan
According to fan speed instruction from the remote controller, the fan is put into operation in LL mode while in heating operation.

∗13. Wind direction
When the heating thermostat turns OFF, the wind direction will be set to 100% horizontal.

∗14. Hot start
After the start of heating operation or the end of defrost operation, the hot start control will terminate if the temperature at the condenser outlet (indoor heat exchanger liquid pipe temperature) exceeds 34°C (93.2°F), or if Tc is above 52°C (125.6°F), or if 3 minutes have elapsed.

∗15. Thermostat status



∗16. Outlet air temperature drop protection
When the set temperature is below 24°C (75.2°F) or the electronic expansion valve opening is small, the protection will be activated.

∗17. **Hu** indicates the Humidifier connected to the wiring modification adaptor.
It is not related to the Humidifier terminals on the PCB of FXTQ-TA, FXTQ-TB.

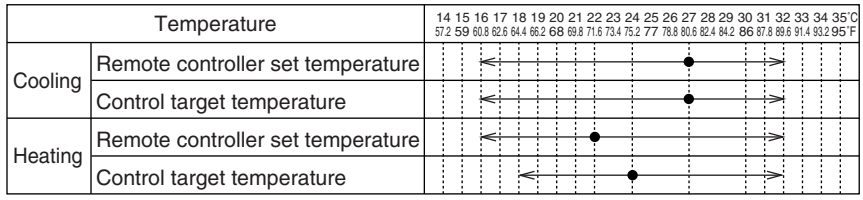
9.2 Set Temperature and Control Target Temperature

9.2.1 Without Infrared Floor Sensor

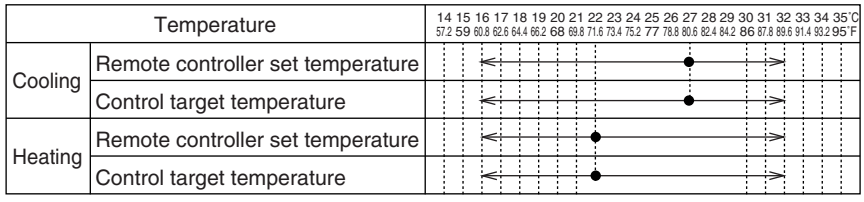
The relationship between remote controller set temperature and control target temperature is described below.

- When the suction air thermistor is used for controlling (Default), the control target temperature is determined as follows to prevent insufficient heating in heating operation.
  Control target temperature = remote controller displayed temperature + 2°C (3.6°F)
- The temperature difference for cooling ⇔ heating mode switching is 5°C (9°F).
- The above also applies to automatic operation.

■ When setting the suction air thermistor (Default setting)



■ When using the remote controller thermistor (Field setting is required)



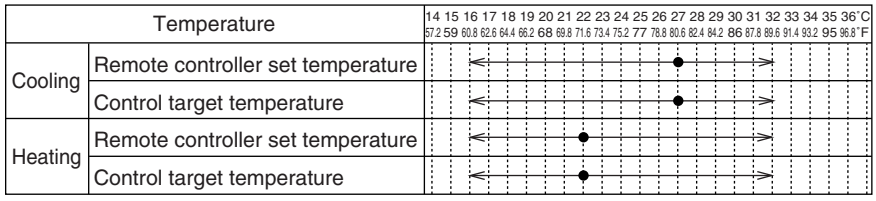
Examples are given to illustrate a control target temperature that satisfies the remote controller set temperature.

9.2.2 With Infrared Floor Sensor

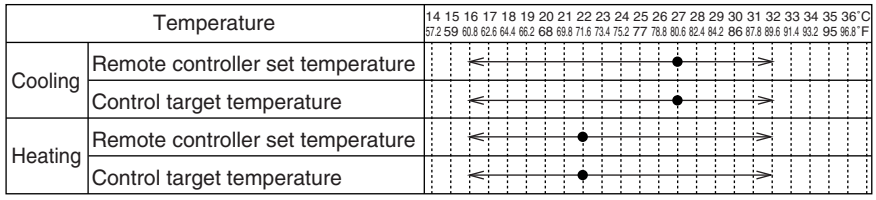
The relationship between remote controller set temperature and control target temperature is described below.

- The temperature difference for cooling ⇔ heating mode switching is 5°C (9°F).
- When using the floor temperature as the control target, the remote controller set temperature is equal to the actual control target temperature in heating operation.
- The above also applies to automatic operation.

■ **When setting the suction air thermistor (Default setting)**



■ **When using the remote controller thermistor (Field setting is required)**



Examples are given to illustrate a control target temperature that satisfies the remote controller set temperature.

Regarding control target temperature

When using the infrared floor sensor, the temperature around people will be treated as the control target temperature for operation.

What is the temperature around people?

The temperature around people refers to the temperature of the living space, obtained from the temperature around the ceiling and the temperature underfoot. The temperature is calculated using the detected values of the suction air thermistor and the infrared floor sensor.
It is difficult to use only suction air temperature control for underfoot air conditioning.

9.3 Remote Controller Thermistor

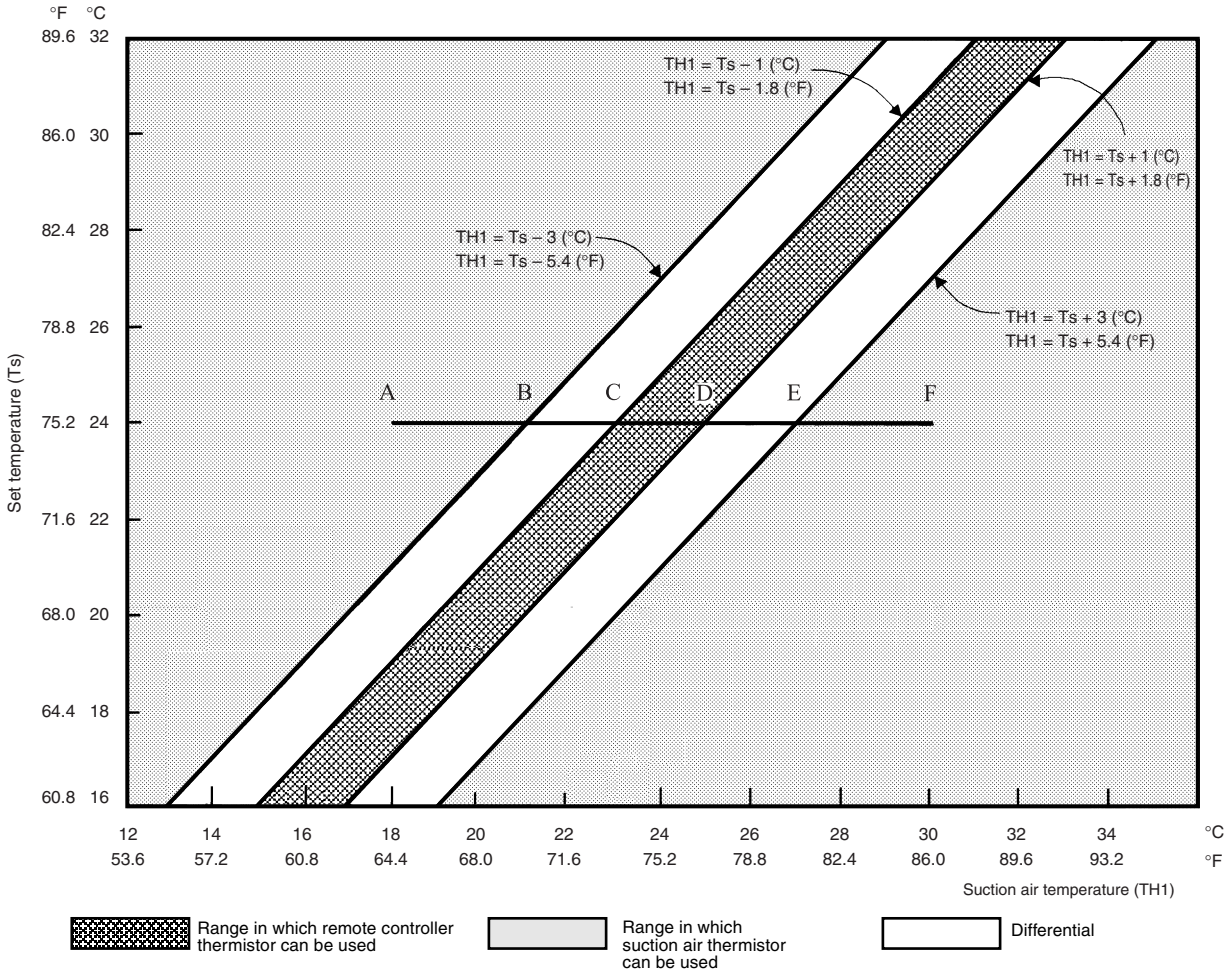
Temperature is controlled by both the remote controller thermistor and suction air thermistor for the indoor unit. (This is however limited to when the field setting for the remote controller thermistor is set to Use.)

Note(s)

When fresh air intake kit is used, outdoor air is mixed with indoor air, and the room temperature may not reach the set temperature, since TS and TH1 do not enter the area in which remote controller thermistor can be used. In such case, install the remote sensor (optional accessory) in your room, and set the field settings to not use the remote controller thermistor.
∗ FXTQ-TA and FXTQ-TB models do not have this control because they do not have suction air thermistor. The thermistor is selectable manually when remote sensor (optional accessory) is installed.

Cooling

If there is a significant difference in the set temperature and the suction temperature, fine adjustment control is carried out using a suction air thermistor, or using the remote controller thermistor near the position of the user when the suction temperature is near the set temperature.



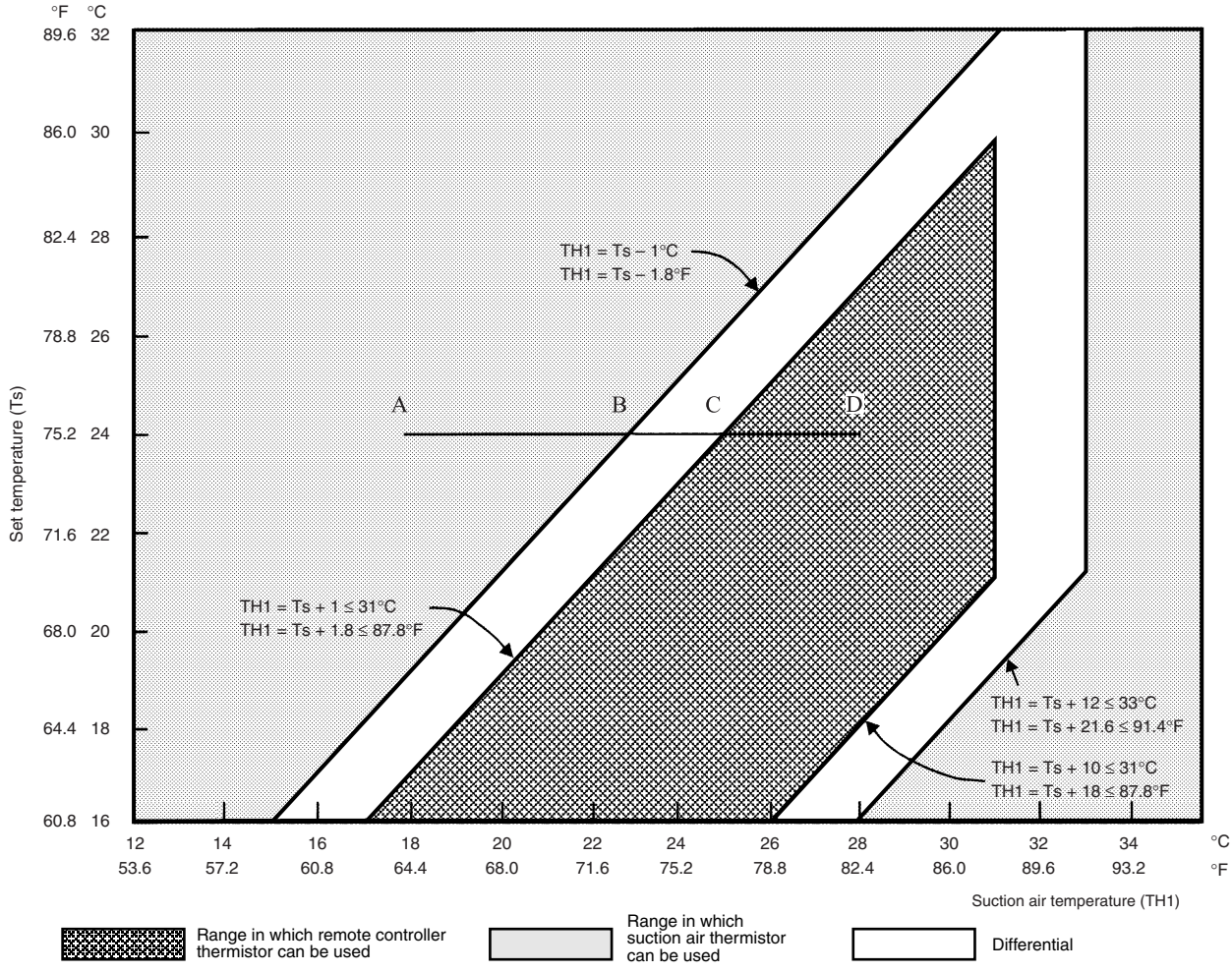
■ **Assuming the set temperature in the figure above is 24°C (75°F), and the suction temperature has changed from 18°C (64°F) to 30°C (86°F) (A → F):**

(This example also assumes there are several other air conditioners, and the suction temperature changes even when the thermostat is off.)
Suction air thermistor is used for temperatures from 18°C (64°F) to 23°C (73°F) (A → C).
Remote controller thermistor is used for temperatures from 23°C (73°F) to 27°C (81°F) (C → E).
Suction air thermistor is used for temperatures from 27°C (81°F) to 30°C (86°F) (E → F).

■ **Assuming suction temperature has changed from 30°C (86°F) to 18°C (64°F) (F → A):**
Suction air thermistor is used for temperatures from 30°C (86°F) to 25°C (77°F) (F → D).
Remote controller thermistor is used for temperatures from 25°C (77°F) to 21°C (70°F) (D → B).
Suction air thermistor is used for temperatures from 21°C (70°F) to 18°C (64°F) (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 suction air thermistor 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 remote controller thermistor can be used so that suction temperature is higher than the set temperature.



■ **Assuming the set temperature in the figure above is 24°C (75°F), and the suction temperature has changed from 18°C (64°F) to 28°C (82°F) (A → D):**
(This example also assumes there are several other air conditioners, and the suction temperature changes even when the thermostat sensor is off.)
Suction air thermistor is used for temperatures from 18°C (64°F) to 25°C (77°F) (A → C).
Remote controller thermistor is used for temperatures from 25°C (77°F) to 28°C (82°F) (C → D).

■ **Assuming suction temperature has changed from 28°C (82°F) to 18°C (64°F) (D → A):**
Remote controller thermistor is used for temperatures from 28°C (82°F) to 23°C (73°F) (D → B).
Suction air thermistor is used for temperatures from 23°C (73°F) to 18°C (64°F) (B → A).

9.4 Thermostat Control

The thermostat ON/OFF differential value (factory setting) differs depending on the models.

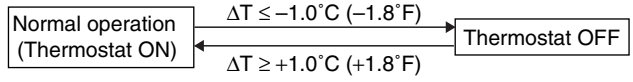
Differential value	Model
1°C (1.8°F)	FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-M, FXUQ-P, FXEQ-P, FXSQ-TA, FXHQ-M, FXTQ-TA, FXTQ-TB
0.5°C (0.9°F)	FXFQ-AA, FXZQ-TB, FXUQ-PA, FXDQ-M, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA, FXMQ-M, FXAQ-P, FXLQ-M, FXNQ-M, FXMQ-MF

9.4.1 Without Infrared Floor Sensor

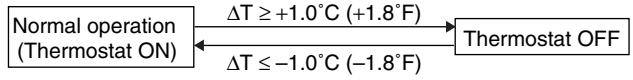
Whether the thermostat is turned ON or OFF is determined by the difference between the remote controller set temperature and the actual detected room temperature (∗1).

Normal operation

- Cooling operation

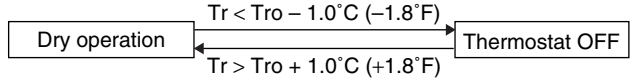


- Heating operation

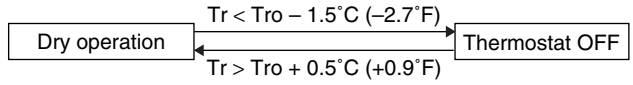


Dry operation

- When Tro < 24.5°C (76.1°F)

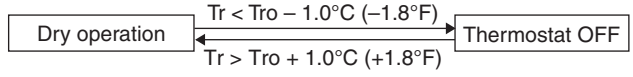


- When Tro ≥ 24.5°C (76.1°F)



FXSQ-TB, FXMQ-TA, FXTQ-TA, FXTQ-TB only

If the field setting 11 (21)-12 (for FXSQ-TB, FXMQ-TB, FXMQ-TA) or 14 (24)-5 (for FXTQ-TA, FXTQ-TB) is set to **02**, Tro will be the same as the cooling set temperature.



ΔT = Room temperature – Remote controller set temperature
Tro: Room temperature at the start of dry operation
Tr: Room temperature

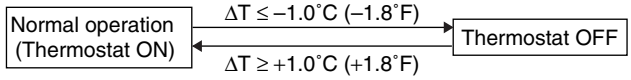
∗1: The thermistor for room temperature detection depends on the field setting 10 (20)-2.

9.4.2 With Infrared Floor Sensor

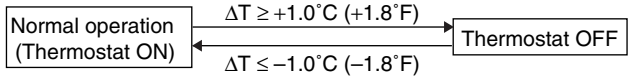
Whether the thermostat is turned on or off is determined by the difference between the remote controller set temperature and the detected temperature around people.

Normal operation

- Cooling operation

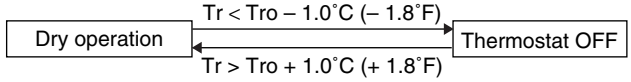


- Heating operation

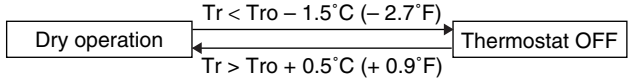


Dry operation

- When Tro ≤ 24.5°C (76.1°F)

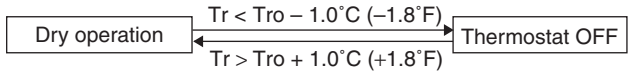


- When Tro > 24.5°C (76.1°F)



FXFQ-AA, FXZQ-TB, FXUQ-PA only

If the field setting 11 (21)-12 is set to **02**, Tro will be the same as the cooling set temperature.



ΔT = Room temperature or temperature around people – Remote controller set temperature
Tro: Room temperature or temperature around people at the start of dry operation
Tr: Room temperature or temperature around people

Control range of temperature around people

When the floor temperature is very low, operation using the temperature around people may cause the suction air temperature to operate outside of use range.
To avoid the above condition, a limit based on the suction air temperature is set for the use range of the temperature around people.

Cooling operation

- When the floor temperature is lower than suction air temperature (R1T), R1T will be treated as the control target temperature for operation.
- When the temperature around people is 15°C (59°F) or lower, R1T will be treated as the control temperature for operation.

Heating operation

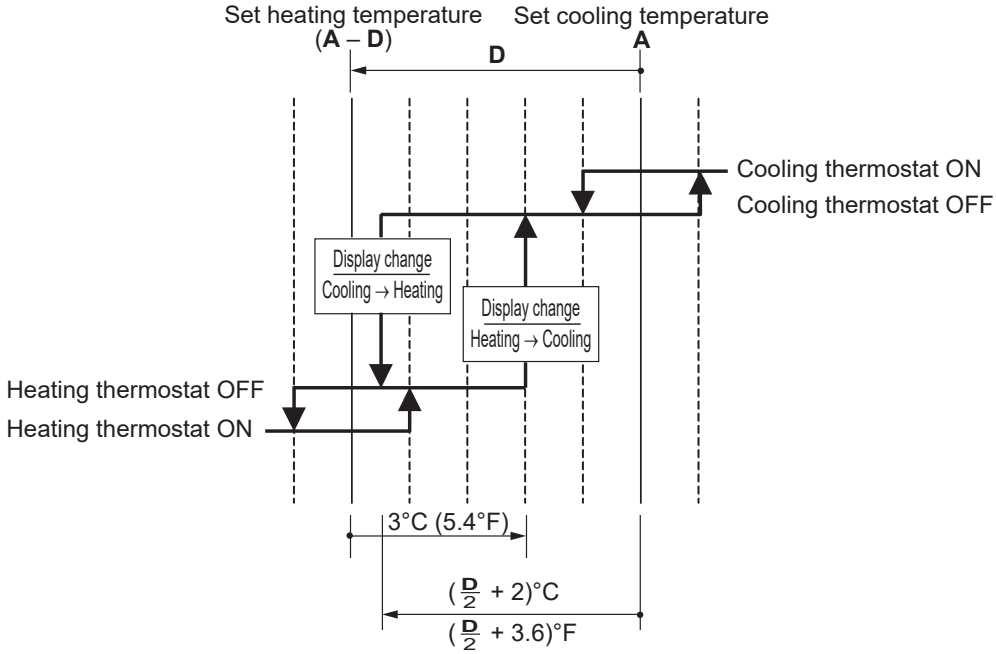
- When the floor temperature is higher than suction air temperature (R1T), R1T will be treated as the control target temperature in operation.
- When the temperature around people is 33°C (91.4°F) or higher, R1T will be treated as the control temperature for operation.

9.4.3 Thermostat Control with Operation Mode Set to AUTO

The system will conduct this temperature control shown below, only when the wireless remote controller or any central remote controller is connected.
Furthermore, setting changes of the differential value (**D**) can be made.

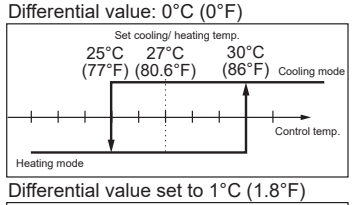
★: Factory setting

Mode No.	First code No.	Contents of setting	Second code No.							
			01★	02	03	04	05	06	07	08
12 (22)	4	Automatic mode differential	**0°C 0°F ★**	1°C 1.8°F	2°C 3.6°F	3°C 5.4°F	4°C 7.2°F	5°C 9.0°F	6°C 10.8°F	7°C 12.6°F

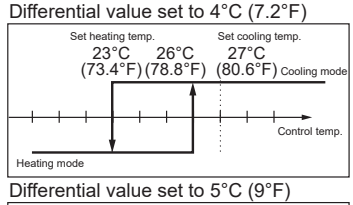


(Ex.) When automatic cooling temperature is set to 27°C (80.6°F):

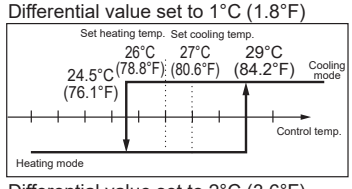
Differential value: 0°C (0°F)



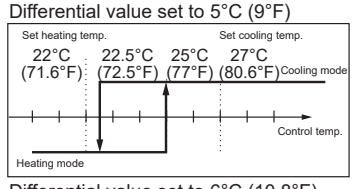
Differential value set to 4°C (7.2°F)



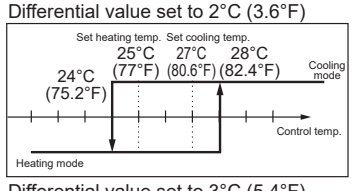
Differential value set to 1°C (1.8°F)



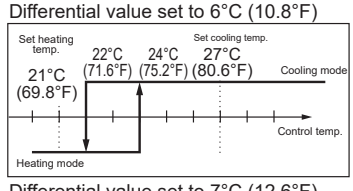
Differential value set to 5°C (9°F)



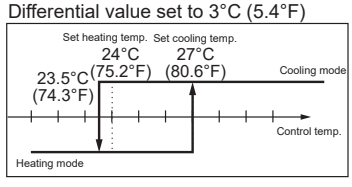
Differential value set to 2°C (3.6°F)



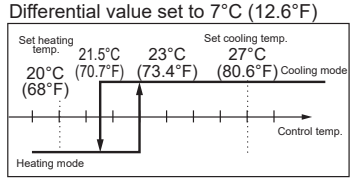
Differential value set to 6°C (10.8°F)



Differential value set to 3°C (5.4°F)

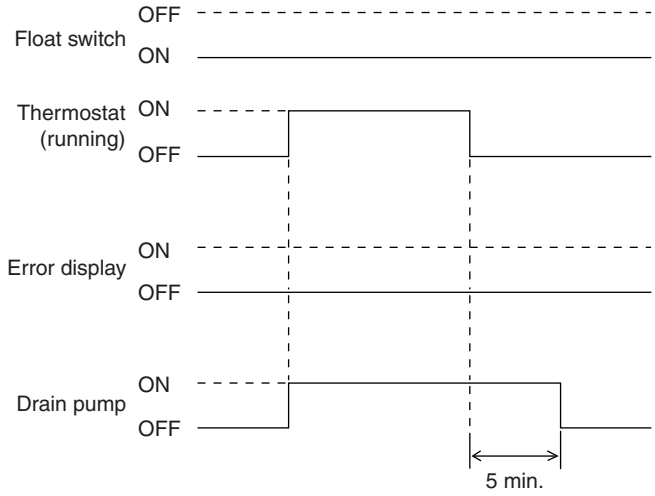


Differential value set to 7°C (12.6°F)



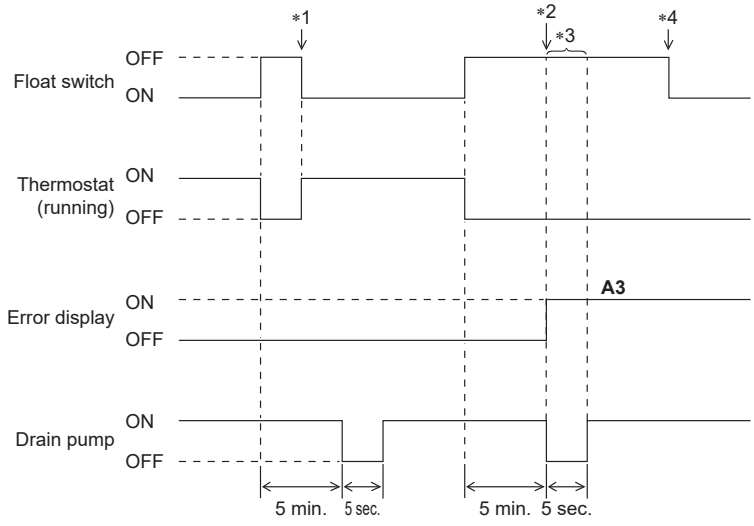
9.5 Drain Pump Control

9.5.1 Normal Operation



- The float switch is ON in normal operation.
- When cooling operation starts (thermostat ON), the drain pump turns ON simultaneously.
- After the thermostat turns OFF, the drain pump continues to operate for another 5 minutes.
- The aim of residual operation after thermostat OFF is to eliminate the dew that condenses on the indoor heat exchanger during cooling operation.

9.5.2 If the Float Switch is OFF with the Thermostat ON in Cooling Operation



- When the float switch turns OFF, the thermostat turns OFF simultaneously.
- After the thermostat turns OFF, the drain pump continues to operate for another 5 minutes.

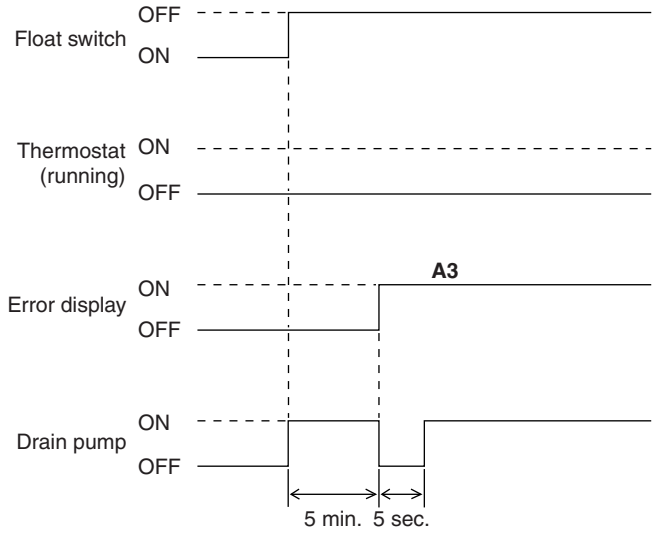
∗1. If the float switch turns ON again during the residual operation of the drain pump, cooling operation also turns on again (thermostat ON).

∗2. If the float switch remains OFF even after the residual operation of the drain pump has ended, the error code **A3** is displayed on the remote controller.

∗3. The drain pump turns OFF once residual operation has ended, then turns ON again after 5 seconds.

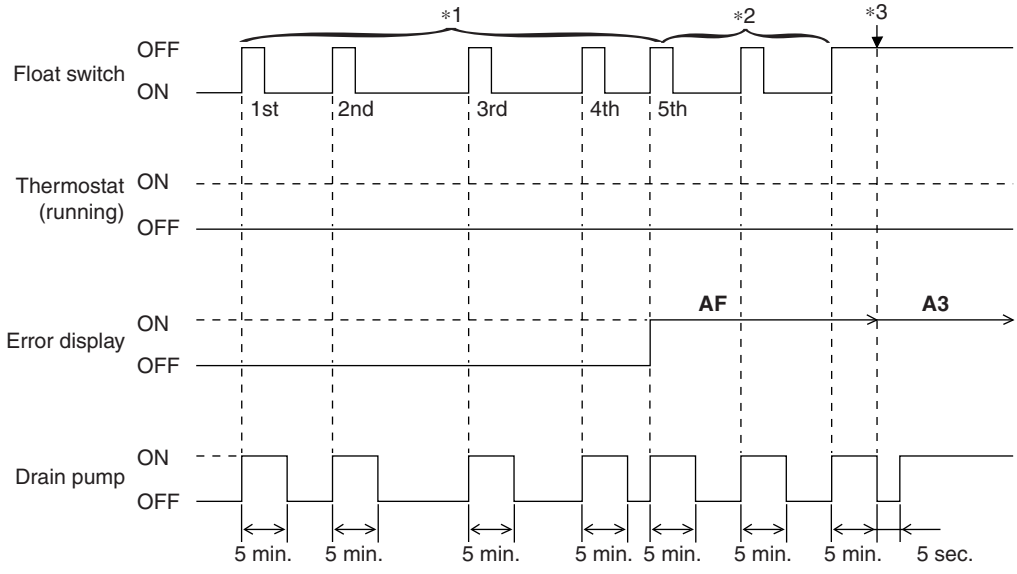
∗4. After **A3** is displayed and the unit comes to an abnormal stop, the thermostat will remain OFF even if the float switch turns ON again.

9.5.3 If the Float Switch is OFF with the Thermostat OFF in Cooling Operation



- When the float switch turns OFF, the drain pump turns ON simultaneously.
- If the float switch remains OFF even after residual operation of the drain pump has ended, the error code **A3** is displayed on the remote controller.
- The drain pump turns OFF once residual operation has ended, then turns ON again after 5 seconds.

9.5.4 If the Float Switch Turns OFF and ON Continuously, or the Float Switch Turns OFF While AF Displayed



- When the float switch turns OFF, the drain pump turns ON simultaneously.

∗1: If the float switch continues to turn OFF and ON 5 times consecutively, it is judged as a drain system error and the error code **AF** is displayed on the remote controller.

∗2: The drain pump continues to turn ON/OFF in accordance with the float switch ON/OFF even after **AF** is displayed on the remote controller.

∗3: While the error code **AF** is displayed, if the float switch remains OFF even after the residual operation of the drain pump has ended, the error code **A3** will be displayed on the remote controller.

9.6 Control of Electronic Expansion Valve

Electronic expansion valves in indoor units have the functions of conducting superheating degree control in cooling operation and subcooling degree control in heating operation. However, if the indoor units receive any control command such as a protection control command or a special control command from the outside unit, the units will give a priority to the control command.

- **Superheating degree control in cooling operation**

This function is used to adjust the opening of the electronic expansion valve so that superheating degree (SH), which is calculated from the detection temperature (Tg) of the gas pipe thermistor (R3T) and the detection temperature (Tl) of the liquid temperature thermistor (R2T) of the indoor unit, will come close to a target superheating degree (SHS).
At that time, correction to the superheating degree is made according to the differences (ΔT) between set temperature and suction air temperature.

SH = Tg – Tl

Where,
SH: Evaporator outlet superheating degree
Tg: Indoor unit gas pipe temperature (R3T)
Tl: Indoor unit liquid pipe temperature (R2T)
SHS: Target superheating degree

SHS (Target SH value)
- Normally 5°C (9°F).
- As ΔT (Remote controller set temp. – Suction air temp.) becomes larger, SHS becomes lower.
- As ΔT (Remote controller set temp. – Suction air temp.) becomes smaller, SHS becomes higher.

- **Subcooling degree control in heating operation**

This function is used to adjust the opening of the electronic expansion valve so that the high pressure equivalent saturated temperature (Tc), which is converted from the detected pressure of the high pressure sensor in the outside unit, and the subcooling degree (SC), which is calculated from the detected temperature (Tl) of the liquid temperature thermistor (R2T) in the indoor unit, will come close to the target subcooling degree (SCS).
At that time, corrections to the subcooling degree are made according to differences (ΔT) between set temperature and suction air temperatures.

SC = Tc – Tl

Where,
SC: Condenser outlet subcooling degree
Tc: High pressure equivalent saturated temperature detected by the high pressure sensor
Tl: Indoor unit liquid pipe temperature (R2T)
SCS: Target subcooling degree

SCS (Target SC value)
- Normally 5°C (9°F).
- As ΔT (Remote controller set temp. – Suction air temp.) becomes larger, SCS becomes lower.
- As ΔT (Remote controller set temp. – Suction air temp.) becomes smaller, SCS becomes higher.

9.7 Freeze-Up Prevention Control

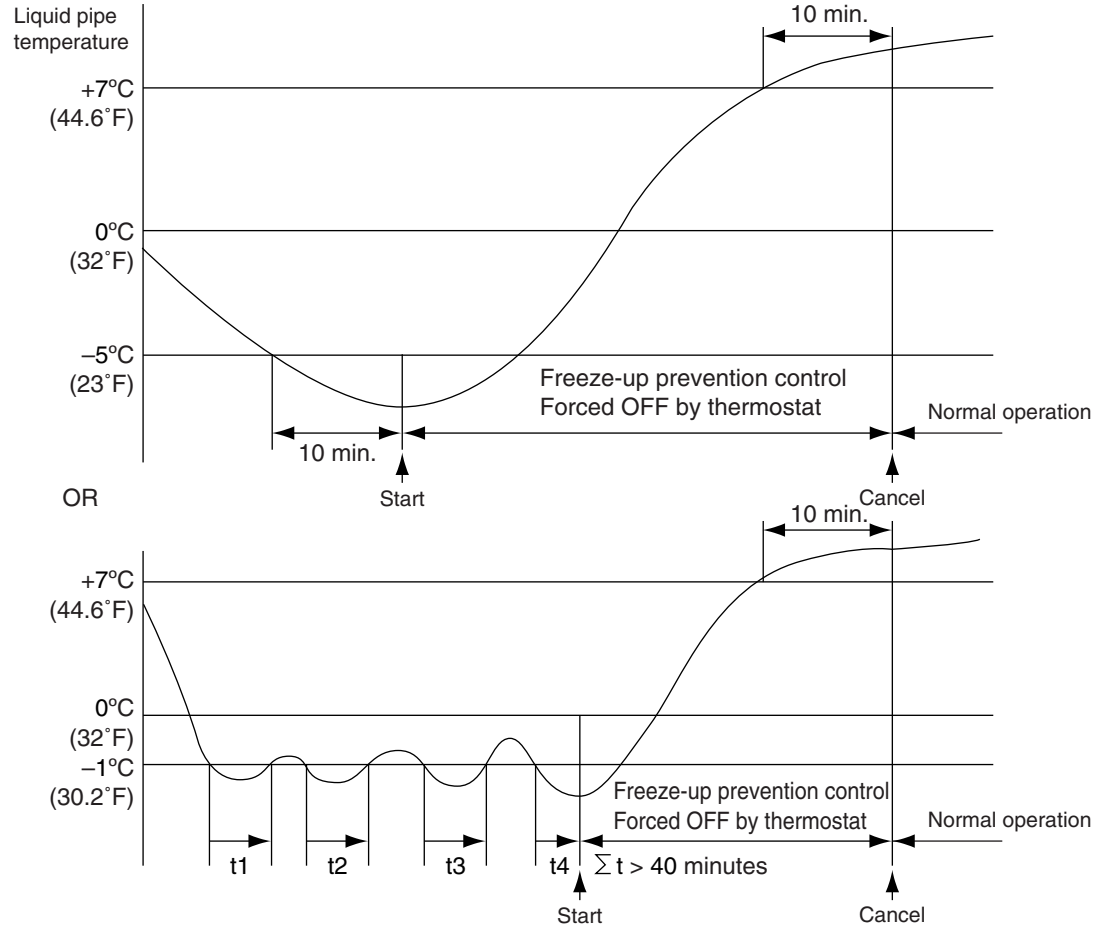
Freeze-Up Prevention by Off Cycle (Indoor Unit)

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

When freeze-up prevention is activated, the electronic expansion valve is closed, the drain pump turns on and the airflow rate is fixed to L tap. When the following conditions for cancelling are satisfied, it will reset.

Conditions for starting:
Liquid pipe temperature ≤ – 1°C (30.2°F) (for total of 40 minutes)
or
Liquid pipe temperature ≤ – 5°C (23°F) (for total of 10 minutes)

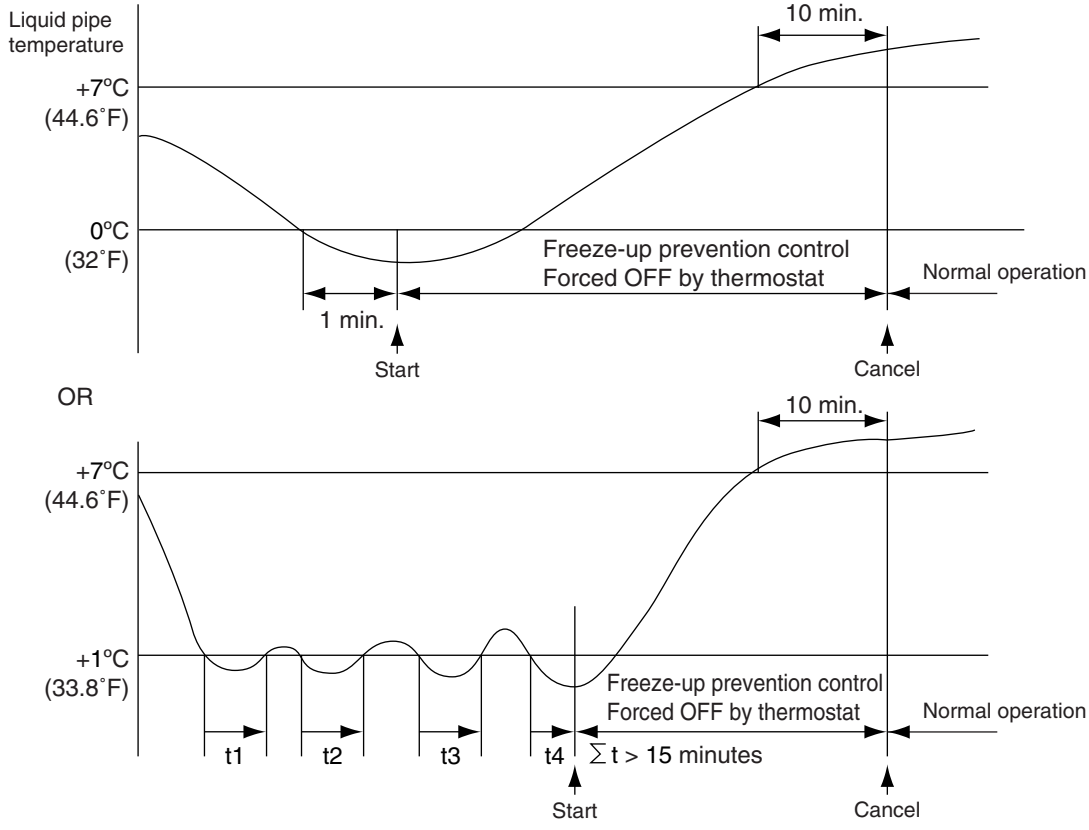
Condition for cancelling:
Liquid pipe temperature ≥ +7°C (44.6°F) (for 10 minutes continuously)



Concept of freeze-up prevention control
System avoids freeze-up
· For comfort, system avoids unnecessary thermostat ON/OFF
· For ensuring compressor reliability, system avoids unnecessary compressor ON/OFF
When freeze-up prevention control starts, system makes sure the frost is completely removed.
· System avoids water leakage.

Note(s)

When the indoor unit is FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXZQ-M, FXUQ-P, or FXUQ-PA, if the air outlet is set as dual-directional or tri-directional, the starting conditions will be changed as follows.
Liquid pipe temperature ≤ 1°C (33.8°F) (for total of 15 minutes)
or
Liquid pipe temperature ≤ 0°C (32°F) (for 1 minute continuously)
During freeze-up prevention control, the airflow rate is fixed to LL.
(The cancelling conditions are same as the standard.)



9.8 List of Swing Flap Operations

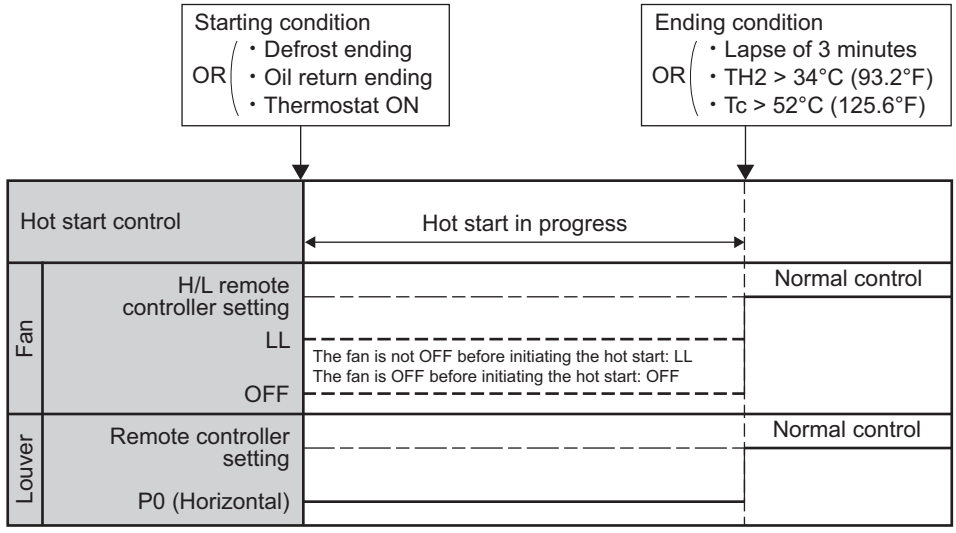
Swing flaps operate as shown in table below.

			Fan	Flap			
				FXFQ-AA FXFQ-T FXFQ-P	FXEQ-P	FXHQ-M	FXZQ-TA FXZQ-TB FXUQ-P FXUQ-PA FXAQ-P
Heating	Hot start from defrost operation	Swing	OFF	Horizontal	Horizontal	Horizontal	Horizontal
		Airflow direction set	OFF	Horizontal	Horizontal	Horizontal	Horizontal
	Defrost operation	Swing	OFF	Horizontal	Horizontal	Horizontal	Horizontal
		Airflow direction set	OFF	Horizontal	Horizontal	Horizontal	Horizontal
	Thermostat OFF	Swing	LL	Horizontal	Horizontal	Horizontal	Horizontal
		Airflow direction set	LL	Horizontal	Horizontal	Horizontal	Horizontal
	Hot start from thermostat OFF mode (for prevention of cold air)	Swing	LL	Horizontal	Horizontal	Horizontal	Horizontal
		Airflow direction set	LL	Horizontal	Horizontal	Horizontal	Horizontal
	Stop	Swing	OFF	Horizontal	Horizontal	Horizontal	Totally closed
		Airflow direction set	OFF	Horizontal	Horizontal	Horizontal	Totally closed
Cooling	Thermostat ON in program dry	Swing	L (∗1)	Swing	Swing	Swing	Swing
		Airflow direction set	L (∗1)	Set	Set	Set	Set
	Thermostat OFF in program dry	Swing	OFF or L	Swing	Swing	Swing	Swing
		Airflow direction set		Horizontal or Set	Set	Set	Set
	Thermostat OFF in cooling	Swing	Set	Swing	Swing	Swing	Swing
		Airflow direction set	Set	Set	Set	Set	Set
	Stop	Swing	OFF	Horizontal	Horizontal	Horizontal	Totally closed
		Airflow direction set	OFF	Horizontal	Horizontal	Horizontal	Totally closed
	Microcomputer control (including cooling operation)	Swing	L	Swing	Swing	Swing	Swing
		Airflow direction set	L	Set	Set	Set	Set

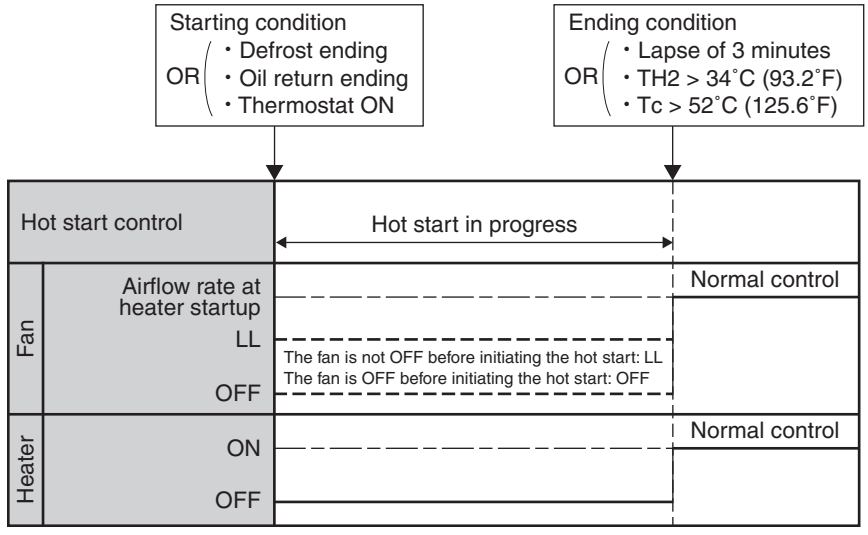
Note(s) ∗1. L or LL only on FXFQ-AA, FXFQ-T, and FXFQ-P models

9.9 Hot Start Control (In Heating Operation Only)

At startup with thermostat ON or after the completion of defrosting in heating operation, the indoor fan is controlled to prevent cold air from blasting out and ensure startup capacity.
TH2: Temperature detected with the gas thermistor
Tc: High pressure equivalent saturated temperature

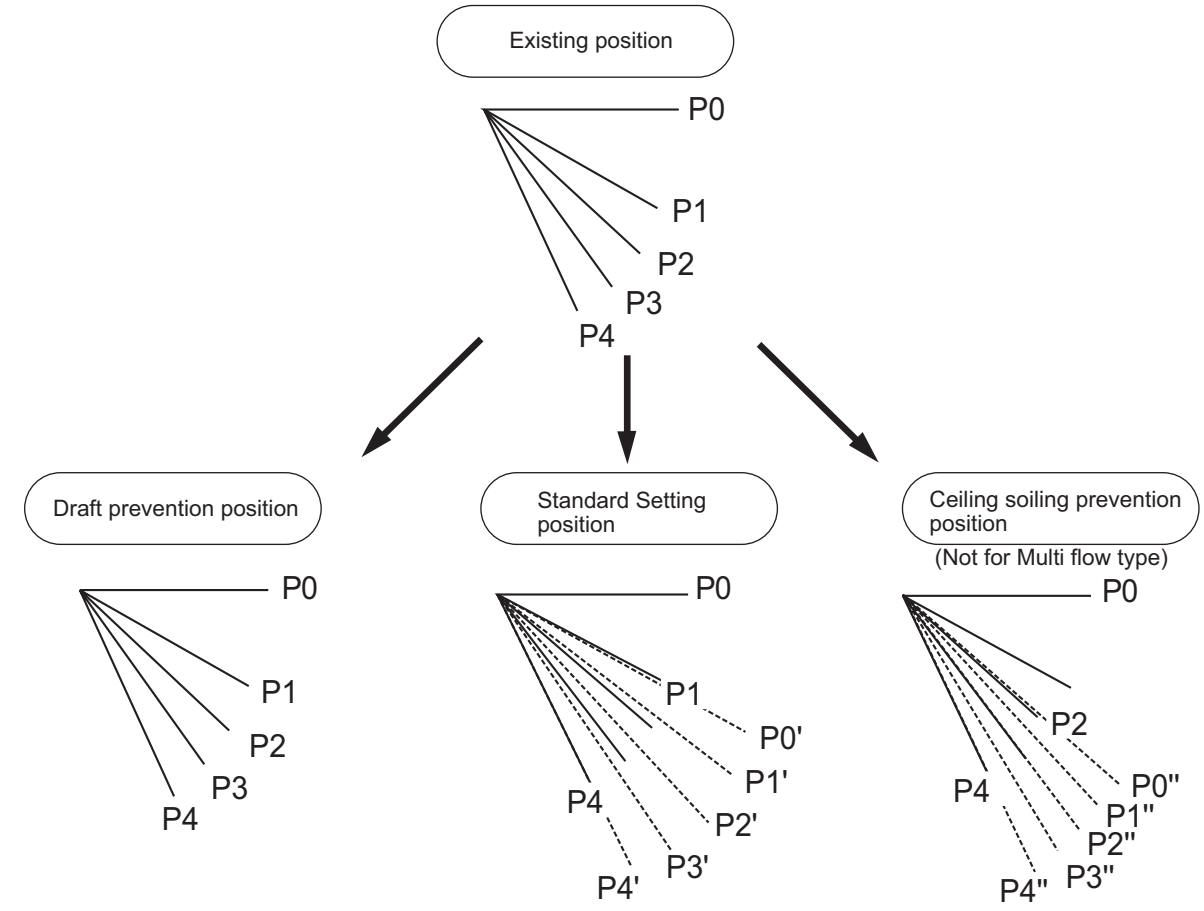


■ **FXTQ-TA, FXTQ-TB (when the heater is to be used)**



9.10 Louver Control for Preventing Ceiling Dirt

We have added a control feature that allows you to select the range of in which air direction can be adjusted in order to prevent the ceiling surrounding the air discharge outlet of ceiling mounted cassette type units from being soiled. (This feature is available on FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXZQ-M and FXEQ-P models)



Draft prevention position	P0	P1	P2	P3	P4	Same as existing position
			Range of direction adjustment			
Standard position	Prohibited	P0'	P1'	P2'	P3'	P4'	Separated into 5 positions (P1 - 4)
			Range of direction adjustment			
Dirt prevention position	Prohibited		P0"	P1"	P2"	P3"	P4"	Separated into 5 positions (P2 - 4)

Factory setting
FXFQ-AA, FXFQ-T, FXFQ-P models: draft prevention position
FXZQ-TA, FXZQ-TB, FXZQ-M, FXEQ-P models: standard position

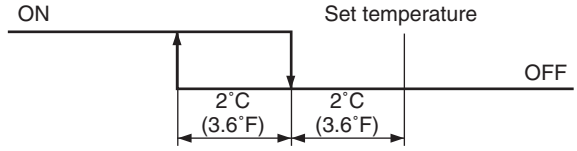
9.11 Heater Control (Except FXTQ-TA, FXTQ-TB Models)

Note(s) Optional PCB KRP1B... is required.

The heater control is conducted in the following manner.

Normal control

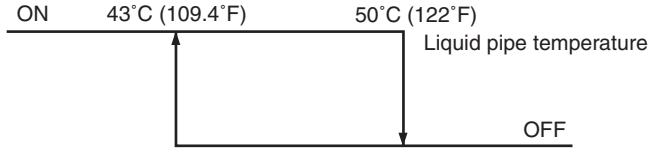
While in heating, the heater control (ON/OFF) is conducted as shown on the right.



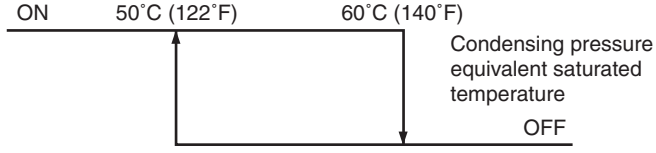
Overload control

When the system is overloaded in heating, the heater will be turned OFF in the following 2 manners.

1. The heater control (ON/OFF) is conducted through the liquid pipe temperature (R2T) of the indoor unit.



2. The heater control (ON/OFF) is conducted by converting the heater temperature into the condensing pressure equivalent saturated temperature (Tc) according to the temperature detection through the high pressure sensor (S1NPH) of the outside unit.



Fan residual operation

While the heater turns OFF, in order to prevent the activation of the thermal protector, the fan conducts residual operation for a given period of time after the heater turns OFF. (This operation is conducted regardless of with or without heater equipped.)

Residual operation time: 100 seconds on ceiling suspended type or 60 seconds on other types

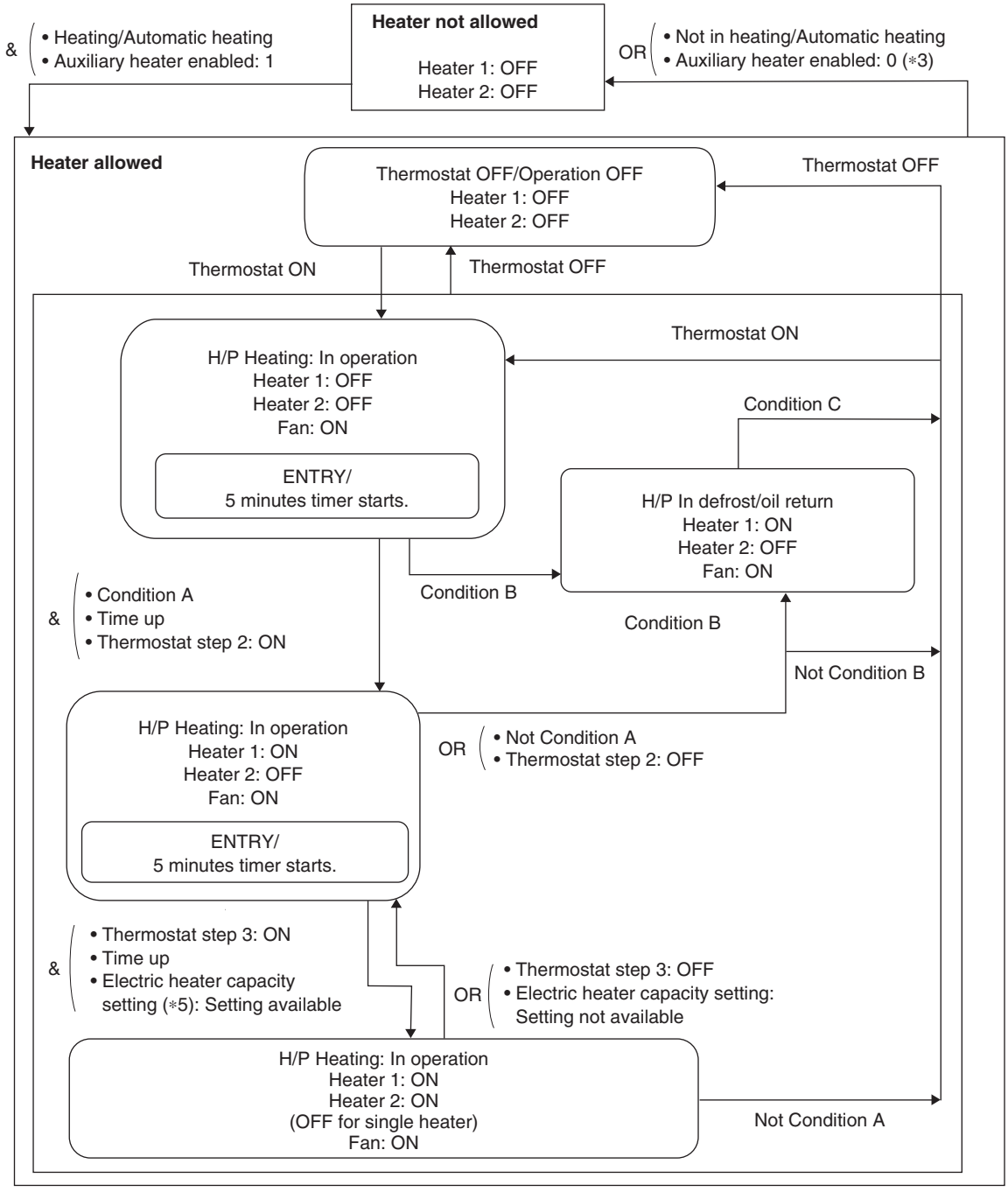
9.12 Heater Control (FXTQ-TA, FXTQ-TB Models)

Note(s)

Optional heater kit HKS... is required.
For FXTQ-TA and FXTQ-TB models, heater ON/OFF output from wiring adaptor interlocks with the operation of heater kit HKS…(When the heater 1 turns ON/OFF, heater output of wiring adaptor turns ON/OFF.). Fan residual operation also interlocks with the fan residual operation of heater kit HKS…. The residual time will be 90 seconds. (Refer to **Fan Control (Heater Residual) (FXTQ-TA, FXTQ-TB Models)** on page 198.)

9.12.1 Auxiliary Electric Heater Control

If heating is insufficient in heat pump system alone, an electric heater is to be used as the auxiliary heater. The following shows the ON/OFF conditions for the electric heater.



Condition A

& (• No fan motor system error
• High pressure condition: ON (∗1)
• Liquid pipe temperature condition: ON (∗2)
OR (& (• Heater ON permission (Defrost/oil Return): 0 (∗4)
• Not during defrost/oil return)
• Heater ON permission (Defrost/oil return): 1 (∗4))

Condition B

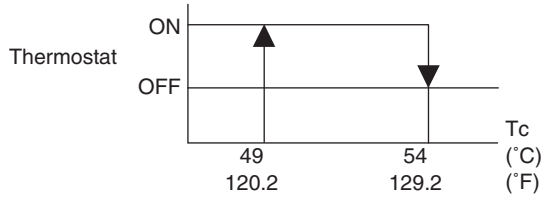
& (• No fan motor system error
• During defrost/oil return
• Heater ON permission (Defrost/oil return): 1 (∗4))

Condition C

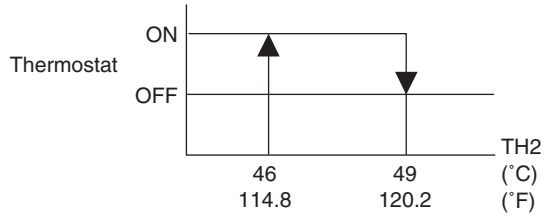
OR (• Not during defrost/oil return
• Fan motor system error
• Heater ON permission (Defrost/oil return): 0 (∗4))

Note(s)

∗1: High pressure condition



∗2: Liquid pipe temperature condition



∗3. Auxiliary heater enabled

1: & (• Electric heater setting (Field setting 11 (21)-3): 2, 4, 6, 8, 10, 12 (∗6)
• Electric heater capacity setting ≠ 01)
0: Other than the above

∗4. Heater ON permission (Defrost/oil return)

1: Electric heater setting (Field setting 11 (21)-3): 8, 10, 12 (∗6)
0: Electric heater setting (Field setting 11 (21)-3): 2, 4, 6 (∗6)

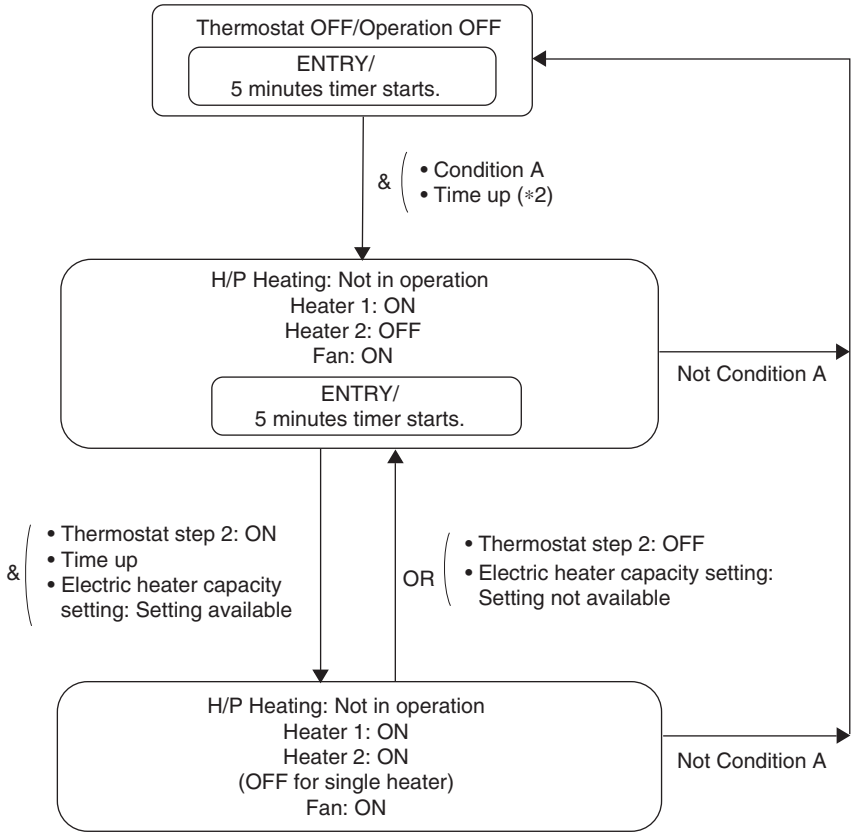
∗5. Field setting 11(21)-5. Refer to page 219.

∗6. Field setting 11(21)-3. Refer to page 218.

9.12.2 Heat Pump Lockout Control

For heating operation, users can select to use electric heater. For this, signals are sent using ABC terminal of outside unit PCB.

When the hot-water heating signal is received from the outside unit PCB, heating operation is performed only with the electric heater as manual backup operation. The ON/OFF conditions for the electric heater are shown below.



Condition A

& (AND)
- Heating or automatic heating mode
- Thermostat step 1: ON
- No fan motor system error
- Hot-water heater: 1 (ON)
- Heater backup prohibiting conditions (∗1) not met (Not Condition B)

Condition B: Heater backup prohibiting conditions (∗1)

OR
- Indoor unit error (Abnormal stop)
- Indoor unit error (Remote controller thermistor error)
- Indoor unit error (Remote sensor error)
- Electric heater capacity setting: 01 (No heater kit)

Note(s)

∗1. The heater backup prohibiting conditions are prioritized. Even when the heater ON conditions are met, the heater is turned OFF when the prohibiting conditions are met.

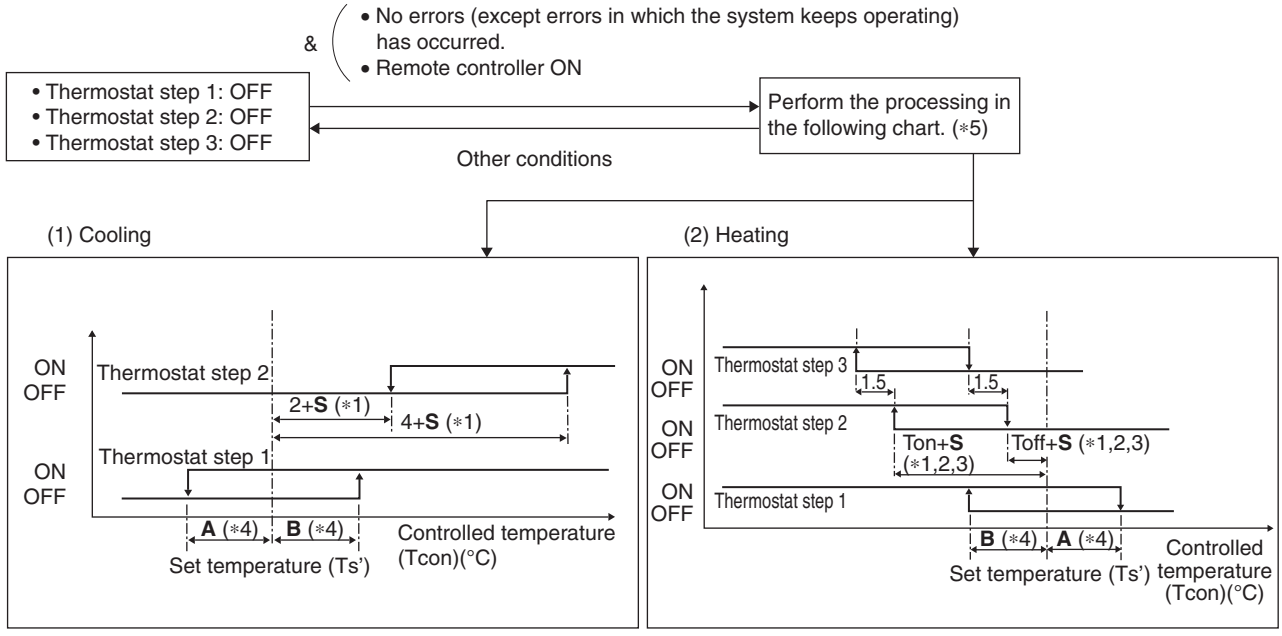
∗2. When the remote controller is ON, Time-up will be set to the initial value.

9.13 3-Step Thermostat Processing (FXTQ-TA, FXTQ-TB Models)

Outline

The thermostat ON/OFF for the indoor unit is controlled in accordance with Thermostat step 1.
The heater ON/OFF operation during heating is controlled as follows.
Thermostat step 2, 3: Auxiliary electric heater control
Thermostat step 1, 2: Heat pump lockout control
For more details of the heater, refer to **Heater Control (FXTQ-TA, FXTQ-TB Models)** on page 194.

Detail



Note(s)

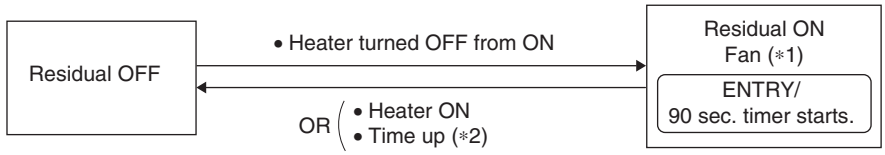
∗1. **S** value varies automatically based on the room temperature trend.
∗2. Ton + **S** > –**B** (°C), Toff + **S** < **A** (°C)
∗3. For parameters, refer to page 217.
∗4. **A** and **B** values vary automatically based on the field setting 12 (22)-2.
∗5. If, directly after a change in conditions, it is such that the thermostat could be either ON or OFF (controlled temperature is within ranges **A** and **B**), the thermostat will be switched to ON.

9.14 Fan Control (Heater Residual) (FXTQ-TA, FXTQ-TB Models)

Outline

If the indoor heater turned OFF from ON during heating operation, the fan will keep operating for further period of time in order to cool the heater.

Detail



∗1. When the heater is ON, the airflow rate of the fan will be whichever is the largest between the CFM dictated by the heater's own capacity, or the fan tap CFM determined by other controls.

∗2. Fan residual operation will continue, even if the indoor unit is turned off with the remote controller operation button.

9.15 Interlocked with External Equipment (FXTQ-TA, FXTQ-TB Models)

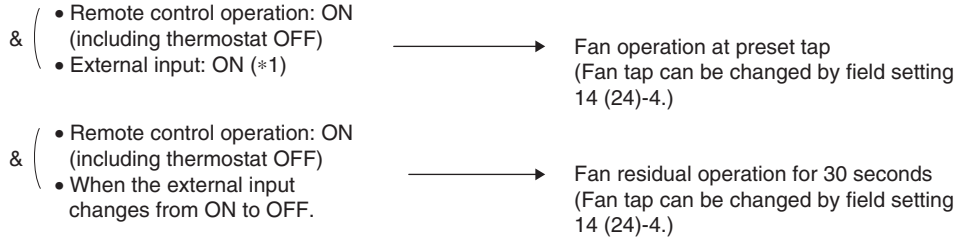
9.15.1 Air Purifier (UV Lamp)

When an air purifier is connected onsite, the fan is operated with the airflow rate set of the remote controller or with the H tap.

∗1. External input ON is an input signal to the X1M-AIR CLEANER terminal on the PCB.

9.15.2 Humidifier

When a humidifier is connected onsite, the fan operates with the airflow rate set of the remote controller or with the H tap.



∗1. External input ON is an input signal to the X1M-HUMIDIFIER terminal on the PCB.

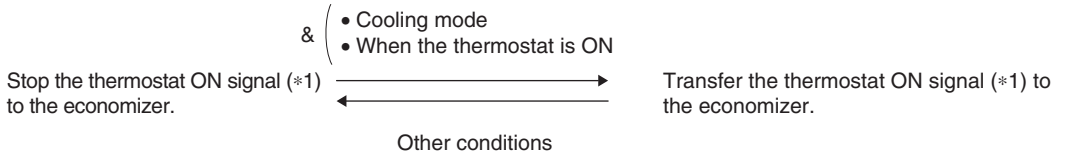
Note(s)

This control is not applicable to the humidifier connected to the wiring adaptor, but to the humidifier connected to HUMIDIFIER on the X1M terminal of the indoor unit PCB.

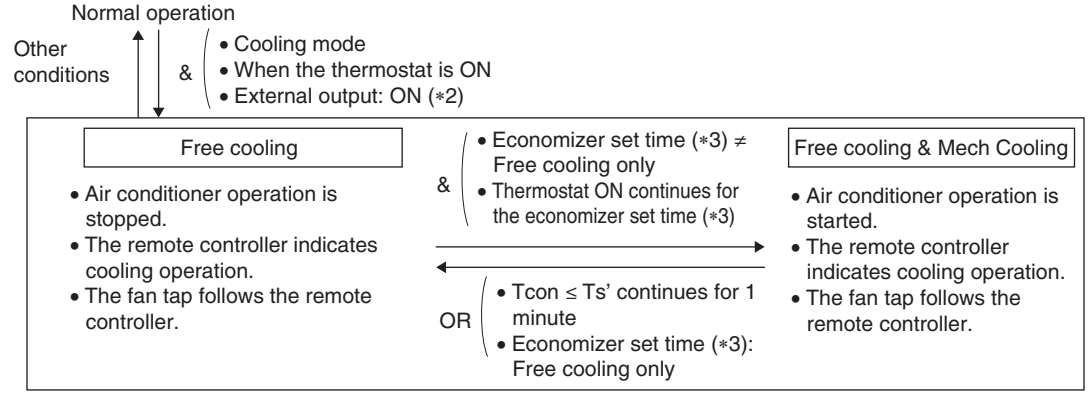
9.15.3 Economizer

When indoor and outdoor air temperatures are reversed, the compressor is stopped to let in the outdoor air to save energy.
This operation is called economizer operation, and the equipment to detect indoor and outdoor air temperatures and open and close the damper to perform this operation is called an economizer.
The economizer detects indoor and outdoor air temperatures, informs the air conditioner that the economizer operation is ready, and opens and closes the damper.
The indoor unit stops the outside unit when it receives a signal from the economizer and performs air supply operation.
When the indoor air temperature is cooled down sufficiently by the economizer operation, and it is no longer necessary (thermostat OFF), the indoor unit outputs a signal to the economizer to close the damper.

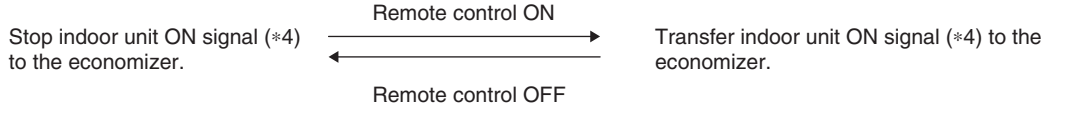
■ Thermostat ON signal



■ Operation



■ Indoor unit ON signal



Note(s)

∗1. Thermostat ON signal: A signal to turn ON the indoor unit thermostat and allow the economizer to open the damper. It turns ON the relay on the X2M-ECONOMIZER2 on the PCB.
∗2. External input ON is an input signal to the X1M-ECONOMIZER1 terminal on the PCB.
∗3. Refer to **Optional Kit Setting (UV lamp + Humidifier + Economizer) (for FXTQ-TA, FXTQ-TB models)** on page 229.
∗4. Remote control ON signal: Contact output which shows the operating status of the indoor unit. This signal turns on the relay X2M-CONTROL ON/OFF on the PCB.

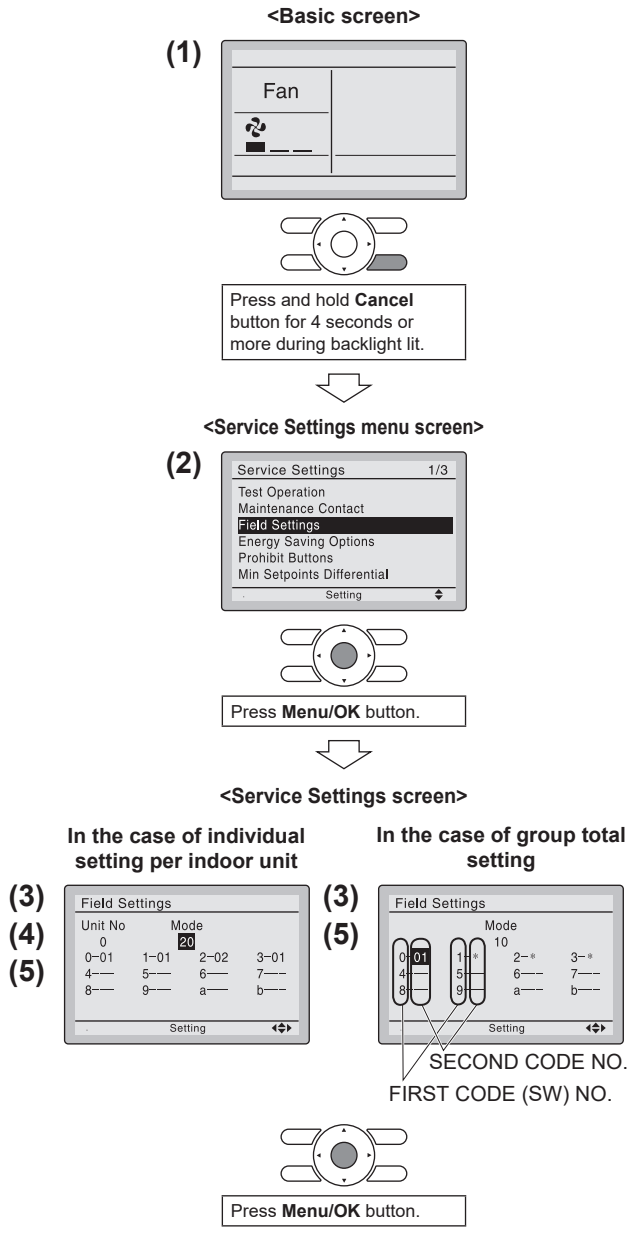
Part 5
Field Settings and Test Operation

1. Field Settings with Remote Controller

Individual function of indoor unit can be changed from the remote controller. At the time of installation or after service inspection / repair, make the field setting in accordance with the following description. Wrong setting may cause error. (When optional accessory is mounted on the indoor unit, setting for the indoor unit may be required to change.)

1.1 Wired Remote Controller

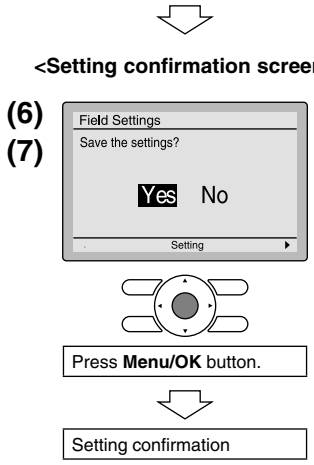
1.1.1 BRC1E73



1. Press and hold **Cancel** button for 4 seconds or more.
   Service settings menu is displayed.
2. Select **Field Settings** in the Service Settings menu, and press **Menu/OK** button.
   Field settings screen is displayed.
3. Highlight the mode, and select desired **Mode No.** by using ▲▼ (Up/Down) button.
4. In the case of setting per indoor unit during group control (When Mode No. such as **20**, **21**, **22**, **23**, **25** are selected), highlight the unit No. and select **Indoor unit No.** to be set by using ▲▼ (Up/Down) button.
   (In the case of group total setting, this operation is not needed.)

   In the case of individual setting per indoor unit, current settings are displayed. And, SECOND CODE NO. " - " means no function.
5. Highlight SECOND CODE NO. of the FIRST CODE NO. to be changed, and select desired **SECOND CODE NO.** by using ▲▼ (Up/Down) button. Multiple identical mode number settings are available.

   In case of setting for all indoor units in the remote control group, available SECOND CODE NO. is displayed as " ∗ " which means it can be changed.
   When SECOND CODE NO. is displayed as " - ", there is no function.



6. Press **Menu/OK** button. Setting confirmation screen is displayed.

7. Select **Yes** and press **Menu/OK** button. Setting details are determined and field settings screen returns.

8. In the case of multiple setting changes, repeat **(3)** to **(7)**.

9. After all setting changes are completed, press **Cancel** button twice.

10. Backlight goes out, and **Checking the connection**. **Please standby.** is displayed for initialization. After the initialization, the basic screen returns.

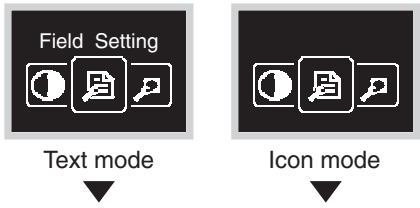
NOTE

- Installation of optional accessories on the indoor unit may require changes to field settings. See the manual of the optional accessory.
- For field setting details related to the indoor unit, see installation manual shipped with the indoor unit.

1.1.2 BRC1H71W

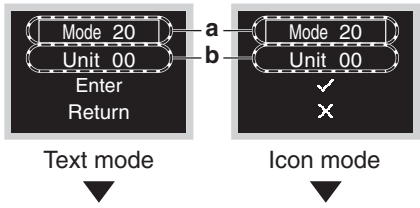
Enter the Installer Menu and make settings.

Installer menu screen



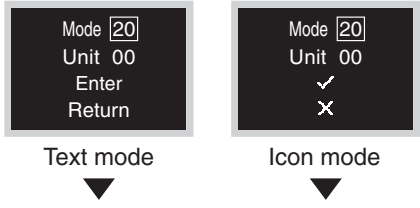
Press − or + button, for move to "".
If Bluetooth is connected, performing field setting from the remote controller side is impossible.
Disconnect Bluetooth, or perform field setting from the mobile application.

Sub-menu screen



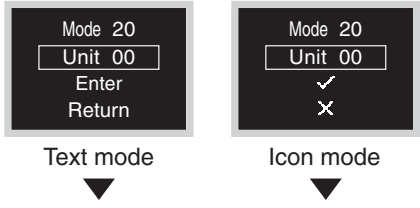
Press + or − button, to select Mode No. and press ○ to enter the field setting menu.
a Mode No.
b Unit No.

Sub-menu screen



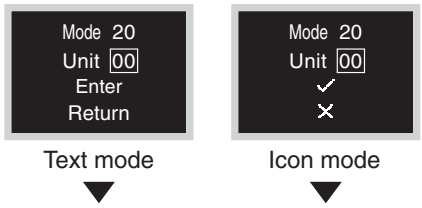
Press − or + button, to scroll the desired Mode No. and press ○ button.

Sub-menu screen



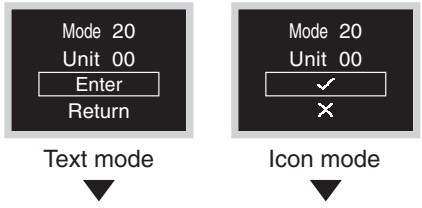
Press − or + button, to select Unit No. and press ○ button.

Sub-menu screen



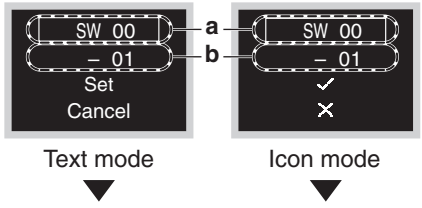
Press − or + button, scroll to the desired Unit No. and then press ○ button to set the selection.

Sub-menu screen



Press − or + button, to select “Enter” or “ ✓ ”, and then press ○ button to set the selection.

Sub-menu screen

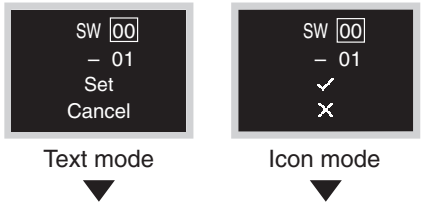


Press − or + button, select First Code No., and then press ○ button.

a First Code No.

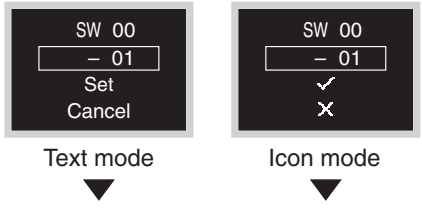
b Second Code No.

Sub-menu screen



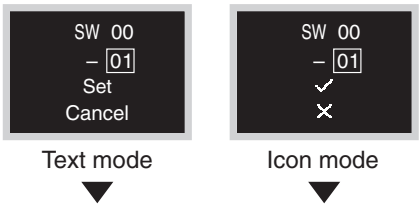
Press + or − button, scroll to the desired First code No. and then press ○ button to set the selection.

Sub-menu screen



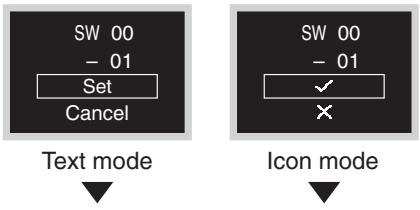
Press − or + button, to move Second Code No., and then press ○ button.

Sub-menu screen



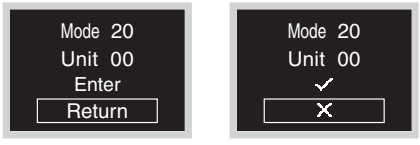
Press − or + button, to scroll to the desired Second Code No., and then press ○ button.

Sub-menu screen



Press − or + button, select “Set” or “✓”, and then press ○ button to save the setting and return to the previous screen.
If the setting is not changed, select “Cancel” or “✕”.

Sub-menu screen



Press − or + button, move to “Return” or “✕”, and then press ○ button to return to the installer menu.
* If the setting has been changed, the screen may return to the home screen without returning to the installer menu.

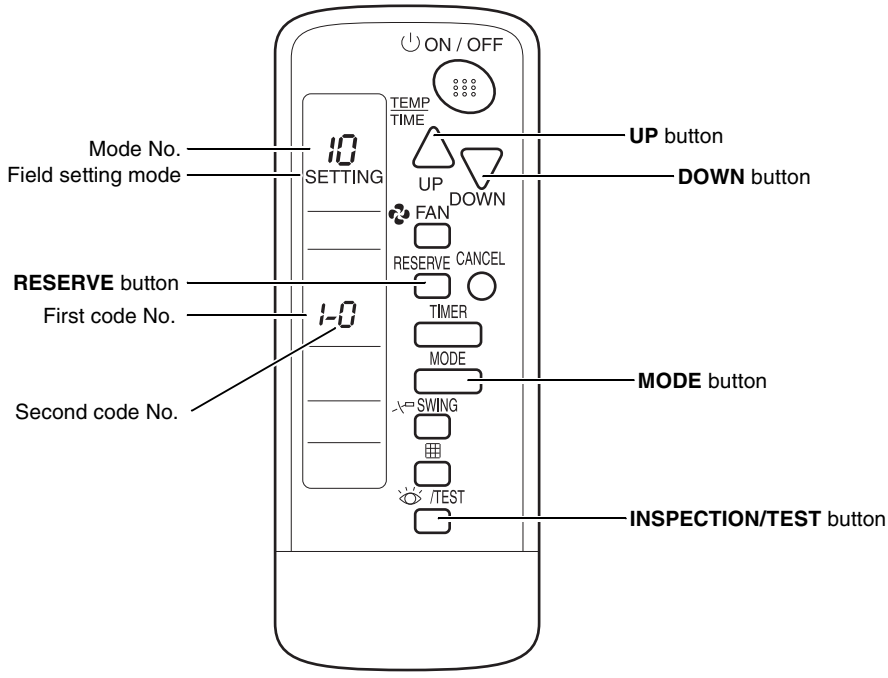
⚠ CAUTION

- The connection of optional accessories to the indoor unit might cause changes to some field settings. For more information, see the installation manual of the optional accessory.
- For details about the specific field settings of each type of indoor unit, see the installation manual of the indoor unit.
- Field settings that are not available for a connected indoor unit are not displayed.
- Field setting default values are different depending on the indoor unit model.

NOTICE

- Installation of optional accessories on the indoor unit may require changes to field settings. See the manual of the optional accessory.
- For field setting details related to the indoor unit, see installation manual shipped with the indoor unit.

1.2 Wireless Remote Controller



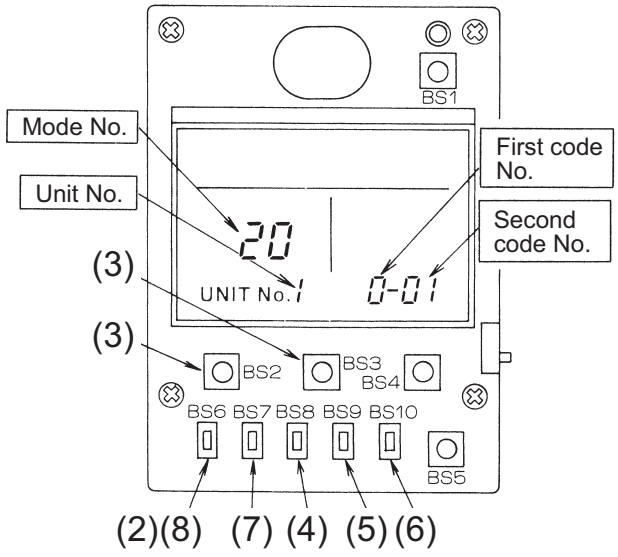
To set the field settings, you have to change:

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

To change the field settings, proceed as follows:

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.

1.3 Simplified Remote Controller



1. Remove the upper part of remote controller.
2. When in the normal mode, press the **BS6** button (2) (field setting) to enter the field setting mode.
3. Select the desired MODE No. with the **BS2** button (3) (temperature setting ▲) and the **BS3** button (3) (temperature setting ▼).
4. During group control, when setting by each indoor unit (mode No. 20, 22, and 23 have been selected), press the **BS8** (4) button (unit No.) and select the indoor unit No. to be set. (This operation is unnecessary when setting by group.)
5. Press the **BS9** button (5) (set A) and select first code No.
6. Press the **BS10** button (6) (set B) and select second code No.
7. Press the **BS7** button (7) (set/cancel) once and the present settings are confirmed.
8. Press the **BS6** button (8) (field setting) to return to the normal mode.

1.4 List of Field Settings for Indoor Unit

★: Factory setting

Mode No. (Note 2)	First Code No.	Setting Contents		Second Code No. 01		Second Code No. 02		Second Code No. 03	Second Code No. 04	Reference Page
10 (20)	0	Filter cleaning sign interval	Ultra long life filter	**Light★**	**Approx. 10,000 hrs.★**	Heavy	Approx. 5,000 hrs.	—	—	214
			Long life filter		**Approx. 2,500 hrs.★**		Approx. 1,250 hrs.			
			Standard filter		**Approx. 200 hrs.★**		Approx. 100 hrs.			
	0	Filter sign setting		**Light★**		Heavy		—	—	214
	1	Filter type		**Long life filter★**		Ultra long life filter		—	—	214
	1	Filter cleaning sign interval		**Short interval★**		Long interval		—	—	214
	2	Remote controller thermistor		Refer to page on the right for details.						214
	3	Filter cleaning sign		**Displayed★**		Not displayed		—	—	216
	5	Information for intelligent Touch Manager / intelligent Touch Controller		Refer to page on the right for details.						216
	6	Remote controller thermistor control during group control		**Not permitted★**		Permitted		—	—	215
	7	Time for absence area detection		**30 minutes★**		60 minutes		—	—	216
11 (21)	1	Auxiliary electric heater ON temperature: Ton		Refer to page on the right for details.						217
	1	Auxiliary electric heater ON/OFF temperature: Ton/Toff								
	2	Auxiliary electric heater OFF temperature: Toff								
	3	Setting of airflow rate when heating		**Standard★**		Slightly increased		Increased	—	218
	3	Electric heater setting		Refer to page on the right for details.						218
	5	Electric heater capacity setting		Refer to page on the right for details.						219
	6	Detection rate setting		High sensitivity		Low sensitivity		**Standard sensitivity★**	Infrared presence sensor disabled	219
	7	Automatic airflow adjustment		**OFF★**		Completion of airflow adjustment		Start of airflow adjustment	—	220
	8	Compensating the temperature around people		Suction air temperature only		Priority given on the suction air temperature		**Standard★**	Priority given on the floor temperature	221
	9	Compensating the floor temperature when heating		–4°C (–7.2°F)		–2°C (–3.6°F)		**0°C (0°F)★**	+2°C (+3.6°F)	221
	12	Dry mode set temperature		**Room temperature★**		Same as cooling mode set temperature		—	—	221
12 (22)	0	Optional accessories output selection		Refer to page on the right for details.						222
	1	External ON/OFF input		Refer to page on the right for details.						222
	2	Thermostat differential changeover		1°C (1.8°F)		0.5°C (0.9°F)		—	—	222
	3	Airflow setting when heating thermostat is OFF		**LL tap★**		Set fan speed		OFF	—	223
	4	Automatic mode differential		Refer to page on the right for details.						223
	5	Auto restart after power failure		OFF		**ON★**		—	—	223
	6	Airflow setting when cooling thermostat is OFF		LL tap		**Set fan speed★**		OFF	—	224

Mode No. (Note 2)	First Code No.	Setting Contents	Second Code No.				Reference Page
			01	02	03	04	
13 (23)	0	Ceiling height setting, setting of normal airflow	**Standard**★	High ceiling 1	High ceiling 2	—	224
	1	Airflow direction setting	**4-direction airflow**★	3-direction airflow	2-direction airflow	—	225
	2	Swing pattern settings	All direction synchronized swing	—	**Facing swing**★	—	226
	4	Airflow direction adjustment range	Draft prevention	**Standard**★	Ceiling soiling prevention	—	226
	5	Setting of static pressure selection	Refer to page on the right for details.				226
	6	External static pressure settings	Refer to page on the right for details.				227
14 (24)	4	Optional kit setting (UV lamp + humidifier + economizer)	Refer to page on the right for details.				229
	5	Dry mode set temperature	**Room temperature**★	Same as cooling mode set temperature	—	—	229
	9	Mold proof operation setting	—	**Standard**★	For high humidity areas	—	229
15 (25)	0	Drain pump operation setting	Refer to page on the right for details.				230
	1	Humidification when heating thermostat is OFF	**Not equipped**★	Equipped	—	—	230
	2	Direct duct connection	**Not equipped**★	Equipped	—	—	230
	3	Drain pump and humidifier interlock selection	**Not interlocked**★	Interlocked	—	—	230
	5	Individual ventilation setting	**Normal**★	Individual	—	—	231
1b	4	Display of error codes on the remote controller	—	Two-digit display	—	**Four-digit display**★	231
1c	0	Room temperature display	Not displayed	**Displayed**★	—	—	231
	1	Thermistor sensor for auto changeover and setback control by the remote controller	Utilize the return air thermistor	**Utilize the remote controller thermistor**★	—	—	231
	3	Access permission level setting	**Level 2**★	Level 3	—	—	232
1e	2	Setback availability	**N/A**★	Heat only	Cool only	Cool/heat	232
	14	Setting restricted/permitted for airflow block	Refer to page on the right for details.				232

Note(s)

1. Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
2. The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
3. Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
4. **88** or **Checking the connection. Please stand by.** may be displayed to indicate the remote controller is resetting when returning to the normal mode.

1.5 Applicable Field Settings

Field setting	First Code No.	Setting Modes	FXFQ-AA	FXFQ-T	FXFQ-P	FXZQ-TA FXZQ-TB	FXZQ-M	FXUQ-P FXUQ-PA	FXEQ-P	FXDQ-M	FXSQ-TA FXSQ-TB
10 (20)	0	Filter cleaning sign interval	●	●	●	●	●	●	●	●	●
	0	Filter sign setting	—	—	—	—	—	—	—	—	—
	1	Filter type	●	●	●	●	●	●	—	—	●
	1	Filter cleaning sign interval	—	—	—	—	—	—	—	—	—
	2	Remote controller thermistor	●	●	●	●	●	●	●	●	●
	3	Filter cleaning sign	●	●	●	●	●	●	●	●	●
	5	Information for intelligent Touch Manager/ intelligent Touch Controller	●	●	●	●	●	●	●	●	●
	6	Remote controller thermistor control during group control	●	●	●	●	●	●	●	●	●
	7	Time for absence area detection	●	●	—	●	—	●	—	—	—
11 (21)	1	Auxiliary electric heater ON temperature	●	—	—	●	—	●	●	—	●
	1	Auxiliary electric heater ON/OFF temperature	—	●	—	—	—	—	—	—	—
	2	Auxiliary electric heater OFF temperature	●	—	—	●	—	●	●	—	●
	3	Setting of airflow rate when heating	●	●	●	●	—	●	●	—	—
	3	Electric heater setting	—	—	—	—	—	—	—	—	—
	5	Electric heater capacity setting	—	—	—	—	—	—	—	—	—
	6	Detection rate setting	●	●	—	●	—	●	—	—	—
	7	Automatic airflow adjustment	—	—	—	—	—	—	—	—	●
	8	Compensating the temperature around people	●	●	—	●	—	●	—	—	—
	9	Compensating the floor temperature when heating	●	●	—	●	—	●	—	—	—
	12	Dry mode set temperature	●	—	—	TA: — TB: ●	—	P: — PA: ●	—	—	TA: — TB: ●
12 (22)	0	Optional accessories output selection	●	●	●	●	●	●	●	●	●
	1	External ON/OFF input	●	●	●	●	●	●	●	●	●
	2	Thermostat differential changeover	●	●	●	●	●	●	●	●	●
	3	Airflow setting when heating thermostat is OFF	●	●	●	●	●	●	●	●	●
	4	Automatic mode differential	●	●	●	●	●	●	●	●	●
	5	Auto restart after power failure	●	●	●	●	●	●	●	●	●
	6	Airflow setting when cooling thermostat is OFF	●	●	●	●	●	●	●	●	●
13 (23)	0	Ceiling height setting, Setting of normal airflow	●	●	●	●	●	●	●	—	—
	1	Airflow direction setting	●	●	●	●	●	●	—	—	—
	2	Swing pattern settings	●	●	—	●	—	●	—	—	—
	4	Airflow direction adjustment range	●	●	●	●	●	●	●	—	—
	5	Setting of static pressure selection	—	—	—	—	—	—	—	●	—
	6	External static pressure settings	—	—	—	—	—	—	—	—	●

Field setting	First Code No.	Setting Modes	FXFQ-AA	FXFQ-T	FXFQ-P	FXZQ-TA FXZQ-TB	FXZQ-M	FXUQ-P FXUQ-PA	FXEQ-P	FXDQ-M	FXSQ-TA FXSQ-TB
14 (24)	4	Optional kit setting (UV lamp + Humidifier + Economizer)	—	—	—	—	—	—	—	—	—
	5	Dry mode set temperature	—	—	—	—	—	—	—	—	—
	9	Mold proof operation setting	—	—	—	—	—	—	●	—	—
15 (25)	0	Drain pump operation setting	—	—	—	—	—	—	—	—	—
	1	Humidification when heating thermostat is OFF	●	●	●	●	●	●	●	●	●
	2	Direct duct connection	●	●	●	●	—	●	●	—	—
	3	Drain pump and humidifier interlock selection	●	●	●	●	●	●	●	●	●
	5	Individual ventilation setting	●	●	●	●	●	●	●	●	●
1b	4	Display of error codes on the remote controller	●	●	●	●	●	●	●	●	●
1c	0	Room temperature display	●	●	●	●	●	●	●	●	●
	1	Thermistor sensor for auto changeover and setback control by the remote controller	●	●	●	●	●	●	●	●	●
	3	Access permission level setting	●	●	●	●	●	●	●	●	●
1e	2	Setback availability	●	●	●	●	●	●	●	●	●
	14	Setting restricted/permitted for airflow block	●	●	—	—	—	—	—	—	—

● : Available
— : Not available

Field setting	First Code No.	Setting Modes	FXMQ-PB	FXMQ-TB	FXMQ-TA	FXMQ-M	FXHQ-M	FXAQ-P	FXLQ-M	FXNQ-M	FXTQ-TA FXTQ-TB
10 (20)	0	Filter cleaning sign interval	●	●	●	●	●	●	●	●	—
	0	Filter sign setting	—	—	—	—	—	—	—	—	●
	1	Filter type	—	●	●	●	—	—	—	—	—
	1	Filter cleaning sign interval	—	—	—	—	—	—	—	—	●
	2	Remote controller thermistor	●	●	●	●	●	●	●	●	●
	3	Filter cleaning sign	●	●	●	●	●	●	●	●	●
	5	Information for intelligent Touch Manager/ intelligent Touch Controller	●	●	●	●	●	●	●	●	●
	6	Remote controller thermistor control during group control	●	●	●	●	●	●	●	●	●
	7	Time for absence area detection	—	—	—	—	—	—	—	—	—
11 (21)	1	Auxiliary electric heater ON temperature	—	●	●	—	—	—	●	●	●
	1	Auxiliary electric heater ON/OFF temperature	●	—	—	—	—	—	—	—	—
	2	Auxiliary electric heater OFF temperature	—	●	●	—	—	—	●	●	●
	3	Setting of airflow rate when heating	—	—	—	—	—	—	—	—	—
	3	Electric heater setting	—	—	—	—	—	—	—	—	●
	5	Electric heater capacity setting	—	—	—	—	—	—	—	—	●
	6	Detection rate setting	—	—	—	—	—	—	—	—	—
	7	Automatic airflow adjustment	● (∗1)	●	●	—	—	—	—	—	—
	8	Compensating the temperature around people	—	—	—	—	—	—	—	—	—
	9	Compensating the floor temperature when heating	—	—	—	—	—	—	—	—	—
	12	Dry mode set temperature	—	●	●	—	—	—	—	—	—
12 (22)	0	Optional accessories output selection	●	●	●	●	●	●	●	●	●
	1	External ON/OFF input	●	●	●	●	●	●	●	●	●
	2	Thermostat differential changeover	●	●	●	●	●	●	●	●	●
	3	Airflow setting when heating thermostat is OFF	●	●	●	●	●	●	●	●	●
	4	Automatic mode differential	●	●	●	●	●	●	●	●	●
	5	Auto restart after power failure	●	●	●	●	●	●	●	●	●
	6	Airflow setting when cooling thermostat is OFF	●	●	●	●	●	●	●	●	●
13 (23)	0	Ceiling height setting, Setting of normal airflow	—	—	●	—	●	●	—	—	—
	1	Airflow direction setting	—	—	—	—	—	—	—	—	—
	2	Swing pattern settings	—	—	—	—	—	—	—	—	—
	4	Airflow direction adjustment range	—	—	—	—	—	●	—	—	—
	5	Setting of static pressure selection	—	—	●	—	—	—	—	—	—
	6	External static pressure settings	●	●	●	—	—	—	—	—	—

Field setting	First Code No.	Setting Modes	FXMQ-PB	FXMQ-TB	FXMQ-TA	FXMQ-M	FXHQ-M	FXAQ-P	FXLQ-M	FXNQ-M	FXTQ-TA FXTQ-TB
14 (24)	4	Optional kit setting (UV lamp + Humidifier + Economizer)	—	—	—	—	—	—	—	—	●
	5	Dry mode set temperature	—	—	—	—	—	—	—	—	●
	9	Mold proof operation setting	—	—	—	—	—	—	—	—	—
15 (25)	0	Drain pump operation setting	●	—	●	—	—	—	—	—	—
	1	Humidification when heating thermostat is OFF	●	●	●	●	●	●	●	●	●
	2	Direct duct connection	—	—	—	—	—	●	—	—	—
	3	Drain pump and humidifier interlock selection	●	●	●	●	●	●	●	●	—
	5	Individual ventilation setting	●	●	●	●	●	●	●	●	●
1b	4	Display of error codes on the remote controller	●	●	●	●	●	●	●	●	●
1c	0	Room temperature display	●	●	●	●	●	●	●	●	●
	1	Thermistor sensor for auto changeover and setback control by the remote controller	●	●	●	●	●	●	●	●	●
	3	Access permission level setting	●	●	—	●	●	●	●	●	●
1e	2	Setback availability	●	●	●	●	●	●	●	●	●
	14	Setting restricted/permitted for airflow block	—	—	—	—	—	—	—	—	—

● : Available
— : Not available

Note(s) ∗1. FXMQ07-48PBVJU only

1.6 Details of Field Settings for Indoor Unit

1.6.1 Filter Cleaning Sign Interval, Filter Type

★: Factory setting

Setting	10 (20)-1	**01: Long life filter★**		02: Ultra long life filter	
	Filter contamination heavy/light 10 (20)-0	**Light 01★**	Heavy 02	Light 01	Heavy 02
Model	FXFQ-AA	**2,500 hrs.★**	1,250 hrs.	10,000 hrs.	5,000 hrs.
	FXFQ-T				
	FXFQ-P				
	FXZQ-TA				
	FXZQ-TB				
	FXZQ-M				
	FXUQ-P				
	FXUQ-PA				
	FXEQ-P				
	FXSQ-TA				
	FXSQ-TB				
	FXMQ-PB				
	FXMQ-TB				
	FXMQ-TA				
	FXMQ-M				
	FXHQ-M				
	FXLQ-M				
	FXNQ-M				
	FXDQ-M	**200 hrs.★**	100 hrs.	200 hrs.	100 hrs.
	FXAQ-P				

Setting	10 (20)-1	**01: Short interval★**		02: Long interval	
	Filter contamination heavy/light 10 (20)-0	**Light 01★**	Heavy 02	Light 01	Heavy 02
Model	FXTQ-TA	**2,500 hrs. ★**	1,250 hrs.	10,000 hrs.	5,000 hrs.
	FXTQ-TB				

1.6.2 Remote Controller Thermistor

Select a thermistor to control the room temperature.

When the unit is not equipped with an infrared floor sensor: ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
10 (20)	2	**01★**	**Remote controller thermistor and suction air thermistor★**
		02	Suction air thermistor only
		03	Remote controller thermistor only

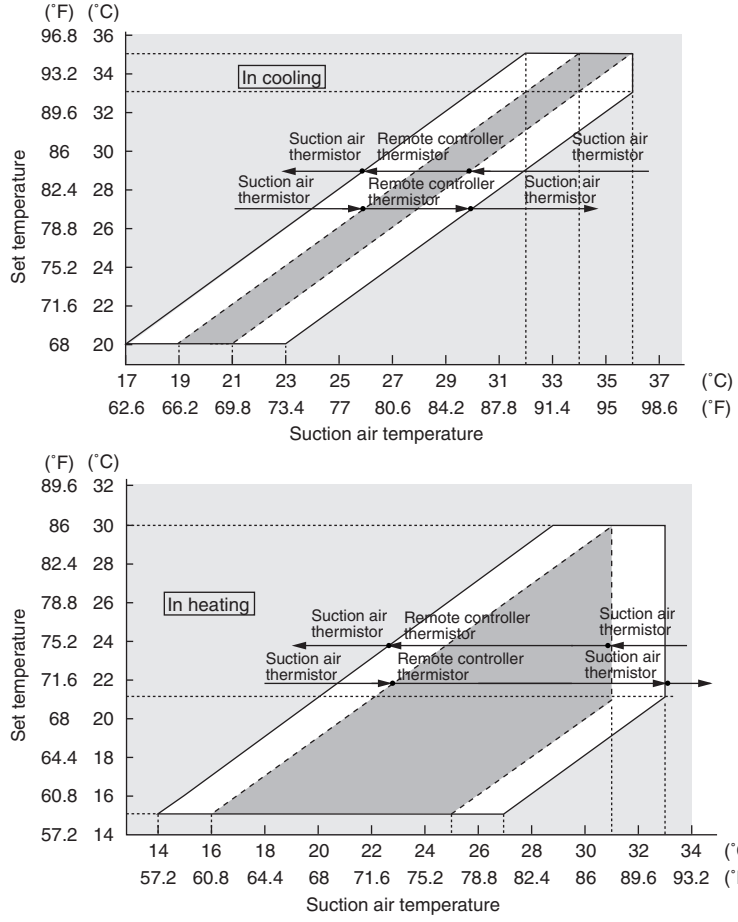
The factory setting for the Second Code No. is **01** and room temperature is controlled by the suction air thermistor and remote controller thermistor. When the Second Code No. is set to **02**, room temperature is controlled by the suction air thermistor. When the Second Code No. is set to **03**, room temperature is controlled by the remote controller thermistor.

Note(s) For FXFQ-AA, the factory setting for the Second Code No. is **02**.

■ **FXTQ-TA, FXTQ-TB** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
10 (20)	2	01	—
		02	Remote sensor thermistor only
		03★	**Remote controller thermistor only★**

When the Second Code No. is set to **02**, room temperature is controlled by the remote sensor thermistor. When the Second Code No. is set to **03**, room temperature is controlled by the remote controller thermistor.



When the unit is equipped with an infrared floor sensor: ★: Factory setting

Mode No.	First Code No.	Second Code No.					
10 (20)	2	01	02	02	**02★**	02	03
11 (21)	8	01	01	02	**03★**	04	01
The thermistor to be used		↓	↓	↓	↓	↓	↓
Remote controller thermistor		●	—	—	—	—	●
Suction air thermistor		●	●	●	●	●	—
Infrared floor sensor		—	—	●	●	●	—
		The infrared floor sensor is not used	Only the suction air thermistor is used	Priority given to the suction air temperature (∗)	Standard setting (Factory setting)	Priority given to the floor temperature (∗)	Only the remote controller thermistor is used

∗Refer to **Compensating the Temperature around People** on page 221.

Note(s) The control is automatically switched to the one performed only by the suction air thermistor for indoor unit when the Second code No. is **01** during group control.
To use the **remote controller thermistor control during group control**, select the Second code No. **02** in First code No. **6**.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
10 (20)	6	**01**★	**Remote controller thermistor control is not permitted during group control**★
		02	Remote controller thermistor control is permitted during group control.

Note(s) When the 10 (20)-6 setting is changed to **02**, several indoor units are controlled by one remote controller thermistor, so note that the room temperature might be uneven.

1.6.3 Filter Cleaning Sign

Whether or not to display the sign after operation of a certain duration can be selected.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
10 (20)	3	**01**★	**Displayed**★
		02	Not displayed

∗ Filter cleaning sign is not displayed when a self-cleaning decoration panel is mounted.

1.6.4 Information for intelligent Touch Manager/intelligent Touch Controller

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
10 (20)	5	**01**★	**Only indoor unit sensor value (or remote controller sensor value, if installed.)**★
		02	Sensor values according to 10 (20)-2 and 10 (20)-6.

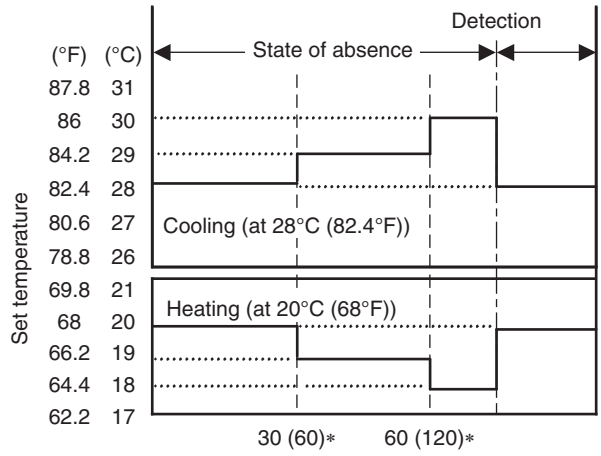
∗ When field setting 10 (20)-6-**02** is set at the same time as 10 (20)-2-**01,02,03,** field setting 10 (20)-2 has priority.
When field setting 10 (20)-6-**01** is set at the same time as 10 (20)-2-**01,02,03,** field setting 10 (20)-6 has priority for group connection, and 10 (20)-2 has priority for individual connection.

1.6.5 Time for Absence Area Detection (For units with an infrared presence sensor only)

By selecting the energy-saving operation mode in the absence, the target temperature is shifted to the energy-saving end by 1°C (1.8°F) (maximum 2°C (3.6°F)) after the state of absence continues for a certain period of time. Absent time defined for detection can be selected as follows:

★: Factory setting

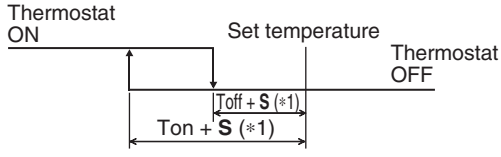
Mode No.	First Code No.	Second Code No.	Contents
10 (20)	7	**01**★	**30 minutes**★
		02	60 minutes



* The values in parentheses represent the time when Second code No. is **02**.

- The set temperature displayed on the remote controller remains the same even if the target temperature is shifted.
- As soon as people are detected while the temperature is shifted, this control will be cancelled (reset).

1.6.6 Auxiliary Electric Heater ON/OFF Temperature



Note(s)

*1. **S** value varies automatically based on the room temperature trend.

■ **FXFQ-T, FXMQ-PB**

★: Factory setting

Mode No.	First Code No.	Symbol	Second Code No.					
			01★	02	03	04	05	06
11 (21)	1	Ton	**–4°C (–7.2°F) ★**	–3.5°C (–6.3°F)	–3°C (–5.4°F)	–2.5°C (–4.5°F)	–2°C (–3.6°F)	–1.5°C (–2.7°F)
		Toff	**–2°C (–3.6°F) ★**	–1.5°C (–2.7°F)	–1°C (–1.8°F)	–0.5°C (–0.9°F)	0°C (0°F)	0.5°C (0.9°F)

■ **FXFQ-AA, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P, FXSQ-TA, FXSQ-TB, FXMQ-TB, FXMQ-TA, FXLQ-M, FXNQ-M, FXTQ-TA, FXTQ-TB**

★: Factory setting

Mode No.	First Code No.	Symbol	Second Code No.					
			01★	02	03	04	05	06
11 (21)	1	Ton	**–4°C (–7.2°F) ★**	–3.5°C (–6.3°F)	–3°C (–5.4°F)	–2.5°C (–4.5°F)	–2°C (–3.6°F)	–1.5°C (–2.7°F)
	2	Toff	**–2°C (–3.6°F) ★**	–1.5°C (–2.7°F)	–1°C (–1.8°F)	–0.5°C (–0.9°F)	0°C (0°F)	0.5°C (0.9°F)

There is a limitation of combination between Ton and Toff as below due to 2°C (3.6°F) hysteresis required for reliability.

Second Code No.			Ton					
			01	02	03	04	05	06
			–4°C (–7.2°F)	–3.5°C (–6.3°F)	–3°C (–5.4°F)	–2.5°C (–4.5°F)	–2°C (–3.6°F)	–1.5°C (–2.7°F)
Toff	06	0.5°C (0.9°F)	●	●	●	●	●	●
	05	0°C (0°F)	●	●	●	●	●	—
	04	–0.5°C (–0.9°F)	●	●	●	●	—	—
	03	–1°C (–1.8°F)	●	●	●	—	—	—
	02	–1.5°C (–2.7°F)	●	●	—	—	—	—
	01	–2°C (–3.6°F)	●	—	—	—	—	—

● : Available
— : Not available

1.6.7 Setting of Airflow Rate when Heating

The fan revolution is changed to maintain the sufficient distance for warm air to reach during the heating operation. The setting should be changed depending on the installation condition of the unit.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	3	**01★**	**Standard★**
		02	Slightly increased
		03	Increased

Note that this setting is effective only during the heating operation.

1.6.8 Electric Heater Setting (for FXTQ-TA, FXTQ-TB models)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents	
			Heater operation	Electric heater run for defrost/oil return operation
11 (21)	3	**01★**	**Electric heater with heat pump not allowed★**	**Not allowed★**
		02	Electric heater with heat pump allowed	Not allowed
		07	Electric heater with heat pump not allowed	Allowed
		08	Electric heater with heat pump allowed	Allowed

1.6.9 Electric Heater Capacity Setting (for FXTQ-TA, FXTQ-TB models)

★: Factory setting

Model	Mode No.	First Code No.	Second Code No.									
			01★	02	03	04	05	06	07	08	09	10
			Heater (kW)									
			No heater kit★	3	5	6	8	10	15	19	20	25
FXTQ09TA FXTQ09TB	11 (21)	5	●★	●	●	—	—	—	—	—	—	—
FXTQ12TA FXTQ12TB			●★	●	●	●	—	—	—	—	—	—
FXTQ18TA FXTQ18TB			●★	●	●	●	●	●	—	—	—	—
FXTQ24TA FXTQ24TB			●★	●	●	●	●	●	—	—	—	—
FXTQ30TA FXTQ30TB			●★	●	●	●	●	●	—	—	—	—
FXTQ36TA FXTQ36TB			●★	●	●	●	●	●	—	—	—	—
FXTQ42TA FXTQ42TB			●★	—	●	●	●	●	●	●	—	—
FXTQ48TA FXTQ48TB			●★	—	●	●	●	●	●	●	—	—
FXTQ54TA FXTQ54TB			●★	—	●	●	●	●	●	—	●	●
FXTQ60TA FXTQ60TB			●★	—	●	●	●	●	●	—	●	●

● : Available
— : Not available

1.6.10 Detection Rate Setting (For units with an infrared presence sensor only)

Set the sensitivity of the infrared presence sensor.

- The infrared presence sensor can be disabled by selecting the Second code No. **04**.

Note(s)

When the infrared presence sensor is disabled, the remote controller menu does not display some functions such as the automatic draft reduction, energy-saving operation in absence and halt in absence.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	6	01	High sensitivity
		02	Low sensitivity
		03★	**Standard sensitivity★**
		04	Infrared presence sensor disabled

1.6.11 Automatic Airflow Adjustment

Make external static pressure setting automatically using automatic airflow adjustment (11 (21)-7), or manually using external static pressure settings (13 (23)-6).
The volume of blow-off air is automatically adjusted to the rated quantity.
Make settings before performing the test operation of the outside unit.

Setting procedure

1. Make sure that electric wiring and duct construction have been completed. In particular, if the closing damper is installed on the way of the duct, make sure that it is open. In addition, make sure that a field-supplied air filter is installed within the air passageway on the suction port side.
2. If there are multiple blow-off and suction ports, adjust the throttle part so that the airflow volume ratio of each suction/blow-off port conforms to the designed airflow volume ratio. In that case, operate the unit with fan operation mode. When you want to change the airflow rate, adjust it by pressing the airflow rate control button to select High, Middle or Low.
3. Make settings to adjust the airflow rate automatically. After setting to fan operation mode, enter the field setting mode while operation is stopped and then select the Mode No. 11 (21), set the First Code No. to **7** and the Second Code No. to **03**.
4. After setting, return to the basic screen (to the normal mode in the case of a wireless remote controller) and press the ON/OFF button. Fan operation for automatic airflow adjustment will start with the operation lamp turned ON. Do not adjust the throttle part of the suction and blow-off ports during automatic adjustment. After operation for approximately one to fifteen minutes, airflow adjustment automatically stops with the operation lamp turned OFF.
5. After operation stopped, make sure that the Second Code No. is set to **02** as in the following table by indoor unit with the Mode No. 11 (21). If operation does not stop automatically or the Second Code No. is not set to **02**, return to the step 3 above to make settings again.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	7	**01**★	**OFF**★
		02	Completion of airflow adjustment
		03	Start of airflow adjustment

Note(s)

1. Make sure that the external static pressure is within the range of specifications before making settings. If it is outside the range, automatic adjustment fails, which may cause an insufficient airflow volume or leakage of water.
2. If the air passageway including duct or blow-off ports is changed after automatic adjustment, make sure to perform automatic airflow adjustment again.

1.6.12 Compensating the Temperature around People (For units with the infrared floor sensor only)

Change the ratio between the suction air temperature and floor temperature used to calculate the temperature around human.

The temperature around human is calculated using the values of the suction air thermistor and the infrared floor sensor. The factory setting is Normal (the average value of the suction air temperature and the floor temperature is applied). However, the rate at which the suction air thermistor and the infrared floor sensor affect the temperature around human can be changed with this setting.

- To reflect the effect of the temperature around the ceiling, select **02** for the second code.
- To reflect the effect of the temperature around the floor, select **04** for the second code.
- The infrared floor sensor can be disabled by selecting **01** for the second code.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	8	01	Suction air temperature only
		02	Priority given on the suction air temperature
		03★	**Standard★**
		04	Priority given on the floor temperature

1.6.13 Compensating the Floor Temperature when Heating (For units with an infrared floor sensor only)

Offset the detected value of the infrared floor sensor with a certain temperature. This setting should be used to have the actual floor temperature detected when, for example, the unit is installed close to a wall.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	9	01	–4°C (–7.2°F)
		02	–2°C (–3.6°F)
		03★	**0°C (0°F)★**
		04	+2°C (+3.6°F)

Actual procedure to use the setting

Although the standard setting is normally used with no problem, the setting should be changed in the following cases:

Environment	Operation Mode	Problem	Setting Value
- The unit is installed close to a wall or a window. - High thermal capacity of the floor (such as concrete, etc.) - There are many heat sources including PC. - There is a non-negligible heat source such as floor heating.	Heating	Excessive heating	+2°C (+3.6°F)
		Insufficient heating	–2°C or –4°C (–3.6°F or –7.2°F)

1.6.14 Dry Mode Set Temperature (for FXFQ-AA, FXZQ-TB, FXUQ-PA, FXSQ-TB, FXMQ-TB, and FXMQ-TA models)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
11 (21)	12	**01★**	**Room temperature★**
		02	Same as cooling mode set temperature

1.6.15 Optional Accessories Output Selection

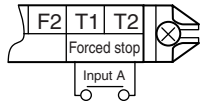
Using this setting, **operation output signal** and **abnormal output signal** can be provided. Output signal is output between terminals X1 and X2 of adaptor for wiring, an optional accessory.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	0	**01**★	**Indoor unit thermostat ON/OFF signal is provided.** ★
		02	—
		03	Output linked with ON/OFF of remote controller is provided.
		04	In case of Error Display appears on the remote controller, output is provided.
		05	—
		06	—
		07	Only for FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB Economizer (field supply) ON/OFF signal is provided.

1.6.16 External ON/OFF Input

This input is used for ON/OFF operation and protection device input from the outside. The input is performed from the T1-T2 terminal of the operation terminal block in the electrical component box.



★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	1	**01**★	**ON: Forced stop (prohibition of using the remote controller)** ★ **OFF: Permission of using the remote controller**★
		02	OFF → ON: Permission of operation ON → OFF: Stop
		03	ON: Operation OFF: The system stops, then the applicable unit indicates **A0**. The other indoor units indicate **U9**.
		04	—
		05	Only for FXSQ-TA, FXMQ-PB ON: Economizer (field supply) is connected. OFF: Not connected
		06	—
		07	Only for FXSQ-TB, FXMQ-TB ON: Economizer (field supply) is connected. OFF: Not connected

1.6.17 Thermostat Differential Changeover

Differential value during thermostat ON/OFF control can be changed.

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	2	01	1°C (1.8°F)
		02	0.5°C (0.9°F)

Factory Setting

Model	Second Code No.	Contents
FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-M, FXUQ-P, FXEQ-P, FXSQ-TA, FXHQ-M, FXTQ-TA, FXTQ-TB	01	1°C (1.8°F)
FXFQ-AA, FXZQ-TB, FXUQ-PA, FXDQ-M, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA, FXMQ-M, FXAQ-P, FXLQ-M, FXNQ-M, FXMQ-MF	02	0.5°C (0.9°F)

1.6.18 Airflow Setting when Heating Thermostat is OFF

This setting is used to set airflow when heating thermostat is OFF.
If the airflow setting when thermostat is OFF is set to 03: OFF, the air in the indoor unit will be stagnant and suction air thermistor may not detect room temperature correctly, resulting in problems that thermostat will not be ON easily.
Use optional remote sensor in such conditions, or set the field setting 10 (20)-2 to **03** (only remote controller thermistor).

* When thermostat OFF airflow volume up mode is used, careful consideration is required before deciding installation location.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	3	**01**★	**LL tap**★
		02	Set fan speed
		03	OFF

1.6.19 Automatic Mode Differential

This setting makes it possible to change differential values for mode selection while in automatic operation mode, only when the wireless remote controller or any central remote controller is connected.

★: Factory setting

Mode No.	First Code No.	Second Code No.							
		01★	02	03	04	05	06	07	08
12 (22)	4	**0°C (0°F)**★	1°C (1.8°F)	2°C (3.6°F)	3°C (5.4°F)	4°C (7.2°F)	5°C (9.0°F)	6°C (10.8°F)	7°C (12.6°F)

The automatic operation mode setting is made by the use of the operation mode selector button.

1.6.20 Auto Restart after Power Failure

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	5	01	OFF
		02★	**ON**★

When the Auto Restart after Power Failure setting is turned OFF, all the units will remain OFF after power failure, or after the main power supply is restored. When this setting is turned ON (factory setting), the units that were operating before the power failure will automatically restart operation after power failure, or after the main power supply is restored.

Due to the aforementioned, when the Auto Restart after Power Failure setting is ON, be careful for the following situations that may occur.

⚠ Caution

1. The air conditioner will start operation suddenly after power failure, or when the main power supply is restored. The user might be surprised and wonder why the air conditioner turned ON suddenly.
2. During maintenance, if the main power supply is turned OFF while the units are in operation, the units will automatically start operation (the fan will rotate) after the power supply is restored due to completion of the maintenance work.

1.6.21 Airflow Setting when Cooling Thermostat is OFF

This is used to set airflow to LL airflow when cooling thermostat is OFF.
If the airflow setting when thermostat is OFF is set to 03: OFF, the air in the indoor unit will be stagnant and suction air thermistor may not detect room temperature correctly, resulting in problems that thermostat will not be ON easily.
Use optional remote sensor in such conditions, or set the field setting 10 (20)-2 to **03** (only remote controller thermistor).

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	6	01	LL tap
		02★	**Set fan speed★**
		03	OFF

1.6.22 Ceiling Height Setting, Setting of Normal Airflow

Make the following setting according to the ceiling height. The second code No. is set to **01** at the factory.

■ **FXFQ07-24AA, FXFQ07-24T, FXFQ09-30P** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Setting	Ceiling Height			
				All round outlet	4-way outlets	3-way outlets	2-way outlets
13 (23)	0	**01★**	**Standard ★**	**Lower than 2.7 m (8-3/4 ft)★**	**Lower than 3.1 m (10-1/8 ft)★**	**Lower than 3.0 m (10 ft)★**	**Lower than 3.5 m (11-1/2 ft)★**
		02	High Ceiling (1)	Lower than 3.0 m (10 ft)	Lower than 3.4 m (11-1/8 ft)	Lower than 3.3 m (10-3/4 ft)	Lower than 3.8 m (12-1/2 ft)
		03	High Ceiling (2)	Lower than 3.5 m (11-1/2 ft)	Lower than 4.0 m (13-1/8 ft)	Lower than 3.5 m (11-1/2 ft)	—

Note(s)

1. The Second Code No. is factory set to Standard/All round outlet. For High ceiling (1) or (2), initial setting by remote controller is required.
2. A closing member kit (optional) is required for 4-, 3-, or 2-direction airflow.

■ **FXFQ30-54AA, FXFQ30-48T, FXFQ36/48P** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Setting	Ceiling Height			
				All round outlet	4-way outlets	3-way outlets	2-way outlets
13 (23)	0	**01★**	**Standard ★**	**Lower than 3.2 m (10-1/2 ft)★**	**Lower than 3.4 m (11-1/8 ft)★**	**Lower than 3.6 m (12 ft)★**	**Lower than 4.2 m (13-3/4 ft)★**
		02	High Ceiling (1)	Lower than 3.6 m (12 ft)	Lower than 3.9 m (12-3/4 ft)	Lower than 4.0 m (13-1/8 ft)	Lower than 4.2 m (13-3/4 ft)
		03	High Ceiling (2)	Lower than 4.2 m (13-3/4 ft)	Lower than 4.5 m (14-3/4 ft)	Lower than 4.2 m (13-3/4 ft)	—

Note(s)

1. The Second Code No. is factory set to Standard/All round outlet. For High ceiling (1) or (2), initial setting by remote controller is required.
2. A closing member kit (optional) is required for 4-, 3-, or 2-direction airflow.

■ **FXZQ-TA, FXZQ-TB, FXZQ-M, FXEQ-P** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Setting	Ceiling height
13 (23)	0	**01**★	**Standard**★	**Lower than 2.7 m (8-3/4 ft)** ★
		02	High Ceiling 1	Lower than 3.0 m (10 ft)
		03	Higher Ceiling 2	Lower than 3.5 m (11-1/2 ft)

■ **FXUQ-P, FXUQ-PA** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Setting	Ceiling height	
				FXUQ18/24P(A)	FXUQ30/36P(A)
13 (23)	0	**01**★	**Standard**★	**Lower than 2.7 m (8-3/4 ft)**★	**Lower than 3.2 m (10-1/2 ft)**★
		02	High Ceiling 1	Lower than 3.0 m (10 ft)	Lower than 3.6 m (12 ft)
		03	Higher Ceiling 2	Lower than 3.5 m (11-1/2 ft)	Lower than 4.0 m (13 ft)

■ **FXMQ-TA** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Ceiling height
13 (23)	0	**01**★	**Standard**★
		02	High ceiling
		03	Higher ceiling

■ **FXHQ-M, FXAQ-P** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Ceiling height
13 (23)	0	**01**★	**Standard**★
		02	Slight increase
		03	Normal increase

1.6.23 Airflow Direction Setting

Set the airflow direction of indoor units as given in the table below. (Set when sealing material kit of air discharge outlet has been installed.) The second code No. is factory set to **01**.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Ceiling height
13 (23)	1	**01**★	**4-direction airflow**★
		02	3-direction airflow
		03	2-direction airflow

1.6.24 Swing Pattern Settings (For units with the infrared floor sensor only)

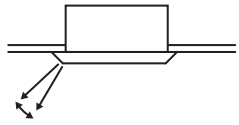
Set the flap operation in swing mode.
With the factory swing, flaps facing each other are synchronized to operate, and flaps placed side by side are set to swing in an opposite direction to agitate airflow to reduce temperature irregularity.
Conventional swing operation (all direction synchronized swing) can be set onsite.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	2	01	All direction synchronized swing
		02	—
		03★	**Facing swing**★

1.6.25 Airflow Direction Adjustment Range

Make the following airflow direction setting according to the respective purpose.



★: Factory setting

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

Note(s)

When the model FXFQ-AA is attached with a closing member kit, set the Second Code No. to **02** or **03**.

1.6.26 Setting of Static Pressure Selection

■ **FXDQ-M**

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	5	**01**★	**Standard (FXDQ07-12M: 10 Pa (0.04 inWG), FXDQ18/24M: 30 Pa (0.12 inWG))**★
		02	High static pressure (FXDQ07-12M: 15 Pa (0.06 inWG), FXDQ18/24M: 45 Pa (0.18 inWG))

■ **FXMQ-TA**

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	5	**01**★	**Standard**★
		02	Level 1
		03	Level 2

1.6.27 External Static Pressure Settings

Make external static pressure setting automatically using automatic airflow adjustment (11 (21)-7), or manually using external static pressure settings (13 (23)-6).

■ **FXSQ-TA, FXSQ-TB models** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	6	03	30 Pa (0.12 inWG) (∗1) (∗2)
		04	40 Pa (0.16 inWG) (∗1) (∗2)
		05★	**50 Pa (0.20 inWG) ★**
		06	60 Pa (0.24 inWG)
		07	70 Pa (0.28 inWG)
		08	80 Pa (0.32 inWG)
		09	90 Pa (0.36 inWG)
		10	100 Pa (0.40 inWG)
		11	110 Pa (0.44 inWG)
		12	120 Pa (0.48 inWG)
		13	130 Pa (0.52 inWG)
		14	140 Pa (0.56 inWG)
		15	150 Pa (0.60 inWG) (∗2)

∗1. FXSQ18-48TA, FXSQ18-48TB cannot be set to 30-40 Pa (0.12-0.16 inWG).
∗2. FXSQ54TA, FXSQ54TB cannot be set to 30-40 Pa (0.12-0.16 inWG) or 150 Pa (0.60 inWG).

■ **FXMQ-PB models** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	6	01	30 Pa (0.12 inWG) (∗1) (∗3)
		02★	**50 Pa (0.20 inWG) ★**
		03	60 Pa (0.24 inWG)
		04	70 Pa (0.28 inWG)
		05	80 Pa (0.32 inWG)
		06	90 Pa (0.36 inWG)
		07★	**100 Pa (0.40 inWG) ★**
		08	110 Pa (0.44 inWG) (∗2)
		09	120 Pa (0.48 inWG) (∗2)
		10	130 Pa (0.52 inWG) (∗2)
		11	140 Pa (0.56 inWG) (∗2)
		12	150 Pa (0.60 inWG) (∗2) (∗3)
		13	160 Pa (0.64 inWG) (∗2) (∗3)
		14	180 Pa (0.72 inWG) (∗2) (∗3)
		15	200 Pa (0.80 inWG) (∗2) (∗3)

The Second Code No. is set to **02** for FXMQ07/09/12PB, and **07** for FXMQ15/18/24/30/36/48/54PB at factory setting.
∗1. FXMQ15/18/24/30/36/48PB cannot be set to 30 Pa (0.12 inWG).
∗2. FXMQ07/09/12PB cannot be set to 110-200 Pa (0.44-0.80 inWG).
∗3. FXMQ54PB cannot be set to 30 Pa (0.12 inWG) or 150-200 Pa (0.60-0.80 inWG).

■ **FXMQ-TB models** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	6	02	50 Pa (0.20 inWG)
		03	60 Pa (0.24 inWG)
		04	70 Pa (0.28 inWG)
		05	80 Pa (0.32 inWG)
		06	90 Pa (0.36 inWG)
		07★	**100 Pa (0.40 inWG) ★**
		08	110 Pa (0.44 inWG)
		09	120 Pa (0.48 inWG)
		10	130 Pa (0.52 inWG)
		11	140 Pa (0.56 inWG)
		12	150 Pa (0.60 inWG) (∗1)
		13	160 Pa (0.64 inWG) (∗1)
		14	180 Pa (0.72 inWG) (∗1)
		15	200 Pa (0.80 inWG) (∗1)

∗1. FXMQ54TB cannot be set to 150-200 Pa (0.60-0.80 inWG).

■ **FXMQ-TA models** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
13 (23)	6	01	50 Pa (0.20 inWG)
		02	75 Pa (0.30 inWG)
		03	100 Pa (0.40 inWG)
		04	115 Pa (0.46 inWG)
		05	130 Pa (0.52 inWG)
		06★	**150 Pa (0.60 inWG)★**
		07	160 Pa (0.64 inWG)
		08	175 Pa (0.70 inWG)
		09	190 Pa (0.76 inWG)
		10	200 Pa (0.80 inWG)
		11	210 Pa (0.84 inWG)
		12	220 Pa (0.88 inWG)
		13	230 Pa (0.92 inWG)
		14	240 Pa (0.96 inWG)
		15	250 Pa (1.00 inWG)

1.6.28 Optional Kit Setting (UV lamp + Humidifier + Economizer) (for FXTQ-TA, FXTQ-TB models)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents	
			UV lamp + humidifier fan speed	Economizer setting for Mech standby duration (minutes)
14 (24)	4	01	Refer to controller	10
		02	High	10
		03	Refer to controller	20
		04	High	20
		05	Refer to controller	30
		06	High	30
		07	Refer to controller	40
		08	High	40
		09	Refer to controller	50
		10	High	50
		11	Refer to controller	60
		12	High	60
		13	Refer to controller	Free cooling only
		14★	**High★**	**Free cooling only★**

1.6.29 Dry Mode Set Temperature (for FXTQ-TA, FXTQ-TB models)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
14 (24)	5	**01★**	**Room temperature★**
		02	Same as cooling mode set temperature

1.6.30 Mold Proof Operation Setting (for FXEQ-P models)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
14 (24)	9	01	—
		02★	**Standard★**
		03	For high humidity areas (∗)

∗ Areas with average humidity over 80%.

1.6.31 Drain Pump Operation Setting

The drain pump operation can be disabled for natural drainage by changing the following field setting.

■ **FXMQ-PB** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	0	01	—
		02★	**ON**★
		03	OFF

■ **FXMQ-TA** ★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	0	01	OFF
		02★	**ON**★

1.6.32 Humidification when Heating Thermostat is OFF

Setting to **Equipped** turns ON the humidifier if suction air temperature is 20°C (68°F) or above and turns OFF the humidifier if suction air temperature is 18°C (64.4°F) or below when the heating thermostat is OFF.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	1	**01**★	**Not equipped**★
		02	Equipped

1.6.33 Direct Duct Connection

This is used when fresh air intake kit equipped with fan is connected. If the second code is set to **02**: Equipped, energy recovery ventilator fan conducts the fan residual operation by linking to indoor unit. The indoor fan carries out residual operation for one minute after the thermostat is stopped. (For the purpose of preventing dust on the air filter from falling off.)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	2	**01**★	**Not equipped**★
		02	Equipped

1.6.34 Drain Pump and Humidifier Interlock Selection

This is used to interlock the humidifier with the drain pump. When water is drained out of the unit, this setting is unnecessary.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	3	**01**★	**Not interlocked**★
		02	Interlocked

1.6.35 Individual Ventilation Setting

This is set to perform individual operation of Energy recovery ventilator using the remote controller/central unit when Energy recovery ventilator is built in.
(Switch only when Energy recovery ventilator is built in.)

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	5	**01★**	**Normal★**
		02	Individual

1.6.36 Display of Error Codes on the Remote Controller

■ **For BRC1E73 only**

Error code (four digits) is displayed for limited products. Select two-digit display if four-digit display is not preferred.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1b	4	01	—
		02	Two-digit display
		03	—
		04★	**Four-digit display★**

1.6.37 Room Temperature Display

■ **For BRC1E73 only**

It is possible to change whether or not the room temperature is displayed for the detailed display screen.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1c	0	01	Not displayed.
		02★	**Displayed.★**

1.6.38 Thermistor Sensor for Auto Changeover and Setback Control by the Remote Controller

■ **For BRC1E73 only**

Select a thermistor to utilize for the cool/heat mode automatic changeover and setback functions. The sensed temperature will be displayed on the remote controller as the room temperature.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1c	1	01	Utilize the return air thermistor
		02★	**Utilize the remote controller thermistor★**

1.6.39 Access Permission Level Setting

■ **For BRC1E73 only**

There are 2 levels as follows:

- Level 2: The following buttons are selectable to be disable or enable.
- Level 3: No buttons are selectable and only **On/Off** button is available.

Button	Level 2	Level 3
▲▼◀▶	Selectable (Enable)	Unselectable (Disable)
On/Off	Selectable (Enable)	Unselectable (Enable)
Mode	Selectable (Enable)	Unselectable (Disable)
Fan Speed	Selectable (Disable)	Unselectable (Disable)
Menu/OK	Unselectable (Disable)	Unselectable (Disable)
Cancel	Unselectable (Disable)	Unselectable (Disable)

( ) shows the factory setting.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1c	3	**01**★	**Level 2**★
		02	Level 3

1.6.40 Setback Availability

■ **For BRC1E73 only**

Select the operation mode in which the setback function is available.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1e	2	**01**★	**N/A**★
		02	Heat only
		03	Cool only
		04	Cool/heat

1.6.41 Setting Restricted/Permitted for Airflow Block

■ **For units with the infrared presence/floor sensor only**

The airflow block function cannot be enabled when closure material kit, fresh air intake kit, separately installed natural evaporation type humidifier, or branch air duct is equipped, due to the possibility of dew condensation.

This setting restricts the airflow block function, preventing that the airflow block is inadvertently set to ON. Ensure that **Airflow block restricted** is set when using the options listed above.

★: Factory setting

Mode No.	First Code No.	Second Code No.	Contents
1e	14	**01**★	**Airflow block permitted**★
		02	—
		03	—
		04	—
		05	Airflow block restricted

1.7 List of Field Settings for Outdoor-Air Processing Unit

★: Factory setting

Mode No.	First Code No.	Setting Contents		Second Code No.													
				01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
10 (20)	0	Filter contamination		**2500 hr ★**	1250 hr	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	Display time to clean air filter calculation		**Display ★**	No display	—	—	—	—	—	—	—	—	—	—	—	—	—
12 (22)	1	External ON/OFF input		**Forced OFF★**	ON/OFF control	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	Power failure automatic reset		Not equipped	**Equipped ★**	—	—	—	—	—	—	—	—	—	—	—	—	—
14 (24)	3	Discharge pipe temperature (cooling)	°C	13	14	15	16	17	**18 ★**	19	20	21	22	23	24	25		
			°F	55.4	57.2	59	60.8	62.6	**64.4 ★**	66.2	68	69.8	71.6	73.4	75.2	77		
	4	Discharge pipe temperature (heating)	°C	18	19	20	21	22	23	24	**25 ★**	26	27	28	29	30		
			°F	64.4	66.2	68	69.8	71.6	73.4	75.2	**77 ★**	78.8	80.6	82.4	84.2	86		

1.8 Operation Control Mode

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

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

Contents of Control Modes

20 modes consisting of combinations of the following 5 operation modes with temperature and operation mode setting by remote controller can be set and displayed by operation modes 0 through 19.

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

How to Select Operation Mode

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

Example

ON by remote controller (Unified ON by central remote controller)	OFF by remote controller (Unified OFF by central remote controller)	OFF by remote controller	Temperature control by remote controller	Operation mode setting by remote controller	
↓	↓	↓	↓	↓	Control mode is **1**.
Rejection	Rejection	Rejection	Acceptance	Acceptance	

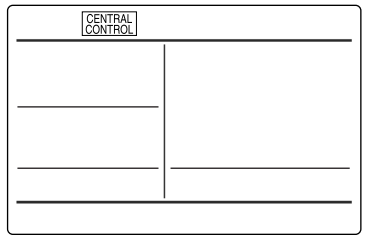
★: Factory setting

Control mode	Control by remote controller					Control mode
	Operation		OFF	Temperature control	Operation mode setting	
	Unified operation, individual operation by central remote controller, or operation controlled by timer	Unified OFF, individual stop by central remote controller, or timer stop				
ON/OFF control impossible by remote controller	Rejection (Example)	Rejection (Example)	Rejection (Example)	Rejection	Acceptance	0
					Rejection	10
				Acceptance (Example)	Acceptance (Example)	1 (Example)
					Rejection	11
OFF control only possible by remote controller			Acceptance	Rejection	Acceptance	2
					Rejection	12
				Acceptance	Acceptance	3
					Rejection	13
Centralized	Acceptance			Rejection	Acceptance	4
					Rejection	14
				Acceptance	Acceptance	5
					Rejection	15
Individual		Acceptance		Rejection	Acceptance	6
					Rejection	16
				Acceptance	Acceptance	**7★**
					Rejection	17
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Rejection (During timer at OFF position only)		Rejection	Acceptance	8
					Rejection	18
				Acceptance	Acceptance	9
					Rejection	19

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

Local remote controllers cannot set temperature or operation mode when the system is under centralized control and **CENTRAL CONTROL** is displayed on the screen.

BRC1E73



2. Field Setting from Outside Unit

To continue the configuration of the ***VRV*** Water Cooled System, it is required to give some input to the PCB of the unit. This chapter will describe how manual input is possible by operating the BS buttons/DIP switches on the PCB and reading the feedback from the 7-segment displays.
For ***VRV*** Water Cooled System it is alternatively possible to make several commissioning field setting through a personal computer interface (for this, option 999482P3 is required). The installer can prepare the configuration (off-site) on PC and afterwards upload the configuration to the system.

2.1 DIP Switch Settings

2.1.1 COOL/HEAT Selection

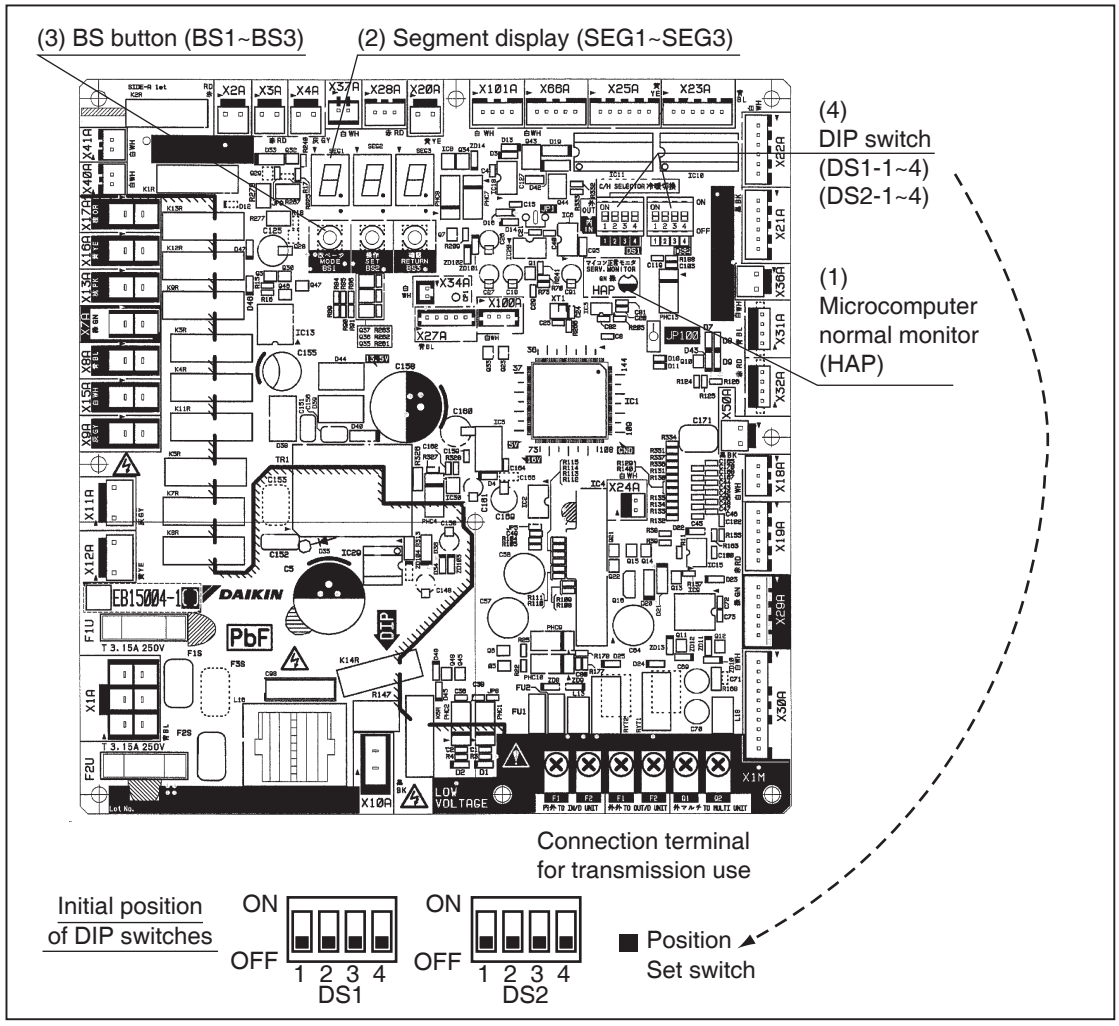
For factory mounted board only use DIP switch DS1-1 if required.

DIP switch		Setting item	Description
No.	Setting		
DS1-1	ON	COOL/HEAT select	Used to choose source to select Cooling/Heating/fan only. Source can be or indoor remote controller, or optional cool/heat switch wired to option “BRP2A81”.
	OFF (Factory setting)		
DS1-2 ~DS1-4	ON	not used	Do not change the factory settings.
	OFF (Factory setting)		

2.1.2 When Mounting a Spare PCB

Caution

- After replacement with spare PCB, be sure to make settings shown in the table on the following page. The procedure for making settings of spare PCB is different from that used for factory settings described above. Be sure to refer to the table shown on the following page in order to make settings of spare PCB after replacement.
- Enforce a re-initialization of communication: hold press the **RETURN (BS3)** button for minimum 5 seconds.
- After initialization, a test operation is required from outside unit (hold the **SET (BS2)** button until indication **t01** appears).



(1) Microcomputer normal monitor
This monitor blinks while in normal operation, and turns ON or OFF when an error occurs.

(2) 7 segment display
· Used to check the transmission.
· Used to display the transmission state between indoor and outside units.
· Used to display the error description.
· Used to display the contents of field setting.

(3) BS button
Used to change mode.

(4) DIP switch
Used to make field settings.

The figure below shows the required position of the DIP switches on spare PCB. Change DIP switches at time of power disconnected.

Application model	The setting method (■ represents the position of switches)	
RWEQ72TB		Set DS2-2 to ON.
RWEQ96TA RWEQ96TB		Set DS2-3 to ON.
RWEQ120TA RWEQ120TB		Set DS2-2 and DS2-3 to ON.
RWEQ144TA RWEQ144TB		Set DS2-2 and DS2-4 to ON.

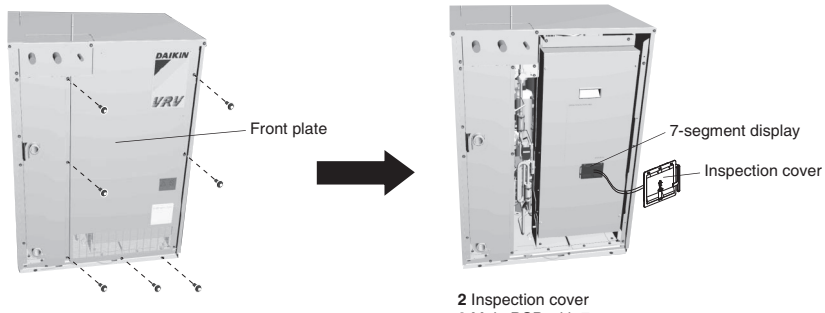
Note(s)

The setting change of Japanese/overseas models and the setting change of the power supply voltage are not possible using DIP switches.

2.2 Accessing the BS Buttons on the PCB

It is not required to open the complete electronic component box to access the BS buttons on the PCB and read out the 7-segment display(s).

To access you can remove the front plate (see figure). Now you can open the inspection cover of the electrical component box front plate (see figure). You can see the three BS buttons and the three 7-segment displays and DIP switches.

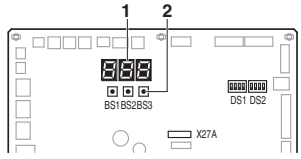


1 Front plate

2 Inspection cover
3 Main PCB with 7-segment display and BS buttons

Operate the switches and BS buttons with an insulated stick (such as a closed ball-point pen) to avoid touching of live parts.

Location of the segment displays, buttons and DIP switches:



BS1 MODE for changing the set mode
BS2 SET for field setting
BS3 RETURN for field setting
DS1, DS2 DIP switches

1 Seven-segment displays (3x)
2 BS buttons

2.3 Operating the BS Buttons and DIP Switches on the PCB

Operating the BS buttons

By operating the BS buttons it is possible to:
- Perform special actions (test operation, etc.).
- Perform field settings (demand operation, low noise, etc.).

Below procedure explains how to operate the BS buttons to reach the required mode in the menu, select the correct setting and modify the value of the setting. This procedure can be used any time special settings and regular field setting are discussed in this manual.

Setting definition: [A-B] → C
A: mode
B: setting
C: setting value
A, B and C are numerical values for field settings. Parameter C has to be defined. It can be a chosen from a set (0, 1, 2, 3, 4, 5,…) or regarded as an ON/OFF (1 or 0) depending on the contents. This is informed when the field setting is explained.

INFORMATION During special operation (e.g., test operation, etc.) or when an error happened, information will contain letters and numerical values.

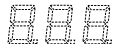
Functions of the BS button switches which are located on the outside unit PCB (A1P)

Turn ON the power supply of the outside unit and all indoor units.
When the communication between indoor units and outside unit(s) is established and normal, the segment indication state will be as below (default situation when shipped from factory).

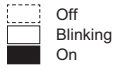
When turning ON the power supply: flashing as indicated. First checks on power supply are executed (1 ~ 2 minutes).

When no trouble occurs: lighted as indicated (8~10 minutes).

Ready for operation: blank display indication as indicated.



Segment display indications:



When above situation cannot be confirmed after 12 minutes, the error code can be checked on the indoor unit user interface and the outside unit segment display. Solve the error code accordingly. The communication wiring should be checked at first.

INFORMATION Be sure to turn the power on at least 6 hours before operation in order to have power running to the crankcase heater.

Accessing modes

The **MODE (BS1)** button is used to change the mode you want to access.

- **Access mode 1**

Press the **MODE (BS1)** button once. Segment indication changes to:

- **Access mode 2**

Press the **MODE (BS1)** button for at least 5 seconds. Segment indication changes to:

INFORMATION **If you get confused in the middle of the process, press the MODE (BS1) button. Then it returns to idle situation (no indication on segment displays: blank).**

Mode 1

Mode 1 is used to set basic settings and to monitor the status of the unit.

- Changing and access the setting in mode 1:

Once mode 1 is selected (press the **MODE (BS1)** button once), you can select the wanted setting. It is done by pressing the **SET (BS2)** button. Accessing the selected setting's value is done by pressing the **RETURN (BS3)** button once.

- To quit and return to the initial status, press the **MODE (BS1)** button.

Example:

Checking the content of parameter [1-10] (to know how many indoor units are connected to the system).

Mode: 1
Setting: 10

- Make sure the segment indication is displayed in operational default mode as shipped from factory.
- Press the **MODE (BS1)** button once; result segment display:

Result: mode 1 is accessed.

- Press the **SET (BS2)** button 10 times; result segment display:

Result: mode 1 setting 10 is addressed.

- Press the **RETURN (BS3)** button once; the value which is returned (depending on the actual field situation), is the amount of indoor units which are connected to the system.

Result: mode 1 setting 10 is addressed and selected, return value is monitored information.

- To leave the monitoring function, press the **MODE (BS1)** button once, you will return to the default situation when shipped from factory.

Mode 2

Mode 2 is used to set field settings of the outside unit and system.

- Changing and access the setting in mode 2:

Once mode 2 is selected (press the **MODE (BS1)** button for more than 5 seconds), you can select the wanted setting. It is done by pressing the **SET (BS2)** button.
Accessing the selected setting's value is done by pressing the **RETURN (BS3)** button once.

- To quit and return to the initial status, press the **MODE (BS1)** button.
- Changing the value of the selected setting in mode 2:
  - Once mode 2 is selected (press the **MODE (BS1)** button for more than 5 seconds) you can select the wanted setting. It is done by pressing the **SET (BS2)** button.
  - Accessing the selected setting's value is done by pressing the **RETURN (BS3)** button once.
  - Now the **SET (BS2)** button is used to select the required value of the selected setting.
  - When the required value is selected, you can define the change of value by pressing the **RETURN (BS3)** button once.
  - Press the **RETURN (BS3)** button again to start operation according to the chosen value.

Example:

Checking the content of parameter [2-12] (to enable the power consumption limitation via external control adaptor).

Mode: 2
Setting: 12

Make sure the segment indication is as during normal operation (default situation when shipped from factory).

- Press the **MODE (BS1)** button for over 5 seconds; result segment display:

Result: mode 2 accessed.

- Press the **SET (BS2)** button 12 times; result segment display:

Result: mode 2 setting 12 is addressed.

- Press the **RETURN (BS3)** button once; the value which is returned (depending on the actual field situation), is the status of the setting. In the case of [2-12], default value is "0", which means the function is not active.

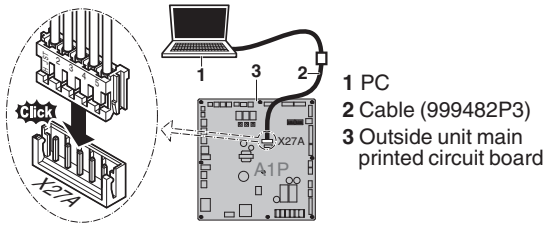
Result: mode 2 setting 12 is addressed and selected, return value is the current setting situation.

- To change the value of the setting, press the **SET (BS2)** button until the required value appears on the segment indication. When achieved, define the setting value by pressing the **RETURN (BS3)** button once. To the chosen setting, confirm again by pressing the **RETURN (BS3)** button.
- To leave the field setting, press the **MODE (BS1)** button once, you will return to the default situation when shipped from factory.

2.4 Connecting of the Optional PC Configurator Cable to the Outside Unit

Connecting the PC configurator to the outside unit has to be done on A1P. Connect the 999482P3 cable to the 5-pin blue connector X27A.

Caution Works executed on the outside unit are best done under dry weather conditions to avoid water ingress.



1 PC
2 Cable (999482P3)
3 Outside unit main printed circuit board

2.5 Monitoring Function and Field Settings

The operation of the outside unit can further be defined by changing some field settings. Next to making field settings it is also possible to confirm the current operation parameters of the unit. The setting can also be performed via the PC configuration software.
Below relevant Monitoring mode (mode 1) and Field setting mode (mode 2) settings are explained in detail.

Making settings is done via the master outside unit.

2.5.1 Mode 1

Mode 1 can be used to monitor the current situation of the outside unit. Some field setting contents can be monitored as well.

Below the settings in mode 1 are explained.

[1-0]: shows whether the unit you are checking is a master, slave 1, or slave 2 unit.
- No indication: undefined situation
- 0: outside unit is master unit
- 1: outside unit is slave 1 unit
- 2: outside unit is slave 2 unit

Master, slave 1, and slave 2 indications are relevant in multiple module system configurations. The allocation of which outside unit is master, slave 1, or slave 2 are decided by the unit's logic.
The master unit must be used to input field settings in mode 2.

[1-2]: shows the status of power consumption limitation operation.
- 0: unit is currently not operating under power consumption limitations
- 1: unit is currently operating under power consumption limitation

Power consumption limitation reduces the power consumption of the unit compared to nominal operating conditions.
Power consumption limitation can be set in mode 2.
There are two methods to activate power consumption limitation of the outside unit system.

The first method is to enable a forced power consumption limitation by field setting. The unit will always operate at the selected power consumption limitation.
The second method is to enable power consumption limitation based on an external input. For this operation an optional accessory is required.

[1-5]: shows the current Te target parameter position.

[1-6]: shows the current Tc target parameter position.

[1-9]: shows the AIRNET address.

[1-10]: shows the total number of connected indoor units.
It can be convenient to check if the total number of indoor units which are installed match the total number of indoor units which are recognized by the system. In case there is a mismatch, it is advised to check the communication wiring path between outside and indoor units (F1/F2 communication line).

[1-11]: shows the total number of connected Branch Selector units.
Check if the total number of installed Branch Selector units match the total number of Branch Selector units recognized by the system. In case there is a mismatch, check the communication wiring path between outside and Branch Selector units (F1/F2 communication line).
For the Multi Branch Selector unit, the number of units in use is counted.

[1-13]: shows the total number of connected outside units (in case of multiple module system).
It can be convenient to check if the total number of outside units which are installed matches the total number of outside units which are recognized by the system. In case there is a mismatch, it is advised to check the communication wiring path between outside and outside units (Q1/Q2 communication line).

[1-17]: shows the latest error code.

[1-18]: shows the 2nd latest error code.

[1-19]: shows the 3rd latest error code.

When the latest error codes were reset by accident on an indoor unit user interface, they can be checked again through this monitoring settings.

[1-40]: shows the current cooling comfort setting.

[1-41]: shows the current heating comfort setting.

2.5.2 Mode 2

Mode 2 is used to change the field settings of the system. Consulting the current field setting value and changing the current field setting value is possible.

In general, normal operation can be resumed without special intervention after changing field settings.

Some field settings are used for special operation (e.g. 1 time operation, recovery/vacuuming setting, adding refrigerant setting, etc.). In such a case, it is required to abort the special operation before normal operation can restart. It will be displayed in below explanations.

[2-0]: Cool/Heat selection setting
Cool/Heat selection setting is used in case the optional Cool/Heat selector (KRC19-26A6) is used. Depending on the outside unit setup (single outside unit setup or multi outside unit setup), the correct setting should be chosen. More details on how to use the Cool/Heat selector option can be found in the manual of the Cool/Heat selector.
Default value: 0.
■ 0: Each individual outside unit can select Cool/Heat operation (by Cool/Heat selector if installed).
■ 1: Master unit decides Cool/Heat operation when outside units are connected in multiple system combination
■ 2: Slave unit for Cool/Heat operation when outside units are connected in multiple system combination
Change [2-0] to 0, 1 or 2 in function of required functionality.

[2-1]: Cool/Heat unified address
Default value: 0
Value: 0~31

[2-2]: Demand address
Default value: 0
Value: 0~31

[2-5]: Indoor forced fan H

Value [2-5]	Indoor forced fan H
0 (default)	OFF
1	ON

[2-6]: Indoor forced operation

Value [2-6]	Indoor forced operation
0 (default)	OFF
1	ON

[2-8]: Te target temperature during cooling operation without VRT control

Value [2-8]	Te target
1	3°C (37.4°F)
2 (default)	6°C (42.8°F)
3	7°C (44.6°F)
4	8°C (46.4°F)
5	9°C (48.2°F)
6	10°C (50°F)
7	11°C (51.8°F)

[2-9]: Tc target temperature during heating operation without VRT control

Value [2-9]	Tc target
1	41°C (105.8°F)
2	42°C (107.6°F)
3	43°C (109.4°F)
4	44°C (111.2°F)
5	45°C (113.0°F)
6 (default)	46°C (114.8°F)
7	49°C (120.2°F)

[2-10]: ON condition setting for valve/pump operation request signal (RWEQ-TB models only)

Value [2-10]	Description
1	"ON" when NAV controller is turned on (The same ON/OFF signal is output by the system.)
2	"ON" when indoor unit is thermos ON (The same ON/OFF signal is output by the system.)
3	"ON" when compressor in the unit is turned on (Individual ON/OFF signal is output by each outside unit.)

[2-11]: Eco-level setting with external control adaptor (DTA104A61/62)

Value [2-11]	Eco-level setting function with external control adaptor
0 (default)	Deactivated
1	Deactivated
2	Activated Eco-level cannot be set from remote controller.

Eco-level	Short circuit between external control adaptor terminals
L	Demand 1 and C
L	Demand 2 and C
H	Demand 3 and C

[2-12]: This setting should be changed when the power consumption limitation or under power consumption limitation conditions are met, and an external signal is sent to the unit. This setting will only be effective when the optional external control adaptor (DTA104A61/62) is installed.
If [2-11] is activated, eco-level control is given priority over this setting.
Set [2-11] to 0 if this setting is prioritized.

Default value: 0
To activate this function: 1

[2-13]: AIRNET address

Default value: 0
Value: 0~63

[2-16]: Heat pump lockout 1
Heat pump is always locked out when this setting is ON. If the indoor fan control needs to be changed or the auto-backup function is required, refer to the setting [2-37].

Value [2-16]	Heat pump lockout 1
0 (default)	OFF
1	ON

[2-20]: Additional refrigerant charge
In order to add the additional refrigerant charge amount following setting should be applied.

Default value: 0
To activate this function, change [2-20] to 1.

To stop the additional refrigerant charge operation (when the required additional refrigerant amount is charged), press the **RETURN (BS3)** button. If this function was not aborted by pressing the **RETURN (BS3)** button, the unit will stop its operation after 30 minutes.
If 30 minutes was not sufficient to add the needed refrigerant amount, the function can be reactivated by changing the field setting again.

[2-21]: Refrigerant recovery/vacuuming mode
In order to achieve a free pathway to recover refrigerant out of the system or to remove residual substances or to vacuum the system it is necessary to apply a setting which will open required valves in the refrigerant circuit so the recovering of refrigerant or vacuuming process can be done properly.

Default value: 0
To activate this function, change [2-21] to 1.

To stop the refrigerant recovery/vacuuming mode, press the **RETURN (BS3)** button. If the **RETURN (BS3)** button is not pressed, the system will remain in refrigerant recovery/vacuuming mode.

[2-23]: Variable refrigerant temperature (VRT) control

Value [2-23]	VRT control
0 (default)	Activated both cooling and heating
1	Activated heating only
2	Activated cooling only
3	Deactivated

[2-24]: Water pump/valve control
Control of the quantity of water is enabled as needed.

Value [2-24]	Water pump/valve control during operation
1	Each unit controlled individually (one pump/valve per unit) Pump/valve on slave unit remains ON when slave unit is OFF.
2	Water pump/valve control is OFF or controlled as whole system (one pump/valve per system).
3	Each unit controlled individually (one pump/valve per unit) Pump/valve on slave unit is OFF when slave unit is OFF.

[2-25]: Water volume minimum setting
Field setting of lower limit (%) of quantity of water control

Value [2-25]	Min. setting
0	10%
1	20%
2	30%
3	40%
4 (default)	50%
5	60%
6	70%
7	80%

[2-28]: Power transistor check mode

Value [2-28]	Power transistor check mode
0 (default)	OFF
1	ON

[2-30]: Power consumption limitation level (step 1) via the external control adaptor (DTA104A61/62)
If the system needs to run under power consumption limitation conditions when an external signal is sent to the unit, this setting defines the level power consumption limitation that will be applied for step 1. The level is according to the table.

Default value: 3
Change [2-30]: 1, 2, 3, 4, 5, 6, 7, or 8 in function of required limitation

Value [2-30]	Power consumption limitation (approximately)
1	60%
2	65%
3 (default)	70%
4	75%
5	80%
6	85%
7	90%
8	95%

[2-31]: Power consumption limitation level (step 2) via the external control adaptor (DTA104A61/62)
If the system needs to run under power consumption limitation conditions when an external signal is sent to the unit, this setting defines the level power consumption limitation that will be applied for step 2. The level is according to the table.

Default value: 1
Change [2-31] to 1, 2 or 3 in function of required limitation.

Value [2-31]	Power consumption limitation (approximately)
1 (default)	40%
2	50%
3	55%

[2-32]: Forced, all time, power consumption limitation operation (no external control adaptor is required to perform power consumption limitation)
If the system always needs to run under power consumption limitation conditions, this setting activates and defines the level power consumption limitation that will be applied continuously. The level is according to the table.

Default value: 0 (OFF).

Value [2-32]	Restriction reference
0 (default)	Function not active
1	Follows [2-30] setting
2	Follows [2-31] setting

Change [2-32]: 0,1 or 2 in function of required limitation.

[2-34]: Indoor unit fan tap setting
Indoor units fan speed limitation related to connection capacity for energy saving.

Value [2-34]	Indoor unit fan tap setting
0 (default)	Fan speed is limited to L tap when indoor units capacity ≥ 130%.
1	In heating mode or simultaneous cool/heat mode, fan speed is limited to L tap when indoor units capacity ≥ 130%.
2	Fan speed follows the setting of remote controllers (not limited by indoor units connection capacity).

[2-37]: Heat pump lockout 2
Heat pump is locked out when this setting and an external input to ABC terminal are made.

Value [2-37]	Heat pump lockout 2
0 (default)	OFF
1	Mode 1
2	Mode 2

Mode	Description	Actions					
		Field setting	Shorted between	Heating Thermo-on		Heating Thermo-off	
				Heater	Fan	Heater	Fan
Mode 1	Lockout is controlled by an external input to ABC terminal	2-37: Mode 1	A-C	ON	ON (H/L)	OFF	LL (∗2)
			B-C				OFF
Mode 2 (∗1)		2-37: Mode 2	A-C		LL		LL (∗2)
			B-C		LL		OFF

∗1. For a heater which does not need airflow
∗2. Depends on the indoor unit field setting 12(22)-3.

Automatic lockout

When this setting is made, the auto-backup function will automatically be activated. This will allow the auxiliary or secondary heat source to be automatically energized in the event of a system failure related to outside units.

Error codes capable of auto-backup are listed in the table below. Please be aware that the error codes that are not listed do not auto-backup in order to protect the unit.

Error code (Auto backup possible)	Error contents
A3	Drain level control system abnormality
E3	Activation of high pressure switch
E4	Activation of low pressure sensor
E5	Compressor motor lock
E9	Electronic expansion valve coil abnormality
F3	Discharge pipe temperature abnormality
F4	Suction pipe temperature abnormality
F9	Branch Selector unit electronic expansion valve abnormality
H3	Harness abnormality (between outside unit main PCB and inverter PCB)
H9	Outside unit inside air thermistor (R1T) abnormality
HC	Water inlet thermistor (R9T) abnormality
	Water outlet thermistor (R10T) abnormality
HJ	Water system malfunction
J3	Discharge pipe thermistor (R12T) abnormality Compressor body thermistor (R13T) abnormality
J4	Plate heat exchanger gas thermistor (R4T) abnormality
J5	Suction pipe thermistor (R3T) abnormality
J6	Plate heat exchanger liquid thermistor (R7T) abnormality
J7	Receiver outlet liquid pipe thermistor (R6T) abnormality Subcooling heat exchanger outlet liquid pipe thermistor (R8T) abnormality Injection pipe thermistor (R11T) abnormality
J9	Subcooling heat exchanger outlet gas pipe thermistor (R5T) abnormality Exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) abnormality
JA	High pressure sensor abnormality
JC	Low pressure sensor abnormality
L1	Inverter PCB abnormality
L3	Reactor temperature rise abnormality
L4	Inverter radiation fin temperature rise abnormality
L5	Compressor instantaneous overcurrent
L8	Compressor overcurrent
L9	Compressor startup abnormality
LC	Transmission error between inverter PCB and outside unit main PCB

[2-38]: Emergency operation “Main”

To disable permanent compressor operation: in case of single module or “Main” unit of a multi outside system, this setting allows:

■ Default value: 0. Compressor operation enabled.

■ Field setting:

Set 1: compressor in this “Main” module is disabled permanent.

[2-39]: Emergency operation “Sub 1”
To disable permanent compressor operation: in case of “Sub 1” unit of a multi outside system, this setting allows:
■ Default value: 0. Compressor operation enabled.
■ Field setting:
Set 1: compressor in this “Sub 1” module is disabled permanent.

[2-40]: Emergency operation “Sub 2”
To disable permanent compressor operation: in case of “Sub 2” unit of a multi outside system, this setting allows:
■ Default value: 0. Compressor operation enabled.
■ Field setting:
Set 1: compressor in this “Sub 1” module is disabled permanent.

[2-42]: Interlock error operation setting
Abnormal indication is enabled after constant time after a circuit (S3S) of the interlock input opened.

Value [2-42]	Interlock error operation setting
0 (default)	Display OFF
1	5 minutes
2	10 minutes
3	15 minutes
4	20 minutes
5	25 minutes
6	30 minutes
7	35 minutes

[2-43]: Indoor fan setting at the time of the outside unit lockout.

Value [2-43]	Indoor operation	Indoor fan
0 (default)	Thermostat-ON	Remote controller setting
	Thermostat-OFF	Remote controller setting
	STOP	Remote controller setting
1	Thermostat-ON	Remote controller setting
	Thermostat-OFF	OFF
	STOP	Remote controller setting
2	Thermostat-ON	LL tap
	Thermostat-OFF	Remote controller setting
	STOP	Remote controller setting
3	Thermostat-ON	OFF
	Thermostat-OFF	OFF
	STOP	Remote controller setting

[2-45]: Technical cooling
When technical cooling is enabled, the adjustment of the evaporation temperature of the indoor unit in the Branch Selector unit downstream is possible.
Refer to [2-54] for the setting of the evaporation temperature.

Value [2-45]	Technical cooling
0 (default)	No technical cooling available
1	Technical cooling available

This setting is not applicable to BS-Q54TVJ models.

[2-47]: Te target temperature during heat recovery operation

Value [2-47]	Te target
0 (default)	Auto
1	3°C (37.4°F)
2	6°C (42.8°F)
3	7°C (44.6°F)
4	8°C (46.4°F)
5	9°C (48.2°F)
6	10°C (50°F)
7	11°C (51.8°F)

[2-49]: Height difference setting

Default value: 0.
When the installed height of the outside units is the same or higher than that of all the connected indoor units, this setting [2-49] can be changed to 2 to enable more energy-efficient operation at low load conditions.

[2-50]: Field setting for freeze protection by brine and concentration
Brine classification allows the change of the low-pressure control level when using brine.

	Propylene Glycol			Ethylene Glycol			Ethanol			Ethanol		
Value [2-50]	Concen-tration	Freeze point (°C)	Freeze point (°F)	Concen-tration	Freeze point (°C)	Freeze point (°F)	Concen-tration	Freeze point (°C)	Freeze point (°F)	Concen-tration	Freeze point (°C)	Freeze point (°F)
0 (default)	Water	0	32.0	—	—	—	—	—	—	—	—	—
1	Water-River	–7	19.4	—	—	—	—	—	—	—	—	—
2	—	—	—	35%	–15	5.0	—	—	—	—	—	—
3	—	—	—	45%	–20	–4.0	—	—	—	—	—	—
4	30%	–9.6	14.7	30%	–10.7	12.7	—	—	—	—	—	—
5	35%	–12.7	9.1	—	—	—	—	—	—	20%	–12.5	9.5
6	40%	–16.4	2.5	40%	–17.9	–0.2	—	—	—	—	—	—
7	45%	–21.1	–6.0	—	—	—	—	—	—	—	—	—
8	50%	–26.7	–16.1	50%	–27.5	–17.5	—	—	—	—	—	—
9	10%	–1.6	29.1	10%	–1.4	29.5	10%	–2	28.4	—	—	—
10	15%	–3.3	26.1	15%	–3.2	26.2	—	—	—	10%	–3.5	25.7
11	20%	–5.1	22.8	20%	–5.4	22.3	20%	–6.5	20.3	—	—	—
12	25%	–7.1	19.2	25%	–7.8	18.0	—	—				

[2-54]: Evaporation temperature target value of the Branch Selector unit downstream indoor unit

Value [2-54]	Te target
0 (default)	3°C - 9°C (37.4°F - 48.2°F)
1	0°C - 6°C (32.0°F - 42.8°F)
2	1°C - 7°C (33.8°F - 44.6°F)
3	2°C - 8°C (35.6°F - 46.4°F)
4	4°C - 10°C (39.2°F - 50.0°F)
5	5°C - 11°C (41.0°F - 51.8°F)
6	6°C - 12°C (42.8°F - 53.6°F)
7	7°C - 13°C (44.6°F - 55.4°F)
8	8°C - 14°C (46.4°F - 57.2°F)
9	9°C - 15°C (48.2°F - 59.0°F)

[2-56]: Setting to completely turn OFF heating ability for stopped or thermostat-OFF units in heating mode.
Can only be used when branch selector is connected.

Value [2-56]	Heating ability turned OFF for following units
0	Function deactivated
1	Stopped units in heating mode
2	Thermostat-OFF units in heating mode
3 (default)	Stopped units and heating thermostat-OFF units in heating mode

[2-57]: Low water temperature during cooling operation
Setting when water/brine temperature is less than 10°C (50°F).

Value [2-57]	Low water temperature during cooling operation
0 (default)	OFF
1	ON

[2-63]: Indoor unit EV lower limit

Value [2-63]	Indoor unit EV lower limit
0 (default)	200 pulse
1	160 pulse
2	140 pulse
3	120 pulse

[2-73]: Exhaust heat cancellation setting to prioritize cooling capacity or exhaust heat cancellation

Value [2-73]	Exhaust heat cancellation
0 (default)	OFF
1	ON, with priority on cooling capacity
2	ON, with priority on exhaust heating cancellation

[2-74]: Exhaust heat cancellation temperature setting
The unit internal temperature that exhaust heat cancellation becomes ON

Value [2-74]	Exhaust heat cancellation temperature	
	°C	°F
0	25	77
1	27	80.6
2	29	84.2
3 (default)	31	87.8
4	33	91.4
5	35	95
6	37	98.6
7	39	102.2

[2-75]: Differential temperature of exhaust heat cancellation ON/OFF

Value [2-75]	Differential temperature	
	°C	°F
0 (default)	3	5.4
1	2	3.6
2	1	1.8
3	5	9

[2-81]: Cooling comfort setting for VRT control

Default value: 1

Value [2-81]	Cooling comfort setting
0	Eco
1 (default)	Mild
2	Quick
3	Powerful

Change [2-81] to 0, 1, 2 or 3 in function of required limitation.
This setting is used in conjunction with setting [2-8].
When [2-81] is set to 0, the original refrigerant temperature target based on [2-8] is kept without any correction, unless for protection control.

[2-82]: Heating comfort setting for VRT control

Default value: 1.

Value [2-82]	Heating comfort setting
0	Eco
1 (default)	Mild
2	Quick
3	Powerful

Change [2-82] to 0, 1, 2 or 3 in function of required limitation.
This setting is used in conjunction with setting [2-9].
When [2-82] is set to 0, the original refrigerant temperature target based on [2-9] is kept without any correction, unless for protection control.

[2-83]: Cool/Heat selection at the Branch Provider unit connection

Value [2-83]	Cool/Heat selection
0	Set by master unit
1 (default)	Set by the unit which remote control is turned on earliest

[2-87]: Backup operation during outside unit lockout due to abnormalities
Setting to allow the auxiliary or secondary heat source to be automatically activated in the event of a system failure related to the outside units. See page 249 for list of error codes capable of auto-backup.

Value [2-87]	Backup operation during unit lockout
0 (default)	ON
1	OFF

[2-88]: Disable heat pump lockout in cooling or simultaneous cooling/heating operation
Disable heat pump lockout in cooling or simultaneous cooling/heating operation to prevent heat pump lockout during cooling or simultaneous cooling/heating operation.

Value [2-88]	Heat pump lockout
0 (default)	Allowed
1	Disabled (when at least one indoor unit performs cooling operation, lockout mode is disabled and system performs normal cooling operation or simultaneous cooling/heating operation)

[2-92]: Te target temperature upper limit

Default value: 2.

Value [2-92]	Te target temperature upper limit
1	L
2 (default)	M
3	H

If Auto Te, then use this setting to address different load profiles. If the frequent operation is at lower system load, then use a higher setting under [2-92].

Note(s) In high humid areas, it is recommended to keep this setting to 1 or 2.

[2-95]: Optional setting to prioritize VRT control

Default value: 0.

Value [2-95]	Level
0 (default)	Prioritize largest demand
2	Prioritize smallest demand

Note(s) The setting of [2-95] = 2 saves energy but may increase the time required to reach set point.

2.6 Detailed Explanation of Setting Modes

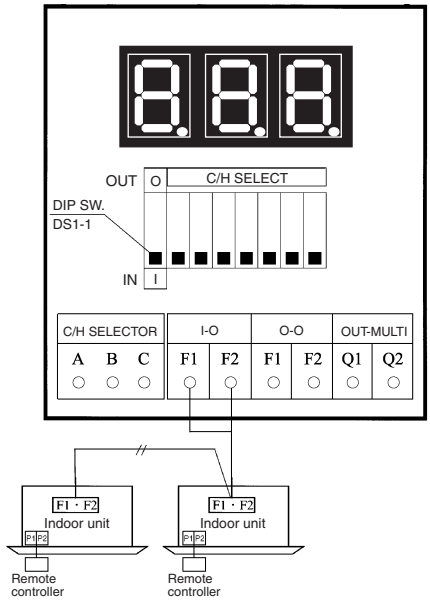
2.6.1 Cool/Heat Mode Switching (Heat Pump Connection)

There are the following 5 cool/heat switching modes.

(1) Set cool/heat separately for each outside unit system by indoor unit remote controller.
(2) Set cool/heat separately for each outside unit system by cool/heat selector.
(3) Set cool/heat for more than single outside unit system simultaneously in accordance with unified master outside unit by indoor unit remote controller.
(4) Set cool/heat for more than single outside unit system simultaneously in accordance with unified master outside unit by cool/heat switching remote controller.
(5) Set cool/heat at all outside unit systems simultaneously for each outside unit external control adaptor by using the central remote controller.

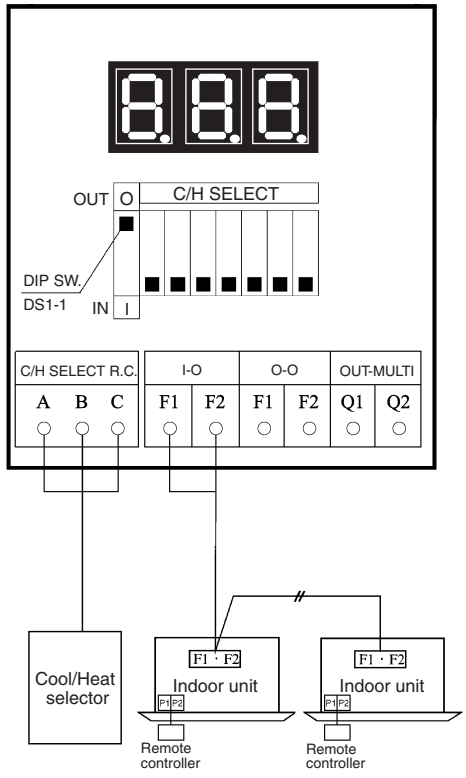
(1) Set Cool/Heat Separately for Each Outside Unit System by Indoor Unit Remote Controller

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



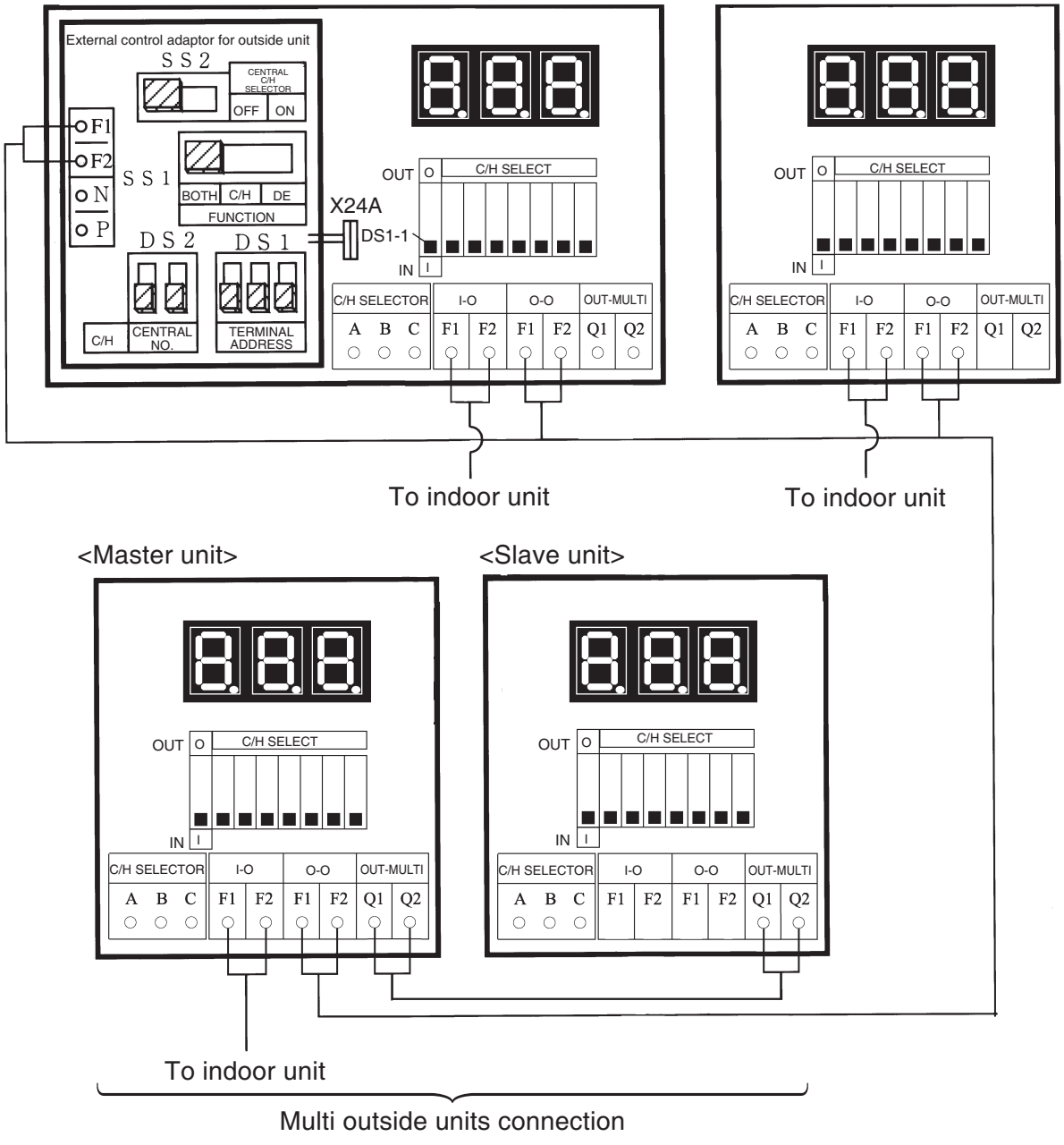
(2) Set Cool/Heat Separately for Each Outside Unit System by Cool/Heat Selector

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



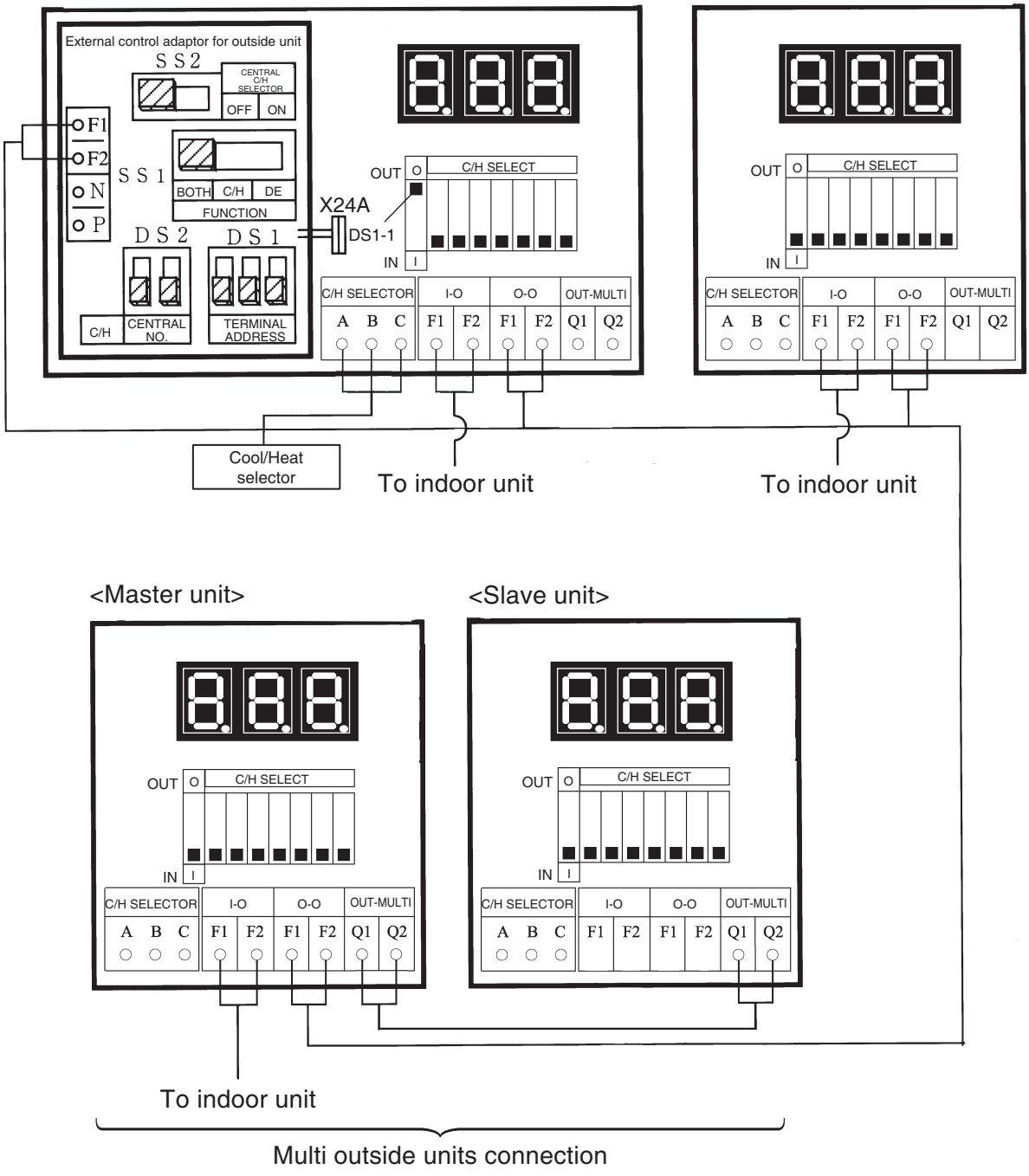
(3) Set Cool/Heat for more than Single Outside Unit System Simultaneously in Accordance with Unified Master Outside Unit by Indoor Unit Remote Controller

- Install the external control adaptor for outside unit on either the outside-outside, indoor-outside transmission line.
- Set outside unit PCB DS1-1 to IN (factory setting).
- In setting mode 1, set the outside unit you want to give cool/heat selection permission to as the group master, and set the other outside units as group slave units.
- Set the outside unit external control adaptor SS1 to BOTH (factory setting) or C/H, and SS2 to OFF (factory setting).
- When multiple external control adaptors are used and cool/heat is selected for each external control adaptor, use "setting mode 2" and set DS1 and DS2 on the external control adaptors and the unified heat/cool address on the outside unit main PCB to the same address No. (For details, refer to the following page.)



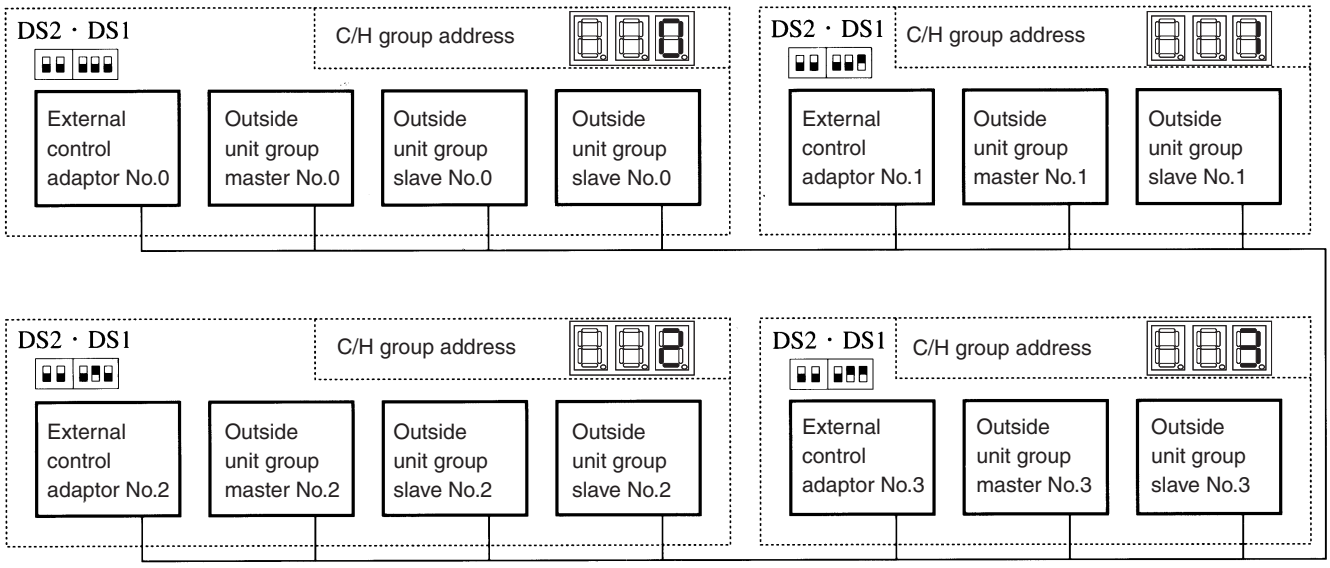
(4) Set Cool/Heat for more than Single Outside Unit System Simultaneously in Accordance with Unified Master Outside Unit by Cool/Heat Selector

- Install the external control adaptor for outside unit on either the outside-outside, indoor-outside transmission line.
- Mount the COOL/HEAT selector to the master outside unit for the unified control.
- Set the DS1-1 on the PCB of master outside unit to OUT.
- In setting mode 1, set the outside unit you want to give cool/heat selection permission to as the group master, and set the other outside units as group slave units.
- When multiple external control adaptors are used and cool/heat is selected for each external control adaptor, use "setting mode 2" and set DS1 and DS2 on the external control adaptors and the unified heat/cool address on the outside unit main PCB to the same address No. (For details, refer to the following page.)



Supplementation on (3) and (4).

When switching cool/heat for each adaptor PCB with the use of more than 1 adaptor PCB, set the address of the external control adaptor for outside unit PCB DS1 and DS2 so that it matches the unified cool/heat address of outside unit main PCB.



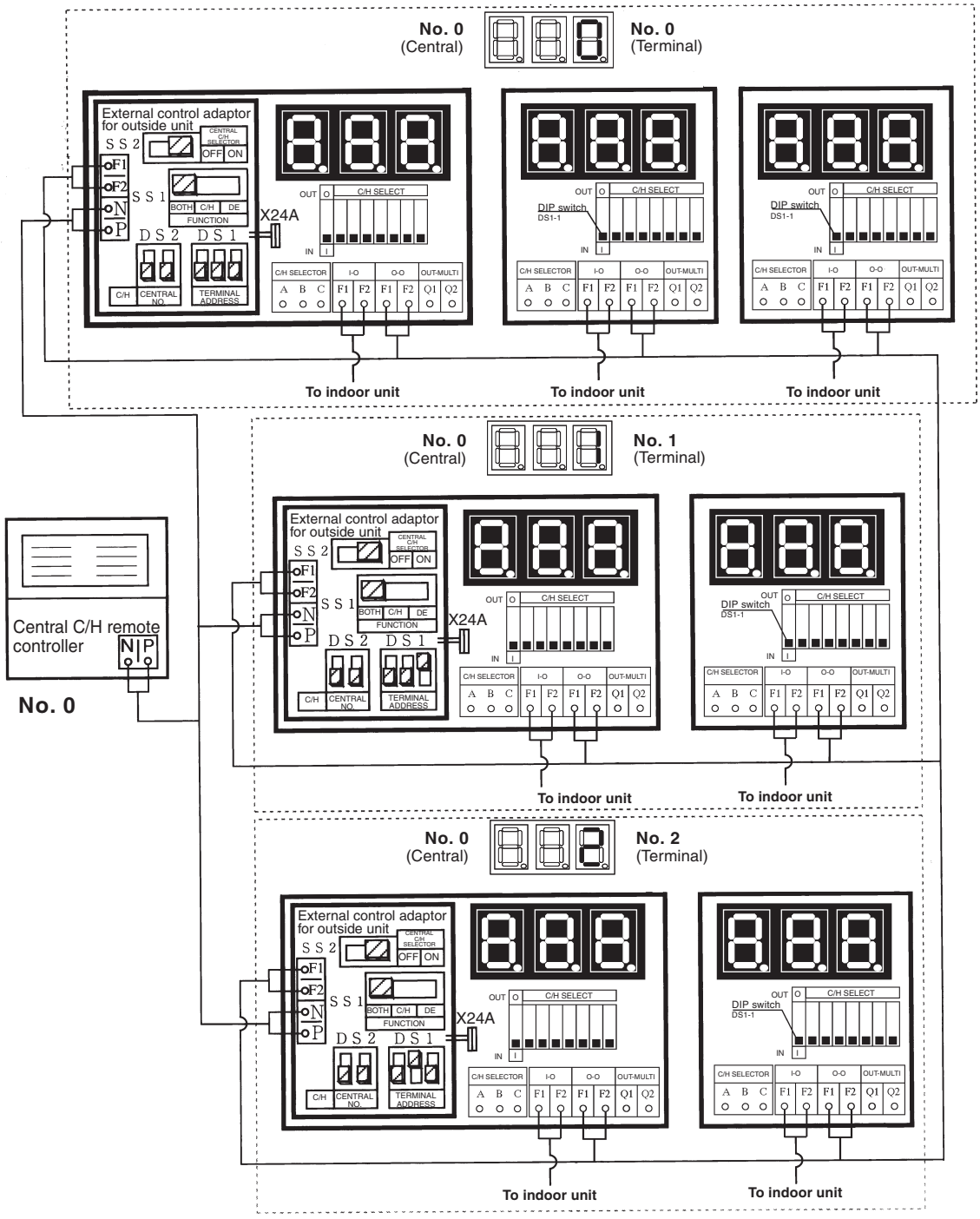
Address setting for (3) and (4) (Set lower 5 digits with binary number.) [No.0 to No.31]

Address No.	Outside unit PCB 7-segment display Set with setting mode 2	External control adaptor for outside unit DS2 DS1
No. 0	0	0
No. 1	1	1
No. 2	2	2
No. 3	3	3
No. 4	4	4
≀	≀	≀
No. 30	30	30
No. 31	31	31

Upper position (ON) lower position (OFF)
(The shaded part shows knob)

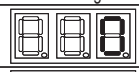
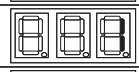
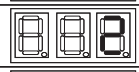
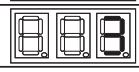
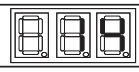
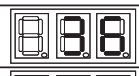
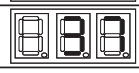
(5) Set cool/heat at all outside unit systems simultaneously for each outside unit external control adaptor by using the central remote controller.

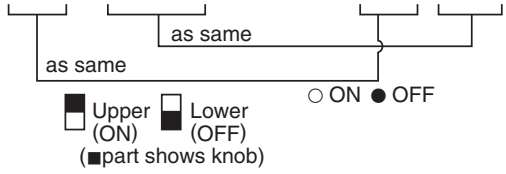
- Install the outside unit external control adaptor (optional accessory) onto the outside-outside, indoor-outside, or indoor-indoor transmission line.
- Use "setting mode 1" and set all outside units to SLAVE.
- Set the outside unit external control adaptor SS1 to BOTH (factory setting) or C/H and set SS2 to ON.
- Use "setting mode 2" and set DS1 and DS2 on the outside unit external control adaptors and the unified heat/cool address on the outside unit main PCB to the same address. (The factory setting addresses are all "0".)



Setting of Address

In binary, set the address number (middle 2 digits) and terminal No. (last 3 digits) of the external control adaptor (DIP switches) and outside unit main PCB (7-segment display).

Address No.	Terminal No.	External control adaptor for outside unit DS2 DS1	Outside unit main PCB 7-segment display Set with setting mode 2
No. 0	No. 0		
No. 0	No. 1		
No. 0	No. 2		
No. 0	No. 3		
≀	≀	≀	≀
No. 1	No. 4		
≀	≀	≀	≀
No. 2	No. 5		
≀	≀	≀	≀
No. 3	No. 6		
No. 3	No. 7		



2.6.2 Cool/Heat Mode Changeover

Set Cool/Heat Separately for Each Branch Selector Unit by Cool/Heat Selector.

Set remote controller changeover switch (SS1, SS2) as following:

- When using COOL/HEAT selector, turn this switch to the BS side.

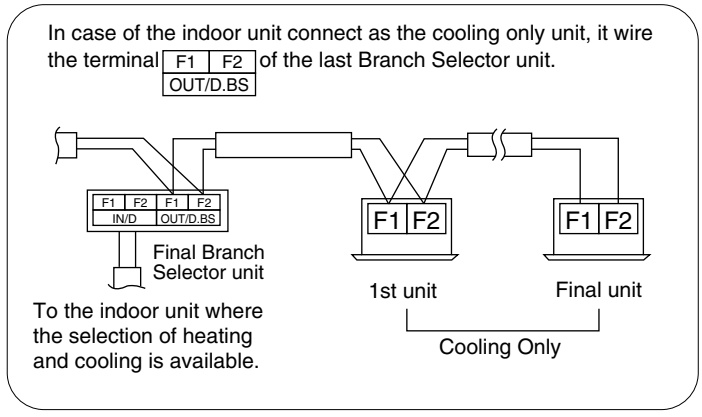
NOTE: This setting must be completed before turning power supply ON.

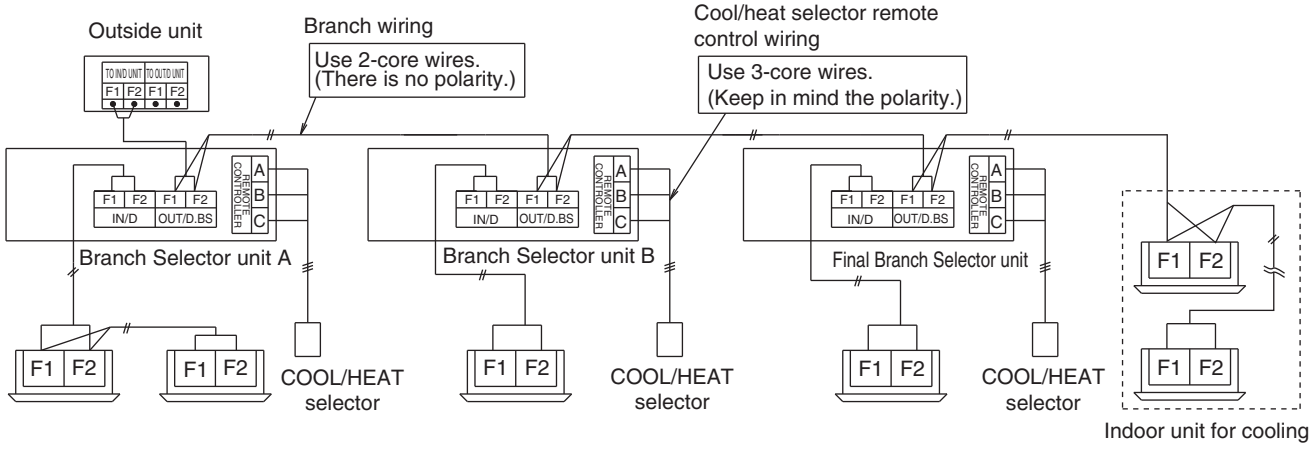
When using cool/heat selector, connect to the terminal A, B and C on the PCB of the electrical component box.

EXAMPLE OF TRANSMISSION LINE CONNECTION

- Example of connecting transmission wiring.

Connect the transmission wirings as shown in the figure below.





2.6.3 Demand Operation

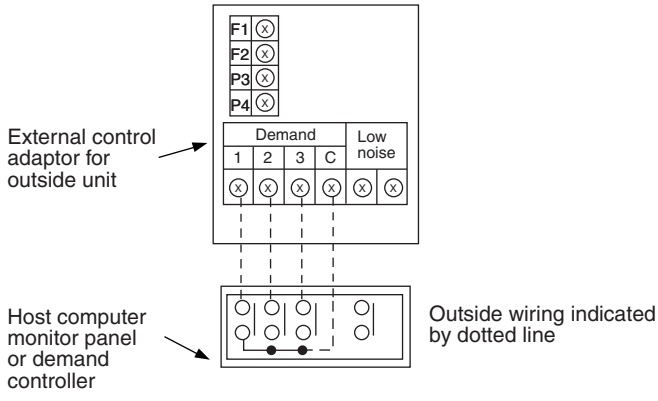
By connecting the external contact input to the demand input of the outside unit external control adaptor for outside unit (optional), the power consumption of unit operation can be saved suppressing the compressor operating condition.

Description of setting		Setting procedure	
Setting item	Description	External control adaptor for outside unit	Outside unit PCB
Demand 1	Operate with power of 60% to 95% of the rating. Default is 70%. Percentage can be changed using field setting [2-30].	Short circuit between "1" and "C" of the terminal block (TeS1).	Set the field setting [2-32] to 1 (Demand level 1).
Demand 2	Operate with power of 40% to 55% of the rating. Default is 40%. Percentage can be changed using field setting [2-31].	Short circuit between "2" and "C".	Set the field setting [2-32] to 2 (Demand level 2).
Demand 3	Operate with forced thermostat OFF	Short circuit between "3" and "C".	–

However, the demand operation does not occur in the following operation modes.

1. Startup control
2. Oil return operation
3. Pump down residual operation

If carrying out demand or low noise input, connect the adaptor's terminals as shown below.



A. When the demand operation is carried out by external contact (with the use of the external control adaptor for outside unit).

1. Connect external control adaptor for outside unit and short circuit terminals as required (Refer above figure).
2. While in setting mode 2, set the setting condition for set item No. 12 (Setting of external demand operation) to YES.
3. If necessary, 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.

B. When the Normal demand operation is carried out. (Use of the external control adaptor for outside unit is not required.)

1. While in setting mode 2, make setting of the set item No. 32 (Setting of alternate 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.

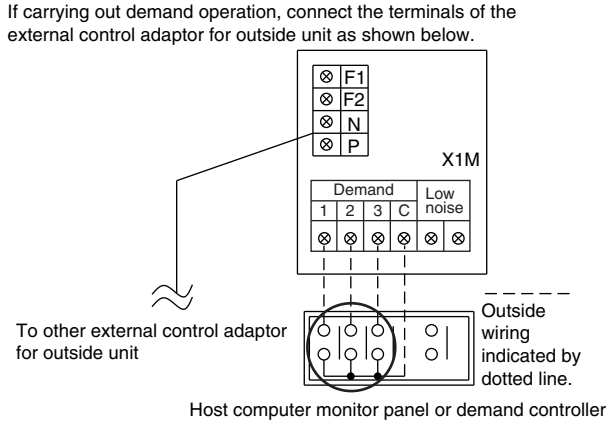


Image of operation in the case of A

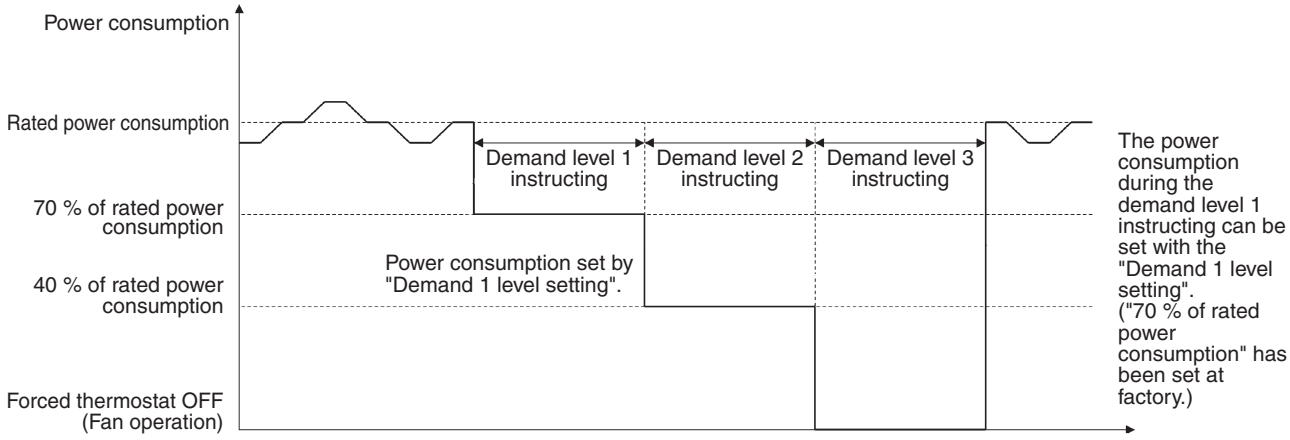


Image of operation in the case of B

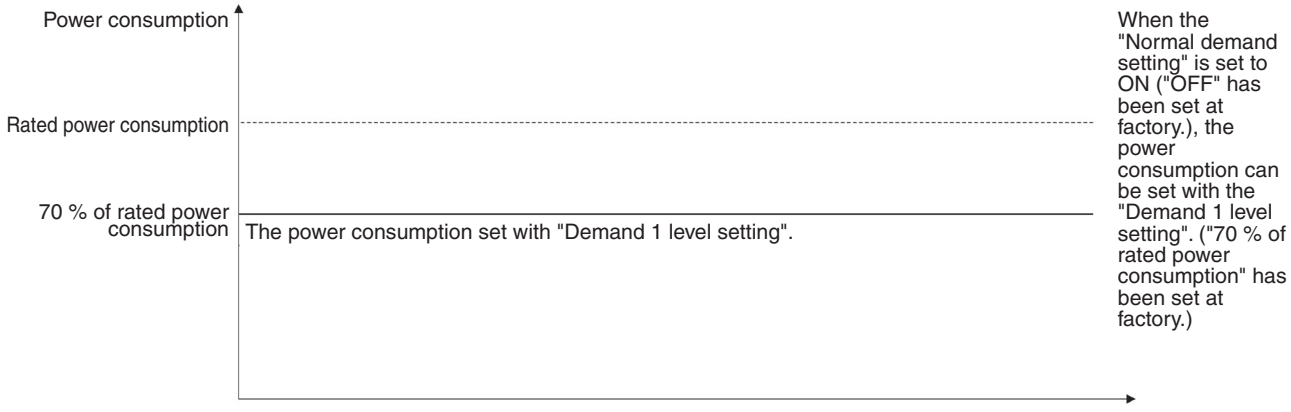
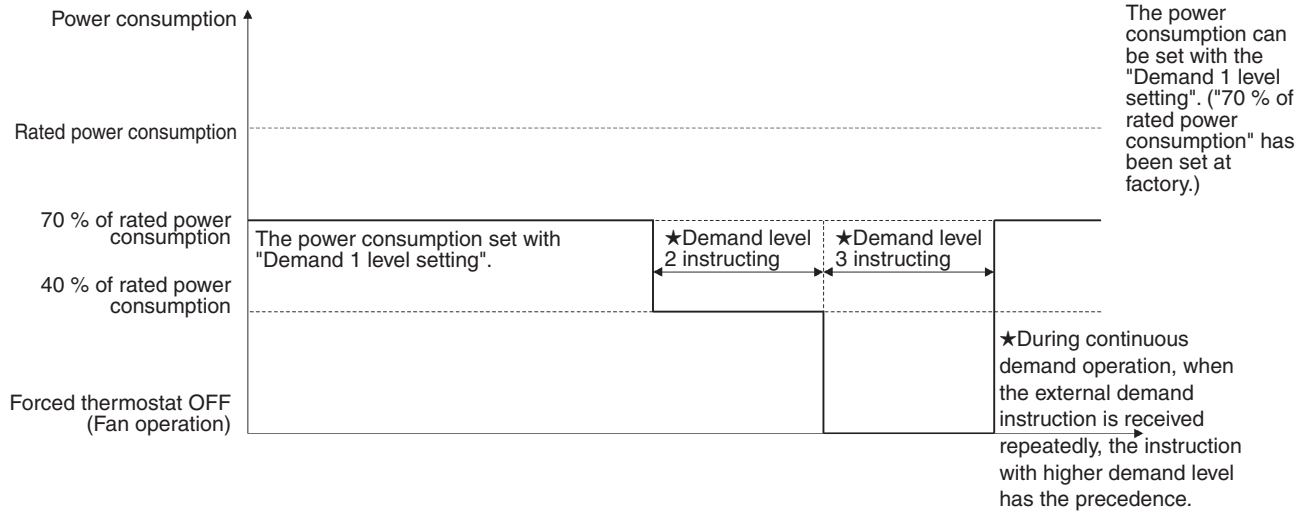


Image of operation in the case of A and B



Detailed Setting Procedure of Demand Operation

1. Setting mode 1

In setting mode 2, press the **MODE (BS1)** button once → Setting mode 1 is entered.

While the setting mode 1 is displayed, “In demand operation” is displayed.

2. Setting mode 2

(1) In setting 1, press and hold the **MODE (BS1)** button for more than 5 seconds. → Setting mode 2 is entered.

(2) Press the **SET (BS2)** button several times and match the 7-segment display with the Setting No. you want.

(3) Press the **RETURN (BS3)** button once, and the present setting content is displayed.
→ Press the **SET (BS2)** button several times and match the 7-segment display with the setting content you want.

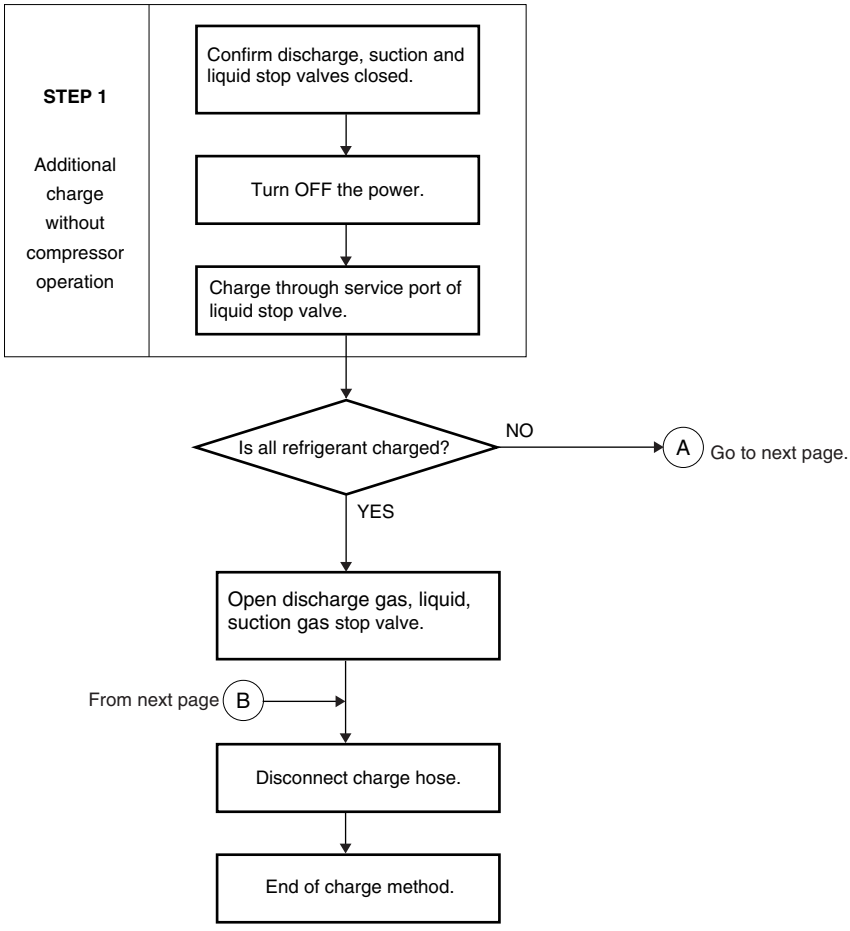
(4) Press the **RETURN (BS3)** button twice. → Returns to (1).

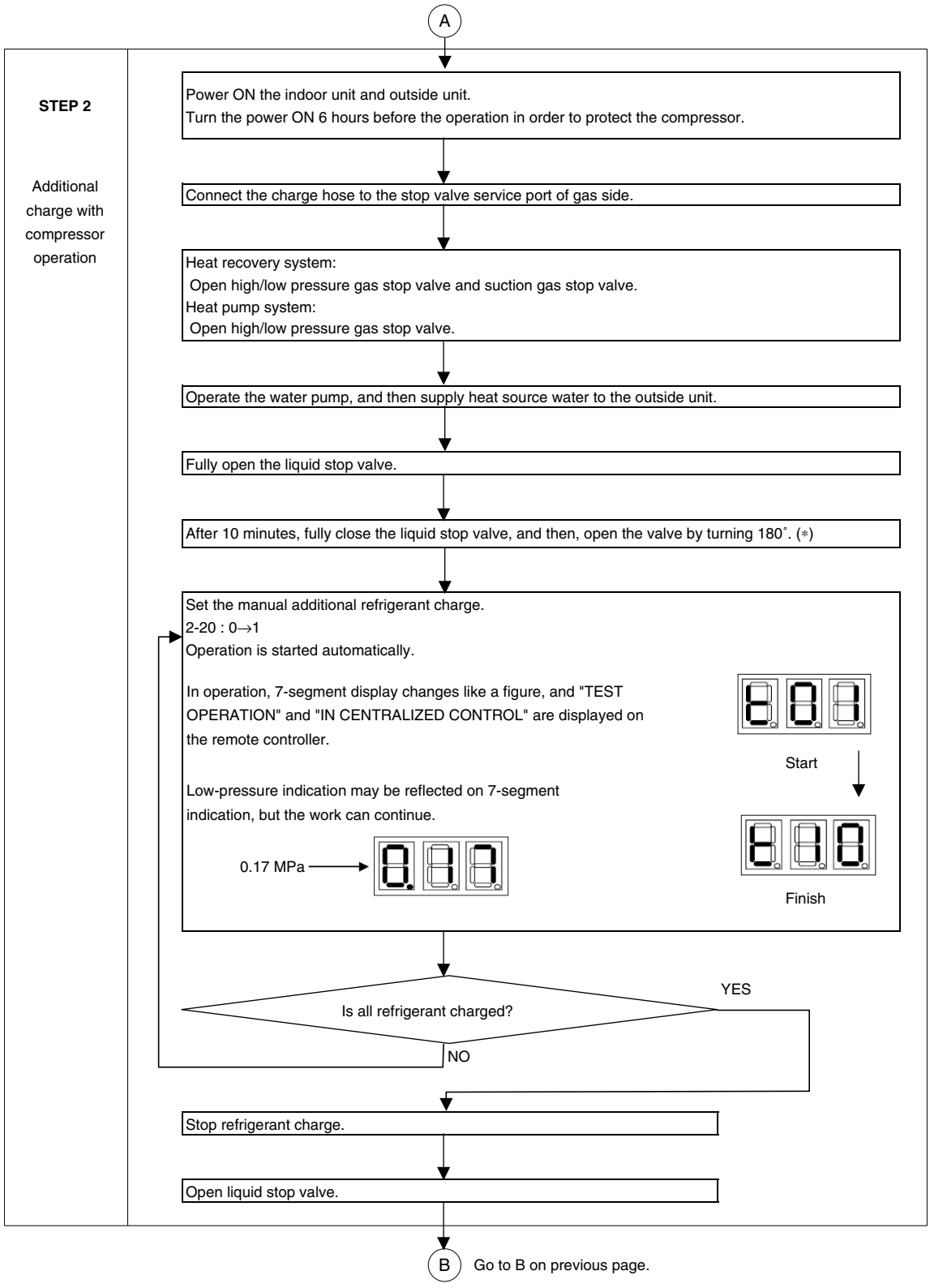
(5) Press the **MODE (BS1)** button once. → Returns to the setting mode 1.

2.6.4 Refrigerant Additional Charging Operation

When additional refrigerant is not charged all with outside unit in stop mode, operate the outside unit and charge the liquid refrigerant from the service port of liquid stop valve. The additional charging operation is activated by BS button switch on the outside unit PCB.

[Additional refrigerant charge total flow]





Note(s)

* The stop valve operations are different from Heat Pump and Heat Recovery connection, refer to following page for detail.

Caution

Refrigerant cannot be charged until field wiring has been completed.
Refrigerant may only be charged after performing the leak test and the vacuum drying.
When charging a system, care shall be taken that its maximum permissible charge is never exceeded, in view of the danger of liquid hammer.
Charging with an unsuitable substance may cause explosions and accidents, so always ensure that the appropriate refrigerant (R-410A) is charged.
Refrigerant containers shall be opened slowly.
Always use protective gloves and protect your eyes when charging refrigerant.

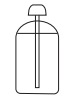
- This outside unit is factory charged with refrigerant and depending on pipe sizes and pipe lengths some systems require additional charging of refrigerant.
- Determine the amount of refrigerant to be added by referring to the table, write it down on the included “Added Refrigerant” plate and attach it to the rear side of the front cover.
  Note: refer to the example of connection for the amount to be added.

Additional refrigerant charge procedure (1) - normally

- Charge the refrigerant to the liquid pipe in its liquid state. Since R-410A is a mixed refrigerant, its composition changes if charged in a state of gas and normal system operation would no longer be assured.
- Make sure to use installation tools you exclusively use on R-410A installations to withstand the pressure and to prevent foreign materials from mixing into the system.

1. Before charging, check whether the tank has a siphon attached or not.
   How to charge with a siphon attached tank.

   Charge with the tank upright.
   (There is a siphon tube inside, so there is no need to turn the tank upside-down.)

   How to charge with other tank.

   Charge with the tank upside-down.

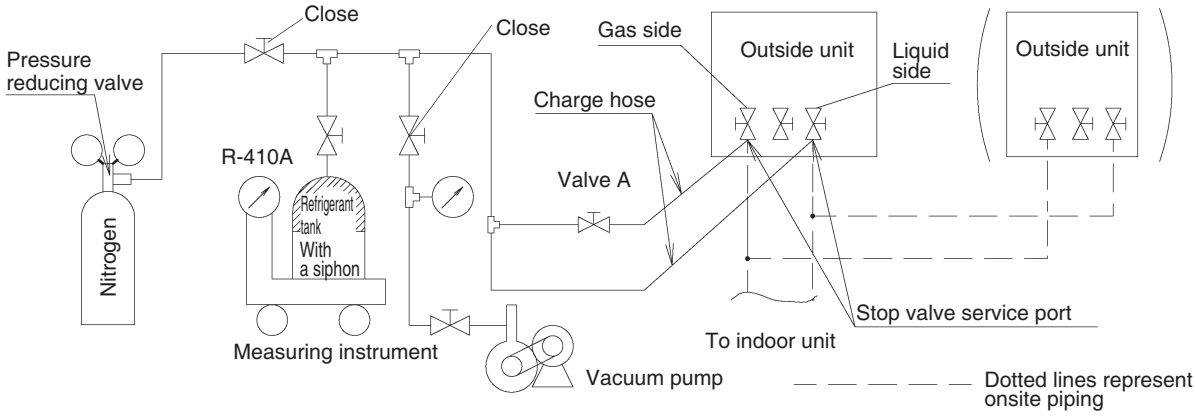
   

2. After the vacuum drying is finished, charge the additional refrigerant in its liquid state through the liquid stop valve service port.
   Taking into account following instructions:
   - Check that gas and liquid stop valves are closed.
   - Stop the compressor and charge the specified weight of refrigerant.

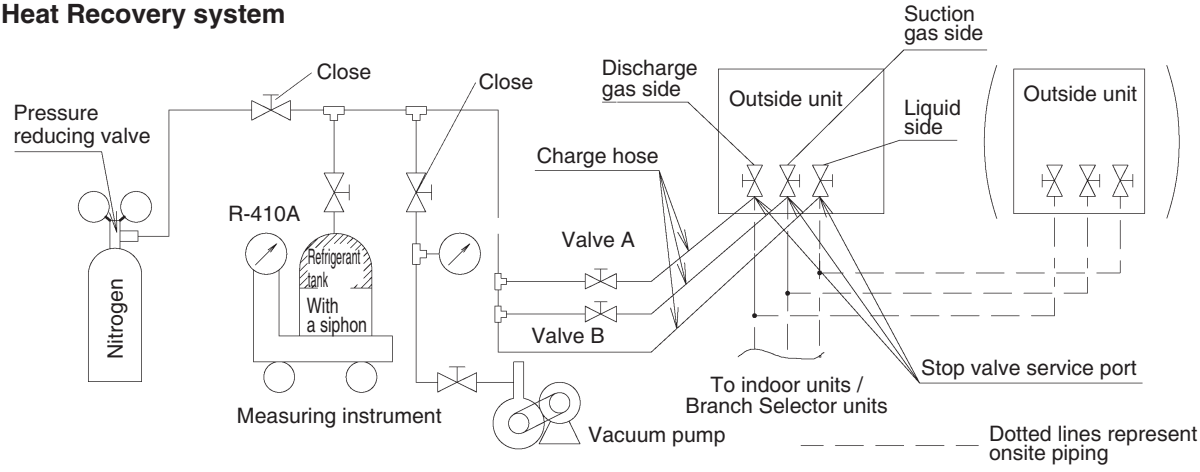
   (If the outside unit is not in operation and the total amount cannot be charged, follow the Additional refrigerant charge procedure (2) shown next page.)

■ **Procedures for charging additional refrigerant.**

Heat Pump system



Heat Recovery system



Additional refrigerant charge procedure (2)-by Additional refrigerant charge operation

About the system settings for additional refrigerant charge operation, refer to the [Service Precaution] label attached on the El. compo. box lid in the outside unit.

1. Fully open all stop valves (valve A and valve B must be left fully closed).
2. After 10 minutes, fully close liquid line stop valve and then, open the valve by turning 180°. Start the additional refrigerant charge operation.
   See [Service precautions] Label for detail.
   If it is difficult to charge the refrigerant additionally, decrease the water temperature or warm the refrigerant tank.
   (Warm the refrigerant tank with a stupe or a warm hot water of 40 degrees or less.)
3. After the system is charged with a specified amount of refrigerant, press the **RETURN (BS3)** button on the PCB (A1P) in the outside unit to stop the additional refrigerant charge operation.
4. Immediately open both liquid-side and gas-side stop valve.
   (If do not open the stop valve immediately, liquid seal may cause the pipe to burst.)

Caution

Stop valve operation procedure

Do not open the stop valve until checking of device and installation conditions are completed. If the stop valve is left open without turning on power, it may cause refrigerant to buildup in the compressor, leading to insulation degradation.

Opening stop valve

1. Remove the cap and turn the valve counterclockwise with the hexagon wrench (JISB4648).
2. Turn it until the shaft stops.
   Do not apply excessive force to the stop valve. Doing so may break the valve body, as the valve is not a backseat type. Always use the hexagon wrench.
3. Make sure to tighten the cap securely.

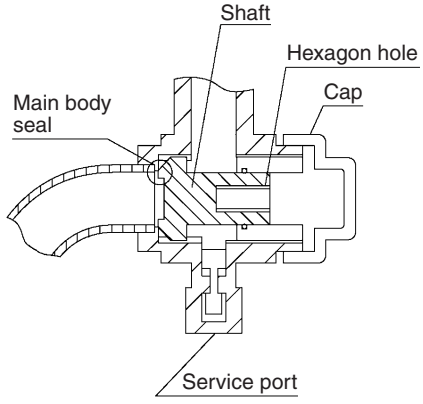
Closing stop valve

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

Tightening torque

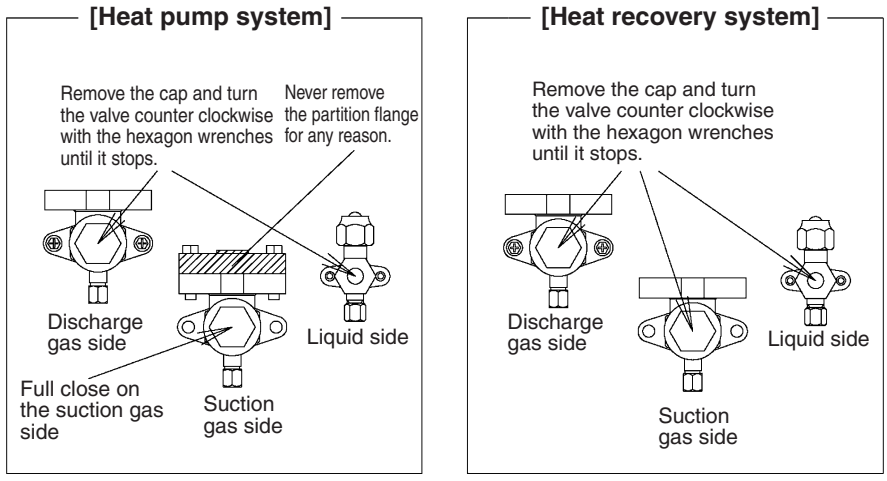
Stop valve size (inch)	Tightening torque N·m(lbf.ft) (turn clockwise to close)			
	Shaft (valve body)	Hexagonal wrench	Cap (valve lid)	Service port
ϕ3/8	5.4 ~ 6.6 (3.98 ~ 4.87)	5/32 inch	13.5 ~ 16.5 (9.95 ~ 12.17)	11.5 ~ 13.9 (8.48 ~ 10.25)
ϕ1/2	8.1 ~ 9.9 (5.97 ~ 7.30)		18 ~ 22 (13.3 ~ 16.2)	
ϕ5/8	13.5 ~ 16.5 (9.95 ~ 12.16)	1/4 inch	23 ~ 27 (17.0 ~ 19.9)	
ϕ3/4	27 ~ 33 (19.9 ~ 24.3)	5/16 inch	22.5 ~ 27.5 (16.6 ~ 20.3)	
ϕ1				

(Refer to figure below)



Caution

- Do not damage the cap sealing.
- Always use a charge hose for service port connection.
- After tightening the cap, check that no refrigerant leaks are present.
- After working, securely tighten the cover of service port without fail by specified torque.
- When loosening a flare nut, always use 2 wrenches in combination. When connecting the piping, always use a spanner and torque wrench in combination to tighten the flare nut.
- When connecting a flare nut, coat the flare (inner and outer faces) with ether oil or ester oil and hand-tighten the nut 3 to 4 turns as the initial tightening.
- Do not forget to open the stop valve before starting operation.



Operation state

- Compressor frequency: Normal PI control, TeS = –15°C (5°F)
- Y2E (EVT) : 0 pulse, Y3E (EVG) : 279 pulse, and the other electronic expansion valves and solenoid valves are in normal cooling operation.
- Indoor unit electronic expansion valve (all unit): 1024 pulse
- Indoor unit fan: H tap

2.6.5 Refrigerant Recovery Mode

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

Operation procedure

(1) In **setting mode 2-21** with units in stop mode, set Refrigerant recovery/vacuuming mode to ON. The electronic expansion valves of indoor and outside units fully open.
(LED blinks to indicate the test operation, and the remote controller displays "Test Operation" and "In Centralized control", thus prohibiting operation.)
(2) Collect the refrigerant using a refrigerant recovery unit. (See the instruction attached to the refrigerant recovery unit for more detail.)
(3) Press **MODE (BS1)** button once and return to normal mode.

2.6.6 Vacuuming Mode

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

Operation procedure

(1) In **setting mode 2-21** with units in stop mode, set Refrigerant recovery/vacuuming mode to ON. The electronic expansion valves of indoor and outside units fully open and some of solenoid valves open.
(LED blinks to indicate the test operation, and the remote controller displays "Test Operation" and "In Centralized control", thus prohibiting operation.)
After setting, do not cancel “Setting Mode 2” until completion of Vacuuming operation.
(2) Use the vacuum pump to perform vacuuming operation.
(3) Press **MODE (BS1)** button once and return to normal mode.

3. Field Settings for Branch Selector Unit

3.1 Field Settings for Single Branch Selector Unit

Follow the instructions below to set the DIP switches as necessary.

Warning Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

---

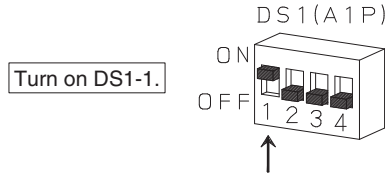
1. Setting for when connecting the COOL/HEAT SELECTOR to the Branch Selector unit.

Setting description

Set the input signal from the COOL/HEAT SELECTOR (sold separately) to ON/OFF.

Setting method

Set the dip switches (DS1-1) on PCB (A1P) as shown below before turning on the power to the Branch Selector unit.



Note(s) This setting is enabled when the Branch Selector unit power is turned on.

- Be sure to make the setting before turning on the power.
- Always close the control box cover after making the setting.

---

2. Setting when changing the automatic mode differential in the Cooling/Heating Automatic Operation Mode.

Setting description

- The automatic mode differential can be changed within the range of 0°F (0°C) to 12.6°F (7°C) (0°F (0°C) at factory shipment).
- For details regarding the automatic mode differential and indoor unit operation, refer to page 184.

Setting method

The setting is made using the field setting mode by the remote controller of indoor unit connected to the Branch Selector unit.

For information regarding the setting method, refer to page 223.

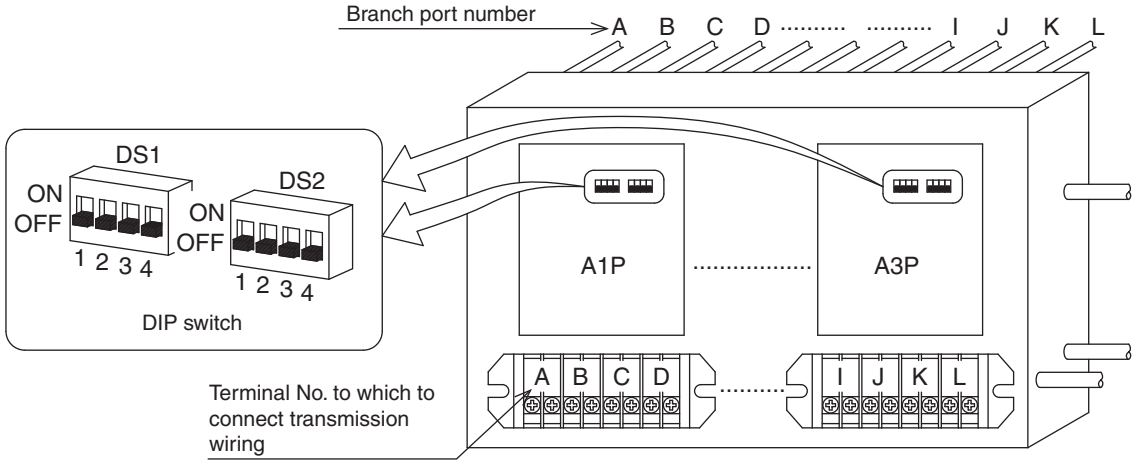
3.2 Field Settings for Multi Branch Selector Unit (Standard Series)

Follow the instructions below to set the DIP switches as necessary.

Warning Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

Procedure

1. Disconnect the power source.
2. Set the DIP switches (DS1, DS2) for the corresponding branch ports based on the following table.
3. Once work is complete, be sure to close the control box cover.

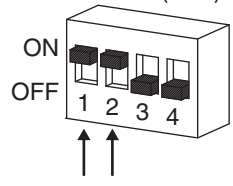


Setting

1. Setting for branch ports to which no indoor unit is connected

	Setting	Setting for branch ports to which no indoor unit is connected (Example 1)											
	DIP switch setting	ON (Not connected) OFF (Factory default)											
	DIP switch No.	DS1 (A1P)				DS1 (A2P)				DS1 (A3P)			
		1	2	3	4	1	2	3	4	1	2	3	4
BS4Q54TVJ BS4Q54TAVJ	Target branch port	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Unit I	Unit J	Unit K	Unit L
BS6Q54TVJ													
BS8Q54TVJ													
BS10Q54TVJ BS10Q54TAVJ													
BS12Q54TVJ BS12Q54TAVJ													

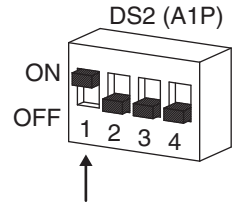
(Example 1)
When not connecting the indoor unit to the A and B branch circuits



2. Setting when joining branch ports

	Setting	Setting when joining branch ports (Example 2)					
	DIP switch setting	ON (Joined) OFF (Factory default)					
	DIP switch No.	DS2 (A1P)		DS2 (A2P)		DS2 (A3P)	
		1	2	1	2	1	2
BS4Q54TVJ BS4Q54TAVJ	Target branch port	A and B units joined	C and D units joined	E and F units joined	G and H units joined	I and J units joined	K and L units joined
BS6Q54TVJ							
BS8Q54TVJ							
BS10Q54TVJ BS10Q54TAVJ							
BS12Q54TVJ BS12Q54TAVJ							

(Example 2)
When joining the A and B branches



When joining branches, only the branch port combinations shown in the above table can be used. (For example, units B and C cannot be joined.)

3.3 Field Settings for Multi Branch Selector Unit (Flex Series)

Follow the instructions below to set the DIP switches as necessary.

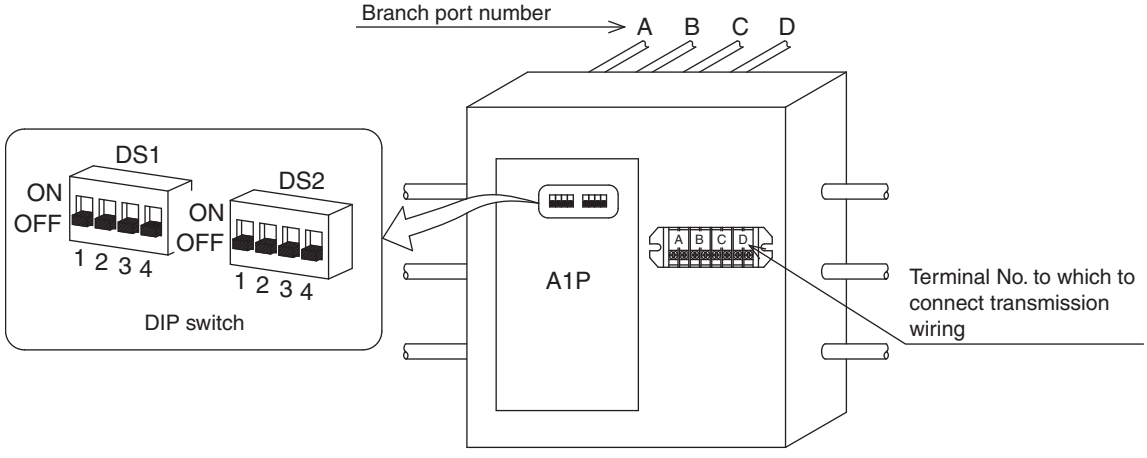
Warning

Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

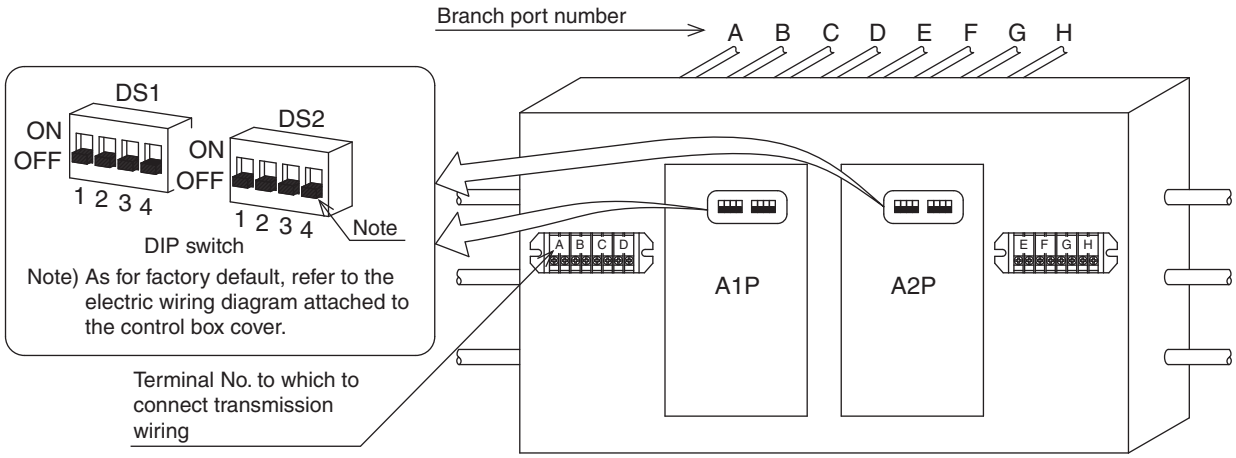
Procedure

1. Disconnect the power supply.
2. Set the DIP switches (DS1, DS2) for the corresponding branch ports based on the following table.
3. Once work is complete, be sure to close the control box cover.

BSF4Q54TVJ



BSF6/8Q54TVJ

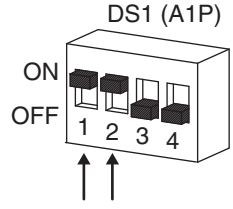


Setting

1. Setting for branch ports to which no indoor unit is connected

	Setting	Setting for branch ports to which no indoor unit is connected (Example 1)							
	DIP switch setting	ON (Not connected) OFF (Factory default)							
	DIP switch No.	DS1 (A1P)				DS1 (A2P)			
		1	2	3	4	1	2	3	4
BSF4Q54TVJ	Target branch port	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H
BSF6Q54TVJ									
BSF8Q54TVJ									

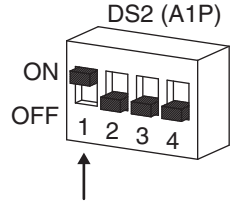
(Example 1)
When not connecting the indoor unit to the A and B branch ports



2. Setting when joining branch ports

	Setting	Setting when joining branch ports (Example 2)			
	DIP switch setting	ON (Joined) OFF (Factory default)			
	DIP switch No.	DS2 (A1P)		DS2 (A2P)	
		1	2	1	2
BSF4Q54TVJ	Target branch port	Unit A and B joined	Unit C and D joined	Unit E and F joined	Unit G and H joined
BSF6Q54TVJ					
BSF8Q54TVJ					

(Example 2)
When joining the A and B branch ports



When joining branches, only the branch port combinations shown in the above table can be used. (For example, units B and C cannot be joined.)

3.4 How to Check Miswiring for Multi Branch Selector Unit

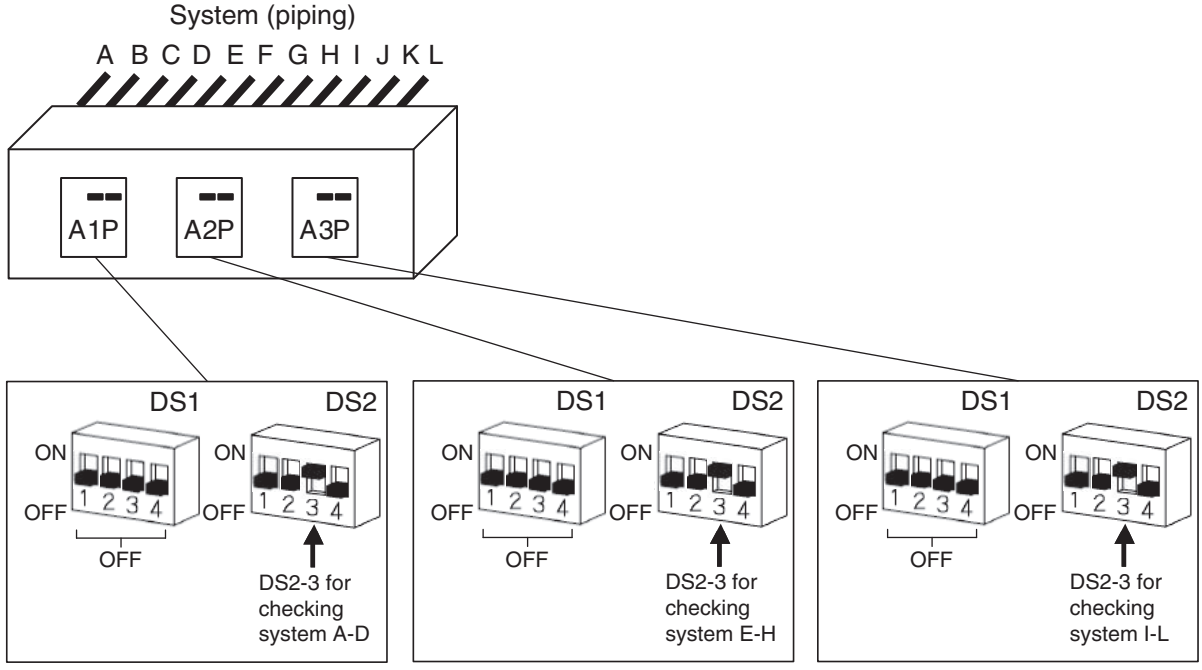
When miswiring of the transmission wire between the Branch Selector unit and the indoor unit is suspected

It is possible to check the miswiring by operating the DIP switches to turn ON the corresponding indoor fans to see which wires are miswired according to the procedure below.

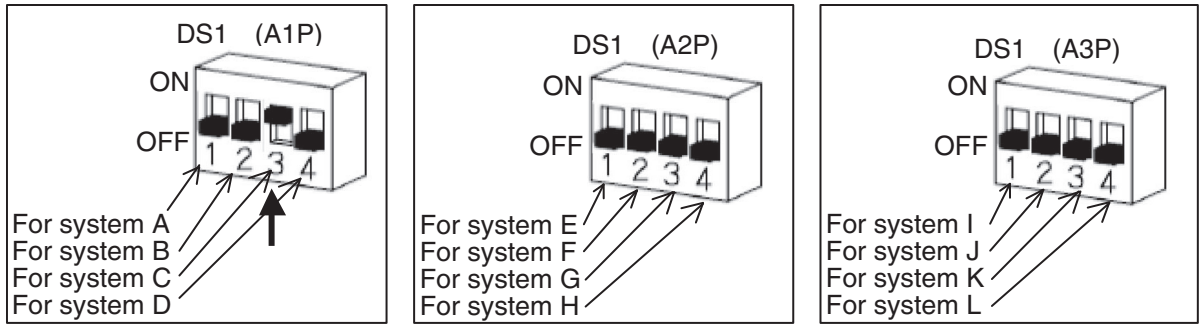
Caution All the DIP switches must be restored to their original position after the check. Do not touch any switches other than those indicated.

In case of BS12Q54TVJ

1. Turn OFF the power of the Branch Selector unit.
2. Turn OFF all the DIP switches of DS1 on the PCBs.
3. Turn ON all the DS2-3.



4. Turn ON the power of the Branch Selector unit.
5. Turn ON the DIP switch of DS1 corresponding to the system to be checked. (For example, when checking the system C, Turn ON DS1-3 on A1P.)



6. If the relevant indoor fan is on, it is OK. If another indoor fan is on, correct the wiring.
7. After the check is completed, turn OFF the power of the Branch Selector unit.
8. Turn OFF all the DS2-3.
9. If there is a branch port to which no indoor unit is connected, or if the branch ports are to be joined, perform field setting referring to pages 274 and 275.
10. Turn ON the power of the Branch Selector unit.

4. Test Operation

4.1 Procedure and Outline

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

4.1.1 Check Work Prior to Turn Power Supply ON

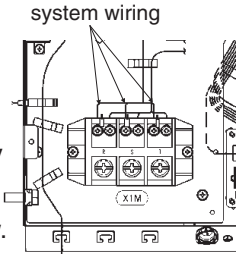
Check the below items.
- Power wiring
- Control transmission wiring between units
- Operation signal to heat source pump and interlock wiring from pump
- Interlock circuit
- Ground wire

- Is the wiring performed as specified?
- Are the designated wires used?
- Are the setscrews of wiring not loose?
- Is the grounding work completed?
- Is the insulation of main power supply circuit deteriorated?
  Use a 500 V Megger tester to measure the insulation. (∗1)
  - Do not use a Megger tester for other circuits of voltage less than 200 V.

∗1. Handling method at the time of the insulation drop
When the insulation of the main power supply circuit drops, refrigerant may accumulate in the compressor. Take the following steps.

1. Remove the compressor wiring connected to the power supply terminal and make sure that the wiring does not touch the charge region using insulating tape. Then, measure the insulation resistance of the main power supply circuit.
   - If the insulation resistance remains low, the local power supply circuit may be defective. Confirm the insulation of the local power supply circuit.
   - When the insulation resistance does not decrease, please perform steps 2. and 3. below.

Compressor system wiring



2. Switch the system on while the compressor system wiring is still removed. The crankcase heater of the compressor is energized. After six hours, cut off the power supply and reconnect the compressor system wiring as before.
3. Measure the insulation resistance again.
   - If the insulation resistance does not decrease, the product is normal. Continue installation work.
   - If the insulation resistance remains low, the compressor may be defective.

Check on refrigerant piping, water piping and piping insulation

- Is pipe size proper? (The design pressure of this product is 4.0 MPa (580 psi).)
- Are pipe insulation materials installed securely?
  Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)
- Is refrigerant piping carried out correctly as per installation manual?
  (Special care is required for multi outside unit installation.)

Check on air tight test and vacuum drying

- Is the air tight test and vacuum drying carried out as per installation manual?

Check on amount of additional refrigerant charge

- 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 outside unit in stop mode after turning power ON.
- If the specified amount of refrigerant cannot be charged in stop mode, charge the required refrigerant.
- Has the amount of refrigerant charge been recorded on “Record Chart of Additional Refrigerant Charge Amount”?

Check on stop valves opening

- Check to be sure the stop valves are under the following conditions.

	Discharge gas side	Suction side	Discharge liquid side
Cooling and heating switching operation	Open	Close	Open
Cooling and heating simultaneous operation	Open	Open	Open

4.1.2 Turn Power ON

Turn outside unit, indoor unit, Branch Selector unit and heat source water pump power ON.

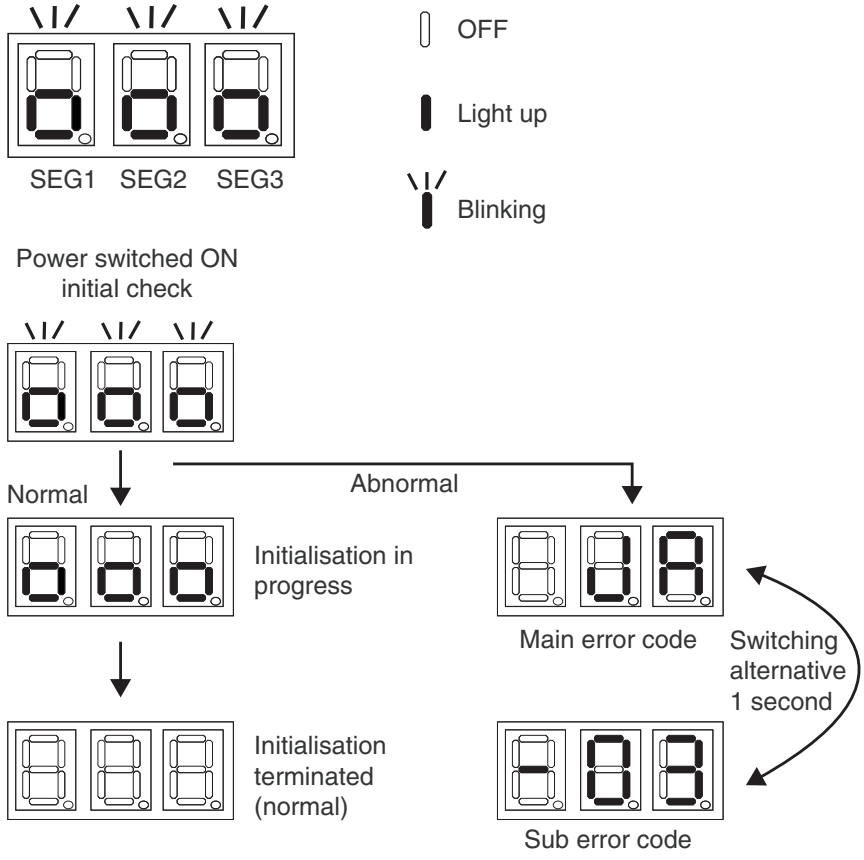
⇩

Check the 7-segment display of the outside unit PCB.

⇩

- Be sure to turn the power ON 6 hours before starting operation to protect compressors. (to power ON crankcase heater)

- Check to be sure the transmission is normal.
  In a normal condition, the 7-segment display is OFF. Please refer to the following figure for other states.



(∗) The master unit is the outside unit to which the transmission wiring for the indoor units is connected.
The other outside units are slave units.

Make field settings with outside unit PCB.

⇩

Conduct check operations.

⇩

Check for normal operation.

- Make field settings if needed.
  (For the setting procedure, refer to information in Field Settings for Outside Unit. (∗1))
  For the outside-multi system, make field settings with the master unit.
  (Field settings made with the slave unit will be all invalid.)

The check operations shown below will be automatically initiated.

- Check for erroneous wirings
- Check for failure to open stop valves
- Check for excessive refrigerant refilling
- Automatic judgment of piping length

- Before starting the normal operation after the completion of check operations, make sure indoor and outside units normally operate.

When an Indoor Unit or Outside Unit has been Changed, or Indoor or Outside Unit PCB has been Changed

∗Refer to page 236 for location of DIP switch and BS buttons.

4.1.3 Check Operation

Be sure to conduct the check operation. If the check operation is not conducted, the error code "U3" will be displayed on the remote controller and outside unit PCB segment display, thus disabling the normal operation.

Through the following procedure, the check operation is automatically conducted. A period of approximately 20 minutes (approximately 40 minutes at maximum) is required to complete the judgment.

Check Normal mode

- If the segment display lights turn off, the mode is normal.
- When an error code is displayed, correct the malfunction.
- In the case of transmission indication, wait until the transmission is finished.

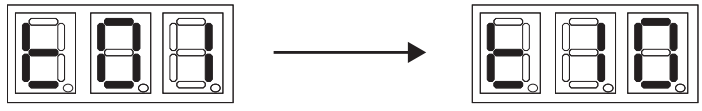
Start the check operation.

Press and hold the **SET (BS2)** button on the outside unit PCB for a period of 5 seconds or more.

The following check operation is automatically started.

1 Check the wrong wiring.
2 Check whether or not the stop valve is failed to open.
3 Check the refrigerant for overcharging.
4 Judge the piping length automatically.

∗1. While the check operation is performed, **Test Operation** and **CENTRAL CONTROL** are displayed on the remote controller, and the 7-segment display is as below:
Segment display



Start Finish

∗2. There may be cases where a period of approximately 10 minutes are required for the compressor to start up, which, however, is not an error but used to ensure even refrigerant conditions.

∗3. The check operation will be automatically conducted in cooling mode.

∗4. In order to stop the compressor operation, press the **RETURN (BS3)** button. The compressor will stop after the completion of residual operation for a period of approximately 1 minute. (The compressor operation cannot be stopped from the remote controller.)

Completion of check operation

After the completion of check operation, check the operation results through the segment displays.

(For normal completion) Segment display OFF.
(For abnormal completion) Segment display shows error code and sub error code. → Check the error code and then rectify the error according to information in the "Troubleshooting".

STEP	Control
t01	Pressure equalization control
t02	Startup control in cooling
t03	Standby for stabilization of refrigerant state
t04	Check whether there is wrong wiring, or gas stop valve is open
t05	Check whether liquid stop valve is open
t06	Confirmation of the piping length
t07	After heating changeover, check whether discharge side stop valve is open
t08	Pump-down
t09	Pressure equalization control. Test operation ends.

<Precautions for check operation>

- If the test operation is started within approximately 30 minutes after turning ON the power supply to the indoor and outside units, segment display will blink or turn ON and the compressor will not operate. Referring to information in table in “Turn Power ON” on page 279, check to be sure the segment displays are normal and then operate the compressor.
- For the outside multi system, an outside unit to which the indoor unit connecting wires are connected serves as the master unit. Be sure to make settings with BS button on the master unit.
- The system may require up to 10 minutes until it can start the compressor after an operation start. This is a normal operation to equalize the refrigerant distribution.
- No errors can be checked on individual indoor unit. After the completion of this test operation, check the individual indoor unit for any errors while in normal operation mode using the remote controller.
- While in check operation mode, the indoor units as well as the outside units start the operation.
  Do not attempt to conduct the check operation while working on the indoor unit.
- Work with all the outside panels closed except for the switch box.
- Close the outside panel except operating a BS button or installation a charge hose.
- If you start normal operation without completion of a check operation, an error code "U3" is displayed and cannot conduct a normal operation.

Error code

In case of an alarm code displayed on remote controller:

Error code	Installation error	Remedial action
E3 **E4** **F3** **F6** **UF**	The stop valve of an outside unit is not opened.	Open the stop valve. Check referring to "**Refrigerant additional charging operation**" on page 266.
U1	The phases of the power to the outside units are reversed.	Exchange 2 of the 3 phases (L1, L2, L3) to make a positive phase connection.
U1 **U2** **U4**	No power is supplied to an outside or indoor unit (including phase interruption).	Check if the power wiring for the outside units are connected correctly. (If the power wire is not connected to L2 phase, no error display will appear and the compressor will not work.) Check if the ground fault circuit interrupter in the outside unit is ON.
UF	Incorrect transmission between units	Check if the refrigerant piping line and the unit transmission wiring are consistent with each other.
E3 **F6** **UF**	Refrigerant overcharge	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge amount by recovering any excessive refrigerant with a refrigerant recovery machine.
E4 **F3**	Insufficient refrigerant	■ 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.
U7 **UF**	If an outside multi terminal is connected when there is 1 outside unit installed	Remove the line from the outside multi terminals (Q1 and Q2).
UF **E4**	The operation mode on the remote controller was changed before the check operation.	Set the operation mode on all indoor unit remote controllers to "cooling."
HJ	The heat source water is not circulating.	Make sure that the water pump is running.
U3	The check operation has not been performed.	Perform the check operation.
E2, E3	**E3** is activated, so ON/OFF button is pressed on the remote controller, but this does not turn **E3** OFF. Or **E2** is activated. In case of above, there is an error of the compressor in the outside unit.	Measure the insulation resistance of the compressor to check the condition of the compressor.

If any error codes other than the above are displayed, refer to the error code table on page 293 and troubleshooting on page 303 onwards for how to respond.

4.1.4 Confirmation on Normal Operation

Conduct normal unit operation after the check operation has been completed.

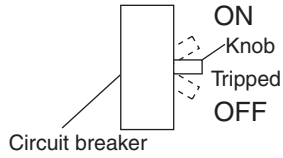
(1) Confirm that the indoor/outside units can be operated normally.
(When an abnormal noise due to liquid compression by the compressor can be heard, stop the unit immediately, and turn ON the crankcase heater to heat up it sufficiently, then start operation again.)
(2) Operate indoor unit one by one to check that the corresponding outside unit operates.
(3) Confirm that the indoor unit discharges cold air (or warm air).
(4) Operate the air direction control button and airflow rate control button to check the function of the devices.

<Precautions for checking normal operation>
• For a period of approximately 5 minutes after the compressor stops, even if the ON/OFF button for the indoor units in one and the same system is pressed, the compressor will not operate.
• After stopping the compressor operation using the remote controller, the outside unit may conduct the residual operation for a period of 5 minutes at maximum.
• When the check operation is not conducted using the TEST OPERATION button at the first test operation after installation, the error code "*U3*" will be displayed. Be sure to conduct the check operation according to Check Operation.
• After the test operation, when handing the unit over to the customer, make sure the el. compo. box lid, the service lid, and the unit casing are all attached.

Part 6
Service Diagnosis

1. Symptom-based Troubleshooting

1.1 Indoor Unit Overall

	Symptom		Supposed Cause	Countermeasure
1	The system does not start operation at all.		Blowout of fuse(s)	Turn OFF the power supply and then replace the fuse(s).
			Cutout of breaker(s)	• If the knob of any breaker is in its OFF position, turn ON the power supply. • If the knob of any circuit breaker is in its tripped position, do not turn ON the power supply. 
			Power failure	After the power failure is reset, restart the system.
			The connector loose or not fully plugged in	Turn off the power supply to verify the connection of the connector.
2	The system starts operation but makes an immediate stop.		Blocked air inlet or outlet of indoor or outside unit	Remove obstacle(s).
			Clogged air filter(s)	Clean the air filter(s).
3	The system does not cool or heat air well.		Blocked air inlet or outlet of indoor or outside unit	Remove obstacle(s).
			Clogged air filter(s)	Clean the air filter(s).
			Enclosed outside unit(s)	Remove the enclosure.
			Improper set temperature	Set the temperature to a proper degree.
			Airflow rate set to LOW	Set it to a proper airflow rate.
			Improper direction of air diffusion	Set it to a proper direction.
			Open window(s) or door(s)	Shut it tightly.
			IN COOLING Direct sunlight received	Hang curtains or shades on windows.
			IN COOLING Too many persons staying in a room	The model must be selected to match the air conditioning load.
			IN COOLING Too many heat sources (e.g. OA equipment) located in a room	
			IN DRYING The reason is that the dry operation serves not to reduce the room temperature where possible.	Change the system to cooling operation.
4	The system does not operate.	The system stops and immediately restarts operation.	If the operation lamp on the remote controller turns ON, the system will be normal. These symptoms indicate that the system is controlled so as not to put unreasonable loads on the system.	Normal operation. The system will automatically start operation after a lapse of five minutes.
		Pressing the temperature setting button immediately resets the system.		
		The remote controller displays **CENTRAL CONTROL,** which blinks for a period of several seconds when the **OPERATION** button is depressed.	The system is controlled with centralized controller. Blinking display indicates that the system cannot be operated using the remote controller.	Operate the system using the COOL/HEAT central remote controller.
		The system stops immediately after turning ON the power supply.	The system is in preparation mode of microcomputer operation.	Wait for a period of approximately one minute.
5	The system makes intermittent stops.	The remote controller displays error codes **U4** or **U5,** and the system stops but restarts after a lapse of several minutes.	The system stops due to an interruption in communication between units caused by electrical noises coming from equipment other than air conditioners.	Remove causes of electrical noises. If these causes are removed, the system will automatically restart operation.

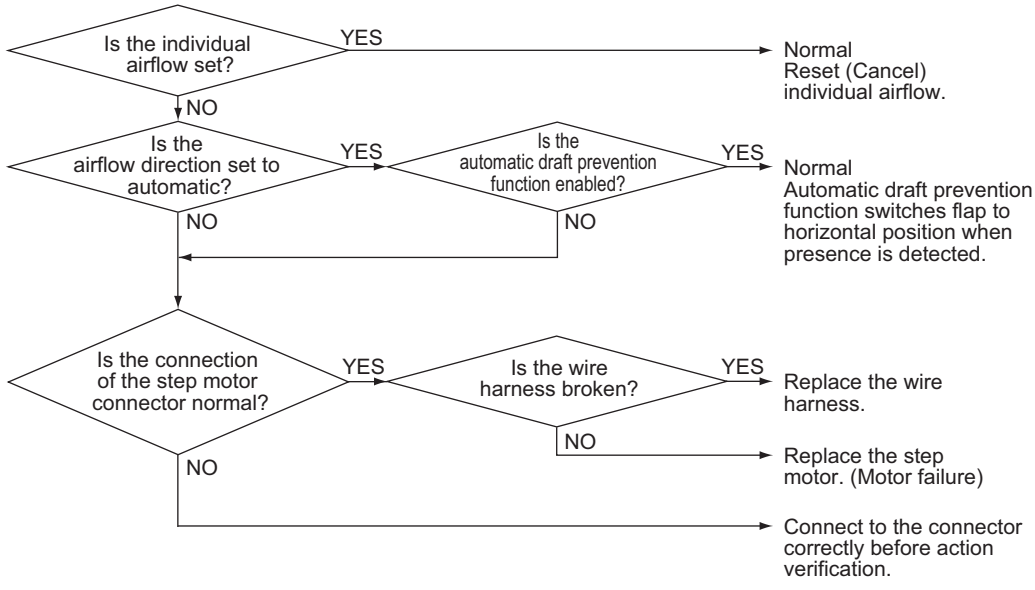
	Symptom		Supposed Cause	Countermeasure
6	COOL/HEAT selection is disabled.	The remote controller displays **CENTRAL CONTROL.**	This remote controller has no option to select cooling operation.	Use a remote controller with option to select cooling operation.
		The remote controller displays **CENTRAL CONTROL,** and the COOL/HEAT selection remote controller is provided.	COOL/HEAT selection is made using the COOL/HEAT selection remote controller.	Use the COOL/HEAT selection remote controller to select cool or heat.
7	The system conducts fan operation but not cooling or heating operation.	This symptom occurs immediately after turning ON the power supply.	The system is in preparation mode of operation.	Wait for a period of approximately 10 minutes.
		The remote controller displays **CENTRAL CONTROL;** no cooling or heating operation is performed. Switch to fan operation.	In thermal storage operation, the unit is set to fan operation in cooling or heating operation, and the remote controller shows **CENTRAL CONTROL.**	Normal operation.
8	The airflow rate is not reproduced according to the setting.	Even pressing the airflow rate setting button makes no changes in the airflow rate.	In heating operation, when the room temperature reaches the set degree, the outside unit will stop while the indoor unit is brought to fan LL operation so that no one gets cold air. Furthermore, if fan operation mode is selected when other indoor unit is in heating operation, the system will be brought to fan LL operation.	Normal operation.
9	The airflow direction is not reproduced according to the setting.	The airflow direction is not corresponding to that displayed on the remote controller. The flap does not swing.	Automatic control	Normal operation.
10	A white mist comes out from the system.	**Indoor unit** In cooling operation, the ambient humidity is high. (This indoor unit is installed in a place with much oil or dust.)	Uneven temperature distribution due to heavy stain of the inside of the indoor unit	Clean the inside of the indoor unit.
		Indoor unit Immediately after cooling operation stopping, the indoor air temperature and humidity are low.	Hot gas (refrigerant) that has flowed in the indoor unit results to be vapor from the unit.	Normal operation.
		Indoor and outside units After the completion of defrost operation, the system is switched to heating operation.	Defrosted moisture turns to be vapor and comes out from the units.	Normal operation.

	Symptom		Supposed Cause	Countermeasure
11	The system produces sounds.	**Indoor unit** Immediately after turning ON the power supply, indoor unit produces ringing sounds.	These are operating sounds of the electronic expansion valve of the indoor unit.	Normal operation. This sound becomes low after a lapse of approximately one minute.
		Indoor and outside units Hissing sounds are continuously produced while in cooling or defrost operation.	These sounds are produced from gas (refrigerant) flowing respectively through the indoor and outside units.	Normal operation.
		Indoor and outside units Hissing sounds are produced immediately after the startup or stop of the system, or the startup or stop of defrost operation.	These sounds are produced when the gas (refrigerant) stops or changes flowing.	Normal operation.
		Indoor unit Faint sounds are continuously produced while in cooling operation or after stopping the operation.	These sounds are produced from the drain discharge device in operation.	Normal operation.
		Indoor unit Creaking sounds are produced while in heating operation or after stopping the operation.	These sounds are produced from resin parts expanding and contracting with temperature changes.	Normal operation.
		Indoor unit Sounds like trickling or the like are produced from indoor units in the stopped state.	On ***VRV*** systems, these sounds are produced when other indoor units in operation. The reason is that the system runs in order to prevent oil or refrigerant from dwelling.	Normal operation.
		Outside unit Pitch of operating sounds changes.	The reason is that the compressor changes the operating frequency.	Normal operation.
12	Dust comes out from the system.	Dust comes out from the system when it restarts after the stop for an extended period of time.	Dust, which has deposited on the inside of indoor unit, is blown out from the system.	Normal operation.
13	Odors come out from the system.	In operation	Odors of room, cigarettes or else adsorbed to the inside of indoor unit are blown out.	The inside of the indoor unit should be cleaned.
14	LCD display **88** or **Checking the connection. Please stand by.** appears on the remote controller.	Immediately after turning ON the power supply	The reason is that the system is checking to be sure the remote controller is normal.	Normal operation. This code is displayed for a period of approximately one minute at maximum.
15	The outside unit compressor does not stop.	After stopping operation	It stops in order to prevent oil or refrigerant from dwelling.	Normal operation. It stops after a lapse of approximately 5 to 10 minutes.
16	The outside unit gets hot.	While stopping operation	The reason is that the compressor is warmed up to provide smooth startup of the system.	Normal operation.
17	Hot air comes out from the system even though it stops.	Hot air is felt while the system stops.	On ***VRV*** systems, small quantity of refrigerant is fed to indoor units in the stopped state when other indoor units are in operation.	Normal operation.

1.2 With Infrared Presence/Floor Sensor

	Condition	Measure
1	Louver operation different from setting or no downward airflow in heating operation	Refer to the flowchart below.
2	Individual airflow direction setting different from the actual airflow direction	Refer to the flowchart below.
3	While not operating, the louver does not close completely.	Turn off the circuit breaker and then turn it on again.
4	The remote controller menu does not display energy saving operating mode for when people are not present.	Refer to **Infrared Presence/Floor Sensor Error (CE)** on page 348.
	The remote controller menu does not display the stop function for when people are not present.	
	The remote controller menu does not display the automatic draft prevention function.	
5	The menu does not display the eco-friendly display function.	No defect. Set the clock.
6	During cooling and dry operation, the louver automatically switches from horizontal (P0) to one-level downward (P1).	No defect. When relative ambient humidity is higher, automatic louver control will be activated.
7	During heating operation, the use of an airflow block will not cause other louvers to turn downward (P4).	No defect. In heating operation, if an airflow block is set, then the air outlet control outdoor the airflow block will be within the range P0-P3.
8	When using airflow block, the airflow block will be routinely lifted (become horizontal) during heating operation.	No defect. Set louver to horizontal (P0) during thermostat OFF.
9	The infrared presence sensor determines that there is someone in the room while no one is there.	Check if there are any objects that generate temperature change when moving. For example: · An electric heater with swing function · Doors, curtains, blind switches · Output of paper from a fax machine or a printer · Turning on/off of incandescent lights · Moving objects
10	The infrared presence sensor determines that there is no one in the room while someone is there.	Check for the following conditions. · Lack of movement · Facing away from the sensor · Little skin exposed · Slight movement in a place far from the sensor
11	Large difference between floor temperature and actual temperature	Check for the following conditions. · Sensor detection zone affected by solar radiation · High or low temperature objects in the sensor detection zone · Large difference between floor temperature and temperature of the living space · Sensors installed near walls may be affected by wall temperature.

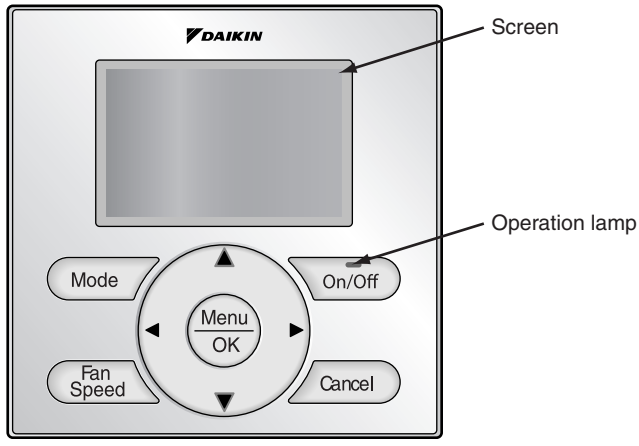
Error diagnosis when the louver movement differs from the setting



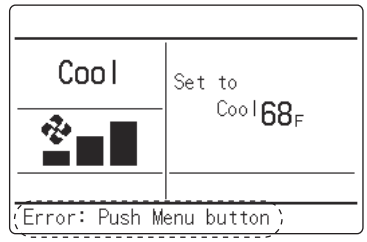
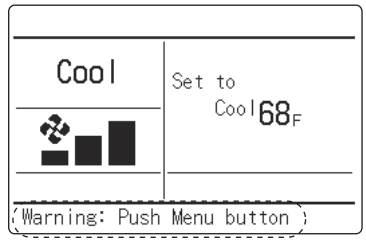
2. Error Code via Remote Controller

2.1 BRC1E73

The following will be displayed on the screen when an error (or a warning) occurs during operation. Check the error code and take the corrective action specified for the particular model.



(1) Checking an error or warning.

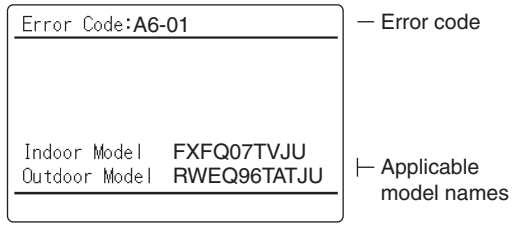
	Operation Status	Display	
Abnormal shutdown	The system stops operating.	The operation lamp (green) starts to blink. The message **Error: Push Menu button** will blink at the bottom of the screen.	
Warning	The system continues its operation.	The operation lamp (green) remains on. The message **Warning: Push Menu button** will blink at the bottom of the screen.	

(2) Taking corrective action.

Press the **Menu/OK** button to check the error code.

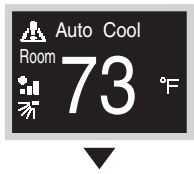
⇩

Take the corrective action specific to the model.



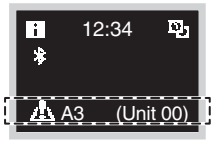
2.2 BRC1H71W

Home screen



When the indoor unit is in error, the controller will display ⚠ on the home screen.

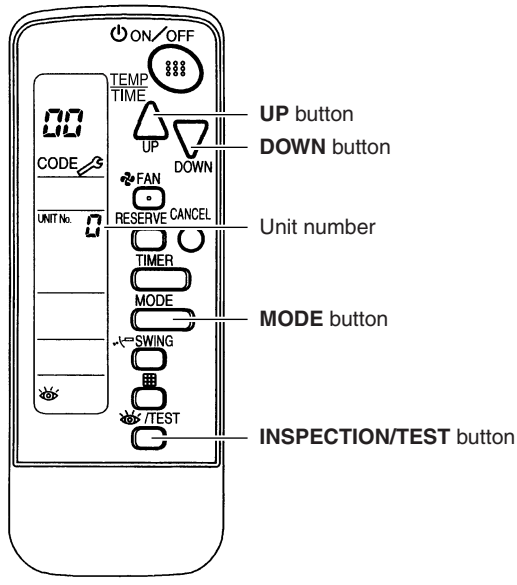
Information screen



Press and hold ○ on the Home screen for 5 seconds. The unit number and error code will be displayed at the bottom of the information screen.

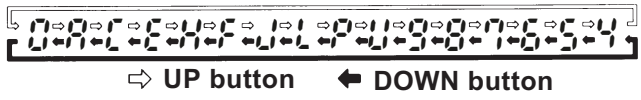
2.3 Wireless Remote Controller

If the unit stops due to an error, the operation indicating LED on the signal receiving part of indoor unit blinks. The error code can be determined by following the procedure described below. (The error code is displayed when an operation error has occurred. In normal condition, the error code of the last problem is displayed.)



1. Press **INSPECTION/TEST** button to enter inspection mode. Then the figure 0 blinks on the unit number display.
2. Press **UP** button or **DOWN** button and change the unit number until the receiver of the remote controller starts to beep.
   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.
   Continuous beep: There is no abnormality.
3. Press **MODE** button. The left 0 (upper digit) indication of the error code blinks.
4. Press **UP** button or **DOWN** button to change the error code upper digit until the receiver of the indoor unit starts to beep.

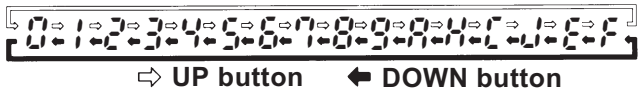
- The upper digit of the code changes as shown below.



Continuous beep: Both upper and lower digits match. (Error code is confirmed.)
2 short beeps: The upper digit matches but the lower digit does not.
1 short beep: The upper digit does not match.

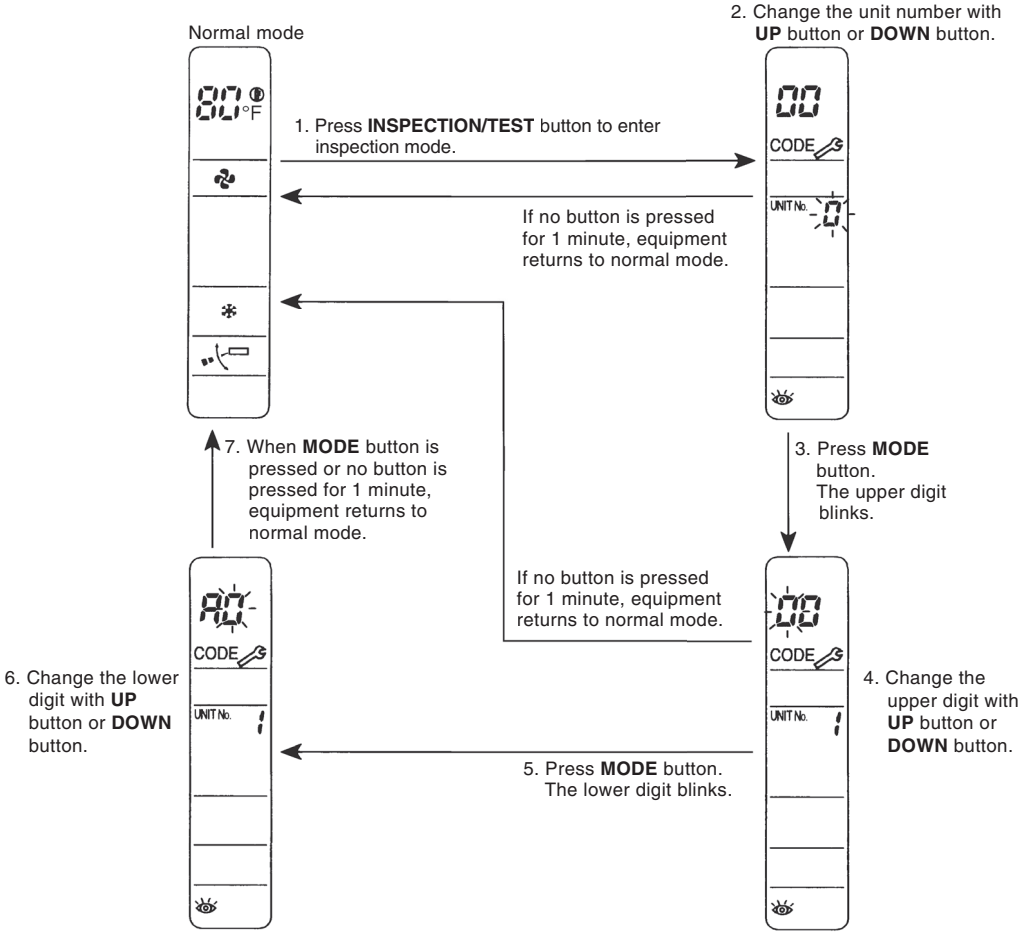
5. Press **MODE** button. The right ♫ (lower digit) indication of the error code blinks.
6. Press **UP** button or **DOWN** button and change the error code lower digit until the receiver of the indoor unit generates a continuous beep.

- The lower digit of the code changes as shown below.



Continuous beep: Both upper and lower digits match. (Error code is confirmed.)
2 short beeps: The upper digit matches but the lower digit does not.
1 short beep: The upper digit does not match.

7. Press **MODE** button to return to the normal mode. If you do not press any button for 1 minute, the remote controller automatically returns to the normal mode.



3. Troubleshooting by Error Code

3.1 Error Codes and Descriptions

○: ON ●: OFF ◑: Blink

	Error code	Operation lamp	Error contents	Reference page
Indoor Unit	A0	◑	External protection device abnormality	303
	A1	◑	Indoor unit control PCB abnormality	305
	A3	◑	Drain level control system abnormality	306
	A6	◑	Indoor fan motor lock, overload	308
			Indoor fan motor abnormality	310
			Overload/overcurrent/lock of indoor fan motor	316
			Blower motor not running	317
			Indoor fan motor status abnormality	318
			Low indoor airflow	319
	A7 (∗1)	○	Swing flap motor abnormality	320
	A8	◑	Power supply voltage abnormality	322
			Blower motor stops for over/under voltage	323
	A9	◑	Electronic expansion valve coil abnormality, dust clogging	324
	AF (∗1)	○	Drain level above limit	325
	AH	◑	Self-cleaning decoration panel abnormality	326
	AJ	◑	Defective capacity setting	337
	C1	◑	Transmission abnormality between indoor unit control PCB and fan PCB	338
			Blower motor communication error	340
	C4	◑	Indoor heat exchanger liquid pipe thermistor abnormality	341
	C5	◑	Indoor heat exchanger gas pipe thermistor abnormality	341
	C6	◑	Combination error between indoor unit control PCB and fan PCB	342
			Capacity setting abnormality	343
			Blower motor HP mismatch	344
			Indoor blower does not have required parameters to function	345
	C9 (∗2)	◑	Suction air thermistor abnormality	341
			Remote sensor abnormality	346
	CA	◑	Discharge air thermistor abnormality	341
	CC	○	Humidity sensor system abnormality	347
	CE (∗1)	○	Infrared presence/floor sensor error	348
	CJ (∗2)	○	Remote controller thermistor abnormality	353
Outside Unit	E1	◑	Outside unit PCB abnormality	354
	E2	◑	Detection of ground leakage by leak detection circuit	355
			Missing of ground leakage detection core	356
	E3	◑	Activation of high pressure switch	357
	E4	◑	Activation of low pressure sensor	359
	E5	◑	Compressor motor lock	360
	E9	◑	Electronic expansion valve coil abnormality	362
	F3	◑	Discharge pipe temperature abnormality	363
	F4	◑	Suction pipe temperature abnormality	365
	F6	◑	Refrigerant overcharged	367
Branch Selector Unit	F9	◑	Branch Selector unit electronic expansion valve abnormality	369

	Error code	Operation lamp	Error contents	Reference page
Outside Unit	H3	◑	Harness abnormality (between outside unit main PCB and inverter PCB)	371
	H9	◑	Outside unit inside thermistor (R1T) abnormality	372
	HC	◑	Water inlet thermistor (R9T) abnormality Water outlet thermistor (R10T) abnormality	372
	HJ	◑	Water system abnormality	374
	J3	◑	Discharge pipe thermistor (R12T) abnormality Compressor body thermistor (R13T) abnormality	372
	J4	◑	Plate heat exchanger gas thermistor (R4T) abnormality	372
	J5	◑	Suction pipe thermistor (R3T) abnormality	372
	J6	◑	Plate heat exchanger liquid thermistor (R7T) abnormality	372
	J7	◑	Receiver outlet liquid pipe thermistor (R6T) abnormality Subcooling heat exchanger outlet liquid pipe thermistor (R8T) abnormality Injection pipe thermistor (R11T) abnormality	372
	J9	◑	Exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) abnormality Subcooling heat exchanger outlet gas pipe thermistor (R5T) abnormality	372
	JA	◑	High pressure sensor abnormality	376
	JC	◑	Low pressure sensor abnormality	377
	L1	◑	Inverter PCB abnormality	378
	L3	◑	Reactor temperature rise abnormality	379
	L4	◑	Inverter radiation fin temperature rise abnormality	380
	L5	◑	Compressor instantaneous overcurrent	381
	L8	◑	Compressor overcurrent	383
	L9	◑	Compressor startup abnormality	385
	LC	◑	Transmission error between inverter PCB and outside unit main PCB	387
	P1	◑	Power supply voltage imbalance	389
	P3	◑	Reactor temperature abnormality	391
	P4	◑	Inverter radiation fin temperature abnormality	392
	PJ	◑	Field setting abnormality after replacing outside unit main PCB or combination of PCB abnormality	393
System	U0 (∗1)	○	Refrigerant shortage alert	394
	U1	◑	Reverse phase, open phase	395
	U2	◑	Power supply insufficient or instantaneous failure	396
	U3	◑	Check operation not executed	398
	U4	◑	Transmission error between indoor units and outside units Open phase in power supply wiring	399
	U5	◑	Transmission error between remote controller and indoor unit	402
	U7	◑	Transmission error between outside units	403
	U8	◑	Transmission error between main and sub remote controllers	409
	U9	◑	Transmission error between indoor and outside units in the same system	410
	UA	◑	Improper combination of indoor, Branch Selector and outside units	411
			Incorrect electric heater capacity setting	420
	UC (∗1)	○	Address duplication of centralized controller	421
	UE	◑	Transmission error between centralized controller and indoor unit	422
	UF	◑	System not set yet	425
	UH	◑	System abnormality, refrigerant system address undefined	426

Note(s) ∗1 : The system can keep operating, however, be sure to check and repair.
∗2 : The system may continue operation depending on the conditions.

3.2 Error Codes (Sub Codes)

If an error code like the one shown below is displayed when a wired remote controller is in use, make a detailed diagnosis or a diagnosis of the relevant unit.

3.2.1 Indoor Unit

Error code	Troubleshooting	
	Error Description	Diagnosis
A0 - 01	External protection device abnormality	Refer to page 304.
A6 - 01	Fan motor locked	A locked fan motor current has been detected. Turn the fan by hand to check for the connection of connectors.
A6 - 10	Fan overcurrent error	A fan motor overcurrent has been detected. Check for the connection of the connector between the fan motor and the fan PCB. If the connection is normal, replace the fan motor. If this still cannot solve the error, replace the fan PCB.
A6 - 11	Fan position detection error	An error in the detection of position of the fan motor. Check for the connection of the connector between the fan motor and the fan PCB. If the connection is normal, replace the fan motor. If this still cannot solve the error, replace the fan PCB.
A6 - 20	Indoor fan motor status abnormality	Refer to page 318.
A6 - 21	Low indoor airflow	Refer to page 319.
A8 - 01	Power supply voltage error	Check for the input voltage of the fan motor.
A9 - 01	Electronic expansion valve error	There is an error in the electronic expansion valve coil or a connector disconnected.
A9 - 02	Refrigerant leakage detection error	Refrigerant leaks even if the electronic expansion valve is closed. Replace the electronic expansion valve.
AH - 03	Transmission error (between the self-cleaning decoration panel and the indoor unit) (when the self-cleaning decoration panel is mounted)	Check for the connection of the harness connector between the panel PCB and the indoor unit PCB.
AH - 04	Dust detection sensor error (when the self-cleaning decoration panel is mounted)	Check for the connections of the connector X12A on the panel PCB and the connectors X18A and X19A on the sensor PCB.
AH - 05	Dust collection sign error (when the self-cleaning decoration panel is mounted)	Check for clogging with dust at the dust collection port as well as in the brush unit, S-shaped pipe, and dust box. Furthermore, check for any stains of the light receiving and emitting parts of the infrared unit.
AH - 06	Air filter rotation error (when the self-cleaning decoration panel is mounted)	Check for anything getting in the way of rotating the filter (e.g. the filter comes off or the drive gear is clogged with foreign matter).
AH - 07	Damper rotation error (when the self-cleaning decoration panel is mounted)	The damper does not rotate normally. Check for any foreign matter around the damper and for the operation of the gear and limit switch.
AH - 08	Filter auto clean operation error (when the self-cleaning decoration panel is mounted)	The unit has not yet completed the filter self-cleaning operation even after the lapse of specified period of time. Check for any external noise, etc.
AH - 09	Filter auto clean operation start disabled error (when the self-cleaning decoration panel is mounted)	The unit has been put into a state in which the filter self-cleaning operation is disabled. Check the unit for the operating conditions.
AJ - 01	Capacity setting error	There is an error in the capacity setting of the indoor unit PCB.
AJ - 02	Electronic expansion valve setting error	There is a fault in the setting of the gear type electronic expansion valve/direct acting type electronic expansion valve.
C1 - 01	Transmission abnormality between indoor unit PCB and fan PCB	Check for the conditions of transmission between the indoor unit PCB and the fan PCB.
C1 - 07	Blower motor communication error	Refer to page 340.
C6 - 01	Defective combination of indoor unit PCB and the fan PCB	A combination of indoor unit PCB and the fan PCB is defective. Check whether the capacity setting adaptor is correct and the type of the fan PCB is correct.
	Capacity setting abnormality	
	Blower motor HP mismatch	Refer to page 344.
C6 - 02	Indoor blower does not have required parameters to function	Refer to page 345.

3.2.2 Branch Selector Unit

Error code	Troubleshooting	
	Error Description	Diagnosis
F9 - 01	Branch Selector unit electronic expansion valve abnormality	Refer to the **F9** flowchart and make a diagnosis based on the Error code shown to the left.
F9 - 02	Branch Selector unit electronic expansion valve abnormality	
F9 - 05	Branch Selector unit electronic expansion valve abnormality	

3.2.3 Outside Unit, System

Error code	Troubleshooting	
	Error Description	Diagnosis
E1 - 01	Outside unit PCB error	Refer to the **E1** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
E1 - 02	Defective outside unit PCB	
E2 - 01	Ground leakage detection error (Master)	Refer to the **E2** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
E2 - 02	Ground leakage detection error (Slave 1)	
E2 - 03	Ground leakage detection error (Slave 2)	
E2 - 06	Missing of ground leakage detection core (Master)	
E2 - 07	Missing of ground leakage detection core (Slave 1)	
E2 - 08	Missing of ground leakage detection core (Slave 2)	
E3 - 01 E3 - 02	Activation of high pressure switch S1PH (Master)	Refer to the **E3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
E3 - 03 E3 - 04	Activation of high pressure switch S1PH (Slave 1)	
E3 - 05 E3 - 06	Activation of high pressure switch S1PH (Slave 2)	
E3 - 07	High pressure standby E3 latch error (System integrated)	
E4 - 01	Low pressure sensor error (Master)	Refer to the **E4** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
E4 - 02	Low pressure sensor error (Slave 1)	
E4 - 03	Low pressure sensor error (Slave 2)	
E5 - 01	Compressor M1C lock (Master)	Refer to the **E5** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
E5 - 02	Compressor M1C lock (Slave 1)	
E5 - 03	Compressor M1C lock (Slave 2)	
E9 - 01	Electronic expansion valve coil (Y1E) error (Master)	Refer to the **E9** flowchart and make a diagnosis of the relevant electronic expansion valve of the relevant unit based on the Error code shown to the left.
E9 - 03	Electronic expansion valve coil (Y2E) error (Master)	
E9 - 04	Electronic expansion valve coil (Y3E) error (Master)	
E9 - 05	Electronic expansion valve coil (Y1E) error (Slave 1)	
E9 - 06	Electronic expansion valve coil (Y2E) error (Slave 1)	
E9 - 07	Electronic expansion valve coil (Y3E) error (Slave 1)	
E9 - 08	Electronic expansion valve coil (Y1E) error (Slave 2)	
E9 - 09	Electronic expansion valve coil (Y2E) error (Slave 2)	
E9 - 10	Electronic expansion valve coil (Y3E) error (Slave 2)	
F3 - 01	Discharge pipe high temperature error (Master)	Refer to the **F3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
F3 - 03	Discharge pipe high temperature error (Slave 1)	
F3 - 05	Discharge pipe high temperature error (Slave 2)	
F3 - 20	Compressor overheat error (Master)	
F3 - 21	Compressor overheat error (Slave 1)	
F3 - 22	Compressor overheat error (Slave 2)	
F4 - 15	Suction pipe temperature abnormality	Refer to the **F4** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
F6 - 02	Refrigerant overcharged	Refrigerant overcharge was detected during test operation.

Error code	Troubleshooting	
	Error Description	Diagnosis
F9 - 01	Electronic expansion valve error (EVH)	Refer to the **F9** flowchart and make a diagnosis of the relevant electronic expansion valve of the relevant unit based on the Error code shown to the left.
F9 - 02	Electronic expansion valve error (EVL)	
F9 - 05	Electronic expansion valve error (EVSC)	
H3 - 02	Harness abnormality (Main & inverter PCB (A3P)) (Master)	Refer to the **H3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
H3 - 04	Harness abnormality (Main & inverter PCB (A3P)) (Slave 1)	
H3 - 06	Harness abnormality (Main & inverter PCB (A3P)) (Slave 2)	
H9 - 01	Defective outside unit inside thermistor (R1T) (Master)	Refer to the **H9** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
H9 - 02	Defective outside unit inside thermistor (R1T) (Slave 1)	
H9 - 03	Defective outside unit inside thermistor (R1T) (Slave 2)	
HC - 03	Defective water inlet thermistor (R9T) (Master)	Refer to the **HC** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
HC - 04	Defective water inlet thermistor (R9T) (Slave 1)	
HC - 05	Defective water inlet thermistor (R9T) (Slave 2)	
HC - 06	Defective water outlet thermistor (R10T) (Master)	
HC - 07	Defective water outlet thermistor (R10T) (Slave 1)	
HC - 08	Defective water outlet thermistor (R10T) (Slave 2)	
HJ - 01	Water system abnormality (Master)	Refer to the **HJ** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
HJ - 02	Water system abnormality (Slave 1)	
HJ - 03	Water system abnormality (Slave 2)	
HJ - 04	Water system abnormality (System)	
HJ - 05	Abnormality by the temperature rise of the liquid refrigerant	
J3 - 16	Defective discharge pipe thermistor (R12T): Open (Master)	Refer to the **J3** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J3 - 17	Defective discharge pipe thermistor (R12T): Short (Master)	
J3 - 22	Defective discharge pipe thermistor (R12T): Open (Slave 1)	
J3 - 23	Defective discharge pipe thermistor (R12T): Short (Slave 1)	
J3 - 28	Defective discharge pipe thermistor (R12T): Open (Slave 2)	
J3 - 29	Defective discharge pipe thermistor (R12T): Short (Slave 2)	
J3 - 47	Defective compressor body thermistor (R13T): Open (Master)	
J3 - 48	Defective compressor body thermistor (R13T): Short (Master)	
J3 - 49	Defective compressor body thermistor (R13T): Open (Slave 1)	
J3 - 50	Defective compressor body thermistor (R13T): Short (Slave 1)	
J3 - 51	Defective compressor body thermistor (R13T): Open (Slave 2)	
J3 - 52	Defective compressor body thermistor (R13T): Short (Slave 2)	
J3 - 56	Discharge pipe warning (Master)	
J3 - 57	Discharge pipe warning (Slave 1)	
J3 - 58	Discharge pipe warning (Slave 2)	
J4 - 02	Defective plate heat exchanger gas thermistor (R4T) (Master)	Refer to the **J4** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J4 - 04	Defective plate heat exchanger gas thermistor (R4T) (Slave 1)	
J4 - 06	Defective plate heat exchanger gas thermistor (R4T) (Slave 2)	

Error code	Troubleshooting	
	Error Description	Diagnosis
J5 - 01	Defective suction pipe thermistor (R3T) (Master)	Refer to the **J5** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J5 - 03	Defective suction pipe thermistor (R3T) (Slave 1)	
J5 - 05	Defective suction pipe thermistor (R3T) (Slave 2)	
J6 - 01	Defective plate heat exchanger liquid thermistor (R7T) (Master)	Refer to the **J6** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J6 - 02	Defective plate heat exchanger liquid thermistor (R7T) (Slave 1)	
J6 - 03	Defective plate heat exchanger liquid thermistor (R7T) (Slave 2)	
J7 - 01	Defective receiver outlet liquid pipe thermistor (R6T) (Master)	Refer to the **J7** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J7 - 02	Defective receiver outlet liquid pipe thermistor (R6T) (Slave 1)	
J7 - 03	Defective receiver outlet liquid pipe thermistor (R6T) (Slave 2)	
J7 - 06	Defective subcooling heat exchanger outlet liquid pipe thermistor (R8T) (Master)	
J7 - 07	Defective subcooling heat exchanger outlet liquid pipe thermistor (R8T) (Slave 1)	
J7 - 08	Defective subcooling heat exchanger outlet liquid pipe thermistor (R8T) (Slave 2)	
J7 - 18	Defective injection pipe thermistor (R11T) (Master)	
J7 - 19	Defective injection pipe thermistor (R11T) (Slave 1)	
J7 - 20	Defective injection pipe thermistor (R11T) (Slave 2)	
J9 - 01	Defective subcooling heat exchanger outlet gas pipe thermistor (R5T) (Master)	Refer to the **J9** flowchart and make a diagnosis of the relevant thermistor of the relevant unit based on the Error code shown to the left.
J9 - 02	Defective subcooling heat exchanger outlet gas pipe thermistor (R5T) (Slave 1)	
J9 - 03	Defective subcooling heat exchanger outlet gas pipe thermistor (R5T) (Slave 2)	
J9 - 17	Defective exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) (Master)	
J9 - 18	Defective exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) (Slave 1)	
J9 - 19	Defective exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) (Slave 2)	
JA - 01	Defective high pressure sensor (S1NPH) (Master)	Refer to the **JA** flowchart and make a diagnosis of the relevant sensor based on the Error code shown to the left.
JA - 02	Defective high pressure sensor (S1NPH) (Slave 1)	
JA - 03	Defective high pressure sensor (S1NPH) (Slave 2)	
JC - 01	Defective low pressure sensor (S1NPL) (Master)	Refer to the **JC** flowchart and make a diagnosis of the relevant sensor based on the Error code shown to the left.
JC - 02	Defective low pressure sensor (S1NPL) (Slave 1)	
JC - 03	Defective low pressure sensor (S1NPL) (Slave 2)	

Error code	Troubleshooting	
	Error Description	Diagnosis
L1 - 01	IPM error: Compressor M1C (Master)	Refer to the **L1** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L1 - 02	Defective current sensor 1: Compressor M1C (Master)	
L1 - 03	Defective current sensor 2: Compressor M1C (Master)	
L1 - 05	Jumper settings error (Master)	
L1 - 07	IPM error: Compressor M1C (Slave 1)	
L1 - 08	Defective current sensor 1: Compressor M1C (Slave 1)	
L1 - 09	Defective current sensor 2: Compressor M1C (Slave 1)	
L1 - 11	IPM error: Compressor M1C (Slave 2)	
L1 - 12	Defective current sensor 1: Compressor M1C (Slave 2)	
L1 - 13	Defective current sensor 2: Compressor M1C (Slave 2)	
L1 - 15	Jumper settings error (Slave 1)	
L1 - 16	Jumper settings error (Slave 2)	
L1 - 36	Defective inverter PCB (A3P) EEPROM: Compressor M1C (Master)	
L1 - 38	Defective inverter PCB (A3P) EEPROM: Compressor M1C (Slave 1)	
L1 - 40	Defective inverter PCB (A3P) EEPROM: Compressor M1C (Slave 2)	
L1 - 47	15 V power supply error: Compressor M1C (Master)	
L1 - 49	15 V power supply error: Compressor M1C (Slave 1)	
L1 - 51	15 V power supply error: Compressor M1C (Slave 2)	
L3 - 01	Reactor temperature rise: Inverter PCB (A3P) (Master)	Refer to the **L3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L3 - 03	Reactor temperature rise: Inverter PCB (A3P) (Slave 1)	
L3 - 05	Reactor temperature rise: Inverter PCB (A3P) (Slave 2)	
L4 - 01	Radiation fin temperature rise: Inverter PCB (A3P) (Master)	Refer to the **L4** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L4 - 02	Radiation fin temperature rise: Inverter PCB (A3P) (Slave 1)	
L4 - 03	Radiation fin temperature rise: Inverter PCB (A3P) (Slave 2)	

Error code	Troubleshooting	
	Error Description	Diagnosis
L5 - 03	Compressor M1C momentary overcurrent (Master)	Refer to the **L5** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L5 - 04	Defective IGBT (∗1) Inverter PCB (A3P) (Master)	
L5 - 05	Compressor M1C momentary overcurrent (Slave 1)	
L5 - 06	Defective IGBT (∗1) Inverter PCB (A3P) (Slave 1)	
L5 - 07	Compressor M1C momentary overcurrent (Slave 2)	
L5 - 08	Defective IGBT (∗1) Inverter PCB (A3P) (Slave 2)	
L8 - 03	Compressor M1C overcurrent (Master)	Refer to the **L8** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L8 - 06	Compressor M1C overcurrent (Slave 1)	
L8 - 07	Compressor M1C overcurrent (Slave 2)	
L9 - 01	Compressor M1C startup error (Master)	Refer to the **L9** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
L9 - 05	Compressor M1C startup error (Slave 1)	
L9 - 06	Compressor M1C startup error (Slave 2)	
L9 - 13	Inverter output open phase (Master)	
L9 - 14	Inverter output open phase (Slave 1)	
L9 - 15	Inverter output open phase (Slave 2)	
LC - 01 **LC - 05**	Transmission error (Between outside units, inverter PCB (A3P)) (Master)	Refer to the **LC** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
LC - 06 **LC - 07**	Transmission error (Between outside units, inverter PCB (A3P)) (Slave 1)	
LC - 08 **LC - 09**	Transmission error (Between outside units, inverter PCB (A3P)) (Slave 2)	
P1 - 01	Inverter power supply unbalanced voltage (Master)	Refer to the **P1** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
P1 - 02	Inverter power supply unbalanced voltage (Slave 1)	
P1 - 03	Inverter power supply unbalanced voltage (Slave 2)	
P3 - 01	Defective reactor surface thermistor 1 (Master: Inverter PCB)	Refer to the **P3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
P3 - 02	Defective reactor surface thermistor 1 (Slave 1: Inverter PCB)	
P3 - 03	Defective reactor surface thermistor 1 (Slave 2: Inverter PCB)	
P3 - 04	Defective reactor surface thermistor 2 (Master: Inverter PCB)	
P3 - 05	Defective reactor surface thermistor 2 (Slave 1: Inverter PCB)	
P3 - 06	Defective reactor surface thermistor 2 (Slave 2: Inverter PCB)	
P4 - 01	Defective fin sensor inverter PCB (A3P) (Master)	Refer to the **P4** flowchart and make a diagnosis of the relevant sensor based on the Error code shown to the left.
P4 - 04	Defective fin sensor inverter PCB (A3P) (Slave 1)	
P4 - 05	Defective fin sensor inverter PCB (A3P) (Slave 2)	
PJ - 04	Incorrect type of inverter PCB (A3P) (Master)	Refer to the **PJ** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
PJ - 05	Incorrect type of inverter PCB (A3P) (Slave 1)	
PJ - 06	Incorrect type of inverter PCB (A3P) (Slave 2)	

Note(s)

∗1. IGBT: IGBT is a power semiconductor device primarily used as an electronic switch.

Error code	Troubleshooting	
	Error Description	Diagnosis
U0 - 03	Refrigerant shortage warning	Refer to the **U0** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U0 - 24	Refrigerant shortage alert or abnormality	
U1 - 01	Reverse phase/open phase of power supply (Master)	Refer to the **U1** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U1 - 05	Reverse phase/open phase of power supply (Slave 1)	
U1 - 07	Reverse phase/open phase of power supply (Slave 2)	
U2 - 01	Inverter power supply abnormal voltage (Master)	Refer to the **U2** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U2 - 02	Inverter power supply abnormal voltage (Master)	
U2 - 03	Defective capacitor in inverter main circuit (Master)	
U2 - 08	Inverter power supply abnormal voltage (Slave 1)	
U2 - 09	Inverter power supply abnormal voltage (Slave 1)	
U2 - 10	Defective capacitor in inverter main circuit (Slave 1)	
U2 - 11	Inverter power supply abnormal voltage (Slave 2)	
U2 - 12	Inverter power supply abnormal voltage (Slave 2)	
U2 - 13	Defective capacitor in inverter main circuit (Slave 2)	
U3 - 01	Test operation not conducted	Refer to the **U3** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U3 - 05	Premature end of test operation during initial transmission error	
U3 - 06	Premature end of test operation during normal transmission error	
U3 - 07	Premature end of test operation transmission error	
U3 - 08	Premature end of test operation due to transmission error of all units	
U4 - 01	Transmission error between indoor units and outside units Open phase in power supply wiring	Refer to the **U4** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U4 - 03	Transmission error between indoor unit and system	
U7 - 01	Warning when external control adaptor for outside unit is installed	Refer to the **U7** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
U7 - 02	Error when external control adaptor for outside unit is installed	
U7 - 03	Transmission error between master and slave 1 units	
U7 - 04	Transmission error between master and slave 2 units	
U7 - 05	Multi system error	
U7 - 06	Error in address settings of slave 1 and 2	
U7 - 07	Connection of four or more outside units in the same system	
U7 - 24	Warning when Branch Selector unit is detected while cool/heat selector is used.	
U9 - 01	Other indoor units abnormality	Refer to the **U9** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
UA - 03	Defective number of indoor units connection	Refer to the **UA** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
UA - 13	Refrigerant type error	The type of refrigerant used for the indoor unit is different from that used for the outside unit.
UA - 15	Not applicable for self-cleaning decoration panel [when the self-cleaning decoration panel is mounted]	An outside unit is not applicable for the self-cleaning decoration panel is connected.
UA - 16	Defective system connection	Refer to the **UA** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.

Error code	Troubleshooting	
	Error Description	Diagnosis
UA - 17	Incorrect electric heater capacity setting	Refer to page 420.
	Connection of excessive indoor units	Refer to the **UA** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
UA - 18	Connection of wrong models of indoor units	
UA - 20	Improper combination of outside units	
UA - 21	Connection error (Branch Provider unit)	
UA - 23	Connection of excessive Branch Selector units	
UA - 25	Defective connection between outside unit and Branch Selector unit	
UA - 26	Defective connection between Branch Selector units	
UA - 27	Error of the number of connected Branch Selector and indoor units	
UA - 28	Wrong Branch Selector unit model connected	
UA - 31	Multi-unit combination error	
UA - 39	Error of connection (***VRV*** indoor unit and Hydro unit connected to the same Branch Selector unit)	
UA - 43	Error of connection (improper connection of Hydro units)	
UA - 50	Error of connection (cooling only indoor unit and Hydro unit)	
UA - 51	Error of connection (only Hydro units connected)	
UA - 53	Branch Selector unit DIP switch settings error (Centralized type)	
UF - 01	Wrong wiring check error Defective stop valve for test operation	Refer to the **UF** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.
UH - 01	Wiring error	Refer to the **UH** flowchart and make a diagnosis of the relevant unit based on the Error code shown to the left.

3.3 External Protection Device Abnormality

3.3.1 External Protection Device Abnormality (Except FXTQ-TA, FXTQ-TB)

Applicable Models

All indoor unit models (except FXTQ-TA, FXTQ-TB)

Error Code

A0

Method of Error Detection

Detects open or short circuit between external input terminals in indoor unit.

Error Decision Conditions

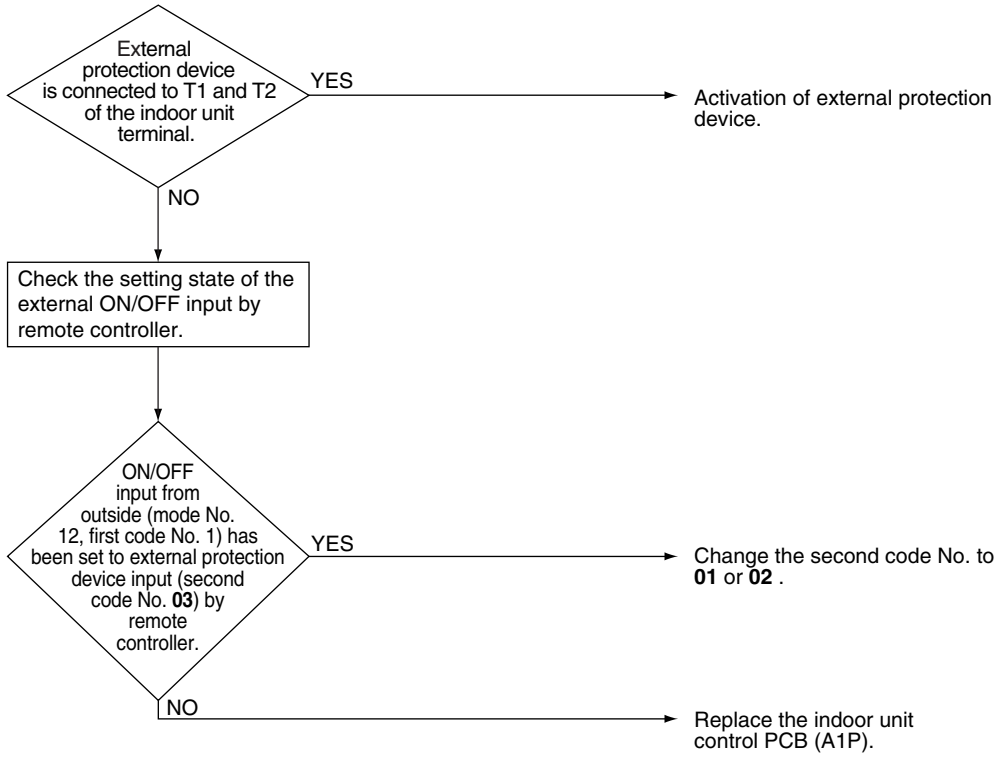
When an open circuit occurs between external input terminals with the remote controller set to "external ON/OFF terminal".

Supposed Causes

- Activation of external protection device
- Improper field setting
- Defective indoor unit control PCB

Troubleshooting

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



3.3.2 External Protection Device Abnormality (FXTQ-TA, FXTQ-TB Only)

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

A0-01

Method of Error Detection

Detect open or short circuit between external input terminals in indoor unit.

Error Decision Conditions

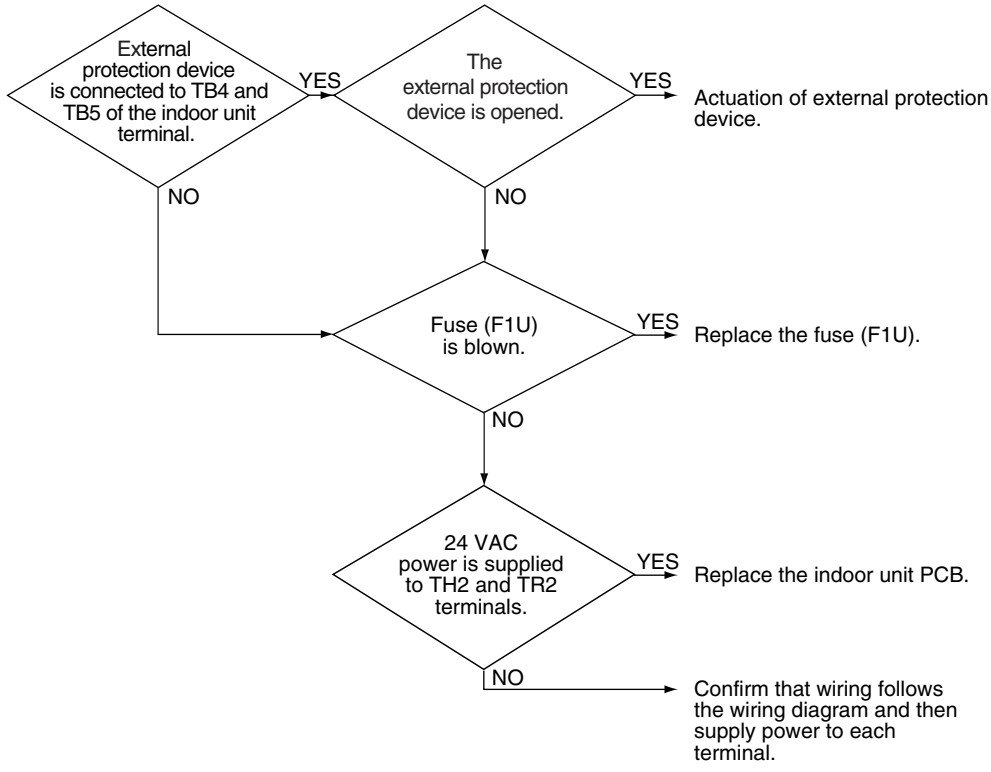
When an open circuit occurs between external input terminals.

Supposed Causes

- Activation of external protection device
- Defective indoor unit PCB
- Indoor unit fuse blown
- 24 VAC power is not supplied to TH2 and TR2 terminals on the indoor unit PCB.

Troubleshooting

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



3.4 Indoor Unit Control PCB Abnormality

Applicable Models

All indoor unit models

Error Code

A1

Method of Error Detection

Check data from EEPROM.

Error Decision Conditions

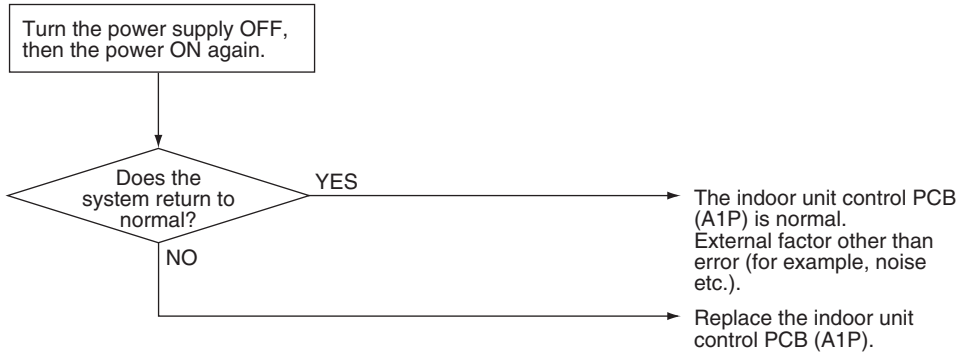
When data could not be correctly received from the EEPROM
EEPROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned OFF.

Supposed Causes

- Defective indoor unit control PCB
- External factor (Noise, etc.)

Troubleshooting

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



3.5 Drain Level Control System Abnormality

Applicable Models

FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXZQ-M, FXUQ-P, FXUQ-PA, FXEQ-P, FXDQ-M, FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA (Option)

Error Code

A3

Method of Error Detection

By float switch OFF detection

Error Decision Conditions

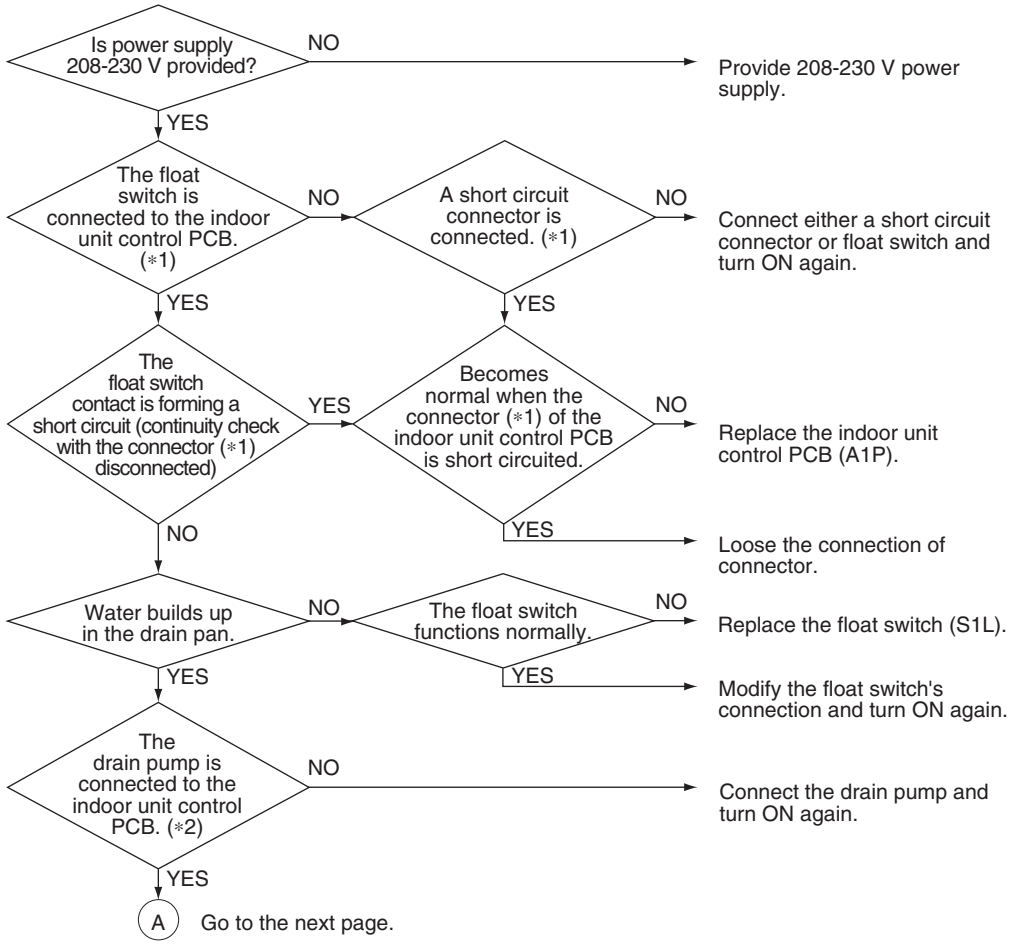
When rise of water level is not a condition and the float switch goes OFF.

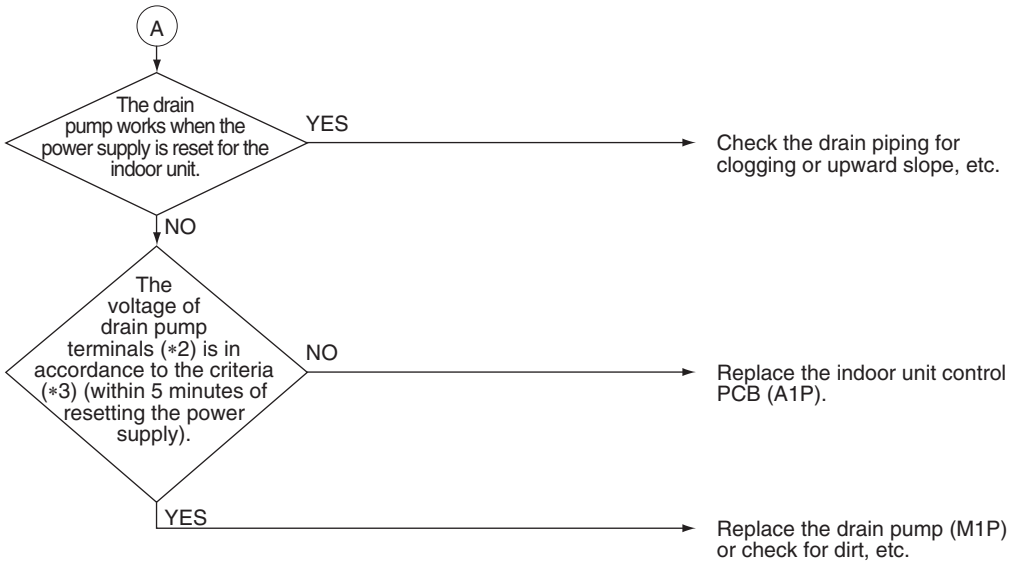
Supposed Causes

- 208-230 V power supply is not provided
- Defective float switch or short circuit connector
- Defective drain pump
- Drain clogging, upward slope, etc.
- Defective indoor unit control PCB
- Loose connection of connector

Troubleshooting

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





Note(s)

Model	∗1: Float switch (S1L) / short circuit connector	∗2: Drain pump (M1P) connector	∗3: Drain pump (M1P) voltage	Note
FXFQ-AA	X15A	X25A	13 VDC	—
FXFQ-T	X15A	X10A	13 VDC	—
FXFQ-P	X15A	X25A	220-240 VAC	—
FXZQ-TA	X15A	X102A	13 VDC	—
FXZQ-TB	X15A	X25A	13 VDC	—
FXZQ-M	X8A	X25A	220-240 VAC	—
FXUQ-P	X15A	X25A	13 VDC	—
FXUQ-PA	X15A	X25A	13 VDC	—
FXEQ-P	X15A	X25A	13 VDC	—
FXDQ-M	X8A	X25A	220-240 VAC	—
FXSQ-TA	X15A	X25A	13 VDC	—
FXSQ-TB	X15A	X25A	13 VDC	—
FXMQ-PB	X15A	X25A	220-240 VAC	—
FXMQ-TB	X15A	X25A	13 VDC	—
FXMQ-TA	X15A	X25A	13 VDC	Option

3.6 Indoor Fan Motor Lock, Overload

Applicable Models

FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P, FXSQ05-48TA, FXSQ05-48TB, FXMQ07-12PB, FXMQ15-24TB, FXAQ-P

Error Code

A6

Method of Error Detection

Abnormal fan revolutions are detected by a signal output from the fan motor.

Error Decision Conditions

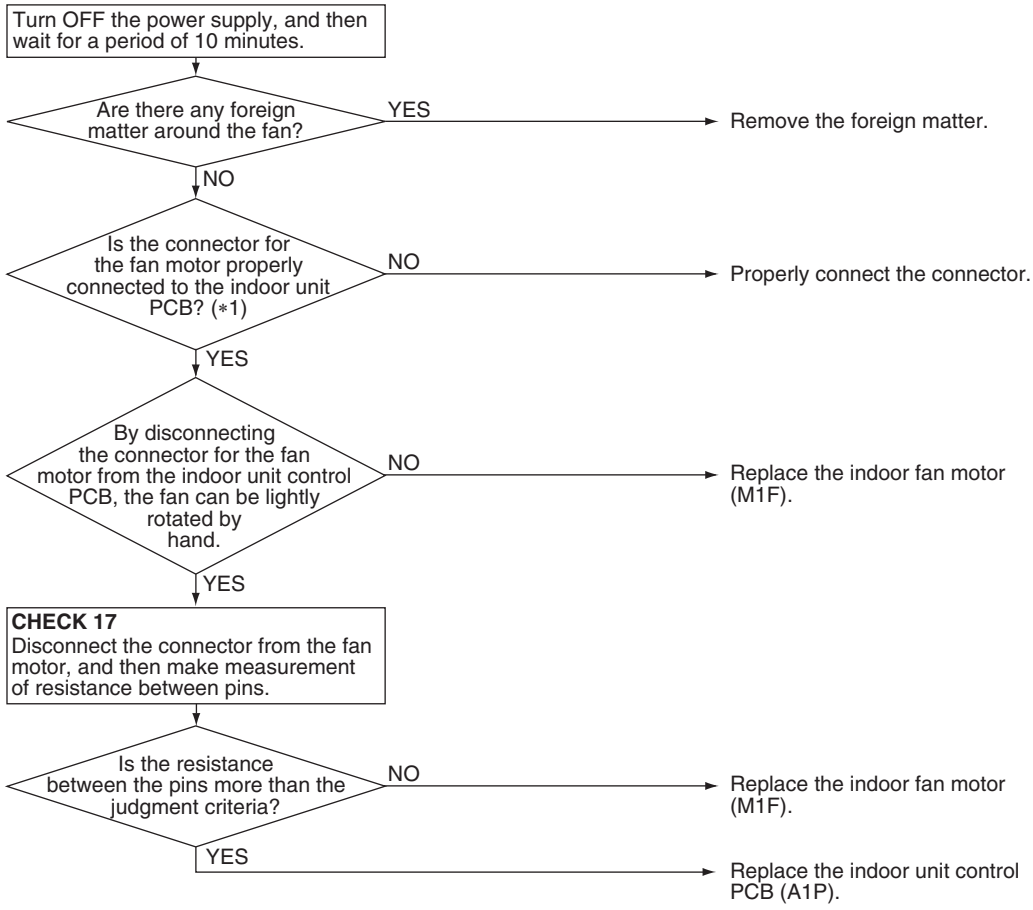
When the fan revolutions do not increase

Supposed Causes

- Broken wires in, short circuit of, or disconnection of connectors from the fan motor harness
- Defective fan motor
  (Broken wires or defective insulation)
- Abnormal signal output from the fan motor (defective circuit)
- Defective indoor unit control PCB
- Instantaneous disturbance in the power supply voltage
- Fan motor lock
  (Due to motor or external causes)
- The fan does not rotate due to foreign matter blocking the fan.
- Disconnection of the connector between the indoor unit control PCB (A1P) and the fan PCB (A2P) (FXSQ05-48TA, FXSQ05-48TB, FXMQ07-12PB, FXMQ15-24TB only)
- Blowout of the fuse connected between the indoor unit PCB and the fan motor harness

Troubleshooting

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



Note(s) *1: Check the following connectors.

Model	Connector	PCB
FXFQ-T	X20A, Relay connector	A1P
FXFQ09-30P	X20A, Relay connector	A1P
FXFQ36/48P	X20A	A1P
FXZQ-TA	X20A, Relay connector	A1P
FXZQ-TB	X20A, Relay connector	A1P
FXUQ-P	X20A, Relay connector	A1P
FXUQ-PA	X20A, Relay connector	A1P
FXEQ-P	X20A	A1P
FXSQ05-48TA	X8A	A2P
FXSQ05-48TB	X8A	A2P
FXMQ07-12PB	X8A	A2P
FXMQ15-24TB	X8A	A2P
FXAQ-P	X20A	A1P

Reference **CHECK 17** Refer to page 447.

3.7 Indoor Fan Motor Abnormality

3.7.1 Indoor Fan Motor Abnormality (FXFQ-AA Models)

Applicable Models

FXFQ-AA

Error Code

A6

Method of Error Detection

- Detection from the current flow on the PCB (A1P)
- Detection from the current flow on the PCB when the fan motor starting operation

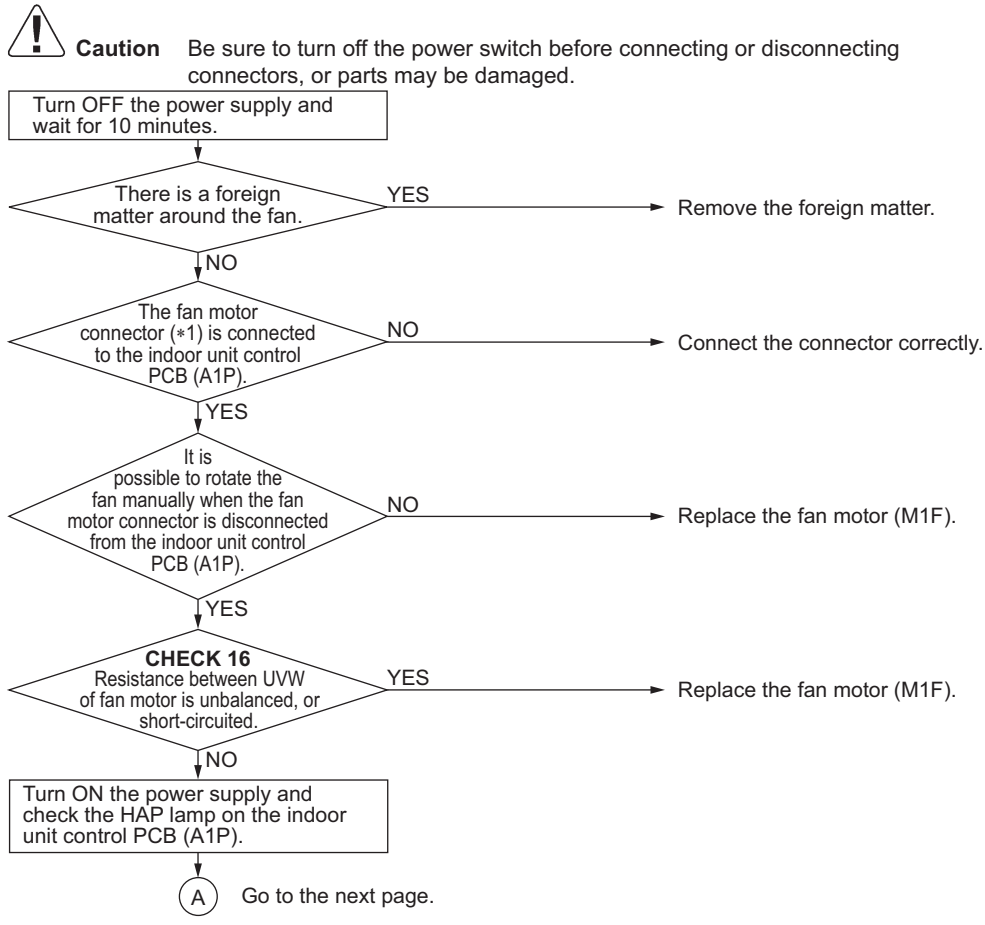
Error Decision Conditions

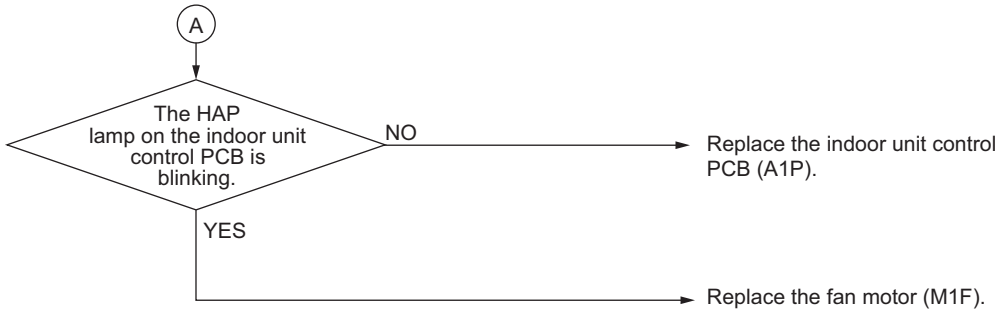
- An overcurrent flows
- The rotation speed is less than a certain level for 6 seconds.
- A position error in the fan rotor continues for 5 seconds or more.

Supposed Causes

- Fan does not rotate due to clogged foreign matter.
- Disconnection, short circuit, or loose connection of the harness of the fan motor
- Fan motor lock (motor-related or external factors)
- Defective fan motor (disconnection or insulation failure)
- Defective indoor unit PCB

Troubleshooting





∗1. Check also if the relay connector between the indoor unit control PCB and the fan motor are correctly connected.

Reference **CHECK 16** Refer to page 446.

3.7.2 Indoor Fan Motor Abnormality (FXDQ-M, FXHQ-M Models)

Applicable Models

FXDQ-M, FXHQ-M

Error Code

A6

Method of Error Detection

This error is detected if there is no revolution detection signal output from the fan motor.

Error Decision Conditions

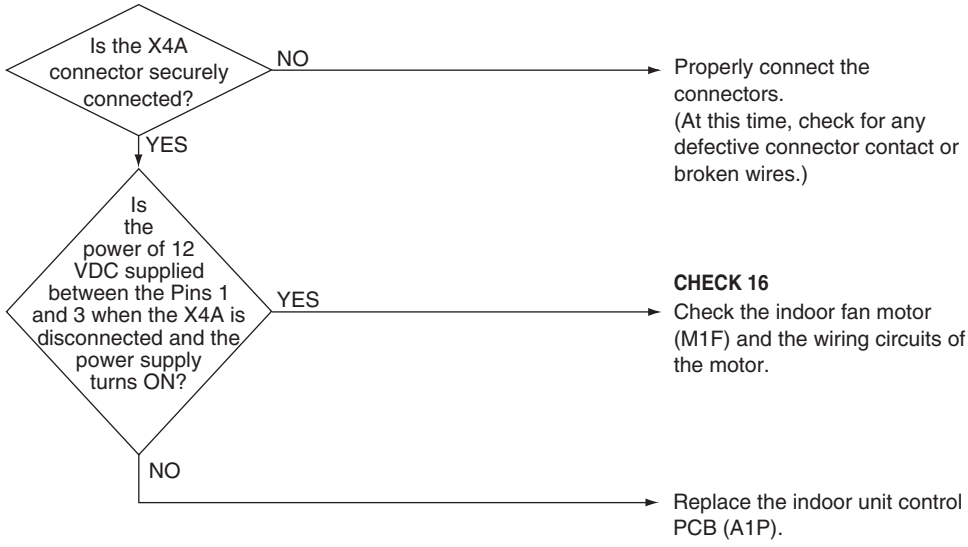
When no revolutions can be detected even at the maximum output voltage to the fan

Supposed Causes

- Defective indoor fan motor
- Broken wires
- Defective contact

Troubleshooting

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



Reference **CHECK 16** Refer to page 446.

3.7.3 Indoor Fan Motor Abnormality (FXSQ54TA, FXSQ54TB, FXMQ15-54PB, FXMQ30-54TB, FXMQ-TA Models)

Applicable Models

FXSQ54TA, FXSQ54TB, FXMQ15-54PB, FXMQ30-54TB, FXMQ-TA

Error Code

A6

Method of Error Detection

- Error from the current flow on the fan PCB
- Error from the rotation speed of the fan motor in operation
- Error from the position signal of the fan motor
- Error from the current flow on the fan PCB when the fan motor starting operation

Error Decision Conditions

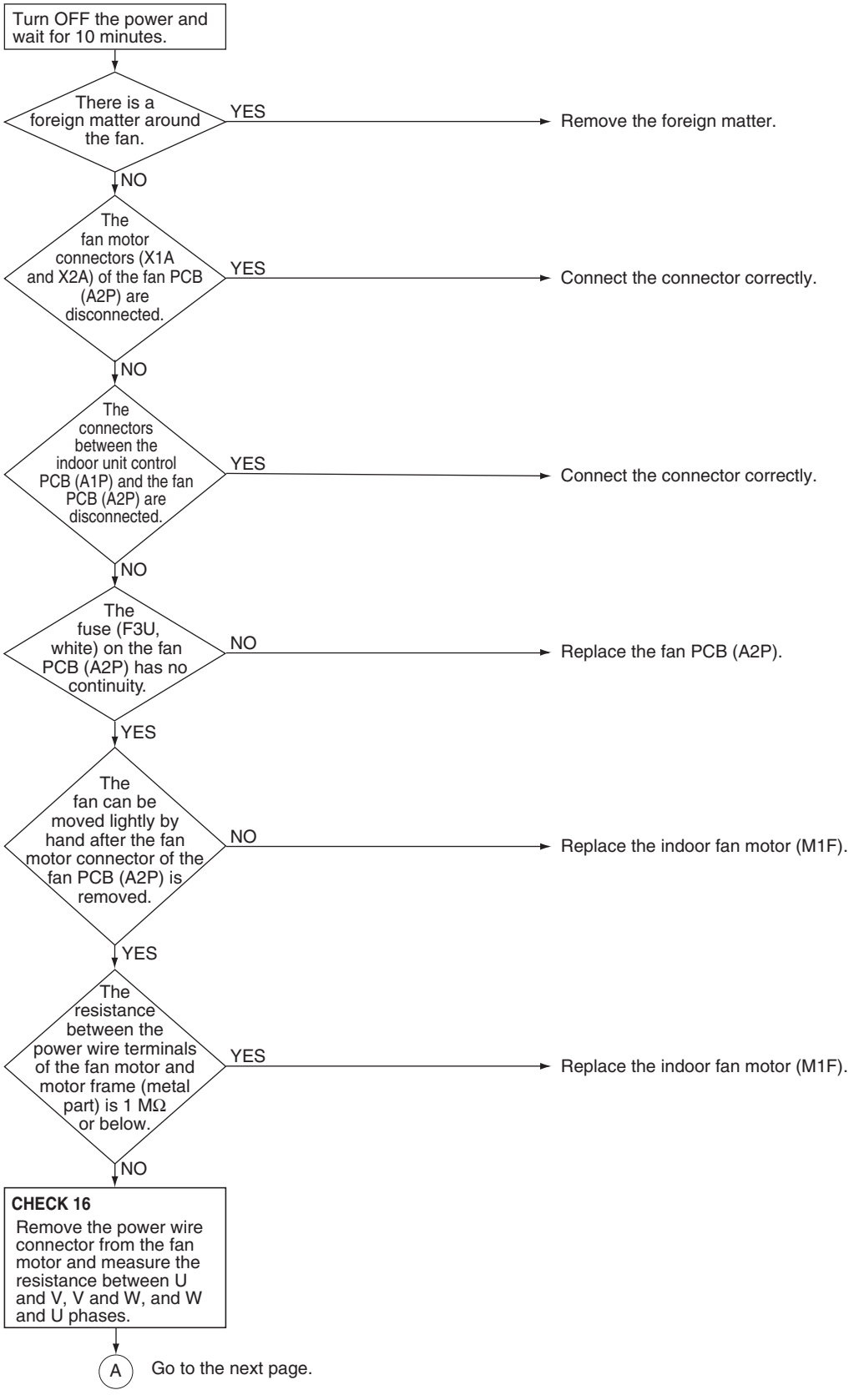
- An overcurrent flows.
- The rotation speed is less than a certain level for 6 seconds.
- A position error in the fan rotor continues for 5 seconds or more.

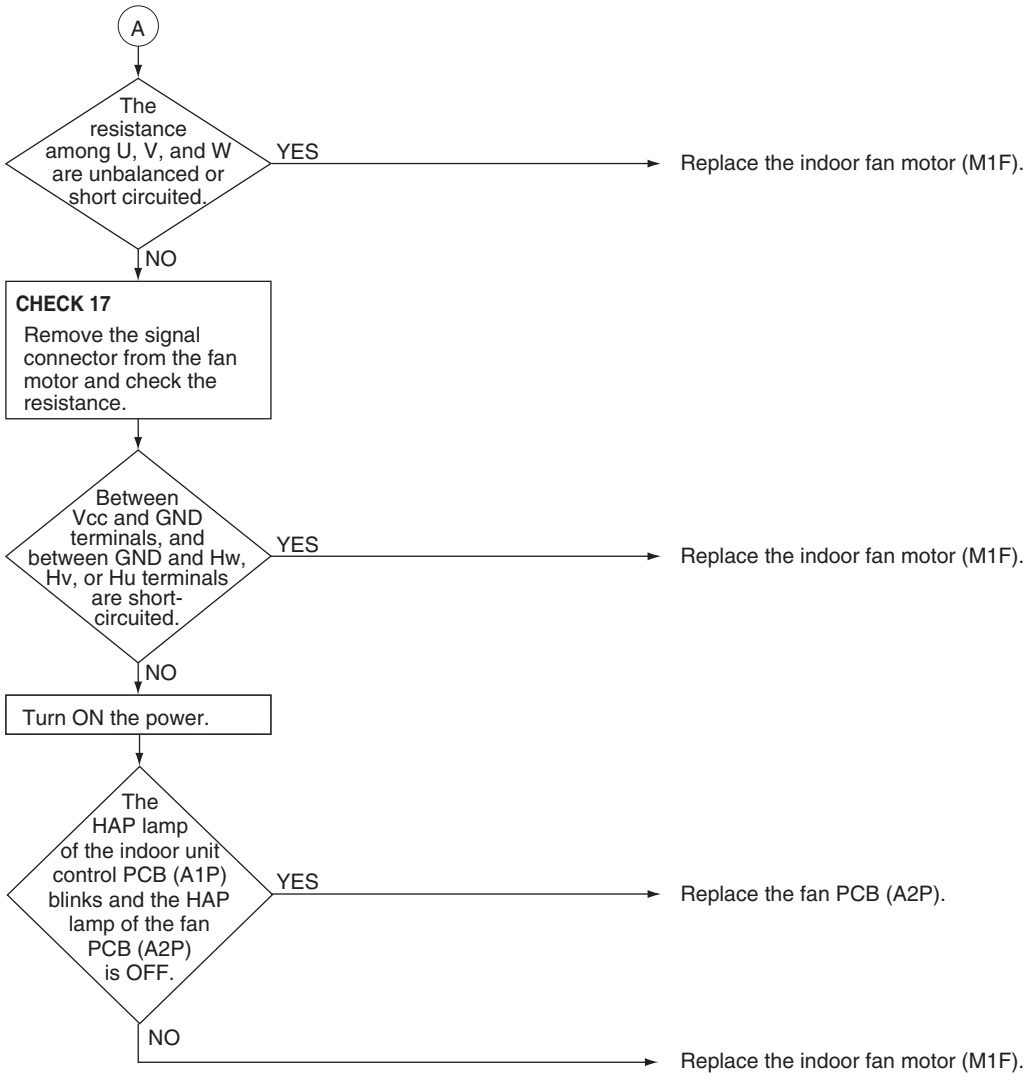
Supposed Causes

- Clogging of a foreign matter
- Disconnection of the fan motor connectors (X1A and X2A)
- Disconnection of the connectors between the indoor unit control PCB (A1P) and fan PCB (A2P)
- Defective fan PCB (A2P)
- Defective fan motor

Troubleshooting

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





Reference **CHECK 16** Refer to page 446.

Reference **CHECK 17** Refer to page 447.

3.8 Overload/Overcurrent/Lock of Indoor Fan Motor

Applicable Models

FXMQ-M

Error Code

A6

Outline

This error is detected by detecting that the individual power supply for the fan turns OFF.

Error Decision Conditions

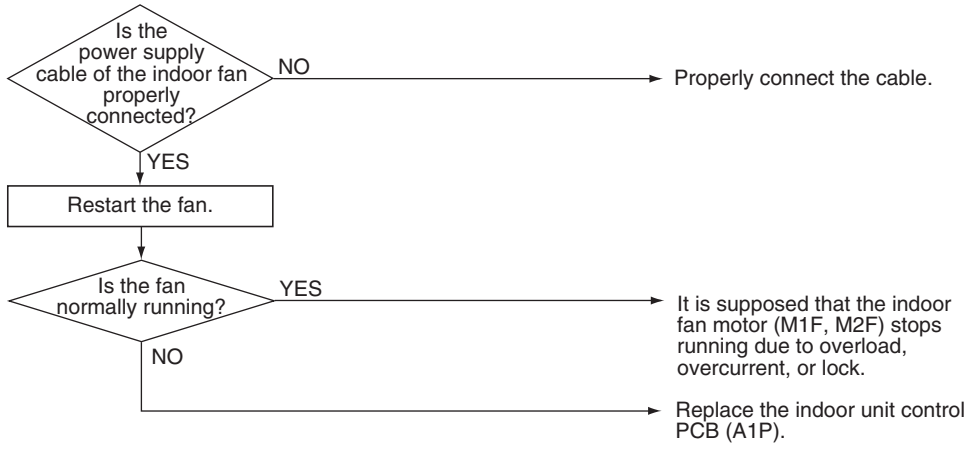
When it is not detected that the individual power supply for the indoor fan turns ON while in operation.

Supposed Causes

- Defective power supply for the indoor fan motor
- Clogged drain piping
- Activation of the indoor unit safety device
- Defective contact in the fan wiring circuit

Troubleshooting

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



3.9 Blower Motor Not Running

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

A6

Outline

Error is issued if the indoor unit determines that the indoor fan motor cannot rotate.

Error Decision Conditions

- Determining successive abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor.
  If that figure falls below 50 rpm for the specified number of consecutive times successively, it is deemed abnormal operation.
  If, during operation, the rotation command is stopped, the 5-second interval check is halted and the counted number will be cleared.

- Determining long-term abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor.
  Performs rotation sampling 720 times (takes approximately one hour), and if the rotation speed falls below 50 rpm over 100 times, it is deemed abnormal operation.
  When the sampling reaches 720 times, the counted number will be cleared and the 720 times sampling restarts.
  If, during this, the rotation command is stopped, the 5-second interval check is halted, but the counted number will be kept.
  When the rotation command is restarted, the checks will resume.

Error Reset Conditions

Reset by remote controller

Supposed Causes

- Fan or motor obstruction
- Power interruption (low voltage)
- Incorrect or loose wiring

Corrective Actions

- Check for obstruction on the fan or motor.
- Verify the input voltage at the motor.
- Check wiring or tighten wiring connections if needed.
- Replace the indoor unit control PCB or motor.

Reference

CHECK 19 Refer to page 453.

3.10 Indoor Fan Motor Status Abnormality

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

A6-20

Outline

The indoor unit periodically receives control status information from the fan motor.
Error is issued when the information shows abnormality.

Error Decision Conditions

If the information shows Power Limit or Temp Limit status, it will be deemed a MOTOR LIMIT abnormal operation. (The system can keep operating.)
If the information shows Motor Lost Control or Current Trip status, it will be deemed a MOTOR TRIP abnormal operation. (The system stops operating.)

Error Reset Conditions

If the indoor unit stops receiving abnormal information, the error will be cleared.

Supposed Causes

- Fan or motor obstruction
- Blocked filters
- Power interruption (low voltage)
- Incorrect wiring
- Blockage in the airflow (ductwork) or ductwork undersized
- High loading conditions

Corrective Actions

- Check for obstruction on the fan, motor, or ductwork.
- Clean filters.
- Check filters, grille, duct system, heat exchanger air inlet/outlet for blockages.
- Verify the input voltage at the motor.
- Check wiring.
- Replace motor.

Reference

CHECK 19 Refer to page 453.

3.11 Low Indoor Airflow

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

A6-21

Outline

Error is issued if the indoor unit determines that the indoor fan motor rotation is insufficient, regardless of the rotation command from indoor unit.

Error Decision Conditions

- Determining successive abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor.
  If that figure exceeds 50 rpm and falls below 150 rpm 10 times successively, it is deemed abnormal operation.
  If, during operation, the rotation command is stopped, the 5-second interval check is halted and the counted number will be cleared.
- Determining long-term abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor.
  Performs rotation sampling 720 times (takes approximately one hour), and if the rotation speed exceeds 50 rpm and falls below 150 rpm over 360 times, it is deemed abnormal operation.
  When the counter reaches 720 times, the counted number will be cleared and the 720 times sampling restarts.
  If, during this, the rotation command is stopped, the 5-second interval check is halted, but the counted number will be kept.
  When the rotation command is restarted, the checks will resume.

Error Reset Conditions

- Determining successive abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor. If that figure exceeds 150 rpm even once, the error will be cleared.
- Determining long-term abnormalities
  Checks the rotation speed at 5-second intervals using the feedback of the fan motor.
  If that figure exceeds 150 rpm 36 times successively, the error will be cleared.
  At that point, the counted number and sampling number will be cleared, and the 720 times sampling starts again from the beginning.

Supposed Causes

- Fan or motor obstruction
- Blocked filters
- Restrictive ductwork or ductwork undersized
- Wiring disconnected
- Wrong outside and indoor combination
- Indoor fan motor failure

Corrective Actions

- Check for obstruction on the fan or motor.
- Check ductwork and filter for blockage.
- Clean filters.
- Remove obstruction. Verify all registers are fully open.
- Check the connections and the rotation of the motor.
- Verify the input voltage at the motor.
- Verify ductwork is appropriately sized for system. Resize or replace ductwork if needed.
- Replace motor.

Reference

CHECK 19 Refer to page 453.

3.12 Swing Flap Motor Abnormality

Applicable Models

FXHQ-M, FXAQ-P

Error Code

A7

Method of Error Detection

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

Error Decision Conditions

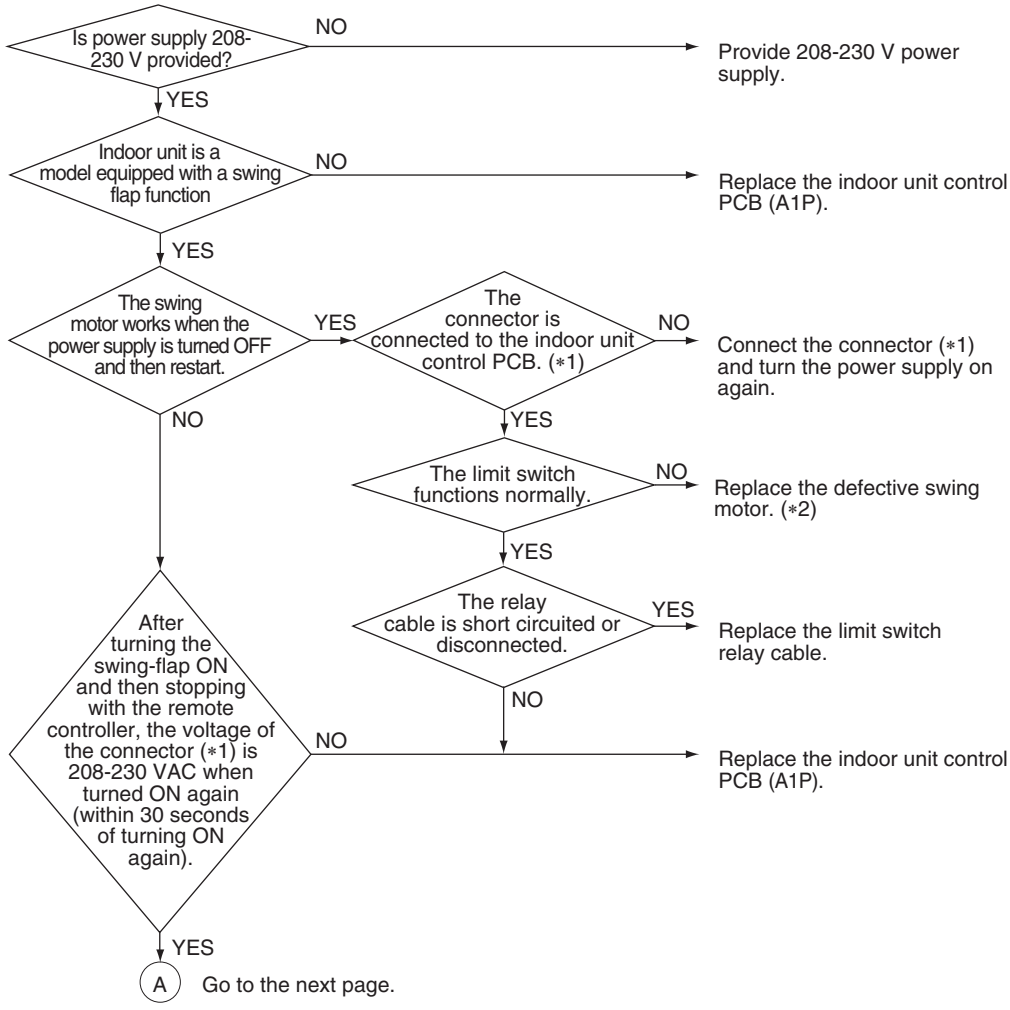
When ON/OFF of the micro-switch for positioning cannot be reversed even though the swing flap motor is energized for a specified amount of time (about 30 seconds).
∗ Error code is displayed but the system operates continuously.

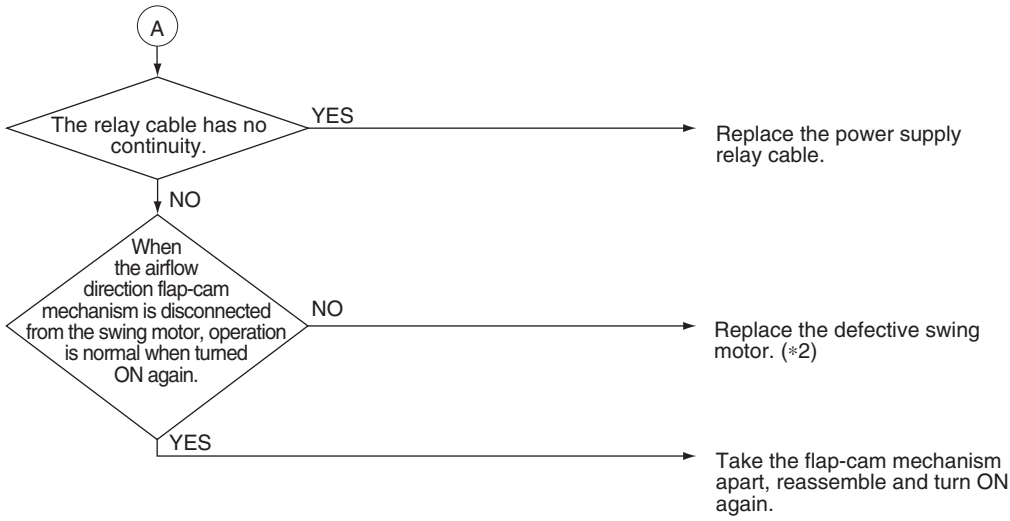
Supposed Causes

- Defective swing motor
- Defective connection cable (power supply and limit switch)
- Defective airflow direction adjusting flap-cam
- Defective indoor unit control PCB

Troubleshooting

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





Model	∗1: Swing motor connector	∗2: Swing motor
FXHQ-M	X6A	M1S
FXAQ-P	X36A	M1S

3.13 Power Supply Voltage Abnormality

Applicable Models

FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB

Error Code

A8

Method of Error Detection

Error is detected by checking the input voltage of the fan motor.

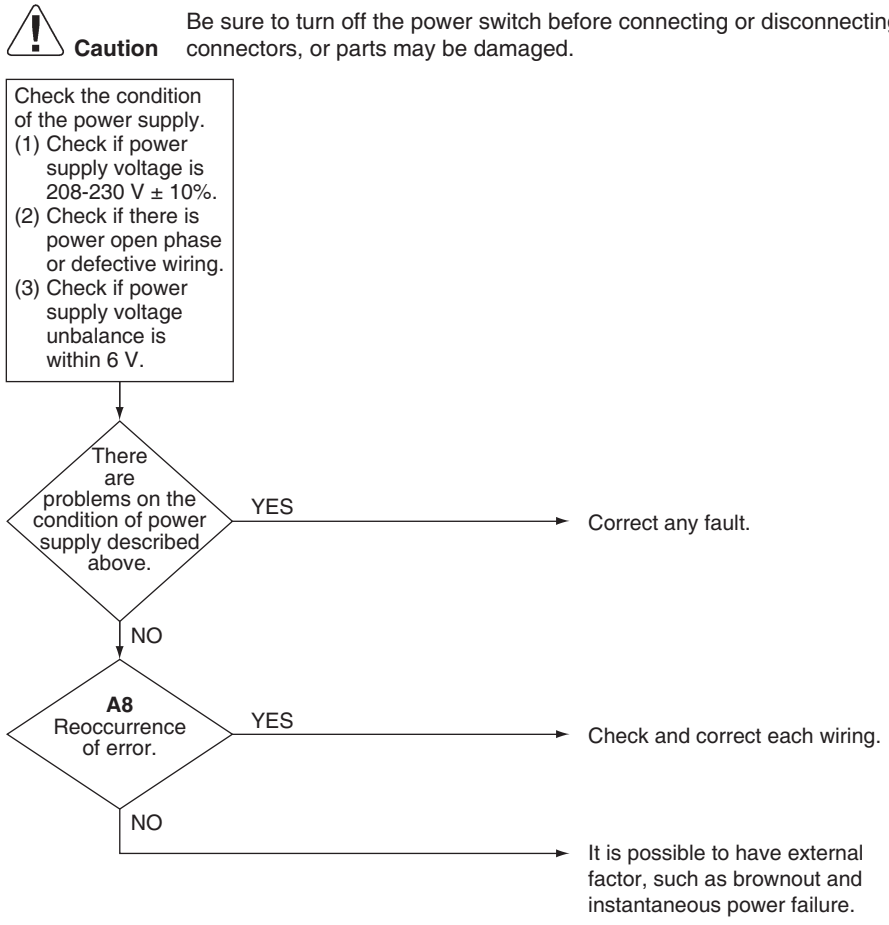
Error Decision Conditions

When the input voltage of fan motor is 150 V or less, or 386 V or more.

Supposed Causes

- Defective power supply voltage
- Defective connection on signal line
- Defective wiring
- Instantaneous power failure, others

Troubleshooting



3.14 Blower Motor Stops for Over/Under Voltage

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

A8

Outline

The indoor unit periodically receives control status information from the fan motor.
Error is issued when the information shows abnormality.

Error Decision Conditions

If the information shows Over/Under Voltage status, it will be deemed a MOTOR VOLTS abnormal operation.

Error Reset Conditions

Reset by remote controller

Supposed Causes

- High AC line voltage to indoor blower motor
- Low AC line voltage to indoor blower motor
- Incorrect wiring

Corrective Actions

- Verify line voltage to indoor blower motor is within the range specified on the ID blower rating plate.
- Check power to indoor blower motor.
- Check wiring.
- Replace motor.

3.15 Electronic Expansion Valve Coil Abnormality, Dust Clogging

Applicable Models

All indoor unit models

Error Code

A9

Method of Error Detection

Check coil condition of electronic expansion valve by using microcomputer.
Check dust clogging condition of electronic expansion valve main body by using microcomputer.

Error Decision Conditions

Pin input for electronic expansion valve coil is abnormal when initializing microcomputer.
Either of the following conditions is seen/caused/occurs while the unit stops operation.

- R1T – R2T > 8°C (14.4°F)
- R2T shows fixed degrees or below.

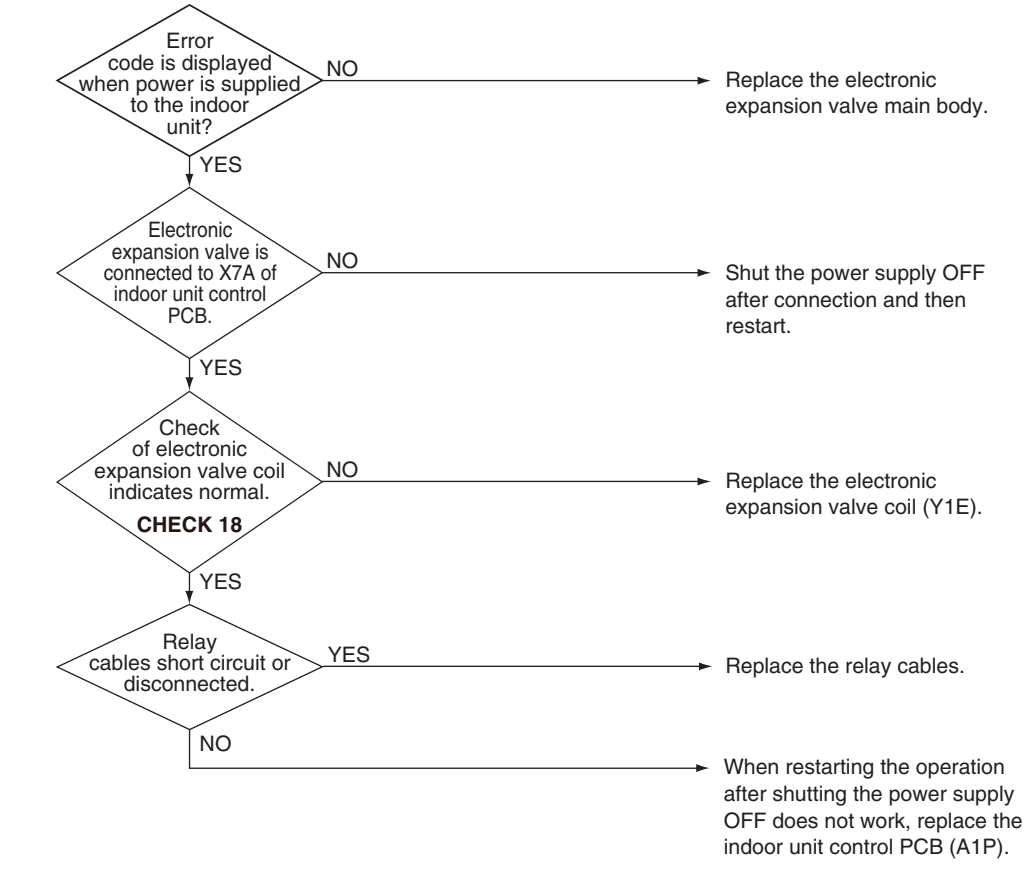
R1T: temperature of suction air
R2T: temperature of liquid pipe of heat exchanger

Supposed Causes

- Defective electronic expansion valve coil
- Defective indoor unit control PCB
- Defective relay cables

Troubleshooting

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



Reference **CHECK 18** Refer to page 449.

3.16 Drain Level above Limit

Applicable Models

FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXZQ-M, FXUQ-P, FXUQ-PA, FXEQ-P, FXDQ-M, FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA (Option)

Error Code

AF

Method of Error Detection

Water leakage is detected based on float switch ON/OFF operation while the compressor is not in operation.

Error Decision Conditions

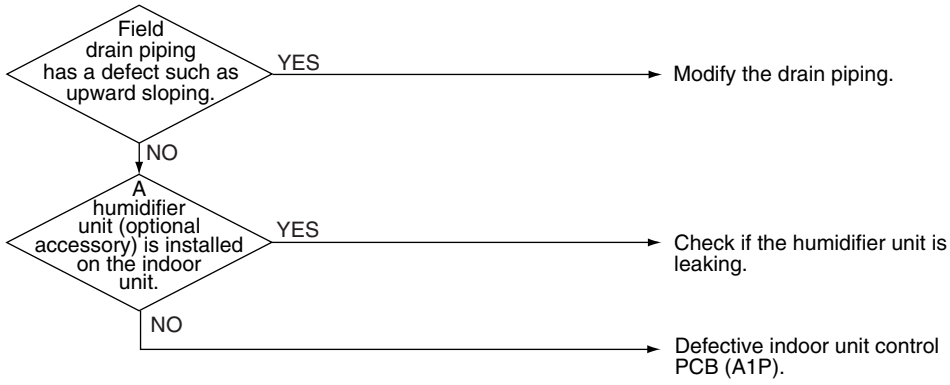
When the float switch changes from ON to OFF while the compressor is not in operation.
∗ Error code is displayed but the system operates continuously.

Supposed Causes

- Humidifier unit (optional accessory) leaking
- Defective drain pipe (upward slope, etc.)
- Defective indoor unit control PCB

Troubleshooting

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



3.17 Self-Cleaning Decoration Panel Abnormality

Applicable Models

FXFQ-AA (when self-cleaning decoration panel BYCQ54EEGFU is installed)
FXFQ-T (when self-cleaning decoration panel BYCQ125BGW1 is installed)

Error Code

AH

Method of Error Detection

Error is detected by abnormal signal from the self-cleaning decoration panel.

Error Decision Conditions

Any of the following conditions is met while the unit is in operation.

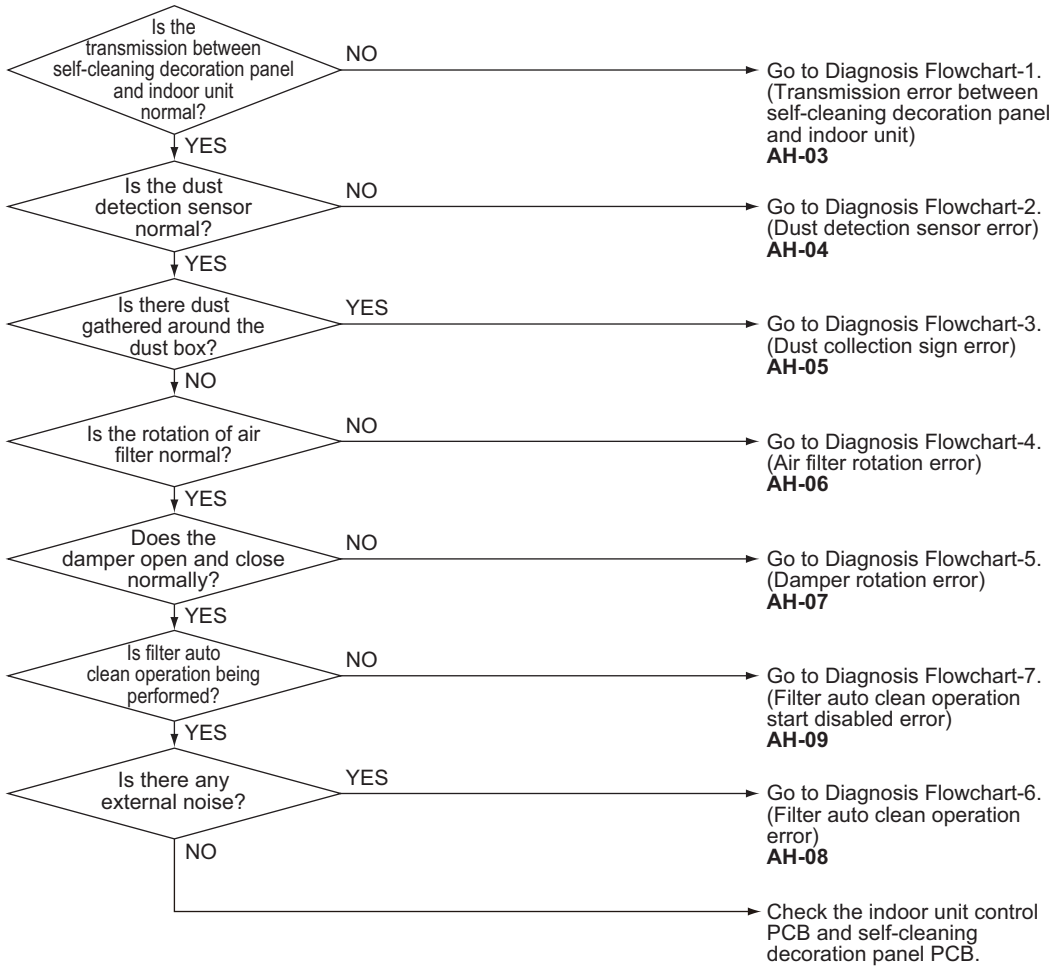
- There is a transmission error between self-cleaning decoration panel and indoor unit.
- Dust detection sensor (light receiving side) is short-circuited.
- The total of fan operation time exceeds a specified value after dust collection sign display.
- Limit switch does not detect when air filter rotates or air filter does not rotate.
- Limit switch does not detect when damper opens (or closes) or damper does not work.
- Filter auto clean operation does not complete even after a specified time has elapsed.
- Filter auto clean operation does not start even after a specified time has elapsed.

Supposed Causes

- Transmission error (between self-cleaning decoration panel and indoor unit)
- Dust detection sensor error
- Dust collection sign
- Air filter rotation error
- Damper rotation error
- Filter auto clean operation error
- Filter auto clean operation start disabled error

Troubleshooting

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

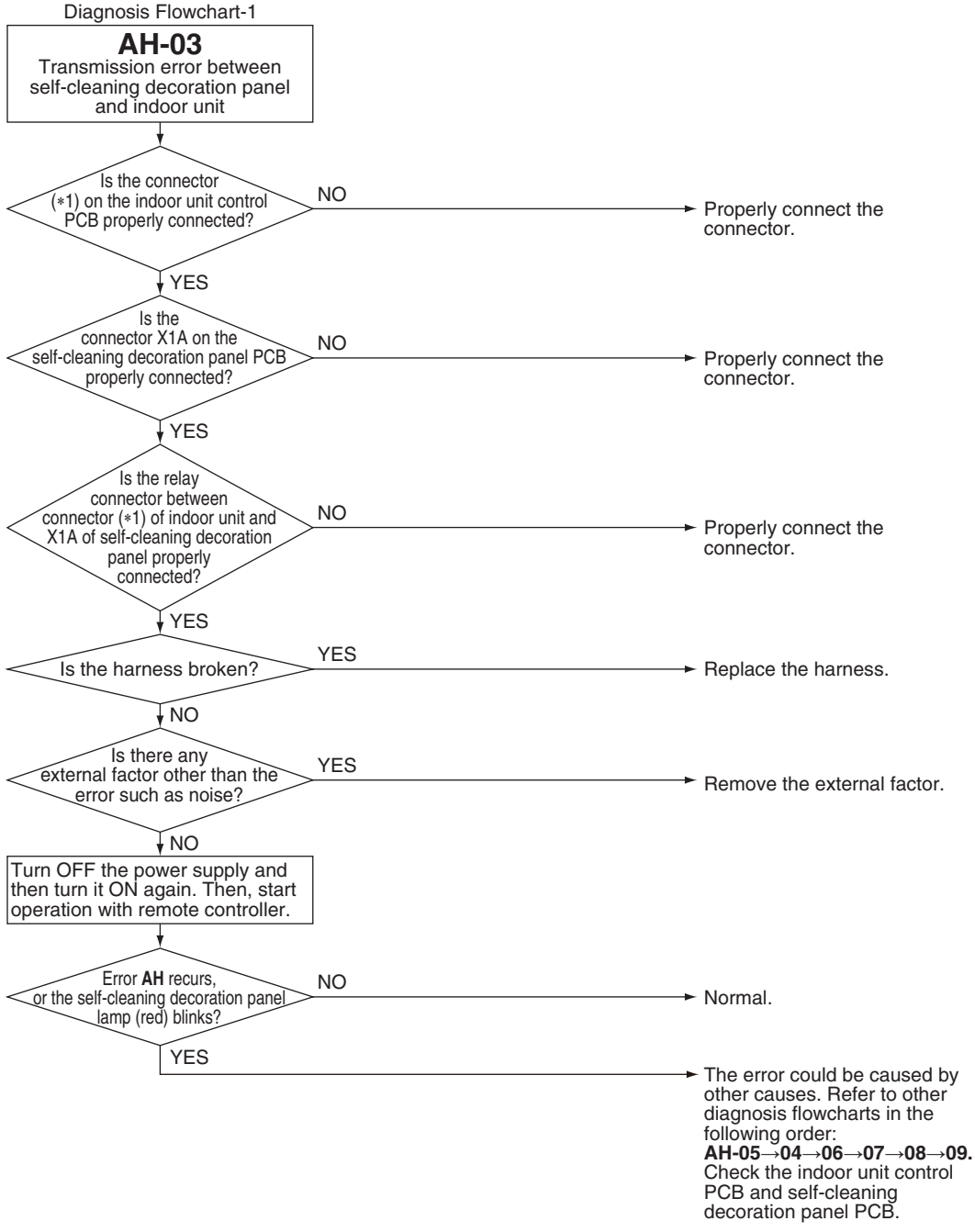


Reference Refer to the diagnosis flowchart below.

Error code	Diagnosis Flowchart
AH-03	Diagnosis Flowchart-1 on page 328
AH-04	Diagnosis Flowchart-2 on page 329
AH-05	Diagnosis Flowchart-3 on page 330
AH-06	Diagnosis Flowchart-4 on page 331
AH-07	Diagnosis Flowchart-5 on page 333
AH-08	Diagnosis Flowchart-6 on page 335
AH-09	Diagnosis Flowchart-7 on page 336

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

Diagnosis Flowchart-1

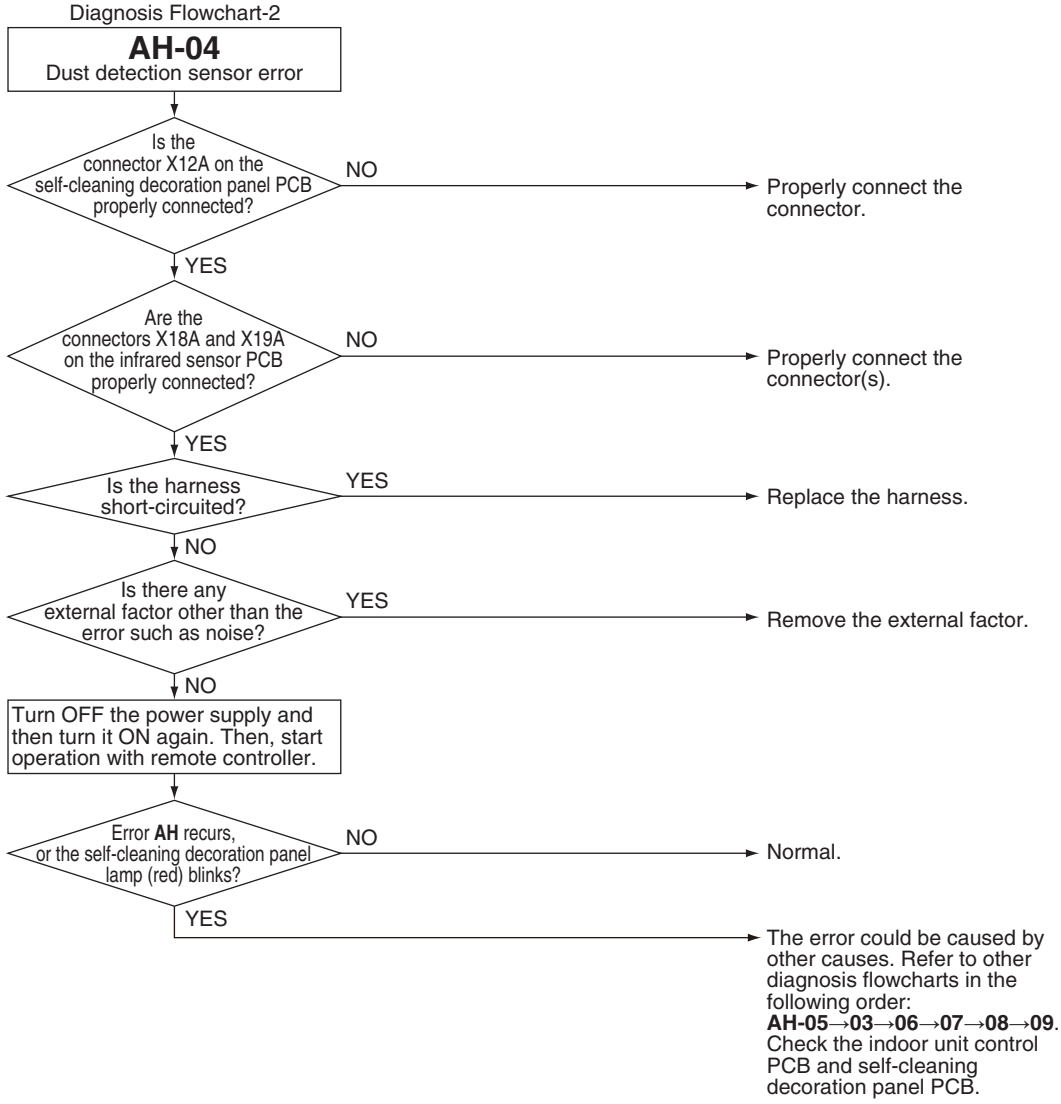


Note(s) ∗1. Connector

Model	Connector
FXFQ-AA	X70A
FXFQ-T	X8A

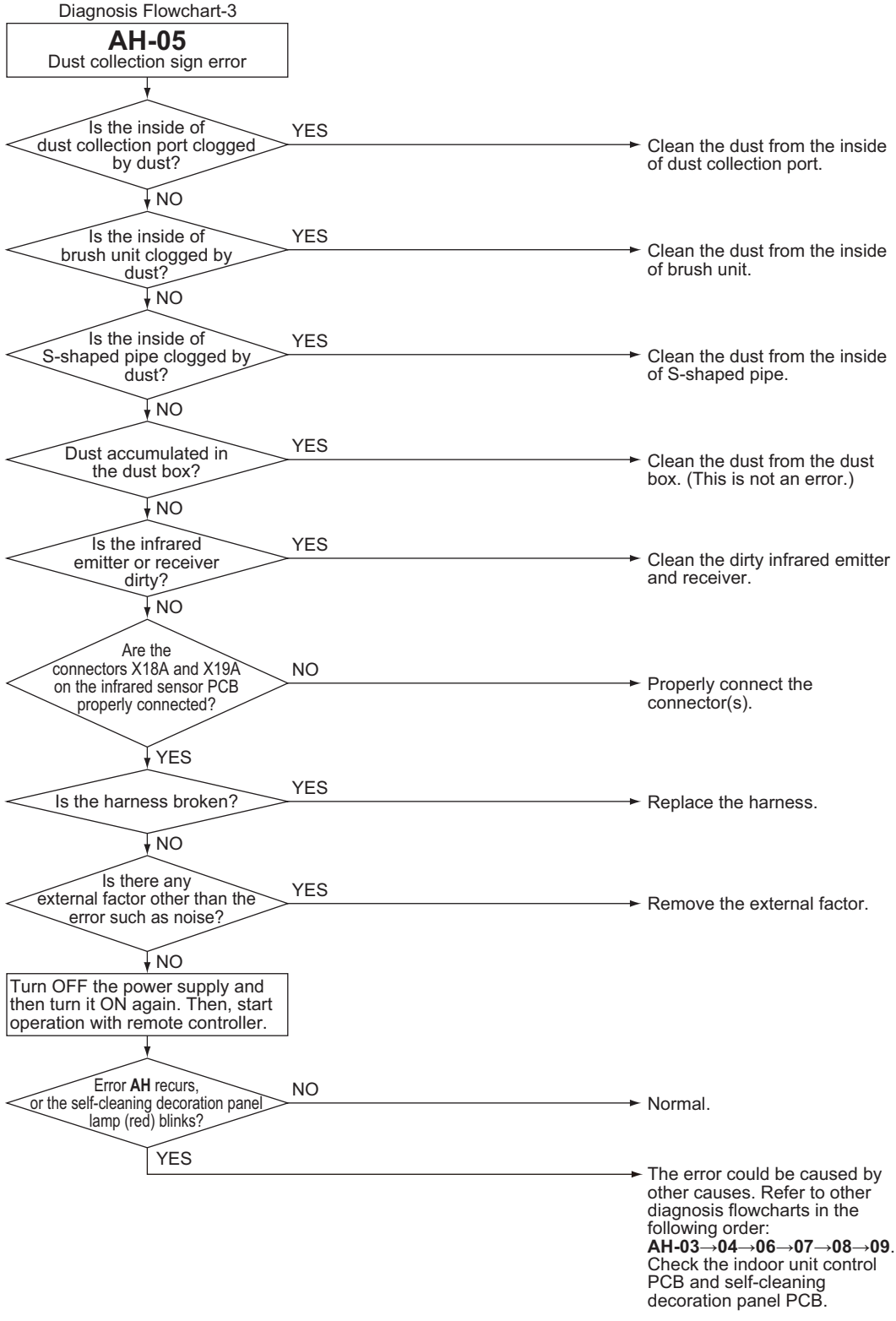
Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Diagnosis Flowchart-2



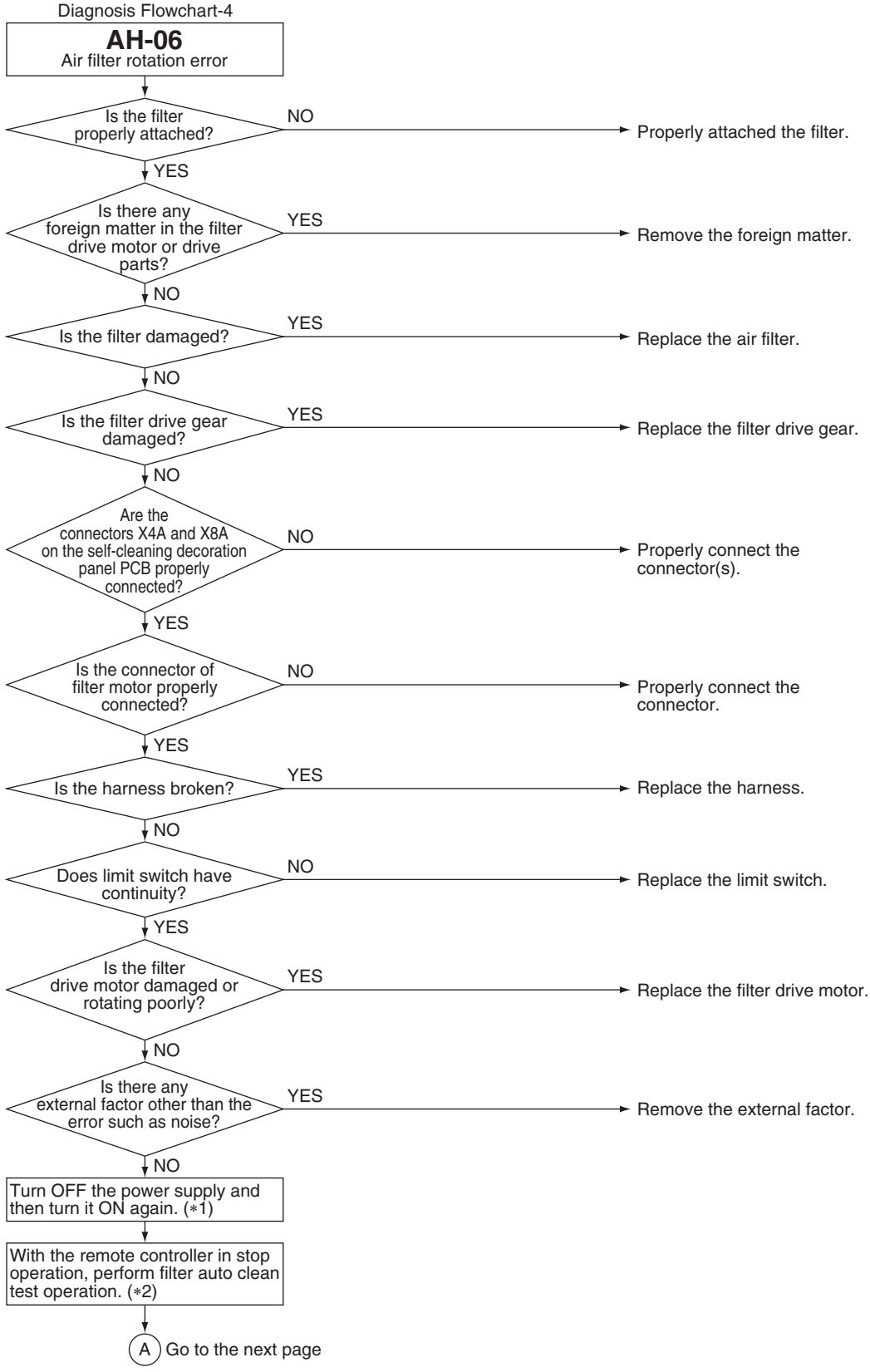
Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

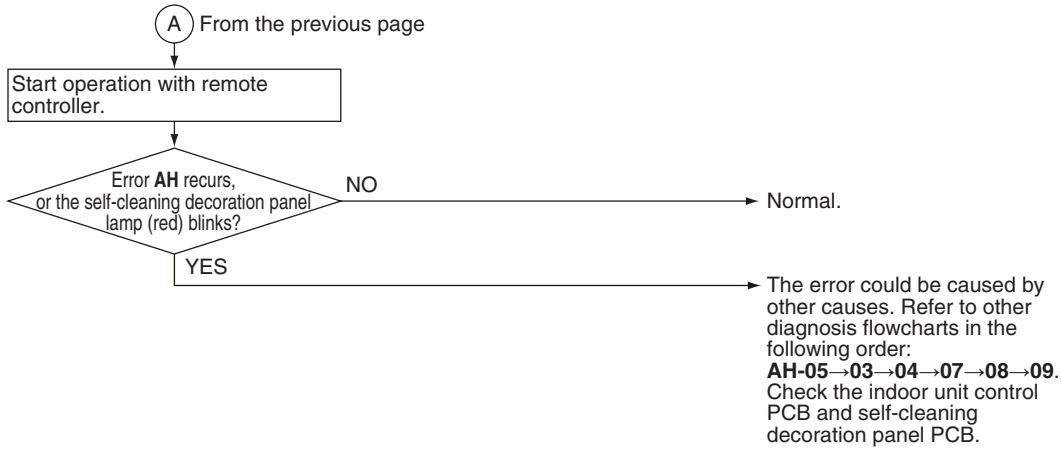
Diagnosis Flowchart-3



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

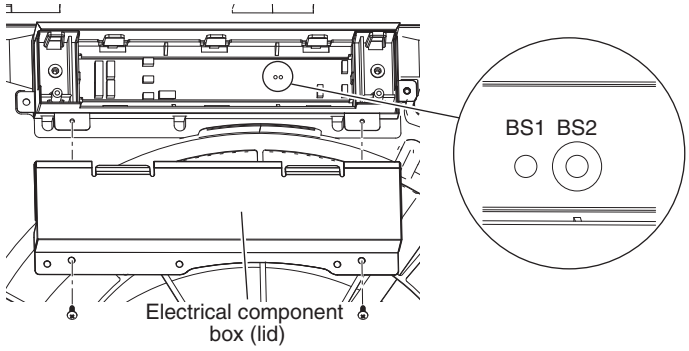
Diagnosis Flowchart-4





Note(s)

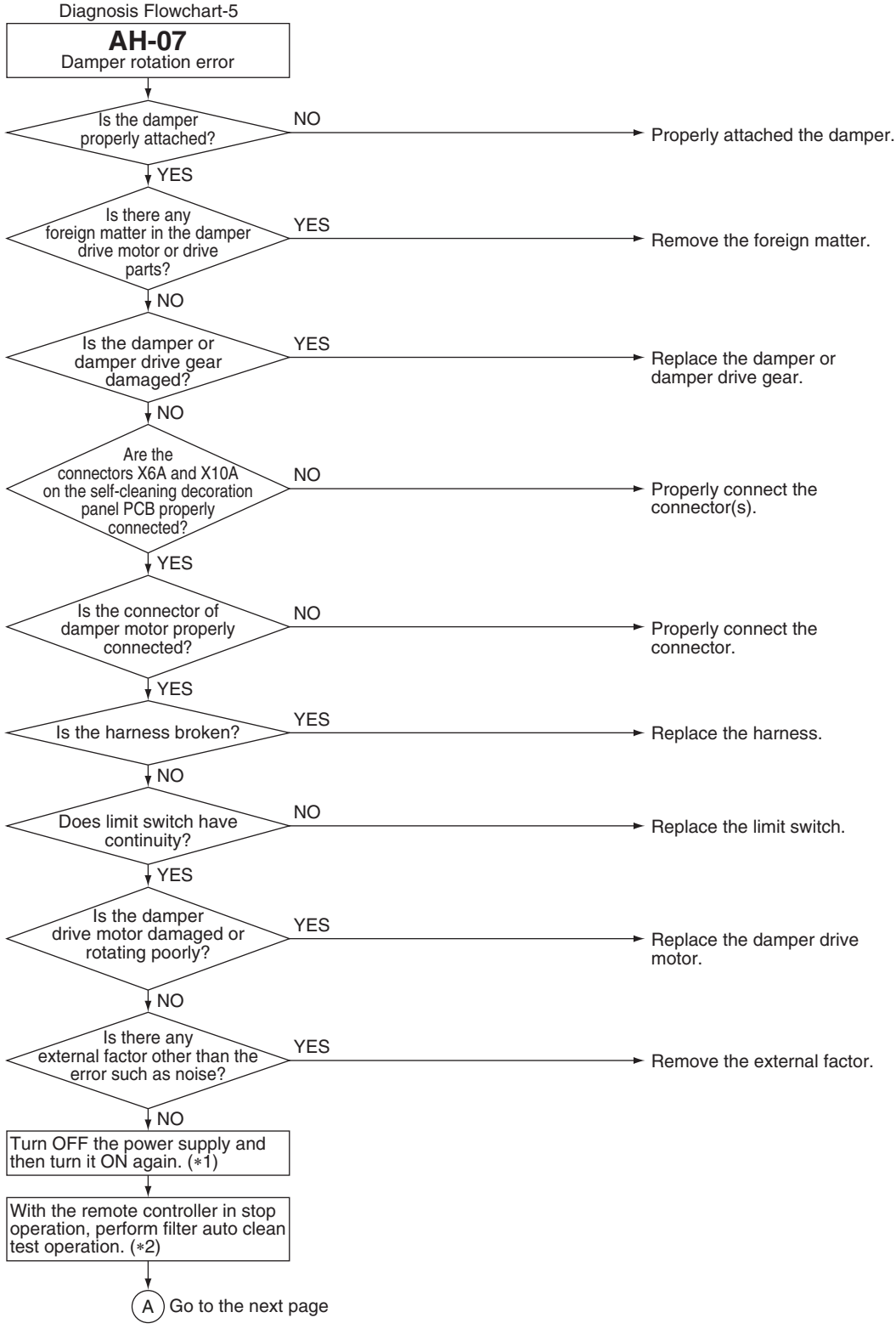
∗1. Temporary error code reset operation can be performed by pressing the push switch button **(BS2)** on the self-cleaning decoration panel PCB

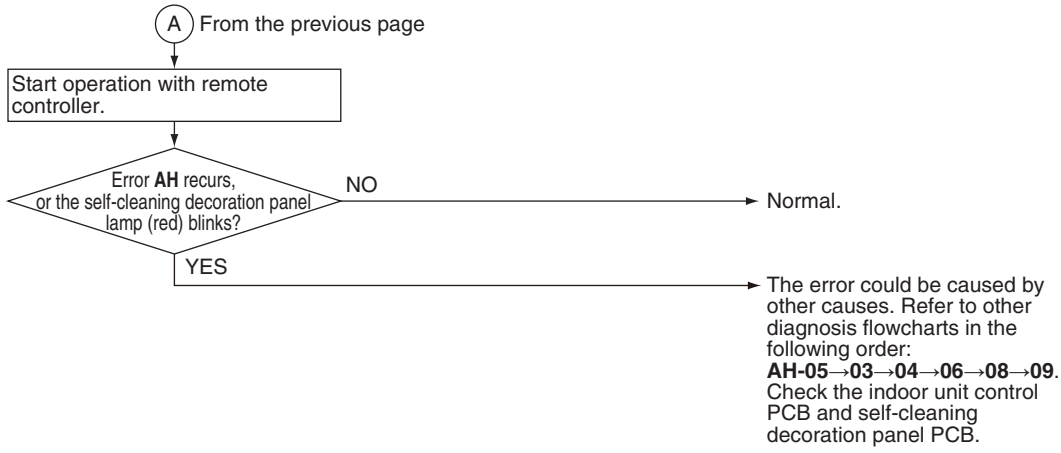


∗2. For details on performing filter auto clean test operation, refer to the operation manual of the self-cleaning decoration panel.

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

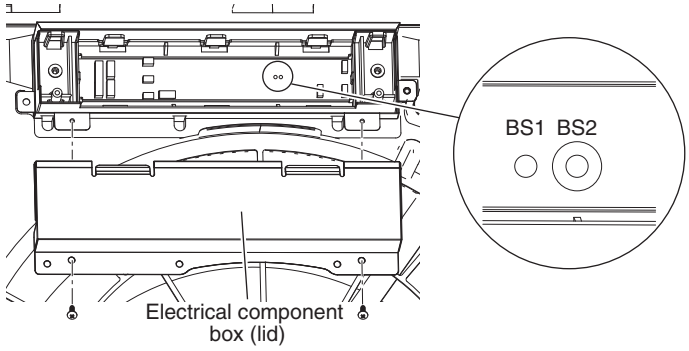
Diagnosis Flowchart-5





Note(s)

∗1. Temporary error code reset operation can be performed by pressing the push switch button **(BS2)** on the self-cleaning decoration panel PCB



∗2. For details on performing filter auto clean test operation, refer to the operation manual of the self-cleaning decoration panel.

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

Diagnosis Flowchart-6

AH-08
Filter auto clean operation error

Is there any external factor other than the error such as noise?
YES → Remove the external factor.
NO

Turn OFF the power supply and then turn it ON again. (∗1)

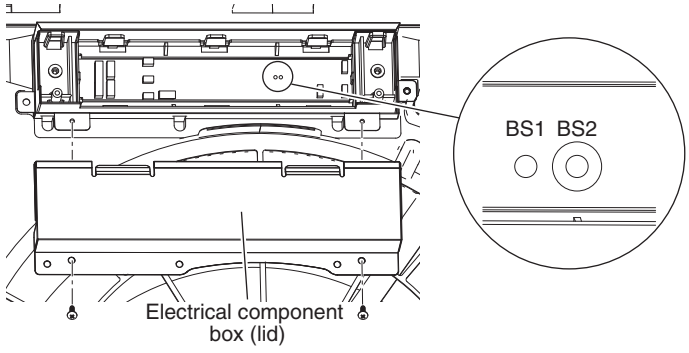
With the remote controller in stop operation, perform filter auto clean test operation. (∗2)

Start operation with remote controller.

Error **AH** recurs, or the self-cleaning decoration panel lamp (red) blinks?
NO → Normal.
YES → The error could be caused by other causes. Refer to other diagnosis flowcharts in the following order: **AH-05→03→04→06→07→09**. Check the indoor unit control PCB and self-cleaning decoration panel PCB.

Note(s)

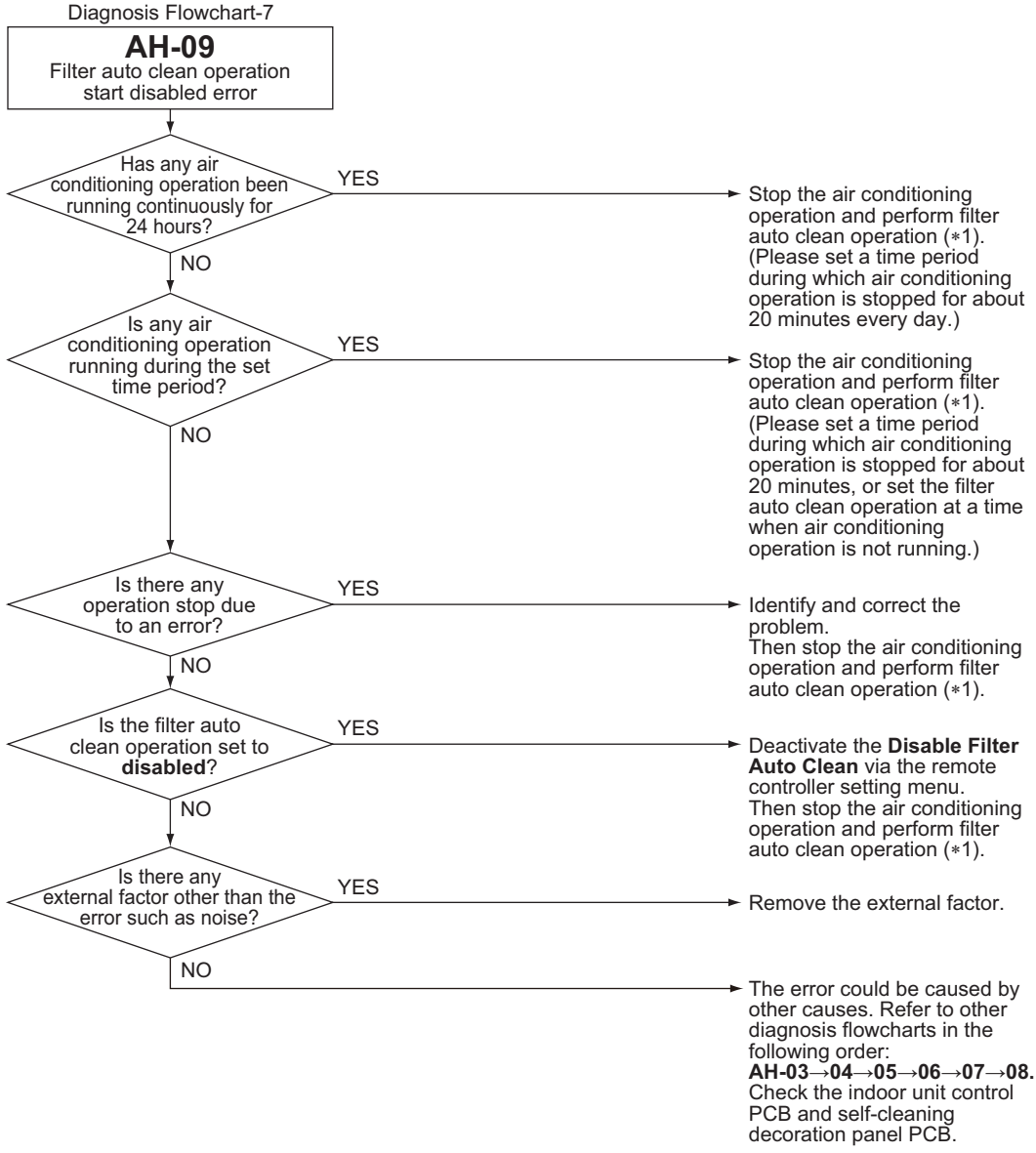
∗1. Temporary error code reset operation can be performed by pressing the push switch button **(BS2)** on the self-cleaning decoration panel PCB



∗2. For details on performing filter auto clean test operation, refer to the operation manual of the self-cleaning decoration panel.

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

Diagnosis Flowchart-7



Note(s)

∗1. If the filter auto clean operation mode is set to a designated time period, perform a filter auto clean operation as described below to clear the **AH** error code. (If scheduled operation time is not set, the filter auto clean operation will be performed automatically after air conditioning operation is stopped, so the following operation is unnecessary.)

1. On the remote controller, select **Filter Auto Clean** menu. The screen will change into a cleaning time period setting screen. Confirm the set time period. (Example: 0:00 to 3:00)
2. Select **Clock & Calendar** on the remote controller and set the current time to the time one minute before the beginning of the time set in step 1. (Example: If the set time is from 0:00 to 3:00, set the current time to 23:59, one minute before 0:00)
3. After about 1 minute, filter auto clean operation will start. (**AH** error cleared)
4. After confirming that the filter auto clean operation is finished, return the time changed in step 2 to the regular time.

3.18 Defective Capacity Setting

Applicable Models

All indoor unit models

Error Code

AJ

Method of Error Detection

Capacity is determined according to resistance of the capacity setting adaptor and the memory inside the IC memory on the indoor unit control PCB, and whether the value is normal or abnormal is determined.

Error Decision Conditions

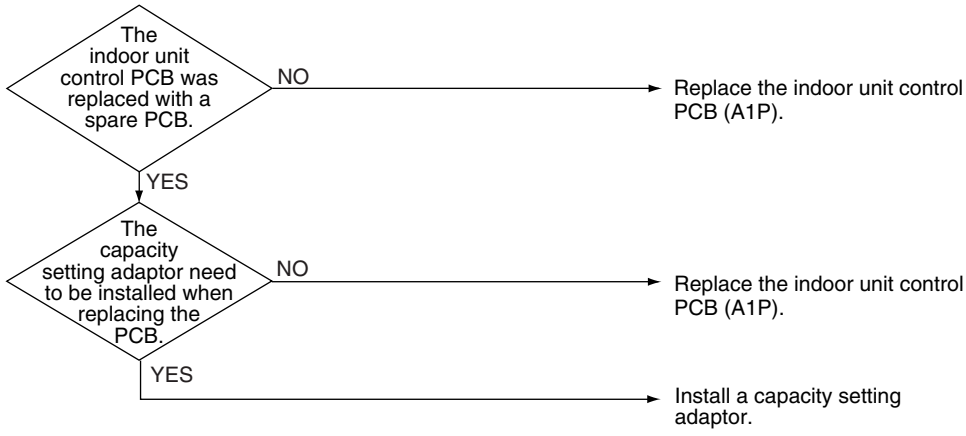
When the capacity code is not saved to the PCB, and the capacity setting adaptor is not connected. When a capacity that does not exist for that unit is set.

Supposed Causes

- The capacity setting adaptor was not installed.
- Defective indoor unit control PCB

Troubleshooting

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



3.19 Transmission Abnormality between Indoor Unit Control PCB and Fan PCB

Applicable Models

FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA

Error Code

C1

Method of Error Detection

Transmission conditions between the indoor unit control PCB (A1P) and fan PCB (A2P) are checked via microcomputer.

Error Decision Conditions

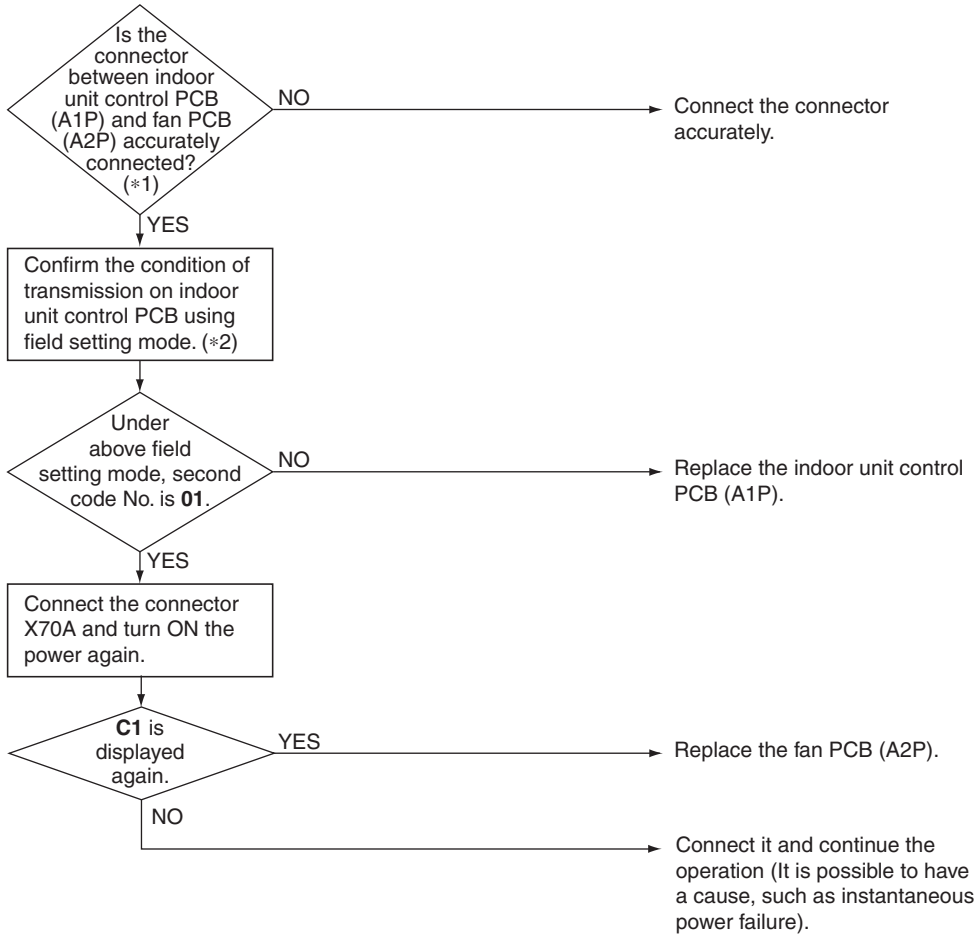
When normal transmission is not carried out for a certain duration.

Supposed Causes

- Connection defective the connector between indoor unit control PCB (A1P) and fan PCB (A2P)
- Defective indoor unit control PCB (A1P)
- Defective fan PCB (A2P)
- External factor, such as instantaneous power failure

Troubleshooting

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



Note(s)

∗1. Pull out and insert the connector once and check if it is absolutely connected.

∗2. Method to check transmission part of indoor unit control PCB.

(1) Turn OFF the power and remove the connector X70A of indoor unit control PCB (A1P).

(2) Short circuit X70A.

(3) After turning ON the power, check below numbers under field setting from remote controller.

(Confirmation: Second code No. at the condition of first code No. 21 on mode No. 41)

Determination	01: Normal
	Other than 01: Transmission error on indoor unit control PCB

∗ After confirmation, turn OFF the power, take off the short circuit and connect X70A back to original condition.

3.20 Blower Motor Communication Error

Applicable Models	FXTQ-TA, FXTQ-TB
Error Code	**C1-07**
Outline	Error is issued if transmission abnormalities occur between indoor unit and fan motor.
Error Decision Conditions	If the response message from the fan motor is an abnormal message, and determined as such by the indoor unit, the indoor unit will execute a retry. If everything fails for 5 seconds, it is deemed to be a transmission abnormality.
Error Reset Conditions	If the indoor unit receives even a single normal response message from the fan motor, the error will be cleared.
Supposed Causes	■ Incorrect or loose wiring ■ Power interruption (low voltage)
Corrective Actions	■ Check wiring or tighten wiring connections if needed. ■ Verify the input voltage at the motor. ■ Replace the indoor unit PCB or motor.

3.21 Thermistor Abnormality

Applicable Models

C4, C5: All indoor units
C9: except FXTQ-TA, FXTQ-TB models
CA: FXMQ-PB models only

Error Code

C4, C5, C9, CA

Method of Error Detection

The error is determined by the temperature detected by the thermistor.

Error Decision Conditions

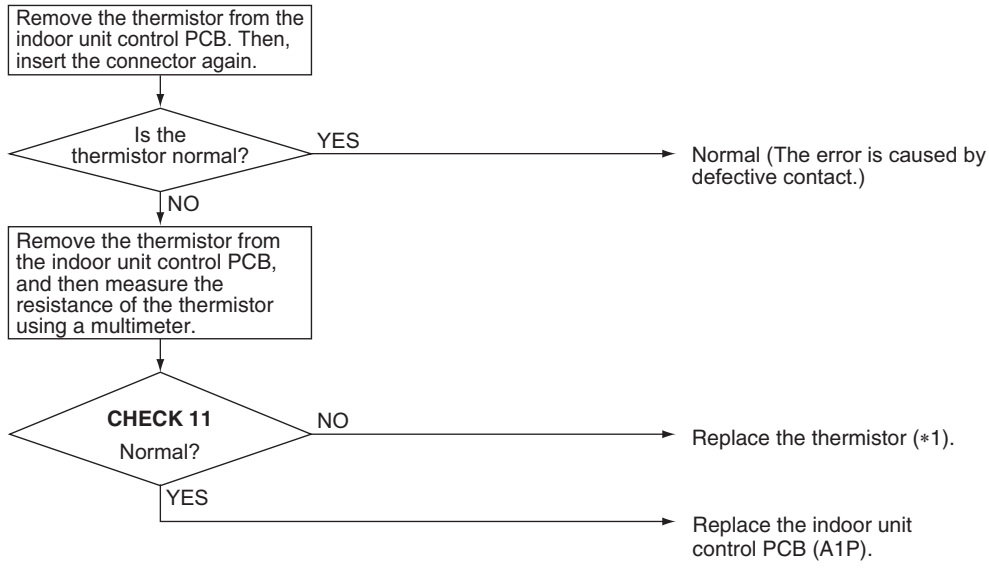
The thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defective thermistor
- Defective indoor unit control PCB
- Defective connector connection
- Broken or disconnected wire

Troubleshooting

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



Note(s)

∗1. Error code and thermistor

Error Code	Thermistor	Except FXMQ-PB FXTQ-TA FXTQ-TB	FXMQ-PB	FXTQ-TA FXTQ-TB
C4	Indoor heat exchanger liquid pipe thermistor	R2T	R2T	R2T
C5	Indoor heat exchanger gas pipe thermistor	R3T	R3T	R3T
C9	Suction air thermistor	R1T	R1T	∗2
CA	Discharge air thermistor	—	R4T	—

∗2. Refer to page 346 for **C9** for FXTQ-TA and FXTQ-TB models.

Reference

CHECK 11 Refer to page 440.

3.22 Combination Error between Indoor Unit Control PCB and Fan PCB

Applicable Models

FXSQ-TA, FXSQ-TB, FXMQ-PB, FXMQ-TB, FXMQ-TA

Error Code

C6

Method of Error Detection

Check the condition of transmission with fan PCB (A2P) using indoor unit control PCB (A1P).

Error Decision Conditions

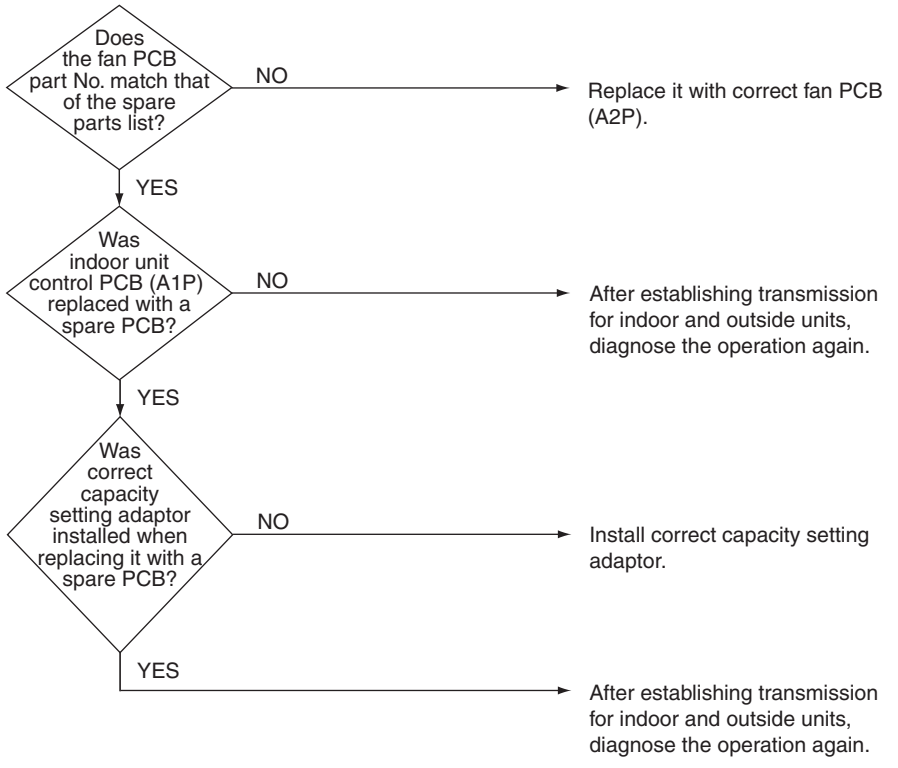
When the communication data of fan PCB (A2P) is determined as incorrect.

Supposed Causes

- Defective fan PCB (A2P)
- Defective connection of capacity setting adaptor
- Field setting error

Troubleshooting

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



3.23 Capacity Setting Abnormality

Applicable Models

FXMQ-TA

Error Code

C6-01

Method of Error Detection

This error is detected by checking communication between the PCB (A1P) and the fan microcomputer.

Error Decision Conditions

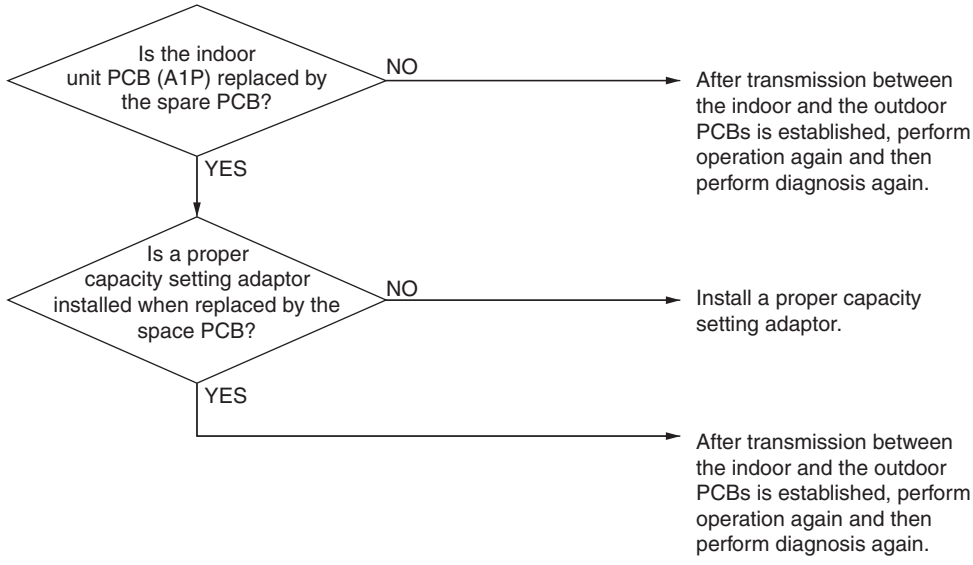
Based on the communication data, decide whether the combination of capacity setting and the type of fan driver is correct.

Supposed Causes

- Defective connection of the capacity setting adaptor
- Wrong field setting

Troubleshooting

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



3.24 Blower Motor HP Mismatch

Applicable Models	FXTQ-TA, FXTQ-TB
Error Code	**C6-01**
Outline	Error is issued if the manufacturer ID and output of the connected fan motor do not match those recognized by the indoor unit.
Error Decision Conditions	Gathers information on the manufacturer ID and output of the fan motor when initializing the fan motor. If those figures are not the values recognized by the indoor unit, it will be deemed abnormal operation. If deemed abnormal operation, it will keep retrying until the figures match.
Error Reset Conditions	If the manufacturer ID and output match, the error will be cleared.
Supposed Causes	■ Incorrect size motor ■ Indoor unit capacity setting error
Corrective Actions	■ Correct motor installation. ■ Correct the indoor unit capacity setting.

3.25 Indoor Blower Does Not Have Required Parameters to Function

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

C6-02

Outline

Indoor units perform required settings for control on the fan motor, but if the minimum required settings are not made then information indicating as such will be included among the periodic control status information.
Error is issued when the information shows abnormality.

Error Decision Conditions

If the parameter information shows abnormality, it will be deemed abnormal operation.
At that point, parameter settings when initializing the fan motor will be implemented from the beginning.

Error Reset Conditions

If the parameter information is normal, the error will be cleared.

Supposed Causes

- Locked motor rotor condition

Corrective Actions

- Check for locked rotor condition.
- Replace the indoor unit PCB or motor.

3.26 Remote Sensor Abnormality

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

C9

Method of Error Detection

The error is detected by remote sensor temperature.

Error Decision Conditions

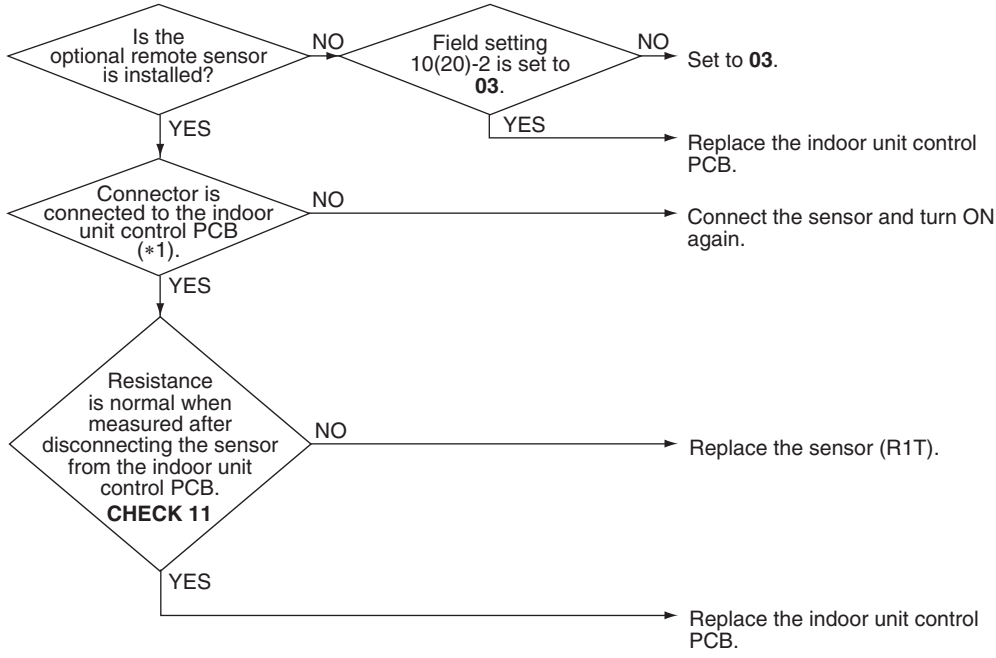
When the remote sensor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defective indoor unit thermistor (R1T) for room temperature
- Defective indoor unit PCB

Troubleshooting

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



Note(s) *1. Connector and indoor unit control PCB

Connector for remote sensor	PCB
X4A	A1P

Reference **CHECK 11** Refer to page 440.

3.27 Humidity Sensor System Abnormality

Applicable Models

FXFQ-P

Error Code

CC

Method of Error Detection

Even if an error occurs, operation still continues.
Error is detected according to the moisture (output voltage) detected by the moisture sensor.

Error Decision Conditions

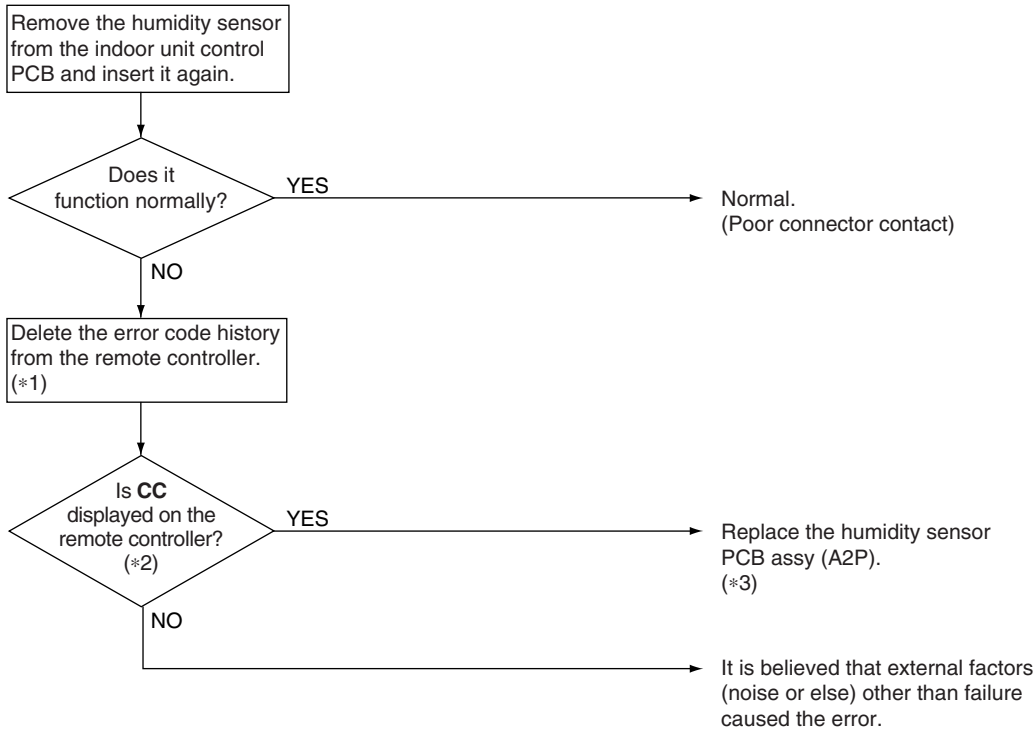
When the moisture sensor is disconnected or short circuited

Supposed Causes

- Defective sensor
- Disconnection

Troubleshooting

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



Note(s)

∗1. To delete the history, the **ON/OFF** button of the remote controller must be pressed and held for 5 seconds in the check mode.
∗2. To display the code, the **INSPECTION/TEST** button of the remote controller must be pressed and held in the normal mode.
∗3. If **CC** is displayed even after replacing the humidity sensor PCB (A2P) and taking the steps ∗1 and ∗2, replace the indoor unit control PCB (A1P).

3.28 Infrared Presence/Floor Sensor Error

Applicable Models

FXFQ-AA, FXFQ-T, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA

Error Code

CE

Method of Error Detection

The contents of a failure vary with the detailed error code. Check the code and proceed with the flowchart.

Error Decision Conditions

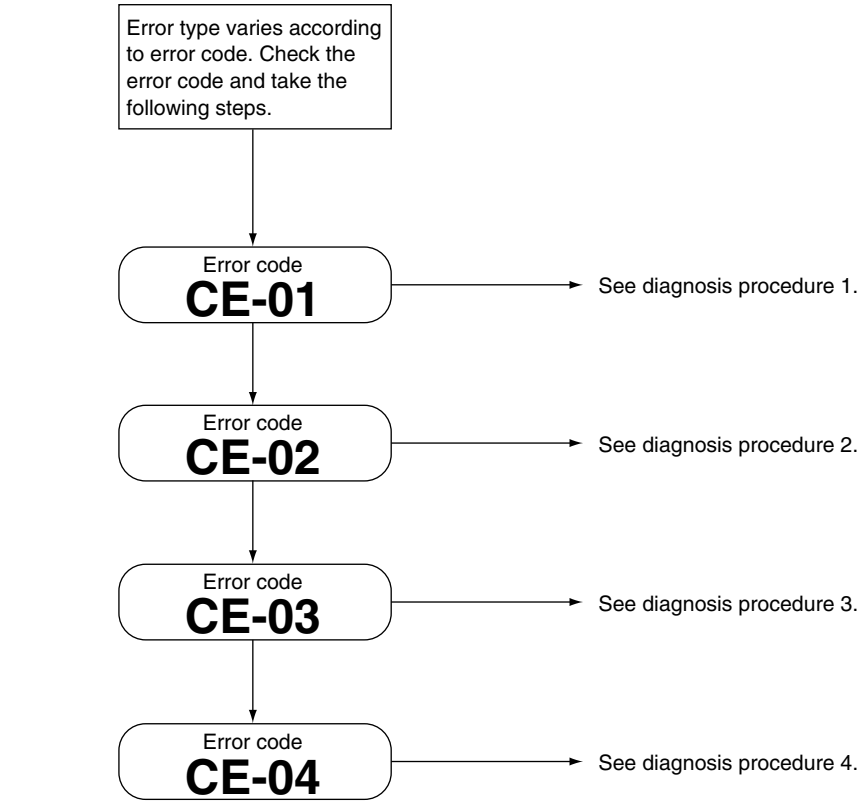
Error is detected based on sensor output signals

Supposed Causes

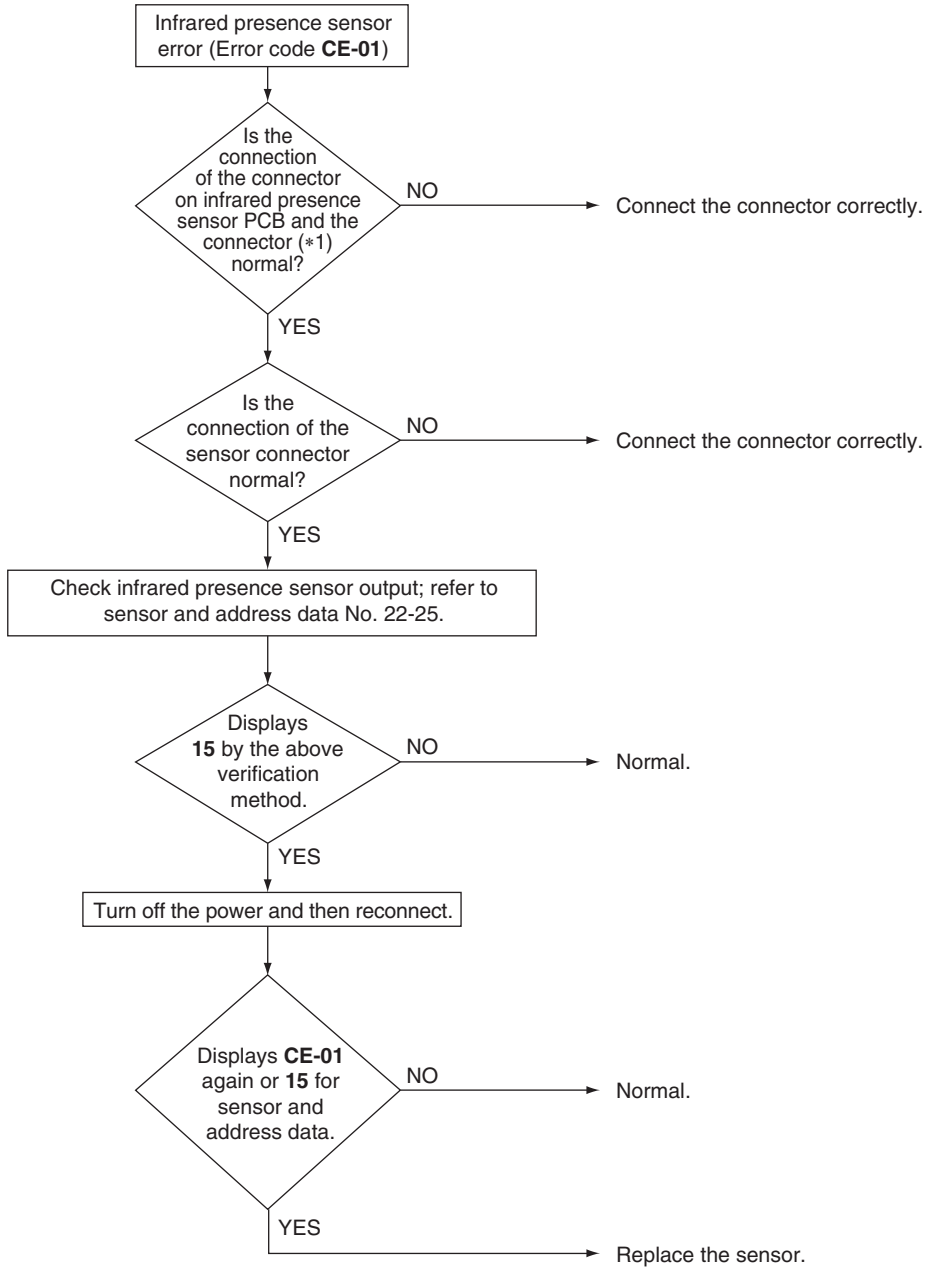
- Defective or disconnected infrared presence sensor connector: **CE-01**
- Defective infrared floor sensor (Temperature compensation circuit disconnection): **CE-02**
- Defective infrared floor sensor (Temperature compensation short circuit): **CE-03**
- Defective infrared floor sensor element: **CE-04**

Troubleshooting

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



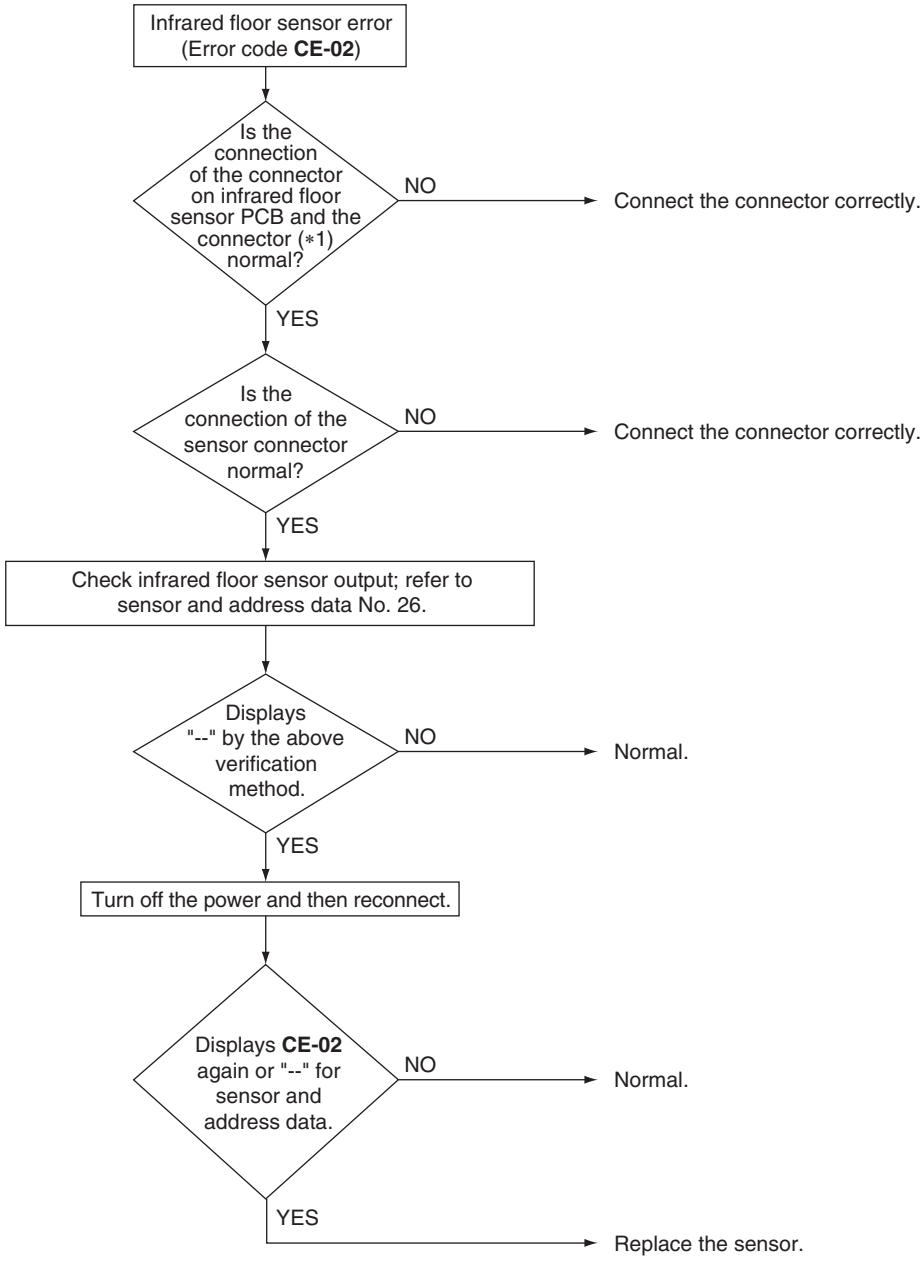
Diagnosis procedure 1



Note(s) ∗1. Infrared presence sensor PCB and connector

Model	Infrared presence sensor PCB	Connector
FXFQ-AA	A3P	X81A (A1P)
FXFQ-T	A4P	X2A (A2P)
FXZQ-TA	A5P	X110A (A6P)
FXZQ-TB	A5P	X81A (A1P)
FXUQ-P	A4P	X81A (A1P)
FXUQ-PA	A4P	X81A (A1P)

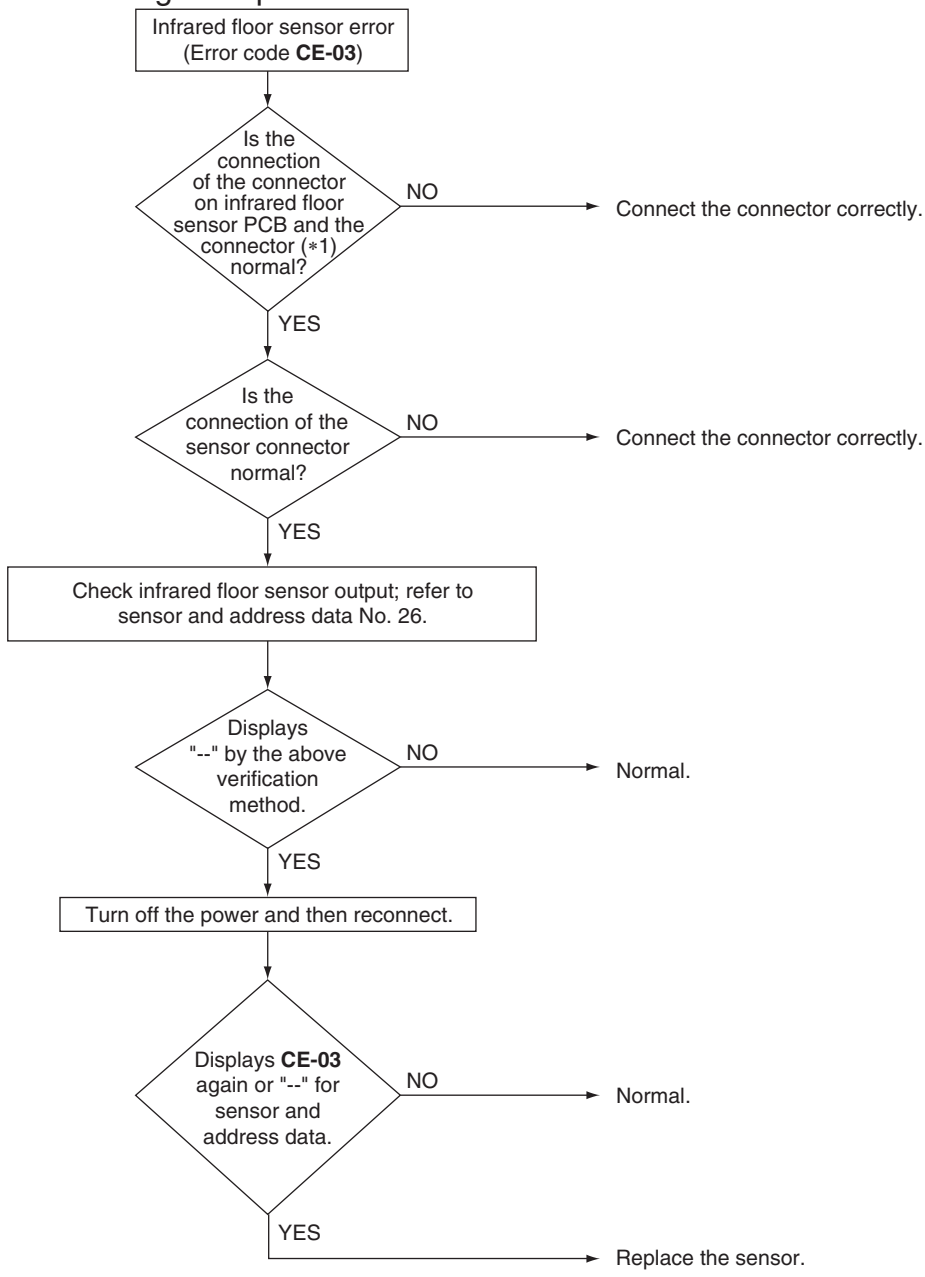
Diagnosis procedure 2



Note(s) ∗1. Infrared floor sensor PCB and connector

Model	Infrared floor sensor PCB	Connector
FXFQ-AA	A2P	X81A (A1P)
FXFQ-T	A3P	X2A (A2P)
FXZQ-TA	A4P	X110A (A6P)
FXZQ-TB	A4P	X81A (A1P)
FXUQ-P	A3P	X81A (A1P)
FXUQ-PA	A3P	X81A (A1P)

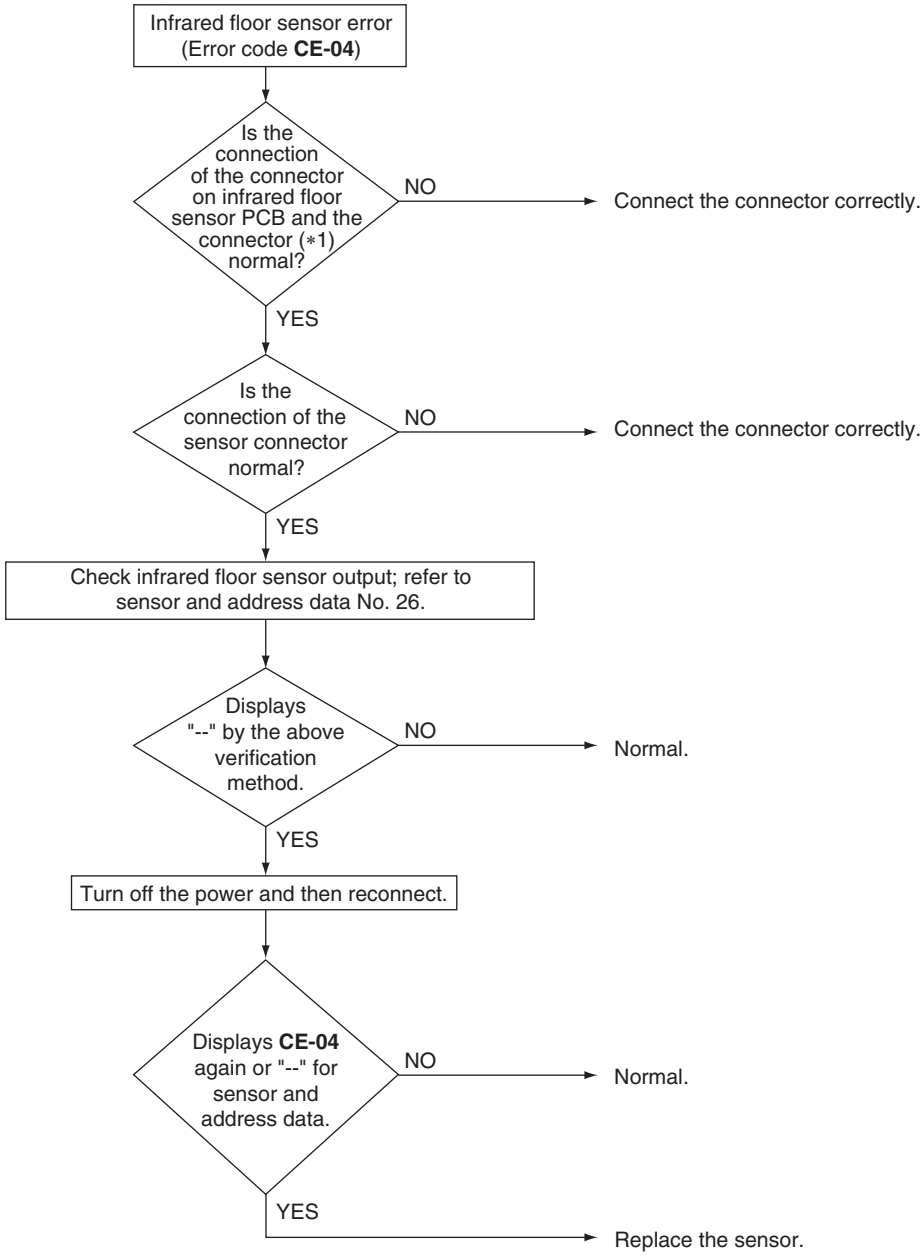
Diagnosis procedure 3



Note(s) ∗1. Infrared floor sensor PCB and connector

Model	Infrared floor sensor PCB	Connector
FXFQ-AA	A2P	X81A (A1P)
FXFQ-T	A3P	X2A (A2P)
FXZQ-TA	A4P	X110A (A6P)
FXZQ-TB	A4P	X81A (A1P)
FXUQ-P	A3P	X81A (A1P)
FXUQ-PA	A3P	X81A (A1P)

Diagnosis procedure 4



Note(s) ∗1. Infrared floor sensor PCB and connector

Model	Infrared floor sensor PCB	Connector
FXFQ-AA	A2P	X81A (A1P)
FXFQ-T	A3P	X2A (A2P)
FXZQ-TA	A4P	X110A (A6P)
FXZQ-TB	A4P	X81A (A1P)
FXUQ-P	A3P	X81A (A1P)
FXUQ-PA	A3P	X81A (A1P)

3.29 Remote Controller Thermistor Abnormality

Applicable Models

All indoor unit models

Error Code

CJ

Method of Error Detection

Error detection is carried out by the temperature detected by the remote controller thermistor.

Error Decision Conditions

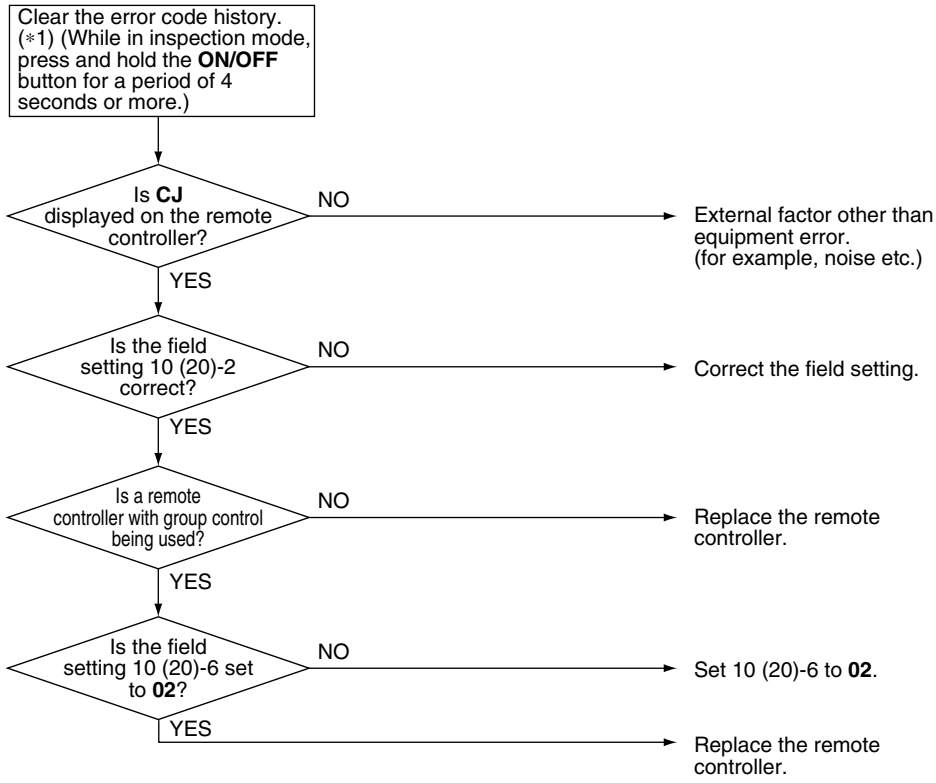
The remote controller thermistor becomes disconnected or shorted while the unit is running.
∗ Error code is displayed but the system operates continuously.

Supposed Causes

- Defective remote controller thermistor
- Defective remote controller PCB

Troubleshooting

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



Note(s)

∗1: How to delete the history of error codes.
Press the **ON/OFF** button for 4 seconds and more while the error code is displayed in the inspection mode.

3.30 Outside Unit PCB Abnormality

Applicable Models

All outside unit models

Error Code

E1

Method of Error Detection

Abnormality is detected under the communication conditions in the hardware section between the indoor unit and outside unit.

Error Decision Conditions

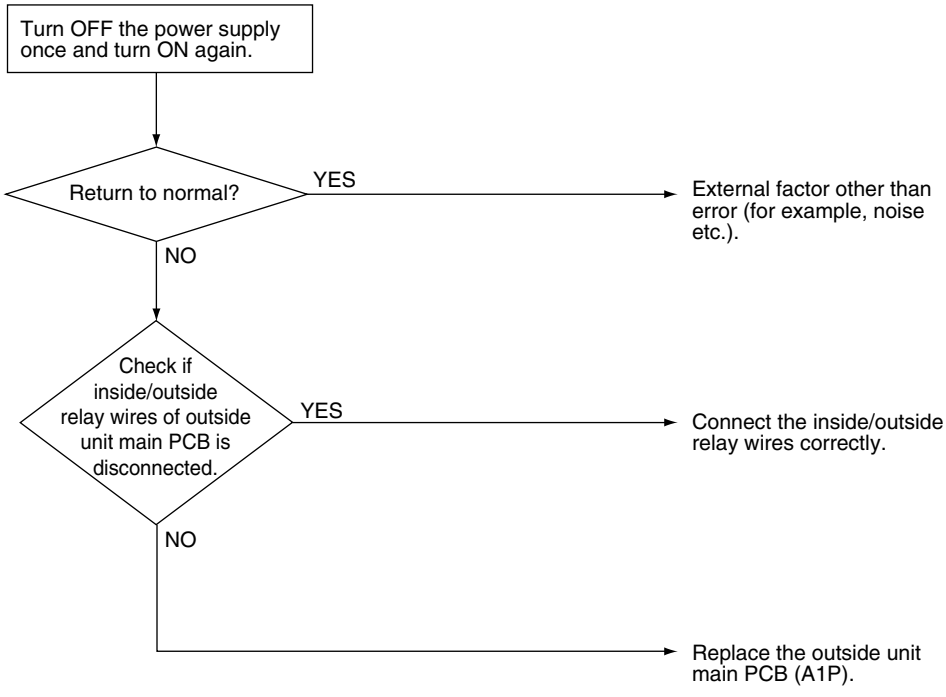
When the communication conditions in the hardware section between the indoor unit and the outside unit are not normal.

Supposed Causes

- Defective outside unit main PCB (A1P)
- Defective connection communication line between indoor and outside units

Troubleshooting

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



3.31 Detection of Ground Leakage by Leak Detection Circuit

Applicable Models

All outside unit models

Error Code

E2

Sub code: 01-03

Method of Error Detection

Detect leakage current in the ground leakage detection circuit and detect error on the outside unit main PCB.

Error Decision Conditions

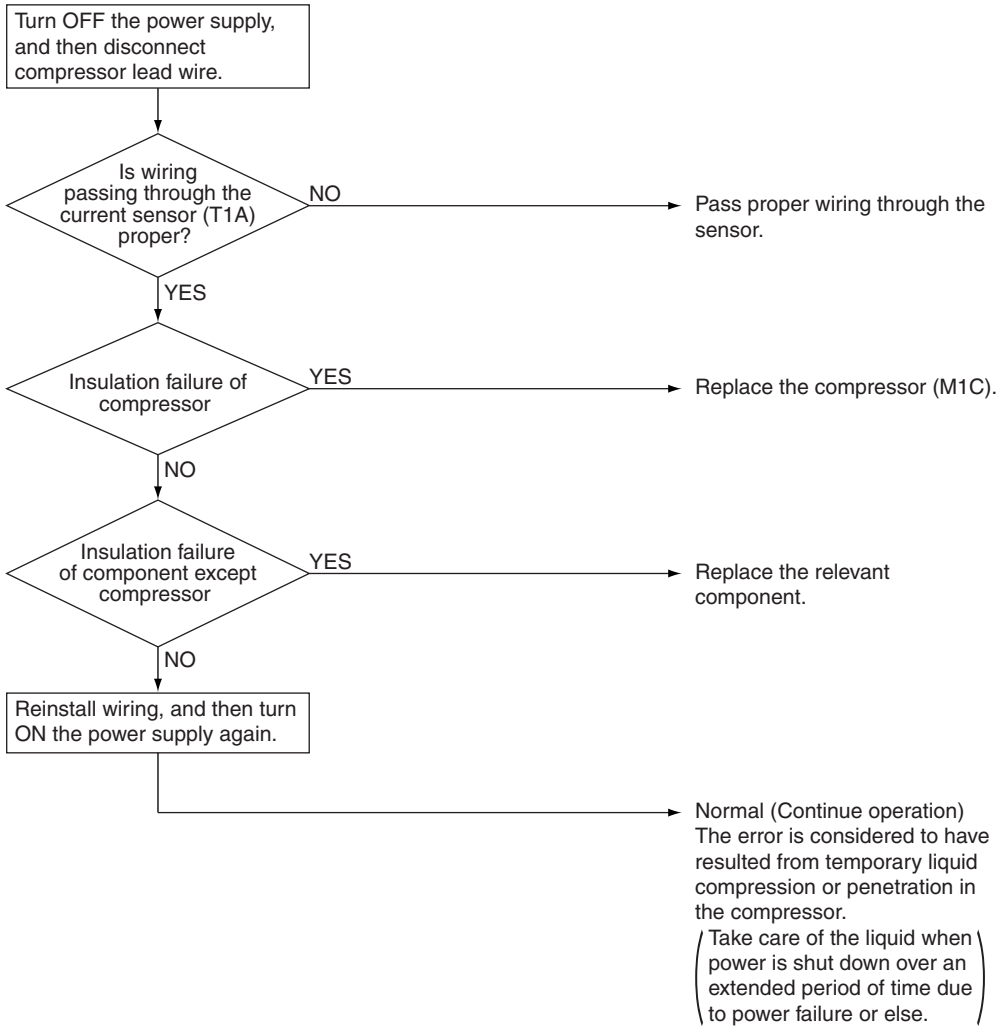
The leakage current is detected.

Supposed Causes

- Ground fault
- Improper wiring passing through the current sensor
- Temporary liquid compression or melting in compressor

Troubleshooting

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



3.32 Missing of Ground Leakage Detection Core

Applicable Models

All outside unit models

Error Code

E2

Sub code: 06-08

Method of Error Detection

Error is detected according to whether or not there is continuity across the connector X101A for leakage detection circuit.

Error Decision Conditions

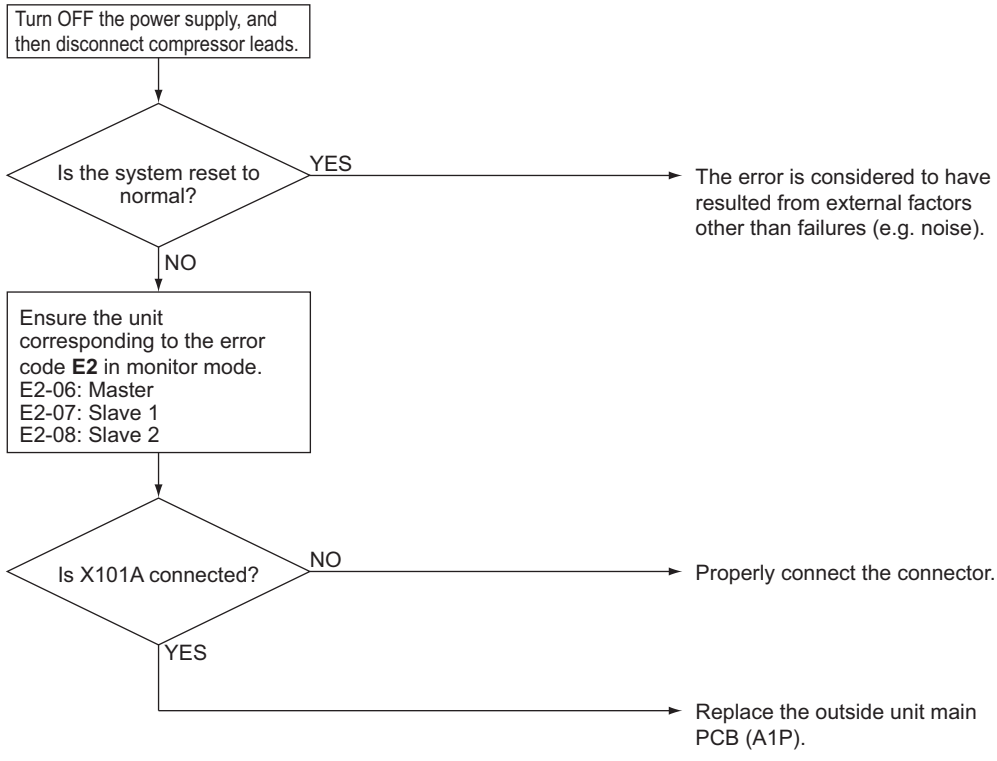
No current flows at the time of turning ON the power supply.

Supposed Causes

- Disconnection of connector X101A
- Wiring disconnection
- Defective outside unit main PCB

Troubleshooting

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



3.33 Activation of High Pressure Switch

Applicable Models

All outside unit models

Error Code

E3

Method of Error Detection

Detect continuity across the high pressure switch in the protection device circuit.

Error Decision Conditions

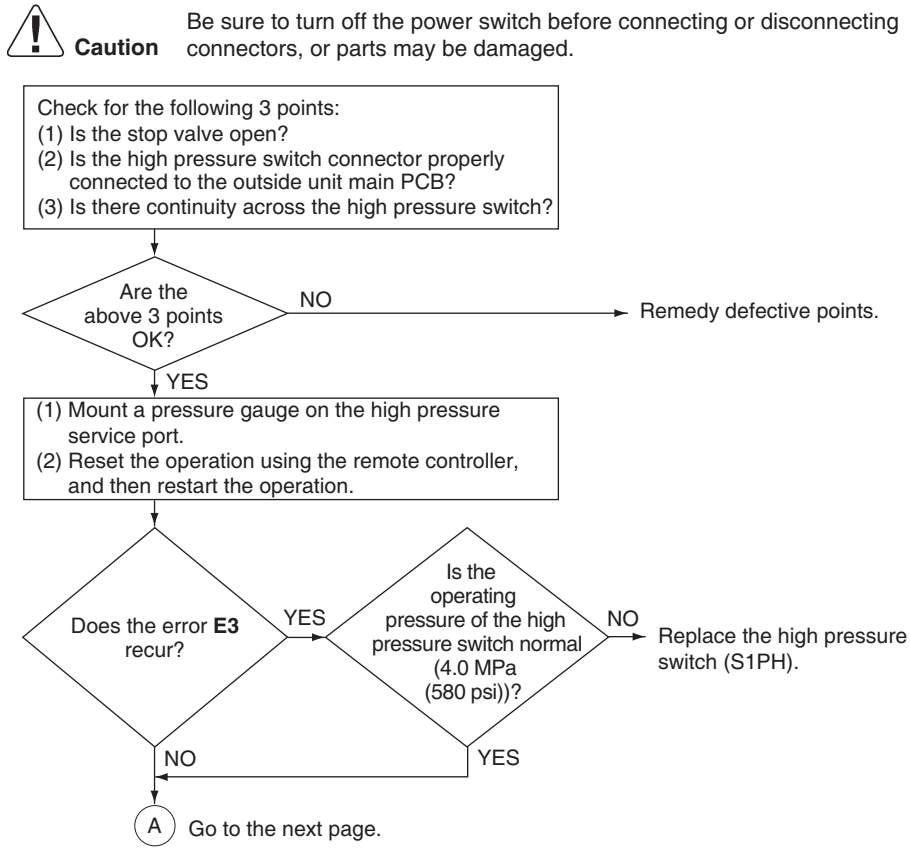
When part of the protection device circuit opens.
(Reference) Operating pressure of the high pressure switch:

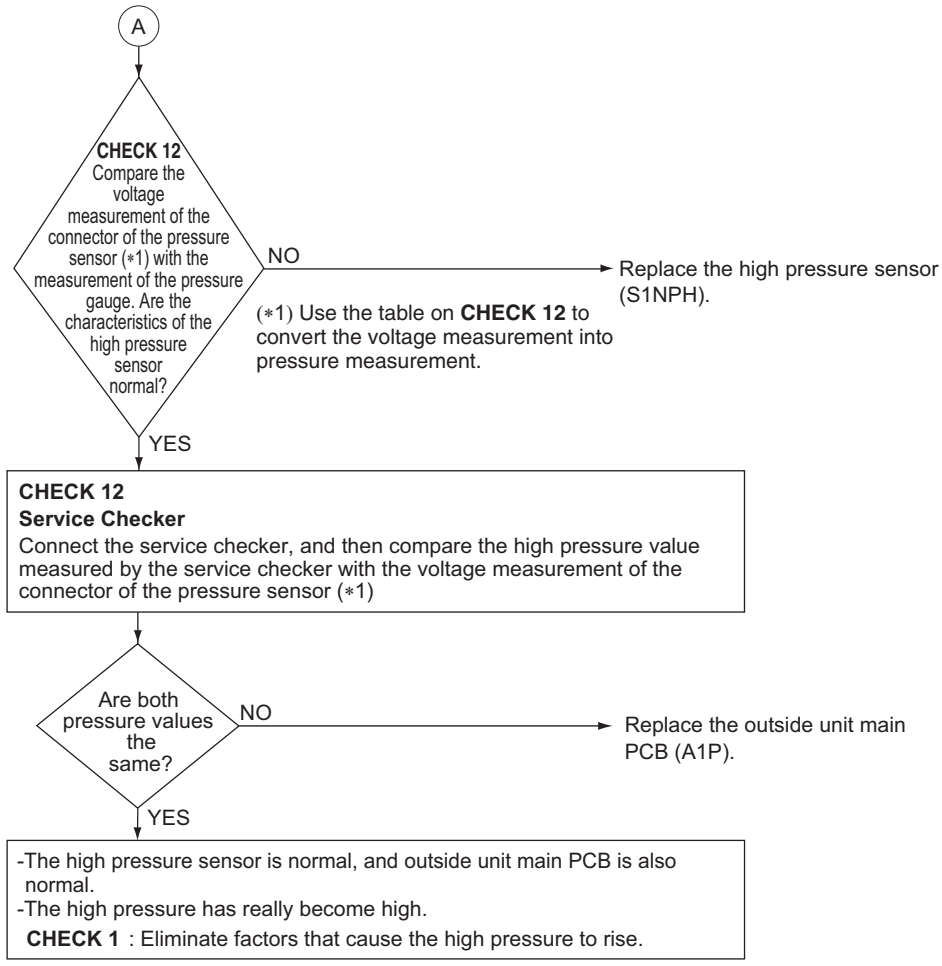
- Operating pressure: 4.0 MPa (580 psi)
- Resetting pressure: 3.0 MPa (435 psi)

Supposed Causes

- Activation of high pressure switch
- Defective high pressure switch
- Defective outside unit main PCB (A1P)
- Momentary power failure
- Defective high pressure sensor

Troubleshooting





Reference **CHECK 1** Refer to page 428.

Reference **CHECK 12** Refer to page 443.

3.34 Activation of Low Pressure Sensor

Applicable Models

All outside unit models

Error Code

E4

Method of Error Detection

Make judgment of pressure detected by the low pressure sensor with the outside unit main PCB.

Error Decision Conditions

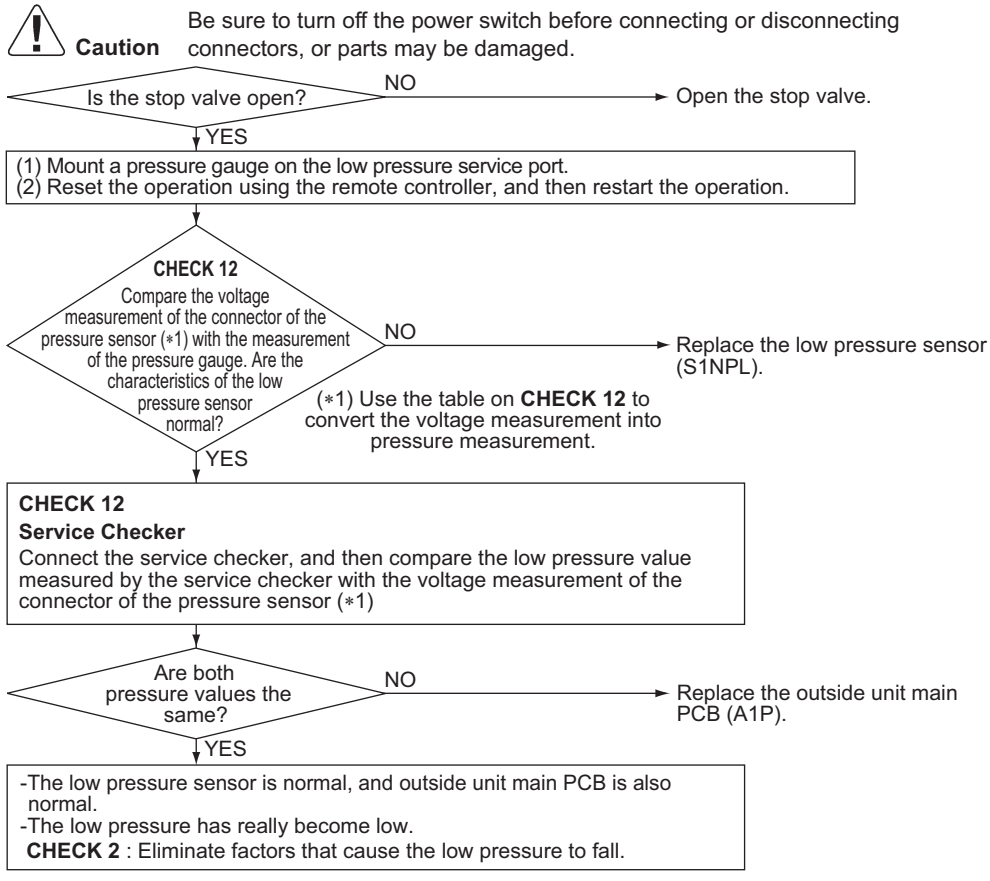
When low pressure caused a drop while the compressor is in operation:

- Operating pressure: 0.07 MPa (10.2 psi)

Supposed Causes

- Abnormal drop in low pressure
- Defective low pressure sensor
- Defective outside unit main PCB
- The stop valve is not opened

Troubleshooting



Reference **CHECK 2** Refer to page 430.

Reference **CHECK 12** Refer to page 443.

3.35 Compressor Motor Lock

Applicable Models

All outside unit models

Error Code

E5

Method of Error Detection

Outside unit PCB takes the position signal from UVW line connected between the inverter and compressor, and the error is detected when any abnormality is observed in the phase-current waveform.

Error Decision Conditions

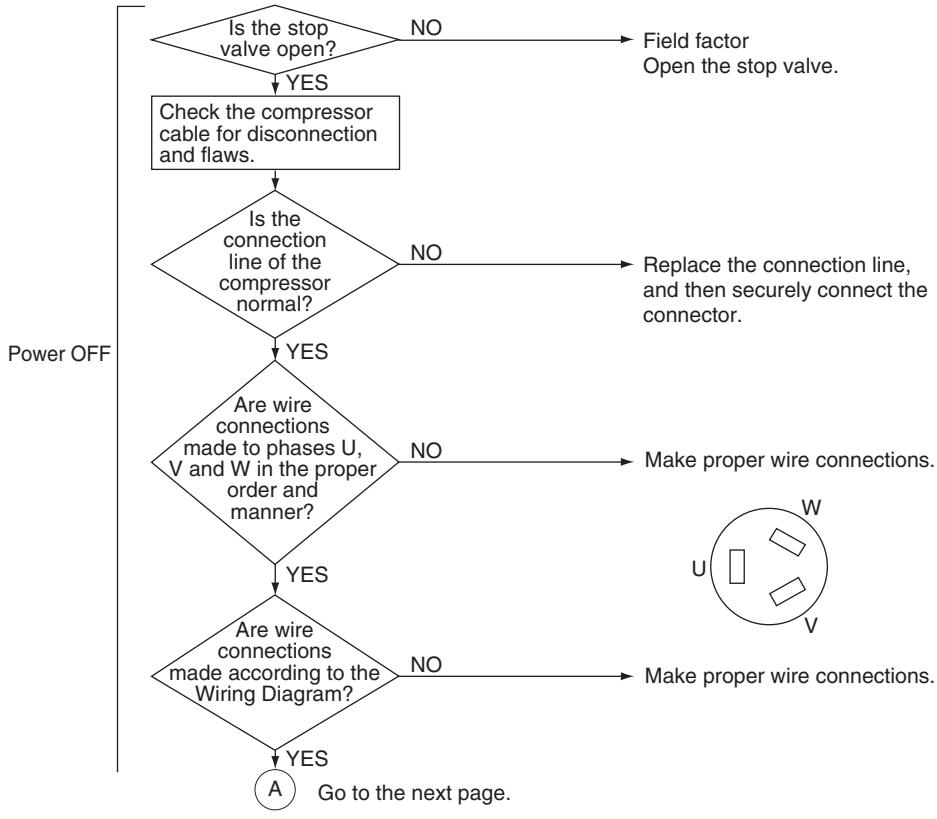
This error will be output when the compressor motor does not start up even in forced startup mode.

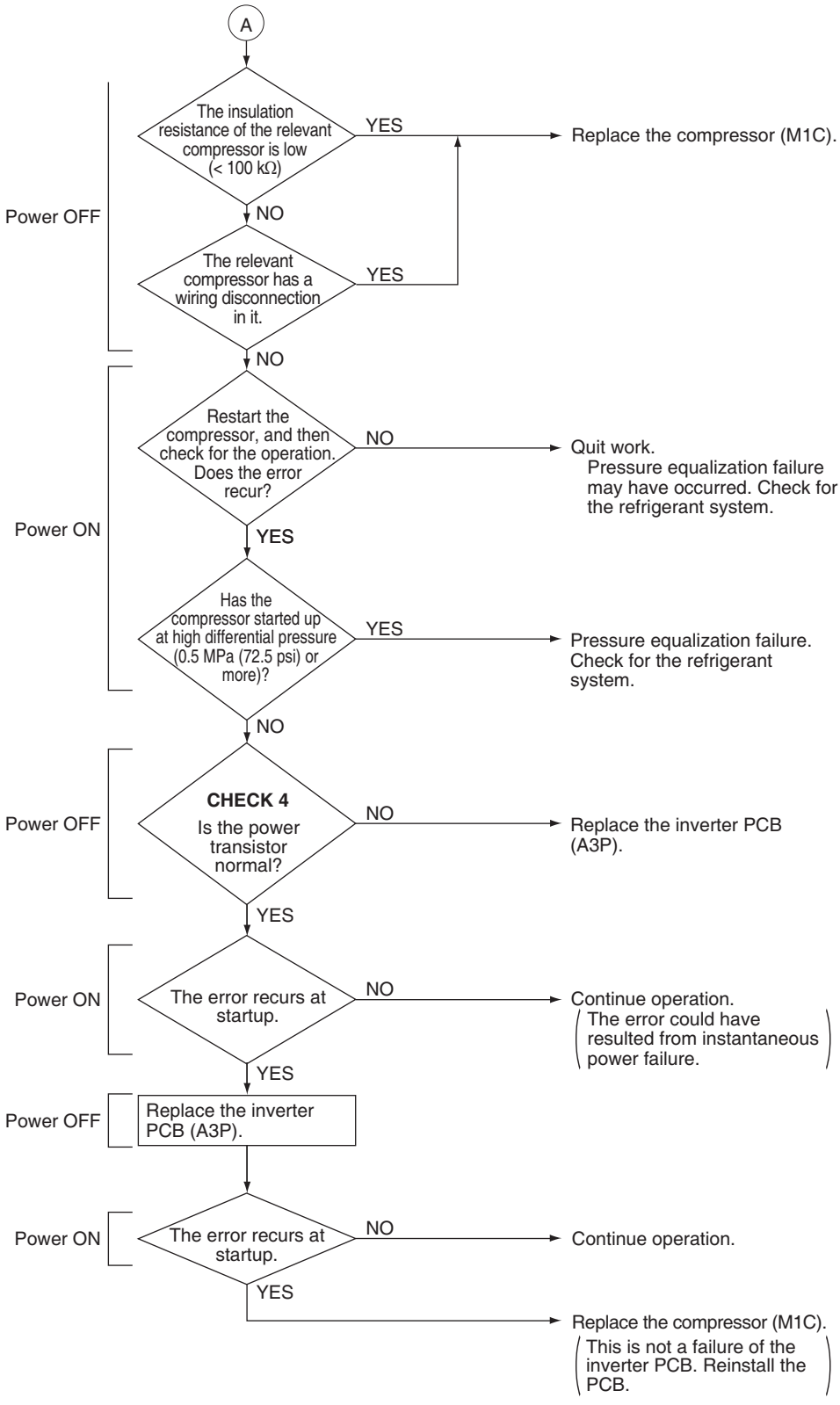
Supposed Causes

- Compressor lock
- High differential pressure (0.5 MPa (72.5 psi) or more)
- UVW connection error
- Defective inverter PCB
- Stop valve is not opened

Troubleshooting

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





Reference **CHECK 4** Refer to page 434.

3.36 Electronic Expansion Valve Coil Abnormality

Applicable Models

All outside unit models

Error Code

E9

Method of Error Detection

Detects according to whether or not there is continuity across the electronic expansion valve coils (Y1E-Y3E).

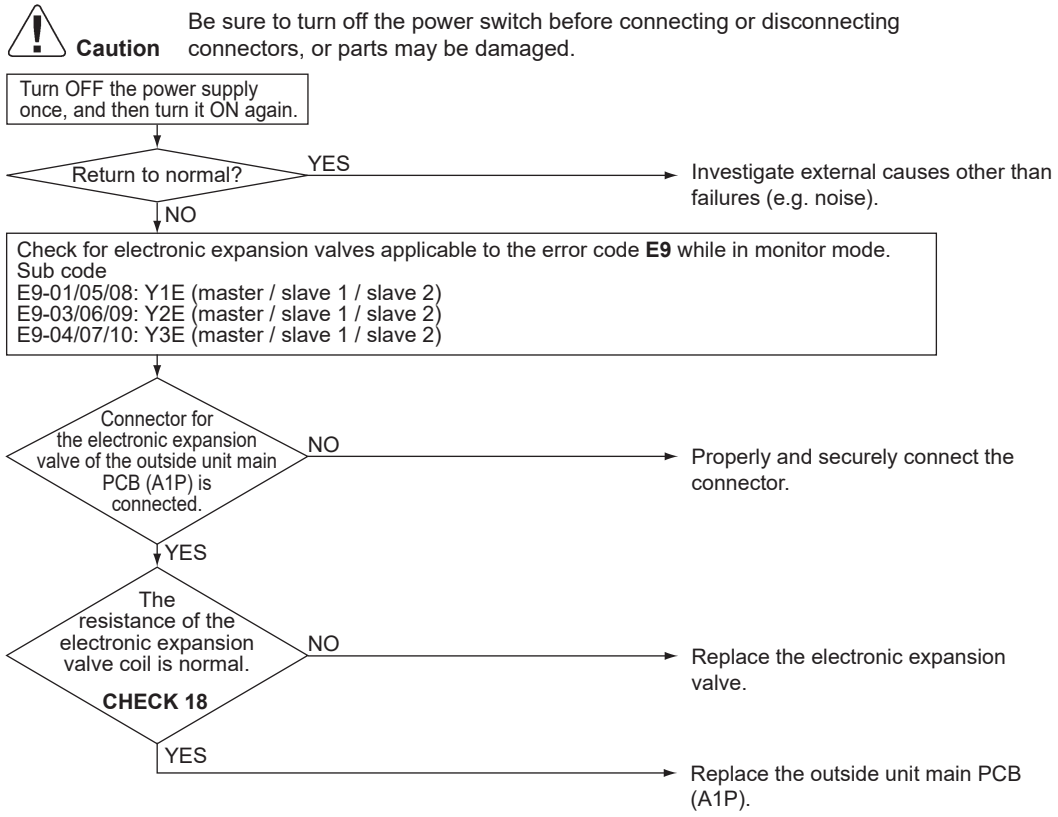
Error Decision Conditions

When no current flows through common (COM[+]) at the time of turning ON the power supply.

Supposed Causes

- Disconnection of connectors from electronic expansion valves (Y1E-Y3E)
- Defective electronic expansion valve coil
- Defective outside unit main PCB

Troubleshooting



Reference **CHECK 18** Refer to page 449.

3.37 Discharge Pipe Temperature Abnormality

Applicable Models

All outside unit models

Error Code

F3

Method of Error Detection

Detect according to temperature detected with the discharge pipe or compressor body thermistor.

Error Decision Conditions

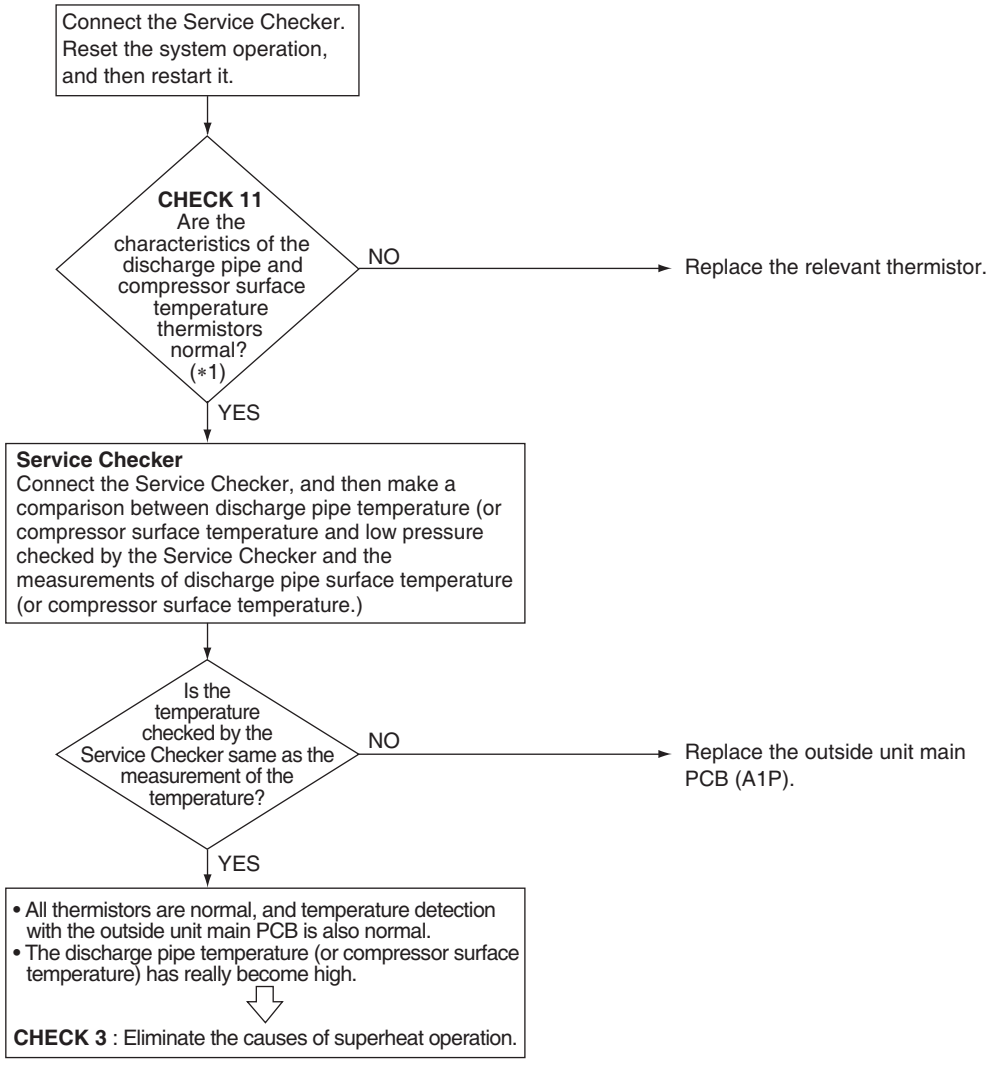
- When discharge pipe temperature becomes abnormally high (i.e., 135°C (275°F) or more)
- When discharge pipe temperature sharply rises (remains at 120°C (248°F) or more for a period of consecutive 10 minutes)
- When compressor surface temperature becomes abnormally high (i.e., 120°C (248°F) or more)
- When compressor surface temperature sharply rises (remains at 115°C (239°F) or more for a period of consecutive 10 minutes)

Supposed Causes

- Abnormal discharge pipe temperature
- Defective discharge pipe thermistor
- Abnormal compressor surface temperature
- Defective compressor body thermistor
- Defective outside unit main PCB

Troubleshooting

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



Note(s) ∗1. Thermistors

Applicable Thermistor	Electric symbol	Connector
Discharge pipe thermistor for M1C	R21T	X19A (Group connector)
Compressor body thermistor	R14T	

Reference **CHECK 3** Refer to page 432.

Reference **CHECK 11** Refer to page 440.

3.38 Suction Pipe Temperature Abnormality

Applicable Models

All outside unit models

Error Code

F4

Method of Error Detection

Detect according to temperature detected with the suction pipe.

Error Decision Conditions

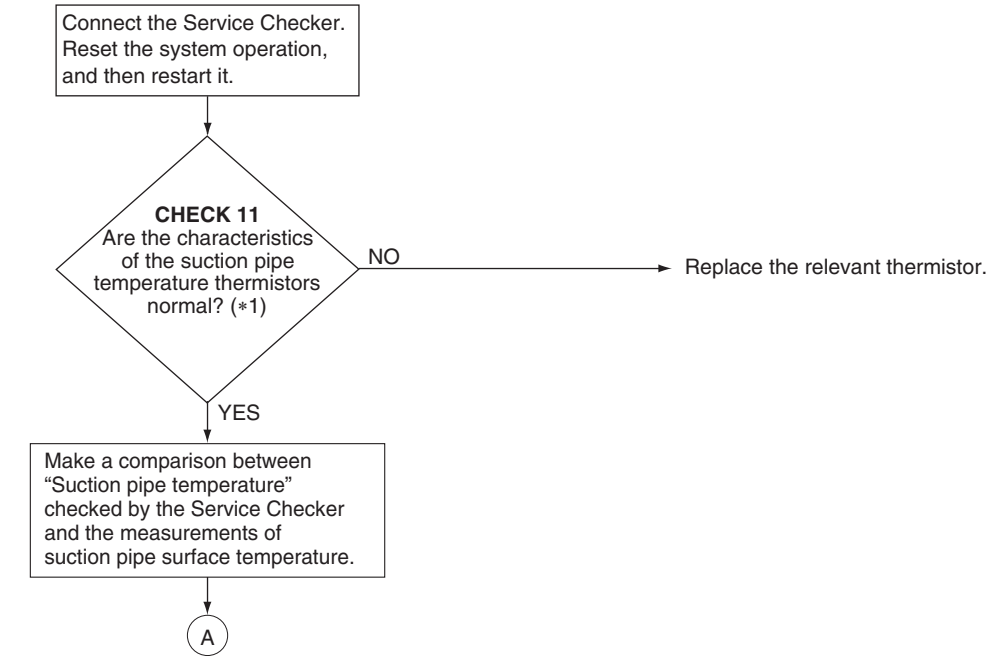
- When suction pipe temperature becomes abnormally high (i.e., 60°C (140°F) or more)

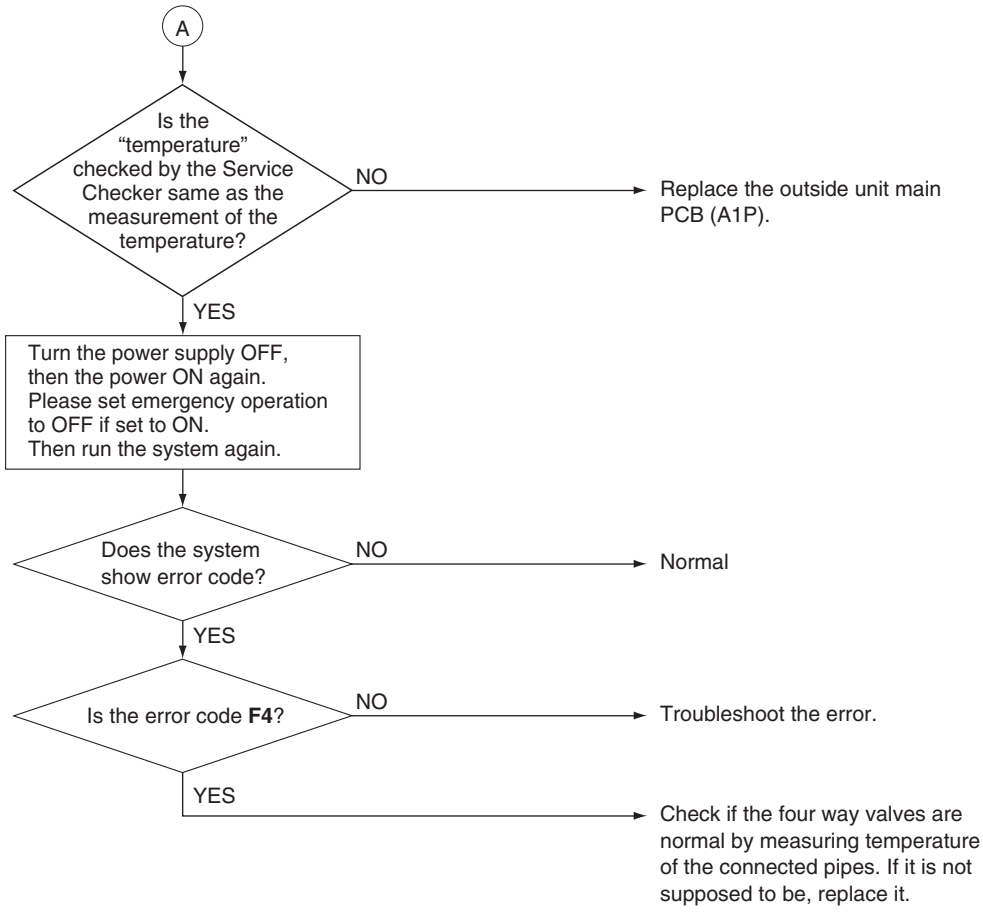
Supposed Causes

- Abnormal suction pipe temperature
- Defective suction pipe thermistor
- Defective outside unit main PCB

Troubleshooting

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





Note(s)

∗1. Thermistors

Applicable Thermistor	Electric symbol	Connector
Suction pipe thermistor	R3T	X30A (Group connector)

Reference **CHECK 11** Refer to page 440.

3.39 Refrigerant Overcharged

Applicable Models

All outside unit models

Error Code

F6

Method of Error Detection

The error is detected according to the temperature detected by the discharge pipe temperature during check operation.

Error Decision Conditions

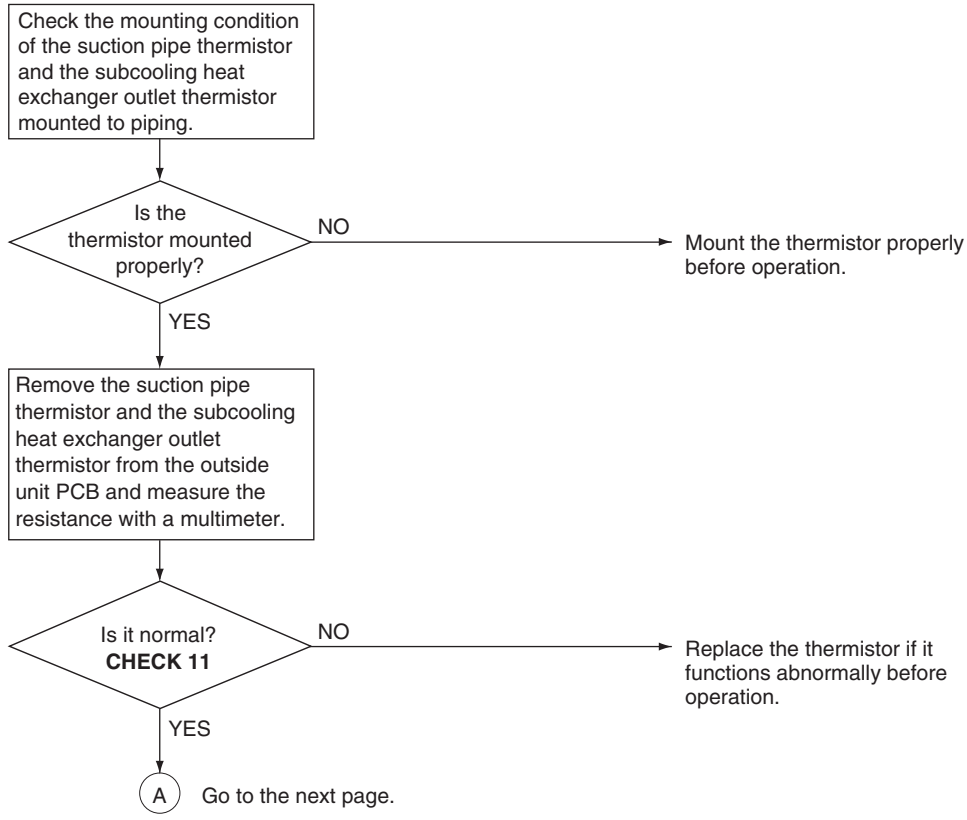
When the discharge pipe temperature drops during check operation

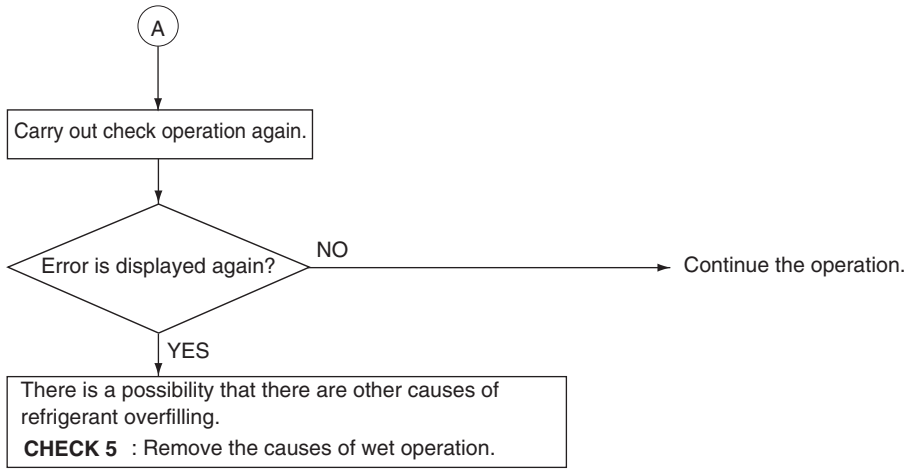
Supposed Causes

- Refrigerant overcharged
- Disconnection of discharge pipe thermistor

Troubleshooting

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





Reference **CHECK 5** Refer to page 435.

Reference **CHECK 11** Refer to page 440.

3.40 Branch Selector Unit Electronic Expansion Valve Abnormality

Applicable Models

Branch Selector unit

Error Code

F9

Method of Error Detection

The error is detected by whether or not all coils of the electronic expansion valve have continuity.

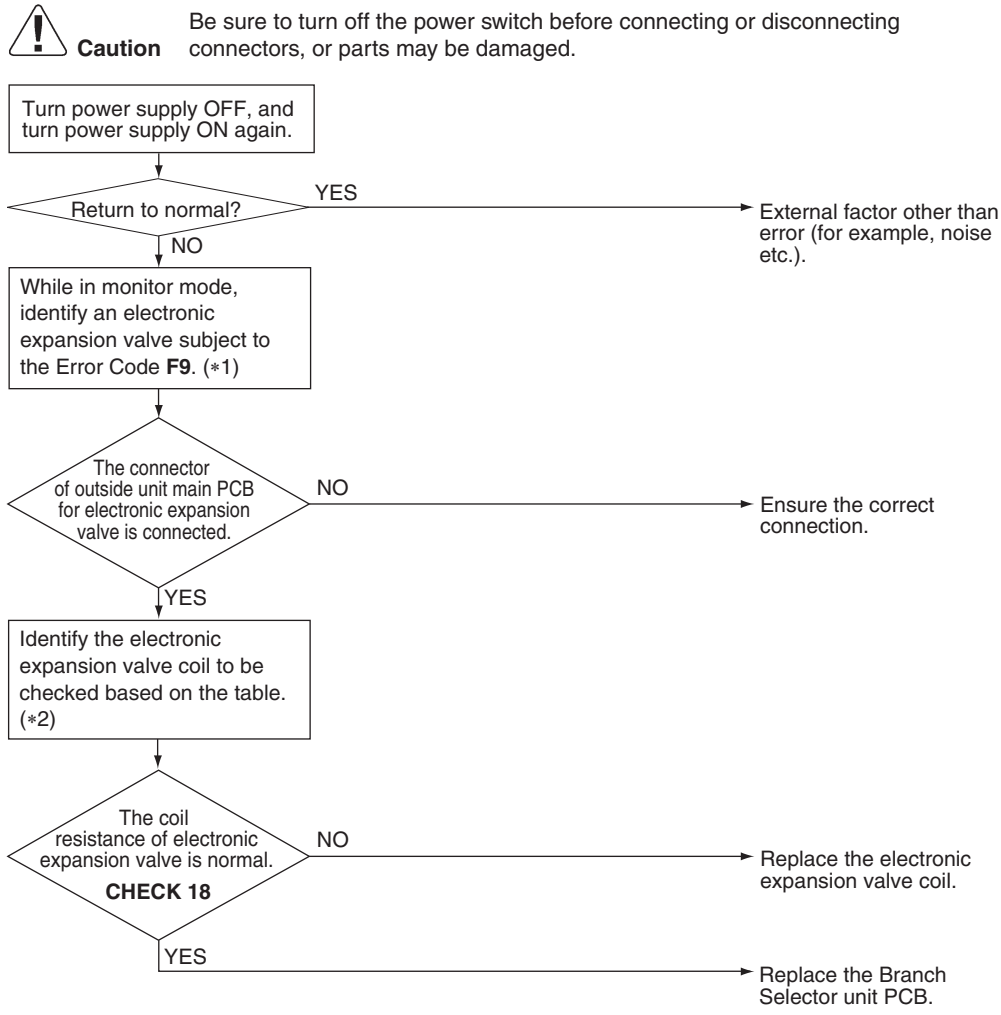
Error Decision Conditions

The power supply turns ON, but there is no currents pass through the common (COM[+]).

Supposed Causes

- Disconnection of the electronic expansion valve connector
- Defective electronic expansion valve coil
- Defective PCB of Branch Selector unit

Troubleshooting



Note(s)

∗1. Use the sub code to identify the electronic expansion valve subject to error code **F9.**

Electronic expansion valve	Sub code
Electronic expansion valve (EVH)	01
Electronic expansion valve (EVL)	02
Electronic expansion valve (EVSC)	05

∗2. Use the sub code to identify the electronic expansion valve for checking coil resistance subject to error code **F9.**

Model	Electronic expansion valve to be checked	Sub code
BSQ-T BSQ-TA BS-Q54T	All electronic expansion valves	Any code
BS-Q54TA BSF-Q54T	All the electronic expansion valves of branch selector unit PCBs that are connected to indoor units issuing error code **F9**	01
	Electronic expansion valve (EVL)	02
	Electronic expansion valve (EVSC)	05

Reference

CHECK 18 Refer to page 449.

3.41 Harness Abnormality (between Outside Unit Main PCB and Inverter PCB)

Applicable Models

All outside unit models

Error Code

H3

Method of Error Detection

Check for the transmission conditions of the harnesses between the PCBs using microcomputer.

Error Decision Conditions

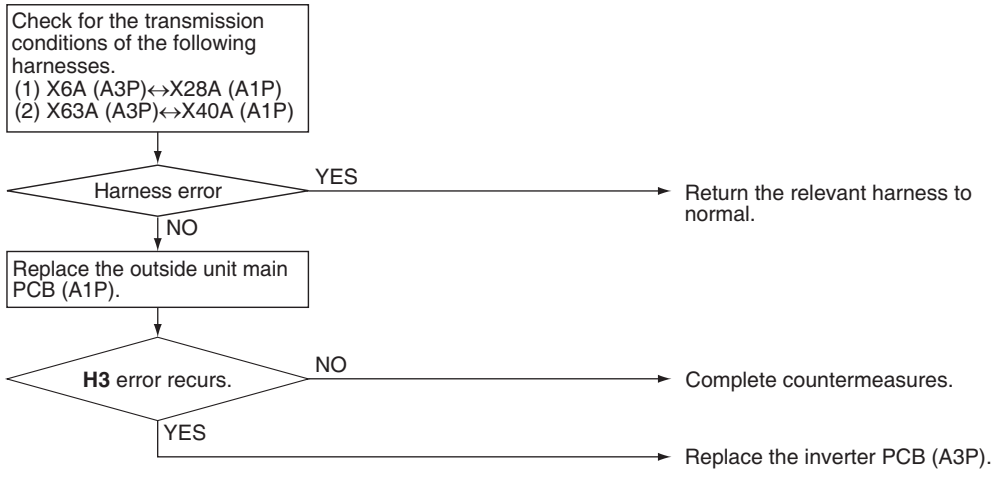
Normal transmission between the PCBs is disabled while the compressor is not running.

Supposed Causes

- Defective connection of jumpers between PCB
- Defective outside unit main PCB (A1P)
- Defective inverter PCB (A3P)

Troubleshooting

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



3.42 Thermistor System Abnormality

Applicable Models

All outside unit models

Error Code

H9, HC, J3, J4, J5, J6, J7, J9

Method of Error Detection

The error is detected according to the temperature detected by each individual thermistor.

Error Decision Conditions

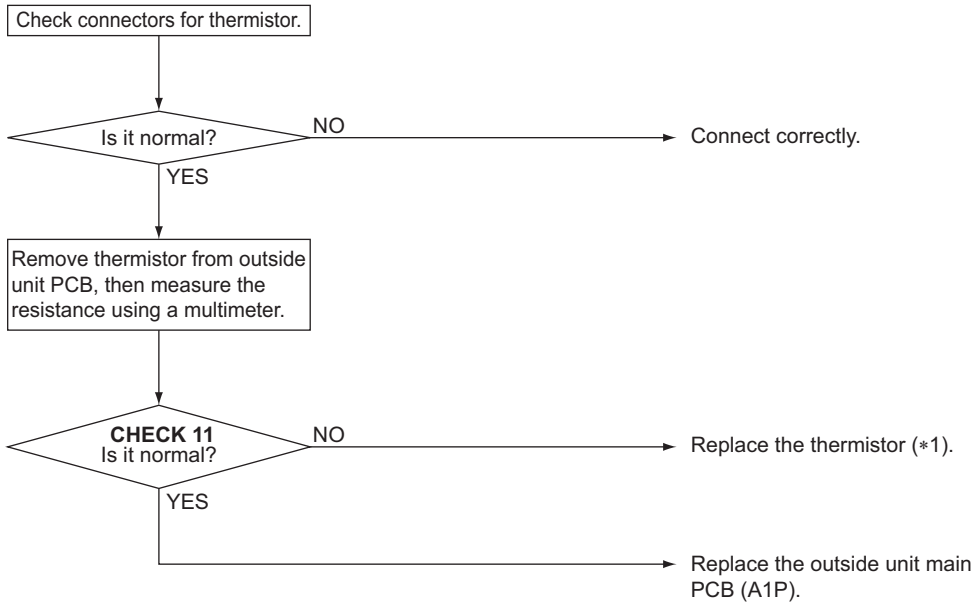
When thermistor is disconnected or short-circuited during operation

Supposed Causes

- Defective connection of thermistor
- Defective thermistor
- Defective outside unit main PCB

Troubleshooting

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



Note(s)

∗1. Error codes and thermistors

Error Code	Sub Error Code	Applicable Thermistor	Electric symbol	Connector	Name
H9	01/02/03	Outside unit inside thermistor	R1T	X11A (A4P)	Ta
HC	03/04/05	Water inlet thermistor	R9T	X29A (A1P)	Tw1
	06/07/08	Water outlet thermistor	R10T	X29A (A1P)	Tw2
J3	16/17/22/23/28/29	Discharge pipe thermistor	R12T	X19A (A1P)	Tdi
	47/48/49/50/51/52	Compressor body thermistor	R13T	X19A (A1P)	Ti
J4	02/04/06	Plate heat exchanger gas thermistor	R4T	X30A (A1P)	Tg
J5	01/03/05	Suction pipe thermistor	R3T	X30A (A1P)	Ts
J6	01/02/03	Plate heat exchanger liquid thermistor	R7T	X30A (A1P)	Tb
J7	01/02/03	Receiver outlet liquid pipe thermistor	R6T	X30A (A1P)	TL
	06/07/08	Subcooling heat exchanger outlet liquid pipe thermistor	R8T	X29A (A1P)	Tsc
	18/19/20	Injection pipe thermistor	R11T	X18A (A1P)	Tm
J9	01/02/03	Subcooling heat exchanger outlet gas pipe thermistor	R5T	X30A (A1P)	Tsh
	17/18/19	Exhaust heat cancellation heat exchanger gas pipe thermistor	R2T	X12A (A4P)	Tev

Reference

CHECK 11 Refer to page 440.

3.43 Water System Abnormality

Applicable Models

All outside unit models

Error Code

HJ

Method of Error Detection

- Detect abnormalities using the thermistor on the heat exchanger gas side.
- Detect turned OFF interlock circuit. (When interlock setting is provided.)

Error Decision Conditions

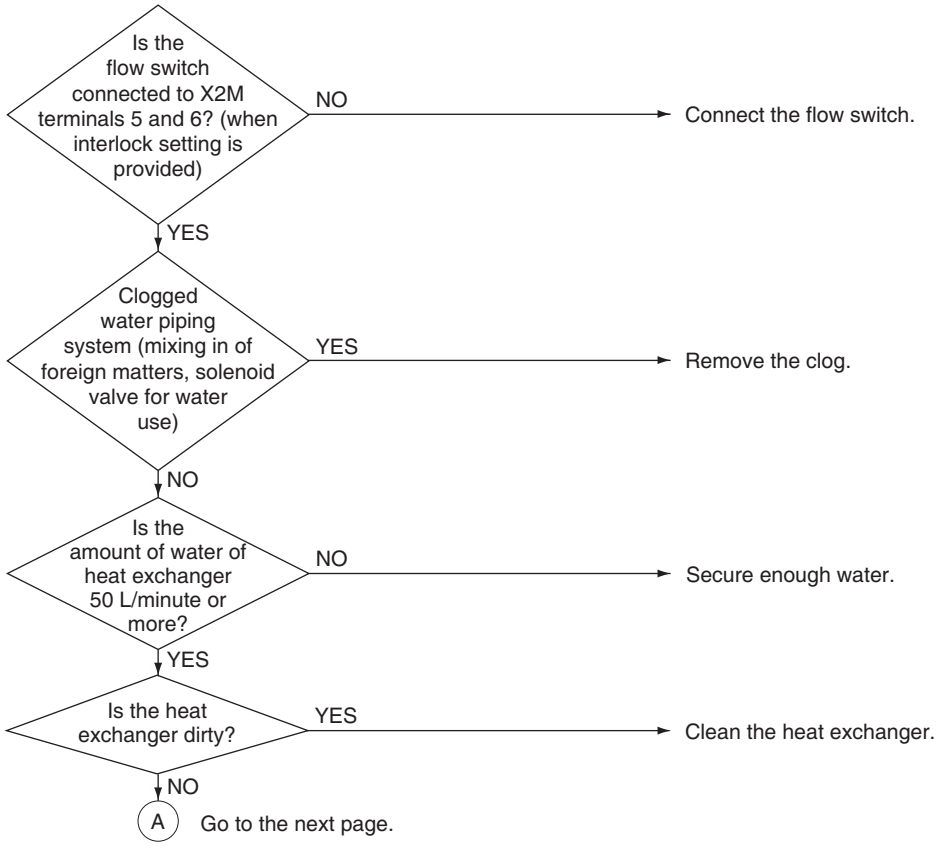
- When temperature on the heat exchanger gas side (R4T) drops remarkably with the minimum operation step (52 Hz) of the compressor
- With interlock setting provided, when interlock circuit is turned OFF

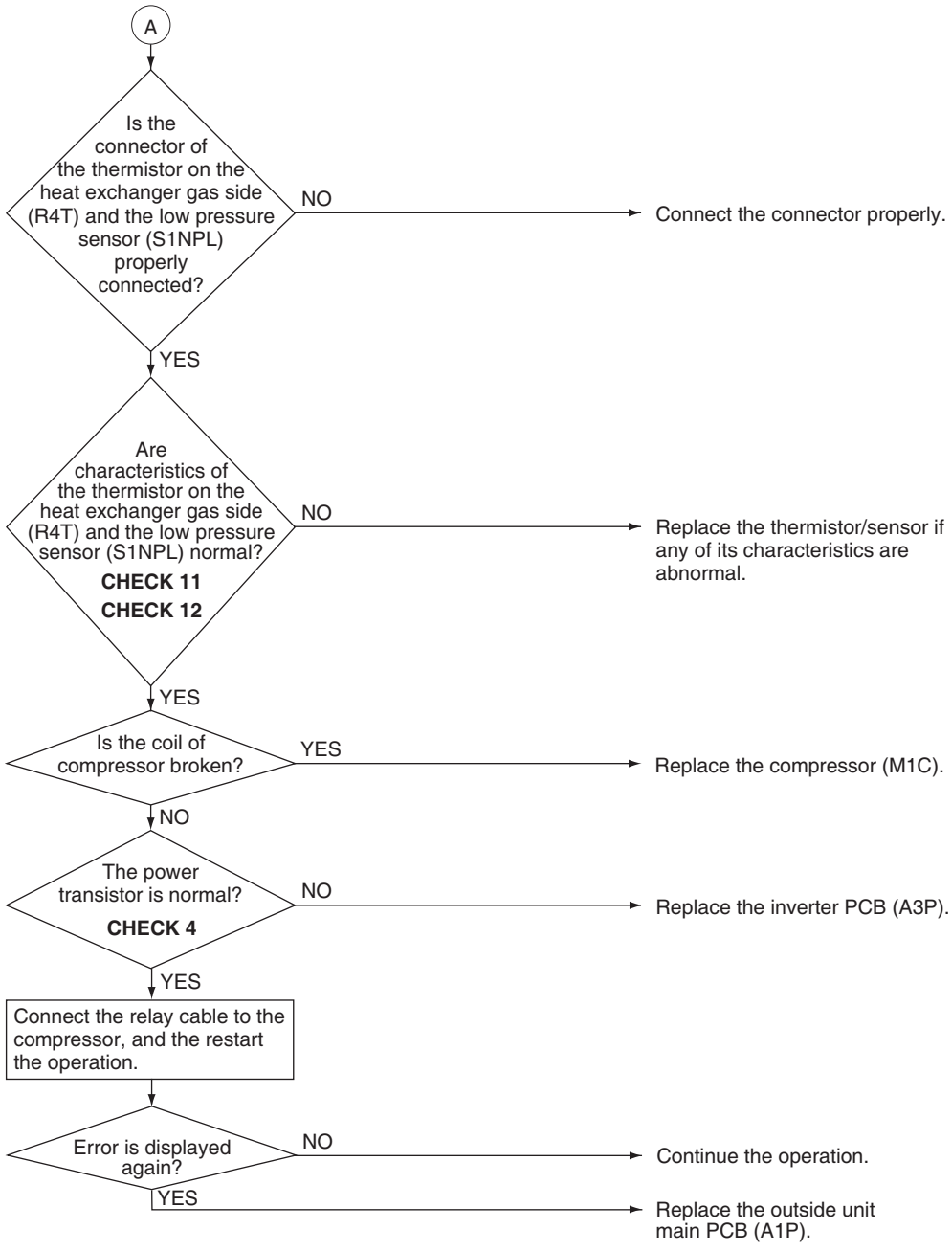
Supposed Causes

- Clogged water piping system
- Insufficient heat exchanger water
- Dirty heat exchanger
- Disconnected connector
- Defective thermistor on the heat exchanger gas side
- Defective low pressure sensor

Troubleshooting

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





Reference **CHECK 4** Refer to page 434.

Reference **CHECK 11** Refer to page 440.

Reference **CHECK 12** Refer to page 443.

3.44 High Pressure Sensor Abnormality

Applicable Models

All outside unit models

Error Code

JA

Method of Error Detection

Detects according to temperature detected with the high pressure sensor.

Error Decision Conditions

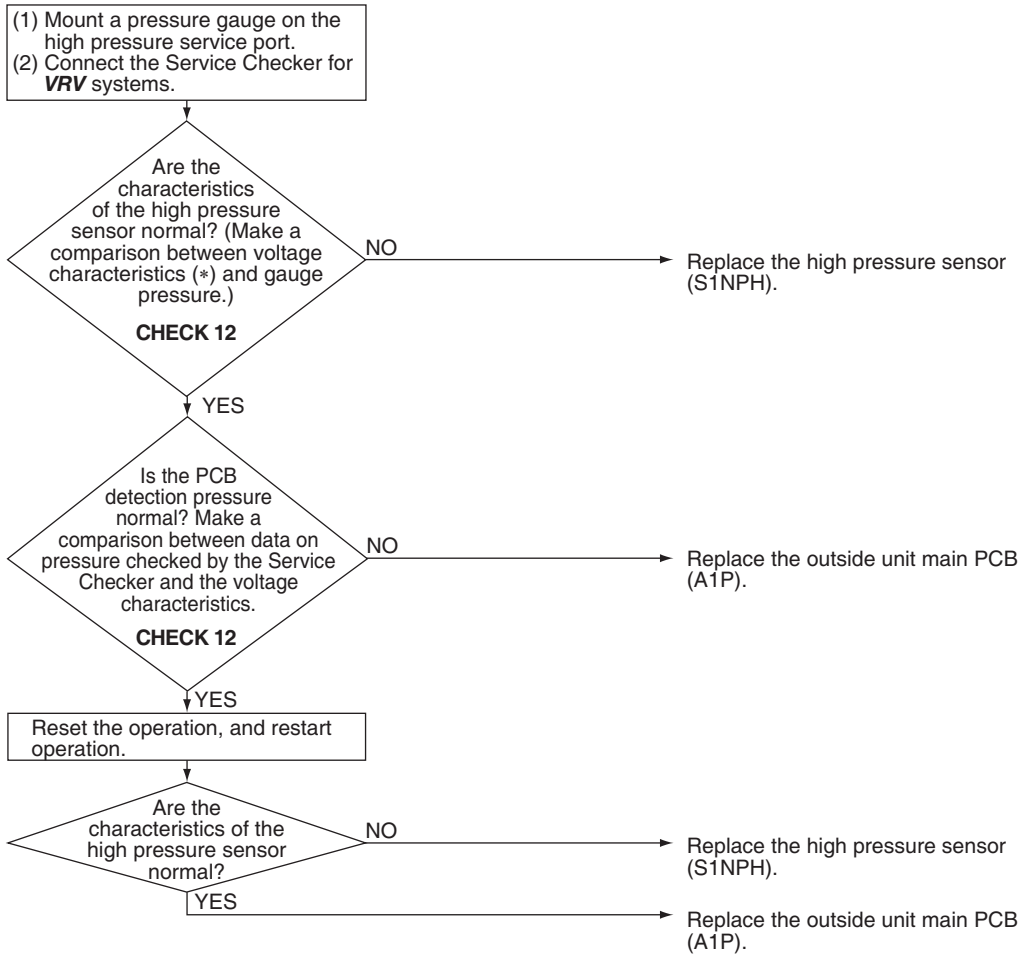
The high pressure sensor is short circuit or open circuit.
(Pressure range: 0-4.3 MPa (0-624 psi))

Supposed Causes

- Defective high pressure sensor
- Connection of low pressure sensor in mistake for high pressure sensor
- Defective outside unit main PCB
- Defective connection of high pressure sensor

Troubleshooting

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



Reference **CHECK 12** Refer to page 443.

3.45 Low Pressure Sensor Abnormality

Applicable Models

All outside unit models

Error Code

JC

Method of Error Detection

Detect according to temperature detected with the low pressure sensor.

Error Decision Conditions

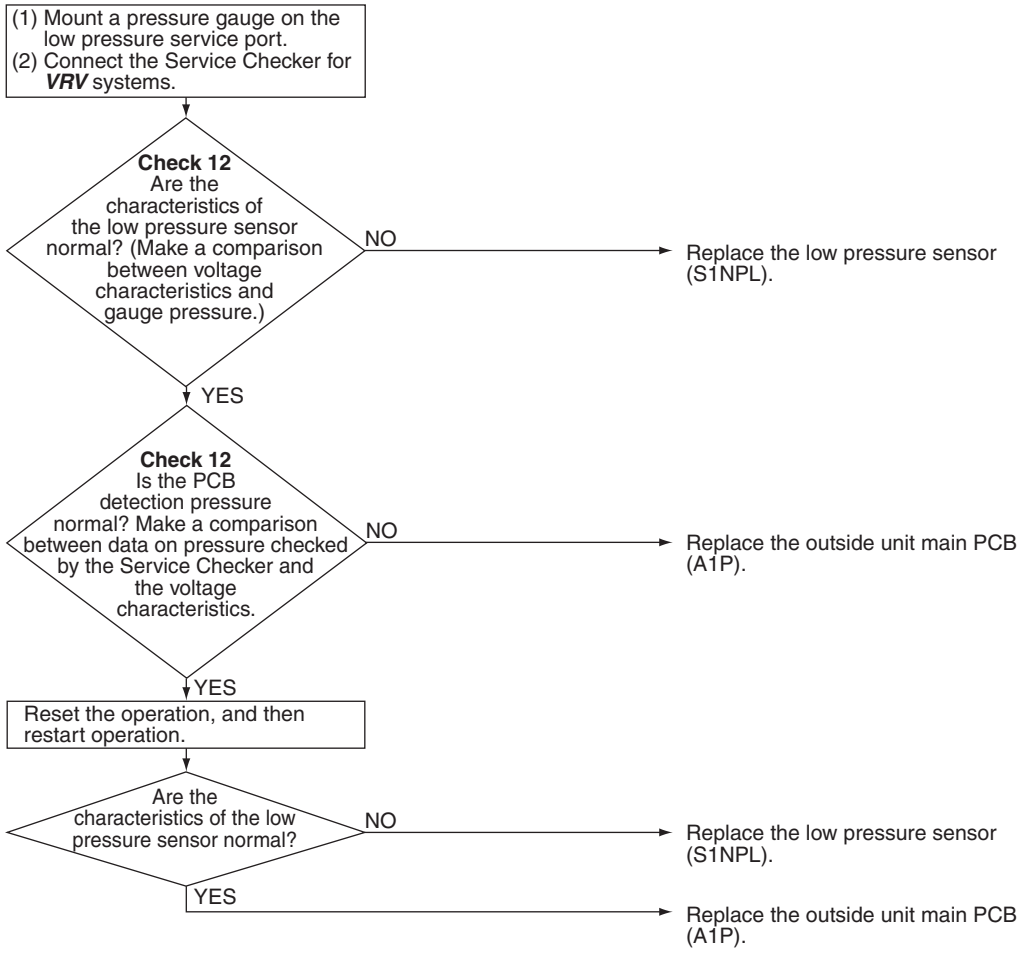
The low pressure sensor is short circuit or open circuit.
(Pressure range: 0-1.7 MPa (0-247 psi))

Supposed Causes

- Defective low pressure sensor
- Connection of high pressure sensor in mistake for low pressure sensor
- Defective outside unit main PCB
- Defective connection of low pressure sensor

Troubleshooting

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



Reference **CHECK 12** Refer to page 443.

3.46 Inverter PCB Abnormality

Applicable Models

All outside unit models

Error Code

L1

Method of Error Detection

- Detect current value during the output of waveform before compressor startup
- Detect current value with the current sensor during synchronous operation for startup

Error Decision Conditions

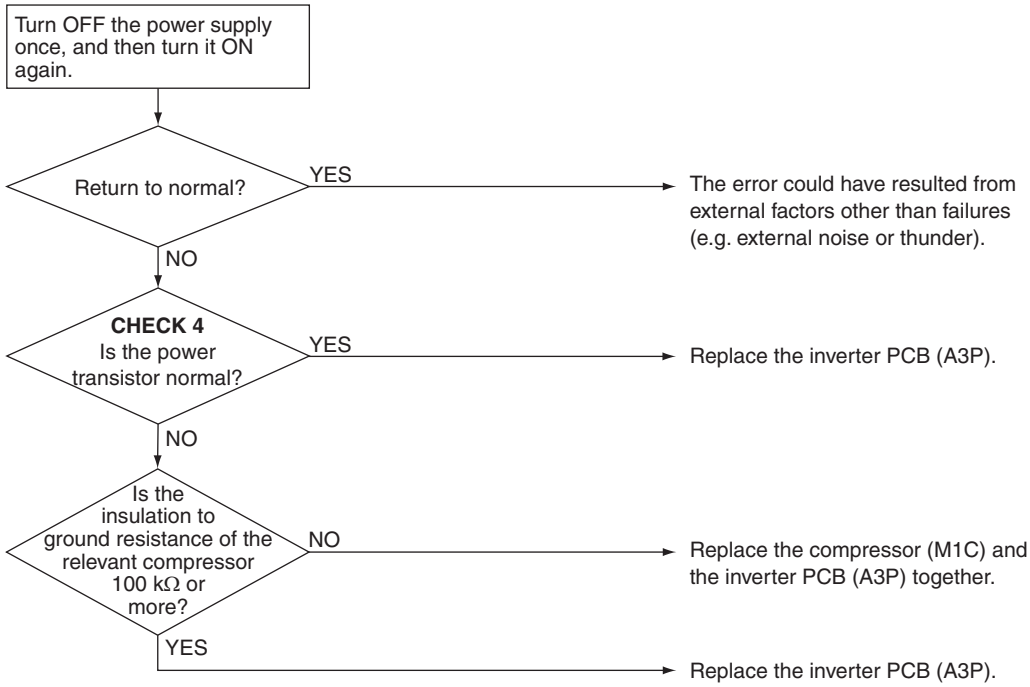
- When the overcurrent flows during the output of waveform
- When the current sensor error during synchronous operation
- When IPM error occurs

Supposed Causes

- Inverter PCB
  - IPM failure
  - Current sensor failure
  - Drive circuit failure

Troubleshooting

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



Reference **CHECK 4** Refer to page 434.

3.47 Reactor Temperature Rise Abnormality

Applicable Models

All outside unit models

Error Code

L3

Method of Error Detection

Detect according to the value detected with the reactor surface thermistor.

Error Decision Conditions

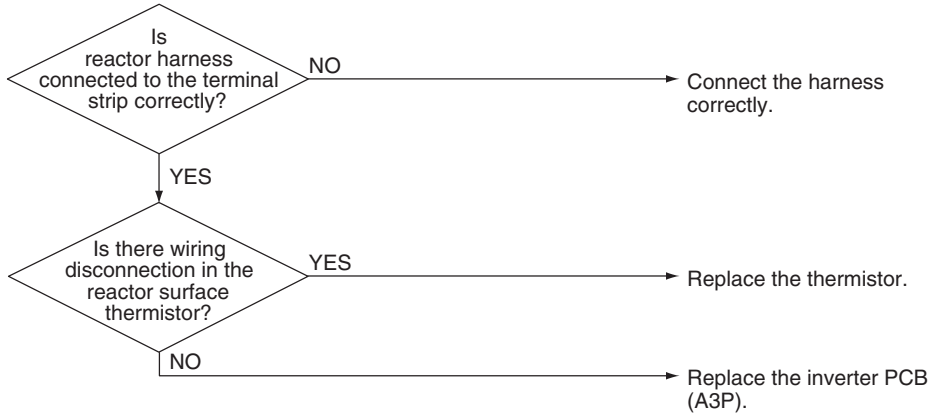
When the temperature detected with the reactor surface thermistor is more than the specified temperature.

Supposed Causes

- Defective connection of harness
- Defective reactor surface thermistor
- Defective inverter PCB

Troubleshooting

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



3.48 Inverter Radiation Fin Temperature Rise Abnormality

Applicable Models

All outside unit models

Error Code

L4

Method of Error Detection

Fin temperature is detected by the thermistor of the radiation fin.

Error Decision Conditions

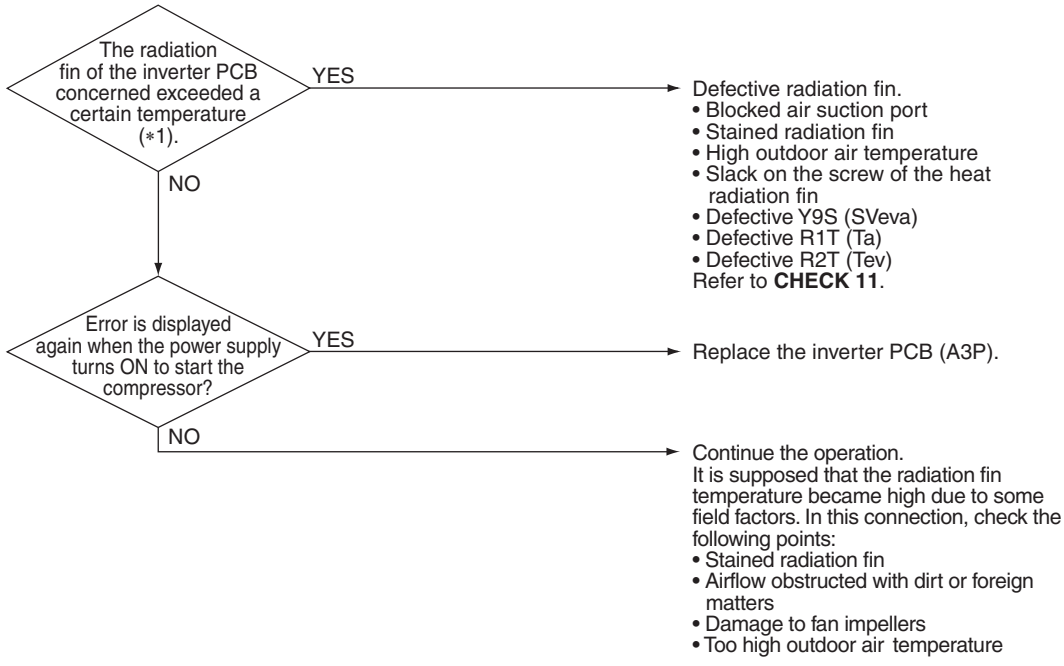
When the temperature of the inverter radiation fin reaches **A** °C (**B** °F) or more (∗1)

Supposed Causes

- Activation of radiation fin thermal (∗1)
- Defective inverter PCB
- Defective radiation fin thermistor
- Defective exhaust heat cancellation heat exchanger solenoid valve (Y9S) (SVeva)
- Defective outside unit inside thermistor (R1T) (Ta)
- Defective exhaust heat cancellation heat exchanger gas pipe thermistor (R2T) (Tev)

Troubleshooting

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



Note(s) ∗1. The radiation fin thermal activates at the temperature shown below.

Model	**A** (°C)	**B** (°F)
208/230 V units	105	221
460 V units	100	212
575 V units	95	203

Reference **CHECK 11** Refer to page 440.

3.49 Compressor Instantaneous Overcurrent

Applicable Models

All outside unit models

Error Code

L5

Method of Error Detection

Detect current flowing through the power transistor.

Error Decision Conditions

When overcurrent flows instantaneously through the power transistor.

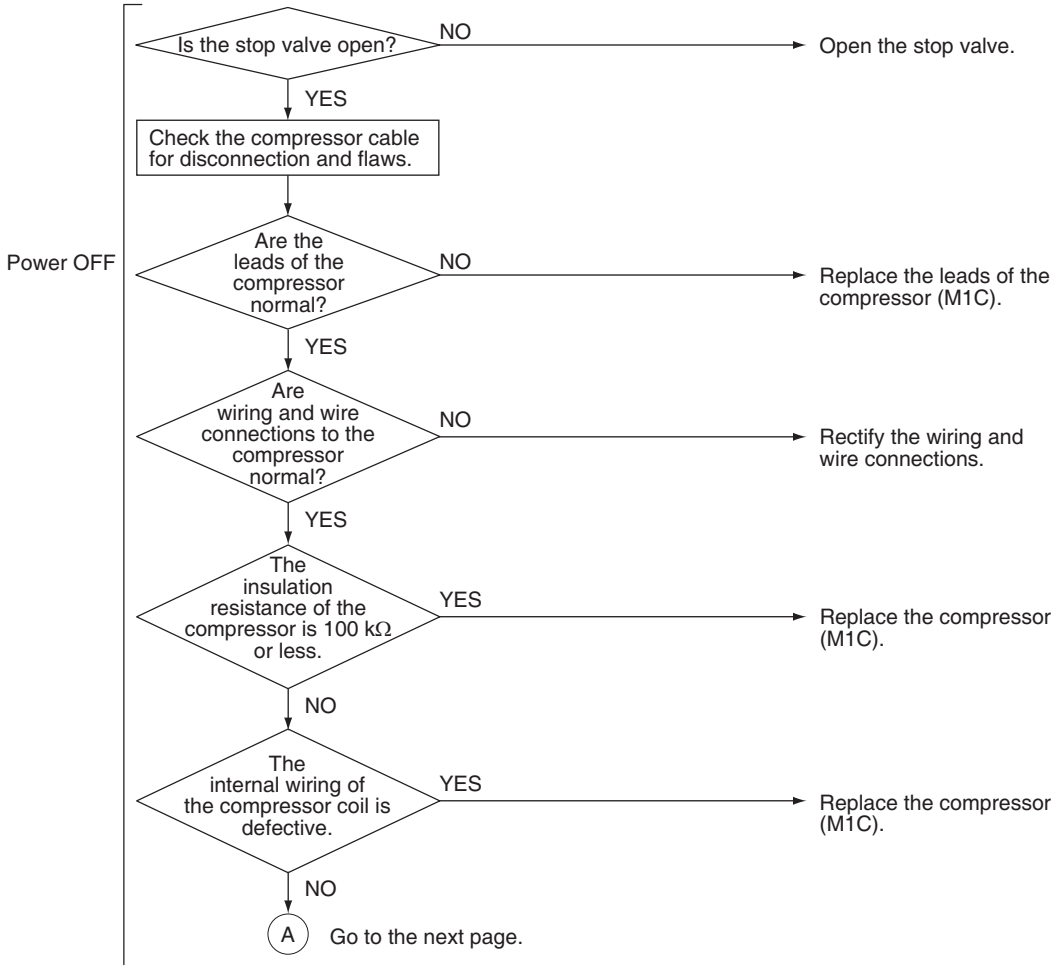
Supposed Causes

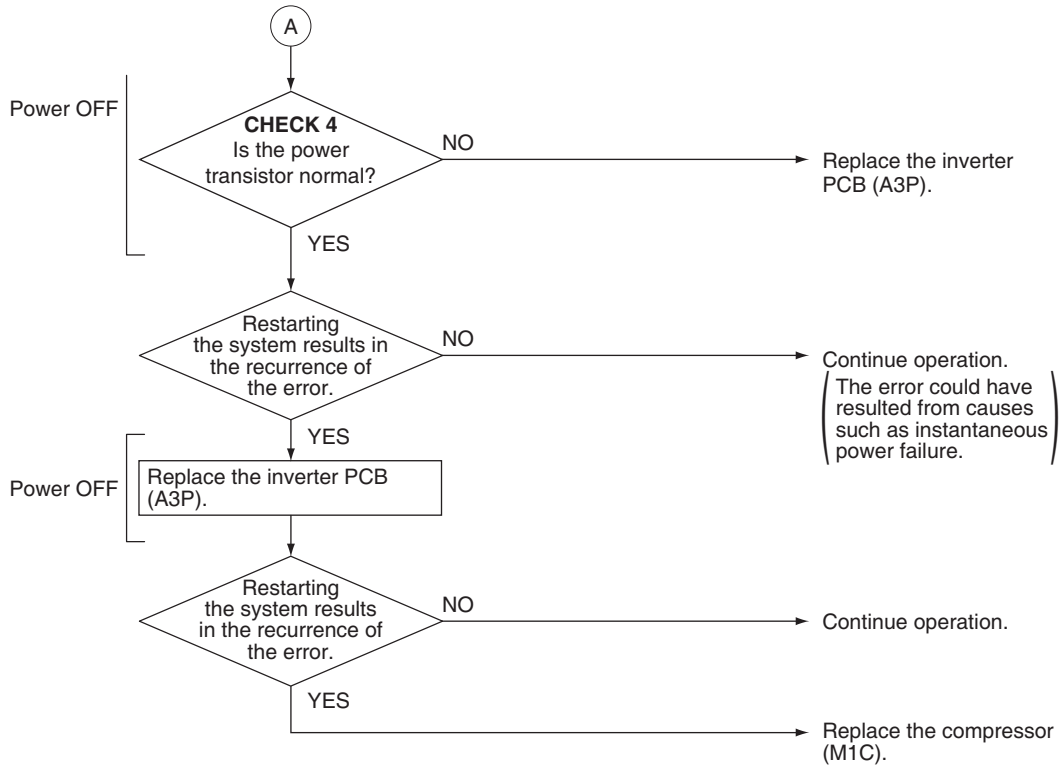
- Defective compressor coil (such as wiring disconnection or insulation failure)
- Compressor startup failure (mechanical lock)
- Defective inverter PCB

Troubleshooting

Compressor inspection

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





Reference **CHECK 4** Refer to page 434.

3.50 Compressor Overcurrent

Applicable Models

All outside unit models

Error Code

L8

Method of Error Detection

Detect current flowing through the power transistor.

Error Decision Conditions

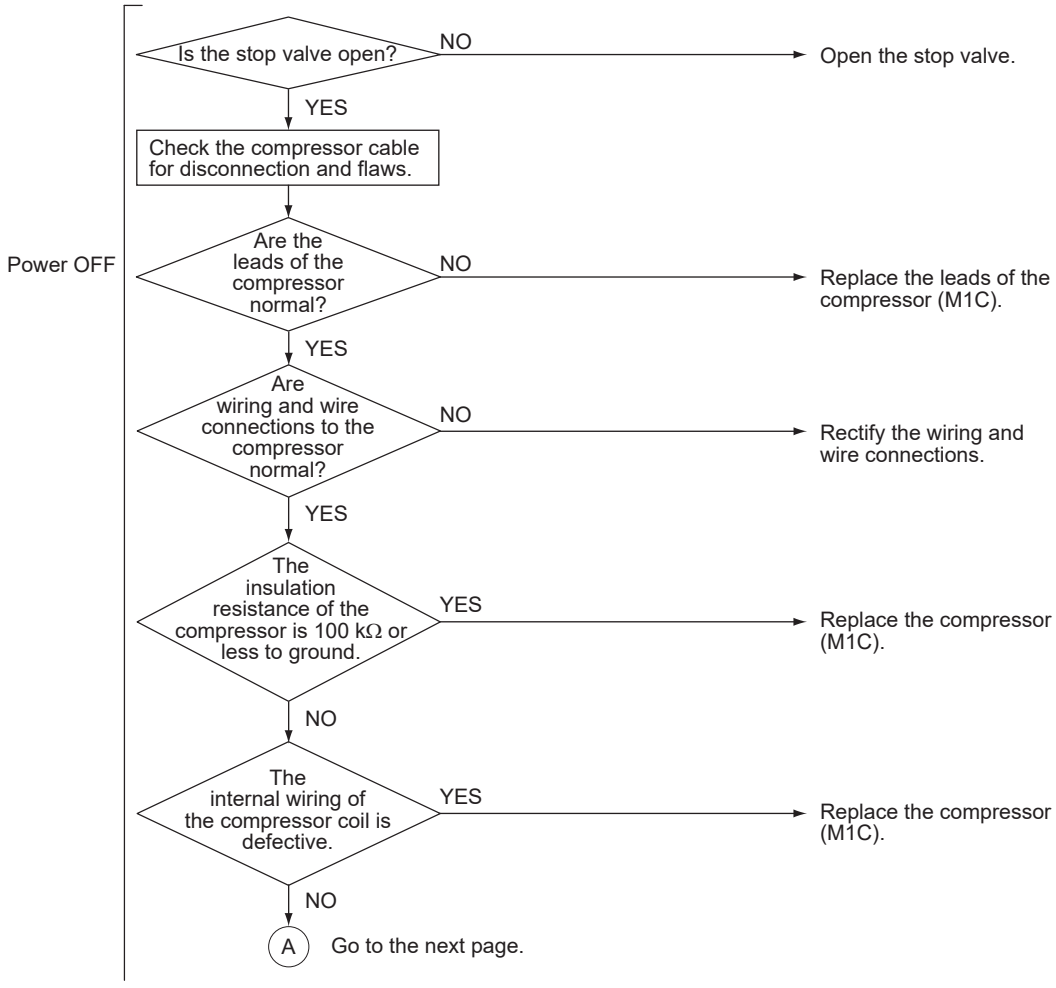
When the secondary-side inverter current exceeds a certain value.

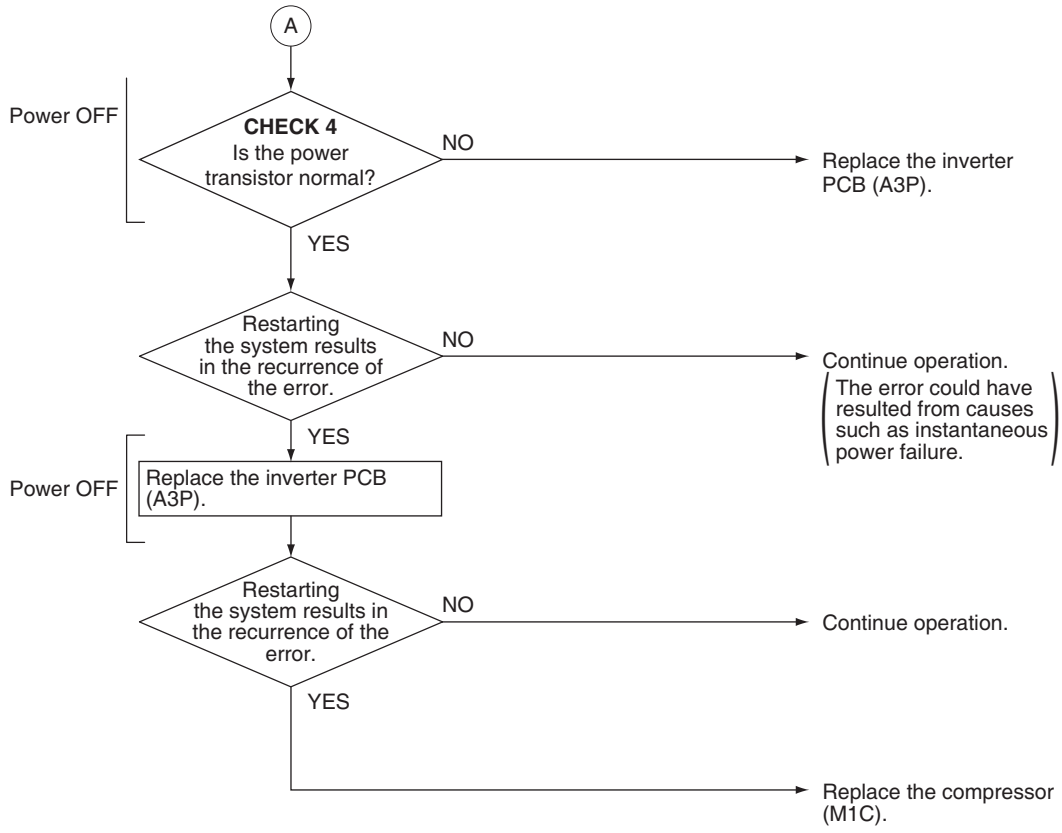
Supposed Causes

- Compressor overloaded
- Wiring disconnection in compressor coil
- Disconnection of compressor wiring
- Defective inverter PCB

Troubleshooting

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





Reference **CHECK 4** Refer to page 434.

3.51 Compressor Startup Abnormality

Applicable Models

All outside unit models

Error Code

L9

Method of Error Detection

Detect error according to the signal waveform of compressor.

Error Decision Conditions

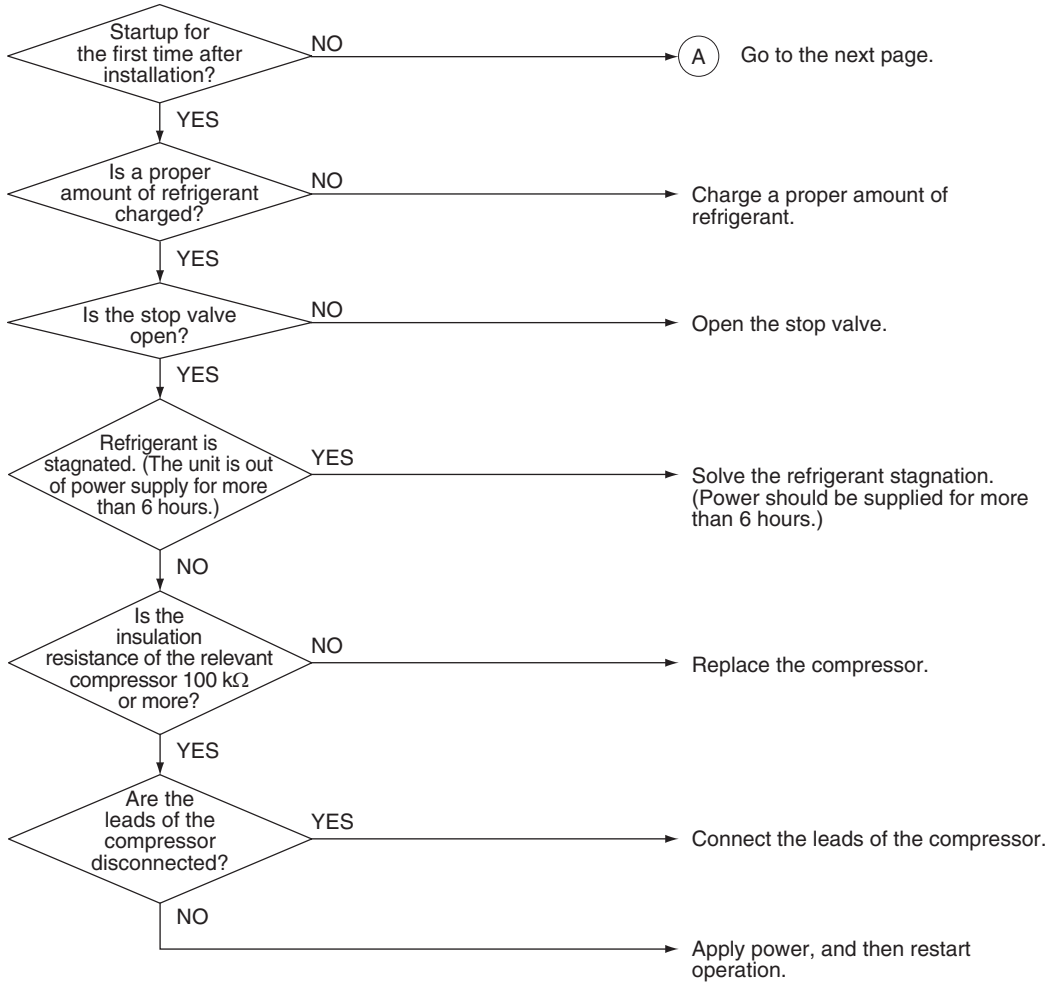
When compressor startup operation has not been completed.

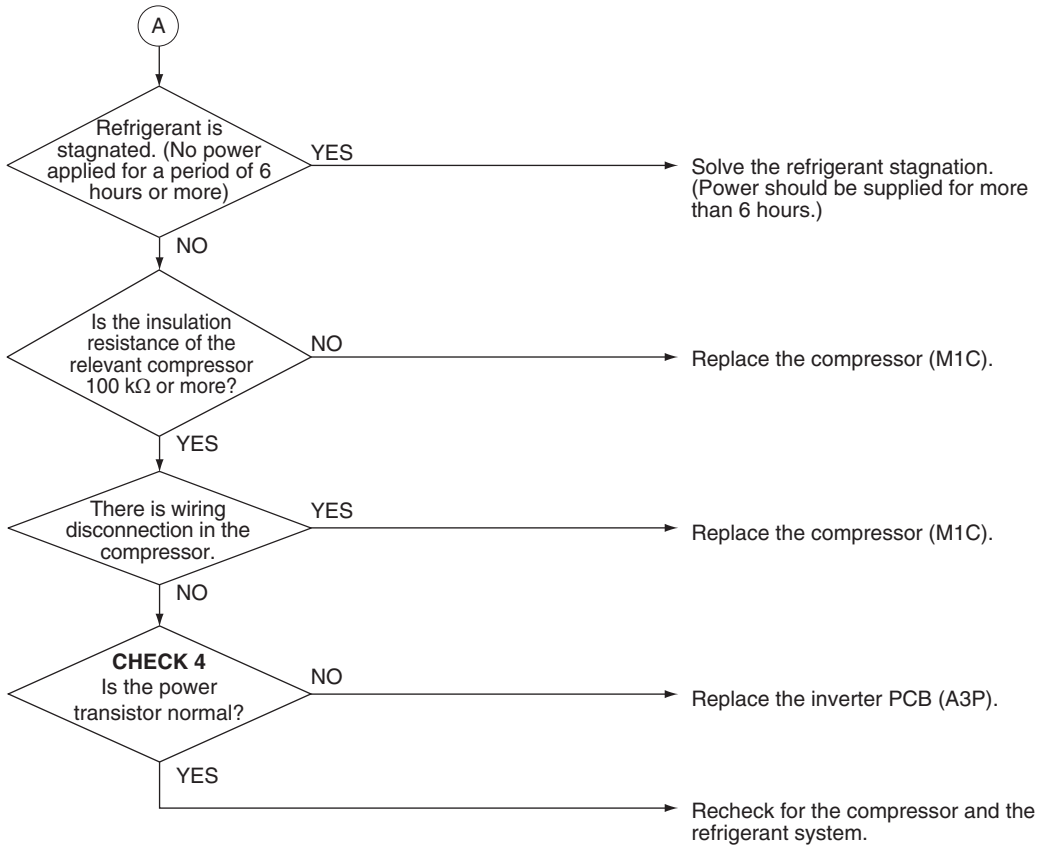
Supposed Causes

- The stop valve is not opened
- Defective compressor
- Error in wire connections to compressor
- Large differential pressure before compressor startup
- Defective inverter PCB

Troubleshooting

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





Reference **CHECK 4** Refer to page 434.

3.52 Transmission Error between Inverter PCB and Outside Unit Main PCB

Applicable Models

All outside unit models

Error Code

LC

Method of Error Detection

Check for the transmission conditions between the inverter PCB (A3P) and the outside unit main PCB (A1P) and sub PCB (A4P) using a microcomputer.

Error Decision Conditions

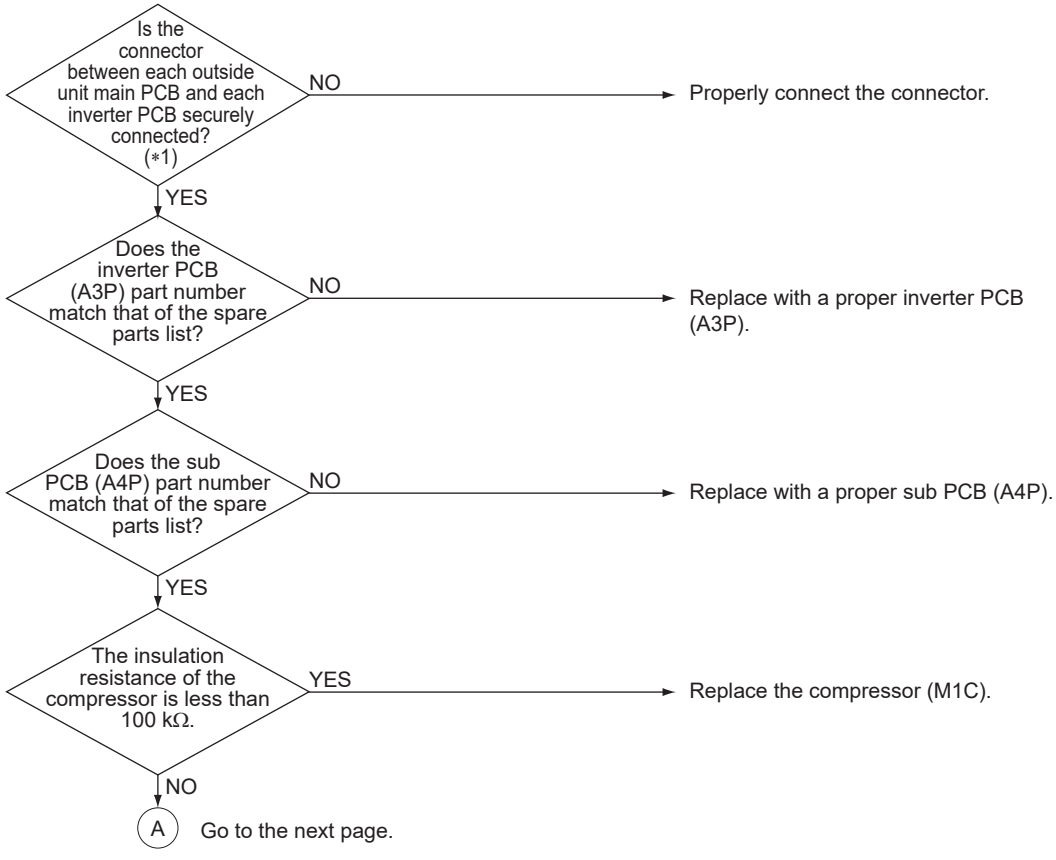
When normal transmission is disabled for a given period of time or more.

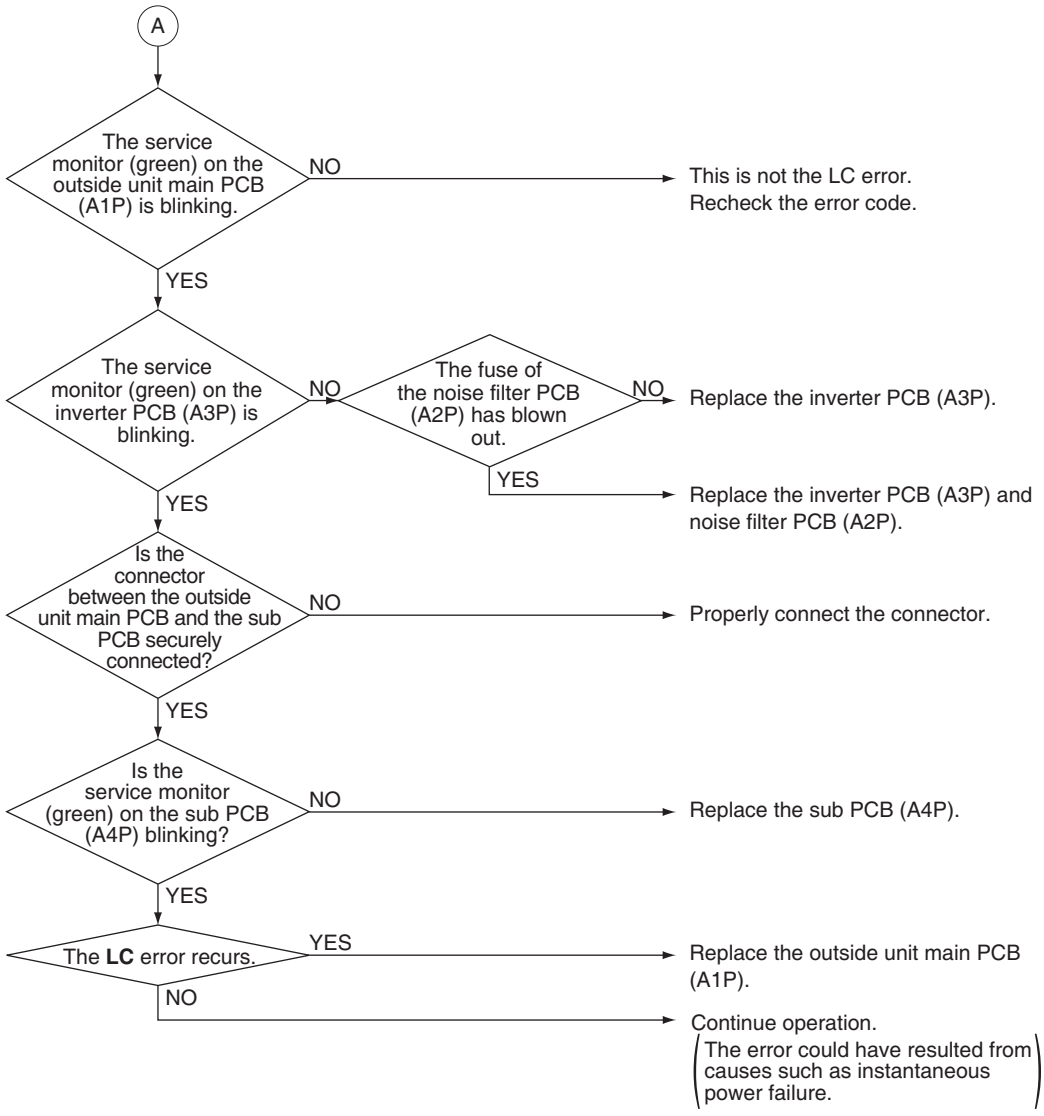
Supposed Causes

- Defective connection between the inverter PCB (A3P) and the outside unit main PCB (A1P) and sub PCB (A4P)
- Defective outside unit main PCB (transmission block)
- Defective noise filter
- External factors (e.g. noise)
- Defective inverter compressor
- Defective inverter PCB (A3P)
- Defective sub PCB (A4P)

Troubleshooting

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





Note(s) ∗1. Disconnect and connect the connector once to ensure that it is securely connected.

3.53 Power Supply Voltage Imbalance

Applicable Models

All outside unit models

Error Code

P1

Method of Error Detection

Detect voltage imbalance through inverter PCB.

Error Decision Conditions

When power supply voltage imbalance exceeds approximately 12 V.

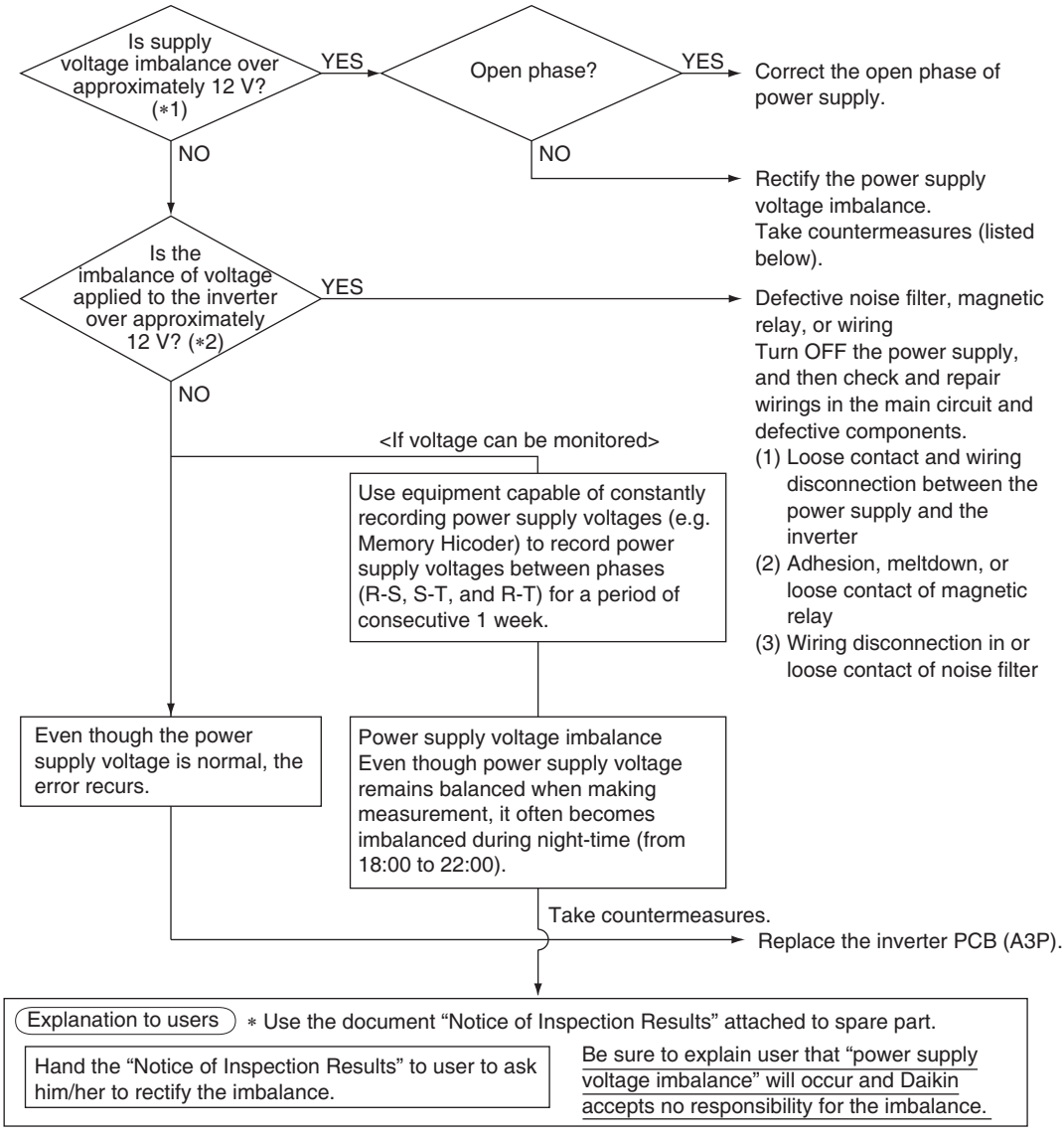
Error is not decided while the unit operation is continued.
P1 will be displayed by pressing the inspection button.

Supposed Causes

- Open phase
- Interphase voltage imbalance
- Defective capacitor in the main circuit
- Defective inverter PCB
- Defective magnetic relay
- Defective wiring in the main circuit

Troubleshooting

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



Note(s)

∗1. Make measurement of voltage at the power supply terminal block (X1M).

∗2. Make measurement of voltage at the L1, L2 and L3 terminals of diode module located on the inverter PCB during the compressor is in operation.

3.54 Reactor Temperature Abnormality

Applicable Models

208/230 V units (RWEQ96/120/144TATJU, RWEQ96/120/144TATJA, RWEQ72/96/120/144TBTJA)

Error Code

P3

Method of Error Detection

Detect according to the value detected with the reactor surface thermistor.

Error Decision Conditions

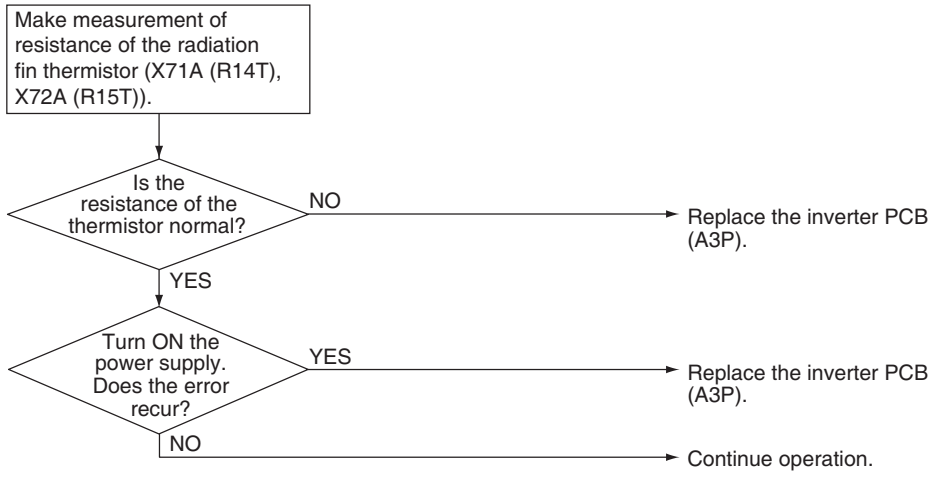
When the system is in operation and the thermistor causes wiring disconnection or short circuit in it.

Supposed Causes

- Defective connection of thermistor
- Defective reactor thermistor
- Defective inverter PCB

Troubleshooting

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



3.55 Inverter Radiation Fin Temperature Abnormality

Applicable Models

All outside unit models

Error Code

P4

Method of Error Detection

Resistance of radiation fin thermistor is detected when the compressor is not operating.

Error Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open circuited or short circuited status

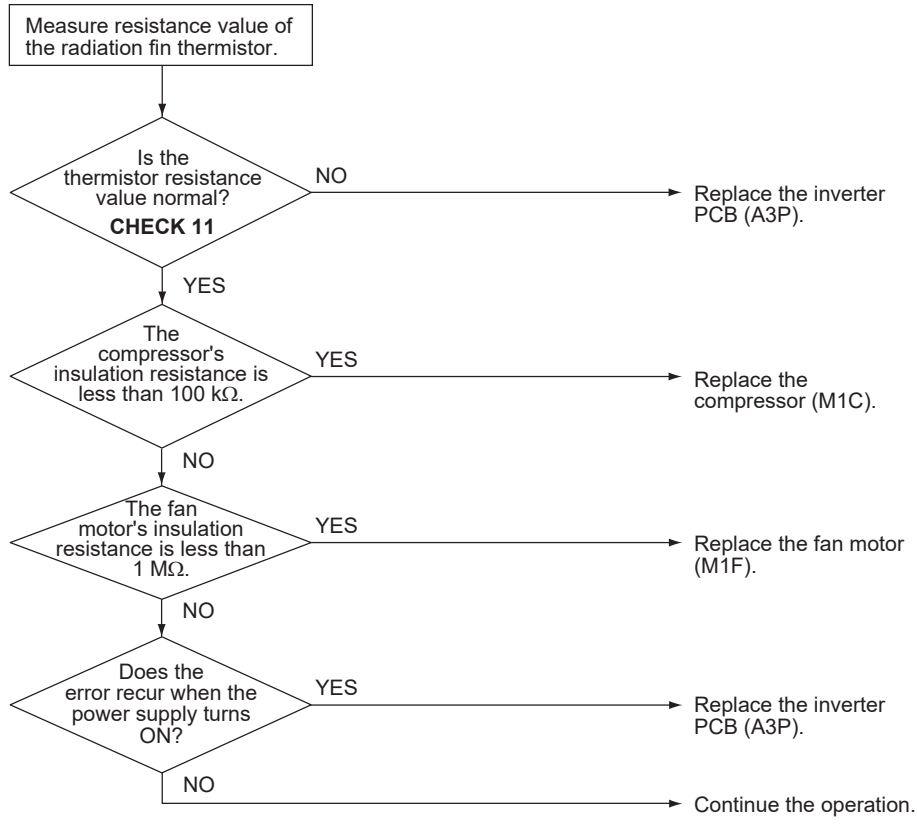
Error is not decided while the unit operation is continued.
P4 will be displayed by pressing the inspection button.

Supposed Causes

- Defective radiation fin temperature thermistor
- Defective inverter PCB
- Defective compressor
- Defective fan motor

Troubleshooting

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



Reference **CHECK 11** Refer to page 440.

3.56 Field Setting Abnormality after Replacing Outside Unit Main PCB or Combination of PCB Abnormality

Applicable Models

All outside unit models

Error Code

PJ

Method of Error Detection

This error is detected according to communications with the inverter PCB.

Error Decision Conditions

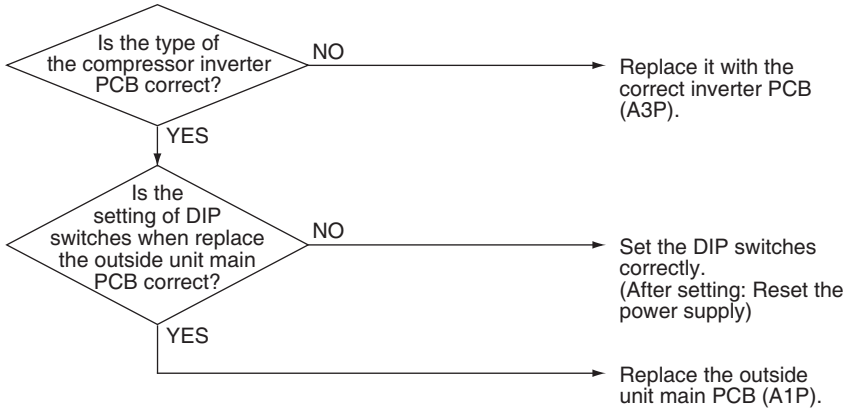
Make judgment according to communication data on whether or not the type of the inverter PCB is correct.

Supposed Causes

- Defective (or no) field setting after replacing outside unit main PCB
- Mismatching of type of PCB

Troubleshooting

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



3.57 Refrigerant Shortage Alert

Applicable Models

All outside unit models

Error Code

U0

Method of Error Detection

Detect refrigerant shortage based on the temperature difference between low pressure equivalent saturation temperature or suction pipe and heat exchanger temperature.

Error Decision Conditions

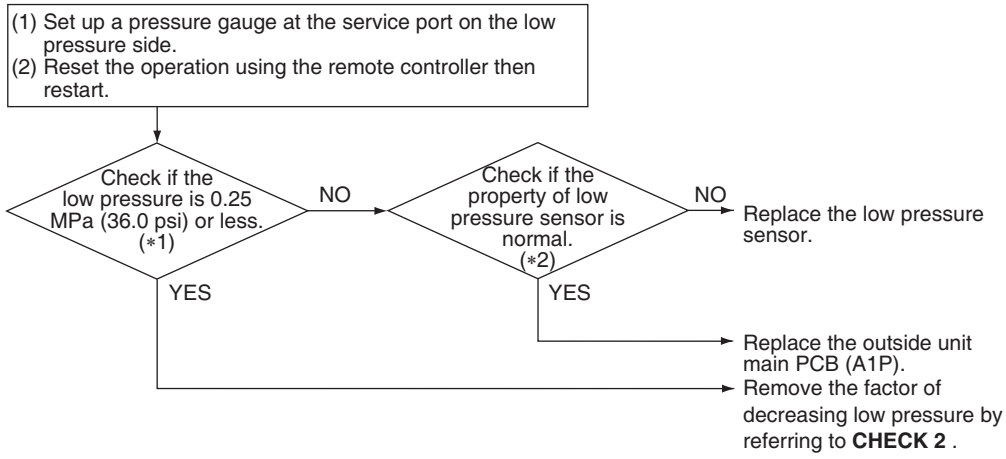
Low pressure becomes 0.25 MPa (36.0 psi) or less for more than 30 minutes.
∗ Error is not determined. The unit continues the operation.

Supposed Causes

- Refrigerant shortage or refrigerant clogging (piping error)
- Defective low pressure sensor
- Defective outside unit main PCB (A1P)

Troubleshooting

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



Note(s)

∗1. Check the low pressure value by using pressure gauge in operation.
∗2. Compare the actual measurement value by pressure sensor with the value by the pressure gauge.
(To gain actual measurement value by pressure sensor, measure the voltage at the connector [between (2)-(3)] and then convert the value into pressure. **CHECK 12**)

Reference **CHECK 2** Refer to page 430.

Reference **CHECK 12** Refer to page 443.

3.58 Reverse Phase, Open Phase

Applicable Models

208/230 V units (RWEQ96/120/144TATJU, RWEQ96/120/144TATJA, RWEQ72/96/120/144TBTJA)
460 V units (RWEQ96/120/144TAYDU, RWEQ96/120/144TAYDA, RWEQ72/96/120/144TBYDA)

Error Code

U1

Method of Error Detection

The phase of each phase are detected by reverse phase detection circuit and right phase or reverse phase are judged.

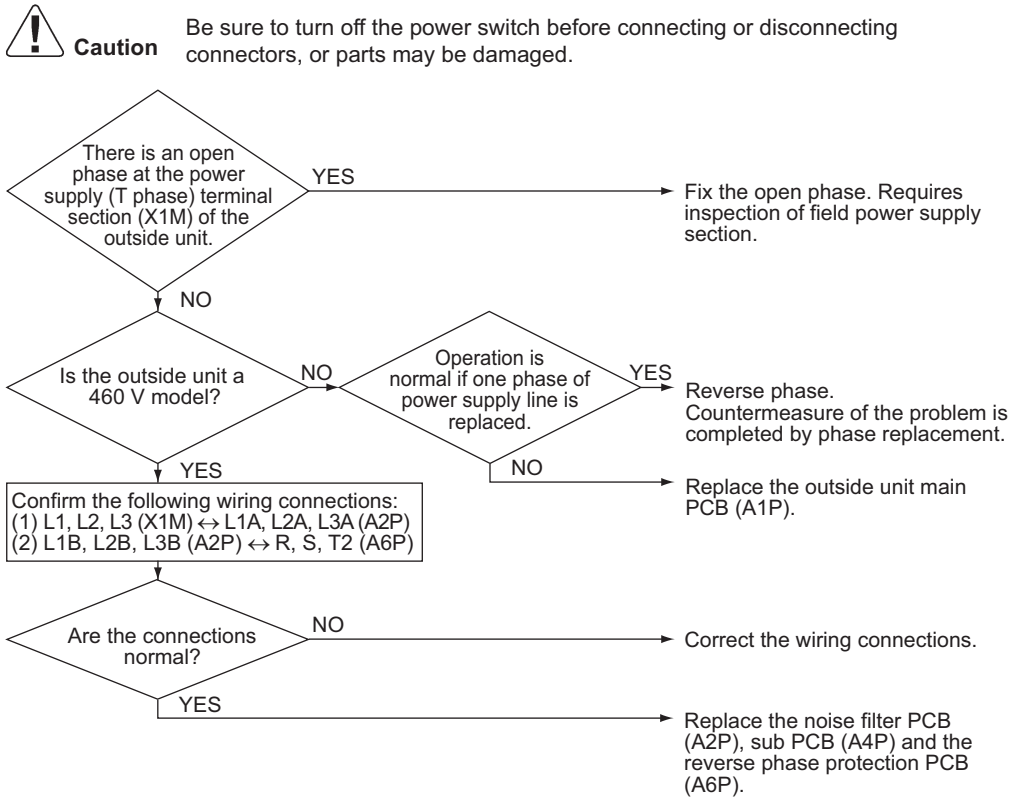
Error Decision Conditions

When a power supply is reverse phase, or T phase is open phase.

Supposed Causes

- Power supply reverse phase
- T phase open phase
- Defective outside unit main PCB (A1P)

Troubleshooting

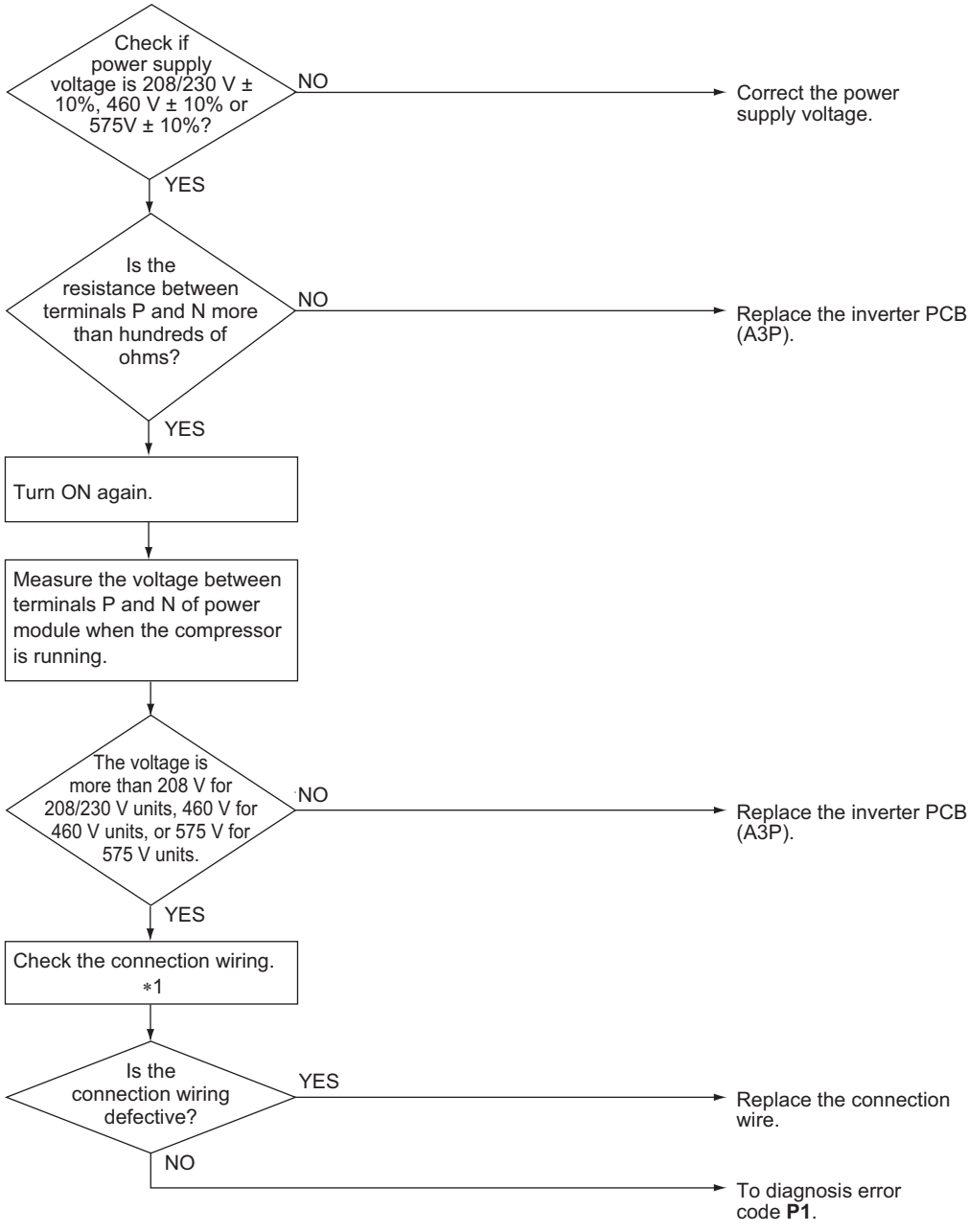


3.59 Power Supply Insufficient or Instantaneous Failure

Applicable Models	All outside unit models
Error Code	**U2**
Method of Error Detection	Detection of voltage of main circuit capacitor built in the inverter PCB and power supply voltage
Error Decision Conditions	For 208/230 V units: When the voltage aforementioned is 190 V or less For 460 V units: When the voltage aforementioned is more than 780 V or less than 320 V, or when the current-limiting voltage is 200 V or less or 740 V or more For 575 V units: When the voltage aforementioned is more than 1,000 V or less than 560 V, or when the current-limiting voltage is more than 910 V or less than 450 V
Supposed Causes	■ Power supply insufficient ■ Instantaneous power failure ■ Open phase ■ Defective inverter PCB (A3P) ■ Defective outside unit main PCB (A1P) ■ Defective magnetic contactor ■ Defective main circuit wiring

Troubleshooting

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



Note(s)

*1. Connection wiring

Model	Connection wiring
208/230 V units 460 V units	X6A (A3P) ↔ X28A (A1P) X63A (A3P) ↔ X40A (A1P)
575 V units	X6A (A3P) ↔ X28A (A1P) X63A (A3P) ↔ X40A (A1P) L1, L2, L3 (X1M) ↔ L1A, L2A, L3A (A2P) L1B, L2B, L3B (A2P) ↔ L1B, L2B, L3B (A3P)

3.60 Check Operation Not Executed

Applicable Models

All outside unit models

Error Code

U3

Method of Error Detection

The check operation has not been executed.

Error Decision Conditions

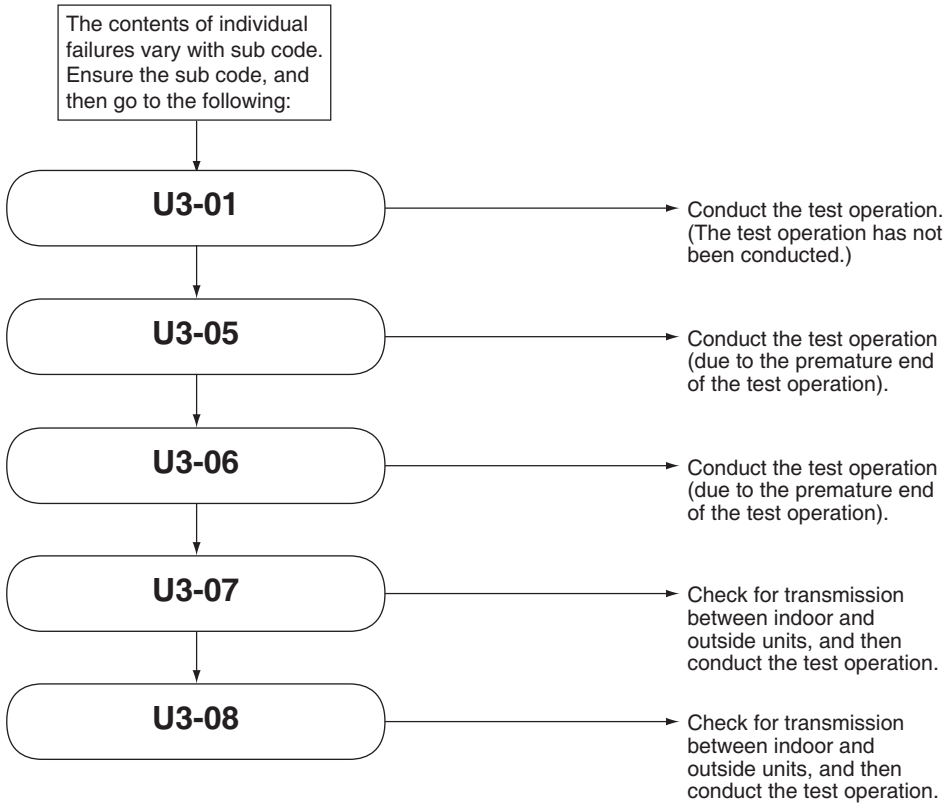
Error is decided when the unit starts operation without check operation.

Supposed Causes

Check operation not executed.

Troubleshooting

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

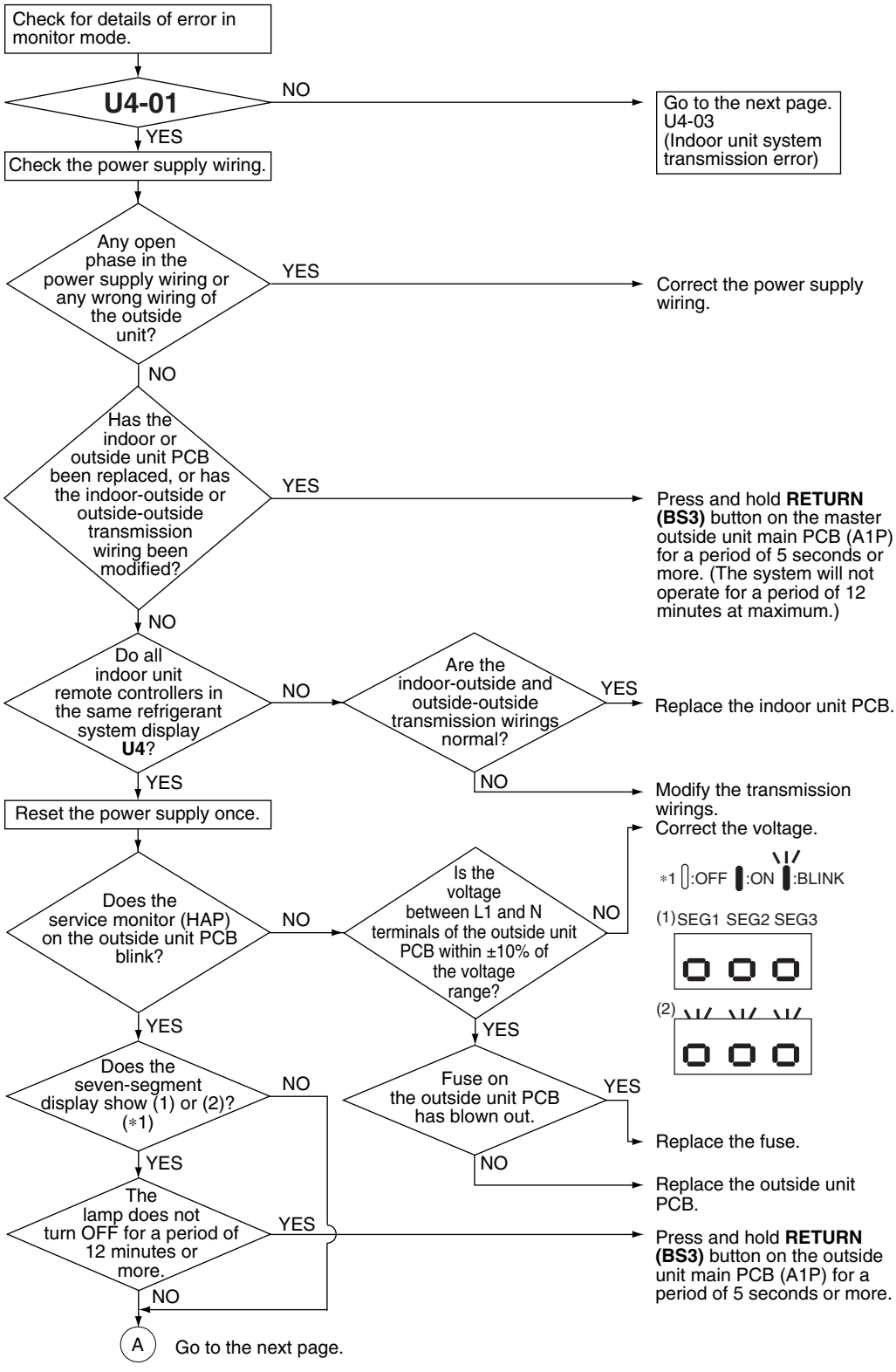


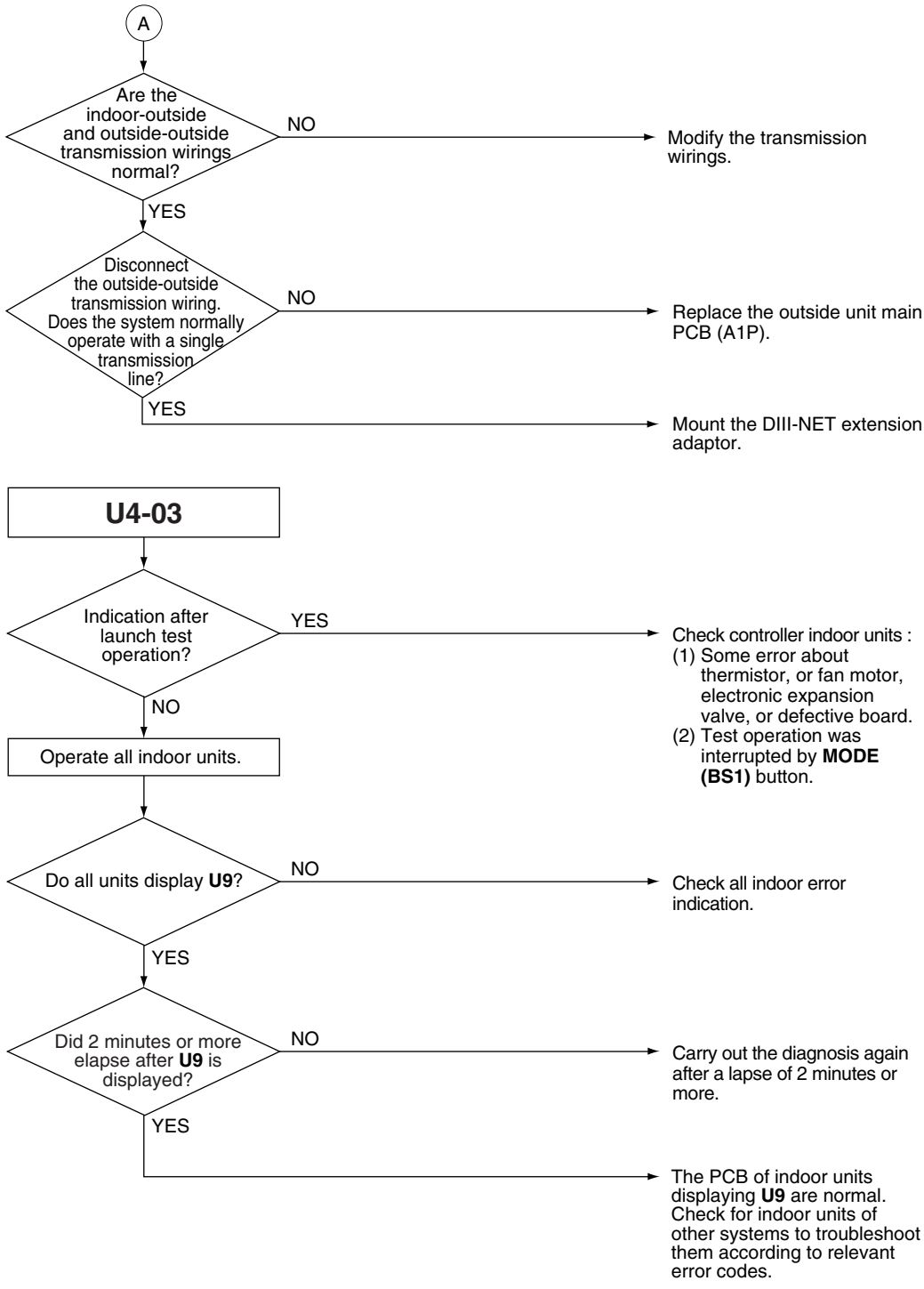
3.61 Transmission Error between Indoor Units and Outside Units, Open Phase in Power Supply Wiring

Applicable Models	All indoor unit models All outside unit models
Error Code	**U4**
Method of Error Detection	Microcomputer checks if transmission between indoor and outside units is normal.
Error Decision Conditions	Transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Short circuit in indoor-outside or outside-outside transmission wiring (F1/F2), or wrong wiring ■ Outside unit power supply is OFF ■ System address does not match ■ Defective indoor unit PCB ■ Defective outside unit main PCB ■ Open phase in power supply wiring

Troubleshooting

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




A
Are the indoor-outside and outside-outside transmission wirings normal?
NO
Modify the transmission wirings.
YES
Disconnect the outside-outside transmission wiring. Does the system normally operate with a single transmission line?
NO
Replace the outside unit main PCB (A1P).
YES
Mount the DIII-NET extension adaptor.
U4-03
Indication after launch test operation?
YES
Check controller indoor units :
(1) Some error about thermistor, or fan motor, electronic expansion valve, or defective board.
(2) Test operation was interrupted by MODE (BS1) button.
NO
Operate all indoor units.
Do all units display U9?
NO
Check all indoor error indication.
YES
Did 2 minutes or more elapse after U9 is displayed?
NO
Carry out the diagnosis again after a lapse of 2 minutes or more.
YES
The PCB of indoor units displaying U9 are normal. Check for indoor units of other systems to troubleshoot them according to relevant error codes.

3.62 Transmission Error between Remote Controller and Indoor Unit

Applicable Models

All indoor unit models

Error Code

U5

Method of Error Detection

Microcomputer checks if transmission between indoor unit and remote controller is normal.

Error Decision Conditions

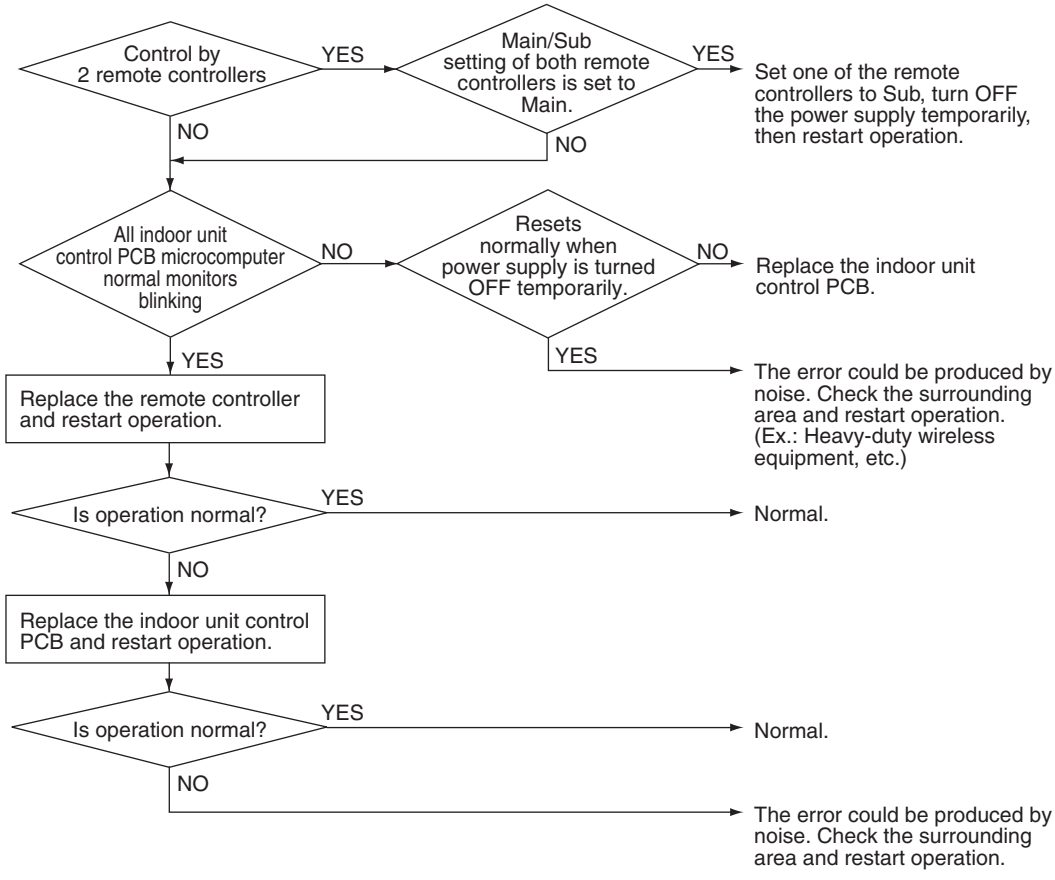
Transmission is not carried out normally for a certain amount of time.

Supposed Causes

- Transmission error between indoor unit and remote controller
- Connection of 2 main remote controllers (when using 2 remote controllers)
- Defective indoor unit control 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.



Reference Refer to page 114 for Main/Sub setting.

3.63 Transmission Error between Outside Units

Applicable Models

All outside unit models

Error Code

U7

Method of Error Detection

Microcomputer checks if transmission between outside units is normal.

Error Decision Conditions

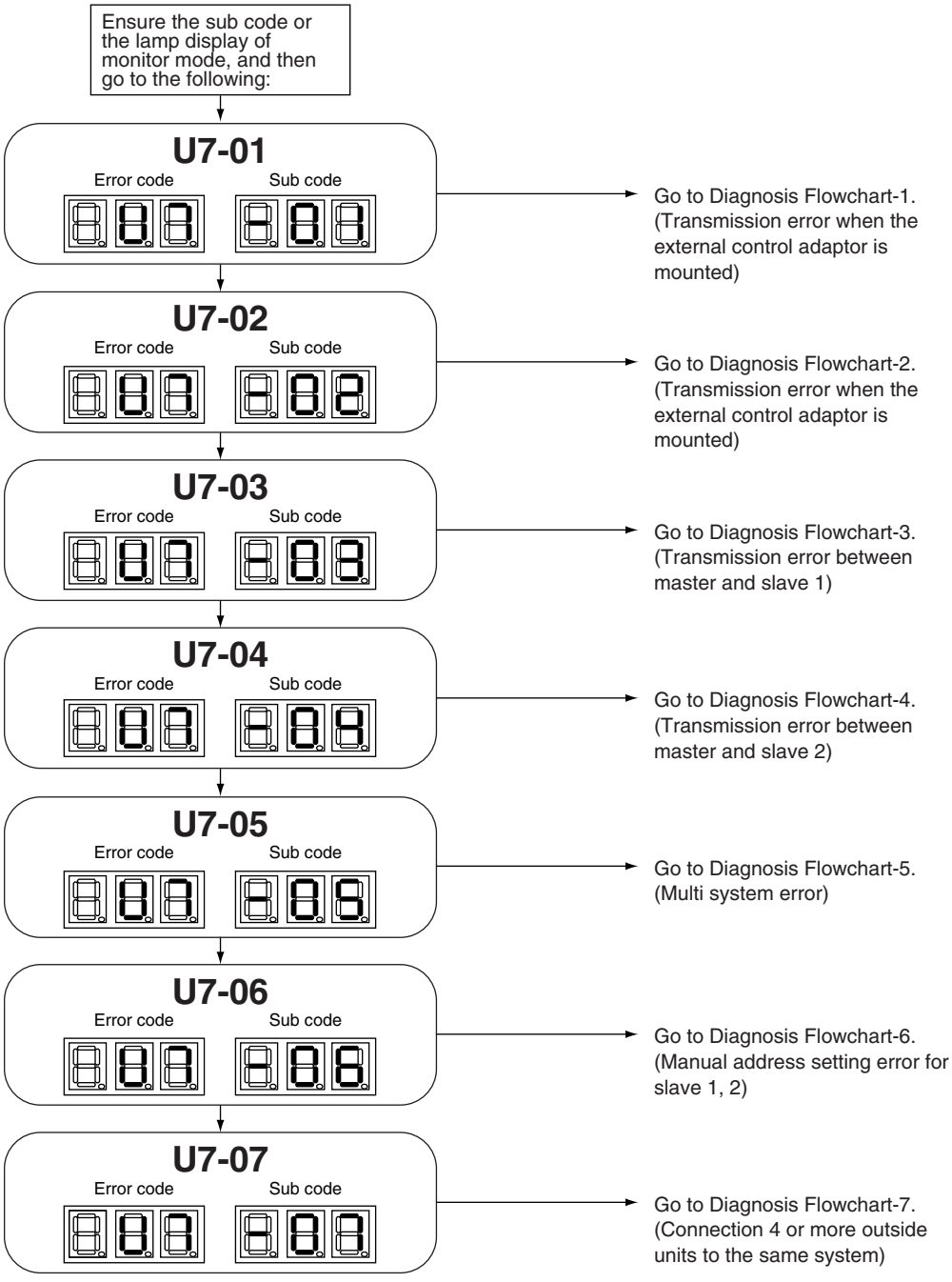
When transmission is not carried out normally for a certain amount of time

Supposed Causes

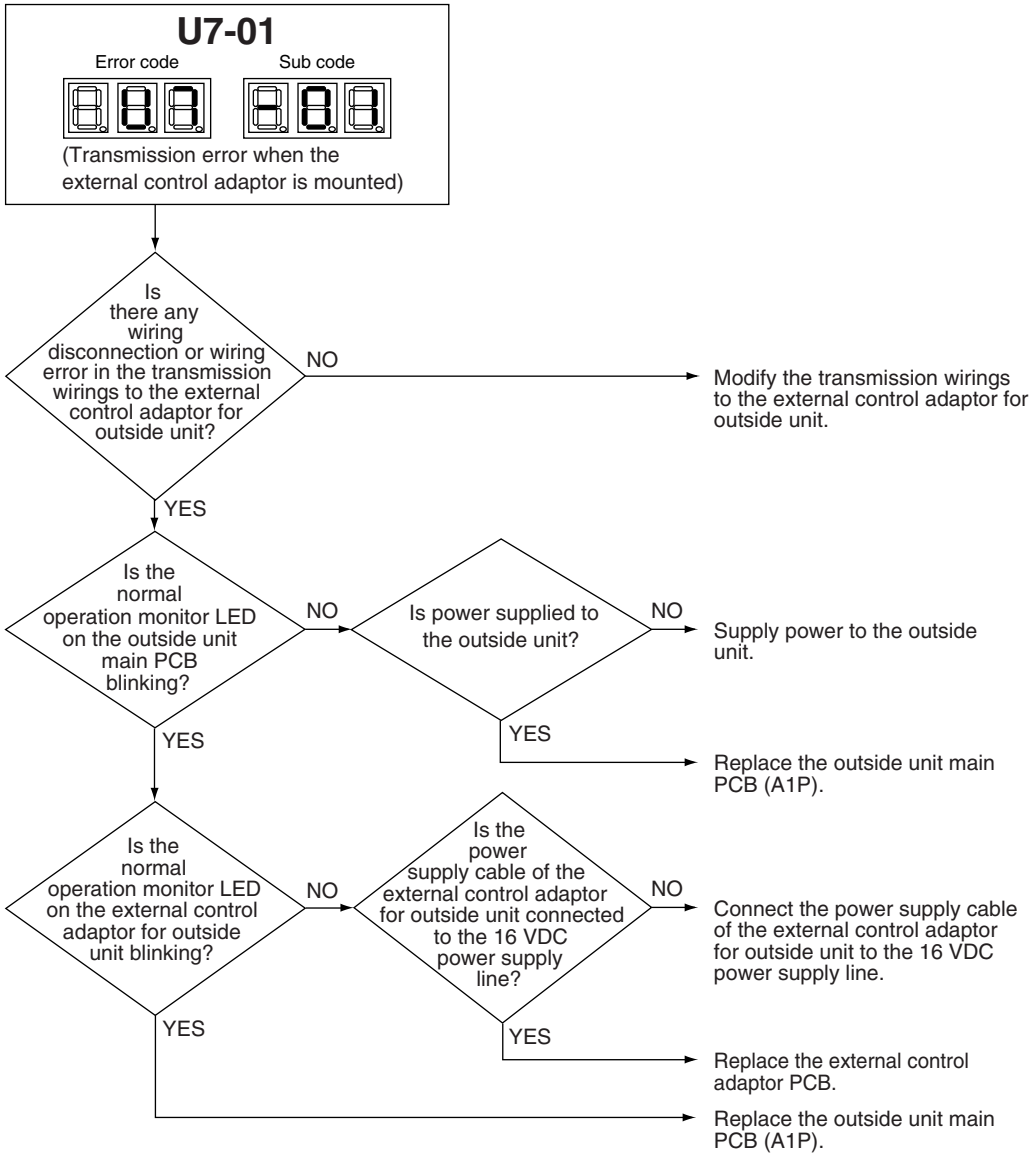
- Improper connection of transmission wiring between outside unit and external control adaptor for outside unit.
- Improper cool/heat selection
- Improper cool/heat unified address (outside unit, external control adaptor for outside unit)
- Defective outside unit main PCB
- Defective external control adaptor for outside unit
- Improper connection of transmission wiring between outside units
- Defective fuse of outside unit compressor

Troubleshooting

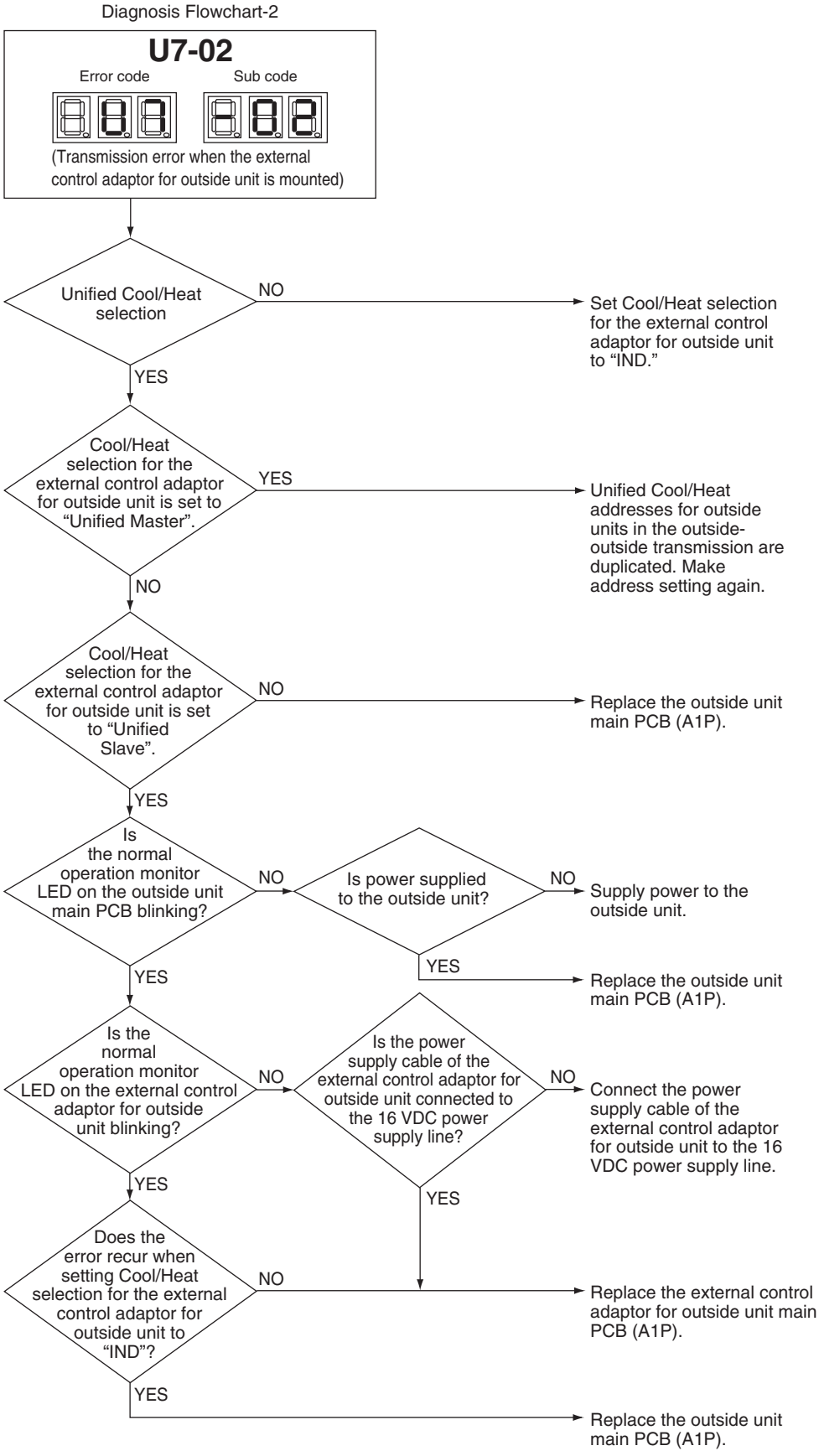
Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.



Diagnosis Flowchart-1



Diagnosis Flowchart-2



Diagnosis Flowchart-3

U7-03

Error code Sub code

(Transmission error between master and slave 1)

The multi transmission wirings to multi slave 1 have caused wiring disconnection in them or are being disconnected.

NO → Replace the outside unit main PCB (A1P) for multi slave 1.

YES → Modify the outside unit multi transmission wirings, and then reset the power supply.

Diagnosis Flowchart-4

U7-04

Error code Sub code

(Transmission error between master and slave 2)

The multi transmission wirings to multi slave 2 have caused wiring disconnection in them or are being disconnected.

NO → Replace the outside unit main PCB (A1P) for multi slave 2.

YES → Modify the outside unit multi transmission wirings, and then reset the power supply.

Diagnosis Flowchart-5

U7-05

Error code Sub code

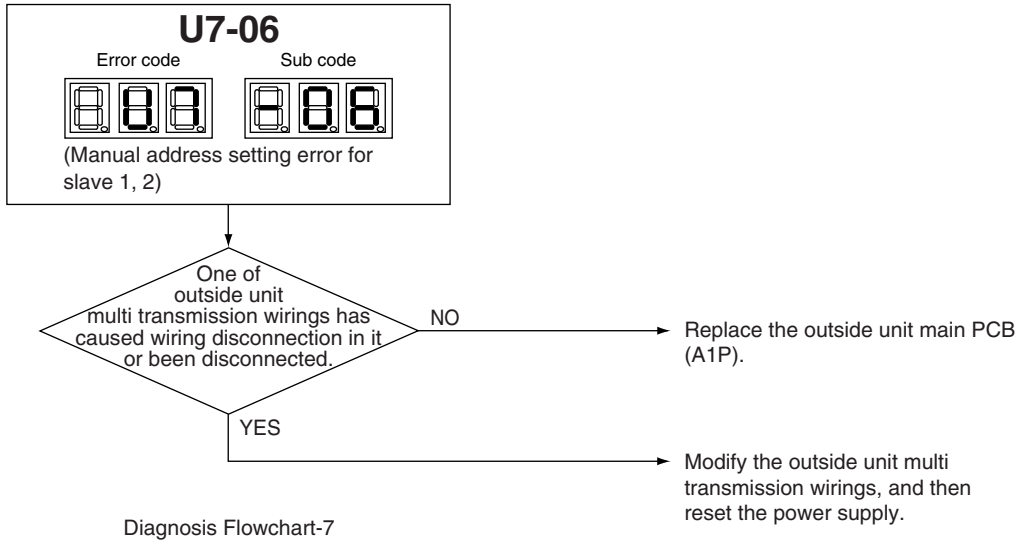
(Multi system error)

Multi outside unit system?

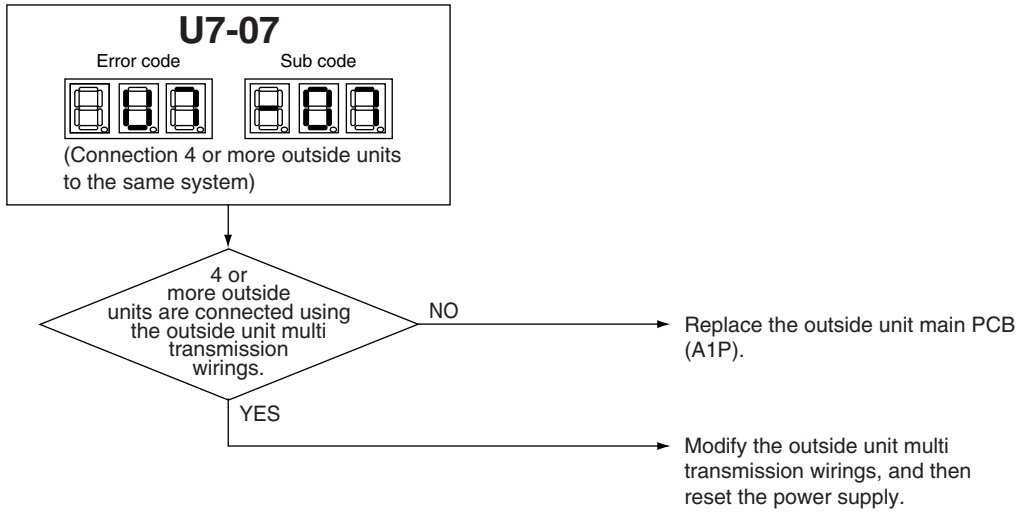
NO → Replace the outside unit main PCB (A1P).

YES → Disconnect the outside unit multi transmission wirings, and then reset the power supply.

Diagnosis Flowchart-6



Diagnosis Flowchart-7



3.64 Transmission Error between Main and Sub Remote Controllers

Applicable Models

All indoor unit models

Error Code

U8

Method of Error 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 remote controller) is normal.

Error Decision Conditions

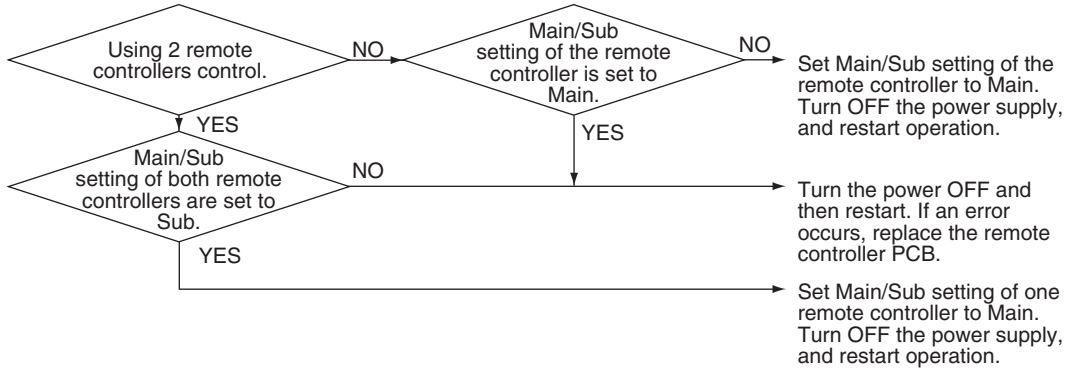
When transmission is not carried out normally for a certain amount of time.

Supposed Causes

- Transmission error between main and sub remote controller
- Connection between sub remote controllers
- Defective remote controller PCB

Troubleshooting

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



Reference Refer to page 114 for Main/Sub setting.

3.65 Transmission Error between Indoor and Outside Units in the Same System

Applicable Models
All indoor unit models
All outside unit models

Error Code
U9

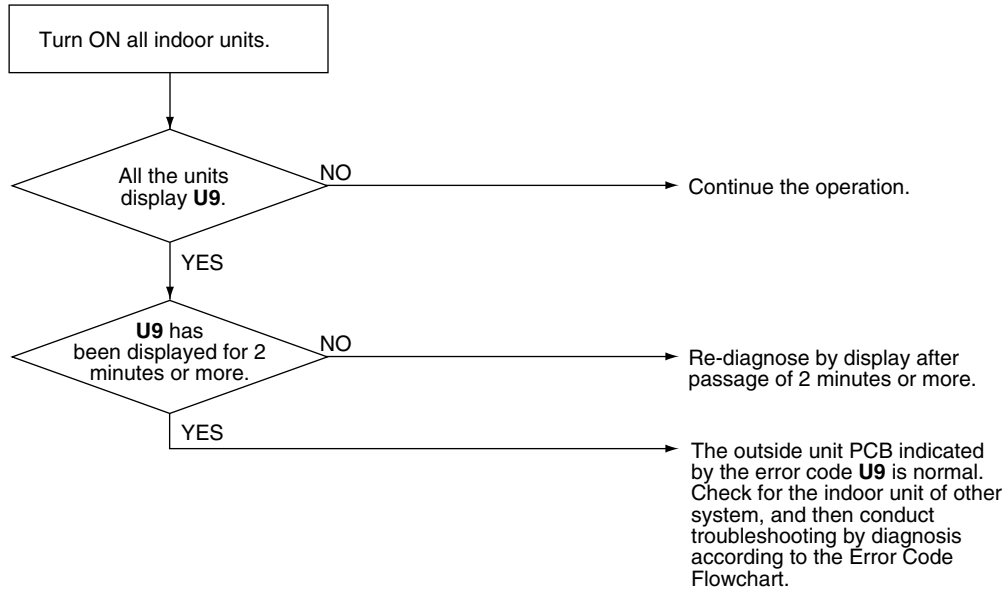
Method of Error Detection
Detect the error signal for the other indoor unit within the circuit by outside unit PCB.

Error Decision Conditions
When the error decision is made on any other indoor unit within the system concerned

Supposed Causes
- Transmission error between other indoor and outside units
- Defective electronic expansion valve of other indoor unit
- Defective indoor unit PCB of other indoor unit
- Improper connection of transmission wiring between indoor and outside unit

Troubleshooting

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



3.66 Improper Combination of Indoor, Branch Selector and Outside Units

Applicable Models

All indoor unit models
Branch Selector unit
All outside unit models

Error Code

UA

Method of Error Detection

- A difference occurs in data by the type of refrigerant between indoor, Branch Selector and outside units.
- The number of indoor units is out of the allowable range.
- Signal transmission between indoor, Branch Selector and outside units is abnormal.

Error Decision Conditions

The error decision is made as soon as either of the abnormalities aforementioned is detected.

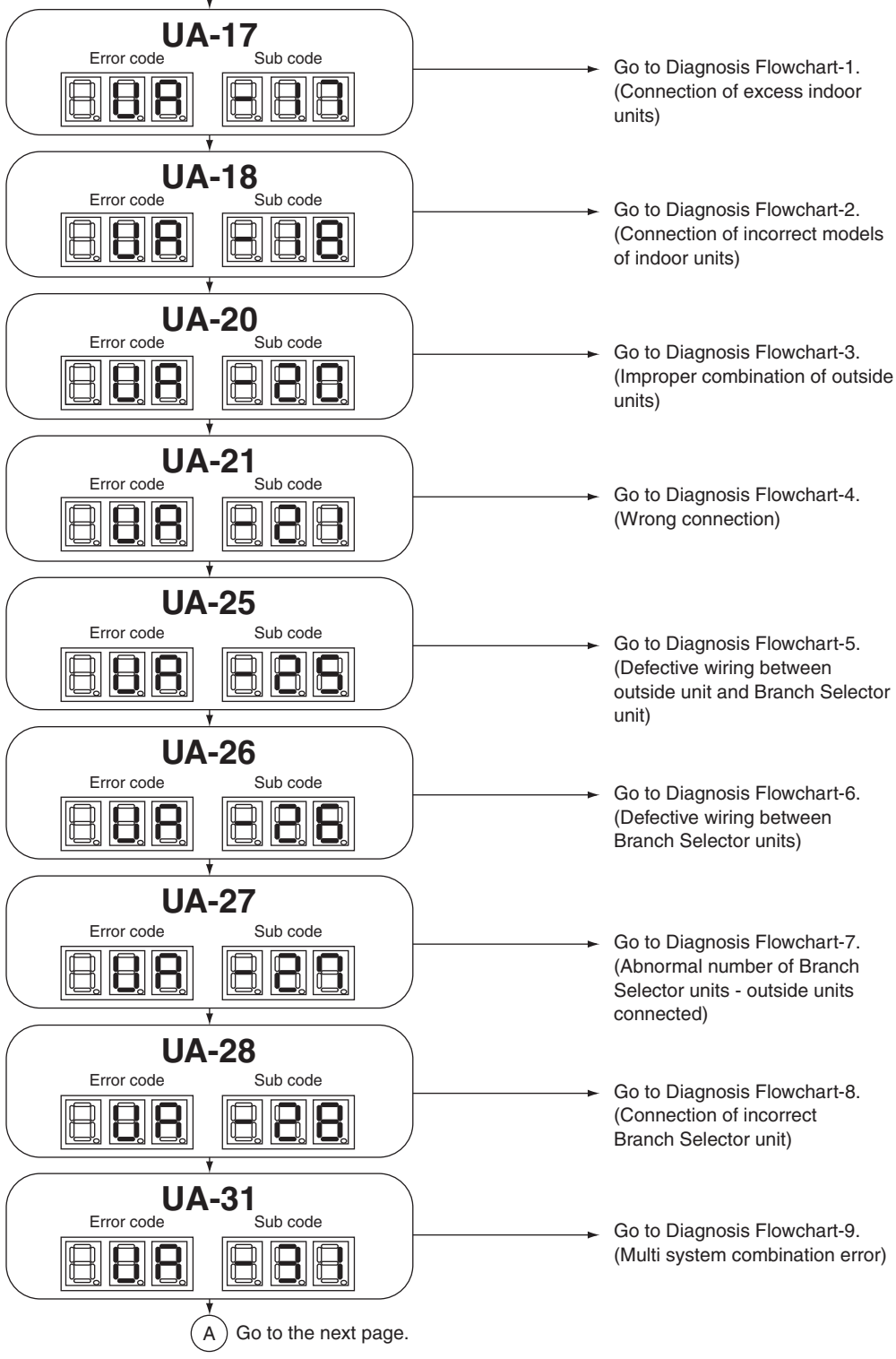
Supposed Causes

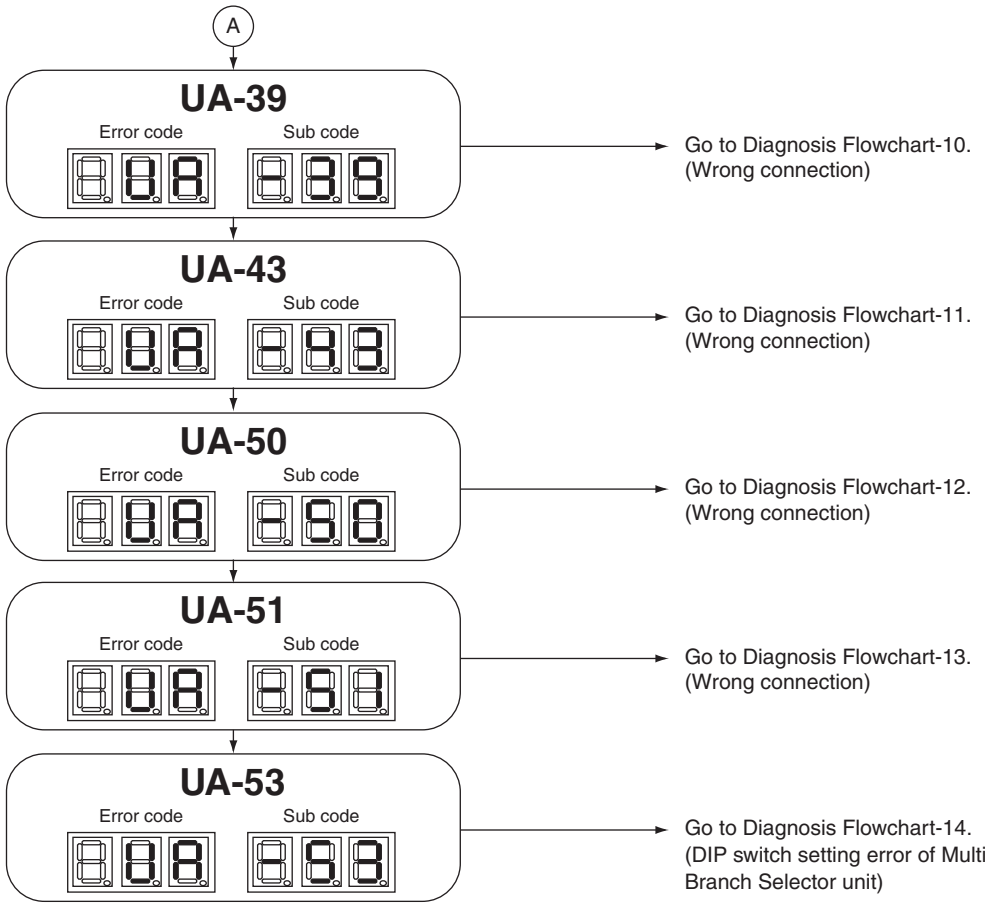
- Excess of connected indoor units
- Defective outside unit main PCB
- Mismatch of the refrigerant type of indoor and outside unit.
- Setting of outside unit main PCB was not carried out after replacing to spare PCB.

Troubleshooting

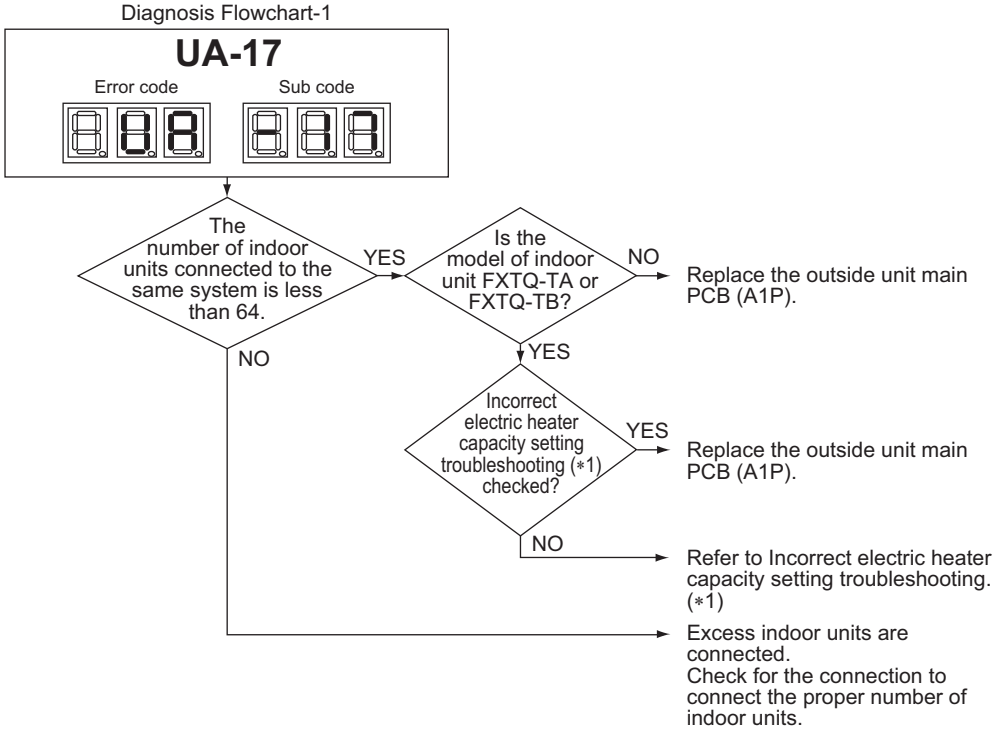
Caution Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Ensure the sub code or the lamp display of monitor mode, and then go to the following:



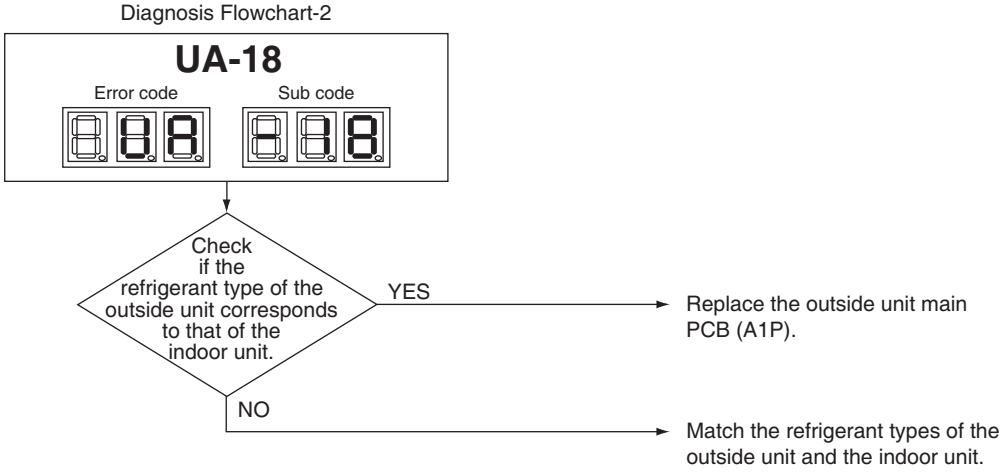

A
UA-39
Error code
Sub code
Go to Diagnosis Flowchart-10.
(Wrong connection)
UA-43
Error code
Sub code
Go to Diagnosis Flowchart-11.
(Wrong connection)
UA-50
Error code
Sub code
Go to Diagnosis Flowchart-12.
(Wrong connection)
UA-51
Error code
Sub code
Go to Diagnosis Flowchart-13.
(Wrong connection)
UA-53
Error code
Sub code
Go to Diagnosis Flowchart-14.
(DIP switch setting error of Multi
Branch Selector unit)

Diagnosis Flowchart-1

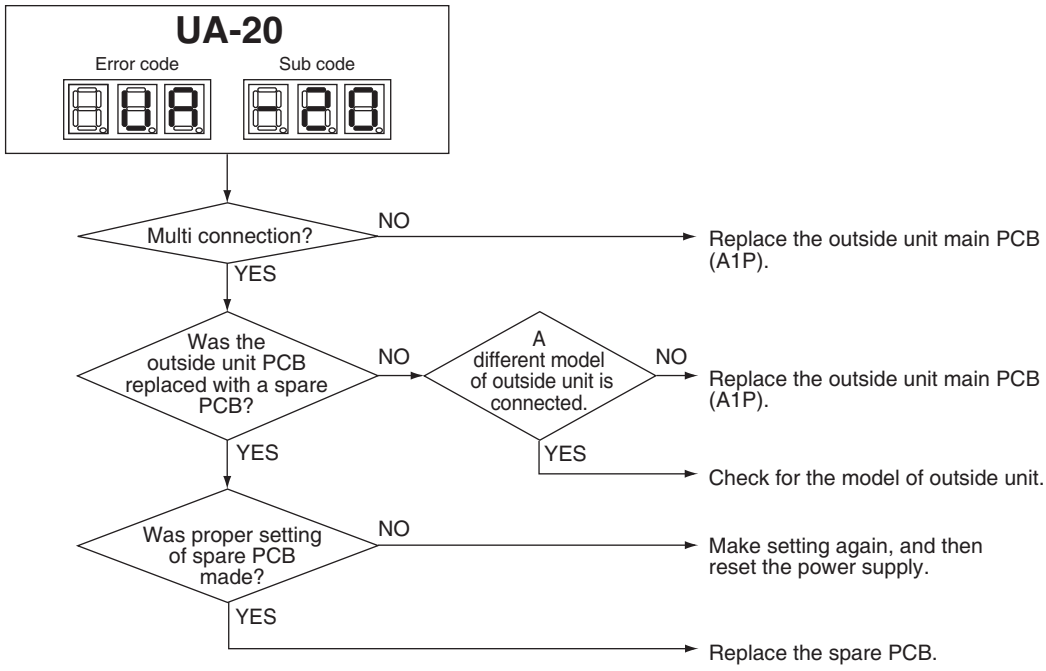


Note(s) ∗1. Refer to page 420.

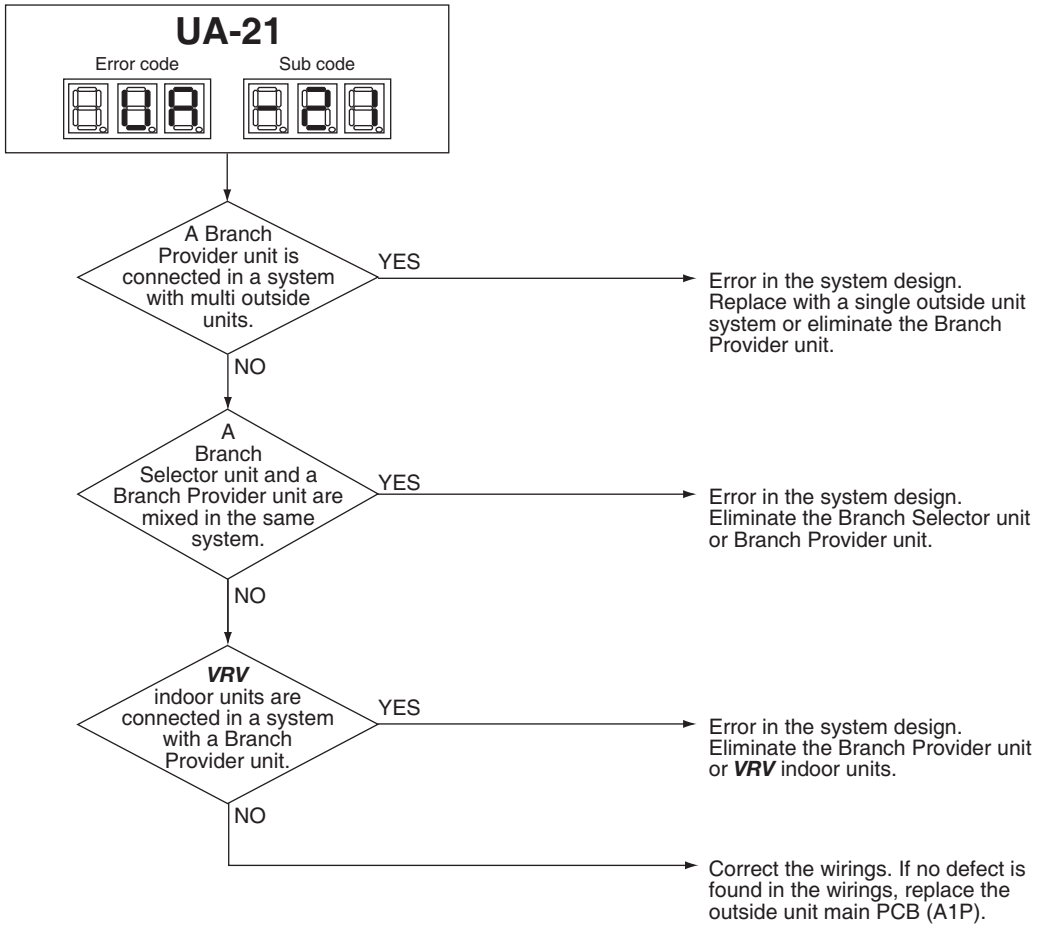
Diagnosis Flowchart-2



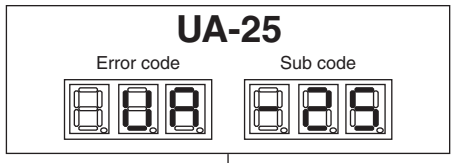
Diagnosis Flowchart-3



Diagnosis Flowchart-4



Diagnosis Flowchart-5

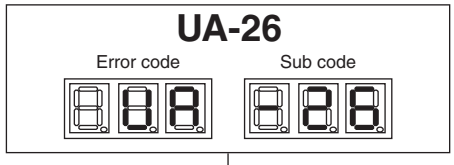


Is the wiring between outside unit and Branch Selector unit correct?

NO → Correct the wiring.

YES → Replace the outside unit main PCB (A1P).

Diagnosis Flowchart-6

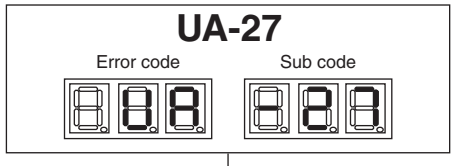


Is the wiring between Branch Selector units correct?

NO → Correct the wiring.

YES → Replace the relevant Branch Selector unit PCB.

Diagnosis Flowchart-7



Are the transmission wires between indoor unit and Branch Selector unit correct?

NO → Correct the transmission wires.

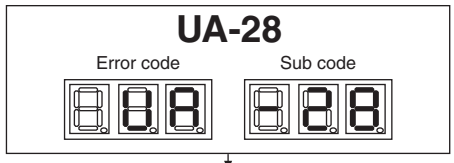
YES

Is the Branch Selector unit PCB correct?

NO → Replace the indoor unit PCB or the Branch Selector unit PCB.

YES → Replace the relevant Branch Selector unit PCB.

Diagnosis Flowchart-8

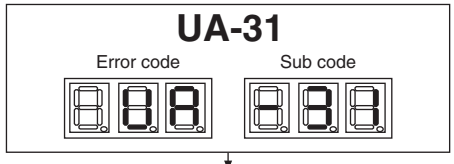


Is the correct model of Branch Selector unit connected?

NO → Connect the correct model.

YES → Replace the outside unit main PCB (A1P).

Diagnosis Flowchart-9



Is the multi combination of outside units proper?

NO → Correct the multi combination of outside units.

YES

Was the outside unit PCB replaced with a spare PCB?

NO → Replace the outside unit main PCB (A1P).

YES

Is the procurement of the spare PCB proper?

NO → Procure a proper spare PCB.

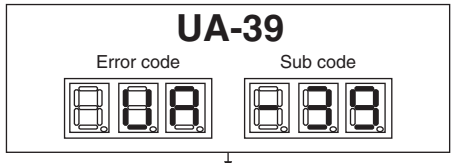
YES

Is the setting of the spare PCB proper?

NO → Make setting again, and then reset the power supply.

YES → Replace the outside unit main PCB (A1P).

Diagnosis Flowchart-10

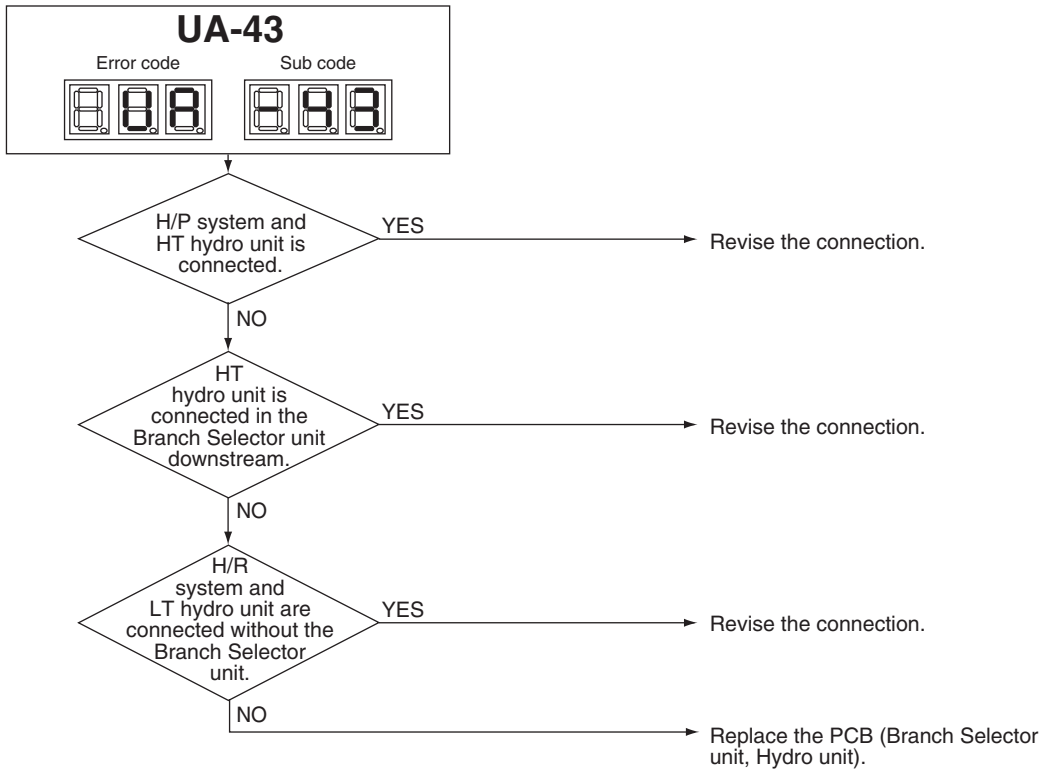


There is a mixed combination of hydro units and ***VRV*** indoor units in the Branch Selector unit downstream.

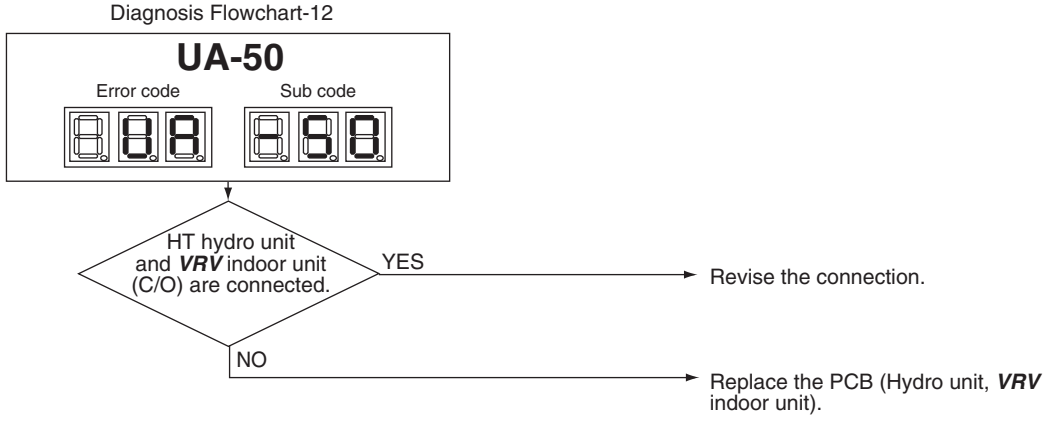
YES → Revise the Branch Selector unit downstream connection.

NO → Replace the PCB (Branch Selector unit, **VRV** indoor unit, Hydro unit).

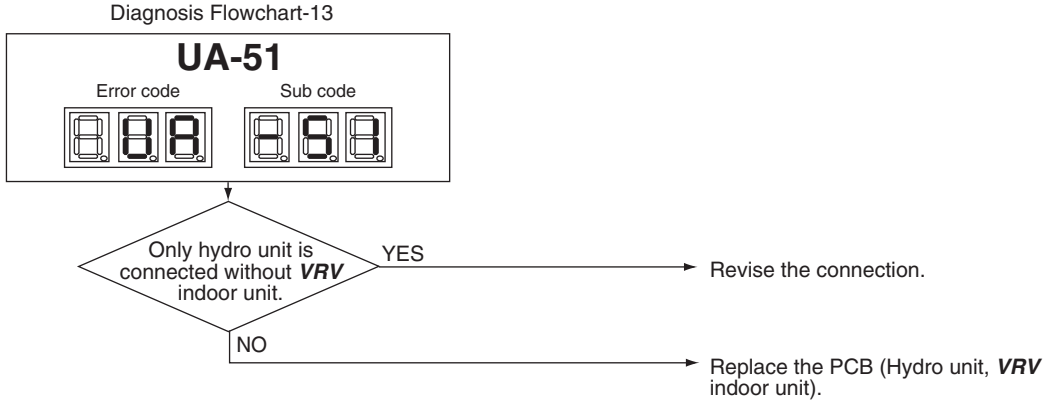
Diagnosis Flowchart-11



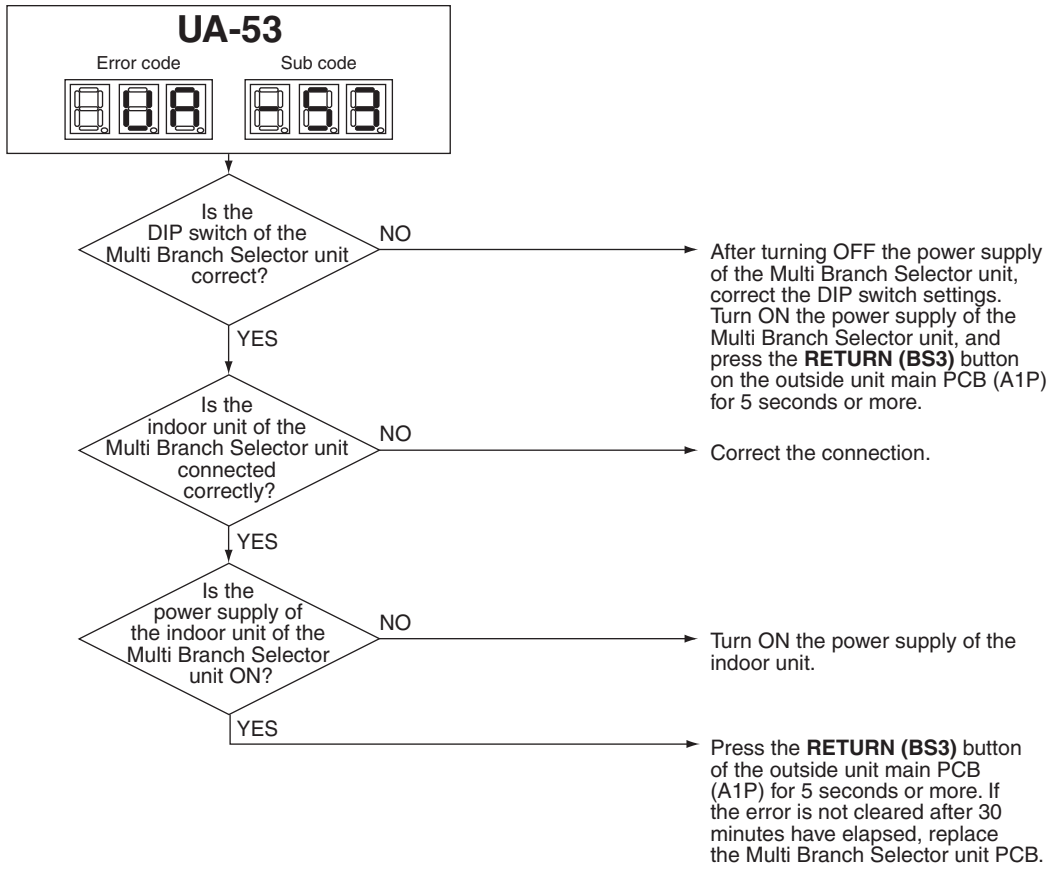
Diagnosis Flowchart-12



Diagnosis Flowchart-13



Diagnosis Flowchart-14



3.67 Incorrect Electric Heater Capacity Setting

Applicable Models

FXTQ-TA, FXTQ-TB

Error Code

UA-17

Outline

After attaching optional electric heater, if the electric heater capacity setting (11 (21)-5) is made mistakenly for heaters not featured in the lineup, heating via unintended levels of airflow will be prevented.
However, the electric heater will be operable for convenience.

Error Decision Conditions

Checks when the capacity setting (11 (21)-5) of the electric heater has been set to a non-applicable value.

Operation After Error Codes Decided

- The error code **UA-17** is displayed on the remote controller.
- Indoor units can operate continuously.
- Incorrect setting is kept.
- Even if the ON condition for electric heater 2 is established, only electric heater 1 will be set to ON.
  (Electric heater 1 set to ON, electric heater 2 set to OFF)
  (In order to deliver in terms of user-friendliness and safety, the electric heater can operate at the lowest possible power levels.)
- The airflow of the fan during operation of the electric heater will be set to the largest value within the CFM dictated by the capacity of each of the electric heaters (electric heater 1, electric heater 2 both set to ON).
- All other operations are the same as during normal operation.

3.68 Address Duplication of Centralized Controller

Applicable Models
All indoor unit models
Centralized controller

Error Code
UC

Method of Error Detection
The principal indoor unit detects the same address as that of its own on any other indoor unit.

Error Decision Conditions
The error decision is made as soon as the abnormality aforementioned is detected.

Supposed Causes
- Address duplication of centralized 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 will not be duplicated.

3.69 Transmission Error between Centralized Controller and Indoor Unit

Applicable Models

All indoor unit models
Centralized controller
Schedule timer
intelligent Touch Controller

Error Code

UE

Method of Error Detection

Microcomputer checks if transmission between indoor unit and centralized controller is normal.

Error Decision Conditions

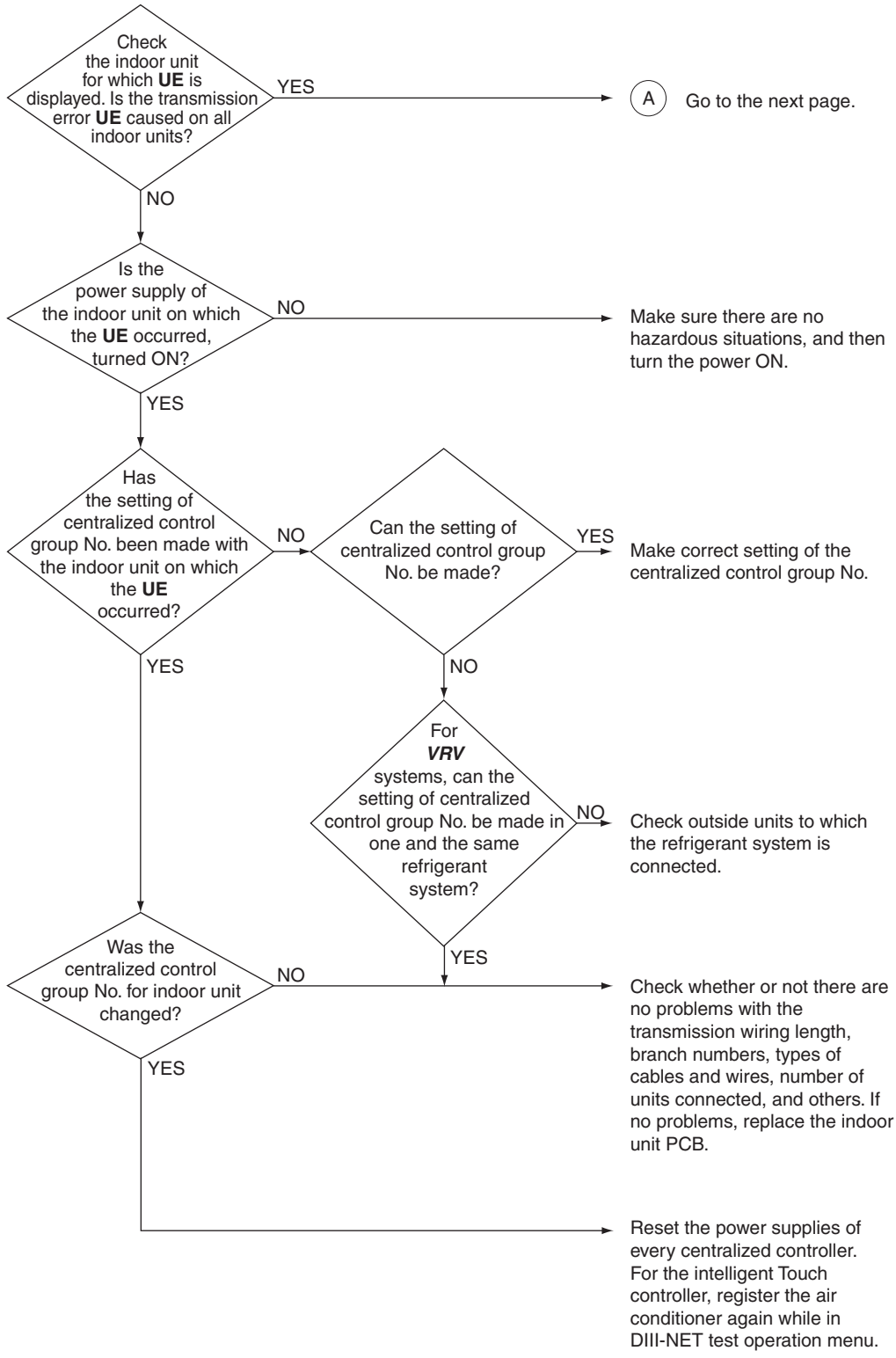
When transmission is not carried out normally for a certain amount of time

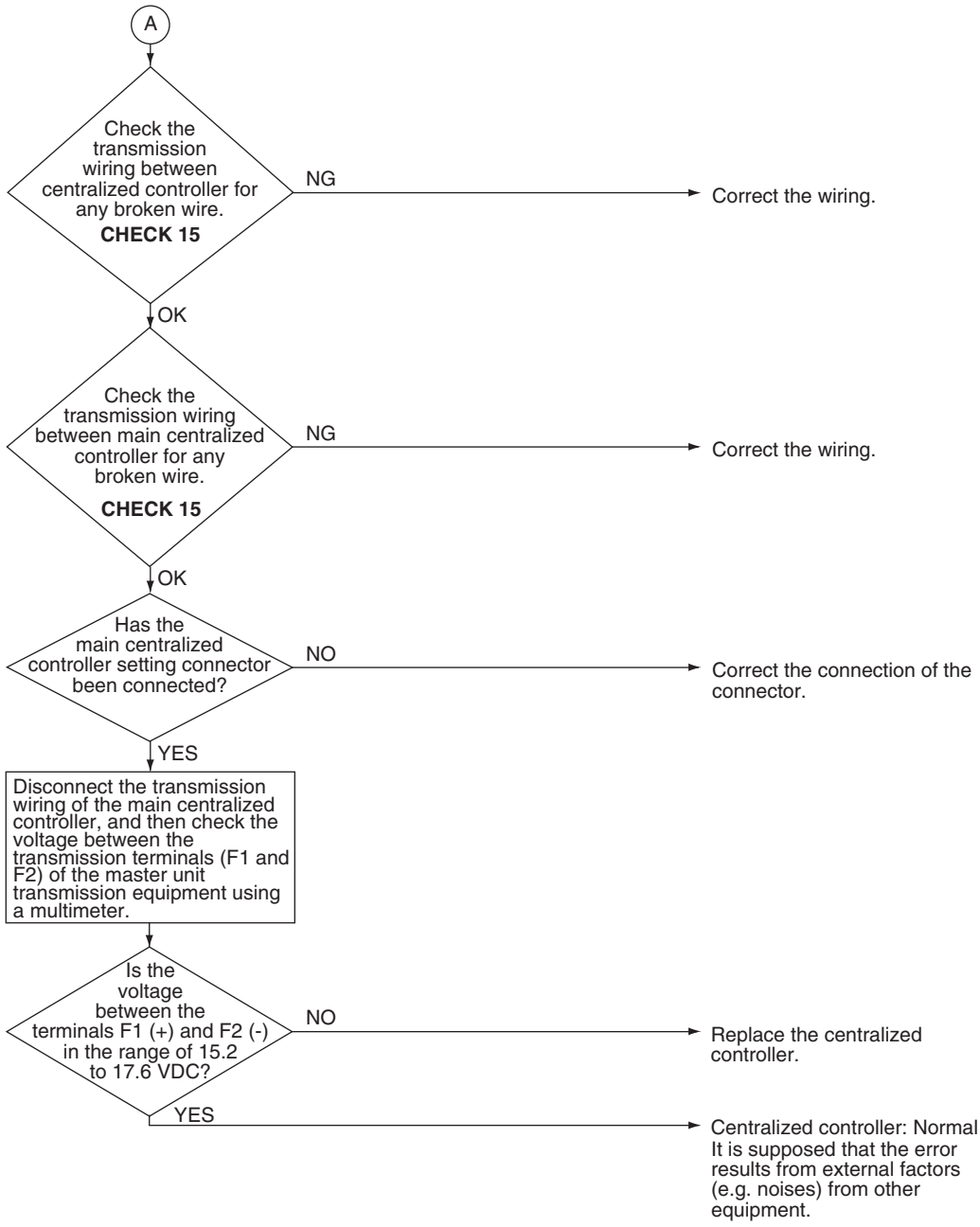
Supposed Causes

- Transmission error between optional controllers for centralized controller and indoor unit
- Connector for setting main controller is disconnected.
  (or disconnection of connector for independent / combined use changeover switch.)
- Defective PCB for centralized 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.





Reference **CHECK 15** Refer to page 444.

3.70 System Not Set Yet

Applicable Models
All indoor unit models
All outside unit models

Error Code
UF

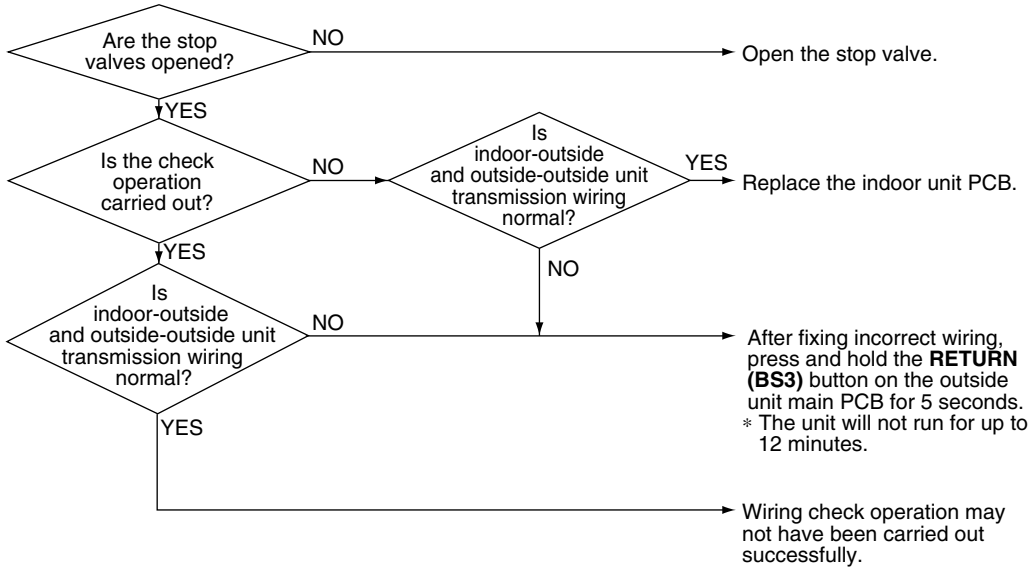
Method of Error Detection
On check operation, the number of indoor units in terms of transmission is not corresponding to that of indoor units that have made changes in temperature.

Error Decision Conditions
The error 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-outside units and outside-outside units
- Failure to execute check operation
- Defective indoor unit PCB
- Stop valve is not opened

Troubleshooting

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



3.71 System Abnormality, Refrigerant System Address Undefined

Applicable Models

All indoor unit models
All outside unit models

Error Code

UH

Method of Error Detection

System detects an indoor unit whose address is not defined by automatic address function.
*Automatic address refers to the automatic designated address of indoor unit and outside unit when connected to the power after installation or wiring replacement (with the **RETURN (BS3)** button pressed for more than 5 seconds).

Error Decision Conditions

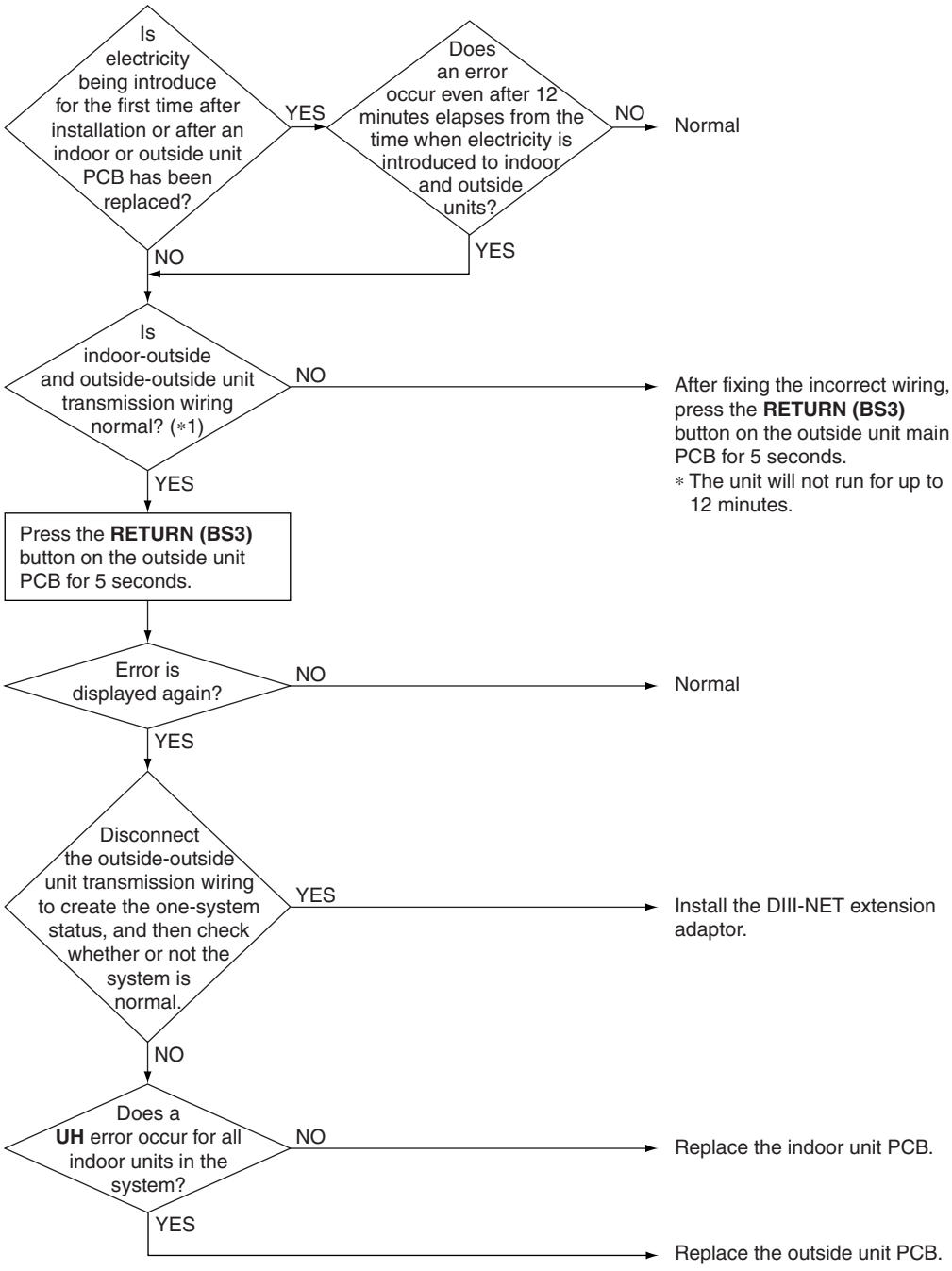
The error decision is made as soon as the abnormality aforementioned is detected.

Supposed Causes

- Improper connection of transmission wiring between indoor-outside units and outside-outside units
- Defective indoor unit PCB
- Defective outside unit main PCB (A1P)

Troubleshooting

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



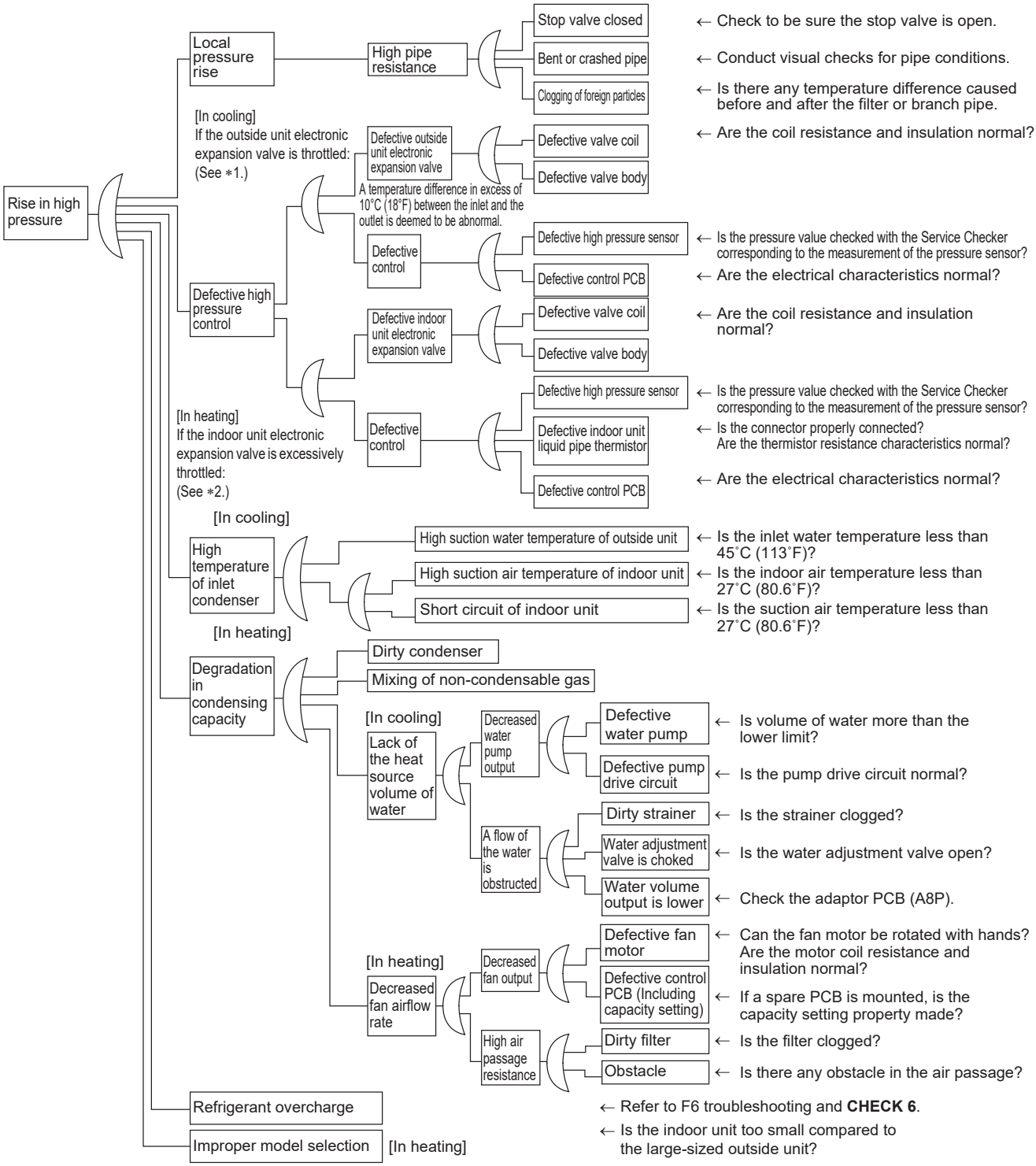
Note(s)

∗1. Check the installation manual for correct wiring between indoor and outside units and between outside and outside units.

4. Check

4.1 High Pressure Check

CHECK 1 Referring to the Fault Tree Analysis (FTA) shown below, probe the defective points.



Note(s)

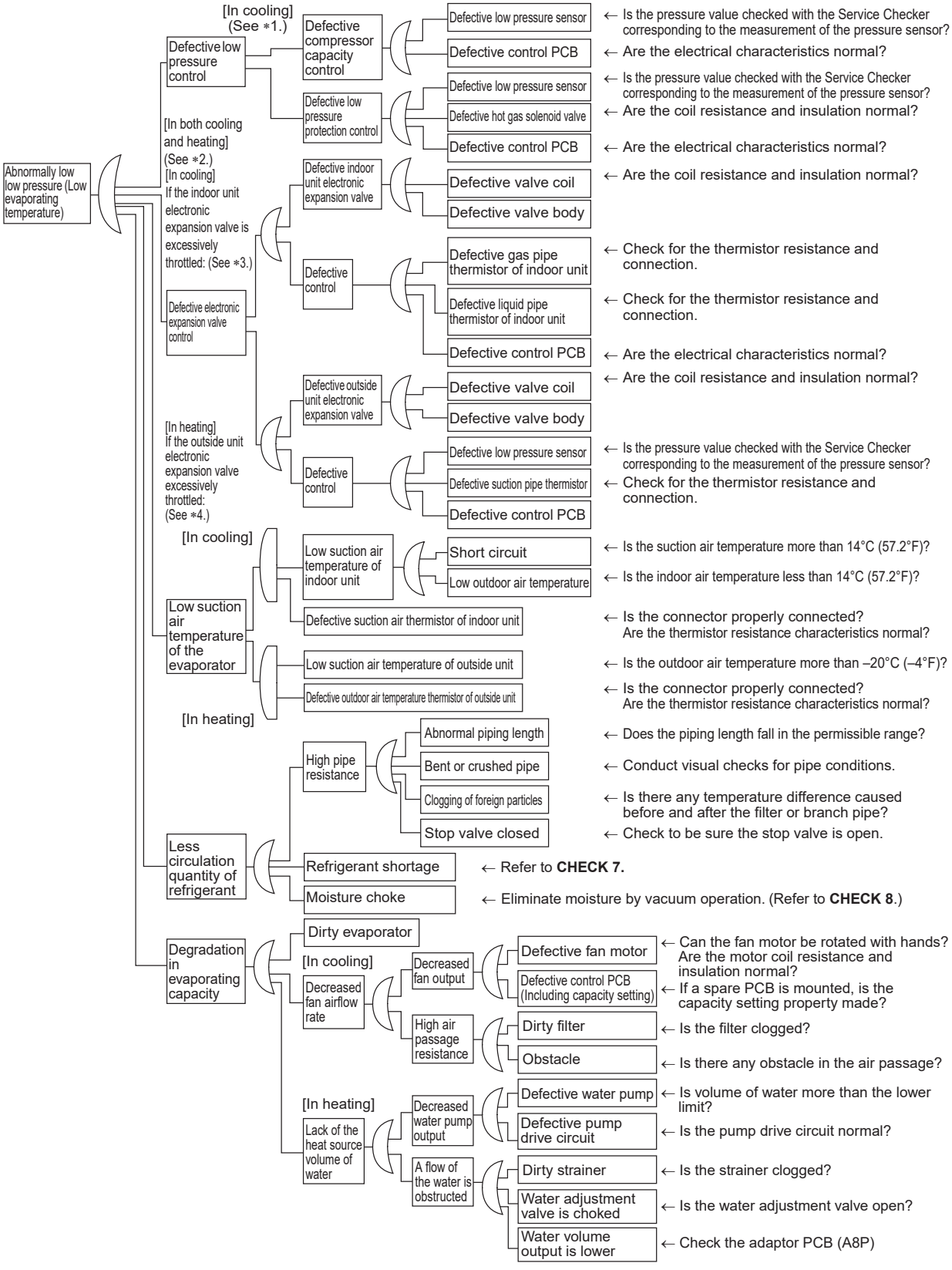
∗1. In cooling, it is normal if the outside unit electronic expansion valve is fully open.

∗2. In heating, the indoor unit electronic expansion valve is used for subcooling degree control. (For details, refer to Electronic Expansion Valve Control.)

Reference **CHECK 6** Refer to page 437.

4.2 Low Pressure Check

CHECK 2 Referring to the Fault Tree Analysis (FTA) shown below, probe the defective points.



Note(s)

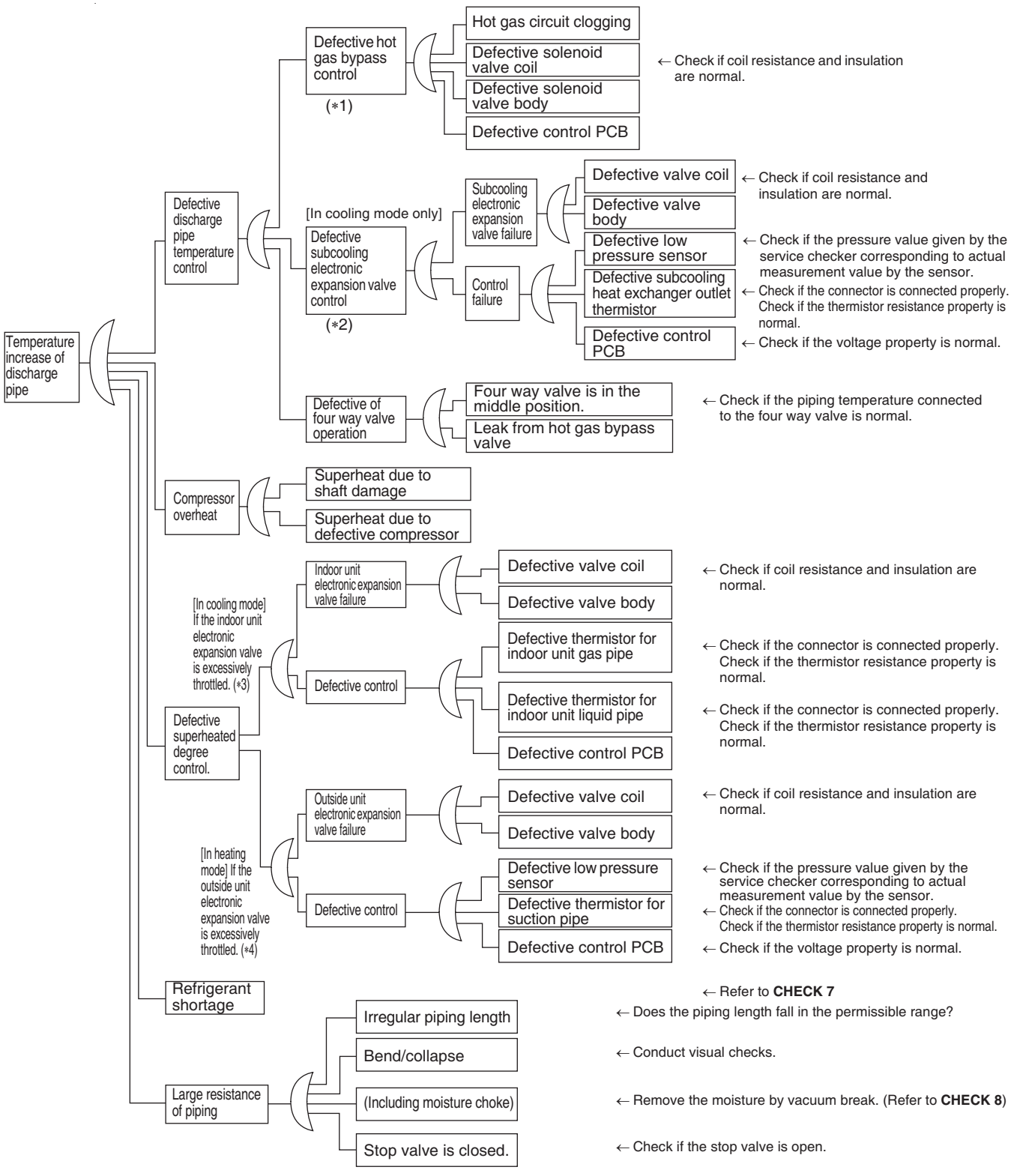
∗1. For details of the compressor capacity control while in cooling, refer to Compressor PI Control.
∗2. The low pressure protection control includes low pressure protection control and hot gas bypass control.
∗3. In cooling, the indoor unit electronic expansion valve is used for superheating degree control.
∗4. In heating, the outside unit electronic expansion valve (EVM) is used for superheating degree control of outside unit heat exchanger.

Reference **CHECK 7** Refer to page 438.

Reference **CHECK 8** Refer to page 439.

4.3 Superheat Operation Check

CHECK 3 Identify the defective points referring to the defective factor analysis (FTA) as follows.



Note(s)

∗1. Refer to “Low pressure protection control” for hot gas bypass control.

∗2. Refer to “Subcooling electronic expansion valve control”.

∗3. “Superheating temperature control” in cooling mode is conducted by indoor unit electronic expansion valve.

∗4. Superheating temperature control in heating mode is conducted by outside unit electronic expansion valve (EVM).

∗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.)

Reference **CHECK 7** Refer to page 438.

Reference **CHECK 8** Refer to page 439.

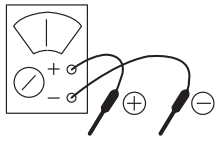
4.4 Power Transistor Check

CHECK 4

Perform the following procedures prior to check.
(1) Power OFF.
(2) Remove all the wiring connected to the PCB where power transistors are mounted on.

Preparation

- Multimeter



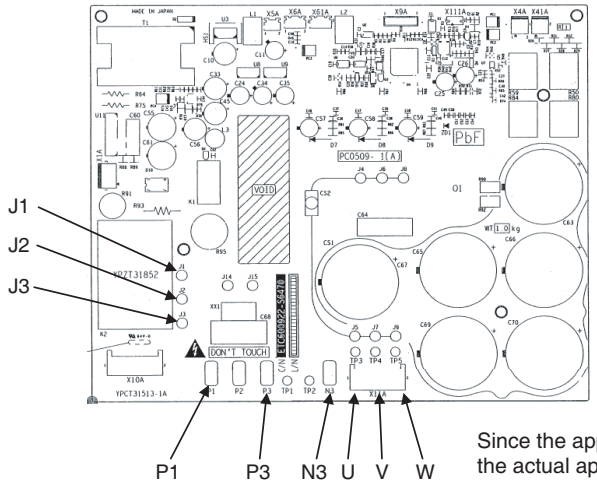
∗ Prepare the analog type of multimeter.
For the digital type of multimeter, those with diode check function are available for the checking.

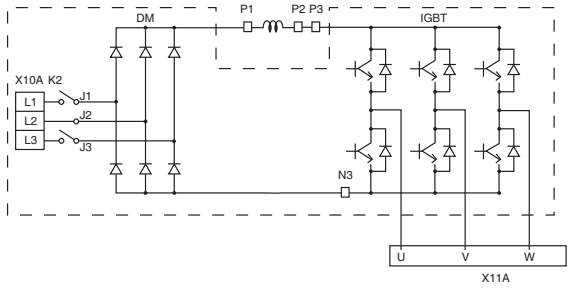
Point of Measurement and Judgment Criteria

- Turn OFF the power supply. Then, after a lapse of 10 minutes or more, make measurement of resistance.

No.	Measuring point		When using the analog type of multimeter, make measurement in resistance measurement mode in the x1 kΩ range.		When using the digital type of multimeter, make measurement in diode check mode (→|←).	
	+	–	Judgement Criteria	Remarks	Judgement Criteria	Remarks
1	P2	U	2 ~ 15 kΩ	–	1.2 V or more	Due to condenser charge and so on, resistance measurement may require some time.
2	P2	V				
3	P2	W				
4	U	P2	15 kΩ and more (including ∞)	Due to condenser charge and so on, resistance measurement may require some time.	0.3 ~ 0.7 V	–
5	V	P2				
6	W	P2				
7	N3	U				
8	N3	V				
9	N3	W				
10	U	N3	2 ~ 15 kΩ	–	1.2 V or more	Due to condenser charge and so on, resistance measurement may require some time.
11	V	N3				
12	W	N3				

PCB and Circuit Diagram

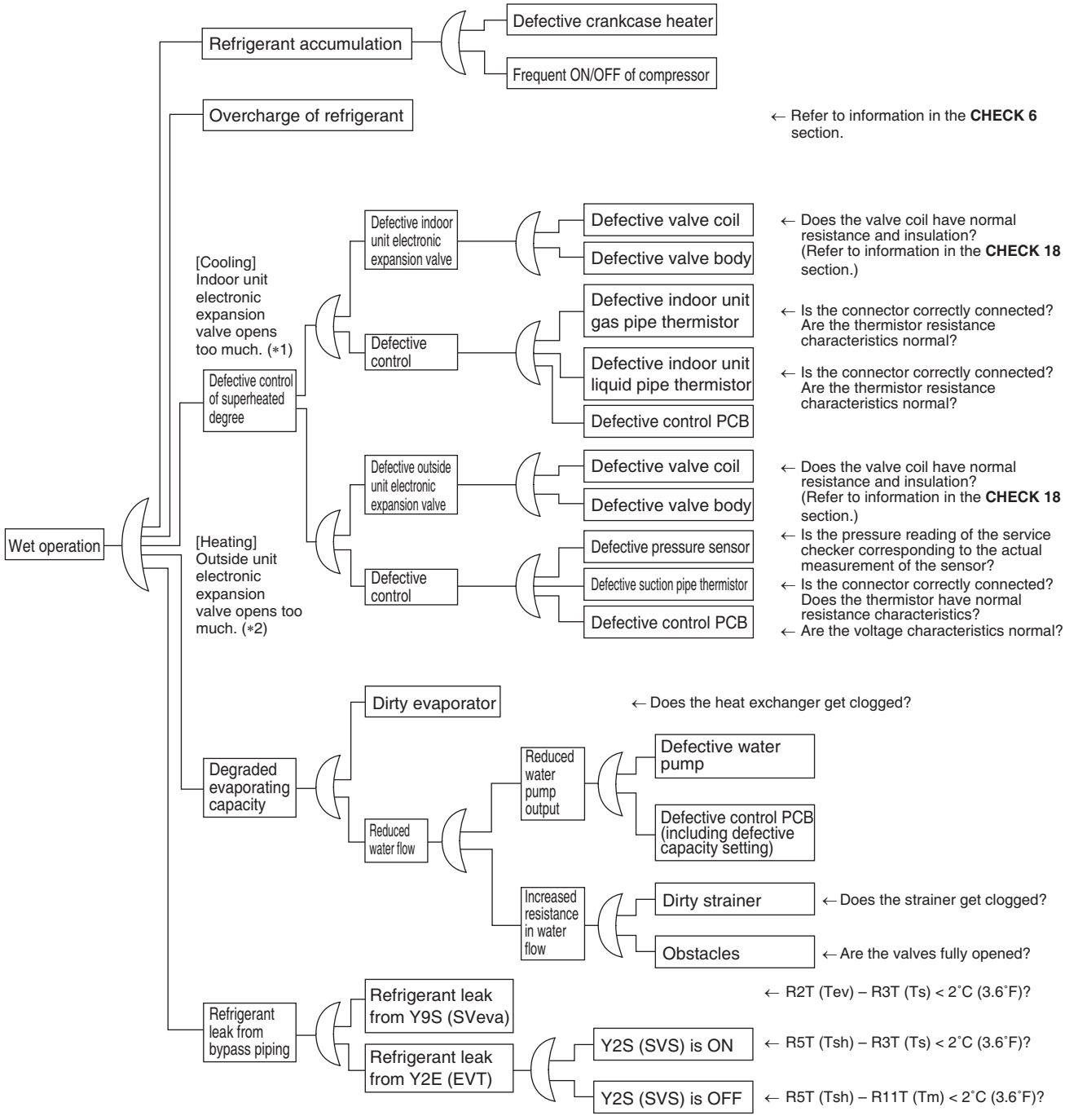




Since the appearance of PCB shown in this outline drawing is different from the actual appearance, use it as a reference drawing.

4.5 Wet Operation Check

CHECK 5 Referring to the Fault Tree Analysis (FTA) shown below, identify defective points.



Note(s)

∗1. "Superheating degree control" in cooling is exercised with the indoor unit electronic expansion valve.

∗2. "Superheating degree control" in heating is exercised with the outside unit electronic expansion valve Y1E (EVM).

- Guideline of superheating degree to judge as wet operation
  (1) Suction gas superheating degree: Less than 3°C (5.4°F);
  (2) Discharge gas superheating degree: Less than 15°C (27°F), except immediately after compressor starts up or is running under drooping control.
  (Use the values shown above as a guideline. Even if the superheating degree falls in the range, the compressor may be normal depending on other conditions.)

 **Reference** **CHECK 6** Refer to page 437.

 **Reference** **CHECK 18** Refer to page 449

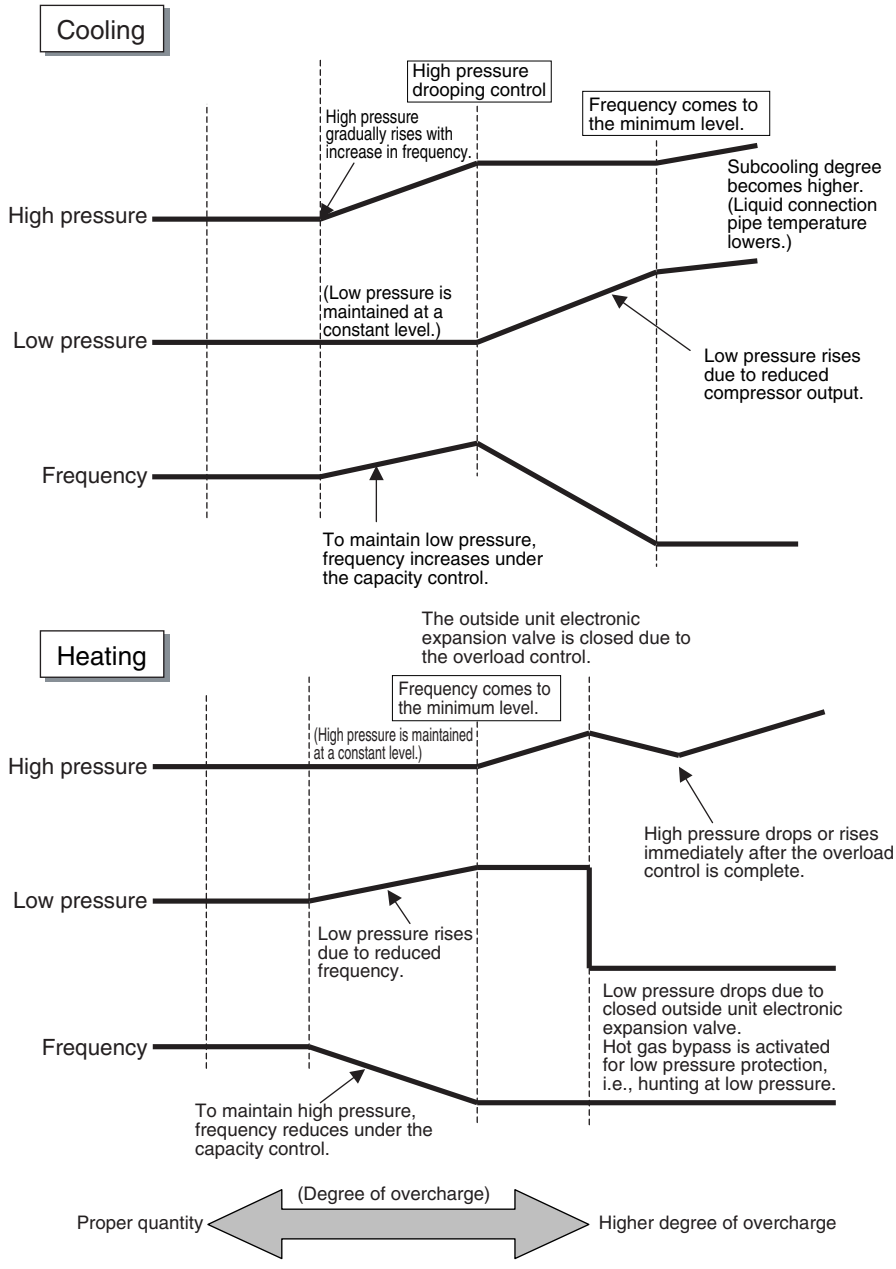
4.6 Refrigerant Overcharge Check

CHECK 6

In case of ***VRV*** Systems, the only way to judge as the overcharge of refrigerant is with operating conditions due to the relationship to pressure control and electronic expansion valve control. As information for making a judgement, refer to the information below.

Diagnosis of refrigerant overcharge

1. High pressure rises. Consequently, overload control is exercised to cause scant cooling capacity.
2. The superheating degree of suction gas lowers (or wet operation is performed). Consequently, the compressor becomes lower in discharge pipe temperature despite of pressure loads.
3. The subcooling degree of condensing rises. Consequently, in heating, the temperature of outlet air passing through the subcooling section becomes lower.



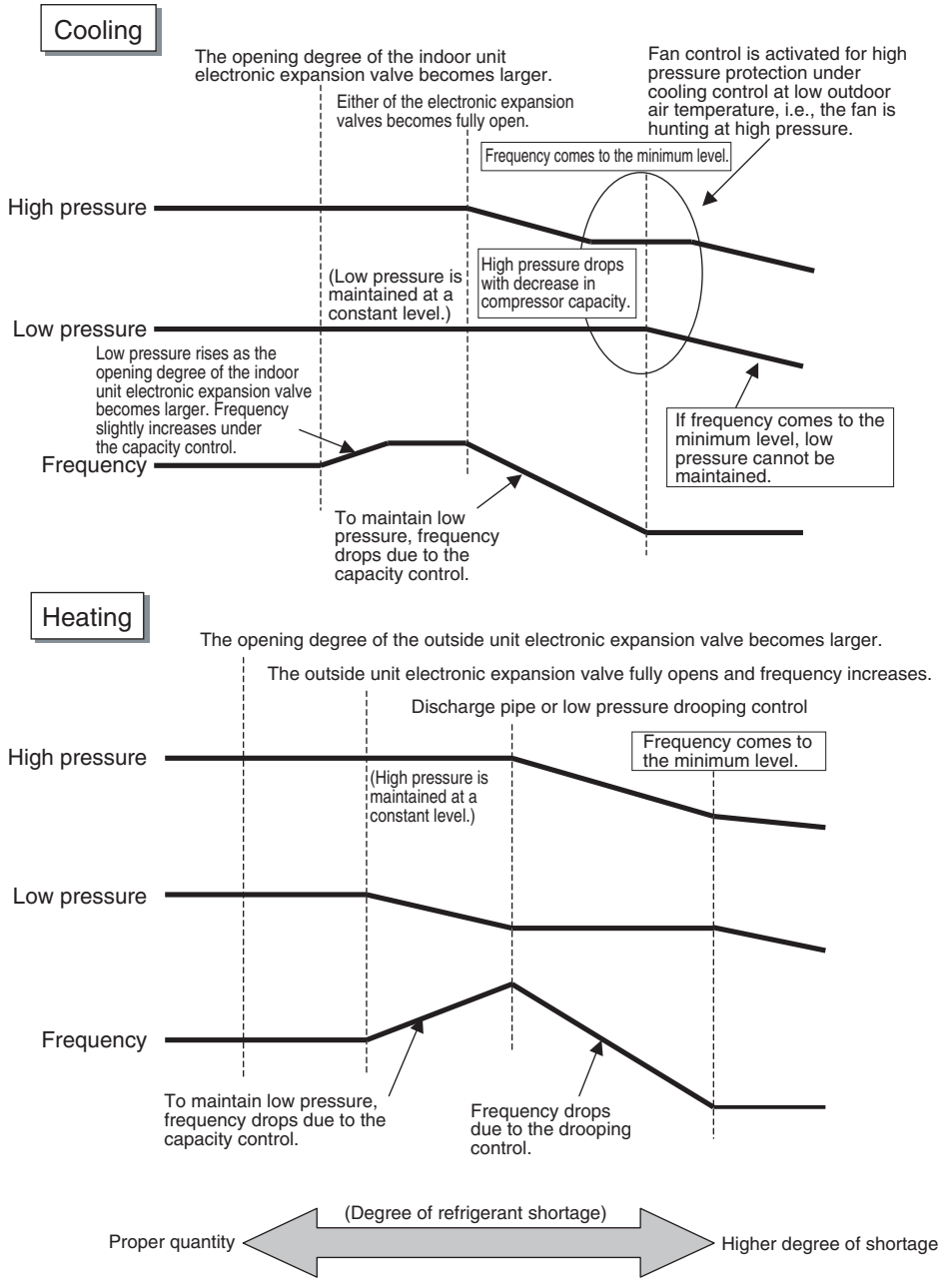
4.7 Refrigerant Shortage Check

CHECK 7

In case of ***VRV*** Systems, the only way to judge as the shortage of refrigerant is with operating conditions due to the relationship to pressure control and electronic expansion valve control. As information for making a judgement, refer to the information below.

Diagnosis of shortage of refrigerant

1. The superheating degree of suction gas rises. Consequently, the compressor discharge gas temperature becomes higher.
2. The superheating degree of suction gas rises. Consequently, the electronic expansion valve turns open.
3. Low pressure drops to cause the unit not to demonstrate cooling/heating capacity.



4.8 Vacuuming and Dehydration Procedure

CHECK 8

Conduct vacuuming and dehydration in the piping system following the procedure for Normal vacuuming and dehydration described below.
Furthermore, if moisture may get mixed in the piping system, follow the procedure for Special vacuuming and dehydration described below.

Normal vacuuming and dehydration

1. Vacuuming and dehydration
   - Use a vacuum pump that enables vacuuming up to 500 microns.
   - Connect manifold gauges to the service ports of liquid pipe and gas pipe and run the vacuum pump for a period of 2 or more hours to conduct evacuation to 500 microns.
   - If the degree of vacuum does not reach 500 microns or less even though evacuation is conducted for a period of 2 hours, moisture will have entered the system or refrigerant leakage will have been caused. In this case, conduct evacuation for a period of another 1 hour.
   - If the degree of vacuum does not reach 500 microns or less even though evacuation is conducted for a period of 3 hours, conduct the leak tests.
2. Leaving in vacuum state
   - Leave the compressor at the degree of vacuum of 500 microns or less for a period of 1 hour or more, and then check to be sure that the vacuum gauge reading does not rise. (If the reading rises, moisture may have remained in the system or refrigerant leakage may have been caused.)
3. Additional refrigerant charge
   - Purge air from the manifold gauge connection hoses, and then charge a necessary amount of refrigerant.

Special vacuuming and dehydration

Use this procedure if moisture may get into the piping, such as construction during the rainy season (dew condensation may occur, or rainwater may enter the piping during construction work).

1. Vacuuming and dehydration
   - Follow the same procedure as that for normal vacuuming and dehydration described above.
2. Vacuum break
   - Pressurize with nitrogen gas up to 375,000 microns.
3. Vacuuming and dehydration
   - Conduct vacuuming and dehydration for a period of 1 hour or more. If the degree of vacuum does not reach 500 microns or less even though evacuation is conducted for a period of 2 hours or more, repeat vacuum break - vacuuming and dehydration.
4. Leaving in vacuum state
   - Leave the compressor at the degree of vacuum of 500 microns or less for a period of 1 hour or more, and then check to be sure that the vacuum gauge reading does not rise.
5. Additional refrigerant charge
   - Purge air from the manifold gauge connection hoses, and then charge a necessary amount of refrigerant.

4.9 Thermistor Check

CHECK 11

Thermistor type of indoor units

Model	Suction air thermistor	Indoor heat exchanger (liquid) thermistor	Indoor heat exchanger (gas) thermistor	Discharge air thermistor
	R1T	R2T	R3T	R4T
FXFQ-AA	Type C	Type A	Type A	—
FXFQ-T			Type J	—
FXFQ-P	Type D			—
FXZQ-TA	Type B		Type A	—
FXZQ-TB				—
FXZQ-M			Type J	—
FXUQ-P	Type C		Type A	—
FXUQ-PA				—
FXEQ-P	Type B		Type J	—
FXDQ-M				—
FXSQ-TA			Type A	—
FXSQ-TB				—
FXMQ-PB			Type J	Type J
FXMQ-TB			Type A	—
FXMQ-TA			Type J	—
FXMQ-M				—
FXHQ-M				—
FXAQ-P				—
FXLQ-M				—
FXNQ-M				—
FXTQ-TA	—		Type A	—
FXTQ-TB	—			—
FXMQ-MF	Type B		Type J	Type J

Thermistor type of outside units

Thermistor		Thermistor type
R1T	Outside unit inside thermistor	Type A
R2T	Exhaust heat cancellation heat exchanger gas pipe thermistor	
R3T	Suction pipe thermistor	
R4T	Plate heat exchanger gas thermistor	
R5T	Subcooling heat exchanger outlet gas pipe thermistor	
R6T	Receiver outlet liquid pipe thermistor	
R7T	Plate heat exchanger liquid thermistor	
R8T	Subcooling heat exchanger outlet liquid pipe thermistor	
R9T	Water inlet thermistor	
R10T	Water outlet thermistor	
R11T	Injection pipe thermistor	
R12T	Discharge pipe thermistor	Type H
R13T	Compressor body thermistor	
R14T	Reactor thermistor	Type K
R15T	Reactor thermistor	

Thermistor temperature		Resistance (kΩ)			
(°C)	(°F)	Type A	Type B	Type C	Type D
–30	–22	363.8	—	–	336.7
–25	–13	266.8	—	–	253.1
–20	–4	197.8	—	–	191.2
–15	5	148.2	—	–	144.1
–10	14	112.0	111.1	111.8	109.6
–5	23	85.52	84.95	85.42	84.05
0	32	65.84	65.53	65.80	64.99
5	41	51.05	50.95	51.07	50.64
10	50	39.91	39.92	39.97	39.74
15	59	31.44	31.50	31.51	31.41
20	68	24.95	25.02	25.02	24.98
25	77	19.94	20.00	20.00	20.00
30	86	16.04	16.10	16.10	16.12
35	95	12.99	13.04	13.04	13.07
40	104	10.58	10.63	10.63	10.67
45	113	8.669	8.720	8.711	8.757
50	122	7.143	7.189	7.179	7.227
55	131	5.918	—	–	5.997
60	140	4.928	—	–	5.001
65	149	4.123	—	–	4.191
70	158	3.467	—	–	3.528
75	167	–	—	–	2.984
80	176	–	—	–	2.534
85	185	–	—	–	2.161
90	194	–	—	–	1.850
95	203	–	—	–	1.590
100	212	–	—	–	1.371
105	221	–	—	–	1.188
Drawing No.		3SA48002 3SA48018 3SA48019 (AD94A045) 3SA48013 (AD100026)	3SA48001 (AD210486)	3SA48016 (AD100008) 3S480014 (AD150384)	4P159172 (AD010555)

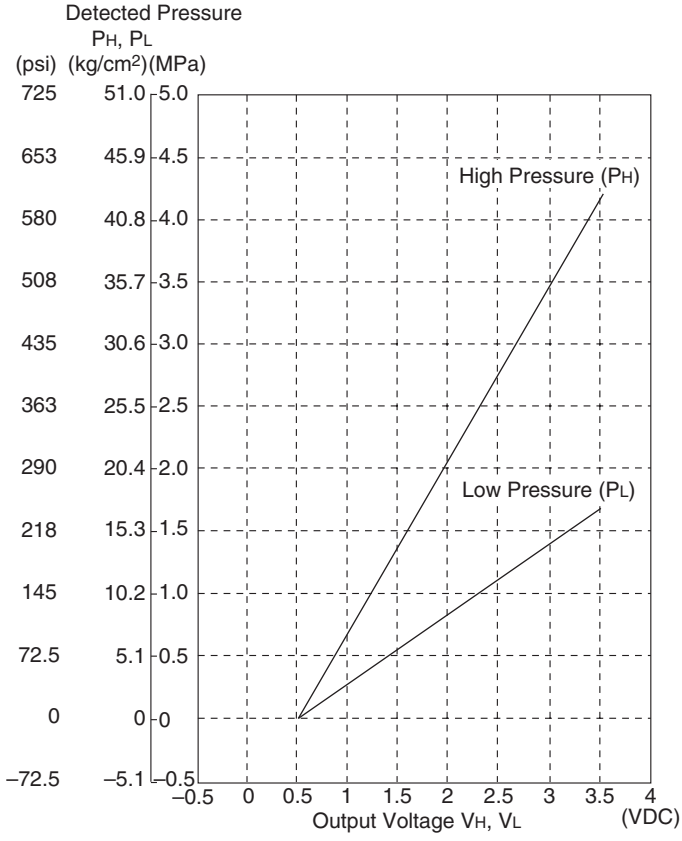
∗This data is for reference purposes only.

Thermistor temperature		Resistance (kΩ)		
(°C)	(°F)	Type H	Type J	Type K
–30	–22	3407	352.1	350.6
–25	–13	2540	261.2	257.4
–20	–4	1910	195.4	191.0
–15	5	1449	147.3	143.2
–10	14	1108	111.8	108.4
–5	23	853.8	85.49	82.83
0	32	662.7	65.80	63.80
5	41	517.9	51.15	49.53
10	50	407.4	40.08	38.75
15	59	322.5	31.64	30.56
20	68	256.9	25.16	24.26
25	77	205.7	20.14	19.40
30	86	165.7	16.23	15.62
35	95	134.3	13.16	12.65
40	104	109.4	10.73	10.31
45	113	89.58	8.800	8.447
50	122	73.73	7.255	6.962
55	131	60.98	6.012	5.769
60	140	50.67	5.010	4.805
65	149	42.29	4.196	4.021
70	158	35.45	3.532	3.381
75	167	29.84	2.987	2.856
80	176	25.21	2.538	2.422
85	185	21.38	2.166	2.063
90	194	18.21	1.857	1.764
95	203	15.57	1.598	1.515
100	212	13.36	1.380	1.305
105	221	11.49	1.196	1.128
110	230	9.92	1.041	0.9781
115	239	8.594	0.908	0.8506
120	248	7.465	0.795	0.7420
125	257	6.499	0.698	0.6495
130	266	5.675	0.615	0.5700
135	275	4.968	0.543	–
140	284	4.360	0.481	–
145	293	3.836	0.428	–
150	302	3.384	0.381	–
Drawing No.		3SA48006 (AD190115)	3SA48005 (AD190114)	3P204139 (AD070077)

∗This data is for reference purposes only.

4.10 Pressure Sensor Check

CHECK 12



$$P_H\ (MPa) = \frac{4.15}{3.0} \times V_H - \frac{4.15}{3.0} \times 0.5$$

$$P_L\ (MPa) = \frac{1.7}{3.0} \times V_L - \frac{1.7}{3.0} \times 0.5$$

1 MPa = 145 psi

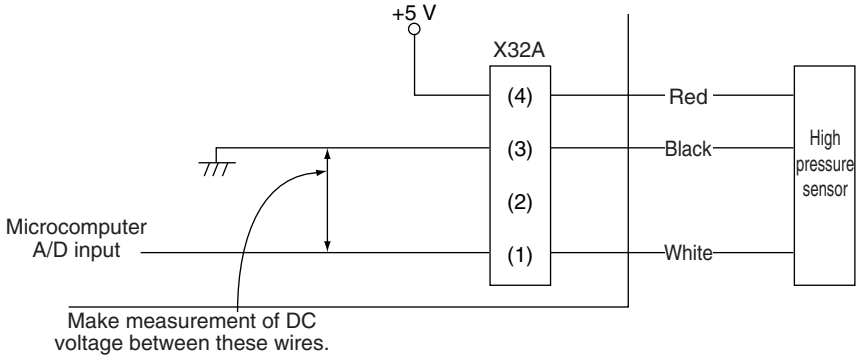
P_H : High pressure (MPa)

P_L : Low pressure (MPa)

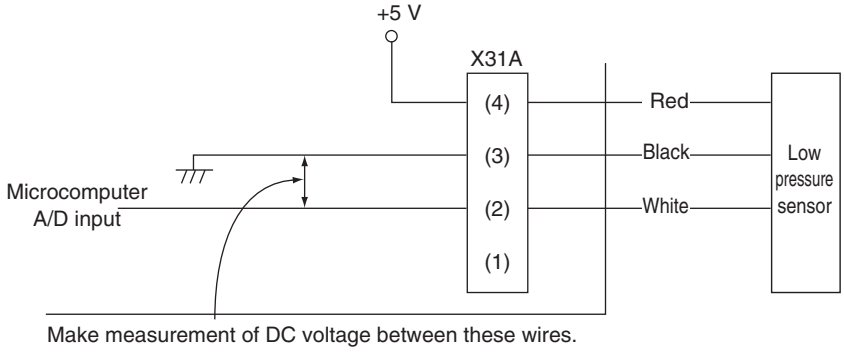
V_H : Output Voltage (High Side) (VDC)

V_L : Output Voltage (Low Side) (VDC)

Voltage Measurement Point of the High Pressure Sensor



Voltage Measurement Point of the Low Pressure Sensor

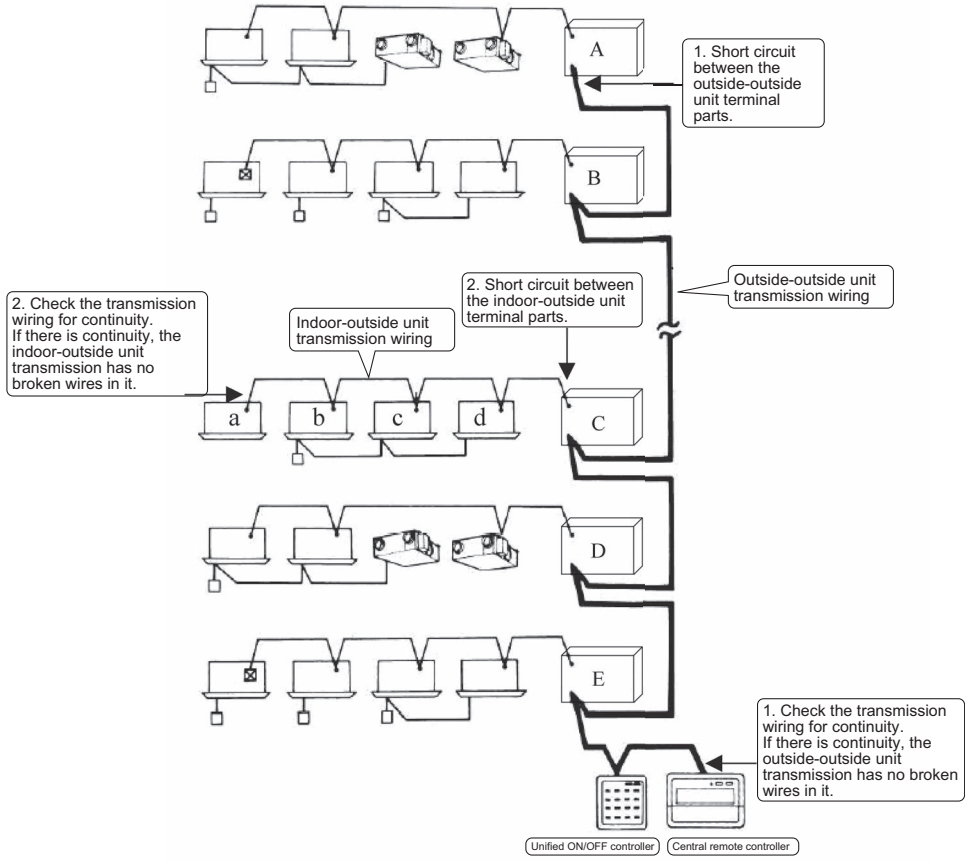


4.11 Broken Wire Check of the Relay Wires

CHECK 15

1. Procedure for checking outside-outside unit transmission wiring for broken wires
   On the system shown below, turn OFF the power supply to all equipment, short circuit between the outside-outside unit terminal F1 and F2 in the outside unit **A** that is farthest from the central remote controller, and then conduct continuity checks between the transmission wiring terminal blocks F1 and F2 of the central remote controller using a multimeter. If there is continuity between the said terminal blocks, the outside-outside unit transmission wiring has no broken wires in it.
   If there is no continuity, the transmission wiring may have broken wires. With the outside-outside unit terminal of the outside unit **A** short circuited, conduct continuity checks between the transmission wiring terminal blocks F1 and F2 of the unified ON/OFF controller. If there is no continuity as well, conduct continuity checks between the outside-outside unit terminal of the outside unit **E**, between the outside-outside unit terminal of the outside unit **D**, between the outside-outside unit terminal of the outside unit **C**, … in the order described, thus identifying the place with continuity.
   If the place with continuity can be identified, there may be broken wires in places before the said place with continuity.

2. Procedure for checking indoor-outside unit transmission wiring for broken wires (for checking the indoor-outside unit transmission wiring of the outside unit **C** for broken wires)
   Turn OFF the power supply to all equipment, short circuit between the indoor-outside unit terminal F1 and F2 in the outside unit **C**, and then conduct continuity checks between the transmission wirings F1 and F2 of the indoor unit **a** that is farthest from the outside unit **C** using a multimeter. If there is continuity between the said transmission wirings, the indoor-outside unit transmission wiring has no broken wires in it.
   If there is no continuity, the transmission wiring may have broken wires. With the indoor-outside unit terminal of the outside unit **C** short circuited, identify the place with continuity in the transmission wiring of the indoor unit **b**, transmission wiring of the indoor unit **c**, and transmission wiring of the indoor unit **d** in the order described.
   If the place with continuity can be identified, there may be broken wires in places before the said place with continuity.



4.12 Fan Motor Connector Check (Power Supply Cable)

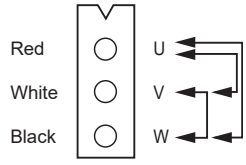
CHECK 16 Check the fan motor connector according to the following procedure.

Indoor Unit

FXFQ-AA

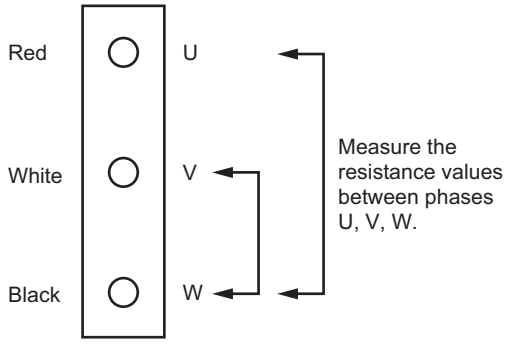
1. Turn the power supply OFF.
2. Disconnect the fan motor connector from the PCB and measure the resistances between U-V, V-W and W-U.

Judgment: Resistances must be balanced within 20%.



FXDQ-M, FXHQ-M

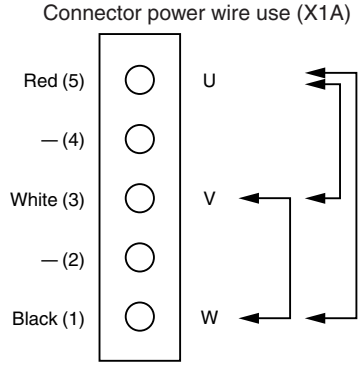
1. Turn OFF the power supply.
2. Measure the resistance between phases of U, V, W at the motor side connectors (3-core wire) to check that the values are balanced and there is no short circuiting, while connector or relay connector is disconnected.



Model	Judgment	
	Black-Red	Black-White
FXDQ07-12M	71.0 Ω ± 10%	73.5 Ω ± 10%
FXDQ18/24M	39.2 Ω ± 10%	41.3 Ω ± 10%
FXHQ12M	71.0 Ω ± 10%	73.5 Ω ± 10%
FXHQ24/36M	53.5 Ω ± 10%	31.6 Ω ± 10%

FXSQ54TA, FXSQ54TB, FXMQ15-54PB, FXMQ30-54TB

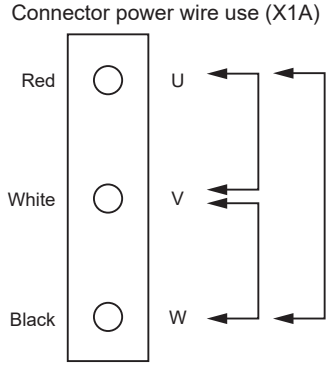
Remove the X1A connector from the fan PCB (A2P) and measure the resistance between the U and V, V and W, and W and U phases of the motor connector (with five conductors) and check that each phase are balanced (within a permissible dispersion range of ±20%).



FXMQ-TA

Measurement of power wire connector.

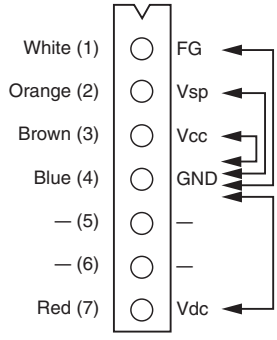
Remove the X1A connector from the fan PCB (A2P) and measure the resistance between the U and V, V and W, and W and U phases of the motor connector (with five conductors) and check that each phase are balanced (within a permissible dispersion range of ±20%)



4.13 Fan Motor Connector Check (Signal Cable)

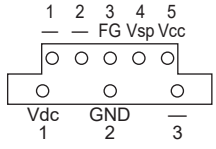
CHECK 17 Resistance measuring points and judgment criteria.

FXFQ-T, FXFQ09-30P, FXZQ-TA, FXZQ-TB, FXUQ-P, FXSQ05-48TA, FXSQ05-48TB, FXMQ07-12PB, FXMQ15-24TB, FXAQ-P



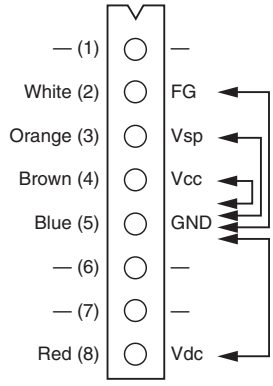
Measuring points	Judgment criteria
1 - 4	1 Ω or more
2 - 4	1 Ω or more
3 - 4	1 Ω or more
7 - 4	1 Ω or more

FXFQ36/48P



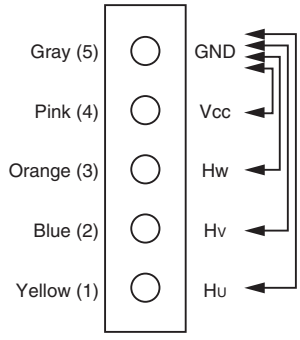
Measuring points	Judgment criteria
3 - 2	1 Ω or more
4 - 2	1 Ω or more
5 - 2	1 Ω or more
1 - 2	1 Ω or more

FXEQ-P, FXUQ-PA



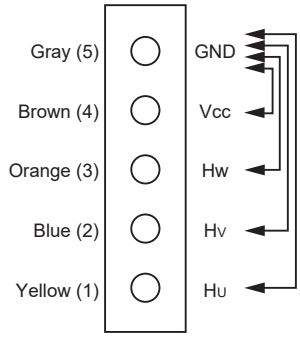
Measuring points	Judgment criteria
2 - 5	1 Ω or more
3 - 5	1 Ω or more
4 - 5	1 Ω or more
8 - 5	1 Ω or more

FXSQ54TA, FXSQ54TB, FXMQ15-54PB, FXMQ30-54TB



Measuring points	Judgment criteria
5 - 4	1 Ω or more
5 - 3	1 Ω or more
5 - 2	1 Ω or more
5 - 1	1 Ω or more

FXMQ-TA



Measuring points	Judgment criteria
5 - 4	1 Ω or more
5 - 3	1 Ω or more
5 - 2	1 Ω or more
5 - 1	1 Ω or more

4.14 Electronic Expansion Valve Coil Check

CHECK 18

Measure the connector pin-to-pin resistance and make sure that the resistance value is within the range listed in the table below.
Determine the type according to the connector wire color and measure the resistance.

Outside Unit

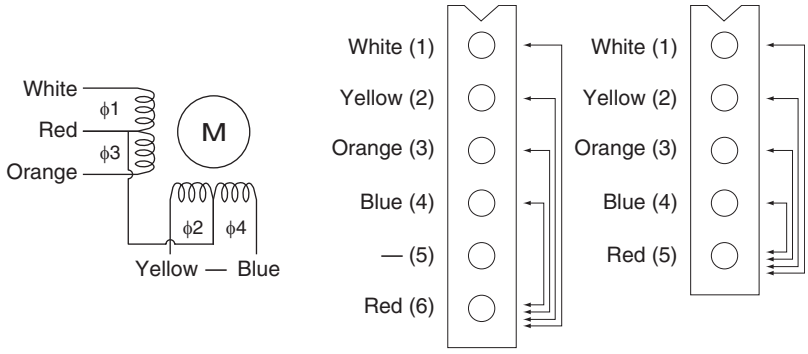
Y1E

Measuring points	Judgment criteria
1 - 6	120-180 Ω
2 - 6	
3 - 6	
4 - 6	

Y2E, Y3E

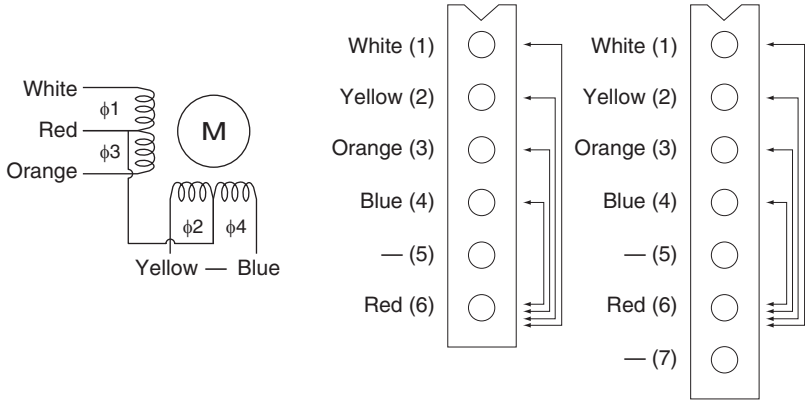
Measuring points	Judgment criteria
1 - 6	35-55 Ω
2 - 6	
3 - 6	
4 - 6	

Branch Selector unit (EVSC)



Measuring points	Judgment criteria
White - Red	35-55 Ω
Yellow - Red	
Orange - Red	
Blue - Red	

Branch Selector unit (EVH, EVL)



Measuring points	Judgment criteria
White - Red	120-180 Ω
Yellow - Red	
Orange - Red	
Blue - Red	

Indoor Unit

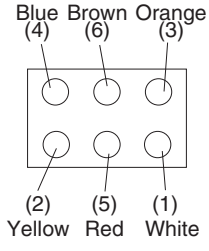
FXFQ-AA, FXFQ-T, FXFQ-P, FXZQ-TA, FXZQ-TB, FXUQ-P, FXUQ-PA, FXEQ-P, FXSQ-TA, FXSQ-TB, FXMQ-TB, FXTQ-TA, FXTQ-TB

Measuring points	Judgment criteria
1 - 6	35-55 Ω
2 - 6	
3 - 6	
4 - 6	

FXZQ-M, FXMQ-PB, FXAQ-P

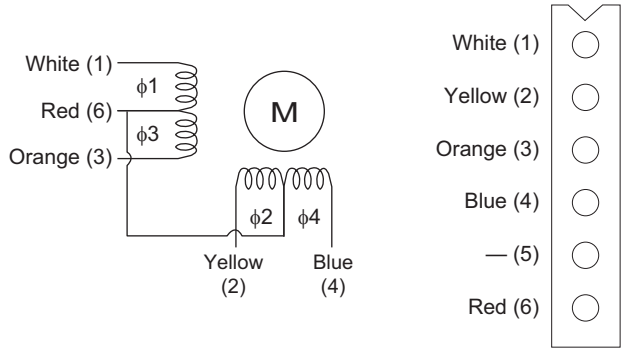
Measuring points	Judgment criteria
1 - 3	300 Ω
1 - 5	150 Ω
2 - 4	300 Ω
2 - 6	150 Ω

FXDQ-M, FXMQ-M, FXHQ-M, FXLQ-M, FXNQ-M, FXMQ-MF



Measuring points	Judgment criteria
1 - 3	300 Ω
1 - 5	150 Ω
2 - 4	300 Ω
2 - 6	150 Ω

FXMQ-TA



Measuring points	Judgment criteria
1 - 2	No continuity
1 - 3	300 Ω
1 - 6	150 Ω
2 - 4	300 Ω
2 - 6	150 Ω

4.15 Fan Motor Connector Check for FXTQ-TA, FXTQ-TB

CHECK 19

CHECKING EMERSON ULTRATECH™ ECM MOTORS

The FXTQ-TA and FXTQ-TB models utilize an Emerson, 4-wire variable speed ECM blower motor. The ECM blower motor provides constant CFM.

The motor is a serially communicating variable speed motor. Only four wires are required to control the motor: +Vdc, Common, Receive, and Transmit.

The +Vdc and Common wires provide power to the motor's low voltage control circuits.

General Checks / Considerations

1. Check power supply to the air handler or modular blower. Ensure power supply is within the range specified on rating plate.
2. Check motor power harness. Ensure wires are continuous and make good contact when seated in the connectors. Repair or replace as needed.
3. Check motor control harness. Ensure wires are continuous and make good contact when seated in the connectors. Repair or replace as needed.
4. Check blower wheel. Confirm wheel is properly seated on motor shaft. Set screw must be on shaft flat and torqued to 165 in-lbs minimum. Confirm wheel has no broken or loose blades. Repair or replace as needed.
5. Ensure motor and wheel turn freely. Check for interference between wheel and housing or wheel and motor. Repair or replace as needed.
6. Check housing for cracks and/or corrosion. Repair or replace as needed.
7. Check motor mounting bracket. Ensure mounting bracket is tightly secured to the housing. Ensure bracket is not cracked or broken.

Emerson UltraCheck-EZ™ Diagnostic Tool

The Emerson UltraCheck-EZ™ diagnostic tool may be used to diagnose the ECM motor.

Warning

HIGH VOLTAGE!

Disconnect ALL power before servicing or installing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

To use the diagnostic tool, perform the following steps:

1. Disconnect power to the air handler.
2. Disconnect the 4-circuit control harness from the motor.
3. Plug the 4-circuit connector from the diagnostic tool into the motor control connector.
4. Connect one alligator clip from the diagnostic tool to a ground source.
5. Connect the other alligator clip to a 24VAC source.
   NOTE: The alligator clips are NOT polarized.
   NOTE: The Ultra Check-EZ™ diagnostic tool is equipped with a non-replaceable fuse. Connecting the tool to a source other than 24VAC could damage the tool and cause the fuse to open. Doing so will render the diagnostic tool inoperable.
6. Turn on power to air handler or modular blower.

Warning

Line Voltage now present.

7. Depress the orange power button on the diagnostic tool to send a run signal to the motor. Allow up to 5 seconds for the motor to start.
   NOTE: If the orange power button does not illuminate when depressed, the tool either has an open fuse or is not properly connected to a 24VAC source.

8. The green LED on the diagnostic tool will blink indicating communications between the tool and motor. See table below for indications of tool indicators and motor actions. Replace or repair as needed.

Power Button	Green LED	Motor Action	Indication(s)
OFF	OFF	Not Rotating	Confirm 24VAC to UltraCheck-EZ™ tool. If 24VAC is confirmed, diagnostic tool is inoperable.
ON	Blinking	Rotating	Motor and control/end bell are functioning properly.
ON	OFF	Rotating	Replace motor control/end bell.
ON	Blinking	Not Rotating	Check motor (refer to Motor Checks on page 456).
ON	OFF	Not Rotating	Replace motor control/end bell; verify motor (refer to Motor Checks on page 456).

9. Depress the orange power button to turn off motor.
10. Disconnect power. Disconnect diagnostic tool.
11. Reconnect the 4-wire harness from control board to motor.

Electrical Checks - High Voltage Power Circuits

Warning

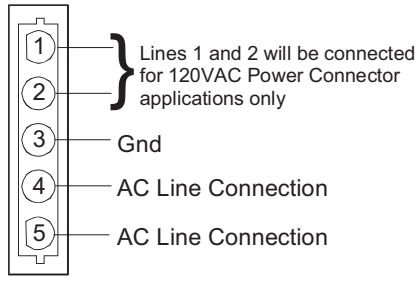
HIGH VOLTAGE!
Disconnect ALL power before servicing or installing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

1. Disconnect power to air handler or modular blower.
2. Disconnect the 5-circuit power connector to the ECM motor.
3. Turn on power to air handler or modular.

Warning

Line Voltage now present.

4. Measure voltage between pins 4 and 5 on the 5-circuit connector. Measured voltage should be the same as the supply voltage to the air handler or modular.



5. Measure voltage between pins 4 and 3. Voltage should be approximately half of the voltage measured in step 4.
6. Measure voltage between pins 5 and 3. Voltage should be approximately half of the voltage measured in step 4.
7. If no voltage is present, check supply voltage to air handler or modular blower.
8. Disconnect power to air handler or modular blower. Reconnect the 5-circuit power harness disconnected in step 2.

Electrical Checks - Low Voltage Control Circuits

1. Turn on power to air handler or modular.

Warning

Line Voltage now present.

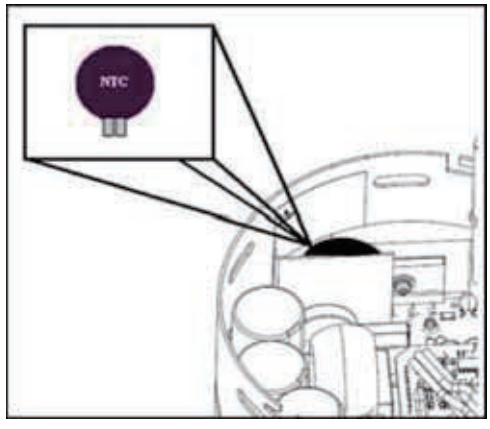
2. Check voltage between pins on the 4-wire motor control harness between the motor and control board.
3. Voltage on pins should read:
   Pins 1 to 4 = 3.3vdc
   Pins 1 to 2 = 3.3vdc
   Pins 3 to 4 = 15vdc

Motor Control/End Bell Checks

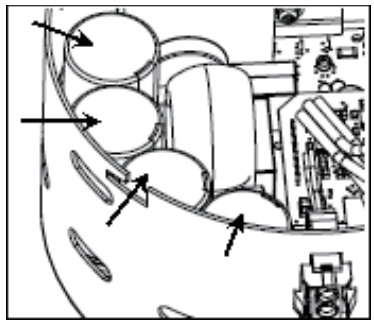
Warning

HIGH VOLTAGE!
Disconnect ALL power before servicing or installing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

1. Disconnect power to air handler or modular blower.
   NOTE: Motor contains capacitors that can hold a charge for several minutes after disconnecting power. Wait 5 minutes after removing power to allow capacitors to discharge.
2. Disconnect the motor control harness and motor power harness.
3. Remove the blower assembly from the air handler or modular blower.
4. Remove the (3) screws securing the control/end bell to the motor. Separate the control/end bell. Disconnect the 3-circuit harness from the control/end bell to remove the control/end bell from the motor.
5. Inspect the NTC thermistor inside the control/end bell. Replace control/end bell if thermistor is cracked or broken.



6. Inspect the large capacitors inside the control/end bell. Replace the control/end bell if any of the capacitors are bulging or swollen.



7. Locate the 3-circuit connector in the control/end bell. Using an ohmmeter, check the resistance between each terminal in the connector. If the resistance is 1 MΩ or greater, the control/end bell is functioning properly. Replace the control/end bell if the resistance is lower than 1 MΩ.
8. Reassemble motor and control/end bell in reverse of disassembly. Replace blower assembly into air handler or modular blower.

Motor Checks

Warning

HIGH VOLTAGE!
Disconnect ALL power before servicing or installing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

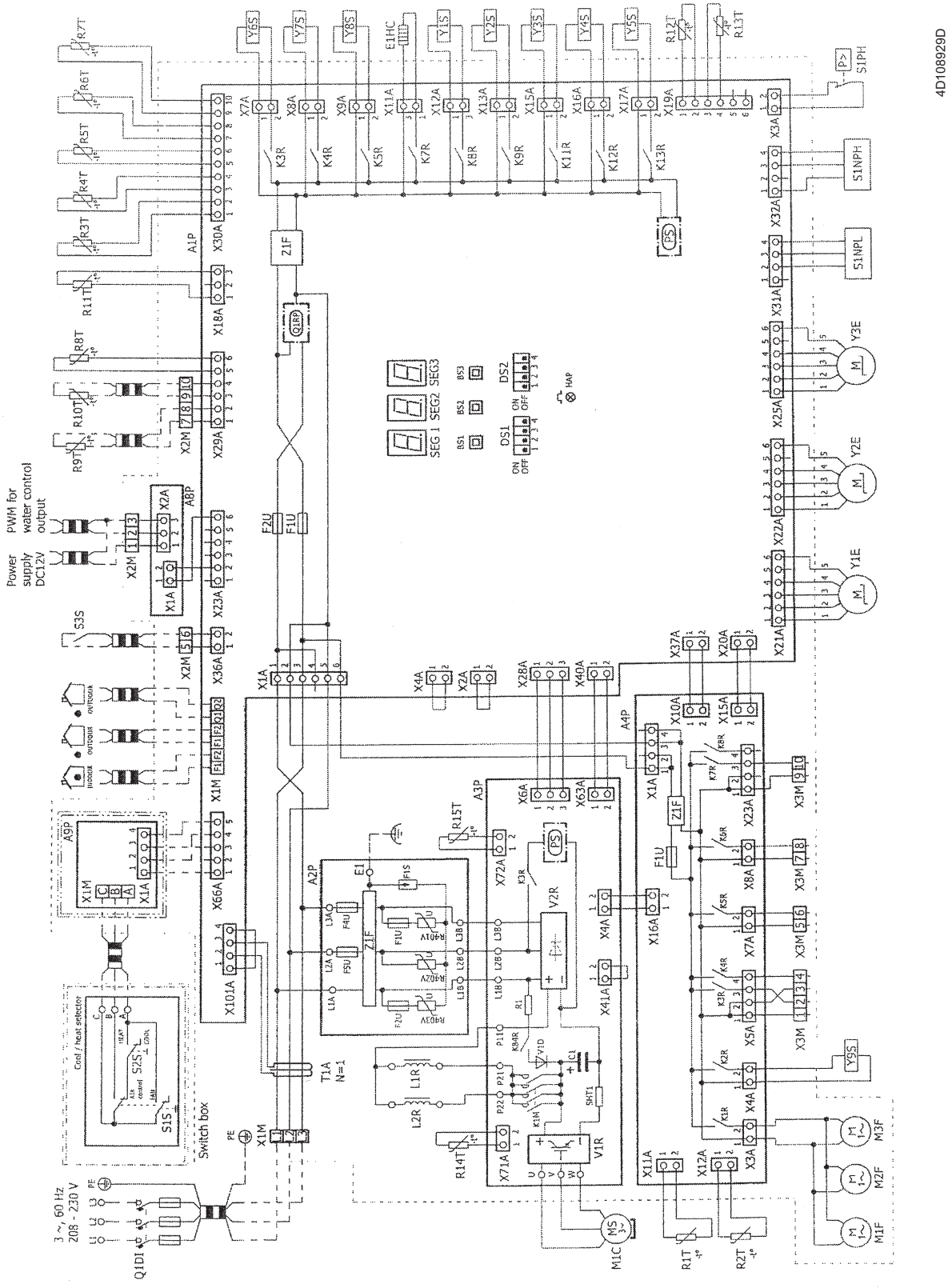
1. Disconnect power to air handler or modular blower.
   NOTE: Motor contains capacitors that can hold a charge for several minutes after disconnecting power. Wait 5 minutes after removing power to allow capacitors to discharge.
2. Disassemble motor as described in steps 2 through 4 above.
3. Locate the 3-circuit harness from the motor. Using an ohmmeter, measure the resistance between each motor phase winding. The resistance levels should be equal. Replace the motor if the resistance levels are unequal, open circuited or short circuited.
4. Measure the resistance between each motor phase winding and the motor shell. Replace the motor if any phase winding is short circuited to the motor shell.
5. Reassemble motor and control/end bell in reverse of disassembly. Replace blower assembly into air handler or modular blower.

Part 7
Appendix

1. Wiring Diagrams

1.1 Outside Unit

RWEQ96/120/144TATJU, RWEQ96/120/144TATJA, RWEQ72/96/120/144TBTJA



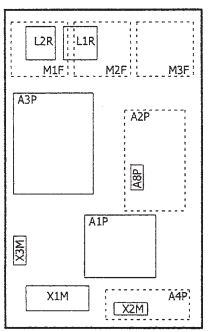
NOTES to go through before starting the unit

Symbols :

X1M	: Main terminal
— — —	: Earth wiring
15	: Wire number 15
- - - - - -	: Field wire
	: Field cable
→ **/12.2	: Connection ** continues on page 12 column 2
(1)	: Several wiring possibilities
	: Option
	: Not mounted in switch box
	: Wiring depending on model
	: PCB

1. Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
2. Do not operate the unit by short-circuiting protection device (S1PH).
3. For connection to indoor-outdoor transmission F1-F2 wiring, outdoor - outdoor transmission F1-F2, refer to "service manual".

POSITION IN SWITCH BOX



LEGEND

Translation can be found in the installation manual.

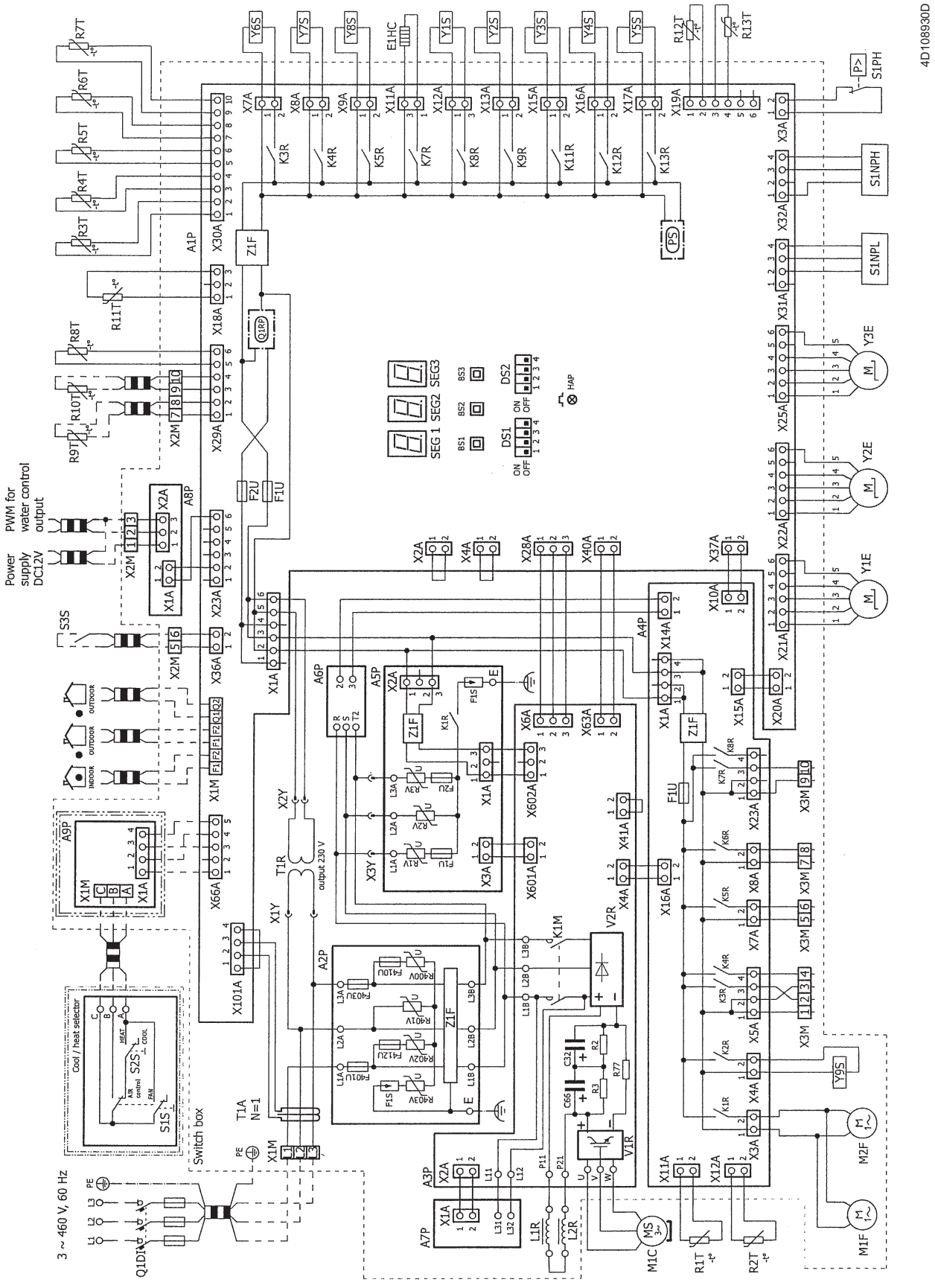
Part n°		Description
A1P		main PCB
A2P		noise filter PCB
A3P		inverter PCB
A4P		SUB PCB
A8P		adapter PCB
A9P	*	cool/heat selector PCB
BS* (A1P)		push buttons (mode , set, return)
C1 (A3P)		capacitor
DS* (A1P)		dipswitch
E1HC		crankcase heater
F1S (A1P)		surge arrestor
F1U (A4P)		fuse T 3,15 A 250 V
F*U (A2P)		fuse T 6,3 A 250 V
F4U (A2P)		fuse T 125 A 250 V
F5U (A2P)		fuse T 125 A 250 V
F*U (A1P)		fuse T 6,3 A 250 V
HAP (A1P)		running LED (service monitor-green)
K1M (A3P)		magnetic contactor
K*R (A*P)		magnetic relay
L*R		reactor
M1C		motor (compressor)
M*F		motor (fan)
PS (A1P)		power supply
Q1DI	#	earth leakage circuit breaker
Q1RP (A1P)		phase reversal detect circuit

Part n°		Description
R1 (A3P)		resistor
R*T		thermistor
R*V (A2P)		varistor
SHT1 (A3P)		shunt (current sensor)
S1NPH		high pressure sensor
S1NPL		low pressure sensor
S1PH		high pressure switch (disch)
S1S		air control switch
S2S		cool / heat switch
S3S		interlock switch
SEG*(A1P)		7-segment display
T1A		leakage current detection sensor
V1D (A3P)		diode
V1R (A3P)		IGBT power module
V2R (A3P)		diode module
X66A		connector (remote switching cool/heat selector)
X*A		PCB connector
X*M		terminal strip
X*M (A*P)		terminal strip on PCB
X*Y		connector
Y*E		electronic expansion valve
Y*S		solenoïd valve
Z*C		noise filter (ferrit core)
Z*F		noise filter

* : optional # : field supply

4D108929D

RWEQ96/120/144TAYDU, RWEQ96/120/144TAYDA, RWEQ72/96/120/144TBYDA



NOTES to go through before starting the unit

Symbols :

X1M : Main terminal

: Earth wiring

15 : Wire number 15

: Field wire

: Field cable

→ **/12.2 : Connection ** continues on page 12 column 2

① : Several wiring possibilities

: Option

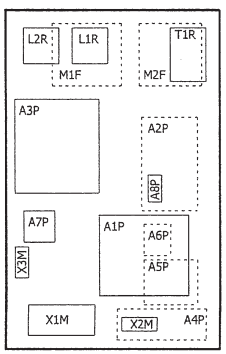
: Not mounted in switch box

: Wiring depending on model

: PCB

1. Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
2. Do not operate the unit by short-circuiting protection device (S1PH).
3. For connection to indoor-outdoor transmission F1-F2 wiring, outdoor - outdoor transmission F1-F2, refer to "service manual".

POSITION IN SWITCH BOX



LEGEND

Translation can be found in the installation manual.

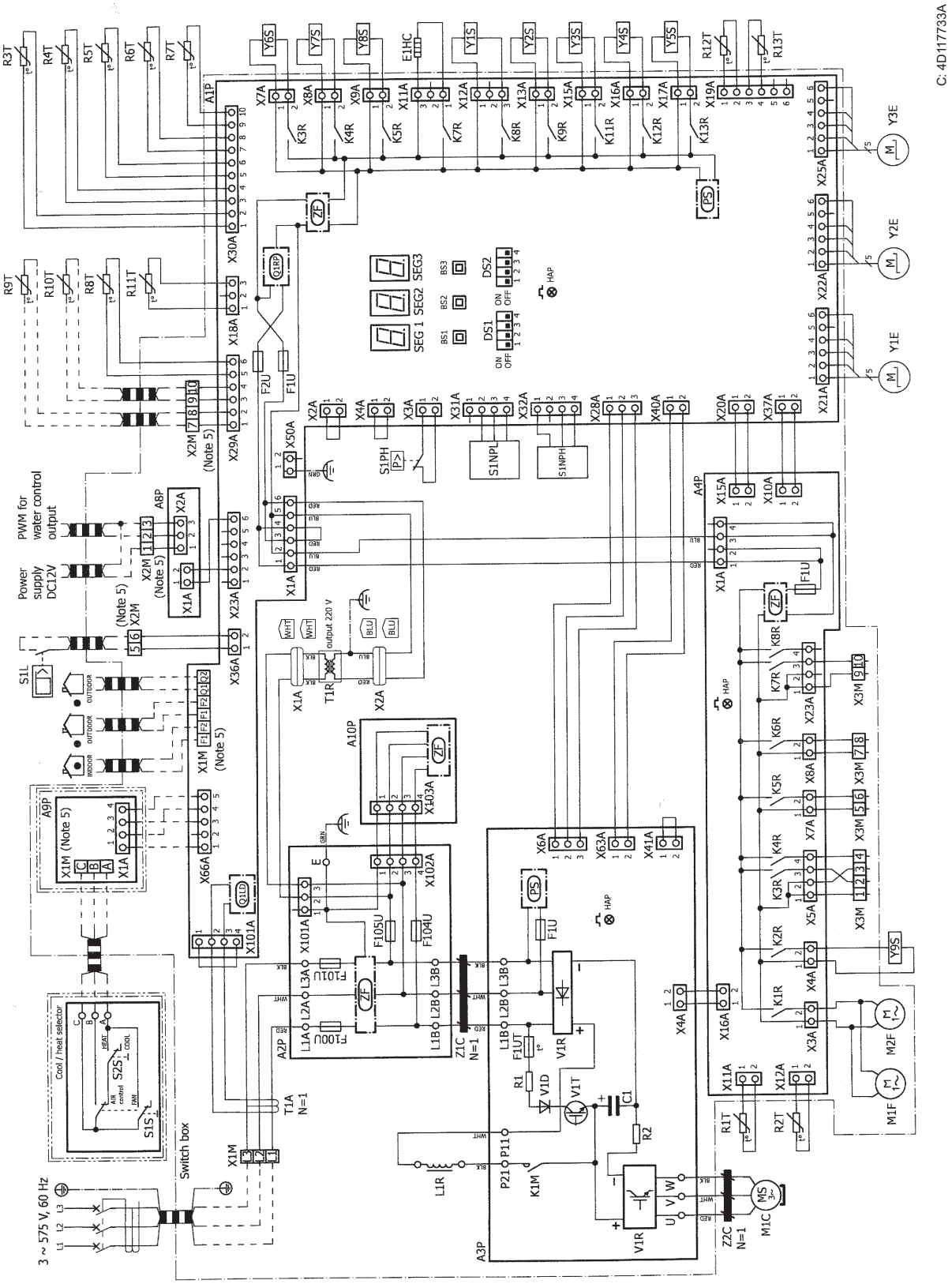
Part n°		Description
A1P		main PCB
A2P		noise filter PCB
A3P		inverter PCB
A4P		SUB PCB
A5P		filter PCB
A6P		reverse phase protection PCB
A7P		current limiting detection PCB
A8P		adapter PCB
A9P	*	cool/heat selector PCB
BS* (A1P)		push buttons (mode , set, return)
C* (A3P)		capacitor
DS* (A1P)		dipswitch
E1HC		crankcase heater
F1S (A2P,A5P)		surge arrestor
F1U (A4P)		fuse T 3,15 A 250 V
F401U (A2P)		fuse T 63 A 600 V
F403U (A2P)		fuse T 63 A 600 V
F410U (A2P)		fuse T 6,3 A 250 V
F412U (A2P)		fuse T 6,3 A 250 V
F*U (A1P)		fuse T 3,15 A 250 V
HAP (A1P)		running LED (service monitor-green)
K1M (A3P)		magnetic contactor
K*R (A*P)		magnetic relay
L*R		reactor
M1C		motor (compressor)
M*F		motor (fan)

Part n°		Description
PS (A1P)		power supply
Q1DI	#	earth leakage circuit breaker
Q1RP (A1P)		phase reversal detect circuit
R*T		thermistor
R*V (A5P)		varistor
R* (A3P)		resistor
S1NPH		high pressure sensor
S1NPL		low pressure sensor
S1PH		high pressure switch (disch)
S1S		air control switch
S2S		cool / heat switch
S3S		interlock switch
SEG1 SEG3		7-segment display
T1A		leakage current detection sensor
V1R (A3P)		IGBT power module
V2R (A3P)		diode module
X66A		connector (remote switching cool/heat selector)
X*A		PCB connector
X*M		terminal strip
X*M (A*P)		terminal strip on PCB
X*Y		connector
Y*E		electronic expansion valve
Y*S		solenoïd valve
Z*C		noise filter (ferrit core)
Z*F		noise filter

* : optional # : field supply

4D108930D

RWEQ96/120/144TAYCU, RWEQ72/96/120/144TBYCU



NOTES to go through before starting the unit

X1M : Main terminal

15 : Wire number 15

: Field wiring

(1) : Several wiring possibilities

: Protective ground

: Noiseless ground

(*) : * = Connector color for component

: Option

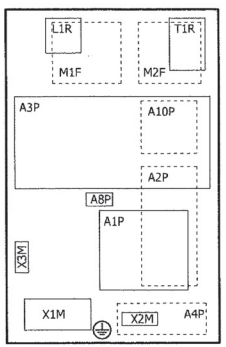
: Wiring depending on model

: switch box

: PCB

NOTES:
1. Refer to the installation or service manual on how to use the BS1 ~ BS3 push buttons and the DS1~DS2 switches.
2. When operating, do not short-circuit protection device S1PH.
3. For connection to indoor-outdoor transmission F1-F2 wiring, outdoor-outdoor transmission F1-F2, outdoor-outdoor transmission Q1-Q2, refer to "service manual".
4. Colors: BLK:Black, RED:Red, BLU:Blue, WHT:White, GRN:Green.
5. Class 2 wire.

POSITION IN SWITCH BOX



LEGEND

Translation can be found in the installation manual.

Part n°		Description
A1P		main PCB
A2P		noise filter PCB (main)
A3P		inverter PCB
A4P		SUB PCB
A8P		adapter PCB
A9P	*	cool/heat selector PCB
A10P		noise filter PCB (sub)
BS* (A1P)		push buttons (mode , set, return)
C* (A3P)		capacitor
DS* (A1P)		dipswitch
E1HC		crankcase heater
F1U,F2U (A1P)		fuse
F1U (A3P)		fuse
F1U (A4P)		fuse
F1UT (A3P)		thermal fuse
F100U (A2P)		fuse
F101U (A2P)		fuse
F104U (A2P)		fuse
F105U (A2P)		fuse
HAP (A1P, A3P,A4P)		running LED (service monitor-green)
K1M (A3P)		magnetic contactor
K*R (A*P)		magnetic relay
L*R		reactor
M1C		motor (compressor)
M*F		motor (fan)
PS (A1P,A3P)		power supply

Part n°		Description
Q1LD (A1P)		field earth current detector
Q1RP (A1P)		phase reversal detection circuit
R1 (A3P)		current limiting resistor
R2 (A3P)		shunt resistor
R*T		thermistor
R9T,R10T	#	thermistor for inlet/outlet water temp.
S1L	#	flow switch
S1NPH		high pressure sensor
S1NPL		low pressure sensor
S1PH		high pressure switch (discharge)
S1S	*	selector switch (fan/cool-heat)
S2S	*	selector switch (cool/heat)
SEG* (A1P)		7-segment display
T1A		leakage current detection sensor
T1R		transformer
V1D (A3P)		diode module
V1R (A3P)		power integrated module
V1T (A3P)		transistor
X66A		connector (remote switching cool/heat selector)
X*A		connector
X*M		terminal block
Y*E		electronic expansion valve
Y*S		solenoïd valve
Z*C		noise filter (ferrit core)
Z*F (A1P,A2P ,A4P,A10P)		noise filter

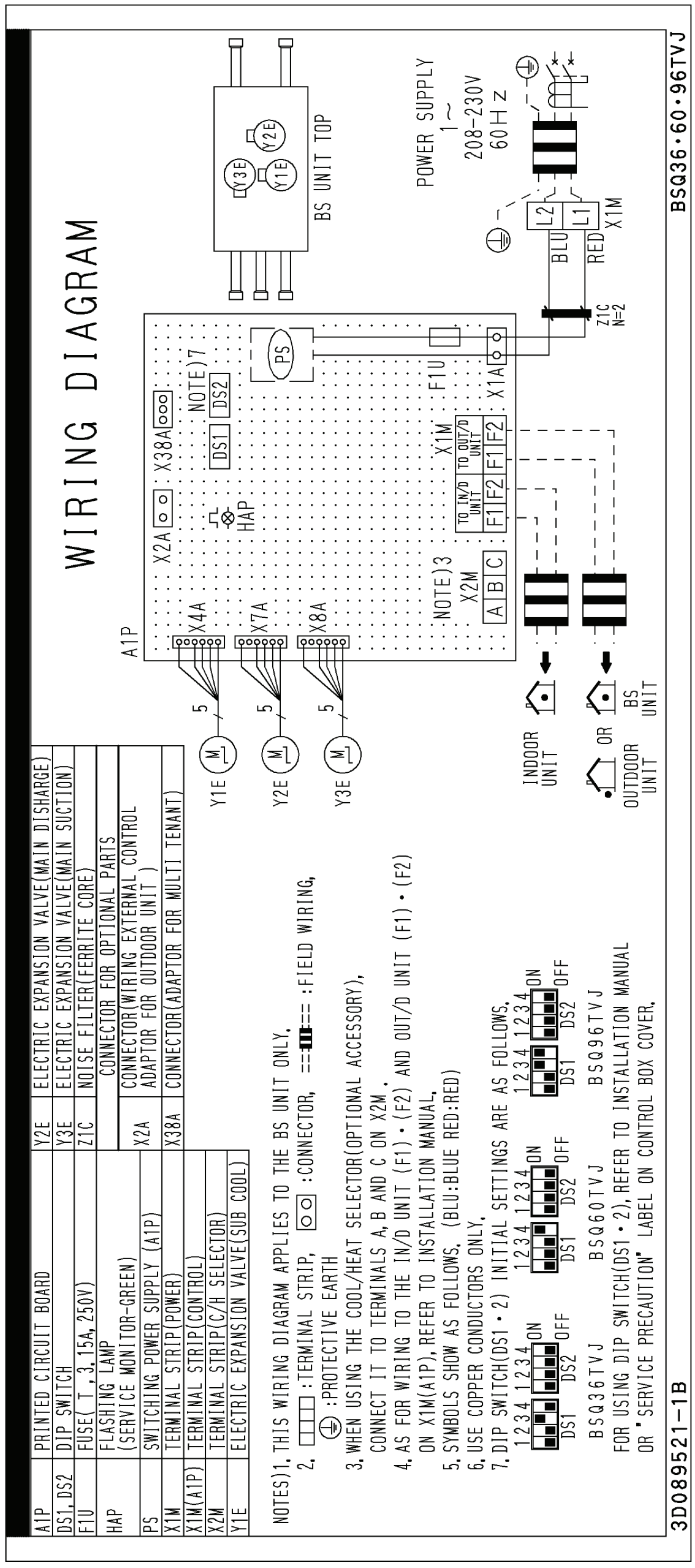
* : optional # : field supply

4D117733A

1.2 Branch Selector Unit

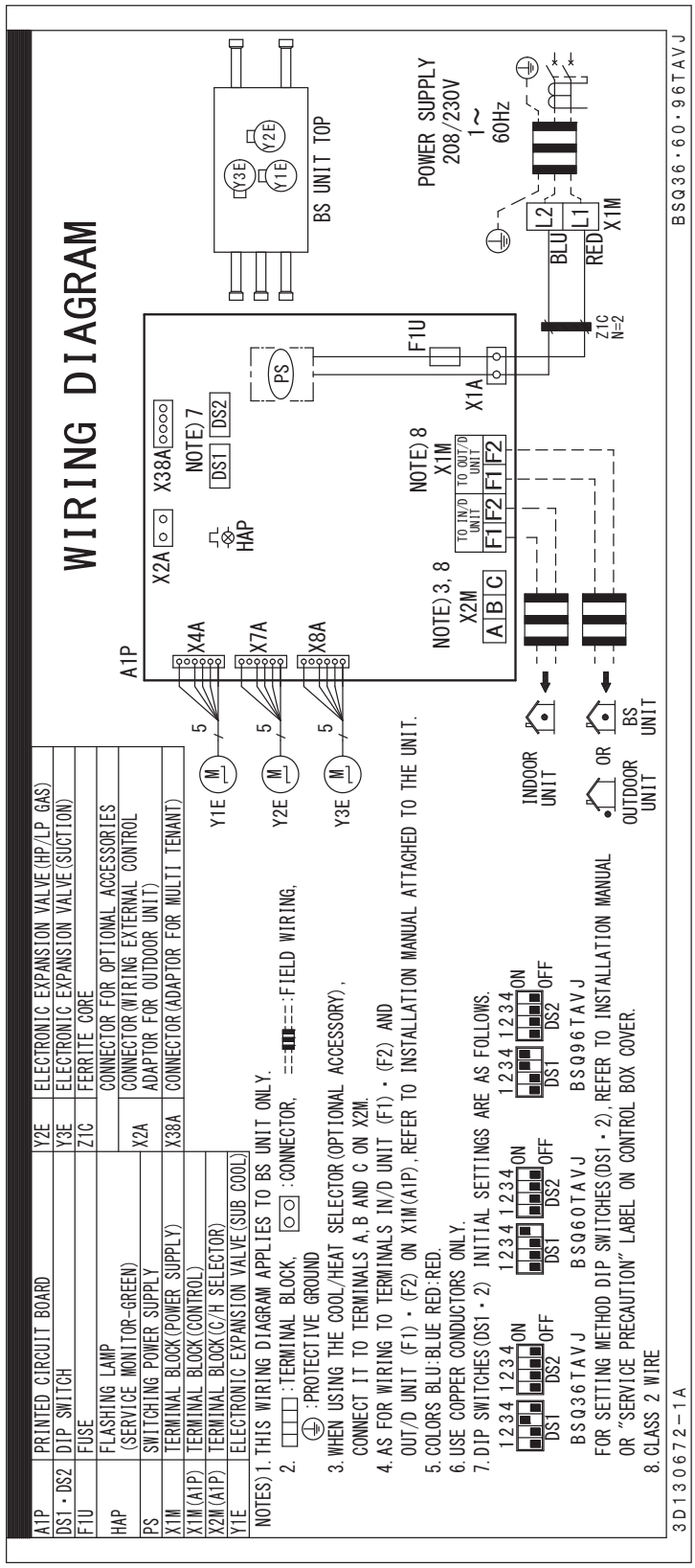
1.2.1 Single Branch Selector Unit

BSQ36/60/96TVJ



3D089521B

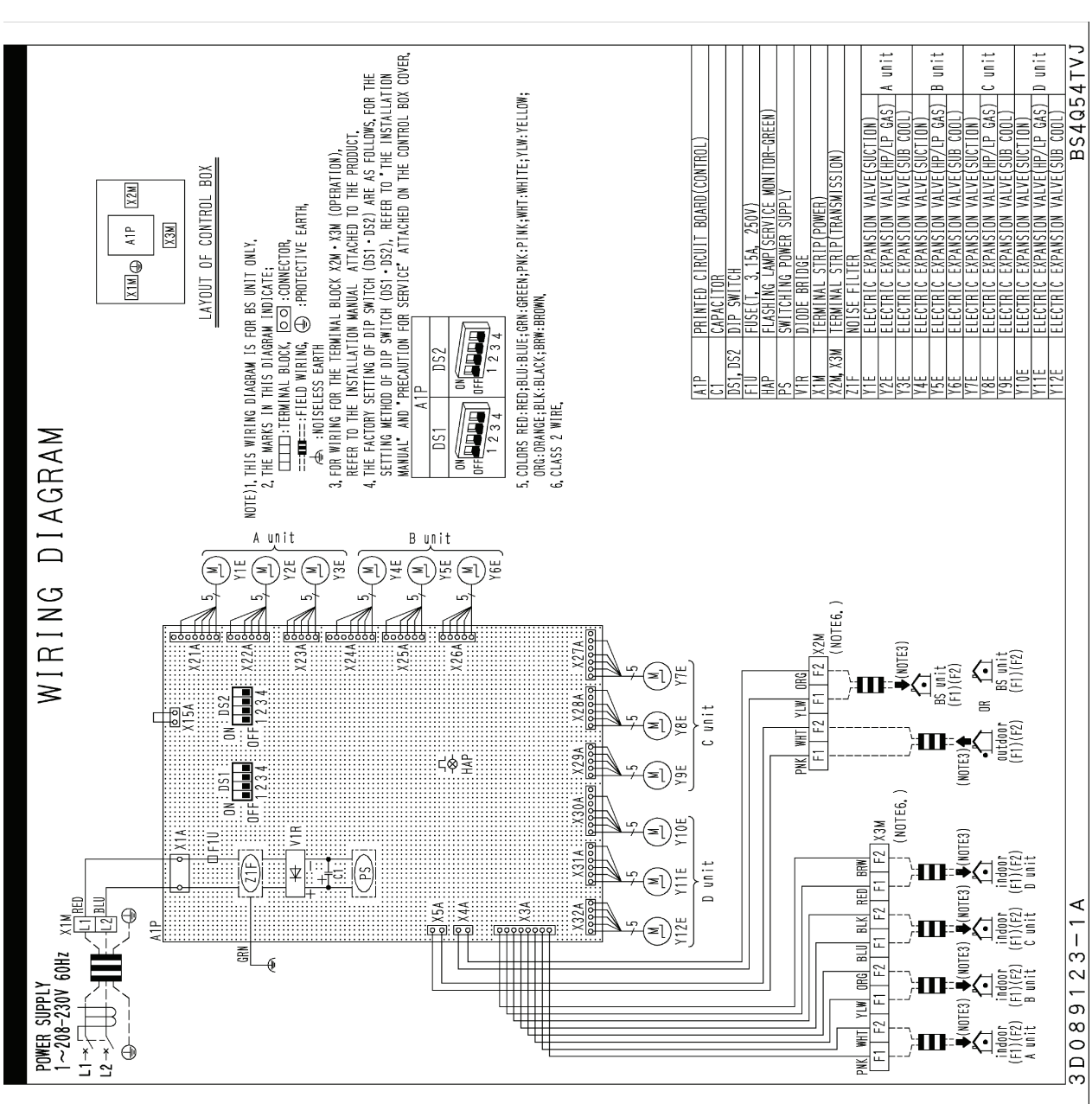
BSQ36/60/96TAVJ



3D130672C

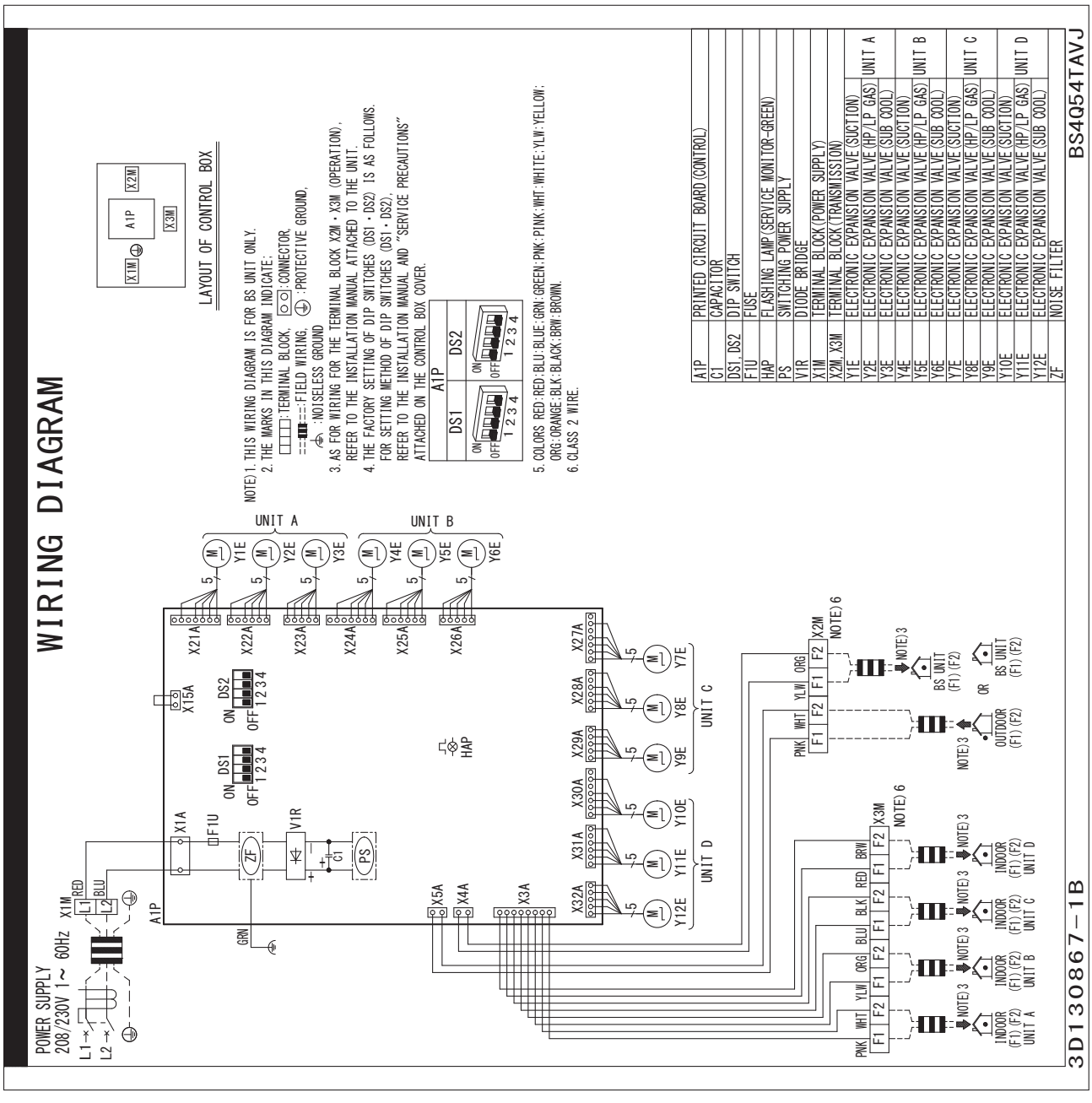
1.2.2 Multi Branch Selector Unit (Standard Series)

BS4Q54TVJ

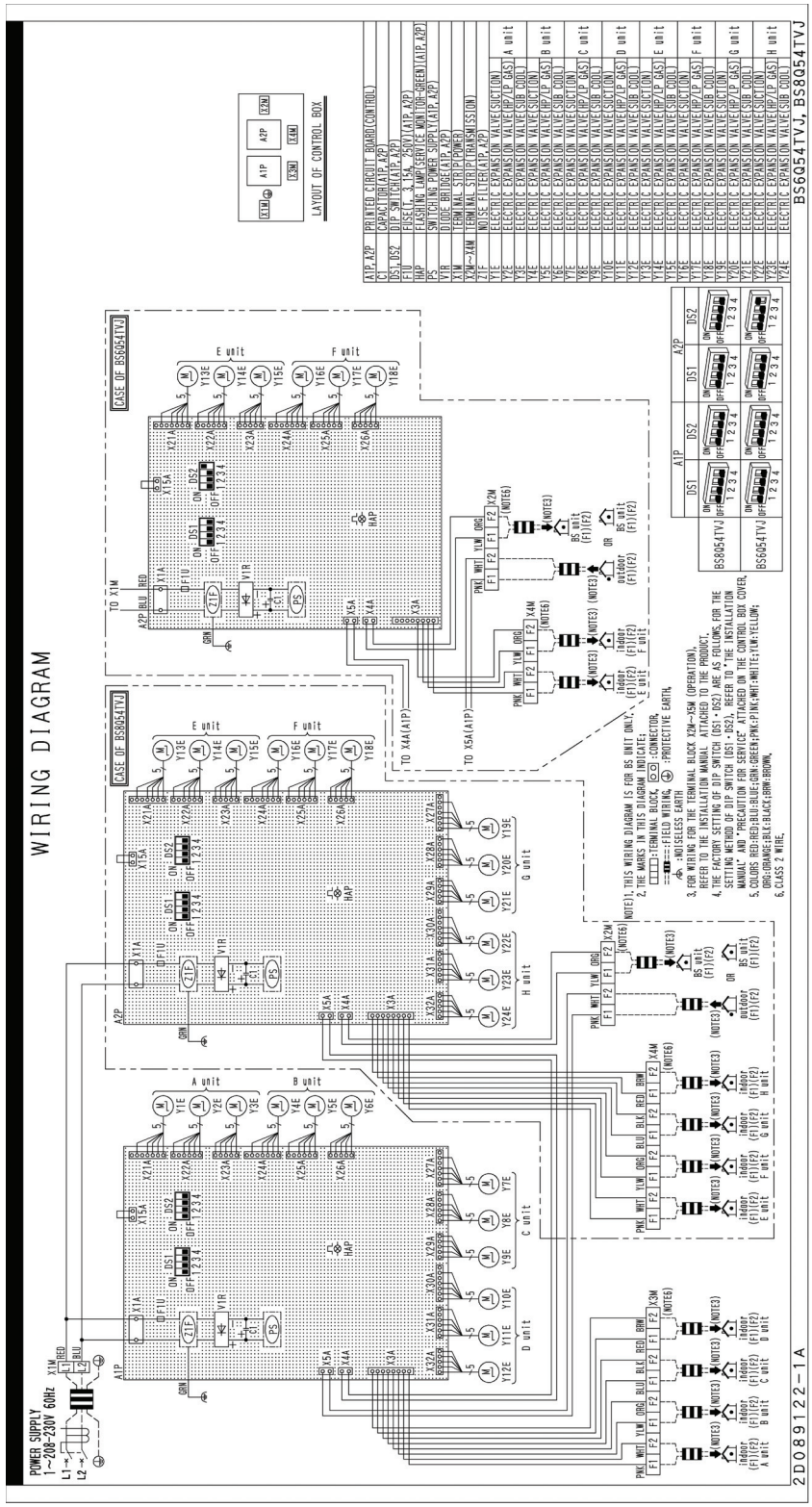


BS4Q54TAVJ

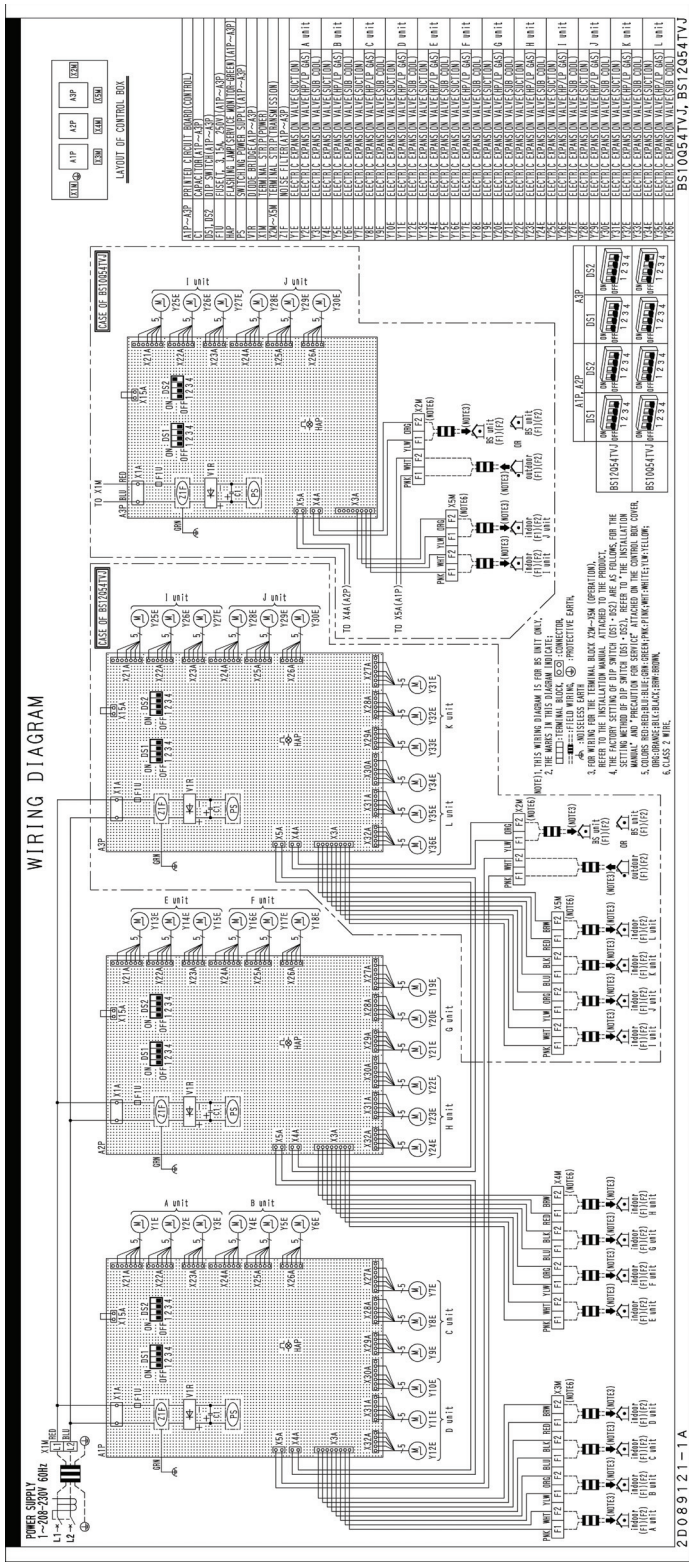
3D130867B



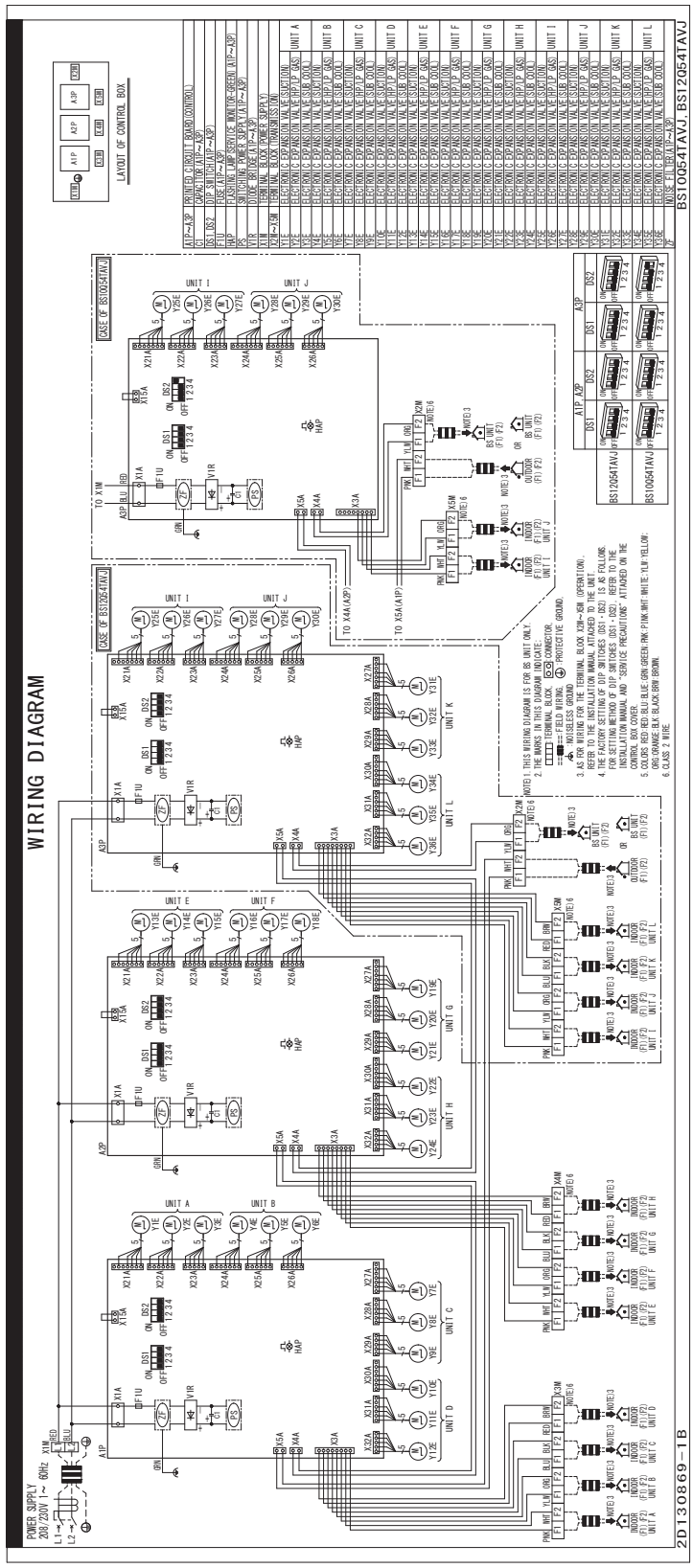
BS6/8Q54TVJ


WIRING DIAGRAM
BS6Q54TVJ, BS8Q54TVJ
2D089122-1A
2D089122B
POWER SUPPLY 1~208-230V 60Hz
LAYOUT OF CONTROL BOX
A unit
B unit
C unit
D unit
E unit
F unit
G unit
H unit

BS10/12Q54TVJ

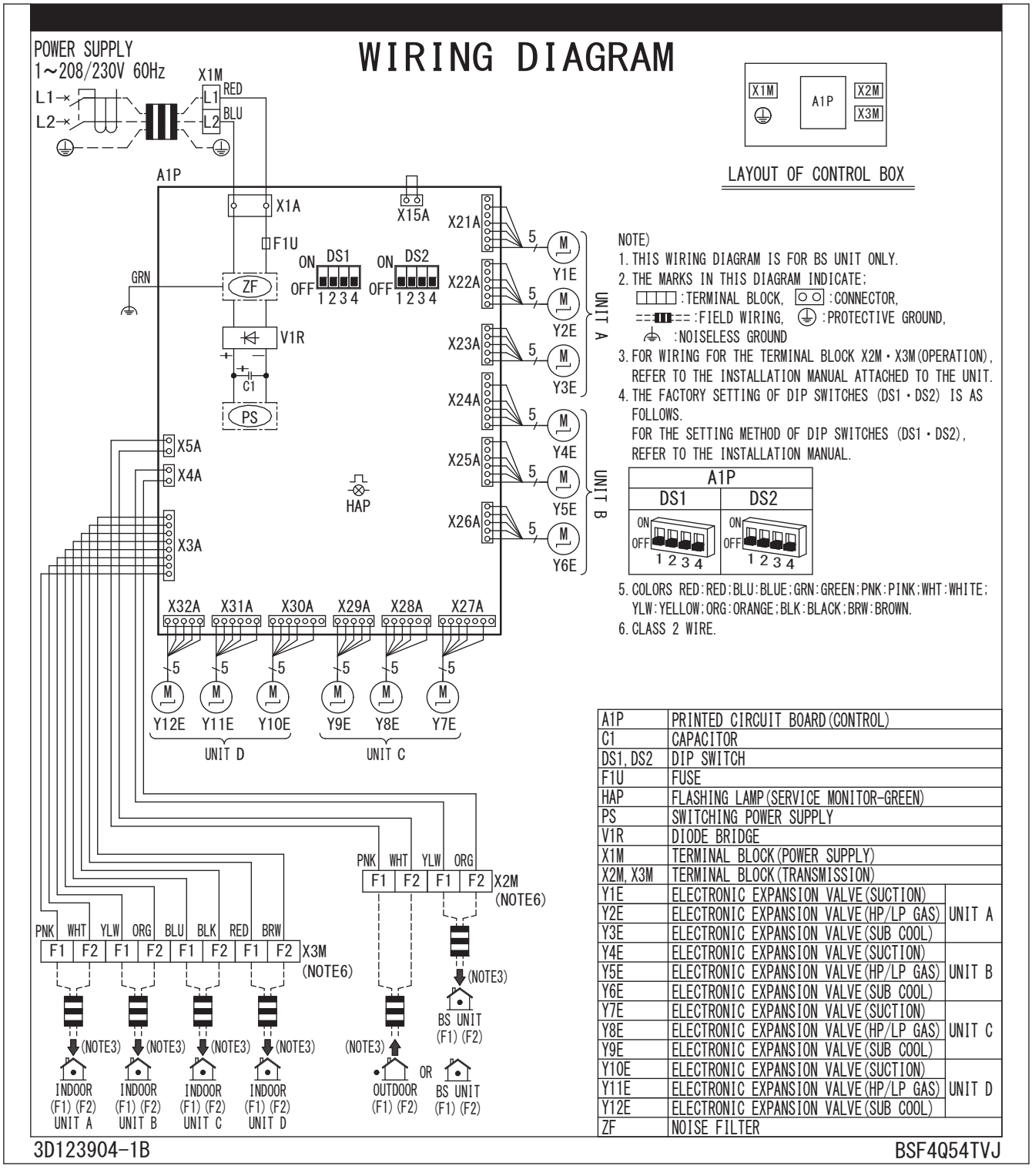


BS10/12Q54TAVJ



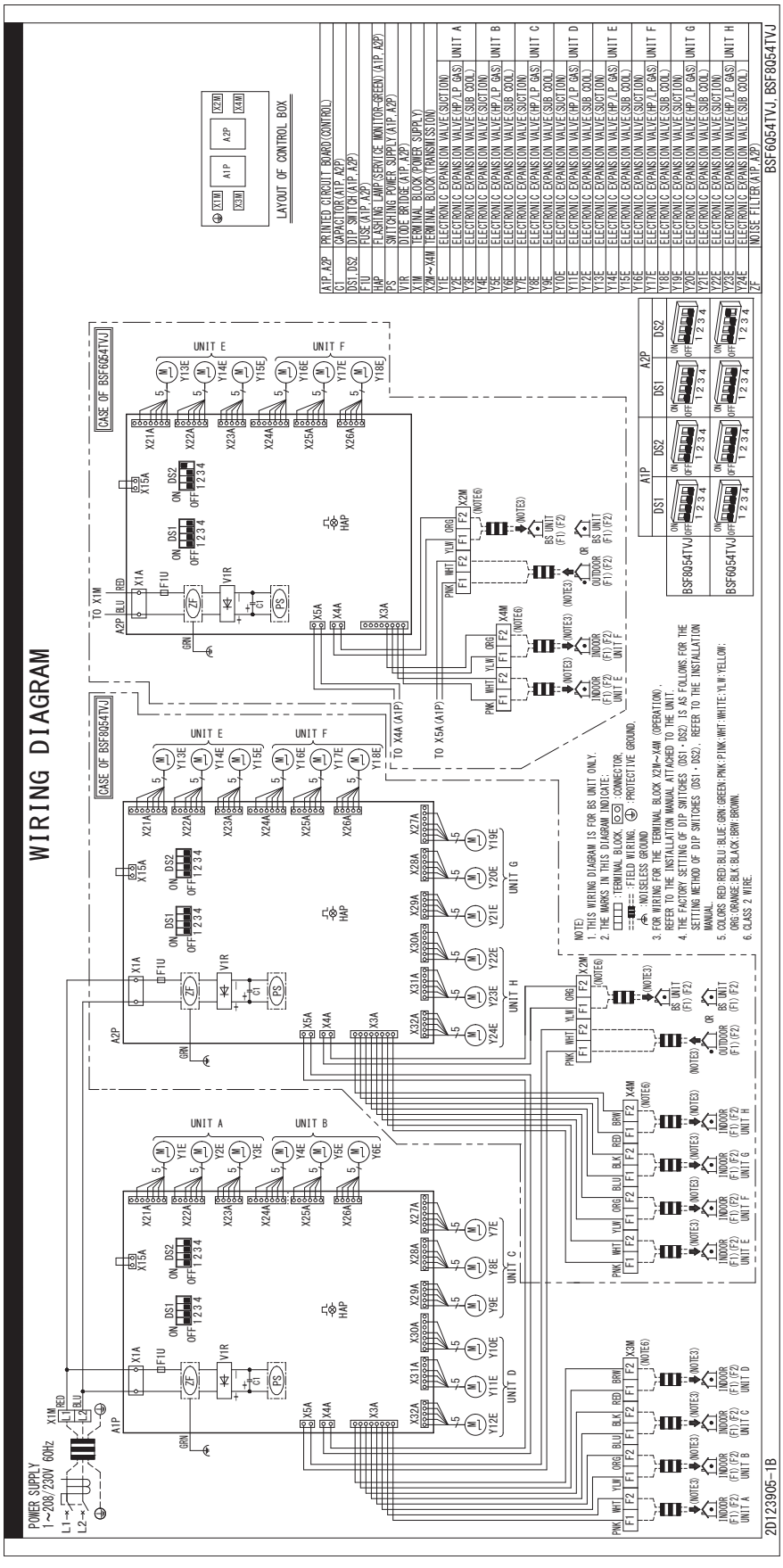
1.2.3 Multi Branch Selector Unit (Flex Series)

BSF4Q54TVJ



3D123904B

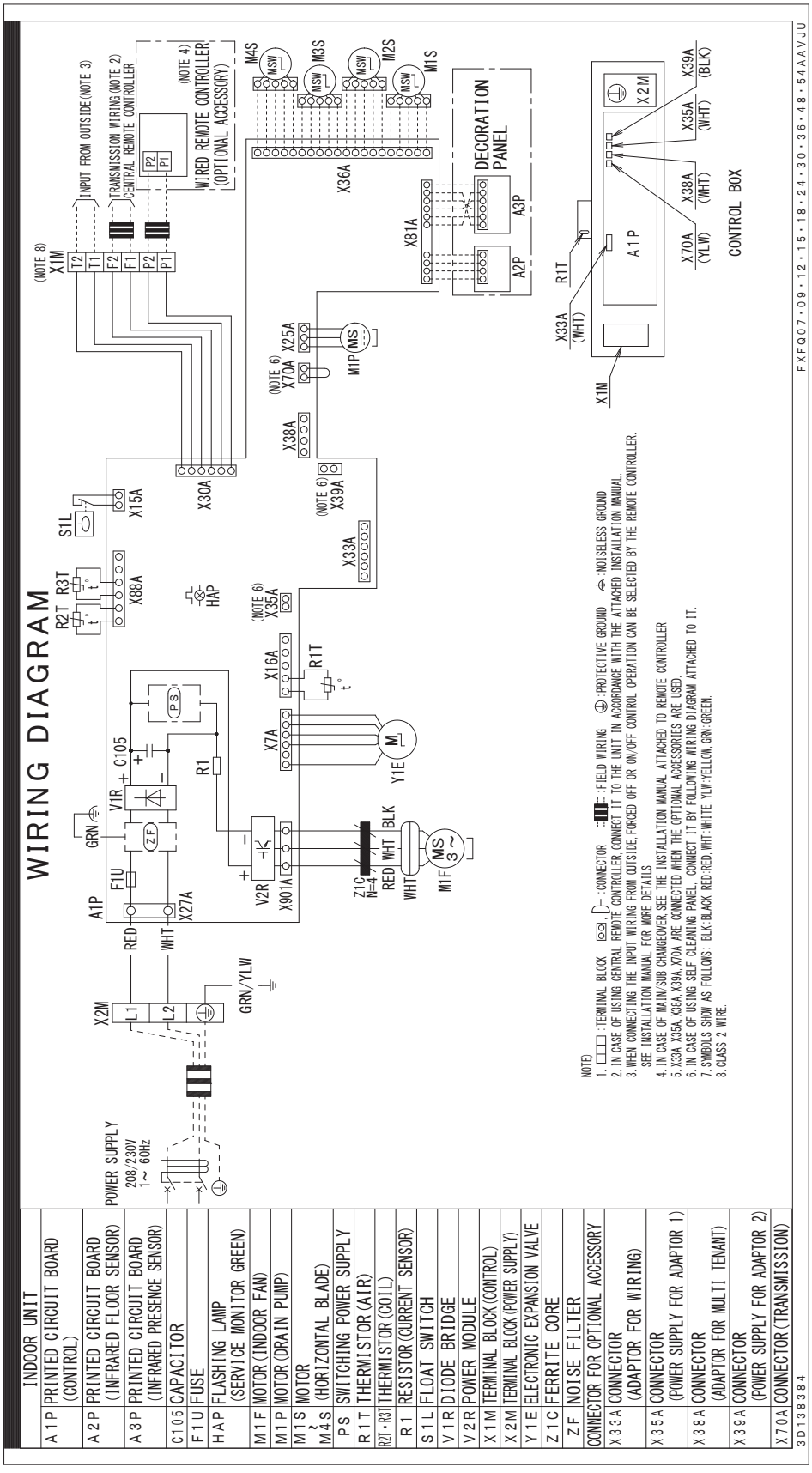
BSF6/8Q54TVJ



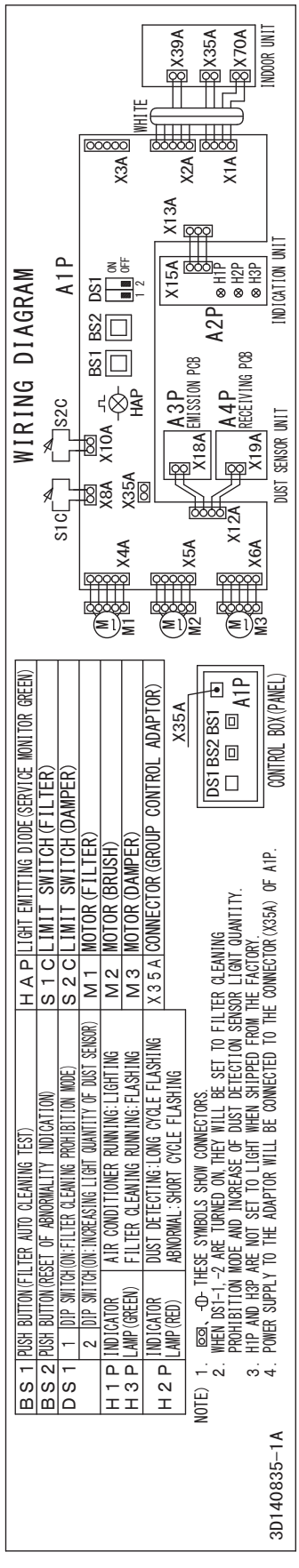
2D123905B

1.3 Indoor Unit

FXFQ07/09/12/15/18/24/30/36/48/54AAVJU

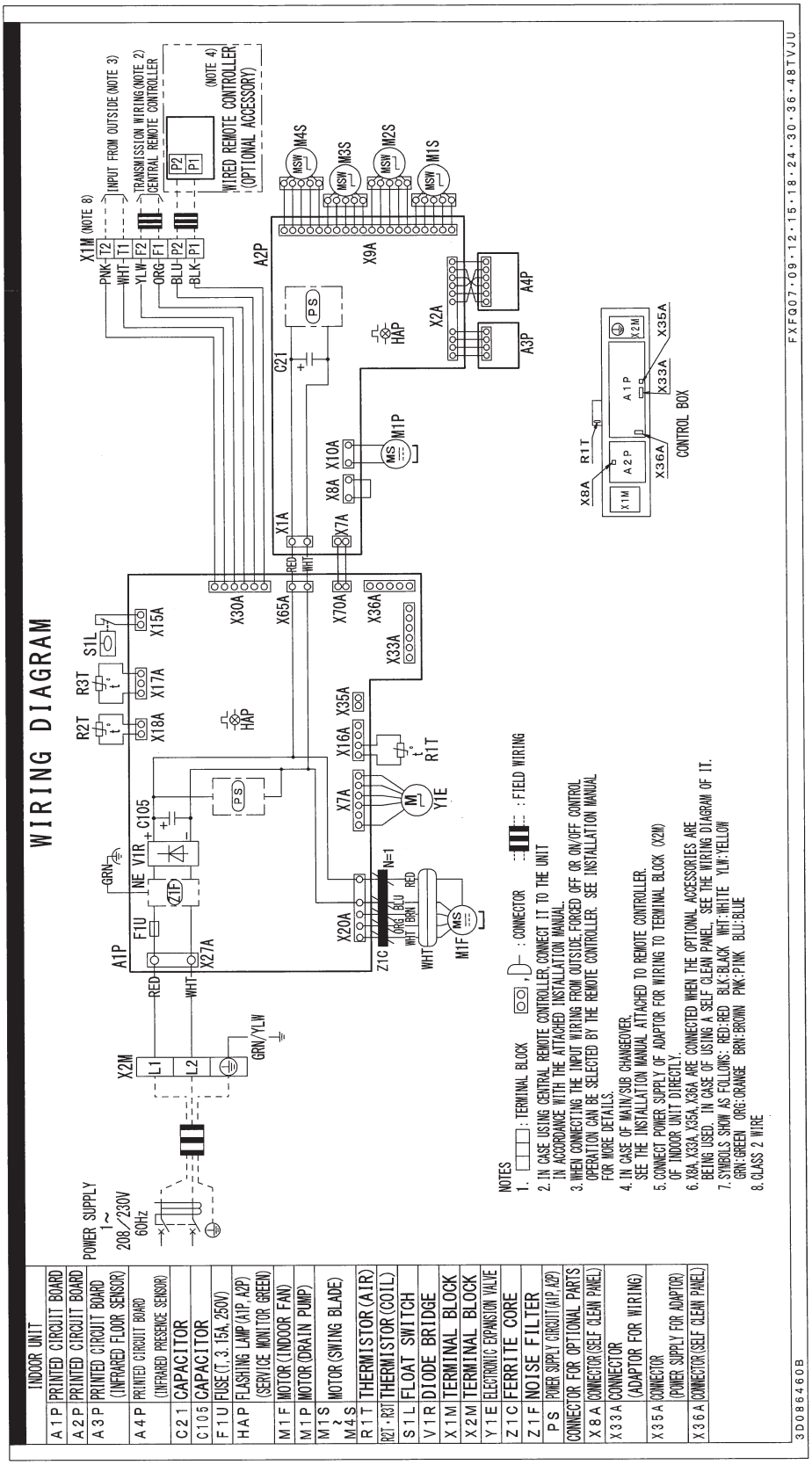


BYCQ54EEGFU (Self-Cleaning Decoration Panel for FXFQ-AA)

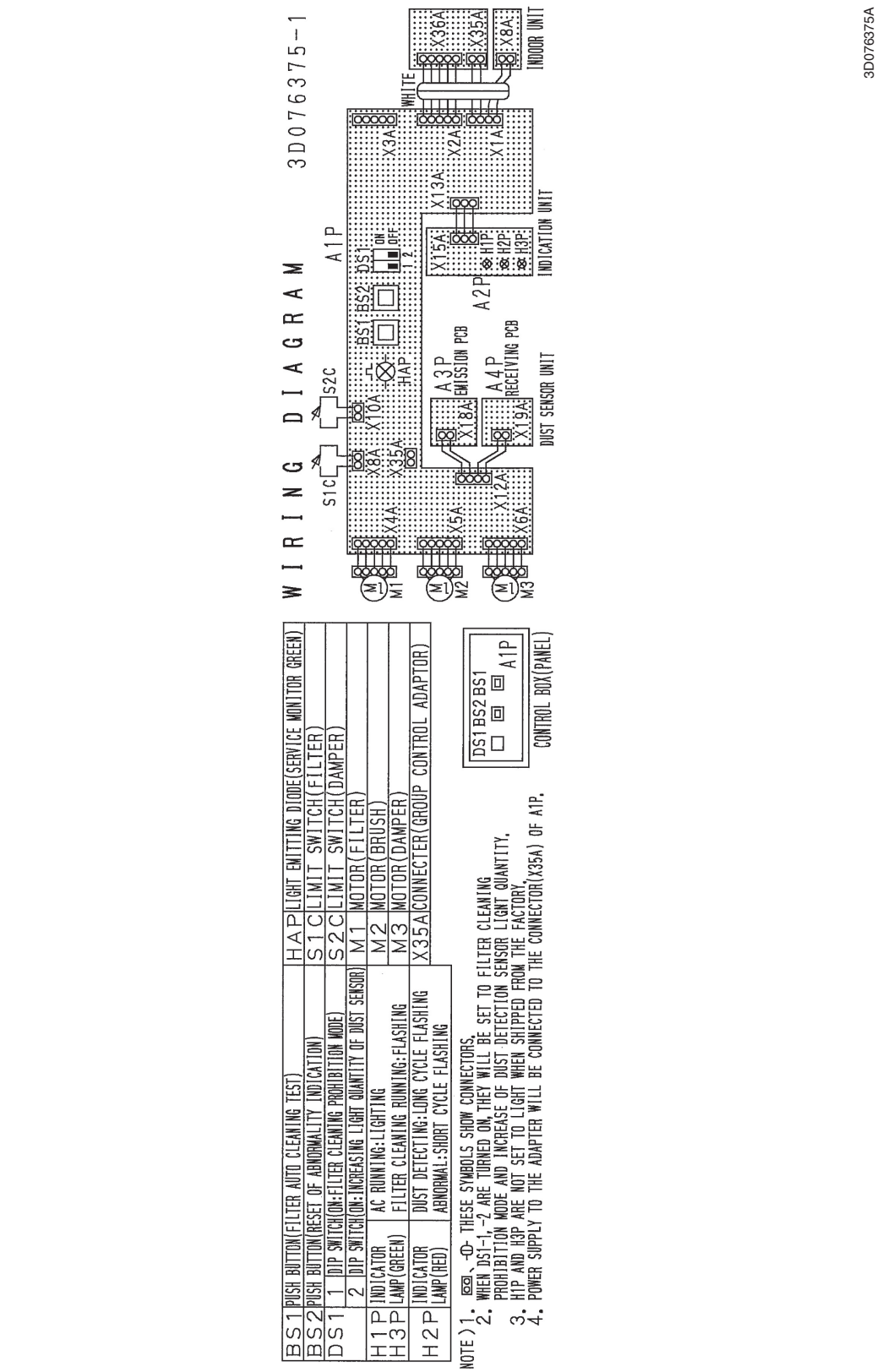


3D140835A

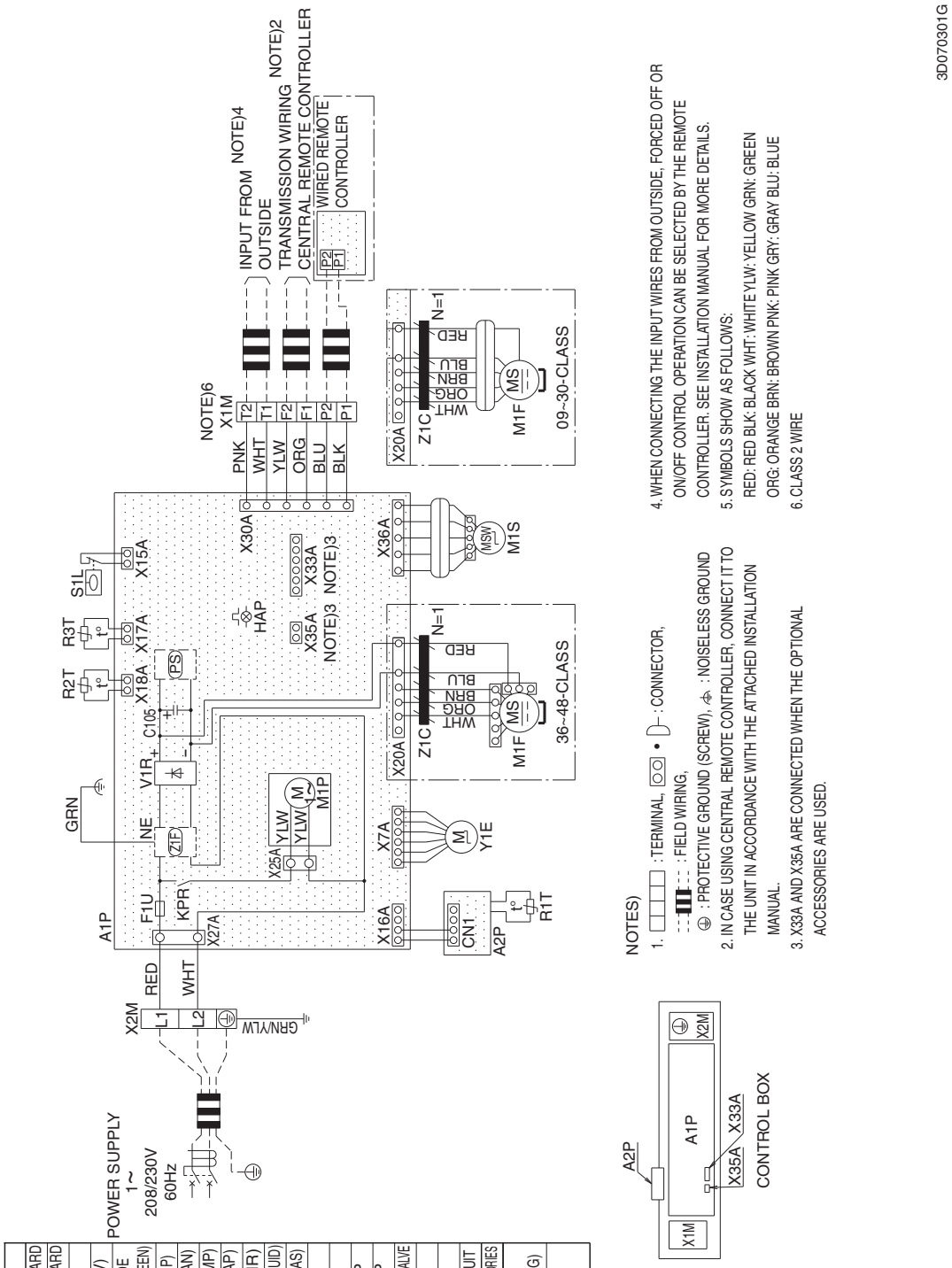
FXFQ07/09/12/15/18/24/30/36/48TVJU



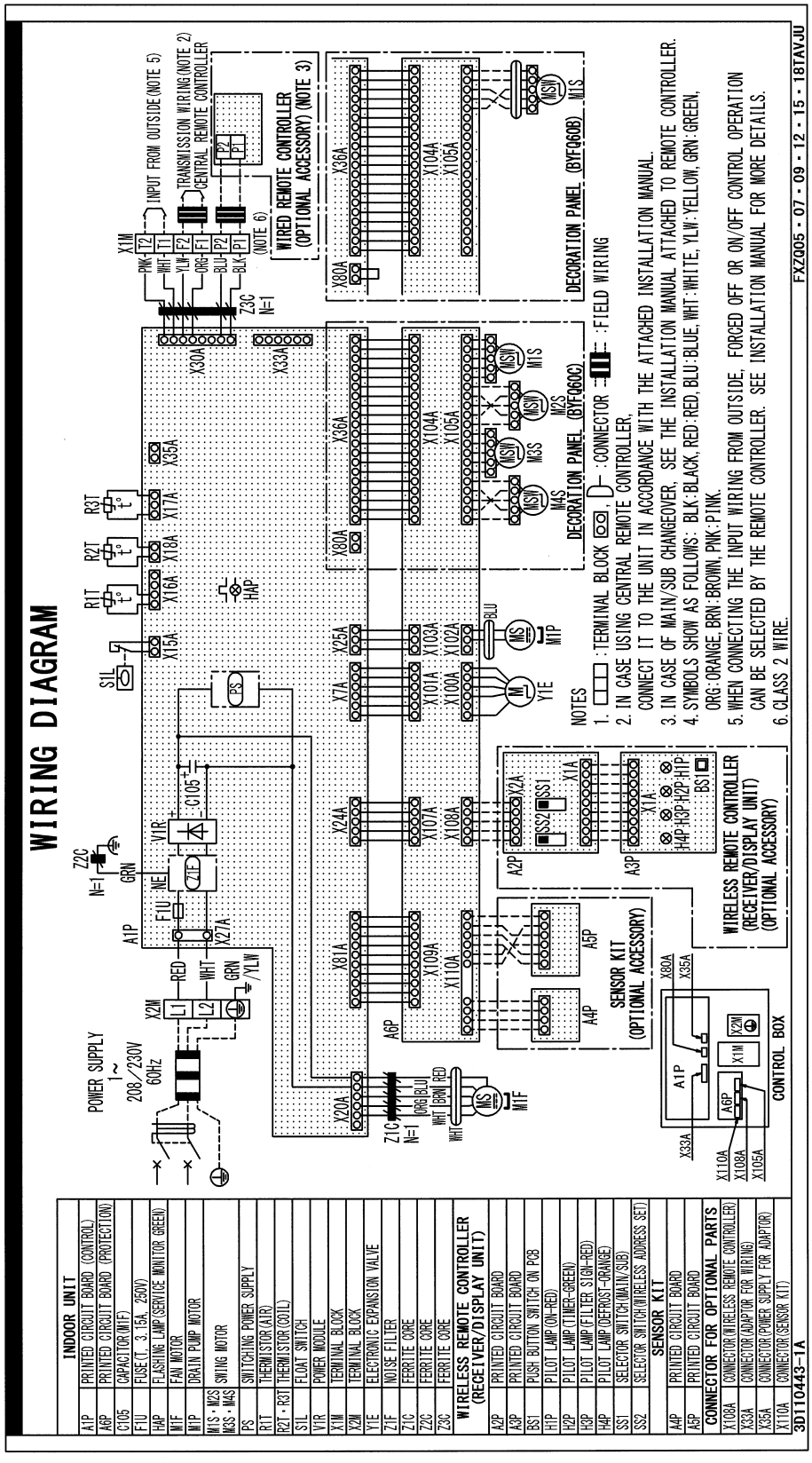
BYCQ125BGW1 (Self-Cleaning Decoration Panel for FXFQ-T)



FXFQ09/12/18/24/30/36/48PVJU

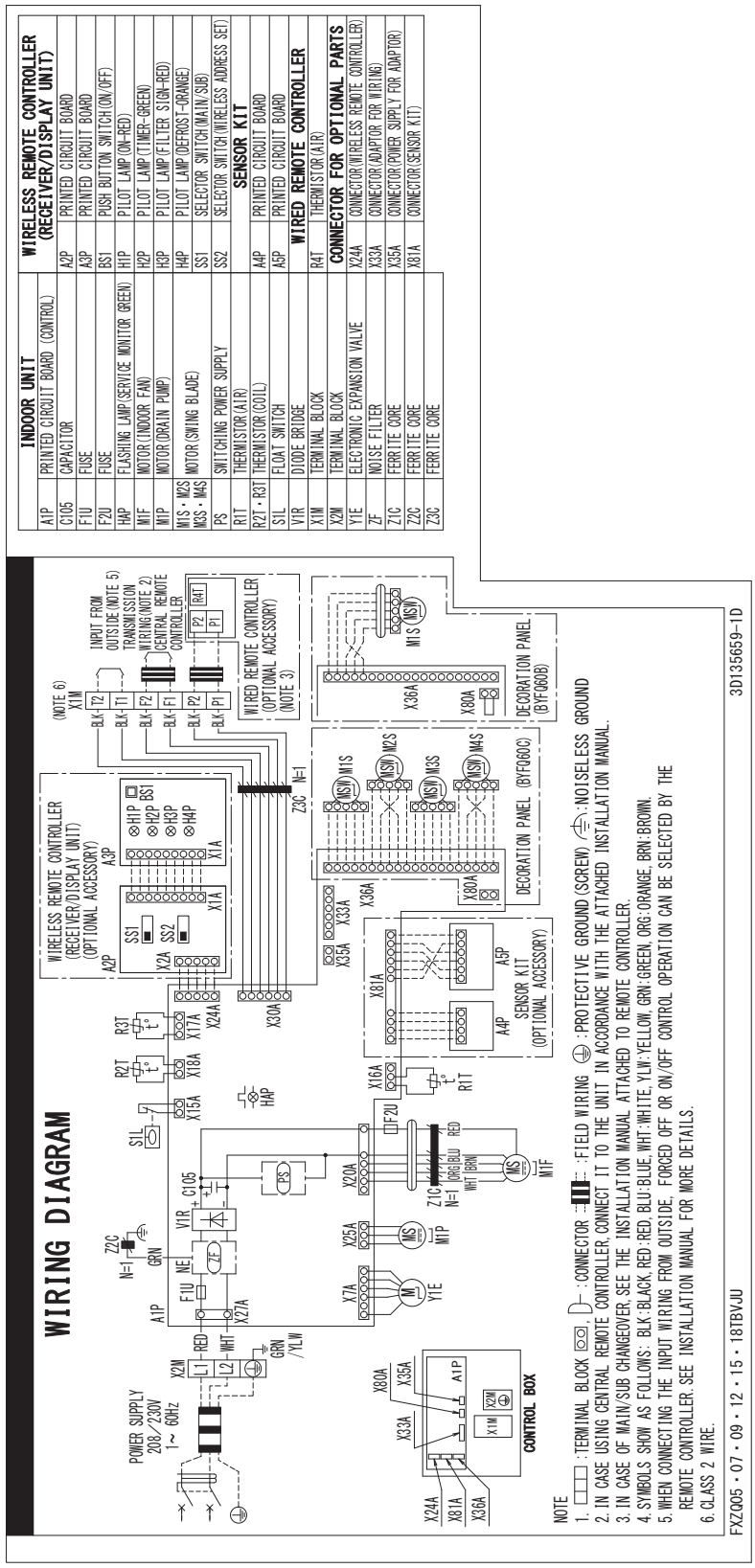


FXZQ05/07/09/12/15/18TAVJU



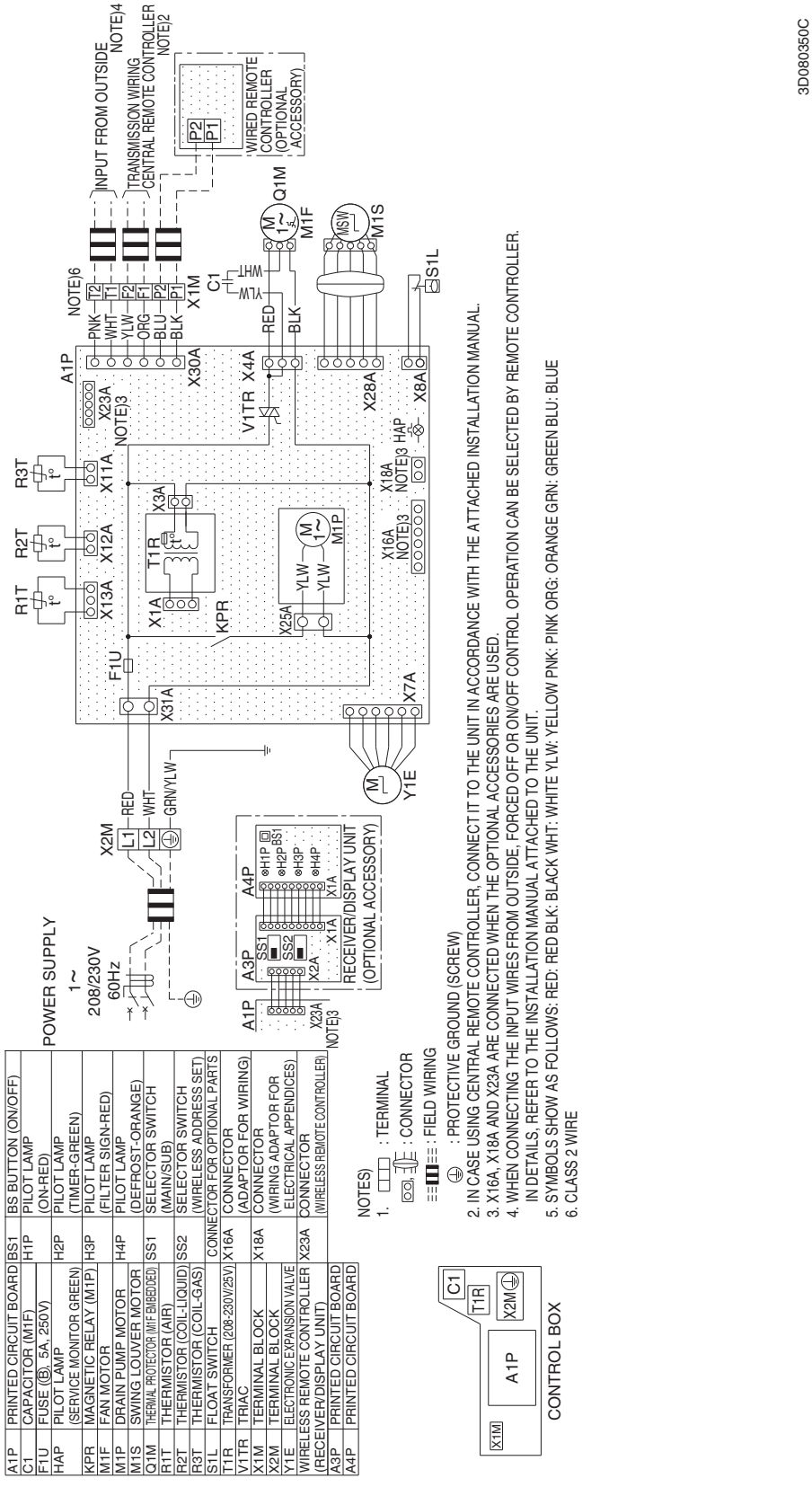
3D110443A

FXZQ05/07/09/12/15/18TBVJU

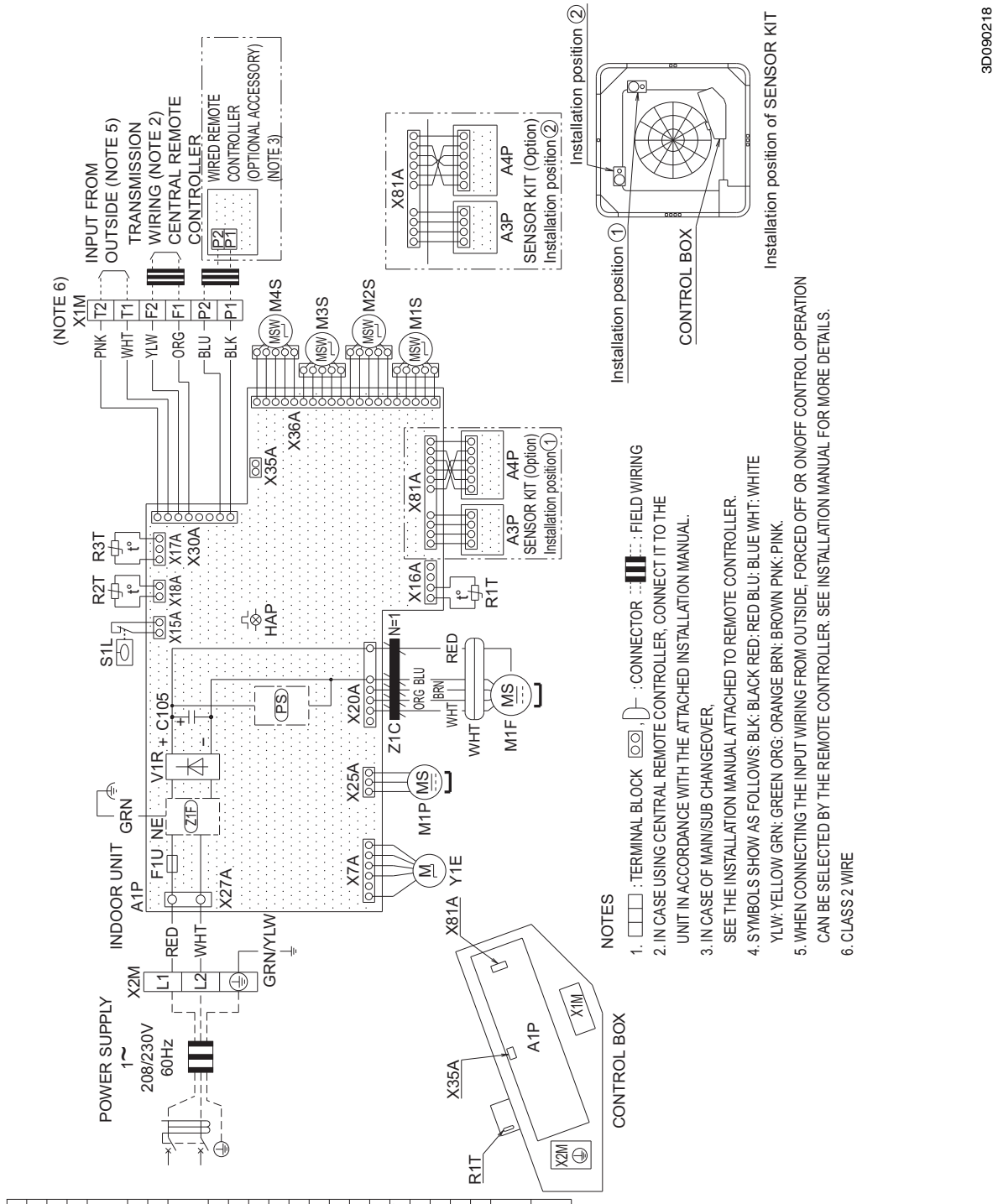


3D135659D

FXZQ07/09/12/15/18MVJU9

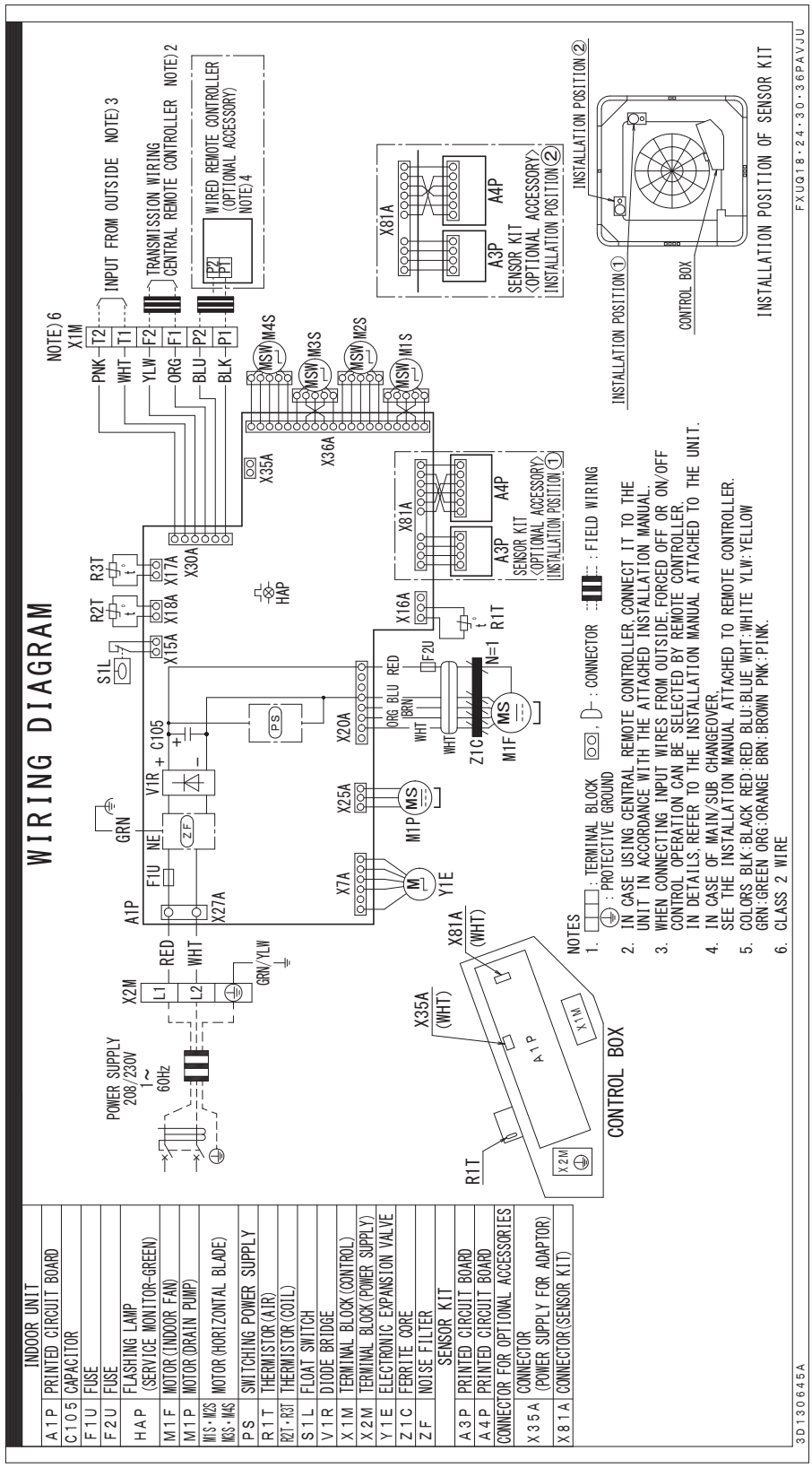


FXUQ18/24/30/36PVJU

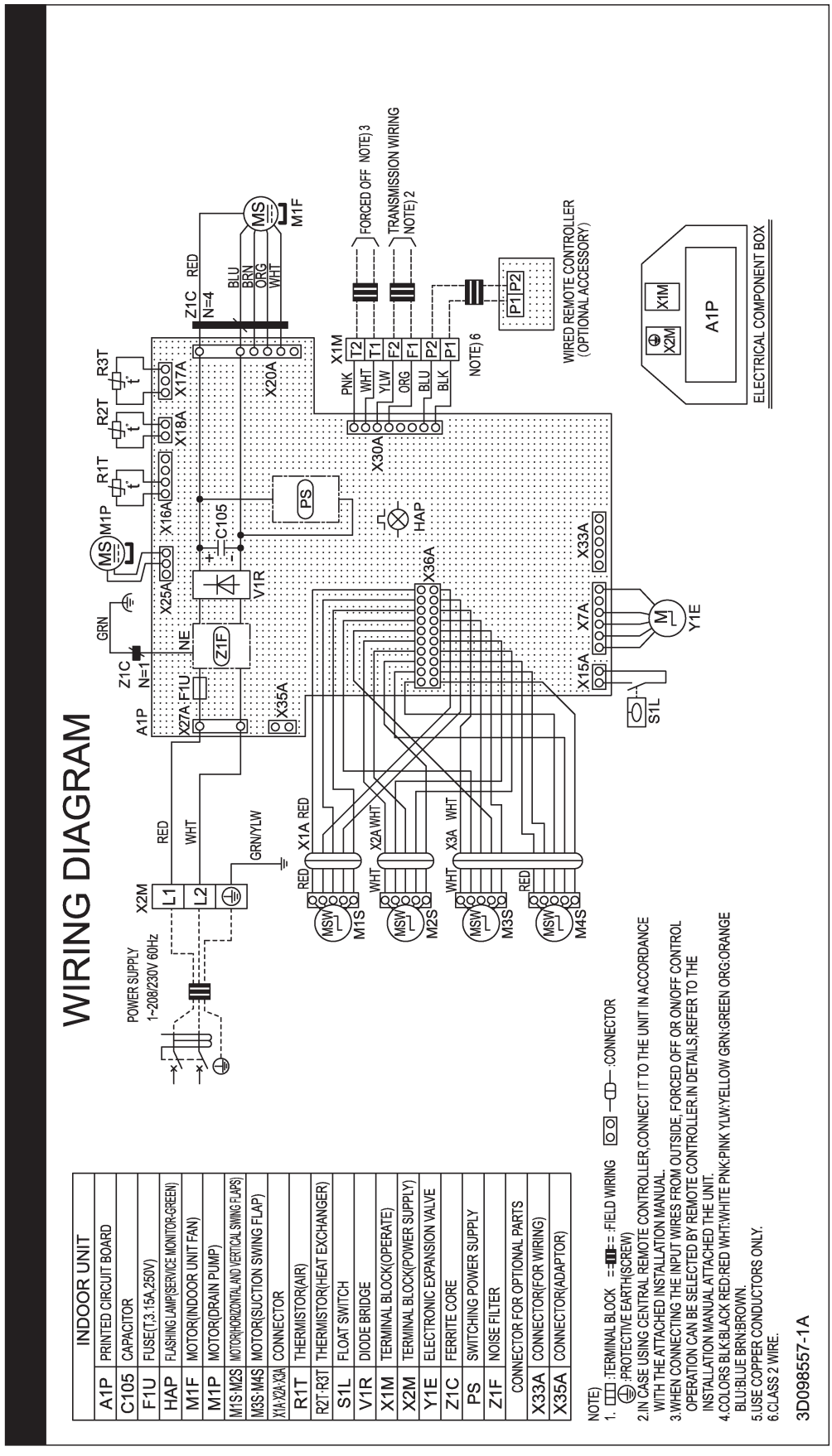


INDOOR UNIT	
A1P	PRINTED CIRCUIT BOARD
C105	CAPACITOR (M1F)
F1U	FUSE
HAP	FLASHING LAMP (SERVICE MONITOR GREEN)
M1F	MOTOR (INDOOR FAN)
M1P	MOTOR (DRAIN PUMP)
M1S•M2S M3S•M4S	MOTOR (SWING BLADE)
R1T	THERMISTOR (AIR)
R2T•R3T	THERMISTOR (COIL)
S1L	FLOAT SWITCH
V1R	DIODE BRIDGE
X1M	TERMINAL BLOCK
X2M	TERMINAL BLOCK
Y1E	ELECTRONIC EXPANSION VALVE
Z1F	NOISE FILTER
Z1C	FERRITE CORE
PS	POWER SUPPLY CIRCUIT
	SENSOR KIT
A3P	PRINTED CIRCUIT BOARD
A4P	PRINTED CIRCUIT BOARD
CONNECTOR FOR OPTIONAL PARTS	
X35A	CONNECTOR (POWER SUPPLY FOR ADAPTOR)
X81A	CONNECTOR (SENSOR KIT)

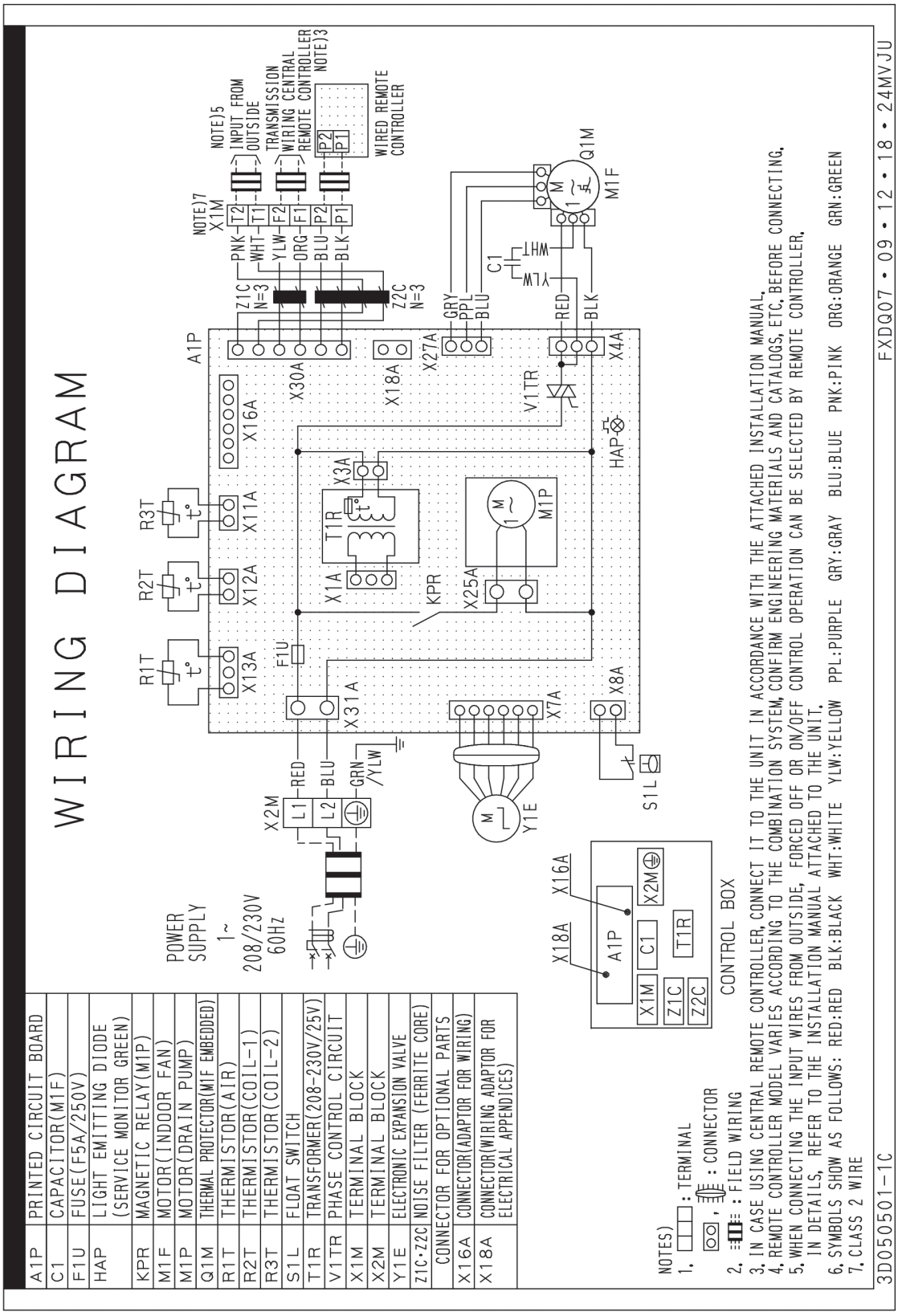
FXUQ18/24/30/36PAVJU



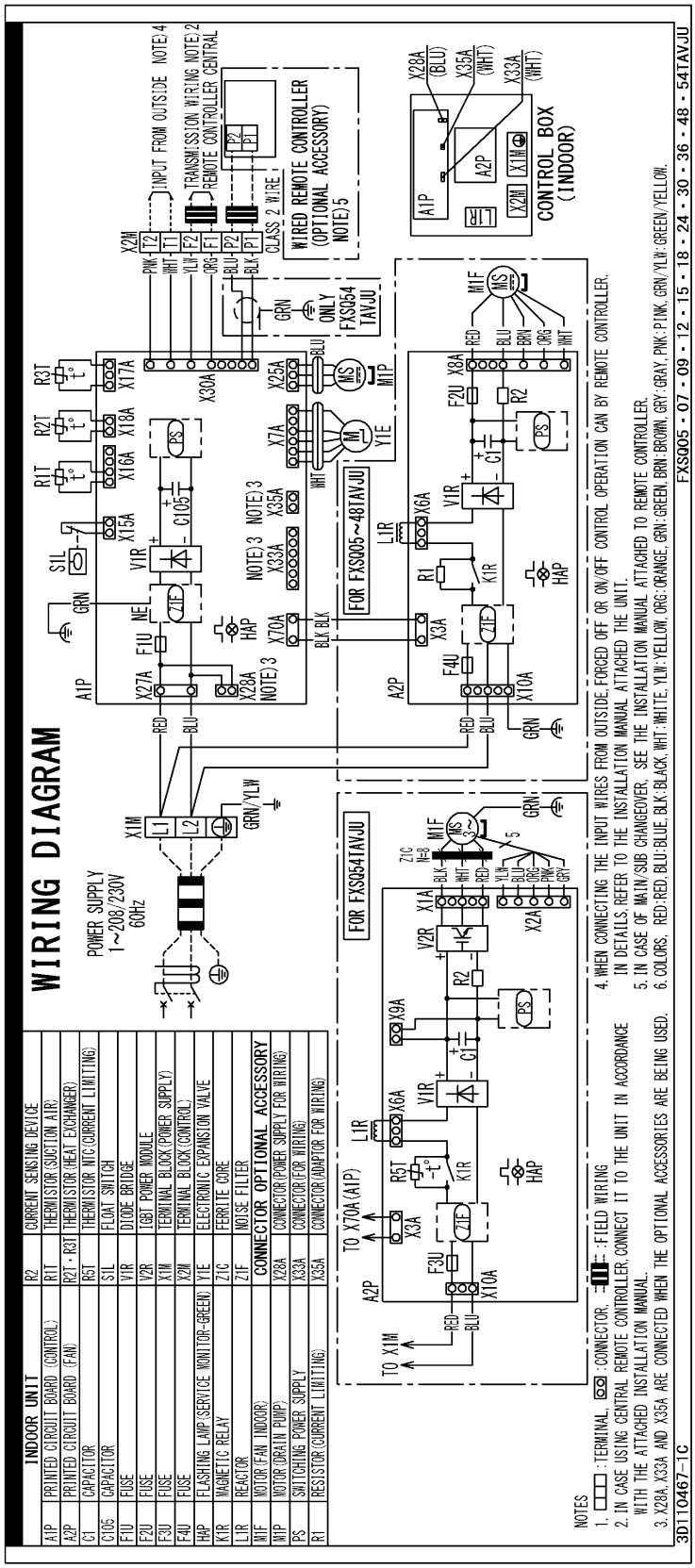
FXEQ07/09/12/15/18/24PVJU



FXDQ07/09/12/18/24MVJU

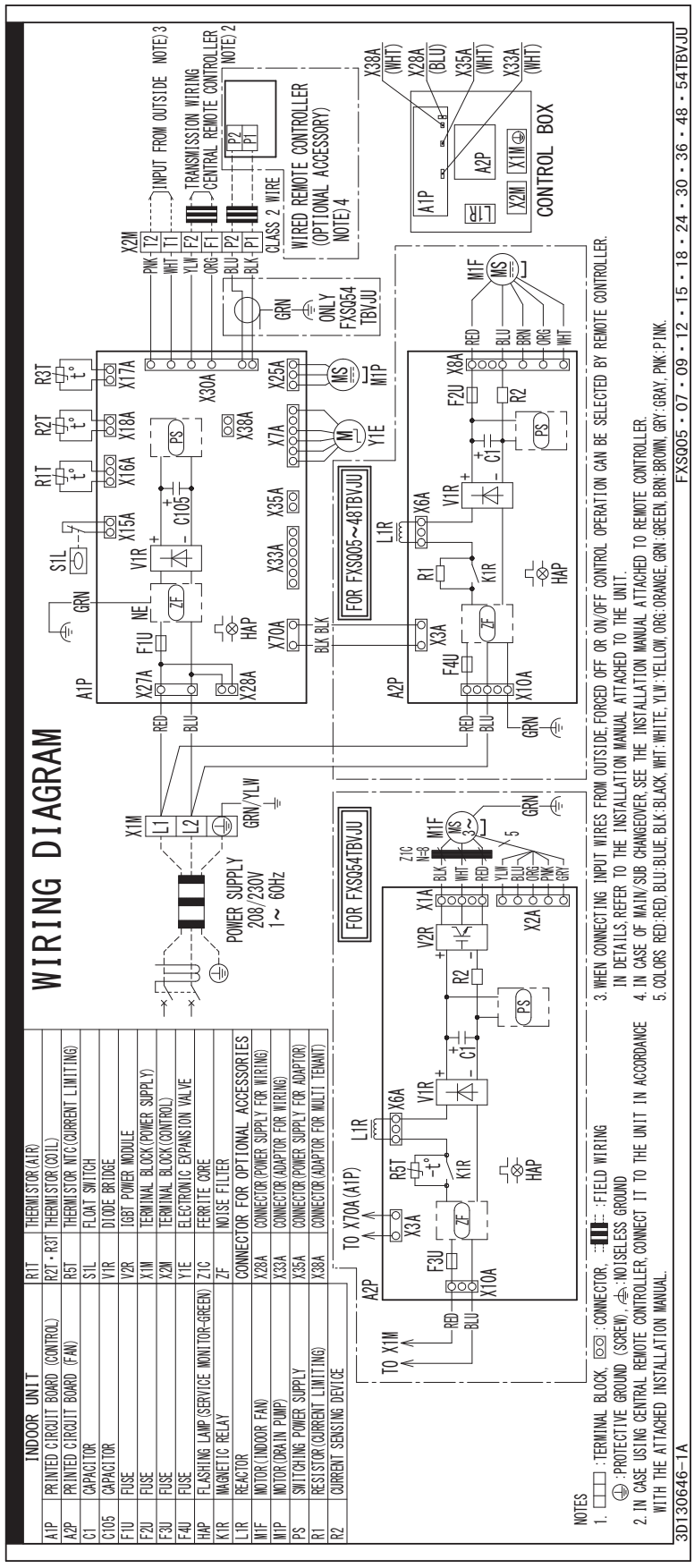


FXSQ05/07/09/12/15/18/24/30/36/48/54TAVJU



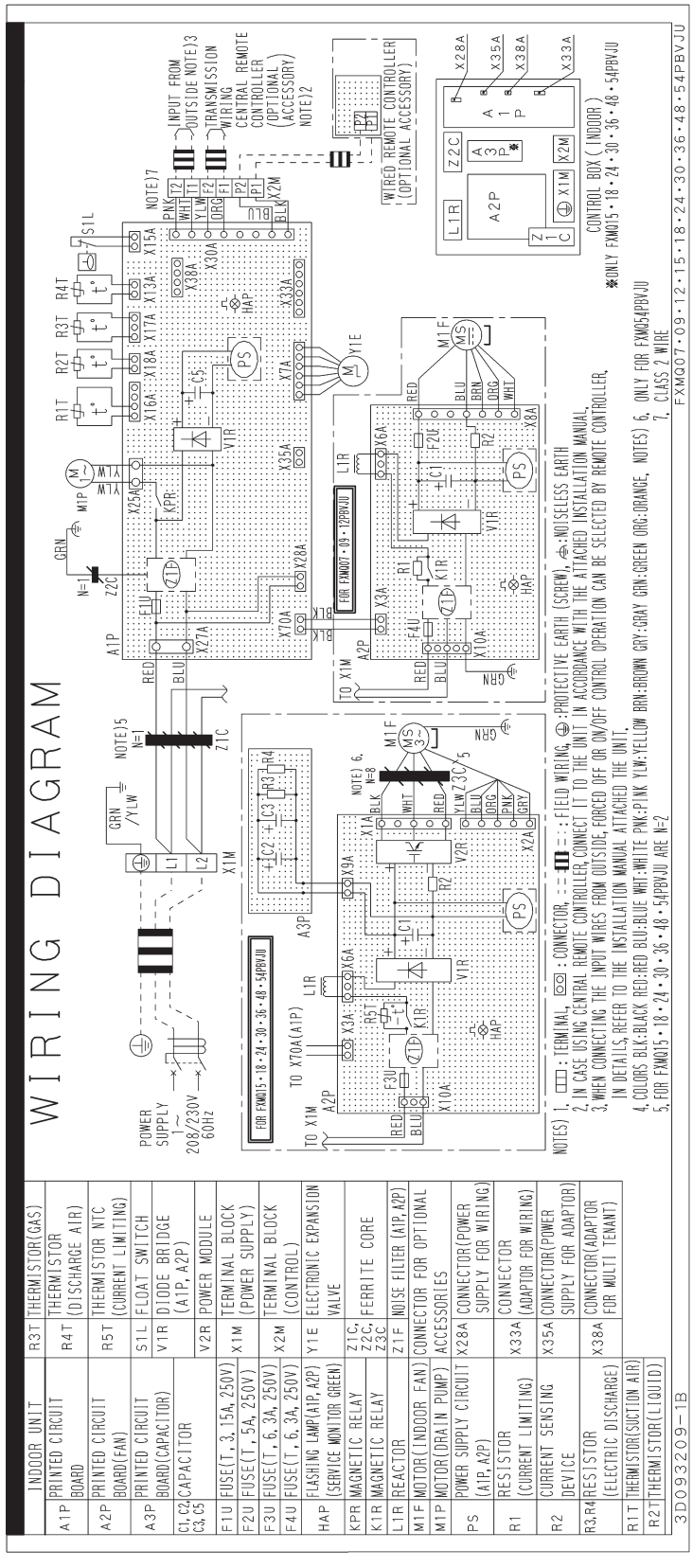
C: 3D110467C

FXSQ05/07/09/12/15/18/24/30/36/48/54TBVJU



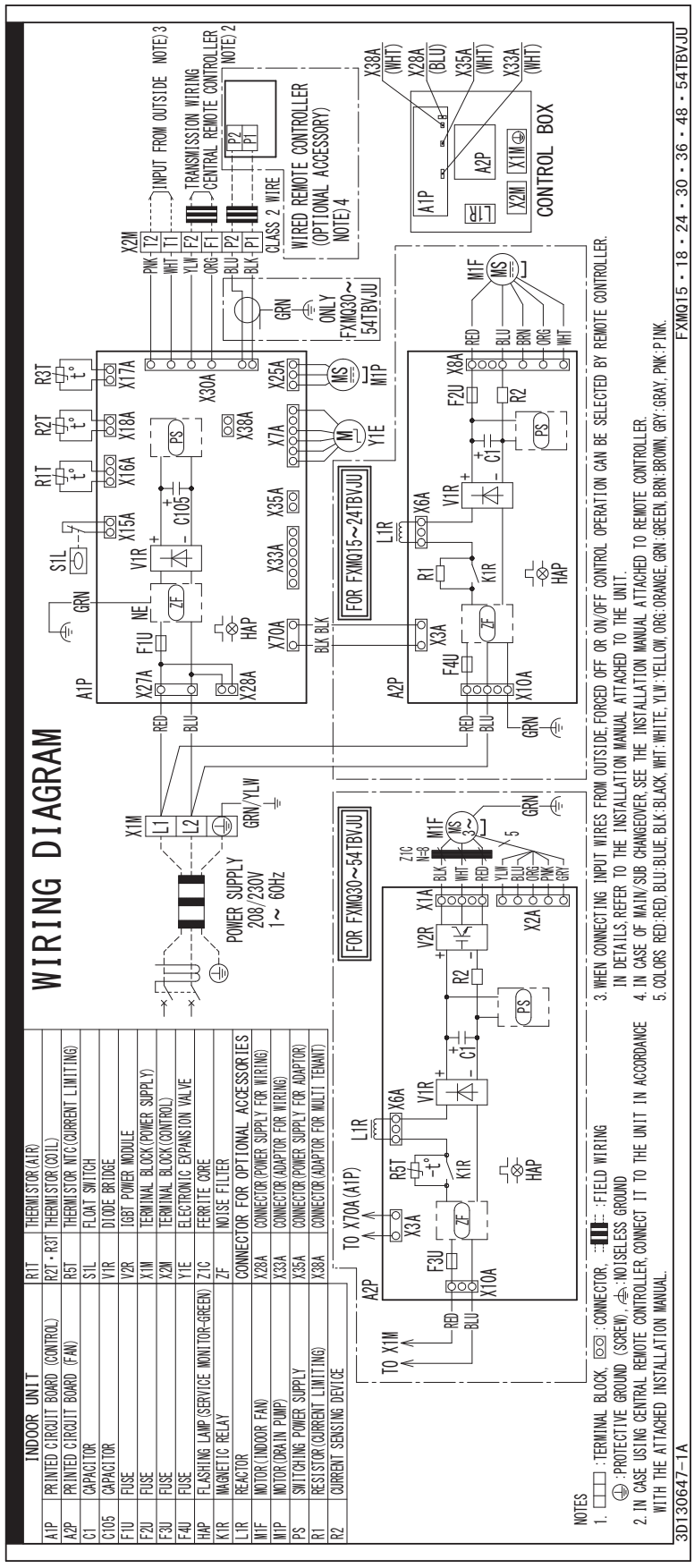
3D130646B

FXMQ07/09/12/15/18/24/30/36/48/54PBVJU



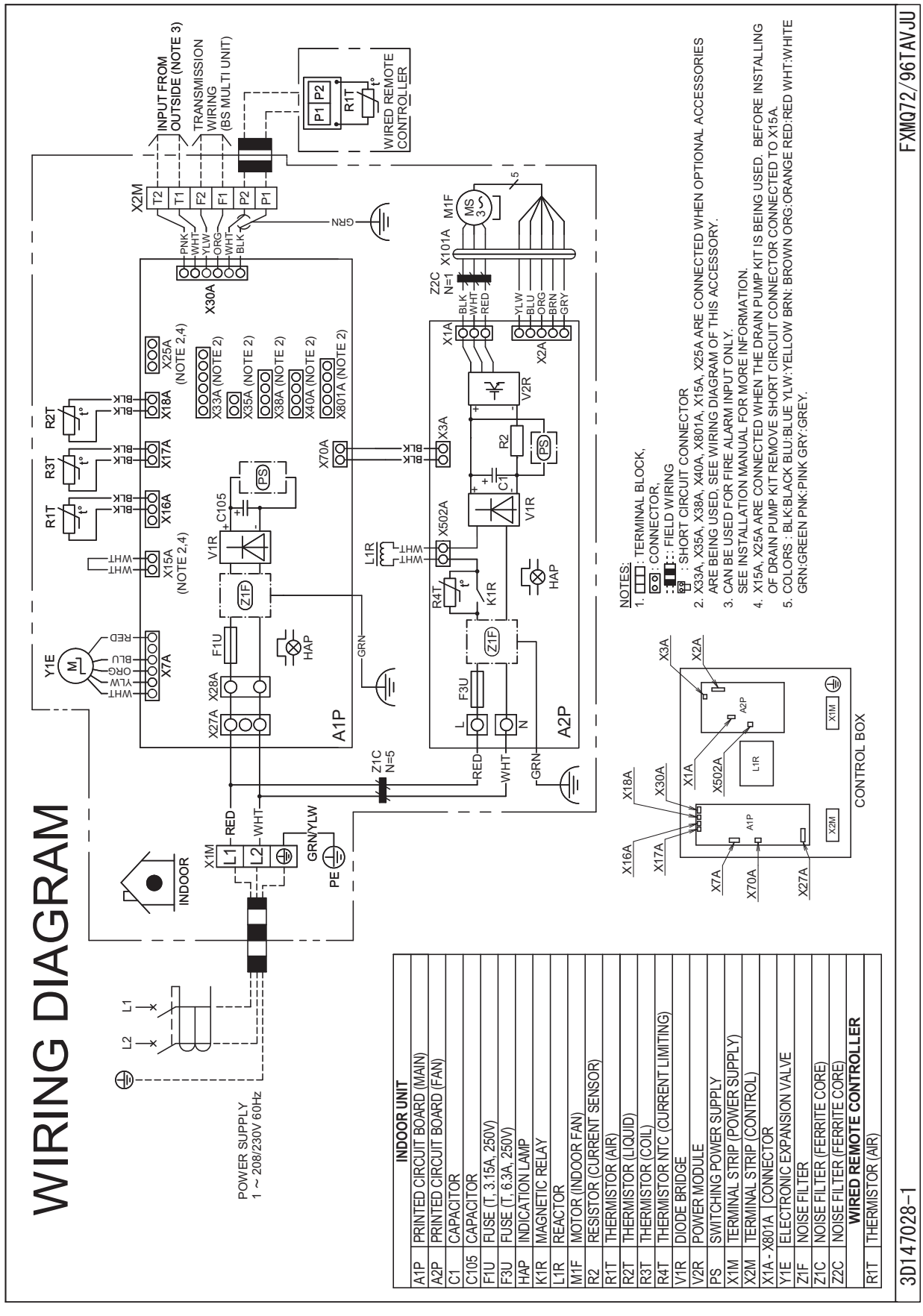
3D093209B

FXMQ15/18/24/30/36/48/54TBVJU



3D130647B

FXMQ72/96TAVJU



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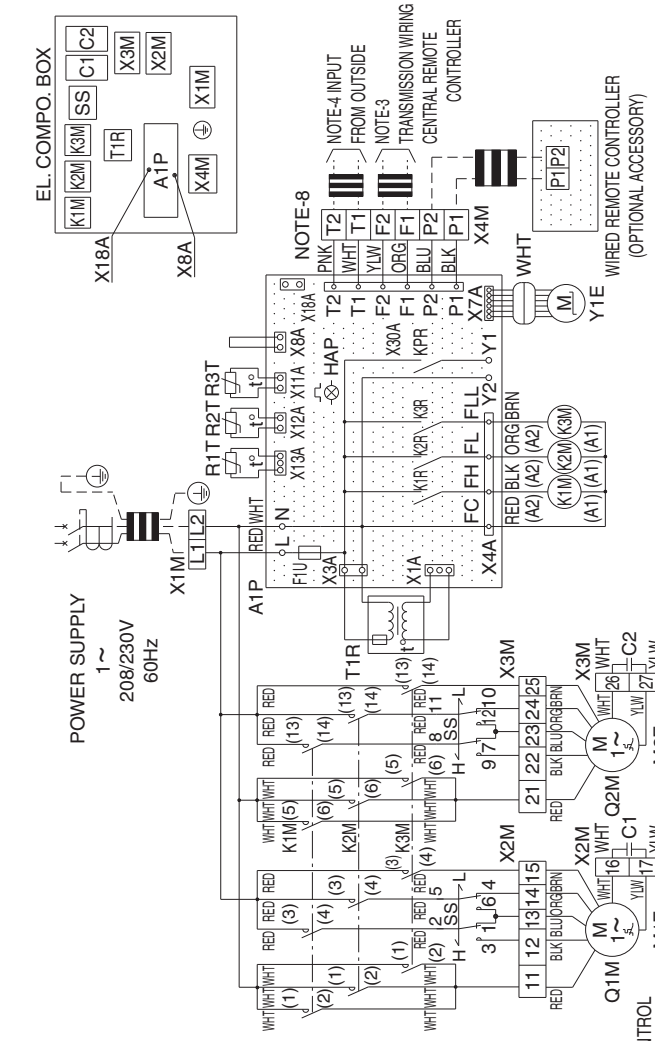
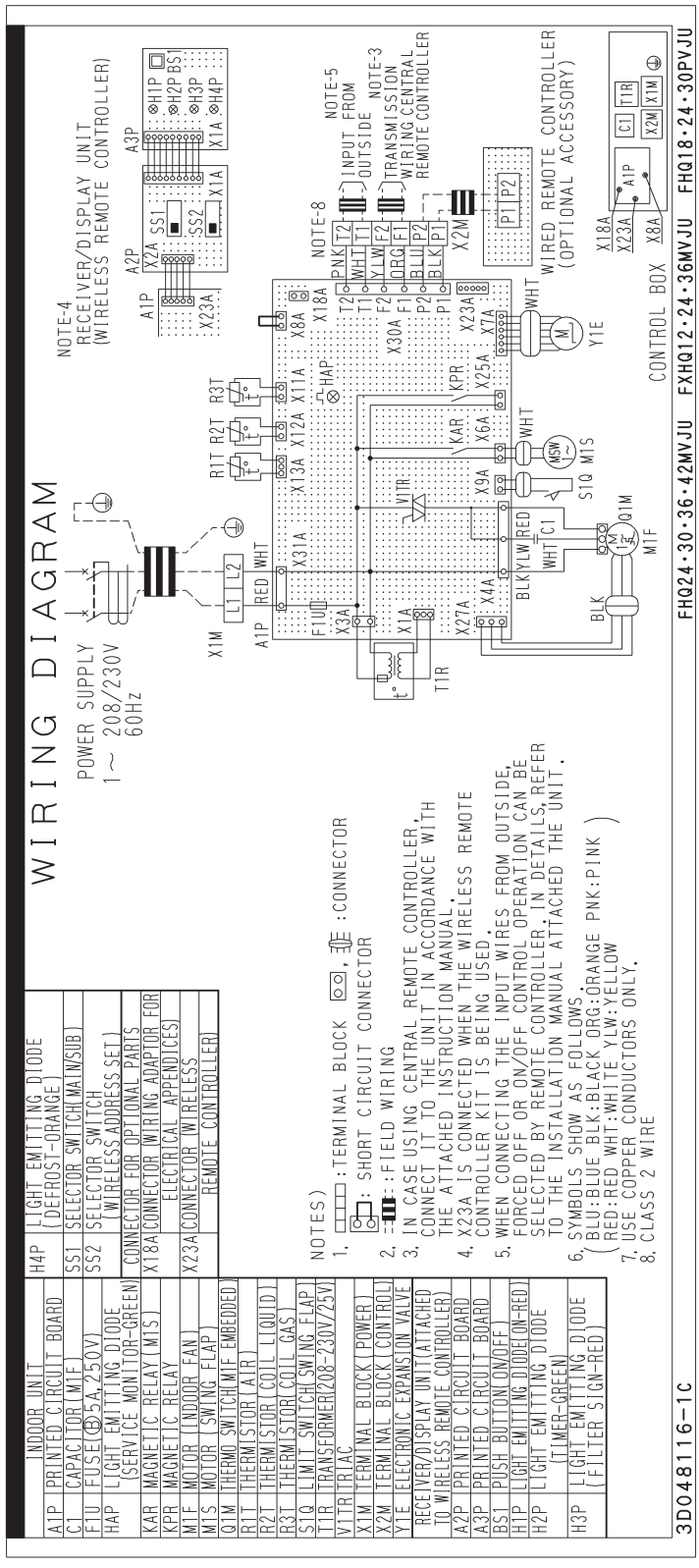


INDOOR UNIT		R1T	THERMISTOR (AIR)
A1P	PRINTED CIRCUIT BOARD	R2T•R3T	THERMISTOR (COIL)
C1•C2	CAPACITOR (M1F•2F)	SS	SELECTOR SWITCH (STATIC PRESSURE)
F1U	FUSE (Ⓑ, 5A, 250V)	T1R	TRANSFORMER (208V/230V 25VA)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X1M	TERMINAL BLOCK (POWER)
K1M	MAGNETIC CONTACTOR (M1F•2F)	X2M-X3M	TERMINAL BLOCK
K2M	MAGNETIC CONTACTOR (M1F•2F)	X4M	TERMINAL BLOCK (CONTROL)
K3M	MAGNETIC CONTACTOR (M1F•2F)	Y1E	ELECTRONIC EXPANSION VALVE
K1R-K3R	MAGNETIC RELAY (M1F•2F)	CONNECTOR FOR OPTIONAL PARTS	
KPR	MAGNETIC RELAY (M1P)	X8A	CONNECTOR (FLOAT SWITCH)
M1F•M2F	MOTOR (INDOOR FAN)	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
Q1M•Q2M	THERMO. SWITCH (M1F•2F EMBEDDED)		

NOTES)
1. □□□ : TERMINAL BLOCK
   ⊙⊙, ▷– : CONNECTOR
   ⊙⊙ : SHORT CIRCUIT CONNECTOR
   –○– : TERMINAL
2. ▬▮▬ : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
5. SYMBOLS SHOW AS FOLLOWS. (PNK: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE BLU: BLUE BLK: BLACK RED: RED BRN: BROWN)
6. USE COPPER CONDUCTORS ONLY.
7. IN CASE HIGH E.S.P. OPERATION, CHANGE THE SWITCH (SS) FOR "H".
8. CLASS 2 WIRE.

FXHQ12/24/36MVJU



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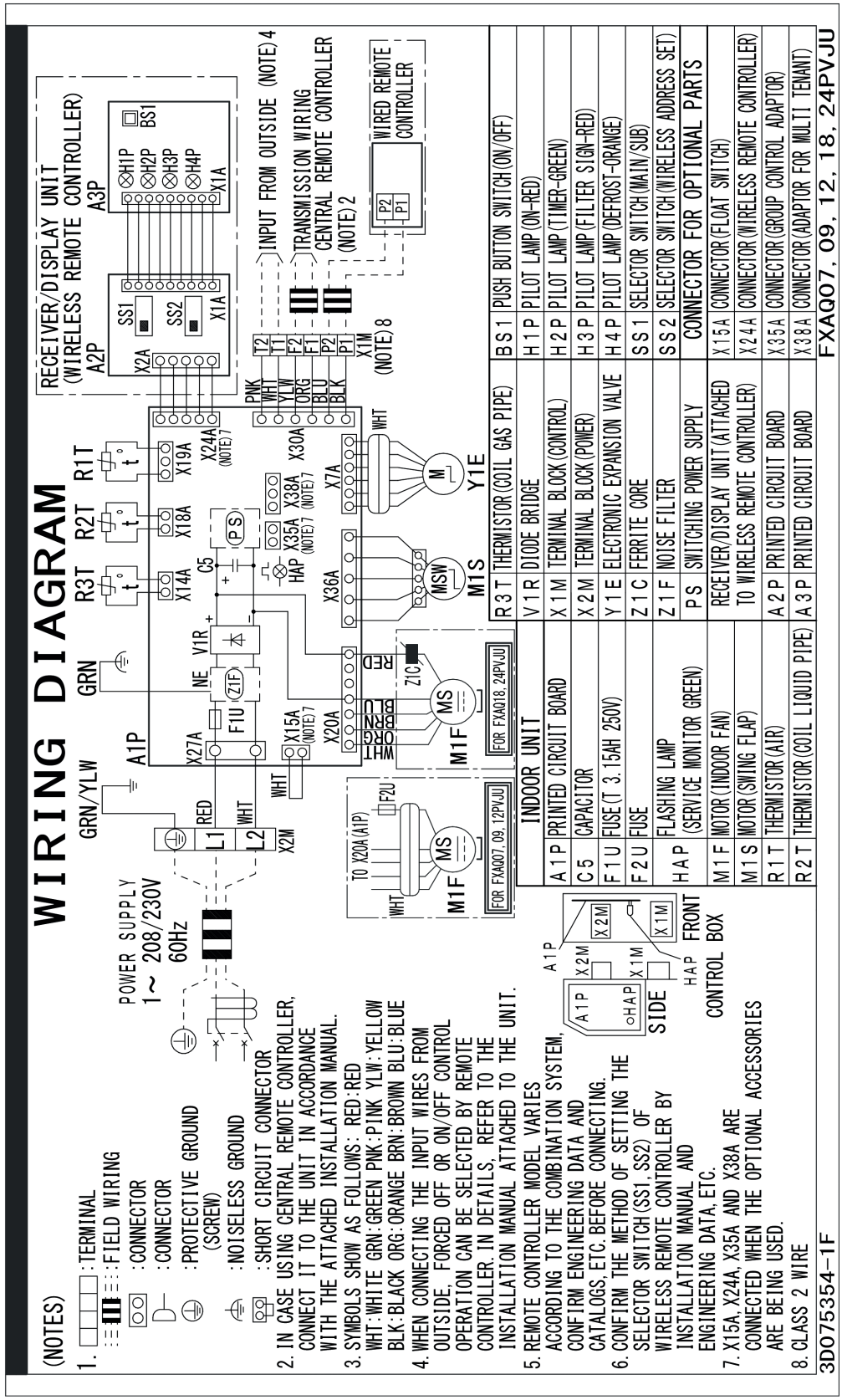
FXAQ07/09/12/18/24PVJU



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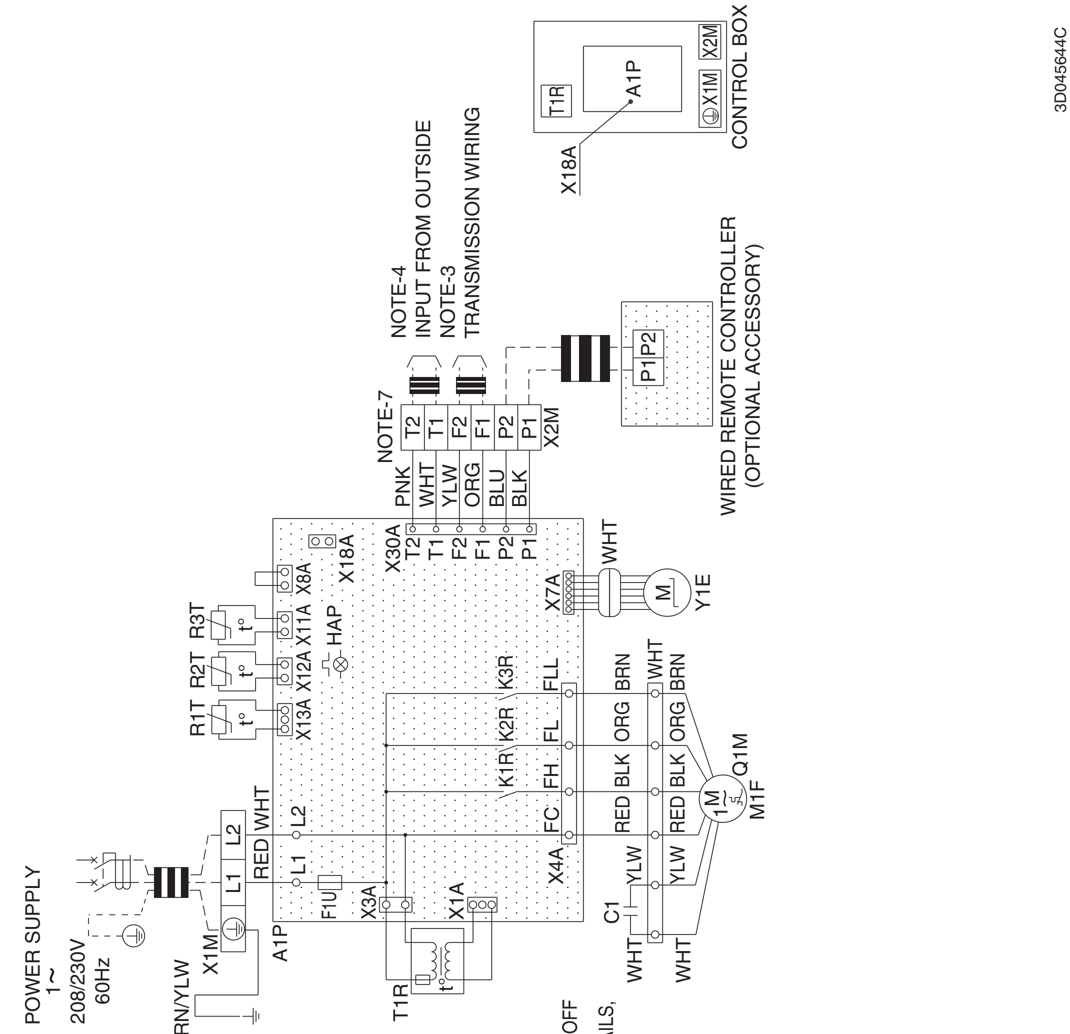
FXLQ07/09/12/18/24MVJU, FXNQ07/09/12/18/24MVJU

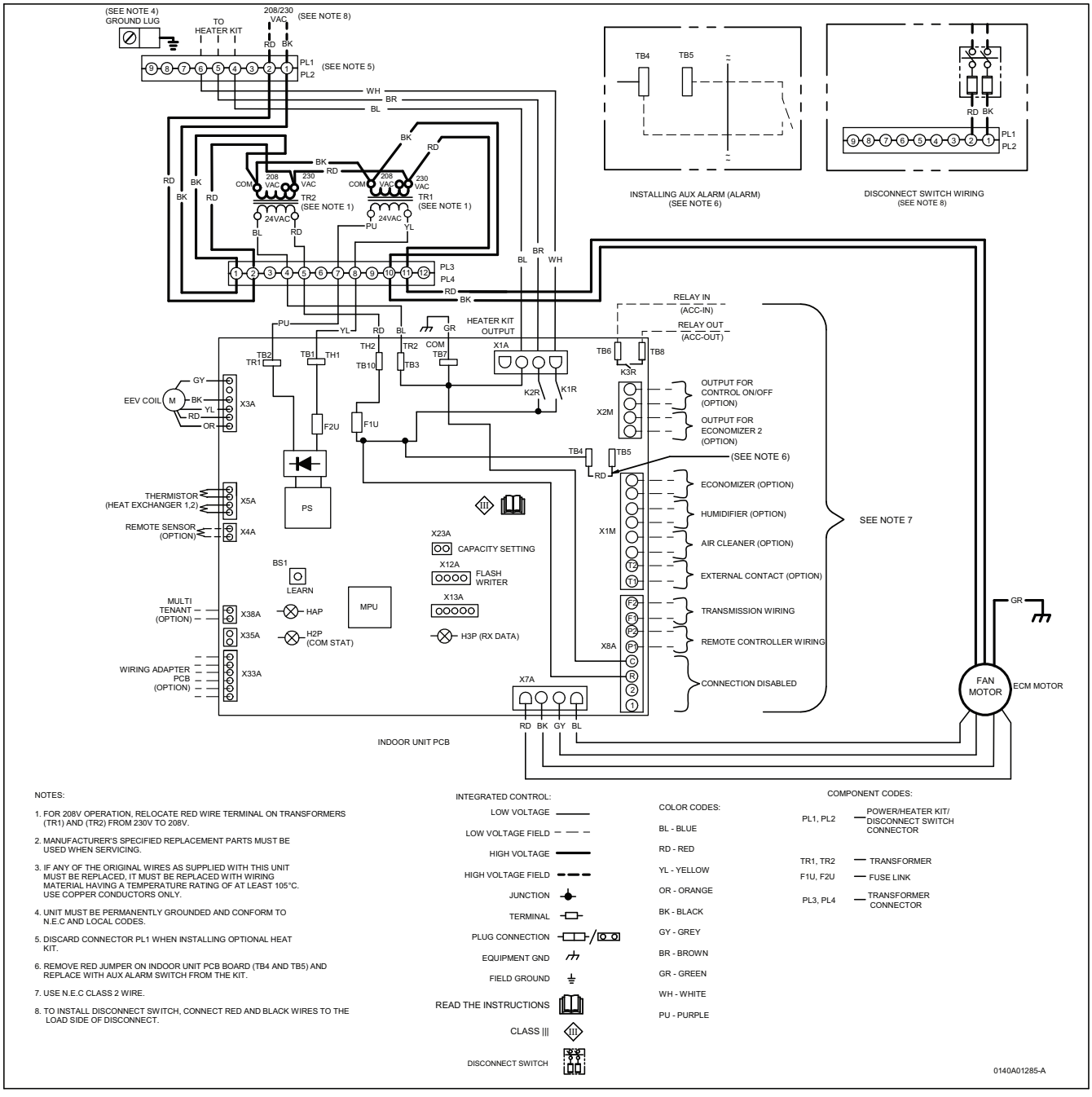


INDOOR UNIT		X2M	TERMINAL BLOCK (CONTROL)
A1P	PRINTED CIRCUIT BOARD	Y1E	ELECTRONIC EXPANSION VALVE
C1	CAPACITOR (M1F)		CONNECTOR FOR OPTIONAL PARTS
F1U	FUSE (B), 5A, 250V)	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		
K1R-K3R	MAGNETIC RELAY (M1F)		
M1F	MOTOR (INDOOR FAN)		
Q1M	THERMO. SWITCH (M1F EMBEDDED)		
R1T	THERMISTOR (AIR)		
R2T·R3T	THERMISTOR (COIL)		
T1R	TRANSFORMER (208-230V/25V)		
X1M	TERMINAL BLOCK (POWER)		

NOTES)

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

FXTQ09/12/18/24/30/36/42/48/54/60TAVJUA, FXTQ09/12/18/24/30/36/42/48/54/60TAVJUD



NOTES:

1. FOR 208V OPERATION, RELOCATE RED WIRE TERMINAL ON TRANSFORMERS (TR1) AND (TR2) FROM 230V TO 208V.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRES AS SUPPLIED WITH THIS UNIT MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C AND LOCAL CODES.
5. DISCARD CONNECTOR PL1 WHEN INSTALLING OPTIONAL HEAT KIT.
6. REMOVE RED JUMPER ON INDOOR UNIT PCB BOARD (TB4 AND TB5) AND REPLACE WITH AUX ALARM SWITCH FROM THE KIT.
7. USE N.E.C CLASS 2 WIRE.
8. TO INSTALL DISCONNECT SWITCH, CONNECT RED AND BLACK WIRES TO THE LOAD SIDE OF DISCONNECT.

INTEGRATED CONTROL:

- LOW VOLTAGE
- LOW VOLTAGE FIELD
- HIGH VOLTAGE
- HIGH VOLTAGE FIELD
- JUNCTION
- TERMINAL
- PLUG CONNECTION
- EQUIPMENT GND
- FIELD GROUND
- READ THE INSTRUCTIONS
- CLASS |||
- DISCONNECT SWITCH

COLOR CODES:

- BL - BLUE
- RD - RED
- YL - YELLOW
- OR - ORANGE
- BK - BLACK
- GY - GREY
- BR - BROWN
- GR - GREEN
- WH - WHITE
- PU - PURPLE

COMPONENT CODES:

- PL1, PL2 — POWER/HEATER KIT/ DISCONNECT SWITCH CONNECTOR
- TR1, TR2 — TRANSFORMER
- F1U, F2U — FUSE LINK
- PL3, PL4 — TRANSFORMER CONNECTOR

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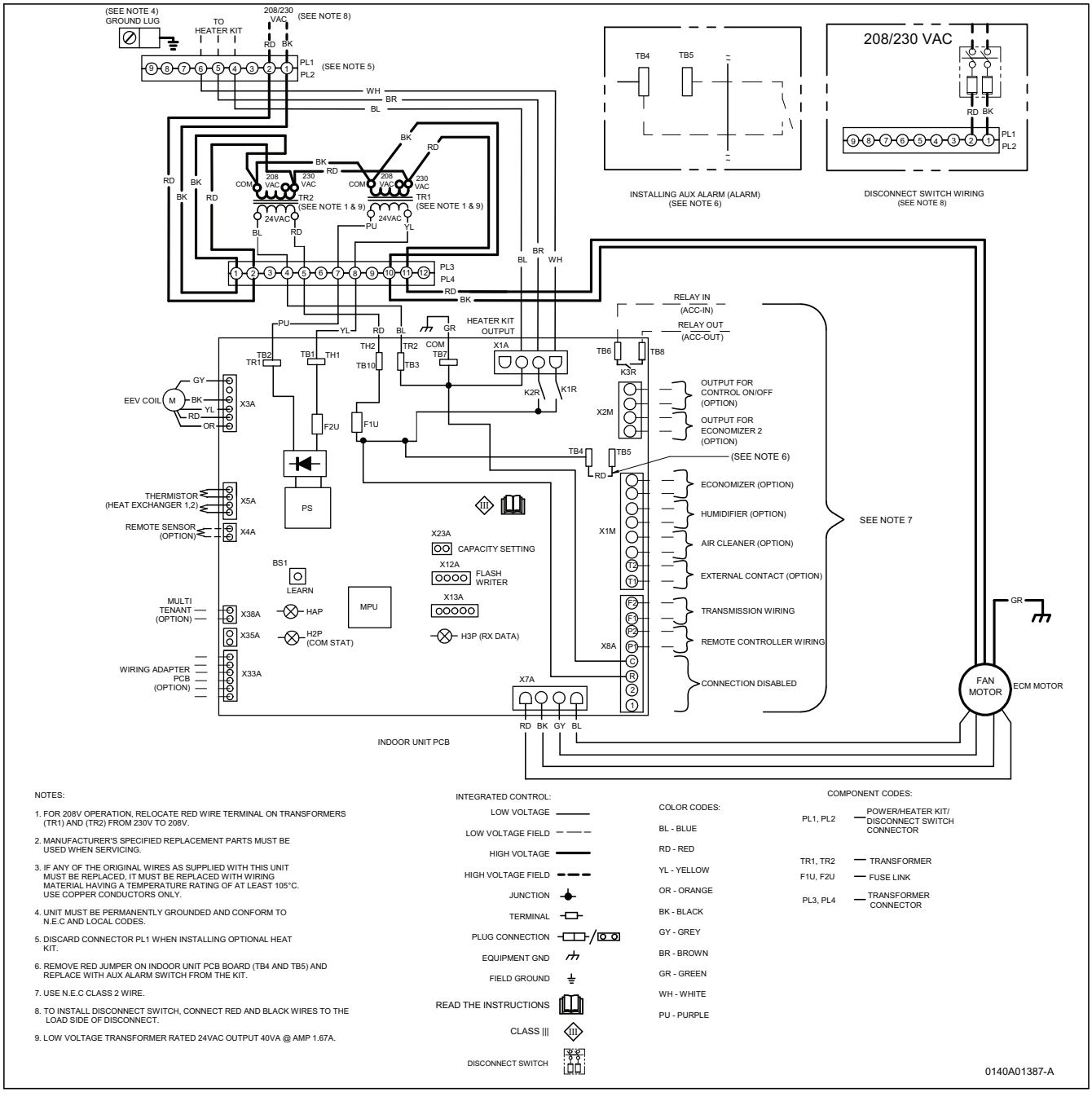
C: 0140A01285A

FXTQ09/12/18/24/30/36/42/48/54/60TBVJUA, FXTQ09/12/18/24/30/36/42/48/54/60TBVJUD



NOTES:

1. FOR 208V OPERATION, RELOCATE RED WIRE TERMINAL ON TRANSFORMERS (TR1) AND (TR2) FROM 230V TO 208V.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRES AS SUPPLIED WITH THIS UNIT MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C AND LOCAL CODES.
5. DISCARD CONNECTOR PL1 WHEN INSTALLING OPTIONAL HEAT KIT.
6. REMOVE RED JUMPER ON INDOOR UNIT PCB BOARD (TB4 AND TB5) AND REPLACE WITH AUX ALARM SWITCH FROM THE KIT.
7. USE N.E.C CLASS 2 WIRE.
8. TO INSTALL DISCONNECT SWITCH, CONNECT RED AND BLACK WIRES TO THE LOAD SIDE OF DISCONNECT.
9. LOW VOLTAGE TRANSFORMER RATED 24VAC OUTPUT 40VA @ AMP 1.67A.

INTEGRATED CONTROL:

- LOW VOLTAGE
- LOW VOLTAGE FIELD
- HIGH VOLTAGE
- HIGH VOLTAGE FIELD
- JUNCTION
- TERMINAL
- PLUG CONNECTION
- EQUIPMENT GND
- FIELD GROUND
- READ THE INSTRUCTIONS
- CLASS |||
- DISCONNECT SWITCH

COLOR CODES:

- BL - BLUE
- RD - RED
- YL - YELLOW
- OR - ORANGE
- BK - BLACK
- GY - GREY
- BR - BROWN
- GR - GREEN
- WH - WHITE
- PU - PURPLE

COMPONENT CODES:

- PL1, PL2 — POWER/HEATER KIT/ DISCONNECT SWITCH CONNECTOR
- TR1, TR2 — TRANSFORMER
- F1U, F2U — FUSE LINK
- PL3, PL4 — TRANSFORMER CONNECTOR

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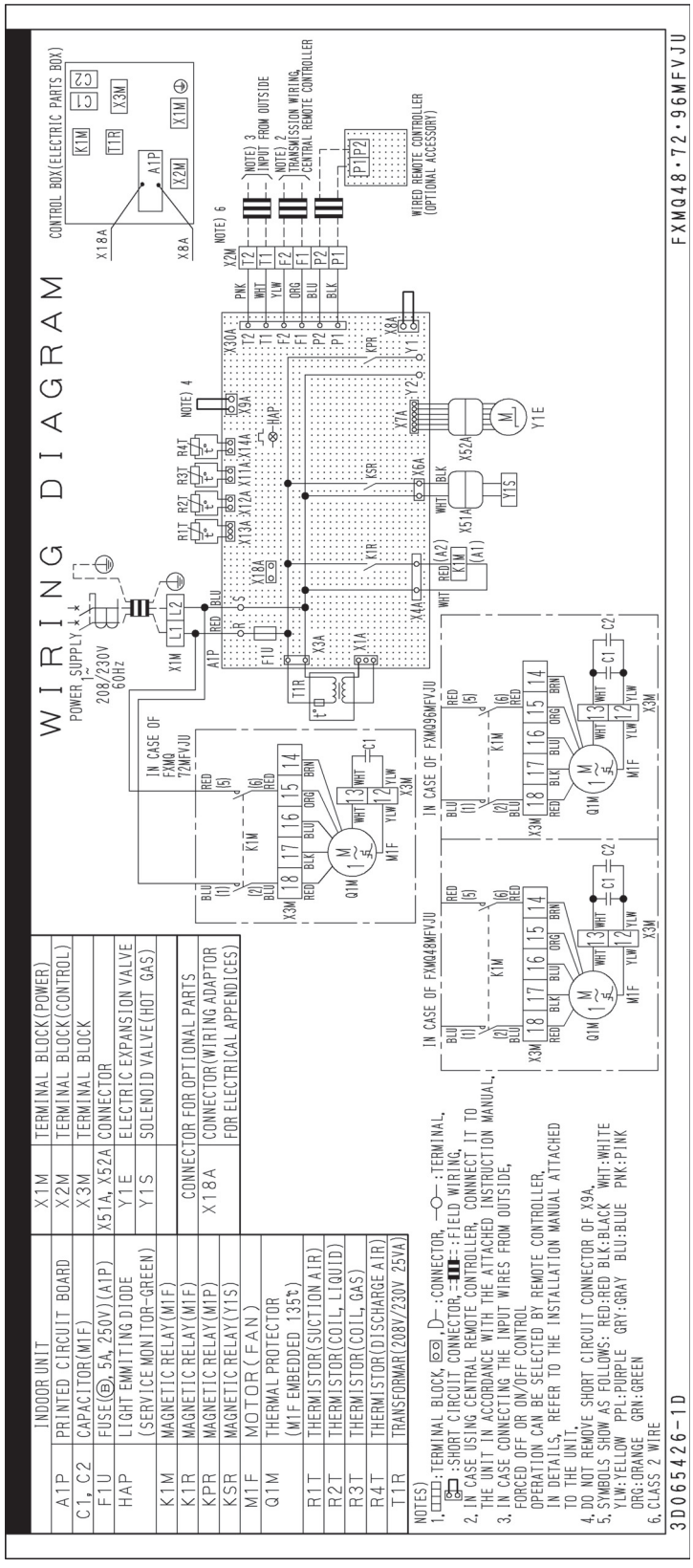
C: 0140A01387A

1.4 Air Treatment Equipment

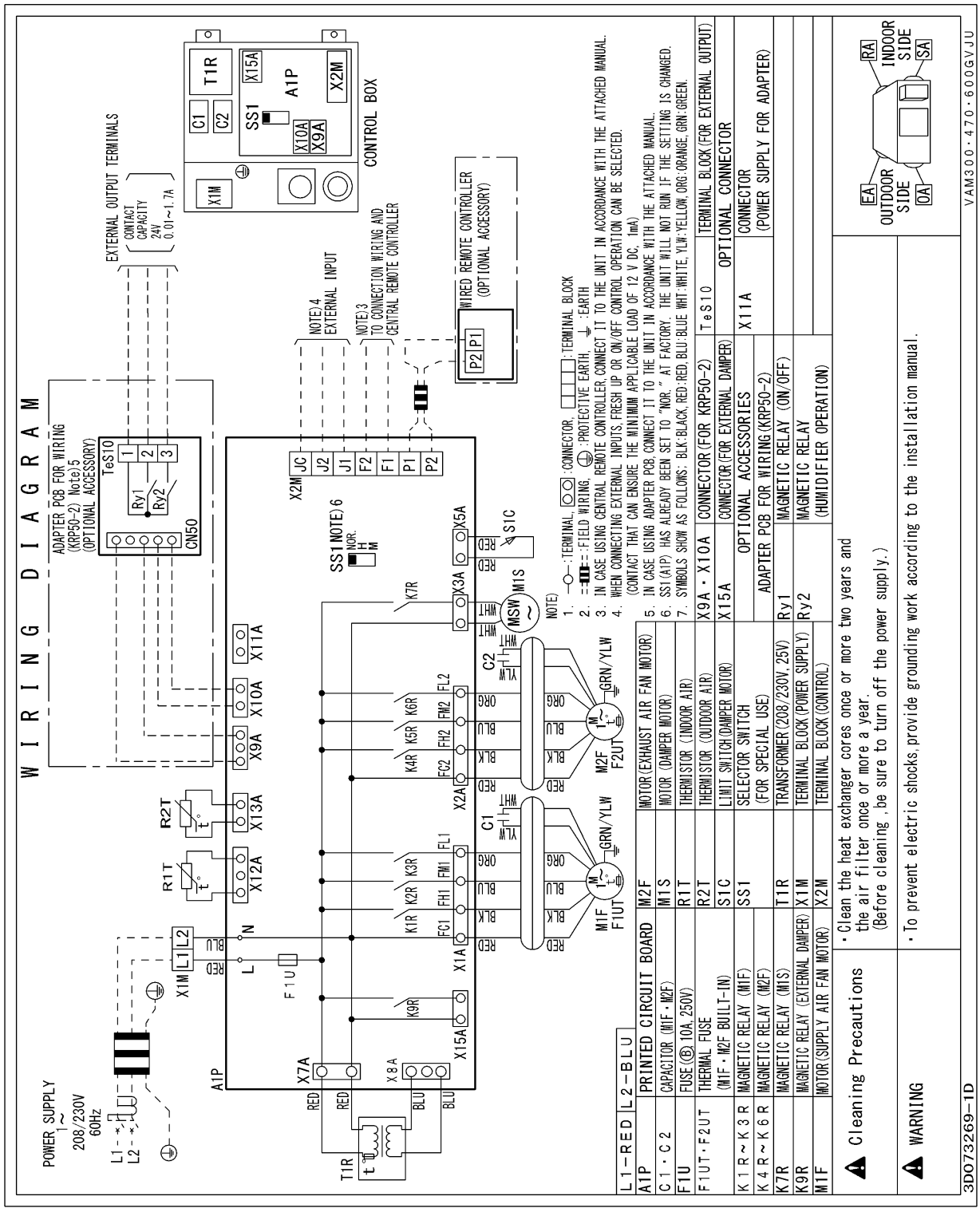
1.4.1 Outdoor-Air Processing Unit

FXMQ48/72/96MFVJU

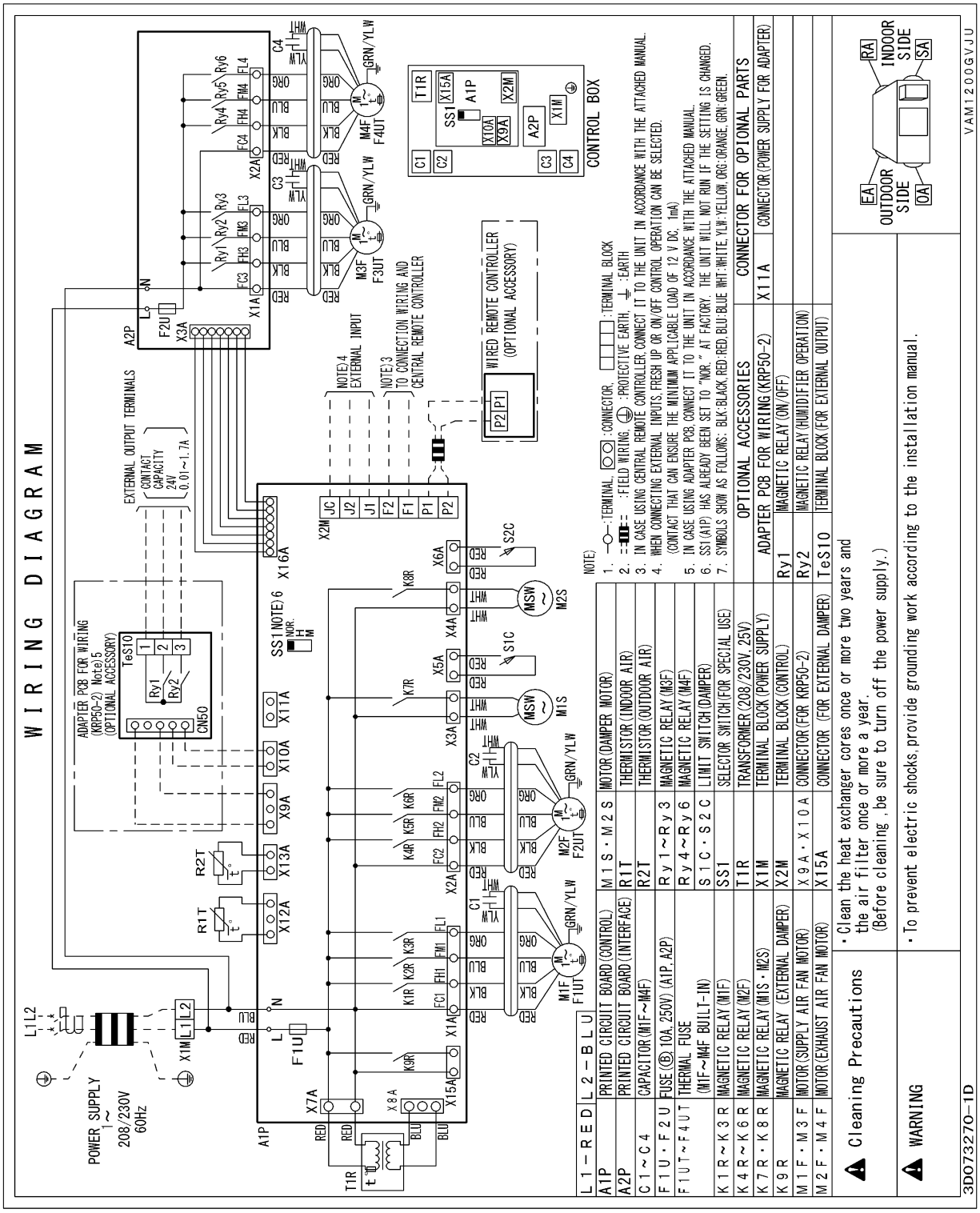


1.4.2 Energy Recovery Ventilator (VAM Series)

VAM300/470/600GVJU



VAM1200GVJU



Warning

- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorized 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 unauthorized 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 inquiries, 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.

●Specifications, designs and other content appearing in this brochure are current as of January 2024 but subject to change without notice.

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