



**R-410A** 

# Service Manual

# **Inverter Pair RX-W Series**













[Applied Models]
●Inverter Pair : Heat Pump

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Safety Cautions SiUS092230EA

#### 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

<b>!</b> 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.	8-5
If refrigerant gas is discharged during repair work, do not touch the discharged refrigerant gas.  Refrigerant gas may cause frostbite.	$\bigcirc$
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.	0
If refrigerant gas leaks during repair work, ventilate the area. Refrigerant gas may generate toxic gases when it contacts flames.	0

SiUS092230EA Safety Cautions

<u> </u>	
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.	4
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-32 / R-410A refrigerant models, be sure to use pipes, flare nuts and tools intended for the exclusive use with the R-32 / R-410A refrigerant.  The use of materials for R-22 refrigerant models may cause a serious accident, such as a damage of refrigerant cycle or equipment failure.	
Do not mix air or gas other than the specified refrigerant (R-32 / R-410A / R-22) in the refrigerant system.  If air enters the refrigerant system, an excessively high pressure results, causing equipment damage and injury.	

<u>İ</u> 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.	8-5
Be sure to conduct repair work with appropriate tools. The use of inappropriate tools may cause injury.	0

Safety Cautions SiUS092230EA

<u> Caution</u>	
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.	0
Conduct welding work in a well-ventilated place. Using the welder in an enclosed room may cause oxygen deficiency.	0

# 1.2 Warnings and Cautions Regarding Safety of Users

<u>İ</u> Warning	
Do not store the equipment in a room with fire sources (e.g., naked flames, gas appliances, electric heaters).	$\bigcirc$
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.	0
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.	0
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.	0
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.	0
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.	0
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.	

SiUS092230EA Safety Cautions

(Î) Warning	
Do not mix air or gas other than the specified refrigerant (R-32 / R-410A / R-22) in the refrigerant system.  If air enters the refrigerant system, an excessively high pressure results, causing equipment damage and injury.	$\bigcirc$
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.	0
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.	0
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.	0
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.	0

<u>İ</u> Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	0
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.	0
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.	0
Check the earth / grounding, and repair it if the equipment is not properly earthed / grounded. Improper earth / grounding may cause an electrical shock.	

Safety Cautions SiUS092230EA

( Caution	
Be sure to measure insulation resistance after the repair, and make sure that the resistance is 1 M $\Omega$ or higher. Faulty insulation may cause an electrical shock.	0
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.	0
Do not tilt the unit when removing it.  The water inside the unit may spill and wet the furniture and floor.	

SiUS092230EA Icons Used

#### 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	<b>Caution</b> 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	<b>Note</b> provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
Reference	Reference	<b>Reference</b> guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

Revision History SiUS092230EA

# 3. Revision History

ĺ	Month/Year	Version	Revised contents
	11 / 2022	SiUS092230E	First edition
	03 / 2023	SiUS092230EA	Model addition: FFQ09/12/15/18W2VJU8

# Part 1 General Information

1.	Applicable Models	1	0
2.	Functions	1	1

Applicable Models SiUS092230EA

# 1. Applicable Models

#### **Indoor Unit**

Wall mounted type	Duct concealed type	Ceiling cassette type
FTXR09WVJUW9 FTXR09WVJUS9	FDMQ09WVJU9 FDMQ12WVJU9	FFQ09W2VJU8 FFQ12W2VJU8
FTXR12WVJUW9	FDMQ15WVJU9	FFQ15W2VJU8
FTXR12WVJUS9	FDMQ18WVJU9	FFQ18W2VJU8
FTXR18WVJUW9	FDMQ24WVJU9	
FTXR18WVJUS9		FFQ09W2VJU9
		FFQ12W2VJU9
		FFQ15W2VJU9
		FFQ18W2VJU9

#### **Outdoor Unit**

RX09WMVJU9 RX12WMVJU9 RX15WMVJU9 RX18WMVJU9 RX24WMVJU9

SiUS092230EA Functions

# 2. Functions

			D 10		Ceiling Cassette FFQ				
Category	Functions	Wall Mounted	Duct Concealed FDMQ			ith 60B* ★1	with BYFQ60C*		
		FTXR	Wired R/C	Wireless R/C	Wired R/C	Wireless R/C	Wired R/C	Wireless R/C	
Basic Function	Inverter (with inverter power control)	•	•	•	•	•	•	•	
	Operation limit			Ref	er to page	240			
	PAM control	•	•	•	•	•	•	•	
	Standby electricity saving	_	_	_	_	_	_	_	
Compressor	Swing compressor	•	•	•	•	•	•	•	
	Reluctance DC motor	•	•	•	•	•	•	•	
Comfortable	Power-airflow dual flaps (horizontal blades)	•	_	_	_	_	_	_	
Airflow	Wide-angle louvers (vertical blades)	•	_	_	_	_	_	_	
	Auto-swing (up and down)	•	_	_	_	_	_	_	
	Auto-swing (right and left)	•	_	_	_	_	_	_	
	3-D airflow	•	_	_	_	_	_	_	
	COMFORT AIRFLOW operation	•	_	_	_	_	_	_	
	Auto-swing	_	_	_	•	•	•	•	
	Individual flap control	_	_	_	_	_	•	_	
Comfort Control	Auto fan speed	•	•	_	•	_	•	_	
	Switchable fan speed	5 steps	3 steps	3 steps	3 steps	3 steps	3 steps	3 steps	
	Indoor unit quiet operation	•	_	_	_	_	_	_	
	2 selectable temperature sensors	_	•	_	_	_	_	_	
	Presence and floor sensor (option)	_	_	_	_	_	Option	_	
	Hot-start function	•	•	•	•	•	•	•	
	QUIET OUTDOOR UNIT operation (manual)	•	_	_	_	_	_	_	
	INTELLIGENT EYE operation (auto energy saving)	•	_	_	_	_	_	_	
	2-area INTELLIGENT EYE operation (comfort)	•	_	_	_	_	_	_	
	Quick warming function	•	•	•	•	•	•	•	
	Automatic defrosting	•	•	•	•	•	•	•	
Operation	Automatic cooling/heating changeover	•	•	•	•	•	•	•	
	Program dry operation	•	•	•	•	•	•	•	
	Fan only	•	•	•	•	•	•	•	
	Setback function	_	_	_	•	_	•	_	
Lifestyle	Inverter POWERFUL operation	•	_	_	_	_	_	_	
Convenience	ECONO operation	•	_	_	_	_	_	_	
	Indoor unit ON/OFF switch	•	_	_	_	_	_	_	
	Emergency operation switch	_	_		_	•	_	•	
	Multi-colored indicator lamp	•	_	_	_	_	_	_	
	Multi-colored lamp brightness setting	•	_	_	_	_	_	_	
	Signal receiving sign	•	_	●★2	_	●★2	_	●★2	
	Remote controller with back light	•	•	_	•	_	•	_	

Functions SiUS092230EA

			Duct Concealed FDMQ		Ceiling Cassette FFQ			
Category	Functions	Wall Mounted			with BYFQ60B* ★1		w BYF0	rith Q60C*
		FTXR	Wired R/C	Wireless R/C	Wired R/C	Wireless R/C	Wired R/C	Wireless R/C
Health and Cleanliness	Titanium apatite deodorizing filter	•	_	_		_		_
Cleaniness	Mold proof air filter	•	_	_	-	_	_	_
	Longlife filter	_	_	_	Option	Option	Option	Option
	Filter cleaning indicator	_	•	•	•	•	•	•
	Wipe-clean flat panel	•	_	_	_	_	_	_
	Silver ion anti-bacterial drain pan	_	•	•	_	<u> </u>	_	_
Timer	WEEKLY TIMER operation	•	_	_	_	_	_	_
	Schedule timer	_	•	_	•	_	•	_
	Setpoint auto reset	_	•	_	_	_	_	_
	Setpoint range set	_	•	_	_	_	_	_
	24-hour ON/OFF TIMER	•	•	_	•	_	•	_
	72-hour ON/OFF TIMER	_	_	•	_	•	_	•
	Off timer (turns unit off after set time)	_	•	_	•	_	•	_
	NIGHT SET mode	•	_	_	_	_	_	_
Remote Control	Remote control adaptor (normal open pulse contact)	Option	_	_	_	_	_	_
	Remote control adaptor (normal open contact)	Option	_	_	_	<u> </u>	_	<u> </u>
	DIII-NET compatible (adaptor)	Option	Option	Option	Option	Option	Option	Option
	Wireless LAN connection	Option	Option	Option	Option	Option	Option	Option
Worry Free	Auto-restart (after power failure)	•	•	•	•	•	•	•
(Reliability & Durability)	Self-diagnosis (R/C, LED)	•	•	•	•	•	•	•
	Anti-corrosion treatment of outdoor heat exchanger	•	•	•	•	•	•	•
Work &	Multi-split/split type compatible indoor unit	•	•	•	•	•	•	•
Servicing	Either side drain (right or left)	•	_	_	_	_	_	_
	Chargeless	32.8 ft. (10m)	32.8 ft. (10m)	32.8 ft. (10m)	32.8 ft. (10m)	32.8 ft. (10m)	32.8 ft. (10m)	32.8 ft. (10m)
	Drain pump	_	•	•	•	•	•	•
	Low temperature cooling operation (14°F) (-10°C)	•	•	•	•	•	•	•
	Low temperature cooling operation (–4°F) (–20°C) Requires wind baffle and field settings	•	•	•	•	•	•	•
	°F/°C changeover R/C temperature display (factory setting: °F)	•	•	(°F only)	•	(°F only)	•	(°F only)

★1 : Available only for FFQ-W2VJU9

– : Not available★2 : Receiving sound only

# Part 2 Specifications

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Specifications SiUS092230EA

# 1. Specifications

# 1.1 Wall Mounted Type

Indoor Unit				WVJUW9	FTXR09WVJUS9			
Model	Outdoor Unit			MVJU9	RX09WMVJU9			
	Outdoor offic		Cooling Heating		Cooling Heating			
Power Supply			17	30 V, 60 Hz		30 V, 60 Hz		
Capacity Rated (Min		Btu/h	9,000 (4,500 - 10,600)	10,000 (4,100 - 14,600)	9,000 (4,500 - 10,600)	10,000 (4,100 - 14,600)		
Running Current (Rate	d)	Α	4.28 - 3.87	3.83 - 3.46	4.28 - 3.87	3.83 - 3.46		
Power Consumption (R	ated)	W	819 - 819	733 - 733	819 - 819	733 - 733		
Power Factor (Rated)		%	92.0 - 92.0	92.0 - 92.1	92.0 - 92.0	92.0 - 92.1		
SEER2 / HSPF2			18.00	7.50	18.00	7.50		
EER2 (Rated)		Btu/h·W	11.00	_	11.00	_		
COP2 (Rated)		W/W	_	4.00	_	4.00		
,	Liquid	in. (mm)	ф 1/4	(6.4)	φ 1/4	(6.4)		
Piping Connections	Gas	in. (mm)	·	(9.5)	φ 3/8	· /		
Drain		in. (mm)		6 (18)	φ 11/1	. ,		
Heat Insulation	Diam	111. (11111)		nd Gas Pipes	Both Liquid a			
Max. Interunit Piping Le	nath	ft (m)		8 (20)	65-5/8	•		
		ft (m)		4 (15)	49-1/4			
Max. Interunit Height D	llierence					_ ( ,		
Chargeless		ft (m)	32-3/-	4 (10)	32-3/-	4 (10)		
Amount of Additional C Refrigerant	harge of	oz/ft (g/m)	0.21	(20)	0.21	(20)		
Indoor Unit		(g/III)	ETYPON	WVJUW9	FTXR09	MV/IIISO		
Front Panel Color				nite				
FIUTIL Pariel Color		af	***		Sil			
Airflow Rate	H/M/L/SL	cfm m³/min	272 / 208 / 162 / 134 7.7 / 5.9 / 4.6 / 3.8	346 / 258 / 201 / 117 9.8 / 7.3 / 5.7 / 3.3	272 / 208 / 162 / 134 7.7 / 5.9 / 4.6 / 3.8	346 / 258 / 201 / 117 9.8 / 7.3 / 5.7 / 3.3		
F	T / O							
Fan	Type / Speed	Steps		Steps, Quiet, Auto	Cross Flow Fan / 5			
Air Direction Control			0 , ,	contal, Downward	Right, Left, Horiz			
Air Filter				e, Washable	Removable			
Running Current (Rate		Α	0.07 - 0.07	0.13 - 0.12	0.07 - 0.07	0.13 - 0.12		
Power Consumption (R	lated)	W	13 - 13	26 - 26	13 - 13	26 - 26		
Power Factor (Rated)		%	89.2 - 80.7	96.2 - 94.2	89.2 - 80.7	96.2 - 94.2		
Temperature Control			Microcomp	uter Control	Microcomp	uter Control		
Dimensions (H × W × D		in. (mm)	11-15/16 × 39-5/16 × 8	3-3/8 (303 × 998 × 212)	11-15/16 × 39-5/16 × 8	3-3/8 (303 × 998 × 212)		
Packaged Dimensions	(H × W × D)	in. (mm)	12-11/16 × 43-3/8 × 15-	5/16 (322 × 1,101 × 389)	12-11/16 × 43-3/8 × 15-5	5/16 (322 × 1,101 × 389)		
Weight (Mass)		lbs (kg)	27	(12)	27 (	(12)		
Gross Weight (Gross M	lass)	lbs (kg)	33	(15)	33 (	(15)		
Sound Pressure Level	H/M/L/SL	dB(A)	38 / 32 / 25 / 19	41 / 34 / 28 / 19	38 / 32 / 25 / 19	41 / 34 / 28 / 19		
Outdoor Unit				MVJU9	RX09W			
Casing Color			Ivory White		Ivory White			
Heat Exchanger	Fin Spec / Tub	P	Waffle Fin (PE) / $\phi$ 7 Hi-XSL Tube		Waffle Fin (PE) / $\phi$ 7 Hi-XSL Tube			
Fan Motor	Motor Output	HP		03	0.03			
1 all Motor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type			
Compressor	Model				1YC23AUXD			
			1YC23AUXD FVC50K					
Refrigerant Oil	Туре	(1.)			FVC50K 12.68 (0.375)			
	Charge	oz (L)	12.68 (0.375) R-410A			,		
Refrigerant	Туре		I .		R-4			
•	Charge	lbs (kg)	2.09	(0.95)	2.09 (	U.95)		
Airflow Rate		cfm (m³/min)	985 (27.9)	1,144 (32.4)	985 (27.9)	1,144 (32.4)		
Fan	Туре		Prop	peller	Prop	eller		
Running Current (Rate	<del></del>	Α	4.21 - 3.80	3.70 - 3.34	4.21 - 3.80	3.70 - 3.34		
Power Consumption (R		W	806 - 806	707 - 707	806 - 806	707 - 707		
Power Factor (Rated)	,	%	92.0 - 92.2	95.2 - 95.4	92.0 - 92.2	95.2 - 95.4		
, ,		in. (mm)	92.0 - 92.2 95.2 - 95.4 21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284)		92.0 - 92.2   95.2 - 95.4 21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284)			
Packaged Dimensions	<u>'</u>	in. (mm)		-11/16 (605 × 798 × 373)	23-13/16 × 31-7/16 × 14-			
Weight (Mass)	(11 ·· VV ·· D)	lbs (kg)		(29)	63 (			
		lbs (kg)		(31)	68 (	,		
	1000)	dB(A)	46	· ·	46			
Gross Weight (Gross M			. 4n	50	-	50		
Gross Weight (Gross M Sound Pressure Level	Indoor	UB(A)	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /		
Gross Weight (Gross M	Indoor	UB(A)	l .	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) /	67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) /		
Gross Weight (Gross M Sound Pressure Level	Outdoor	UD(A)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)		
Gross Weight (Gross M Sound Pressure Level		ub(A)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB) 25 ft (	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) /	67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB) 7.5 m)		

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

SiUS092230EA Specifications

	Indoor Unit		FTXR12\	WVJUW9	FTXR12WVJUS9			
Model	Outdoor Unit		RX12W		RX12WMVJU9			
	Outdoor Unit		Cooling	Heating	Cooling	Heating		
Power Supply			1 φ, 208 - 2	30 V, 60 Hz	1 φ, 208 - 2	30 V, 60 Hz		
Capacity Rated (Min	Max.)	Btu/h	12,000 (4,500 - 12,800)	13,500 (4,100 - 15,800)	12,000 (4,500 - 12,800)	13,500 (4,100 - 15,800)		
Running Current (Rated	d)	Α	5.46 - 4.94	5.60 - 5.06	5.46 - 4.94	5.60 - 5.06		
Power Consumption (R	lated)	W	1,091 - 1,091	1,106 -1,106	1,091 - 1,091	1,106 - 1,106		
Power Factor (Rated)		%	96.1 - 96.0	95.0 - 95.0	96.1 - 96.0	95.0 - 95.0		
SEER2 / HSPF2			17.00	8.00	17.00	8.00		
EER2 (Rated)		Btu/h·W	11.00	_	11.00	_		
COP2 (Rated)		W/W	_	3.58	_	3.58		
	Liquid	in. (mm)	φ 1/4	(6.4)	φ 1/4	(6.4)		
Piping Connections	Gas	in. (mm)	φ 3/8	(9.5)	φ 3/8	(9.5)		
	Drain	in. (mm)	φ 11/1		φ 11/1			
Heat Insulation	1	()	Both Liquid a		Both Liquid a			
Max. Interunit Piping Le	enath	ft (m)		8 (20)	65-5/	<u> </u>		
Max. Interunit Height D		ft (m)	49-1/4		49-1/4	. ,		
Chargeless	IIICICIICC	ft (m)	32-3/4		32-3/-			
Amount of Additional C	hargo of	oz/ft				,		
Refrigerant	naige of	(g/m)	0.21	(20)	0.21	(20)		
Indoor Unit		, (5 /	FTXR12\	WVJUW9	FTXR12	WVJUS9		
Front Panel Color			Wh		Sil			
		cfm	335 / 219 / 169 / 131	395 / 290 / 226 / 131	335 / 219 / 169 / 131	395 / 290 / 226 / 131		
Airflow Rate	H/M/L/SL	m³/min	9.5 / 6.2 / 4.8 / 3.7	11.2 / 8.2 / 6.4 / 3.7	9.5 / 6.2 / 4.8 / 3.7	11.2 / 8.2 / 6.4 / 3.7		
Fan	Type / Speed	Steps	***************************************	Steps, Quiet, Auto		Steps. Quiet. Auto		
Air Direction Control	Type / Speed	Oteps		ontal. Downward	Right, Left, Horiz	, ,		
Air Filter			Right, Leit, Hohz	,	Right, Left, Floriz	,		
	۵\	Ι Δ		,	0.13 - 0.12	<u>'</u>		
Running Current (Rated		A W	0.13 - 0.12	0.19 - 0.17		0.19 - 0.17		
Power Consumption (R	ated)		26 - 26	38 - 38	26 - 26	38 - 38		
Power Factor (Rated)		%	96.1 - 94.2	96.1 - 97.1	96.1 - 94.2	96.1 - 97.1		
Temperature Control			Microcompi		Microcomp			
Dimensions (H × W × D		in. (mm)	11-15/16 × 39-5/16 × 8		11-15/16 × 39-5/16 × 8	,		
Packaged Dimensions	(H × W × D)	in. (mm)	12-11/16 × 43-3/8 × 15-5		12-11/16 × 43-3/8 × 15-5/16 (322 × 1,101 × 389)			
Weight (Mass)		lbs (kg)	27 (12)		27 (12)			
Gross Weight (Gross M		lbs (kg)	33 (	- /	33 (	,		
Sound Pressure Level	H/M/L/SL	dB(A)	45 / 34 / 26 / 20	45 / 37 / 29 / 20	45 / 34 / 26 / 20	45 / 37 / 29 / 20		
Outdoor Unit			RX12W		RX12WMVJU9			
Casing Color			Ivory White		Ivory White			
Heat Exchanger	Fin Spec / Tube	е	Waffle Fin (PE) /		Waffle Fin (PE) / φ 7 Hi-XSL Tube			
Fan Motor	Motor Output	HP	0.03		0.03			
C	Туре		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type			
Compressor	Model		1YC23AUXD		1YC23AUXD			
D (: 10"	Туре		FVC50K		FVC50K			
Refrigerant Oil	Charge	oz (L)	12.68 (0.375)		12.68 (0.375)			
Definement	Туре	/	R-4		R-4	,		
Refrigerant	Charge	lbs (kg)	2.09 (		2.09 (	<u> </u>		
A:	1 3-	cfm		,		,		
Airflow Rate		(m³/min)	1,105 (31.3)	1,144 (32.4)	1,105 (31.3)	1,144 (32.4)		
Fan Type			Prop	eller	Prop	eller		
	Туре				5.33 - 4.82	5.41 - 4.89		
Running Current (Rated		Α	5.33 - 4.82	5.41 - 4.89	0.00 - 4.02			
	d)	A W	5.33 - 4.82 1,065 - 1,065	5.41 - 4.89 1,068 - 1,068	1,065 - 1,065	1,068 - 1,068		
Running Current (Rated	d)					1,068 - 1,068 94.9 - 95.0		
Running Current (Rated Power Consumption (R	d) lated)	W	1,065 - 1,065	1,068 - 1,068 94.9 - 95.0	1,065 - 1,065	94.9 - 95.0		
Running Current (Rated Power Consumption (R Power Factor (Rated)	d) cated)	W %	1,065 - 1,065 96.1 - 96.1	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284)	1,065 - 1,065 96.1 - 96.1	94.9 - 95.0 3/16 (550 × 675 × 284)		
Running Current (Rated Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions	d) cated)	W % in. (mm)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14-	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14-	94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373)		
Running Current (Rater Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass)	d) (d) (d) (d) (d) (d) (d) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	W % in. (mm) in. (mm) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14-	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11-	94.9 - 95.0 3/16 (550 × 675 × 284) .11/16 (605 × 798 × 373) 29)		
Running Current (Rated Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass) Gross Weight (Gross M	d) (d) (d) (d) (d) (d) (d) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	W % in. (mm) in. (mm) lbs (kg) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 (	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29) (31)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 (	94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) 29) 31)		
Running Current (Rater Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass)	d) (d) (d) (d) (d) (d) (d) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	W % in. (mm) in. (mm) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) /	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29) (31) 51 70.0°FDB (21.1°CDB) /	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) /	94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) 29) 31) 51 70.0°FDB (21.1°CDB) /		
Running Current (Rated Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass) Gross Weight (Gross M	(H × W × D)	W % in. (mm) in. (mm) lbs (kg) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29) 31) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) /	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) 29) 31) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) /		
Running Current (Rated Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass) Gross Weight (Gross M Sound Pressure Level	d) (ated) (b) (H × W × D) (lass)  Indoor Outdoor	W % in. (mm) in. (mm) lbs (kg) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29) 31) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) 29) 31) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)		
Running Current (Rated Power Consumption (R Power Factor (Rated) Dimensions (H × W × D Packaged Dimensions Weight (Mass) Gross Weight (Gross M Sound Pressure Level	(H × W × D)  Indoor	W % in. (mm) in. (mm) lbs (kg) lbs (kg)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	1,068 - 1,068 94.9 - 95.0 3/16 (550 × 675 × 284) -11/16 (605 × 798 × 373) (29) 331) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	1,065 - 1,065 96.1 - 96.1 21-5/8 × 26-9/16 × 11- 23-13/16 × 31-7/16 × 14- 63 ( 68 ( 49 80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) /	94.9 - 95.0 3/16 (550 × 675 × 284) .11/16 (605 × 798 × 373) 29) 31) 51 70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)		

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

Specifications SiUS092230EA

Indoor Unit			FTXR18V	WVJUW9	FTXR18WVJUS9			
Model	Outdoor Unit		RX18W	MVJU9	RX18WMVJU9			
			Cooling	Heating	Cooling	Heating		
Power Supply			1 φ, 208 - 23	30 V, 60 Hz	1 φ, 208 - 23			
Capacity Rated (Min I		Btu/h	18,000 (5,100 - 18,500)	20,000 (5,800 - 21,200)	18,000 (5,100 - 18,500)	20,000 (5,800 - 21,200)		
Running Current (Rated	d)	Α	9.29 - 8.40	8.70 - 7.89	9.29 - 8.40	8.70 - 7.89		
Power Consumption (R	ated)	W	1,875 - 1,875	1,755 - 1,755	1,875 - 1,875	1,755 - 1,755		
Power Factor (Rated)		%	97.0 - 97.0	97.0 - 97.0	97.0 - 97.0	97.0 - 97.0		
SEER2 / HSPF2			14.50	7.80	14.50	7.80		
EER2 (Rated)		Btu/h·W	9.60	_	9.60	_		
COP2 (Rated)		W/W	_	3.34	_	3.34		
	Liquid	in. (mm)	φ 1/4	(6.4)	φ 1/4	(6.4)		
Piping Connections	Gas	in. (mm)	φ 1/2	(12.7)	φ 1/2 (	12.7)		
	Drain	in. (mm)	φ 11/1	6 (18)	φ 11/1	6 (18)		
Heat Insulation		, ,	·	nd Gas Pipes	Both Liquid ar			
Max. Interunit Piping Le	enath	ft (m)	98-1/2		98-1/2			
Max. Interunit Height Di		ft (m)	65-5/8		65-5/8	· /		
Chargeless		ft (m)	32-3/4		32-3/4			
Amount of Additional Cl	harne of	oz/ft				, ,		
Refrigerant	naigo oi	(g/m)	0.21	(20)	0.21	(20)		
Indoor Unit			FTXR18V	WVJUW9	FTXR18\	WVJUS9		
Front Panel Color			Wh	nite	Silv	/er		
Airflow Date	H / M / L / C	cfm	350 / 275 / 226 / 208	413 / 332 / 275 / 208	350 / 275 / 226 / 208	413 / 332 / 275 / 208		
Airflow Rate	H/M/L/SL	m³/min	9.9 / 7.8 / 6.4 / 5.9	11.7 / 9.4 / 7.8 / 5.9	9.9 / 7.8 / 6.4 / 5.9	11.7 / 9.4 / 7.8 / 5.9		
Fan	Type / Speed	Steps	Cross Flow Fan / 5	Steps, Quiet, Auto	Cross Flow Fan / 5	Steps, Quiet, Auto		
Air Direction Control			Right, Left, Horiz	ontal, Downward	Right, Left, Horiz	ontal, Downward		
Air Filter			Removable, Washable		Removable, Washable			
Running Current (Rated	4)	А	0.07 - 0.07	0.13 - 0.12	0.07 - 0.07	0.13 - 0.12		
Power Consumption (R		W	28 - 28	42 - 42	28 - 28	42 - 42		
Power Factor (Rated)		%	96.1 - 87.0	96.2 - 87.0	96.1 - 87.0	96.2 - 87.0		
Temperature Control		,,,	Microcompu		Microcompu			
		in. (mm)	11-15/16 × 39-5/16 × 8		11-15/16 × 39-5/16 × 8			
Packaged Dimensions		in. (mm)	12-11/16 × 43-3/8 × 15-5		12-11/16 × 43-3/8 × 15-5			
Weight (Mass)	(** ** = /	lbs (kg)	27 (		27 (12)			
Gross Weight (Gross M	lass)	lbs (kg)	33 (	` '	33 (			
Sound Pressure Level		dB(A)	46 / 40 / 35 / 30	47 / 41 / 35 / 30	46 / 40 / 35 / 30	47 / 41 / 35 / 30		
Outdoor Unit	1117 W17 E7 OE	( UD() ()	RX18W		RX18W			
Casing Color			Ivory White		Ivory White			
Heat Exchanger	Fin Spec / Tube		Waffle Fin (PE) / \phi 7 Hi-XSL Tube		Waffle Fin (PE) /			
Fan Motor	Motor Output	HP	0.12		0.12			
1 all Motor	Type	111	Hermetically Sealed Swing Type		Hermetically Sealed Swing Type			
Compressor	Model		2YC36PXD		2YC36PXD			
	Type		FVC50K		FVC50K			
Refrigerant Oil		oz (L)						
	Charge	02 (L)	21.98 (0.650) R-410A		21.98 (0.650) R-410A			
Refrigerant	Туре	lha (lan)		<u> </u>				
	Charge	lbs (kg)	2.49 (	(1.10)	2.49 (	1.10)		
Airflow Rate		cfm (m³/min)	2,461 (69.7)	2,553 (72.3)	2,461 (69.7)	2,553 (72.3)		
Fan	Туре	/	Prop	eller	Prop	eller		
Running Current (Rated		Α	9.22 - 8.33	8.57 - 7.77	9.22 - 8.33	8.57 - 7.77		
Power Consumption (R		W	1,847 - 1,847	1,713 - 1,713	1,847 - 1,847	1,713 - 1,713		
Power Factor (Rated)	/	%	96.3 - 96.4	96.1 - 95.9	96.3 - 96.4	96.1 - 95.9		
` '		in. (mm)	28-15/16 × 34-1/4 × 12		28-15/16 × 34-1/4 × 12			
, ,		in. (mm)	31-7/8 × 41-9/16 × 18-1		31-7/8 × 41-9/16 × 18-1	,		
Weight (Mass)	( · · · · · · · · · )	lbs (kg)	100		100	, , ,		
	lass)		110		110			
Gross Weight (Gross Mass) lbs (kg)		dB(A)	54	55	54	55		
			-	70.0°FDB (21.1°CDB) /	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /		
Sound Pressure Level	Indoor		80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)		67.0°FWB`(19.4°CWŔ)	60.0°FWB (15.6°CWB)		
	Indoor Outdoor		80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	60.0°FWB`(15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)		
Sound Pressure Level			67.0°FWB`(19.4°CWB) 95.0°FDB (35.0°CDB) /	60.0°FWB (15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	95.0°FDB (35.0°CDB) /	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)		
Sound Pressure Level	Outdoor		67.0°FWB (19.4°CWB) 95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	60.0°FWB`(15.6°CWB) 47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB) 7.5 m)	95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB) 7.5 m)		

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

SiUS092230EA Specifications

# 1.2 Duct Concealed Type

	Indoor Unit		-	9WVJU9	FDMQ12WVJU9		
Model	Outdoor Unit		RX09W		RX12WMVJU9		
	Gutuoor Onit		Cooling	Heating	Cooling	Heating	
Power Supply		1	1 φ, 208 - 2		1.7	30 V, 60 Hz	
Capacity Rated (M		Btu/h	9,000 (3,900 - 9,400)	10,900 (3,900 - 12,800)	10,800 (4,000 - 12,400)	13,600 (3,900 - 14,200)	
Running Current (F		Α	5.30 - 4.79	5.34 - 4.83	6.14 - 5.55	6.48 - 5.86	
Power Consumptio		W	1,059 - 1,059	1,065 - 1,065	1,227 - 1,227	1,329 - 1,329	
Power Factor (Rate	ed)	%	96.1 - 96.1	95.9 - 95.8	96.1 - 96.2	98.6 - 98.6	
SEER2 / HSPF2			14.30	8.20	14.60	8.10	
EER2 (Rated)		Btu/h·W	8.50	_	8.80	_	
COP2 (Rated)		W/W	_	3.00	_	3.00	
	Liquid	in. (mm)	φ 1/4	(6.4)	φ 1/4	(6.4)	
Piping Connections	Gas	in. (mm)	φ 3/8	(9.5)	φ 3/8	(9.5)	
Connections	Drain	in. (mm)	I.D. \(\phi\) 1 (25) / C	.D. \( \phi \) 1-1/4 (32)	I.D. φ 1 (25) / C	).D. \( \phi \) 1-1/4 (32)	
Heat Insulation	1		Both Liquid a	nd Gas Pipes	Both Liquid a	nd Gas Pipes	
Max. Interunit Pipir	ia Lenath	ft (m)	65-5/	<u> </u>	65-5/	8 (20)	
Max. Interunit Heig	<del>0 0</del>	ft (m)	49-1/4	( )		4 (15)	
Chargeless		ft (m)	32-3/4			4 (10)	
Amount of Addition	al Charge of	oz/ft		,		, ,	
Refrigerant	ai Orlaige of	(g/m)	0.21	(20)	0.21	(20)	
Indoor Unit		1 (3 )	FDMQ09	9WVJU9	FDMQ1	2WVJU9	
	Rows × Stages, Fir	n per Inch		6, 18		6, 18	
Heat Exchanger	Fin Spec / Tube	roii	Multi Slit Fin / o				
		cfm	293 / 265 / 233	293 / 265 / 233	371 / 318 / 261	371 / 318 / 261	
Airflow Rate	H/M/L	m³/min	8.3 / 7.5 / 6.6	8.3 / 7.5 / 6.6	10.5 / 9.0 / 7.4	10.5 / 9.0 / 7.4	
	H/M/L	rpm	997 / 896 / 795	997 / 896 / 795	1,089 / 930 / 771	1,089 / 930 / 771	
Fan Motor		HP			,	· '	
F	Motor Output	HP	0.			17	
Fan	Туре	:11.0	Siroco			co Fan	
External Static Pres	ssure	inH <sub>2</sub> O	Standard 0.20			0 (0.60 - 0.12)	
		Pa	Standard 5	,		0 (150 - 30)	
Running Current (F		A	0.40 - 0.36	0.40 - 0.36	0.44 - 0.40	0.44 - 0.40	
Power Consumption (Rated)		W	75 - 75	75 - 75	89 - 89	89 - 89	
Power Factor (Rated) %		%	90.2 - 90.7	90.2 - 90.7	97.0 - 97.6	97.0 - 97.6	
Temperature Control			Microcomp			uter Control	
Dimensions (H × W × D) in. (		in. (mm)	9-5/8 × 27-9/16 × 31-			1/2 (245 × 700 × 800)	
Packaged Dimensi	ons (H × W × D)	in. (mm)	11-9/16 × 35-3/8 × 34	-7/8 (293 × 899 × 886)	11-9/16 × 35-3/8 × 34-7/8 (293 × 899 × 886)		
Weight (Mass)		lbs (kg)	64 (	(29)	64	(29)	
Gross Weight (Gro	ss Mass)	lbs (kg)	71 (32)		71 (32)		
Sound Pressure Le	evel	dB(A)	32 32		33	33	
D . O . "	/O !! \	Wired	BRC1E73		BRC	1E73	
Remote Controller	(Option)	Wireless	BRC082A43		BRC082A43		
Outdoor Unit			RX09WMVJU9		RX12WMVJU9		
Casing Color			Ivory	White	Ivory	White	
Heat Exchanger	Fin Spec / Tube						
Fan Motor	Motor Output	HP	0.	1		03	
	Туре		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type		
Compressor	Model		1YC23			BAUXD	
	Туре			50K		550K	
Refrigerant Oil	Charge	oz (L)	12.68		12.68 (0.375)		
		02 (L)		·	R-410A		
Refrigerant	Type	lbo (lee)	R-4			(0.95)	
	Charge	lbs (kg)	2.09	บ.ฮอ)	2.09	(v.ສວ)	
Airflow Rate		cfm (m³/min)	985 (27.9)	1,144 (32.4)	1,105 (31.3)	1,144 (32.4)	
Fan	Туре	1 ( //)	Prop	eller	Pror	eller	
Running Current (F		А	4.90 - 4.43	4.94 - 4.47	5.70 - 5.15	6.04 - 5.46	
Power Consumptio		W	984 - 984	4.94 - 4.47 990 - 990		1,240 - 1,240	
Power Consumption Power Factor (Rate				96.3 - 96.3	1,138 - 1,138	, ,	
		% in (mm)	96.5 - 96.6		96.0 - 96.1	98.7 - 98.7	
		in. (mm)	21-5/8 × 26-9/16 × 11-			3/16 (550 × 675 × 284)	
Packaged Dimensions (H × W × D) in. (mm)		. ,	23-13/16 × 31-7/16 × 14-			-11/16 (605 × 798 × 373)	
Weight (Mass)   Ibs (kg)		63 (29)			(29)		
Gross Weight (Gross Mass)		lbs (kg)	68 (	-		(31)	
Sound Pressure Le	evel	dB(A)	46	50	49	51	
	Indoor		80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /	
Conditions Based			67.0°FWB (19.4°CWB)	60.0°FWB`(15.6°CWB)	67.0°FWB (19.4°CWB)	60.0°FWB (15.6°CWB)	
on	Outdoor		95.0°FDB (35.0°CDB) /	47.0°FDB (8.3°CDB) /	95.0°FDB (35.0°CDB) /	47.0°FDB (8.3°CDB) /	
	Dining Longth		75.0°FWB (24.0°CWB)   43.0°FWB (6.1°CWB) 25 ft (7.5 m)		75.0°FWB (24.0°CWB)   43.0°FWB (6.1°CWB) 25 ft (7.5 m)		
Drowin - No	Piping Length						
Drawing No.			C: 3D1		C: 3D1	43150A	
Note(s)			Air filter is not standard acce	hangeable in 13 stages by re	the duct system of the sucti	on side.	

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

Specifications SiUS092230EA

	Indoor Unit		-	5WVJU9	FDMQ18WVJU9		
Model	Outdoor Unit			MVJU9	RX18WMVJU9		
Power Supply			Cooling	Heating 30 V, 60 Hz	Cooling	Heating 30 V, 60 Hz	
Capacity Rated (Mi	n - May )	Btu/h	1 φ, 208 - 2 14,400 (5,100 - 15,700)	18,000 (5,600 - 18,500)	1 φ, 208 - 2 17,600 (5,100 - 19,600)	21,600 (5,700 - 22,200)	
Running Current (R		A	7.25 - 6.56	8.72 - 7.89	9.16 - 8.28	10.41 - 9.41	
Power Consumption		W	1,440 - 1,440	1,758 - 1,758	1,872 - 1,872	2.110 - 2.110	
	( /	%	95.5 - 95.4	96.9 - 96.9	98.3 - 98.3	97.4 - 97.5	
Power Factor (Rate	ea)	70	95.5 - 95.4	8.20	15.30	8.20	
SEER2 / HSPF2		I Dr. // 184					
EER2 (Rated)		Btu/h·W	10.00		9.40	_	
COP2 (Rated)	I	W/W	_	3.00	_	3.00	
Piping	Liquid	in. (mm)		(6.4)		(6.4)	
Connections	Gas	in. (mm)		(12.7)	·	(12.7)	
	Drain	in. (mm)	I.D. φ 1 (25) / C	).D. φ 1-1/4 (32)		).D. φ 1-1/4 (32)	
Heat Insulation			Both Liquid a	nd Gas Pipes	Both Liquid a	nd Gas Pipes	
Max. Interunit Pipin	g Length	ft (m)	98-1/	2 (30)		2 (30)	
Max. Interunit Heigh	nt Difference	ft (m)	65-5/	8 (20)	65-5/	8 (20)	
Chargeless		ft (m)	32-3/-	4 (10)	32-3/	4 (10)	
Amount of Additiona	al Charge of	oz/ft	0.24	(30)	0.24	(20)	
Refrigerant	· ·	(g/m)	0.21	(20)	0.21	(20)	
Indoor Unit			FDMQ1	5WVJU9	FDMQ1	BWVJU9	
Hart Fred	Rows × Stages, Fir	n per Inch	2 × 2	6, 18	3 × 2	6, 18	
Heat Exchanger	Fin Spec / Tube			5 Hi-XA Tube		5 Hi-XA Tube	
	<u> </u>	cfm	448 / 399 / 350	448 / 399 / 350	614 / 523 / 431	614 / 523 / 431	
Airflow Rate	H/M/L	m³/min	12.7 / 11.3 / 9.9	12.7 / 11.3 / 9.9	17.4 / 14.8 / 12.2	17.4 / 14.8 / 12.2	
	H/M/L	rpm	926 / 822 / 717	926 / 822 / 717	1,023 / 870 / 717	1,023 / 870 / 717	
Fan Motor	Motor Output	HP		31	,	31	
F	· ·	пР					
Fan	Туре	1 : 11 0	1	co Fan		co Fan	
External Static Pres	ssure	inH <sub>2</sub> O	1	0 (0.60 - 0.20)	I.	0 (0.60 - 0.20)	
		Pa		0 (150 - 50)		0 (150 - 50)	
Running Current (R		Α	0.58 - 0.52	0.58 - 0.52	0.69 - 0.62	0.69 - 0.62	
Power Consumption		W	104 - 104	104 - 104	131 - 131	131 - 131	
Power Factor (Rated) %		85.8 - 87.1	85.8 - 87.1	91.2 - 92.2	91.2 - 92.2		
Temperature Control			Microcomp	uter Control	Microcomputer Control		
Dimensions (H × W × D) in. (mm)		in. (mm)	9-5/8 × 39-3/8 × 31-1/	(2 (245 × 1,000 × 800)		(2 (245 × 1,000 × 800)	
Packaged Dimension	ons (H × W × D)	in. (mm)	11-9/16 × 47-3/16 × 34-7/8 (293 × 1,199 × 886)		11-9/16 × 47-3/16 × 34-7/8 (293 × 1,199 × 886)		
Weight (Mass)		lbs (kg)	77 (35)		82 (37)		
Gross Weight (Gros	ss Mass)	lbs (kg)	84 (38)		88 (40)		
Sound Pressure Le		dB(A)	34 34		35	35	
Oddila i iessaie Ee	VCI	Wired	BRC1E73			1E73	
Remote Controller (	(Option)	Wireless	BRC082A43			82A43	
O.,444 a.m.		viireless	RX15WMVJU9				
Outdoor Unit			lvory White			/MVJU9	
Casing Color	I=:					White	
Heat Exchanger	Fin Spec / Tube		` '	φ 7 Hi-XSL Tube	. ,	φ 7 Hi-XSL Tube	
Fan Motor	Motor Output	HP		10	·	12	
Compressor	Туре		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type		
Comproduct	Model			6PXD		6PXD	
Defrigerent Oil	Туре		FVC	50K	FVC50K		
Refrigerant Oil	Charge	oz (L)	21.98	(0.650)	21.98 (0.650)		
Defilement	Туре		R-4	10A	R-4	10A	
Refrigerant	Charge	lbs (kg)	2.49	(1.13)	2.49	(1.13)	
Aimfless Det-		cfm		1	-		
Airflow Rate		(m³/min)	2,313 (65.5)	2,108 (59.7)	2,461 (69.7)	2,553 (72.3)	
Fan	Туре		Prop	peller	Prop	eller	
Running Current (R	ated)	Α	6.67 - 6.04	8.14 - 7.37	8.47 - 7.66	9.72 - 8.79	
Power Consumption		W	1,336 - 1,336	1,654 - 1,654	1,741 - 1,741	1,979 - 1,979	
Power Factor (Rate		%	96.3 - 96.2	97.7 - 97.6	98.8 - 98.8	97.9 - 97.9	
Dimensions (H × W		in. (mm)		2-5/8 (735 × 870 × 320)	I.		
,		in. (mm)	31-7/8 × 41-9/16 × 18-1/4 (810 × 1,056 × 464)		28-15/16 × 34-1/4 × 12-5/8 (735 × 870 × 320) 31-7/8 × 41-9/16 × 18-1/4 (810 × 1,056 × 464)		
Weight (Mass) Ibs (kg)					(45)		
Gross Weight (Gross Mass) Ibs (kg)		100 (45) 110 (50)			(50)		
		1 0/		· /		()	
Sound Pressure Le	vel	dB(A)	50	51	54	55	
	Indoor		80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) 60.0°FWB (15.6°CWB	
Conditions Based			,			47.0°FDB (8.3°CDB)	
on	Outdoor		95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	
	Piping Length		` '	7.5 m)	` /	7.5 m)	
Drawing No.	Li ibilià reliàtii		,	43151A	· ·	43151A	
Drawing No.					L C: 3D1	40 10 IA	
Note(s)			Air filter is not standard acce	e airflow rate setting. hangeable in 11 stages by re essory, but please mount it ir ciency (gravity method) 50%	the duct system of the sucti	on side.	

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

SiUS092230EA Specifications

Indoor Unit			FDMQ24WVJU9					
Model	Outdoor Unit		RX24WI					
			Cooling	Heating				
Power Supply Capacity Rated (Mir	n May )	Dtu/b	1 φ, 208 - 23					
Running Current (R		Btu/h	21,800 (5,500 - 23,000) 10.56 - 9.55	24,000 (6,400 - 26,600) 11.37 - 10.28				
		W		2.345 - 2.345				
Power Consumption	, ,	%	2,180 - 2,180 99.2 - 99.2	7				
Power Factor (Rate SEER2 / HSPF2	ea)	70	99.2 - 99.2 15.20	99.2 - 99.2				
		Dt. /l- \A/	1 1	8.10				
EER2 (Rated)		Btu/h·W	10.00	2.00				
COP2 (Rated)	Linuid	W/W		3.00				
Piping	Liquid	in. (mm)	φ 1/4 ·					
Connections	Gas	in. (mm)	φ 5/8 (	,				
Land Inner Latin	Drain	in. (mm)	I.D. φ 1 (25) / O.					
Heat Insulation		1 6 ( )	Both Liquid an	•				
Max. Interunit Piping		ft (m)	98-1/2					
Max. Interunit Heigh	nt Difference	ft (m)	65-5/8	` '				
Chargeless	1.01	ft (m)	32-3/4	(10)				
Amount of Additiona Refrigerant	al Charge of	oz/ft (g/m)	0.21	(20)				
ndoor Unit		(9/11)	FDMQ24	W/V IIIQ				
naoor Onit	Rows × Stages, Fi	n ner Inch	3 × 26					
Heat Exchanger	Fin Spec / Tube	i per men	Multi Slit Fin / 6	*				
	i iii Opec / Tube	cfm	731 / 621 / 512	731 / 621 / 512				
Airflow Rate	H/M/L	m³/min	20.7 / 17.6 / 14.5	20.7 / 17.6 / 14.5				
	H/M/L	rpm	1,119 / 951 / 783	1,119 / 951 / 783				
Fan Motor	Motor Output	rpm HP	,	<u> </u>				
		HP	0.3 Sirocco					
Fan	Туре	inllo						
External Static Pres	ssure	inH <sub>2</sub> O	Standard 0.20					
		Pa	Standard 50	,				
Running Current (R		A	0.82 - 0.74	0.82 - 0.74				
Power Consumption		W	167 - 167	167 - 167				
Power Factor (Rate		%	97.8 - 97.5	97.8 - 97.5				
Temperature Contro		I	Microcompu					
Dimensions (H × W		in. (mm)	9-5/8 × 39-3/8 × 31-1/2	, ,				
Packaged Dimension	ons (H × W × D)	in. (mm)	11-9/16 × 47-3/16 × 34-7	, ,				
Weight (Mass)		lbs (kg)	82 (37)					
Gross Weight (Gros		lbs (kg)	88 (40)					
Sound Pressure Lev	vel	dB(A)	40 40					
Remote Controller (	(Option)	Wired	BRC1					
		Wireless	BRC08					
Outdoor Unit			RX24WI					
Casing Color			Ivory V					
Heat Exchanger	Fin Spec / Tube		Waffle Fin (PE) / c					
an Motor	Motor Output	HP	0.1					
Compressor	Туре		Hermetically Sealed Swing Type					
	Model		2YC36					
Refrigerant Oil	Туре	,	FVC					
	Charge	oz (L)	21.98 (0	,				
Refrigerant	Туре	T	R-41					
	Charge	lbs (kg)	3.20 (	1.45)				
Airflow Rate		cfm	2,641 (74.8)	2,641 (74.8)				
	Type	(m³/min)	,- ( - )					
an	Type	Ι Δ	Prope					
Running Current (R		A	9.74 - 8.81	10.55 - 9.54				
Power Consumption		W	2,013 - 2,013	2,178 - 2,178				
Power Factor (Rate		%	99.4 - 99.3	99.3 - 99.3				
Dimensions (H × W		in. (mm)	28-15/16 × 34-1/4 × 12-	,				
Packaged Dimensions (H × W × D) in. (mm)		_ ` /	31-7/8 × 41-9/16 × 18-1	( /- /- /- /- /- /- /- /- /- /- /- /-				
Weight (Mass) lbs (kg)			109 (					
Gross Weight (Gros		lbs (kg)	120 (	,				
Sound Pressure Lev	vel	dB(A)	56	58				
	Indoor		80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /				
Conditions Based			67.0°FWB (19.4°CWB)	60.0°FWB (15.6°CWB)				
on	Outdoor		95.0°FDB (35.0°CDB) / 47.0°FDB (8.3°CDB) / 75.0°FWB (24.0°CWB) 43.0°FWB (6.1°CWB)					
	Piping Length		25 ft (7	, ,				
Drawing No.	I. huid Equidui		C: 3D14	,				
214Willig 140.			SL: The guiet fan level of the airflow rate setting.	010111				
Note(s)			External static pressure is changeable in 11 stages by rer Air filter is not standard accessory, but please mount it in Select its dust collection efficiency (gravity method) 50% of	the duct system of the suction side.				

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

Specifications SiUS092230EA

# 1.3 Ceiling Cassette Type

Indoor Unit		FFQ09V	V2VJU8	FFQ12V	V2VJU8		
Model	Outdoor Unit			MVJU9	RX12WMVJU9		
			Cooling	Heating	Cooling	Heating	
Power Supply				30 V, 60 Hz		30 V, 60 Hz	
Capacity Rated (Min	Max.)	Btu/h	9,100 (4,600 - 11,000)	10,000 (4,600 - 14,000)	10,800 (4,600 - 13,300)	13,500 (4,600 - 16,800)	
Running Current (Rate		Α	3.94 - 3.56	3.74 - 3.38	5.01 - 4.53	5.45 - 4.93	
Power Consumption (R		W	758 - 758	698 - 698	939 - 939	1,081 - 1,081	
Power Factor (Rated)		%	92.5 - 92.5	89.7 - 89.9	90.1 - 90.1	95.4 - 95.4	
SEER2 / HSPF2		,,,	19.80	9.40	19.50	9.00	
EER2 (Rated)		Btu/h·W	12.00	_	11.50		
COP2 (Rated)		W/W	_	4.20	_	3.66	
	Liquid	in. (mm)	φ 1/4		φ 1/4		
Piping Connections	Gas	in. (mm)		(9.5)	ψ 1/ <del>1</del> φ 3/8	· /	
r iping connections	Drain	in. (mm)		1-1/32 (26))	Ψ 5/6 VP20 (O.D. (		
Heat Insulation	Dialii	111. (111111)	`	nd Gas Pipes	Both Liquid a		
Max. Interunit Piping Le	nath	ft (m)	-	8 (20)	65-5/8		
		ft (m)				_ ` '	
Max. Interunit Height D	llierence	ft (m)		4 (15)	49-1/4	_ ` '	
Chargeless		ft (m)	32-13/	16 (10)	32-13/	16 (10)	
Amount of Additional C Refrigerant	harge of	oz/ft (g/m)	0.21	(20)	0.21	(20)	
Indoor Unit			EEO00V	V2VJU8	FFQ12V	V2V II 10	
muoor omt	Model (Color)						
	Model (Color)	1	BYFQ60C3V		BYFQ60C3V	,	
Decoration Panel	Dimensions (H × W × D)	in. (mm)	1-13/16 × 24-7/16 × 24	-7/16 (46 × 620 × 620)	1-13/16 × 24-7/16 × 24	-7/16 (46 × 620 × 620)	
	Weight (Mass)	lbs (kg)	62	(2.8)	6.2 (	2.8)	
	Rows × Stages, F		2 × 1		2 × 1	'	
Heat Exchanger	Fin Spec / Tube	-in per inch		<del></del>	Slit Fin / $\phi$ 5		
	Fin Spec / Tube	-6	Slit Fin / \phi 5				
Airflow Rate	H/M/L	cfm	378 / 339 / 268	399 / 357 / 282	406 / 353 / 268	427 / 371 / 282	
-	T /0 !	m³/min	10.7 / 9.6 / 7.6	11.3 / 10.1 / 8.0	11.5 / 10.0 / 7.6	12.1 / 10.5 / 8.0	
Fan	Type / Speed		I .	1 / 3 Steps	Turbo Far		
Running Current (Rate		A	0.23 - 0.21	0.23 - 0.21	0.27 - 0.24	0.27 - 0.24	
		W	23 - 23	23 - 23	27 - 27	27 - 27	
Power Factor (Rated) %		48.1 - 47.6	48.1 - 47.6	48.1 - 48.9	48.1 - 48.9		
Temperature Control		· · · · · · · · · · · · · · · · · · ·	uter Control	Microcompi			
Dimensions (H × W × D) in. (mm)		in. (mm)	10-1/4 × 22-5/8 × 22-	5/8 (260 × 575 × 575)	10-1/4 × 22-5/8 × 22-		
Packaged Dimensions	$(H \times W \times D)$	in. (mm)	11 × 27 × 23-1/2	(280 × 686 × 597)	11 × 27 × 23-1/2 (280 × 686 × 597)		
Weight (Mass)		lbs (kg)	36 (16)		36 (	16)	
Gross Weight (Gross M	lass)	lbs (kg)	40 (18)		40 (	18)	
Sound Pressure Level	H/M/L	dB(A)	38 / 35 / 29 38 / 35 / 29		39 / 36 / 30	39 / 36 / 30	
		Wired	BRC1E73		BRC	1E73	
Remote Controller (Opt	tion)	Wireless	BRC082A42W		BRC08	2A42W	
Outdoor Unit			RX09WMVJU9		RX12W	MVJU9	
Casing Color				White	lvory		
Heat Exchanger	Fin Spec / Tube				Waffle Fin (PE) /		
Fan Motor	Motor Output	HP		03	0.0	<u> </u>	
T GIT WOLOT	Туре			aled Swing Type	Hermetically Sea		
Compressor	Model			BAUXD	1YC23		
	Туре		FVC50K		FVC50K		
Refrigerant Oil	Charge	oz (L)	12.68 (0.375)		12.68 (0.375)		
	<del>-</del>	02 (L)	R-410A		R-410A		
Refrigerant	Chargo	lbe (ka)					
	Charge	lbs (kg)	2.09	,	2.09 (	u.əJ)	
Airflow Rate		cfm (m³/min)	985 (27.9)	1,144 (32.4)	1,105 (31.3)	1,144 (32.4)	
Fan	Туре	1 (111/111111)	Dron	peller	Prop	eller	
Running Current (Rate		Α	3.71 - 3.35	3.51 - 3.17	4.74 - 4.29	5.18 - 4.69	
Power Consumption (R		W	735 - 735	675 - 675	912 - 912	1,054 - 1,054	
Power Consumption (Rated) Power Factor (Rated)		%	95.2 - 95.4	92.5 - 92.6	92.5 - 92.4	97.8 - 97.7	
` '							
Dimensions (H × W × D) in. (mm)		21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284)		21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284)			
Packaged Dimensions (H × W × D) in. (mm)		23-13/16 × 31-7/16 × 14-11/16 (605 × 798 × 373)		23-13/16 × 31-7/16 × 14-			
Weight (Mass)   Ibs (kg)		63		63 (	· · · · · · · · · · · · · · · · · · ·		
Gross Weight (Gross Mass) lbs (kg)			(31)	68 (			
Sound Pressure Level dB(A)		46	50	49	51		
	Indoor		80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	
Conditions Based on	Outdoor		95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	
	Piping Length			7.5 m)	25 ft (		
Drawing No.		3D146771 3D146771		6771			
Note(s)			SL: The quiet fan level of the				

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

SiUS092230EA Specifications

Indoor Unit			FFQ15V	W2VJU8	FFQ18W2VJU8		
Model	Outdoor Unit		RX15W	/MVJU9	RX18WMVJU9		
	Outdoor Offic		Cooling	Heating	Cooling	Heating	
Power Supply				30 V, 60 Hz	1 φ, 208 - 2	30 V, 60 Hz	
Capacity Rated (Min	Max.)	Btu/h	14,400 (5,100 - 16,200)	16,200 (5,200 - 16,300)	17,400 (5,100 - 18,800)	21,600 (5,400 - 21,800)	
Running Current (Rate	d)	Α	6.34 - 5.73	6.80 - 6.15	7.74 - 7.00	10.70 - 9.68	
Power Consumption (R	lated)	W	1,252 - 1,252	1,349 - 1,349	1,513 - 1,513	2,110 - 2,110	
Power Factor (Rated)		%	94.9 - 95.0	95.4 - 95.4	94.0 - 94.0	94.8 - 94.8	
SEER2 / HSPF2		•	19.60	8.80	18.20	8.40	
EER2 (Rated)		Btu/h·W	11.50	_	11.50	_	
COP2 (Rated)		W/W	_	3.52	_	3.00	
, ,	Liquid	in. (mm)	φ 1/4	(6.4)	φ 1/4	(6.4)	
Piping Connections	Gas	in. (mm)	·	(12.7)		(12.7)	
	Drain	in. (mm)		\$ 1-1/32 (26))		φ 1-1/32 (26))	
Heat Insulation	D. Ca	()	· · · · · · · · · · · · · · · · · · ·	nd Gas Pipes	`	ind Gas Pipes	
Max. Interunit Piping Le	enath	ft (m)		2 (30)	·	2 (30)	
Max. Interunit Height D		ft (m)		8 (20)		8 (20)	
Chargeless	illerence	ft (m)		16 (10)		16 (10)	
Amount of Additional C	hargo of	` '					
Refrigerant	narge or	oz/ft (g/m)	0.21	(20)	0.21	(20)	
Indoor Unit		<b>'</b>	FFQ15V	W2VJU8	FFO18	W2VJU8	
	Model (Color)			W2W (White)		W2W (White)	
December D-	Dimensions	in / \		, ,		, ,	
Decoration Panel	(H × W × D)	in. (mm)	1-13/16 × 24-7/16 × 24	1-7/16 (46 × 620 × 620)	1-13/16 × 24-7/16 × 24	4-7/16 (46 × 620 × 620)	
	Weight (Mass)	lbs (kg)	6.2	(2.8)	6.2	(2.8)	
Haat Errebanasa	Rows × Stages, I	Fin per Inch	2 × 1	6, 21	3 × 1	16, 21	
Heat Exchanger	Fin Spec / Tube	-	Slit Fin / $\phi$ 5	Hi-XB Tube	Slit Fin / $\phi$ 5	Hi-XB Tube	
		cfm	420 / 367 / 293	441 / 385 / 307	448 / 378 / 275	498 / 420 / 307	
Airflow Rate	H/M/L	m³/min	11.9 / 10.4 / 8.3	12.5 / 10.9 / 8.7	12.7 / 10.7 / 7.8	14.1 / 11.9 / 8.7	
Fan	Type / Speed	,		n / 3 Steps		n / 3 Steps	
Running Current (Rate		Α	0.29 - 0.26	0.29 - 0.26	0.52 - 0.47	0.52 - 0.47	
Power Consumption (R		W	28 - 28	28 - 28	51 - 51	51 - 51	
		%	46.4 - 46.8	46.4 - 46.8	47.2 - 47.2	47.2 - 47.2	
Temperature Control			uter Control		uter Control		
· · · · · · · · · · · · · · · · · · ·		in. (mm)	-	5/8 (260 × 575 × 575)	·	5/8 (260 × 575 × 575)	
,		in. (mm)					
Weight (Mass)	(II ^ W ^ D)	lbs (kg)	11 × 27 × 23-1/2 (280 × 686 × 597) 36 (16)		11 × 27 × 23-1/2 (280 × 686 × 597) 39 (17.5)		
Gross Weight (Gross M	Anna)		40 (18)		· ·	(20)	
Sound Pressure Level		lbs (kg) dB(A)	40 (10)		44 / 40 / 32	44 / 40 / 32	
Sound Fressure Level	III / IVI / L	Wired	BRC1E73				
Remote Controller (Opt	tion)		BRC082A42W			1E73 32A42W	
0.4411-4		Wireless	111				
Outdoor Unit			RX15WMVJU9			/MVJU9	
Casing Color	T=: 0 /= :		Ivory White			White	
Heat Exchanger	Fin Spec / Tube		Waffle Fin (PE) /			φ 7 Hi-XSL Tube	
Fan Motor	Motor Output	HP			· ·	12	
Compressor	Туре			aled Swing Type		aled Swing Type	
	Model		2YC36PXD		2YC36PXD		
Refrigerant Oil	Туре	,	FVC50K		FVC50K		
- tomgorant on	Charge	oz (L)	21.98 (0.650)		21.98 (0.650)		
Refrigerant	Туре			10A		10A	
	Charge	lbs (kg)	2.49	(1.13)	2.49	(1.13)	
Airflow Rate		cfm	2,313 (65.5)	2,108 (59.7)	2,461 (69.7)	2,553 (72.3)	
F	T	(m³/min)	, , ,	, , ,			
Fan	Туре			peller 0.54 5.00	- 1	peller 40.40 0.04	
Running Current (Rate		A	6.05 - 5.47	6.51 - 5.89	7.22 - 6.53	10.18 - 9.21	
Power Consumption (Rated)		W	1,224 - 1,224	1,321 - 1,321	1,462 - 1,462	2,059 - 2,059	
Power Factor (Rated)		%	97.3 - 97.3	97.6 - 97.5	97.4 - 97.3	97.2 - 97.2	
Dimensions (H × W × D) in. (mm)		· · · /		2-5/8 (735 × 870 × 320)	28-15/16 × 34-1/4 × 12-5/8 (735 × 870 × 320)		
Packaged Dimensions (H × W × D) in. (mm)		31-7/8 × 41-9/16 × 18-1/4 (810 × 1,056 × 464)			1/4 (810 × 1,056 × 464)		
Weight (Mass) lbs (kg)		100 (45)			(45)		
Gross Weight (Gross Mass) lbs (kg)			(50)		(50)		
Sound Pressure Level		dB(A)	50	51	54	55	
	Indoor		80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	
Conditions Based on	Outdoor		95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	95.0°FDB (35.0°CDB) / 47.0°FDB (8.3°CDB) / 75.0°FWB (24.0°CWB) 43.0°FWB (6.1°CWB)		
	Piping Length		`	7.5 m)		7.5 m)	
Drawing No.				16772	3D14	16772	
Note(s)			SL: The quiet fan level of t	he cirflow rate cotting			

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

Specifications SiUS092230EA

Indoor Un			FFQ09V	W2VJU9	FFQ12\	W2VJU9
Model	Outdoor Unit		RX09W	/MVJU9	RX12WMVJU9	
	Outdoor offic		Cooling	Heating	Cooling	Heating
Power Supply				30 V, 60 Hz		30 V, 60 Hz
Capacity Rated (Min		Btu/h	9,100 (4,600 - 11,000)	10,000 (4,600 - 14,000)	10,800 (4,600 - 13,300)	13,500 (4,600 - 16,800)
Running Current (Rate		A	3.94 - 3.56	3.74 - 3.38	5.01 - 4.53	5.45 - 4.93
Power Consumption (R	(ated)	W	758 - 758	698 - 698	939 - 939	1,081 - 1,081
Power Factor (Rated)		%	92.5 - 92.5	89.7 - 89.9	90.1 - 90.1	95.4 - 95.4
SEER2 / HSPF2		D. (1.14)	19.80	9.40	19.50	9.00
EER2 (Rated)		Btu/h·W	12.00		11.50	_
COP2 (Rated)	11.5	W/W		4.20	_	3.66
Dining Connections	Liquid	in. (mm)		(6.4)		(6.4)
Piping Connections	Gas	in. (mm)	<u> </u>	(9.5)	<u> </u>	(9.5)
Heat Insulation	Drain	in. (mm)		\$ 1-1/32 (26))		φ 1-1/32 (26))
Max. Interunit Piping Le	a n ath	ft (m)		nd Gas Pipes 8 (20)		nd Gas Pipes 8 (20)
Max. Interunit Height D		ft (m)		6 (20) 4 (15)		4 (15)
Chargeless	illerence	ft (m)		4 (10)		4 (10)
Amount of Additional C	hargo of	<u> </u>				,
Refrigerant	narge or	oz/ft (g/m)	0.21	(20)	0.21	(20)
Indoor Unit			FFQ09V	W2VJU9	FFQ12\	W2VJU9
	Model (Color)			BW1 (White)		BW1 (White)
Decoration Panel (1)	Dimensions (H × W × D)	in. (mm)		-9/16 (55 × 700 × 700)		-9/16 (55 × 700 × 700)
	Weight (Mass)	lbs (kg)	6.0	(2.7)	6.0	(2.7)
	Model (Color)			/ BYFQ60C2W1S (Silver)		/ BYFQ60C2W1S (Silver)
Decoration Panel (2)	Dimensions	in. (mm)	`	1-7/16 (46 × 620 × 620)		1-7/16 (46 × 620 × 620)
Decoration Paner (2)	(H × W × D)	` '				
	Weight (Mass)	lbs (kg)		(2.8)		(2.8)
Heat Exchanger	Rows × Stages, I	Fin per Inch		6, 21		6, 21
Ticat Exchange	Fin Spec / Tube			Hi-XA Tube		Hi-XA Tube
Airflow Rate	H/M/L	cfm	378 / 339 / 268	399 / 357 / 282	406 / 353 / 268	427 / 371 / 282
		m³/min	10.7 / 9.6 / 7.6	11.3 / 10.1 / 8.0	11.5 / 10.0 / 7.6	12.1 / 10.5 / 8.0
Fan	Type / Speed			n / 3 Steps		n / 3 Steps
Running Current (Rate		Α	0.23 - 0.21	0.23 - 0.21	0.27 - 0.24	0.27 - 0.24
Power Consumption (Rated)		W	23 - 23	23 - 23	27 - 27	27 - 27
, , , , , , , , , , , , , , , , , , , ,		%	48.1 - 47.6	48.1 - 47.6	48.1 - 48.9	48.1 - 48.9
Temperature Control				uter Control		uter Control
Dimensions (H × W × D		in. (mm)		5/8 (260 × 575 × 575)		5/8 (260 × 575 × 575)
Packaged Dimensions	(H × W × D)	in. (mm)		(280 × 686 × 597)	11 × 27 × 23-1/2 (280 × 686 × 597)	
Weight (Mass)		lbs (kg)	36 (16)		36 (16)	
Gross Weight (Gross M		lbs (kg)	39 (17)		39 (17)	
Sound Pressure Level	H/M/L	dB(A)	38 / 35 / 29 38 / 35 / 29		39 / 36 / 30	39 / 36 / 30
Remote Controller (Opt	tion)	Wired	BRC1E73			1E73
		Wireless	BRC082A41W / BRC082A42W / BRC082A42S  RX09WMVJU9			32A42W / BRC082A42S
Outdoor Unit			Ivory White			/MVJU9
Casing Color	Fig. On a self-time		Waffle Fin (PE) / $\phi$ 7 Hi-XSL Tube		Ivory White Waffle Fin (PE) / φ 7 Hi-XSL Tube	
Heat Exchanger	Fin Spec / Tube	LID			. ,	
Fan Motor	Motor Output	HP		03		03
Compressor	Type			aled Swing Type		aled Swing Type
-	Model Type		1YC23AUXD FVC50K		1YC23AUXD FVC50K	
Refrigerant Oil	Charge	07 (1)	12.68 (0.375)		12.68 (0.375)	
	Type	oz (L)		10A	12.68 (0.375) R-410A	
Refrigerant	Charge	lbs (kg)		(0.95)		(0.95)
Airflow Rate	Onarge	cfm (m³/min)	985 (27.9)	1,144 (32.4)	1,105 (31.3)	1,144 (32.4)
Fan	Туре	[ (1117111111)	` '	peller		peller
		A	3.71 - 3.35	3.51 - 3.17	4.74 - 4.29	5.18 - 4.69
Running Current (Rated)  Power Consumption (Rated)		W	735 - 735	675 - 675	912 - 912	1,054 - 1,054
Power Consumption (Rated) Power Factor (Rated)		%	95.2 - 95.4	92.5 - 92.6	92.5 - 92.4	97.8 - 97.7
, ,		in. (mm)				
Packaged Dimensions (H × W × D) in. (mm)			21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284) 23-13/16 × 31-7/16 × 14-11/16 (605 × 798 × 373)		21-5/8 × 26-9/16 × 11-3/16 (550 × 675 × 284) 23-13/16 × 31-7/16 × 14-11/16 (605 × 798 × 373)	
Weight (Mass) Ibs (kg)		63 (29)		23-13/16 × 31-7/16 × 14-11/16 (605 × 798 × 373 63 (29)		
Gross Weight (Gross Mass) lbs (kg)			(31)		(31)	
Sound Pressure Level dB(A)		46	50	49	51	
Country 1000010 ECVE	Indoor	1 45(4)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)	80.0°FDB (26.7°CDB) / 67.0°FWB (19.4°CWB)	70.0°FDB (21.1°CDB) / 60.0°FWB (15.6°CWB)
ļ			95.0°FDB (35.0°CDB) /	47.0°FDB (8.3°CDB) /	95.0°FDB (35.0°CDB) /	47.0°FDB (8.3°CDB) /
Conditions Based on	Outdoor		75 0°EM/D (34.0°CM/D)	13 UOEIVID JE 40C/VID		
Conditions Based on			75.0°FWB`(24.0°CWB)	43.0°FWB`(6.1°CWB) 7.5 m)	75.0°FWB`(24.0°CWB)	43.0°FWB`(6.1°CWB)
Conditions Based on Drawing No.	Outdoor Piping Length		75.0°FWB`(24.0°CWŚ) 25 ft (	43.0°FWB`(6.1°CWB) 7.5 m) 43143A	75.0°FWB`(24.0°CWŚ) 25 ft (	

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

SiUS092230EA Specifications

Indoor Unit			FFQ15\	W2VJU9	FFQ18\	W2VJU9	
Model	Outdoor Unit		RX15W	/MVJU9	RX18WMVJU9		
	Outdoor Unit		Cooling	Heating	Cooling	Heating	
Power Supply				30 V, 60 Hz		30 V, 60 Hz	
Capacity Rated (Min		Btu/h	14,400 (5,100 - 16,200)	16,200 (5,200 - 16,300)	17,400 (5,100 - 18,800)	21,600 (5,400 - 21,800)	
Running Current (Rated	<u>/</u>	A	6.34 - 5.73	6.80 - 6.15	7.74 - 7.00	10.70 - 9.68	
Power Consumption (R	ated)	W	1,252 - 1,252	1,349 - 1,349	1,513 - 1,513	2,110 - 2,110	
Power Factor (Rated)		%	94.9 - 95.0	95.4 - 95.4	94.0 - 94.0	94.8 - 94.8	
SEER2 / HSPF2			19.60	8.80	18.20	8.40	
EER2 (Rated)		Btu/h⋅W	11.50	_	11.50	_	
COP2 (Rated)		W/W	_	3.52	_	3.00	
	Liquid	in. (mm)	ф 1/4	(6.4)	ф 1/4	(6.4)	
Piping Connections	Gas	in. (mm)	ф 1/2	(12.7)	ф 1/2	(12.7)	
	Drain	in. (mm)	VP20 (O.D. o	φ 1-1/32 (26))	VP20 (O.D.	φ 1-1/32 (26))	
Heat Insulation			Both Liquid a	ind Gas Pipes	Both Liquid a	ind Gas Pipes	
Max. Interunit Piping Le	ength	ft (m)	98-1/	2 (30)	98-1/	2 (30)	
Max. Interunit Height D	ifference	ft (m)	65-5/	8 (20)	65-5/	8 (20)	
Chargeless		ft (m)	32-3/	4 (10)	32-3/	4 (10)	
Amount of Additional C	harge of	or/ft (a/m)	0.31	(20)			
Refrigerant		oz/ft (g/m)	0.21	(20)		(20)	
Indoor Unit			FFQ15\	W2VJU9	FFQ18\	W2VJU9	
	Model (Color)		BYFQ60B3	BW1 (White)	BYFQ60B3	BW1 (White)	
Decoration Panel (1)	Dimensions (H × W × D)	in. (mm)	2-3/16 × 27-9/16 × 27	-9/16 (55 × 700 × 700)	2-3/16 × 27-9/16 × 27	-9/16 (55 × 700 × 700)	
	Weight (Mass)	lbs (kg)	6.0	(2.7)		(2.7)	
	Model (Color)		BYFQ60C2W1W (White)	/ BYFQ60C2W1S (Silver)	BYFQ60C2W1W (White)	/ BYFQ60C2W1S (Silver)	
Decoration Panel (2)	Dimensions	in. (mm)	1-13/16 × 2/-7/16 × 2/	1-7/16 (46 × 620 × 620)	1-13/16 × 2/-7/16 × 2/	1-7/16 (46 × 620 × 620)	
Decoration raner (2)	(H × W × D)	` '				· , , , , , , , , , , , , , , , , , , ,	
	Weight (Mass)	lbs (kg)		(2.8)		(2.8)	
Heat Exchanger	Rows × Stages, I	Fin per Inch		6, 21		6, 21	
Tieat Exchange	Fin Spec / Tube			Hi-XA Tube		Hi-XA Tube	
Airflow Rate	H/M/L	cfm	420 / 367 / 293	441 / 385 / 307	448 / 378 / 275	498 / 420 / 307	
Allilow Rate	I I / IVI / L	m³/min	11.9 / 10.4 / 8.3	12.5 / 10.9 / 8.7	12.7 / 10.7 / 7.8	14.1 / 11.9 / 8.7	
Fan	Type / Speed		Turbo Far	n / 3 Steps	Turbo Fai	n / 3 Steps	
Running Current (Rated) A		0.29 - 0.26	0.29 - 0.26	0.52 - 0.47	0.52 - 0.47		
Power Consumption (R	ated)	W	28 - 28	28 - 28	51 - 51	51 - 51	
		%	46.4 - 46.8	46.4 - 46.8	47.2 - 47.2	47.2 - 47.2	
Temperature Control			Microcomp	uter Control	Microcomp	uter Control	
Dimensions (H × W × D	0)	in. (mm)		5/8 (260 × 575 × 575)		5/8 (260 × 575 × 575)	
Packaged Dimensions	<u>/</u>	in. (mm)	11 × 27 × 23-1/2 (280 × 686 × 597)			(280 × 686 × 597)	
Weight (Mass)	(	lbs (kg)	36 (16)		39 (17.5)		
Gross Weight (Gross M	lass)	lbs (kg)	39 (17)		42 (19)		
Sound Pressure Level		dB(A)	40 / 37 / 31 40 / 37 / 31		44 / 40 / 32 44 / 40 / 32		
		Wired	BRC1E73		BRC1E73		
Remote Controller (Opt	tion)	Wireless	BRC082A41W / BRC082A42W / BRC082A42S			32A42W / BRC082A42S	
Outdoor Unit		110.000	RX15WMVJU9			/MVJU9	
Casing Color			Ivory White		Ivory White		
Heat Exchanger	Fin Spec / Tube		Waffle Fin (PE) /		Waffle Fin (PE) / $\phi$ 7 Hi-XSL Tube		
Fan Motor	Motor Output	HP		10		12	
T GIT WOLOT	Type	1		aled Swing Type		aled Swing Type	
Compressor	Model		2YC36PXD		2YC36PXD		
	Type		FVC50K		FVC50K		
Refrigerant Oil	Charge	oz (L)	21.98 (0.650)		21.98 (0.650)		
1	Type	) OL (L)		10A		·10A	
Refrigerant	Charge	lbs (kg)		(1.13)		(1.13)	
Airflow Rate	Johange	cfm (m³/min)	2,313 (65.5)	2,108 (59.7)	2,461 (69.7)	2,553 (72.3)	
Fan	Type	[ (14711111)	Dror	peller	Dros	peller	
1.21		A	6.05 - 5.47	6.51 - 5.89	7.22 - 6.53	10.18 - 9.21	
Running Current (Rated)  Power Consumption (Rated)		W	1,224 - 1,224	1,321 - 1,321	1,462 - 1,462	2,059 - 2,059	
		%	97.3 - 97.3	97.6 - 97.5			
Dimensions (H × W × D) in. (mm)		-			97.4 - 97.3 97.2 - 97.2 28-15/16 × 34-1/4 × 12-5/8 (735 × 870 × 320)		
Packaged Dimensions (H × W × D) in. (mm)		28-15/16 × 34-1/4 × 12-5/8 (735 × 870 × 320) 31-7/8 × 41-9/16 × 18-1/4 (810 × 1.056 × 464)					
Weight (Mass) Ibs (kg)				31-7/8 × 41-9/16 × 18-1/4 (810 × 1,056 × 464) 100 (45)			
Gross Weight (Gross Mass) lbs (kg)		100 (45) 110 (50)			(50)		
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		50	51	54	55		
Sound Fressure Level	T	dB(A)	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /	80.0°FDB (26.7°CDB) /	70.0°FDB (21.1°CDB) /	
O and the same D	Indoor		67.0°FWB (19.4°CWB)	60.0°FWB (15.6°CWB)	67.0°FWB (19.4°CWB)	60.0°FWB (15.6°CWB)	
Conditions Based on	Outdoor		95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	95.0°FDB (35.0°CDB) / 75.0°FWB (24.0°CWB)	47.0°FDB (8.3°CDB) / 43.0°FWB (6.1°CWB)	
	Piping Length			7.5 m)		7.5 m)	
Drawing No.			C: 3D1	43144A	C: 3D143144A		
Note(s)			SL: The quiet fan level of t				

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

# Part 3 Printed Circuit Board Connector Wiring Diagram

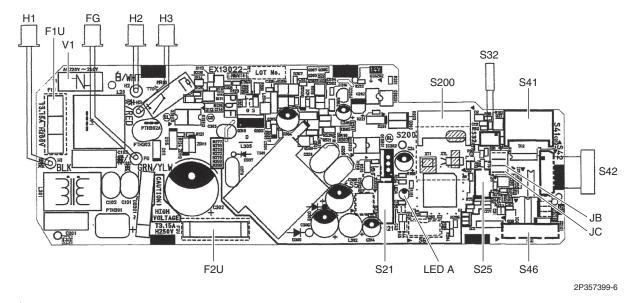
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	6.2 RX15/18/24WMV.IU9	36

SiUS092230EA Indoor Unit

#### 1. Indoor Unit

#### 1.1 FTXR09/12/18WVJUW(S)9

Control PCB			
(A1P)	1)	S21	Connector for centralized control (HA)
, ,	2)	S25	Connector for INTELLIGENT EYE sensor PCB (A3P)
	3)	S32	Wire harness for indoor heat exchanger thermistor (R2T)
	4)	S41	Connector for swing motors
	5)	S42	Wire harness for reduction motor (front panel mechanism) and limit switch
	6)	S46	Connector for display/signal receiver PCB (A2P)
	7)	S200	Connector for DC fan motor
	8)	H1, H2, H3	Wire harness for terminal strip (indoor - outdoor transmission)
	9)	FG	Wire harness for terminal strip (frame ground)
	10)	JB	Jumper for fan speed setting when compressor stops for thermostat OFF Refer to page 213 for details.
	11)	JC	Jumper for power failure recovery function (auto-restart) Refer to page 213 for details.
	12)	LED A	LED for service monitor (green)
	13)	F1U, F2U	Fuse (3.15 A, 250 V)
	14)	V1	Varistor



( Caution

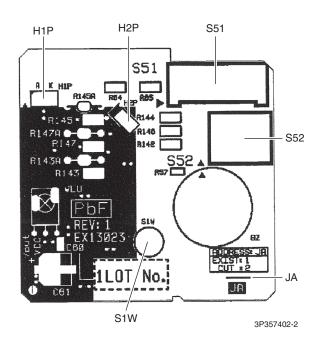
#### Replace the PCB if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

Indoor Unit SiUS092230EA

#### Display/Signal Receiver PCB (A2P)

1)	S51	Connector for control PCB (A1P)
2)	S52	Connector for room temperature thermistor (R1T)
3)	S1W	Indoor unit ON/OFF switch
4)	H1P	LED for operation (multi-color)
5)	H2P	LED for INTELLIGENT EYE (green)
6)	JA	Address setting jumper
		Refer to page 212 for details





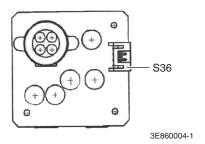
#### Replace the PCB if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

#### INTELLIGENT EYE Sensor PCB (A3P)

1) S36

Connector for control PCB (A1P)

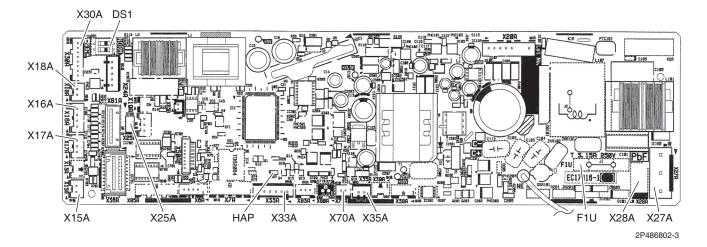


SiUS092230EA Indoor Unit

#### 1.2 FDMQ09/12/15/18/24WVJU9

# Control PCB (A1P)

X15A Connector for float switch 1) Connector for room temperature thermistor (suction air thermistor) (R1T) 2) X16A 3) X17A, X18A Connector for indoor heat exchanger thermistor (R2T, R3T) 4) X25A Connector for drain pump motor 5) X27A Connector for terminal block (for power supply) 6) X28A Connector for power supply wiring (option) X30A 7) Connector for terminal block (for wired remote controller) X33A 8) Connector for wiring (option) X35A Connector for wiring adaptor (option) 9) 10) X70A Connector for indoor fan PCB (A2P) 11) F1U Fuse (3.15 A, 250 V) 12) HAP LED for service monitor (green) 13) DS1 DIP switch for emergency



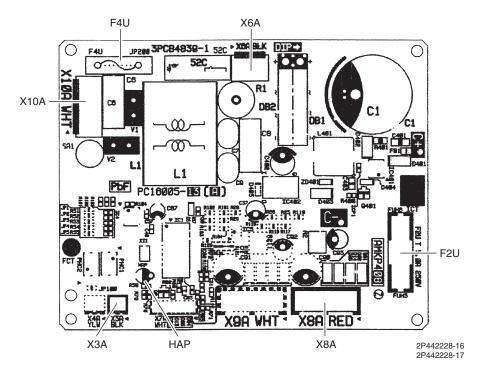
Indoor Unit SiUS092230EA

# Indoor Fan PCB (A2P)

X3A Connector for control PCB (A1P)
 X6A Connector for reactor
 X8A Connector for DC fan motor
 X10A Connector for terminal block (for power supply)
 F2U Fuse (5 A, 250 V)

5) F2U Fuse (5 A, 250 V) 6) F4U Fuse (6.3 A, 250 V)

7) HAP LED for service monitor (green)

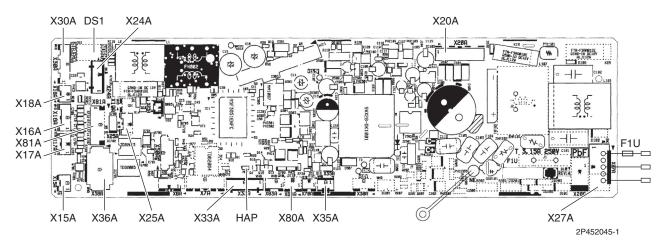


SiUS092230EA Indoor Unit

# 1.3 FFQ09/12/15/18W2VJU9(8)

Control	<b>PCB</b>
(A1P)	

1)	X15A	Connector for float switch
2)	X16A	Connector for room temperature thermistor (suction air thermistor)
3)	X17A, X18A	Connector for indoor heat exchanger thermistor
4)	X20A	Connector for DC fan motor
5)	X24A	Connector for transmitter board
		(when the wireless remote controller (option) is used)
6)	X25A	Connector for drain pump motor
7)	X27A	Connector for terminal block (for inter-unit wiring)
8)	X30A	Connector for terminal block (for wired remote controller)
9)	X33A	Connector for adaptor for wiring (option)
10)	X35A	Connector for wiring adaptor for electrical appendices (option)
11)	X36A	Connector for swing motors on decoration panel (option)
12)	X80A	Connector for decoration panel (BYFQ60B3W1) (option)
13)	X81A	Connector for sensor kit (BRYQ60A2W(S)) (option)
14)	HAP	LED for service monitor (green)
15)	DS1	DIP switch for emergency
16)	F1U	Fuse (5A, 250V)

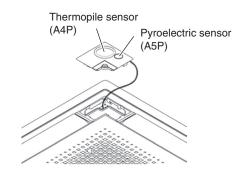


Sensor Kit for FFQ Series SiUS092230EA

#### 2. Sensor Kit for FFQ Series

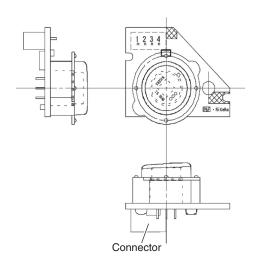
#### 2.1 BRYQ60A2W(S)

#### **Outline**



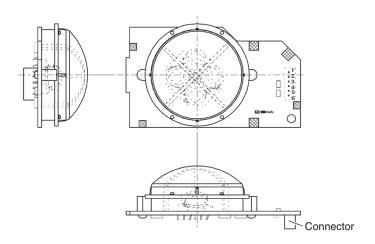
(R25074)

#### Thermopile Sensor (A4P)



3P262610-1

#### Pyroelectric Sensor (A5P)



3P262611-1

SiUS092230EA Wired Remote Controller

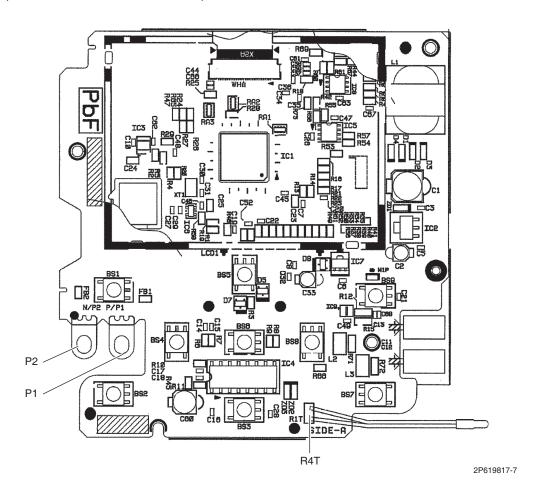
# 3. Wired Remote Controller

### 3.1 BRC1E73

Wired Remote Controller PCB

1) P1, P2 Terminal for indoor unit

2) R4T Room temperature thermistor

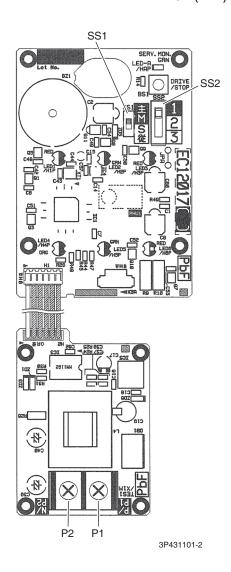


# 4. Wireless Remote Controller Receiver for FDMQ Series

### 4.1 BRC082A43

Wired Remote Controller PCB

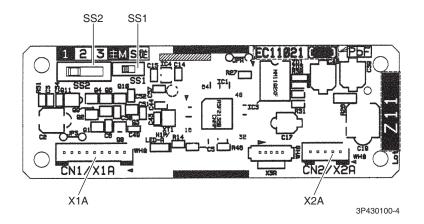
SS1 MAIN/SUB setting switch
Refer to page 220 for details.
 SS2 Address setting switch
Refer to page 220 for details.
 P1, P2 Terminal for indoor unit control PCB (A1P)



# 5. Wireless Remote Controller Kit for FFQ Series 5.1 BRC082A41W, BRC082A42W(S)

# Transmitter Board (A2P)

X1A Connector for receiver (A3P)
 X2A Connector for control PCB (A1P)
 SS1 MAIN/SUB setting switch
Refer to page 223 for details.
 SS2 Address setting switch
Refer to page 223 for details.



#### Receiver (A3P)

1) X1A Connector for transmitter board (A2P)

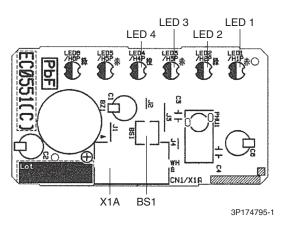
2) BS1 Emergency operation switch

3) LED1 (H1P) LED for operation (red)

4) LED2 (H2P) LED for timer (green)

5) LED3 (H3P) LED for filter cleaning sign (red)

6) LED4 (H4P) LED for defrost operation (orange)



★ LED5 and LED6 do not function.



The symbols in the parenthesis are the names on the appropriate wiring diagram.

Outdoor Unit SiUS092230EA

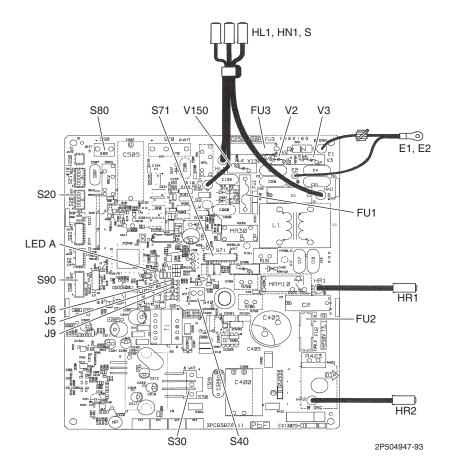
# 6. Outdoor Unit

# 6.1 RX09/12WMVJU9

#### Main PCB (PCB1)

1)	S20	Connector for electronic expansion valve coil
2)	S30	Connector for compressor
3)	S40	Connector for overload protector and high pressure switch
4)	S71	Connector for DC fan motor
5)	S80	Connector for four way valve coil
6)	S90	Connector for thermistors
		(outdoor temperature, outdoor heat exchanger, discharge pipe)
7)	HL1, HN1, S	Wire harness for terminal block
8)	E1, E2	Wire harness for ground wire
9)	HR1, HR2	Wire harness for reactor
10)	FU1, FU2	Fuse (3.15 A, 250 V)
11)	FU3	Fuse (20 A, 250 V)
12)	J5	Jumper for warmer airflow setting
		Refer to page 227 for details.
13)	J6	Jumper for facility setting
		Refer to page 226 for details.
14)	J9	Jumper for drain pan heater
		Refer to page 228 for details.
15)	LED A	LED for service monitor (green)
16)	V2, V3, V150	Varistor

SiUS092230EA Outdoor Unit





Replace the PCB if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

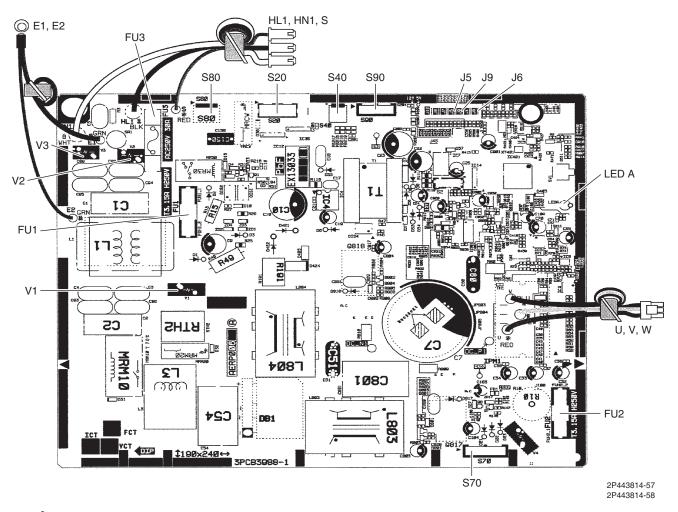
Outdoor Unit SiUS092230EA

# 6.2 RX15/18/24WMVJU9

#### Main PCB

1)	S20	Connector for electronic expansion valve coil
2)	S40	Connector for overload protector and high pressure switch
3)	S70	Connector for DC fan motor
4)	S80	Connector for four way valve coil
5)	S90	Connector for thermistors
		(outdoor temperature, outdoor heat exchanger, discharge pipe)
6)	HL1, HN1, S	Wire harness for terminal block
7)	E1, E2	Wire harness for ground
8)	U, V, W	Wire harness for compressor
9)	FU1, FU2	Fuse (3.15 A, 250 V)
10)	FU3	Fuse (30 A, 250 V)
11)	J5	Jumper for warmer airflow setting
		Refer to page 227 for details.
12)	J6	Jumper for facility setting
		Refer to page 226 for details.
13)	J9	Jumper for drain pan heater
		Refer to page 228 for details.
14)	LED A	LED for service monitor (green)
15)	V1, V2, V3	Varistor

SiUS092230EA Outdoor Unit



**!** Caution

#### Replace the PCB if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

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5.10 Liquid Compression Protection Function	89
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Common Functions SiUS092230EA

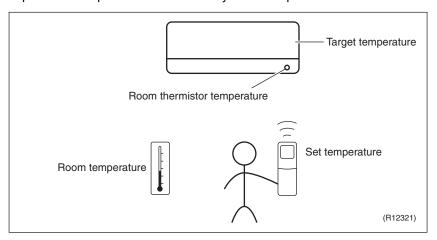
# 1. Common Functions

### 1.1 Temperature Control

#### Definitions of Temperatures

The definitions of temperatures are classified as following.

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



★ The illustration is for wall mounted type as representative.

# Temperature Control

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

### 1.2 Frequency Principle

# Control Parameters

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

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

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

- Frequency restrictions
- Initial settings
- Forced cooling operation

#### **Inverter Principle**

To regulate the capacity, a frequency control is needed. The inverter makes it possible to control the rotation speed of the compressor. The followings explain the inverter principle:

#### Phase 1

The supplied AC power source is converted into the DC power source for the present.

#### Phase 2

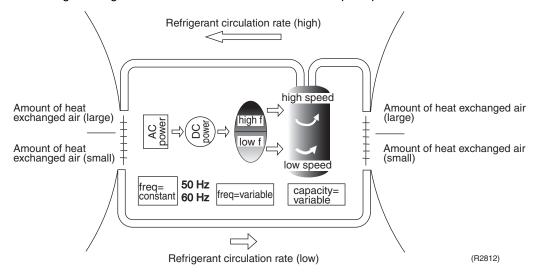
The DC power source is reconverted into the three phase AC power source with variable frequency.

SiUS092230EA Common Functions

■ When the frequency increases, the rotation speed of the compressor increases resulting in an increase of refrigerant circulation. This leads to a larger amount of heat exchange per unit.

■ When the frequency decreases, the rotation speed of the compressor decreases resulting in a decrease of refrigerant circulation. This leads to a smaller amount of heat exchange per unit.

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



#### **Inverter Features**

The inverter provides the following features:

- The regulating capacity can be changed according to the changes in the outdoor temperature and cooling/heating load.
- Quick heating and quick cooling The rotation speed of the compressor is increased when starting the heating (cooling). This enables to reach the set temperature quickly.
- Even during extreme cold weather, high capacity is achieved. It is maintained even when the outdoor temperature is 2°C (35.6°F).
- Comfortable air conditioning
   A fine adjustment is integrated to keep the room temperature constant.
- Energy saving heating and cooling
  Once the set temperature is reached, the energy saving operation enables to maintain the room temperature at low power.

#### **Frequency Limits**

The following functions regulate maximum frequency:

#### Low frequency

■ Four way valve operation compensation. Refer to page 82.

#### **High frequency**

- Compressor protection function. Refer to page 83.
- Discharge pipe temperature control. Refer to page 84.
- Input current control. Refer to page 85.
- Freeze-up protection control. Refer to page 87.
- Heating peak-cut control. Refer to page 88.
- Defrost control. Refer to page 90.

# Forced Cooling Operation

Refer to page 206 for details.

# 2. Functions for FTXR Series

#### 2.1 Airflow Direction Control

#### Power-Airflow Dual Flaps

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

#### Cooling/Dry

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

#### Heating

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

#### Wide-Angle Louvers

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

#### **Auto-Swing**

The following tables explain the auto-swing process for cooling, dry, heating and fan:

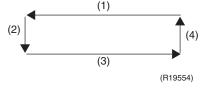
	Flap (up and down)			Louver
	Cooling/Dry	Heating	Fan	(right and left)
09/12/18 class	30° (R23915)	30° /65° (R23916)	25° 50° (R21084)	35° 35° (R21085)

#### 3-D Airflow

Alternative repetition of vertical and horizontal swing motions enables uniform air-conditioning of the entire room.

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

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



#### COMFORT AIRFLOW Operation

The flaps are controlled not to blow the air directly at the people in the room.

The airflow direction is upward while in cooling operation, and downward while in heating operation. This function prevents cold or warm air from blowing directly on the occupants in the room.

SiUS092230EA Functions for FTXR Series

# 2.2 Fan Speed Control for Indoor Unit

#### **Outline**

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

#### Automatic Fan Speed Control

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

Step	Cooling	Heating
LLL		
LL		$\langle \cdot \rangle$
L	$\uparrow$	
ML		
M		
MH	7	7
Н		
HH (POWERFUL)		

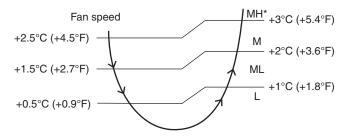
R400351

= The airflow rate is automatically controlled within this range when **FAN** setting button is set to <u>automatic</u>.

#### ■ Cooling

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

Room thermistor temperature – target temperature



(R21654)

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

#### ■ Heating

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



The fan stops during defrost operation.

#### COMFORT AIRFLOW Operation

The fan speed is controlled automatically within the following steps.

#### Cooling

L tap ~ MH tap (same as AUTOMATIC)

#### Heating

In order to obtain a comfortable airflow, the fan speed may be set to a rate different from automatic fan speed control.

■ POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time.

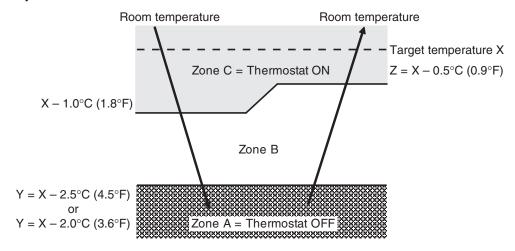
### 2.3 Program Dry Operation

**Outline** 

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

**Details** 

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



(R24029)

Room thermistor temperature at start-up	Target temperature X	Thermostat OFF point Y	Thermostat ON point Z ★
24°C or more	Room thermistor	X – 2.5°C	X – 0.5°C
(75.2°F or more)		(X – 4.5°F)	(X – 0.9°F)
18 ~ 23.5°C	temperature at start-up	X – 2.0°C	X – 0.5°C
(64.4 ~ 74.3°F)		(X – 3.6°F)	(X – 0.9°F)
17.5°C or less	18°C	X – 2.0°C	$X - 0.5^{\circ}C = 17.5^{\circ}C$
(63.5°F or less)	(64.4°F)	(X – 3.6°F)	$(X - 0.9^{\circ}F = 63.5^{\circ}F)$

<sup>★</sup> Thermostat turns on also when the room temperature is in the zone B for 10 minutes.

### 2.4 Automatic Cooling/Heating Changeover

#### **Outline**

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

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

**Details** 

Ts: set temperature (set by remote controller)

Tt: target temperature (determined by microcomputer)

Tr: room thermistor temperature (detected by room temperature thermistor)

C: correction value

1. The set temperature (Ts) determines the target temperature (Tt).

$$(Ts = 18 \sim 30^{\circ}C (64.4 \sim 86^{\circ}F))$$

2. The target temperature (Tt) is calculated as;

Tt = Ts + C

where C is the correction value.

 $C = 0^{\circ}C (0^{\circ}F)$ 

3. Thermostat ON/OFF point and operation mode switching point are as follows.

(1) Heating → Cooling switching point:

 $Tr \ge Tt + 3.0^{\circ}C (+ 5.4^{\circ}F)$ 

(2) Cooling → Heating switching point:

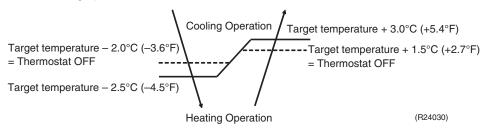
 $Tr < Tt - 2.5^{\circ}C (-4.5^{\circ}F)$ 

(3) Thermostat ON/OFF point is the same as the ON/OFF point of cooling or heating operation.

4. During initial operation

 $Tr \geq Ts$  : Cooling operation

Tr < Ts : Heating operation



Ex: When the target temperature is 25°C (77°F)

Cooling  $\rightarrow$  23°C (73.4°F): Thermostat OFF  $\rightarrow$  22.5°C (72.5°F): Switch to heating

Heating  $\rightarrow$  26.5°C (79.7°F): Thermostat OFF  $\rightarrow$  28°C (82.4°F): Switch to cooling

### 2.5 Thermostat Control

#### **Outline**

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

#### **Details**

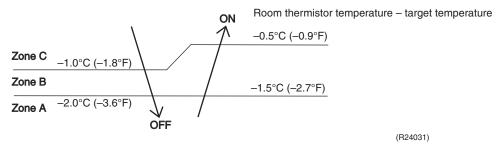
#### **Thermostat OFF Conditions**

■ The temperature difference is in the zone A.

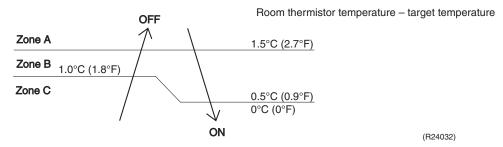
#### **Thermostat ON Conditions**

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

#### Cooling



#### Heating





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Refer to Temperature Control on page 40 for details.

#### 2.6 NIGHT SET Mode

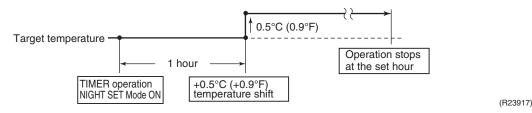
#### **Outline**

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

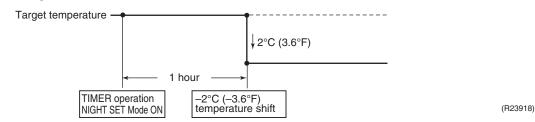
#### **Details**

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

#### Cooling



#### Heating



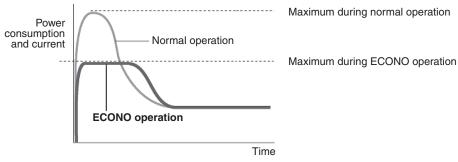
### 2.7 ECONO Operation

#### **Outline**

ECONO operation reduces the maximum operating current and the power consumption. This operation is particularly convenient for energy-saving. It is also a major bonus when breaker capacity does not allow the use of multiple electrical devices and air conditioners. It can be easily activated by pressing **Econo/Quiet** button on the wireless remote controller.

#### **Details**

- When this function is activated, the maximum capacity also decreases.
- The remote controller can send the ECONO command when the unit is in cooling, heating, dry, or automatic operation. This function can only be set when the unit is running. To cancel the ECONO operation, press **Econo/Quiet** button several times until the ECONO symbol disappears.
- This function and POWERFUL operation cannot be used at the same time. The latest command has the priority.



(R22012)

# 2.8 2-Area INTELLIGENT EYE Operation

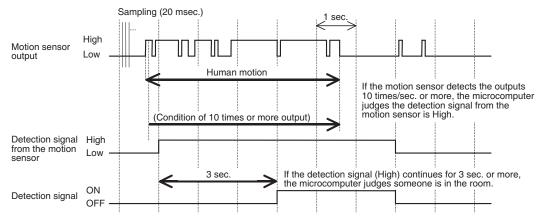
#### **Outline**

The following functions can be performed by the microcomputer and a motion sensor.

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

#### **Details**

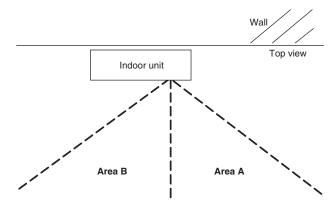
#### 1. INTELLIGENT EYE detection method



R4003448

- The motion sensor detects human motion by receiving infrared rays and sends the pulse wave output.
- The microcomputer in the indoor unit carries out a sampling every 20 msec. If the motion sensor detects 10 times or more of the wave output in one second in total, and the High signal continues for 3 sec., the microcomputer judges someone is in the room as the detection signal is ON.
- 2-area INTELLIGENT EYE motion sensor divides the area into 2 and detects presence in each area.

#### Image of 2-area INTELLIGENT EYE

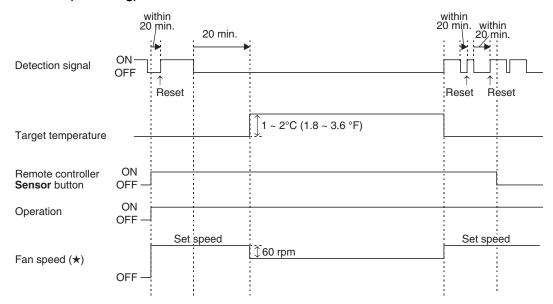


A microcomputer judges someone by the detection signal from each area A and B.

R4003428

SiUS092230EA Functions for FTXR Series

#### 2. Motions (in cooling)

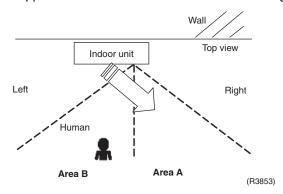


R4003436

- ★ In FAN operation, the fan speed is reduced by 60 rpm when no one is in the area.
- When there is no signal from the motion sensor in 20 minutes, the microcomputer judges that nobody is in the room and operates the unit at a temperature shifted from the target temperature. (Cooling/Dry: 1 ~ 2°C (1.8 ~ 3.6°F) higher, Heating: 2°C (3.6°F) lower, Auto: according to the operation mode at that time)

#### 3. Airflow direction in 2-area INTELLIGENT EYE operation

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



- 1. Detection signal ON in both areas A and B: Shift the airflow direction to area B (left side)
- 2. Detection signal ON in area A: Shift the airflow direction to area B (left side)
- 3. Detection signal ON in area B: Shift the airflow direction to area A (right side)
- 4. Detection signal OFF in both areas A and B: No change
- \* When the detection signal is OFF for 20 minutes in both areas A and B, the unit starts energy saving operation.



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

# 2.9 POWERFUL Operation

**Outline** 

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

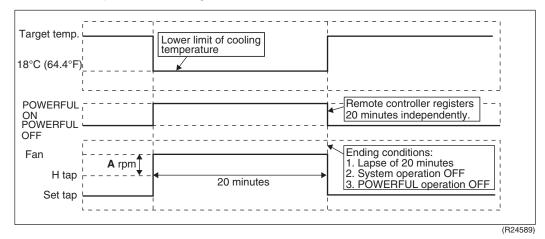
**Details** 

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

Operation mode	Fan speed	Target temperature
COOL	H tap + A rpm	18°C (64.4°F)
DRY	Dry rotating speed + A rpm	Lowered by 2.5°C (4.5°F)
HEAT	H tap + <b>A</b> rpm	31°C (87.8°F)
FAN	H tap + A rpm	_
AUTO	Same as cooling/heating in POWERFUL operation	The target temperature is kept unchanged.

 $A = \sim 80 \text{ rpm}$ 

Ex: POWERFUL operation in cooling



**1** Notes

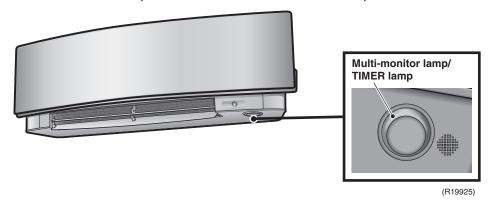
POWERFUL operation cannot be used together with ECONO, COMFORT AIRFLOW or QUIET OUTDOOR UNIT operation.

SiUS092230EA Functions for FTXR Series

# 2.10 Multi-Monitor Lamp/TIMER Lamp

#### **Features**

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



The lamp color changes according to the operation.

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

#### Brightness Setting

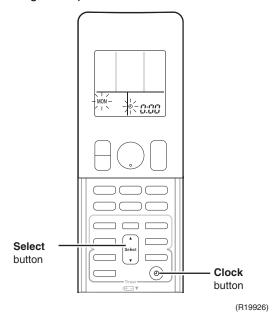
Each time **Brightness** button on the remote controller is pressed, the brightness of the multi-monitor lamp changes to high, low, or off.

# 2.11 Clock Setting

#### **ARC466 Series**

The clock can be set by taking the following steps:

- 1. Press Clock button.
  - $\rightarrow$  **0:00** is displayed, then **MON** and  $\bigcirc$  blink.
- 2. Press **Select** ▲ or **Select** ▼ button to set the clock to the current day of the week.
- 3. Press Clock button.
  - $\rightarrow$  ② blinks.
- Press Select ▲ or Select ▼ button to set the clock to the present time.
   Holding down Select ▲ or Select ▼ button rapidly increases or decreases the time display.
- 5. Press **Clock** button to set the clock. Point the remote controller at the indoor unit when pressing the button.
  - $\rightarrow$ : blinks and clock setting is completed.



SiUS092230EA Functions for FTXR Series

# 2.12 WEEKLY TIMER Operation

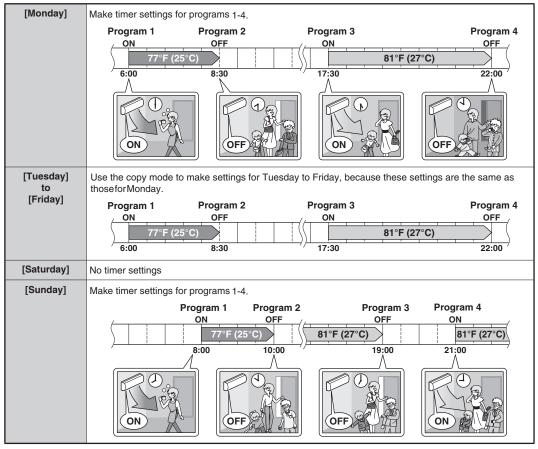
**Outline** 

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

#### **Details**

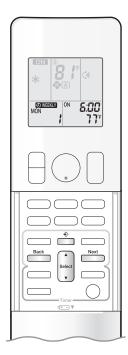
#### Setting example of the WEEKLY TIMER

The same timer settings are used from Monday through Friday, while different timer settings are used for the weekend.



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

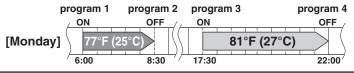
R4003381

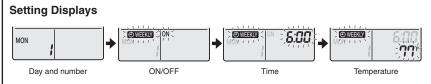


#### To use WEEKLY TIMER operation

#### Setting mode

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





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

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

- Pressing select changes the reservation number and the day of the week.
- 3. Press Next
  - The day of the week and reservation number will be set.
  - " ②WEEKLY " and " ON" blink.

# 4. Press select the desired mode.

• Pressing changes the "ON" or " OFF" setting in sequence.



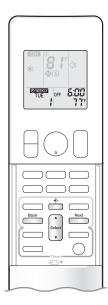
- In case the reservation has already been set, selecting "blank" deletes the reservation.
- Proceed to STEP 9 if " blank " is selected.
- To return to the day of the week and reservation number setting, press \_\_\_\_\_.

# **5.** Press Next

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

R4003382

SiUS092230EA Functions for FTXR Series



# 6. Press to select the desired time.

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

# 

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

# 8. Press to select the desired temperature.

- The temperature can be set between 50°F (10°C) and 90°F (32°C).

  COOL or AUTO: The unit operates at 64°F (18°C) even if it is set at 50°F (10°C) to 63°F (17°C).

  HEAT or AUTO: The unit operates at 86°F (30°C) even if it is set at 87°F (31°C) to 90°F (32°C).
- To return to the time setting, press Back
- The set temperature is only displayed when the mode setting is on.

### 9. Press Next

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and blinking of the multi-monitor lamp.
- The multi-monitor lamp blinks twice.
- The temperature will be set and go to the next reservation.
- Temperature and time are set in the case of ON TIMER operation, and the time is set in the case of OFF TIMER operation.
- The next reservation screen will appear.
- To continue further settings, repeat the procedure from STEP 4.

# 10. Press to complete the setting.

- " " WEEKLY " is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp periodically lights orange.

The multi-monitor lamp will not light orange if all the reservation settings are deleted.



Display

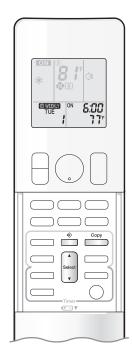
 A reservation made once can be easily copied and the same settings used for another day of the week. Refer to Copy mode.

#### **NOTE**

#### Notes on WEEKLY TIMER operation

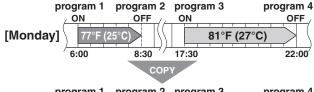
- Do not forget to set the clock on the remote controller first.
- The day of the week, ON/OFF TIMER mode, time and set temperature (only for ON TIMER mode) can be set with the WEEKLY TIMER. Other settings for the ON TIMER are based on the settings just before the operation.
- WEEKLY TIMER and ON/OFF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

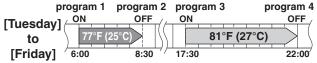
R4003383

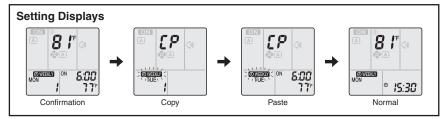


#### Copy mode

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







- **1.** Press ⊕.
- 2. Press select to confirm the day of the week to be copied.
- 3. Press copy.
  - The whole reservation of the selected day of the week will be copied.
- 4. Press select the destination day of the week.
- - Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and blinking of the multi-monitor lamp.
  - The multi-monitor lamp blinks twice.
  - The reservation will be copied to the selected day of the week. The whole reservation of the selected day of the week will be copied.
  - To continue copying the settings to other days of the week, repeat STEP 4 and STEP 5.

# **6.** Press $\stackrel{\diamond}{=}$ to complete the setting.

- " WEEKLY " is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp periodically lights orange.

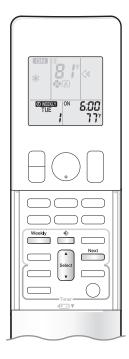
#### **NOTE**

#### **Note on COPY MODE**

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

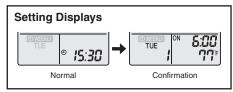
In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press and change the settings in the steps of Setting mode.

R4003384



#### Confirming a reservation

• The reservation can be confirmed.



# 

- The day of the week and the reservation number of the current day will be displayed.
- 2. Press to select the day of the week and the reservation number to be confirmed.
  - Pressing steet displays the reservation details.
  - To change the confirmed reserved settings, select the reservation number and press The mode is switched to setting mode. Proceed to **Setting mode STEP 4**.
- 3. Press 

  to exit the confirmation mode.
  - " " " is displayed on the LCD and WEEKLY TIMER operation is activated.
  - The TIMER lamp periodically lights orange.
     The multi-monitor lamp will not light orange if all the reservation settings are deleted.



Display

#### To deactivate WEEKLY TIMER operation

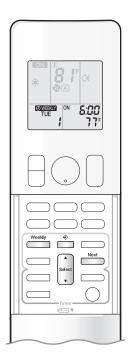
- Press while "OWEKLY" is displayed on the LCD.

  - The TIMER lamp goes off.
  - $\bullet$  To reactivate the WEEKLY TIMER operation, press  $\stackrel{\text{Weekly}}{---}$  again.
  - If a reservation deactivated with weekly is activated once again, the last reservation mode will be used.

#### **NOTE**

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

R4003385



#### To delete reservations

#### An individual reservation

- **1.** Press .......
  - The day of the week and the reservation number will be displayed.
- 2. Press to select the day of the week and the reservation number to be deleted.
- 3. Press ......
  - " WEEKLY " and " ON" or " OFF" blink.
- 4. Press until no icon is displayed.
  - Pressing changes the ON/OFF TIMER mode in sequence.
  - Selecting "blank" will cancel any reservation you may have.



- - The selected reservation will be deleted.
  - Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and blinking of the multi-monitor lamp.
- **6.** Press ⊕.
  - If there are still other reservations, WEEKLY TIMER operation will be activated.

#### Reservations for each day of the week

- This function can be used for deleting reservations for each day of the week.
- It can be used while confirming or setting reservations.
- **1.** Press ⊕.
  - The day of the week and the reservation number will be displayed.
- 2. Press select the day of the week to be deleted.
- **3.** Hold for about 5 seconds.
  - Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and blinking of the multi-monitor lamp.
  - The reservation of the selected day of the week will be deleted.
- **4.** Press ⊕.
  - If there are still other reservations, WEEKLY TIMER operation will be activated.

#### All reservations

### ▶ Hold for about 5 seconds with the normal display.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone
  and blinking of the multi-monitor lamp.
- The TIMER lamp goes off.
- This operation cannot be used for the WEEKLY TIMER setting display.
- All reservations will be deleted.

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#### 2.13 Other Functions

#### 2.13.1 Hot-Start Function

In order to prevent the cold air blast that normally occurs when heating operation is started, the temperature of the indoor heat exchanger is detected, and the airflow is either stopped or significantly weakened resulting in comfortable heating.



The cold air blast is prevented using similar control when defrost control starts or when the thermostat is turned ON.

#### 2.13.2 Signal Receiving Sign

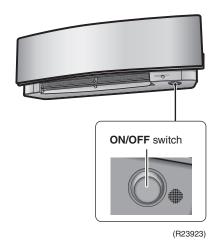
When the indoor unit receives a signal from the remote controller, the unit emits a signal receiving sound.

#### 2.13.3 Indoor Unit ON/OFF Switch

**ON/OFF** switch is provided on the display of the unit.

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

Operation mode	Temperature setting	Airflow rate
AUTO	25°C (77°F)	Automatic



#### Forced cooling operation

Forced cooling operation can be started by pressing **ON/OFF** switch for  $5 \sim 9$  seconds while the unit is not operating.

Refer to page 206 for details.

Note(s)

Forced cooling operation is not started if **ON/OFF** switch is pressed for 10 seconds or more.

#### 2.13.4 Auto-restart Function

If a power failure (even a momentary one) occurs during the operation, the system restarts automatically in the same conditions as before when the power supply is restored to the conditions prior to the power failure.

note

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

# 3. Functions for FDMQ/FFQ Series

### 3.1 Airflow Direction Control

# Applicable Models

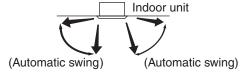
FFQ09/12/15/18W2VJU9(8)

#### **Outline**

There are two types of airflow direction settings.

#### Automatic swing setting

The flaps automatically oscillate up and down.

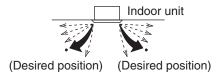


(R24069)

#### ■ Airflow direction fixed setting

You can select from one of the fixed directions.

The display of the remote controller and the actual angle of the flap do not match.



(R24070)

#### **Flaps Movement**

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

- Room temperature is higher than the remote controller's set temperature in heating operation.
- When defrosting in heating operation. The airflow is discharged horizontally to avoid blowing cold air directly on the room occupants.
- Under continuous operation with the airflow discharging horizontally.

#### Individual Flap Control

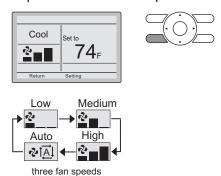
With decoration panel (BYFQ60C2W1W(S), BYFQ60C3W2W) and wired remote controller (BRC1E73), you can control each one of the four flaps individually. The following marks are beside each air outlet: \_\_, \_\_\_\_, \_\_\_\_\_\_\_\_.

# 3.2 Fan Speed Control for Indoor Unit

■ With Wired Remote Controller (BRC1E73)

To change the fan speed, press **Fan Speed** button and select the fan speed from Low/Medium/High/Auto.

- Auto cannot be selected if the indoor unit does not have Auto Fan speed function.
- The system may change the fan speed automatically for equipment protection purposes.
- The system may turn off the fan when the room temperature is satisfied.
- It is normal for a delay to occur when changing the fan speed.
- If the Auto is selected for the fan speed, the fan speed varies automatically based on the difference between set temperature and room temperature.

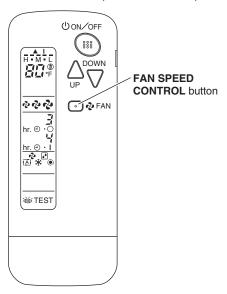


R4003380

# ■ With Wireless Remote Controller (BRC082A43, BRC082A41W, BRC082A42W(S)) Press FAN SPEED CONTROL button.

High, Medium or Low fan speed can be selected.

The microchip may sometimes control the fan speed in order to protect the unit.



R4003666

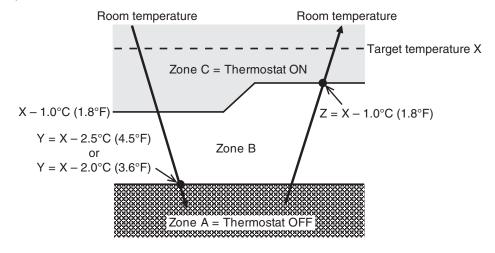
# 3.3 Program Dry Operation

**Outline** 

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

**Details** 

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



(R23000)

Room thermistor temperature at start-up	Target temperature	Thermostat OFF point	Thermostat ON point
	X	Y	Z
24.5°C or more	Room thermistor	X – 2.5°C	X – 1.0°C
(76.1°F or more)		(X – 4.5°F)	(X – 1.8°F)
16.5 ~ 24°C	temperature at start-up	X – 2.0°C	X – 1.0°C
(61.7 ~ 75.2°F)		(X – 3.6°F)	(X – 1.8°F)
16°C or less	16°C	X – 2.0°C	X – 1.0°C = 15°C
(60.8°F or less)	(60.8°F)	(X – 3.6°F)	(X – 1.8°F = 59°F)

# 3.4 Clock and Calendar Setting (With BRC1E73)

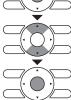
Main Menu 2/3

Filter Auto Clean
Maintenance Information
Configuration
Current Settings
Glock & Calendar
Daylight Saving Time

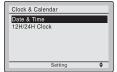
Setting

- Press Menu/OK button to display the main menu screen.
- Press ▼▲ buttons to select
   Clock & Calendar on the main menu screen.

Press **Menu/OK** button to display the clock & calendar screen.



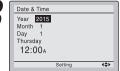
2



Press ▼▲ buttons to select Date & Time on the clock & calendar screen.
 Press Menu/OK button to display the date & time screen.



3



Select Year with ◀▶ buttons.
 Change the year with ▼▲ buttons.
 Holding down the button causes the number to change continuously.





4



Select Month with ◀▶ buttons.
 Change the month with ▼▲ buttons.
 Holding down the button causes the number to change continuously.





5



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





(R24368)



 Select Hour with ◀▶ buttons. Change the hour with **▼**▲ buttons. Holding down the button causes the number to change continuously.





Date & Time Save the settings?

Yes No

 Select Minute with ◀▶ buttons. Change the minute with ▼▲ buttons. Holding down the button causes the number to change continuously.



• Press Menu/OK button. The confirmation screen will appear.



- Note: -

confirmation screen.

The date can be set between January 1, 2015 and December 31, 2099.





Press Menu/OK button to confirm the clock and return to the basic screen.



\* When setting the schedule, the display returns to the settings screen.

(R24072)

# 3.5 Schedule Timer Operation (With BRC1E73)

#### **Outline**

Day settings are selected from 4 patterns:

- 7 Days
- Weekday/Sat/Sun
- Weekday/Weekend
- Everyday

Up to 5 actions can be set for each day.

#### **Details**

Set the startup time and operation stop time.

ON: Startup time, cooling and heating temperature setpoints can be configured.

OFF: Operation stop time, cooling and heating setback temperature setpoints can be configured.

( --: Indicates that the setback function is disabled for this time period. )

\_\_: Indicates that the temperature setpoint and setback temperature setpoint for this time period is not specified. The last active setpoint will be utilized.



Refer to Setback function on page 69 for details of setback function (FFQ series only).

#### Setting the schedule



Yes No

Schedule
Clock has not been set.
Would you like to set it now?

Year 2015 Month 1

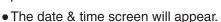
12:00A

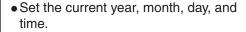


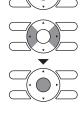




- Before setting the schedule, the clock must be set.
- If the clock has not been set, a screen like the one on the left will appear.
   Press ◀▶ buttons to select Yes and press Menu/OK button.









 Press ▼▲ buttons to select the desired function on the schedule screen and press Menu/OK button.



(R24369)

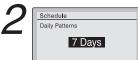
#### ■ Daily Patterns



- The schedule screen will appear.
- Press buttons to select Daily Patterns on the schedule screen.

The daily patterns screen will appear when **Menu/OK** button is pressed.



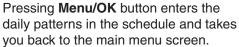


Press buttons to select 7 Days, Weekday/Sat/Sun, Weekday/Weekend or Everyday on the daily patterns screen.
 The confirmation screen will appear when Menu/OK button is pressed.





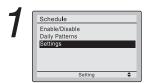
 Press ◀► buttons to select Yes on the confirmation screen.





(R24074)

#### ■ Settings



- The schedule screen will appear.
- Press ▼▲ buttons to select Settings on the schedule screen.
   The settings screen will appear when Menu/OK button is pressed.



2



 Press ▼▲ buttons to select the day to be set.



 $^{\star}$  It cannot be selected in the case of  $\boxed{\text{EVDY}}$  .







- Input the time for the selected day.
- Press ◀► buttons to move the highlighted item and press ▼▲ buttons to input the desired operation start time.
   Each press of ▼▲ buttons moves the numbers by 1 hour or 1 minute.



R4003456



 Press ◀▶ buttons to move the highlighted item and press ▼▲ buttons to configure ON/OFF/-- settings. --, ON, or OFF changes in sequence

when **V** buttons are pressed.



Schedule Heat 60F

ON: The temperature setpoints can be configured. OFF: The setback temperature setpoints can be configured.

-: The temperature setpoints and setback temperature setpoints become disabled.



• The cooling and heating temperature setpoints for both ON and OFF (Setback) are configured.

- \_: Indicates that the temperature setpoint and setback temperature setpoint for this time period is not specified. The last active setpoint will be utilized.
- --: Indicates that the setback function is disabled for this time period.





A maximum of five actions per day can be set.



 Press Menu/OK button when settings for each day are completed. The confirmation screen will appear.



Schedule Cool 75F 85F 75F 82F Time Act 6:00a ON 8:00a OFF Heat 70F 50F 70F 62F 5:30P ON 10:00P OFF

To copy the settings for the previous day, press Mode button so that the existing settings will be



Example: The contents for Monday are copied by pressing Mode button after selecting Tuesday.







 Press ◀▶ buttons to select Yes on the confirmation screen.

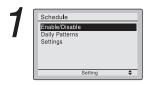
Pressing Menu/OK button confirms the settings for each day and takes you back to the basic screen.





(R24075)

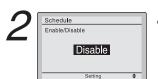
#### ■ Enabling or disabling the schedule



- Display the schedule screen.
- Press ▼▲ buttons to select
   Enable / Disable on the schedule screen.

Press **Menu/OK** button to display the enable/disable screen.





 Press ▼▲ buttons to select Enable or Disable on the enable/disable screen.



Press **Menu/OK** button after selecting the item. The confirmation screen is displayed.



 Press ◀► buttons to select Yes on the confirmation screen.



Pressing **Menu/OK** button confirms the enable/disable setting for the schedule and takes you back to the basic screen.

R4003458

# 3.6 Setback Function (With BRC1E73)

# Applicable Models

FFQ09/12/15/18W2VJU9(8)

#### **Outline**

The Setback function can be used to maintain the space temperature in an assigned range for an unoccupied period.

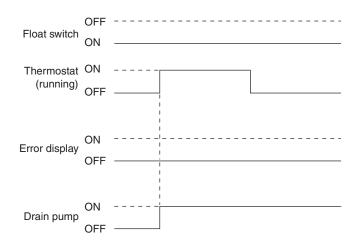
#### **Details**

The setback icon flashes on the LCD of wired remote controller when the unit is turned on by the setback control.

- When enabled, the Setback mode becomes active when the indoor unit is turned off by either the user, a schedule event or an off timer.
- Setback function is not available by default. It can be enabled by the system installer.

## 3.7 Drain Pump Control

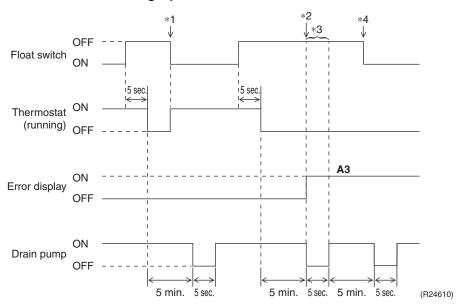
#### **Normal Operation**



(R24037)

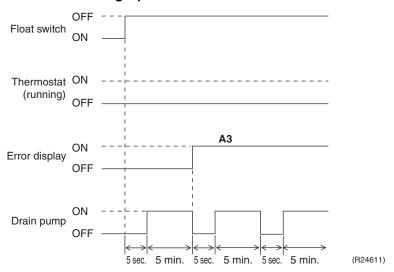
- The float switch is ON in normal operation.
- When cooling operation starts (thermostat ON), the drain pump turns ON simultaneously.
- After the thermostat turns OFF, the drain pump continues to operate.

#### If Float Switch is OFF with Thermostat ON in Cooling Operation



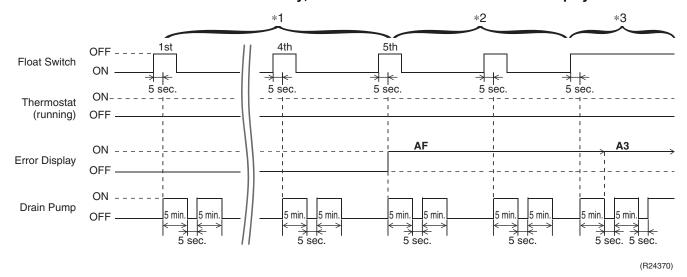
- When the float switch stays OFF for 5 sec., the thermostat turns OFF.
- After the thermostat turns OFF, the drain pump continues to operate for another 5 minutes.
- \*1. If the float switch turns ON again during the residual operation of the drain pump, cooling operation also turns on again (thermostat ON).
- \*2. If the float switch remains OFF even after the residual operation of the drain pump has ended, the error code **A3** is determined.
- \*3. The drain pump turns OFF once residual operation has ended, then turns ON again after 5 seconds.
- \*4. After **A3** is determined and the unit comes to an abnormal stop, the thermostat will remain OFF even if the float switch turns ON again.

#### If Float Switch is OFF with Thermostat OFF in Cooling Operation



- When the float switch stays OFF for 5 sec., the drain pump turns ON.
- If the float switch remains OFF even after the residual operation of the drain pump has ended, the error code **A3** is determined.
- The drain pump turns OFF once residual operation has ended, then turns ON again after 5 seconds.

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



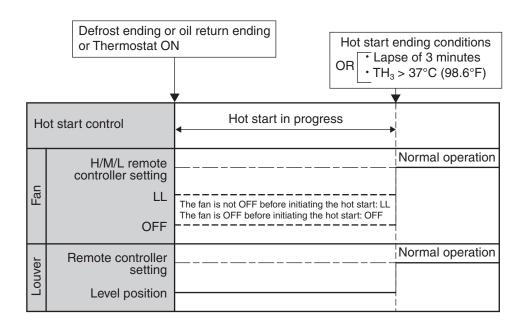
- When the float switch stays OFF for 5 sec., the drain pump turns ON.
- \*1. If the float switch continues to turn OFF and ON 5 times consecutively, it is judged as a drain system error and the error code **AF** is determined.
- \*2. The drain pump continues to turn ON/OFF in accordance with the float switch ON/OFF even after **AF** is determined.
- \*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 determined.

# 3.8 Hot Start Control (In Heating Operation Only)

**Outline** 

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

**Details** 



R4003450

TH<sub>3</sub>: Temperature detected by the indoor heat exchanger thermistor (R3T)

# 3.9 Presence and Floor Sensors (Option)

# Applicable Models

FFQ09/12/15/18W2VJU9(8)

#### **Outline**

With the human presence signal and the floor temperature signal from the optional sensor kit, the system provides the energy saving control, or the comfortable temperature control and airflow direction control preventing the direct draft to the human.

To use sensor related functions, a wired remote controller (BRC1E73) and optional sensor kit (BRYQ60A2W(S)) are necessary to be installed.

#### **Details**

#### 1. Draft prevention (with presence sensor)

When the sensor detects human presence during auto-swing operation, the system sets the airflow direction parallel to the floor (position 0) to reduce unpleasant draft.

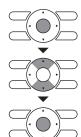
The operation returns to the normal auto-swing as the sensor detects no human in the room.

- Draft prevention is enabled only when decoration panel BYFQ60C2W1W(S), sensor kit BRYQ60A2W(S) and wired remote controller BRC1E73 are connected to the main unit and draft prevention is set to "enabled" on the wired remote controller.
- Factory setting is "disabled".
- Draft prevention cannot be activated when individual flap control is set, even if draft prevention is enabled on the wired remote controller.

#### Setting on the wired remote controller



- Press Menu/OK button to display the main menu screen.
- Press ▼▲ buttons to selectConfiguration and press Menu/OK button.













- Press ▼▲ buttons to select Enable.
- The confirmation screen will appear when Menu/OK button is pressed.



4



- Press ◀▶ buttons to select Yes .
- Press Menu/OK button to confirm the settings and to return to the basic screen.



R4003392

#### 2. Auto-setback by sensor (with presence sensor)

After pre-determined time has elapsed without detection of human presence, the unit automatically shifts the target temperature gradually for energy saving.

The target temperature displayed on the remote controller remains same as the initial set value during the above change of target temperature.

The target temperature shifts within the range of the highest programmable temperature while in cooling operation and the lowest programmable temperature while in heating operation. Upon human detection, the target temperature returns to the original setting.

- Auto-setback by sensor is enabled only when decoration panel BYFQ60C2W1W(S), sensor kit BRYQ60A2W(S) and wired remote controller BRC1E73 are connected to the main unit and auto-setback by sensor is set to "enabled" on the wired remote controller.
- Factory setting is "disabled".

#### Setting on the remote controller



- Press Cancel button for 4 seconds on the basic screen to display Service Settings menu.
- Press ▼▲ buttons to select Energy Saving Options .
- Press Menu/OK button to display Energy Saving Options menu.







- Press ▼▲ buttons to select Auto-setback by Sensor
- Press Menu/OK button to display Auto-setback by Sensor menu.







- Press ▼▲ buttons to select Enable/ Disable.
- Press Menu/OK button.







- Press ▼▲ buttons to select Enable.
- Press Menu/OK button after selecting the item. Then the confirmation screen is displayed.







- Press ◀► buttons to select Yes
- Press Menu/OK button to confirm the settings and to return to the Service Settings menu.



R4003390

#### 3. Auto-off by sensor (with presence sensor)

After pre-determined time has elapsed without detection of human presence, the unit automatically stops operation.

The auto-off time can be set between 1-24 hours by the hour.

Once the unit stops operation by auto-off function, the system would not restart even if the human is detected again.

- Auto-off by sensor is enabled only when decoration panel BYFQ60C2W1W(S), sensor kit BRYQ60A2W(S) and wired remote controller BRC1E73 are connected to the main unit and auto-off by sensor is set to "enabled" on the wired remote controller.
- Factory setting is "disabled".

#### Setting on the remote controller



- Press Cancel button for 4 seconds on the basic screen to display Service Settings menu.
- Press ▼▲ buttons to select Energy Saving Options .
- Press Menu/OK button to display Energy Saving Options menu.



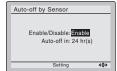




- Press ▼▲ buttons to select Auto-off by Sensor.
- Press Menu/OK button to display Auto-off by Sensor menu.







Press ▼▲ buttons to select Enable







- Press ◀▶ buttons to go into the auto-off time setting.
- Press ▼▲ buttons to set auto-off hour(s) (1 ~ 24).
- Press Menu/OK button. Then the confirmation screen is displayed.









- Press ◀► buttons to select Yes .
- Press Menu/OK button to confirm the settings and to return to the Service Settings menu.



R4003391

#### 4. Room temperature adjustment by sensing (with floor sensor)

The system uses living space temperature calculated from temperatures detected by room temperature thermistor (suction air thermistor in the indoor unit) and floor sensor, as the target temperature.

Operation becomes more optimized by using not only suction air temperature but floor temperature.

■ This function is enabled when decoration panel BYFQ60C2WAW(S) and sensor kit BRYQ60A2W(S) is connected to the main unit.

## 3.10 Other Functions

## 3.10.1 Signal Receiving Sign

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

#### 3.10.2 Auto-restart Function

If a power failure (even a momentary one) occurs during the operation, the system restarts automatically in the same conditions as before when the power supply is restored to the conditions prior to the power failure.



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

## 3.10.3 Emergency Operation Switch (With Wireless Remote Controller)

#### **Outline**

When the wireless remote controller does not work due to battery failure or the absence thereof, use the emergency operation switch.

#### **Details**

#### Start

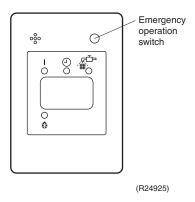
Press emergency operation switch.

- The indoor unit runs in the previous operation mode.
- The system operates with the previously set airflow direction (FFQ series only).

#### Stop

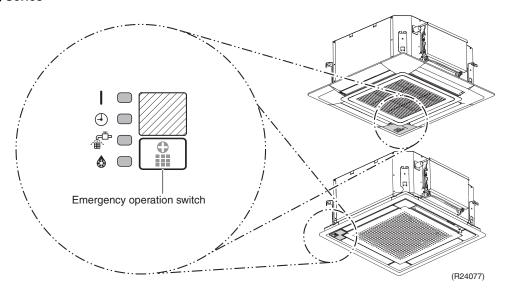
Press emergency operation switch again.

#### **FDMQ Series**



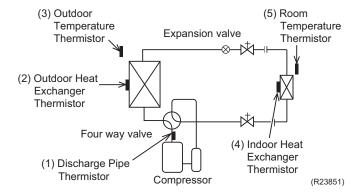
76

## **FFQ Series**



Thermistor Functions SiUS092230EA

# 4. Thermistor Functions



# (1) Discharge Pipe Thermistor

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

## (2) Outdoor Heat Exchanger Thermistor

- The outdoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
- In cooling operation, the outdoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature drops below the outdoor heat exchanger temperature by more than a certain value, the discharge pipe thermistor is judged as disconnected.
- In cooling operation, the outdoor heat exchanger thermistor is used for high pressure protection.

## (3) Outdoor Temperature Thermistor

■ The outdoor temperature thermistor detects the outdoor air temperature and is used for refrigerant shortage detection, input current control, outdoor fan control, liquid compression protection function, and so on.

#### (4) Indoor Heat Exchanger Thermistor

- The indoor heat exchanger thermistor is used for controlling the target discharge pipe temperature. The system sets the target discharge pipe temperature according to the outdoor and indoor heat exchanger temperature, and controls the electronic expansion valve opening so that the target discharge pipe temperature can be obtained.
- In cooling operation, the indoor heat exchanger thermistor is used for freeze-up protection control. If the indoor heat exchanger temperature drops abnormally, the operating frequency becomes lower or the operation halts.
- In heating operation, the indoor heat exchanger thermistor is used for detecting the disconnection of the discharge pipe thermistor. When the discharge pipe temperature drops below the indoor heat exchanger temperature by more than a certain value, the discharge pipe thermistor is judged as disconnected.

## (5) Room Temperature Thermistor

■ The room temperature thermistor detects the room air temperature and is used for controlling the room air temperature.

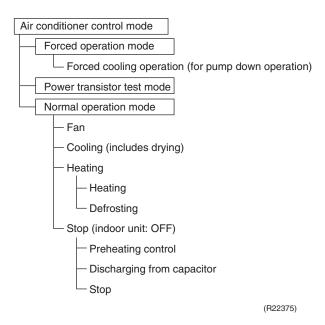
# 5. Control Specification

# 5.1 Mode Hierarchy

**Outline** 

The air conditioner control has normal operation mode, forced operation mode, and power transistor test mode for installation and servicing.

**Details** 



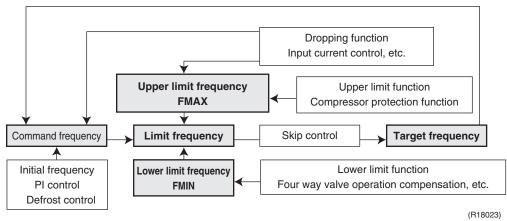
Note(s) Unless specified otherwise, dry operation command is regarded as cooling operation.

# 5.2 Frequency Control

**Outline** 

The compressor frequency is determined according to the difference between the room thermistor temperature and the target temperature.

When the shift of the frequency is less than zero ( $\Delta F$ <0) by PI control, the target frequency is used as the command frequency.



#### **Details**

#### 1. Determine command frequency

Command frequency is determined in the following order of priority.

- (1) Limiting defrost control time
- (2) Forced cooling
- (3) Indoor frequency command

#### 2. Determine upper limit frequency

The minimum value is set as an upper limit frequency among the frequency upper limits of the following functions:

Compressor protection, input current, discharge pipe temperature, heating peak-cut, freeze-up protection, defrost control.

#### 3. Determine lower limit frequency

The maximum value is set as an lower limit frequency among the frequency lower limits of the following functions:

Four way valve operation compensation, draft prevention, pressure difference upkeep.

#### 4. Determine prohibited frequency

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

#### **Initial Frequency**

When starting the compressor, the frequency is initialized according to the  $\Delta D$  value of the indoor unit.

#### ∆D signal: Indoor frequency command

The difference between the room thermistor temperature and the target temperature is taken as the  $\Delta D$  value and is used for  $\Delta D$  signal of frequency command.

#### △D signal for cooling

Temperature difference	∆D signal	Temperature difference	∆D signal	Temperature difference	∆D signal	Temperature difference	∆D signal
-2.0°C (-3.6°F)	*OFF	0°C (0°F)	4	2.0°C (3.6°F)	8	4.0°C (7.2°F)	12
-1.5°C (-2.7°F)	1	0.5°C (0.9°F)	5	2.5°C (4.5°F)	9	4.5°C (8.1°F)	13
-1.0°C (-1.8°F)	2	1.0°C (1.8°F)	6	3.0°C (5.4°F)	10	5.0°C (9.0°F)	14
-0.5°C (-0.9°F)	3	1.5°C (2.7°F)	7	3.5°C (6.3°F)	11	5.5°C (9.9°F)	15

<sup>\*</sup>OFF = Thermostat OFF

#### △D signal for heating

Temperature difference	∆D signal	Temperature difference	∆D signal	Temperature difference	∆D signal	Temperature difference	∆D signal
-1.5°C (-2.7°F)	*OFF	0.5°C (0.9°F)	4	2.5°C (4.5°F)	8	4.5°C (8.1°F)	12
-1.0°C (-1.8°F)	1	1.0°C (1.8°F)	5	3.0°C (5.4°F)	9	5.0°C (9.0°F)	13
-0.5°C (-0.9°F)	2	1.5°C (2.7°F)	6	3.5°C (6.3°F)	10	5.5°C (9.9°F)	14
0°C (0°F)	3	2.0°C (3.6°F)	7	4.0°C (7.2°F)	11	6.0°C (10.8°F)	15

<sup>\*</sup>OFF = Thermostat OFF

#### PI Control

#### 1. P control

The  $\Delta D$  value is calculated in each sampling time (20 seconds), and the frequency is adjusted according to its difference from the frequency previously calculated.

#### 2. I control

If the operating frequency does not change for more than a certain fixed time, the frequency is adjusted according to the  $\Delta D$  value.

When  $\Delta D$  value is low, the frequency is lowered.

When  $\Delta D$  value is high, the frequency is increased.

#### 3. Frequency control when other controls are functioning

When frequency is dropping:

Frequency control is carried out only when the frequency drops.

• For limiting lower limit:

Frequency control is carried out only when the frequency rises.

#### 4. Upper and lower limit of frequency by PI control

The frequency upper and lower limits are set according to the command of the indoor unit. When the indoor unit quiet or QUIET OUTDOOR UNIT operation command comes from the indoor unit, the upper limit frequency is lower than the usual setting.

# 5.3 Controls at Mode Changing/Start-up

## 5.3.1 Preheating Control

#### **Outline**

The inverter operation in open phase starts with the conditions of the outdoor temperature, the discharge pipe temperature, the radiation fin temperature and the preheating command from the indoor unit.

#### **Details**

Outdoor temperature  $\geq$  -2.5°C (27.5°F) Control A (preheating for normal state) Outdoor temperature < -2.5°C (27.5°F) Control B (preheating of increased capacity)

#### Control A

ON condition

Discharge pipe temperature < 0°C (32.0°F) Radiation fin temperature < 85°C (185°F)

OFF condition

Discharge pipe temperature >  $2^{\circ}$ C (35.6°F) Radiation fin temperature  $\geq 90^{\circ}$ C (194°F)

#### **Control B**

ON condition

Discharge pipe temperature < 10°C (50.0°F) Radiation fin temperature < 85°C (185°F)

■ OFF condition

Discharge pipe temperature >  $12^{\circ}$ C (53.6°F) Radiation fin temperature  $\geq 90^{\circ}$ C (194°F)

## 5.3.2 Four Way Valve Switching

Outline The four way valve coil is energized/not energized depending on the operation mode.

(Heating: ON, Cooling/Dry/Defrost: OFF)

In order to eliminate the switching sound as the four way valve coil switches from ON to OFF when

the heating is stopped, the OFF delay switch of the four way valve is carried out.

Details OFF delay switch of four way valve

The four way valve coil is energized for 160 seconds after the operation is stopped.

## 5.3.3 Four Way Valve Operation Compensation

**Outline** 

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

#### **Details** Starting Conditions

1. When the compressor starts and the four way valve switches from OFF to ON

- 2. When the four way valve switches from ON to OFF during operation
- 3. When the compressor starts after resetting
- 4. When the compressor starts after the fault of four way valve switching

The lower limit of frequency keeps **A** Hz for **B** seconds for any of the conditions above.

When the outdoor temperature is above  ${\bf C}$  in heating, the frequency decreases depending on the outdoor temperature.

		09/12	class	15/18/24 class		
			Heating	Cooling	Heating	
A (Hz)	A (Hz)		54	48		
B (seconds	5)	6	0	70		
С	(°C)		10		5	
	(°F)	50		59		

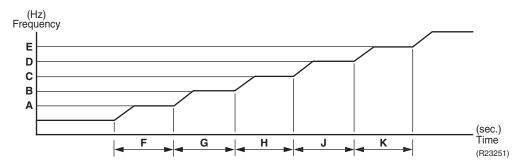
# 5.3.4 3-Minute Standby

Turning on the compressor is prohibited for 3 minutes after turning off.

The function is not used when defrosting.

# **5.3.5 Compressor Protection Function**

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



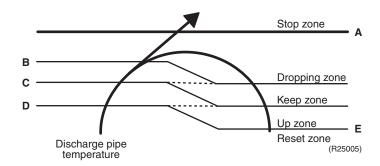
	09/12 class	15/18/24 class
A (Hz)	40	52
B (Hz)	54	68
C (Hz)	72	80
<b>D</b> (Hz)	90	_
E (Hz)	_	_
F (seconds)	180	300
<b>G</b> (seconds)	420	200
H (seconds)	180	460
J (seconds)	120	_
K (seconds)	_	_

# 5.4 Discharge Pipe Temperature Control

**Outline** 

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

**Details** 



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

	09/12 class		15/18/2	15/18/24 class		
	(°C)	(°F)	(°C)	(°F)		
Α	110	230.0	110	230.0		
В	103	217.4	103	217.4		
С	98	208.4	101.5	214.7		
D	93	199.4	100	212.0		
E	88	190.4	95	203.0		

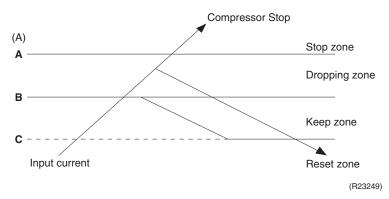
# 5.5 Input Current Control

#### **Outline**

The microcomputer calculates the input current while the compressor is running, and sets the frequency upper limit based on the input current.

In case of heat pump models, this control is the upper limit control of the frequency and takes priority over the lower limit control of four way valve operation compensation.

#### **Details**



#### Frequency control in each zone

#### Stop zone

■ After the input current remains in the stop zone for 2.5 seconds, the compressor is stopped.

#### **Dropping zone**

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

#### Keep zone

■ The present maximum frequency goes on.

#### Reset zone

Limit of the frequency is canceled.

	09/12 class		09/12 class 15 class 18 class		24 c	lass		
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
<b>A</b> (A)	1	2	12		12	12.5	18	
<b>B</b> (A)	7	7.5	8	3	10	10.75	12	11.5
<b>C</b> (A)	6	6.5	-	7		9.75	11	10.5

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

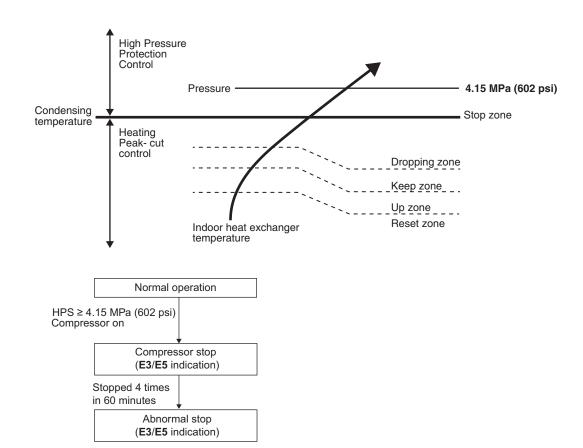
 The current drops when outdoor temperature becomes higher than a certain level (depending on the model).

# 5.6 High Pressure Protection Control

**Outline** 

In order to prevent abnormal high pressures in the system and hence avoiding activation of the high pressure safety device the below control function will be activated.

**Details** 



# 5.7 Freeze-up Protection Control

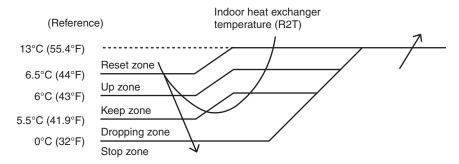
#### **Outline**

During cooling operation, the signal sent from the indoor unit determines the frequency upper limit and prevents freezing of the indoor heat exchanger. The signals from the indoor unit are divided into zones.

#### **Details**

#### ■ FTXR

The operating frequency limitation is judged with the indoor heat exchanger temperature.



R4003563

#### **■** FDMQ

When the freeze-up protection control starts, the compressor stops, the airflow rate is fixed to L tap, and the drain pump turns ON. Conditions for starting and ending are as below.

#### Starting conditions

The freeze-up protection control starts when any of the following conditions is satisfied.

- The indoor heat exchanger temperature remains at **A** or lower for 1 minute.
- The accumulated time that the indoor heat exchanger temperature remains at B or lower
- reaches 40 minutes.

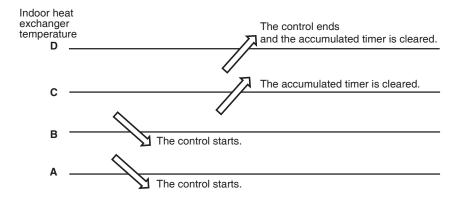
#### Accumulated timer clearing condition

The indoor heat exchanger temperature remains at C or higher for 20 minutes.

#### **Ending condition**

The indoor heat exchanger temperature remains at D or higher for 10 minutes.

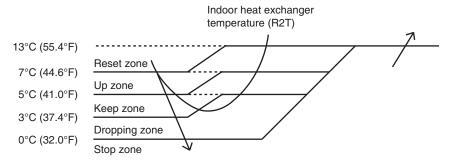
	(°C)	(°F)
Α	<b>–</b> 5	23.0
В	<b>–</b> 1	30.2
С	4	39.2
D	7	44.6



R4003915

#### ■ FFQ

The operating frequency limitation is judged with the indoor heat exchanger temperature.

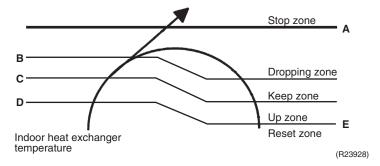


R4003916

# 5.8 Heating Peak-cut Control

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

The operating frequency limitation is judged with the indoor heat exchanger temperature.



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

	09/12 class		15 c	lass	18 c	ass 24 class		lass
	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)
Α	57.5	135.5	60	140.0	60	140.0	60	140.0
В	55	131.0	54	129.2	55	131.0	54	129.2
С	52	125.6	51	123.8	52	125.6	51	123.8
D	50	122.0	49	120.2	50	122.0	49	120.2
E	45	113.0	44	111.2	45	113.0	44	111.2

## 5.9 Outdoor Fan Control

#### 1. Fan ON control to cool down the electrical box

The outdoor fan is turned ON when the electrical box temperature is high while the compressor is OFF.

#### 2. Fan OFF control during defrosting

The outdoor fan is turned OFF while defrosting.

#### 3. Fan OFF delay when stopped

The outdoor fan is turned OFF 60 ~ 70 seconds after the compressor stops.

#### 4. Fan speed control for pressure difference upkeep

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

- When the pressure difference is low, the rotation speed of the outdoor fan is reduced.
- When the pressure difference is high, the rotation speed of the outdoor fan is controlled as well as normal operation.

#### 5. Fan speed control during forced operation

The outdoor fan is controlled as well as normal operation during forced operation.

#### 6. Fan speed control during POWERFUL operation

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

#### 7. Fan speed control during indoor unit quiet/QUIET OUTDOOR UNIT operation

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

#### 8. Fan ON/OFF control when operation (cooling, heating, dry) starts/stops

The outdoor fan is turned ON when the operation starts. The outdoor fan is turned OFF when the operation stops.

## 5.10 Liquid Compression Protection Function

#### **Outline**

The compressor stops according to the outdoor temperature for protection.

#### **Details**

Operation stops depending on the outdoor temperature.

The compressor turns off under the conditions that the system is in cooling operation and the outdoor temperature is below 0°C (32°F).

However, the cooling operation range can be extended to the lowest temperature of  $-20^{\circ}$ C ( $-4^{\circ}$ F) by changing facility setting. Refer to page 226 for details of facility setting.

## 5.11 Defrost Control

#### **Outline**

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

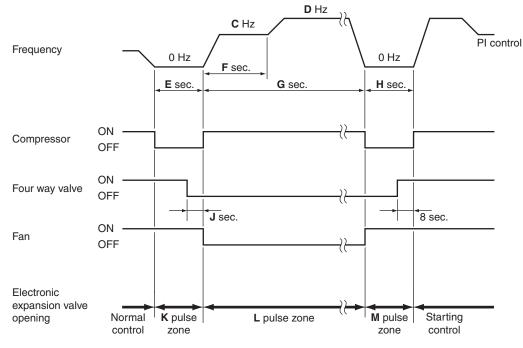
#### **Details**

#### **Conditions for Starting Defrost**

- The starting conditions are determined with the outdoor temperature and the outdoor heat exchanger temperature.
- The system is in heating operation.
- The compressor operates for 6 minutes.
- More than A minutes (depending on the duration of the previous defrost control) of accumulated time have passed since the start of the operation, or ending the previous defrosting.

#### **Conditions for Canceling Defrost**

The judgment is made with the outdoor heat exchanger temperature (B).



(R21661)

		09/12 class	15/18 class	24 class
A (minute)		20 ~ 25	44	44
В	(°C)	2 ~ 20	6 ~ 12	6 ~ 12
	(°F)	35.6 ~ 68.0	42.8 ~ 53.6	42.8 ~ 53.6
C (Hz)		64	48	48
D (Hz)		64	70	70
E (seco	nds)	40	60	60
F (seco	nds)	60	60	60
G (seco	onds)	120 ~ 630	120 ~ 460	120 ~ 460
H (seco	nds)	50	60	90
J (seco	nds)	8	5	5
K (pulse)		400	450	450
L (pulse	e)	300	300 ~ 450	300 ~ 450
M (puls	e)	350	300	200

# 5.12 Electronic Expansion Valve Control

#### **Outline**

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

#### Electronic expansion valve is fully closed

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

#### **Open Control**

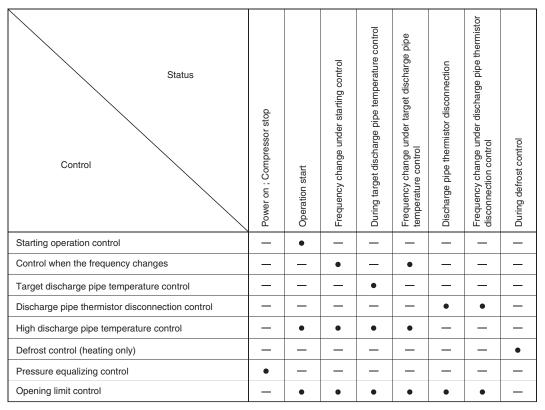
- 1. Electronic expansion valve control when starting operation
- 2. Electronic expansion valve control when the frequency changes
- 3. Electronic expansion valve control for defrosting
- 4. Electronic expansion valve control when the discharge pipe temperature is abnormally high
- 5. Electronic expansion valve control when the discharge pipe thermistor is disconnected

#### **Feedback Control**

Target discharge pipe temperature control

#### **Details**

The followings are the examples of electronic expansion valve control for each operation mode.



: Available— : Not available

R4003560

## 5.12.1 Initialization as Power Supply On

The electronic expansion valve is initialized (fully closed) when the power is turned on. Then, the valve opening position is set and the pressure is equalized.

## **5.12.2 Pressure Equalizing Control**

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

## 5.12.3 Opening Limit Control

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

	09/12 class	1518/24 class
Maximum opening (pulse)	470	480
Minimum opening (pulse)	32	52

The electronic expansion valve is fully closed when cooling operation stops, and is opened at a fixed degree during defrosting.

## 5.12.4 Starting Operation Control

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

## 5.12.5 Control when the Frequency Changes

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

## 5.12.6 High Discharge Pipe Temperature Control

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

This procedure lowers the discharge pipe temperature.

## 5.12.7 Discharge Pipe Thermistor Disconnection Control

#### **Outline**

The disconnection of the discharge pipe thermistor is detected by comparing the discharge pipe temperature with the condensation temperature. If the discharge pipe thermistor is disconnected, the electronic expansion valve opens according to the outdoor temperature and the operation frequency, operates for a specified time, and then stops.

After 3 minutes, the operation restarts and checks if the discharge pipe thermistor is disconnected. If the discharge pipe thermistor is disconnected, the system stops after operating for a specified time

If the disconnection is detected repeatedly, the system is shut down. When the compressor runs for 60 minutes without any error, the error counter is reset.

#### **Details**

#### **Determining thermistor disconnection**

When the starting control finishes, the detection timer for disconnection of the discharge pipe thermistor (**A** seconds) starts. When the timer is over, the following adjustment is made.

- When the operation mode is cooling When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.
  - Discharge pipe temperature +6°C (+10.8°F) < outdoor heat exchanger temperature
- 2. When the operation mode is heating
  - When the following condition is fulfilled, the discharge pipe thermistor disconnection is ascertained.

Discharge pipe temperature +6°C (+10.8°F) < indoor heat exchanger temperature

	09/12 class	15/18/24 class
A (seconds)	720	540

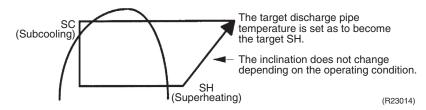
#### When the thermistor is disconnected

When the disconnection is ascertained, the compressor continues operation for 9 minutes and then stops.

If the compressor stops repeatedly, the system is shut down.

## 5.12.8 Target Discharge Pipe Temperature Control

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



The electronic expansion valve opening and the target discharge pipe temperature are adjusted every **A** seconds. The opening degree of the electronic expansion valve is adjusted by the following.

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

	All outdoor units
A (seconds)	10 ~ 30★

★ The time depends on the opening of the electronic expansion valve.

## 5.13 Malfunctions

## 5.13.1 Sensor Malfunction Detection

Sensor malfunction can be detected in the following thermistor:

- 1. Outdoor heat exchanger thermistor
- 2. Discharge pipe thermistor
- 3. Radiation fin thermistor
- 4. Outdoor temperature thermistor

#### 5.13.2 Detection of Overcurrent and Overload

**Outline** 

An excessive output current is detected and the OL temperature is observed to protect the compressor.

**Details** 

- If the OL (compressor head) temperature exceeds 130°C (266°F) (depending on the model), the system shuts down the compressor.
- If the inverter current exceeds 12.0 ~ 20.0 A (depending on the model), the system shuts down the compressor.

The upper limit of the current decreases when the outdoor temperature exceeds a certain level.

# Part 5 Remote Controller

Ί.	Applicable Remote Controller	96
2.	ARC466A36	97
3.	BRC082A43	99
4.	BRC082A41W, BRC082A42W(S)	. 101
5.	BRC944B2	. 103
6.	BRC1E73	. 104

# 1. Applicable Remote Controller

Туре	Model Name	Wireless R/C	Reference Page	Wired R/C	Reference Page
Wall	FTXR09WVJUW9				
Mounted	FTXR09WVJUS9				
	FTXR12WVJUW9	ADC466A26	07	BRC944B2	102
	FTXR12WVJUS9	ARC466A36	97	(option)	103
	FTXR18WVJUW9				
	FTXR18WVJUS9				
Duct	FDMQ09WVJU9				
Concealed	FDMQ12WVJU9				
	FDMQ15WVJU9	BRC082A43	99		
	FDMQ18WVJU9				
	FDMQ24WVJU9				
Ceiling	FFQ09W2VJU8				
Cassette	FFQ12W2VJU8	BRC082A42W		BRC1E73	104
	FFQ15W2VJU8	DRCU0ZA4ZVV			
	FFQ18W2VJU8		101		
	FFQ09W2VJU9		101		
	FFQ12W2VJU9	BRC082A41W			
	FFQ15W2VJU9	BRC082A42W(S)			
	FFQ18W2VJU9				

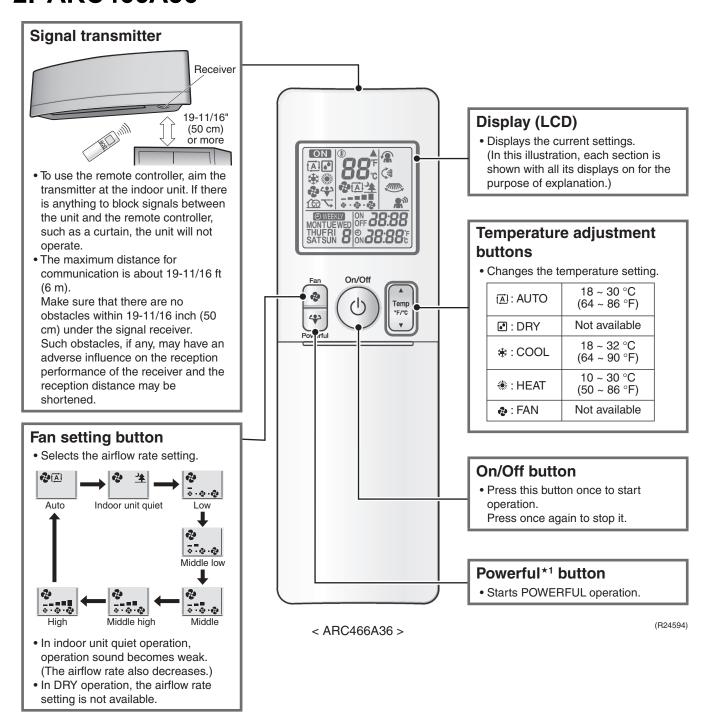


Refer to the operation manual of applicable model for details. You can download operation manuals from Daikin Business Portal:

Daikin Business Portal  $\rightarrow$  Document Search  $\rightarrow$  Item Category  $\rightarrow$  Installation/Operation Manual (URL: <a href="https://global1d.daikin.com/business\_portal/login/">https://global1d.daikin.com/business\_portal/login/</a>)

SiUS092230EA ARC466A36

# 2. ARC466A36



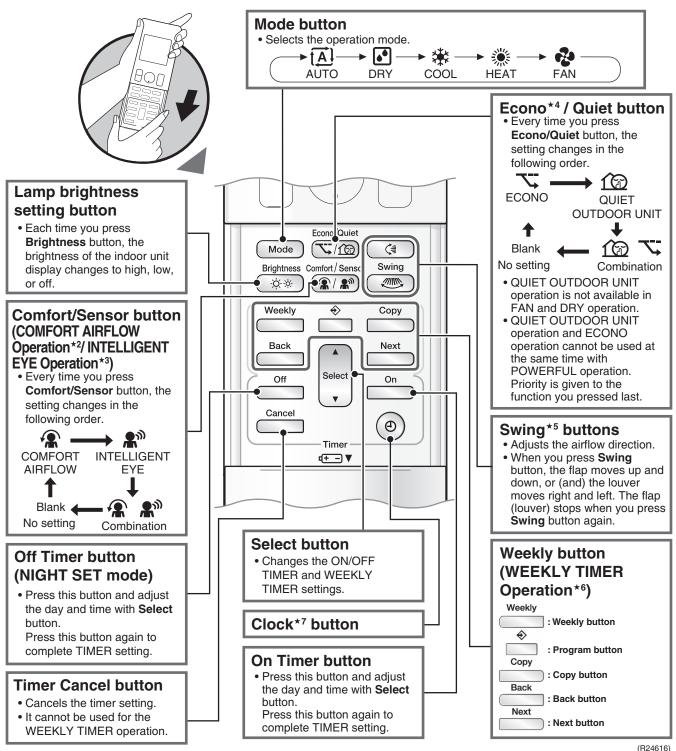


Refer to the following pages for details.

★1 POWERFUL Operation P.50

ARC466A36 SiUS092230EA

#### **Open the Front Cover**



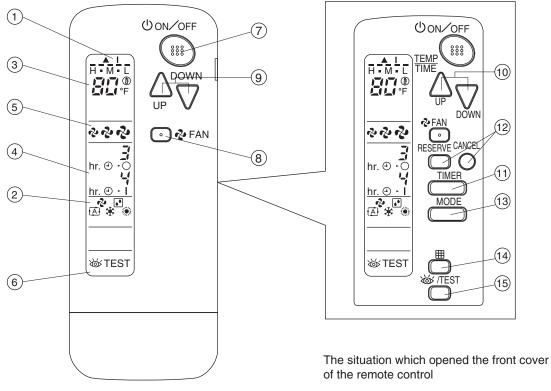
Reference

Refer to the following pages for details.

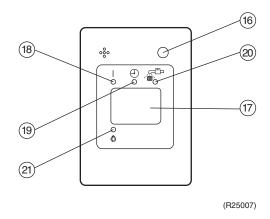
★2 COMFORT AIRFLOW operationP.42, 43★5 Auto-swingP.42★3 2-area INTELLIGENT EYE operationP.48★6 WEEKLY TIMER operationP.53★4 ECONO operationP.47★7 Clock settingP.52

SiUS092230EA BRC082A43

# 3. BRC082A43



(R25006)

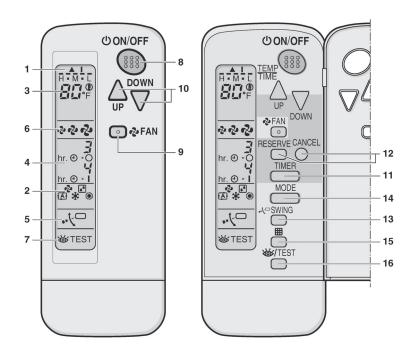


BRC082A43 SiUS092230EA

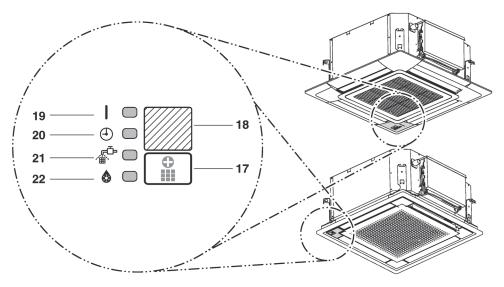
1	DISPLAY " ▲ " " I " (SIGNAL TRANSMISSION)
'	This lights up when a signal is being transmitted.
2	DISPLAY "౿"" 』"" ㈜ " " 集 "" ※ " (OPERATION MODE)
	This display shows the current OPERATION MODE.
3	DISPLAY " 声がで " (SET TEMPERATURE)
	This display shows the set temperature.
	DISPLAY " hr. ⊙ ऄ hr. ⊙ ਮ " (PROGRAMMED TIME)
4	This display shows PROGRAMMED TIME of the system start or stop.
5	DISPLAY "🖓 " "🎝 " "🎝" (FAN SPEED)
	This display shows the set fan speed.
6	DISPLAY "窗 TEST" (INSPECTION/ TEST OPERATION)
	When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
	ON/OFF BUTTON
7	Press the button and the system will start. Press the button again and the system will stop.
	FAN SPEED CONTROL BUTTON
8	Press this button to select the fan speed (HIGH, MEDIUM or LOW) of your choice.
	TEMPERATURE SETTING BUTTON
9	Use this button for SETTING TEMPERATURE. (Operates with the front cover of the remote controller closed.)
	PROGRAMMING TIMER BUTTON
10	Use this button for programming "START and/or STOP" time. (Operates with the front cover of the remote controller opened.)

11	TIMER MODE START/STOP BUTTON
	Use this button for TIMER MODE setting.
12	TIMER RESERVE/CANCEL BUTTON
12	Use this button to end timer setting procedure.
13	OPERATION MODE SELECTOR BUTTON
13	Press this button to select OPERATION MODE.
	FILTER SIGN RESET BUTTON
14	Refer to the section of MAINTENANCE in the operation
	manual attached to the indoor unit.
	INSPECTION/TEST OPERATION BUTTON
15	This button is pressed for inspection or test operation.
	Do not use for normal operation.
	EMERGENCY OPERATION SWITCH
16	This switch is readily used if the remote controller does
	not work.
17	RECEIVER
	This receives the signals from the remote controller.
	OPERATING INDICATOR LAMP (Red)
18	This lamp stays lit while the air conditioner runs.
	It flashes when the unit is in trouble.
19	TIMER INDICATOR LAMP (Green)
	This lamp stays lit while the timer is set.
20	AIR FILTER CLEANING TIME INDICATOR LAMP (Red)
	Lights up when it is time to clean the air filter.
	DEFROST LAMP (Orange)
21	Lights up when the defrosting operation has started.
I	(For cooling only type this lamp does not turn on.)

# 4. BRC082A41W, BRC082A42W(S)



(R23936)



(R23937)

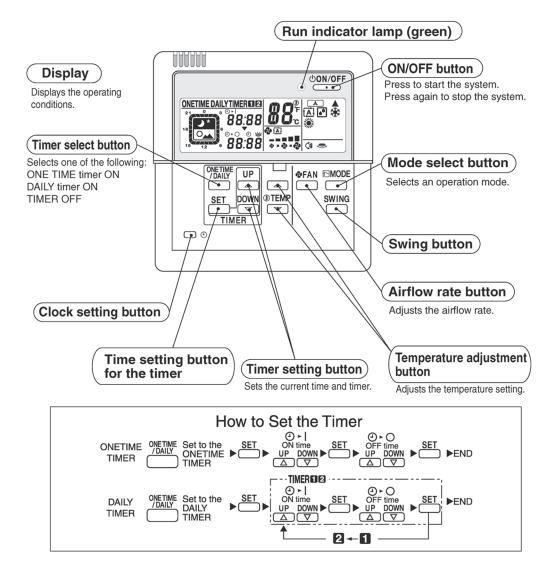
1	DISPLAY ▲ (SIGNAL TRANSMISSION)
	This lights up when a signal is being transmitted.
	DISPLAY 🧞 , 🗗 , 🗯 , 🍥
2	(OPERATION MODE)
	This display shows the current OPERATION MODE.
3	DISPLAY H·M·L, ☐☐° (SET TEMPERATURE)
	This display shows the set temperature.
	DISPLAY hr. e o hr. e i (PROGRAMMED TIME)
4	This display shows PROGRAMMED TIME of the system start or stop.
5	DISPLAY ⊷⟨□ (SWING FLAP)
6	DISPLAY ở 🕏 🕏 (FAN SPEED)
0	The display shows the set fan speed.
	<b>DISPLAY</b> ፟
7	(INSPECTION/TEST OPERATION)
<b>'</b>	When the INSPECTION/TEST OPERATION button is
	pressed, the display shows the system mode is in.
	ON/OFF BUTTON
8	Press the button and the system will start. Press the button again and the system will stop.
	FAN SPEED CONTROL BUTTON
9	Press this button to select the fan speed, LOW,
	MEDIUM or HIGH, of your choice.
	TEMPERATURE SETTING BUTTON
10	Use this button for setting temperature.

11	TIMER MODE START/STOP BUTTON
12	TIMER RESERVE/CANCEL BUTTON
13	AIRFLOW DIRECTION ADJUST BUTTON
14	OPERATION MODE SELECTOR BUTTON
14	Press this button to select OPERATION MODE.
15	FILTER SIGN RESET BUTTON
	INSPECTION/TEST OPERATION BUTTON
16	This button is used only by qualified service persons for maintenance purposes.
	EMERGENCY OPERATION SWITCH
17	This switch is readily used if the remote controller does
	not work.
18	RECEIVER
10	This receives the signals from the remote controller.
	The receives the digitals from the formate controller.
	OPERATION LAMP (Red)
19	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It
19	OPERATION LAMP (Red)
	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It
19	OPERATION LAMP (Red)  This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green)  This lamp stays lit while the timer is set.
20	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green) This lamp stays lit while the timer is set.  AIR FILTER CLEANING TIME INDICATOR LAMP
	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green) This lamp stays lit while the timer is set.  AIR FILTER CLEANING TIME INDICATOR LAMP (Red)
20	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green) This lamp stays lit while the timer is set.  AIR FILTER CLEANING TIME INDICATOR LAMP
20	OPERATION LAMP (Red) This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green) This lamp stays lit while the timer is set.  AIR FILTER CLEANING TIME INDICATOR LAMP (Red)
20	OPERATION LAMP (Red)  This lamp stays lit while the air conditioner runs. It blinks when the unit is in trouble.  TIMER LAMP (Green)  This lamp stays lit while the timer is set.  AIR FILTER CLEANING TIME INDICATOR LAMP (Red)  Lights up when it is time to clean the air filter.

R5000166

SiUS092230EA BRC944B2

### 5. BRC944B2



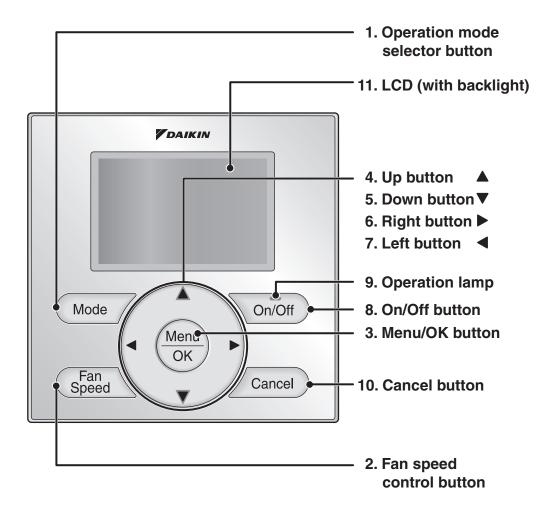
R5000214



This remote controller cannot be used together with a standard wireless remote controller. Otherwise, what appears on this remote controller's display may fail to correspond to actual operating conditions.

BRC1E73 SiUS092230EA

### 6. BRC1E73



SiUS092230EA BRC1E73

### 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.

#### 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 flashes if an error occurs.

#### 10. Cancel button

• Used to return to the previous screen.

### 11. LCD (with backlight)

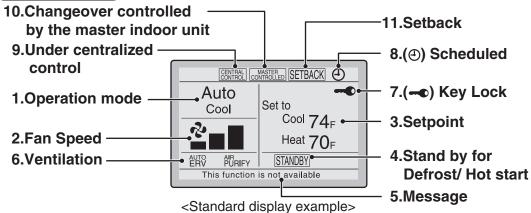
- The backlight will be illuminated for approximately 30 seconds by pressing any button.
- If two remote controllers are used to control a single indoor unit, only the controller accessed first will have backlight functionality.

BRC1E73 SiUS092230EA

### **Liquid Crystal Display**

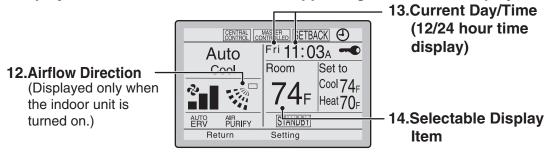
- Three types of display mode (Standard, Detailed and Simple) are available.
- Standard display is set by default.
- Detailed and Simple displays can be selected in the main menu.

### Standard display

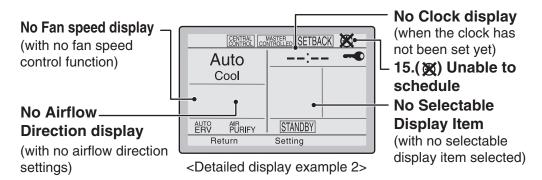


### Detailed display

■The airflow direction, clock, and selectable item appear on Detailed display screen in addition to the items appearing on Standard display.

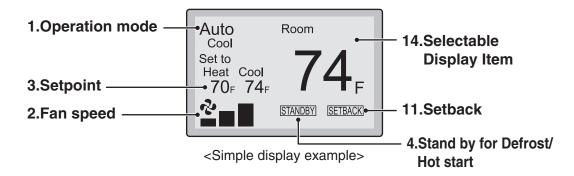


<Detailed display example 1>



SiUS092230EA BRC1E73

### Simple display



### Note for all display modes

• Depending on the field settings, while the indoor unit is stopped, OFF may be displayed instead of the operation mode and/or the setpoint may not be displayed.

BRC1E73 SiUS092230EA

### 1. Operation mode

- Used to display the current operation mode: Cool, Heat, Vent, Fan, Dry or Auto.
- In Auto mode, the actual operation mode (Cool or Heat) will be also displayed.
- Operation mode cannot be changed when OFF is displayed.
   Operation mode can be changed after starting operation.

### 2. Fan Speed

- Used to display the fan speed that is set for the indoor unit.
- The fan speed will not be displayed if the connected model does not have fan speed control functionality.

### 3. Setpoint

- Used to display the setpoint for the indoor unit.
- Use the Celsius/Fahrenheit item in the main menu to select the temperature unit (Celsius or Fahrenheit).

### 4. Stand by for Defrost/Hot start

" STANDBY "

#### If ventilation icon is displayed in this field:

 Indicates that an energy recovery ventilator (ERV) is connected.

For details, refer to the Operation Manual of the ERV.

### 5. Message

The following messages may be displayed.

"This function is not available"

- Displayed for a few seconds when an Operation button is pressed and the indoor unit does not provide the corresponding function.
- In a remote control group, the message will not appear if at least one of the indoor units provides the corresponding function.

- "Error: Push Menu button"
- "Warning: Push Menu button"
- Displayed if an error or warning is detected.
- "Time to clean filter"
- "Time to clean element"
- "Time to clean filter & element"
- Displayed as a reminder when it is time to clean the filter and/or element.

#### 6. Ventilation

- Displayed when an energy recovery ventilator is connected.
- Ventilation Mode icon. "AUTO ERV BYPASS"
   These icons indicate the current ventilation mode (ERV only) (AUTO, ERV, BYPASS).
- Air Purify ICON " APPLIFY"

  This icon indicates that the air purifying unit (Optional) is in operation.

### 7. Key Lock

• Displayed when the key lock is set.

#### 8. Scheduled

 Displayed if the Schedule or Off timer is enabled.

#### 9. Under Centralized control "CENTRAL "

 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.

## 10. Changeover controlled by the master indoor unit "CONTROLLED" (VRV only)

 Displayed when another indoor unit on the system has the authority to change the operation mode between cool and heat.

SiUS092230EA BRC1E73

### 11. Setback "SETBACK"

• The setback icon flashes when the unit is turned on by the setback control.

### 12. Airflow Direction ".<sup>□</sup>"

- Displayed when the airflow direction and swing are set.
- If the connected indoor unit model does not include oscillating louvers this item will not be displayed.

### 13. Current Day/Time (12/24 hour time display)

- Displayed if the clock is set.
- If the clock is not set, "--: -- " will be displayed.
- 12 hour time format is displayed by default.
- Select 12/24 hour time display option in the main menu under "Clock & Calendar".

### 14. Selectable Display Item

- Room temperature is selected by default.
- For other choices see the operation manual.

### 15. XUnable to schedule

- Displayed when the clock needs to be set.
- The schedule function will not work unless the clock is set.

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### 1. General Problem Symptoms and Check Items

Symptom	Check Item	Measures	Reference Page
The unit does not	Check the power supply.	Check if the rated voltage is supplied.	_
operate.	Check the type of the indoor unit.	Check if the indoor unit type is compatible with the outdoor unit.	_
	Check the outdoor temperature.  Heating/cooling operations are not available when the outdoor temperature is out of the operation limit. Check the reference page for the operation limit.		240
	Diagnose with remote controller indication.		125
	Check the remote controller addresses.	Check if address settings for the remote controller and indoor unit are correct.	212
Operation sometimes stops.	Check the power supply.	A power failure of 2 to 10 cycles stops air conditioner operation. (Operation lamp OFF)	_
	Check the outdoor temperature.  Heating/cooling operations are not available when the outdoor temperature is out of the operation limit. Check the reference page for the operation limit.		240
	Diagnose with remote controller indication.	_	125
The unit operates but does not cool, or does not heat.	Check for wiring and piping errors in the connection between the indoor unit and outdoor unit.	_	
	Check for thermistor detection errors.	Check if the thermistor is mounted securely.	_
	Check for faulty operation of the electronic expansion valve.	Set the unit to cooling operation, and check the temperature of the liquid pipe to see if the electronic expansion valve works.	_
	Diagnose with remote controller indication.	_	125
	Diagnose by service port pressure and operating current.	Check for refrigerant shortage.	_
Large operating noise and vibrations	Check the resistance between the terminals of the power module.	_	202
	Check the power module.	_	_
	Check the installation condition.	Check if the required spaces for installation (specified in the installation manual) are provided.	_

### 2. Troubleshooting with LED

### 2.1 Indoor Unit

#### **Operation Lamp**

Check the interval time between blinks of the OPERATION lamp.

#### **■ FTXR Series**

#### Blink every 2 to 3 seconds

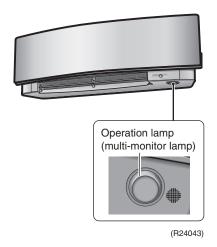
If the operation mode is different from the operation mode of the indoor unit in another room, the OPERATION lamp may blink and operation may not be performed, or operation may stop while in progress.

COOL, DRY and HEAT operation may not be used at the same time.

#### Blink every 0.5 seconds

This is a notification of an abnormality.

Conduct the diagnostic procedure described in the following pages.

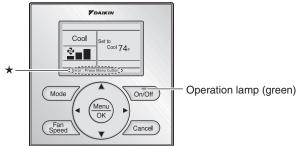


#### ■ FDMQ, FFQ Series with BRC1E73 Wired Remote Controller

The operation lamp blinks when any of the following errors is detected.

- 1. When a protection device of the indoor or outdoor unit is activated, or when the thermistor malfunctions.
- 2. When a signal transmission error occurs between the indoor and outdoor units.

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

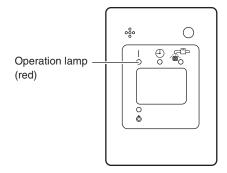


★The error or warning message also blinks on the basic screen.

R4003516

#### ■ FDMQ Series with BRC082A43 Wireless Remote Controller

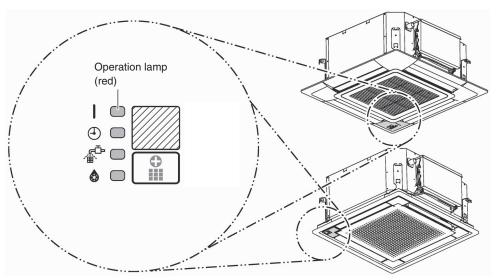
In case of wireless remote controller, a receiver is installed. When the error occurs, the operation lamp on the receiver blinks.



R4003517

#### ■ FFQ Series with BRC082A41W, BRC082A42W(S) Wireless Remote Controller

In case of wireless remote controller, a transmitter board (A2P) and a receiver (A3P) are installed on indoor unit. When the error occurs, the operation lamp on the receiver (A3P) blinks.



R4003518



When operation stops suddenly and the operation lamp blinks, it could be operation mode conflict. For FFQ models, even if the operation mode conflict occurs, the operation lamp does not blink.

- 1. Check if the operation modes are all the same for the indoor units connected to multi system outdoor unit.
- 2. If not, set all the indoor units to the same operation mode and confirm that the operation lamp is not blinking.
- Moreover, when the operation mode is automatic, set all the indoor unit operation mode as cooling or heating and check again if the operation lamp is normal.
   If the lamp stops blinking after the above steps, there is no malfunction.
- \*Operation stops and operation lamp blinks only for the indoor unit that has a different operation mode set later. The first set operation mode has priority.

#### **Service Monitor**

The indoor unit has a green LED (LED A, HAP) on the control PCB. When the microcomputer works in order, the LED blinks. (Refer to page 25, 27, 29 for the location of LED.)

### 2.2 Outdoor Unit

The outdoor unit has one green LED (LED A) on the PCB. When the microcomputer works in order, the LED A blinks. However, the LED A turns OFF while the standby electricity saving function is activated and the power supply is OFF.

Refer to page 34, 36 for the location of LED A.

Service Diagnosis SiUS092230EA

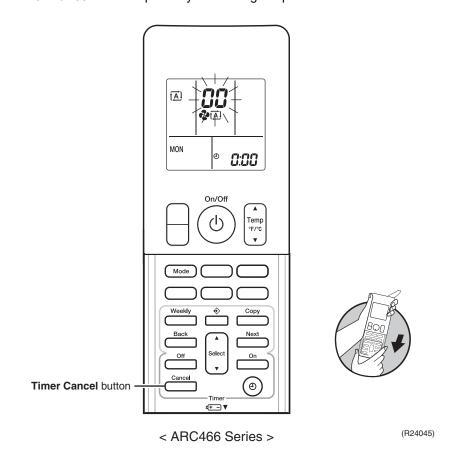
### 3. Service Diagnosis

### 3.1 ARC466 Series

### 3.1.1 Method 1

1. When **Timer Cancel** button is held down for 5 seconds, **00** is displayed on the temperature display screen.

2. Press Timer Cancel button repeatedly until a long beep sounds.



### Note(s)

- 1. A short beep or two consecutive beeps indicate non-corresponding codes.
- 2. To return to the normal mode, hold **Timer Cancel** button down for 5 seconds. When the remote controller is left untouched for 60 seconds, it also returns to the normal mode.
- 3. Not all the error codes are displayed. When you cannot find the error code, try method 2. Refer to page 117.
- The code indication changes in the sequence shown below.

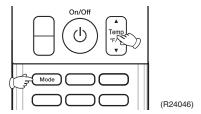
### ARC466A36

No.	Code	No.	Code	No.	Code	No.	Code	No.	Code
1	00	10	E6	19	C9	28	UH	37	E3
2	A5	11	H6	20	C4	29	P4	38	Н3
3	E7	12	H0	21	C5	30	H7		
4	F3	13	A6	22	J3	31	U2		
5	F6	14	U0	23	J6	32	EA		
6	L3	15	C7	24	E5	33	AH		
7	L4	16	А3	25	A1	34	FA		
8	L5	17	Н8	26	E1	35	H1		
9	U4	18	Н9	27	UA	36	P9		

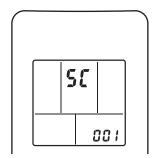
SiUS092230EA Service Diagnosis

### 3.1.2 Method 2

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

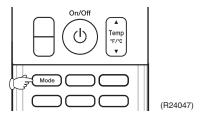


SC is displayed on the LCD.

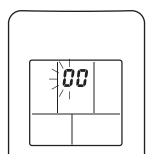


R6000375

- 2. Select **SC** (service check) with **Temp** ▲ or **Temp** ▼ button.
- 3. Press Mode button to enter the service check mode.

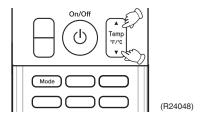


The left-side number blinks.



R6000373

4. Press **Temp** ▲ or **Temp** ▼ button and change the number until you hear the two consecutive beeps or the long beep.

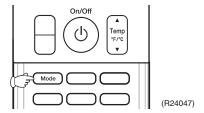


- 5. Diagnose by the sound.
  - Beep: The left-side number does not correspond with the error code.
  - Two consecutive beeps: The left-side number corresponds with the error code but the right-side number does not.

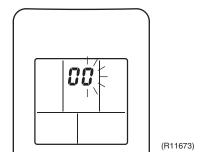
Service Diagnosis SiUS092230EA

Long beep: Both the left-side and right-side numbers correspond with the error code.
 The numbers indicated when you hear the long beep are the error code.
 Refer to page 125.

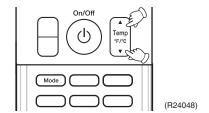
6. Press Mode button.



The right-side number blinks.



7. Press **Temp** ▲ or **Temp** ▼ button and change the number until you hear the long beep.

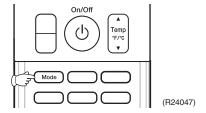


- 8. Diagnose by the sound.
  - Beep: The left-side number does not correspond with the error code.
  - Two consecutive beeps: The left-side number corresponds with the error code but the right-side number does not.
  - Long beep: Both the left-side and right-side numbers correspond with the error code.
- 9. Determine the error code.

The numbers indicated when you hear the long beep are the error code. Refer to page 125.

10. Press **Mode** button for 5 seconds to exit from the service check mode.

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



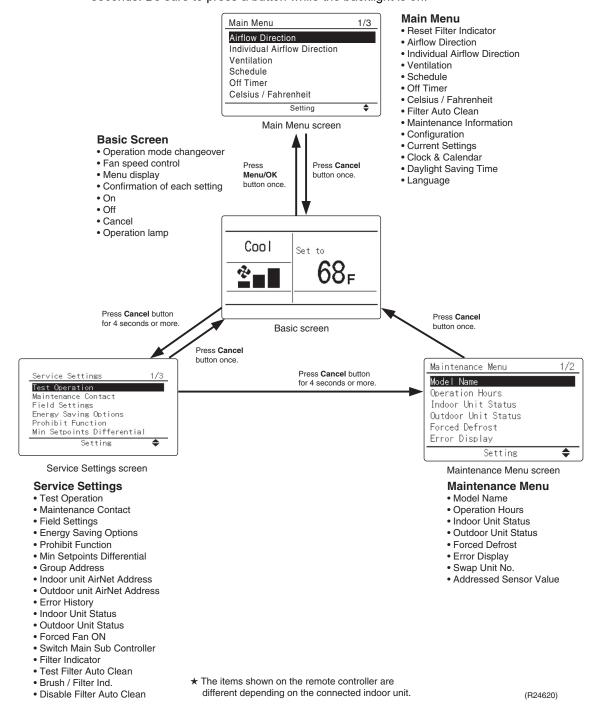
SiUS092230EA Service Diagnosis

### 3.2 BRC1E73

### Relations Between Modes

On power-up, the message "Checking the connection. Please standby." will be displayed on the remote controller screen temporarily and then the basic screen will be displayed. To access a mode from the basic screen, refer to the figure below.

When any of the operation buttons is pressed, the backlight will come on and remain lit for about 30 seconds. Be sure to press a button while the backlight is on.

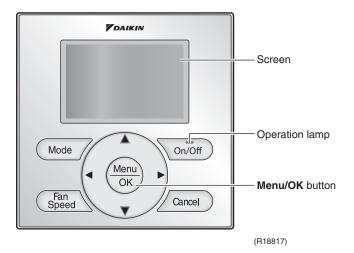


Service Diagnosis SiUS092230EA

### Service Diagnosis

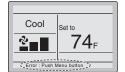
The following message is displayed on the screen when an error (or a warning) occurs during operation.

Check the error code and take the corrective action specified for the particular model.



#### Operation





• If an error occurs, either one of the following items will flash in the basic screen.

#### **Error: Push Menu button**

- \* The Operation lamp will flash.
- \* For Simple display, the message is not displayed, and only the Operation lamp flashes.

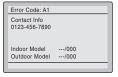
### Warning: Push Menu button

- \* The Operation lamp will not flash.
- \* For Simple display, the message is not displayed, and the Operation lamp does not flash, either.



• Press Menu/OK button.





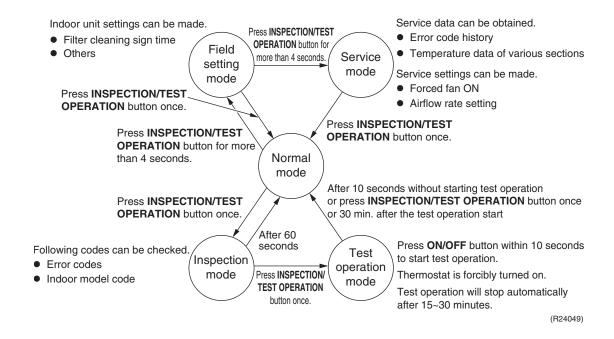
- The error code will flash and the service contact and model name or code may be displayed.
- Notify your Daikin dealer of the Error code and model name or code.

SiUS092230EA Service Diagnosis

### 3.3 BRC082A43, BRC082A41W, BRC082A42W(S)

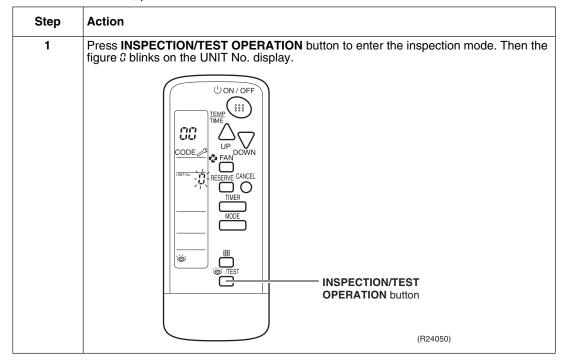
### Relations Between Modes

The following modes can be selected by using **INSPECTION/TEST OPERATION** button on the remote controller.

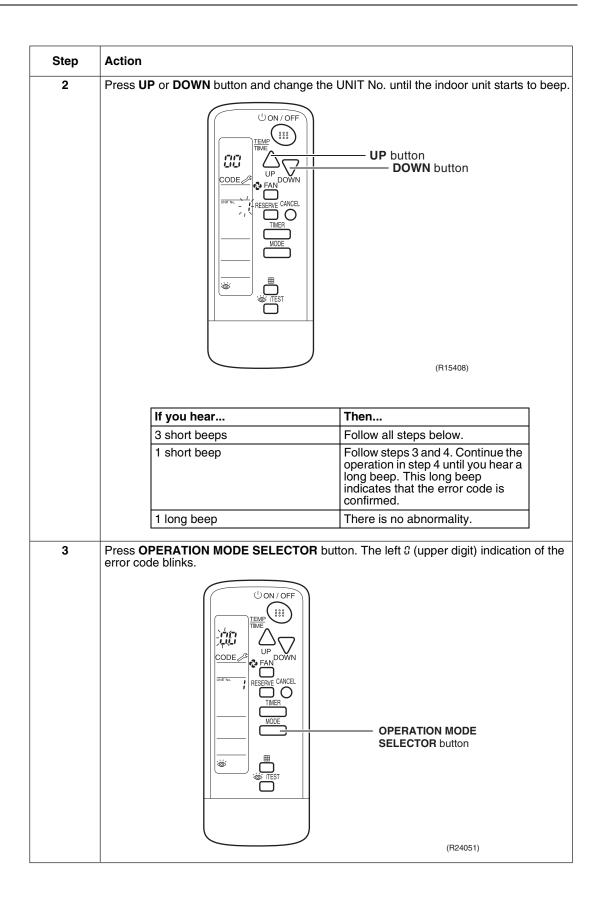


### Service Diagnosis

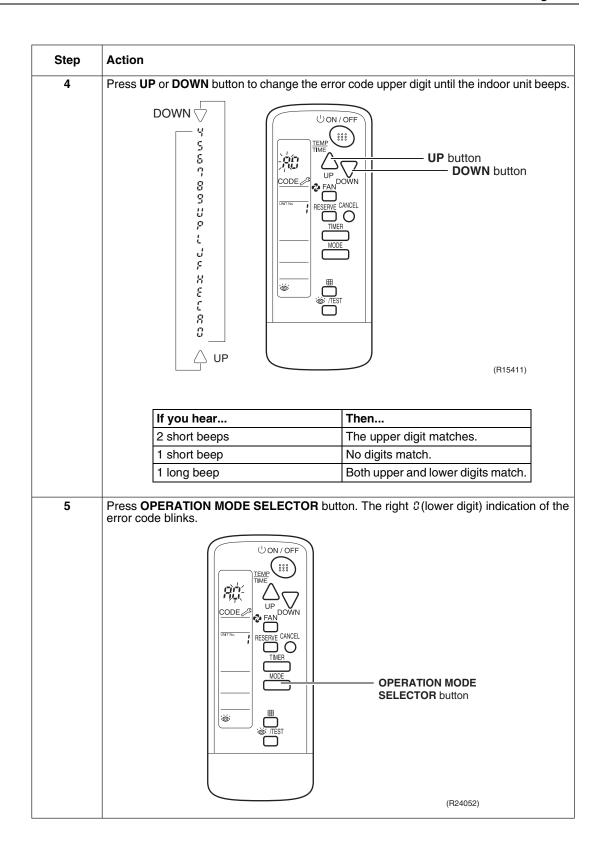
To find the error code, proceed as follows:



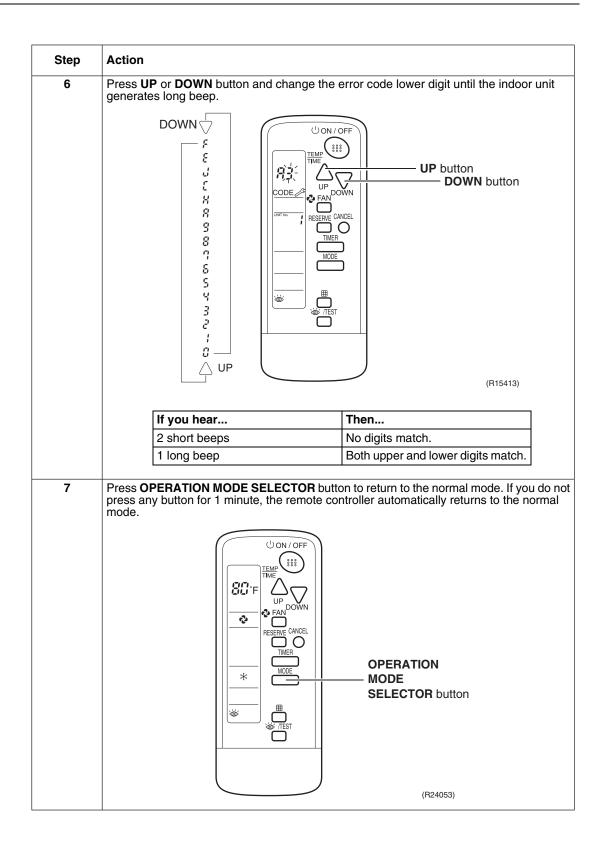
Service Diagnosis SiUS092230EA



SiUS092230EA Service Diagnosis



Service Diagnosis SiUS092230EA



### 4. Error Codes and Description

	Error	Decembra	Reference Page			
	Codes	Description		FDMQ	FFQ	
System	00	Normal		_	_	
	U0★	Refrigerant shortage		_	_	
	U2	Low-voltage detection or over-voltage detection	134	151	151	
	U4	Signal transmission error (between indoor unit and outdoor unit)	136	153	153	
	U5	Signal transmission error (between indoor unit and remote controller)	_	155	155	
	U8	Signal transmission error (between MAIN/SUB remote controller)	_	156	156	
	UA	Unspecified voltage (between indoor unit and outdoor unit)	138	157	157	
Indoor	A1	Indoor unit PCB abnormality		139	139	
Unit	А3	Drain level control system abnormality	_	140	140	
	A5	Freeze-up protection control/heating peak-cut control	128	_	_	
	A6	Fan motor (DC motor) or related abnormality	129	141	143	
	A8	Indoor fan PCB abnormality	_	146	_	
	AF	Humidifier or related abnormality	_	147	147	
	C4	Indoor heat exchanger thermistor or related abnormality	132	148	148	
	C5		_	148	148	
	C7	Front panel open/close fault	133	_	_	
	C9	Room temperature thermistor or related abnormality	132	148	148	
	CE	Presence sensor or floor sensor abnormality	_	_	149	
	CJ	Remote controller thermistor abnormality	_	150	150	
Outdoor	E1	Outdoor unit PCB abnormality		158		
Unit	E3★	Actuation of high pressure switch	159			
	E5 <b>★</b>	OL activation (compressor overload) or HPS activation (high pressure switch)		161		
		OL activation (compressor overload)		164		
	E6★	Compressor lock		167		
	E7★	DC fan lock		168		
	E8	Input overcurrent detection		169		
	EA	Four way valve abnormality		171		
	F3	Discharge pipe temperature control		173		
	F6	High pressure control in cooling		174		
	F8	System shutdown due to temperature abnormality in compressor		176		
	Н0	Compressor system sensor abnormality	177			
	Н6	Position sensor abnormality		178		
	Н8	DC voltage/current sensor abnormality		181		
	Н9	Outdoor temperature thermistor or related abnormality		182		
	J3★	Discharge pipe thermistor or related abnormality	182			
	J6	Outdoor heat exchanger thermistor or related abnormality		182		
	L3★	Electrical box temperature rise		184		
	L4	Radiation fin temperature rise		185		
	L5★	Output overcurrent detection		187		
	P4	Radiation fin thermistor or related abnormality		182		
	H8 H9 J3* J6 L3* L4 L5*	DC voltage/current sensor abnormality Outdoor temperature thermistor or related abnormality Discharge pipe thermistor or related abnormality Outdoor heat exchanger thermistor or related abnormality Electrical box temperature rise Radiation fin temperature rise Output overcurrent detection		181 182 182 182 184 185 187		

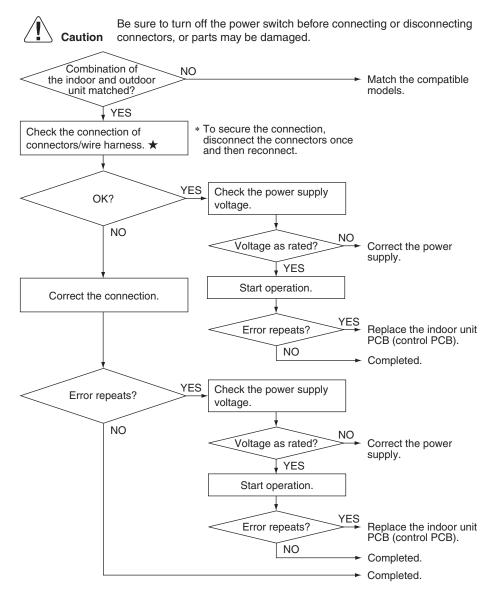
<sup>★:</sup> Displayed only when system-down occurs for method 1.

### **5. Troubleshooting for FTXR Series**

### 5.1 Indoor Unit PCB Abnormality

Error Code	A1
Method of Error Detection	The system checks if the circuit works properly within the microcomputer of the indoor unit.
Error Decision The system cannot set the internal settings. Conditions	
Supposed Causes	<ul> <li>Wrong models interconnected</li> <li>Defective indoor unit PCB</li> <li>Disconnection of connector</li> <li>Reduction of power supply voltage</li> </ul>

### **Troubleshooting**



R6000615



★ Wire harness (Connector): Terminal strip ~ Control PCB (H1, H2, H3)

### 5.2 Freeze-up Protection Control/Heating Peak-cut Control

#### **Error Code**

### **A5**

### Method of Error Detection

- Freeze-up protection control
  - During cooling operation, the freeze-up protection control (operation halt) is activated according to the temperature detected by the indoor heat exchanger thermistor.
- Heating peak-cut control

  During heating operation, the temperature detected by the indoor heat exchanger thermistor is used for the heating peak-cut control (operation halt, outdoor fan stop, etc.)

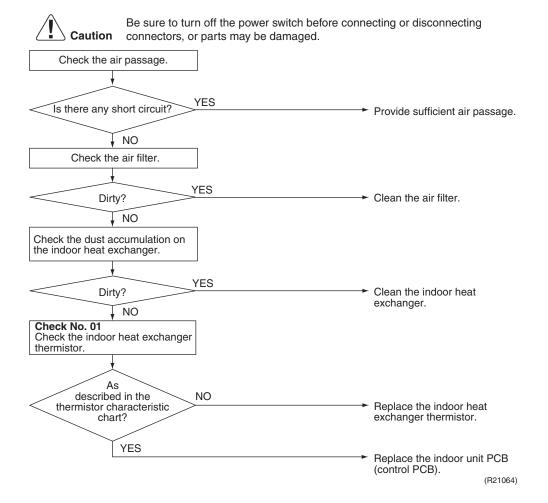
### Error Decision Conditions

- Freeze-up protection control
  - During cooling operation, the indoor heat exchanger temperature is below 0°C (32°F).
- Heating peak-cut control During heating operation, the indoor heat exchanger temperature is above 62.5°C (144.5°F).

### Supposed Causes

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

### **Troubleshooting**





Check No.01 Refer to P.190

### 5.3 Indoor Fan Motor (DC Motor) or Related Abnormality

#### **Error Code**

### **A6**

### Method of Error Detection

The rotation speed detected by the Hall IC during indoor fan motor operation determines abnormal fan motor operation.

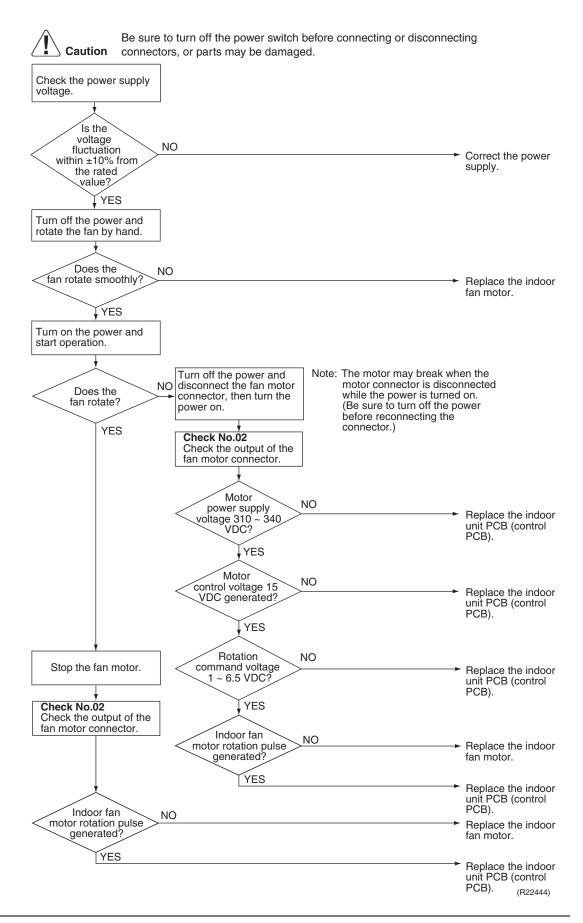
### **Error Decision Conditions**

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

### Supposed Causes

- Remarkable decrease in power supply voltage
- Layer short inside the fan motor winding
- Breaking of wire inside the fan motor
- Breaking of the fan motor lead wires
- Defective capacitor of the fan motor
- Defective indoor unit PCB

### **Troubleshooting**



130



The rotation pulse is the feedback signal from the indoor fan motor.



Check No.02 Refer to P.191

### 5.4 Thermistor or Related Abnormality

#### **Error Code**

### C4, C9

### Method of Error Detection

The temperatures detected by the thermistors determine thermistor errors.

### **Error Decision Conditions**

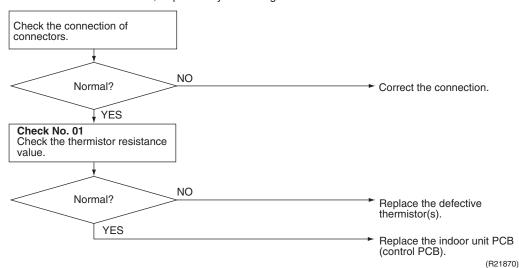
The communication error of thermistor(s) or malfunction of thermistor(s).

### Supposed Causes

- Disconnection of connector
- Defective thermistor(s)
- Defective indoor unit PCB

### **Troubleshooting**

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



**C4**: Indoor heat exchanger thermistor **C9**: Room temperature thermistor

Reference

Check No.01 Refer to P.190

### 5.5 Front Panel Open/Close Fault

#### **Error Code**

### **C7**

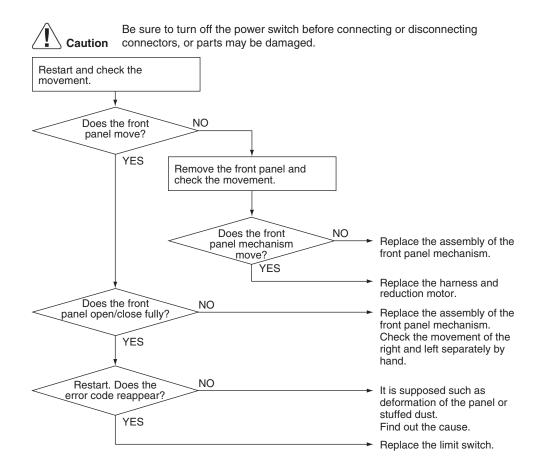
### **Error Decision Conditions**

If the error repeats, the system is shut down.

### Supposed Causes

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

#### **Troubleshooting**



(R17249)



You cannot operate the unit by the remote controller when the front panel mechanism breaks down. <To the dealers: temporary measure before repair>

- 1. Turn off the power.
- 2. Remove the front panel.
- Turn on the power. (Wait until the initialization finishes.)

Operate the unit by the indoor unit **ON/OFF** switch.

### 5.6 Low-voltage Detection or Over-voltage Detection

#### **Error Code**

### U2

### Method of Error Detection

#### Low-voltage detection:

An abnormal voltage drop is detected by the DC voltage detection circuit.

#### Over-voltage detection:

An abnormal voltage rise is detected by the over-voltage detection circuit.

### **Error Decision Conditions**

#### Low-voltage detection:

- The voltage detected by the DC voltage detection circuit is below 180 ~ 196 V (depending on the model).
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

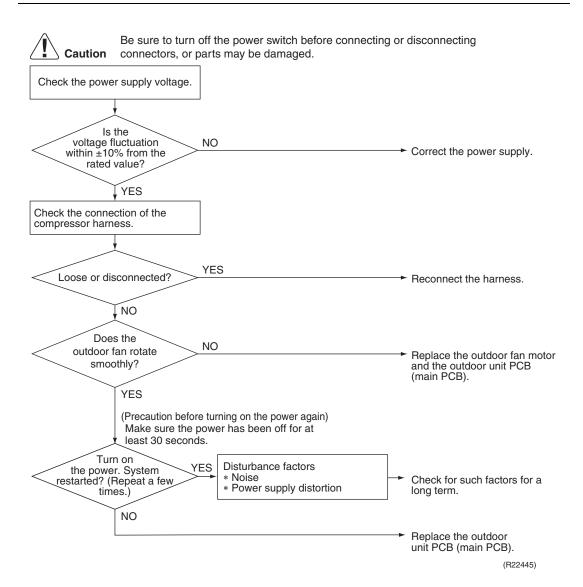
#### Over-voltage detection:

- An over-voltage signal is fed from the over-voltage detection circuit to the microcomputer (over 458 ~ 500 V, depending on the model).
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

### Supposed Causes

- Power supply voltage out of specification
- Defective DC voltage detection circuit
- Defective over-voltage detection circuit
- Defective PAM control part
- Disconnection of compressor harness
- Short circuit inside the fan motor winding
- Noise
- Momentary drop of voltage
- Momentary power failure
- Defective outdoor unit PCB

### **Troubleshooting**



# 5.7 Signal Transmission Error (Between Indoor Unit and Outdoor Unit)

#### **Error Code**

### **U4**

### Method of Error Detection

The signal transmission data received from the outdoor unit is checked whether it is normal.

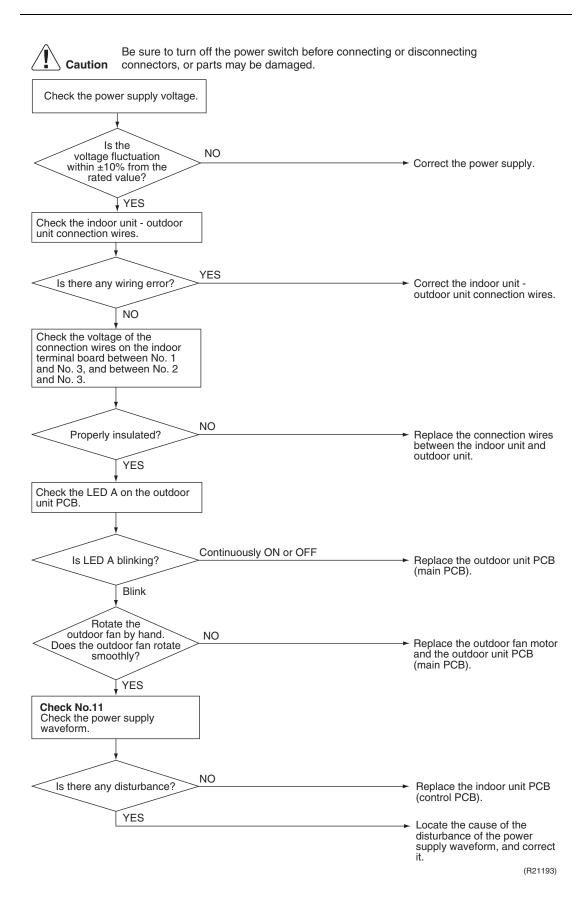
### **Error Decision Conditions**

The data sent from the outdoor unit cannot be received normally, or the content of the data is abnormal.

### Supposed Causes

- Power supply voltage out of specification
- Reduction of power supply voltage
- Wiring error
- Breaking of the connection wires between the indoor and outdoor units (wire No. 3)
- Defective outdoor unit PCB
- Short circuit inside the fan motor winding
- Defective indoor unit PCB
- Disturbed power supply waveform

### **Troubleshooting**



Reference

Check No.11 Refer to P.192

# 5.8 Unspecified Voltage (Between Indoor Unit and Outdoor Unit)

#### **Error Code**

### **UA**

### Method of Error Detection

The supply power is detected for its requirements (pair type is different from multi type) by the indoor/outdoor transmission signal.

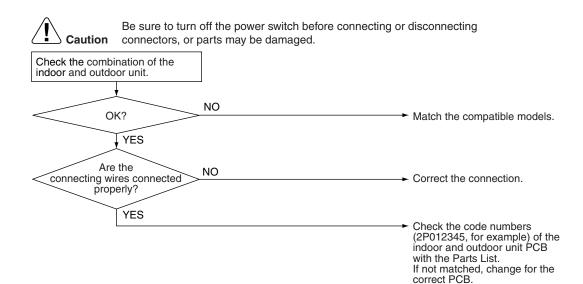
### Error Decision Conditions

The pair type and multi type are interconnected.

### Supposed Causes

- Wrong models interconnected
- Wrong wiring of connecting wires
- Wrong indoor unit PCB or outdoor unit PCB mounted
- Defective indoor unit PCB
- Defective outdoor unit PCB

### **Troubleshooting**



(R20435)

### 6. Troubleshooting for FDMQ, FFQ Series

### 6.1 Indoor Unit PCB Abnormality

#### **Error Code**

### **A1**

#### Method of Error Detection

The system checks the data from EEPROM.

### **Error Decision Conditions**

When the data from the EEPROM is not received correctly

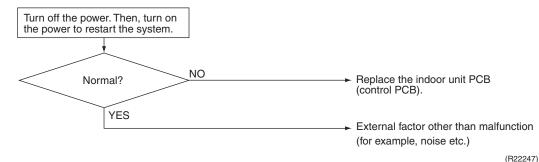
EEPROM (Electrically Erasable Programmable Read Only Memory): A memory chip that holds its content without power. It can be erased, either within the computer or externally and usually requires more voltage for erasure than the common +5 volts used in logic circuits. It functions like non-volatile RAM,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

### Supposed Causes

- Defective indoor unit PCB
- External factor (noise etc.)

#### **Troubleshooting**

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



### 6.2 Drain Level Control System Abnormality

#### **Error Code**

### **A3**

#### Method of Error Detection

The float switch detects error.

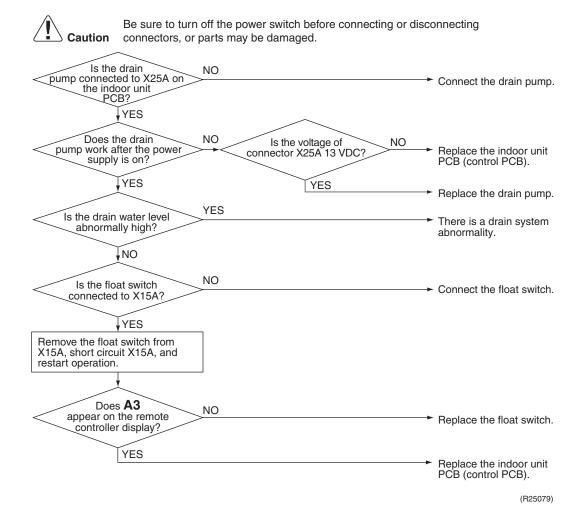
# **Error Decision Conditions**

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

# Supposed Causes

- Defective drain pump
- Improper drain piping work
- Clogged drain piping
- Defective float switch
- Defective indoor unit PCB
- Defective short circuit connector X15A, X25A on indoor unit PCB

#### **Troubleshooting**



### 6.3 Indoor Fan Motor or Related Abnormality

### 6.3.1 Indoor Fan Motor (DC Motor) or Related Abnormality

# Applicable Models

FDMQ09/12/15/18/24WVJU9

#### **Error Code**

#### **A6**

#### Method of Error Detection

- Detection from the current flow on the fan PCB
- Detection from the rotation speed of the fan motor in operation

### **Error Decision Conditions**

The rotation speed is less than a certain level for 6 seconds.

## Supposed Causes

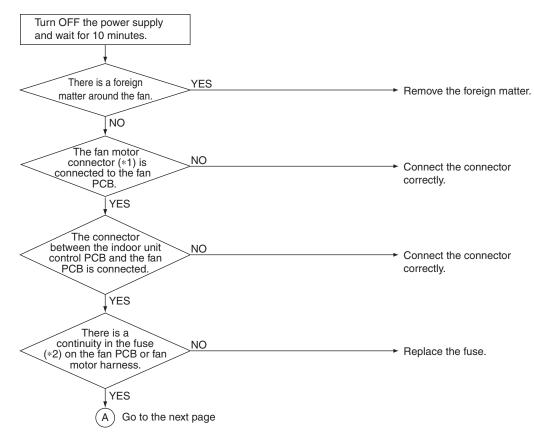
- Clogged foreign matter
- Disconnection of fan motor connectors
- Disconnection of the connector between the indoor unit PCB and the fan PCB
- Defective fan PCB
- Defective fan motor
- No fuse continuity

#### **Trouble Shooting**

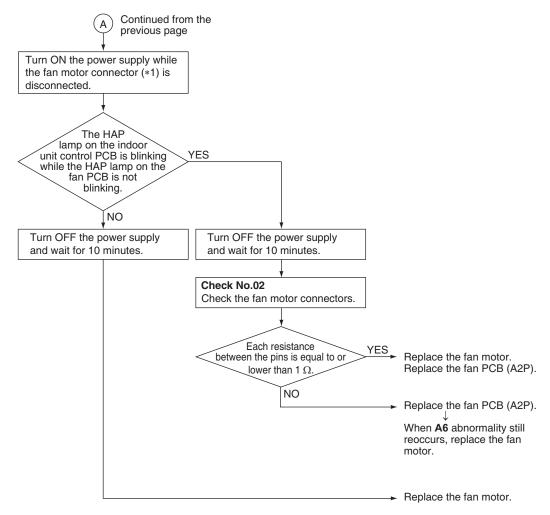


Caution cor

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



R6000547



R6000961



#### Connector and indoor unit PCB

*1	*2
Fan motor connector	Fuse
X8A	F2U



Check No.02 Refer to P.191

### 6.3.2 Indoor Fan Motor (DC Motor) or Related Abnormality

Applicable Models

FFQ09/12/15/18W2VJU9(8)

**Error Code** 

**A6** 

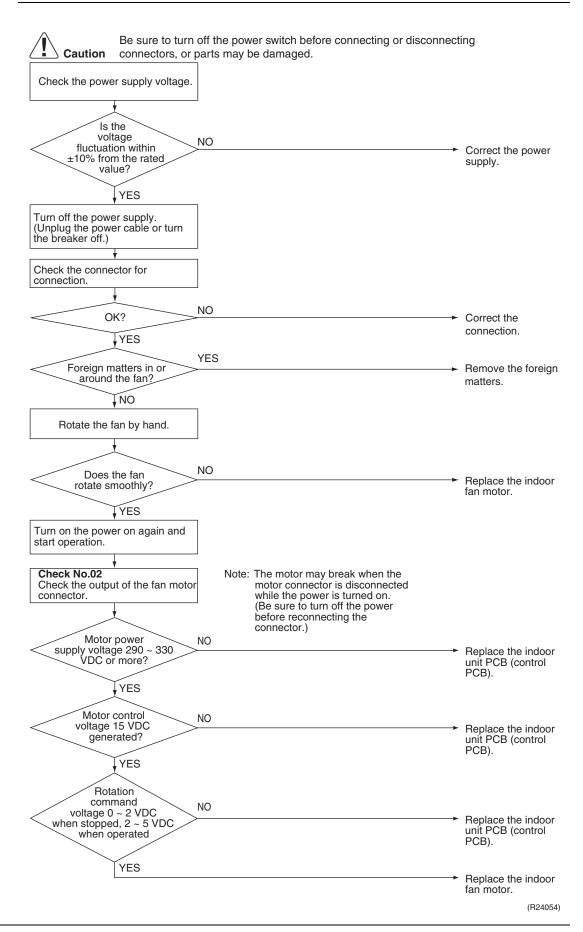
Method of Error Detection The rotation speed detected by the Hall IC during indoor fan motor operation determines abnormal fan motor operation.

**Error Decision Conditions** 

The fan motor is not revved up.

Supposed Causes

- Layer short inside the fan motor winding
- Breaking of wire inside the fan motor
- Breaking of the fan motor lead wires
- Defective indoor unit PCB





Check No.02 Refer to P.191

### 6.4 Indoor Fan PCB Abnormality

# Applicable Models

FDMQ09/12/15/18/24WVJU9

#### **Error Code**

### **A8**

#### Method of Error Detection

Microcomputer checks the voltage state of the fan PCB.

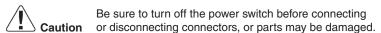
### **Error Decision Conditions**

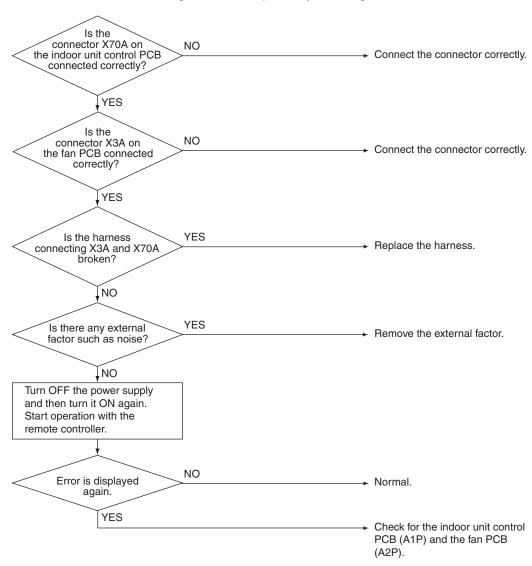
Overvoltage or voltage drop is detected on the fan PCB.

# Supposed Causes

- Defective fan PCB
- External factor such as noise

#### **Troubleshooting**





R6000549

### 6.5 Humidifier or Related Abnormality

#### **Error Code**

#### **AF**

#### Method of Error Detection

Water leakage from humidifier(s) is detected based on the float switch ON/OFF changeover while the system is not operating.

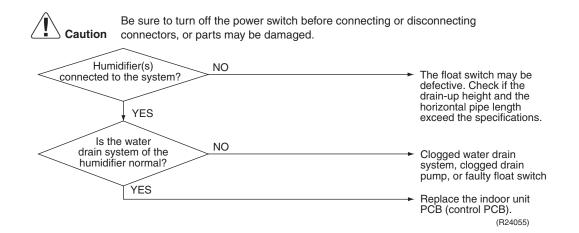
# **Error Decision Conditions**

The float switch changes from ON to OFF while the system is OFF

# Supposed Causes

- Defective float switch
- Error in water drain system of humidifier(s)
- Clogged electric expansion value in humidifier(s)
- Defective indoor unit PCB

#### **Troubleshooting**





The system continues to operate with the thermostat OFF even while the error code is displayed.

### 6.6 Thermistor or Related Abnormality

#### **Error Code**

C4, C5, C9

#### Method of Error Detection

The temperatures detected by the thermistors determine thermistor errors.

## Error Decision Conditions

The thermistor is disconnected or shorted while the unit is running.

# Supposed Causes

- Disconnection of connector
- Defective thermistor(s)
- Breaking of wires
- Defective indoor unit PCB

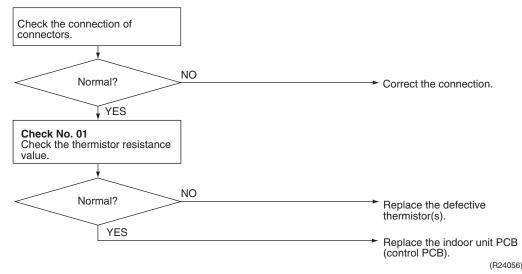
#### **Troubleshooting**

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

To check the thermistors, proceed as follows:

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

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



C4: Indoor heat exchanger thermistor 1 (liquid pipe) (R2T)

C5: Indoor heat exchanger thermistor 2 (R3T)

**C9**: Room temperature thermistor (R1T)

Reference

Check No.01 Refer to P.190

### 6.7 Presence Sensor or Floor Sensor Abnormality

Applicable Models

FFQ09/12/15/18W2VJU9(8)

**Error Code** 

CE

Method of Error Detection The system detects abnormality by the output signal from the sensor(s).

Error Decision Conditions

The sensor is disconnected or shorted while the unit is running.

Supposed Causes

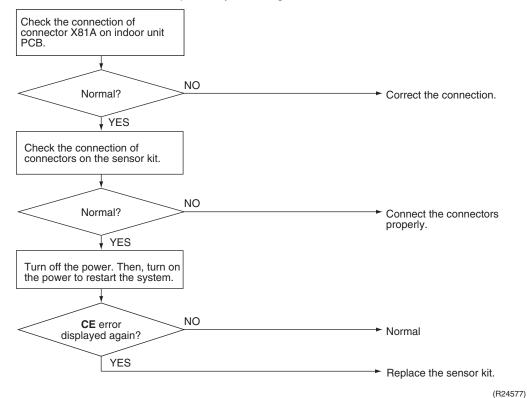
- Disconnection of connector
- Breaking of wires
- Defective sensor(s)
- Defective sensor kit PCB

#### **Troubleshooting**

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



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



A Note

When replacing the defective sensor(s), replace the sensor kit as ASSY.

### 6.8 Remote Controller Thermistor Abnormality

#### **Error Code**

#### CJ

#### Method of Error Detection

Even if remote controller thermistor is faulty, system is possible to operate by system thermistor. Malfunction detection is carried out by the temperature detected by the remote controller thermistor.

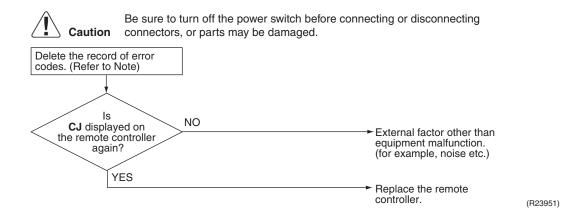
## **Error Decision Conditions**

The remote controller thermistor is disconnected or shorted while the unit is running.

### Supposed Causes

- Defective room temperature thermistor in the wired remote controller
- Defective wired remote controller PCB
- External factor such as noise

#### **Troubleshooting**





To delete the record of error codes, press **ON/OFF** button on the remote controller for 4 seconds or more while the error code is displayed in the inspection mode.

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### 6.9 Low-voltage Detection or Over-voltage Detection

#### **Error Code**

#### U2

#### Method of Error Detection

#### Low-voltage detection:

An abnormal voltage drop is detected by the DC voltage detection circuit.

#### Over-voltage detection:

An abnormal voltage rise is detected by the over-voltage detection circuit.

### **Error Decision Conditions**

#### Low-voltage detection:

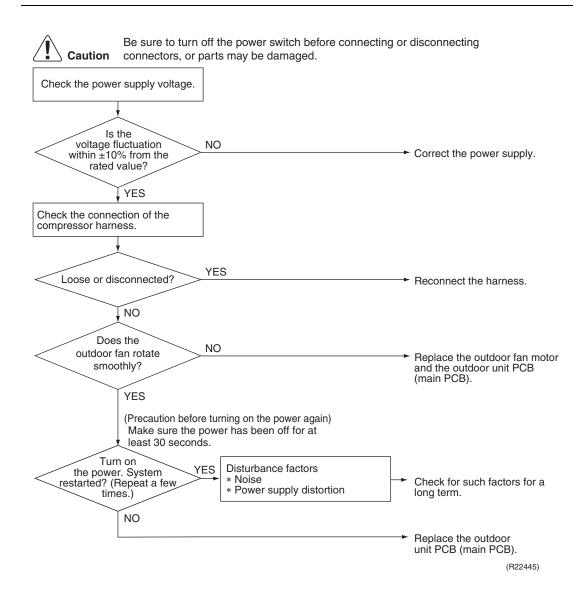
- The voltage detected by the DC voltage detection circuit is below 180 ~ 196 V (depending on the model).
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

#### Over-voltage detection:

- An over-voltage signal is fed from the over-voltage detection circuit to the microcomputer (over 458 ~ 500 V, depending on the model).
- The compressor stops if the error occurs, and restarts automatically after 3-minute standby.

# Supposed Causes

- Power supply voltage out of specification
- Defective DC voltage detection circuit
- Defective over-voltage detection circuit
- Defective PAM control part
- Disconnection of compressor harness
- Short circuit inside the fan motor winding
- Noise
- Momentary drop of voltage
- Momentary power failure
- Defective outdoor unit PCB



# 6.10 Signal Transmission Error (Between Indoor and Outdoor Unit)

#### **Error Code**

#### **U4**

#### Method of Error Detection

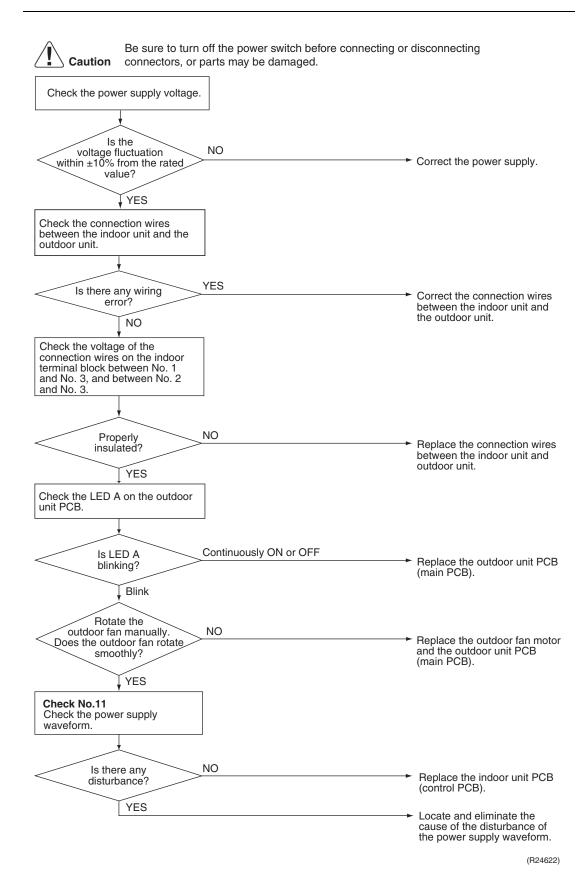
The signal transmission data from the outdoor unit is checked whether it is normal.

### **Error Decision Conditions**

The data sent from the outdoor unit cannot be received normally, or the content of the data is abnormal.

## Supposed Causes

- Power supply voltage out of specification
- Reduction of power supply voltage
- Wiring error
- Breaking of the connection wires between the indoor and outdoor units (wire No. 3)
- Defective outdoor unit PCB
- Short circuit inside the fan motor winding
- Defective indoor unit PCB
- Disturbed power supply waveform



Reference

Check No.11 Refer to P.192

# 6.11 Signal Transmission Error (Between Indoor Unit and Remote Controller)

#### **Error Code**

### U5

#### Method of Error Detection

In case of controlling 1 indoor unit with 2 remote controllers, check the system using microcomputer if signal transmission between indoor unit and remote controller (main and sub) is normal.

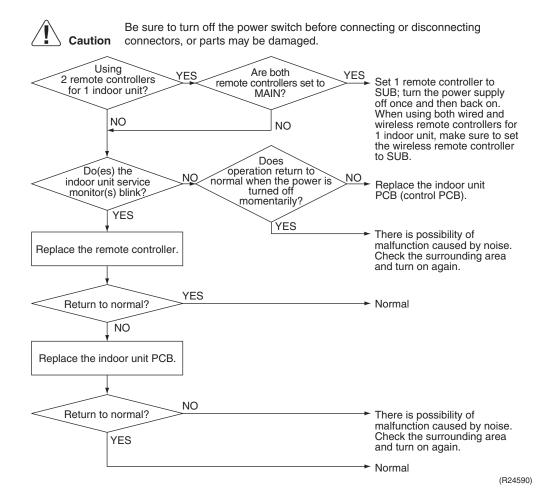
### Error Decision Conditions

Normal transmission does not continue for specified period.

# Supposed Causes

- Connection of 2 main remote controllers (when using 2 remote controllers)
- Defective indoor unit PCB
- Defective remote controller
- Transmission error caused by noise

#### **Troubleshooting**





For the way to change MAIN/SUB setting of remote controllers, refer to pages 219 and 220.

# 6.12 Signal Transmission Error (Between MAIN/SUB Remote Controllers)

#### **Error Code**

#### **U8**

#### Method of Error Detection

In case of controlling 1 indoor unit with 2 remote controllers, check the system using microcomputer if signal transmission between MAIN remote controller and SUB remote controller is normal.

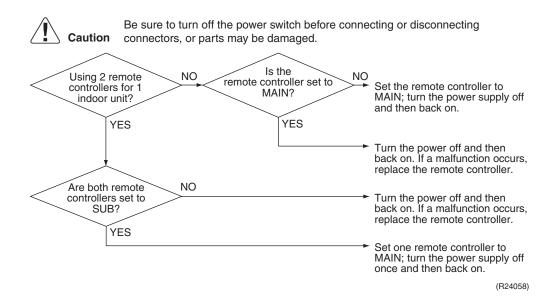
### Error Decision Conditions

Normal transmission does not continue for specified period.

# Supposed Causes

- Remote controller is set to SUB when using 1 remote controller
- Connection of 2 SUB remote controllers (when using 2 remote controllers)
- Defective remote controller PCB

#### **Troubleshooting**



A Note

For the way to change MAIN/SUB setting of remote controllers, refer to pages 219 and 220.

(R24591)

# 6.13 Unspecified Voltage (Between Indoor Unit and Outdoor Unit)

#### **Error Code**

#### UA

### Error Decision Conditions

Improper combination of indoor and outdoor units

# Supposed Causes

- Defective indoor unit PCB
- Indoor-outdoor unit transmission wiring error
- Defective optional unit(s) wirings
- Improper power supply wiring of indoor unit
- Improper wiring of connecting wires between indoor/outdoor units

#### **Troubleshooting**

Be sure to turn off the power switch before connecting or disconnecting Caution connectors, or parts may be damaged. Is the combination NO Connect the indoor/outdoor of indoor/outdoor units correct? units correctly. YES Continuously ON or OFF Are the wirings Do(es) the indoor between indoor unit and unit service monitor(s) Connect the wirings correctly. outdoor unit correctly blink? connected? YES Blink Is the optional units power supply connected from the Connect the wirings correctly. indoor unit terminal block No.1 and No.2? YES Is the voltage Turn off the power supply. between No.1 and Then, turn on the power No.2 on the indoor Could be incorrect wiring. supply to restart the system. unit terminal block Check again. 208 - 230 VAC? YES Check the power supply system inside the indoor unit. Are the wirings NO NO between indoor unit and Does the system conduct Connect the wirings correctly. outdoor unit correctly normal operation? connected? ÝES YES Replace the indoor unit PCB (control PCB). Normal

### 7. Troubleshooting for Outdoor Unit

### 7.1 Outdoor Unit PCB Abnormality

#### **Error Code**

#### **E1**

#### Method of Error Detection

- The system checks if the microprocessor is working in order.
- The system checks if the zero-cross signal comes in properly.

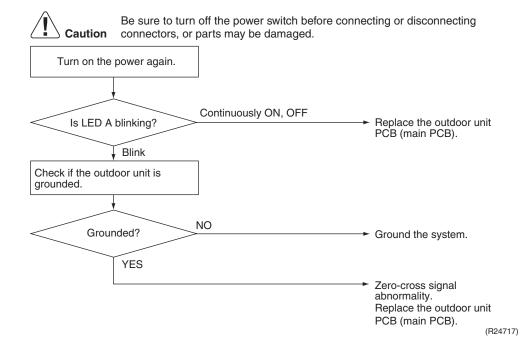
# **Error Decision Conditions**

- The microprocessor program runs out of control.
- The zero-cross signal is not detected.

# Supposed Causes

- Defective outdoor unit PCB
- Noise
- Momentary drop of voltage
- Momentary power failure

#### **Troubleshooting**



### 7.2 Actuation of High Pressure Switch

Applicable	е
Models	

RX15/18/24WMVJU9

**Error Code** 

**E3** 

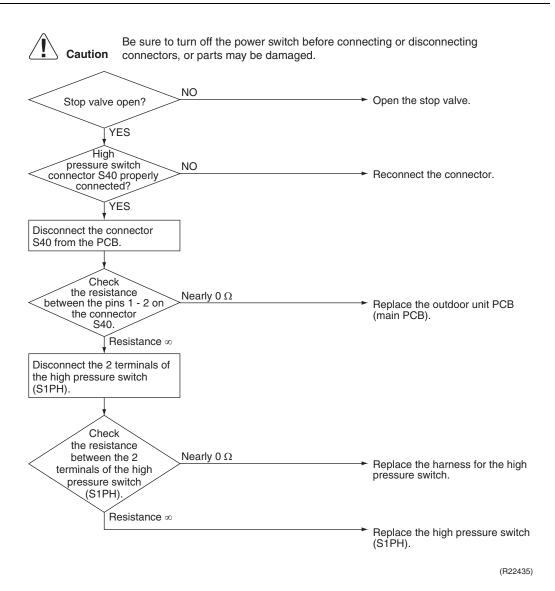
Method of Error Detection Abnormality is detected when the contact of the high pressure switch opens.

**Error Decision Conditions** 

- High pressure switch (S1PH) activating pressure: 4.15 MPa (602 psi)
- High pressure switch (S1PH) recovery pressure: 3.2 MPa (464 psi)

Supposed Causes

- Actuation of high pressure switch (S1PH)
- Closed stop valve
- Disconnection of connector S40
- Disconnection of 2 terminals of high pressure switch (S1PH)
- Defective outdoor unit PCB
- Broken S1PH harness
- Defective high pressure switch (S1PH)



# 7.3 OL Activation (Compressor Overload) or HPS Activation (High Pressure Switch)

Applicable Models

RX09/12WMVJU9

**Error Code** 

**E5** 

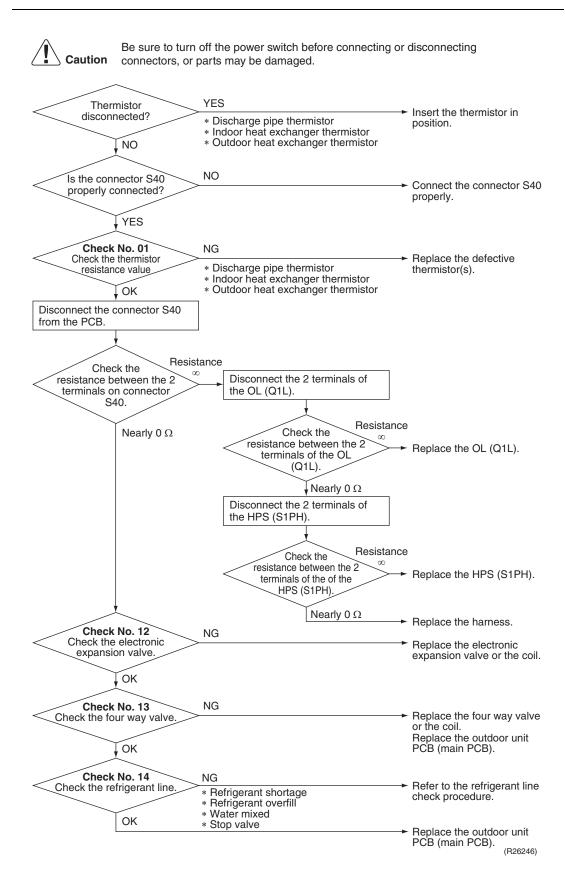
Method of Error Detection A compressor overload is detected through compressor OL. Abnormality is detected when the contact of the high pressure switch opens.

Error Decision Conditions

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

# Supposed Causes

- Disconnection of discharge pipe thermistor
- Disconnection of indoor or outdoor heat exchanger thermistor
- Defective discharge pipe thermistor
- Defective indoor or outdoor heat exchanger thermistor
- Disconnection of connector S40
- Disconnection of 2 terminals of OL (Q1L)
- Disconnection of 2 terminals of HPS (S1PH)
- Defective OL (Q1L)
- Defective HPS (S1PH)
- Broken OL and HPS harness
- Defective electronic expansion valve or coil
- Defective four way valve or coil
- Defective outdoor unit PCB
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve



Note(s) OL (Q1L) activating temperature: 130°C (266°F)

OL (Q1L) recovery temperature: 95°C (203°F)

High pressure switch (S1PH) activating pressure: 602 psi (4.15 MPa) High pressure switch (S1PH) recovery pressure: 464 psi (3.2 MPa)

Reference Check No.01 Refer to P.190

Reference Check No.12 Refer to P.193

Reference Check No.13 Refer to P.194

Reference Check No.14 Refer to P.194

### 7.4 OL Activation (Compressor Overload)

# Applicable Models

RX15/18/24WMVJU9

#### **Error Code**

**E5** 

# Method of Error Detection

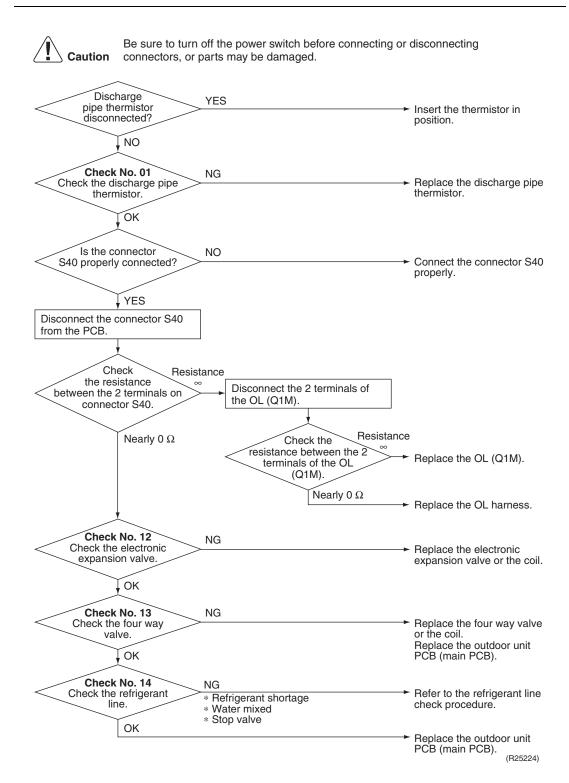
A compressor overload is detected through compressor OL.

### Error Decision Conditions

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

### Supposed Causes

- Disconnection of discharge pipe thermistor
- Defective discharge pipe thermistor
- Disconnection of connector S40
- Disconnection of 2 terminals of OL (Q1M)
- Defective OL (Q1M)
- Broken OL harness
- Defective electronic expansion valve or coil
- Defective four way valve or coil
- Defective outdoor unit PCB
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve



R Note

OL (Q1M) activating temperature: 130°C (266°F) OL (Q1M) recovery temperature: 95°C (203°F)

Reference

Check No.01 Refer to P.190

Reference

Check No.12 Refer to P.193

Reference Check No.13 Refer to P.194

Reference Check No.14 Refer to P.194

### 7.5 Compressor Lock

#### **Error Code**

#### **E6**

#### Method of Error Detection

A compressor lock is detected by the current waveform generated when applying high-frequency voltage to the motor.

# **Error Decision Conditions**

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

# Supposed Causes

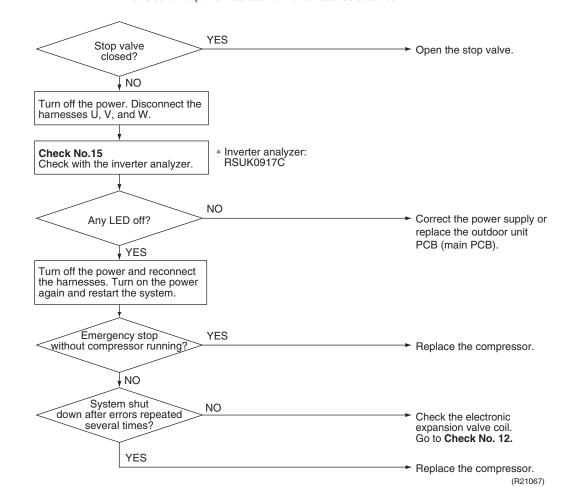
- Closed stop valve
- Compressor locked
- Disconnection of compressor harness

#### **Troubleshooting**



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

(Precaution before turning on the power again)
Make sure the power has been off for at least 30 seconds.



Reference

Check No.12 Refer to P.193

Reference

Check No.15 Refer to P.195

### 7.6 DC Fan Lock

#### **Error Code**

#### **E7**

#### Method of Error Detection

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

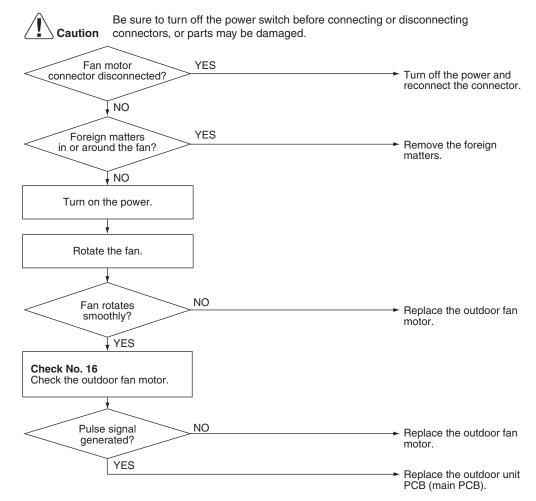
# **Error Decision Conditions**

- The fan does not start in 15 ~ 30 seconds even when the fan motor is running.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

### Supposed Causes

- Disconnection of the fan motor
- Foreign matter stuck in the fan
- Defective fan motor
- Defective outdoor unit PCB

#### **Troubleshooting**



R6000892



Check No.16 Refer to P.198

### 7.7 Input Overcurrent Detection

#### **Error Code**

### **E8**

#### Method of Error Detection

An input overcurrent is detected by checking the input current value with the compressor running.

# **Error Decision Conditions**

The current exceeds about  $12.0 \sim 12.5$  A (depending on the model) for 2.5 seconds with the compressor running.

The upper limit of the current decreases when the outdoor temperature exceeds a certain level.

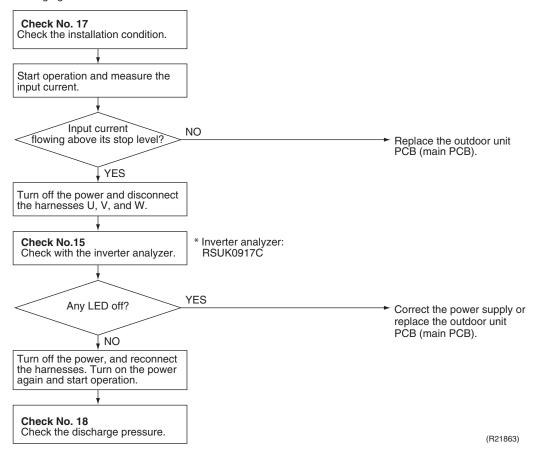
# Supposed Causes

- Outdoor temperature is out of operation range.
- Defective compressor
- Defective power module
- Defective outdoor unit PCB
- Short circuit



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

\* An input overcurrent may result from wrong internal wiring. If the system is interrupted by an input overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



Reference

Check No.15 Refer to P.195

Reference

Check No.17 Refer to P.199

Reference

Check No.18 Refer to P.199

### 7.8 Four Way Valve Abnormality

#### **Error Code**

### EA

#### Method of Error Detection

The room temperature thermistor and the indoor heat exchanger thermistor are checked if they function within their normal ranges in each operation mode.

## **Error Decision Conditions**

The following condition continues over 10 minutes after operating for 5 minutes.

■ Cooling/Dry

$$A - B < -5^{\circ}C (A - B < -9^{\circ}F)$$

Heating

$$B - A < -5^{\circ}C (B - A < -9^{\circ}F)$$

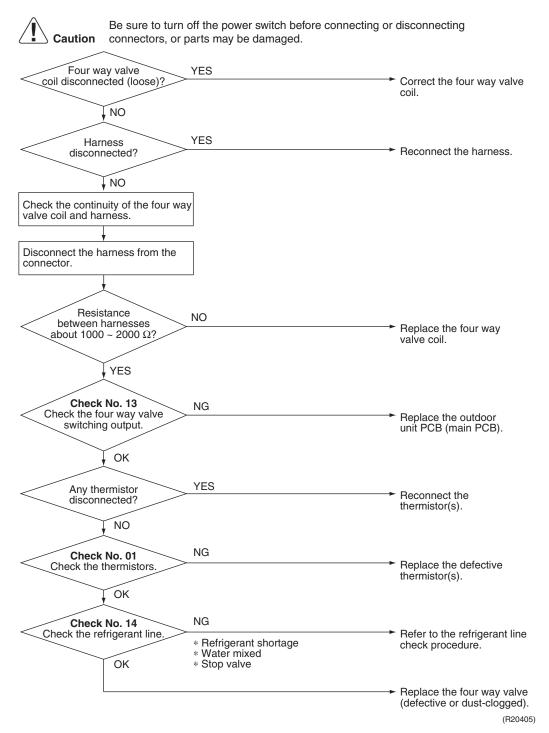
A: Room thermistor temperature

B: Indoor heat exchanger temperature

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

# Supposed Causes

- Disconnection of four way valve coil
- Defective four way valve, coil, or harness
- Defective outdoor unit PCB
- Defective thermistor
- Refrigerant shortage
- Water mixed in refrigerant
- Defective stop valve



Reference Check No.01 Refer to P.190

Reference Check No.13 Refer to P.194

Reference Check No.14 Refer to P.194

### 7.9 Discharge Pipe Temperature Control

#### **Error Code**

### F3

#### Method of Error Detection

An error is determined with the temperature detected by the discharge pipe thermistor.

### Error Decision Conditions

- If the temperature detected by the discharge pipe thermistor rises above A, the compressor stops.
- The error is cleared when the discharge pipe temperature has dropped below **B**.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

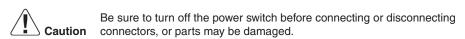
	Α		В	
	°C	°F	°C	°F
09/12 class	110	230	88	190.4
15/18/24 class	110	230	95	203

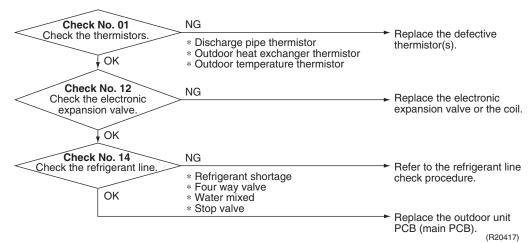
★ If the frequency drops, the temperature is lowered in compensation.

### Supposed Causes

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

#### **Troubleshooting**





Reference

Check No.01 Refer to P.190

Reference

Check No.12 Refer to P.193

Reference

Check No.14 Refer to P.194

### 7.10 High Pressure Control in Cooling

#### **Error Code**

### F6

#### Method of Error Detection

High-pressure control (operation halt, frequency drop, etc.) is activated in cooling operation if the temperature sensed by the outdoor heat exchanger thermistor exceeds the limit.

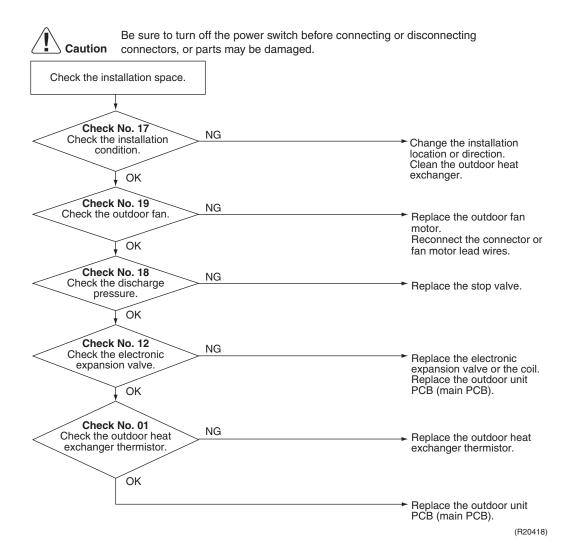
# **Error Decision Conditions**

The temperature sensed by the outdoor heat exchanger thermistor rises above  $57.5 \sim 60^{\circ}$ C (135.5  $\sim 140^{\circ}$ F) (depending on the model).

# Supposed Causes

- Installation space not large enough
- Dirty outdoor heat exchanger
- Defective outdoor fan motor
- Defective stop valve
- Defective electronic expansion valve or coil
- Defective outdoor heat exchanger thermistor
- Defective outdoor unit PCB

## **Troubleshooting**



Reference Check No.01 Refer to P.190

Reference Check No.12 Refer to P.193

Reference Check No.17 Refer to P.199

Reference Check No.18 Refer to P.199

Reference Check No.19 Refer to P.200

# 7.11 System Shutdown due to Temperature Abnormality in the Compressor

#### **Error Code**

## F8

## Method of Error Detection

Operation is halted when the temperature detected by the discharge pipe thermistor exceeds the determined limit.

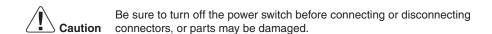
# **Error Decision Conditions**

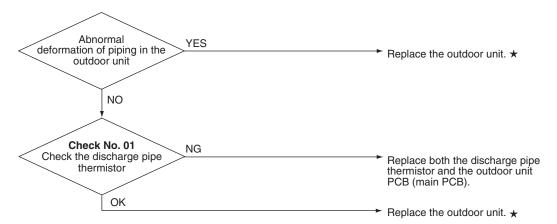
Temperature exceeds the detection threshold of 127.5°C (261.5°F) during forced cooling operation.

# Supposed Causes

- Abnormal operation due to air intrusion
- Defective discharge pipe thermistor

## **Troubleshooting**





<sup>★</sup> Replace the unit as directed in the installation manual, making sure that air does not intrude into the refrigerant piping.

(R23655)



Check No.01 Refer to P.190

## 7.12 Compressor Sensor System Abnormality

## **Error Code**

## **H0**

## Method of Error Detection

The system checks the DC current before the compressor starts.

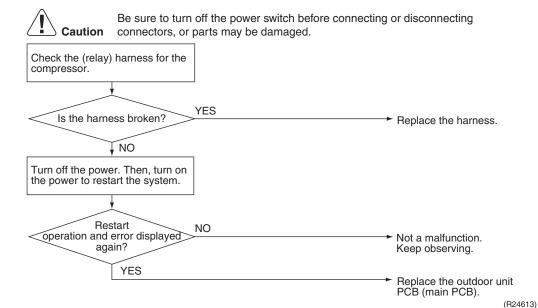
# **Error Decision Conditions**

- The voltage converted from the DC current before compressor start-up is out of the range 0.5 ~ 4.5 V
- The DC voltage before compressor start-up is below 50 V.

# Supposed Causes

- Broken or disconnected harness
- Defective outdoor unit PCB

## **Troubleshooting**



## 7.13 Position Sensor Abnormality

## **Error Code**

## **H6**

## Method of Error Detection

A compressor start-up failure is detected by checking the compressor running condition through the position detection circuit.

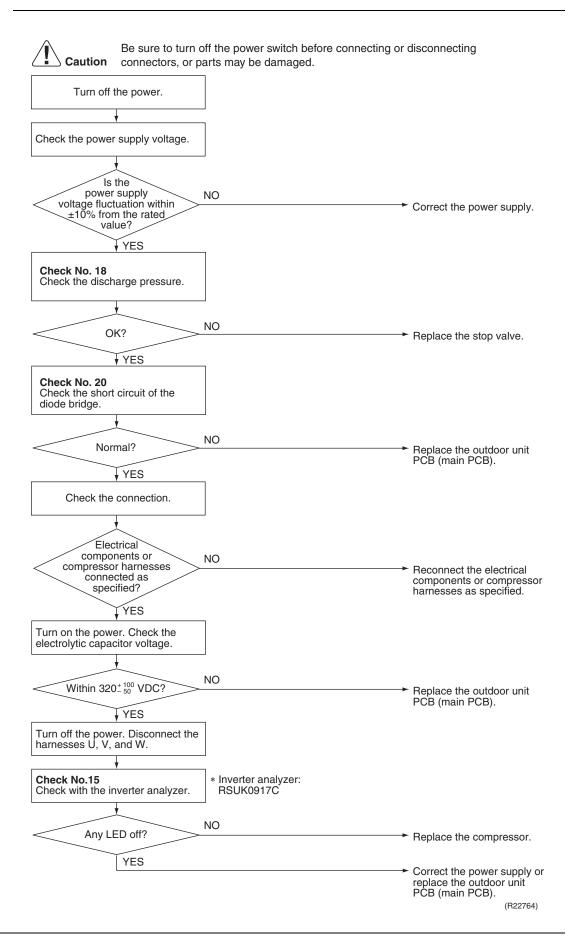
# **Error Decision Conditions**

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

# Supposed Causes

- Power supply voltage out of specification
- Disconnection of the compressor harness
- Defective compressor
- Defective outdoor unit PCB
- Start-up failure caused by the closed stop valve
- Input voltage outside the specified range

## **Troubleshooting**



Reference Check No.15 Refer to P.195

Reference Check No.18 Refer to P.199

Reference Check No.20 Refer to P.200

## 7.14 DC Voltage/Current Sensor Abnormality

## **Error Code**

## **H8**

## Method of Error Detection

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

# **Error Decision Conditions**

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

# Supposed Causes

■ Defective outdoor unit PCB

## **Troubleshooting**



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

Replace the outdoor unit PCB (main PCB).

## 7.15 Thermistor or Related Abnormality (Outdoor Unit)

## **Error Code**

## H9, J3, J6, P4

## Method of Error Detection

This fault is identified based on the thermistor input voltage to the microcomputer. A thermistor fault is identified based on the temperature sensed by each thermistor.

# **Error Decision Conditions**

- The voltage between the both ends of the thermistor is either 4.96 V or more, or 0.04 V or less with the power on.
- **J3** error is judged if the discharge pipe temperature is lower than the heat exchanger temperature.

# Supposed Causes

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

## **Troubleshooting**

#### In case of P4



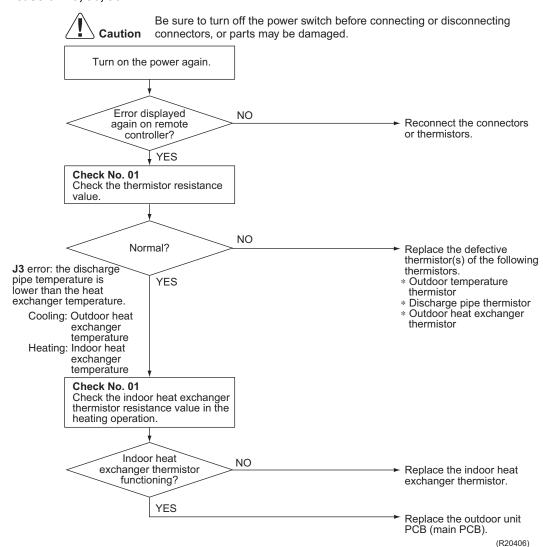
Be sure to turn off the power switch before connecting or disconnecting connectors, or parts may be damaged.

Replace the outdoor unit PCB (main PCB).

P4: Radiation fin thermistor

## **Troubleshooting**

## In case of H9, J3, J6



H9: Outdoor temperature thermistor

J3: Discharge pipe thermistor

J6: Outdoor heat exchanger thermistor



Check No.01 Refer to P.190

## 7.16 Electrical Box Temperature Rise

## **Error Code**

## L3

## Method of Error Detection

An electrical box temperature rise is detected by checking the radiation fin thermistor with the compressor off.

# Error Decision Conditions

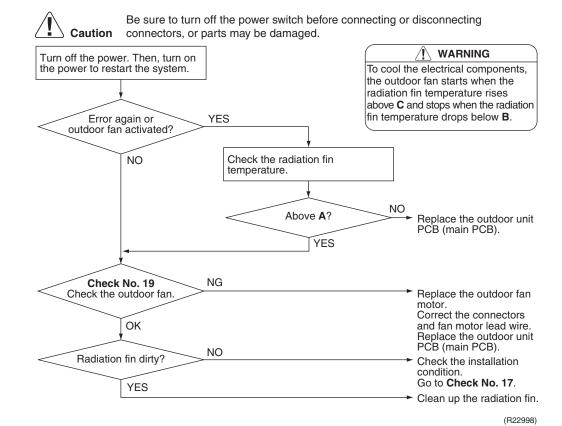
- With the compressor off, the radiation fin temperature is above A.
- The error is cleared when the radiation fin temperature drops below **B**.
- To cool the electrical components, the outdoor fan starts when the radiation fin temperature rises above **C** and stops when the radiation fin temperature drops below **B**.

	Α		В		С	
	°C	°F	°C	°F	°C	°F
09/12 class	82	179.6	65	149	70	158
15/18/24 class	90	194	64	147.2	81	177.8

# Supposed Causes

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

## **Troubleshooting**



Reference

Check No.17 Refer to P.199

Reference

Check No.19 Refer to P.200

## 7.17 Radiation Fin Temperature Rise

## **Error Code**

## L4

## Method of Error Detection

A radiation fin temperature rise is detected by checking the radiation fin thermistor with the compressor on.

# **Error Decision Conditions**

- If the radiation fin temperature with the compressor on is above A.
- The error is cleared when the radiation fin temperature drops below **B**.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 60 minutes without any other error

	Α		В	
	°C	°F	°C	°F
09/12 class	99	210.2	70	158
15/18/24 class	100	212	57	134.6

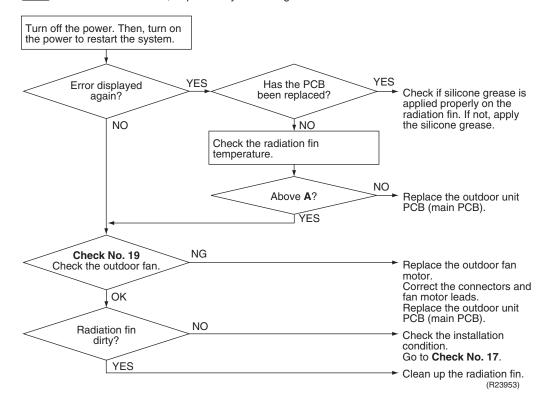
# Supposed Causes

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

## **Troubleshooting**

/ Ca

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



Reference

Check No.17 Refer to P.199

Reference

Check No.19 Refer to P.200



Refer to Silicone Grease on Power Transistor/Diode Bridge on page 229 for details.

## 7.18 Output Overcurrent Detection

## **Error Code**

## L<sub>5</sub>

## Method of Error Detection

An output overcurrent is detected by checking the current that flows in the inverter DC section.

# **Error Decision Conditions**

- A position signal error occurs while the compressor is running.
- A rotation speed error occurs while the compressor is running.
- An output overcurrent signal is fed from the output overcurrent detection circuit to the microcomputer.
- If the error repeats, the system is shut down.
- Reset condition: Continuous run for about 11 minutes without any other error

# Supposed Causes

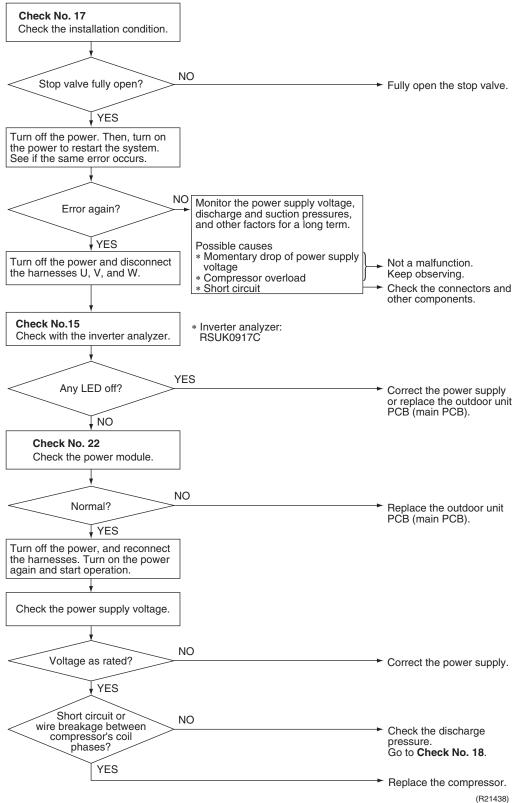
- Poor installation condition
- Closed stop valve
- Defective power module
- Wrong internal wiring
- Abnormal power supply voltage
- Defective outdoor unit PCB
- Power supply voltage out of specification
- Defective compressor

## **Troubleshooting**



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

\* An output overcurrent may result from wrong internal wiring. If the system is interrupted by an output overcurrent after the wires have been disconnected and reconnected for part replacement, check the wiring again.



Reference Check No.15 Refer to P.195

Reference Check No.17 Refer to P.199

Reference Check No.18 Refer to P.199

Reference Check No.22 Refer to P.202

Check SiUS092230EA

## 8. Check

## 8.1 Thermistor Resistance Check

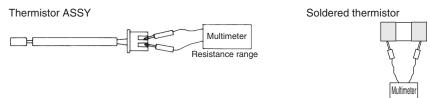
#### Check No.01

Measure the resistance of each thermistor using multimeter.

The resistance values are defined by below table.

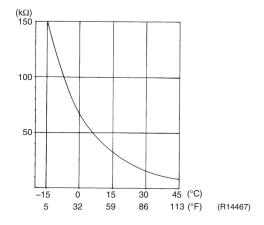
If the measured resistance value does not match the listed value, the thermistor must be replaced.

- Disconnect the connector of thermistor ASSY from the PCB to measure the resistance between the pins using multimeter.
- To check the thermistor soldered on a PCB, disconnect the PCB from other PCB/parts, and measure the resistance between the both ends of soldered thermistor.



R6000517

Thermistor	Thermistor temperature		
(°C)	(°F)	R (25°C (77°F)) = 20 kΩ B = 3950 K	
-20	-4	197.8	
-15	5	148.2	
-10	14	112.1	
<b>-</b> 5	23	85.60	
0	32	65.93	
5	41	51.14	
10	50	39.99	
15	59	31.52	
20	68	25.02	
25	77	20.00	
30	86	16.10	
35	95	13.04	
40	104	10.62	
45	113	8.707	
50	122	7.176	



Note(s)

When replacing the defective thermistor(s), replace the thermistor as ASSY.

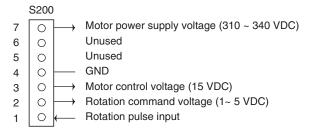
SiUS092230EA Check

## 8.2 Indoor Fan Motor Connector Check

#### Check No.02

#### **FTXR Series**

- 1. Check the connection of connector.
- 2. Check motor power supply voltage output (pins 4 7).
- 3. Check motor control voltage (pins 4 3).
- 4. Check rotation command voltage output (pins 4 2).
- 5. Check rotation pulse input (pins 4 1).

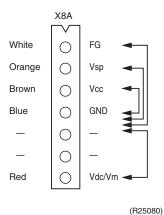


R6000588

## **FDMQ Series**

- 1. Turn the power supply OFF.
- 2. With the fan motor connector disconnected, measure the resistance between each pin, then make sure that the resistance is more than the value mentioned in the following table.

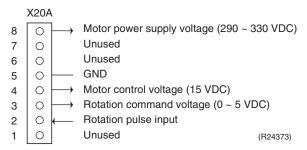
Measuring points	Judgement
White - Blue	1 M $\Omega$ or more
Orange - Blue	100 kΩ or more
Brown - Blue	100 Ω or more
Red - Blue	100 kΩ or more



Check SiUS092230EA

## **FFQ Series**

- 1. Check the connection of connector.
- 2. Check motor power supply voltage output (pins 5 8).
- 3. Check motor control voltage (pins 5 4).
- 4. Check rotation command voltage output (pins 5 3).



## 8.3 Power Supply Waveform Check

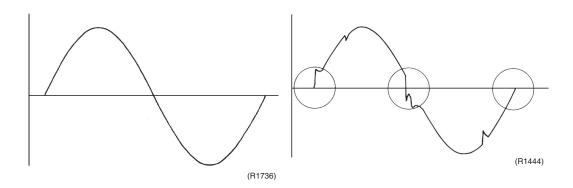
## **Check No.11**

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

- Check if the power supply waveform is a sine wave (Fig.1).
- Check if there is waveform disturbance near the zero-cross (sections circled in Fig.2).

[Fig.1]

[Fig.2]



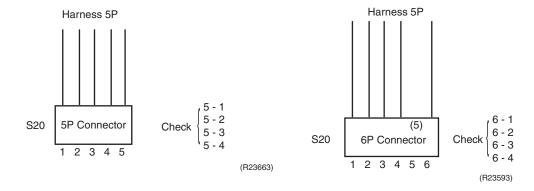
SiUS092230EA Check

## 8.4 Electronic Expansion Valve Check

## Check No.12

Conduct the following to check the electronic expansion valve (EV).

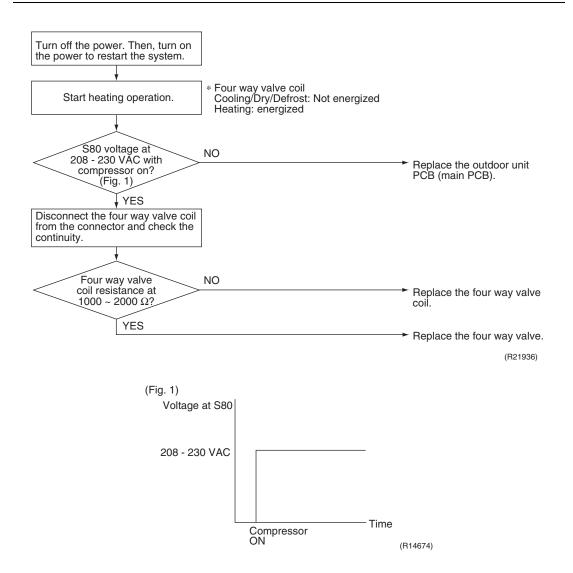
- 1. Check if the EV connector is correctly connected to the PCB.
- 2. Turn the power off and on again, and check if the EV generates a latching sound.
- 3. If the EV does not generate a latching sound in step 2, disconnect the connector and check the continuity using a multimeter.
- 4. Check the continuity between the pins 5 1, 5 2, 5 3, 5 4 (between the pins 6 1, 6 2, 6 3, and 6 4 for the 6P connector models). If there is no continuity between the pins, the EV coil is faulty.
- 5. If the continuity is confirmed in step 3, the outdoor unit PCB (main PCB) is faulty.



Check SiUS092230EA

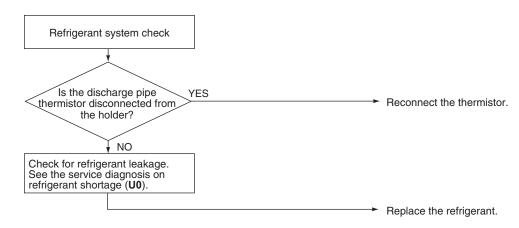
## 8.5 Four Way Valve Performance Check

## Check No.13



## 8.6 Inverter Unit Refrigerant System Check

## Check No.14



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SiUS092230EA Check

## 8.7 Inverter Analyzer Check

#### Check No.15

#### Characteristics

Inverter analyzer: RSUK0917C

If an abnormal stop occurs due to compressor startup failure or overcurrent output when using an inverter unit, it is difficult to judge whether the stop is caused by the compressor failure or some other failure (main PCB, power module, etc.). The inverter analyzer makes it possible to judge the cause of trouble easily and securely. Connect an inverter analyzer as a quasi-compressor instead of compressor and check the output of the inverter.

#### ■ Operation Method

#### Step 1

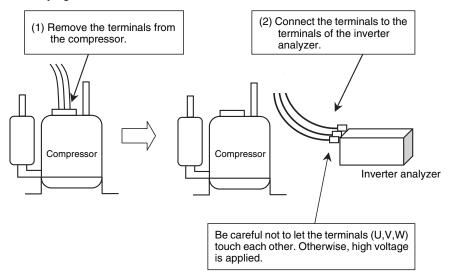
Be sure to turn the power off.

## Step 2

Install an inverter analyzer instead of a compressor.

#### Note:

Make sure the charged voltage of the built-in smoothing electrolytic capacitor drops to 10 VDC or below before carrying out the service work.



R6000682

#### Reference:

If the terminals of the compressor are not FASTON terminals (difficult to remove the wire on the terminals), it is possible to connect wires available on site to the outdoor unit from output side of PCB. Do not connect them to the compressor at the same time, otherwise it may result in incorrect detection.

#### Step 3

Activate the power transistor test operation from the outdoor unit.

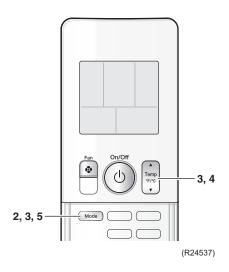


Power transistor test operation can be activated only once after turning on the power supply. If reactivation of the power supply transistor operation is needed, turn the power supply off and then on again.

Check SiUS092230EA

#### **FTXR Series**

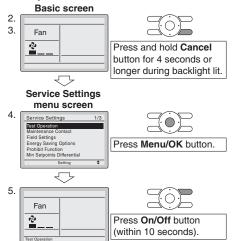
- 1. Turn the power on.
- 2. Select FAN operation with the **Mode** button on the remote controller.
- 3. Press the center of the **Temp** button and the **Mode** button at the same time.
- 4. Select **T** with the **Temp**▲ or **Temp**▼ button.
- 5. Press the **Mode** button to start the power transistor test operation.



#### FDMQ, FFQ Series with Wired Remote Controller (BRC1E73)

- 1. Turn the power on.
- 2. Set FAN operation using the remote controller.
- 3. Press and hold Cancel button for 4 seconds or longer.
- 4. Select **Test Operation** in the service settings menu, then press Menu/OK button.
  - → Basic screen returns and "Test Operation" is displayed at the bottom.
- 5. Press On/Off button within 10 seconds.
  - → 3 minutes after pressing On/Off button, power transistor test operation will start.
- · Test operation will stop automatically after about 30 minutes.

To stop the operation, press **On/Off** button.



## FDMQ, FFQ Series with Wireless Remote Controller (BRC082A43, BRC082A41W, BRC082A42W(S))

- 1. Turn the power on.

- 2. Press and select FAN operation.
  3. Press twice. "TEST" is displayed.
  4. Press within 10 seconds.
  - $\rightarrow$  3 minutes after pressing  $\stackrel{\text{Oon/OFF}}{\longrightarrow}$ , power transistor test operation will start.
- · Test operation will stop automatically after about 30 minutes.

To stop the operation, press  $^{\circlearrowleft_{\mathsf{ON}}}$ 



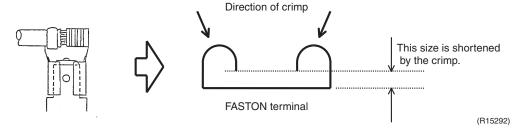
SiUS092230EA Check

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

- 1. If all the LEDs are lit uniformly, the compressor is defective.
  - → Replace the compressor.
- 2. If the LEDs are not lit uniformly, check the power module.
  - → Refer to Check No.22.
- If NG in Check No.22, replace the power module.
   (Replace the main PCB. The power module (IPM1) is united with the main PCB.)
   If OK in Check No.22, check if there is any solder cracking on the PCB.
- 4. If any solder cracking is found, replace the PCB or repair the soldered section. If there is no solder cracking, replace the PCB.



- 1. When the output frequency is low, the LEDs blink slowly. As the output frequency increases, the LEDs blink quicker. (The LEDs look like they are lit.)
- 2. On completion of the inverter analyzer diagnosis, be sure to re-crimp the FASTON terminals. Otherwise, the terminals may be burned due to loosening.



Check SiUS092230EA

## 8.8 Outdoor Fan Motor Check

#### **Check No.16**

Make sure that the voltage is within 320 + 100 VDC.

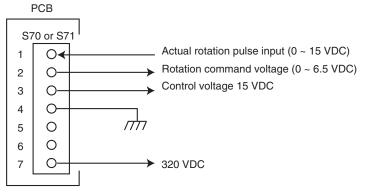
- 1. Set operation off and power off. Disconnect the connector S70 or S71.
- 2. Check that the voltage between the pins 4 7 is 320 VDC.
- 3. Check that the control voltage between the pins 4 3 is 15 VDC.
- 4. Check that the rotation command voltage between the pins 4 2 is 0 ~ 6.5 VDC.
- 5. Keep operation off and power off. Connect the connector S70 or S71.
- 6. Check whether 4 rotation pulses (0 ~ 15 VDC) are input at the pins 4 1 when the fan motor is rotated 1 turn by hand.

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

If NG in step  $2 \rightarrow$  Defective PCB  $\rightarrow$  Replace the outdoor unit PCB (main PCB).

If NG in step  $4 \rightarrow$  Defective Hall IC  $\rightarrow$  Replace the outdoor fan motor.

If OK in both steps 2 and  $4 \rightarrow$  Replace the outdoor unit PCB (main PCB).

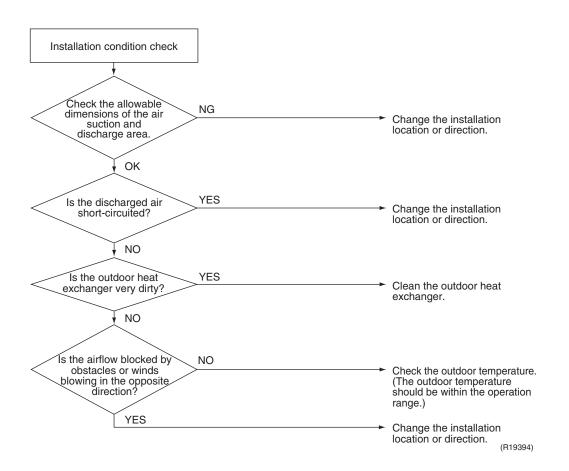


(R20507)

SiUS092230EA Check

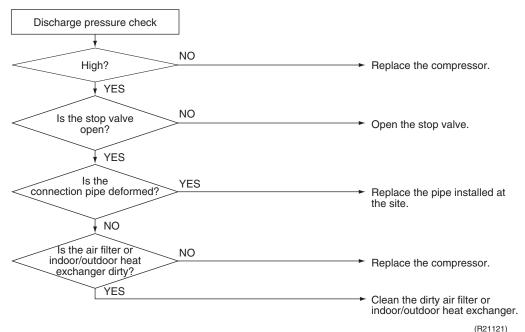
## 8.9 Installation Condition Check

## Check No.17



## 8.10 Discharge Pressure Check

## **Check No.18**



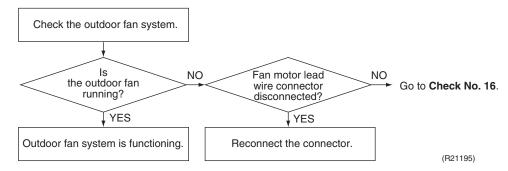
(H21121)

Check SiUS092230EA

## 8.11 Outdoor Fan System Check

## Check No.19

## DC motor



## 8.12 Main Circuit Short Check

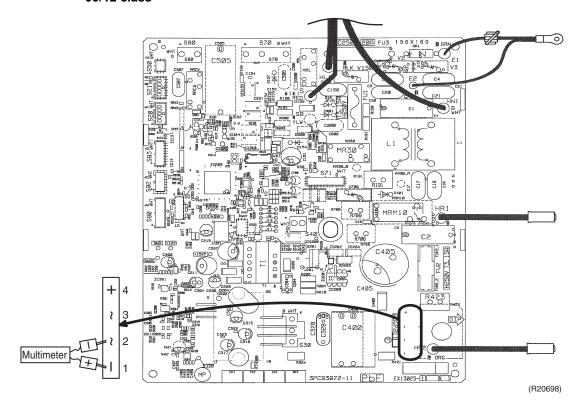
#### Check No.20

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

- Measure the resistance between the pins of the DB1 referring to the table below.
- If the resistance is  $\infty$  or less than 1 k $\Omega$ , short circuit occurs on the main circuit.

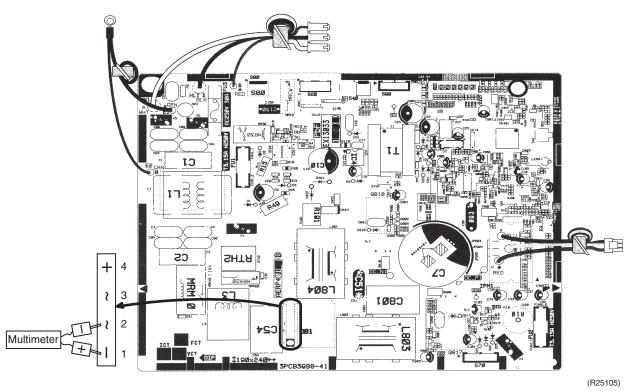
Positive terminal (+) of digital multimeter	~ (2, 3)	+ (4)	~ (2, 3)	<b>–</b> (1)
Negative terminal (–) of digital multimeter	+ (4)	~ (2, 3)	- (1)	~ (2, 3)
Resistance is OK.		several kΩ ~	several MΩ	
Resistance is NG.	0 Ω or ∞			

## 09/12 class



SiUS092230EA Check

## 15/18/24 class



Check SiUS092230EA

## 8.13 Power Module Check

## Check No.22

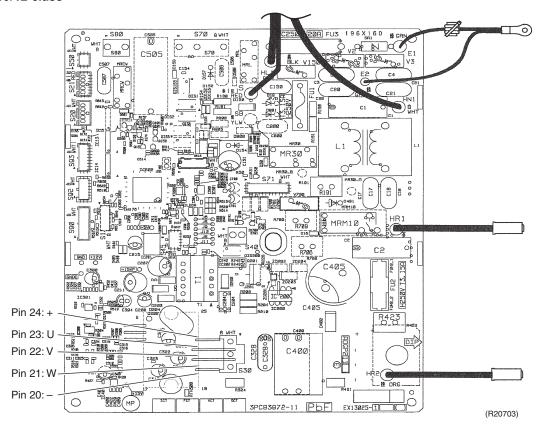
Check to make sure that the voltage between (+) and (–) of the power module is about 0 V before checking.

■ Disconnect the compressor harness connector from the outdoor unit PCB. To disengage the connector, press the protrusion on the connector.

■ Follow the procedure below to measure resistance between the terminals of the power module and the terminals of the compressor with a multimeter. Evaluate the measurement results referring to the following table.

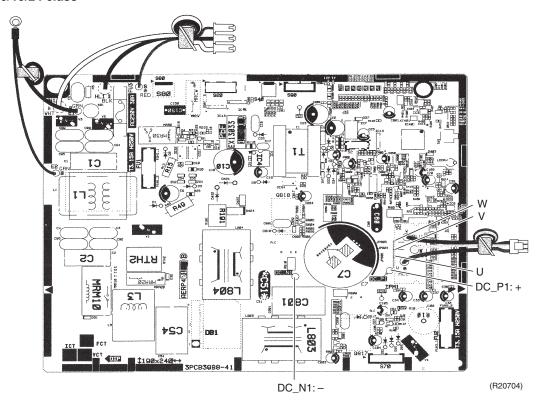
Positive terminal (+) of digital multimeter	Power module (+)	UVW	Power module (–)	UVW
Negative terminal (–) of digital multimeter	UVW	Power module (+)	UVW	Power module (–)
Resistance is OK.	several k $\Omega$ ~ several M $\Omega$			
Resistance is NG.	0 Ω or ∞			

## 09/12 class



SiUS092230EA Check

## 15/18/24 class



# Part 7 Trial Operation and Field Settings

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SiUS092230EA Pump Down Operation

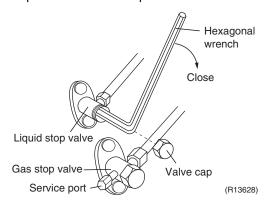
## 1. Pump Down Operation

### **Outline**

In order to protect the environment, be sure to conduct pump down operation when relocating or disposing of the unit.

#### **Details**

- 1. Remove the valve caps from the liquid stop valve and the gas stop valve.
- 2. Carry out forced cooling operation.
- 3. After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
- 4. After 2 to 3 minutes, close the gas stop valve and stop the forced cooling operation.
- 5. Attach the valve cap once procedures are complete.





Refer to Forced Cooling Operation on page 206 for details.

## 2. Forced Cooling Operation

#### **Outline**

The forced cooling operation is allowed when both the following conditions are met.

- 1. The outdoor unit is not abnormal and not in the 3-minute standby mode.
- 2. The outdoor unit is not operating.

Protection functions have priority over all other functions during forced cooling operation.

#### **Details**

#### **FTXR Series**

#### ■ With indoor unit ON/OFF switch

Press indoor unit **ON/OFF** switch for at least 5 seconds. The operation will start.

Forced cooling operation will stop automatically after about 15 minutes.

To stop the operation, press indoor unit **ON/OFF** switch.



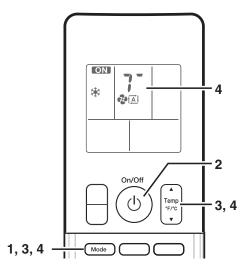
R7000226

#### ■ With the indoor unit's remote controller

- 1. Press **Temp**▲, ▼ buttons and **Mode** button at the same time.
- 2. Press **Temp**▲, ▼ buttons, select "**T**", and press **Mode** button for confirmation.
- 3. Press **Mode** button and select the cooling operation.
- 4. Press **On/Off** button to turn on the system.

Forced cooling operation will stop automatically after about 30 minutes.

To stop the operation, press **On/Off** button.

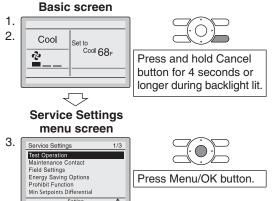


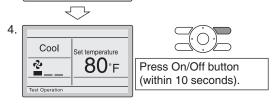
R7000227

#### FDMQ, FFQ Series

## ■ With Wired Remote Controller (BRC1E73)

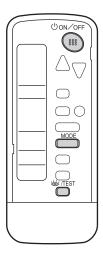
- Set to COOL operation using the remote controller.
- Press and hold Cancel button for 4 seconds 2. or longer. Service settings menu is displayed.
- Select Test Operation in the service settings menu, and press Menu/OK button. Basic screen returns and "Test Operation" is displayed at the bottom.
- 4. Press **On/Off** button within 10 seconds, and the forced cooling operation starts.
- Forced cooling operation will stop automatically after about 15 minutes.
   To stop the operation, press On/Off button.





## ■ With Wireless Remote Controller (BRC082A43, BRC082A41W, BRC082A42W(S))

- Press button and select the COOL operation.
- 2. Press tutton twice. "TEST" is displayed.
- 3. Press button within 10 seconds, and the forced cooling operation starts.
- Forced cooling operation will stop automatically after about 15 minutes.
   To stop the operation, press outlook



R7000383

Trial Operation SiUS092230EA

## 3. Trial Operation

## 3.1 FTXR Series

#### **Outline**

Trial operation should be carried out in either cooling or heating operation.

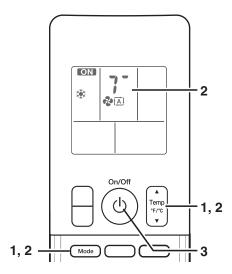
- 1. Measure the supply voltage and make sure that it is within the specified range.
- 2. In cooling operation, select the lowest programmable temperature; in heating operation, select the highest programmable temperature.
- 3. Carry out the trial operation following the instructions in the operation manual to ensure that all functions and parts, such as the movement of the louvers, are working properly.
  - To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.
- 4. After trial operation is complete, set the temperature to a normal level (78°F to 82°F (26°C to 28°C) in cooling operation, 68°F to 75°F (20°C to 24°C) in heating operation).

When operating the air conditioner in cooling operation in winter, or heating operation in summer, set it to the trial operation mode using the following method.

#### **Procedure**

## **ARC466 Series**

- 1. Press the center of **Temp** button and **Mode** button at the same time.
- 2. Select **T** (trial operation) with **Temp ▲** or **Temp ▼** button and press **Mode** button for confirmation.
- 3. Press On/Off button to turn on the system.
  - Trial operation will stop automatically after about 30 minutes.
     To guit trial operation, press On/Off button.
  - Some of the functions cannot be used in the trial operation mode.



R7000370

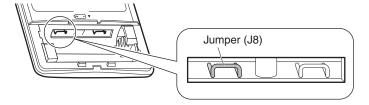
SiUS092230EA Trial Operation

#### **Test Items**

	T
Test items	Symptom
Indoor and outdoor units are installed securely.	Fall, vibration, noise
No refrigerant gas leaks.	Incomplete cooling/heating function
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage
Draining line is properly installed.	Water leakage
System is properly grounded.	Electrical leakage
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage
Indoor or outdoor unit's air inlet or air outlet.	Incomplete cooling/heating function
Stop valves are opened.	Incomplete cooling/heating function
Indoor unit properly receives remote controller commands.	No operation
will be displayed when the <b>Mode</b> button is pressed.*	No heating
Pipes and wires are connected to the corresponding terminal blocks / connection ports for the connected unit.	No cooling/heating



\* Check that the jumper (J8) has not been cut. If it has been cut, contact the service shop.



R7000230

## 3.2 FDMQ, FFQ Series

#### **Outline**

- Make sure to install the decoration panel before carrying out trial operation if the wireless remote controller is used (FFQ series only).
- Trial operation should be carried out in either cooling or heating operation.
- 1. Measure the supply voltage and make sure that it is within the specified range.
- 2. In cooling operation, select the lowest programmable temperature; in heating operation, select the highest programmable temperature.
- 3. Carry out the trial operation following the instructions in the operation manual to ensure that all functions and parts, such as the movement of the flaps, are working properly.
  - To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.
- 4. After trial operation is complete, set the temperature to a normal level (26°C to 28°C (78°F to 82°F) in cooling operation, 20°C to 24°C (68°F to 75°F) in heating operation).



When performing field settings or trial operation without attaching the decoration panel, do not touch the drain pump. This may cause electric shock.

After finishing the construction of refrigerant piping, drain piping, and electric wiring, conduct trial operation accordingly to protect the unit (FFQ series only).

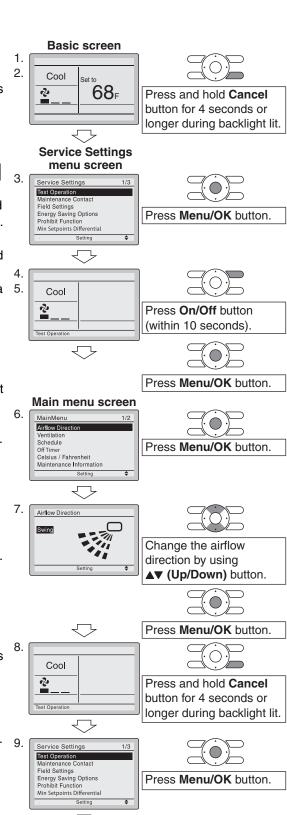
#### **Procedure**

When operating the air conditioner in cooling operation in winter, or heating operation in summer, set it to the trial operation mode using the following method.

Trial Operation SiUS092230EA

#### ■ With BRC1E73 Wired Remote Controller

- Set to COOL or HEAT operation using the remote controller.
- 2. Press and hold **Cancel** button for 4 seconds or longer. Service settings menu is displayed.
- In the case of a model having airflow direction function, select Test Operation in the service settings menu, and press Menu/OK button. Basic screen returns and "Test Operation" is displayed at the bottom.
- 4. Press On/Off button within 10 seconds, and the test operation starts.
  4. Monitor the operation of the indoor unit for a minimum of 10 minutes. During test operation, the indoor unit will continue to cool/heat regardless of the temperature setpoint and room temperature.
  - In the case of above-mentioned procedures 3 and 4 in reverse order, test operation can start as well.
- Press Menu/OK button in the basic screen. Main menu is displayed.
- 6. Select Airflow Direction in the main menu and press Menu/OK button. Check that airflow direction is actuated according to the setting. For operation of airflow direction setting, see the operation manual.
- After the operation of airflow direction is confirmed, press Menu/OK button. Basic screen returns.
- Press and hold **Cancel** button for 4 seconds or longer in the basic screen.
   Service settings menu is displayed.
- Select Test Operation in the service settings menu, and press Menu/OK button. Basic screen returns and normal operation is conducted.
  - Test operation will stop automatically after 15 ~ 30 minutes. To stop the operation, press On/Off button.
- If the decoration panel has not been installed, turn off the power after the test operation (FFQ series only).



Basic screen

SiUS092230EA Trial Operation

#### ■ With BRC082A43, BRC082A41W, BRC082A42W(S) Wireless Remote Controller

- 1. Press button and select the COOL or HEAT operation.
- 2. Press button twice. "TEST" is displayed.
- 3. Press  $\stackrel{\text{\tiny OOM/OFF}}{\text{\tiny (III)}}$  button within 10 seconds, and the test operation starts.

Monitor the operation of the indoor unit for a minimum of 10 minutes. During test operation, the indoor unit will continue to cool/heat regardless of the temperature setpoint and room temperature.

- In the case of above-mentioned procedures (1) and (2) in reverse order, test operation can start as well.
- Test operation will stop automatically after 15 ~ 30 minutes.

To stop the operation, press  $\overset{\text{\tiny OoN/OFF}}{\text{\tiny (iii)}}$  button.

• Some of the functions cannot be used in the test operation mode.

#### **Test Items**

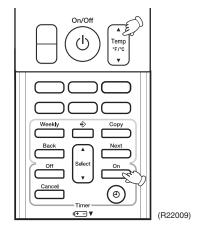
Test items	Symptoms
Indoor and outdoor units are installed securely.	Fall, vibration, noise
Is the outdoor unit fully installed?	No operation or burn damage
No refrigerant gas leaks.	Incomplete cooling/heating function
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage
Draining line is properly installed.	Water leakage
Does the power supply voltage correspond to that shown on the name plate?	No operation or burn damage
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage
System is properly grounded.	Electrical leakage
Is wiring size according to specifications?	No operation or burn damage
Is something blocking the air outlet or inlet of either the indoor or outdoor units?	Incomplete cooling/heating function
Are refrigerant piping length and additional refrigerant charge noted down?	The refrigerant charge in the system is not clear
Pipes and wires are connected to the corresponding connection ports/terminal blocks for the connected unit.	No cooling/heating
Stop valves are opened.	Incomplete cooling/heating function
Check that the connector of the lead wires of the decoration panel is connected securely.	Louvers do not move
Indoor unit properly receives wireless remote control commands.	No operation
The external static pressure is set correctly.	Incomplete cooling/heating function or water leakage

# 4. Field Settings for FTXR Series

# 4.1 Temperature Display Switch

**Procedure** 

■ Press the upper side of **Temp** button and **On** button at the same time for 5 seconds to change the unit of temperature display.



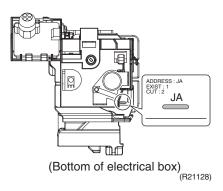
# 4.2 When 2 Units are Installed in 1 Room

**Outline** 

When 2 indoor units are installed in 1 room, 1 of the 2 indoor units and the corresponding wireless remote controller can be set for different address.

**Indoor Unit PCB** 

- 1. Remove the front grille.
- 2. Remove the shield plate of the electrical box.
- 3. Cut the address setting jumper JA on the PCB.



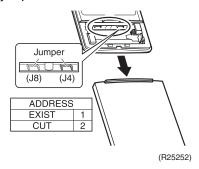


#### Replace the PCB if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

# Wireless Remote Controller

- 1. Slide down the cover and take it off.
- 2. Cut the address setting jumper J4.
  - Be careful not to cut the jumper J8.





#### Replace the remote controller if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

# 4.3 Jumper and Switch Settings

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



For the location of the jumper, refer to 25 page.

# 5. Field Settings for FDMQ, FFQ Series

# 5.1 How to Change the Field Settings

#### **Outline**

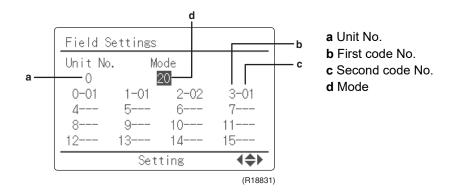
If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.



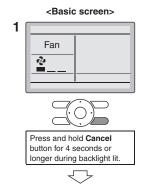
When using 2 remote controllers for 1 indoor unit, change the field settings from MAIN remote controller. Note that the field settings cannot be set from SUB remote controller.

#### **Procedure**

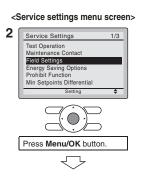
#### **BRC1E73 Wired Remote Controller**



 Press and hold Cancel button for 4 seconds or longer. Service settings menu is displayed.

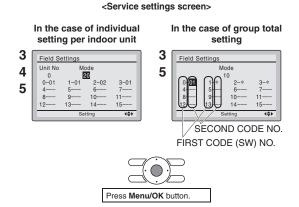


2. Select Field Settings in the Service Settings menu, and press Menu/OK button. Field settings screen is displayed.

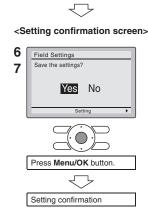


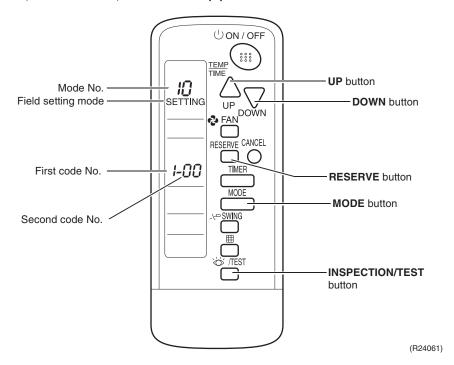
- 3. Highlight the mode, and select desired "Mode No." by using ▲ ▼ (Up/Down) button.
- 4. In the case of setting per indoor unit during group control (When Mode No. such as 20, 22, 23, 25 are selected), highlight the unit No. and select "Indoor unit No." to be set by using ▼ (Up/Down) button. (In the case of group 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 the 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.
- 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 stand by.] is displayed for initialization. After the initialization, the basic screen returns.





#### BRC082A43, BRC082A41W, BRC082A42W(S) Wireless Remote Controller

To set the field settings, you have to change:

- Mode No.
- First code No.
- Second code No.
- 1. When in normal mode, hold down <a>TEST</a> button for at least 4 seconds to enter the Field Set mode.
- 2. Select the desired Mode No. with MODE button.
- 3. Press  $\frac{\triangle}{\mathbb{P}}$  button and select the First code No.
- 4. Press √ button and select the Second code No.
- 5. Press **RESERVE** button to confirm the settings.
- 6. Press 🍏/TEST button to quit the Field Set mode and to return to normal display again.

# 5.2 Overview of Field Settings for FDMQ Series

Mode	First				Second Code No.						
No.	Code No.	Description of	setting	ng			02	03	04	05	06
10 (20)		Filter cleaning sign interval (used to change filter cleaning display interval according to filter contamination)	Longlife filter	±	Approx. 2,500 hrs.	vy	Approx. 1,250 hrs.	_	_	_	_
	0		Standard filter	Light⊁	Approx. 200 hrs.	Hea	Approx. 100 hrs.	_	_	_	_
	3	Filter cleaning sign (used to set filter cleaning display ON/ OFF)		D	isplay★	N	o display	_	_	_	_
11 (21)	7	Air volume adjustme	ent	OFF★		ac	r volume ljustment mpletion	Air volume adjustment start	_	_	_
13 (23)	6	External static press	sure	Refer to the		able	below.				

★ Factory Setting



- The Second Code No. is factory set to "01".
- Do not use any settings not listed in the table.
- For group control with a wireless remote controller, initial settings for all the indoor units of the group are equal.

For group control, refer to the installation manual attached to the indoor unit for group control.

#### **External Static Pressure Settings**

Mode	First	Second (	Code No.	
No.	Code No.	09/12 Class	15/18/24 Class	External static pressure
		03	_	30 Pa (0.12 inH <sub>2</sub> O)
		04	_	40 Pa (0.16 inH <sub>2</sub> O)
		05 ★	05 ★	50 Pa (0.20 inH <sub>2</sub> O) ★
		06	06	60 Pa (0.24 inH <sub>2</sub> O)
	6	07	07	70 Pa (0.28 inH <sub>2</sub> O)
		08	08	80 Pa (0.32 inH <sub>2</sub> O)
13 (23)		09	09	90 Pa (0.36 inH <sub>2</sub> O)
(==)		10	10	100 Pa (0.40 inH <sub>2</sub> O)
		11	11	110 Pa (0.44 inH <sub>2</sub> O)
		12	12	120 Pa (0.48 inH <sub>2</sub> O)
		13	13	130 Pa (0.52 inH <sub>2</sub> O)
		14	14	140 Pa (0.56 inH <sub>2</sub> O)
		15	15	150 Pa (0.60 inH <sub>2</sub> O)

★ Factory Setting

# 5.3 Overview of Field Settings for FFQ Series

Mode	First	D : 1: 1: 1:		Second Code No.						
No.	Code No.	Description of setting		01		02	03	04	05	06
10	0	Filter cleaning sign interval Longlife filter		Approx. ,500 hrs.	Heavy	Approx. 1,250 hrs.	_	_	_	_
(20)	2	Remote controller thermistor	En	nabled		Disabled★	_	_	_	_
	3	Filter cleaning sign	Display <b>★</b> No		lo display	_	_	_	_	
12 (22)	0	Optional accessories output selection (field selection of output for adaptor for wiring)	Compressor★				Operation output	Error output	Outdoor air intake	Presence sensor
	0	High air outlet velocity (for high ceiling applications)		2.7 m★ 8-7/8 ft)		.7 ~ 3.0 m 7/8~9-13/16 ft)	3.0 ~ 3.5 m (9-13/16~11-1/2 ft)		_	_
13 (23)	1	Selection of airflow direction (setting for when a blocking pad kit has been installed)	4-wa	ay flow★	3	3-way flow	2-way flow	_	_	_
	4	Airflow direction range setting	U	Upper		Normal★	Lower		_	_
15 (25)	3	Drain pump operation with humidifying	Not ed	Not equipped★		Equipped	_	_	_	_

★ Factory Setting

Note(s)

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

# 5.4 MAIN/SUB Setting when Using 2 Wired Remote Controllers

#### **Outline**

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

#### **Details**

1. The following message is displayed after power-on.

Checking the connection.

Please stand by.

When the above message is displayed, the backlight will not be ON.

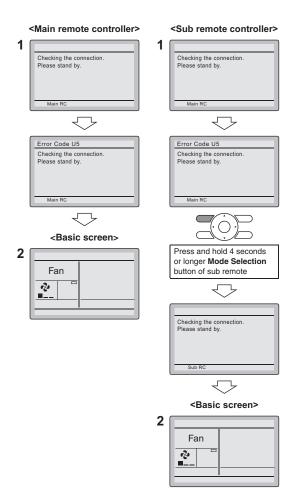
[In the case that 1 indoor unit is controlled by 2 remote controllers:]

Make sure to set the sub remote controller when the above message is displayed.

Hold Mode button for 4 seconds or longer to set.

When the display is changed from "Main RC" to "Sub RC", the setting is completed.

2. Basic screen is displayed.

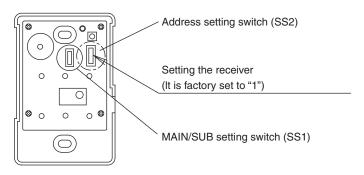


# 5.5 MAIN/SUB and Address Setting for Wireless Remote Controller for FDMQ Series

#### **Outline**

- If setting multiple wireless remote controllers to operate in one room, perform address setting for the receiver and the wireless remote controller.
- If using both a wired remote controller and a wireless remote controller with 1 indoor unit, change the MAIN/SUB switch of the signal receiver PCB.

# Signal Receiver PCB Setting



(R24951)

#### MAIN/SUB switch

Set the MAIN/SUB setting switch (SS1) on the signal receiver PCB to SUB.

	MAIN	SUB
MAIN/SUB setting switch (SS1)	■M	
	S	M S S
	R7000181	R7000182

#### Wireless address switch

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

	No.1	No.2	No.3
Address setting switch (SS2)			
	1 2 3	1 2 3	1 2 3
	R7000183	R7000184	R7000185

#### Wireless Remote Controller Address

Factory set is 1. Change the wireless remote controller address setting by the following steps, if necessary.

- 1. Hold down ⊞ button and ₭ /TEST button at the same time for at least 4 seconds to enter the field setting mode. (SETTING is indicated on the display).
- 2. Press **P**FAN button and select display setting (g or b). Each time the button is pressed, the display switches between g and b.
- 3. Press 

  □

  □

  □

  button and □

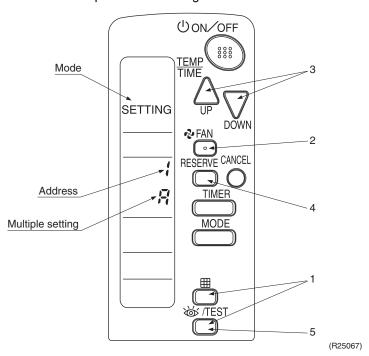
  □

  button to set the address.

$$+1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6$$

Address can be set from 1  $\sim$  6, but set it to 1  $\sim$  3 and to same address as the receiver. The receiver does not work with address 4  $\sim$  6.

- 4. Press RESERVE button to confirm the setting.
- 5. Hold down \sigmi/TEST button to quit the field setting mode and return to the normal display.



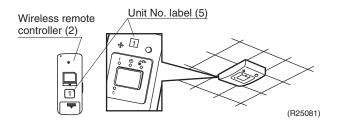
#### Multiple Settings A or b

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

Remote	Controller	Indoor Unit		
Multiple settings	Remote controller display	To control other air conditions and units	For other than on left	
A: Standard	All items displayed.	Commands other than ON/OFF and temperature setting accepted. (1 LONG BEEP or 3 SHORT BEEPS emitted)	All commands accepted. (2 SHORT BEEPS)	
<b>b</b> : Multi System	Operations remain displayed shortly after execution	All commands accepte	d. (2 SHORT BEEPS)	

#### **After Setting**

Stick the Unit No. label on the receiver and the back of the wireless remote controller.





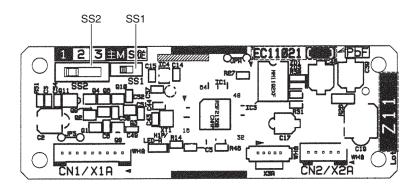
Set the Unit No. of the receiver and the wireless remote controller to be the equal. If the settings differ, the signal from the remote controller cannot be transmitted.

# 5.6 MAIN/SUB and Address Setting for Wireless Remote Controller for FFQ Series

#### **Outline**

- If setting multiple wireless remote controllers to operate in one room, perform address setting for the receiver and the wireless remote controller.
- If using both a wired remote controller and a wireless remote controller with 1 indoor unit, change the MAIN/SUB switch of the transmitter board.

# Transmitter Board



R7000371

#### MAIN/SUB switch

When using both a wired and a wireless remote controller for 1 indoor unit, the wired controller should be set to MAIN. Therefore, set the MAIN/SUB switch (SS1) of the transmitter board to SUB.

	MAIN	SUB
MAIN/SUB setting switch (SS1)		≤ Ø (R24063)

#### Wireless address switch

Set the wireless address setting switch (SS2) on the transmitter board according to the table below.

Unit No.	No.1	No.2	No.3
Address setting switch (SS2)	ν ω (S1935)	□ N ω (S1936)	Δ N ω (S1937)

#### Wireless Remote Controller Address

Factory set is 1. Change the wireless remote controller address setting by the following steps, if necessary.

- 2. Press 

  □

  □

  □

  button and □

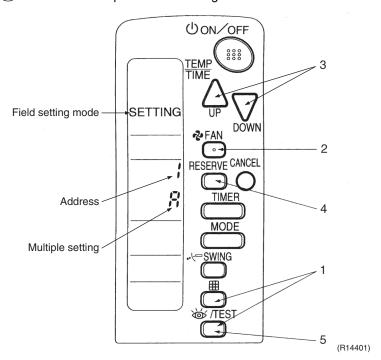
  □

  button to set the address.

$$-1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6$$

Address can be set from  $1 \sim 6$ , but set it to  $1 \sim 3$  and to same address as the transmitter board. The transmitter board does not work with address  $4 \sim 6$ .

- 3. Press **RESERVE** button to confirm the setting.
- 4. Hold down <a>TEST</a> button to guit the field setting mode and return to the normal display.



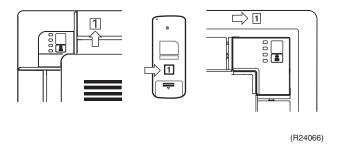
#### Multiple Settings A or b

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

Remote	Controller	Indoor Unit		
Multiple settings	Remote controller display	To control other air conditions and units	For other than on left	
A: Standard	All items displayed.	Commands other than ON/OFF and temperature setting accepted. (1 LONG BEEP or 3 SHORT BEEPS emitted)	All commands accepted. (2 SHORT BEEPS)	
<b>b</b> : Multi System	Operations remain displayed shortly after execution	All commands accepte	d. (2 SHORT BEEPS)	

#### **After Setting**

Affix corresponding unit number labels onto both air outlet of the decoration panel and onto back of the wireless remote controller.





Set the Unit No. of the receiver and the wireless remote controller to be the equal. If the settings differ, the signal from the remote controller cannot be transmitted.

# 6. Field Settings for Outdoor Unit

# 6.1 Facility Setting (cooling at low outdoor temperature)

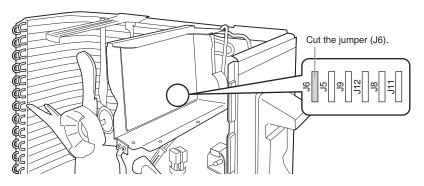
#### **Outline**

This function is limited only for facilities (the target of air conditioning is equipment such as computers). Never use it in a residence or office (the space where there is a human).

**Details** 

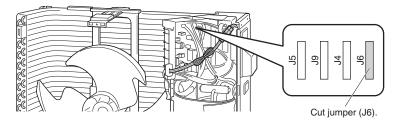
- Cutting jumper J6 on the outdoor unit PCB will extend the operation range to 14°F (-10°C). Installing an air direction adjustment grille (sold separately) will further extend the operation range to -4°F (-20°C). In these cases, the unit will stop operating if the outdoor temperature falls below -4°F (-20°C), restarting once the temperature rises above this level.
  - (1) Remove the top plate of the outdoor unit. (09/12 class: 4 screws, 15/18/24 class: 6 screws)
  - (2) Remove the front plate. (09/12 class: 5 screws, 15/18/24 class: 8 screws)
  - (3) Cut the jumper J6 of the PCB inside.

#### • 09/12 class



R7000390

#### • 15/18/24 class



R7000391



For the location of the jumper, refer to pages 34, 36.



- If the outdoor unit is installed where the heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
- Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
- Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used.
  - A humidifier might cause dew jumping from the indoor unit outlet vent.
- Cutting jumper 6 (J6) sets the indoor fan tap to the highest position. Notify the user about this.



#### Replace the remote controller if you cut a jumper unintentionally.

Jumpers are necessary for electronic circuit. Improper operation may occur if you cut any of them.

# 6.2 Warmer Airflow Setting

#### **Outline**

The temperature of discharge airflow in heating operation can be adjusted warmer.

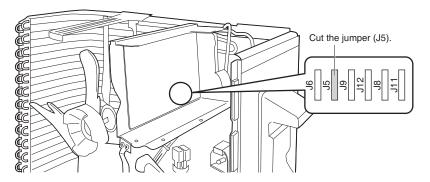
- The room temperature will be high when getting close to the set temperature.
- The discharge airflow does not become warmer in other than heating operation.

#### **Procedure**

Warmer airflow can be enabled from outdoor unit.

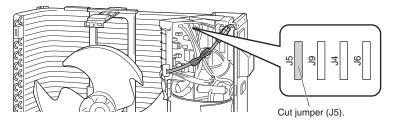
Cut the jumper (J5) of the PCB inside.

#### ■ 09/12 Class



R7000387

#### ■ 15/18/24 Class



R7000388



For the location of the jumper, refer to page 34, 36.



Warmer airflow can be enabled from either indoor or outdoor unit.

Warmer airflow becomes available when either one of the RC or outdoor unit setting is enabled. For example, if the outdoor unit has the switch for warmer airflow, it can be set even when it is disabled on the indoor unit.

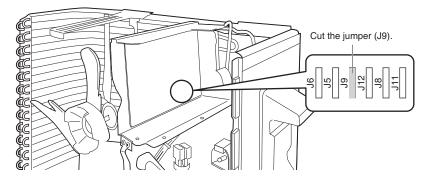
Also, for the wireless remote controller with field setting function, warmer airflow is enabled when set on indoor unit with the remote controller field setting, even when it is disabled on outdoor unit.

## 6.3 Drain Pan Heater

In high humidity areas or heavy snow areas, it is recommended to attach a drain pan heater to prevent ice build-up from the bottom frame.

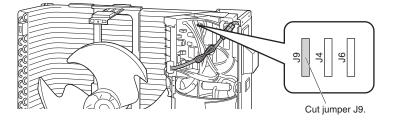
- 1. Attach the drain pan heater in accordance with the installation manual included with the drain pan heater.
- 2. Cut the jumper (J9) of the PCB inside.

#### ■ 09/12 class



R7000384

#### ■ 15/18/24 class



R7000385



For the location of the jumper, refer to page 34, 36.

# 7. Silicone Grease on Power Transistor/Diode Bridge

#### **Outline**

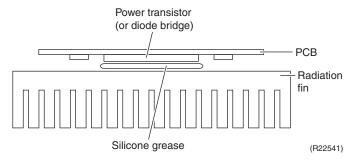
Apply the specified silicone grease to the heat generation part of a power transistor/diode bridge when you replace an outdoor unit PCB. The silicone grease encourages the heat dissipation of a power transistor/diode bridge.

#### **Details**

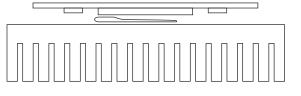
- 1. Wipe off the old silicone grease completely.
- 2. Apply the silicone grease evenly. See the illustrations below for examples of application.
- 3. Tighten the screws of the power transistor/diode bridge.
- 4. Make sure that the heat generation parts are firmly contacted to the radiation fin.

Note: Smoke emission may be caused by bad heat radiation when the silicone grease is not appropriately applied.

■ OK: Evenly applied

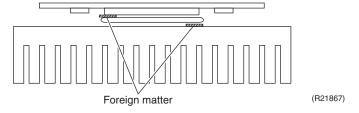


■ NG: Not evenly applied



(R21866)

NG: Foreign matter is stuck.



# Part 8 Appendix

1.	Pipir	ng Diagrams	231
		Indoor Unit	
	1.2	Outdoor Unit	232
2.	Wirir	ng Diagrams	234
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	2.2	Outdoor Unit	238
3.	Оре	ration Limit	240

SiUS092230EA Piping Diagrams

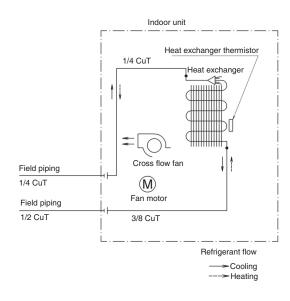
# 1. Piping Diagrams

## 1.1 Indoor Unit

#### FTXR09/12WVJUW(S)9

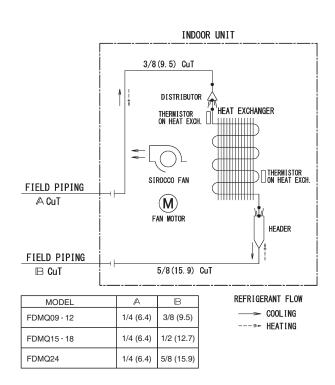
#### 

#### FTXR18WVJUW(S)9

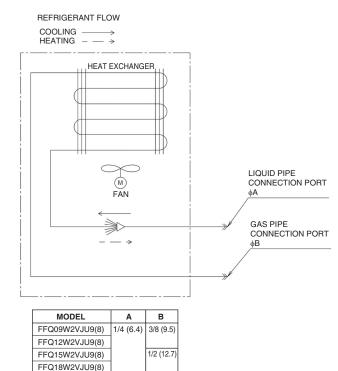


4D101010B

#### FDMQ09/12/15/18/24WVJU9



#### FFQ09/12/15/18W2VJU9(8)

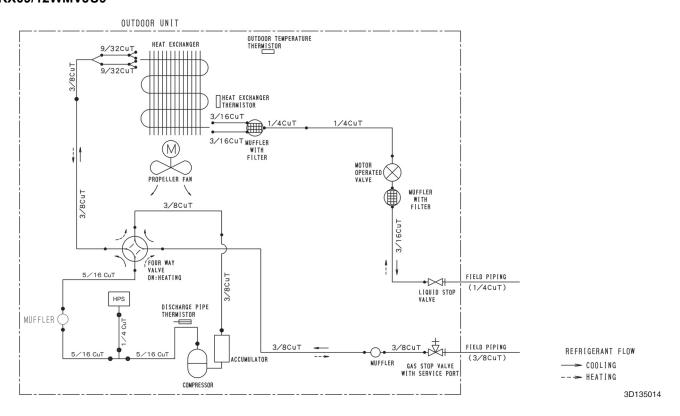


C: 4D112974B C: 4D106033A

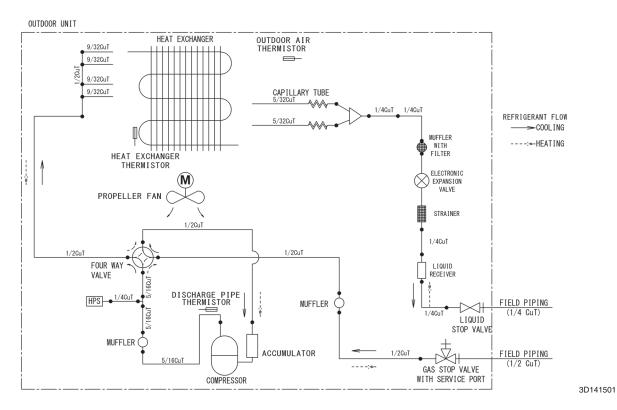
Piping Diagrams SiUS092230EA

# 1.2 Outdoor Unit

#### RX09/12WMVJU9

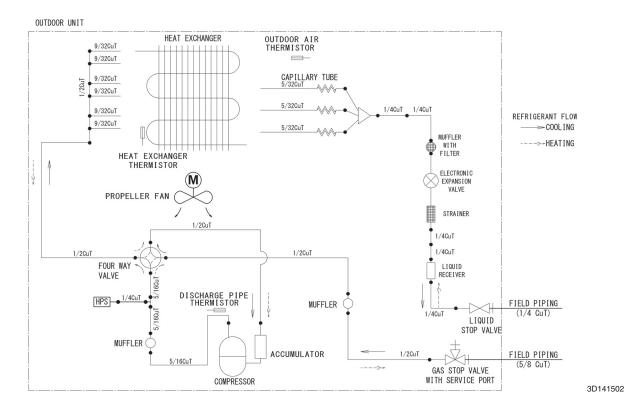


#### **RX15/18WMVJU9**



SiUS092230EA Piping Diagrams

#### **RX24WMVJU9**

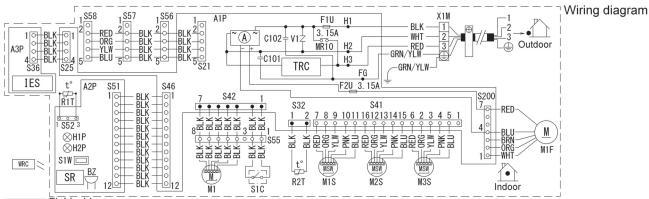


Wiring Diagrams SiUS092230EA

# 2. Wiring Diagrams

## **Indoor Unit**

#### FTXR09/12/18WVJUW(S)9



Field wiring

NOTE When the main power is turned off and then back on again, operation will resume automatically.

Frame ground Signal receiver F1U, F2U: Fuse H1P, H2P: Pilot lamp R1T, R2T: Thermistor \$25-\$200: Connector Ground ⊕ H1−H3 Harness Magnetic relay Varistor Thermistor MR10 S1W S1C X1M C101, C102: Capacitor Operation switch Limit switch Terminal strip BZ M1F Buzzer Fan motor M1S-M3S M1 Swing motor Stepper motor Ä1P-A3P TRC Printed circuit board Transmission circuit WRC IES (A) Wireless remote control

3D103375B



Rectifier

Intelligent Eye sensor

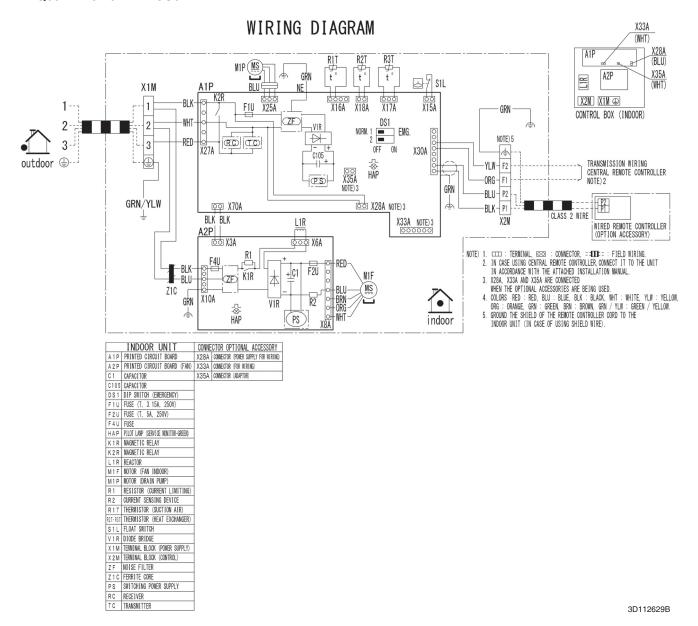
A1P: Control PCB

A2P: Display/signal receiver PCB A3P: INTELLIGENT EYE sensor PCB

Refer to page 25 for Printed Circuit Board Connector Wiring Diagram.

SiUS092230EA Wiring Diagrams

#### FDMQ09/12/15/18/24WVJU9



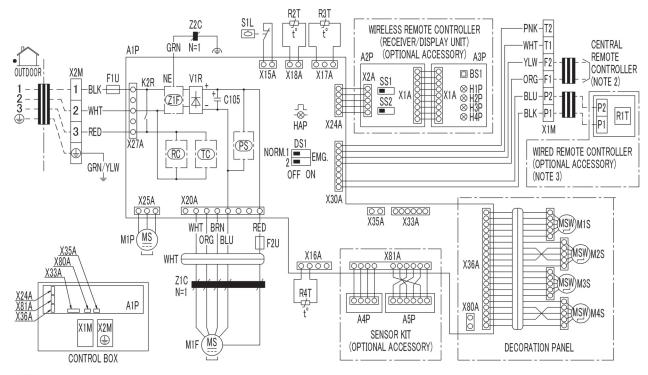


A1P: Control PCB A2P: Indoor fan PCB

Refer to page 27 for Printed Circuit Board Connector Wiring Diagram.

Wiring Diagrams SiUS092230EA

#### FFQ09/12/15/18W2VJU8



- 1. \_\_\_\_\_ : TERMINAL BLOCK, OD :: CONNECTOR, :: FIELD WIRING
  2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
- 3. IN CASE OF MAIN/SUB CHANGEOVER, SEE THE INSTALLATION MANUAL ATTACHED TO WIRELESS REMOTE CONTROLLER.
- 4. SYMBOLS SHOW AS FOLLOWS: BLK:BLACK RED:RED BLU:BLUE WHT:WHITE YLW:YELLOW GRN:GREEN ORG:ORANGE BRN:BROWN PNK:PINK

	INDOOR UNIT	WIRELESS REMOTE CONTROLLER		
A1P	PRINTED CIRCUIT BOARD	(RECEIVER/DISPLAY UNIT)		
C105	CAPACITOR(M1F)	A2P+A3P   PRINTED CIRCUIT BOARD		
DS1	DIP SWITCH ON PCB	BS1	PUSH BUTTON SWITCH ON PCB	
F1U	FUSE(F,5A,250V)	H1P	PILOT LAMP (ON-RED)	
F2U	FUSE(F,3.15A,500V)	H2P	PILOT LAMP	
HAP	FLASHING LAMP	ПИР	(TIMER-GREEN)	
IIAF	(SERVICE MONITOR GREEN)	H3P	PILOT LAMP	
K2R	MAGNETIC RELAY	חטף	(FILTER SIGN-RED)	
M1F	FAN MOTOR	H4P	PILOT LAMP	
M1P	DRAIN PUMP MOTOR	II <del>II</del> F	(DEFROST-ORANGE)	
M1S·M2S	SWING MOTOR	SS1	SELECTOR SWITCH	
M3S • M4S	SWING MOTOR	331	(MAIN-SUB)	
R2T•R3T	THERMISTOR(COIL)	SS2	SELECTOR SWITCH	
R4T	THERMISTOR(AIR)	332	(WIRELESS ADDRESS SET)	
S1L	FLOAT SWITCH		SENSOR KIT	
V1R	DIODE BRIDGE	A4P	PRINTED CIRCUIT BOARD	
X1M	TERMINAL BLOCK	A5P	PRINTED CIRCUIT BOARD	
X2M	TERMINAL BLOCK	CON	NECTOR FOR OPTIONAL PARTS	
Z1F	NOISE FILTER	X24A	CONNECTOR	
Z1C	FERRITE CORE	AZ4A	(WIRING REMOTE CONTROLLER)	
Z2C	FERRITE CORE	X33A	CONNECTOR	
PS	SWITCHING POWER SUPPLY	ASSA	(ADAPTOR FOR WIRING)	
RC	RECEIVER	X35A	CONNECTOR	
TC			(POWER SUPPLY FOR ADAPTOR)	
W	IRED REMOTE CONTROLLER	X81A	CONNECTOR	
R1T	THERMISTOR(AIR)	VOIN	(SENSOR KIT)	

3D143602A



A1P: Control PCB

A2P: Transmitter board for wireless remote controller

A3P: Receiver for wireless remote controller

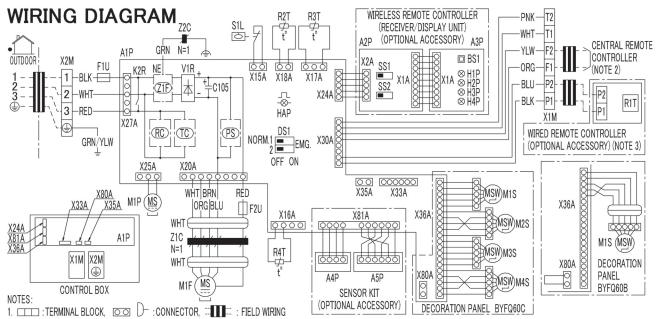
A4P: Thermopile sensor

A5P: Pyroelectric sensor

Refer to page 29 for Printed Circuit Board Connector Wiring Diagram.

SiUS092230EA Wiring Diagrams

#### FFQ09/12/15/18W2VJU9



- 2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL
- 3. IN CASE OF MAIN/SUB CHANGEOVER, SEE THE INSTALLATION MANUAL ATTACHED TO WIRELESS REMOTE CONTROLLER.
- 4. SYMBOLS SHOW AS FOLLOWS: BLK:BLACK RED:RED BLU:BLUE WHT:WHITE YLW:YELLOW GRN:GREEN ORG:ORANGE BRN:BROWN PNK:PINK

	TAID COD LIMIT	WIDELEGO DEMOTE CONTROLLED			
1.15	INDOOR UNIT	WIRELESS REMOTE CONTROLLER			
A1P	PRINTED CIRCUIT BOARD	(RECEIVER/DISPLAY UNIT)			
C105	CAPACITOR(M1F)	A2P•A3P	PRINTED CIRCUIT BOARD		
DS1	DIP SWITCH ON PCB	BS1	PUSH BUTTON SWITCH ON PCB		
F1U	FUSE(F,5A,250V)	H1P	PILOT LAMP (ON-RED)		
F2U	FUSE(F,3.15A,500V)	H2P	PILOT LAMP		
HAP	FLASHING LAMP	ПИР	(TIMER-GREEN)		
TIAF	(SERVICE MONITOR GREEN)	H3P	PILOT LAMP		
K2R	MAGNETIC RELAY	ПОР	(FILTER SIGN-RED)		
M1F	FAN MOTOR	H4P	PILOT LAMP		
M1P	DRAIN PUMP MOTOR	] N4F	(DEFROST-ORANGE)		
M1S-M2S	SWING MOTOR	SS1	SELECTOR SWITCH		
M3S•M4S	SWING MOTOR	331	(MAIN-SUB)		
R2T•R3T	THERMISTOR(COIL)	SS2	SELECTOR SWITCH		
R4T	THERMISTOR(AIR)	332	(WIRELESS ADDRESS SET)		
S1L	FLOAT SWITCH	SENSOR KIT			
V1R	DIODE BRIDGE	A4P	PRINTED CIRCUIT BOARD		
X1M	TERMINAL BLOCK	A5P	PRINTED CIRCUIT BOARD		
X2M	TERMINAL BLOCK	CON	NECTOR FOR OPTIONAL PARTS		
Z1F	NOISE FILTER	X24A	CONNECTOR		
Z1C	FERRITE CORE	AZ4A	(WIRING REMOTE CONTROLLER)		
Z2C	FERRITE CORE	X33A	CONNECTOR		
PS	SWITCHING POWER SUPPLY	ASSA	(ADAPTOR FOR WIRING)		
RC	RECEIVER	X35A	CONNECTOR		
TC	TRANSMITTER	VOOA	(POWER SUPPLY FOR ADAPTOR)		
W	IRED REMOTE CONTROLLER	X81A	CONNECTOR		
R1T	THERMISTOR(AIR)	VOIN	(SENSOR KIT)		

3D139759B



A1P: Control PCB

A2P: Transmitter board for wireless remote controller

A3P: Receiver for wireless remote controller

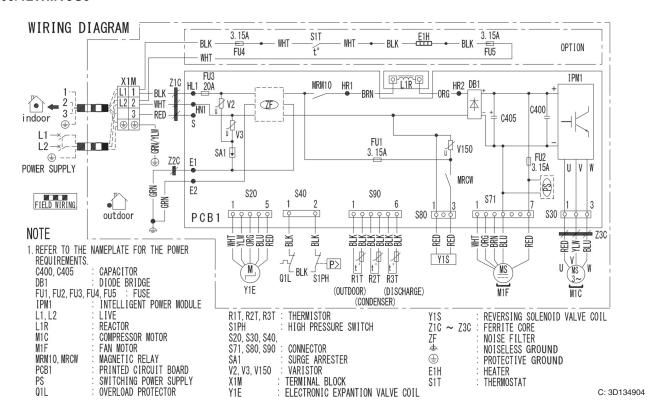
A4P: Thermopile sensor A5P: Pyroelectric sensor

Refer to page 29 for Printed Circuit Board Connector Wiring Diagram.

Wiring Diagrams SiUS092230EA

## 2.2 Outdoor Unit

#### RX09/12WMVJU9

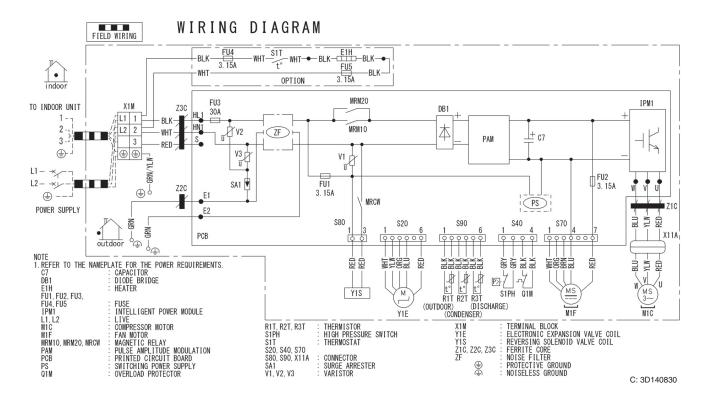


Note(s) PCB1: Main PCB

Refer to page 34 for Printed Circuit Board Connector Wiring Diagram.

SiUS092230EA Wiring Diagrams

#### RX15/18/24WMVJU9





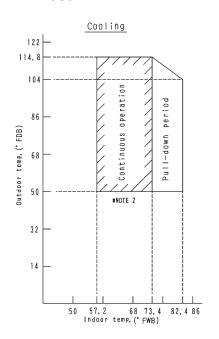
PCB: Main PCB

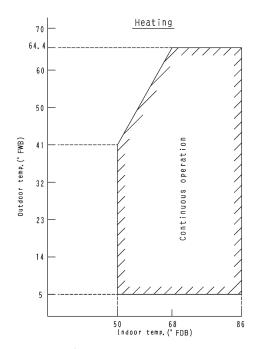
Refer to page 36 for Printed Circuit Board Connector Wiring Diagram.

**Operation Limit** SiUS092230EA

# 3. Operation Limit

#### RX09/12/15/18/24WMVJU9





Notes)

1. The graphs are based on the following conditions.

- Equivalent piping length 25ft
- Level difference Oft

2. Facility Setting (cooling at low outdoor temperature : only for RX model)
This function is limited only for facilities (the target of air conditioning is equipment such as computer).
Never use it in a residence or office (The space where there is a human).
Indoor fan tap should be fixed to high.
Cutting jumper 6 (J6) on the circuit board
Installing an air direction adjustment grille (wind baffle)(sold separately): extend the operation range to -4° F(-20°).



- 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.

	corrosion

1. A	ir conditioners s	hould not be	installed i	n areas whe	ere corrosive gases,	such as acid	gas or alkaline g	as, 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.

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