

AIRSTAGE

AIR CONDITIONER

Wall mounted type

FUJITSU

REFRIGERANT **R32**
INVERTER

SERVICE MANUAL

INDOOR



ASLH09KNAS
ASLH12KNAS

OUTDOOR



AOLH09KNAS1
AOLH12KNAS1

FUJITSU GENERAL LIMITED

SR_AS143ES_03
2024.11.11

Notices:

- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

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1. GENERAL INFORMATION

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1. GENERAL INFORMATION

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1. Specifications

1-1. Indoor unit

Type				Wall mounted			
				Inverter, Heat pump			
Model name				ASLH09KNAS	ASLH12KNAS		
Power supply intake				Outdoor unit			
System power supply				Voltage	115		
				Frequency	60		
				Available voltage range	103.5—126.5		
Indoor unit power supply (from outdoor unit)				V	115		
Capacity	Cooling	Rated	kW	2.64	3.52		
			Btu/h	9,000	12,000		
		Min.—Max.	kW	0.90—3.08	0.90—3.67		
			Btu/h	3,100—10,500	3,100—12,500		
		Heating	47°FDB (Outdoor temp.)	Rated	kW	2.64	3.52
				Btu/h	9,000	12,000	
	Min.—Max.		kW	0.90—3.63	0.90—4.07		
			Btu/h	3,100—12,400	3,100—13,900		
	17°FDB (Outdoor temp.)*1		Rated	kW	1.525	2.200	
			Btu/h	5,200	7,500		
		Max.	kW	2.505	2.960		
		Btu/h	8,550	10,100			
5°FDB (Outdoor temp.)*2	Rated	kW	1.995	2.400			
	Btu/h	6,800	8,200				
	Max.	kW	1.995	2.400			
	Btu/h	6,800	8,200				
Input power	Cooling	Rated	kW	0.85	1.18		
		Min.—Max.		0.24—1.44	0.23—1.44		
		47°FDB (Outdoor temp.)	Rated	kW	0.74	1.05	
			Min.—Max.		0.20—1.38	0.21—1.66	
	Heating	17°FDB (Outdoor temp.)*1	Rated	kW	0.58	0.84	
			Max.		1.08	1.24	
		5°FDB (Outdoor temp.)*2	Rated	kW	0.94	1.1	
			Max.		0.94	1.1	
	Fan	HIGH	Rated	W	20.1	20.2	
			MED		11.3	11.5	
			LOW		5.7	6.3	
			QUIET			2.9	
		MED					
			LOW				
Current	Cooling	Rated	A	8.2	10.9		
	Heating			7.5	11.0		
EER2	Cooling	kW/kW		3.09	2.97		
		Btu/hW		10.55	10.15		
COP2	Heating	kW/kW		3.56	3.35		
		Btu/hW		12.16	11.43		
SEER2	Cooling	Btu/hW		17.00			
HSPF2	Heating	Btu/hW		9.00			
Power factor	Cooling	%		90	94		
	Heating			86	83		
Moisture removal			pints/h (L/h)	1.9 (0.88)	3.3 (1.57)		
Maximum operating current*3			Cooling	A			
			Heating	14.7			
Fan	Airflow rate	Cooling	HIGH	365 (620)			
			MED	288 (490)			
			LOW	212 (360)	218 (370)		
			QUIET	141 (240)			
		Heating	HIGH	365 (620)			
			MED	300 (510)			
			LOW	241 (410)			
			QUIET	153 (260)			
	Type × Qty	W		Crossflow fan × 1			
	Motor output			27			
Sound pressure level*4	Cooling	HIGH	dB (A)	41			
		MED		35			
		LOW		27	28		
		QUIET		20			
	Heating	HIGH	41				
		MED	35				
		LOW	30				
		QUIET	22				
Heat exchanger	Dimensions (H × W × D)		in (mm)	Main 1: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3) Main 2: 3-5/16 × 23-1/4 × 1-1/16 (84 × 590 × 26.6) Main 3: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)	Main 1: 6-5/8 × 23-1/4 × 1-1/16 (168 × 590 × 26.6) Main 2: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)		
	Fin pitch		FPI	Main 1: 21 Main 2: 20 Main 3: 21	Main 1: 20 Main 2: 21		
	Rows × Stages			Main 1: 1 × 4 Main 2: 2 × 4 Main 3: 1 × 4	Main 1: 2 × 8 Main 2: 1 × 4		
	Pipe type			Copper tube			
	Fin type			Aluminum			
Enclosure	Material		Polystyrene				
	Color		White Approximate color of Munsell N9.25/				

Type			Wall mounted	
			Inverter, Heat pump	
Model name			ASLH09KNAS	ASLH12KNAS
Dimensions (H × W × D)	Net	in (mm)	9-13/16 × 30-5/16 × 8-9/16 (250 × 770 × 218)	
	Gross		10-13/16 × 33-1/16 × 12-3/16 (274 × 840 × 310)	
Weight	Net	lb (kg)	15 (7.0)	17 (7.5)
	Gross		20 (9.0)	21 (9.5)
Connection pipe	Size	Liquid	Ø1/4 (Ø6.35)	
		Gas	Ø3/8 (Ø9.52)	
	Method	Flare		
Drain hose	Material	Polypropylene + High-density polyethylene		
	Tip diameter	in (mm)	I.D.: Ø17/32 (Ø13.8) O.D.: Ø19/32 to 21/32 (Ø15 to 16.8)	
Operation range	Cooling	°F (°C)	64 to 90 (18 to 32)	
		%RH	80 or less	
	Heating	°F (°C)	60 to 86 (16 to 30)	
Remote controller type			Wireless (Option: Mobile app*5 [AIRSTAGE Mobile])	
NOTES:				
<ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB). – Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (8.33°CDB/6.11°CWB). – *1: Heating (17°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°FWB (-8.33°CDB/-9.44°CWB). – *2: Heating (5°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°FWB (-15.0°CDB/-15.56°CWB). – Test conditions are based on AHRI 210/240 2023. – Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) • Protective function might work when using it outside the operation range. • *3: Maximum current: <ul style="list-style-type: none"> – The maximum value when operated within the operation range. – The total current of indoor unit and outdoor unit. • *4: Sound pressure level: <ul style="list-style-type: none"> – Measured values in manufacturer's anechoic chamber. – Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. • *5: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual. 				

1-2. Outdoor unit

Type			Inverter, Heat pump		
Model name			AOLH09KNAS1	AOLH12KNAS1	
Power supply			115 V~ 60 Hz		
Power supply intake			Outdoor unit		
Available voltage range			103.5—126.5 V		
Starting current			8.2	11.0	
Fan	Airflow rate	Cooling	CFM (m ³ /h)	971 (1,650)	1,001 (1,700)
		Heating			
	Type × Qty	Propeller fan × 1			
Motor output			W	23	
Sound pressure level *1	Cooling	dB (A)	45		48
	Heating		46		48
Heat exchanger type	Dimensions (H × W × D)	in (mm)	19-13/16 × 25-9/16 × 11/16 (504 × 650 × 18.19)		19-13/16 × 24-13/16 × 1-7/16 (504 × 630 × 36.38)
	Fin pitch	FPI	20		
	Rows × Stages		1 × 24	2 × 24	
	Pipe type		Copper tube		
	Fin type	Type (Material)	Aluminum		
	Surface treatment	PC fin			
Compressor	Type		DC rotary		
	Motor output	W	550		
Refrigerant	Type		R32		
	Charge	lb oz	1 lb 3 oz		1 lb 7 oz
		g	530		650
Refrigerant oil	Type		RB74AF		
	Amount	in ³ (cm ³)	14.6 (240)		
Enclosure	Material		Steel sheet		
	Color		Beige Approximate color of Munsell 10YR 7.5/1.0		
Dimensions (H × W × D)	Net	in (mm)	21-5/16 × 26-1/8 × 11-7/16 (541 × 663 × 290)		
	Gross		23-11/16 × 31-5/8 × 14-3/4 (602 × 804 × 375)		
Weight	Net	lb (kg)	51 (23)		55 (25)
	Gross		57 (26)		62 (28)
Connection pipe	Size	Liquid	Ø1/4 (Ø6.35)		
		Gas	Ø3/8 (Ø9.52)		
	Method		Flare		
	Pre-charge length	ft (m)	49 (15)		
	Min. length		10 (3)		
	Max. length		66 (20)		
	Max. height difference		49 (15)		
Additional charge	oz/ft (g/m)	0.22 (20)			
Operation range	Cooling	°F (°C)	50 to 126 (10 to 52)		
	Heating		5 to 75 (-15 to 24)		
Drain hose	Material		Polypropylene		
	Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I. D.) Ø5/8 to Ø11/16 (Ø16.0 to Ø16.8) (O. D.)		

NOTES:

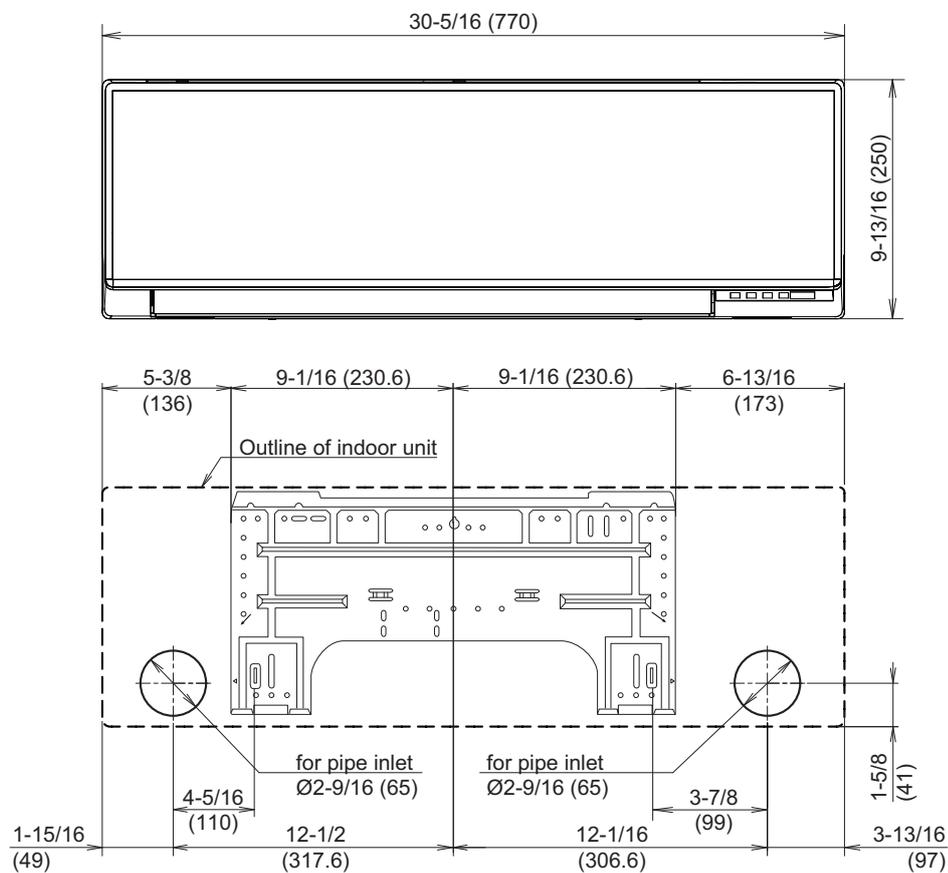
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 80°FDB (26.67°CDB) / 67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB) / 75°FWB (23.9°CWB).
 - Heating: Indoor temperature of 70°FDB (21.11°CDB) / 60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) / 43°FWB (6.11°CWB).
 - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
 - Measured values in manufacturer's semi-anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

2. Dimensions

2-1. Indoor unit

■ Models: ASLH09KNAS and ASLH12KNAS

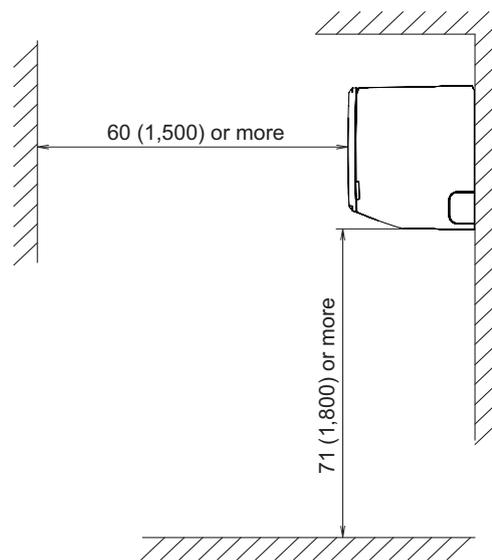
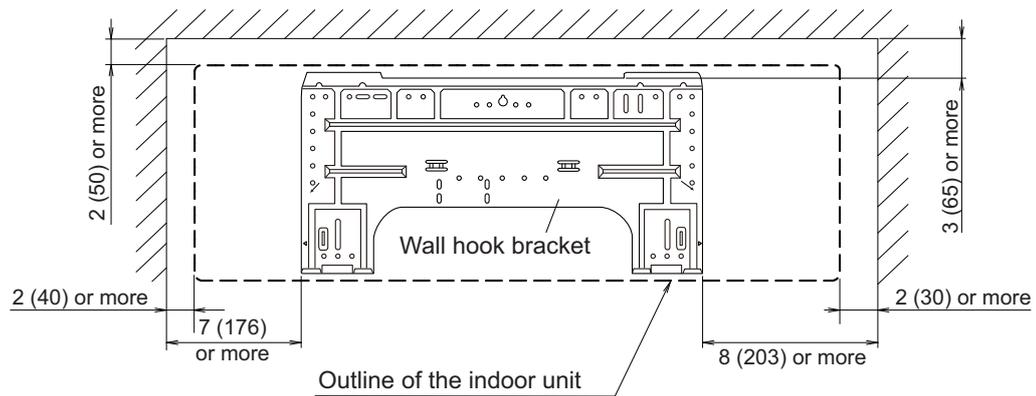
Unit: in (mm)



● Installation space requirement

Provide sufficient installation space for product safety.

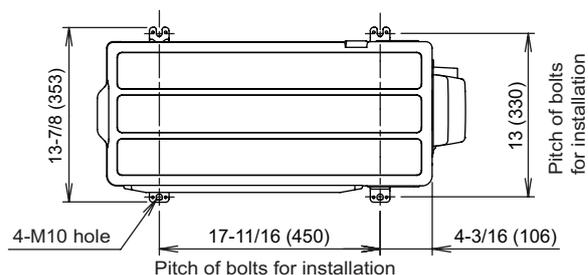
Unit: in (mm)



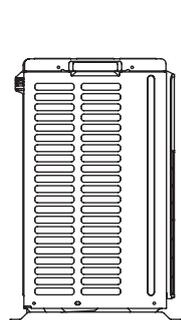
2-2. Outdoor unit

■ Models: AOLH09KNAS1 and AOLH12KNAS1

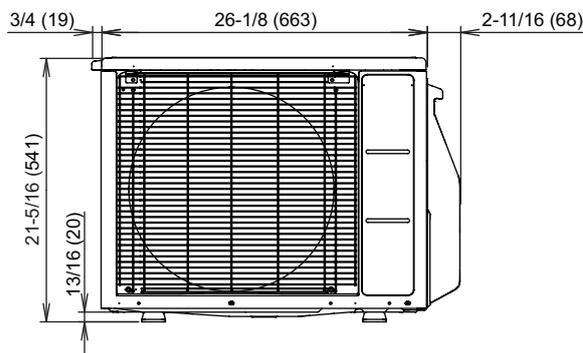
Unit: in (mm)



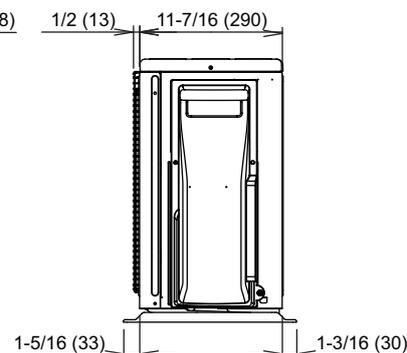
Top view



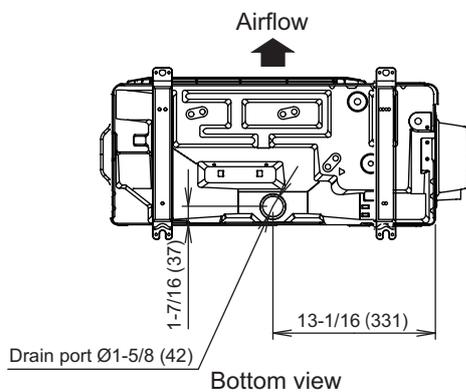
Side view



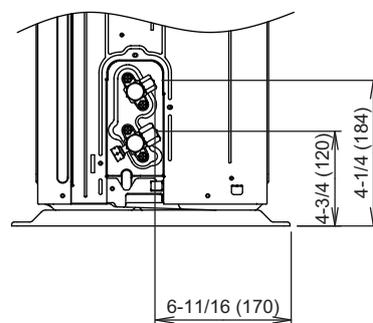
Front view



Side view



Bottom view



Side view (Valve part)

2. TECHNICAL DATA AND PARTS LIST

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2. TECHNICAL DATA AND PARTS LIST

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1. Precautions

When you start servicing, pay attention to the following points. For detailed precautions, refer to the installation manual of the products.

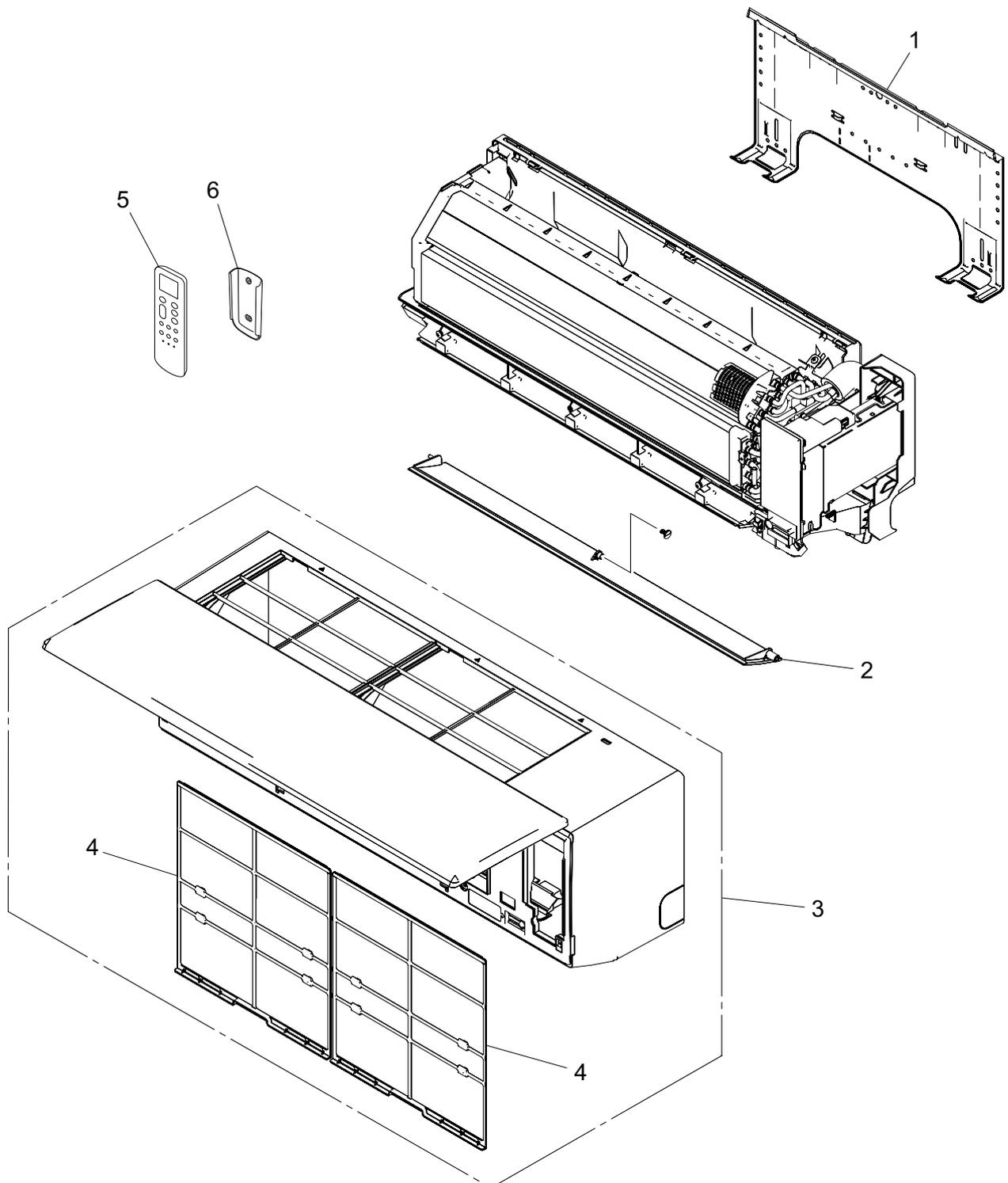
⚠ CAUTION

- Service personnel
 - Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
 - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
 - Servicing shall be performed only as recommended by the manufacturer.
 - Work
 - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. When repairing the refrigerant system, refer to the precautions written in the installation manual of the products before you start servicing.
 - Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
 - All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
 - Work in confined spaces shall be avoided.
 - The area around the workspace shall be sectioned off.
 - Ensure that the conditions within the area have been made safe by control of flammable material.
 - Electric shock may occur. After turning off the power, always wait 5 minutes before touching electrical components.
 - Do not touch the fins of the heat exchanger. Touching the heat exchanger fins could result in damage to the fins or personal injury such as skin rupture.
 - Do not place any other electrical products or household belongings under the product.
 - Condensation dripping from the product might get them wet, and may cause damage or malfunction to the property.
 - Checking for presence of refrigerant
 - The area shall be checked with an appropriate refrigerant leak detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.
 - Ensure that the leak detector being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
-
- Service parts information and design are subject to change without notice for product improvement.
 - For the latest information of the service parts, refer to our Service Portal.
<https://fujitsu-general.force.com/portal/>
 - Precise figure of the service parts listed in this manual may differ from the actual service parts.

2. Indoor unit parts list

2-1. Models: ASLH09KNAS and ASLH12KNAS

■ Exterior parts

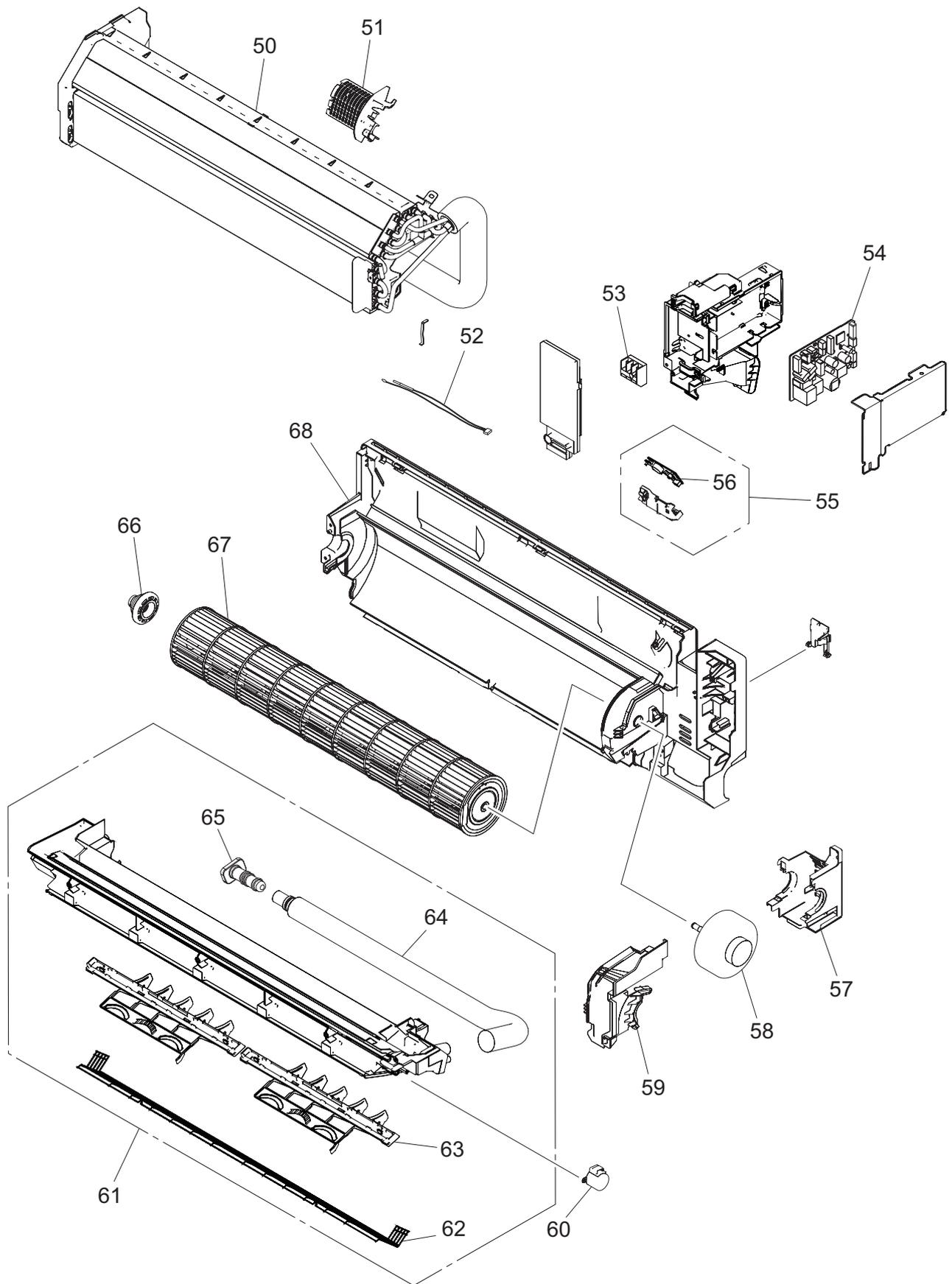


Item no.	Part no.	Part name
1	9388959009	Bracket panel
2	9333888026	Horizontal louver
3	9333886312	Front panel total assy
4	9388953007	Air filter
5	9334141069	Remote controller total assy (Including No.6)
6	9334098004	Remote controller holder

■ Chassis, evaporator, and control unit

TECHNICAL DATA
AND PARTS LIST

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AND PARTS LIST

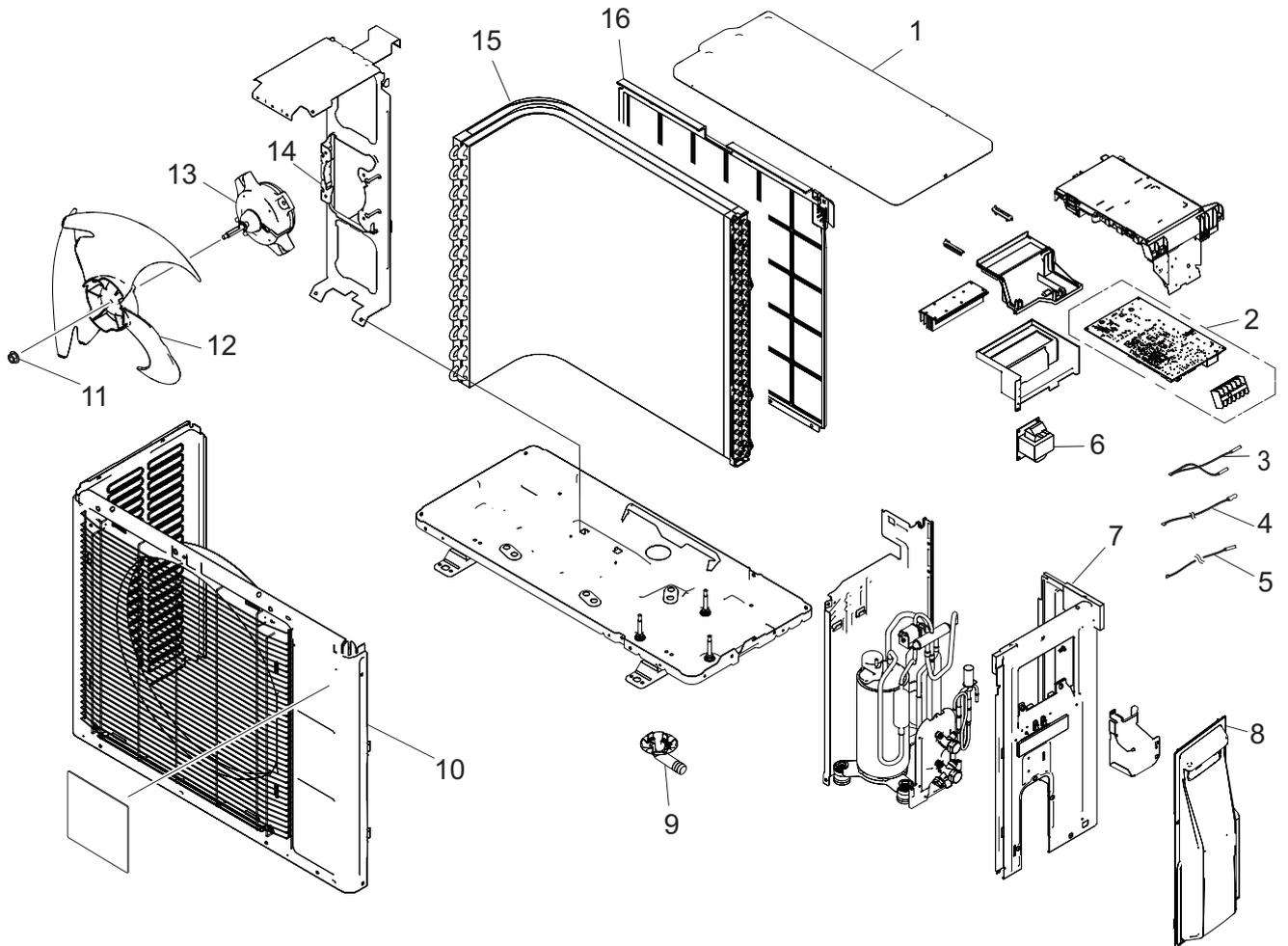


Item no.	Part no.	Part name
50	9383735547	Evaporator total assy (09 model)
	9383735530	Evaporator total assy (12 model)
51	9388951003	Room thermistor holder
52	9901160066	Thermistor assy
53	9900369071	Terminal block 3P
54	9712493131	Main PCB (09 model)
	9712493148	Main PCB (12 model)
55	9711146137	Indicator assy
56	9711147028	Indicator PCB
57	9388977003	Motor case
58	9604213014	DC fan motor
59	9388946009	Motor cover
60	9901011139	Stepping motor
61	9333911045	Drain pan total assy
62	9388939001	Fan guard
63	9388935003	Vertical louver
64	9316904040	Drain hose assy
65	9316177017	Drain cap
66	9333628004	Bearing D assy
67	9388955001	Crossflow fan assy
68	9333882055	Base assy
—	9901010071	Wire with connector (CN75 on Main PCB—WLAN Adapter [option])

3. Outdoor unit parts list

3-1. Models: AOLH09KNAS1 and AOLH12KNAS1

■ Exterior parts and chassis

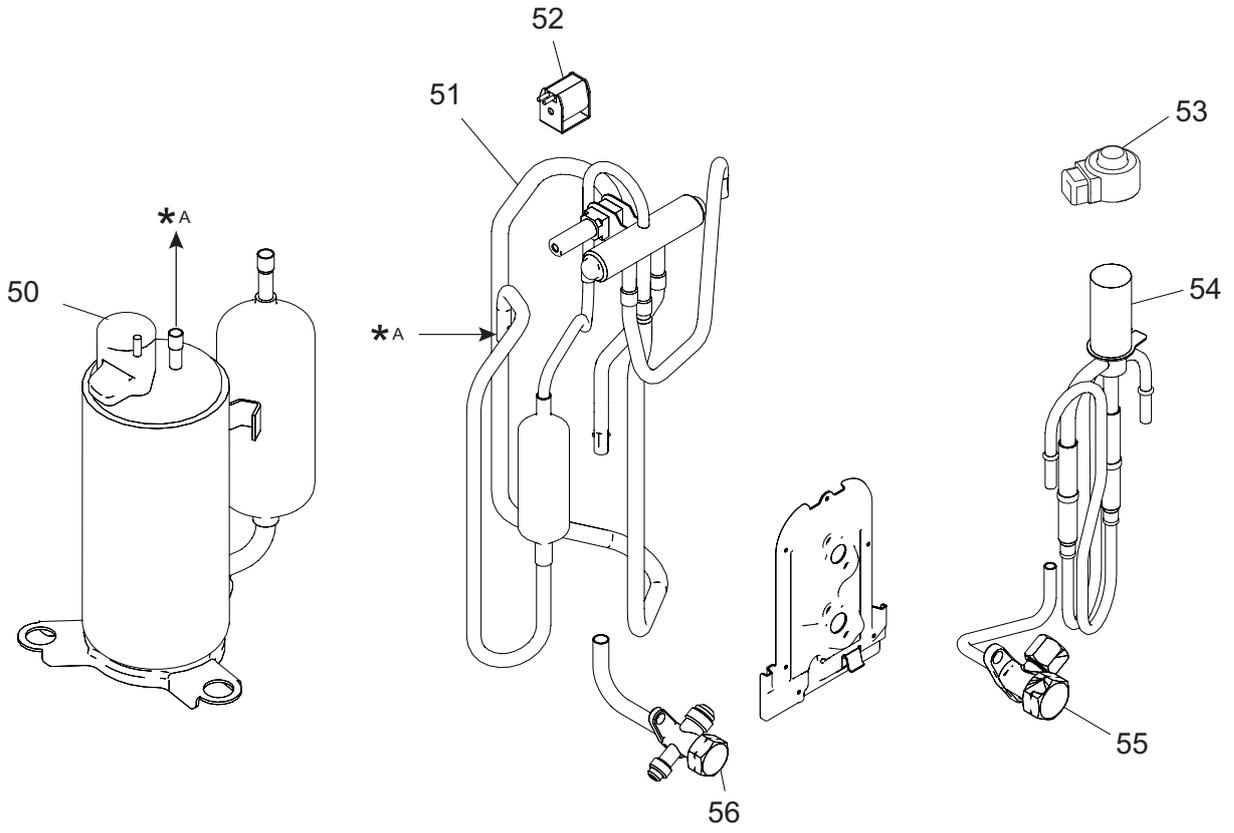


Item no.	Part no.	Part name
1	9322556103	Top panel assy
2	9709689981	Main PCB (09 model)
	9709689998	Main PCB (12 model)
3	9900727062	Thermistor assy
4	9900565176	Thermistor (Outdoor temp.)
5	9901096051	Thermistor (Heat exchanger temp.)
6	9900879020	Reactor assy
7	9322552310	Cabinet right assy
8	9322570055	Switch cover assy
9	9322144003	Drain pipe
10	9322555359	Front panel assy
11	0700103070	Nut
12	9322136008	Propeller fan
13	9603553005	DC fan motor
14	9322553089	Motor bracket assy (09 model)
	9322553096	Motor bracket assy (12 model)
15	9389817025	Heat exchanger unit (09 model)
	9389817018	Heat exchanger unit (12 model)
16	9322811004	Protective net assy

■ Compressor

TECHNICAL DATA
AND PARTS LIST

TECHNICAL DATA
AND PARTS LIST

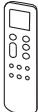
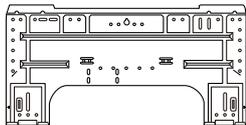
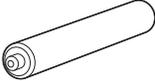


Item no.	Part no.	Part name
50	9322423009	Compressor assy (09 model)
	9322425003	Compressor assy (12 model)
51	9322392008	4-way valve assy
52	9970048036	Solenoid
53	9970222016	Expansion valve coil
54	9322403001	Pulse motor valve
55	9322474025	2-way valve assy
56	9318254051	3-way valve assy

4. Accessories

4-1. Indoor unit

■ Models: ASLH09KNAS and ASLH12KNAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Self-tapping screw (Large)		5
Installation manual		1	Self-tapping screw (Small)		2
Remote controller		1	Wall hook bracket		1
Remote controller holder		1	Cloth tape		1
Battery		2			

4-2. Outdoor unit

■ Models: AOLH09KNAS1 and AOLH12KNAS1

Part name	Exterior	Qty	Part name	Exterior	Qty
Protection label		1	Cable tie		2
Drain pipe		1			

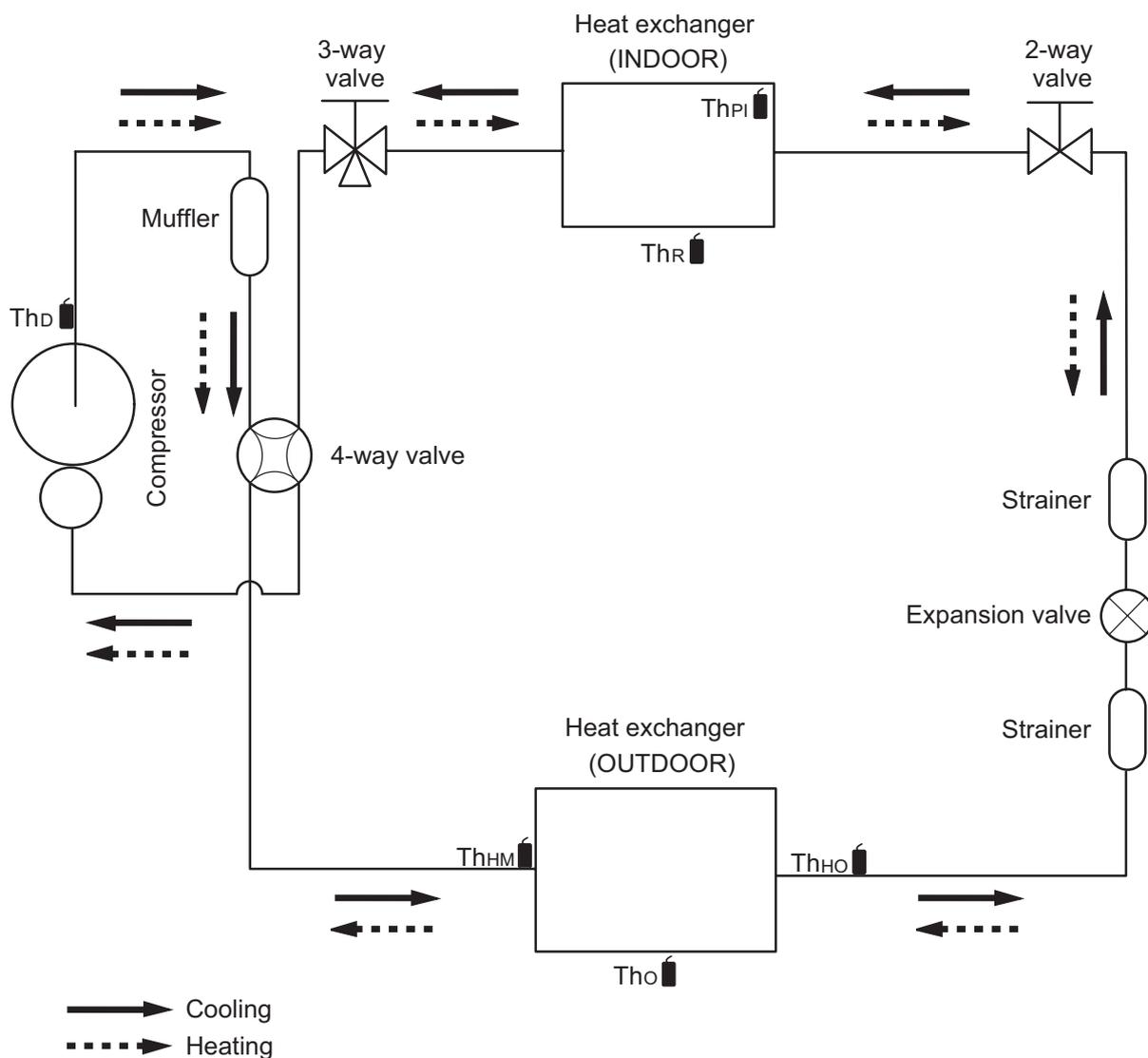
5. Optional parts

5-1. Indoor unit

Exterior	Part name	Model name	Summary
	WLAN Adapter	UTY-TFSXH4	<p>Remotely manage an air conditioning system using mobile devices such as smartphones and tablets.</p> <p>Appropriate application for each region is required to use this option. For details, contact FGL sales company.</p> <p>Connecting point: CN75 on Main PCB via USB connector</p>

6. Refrigerant system diagrams

6-1. Models: AOLH09KNAS1 and AOLH12KNAS1



Th_D : Thermistor (Discharge temperature)

Th_{HM} : Thermistor (Heat exchanger middle temperature)

Th_O : Thermistor (Outdoor temperature)

Th_{HO} : Thermistor (Heat exchanger out temperature)

Th_{PI} : Thermistor (Pipe temperature)

Th_R : Thermistor (Room temperature)

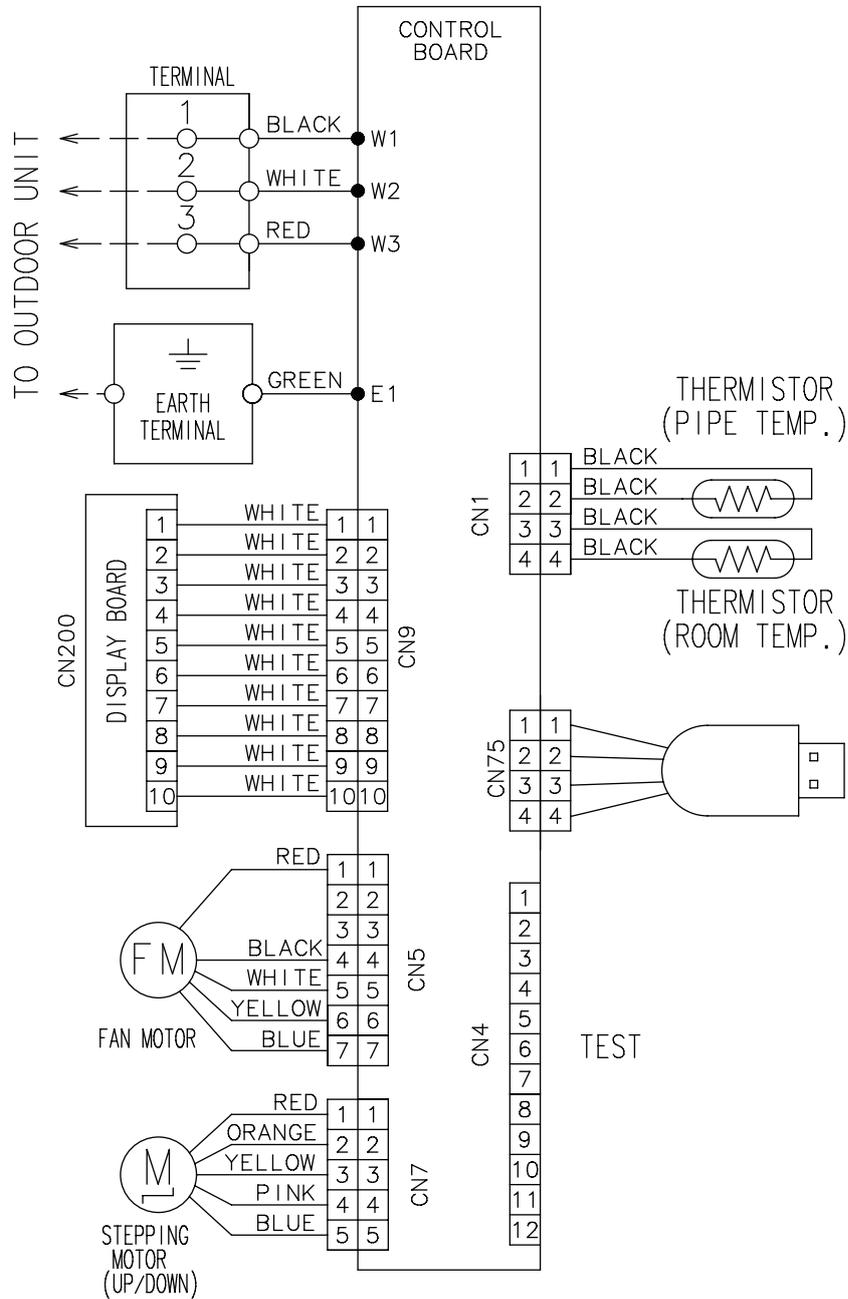
7. Wiring diagrams

7-1. Indoor unit

Models: ASLH09KNAS and ASLH12KNAS

TECHNICAL DATA
AND PARTS LIST

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AND PARTS LIST

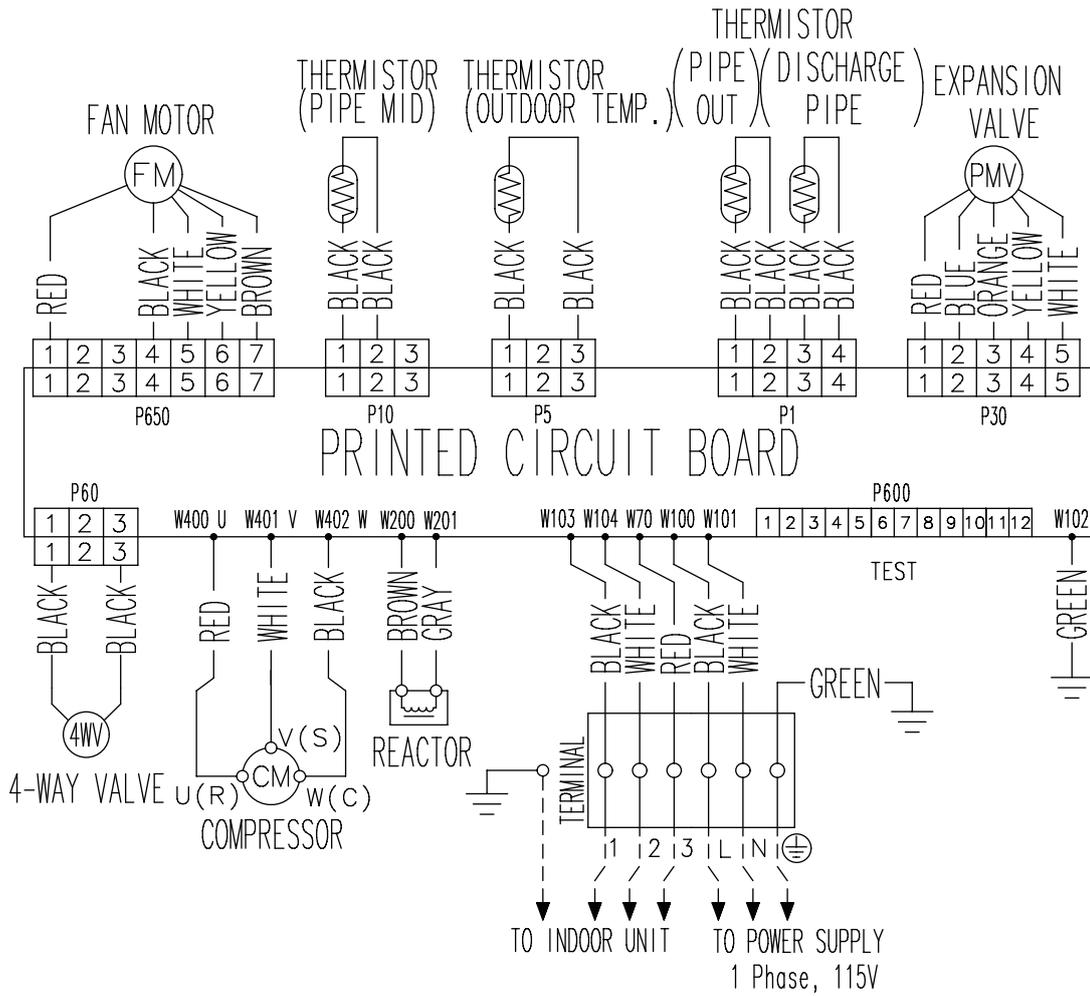


7-2. Outdoor unit

Models: AOLH09KNAS1 and AOLH12KNAS1

TECHNICAL DATA AND PARTS LIST

TECHNICAL DATA AND PARTS LIST



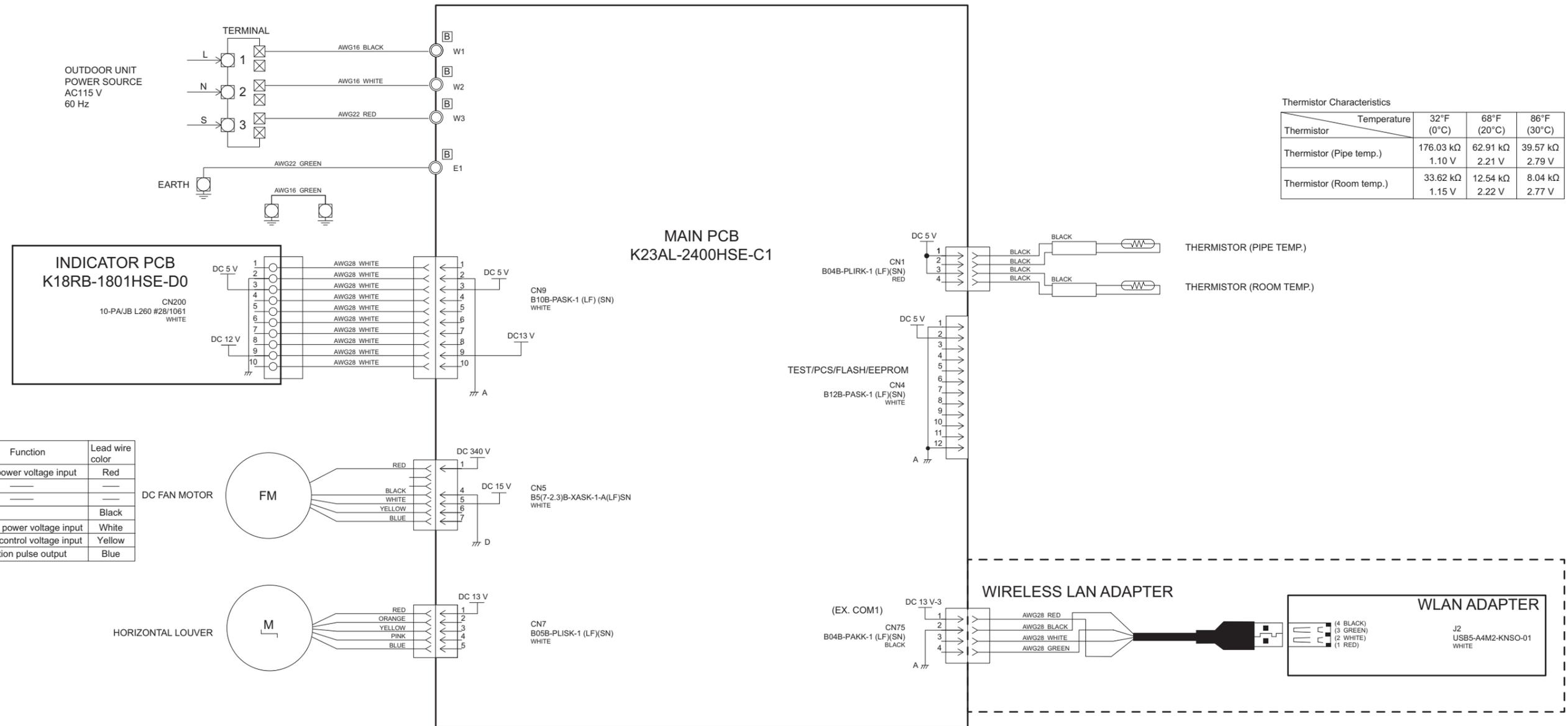
8. PC board diagrams

8-1. Models: ASLH09KNAS and ASLH12KNAS

TECHNICAL DATA AND PARTS LIST

TECHNICAL DATA AND PARTS LIST

CONTROL UNIT EZ-0249HSE



3. TROUBLESHOOTING

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3. TROUBLESHOOTING

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1. Error code

When a problem occurs in the system or the connected device, the error content is notified by displaying the code.

NOTE: This function is only available in a system with indoor or IR receiver units equipped with indicator lamps to show the error content.

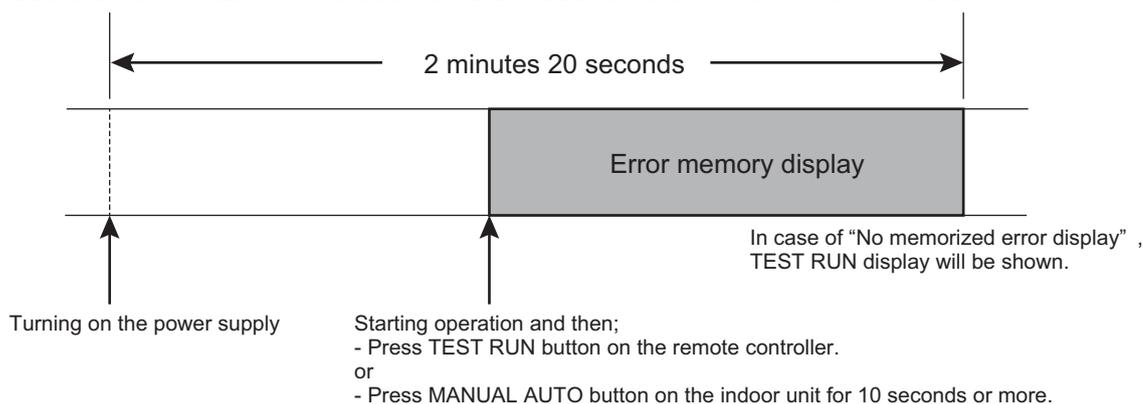
Errors, once displayed, will be automatically stored in the PC board of the indoor unit. Even if the power is disconnected, the memory containing the error history will not be erased.

If another error occurs later, the stored error memory will be updated automatically and replaced with the new one. (Previous error will be erased.)

1-1. How to check the error memory

When an error occurs, the operation lamp (Green) and the timer lamp (Orange) indicate the error content by blinking. To check the error memory, follow the procedures below.

1. Stop the operation of the air conditioner, and then disconnect the power supply.
2. Reconnect the power supply.
3. In one of the following two methods, the memorized error is only displayed during the "3 minutes ST"* state period.
 - Start the operation and then press the TEST RUN button on the remote controller.
 - Press the MANUAL AUTO button on the indoor unit for 10 seconds or more.



*: The "3 minutes ST" period lasts 2 minutes and 20 seconds after turning on the power supply.

1-2. How to erase the error memory

The error memory can be erased in one of the following two methods.

- Manual erase: Pressing the MANUAL AUTO button on the indoor unit while the "Error memory display" is being shown. (Short beep emits for about 3 seconds.)
- Automatic erase: After continuing the normal operation of the air conditioner without error for 2 hours or longer after displaying the error memory as described in [How to check the error memory](#). (Except FAN operation mode.)

1-3. Error code table (Indoor unit)

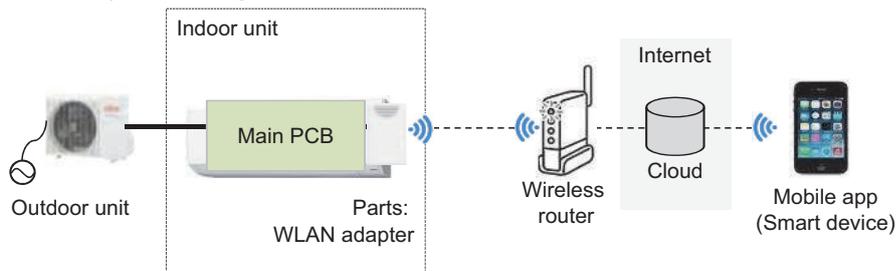
The operation, timer, and economy indicators operate according to the error contents.

For confirmation of the error contents, refer the flashing pattern as follows.

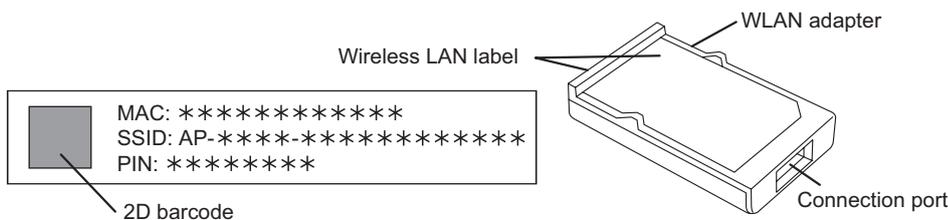
Error contents	Indoor unit display		
	Operation [I] (Green)	Timer [⌚] (Orange)	Economy [⌚] (Green)
E: 11.X. Serial communication error (Serial reverse transfer error) (Outdoor unit)	1 times	1 times	Continuous
E: 11.X. Serial communication error (Serial forward transfer error) (Indoor unit)	1 times	1 times	Continuous
E: 18.X. External communication error (Indoor unit)	1 times	8 times	Continuous
E: 22.X. Indoor unit capacity error (Indoor unit)	2 times	2 times	Continuous
E: 23.X. Combination error (Outdoor unit)	2 times	3 times	Continuous
E: 32.X. Indoor unit main PCB error (Indoor unit)	3 times	2 times	Continuous
E: 33.X. Indoor unit motor electricity consumption detection error (Indoor unit)	3 times	3 times	Continuous
E: 35.X. MANUAL AUTO button error (Indoor unit)	3 times	5 times	Continuous
E: 39.X. Indoor unit power supply error for fan motor (Indoor unit)	3 times	9 times	Continuous
E: 41.X. Room temperature sensor error (Indoor unit)	4 times	1 times	Continuous
E: 42.X. Indoor unit heat exchanger sensor error (Indoor unit)	4 times	2 times	Continuous
E: 51.X. Indoor unit fan motor error (Indoor unit)	5 times	1 times	Continuous
E: 62.X. Outdoor unit main PCB error (Outdoor unit)	6 times	2 times	Continuous
E: 63.X. Inverter error (Outdoor unit)	6 times	3 times	Continuous
E: 64.X. PFC circuit error (Outdoor unit)	6 times	4 times	Continuous
E: 65.X. IPM error (Outdoor unit)	6 times	5 times	Continuous
E: 71.X. Discharge thermistor error (Outdoor unit)	7 times	1 times	Continuous
E: 73.X. Outdoor unit heat exchanger thermistor error (Outdoor unit)	7 times	3 times	Continuous
E: 74.X. Outdoor temperature thermistor error (Outdoor unit)	7 times	4 times	Continuous
E: 84.X. Current sensor error (Outdoor unit)	8 times	4 times	Continuous
E: 94.X. Trip detection (Outdoor unit)	9 times	4 times	Continuous
E: 95.X. Compressor motor control error (Outdoor unit)	9 times	5 times	Continuous
E: 97.X. Outdoor unit fan motor error (Outdoor unit)	9 times	7 times	Continuous
E: 99.X. 4-way valve error (Outdoor unit)	9 times	9 times	Continuous
E: A1.X. Discharge temperature error (Outdoor unit)	10 times	1 times	Continuous

1-4. Error code table (Wireless LAN indicator)

- Wireless LAN control system diagram example



- Name of parts



- Wireless LAN indicator lamps

For confirmation of the error contents, refer to the following flashing patterns.

Wireless LAN indicator lamp (orange) on the indoor unit operate according to the error contents.

Error contents	Wireless LAN indicator lamp (orange)	Error code
E: 18.X. External communication error between indoor unit and wireless LAN adapter	Flashing slowly	18
Network communication error between wireless LAN router and wireless LAN adapter	Flashing slowly	No error
E: 18.X. Communication error	Flashing slowly	18
E: 18.X. Wireless LAN adapter non-energized	Off	18

Flashing slowly: Repeating 7 seconds on/2 seconds off

TROUBLESHOOTING

TROUBLESHOOTING

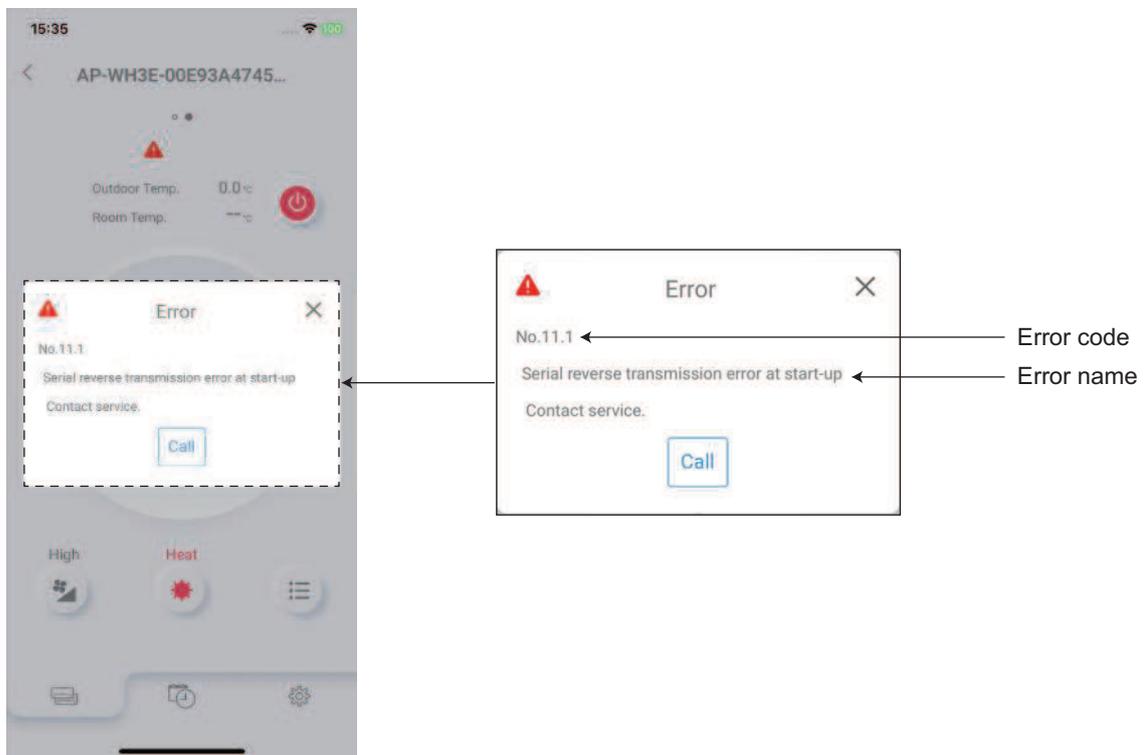
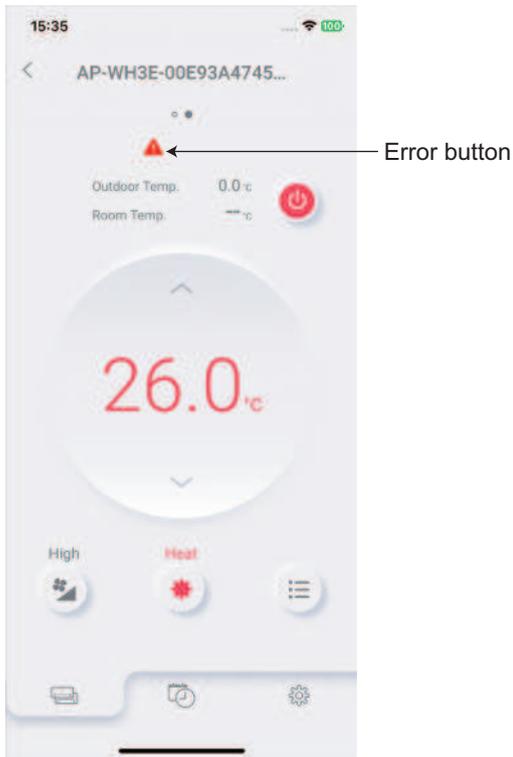
1-5. How to check the error code on Mobile app

If there is an abnormality on the air conditioning, refer to  as follows.

When the  (error button) on the home screen is tapped, error code and error name is displayed.

TROUBLESHOOTING

TROUBLESHOOTING



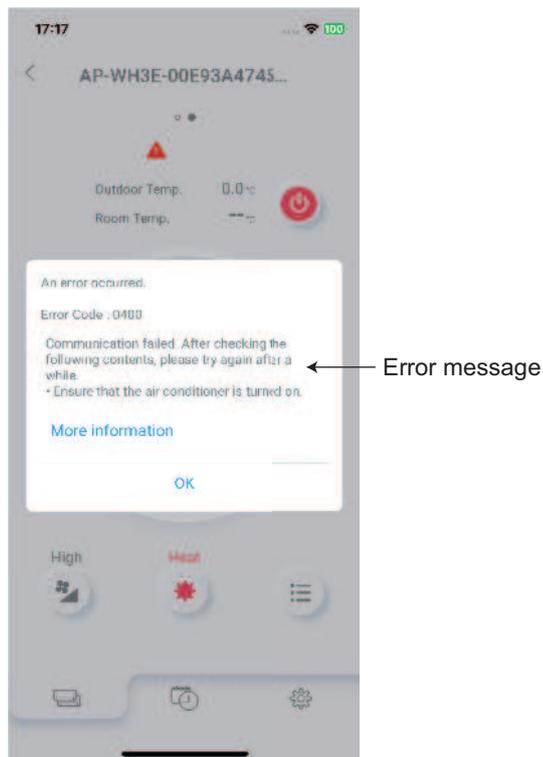
1-6. Error code table (Mobile app)

Error message	Error contents	Error code
Serial reverse transmission error at start-up	E: 11.X. Serial communication error (Serial reverse transfer error) (Outdoor unit)	11.1
Serial reverse transmission error during operation		11.2
Serial forward transmission error at start-up	E: 11.X. Serial communication error (Serial forward transfer error) (Indoor unit)	11.3
Serial forward transmission error during operation		11.4
External communication 1 error	E: 18.X. External communication error (Indoor unit)	18.1
Indoor unit capacity error	E: 22.X. Indoor unit capacity error (Indoor unit)	22.1
Connection forbidden (series error)	E: 23.X. Combination error (Outdoor unit)	23.1
Unit combination error		23.2
Indoor unit PCB model information error	E: 32.X. Indoor unit main PCB error (Indoor unit)	32.1
Constant correction control error		32.6
Indoor unit motor electricity consumption detection microcomputers error	E: 33.X. Indoor unit motor electricity consumption detection error (Indoor unit)	33.2
Indoor unit manual auto switch error	E: 35.X. MANUAL AUTO button error (Indoor unit)	35.1
Indoor unit power supply error for fan motor 1	E: 39.X. Indoor unit power supply error for fan motor (Indoor unit)	39.1
Indoor unit suction air temp. thermistor error	E: 41.X. Room temperature sensor error (Indoor unit)	41.1
Indoor unit heat ex. middle temp. thermistor error	E: 42.X. Indoor unit heat exchanger sensor error (Indoor unit)	42.2
Indoor unit fan motor 1 lock error	E: 51.X. Indoor unit fan motor error (Indoor unit)	51.1
Indoor unit fan motor 1 rotation speed error		51.2
Outdoor unit PCB model information error	E: 62.X. Outdoor unit main PCB error (Outdoor unit)	62.1
Outdoor unit PCB microcomputer communication error		62.2
Outdoor unit inverter error	E: 63.X. Inverter error (Outdoor unit)	63.1
Outdoor unit abnormal voltage error (permanent stop)	E: 64.X. PFC circuit error (Outdoor unit)	64.1
Outdoor unit abnormal voltage error (automatic restore)		64.3
Outdoor unit over current error (permanent stop)		64.4
Outdoor unit PFC hardware error		64.8
Outdoor unit trip terminal L error	E: 65.X. IPM error (Outdoor unit)	65.3
Outdoor unit discharge temp. thermistor 1 error	E: 71.X. Discharge thermistor error (Outdoor unit)	71.1
Outside air temp. thermistor error	E: 74.X. Outdoor temperature thermistor error (Outdoor unit)	74.1
Outdoor unit current sensor 1 error (permanent stop)	E: 84.X. Current sensor error (Outdoor unit)	84.1
Outdoor unit trip detection	E: 94.X. Trip detection (Outdoor unit)	94.1
Outdoor unit compressor rotor position detection error (permanent stop)	E: 95.X. Compressor motor control error (Outdoor unit)	95.1
Outdoor unit fan motor 1 power source duty error	E: 97.X. Outdoor unit fan motor error (Outdoor unit)	97.3
Outdoor unit 4-way valve error	E: 99.X. 4-way valve error (Outdoor unit)	99.1
Outdoor unit discharge temperature 1 error (permanent stop)	E: A1.X. Discharge temperature error (Outdoor unit)	A1.1

1-7. Error message for wireless LAN control (Mobile app)

■ Error display

If there is an abnormality on the wireless control system, refer to error messages as follows.



■ Error message list

- Registration error

Error code	Error message	Cause
		Solution
2400	<p>Communication failed. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> • Ensure that the air conditioner is turned on. 	<p>Communication with the air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> • When not lighting <ul style="list-style-type: none"> – Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. – Check that the power plug of the air conditioner main unit is plugged in. • When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> • When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
		<p>Failed because the smartphone could not connect to the air conditioner.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> • When not lighting <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. 3. Check that the power plug of the air conditioner main unit is plugged in. 4. Retry the connection step procedure for the air conditioner registration displayed in the application to set the lamp to the blinking state. • When lighting or blinking <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the wireless LAN setting of smartphone is set to ON.
2930	<p>Cannot connect to your air conditioner. Check if the WiFi setting of the mobile device is turned on.</p> <p>When problems are not resolved, there may be other causes. Tap the link below to check other solutions.</p>	<p>Failed because the smartphone could not connect to the air conditioner.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> • When not lighting <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. 3. Check that the power plug of the air conditioner main unit is plugged in. 4. Retry the connection step procedure for the air conditioner registration displayed in the application to set the lamp to the blinking state. • When lighting or blinking <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the wireless LAN setting of smartphone is set to ON.
		<p>Failed because the smartphone could not connect to the air conditioner.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> • When not lighting <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. 3. Check that the power plug of the air conditioner main unit is plugged in. 4. Retry the connection step procedure for the air conditioner registration displayed in the application to set the lamp to the blinking state. • When lighting or blinking <ol style="list-style-type: none"> 1. Check that the 2D barcode is for the air conditioner to be registered. 2. Check that the wireless LAN setting of smartphone is set to ON.

Error code	Error message	Cause
		Solution
2931	WLAN adapter password is wrong. Enter it again. When problems are not resolved, there may be other causes. Tap the link below to check other solutions.	Failed because the smartphone could not connect to the air conditioner. Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.
		<ul style="list-style-type: none"> • When not lighting <ol style="list-style-type: none"> 1. Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. 2. Check that the power plug of the air conditioner main unit is plugged in. 3. Retry the connection step procedure for the air conditioner registration displayed in the application to set the lamp to the blinking state. • When lighting or blinking <ol style="list-style-type: none"> 1. Check that the entered SSID and PIN numbers of WLAN Adapter are correct. 2. Check that the wireless LAN setting of smartphone is set to ON.
2932 2933	Failed to connect to wireless router. Check if the WiFi setting of the mobile device is turned on. When problems are not resolved, there may be other causes. Tap the link below to check other solutions.	<ul style="list-style-type: none"> • Registration failed because the smartphone cannot connect to the network. • Connection to the WLAN Adapter was disconnected during processing.
		<ol style="list-style-type: none"> 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet.
2934	Wi-Fi router password is wrong. Tap “From the beginning” to enter it again. When problems are not resolved, there may be other causes. Tap the link below to check other solutions.	<ul style="list-style-type: none"> • The wireless router password is not correct. • The air conditioner is not connected to the same wireless router as the smartphone.
		Check the following contents and operate again. <ol style="list-style-type: none"> 1. Check that the wireless router password is correct. 2. Check that the smartphone and the air conditioner are connected to the same wireless router. 3. The wireless router encryption method WPA3 is not supported. Check if SSID other than WPA3 is selected. 4. Check that the local network setting of the smartphone is “Enabled”. (Only for smartphones with iOS14 or later)
2935 2937 2939 2941	Failed to register the air conditioner. Make sure the wireless router is connected to the Internet, and then tap “Re-register” to perform the registration process again. When problems are not resolved, there may be other causes. Tap the link below to check other solutions.	Registration failed because the air conditioner cannot connect to the Internet.
		Check the following contents and operate again. <ol style="list-style-type: none"> 1. Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. 2. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router. 3. Check that the MAC address filter and privacy separator settings are not “enabled” on the wireless router.

Error code	Error message	Cause
		Solution
2936 2940	Air conditioner registration failed. Tap "Re-register" and conduct the registration processing again. If not successful after multiple attempts, tap "From the beginning" and then initialize the WLAN and start over from the beginning.	<ul style="list-style-type: none"> The air conditioner you are trying to register is already registered to another account. Registration failed because the air conditioner cannot connect to the Internet. Immediately after turning on the power of the air conditioner, wait for about 5 minutes before registering it. <p>Check the following contents and operate again.</p> <ol style="list-style-type: none"> Tap "Re-register" and conduct the registration processing again. Delete from another account or initialize the WLAN Adapter. Check that the wireless router is turned on. Check that wireless router is connected to the Internet. If not connected, reboot the wireless router. When rebooting does not solve the problem, contact the manufacturer of the wireless router. Check that the MAC address filter and privacy separator settings are not "enabled" on the wireless router.
2938	Registration failed because the air conditioner could not connect to the Internet. Perform the WPS connection procedure again and confirm that the WLAN lamp on the indoor unit or LED2 on the WLAN adapter is lit before registering. When problems are not resolved, there may be other causes. Tap the link below to check other solutions.	<ul style="list-style-type: none"> Registration failed because the air conditioner cannot connect to the Internet. Registration failed because the air conditioner is not connected to the same wireless router as the smartphone. <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ol style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. Check that the wireless router is turned on. Retry the connection step procedure for the air conditioner registration displayed in the application and complete WPS connection with wireless router to set the lamp to the blinking state. When lighting <ol style="list-style-type: none"> Check that the air conditioner and the smartphone are connected to the same wireless router. Check that the local network setting of the smartphone is "Enabled". (Only for smartphones with iOS14 or later)
2942	Your mobile device is not connected to WiFi. Connect to the target wireless router through the OS WiFi setting and restart the procedure. <ol style="list-style-type: none"> Open the Wi-Fi setting screen of your device. Connect your mobile device to the {ssid}. Return to the application screen and tap "Re-register". <p>When problems are not resolved, there may be other causes. Tap the link below to check other solutions.</p>	<p>Registration failed because the air conditioner cannot connect to the Internet.</p> <p>Check the following contents and operate again.</p> <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Set the connection setting with the wireless router to Auto Connection in the smartphone settings. Check that the wireless router is turned on.

Error code	Error message	Cause
		Solution
2944	Communication failed.	Registration may have failed because a problem occurred in communication with the server (cloud). Wait for a while and then operate again.
2946	The connected air conditioner cannot use the Direct control.	Your air conditioner does not support Direct Control. Operate the air conditioner with Cloud Control.
2947	Already reached the max number of air conditioners per user.	The number of air conditioners that can be registered on AIRSTAGE Mobile has reached the maximum limit. Check the number of air conditioners registered on AIRSTAGE Mobile. (Maximum number of registered units: 50 units for Cloud Control, 50 units for Direct Control) Delete the unused air conditioners on the "Air conditioner editing" screen before registration.
2949	The number of air conditioners registered by the entered user has reached the upper limit, so registration is not possible.	The number of sub users that can be registered has reached the maximum limit. Check the number of registered sub users. (Maximum number of registered sub users: 4 sub users) Delete the unused sub users on the "Sub User Registration" screen.
2953	The specified air conditioner is already registered. To Reregister, delete the air conditioner information on the air conditioner edit screen and initialize the wireless LAN adapter with the remote control.	The specified air conditioner was already registered. Check that the specified air conditioner is displayed on the air conditioner list screen. To register again, delete the air conditioner on the air conditioner editing screen.
2954	The wireless router to which the mobile device and the wireless LAN adapter are connected must be the same. Follow the steps below. 1. Please open the Wi-Fi setting screen of the mobile device. 2. Connect your mobile device to the wireless router that you pressed the automatic connection button. 3. Return to the app screen and tap "OK".	The air conditioner and the smartphone are not connected to the same wireless router network. Check the following contents and operate again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on. 4. Check that the air conditioner and the smartphone are connected to the same wireless router.

• Sign in error

Error code	Error message	Cause
		Solution
4010 4410 4610 4810 4910	Communication failed. After checking the following contents, please try again after a while. • Ensure that your mobile device is connected to the internet.	Various settings could not be completed because communication with the server (cloud) failed.
		Check the following contents and operate again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on.
4100	The account you are currently signed in to may have been deleted. If necessary, please create the account again.	Token has been disabled because the signed-in account has been deleted or certain amount of time has elapsed.
		Restart the application and check that you can sign in. If you cannot sign in, create the account again.
4101	The session has expired. Please sign in again to continue.	Token has been disabled because the signed-in account has been deleted or certain amount of time has elapsed.
		Restart the application and check that you can sign in. If you cannot sign in, create the account again.
4102	Your session has expired. Please sign in again. *If you cannot sign in, your account may have been deleted. If necessary, please create an account again.	Token has been disabled because the signed-in account has been deleted or certain amount of time has elapsed.
		Restart the application and check that you can sign in. If you cannot sign in, create the account again.
4110	Failed to connect to the server. Some functions can be used with Direct Control. Do you want to switch to direct control?	• Communication with the server (cloud) failed at sign in. • Registration process of Account registration procedure verification email has not been completed.
		Check the following contents and sign in again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on. 4. Tap the link of Account registration procedure verification email and check that registration process has completed.
4111	Failed to read the device. Since some functions are available in Direct control, switch to Direct control.	Air conditioner information could not be obtained because communication with the server (cloud) failed after sign in.
		Check the following contents and sign in again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on.
4112	Failed to connect to the server. Some functions are limited.	• Communication with the server (cloud) failed at sign in. • Registration process of Account registration procedure verification email has not been completed.
		Check the following contents and sign in again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on. 4. Tap the link of Account registration procedure verification email and check that registration process has completed.
4113	Failed to connect to the server. Would you like to sign in again? Yes: Sign in again No: Return to the sign-in screen	Air conditioner information could not be obtained because communication with the server (cloud) failed after sign in.
		Check the following contents and sign in again. 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on.

Error code	Error message	Cause
		Solution
4420	Loading of user information failed. Check the following contents. <ul style="list-style-type: none"> Check that your mobile device is connected to the internet. 	User information or temperature unit information could not be obtained because communication with the server (cloud) failed.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on.
4530	Password update failed. Please check if the entered current password is correct.	Password update failed because the entered password was not correct.
		Check that the entered "Current password" is correct and operate again.
4920	Loading of time zone failed. Check the following contents. <ul style="list-style-type: none"> Check that your mobile device is connected to the internet. 	Time zone information could not be obtained because communication with server (cloud) failed.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on.

- General error

Error code	Error message	Cause
		Solution
0100 0200 0300 0400 0500 0501 0600 0601 0800 0900 1000 1200 1400 1500 3200 5500 5700 5900 6200	Communication failed. After checking the following contents, please try again after a while. <ul style="list-style-type: none"> • Ensure that the air conditioner is turned on. 	<p>Communication with the air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> • When not lighting <ul style="list-style-type: none"> – Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. – Check that the power plug of the air conditioner main unit is plugged in. • When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p>
0810 0811 0812 1510 1511 1512 3010 5510 5520 5530 6001 6002 6003 6010 6011 6012 6013 6310	Communication failed. After checking the following contents, please try again after a while. <ul style="list-style-type: none"> • Ensure that your mobile device is connected to the internet. 	<ul style="list-style-type: none"> • Various settings could not be completed because communication with the server (cloud) failed. • Air conditioner information could not be obtained because communication with server (cloud) failed. <p>Check the following contents and operate again.</p> <ol style="list-style-type: none"> 1. Check that the wireless LAN setting of smartphone is set to ON. 2. Check that the smartphone is connected to the Internet. 3. Check that the wireless router is turned on.

Error code	Error message	Cause
		Solution
0820	<p>Loading of outdoor low noise timer failed. Check the following contents.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>The outdoor unit low noise timer information could not be obtained because communication with the server (cloud) failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
1520	<p>Loading of weekly timer failed. Check the following contents.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>The weekly timer setting information could not be obtained because communication with the server (cloud) failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the lamp lights and then operate again. If the lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>

Error code	Error message	Cause
		Solution
1720	<p>Loading of error history failed. Check the following contents.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>The error history information could not be obtained because communication with the server (cloud) failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Or check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
		<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
3110	<p>Communication failure prevented the group movement processing from being conducted. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>

Error code	Error message	Cause
		Solution
3111	<p>Communication failure prevented the group creation processing from being conducted. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
		<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
3112	<p>Communication failure prevented the group name change processing from being conducted. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
		<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>

Error code	Error message	Cause
		Solution
3113	<p>Communication failure prevented the group deletion processing from being conducted. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
3114	<p>The room temperature display indoor unit setting could not be made due to a communication failure. After checking the following contents, please try again after a while.</p> <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	<p>Air conditioner group setting has not been completed because communication with air conditioner failed.</p> <p>Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again.</p> <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>

Error code	Error message	Cause
		Solution
3115	Some device group move processing could not be conducted due to communication failure. After checking the following contents, please try again after a while. <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	Air conditioner group setting has not been completed because communication with air conditioner failed.
		Check the following contents depending on the status of indoor unit wireless LAN indicator lamp or WLAN Adapter LED 2 and operate again. <ul style="list-style-type: none"> When not lighting <ul style="list-style-type: none"> Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in. When lighting <p>Use a smartphone to check that the wireless router to which the air conditioner is connected is connected to the Internet. If the smartphone cannot connect to the Internet, reboot the wireless router. When rebooting the wireless router does not solve the problem, contact the manufacturer of the wireless router.</p> When blinking <p>Wait for a while until the indicator lamp lights and then operate again. If the indicator lamp is still blinking after waiting for a while, check that the wireless router is turned on.</p>
5320	Loading of air conditioner information failed. Check the following contents. <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	Air conditioner information could not be obtained because communication with server (cloud) failed.
		<ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on.
5531 5540	New firmware update failed.	Firmware update failed.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on. Refer to the operation manual of air conditioner and check the indicator lamp state of air conditioner indoor unit.
5601	Failed to get the air conditioner information.	Failed to obtain air conditioner information by Direct Control.
		Sign in again.
5602	Failed to add the air conditioner.	Failed to add air conditioner by Direct Control.
		Check the following contents and operate again. <ol style="list-style-type: none"> When 2D barcode label is used, scan 2D barcode label again. When 2D barcode label is not used, check that the entered SSID or PIN code is correct.
5630	Device disconnection failed. After checking the following contents, please try again after a while. <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	Failed to disconnect the connection with air conditioner by Direct Control.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the smartphone is connected with the air conditioner. Check that the Electrical panel (Switch breaker) to the air conditioner is turned on. Check that the power plug of the air conditioner main unit is plugged in.

Error code	Error message	Cause
		Solution
6201	Failed to update the screen. After checking the following contents, please try again after a while. <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	Various settings could not be completed because communication with the server (cloud) failed.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on.
7610	Communication failed. Check the following contents. <ul style="list-style-type: none"> Ensure that your mobile device is connected to the internet. 	Various settings could not be completed because communication with the server (cloud) failed.
		Check the following contents and operate again. <ol style="list-style-type: none"> Check that the wireless LAN setting of smartphone is set to ON. Check that the smartphone is connected to the Internet. Check that the wireless router is turned on.

2. Troubleshooting with error code

2-1. E: 11.X. Serial communication error (Serial reverse transfer error) (Outdoor unit)

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: 11
Detective actuator	Outdoor unit	Main PCB	When the indoor unit cannot receive the serial signal from outdoor unit more than 2 minutes after power on, or the indoor unit cannot receive the serial signal more than 15 seconds during normal operation.
		Fan motor	
Forecast of cause		Connection failure	
		External cause	
		Main PCB failure	
		Outdoor unit fan motor failure	

Check point 1. Reset the power and operate

Does error indication show again?

→ If no, go to "Check point 1-2".



Check point 2. Check connection

Check any loose or removed connection line of indoor unit and outdoor unit.

Check connection condition is control unit. (If there is loose connector, open cable or mis-wiring.)

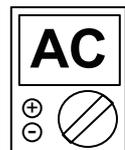
→ If there is an abnormal condition, correct it by referring to the installation manual or the "DESIGN & TECHNICAL MANUAL".



Check point 3. Check the voltage of power supply

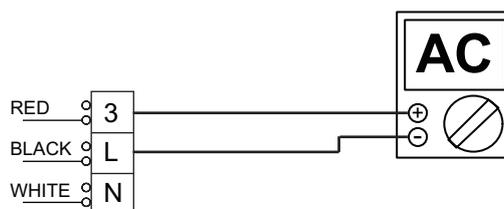
Check the voltage of power supply

Check if AC 103.5 V (AC 115 V -10%) to AC 126.5 V (AC 115 V +10%) appears at outdoor unit terminal L—N.



Check point 4. Check serial signal (Reverse transfer signal)

Check serial signal (Reverse transfer signal)



- Check if indicated value swings between AC 90 V and AC 270 V at the outdoor unit terminal 1—3.
- If it is abnormal, check the parts below.
 - Outdoor unit fan motor
- If outdoor fan motor is abnormal, replace outdoor unit fan motor and main PCB.
- If the checked parts are normal, replace the main PCB.



End

Check point 1-2. Check external cause such as noise

- Check the complete insulation of the grounding.
- Check if there is any equipment that causes harmonic wave near the power cable (Neon light bulb or any electronic equipment which causes harmonic wave).



End

2-2. E: 11.X. Serial communication error (Serial forward transfer error) (Indoor unit)

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: 11
Detective actuator	Indoor unit	Main PCB	When the outdoor unit cannot properly receive the serial signal from indoor unit for 10 seconds or more.
		Fan motor	
	Outdoor unit	Main PCB	
Forecast of cause			Connection failure
			External cause
			Main PCB failure

Check point 1. Reset the power and operate

Does error indication show again?

→ If no, go to "Check point 1-2".



Check point 2. Check connection

Check any loose or removed connection line of indoor unit and outdoor unit.

→ If there is an abnormal condition, correct it by referring to the installation manual or the "DESIGN & TECHNICAL MANUAL".

Check connection condition is control unit. (If there is loose connector, open cable or mis-wiring.)



Check point 3. Check the voltage of power supply

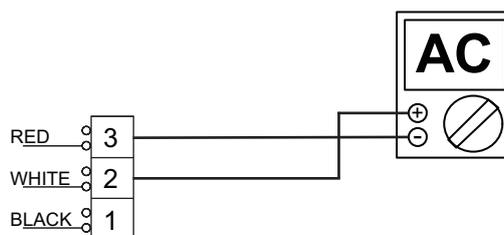
Check the voltage of power supply

Check if AC 103.5 V (AC 115 V -10%) to AC 126.5 V (AC 115 V +10%) appears at outdoor unit terminal L—N.



Check point 4. Check serial signal (Forward transfer signal)

Check serial signal (Forward transfer signal)



- Check if indicated value swings between AC 30 V and AC 130 V at outdoor unit terminal 2—3.
- If it is abnormal, replace main PCB.



End

Check point 1-2. Check external cause such as noise

- Check if the ground connection is proper.
- Check if there is any equipment that causes harmonic wave near the power cable (Neon light bulb or any electronic equipment which causes harmonic wave).



End

2-3. E: 18.X. External communication error (Indoor unit)

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	8 time flash
		Economy indicator	Continuous flash
		Error code	E: 18
Detective actuator	Indoor unit	External communication error	After receiving a signal from the external input and output PCB, the same signal has not been received for 15 seconds.
Forecast of cause			Connection failure
			WLAN Adapter failure
			Main PCB

Check point 1. Check the connection

- Check any loose or removed connection between the main PCB to the WLAN Adapter.
-> If there is an abnormal condition, correct it by refer to the installation manual or the "DESIGN & TECHNICAL MANUAL".
- Check the connection condition on the WLAN Adapter and the main PCB (If there is loose connector, open cable or mis-wiring.)



Check point 2. Replace the WLAN Adapter

If check point 1 do not improve the symptom, change WLAN Adapter.



Check point 3. Replace the main PCB

If check point 2 do not improve the symptom, replace the main PCB.



End

2-4. E: 22.X. Indoor unit capacity error (Indoor unit)

Indicator	Indoor unit	Operation indicator	2 time flash
		Timer indicator	2 time flash
		Economy indicator	Continuous flash
		Error code	E: 22
Detective actuator	Indoor unit main PCB	When the total capacity of the indoor units does not match outdoor unit capacity while 3 minutes after power on.	
Forecast of cause		Indoor unit selection is incorrect.	
		Main PCB failure	

Check point 1. Check the total capacity of indoor units

Check the total capacity of the indoor units.

→ If abnormal condition is found, correct it referring to the installation manual or DESIGN & TECHNICAL MANUAL.



Check point 2. Replace the main PCB

If check point 1 does not improve the symptom, replace the main PCB.



End

2-5. E: 23.X. Combination error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	2 time flash
		Timer indicator	3 time flash
		Economy indicator	Continuous flash
		Error code	E: 23
Detective actuator	Indoor unit	The outdoor unit receives the serial signal of applied refrigerant information from indoor unit.	
Forecast of cause		Incorrect indoor unit is selected.	

Check point 1. Check the type of indoor unit

- Check the type of the connected indoor unit.
-> If there is an abnormal condition, correct it by refer to the installation manual or the "DESIGN & TECHNICAL MANAL".



Check point 2. Replace the main PCB

If check point 1 do not improve the symptom, replace the main PCB of the outdoor unit.



End

2-6. E: 32.X. Indoor unit main PCB error (Indoor unit)

Indicator	Indoor unit	Operation indicator	3 time flash
		Timer indicator	2 time flash
		Economy indicator	Continuous flash
		Error code	E: 32
Detective actuator	Indoor unit	Main PCB	When power is on and there is some below case. 1. When model information of EEPROM is incorrect. 2. When the access to EEPROM failed.
Forecast of cause			External cause
			Defective connection of electrical components
			Main PCB failure

Check point 1. Reset power supply and operate

Does error indication show again?

→ If no, go to "Check point 1-2".



Check point 2. Check Indoor unit electrical components

- Check all connectors. (loose connector or incorrect wiring)
- Check any shortage or corrosion on PCB.



Check point 3. Replace the main PCB

Replace the main PCB.



End

Check point 1-2. Check external cause such as noise

- Check if the ground connection is proper.
- Check if there is any equipment that causes harmonic wave near the power cable (Neon light bulb or any electronic equipment which causes harmonic wave).



End

NOTE: EEPROM

EEPROM (Electrically Erasable and Programmable Read Only Memory) is a non-volatile memory which keeps memorized information even if the power is turned off. It can change the contents electronically. To change the contents, it uses higher voltage than normal, and it cannot change a partial contents. (Rewriting shall be done upon erasing the all contents.) There is a limit in a number of rewriting.

2-7. E: 33.X. Indoor unit motor electricity consumption detection error (Indoor unit)

Indicator	Indoor unit	Operation indicator	3 time flash
		Timer indicator	3 time flash
		Economy indicator	Continuous flash
		Error code	E: 33
Detective actuator	Indoor unit motor electricity consumption detection		When the voltage value or the current value of the motor go beyond the limits
Forecast of cause			Fan motor failure
			Main PCB failure

Check point 1. Check the rotation of fan

Rotate the fan by hand when the operation is off. (Check if fan is caught, drop off or locked motor)
→ If fan or bearing is abnormal, replace it.



Check point 2. Check ambient temperature around the motor

Check excessively high temperature around the motor. (If there is any surrounding equipment that causes heat.)
→ Upon the temperature coming down, restart operation.



Check point 3. Check indoor unit fan motor

Check indoor unit fan motor. (Refer to indoor unit fan motor in "[Service parts information](#)" on page 03-65.)
→ If indoor unit fan motor is abnormal, replace it.



Check point 4. Replace the main PCB

If check point 1-3 does not improve the symptom, replace the main PCB.



End

2-8. E: 35.X. MANUAL AUTO button error (Indoor unit)

Indicator	Indoor unit	Operation indicator	3 time flash
		Timer indicator	5 time flash
		Economy indicator	Continuous flash
		Error code	E: 35
Detective actuator	Indoor unit controller PCB	When the MANUAL AUTO button becomes on for consecutive 60 or more seconds.	
	Indicator PCB		
	Manual auto switch		
Forecast of cause		MANUAL AUTO button failure	
		Controller PCB and indicator PCB failure	

Check point 1. Check the MANUAL AUTO button

- Check if MANUAL AUTO button is kept pressed.
- Check ON/OFF switching operation by using a meter.



If MANUAL AUTO button is disabled (ON/OFF switching), replace it.



Check point 2. Replace the main PCB and indicator PCB

If Check Point 1 does not improve the symptom, replace the main PCB and indicator PCB.



End

2-9. E: 39.X. Indoor unit power supply error for fan motor (Indoor unit)

Indicator	Indoor unit	Operation indicator	3 time flash
		Timer indicator	9 time flash
		Economy indicator	Continuous flash
		Error code	E: 39
Detective actuator	Indoor unit main PCB	<ul style="list-style-type: none"> When a momentary power cut off When do not start fan motor 	
Forecast of cause		External cause	
		Connector connection failure	
		Main PCB failure	

Check point 1. Check external cause at indoor and outdoor (Voltage drop or Noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



Check point 2. Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

→ Upon correcting the removed connector or mis-wiring, reset the power.



Check point 3. Replace the main PCB

If check point 1 to 2 do not improve the symptom, replace the main PCB.



End

2-10. E: 41.X. Room temperature sensor error (Indoor unit)

Indicator	Indoor unit	Operation indicator	4 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: 41
Detective actuator	Indoor unit main PCB	Room temperature thermistor is open or short is detected always.	
	Room temperature thermistor		
Forecast of cause		Connector failure	
		Thermistor failure	
		Main PCB failure	

Check point 1. Check connection of connector

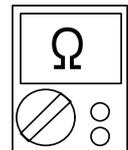
- Check if connector is loose or removed.
- Check erroneous connection.
- Check if thermistor cable is open

-> Reset power when reinstalling due to removed connector or incorrect wiring.



Check point 2. Remove connector and check thermistor resistance value

- For the room thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.
- If thermistor is either open or shorted, replace it and reset the power.



Check point 3. Check voltage of main PCB

Make sure circuit diagram of each indoor unit and check terminal voltage at thermistor (DC 5.0 V).

NOTE: For details of thermistor connector, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

(CN1)

If the voltage does not appear, replace main PCB.



End

2-11. E: 42.X. Indoor unit heat exchanger sensor error (Indoor unit)

Indicator	Indoor unit	Operation indicator	4 time flash
		Timer indicator	2 time flash
		Economy indicator	Continuous flash
		Error code	E: 42
Detective actuator	Indoor unit main PCB		When heat exchanger temperature thermistor open or short circuit is detected.
	Heat exchanger temperature thermistor		
Forecast of cause		Connector connection failure	
		Thermistor failure	
		Main PCB failure	

Check point 1. Check connection of connector

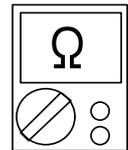
- Check if connector is loose or removed.
- Check erroneous connection.
- Check if thermistor cable is open

-> Reset power when reinstalling due to removed connector or incorrect wiring.



Check point 2. Remove connector and check thermistor resistance value

- For the heat exchanger thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.
- If thermistor is either open or shorted, replace it and reset the power.



Check point 3. Check voltage of main PCB

Make sure circuit diagram of each indoor unit and check terminal voltage at thermistor (DC 5.0 V).

NOTE: For details of thermistor connector, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

(CN1)

If the voltage does not appear, replace main PCB.



End

2-12. E: 51.X. Indoor unit fan motor error (Indoor unit)

Indicator	Indoor unit	Operation indicator	5 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: 51
Detective actuator	Indoor unit	Main PCB	When the actual rotation number of the indoor unit fan motor is below 1/3 of the target rotation number continuously for more than 56 seconds.
		Fan motor	
Forecast of cause		Fan rotation failure	
		Fan motor winding open	
		Motor protection by surrounding temperature rise	
		Control PCB failure	
		Indoor unit fan motor failure	

Check point 1. Check rotation of fan

Rotate the fan by hand when operation is off. (Check if fan is caught, dropped off or locked motor)
→ If fan or bearing is abnormal, replace it.



Check point 2. Check ambient temperature around motor

Check excessively high temperature around the motor. (If there is any surrounding equipment that causes heat)
→ Upon the temperature coming down, restart operation.



Check point 3. Check indoor unit fan motor

Check Indoor unit fan motor. (Refer to indoor unit fan motor in "[Service parts information](#)" on page 03-65.)
→ If Indoor unit fan motor is abnormal, replace Indoor unit fan motor.



Check point 4. Replace the main PCB

If Check Point 1 to 3 do not improve the symptom, replace the main PCB.



End

2-13. E: 62.X. Outdoor unit main PCB error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	6 time flash
		Timer indicator	2 time flash
		Economy indicator	Continuous flash
		Error code	E: 62
Detective actuator	Outdoor unit	Main PCB	Access to EEPROM failed due to some cause after outdoor unit started.
Forecast of cause			External cause (Noise, temporary open, voltage drop)
			Main PCB failure

Check point 1. Reset power supply and operate

Does error indication show again?

If no, go to "[Check point 1-2](#)".



Check point 2. Replace the main PCB

Replace the main PCB.



End

Check point 1-2. Check external cause

- Check if temporary voltage drop was not generated.
- Check if momentary open was not generated.
- Check if ground is connection correctly or there are no related cables near the power line.



End

2-14. E: 63.X. Inverter error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	6 time flash
		Timer indicator	3 time flash
		Economy indicator	Continuous flash
		Error code	E: 63
Detective actuator	Outdoor unit	Inverter PCB	Error information received from inverter PCB
Forecast of cause			External cause
			Power supply to inverter PCB wiring disconnection or open
			Inverter PCB failure

Check point 1. Turn the power on again?

Error displayed again?

If no, go to "[Check point 1-2](#)".



Check point 2. Check the wiring (power supply to inverter PCB)

- Connector and wiring connection state check
- Cable open check



Check point 3. Replace inverter PCB

Replace inverter PCB



End

Check point 1-2. Check external cause

- Check if temporary voltage drop was not generated.
- Check if momentary open was not generated.
- Check if ground is connection correctly or there are no related cables near the power line.



End

2-15. E: 64.X. PFC circuit error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	6 time flash
		Timer indicator	4 time flash
		Economy indicator	Continuous flash
		Error code	E: 64
Detective actuator	Outdoor unit	Main PCB	<ul style="list-style-type: none"> When inverter input DC voltage is higher than 415 V for over 3 seconds, the compressor stops. If the same operation is repeated 5 times, the compressor stops permanently.
Forecast of cause			External cause
			Connector connection failure
			Main PCB failure

Check point 1. Check external cause at indoor and outdoor (Voltage drop or Noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



Check point 2. Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

→ Upon correcting the removed connector or mis-wiring, reset the power.



Check point 3. Replace the main PCB

If check point 1 to 2 do not improve the symptom, replace the main PCB.



End

2-16. E: 65.X. IPM error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	6 time flash
		Timer indicator	5 time flash
		Economy indicator	Continuous flash
		Error code	E: 65
Detective actuator	Outdoor unit	Main PCB	<ol style="list-style-type: none"> 1. When more than normal operating current to IPM in main PCB flows, the compressor stops. 2. After the compressor restarts, if the same operation is repeated within 40 seconds, the compressor stops again. 3. If 1. and 2. repeats 5 times, the compressor stops permanently.
		Compressor	
Forecast of cause		<ul style="list-style-type: none"> Defective connection of electrical components Outdoor fan operation failure Outdoor heat exchanger clogged Compressor failure Main PCB failure 	

Check point 1. Check connections of outdoor unit electrical components

- Check if the terminal connection is loose.
- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

→ Upon correcting the removed connector or mis-wiring, reset the power.



Check point 2. Check outdoor fan and heat exchanger

- Is there anything obstructing the air distribution circuit?
- Is there any clogging of outdoor heat exchanger?
- Is the fan rotating by hand when operation is off?

→ If the fan motor is locked, replace it.



Check point 3. Check outdoor fan

Check outdoor fan motor. (Refer to "[E: 97.X. Outdoor unit fan motor error \(Outdoor unit\)](#)" on page 03-45.)

→ If the fan motor is failure, replace it.



Check point 4. Check compressor

Check compressor. (Refer to inverter compressor in "[Service parts information](#)".)



Check point 5. Replace main PCB

If Check point 1 to 4 do not improve the symptom, change main PCB.



End

2-17. E: 71.X. Discharge thermistor error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	7 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: 71
Detective actuator	Outdoor unit main PCB	When discharge pipe temperature thermistor open or short circuit is detected at power on or while running the compressor	
	Discharge pipe temperature thermistor		
Forecast of cause		Connector failure	
		Thermistor failure	
		Main PCB failure	

Check point 1. Check connection of connector

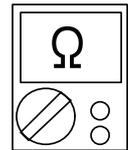
- Check if connector is loose or removed.
- Check erroneous connection.
- Check if thermistor cable is open

→ Reset power when reinstalling due to removed connector or incorrect wiring.



Check point 2. Remove connector and check thermistor resistance value

- For the discharge temperature thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.
- If thermistor is either open or shorted, replace it and reset the power.



Check point 3. Check voltage of main PCB

Make sure circuit diagram of outdoor unit and check terminal voltage at thermistor (DC 5.0 V).

NOTE: For details of thermistor connector, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

(P1)

If the voltage does not appear, replace main PCB.



End

2-18. E: 73.X. Outdoor unit heat exchanger thermistor error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	7 time flash
		Timer indicator	3 time flash
		Economy indicator	Continuous flash
		Error code	E: 73
Detective actuator	Outdoor unit main PCB	When heat exchanger temperature thermistor open or short circuit is detected at power on or while running the compressor	
	Heat exchanger temperature thermistor		
Forecast of cause			Connector failure
			Thermistor failure
			Main PCB failure

Check point 1. Check connection of connector

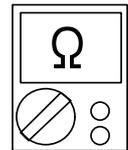
- Check if connector is loose or removed.
- Check erroneous connection.
- Check if thermistor cable is open

→ Reset power when reinstalling due to removed connector or incorrect wiring.



Check point 2. Remove connector and check thermistor resistance value

- For the outdoor unit heat exchanger thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.
- If thermistor is either open or shorted, replace it and reset the power.



Check point 3. Check voltage of main PCB

Make sure circuit diagram of outdoor unit and check terminal voltage at thermistor (DC 5.0 V).

NOTE: For details of thermistor connector, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

If the voltage does not appear, replace main PCB.



End

2-19. E: 74.X. Outdoor temperature thermistor error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	7 time flash
		Timer indicator	4 time flash
		Economy indicator	Continuous flash
		Error code	E: 74
Detective actuator	Outdoor unit main PCB	When outdoor temperature thermistor open or short circuit is detected at power on or while running the compressor	
	Outdoor temperature thermistor		
Forecast of cause			Connector failure
			Thermistor failure
			Main PCB failure

Check point 1. Check connection of connector

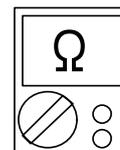
- Check if connector is loose or removed.
- Check erroneous connection.
- Check if thermistor cable is open

-> Reset power when reinstalling due to removed connector or incorrect wiring.



Check point 2. Remove connector and check thermistor resistance value

- For the outdoor temperature thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.
- If thermistor is either open or shorted, replace it and reset the power.



Check point 3. Check voltage of main PCB

Make sure circuit diagram of outdoor unit and check terminal voltage at thermistor (DC 5.0 V).

NOTE: For details of thermistor connector, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

(P5)

If the voltage does not appear, replace main PCB.



End

2-20. E: 84.X. Current sensor error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	8 time flash
		Timer indicator	4 time flash
		Economy indicator	Continuous flash
		Error code	E: 84
Detective actuator	Outdoor unit	Main PCB	When input current sensor has detected 0 A, while inverter compressor is operating at higher than 56 rps, after 1 minute upon starting the compressor. (Except during the defrost operation)
Forecast of cause			Defective connection of electrical components
			External cause
			Main PCB failure

Check point 1. Reset power supply and operate

Does error indication show again?

If no, go to "Check point 1-2".



Check point 2. Check connections of outdoor unit electrical components

- Check if the terminal connection is loose.
- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

Upon correcting the removed connector or miswiring, reset the power.



Check point 3. Replace the main PCB

If Check point 1, 2 do not improve the symptom, replace the main PCB.



End

Check point 1-2. Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



End

2-21. E: 94.X. Trip detection (Outdoor unit)

Indicator	Indoor unit	Operation indicator	9 time flash
		Timer indicator	4 time flash
		Economy indicator	Continuous flash
		Error code	E: 94
Detective actuator	Outdoor unit	Main PCB	Protection stop by over-current generation after inverter compressor start processing completed generated consecutively 10 times. NOTE: The number of generations is reset when the compressor starts up.
		Compressor	
Forecast of cause			Outdoor unit fan operation defective, foreign matter on heat-exchanger, excessive rise of ambient temperature
			Main PCB failure
			Inverter compressor failure (lock, winding short)

Check point 1. Check the outdoor unit fan operation, heat-exchanger, ambient temperature

- No obstructions in air passages?
- Heat exchange fins clogged
- Outdoor unit fan motor check
- Ambient temperature not raised by the effect of other heat sources?
- Discharged air not sucked in?



Check point 2. Replace the main PCB

If Check point 1 do not improve the symptom, replace the main PCB.



Check point 3. Replace compressor

If Check point 2 do not improve the symptom, change compressor.



End

2-22. E: 95.X. Compressor motor control error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	9 time flash
		Timer indicator	5 time flash
		Economy indicator	Continuous flash
		Error code	E: 95
Detective actuator	Outdoor unit	Main PCB	<ol style="list-style-type: none"> When running the compressor, if the detected rotor location is out of phase with actual rotor location more than 90°, the compressor stops. After the compressor restarts, if the same operation is repeated within 40 seconds, the compressor stops again. If 1. and 2. repeats 5 times, the compressor stops permanently.
		Compressor	
Forecast of cause		Defective connection of electrical components	
		Main PCB failure	
		Compressor failure	

Check point 1. Check Noise from Compressor

Turn on Power and check operation noise.
→ If an abnormal noise show, replace compressor.



Check point 2. Check connection of around the compressor components

For compressor terminal, main PCB

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open. (Refer to inverter compressor in "[Service parts information](#)" on page 03-65.)

→ Upon correcting the removed connector or mis-wiring, reset the power.



Check point 3. Replace the main PCB

If Check point 1, 2 do not improve the symptom, replace the main PCB.



Check point 4. Replace compressor

If Check point 3 do not improve the symptom, change compressor.



End

2-23. E: 97.X. Outdoor unit fan motor error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	9 time flash
		Timer indicator	7 time flash
		Economy indicator	Continuous flash
		Error code	E: 97
Detective actuator	Outdoor unit	Main PCB	<ol style="list-style-type: none"> When outdoor fan rotation speed is less than 100 rpm in 20 seconds after fan motor starts, fan motor stops. After fan motor restarts, if the same operation within 60 seconds is repeated 3 times in a row, compressor and fan motor stops. If 1. and 2. repeats 5 times in a row, compressor and fan motor stops permanently.
		Fan motor	
Forecast of cause			Fan rotation failure
			Motor protection by surrounding temperature rise
			Main PCB failure
			Outdoor unit fan motor

Check point 1. Check rotation of fan

Rotate the fan by hand when operation is off. (Check if fan is caught, dropped off or locked motor)
→ If fan or bearing is abnormal, replace it.



Check point 2. Check ambient temperature around motor

Check excessively high temperature around the motor. (If there is any surrounding equipment that causes heat)
→ Upon the temperature coming down, restart operation.



Check point 3. Check outdoor unit fan motor

Check outdoor unit fan motor. (Refer to outdoor unit fan motor in "[Service parts information](#)" on page 03-65.)
→ If outdoor unit fan motor is abnormal, replace outdoor unit fan motor and main PCB.



Check point 4. Check output voltage of main PCB

Check outdoor unit circuit diagram and the voltage. (Measure at main PCB side connector)

NOTE: For details of wiring diagram, refer to "[Wiring diagrams](#)" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.



Read wire	DC voltage
Red—Black	DC 280 V ±10%
White—Black	15±1.5 V

-> If the voltage is not correct, replace Main PCB.



End

2-24. E: 99.X. 4-way valve error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	9 time flash
		Timer indicator	9 time flash
		Economy indicator	Continuous flash
		Error code	E: 99
Detective actuator	Indoor unit	main PCB	When the indoor heat exchanger temperature is compared with the room temperature, and either following condition is detected continuously two times, the compressor stops. Indoor heat exchanger temp. - Room temp. > 20°F (10°C) (Cooling or Dry operation) Indoor heat exchanger temp. - Room temp. < -20°F (-10°C) (Heating operation) If the same operation is repeated 5 times, the compressor stops permanently.
	Heat exchanger temperature thermistor		
	Room temperature thermistor		
	4-way valve		
Forecast of cause			Connector connection failure
			Thermistor failure
			Coil failure
			4-way valve failure
			Main PCB failure

Check point 1. Check connection of connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

→ Upon correcting the removed connector or mis-wiring, reset the power.



Check point 2. Check each thermistor

- Isn't it fallen off the holder?
- Is there a cable pinched?

Check characteristics of room thermistor and indoor unit heat exchanger thermistor.

For the thermistor resistance value, refer to "[Thermistor resistance values](#)" on page 03-73.

→ If defective, replace the thermistor.



Check point 3. Check the solenoid coil and 4-way valve

- **Solenoid coil**
Remove P60 from PCB and check the resistance value of coil. Resistance value is about 305 Ω (at 68°F [20°C]).
→ If it is open or abnormal resistance value, replace solenoid coil.
- **4-way valve**
Check each piping temperature, and the location of the valve by the temperature difference.
If the value location is not proper, replace 4-way valve.

**Check point 4. Replace the main PCB**

If Check Point 1 to 3 do not improve the symptom, replace the main PCB.



End

2-25. E: A1.X. Discharge temperature error (Outdoor unit)

Indicator	Indoor unit	Operation indicator	10 time flash
		Timer indicator	1 time flash
		Economy indicator	Continuous flash
		Error code	E: A1
Detective actuator	Outdoor unit main PCB	Protection stop by discharge temperature $\geq 230^{\circ}\text{F}$ (110°C) during compressor operation generated 2 times within 24 hours.	
	Discharge temperature thermistor		
Forecast of cause	3-way valve not opened		
	EEV or capillary tube defective, strainer clogged		
	Outdoor unit operation failure, foreign matter on heat exchanger		
	Discharge temperature thermistor failure		
	Insufficient refrigerant		
	Main PCB failure		

Check point 1. Check if 3-way valve is open

If the 3-way valve is closed, open the 3-way valve and check operation.

NOTE: For cooling operation, check gas side of the 3-way valve.

For heating operation, check liquid side of the 3-way valve.



Check point 2. Check any of the electronic expansion valve (EEV), capillary tube, or strainer, or all

- Check if EEV open or there is a capillary tube defect.
Refer to outdoor unit Electronic Expansion Valve (EEV) or Capillary tube in "[Service parts information](#)" on page 03-65.
- Check the strainer clogging.



Check point 3. Check the outdoor unit fan and heat exchanger

- Check for foreign object at heat exchanger
- Check if fan can be rotated by hand.
- Check the motor. (Refer to outdoor unit fan motor in "[Service parts information](#)" on page 03-65.)



Check point 4. Check the discharge thermistor

The discharge temperature thermistor characteristics check. (Check by disconnecting thermistor from PCB.)

NOTE: For the characteristics of the thermistor, refer to "[Thermistor resistance values](#)" on page 03-73.



Check point 5. Check the refrigerant amount

Check the refrigerant leakage.



Check point 6. Replace the main PCB

If check point 1 to 5 do not improve the symptom, replace the main PCB.



End

3. Troubleshooting without error code

3-1. Indoor unit—No power

Forecast of cause	Power supply failure
	External cause
	Electrical components defective

Check point 1. Check installation condition

- Isn't the breaker down?
- Check loose or removed connection cable.

-> If abnormal condition is found, correct it by referring to the installation manual or the *DESIGN & TECHNICAL MANUAL*.



Check point 2. Check external cause at indoor and outdoor (voltage drop or noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



Check point 3. Check electrical components

Check the voltage of power supply.

Check if AC 103.5 to 126.5 V appears at outdoor unit terminal L—N.

-> If no, go to "[Check point 1](#)" and "[Check point 2](#)".



- Check fuse in the Filter PCB.
If fuse is open, check if the wiring between terminal and filter PCB is loose, and replace the Filter PCB.
- Check varistor in the Filter PCB.
If varistor is defective, there is a possibility of an abnormal power supply.
Check the correct power supply and replace the Filter PCB.
Upon checking the normal power supply, replace the Filter PCB.



End

3-2. Outdoor unit—No power

Forecast of cause	Power supply failure
	External cause
	Electrical components defective

Check point 1. Check installation condition

- Is the circuit breaker on or off?
- Check loose or removed connection cable.

→ If abnormal condition is found, correct it by referring to the installation manual or the *DESIGN & TECHNICAL MANUAL*.



Check point 2. Check external cause at indoor and outdoor (voltage drop or noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



Check point 3. Check electrical components

Check the voltage of power supply.

Check if AC 103.5 to 126.5 V appears at outdoor unit terminal L—N

→ If no, go to "[Check point 1](#)" and "[Check point 2](#)".



- Check fuse in main PCB.
If fuse is open, check if the wiring between terminal and main PCB is loose, and replace the Main PCB.



Check point 4. Replace the main PCB

If check point 1 to 3 do not improve the symptom, replace the main PCB.



End

3-3. No operation (Power is on)

Forecast of cause	Setting/ Connection failure
	External cause
	Electrical components defective

Check point 1. Check indoor and outdoor installation condition

Are these indoor unit, outdoor unit, and remote controller suitable model names to connect?

-> If there is some abnormal condition, correct it by referring to the installation manual and "DESIGN & TECHNICAL MANUAL".



Turn off the power and check correct followings.

- Is there loose or removed communication line of indoor unit and outdoor unit?



Check point 2. Check external cause at indoor and outdoor (Voltage drop or Noise)

- Instant drop: Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure: Check if there is a defective contact or leak current in the power supply circuit.
- Noise: Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave)
Check the complete insulation of grounding.



Check point 3. Replace main PCB

If check point 1 to 2 do not improve the symptom, change main PCB.



End

3-4. No cooling/No heating

Forecast of cause	Indoor unit error
	Outdoor unit error
	Effect by surrounding environment
	Connection pipe/Connection wire failure
	Refrigeration cycle failure

Check point 1. Check Indoor unit

- Does Indoor unit fan run in the HIGH mode?
- Is air filter dirty?
- Is heat exchanger clogged?
- Check if energy save function is operated.



Check point 2. Check outdoor unit operation

- Check if outdoor unit is operating.
- Check any objects that obstruct the air flow route.
- Check if heat exchanger is clogged.
- Is the valve open?



Check point 3. Check site condition

- Is capacity of Indoor unit fitted to the room size?
- Any windows open or direct sunlight?



Check point 4. Check indoor/outdoor installation condition

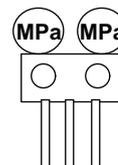
- Check connection pipe (specified pipe length and pipe diameter?)
- Check any loose or removed communication line.

→ If there is an abnormal condition, correct it by referring to the installation manual or the "DESIGN & TECHNICAL MANUAL".



Check point 5. Check Refrigeration cycle

- Check if strainer is clogged (Refer to the figure below).
- Measure gas pressure, and if there is a leakage, correct it.
- Check if EEV open or there is a capillary tube defect.
Refer to outdoor unit Electronic Expansion Valve (EEV) or Capillary tube in "[Service parts information](#)" on page 03-65.
- Check compressor.
Refer to compressor in "[Service parts information](#)" on page 03-65.
Refer to inverter compressor in "[Service parts information](#)" on page 03-65.



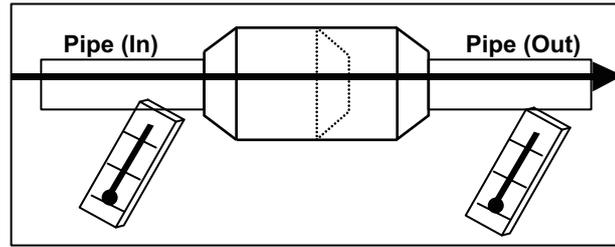
NOTE: When recharging the refrigerant, make sure to perform vacuuming, and recharge the specified amount.



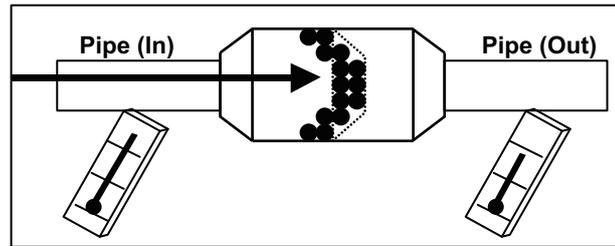
End

NOTES:

- Strainer normally does not have temperature difference between inlet and outlet as shown below.



- If there is a difference like shown below, there is a possibility of inside clogged. In this case, replace the strainer.



3-5. Abnormal noise

Forecast of cause	Abnormal installation (indoor unit/outdoor unit)
	Fan failure (indoor unit/outdoor unit)
	Compressor failure (outdoor)

Diagnosis method when abnormal noise is occurred

Abnormal noise is coming from Indoor unit.
(Check and correct followings)



- Is main unit installed in stable condition?
- Is the installation of air suction grille and front panel normal?



- Is fan broken or deformed?
- Is the screw of fan loose?
- Is there any object which obstruct the fan rotation?



End

Abnormal noise is coming from Outdoor unit.
(Check and correct followings)



- Is main unit installed in stable condition?
- Is fan guard installed normally?



- Is fan broken or deformed?
- Is the screw of fan loose?
- Is there any object which obstruct the fan rotation?



Check if vibration noise by loose bolt or contact noise of piping is happening.



Is compressor locked?

- Check Compressor
Refer to compressor and inverter compressor in "[Service parts information](#)" on page 03-65.



End

3-6. Water leaking

Forecast of cause	Erroneous installation
	Drain hose failure

Diagnosis method when water leak occurs

- Is main unit installed in stable condition?
- Is main unit broken or deformed at the time of transportation or maintenance?



- Is drain hose connection loose?
- Is there a trap in drain hose?
- Is drain hose clogged?



Is fan rotating?



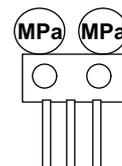
End

Diagnosis method when water is spitting out

Is the filter clogged?



Check gas pressure and correct it if there was a gas leak.



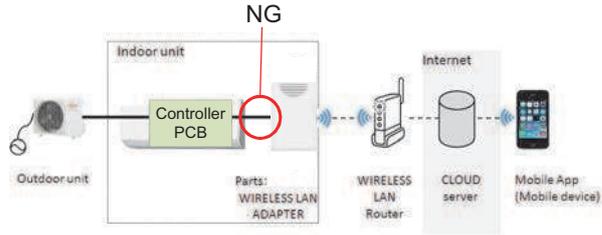
End

TROUBLESHOOTING

TROUBLESHOOTING

4. Troubleshooting with error code (For wireless LAN adapter)

4-1. E: 18.X. External communication error between indoor unit and wireless LAN adapter

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	8 time flash
		Economy indicator	Continuous flash
		Wireless LAN indicator	Flashing slowly
		Error code	E: 18
	Mobile app		E: 18.1
Detective actuator	Wireless LAN adapter PCB	After receiving a signal from the wireless LAN adapter, the same signal has not been received for 15 seconds.	
	Controller PCB		
Forecast of cause	Connection between indoor unit and wireless LAN adapter failure		
	Wireless LAN adapter PCB failure		
	Controller PCB failure		

Check point 1. Check the connection

- Check any loose or removed connection of between the wireless LAN adapter PCB and controller PCB.
-> If there is abnormal condition, correct it.
- Check the connection condition on the controller PCB.
-> If there is loose connector, open cable or mis-wiring, correct it.



Check point 2. Replace wireless LAN adapter.

If check point 1 do not improve the symptom, replace the wireless LAN adapter and cancel the registration of air conditioner on the Mobile app.
After replacing the adapter, perform the pairing on the Mobile app.

For the method of the Mobile app, refer to "[Mobile app setting method](#)" on page 03-63.



Check point 3. Replace controller PCB

If check point 1 to 2 do not improve the symptom, replace the controller PCB.



End

4-2. Network communication error between wireless LAN router and wireless LAN adapter

Indicator	Indoor unit	Operation indicator	No indication
		Timer indicator	No indication
		Economy indicator	No indication
		Wireless LAN indicator	Flashing slowly
		Error code	—
	Mobile app		No indication
Detective actuator	Wireless LAN router	When the not connection between wireless LAN adapter and wireless LAN router.	
	Wireless LAN adapter PCB		
Forecast of cause	Connection cable failure of wireless LAN router		
	Connection between wireless LAN adapter and wireless LAN router failure		
	Wireless LAN router failure		
	Wireless LAN adapter PCB failure		

Check point 1. Check the connection cable

Check the connection cable on the wireless LAN router.

-> If there is loose connector, open cable or mis-wiring, correct it.



Check point 2. Check the connection status.

Check the connection status to the Internet and wireless LAN router.

-> If the wireless LAN router is not connected to the Internet, check the transmission between wireless LAN products (ex. PC or game console, etc.) other than air conditioner and wireless LAN router.

If no, go to "[Check point 2-2](#)".



Check point 3. Turn on the power again of air conditioner.

If check point 1 to 2 do not improve the symptom, turn on the power of the air conditioner again and wait for 60 seconds.



Check point 4. Replace wireless LAN adapter.

If check point 3 do not improve the symptom, replace the wireless LAN adapter and cancel the registration of air conditioner on the Mobile app.

After replacing the adapter, perform the pairing on the Mobile app.

For the method of the Mobile app, refer to "[Mobile app setting method](#)" on page 03-63.



End

Check point 2-2. Check the transmission state

Check the wireless transmission state of the wireless LAN router (indicator lamp status).

-> If the wireless transmission from the wireless LAN router has not been outgoing, inquire to the wireless LAN router maker.



End

4-3. E: 18.X. Communication error

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	8 time flash
		Economy indicator	Continuous flash
		Wireless LAN indicator	Flashing slowly
		Error code	E: 18
	Mobile app		E: 18.1
Detective actuator	Wireless LAN router	When the external communication error between indoor unit and wireless LAN adapter and network communication error between wireless LAN router and wireless LAN adapter has occurred simultaneously.	
	Wireless LAN adapter PCB		
	Indoor unit controller PCB		
Forecast of cause	Connection cable failure of wireless LAN router		
	Wireless LAN router failure		
	Connection between indoor unit and wireless LAN adapter failure		
	Connection between wireless LAN adapter and wireless LAN router failure		
	Wireless LAN adapter PCB failure		
	Controller PCB failure		

Check point 1. Check the connection

- Check any loose or removed connection of between the wireless LAN adapter PCB and controller PCB.
-> If there is abnormal condition, correct it.
- Check the connection condition on the controller PCB.
-> If there is loose connector, open cable or mis-wiring, correct it.



Check point 2. Replace wireless LAN adapter.

If check point 1 do not improve the symptom, replace the wireless LAN adapter and cancel the registration of air conditioner on the Mobile app.
After replacing the adapter, perform the pairing on the Mobile app.

For the method of the Mobile app, refer to ["Mobile app setting method"](#) on page 03-63.



Check point 3. Replace controller PCB

If check point 1 to 2 do not improve the symptom, replace the controller PCB.



Check point 4. Check the connection cable

Check the connection cable on the wireless LAN router.
-> If there is loose connector, open cable or mis-wiring, correct it.

**Check point 5. Check the connection status.**

Check the connection status to the Internet and wireless LAN router.
-> If the wireless LAN router is not connected to the Internet, check the transmission between wireless LAN products (ex. PC or game console, etc.) other than air conditioner and wireless LAN router.

If no, go to "[Check point 5-2](#)".

**Check point 6. Turn on the power again of air conditioner.**

If check point 1 to 2 do not improve the symptom, turn on the power of the air conditioner again and wait for 60 seconds.

**Check point 7. Replace wireless LAN adapter.**

If check point 3 do not improve the symptom, replace the wireless LAN adapter and cancel the registration of air conditioner on the Mobile app.
After replacing the adapter, perform the pairing on the Mobile app.

For the method of the Mobile app, refer to "[Mobile app setting method](#)" on page 03-63.



End

Check point 5-2. Check the transmission state

Check the wireless transmission state of the wireless LAN router (indicator lamp status).
-> If the wireless transmission from the wireless LAN router has not been outgoing, inquire to the wireless LAN router maker.



End

4-4. E: 18.X. Wireless LAN adapter non-energized

Indicator	Indoor unit	Operation indicator	1 time flash
		Timer indicator	8 time flash
		Economy indicator	Continuous flash
		Wireless LAN indicator	No indication
		Error code	E: 18
	Mobile app		No indication
Detective actuator	Indoor unit controller PCB	When the voltage (DC 12 V) does not output from the controller PCB.	
	Wireless LAN adapter PCB		
Forecast of cause		Indoor unit controller PCB failure	
		Wireless LAN adapter PCB failure	
		Wiring connection failure	

Check point 1. Check the connection.

- Check any loose or removed connection of between the wireless LAN adapter PCB and controller PCB.
-> If there is abnormal condition, correct it.
- Check the connection condition on the controller PCB.
-> If there is loose connector, open cable or mis-wiring, correct it.



Check point 2. Check the wireless LAN adapter PCB and the controller PCB

Check voltage at CN12 (terminal 1—2) of main PCB.
(Power supply to remote controller)

- If it is DC 0 V, controller PCB is failure.
-> Replace controller PCB.
- If it is DC 12 V, wireless LAN adapter PCB is failure.
-> Replace the wireless LAN adapter and cancel the registration of air conditioner on the Mobile app.



After replacing the adapter, perform the pairing on the Mobile app.

For the method of the Mobile app, refer to "[Mobile app setting method](#)" on page 03-63.



End

4-5. Mobile app setting method

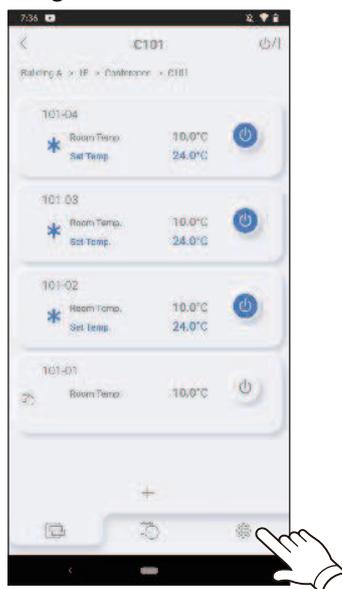
■ Air conditioner delete method

When the wireless LAN adapter is replaced, delete of all air conditioner is necessary on the mobile app.

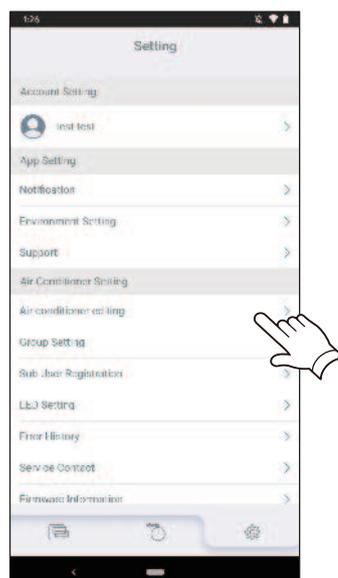
1. Launch the mobile app.



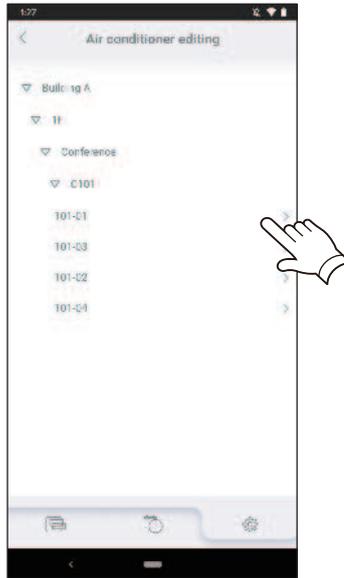
2. Tap the  icon to display the Setting screen.



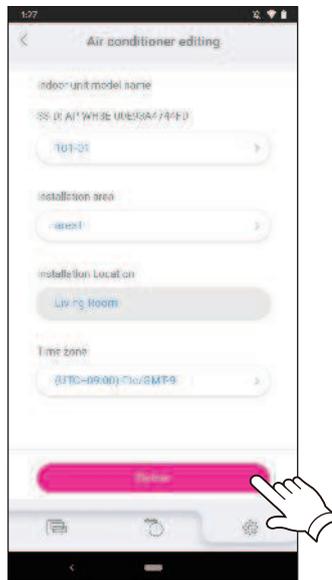
3. Tap the “Air conditioner editing”.



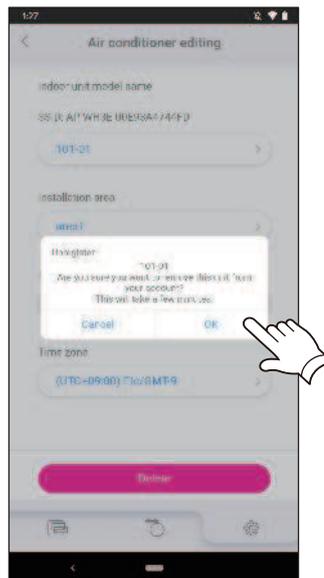
4. Tap the air conditioner to be deleted.



5. Tap the Delete button.



6. Tap the OK button.

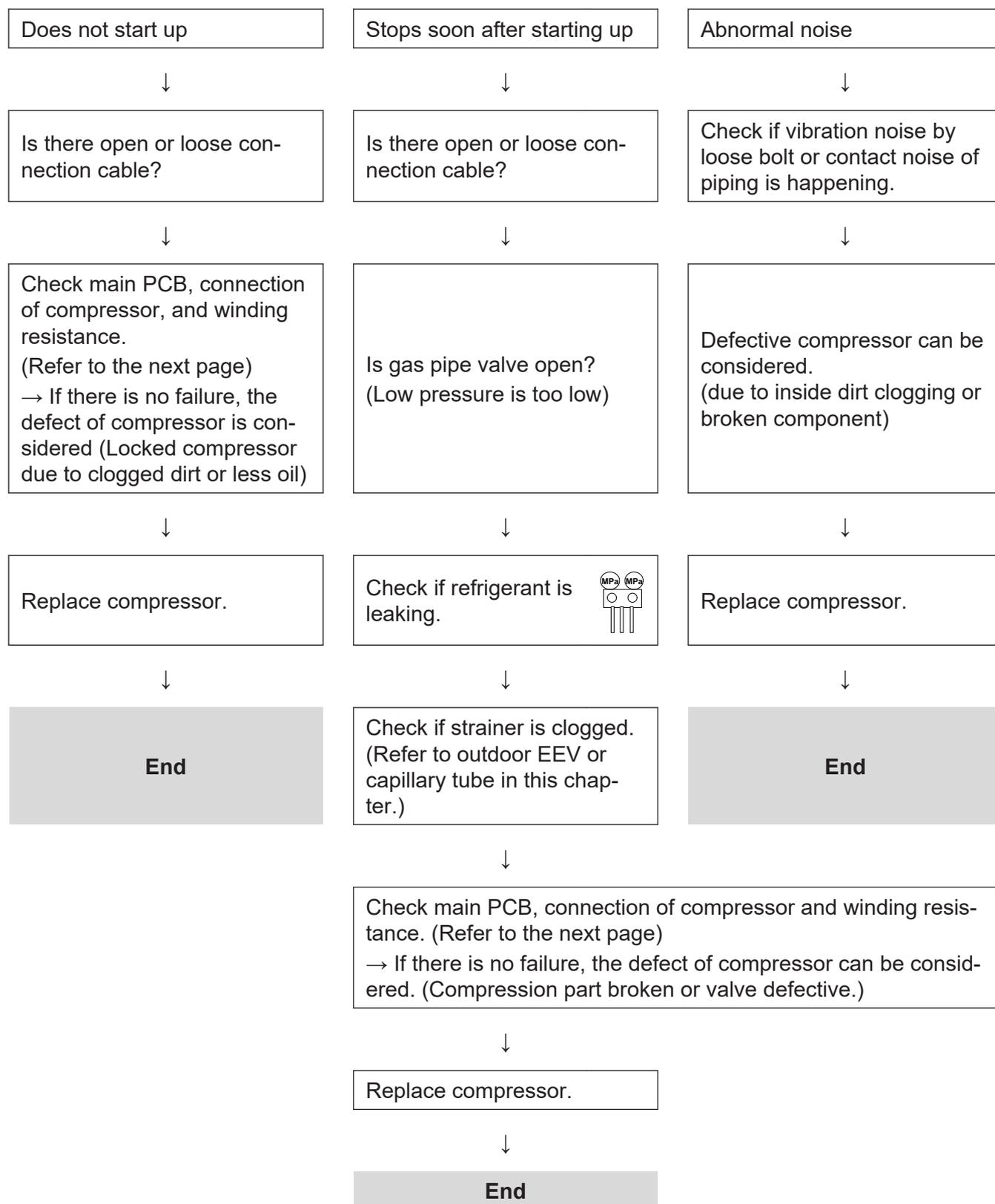


7. Deletion of the air conditioner registered in the mobile app is completed.

5. Service parts information

5-1. Compressor

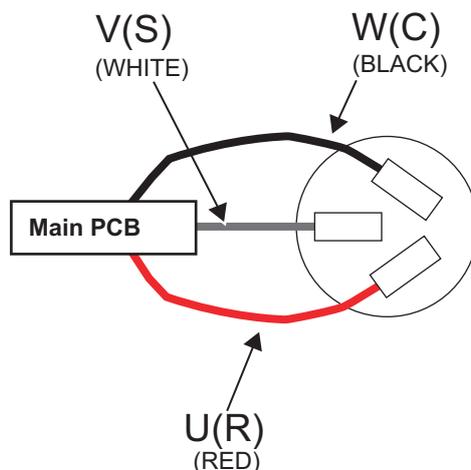
Diagnosis method of compressor (If outdoor unit LED displays error, refer to troubleshooting)



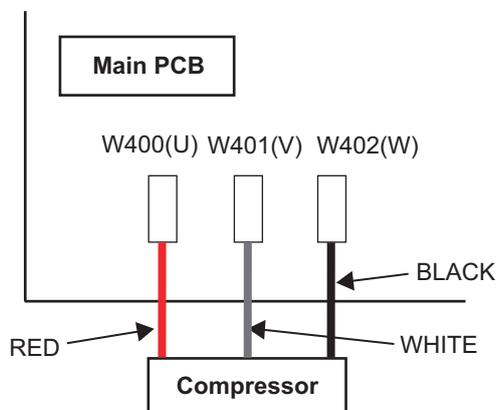
5-2. Inverter compressor

Check point 1. Check connection

- Check terminal connection of compressor (loose or incorrect wiring)



- Check terminal connection of main PCB (loose or incorrect wiring)

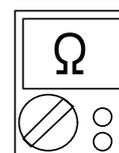
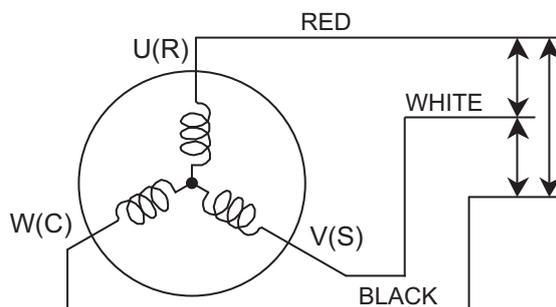


↓

Check point 2. Check winding resistance

Check winding resistance of each terminal.

Resistance value: $2.180 \Omega \pm 7\%$ at 68°F (20°C)



→ If the resistance value is 0Ω or infinite, replace compressor.

↓

Check point 3. Replace inverter PCB

If check point 1 to 2 do not improve the symptom, replace main PCB.

5-3. Outdoor unit Electronic Expansion Valve (EEV)

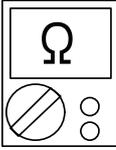
Check point 1. Check connections

Check connection of connector. (Loose connector or open cable)

NOTE: For details of wiring diagram, refer to "Wiring diagrams" in Chapter 2. TECHNICAL DATA AND PARTS LIST on page 02-13.

Check point 2. Check coil of EEV

Remove connector, check each winding resistance of coil.

Read wire	Resistance value
1 (Red)—2 (Blue)	$46 \Omega \pm 3.7 \Omega$ at 68°F (20°C) 
1 (Red)—3 (Orange)	
1 (Red)—4 (Yellow)	
1 (Red)—5 (White)	

→ If Resistance value is abnormal, replace EEV.

Check point 3. Check Voltage from main PCB

Remove connector and check voltage (DC 12 V)

→ If it does not appear, replace main PCB.



Check point 4. Check noise at start up

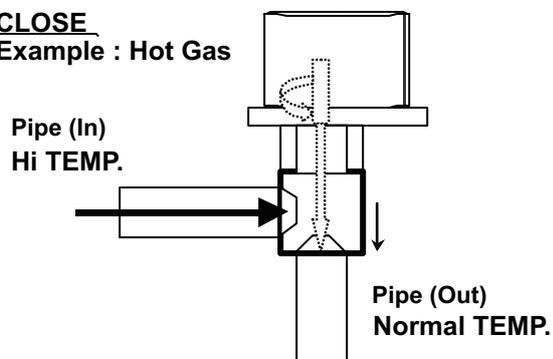
Turn on the power and check the operation noise.

→ If an abnormal noise does not show, replace main PCB.

Check point 5. Check Opening and Closing Operation of Valve

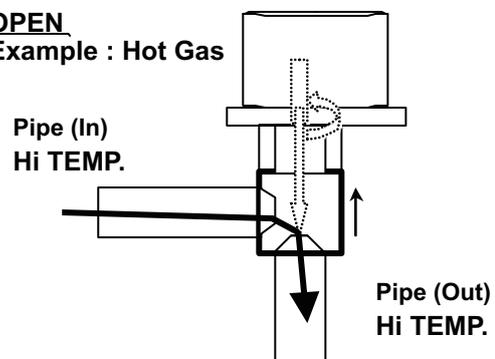
When valve is closed, it has a temp. difference between inlet and outlet

CLOSE
 Example : Hot Gas



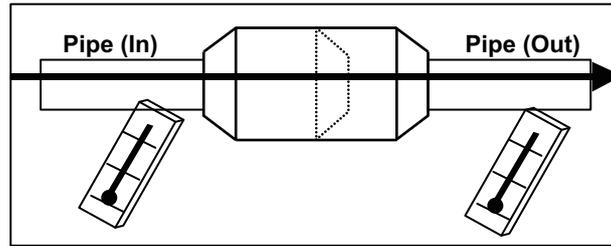
If it is open, it has no temp. difference between inlet and outlet

OPEN
 Example : Hot Gas

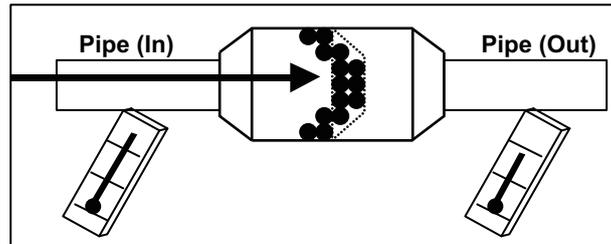


Check point 6. Check strainer

- Strainer normally does not have temperature difference between inlet and outlet as shown below.



- If there is a difference like shown below, there is a possibility of inside clogged. In this case, replace the strainer.



5-4. Indoor unit fan motor

Check point 1. Check rotation of fan

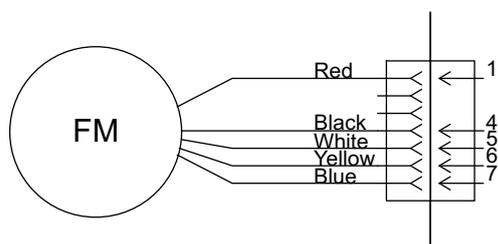
Rotate the fan by hand when operation is off.
 (Check if fan is caught, dropped off or locked motor)
 → If fan or bearing is abnormal, replace it.

Check point 2. Check resistance of indoor fan motor

Refer to below. Circuit-test “Vm” and “GND” terminal

NOTE: Vm: DC voltage, GND: Earth terminal

→ If they are short-circuited (below 300 kΩ), replace indoor fan motor and controller PCB.



Pin number (wire color)	Terminal function (symbol)
1 (Red)	DC voltage (Vm)
2	No function
3	No function
4 (Black)	Earth terminal (GND)
5 (White)	Control voltage (Vcc)
6 (Yellow)	Speed command (Vsp)
7 (Blue)	Feed back (FG)

5-5. Outdoor unit fan motor

Check point 1. Check rotation of fan

Rotate the fan by hand when operation is off.
 (Check if fan is caught, dropped off or locked motor)
 → If fan or bearing is abnormal, replace it.

Check point 2. Check resistance of outdoor fan motor

Refer to below. Circuit-test “Vm” and “GND” terminal

NOTE: Vm: DC voltage, GND: Ground terminal

→ If they are short-circuited (below 300 kΩ), replace outdoor fan motor and controller PCB.

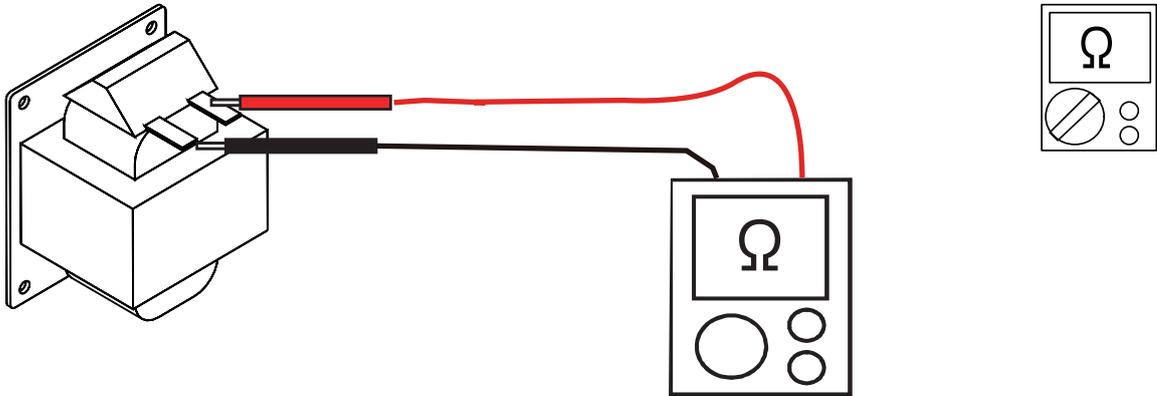
Pin number (wire color)	Terminal function (symbol)
1 (Red)	DC voltage (Vm)
2	No function
3	No function
4 (Black)	Earth terminal (GND)
5 (White)	Control voltage (Vcc)
6 (Yellow)	Speed command (Vsp)
7 (Brown)	Feed back (FG)

5-6. Reactor assy

Check point 1. Appearance check

No fissures, breaks, damage, etc. at the body and winding section, terminals section?

Check point 2. Electric check



- Set the tester to the "Resistance" mode, and check for open/short between both ends of the reactor wire (or connector).
- Judge the result of 1. as follows:

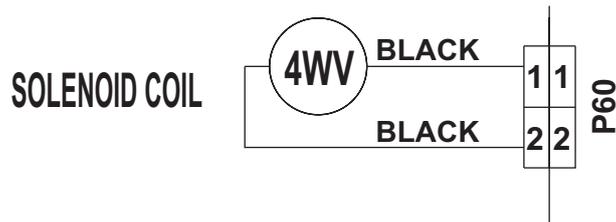
Short	Normal
Open	Abnormal (open)

NOTE: Reference value of DC resistance of reactor used:
415.9 mΩ (at 77°F [25°C])

5-7. 4-way valve coil (solenoid coil)/4-way valve

Check point 1. Check connection

- Check the connection of connector P60.

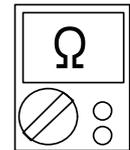
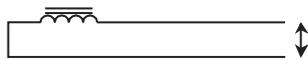


↓

Check Point 2 : Check Solenoid Coil

Remove P60 from PCB and check the resistance value of coil.

Resistance Value $\approx 305 \Omega$

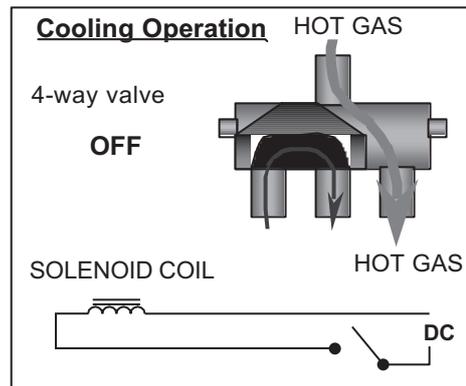
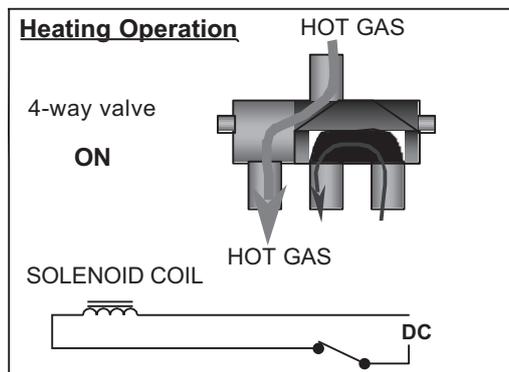


→ If it is Open or abnormal resistance value, replace Solenoid Coil.

↓

Check Point 3: Check Operation of 4 Way Valve

Check each piping temperature, and confirm the location of the valve by the temperature difference



→ If the valve location is not proper, replace 4-way valve.

↓

Check Point 4: Replace Main PCB

If none of Checks 1 to 3 apply, replace the Main PCB.

6. Thermistor resistance values

6-1. Indoor unit

■ Room temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
14.0 (-10.0)	58.25	0.73
23.0 (-5.0)	44.03	0.93
32.0 (0.0)	33.62	1.15
41.0 (5.0)	25.93	1.39
50.0 (10.0)	20.18	1.66
59.0 (15.0)	15.84	1.94
68.0 (20.0)	12.54	2.22
77.0 (25.0)	10.00	2.50
86.0 (30.0)	8.04	2.77
95.0 (35.0)	6.51	3.03
104.0 (40.0)	5.30	3.27
113.0 (45.0)	4.35	3.49

■ Heat exchanger temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
-22.0 (-30.0)	1,131.91	0.21
-13.0 (-25.0)	804.52	0.29
-4.0 (-20.0)	579.59	0.40
5.0 (-15.0)	422.89	0.53
14.0 (-10.0)	312.27	0.69
23.0 (-5.0)	233.21	0.88
32.0 (0.0)	176.03	1.10
41.0 (5.0)	134.23	1.36
50.0 (10.0)	103.34	1.63
59.0 (15.0)	80.28	1.92
68.0 (20.0)	62.91	2.21
77.0 (25.0)	49.70	2.51
86.0 (30.0)	39.57	2.79
95.0 (35.0)	31.74	3.06
104.0 (40.0)	25.64	3.30
113.0 (45.0)	20.85	3.53
122.0 (50.0)	17.06	3.73
131.0 (55.0)	14.05	3.90
140.0 (60.0)	11.64	4.05
149.0 (65.0)	9.69	4.19

6-2. Outdoor unit

■ Discharge temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
-22.0 (-30.0)	1,013.11	0.06
-12.0 (-25.0)	729.09	0.09
-4.0 (-20.0)	531.56	0.12
5.0 (-15.0)	392.31	0.16
14.0 (-10.0)	292.91	0.21
23.0 (-5.0)	221.09	0.28
32.0 (0.0)	168.60	0.36
41.0 (5.0)	129.84	0.46
50.0 (10.0)	100.91	0.57
59.0 (15.0)	79.12	0.71
68.0 (20.0)	62.55	0.86
77.0 (25.0)	49.84	1.03
86.0 (30.0)	40.01	1.23
95.0 (35.0)	32.35	1.43
104.0 (40.0)	26.34	1.65
113.0 (45.0)	21.58	1.88
122.0 (50.0)	17.79	2.11
131.0 (55.0)	14.75	2.34
140.0 (60.0)	12.30	2.57
149.0 (65.0)	10.32	2.79
158.0 (70.0)	8.69	3.00
167.0 (75.0)	7.36	3.19
176.0 (80.0)	6.27	3.37
185.0 (85.0)	5.36	3.54
194.0 (90.0)	4.60	3.69
203.0 (95.0)	3.96	3.83
212.0 (100.0)	3.43	3.96
221.0 (105.0)	2.98	4.07
230.0 (110.0)	2.60	4.17
239.0 (115.0)	2.27	4.26
248.0 (120.0)	2.00	4.33

■ Heat exchanger temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
-22.0 (-30.0)	95.58	0.24
-12.0 (-25.0)	68.90	0.32
-4.0 (-20.0)	50.31	0.43
5.0 (-15.0)	37.19	0.57
14.0 (-10.0)	27.81	0.73
23.0 (-5.0)	21.02	0.92
32.0 (0.0)	16.05	1.14
41.0 (5.0)	12.38	1.39
50.0 (10.0)	9.63	1.65
59.0 (15.0)	7.56	1.93
68.0 (20.0)	5.98	2.21
77.0 (25.0)	4.77	2.49
86.0 (30.0)	3.84	2.77
95.0 (35.0)	3.11	3.02
104.0 (40.0)	2.53	3.26
113.0 (45.0)	2.08	3.48
122.0 (50.0)	1.71	3.68
131.0 (55.0)	1.42	3.85
140.0 (60.0)	1.19	4.00
149.0 (65.0)	1.00	4.13
158.0 (70.0)	0.84	4.25
167.0 (75.0)	0.71	4.35
176.0 (80.0)	0.61	4.43

■ Heat exchanger (middle) temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
-22.0 (-30.0)	1131.91	0.02
-12.0 (-25.0)	804.52	0.03
-4.0 (-20.0)	579.59	0.04
5.0 (-15.0)	422.89	0.06
14.0 (-10.0)	312.27	0.07
23.0 (-5.0)	233.21	0.10
32.0 (0.0)	176.03	0.13
41.0 (5.0)	134.23	0.17
50.0 (10.0)	103.34	0.22
59.0 (15.0)	80.28	0.28
68.0 (20.0)	62.91	0.35
77.0 (25.0)	49.70	0.44
86.0 (30.0)	39.57	0.54
95.0 (35.0)	31.74	0.65
104.0 (40.0)	25.64	0.78
113.0 (45.0)	20.85	0.93
122.0 (50.0)	17.06	1.09
131.0 (55.0)	14.05	1.26
140.0 (60.0)	11.64	1.45
149.0 (65.0)	9.69	1.64
158.0 (70.0)	8.12	1.85
167.0 (75.0)	6.83	2.05
176.0 (80.0)	5.78	2.26

■ Outdoor temperature thermistor

Temperature °F (°C)	Resistance (kΩ)	Voltage (V)
-22.0 (-30.0)	224.33	0.73
-12.0 (-25.0)	159.71	0.97
-4.0 (-20.0)	115.24	1.25
5.0 (-15.0)	84.21	1.56
14.0 (-10.0)	62.28	1.90
23.0 (-5.0)	46.58	2.26
32.0 (0.0)	35.21	2.61
41.0 (5.0)	26.88	2.94
50.0 (10.0)	20.72	3.25
59.0 (15.0)	16.12	3.52
68.0 (20.0)	12.64	3.76
77.0 (25.0)	10.00	3.97
86.0 (30.0)	7.97	4.14
95.0 (35.0)	6.40	4.28
104.0 (40.0)	5.18	4.41
113.0 (45.0)	4.21	4.51
122.0 (50.0)	3.45	4.59
131.0 (55.0)	2.85	4.65

4. CONTROL AND FUNCTIONS

CONTENTS

4. CONTROL AND FUNCTIONS

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1. Rotation number control of compressor

1-1. Cooling operation

A sensor (room temperature thermistor) built in the indoor unit body will usually perceive difference or variation between a set temperature and present room temperature, and controls the operation rotation number of the compressor.

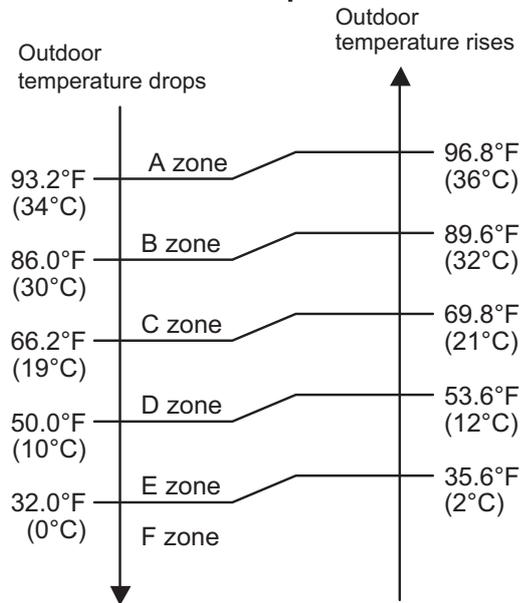
- If the room temperature is 11°F (6.0°C) higher than a set temperature, the operation rotation number of compressor will attain to maximum performance.
- If the room temperature is 2°F (1.0°C) lower than a set temperature, the compressor will be stopped.
- When the room temperature is within the range of +11°F (6.0°C) to -2°F (1.0°C) of the setting temperature, the rotation number of compressor is controlled within the range shown in the table below. However, the maximum rotation number is limited in the range shown in the figure below based on the indoor fan mode and the outdoor temperature.

- **Rotation number range of compressor**

Unit: rps

Model name	Minimum rotation number	Maximum rotation number
ASLH09KNAS	14	103
ASLH12KNAS		

• Limit of maximum speed based on outdoor temperature



Unit: rps

Model name	Outdoor temperature zone	Indoor unit fan mode			
		HIGH	MED	LOW	QUIET
ASLH09KNAS	A zone	103	68	52	24
	B zone	90	68	52	24
	C zone	84	64	49	24
	D zone	64	49	32	24
	E zone	64	49	32	24
	F zone	64	49	32	24
ASLH12KNAS	A zone	103	78	68	30
	B zone	96	73	64	30
	C zone	90	73	60	30
	D zone	68	60	52	26
	E zone	60	46	34	26
	F zone	60	46	34	26

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1-2. Heating operation

A sensor (room temperature thermistor) built in indoor unit body will usually perceive difference or variation between setting temperature and present room temperature, and controls operation rotation number of compressor.

- If the room temperature is 11°F (6.0°C) lower than a set temperature, the operation rotation number of compressor will attain to maximum performance.
- If the room temperature is 2°F (1.0°C) higher than a set temperature, the compressor will be stopped.
- When the room temperature is within the range of +2°F (1.0°C) to -11°F (6.0°C) of the setting temperature, the rotation number of compressor is controlled within the range shown below.

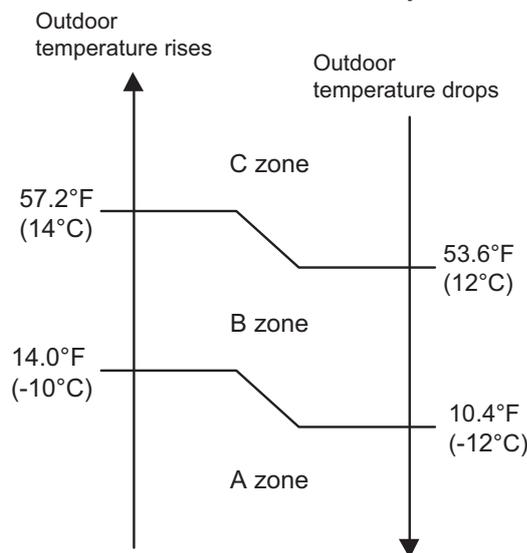
- **Rotation number range of compressor**

Unit: rps

Model name	Minimum rotation number	Maximum rotation number
ASLH09KNAS ASLH12KNAS	14	110

- **Limit of maximum speed based on outdoor temperature**

In heating operation, maximum rotation number is defined by outdoor temperature and fan mode.



Unit: rps

Model name	Outdoor temperature zone	Indoor unit fan mode			
		HIGH	MED	LOW	QUIET
ASLH09KNAS	A zone	110	103	103	96
	B zone	110	103	96	52
	C zone	110	103	84	52
ASLH12KNAS	A zone	110	103	78	78
	B zone	110	103	78	73
	C zone	110	103	73	46

1-3. Dry operation

The rotation number of compressor shall change according to the temperature, set temperature, and room temperature variation which the room temperature sensor of the indoor unit has detected as shown in the table below.

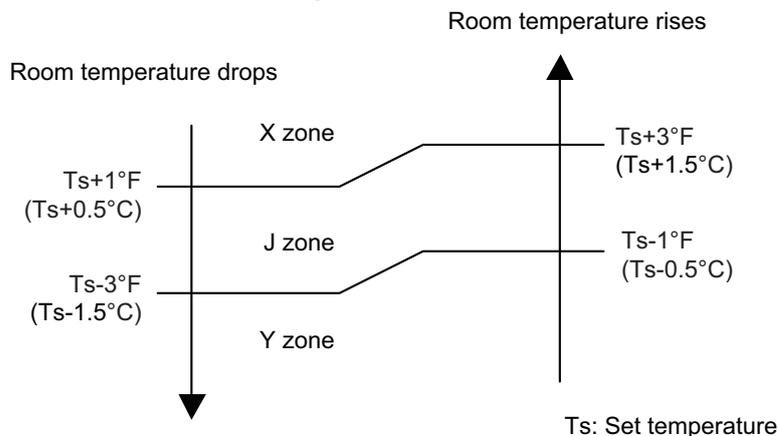
Zone is defined by set temperature and room temperature.

- **Rotation number range of compressor**

Unit: rps

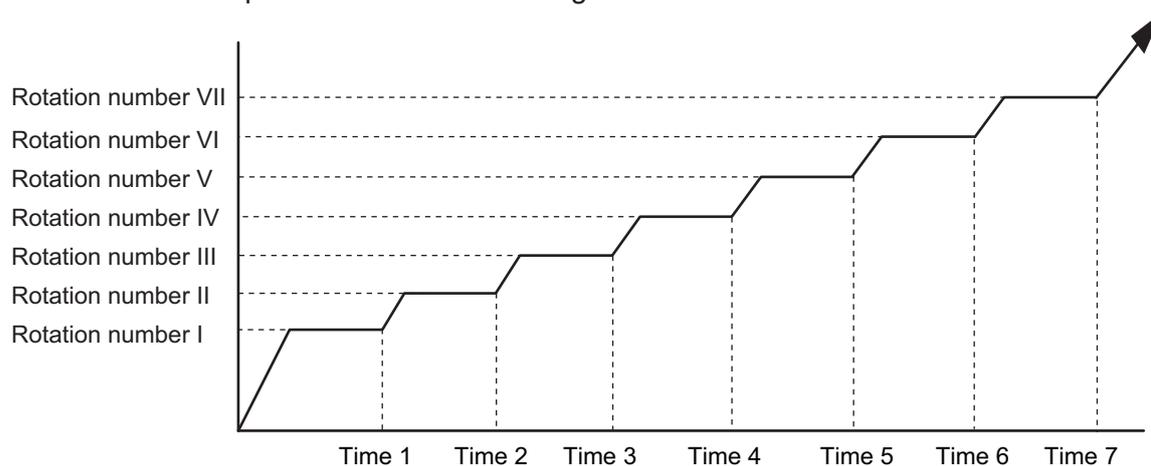
Model name	Outdoor temperature zone	Operating rotation number
ASLH09KNAS ASLH12KNAS	X zone	24
	J zone	20
	Y zone	0

- **Compressor control based on room temperature**



1-4. Rotation number of compressor at normal start-up

Rotation number of compressor soon after starting is controlled as below.



Rotation number (rps)	I	II	III	IV	V	VI	VII
	45	56	68	77	84	93	103
Time (sec)	1	2	3	4	5	6	7
	60	140	170	220	280	360	430

1-5. Limitation of compressor rotation number by outdoor temperature

The minimum rotation number of compressor is limited by outdoor temperature as below.

- **Cooling/Dry mode**

122.0°F (50°C)	G zone
100.4°F (38°C)	F zone
66.2°F (19°C)	E zone
50.0°F (10°C)	D zone
32.0°F (0°C)	C zone
14.0°F (-10°C)	B zone
	A zone

Unit: rps

Model name	Outdoor temperature zone	Limitation of compressor rotation number
AOLH09KNAS1	A zone	42
	B zone	42
	C zone	33
	D zone	24
	E zone	16
	F zone	21
	G zone	21
AOLH12KNAS1	A zone	42
	B zone	42
	C zone	33
	D zone	26
	E zone	16
	F zone	21
	G zone	21

- Heating mode

66.2°F (19°C)	F zone
41.0°F (5°C)	E zone
32.0°F (0°C)	D zone
5.0°F (-15°C)	C zone
-13.0°F (-25°C)	B zone
	A zone

Unit: rps

Model name	Outdoor temperature zone	Limitation of compressor rotation number
AOLH09KNAS1	A zone	43
	B zone	43
	C zone	30
	D zone	18
	E zone	20
	F zone	16
AOLH12KNAS1	A zone	43
	B zone	43
	C zone	30
	D zone	18
	E zone	16
	F zone	16

2. Auto changeover operation

When the air conditioner is set to AUTO mode by remote controller, operation starts in the optimum mode from among heating, cooling, dry and monitoring modes. During operation, the optimum mode is automatically switched in accordance with temperature changes. The temperature can be set between 64.4°F (18°C) and 86.0°F (30°C) in 1.8°F (1.0°C) steps.

- When operation starts, indoor fan and outdoor fan are operated for around 1 minute. Room temperature and outdoor temperature are sensed, and the operation mode is selected in accordance with the table below.

Room temperature	Operation mode
$Tr > Ts + 3.6^{\circ}\text{F}$ (2°C)	Cooling
$Ts + 3.6^{\circ}\text{F}$ (2°C) $\geq Tr \geq Ts - 3.6^{\circ}\text{F}$ (2°C)	Middle zone
$Tr < Ts - 3.6^{\circ}\text{F}$ (2°C)	Heating

Tr: Room temperature

Ts: Setting temperature

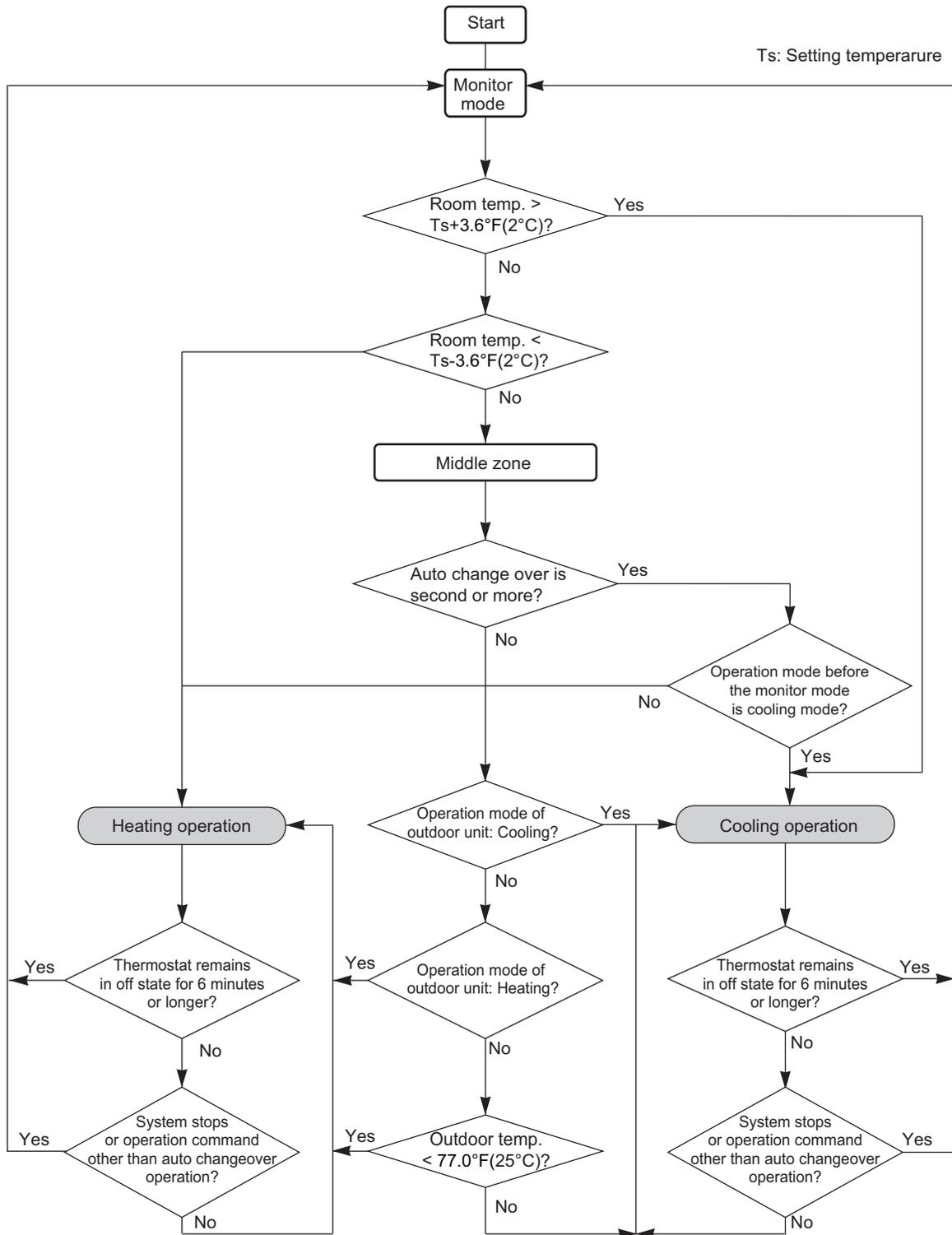
NOTE: When the operation mode is middle zone, indoor unit operation mode is selected as below.

- Same operation mode is selected as outdoor unit.
If outdoor unit is operating in cooling and heating mode, indoor unit will be operated by the same operation mode.
- Selected by outdoor temperature.
If outdoor unit is operating in other than cooling and heating mode, indoor unit will be operated according to the outdoor temperature as below.

Outdoor temp.	Operation mode
77.0°F (25°C) or more	Cooling
Less than 77.0°F (25°C)	Heating

- When the compressor was stopped for 6 consecutive minutes by temperature control function after the cooling or heating mode was selected as above, operation is switched to monitoring mode and the operation mode selection is done again.
- When the middle zone is selected on the predetermining of the operation mode, the operation mode before the changing to the monitoring mode is selected.

Operation flow chart



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3. Fan control

Tr: Room temperature

Ts: Setting temperature

3-1. Indoor fan control

■ Fan speed

Indoor fan speed is defined as below.

Operation mode	Fan mode	Speed (rpm)	
		ASLH09KNAS	ASLH12KNAS
Heating	POWERFUL	1,360	1,380
	HIGH	1,260	1,310
	MED+	1,160	1,170
	MED	1,070	1,050
	LOW	890	890
	QUIET	640	650
	Cool air prevention	600	600
	S-LOW	550	550
Cooling/Fan	POWERFUL	1,360	1,380
	HIGH	1,260	1,280
	MED	1,040	1,050
	LOW	810	840
	QUIET	610	620
	Soft quiet	550*1	550*1
	S-LOW	550*2	550*2
Dry		X zone:620 J zone: 620	X zone: 620 J zone: 620

*1: Fan mode only

*2: Cooling mode only

■ Fan operation

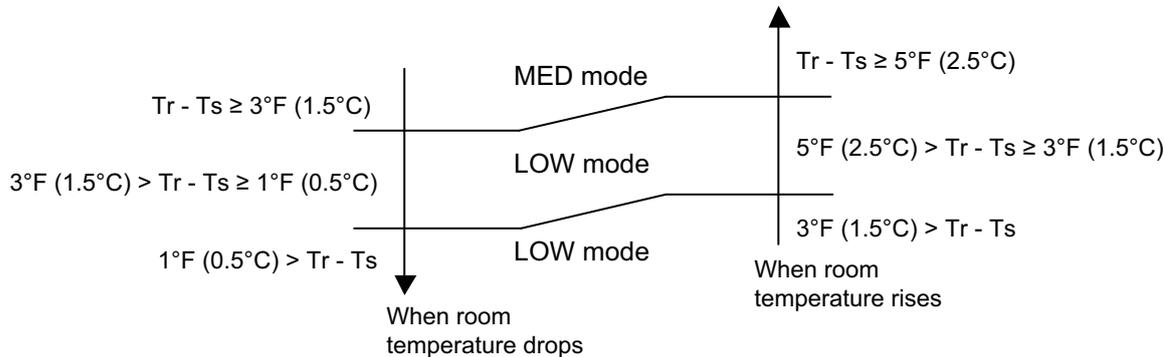
Airflow can be switched in 5 steps such as AUTO, QUIET, LOW, MED, HIGH while indoor unit fan only runs.

When fan mode is set at AUTO, it operates on MED fan speed.

■ Cooling operation

Switch the airflow AUTO, and indoor fan motor will run according to room temperature, as below.
 On the other hand, if switched in HIGH—QUIET, indoor motor will run at a constant airflow of COOL operation modes QUIET, LOW, MED, HIGH as shown in “Fan speed” above.

Airflow change over (Cooling: Auto)



■ Dry operation

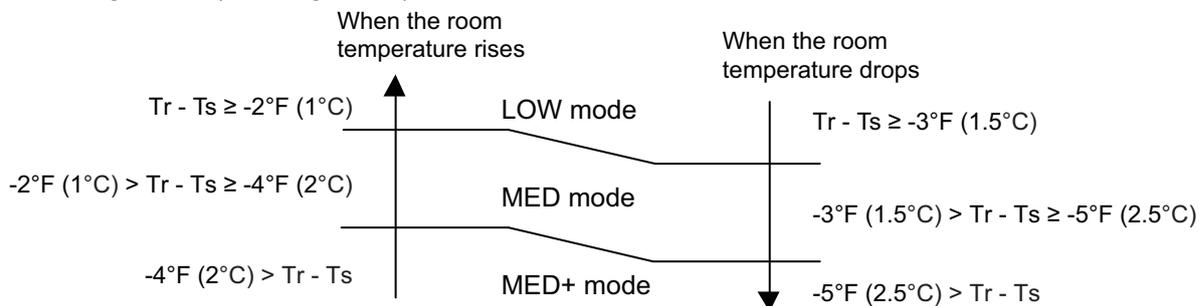
During dry operation, fan speed setting can not be changed as shown in “Fan speed” above.

■ Heating operation

Switch the airflow AUTO, and the indoor fan motor will run according to a room temperature, as below.

On the other hand, if switched in HIGH—QUIET, the indoor motor will run at a constant airflow of HEAT operation modes QUIET, LOW, MED, HIGH as shown in “Fan speed” above.

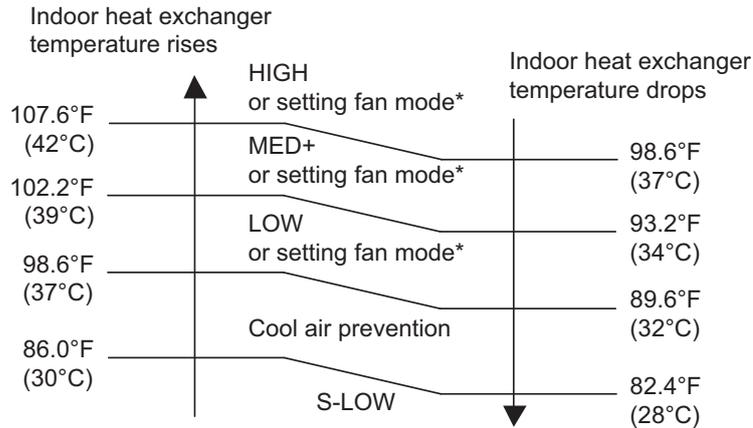
Airflow change over (Heating: Auto)



■ Cool air prevention control (heating mode)

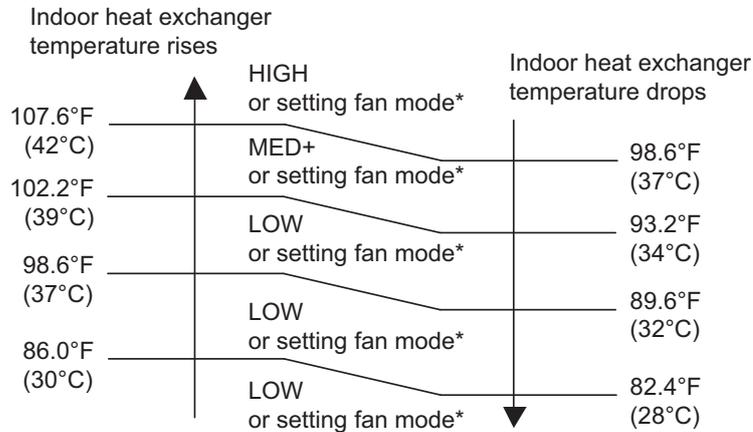
The maximum value of the indoor fan speed is set as shown below, based on the detected temperature by the indoor heat exchanger sensor on heating mode.

- Normal operation



*: Lower speed is selected.

7 minutes later:

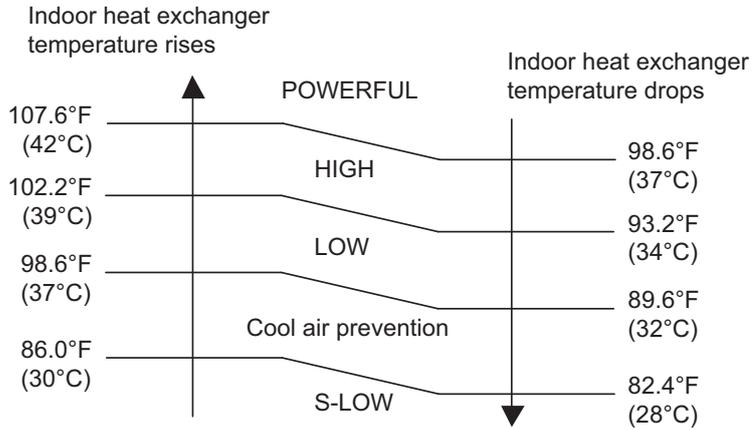


*: Lower speed is selected.

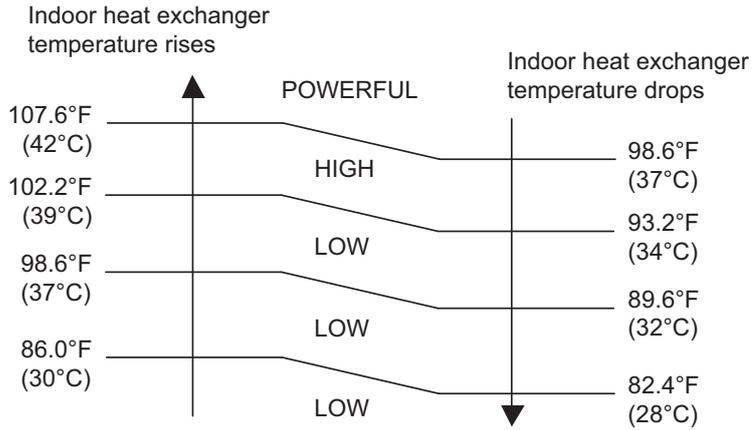
CONTROL AND FUNCTIONS

CONTROL AND FUNCTIONS

• **Powerful operation**

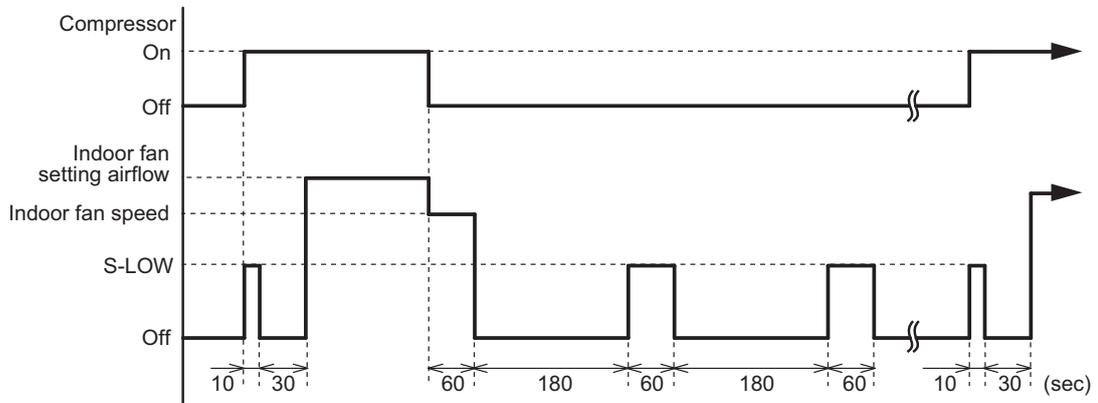


7 minutes later:



■ **Moisture return prevention control (cooling and dry mode)**

Switch the airflow AUTO at cooling mode, and the indoor fan motor will run as shown below.



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CONTROL AND FUNCTIONS

3-2. Outdoor fan control

Outdoor fan motor

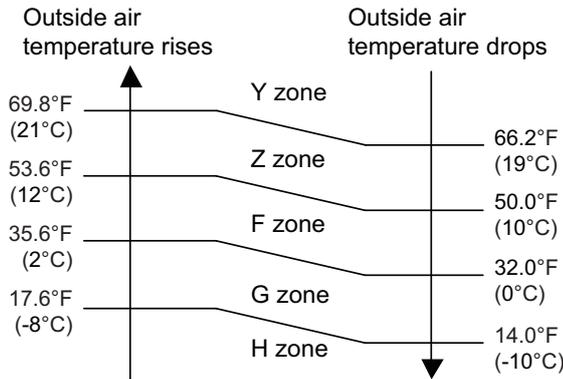
This outdoor unit has a DC fan motor. (Control method is different between AC and DC motors.)

Fan speed

Model: AOLH09KNAS1

Fan speed is defined by outdoor temperature and rotation number of compressor.

- Outside air temperature zone selection



Unit: rpm

Fan step	Cooling	Heating	Dry	Cooling or dry at low outdoor temp.				
	Y zone		Y zone	Z zone	F zone	G zone	H zone	
S-HIGH2	—	930	—	—	—	—	—	—
S-HIGH1	950	930	—	—	—	—	—	—
HIGH	950	930	—	—	—	—	—	—
10	—	690	—	—	—	—	—	—
9	950	690	950	950	950	950	950	950
8	780	690	780	780	270	250	250	250
7	780	690	780	780	270	250	250	250
6	780	690	780	540	270	250	250	250
5	780	690	780	360	240	220	220	220
4	780	550	780	270	210	190	190	190
3	680	510	680	270	190	170	170	170
2	610	480	610	270	190	170	170	170
1	580	480	580	270	170	170	170	170

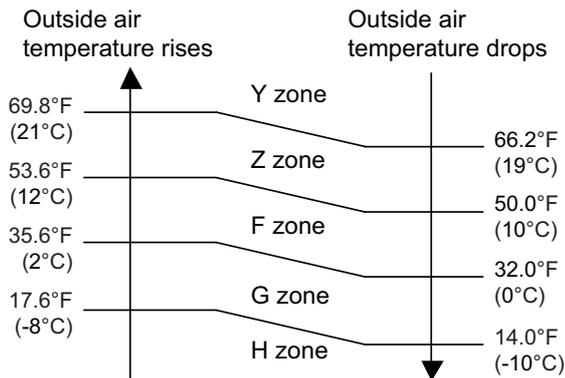
NOTE: After defrost control on the heating mode, the fan speed is kept higher regardless of the compressor frequency.

Fan speed after defrost control: 930 rpm

● Model: AOLH12KNAS1

Fan speed is defined by outdoor temperature and compressor frequency.

• Outside air temperature zone selection



Unit: rpm

Fan step	Cooling	Heating	Dry	Cooling or dry at low outdoor temp.				
	Y zone		Y zone	Z zone	F zone	G zone	H zone	
S-HIGH2	—	1,020	—	—	—	—	—	—
S-HIGH1	950	1,020	—	—	—	—	—	—
HIGH	950	1,020	—	—	—	—	—	—
10	—	790	—	—	—	—	—	—
9	950	790	950	950	950	950	950	950
8	900	790	900	900	350	330	330	330
7	900	790	900	900	350	330	330	330
6	900	790	900	560	350	330	330	330
5	900	730	900	420	320	300	300	300
4	800	630	800	350	290	270	270	270
3	680	530	680	350	270	250	250	250
2	580	470	580	350	270	250	250	250
1	540	470	540	350	250	250	250	250

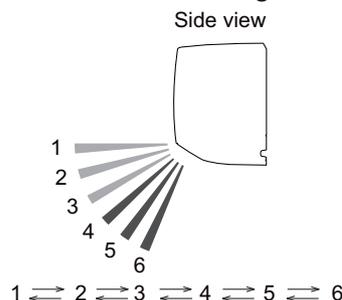
NOTE: After defrost control on the heating mode, the fan speed is kept higher regardless of the compressor frequency.

Fan speed after defrost control: 1,020 rpm

4. Louver control

4-1. Horizontal louver control

Each time the button is pressed, the airflow direction range will change as below:



- Remote controller display is not changed.
- Up/down airflow direction is set automatically as shown, in accordance with the type of operation selected.

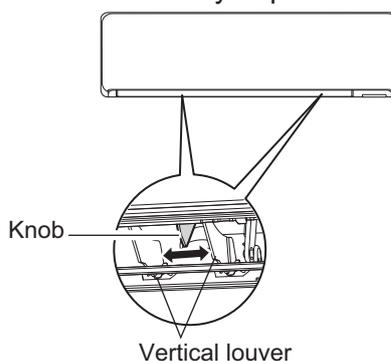
Cooling / Dry mode : Horizontal flow 1

Heating mode : Downward flow 6

- During AUTO operation, for the first a few minutes after beginning operation, airflow will be horizontal 1; the air direction cannot be adjusted during this period. The airflow direction setting will temporarily become 1 when the temperature of the airflow is low at the start of the Heating mode.
- After beginning of AUTO/HEAT mode operated and automatic defrosting operation, the airflow will be horizontal 1. However, the airflow direction cannot be adjusted at beginning AUTO operation mode.

4-2. Vertical louver adjustment

Move the vertical louvers to adjust airflow direction you prefer.



4-3. Swing operation

- To select up/down airflow swing operation
When the swing signal is received, the horizontal louver starts to swing.
 - Swinging range
 - Cooling mode/dry mode/fan mode (1 to 3): 1 ↔ 4
 - Heating mode/fan mode (4 to 6): 3 ↔ 6
 - When the indoor fan is S-LOW or stop mode, the swing operation is interrupted and it stops at either upper end or bottom end.

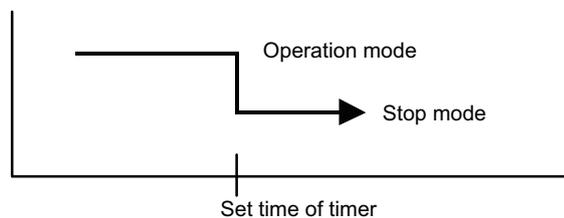
5. Timer operation control

5-1. Wireless remote control

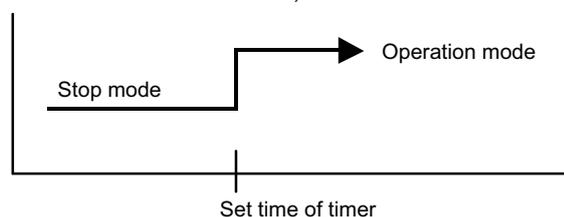
On/Off timer	Program timer	Sleep timer	Weekly timer
○	○	○	—

■ On/Off timer

- Off timer: When the clock reaches the set timer, the air conditioner will be turned off.

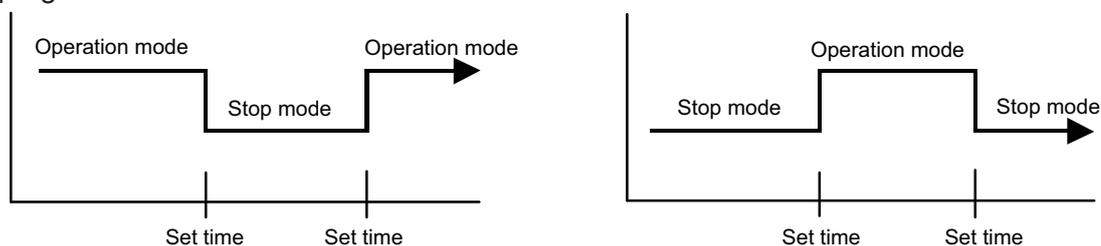


- On timer: When the clock reaches the set timer, the air conditioner will be turned on.



■ Program timer

- The program timer allows the off timer and the on timer to be used in combination one time.



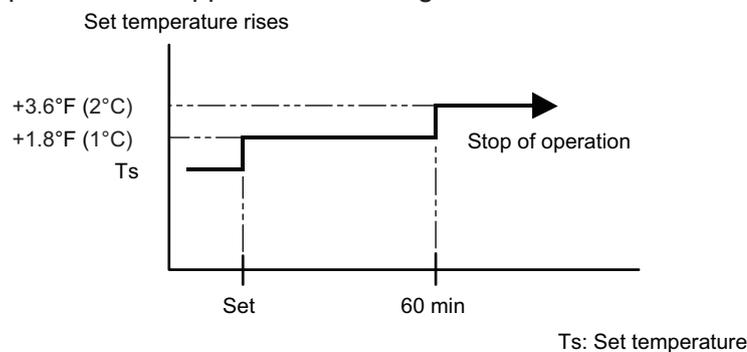
- Operation will start from the timer setting (either off timer and on timer) whichever is closest to the clock current timer setting. The order of operations is indicated by the allow in the remote controller screen.
- Sleep timer operation cannot be combined with on timer operation.

■ Sleep timer

If the sleep timer is set, the room temperature is monitored and the operation is stopped automatically. If the operation mode or the set temperature is change after the sleep timer is set, the operation is continued according to the changed setting of the sleep timer from that time on.

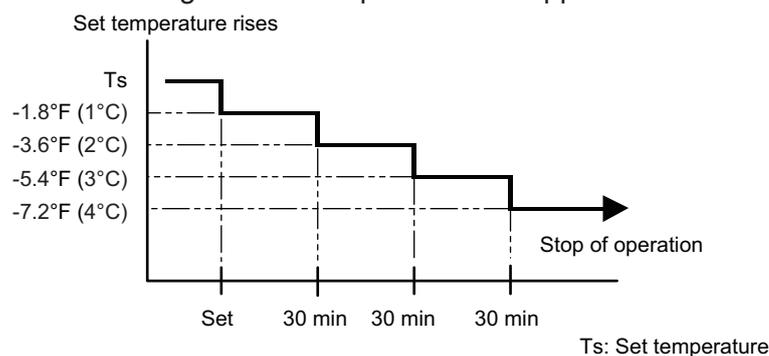
- In the cooling operation mode

When the sleep timer is set, the setting temperature is increased 1.8°F (1°C). It increases the setting temperature another 1.8°F (1°C) after 1 hour. After that, the setting temperature is not changed and the operation is stopped at the setting time.



- In the heating operation mode

When the sleep timer is set, the setting temperature is decreased 1.8°F (1°C). It decreases the setting temperature another 1.8°F (1°C) every 30 minutes. Upon lowering 7.2°F (4°C), the setting temperature is not changed and the operation is stopped at the setting time.



6. Defrost operation control

Tn: Outdoor unit heat exchanger temperature

Ta: Outdoor temperature

Tn10: Temperature at 10 minutes after compressor start

Tnb: Temperature before 5 minutes

• Triggering condition

The defrost operation starts when outdoor unit heat exchanger temperature sensor detects the temperature lower than the values shown below.

– 1st time defrosting after starting operation

Compressor integrating operation time	Less than 17 min.	17 to 57 min.	More than 57 min.
Condition	Does not operate	$T_n \leq 15.8^\circ\text{F} (-9^\circ\text{C})$ and $T_n - T_a \geq 9.0^\circ\text{F} (5^\circ\text{C})$	$T_n \leq 23.0^\circ\text{F} (-5^\circ\text{C})$

– 2nd time and after

Compressor integrating operation time	Less than 40 min.	More than 40 min.
Condition	Does not operate	$T_n - T_{n10} < -9.0^\circ\text{F} (-5^\circ\text{C})$ ($T_n \leq 21.2^\circ\text{F} [-6^\circ\text{C}]$) $T_n - T_{nb} < -3.6^\circ\text{F} (-2^\circ\text{C})$ ($T_n \leq 21.2^\circ\text{F} [-6^\circ\text{C}]$) $T_n \leq 1.4^\circ\text{F} (-17^\circ\text{C})$ ($T_a \geq 14.0^\circ\text{F} [-10^\circ\text{C}]$) $T_n \leq 19.4^\circ\text{F} (-7^\circ\text{C})$ or $T_n \leq -4.0^\circ\text{F} (-20^\circ\text{C})$ ($T_a < 14.0^\circ\text{F} [-10^\circ\text{C}]$)

– Integrating defrost (Constant monitoring)

Compressor integrating operation time	More than 240 min. (For long continuous operation)	More than 215 min. (For long continuous operation)	Less than 10 min.* (For intermittent operation)
Condition	$T_n \leq 26.6^\circ\text{F} (-3^\circ\text{C})$	$T_n \leq 23.0^\circ\text{F} (-5^\circ\text{C})$	Count of the compressor off: 40 times

*: If the compressor continuous operation time is less than 10 minutes, the number of the compressor off is counted. If any defrost operated, the compressor off count is cleared.

• Release condition

The defrost operation is released when either one of the conditions below is satisfied.

Outdoor unit heat exchanger temperature (after 1 minute or later since compressor start)	60.8°F (16°C) or more
Compressor operation time	15 minutes

6-1. Defrost operation in heating operation stopped

If the outdoor unit is frosted when stopping the heating operation, it stops after performing the automatic defrosting operation.

In this time, if the indoor unit operation lamp flashes slowly (6 sec on/2 sec off), the outdoor unit allow the heat exchanger to defrost, and then stop.

• Triggering condition

When all of the following conditions are satisfied in heating operation

- Compressor operation integrating time: 30 minutes or more
- Compressor continuous operation time: 10 minutes or more
- Outdoor unit heat exchanger temperature: 24.8°F (-4°C) or less

• Release condition

The defrost operation is released when either one of the conditions below is satisfied.

Outdoor unit heat exchanger temperature (after 1 minute or later since compressor start)	60.8°F (16°C) or more
Compressor operation time	15 minutes

7. Various control

7-1. Auto restart

When the power was interrupted by a power failure etc. during operation, the operation contents at that time are memorized and when the power is recovered, operation is automatically started with the memorized operation contents.

Operation contents memorized when the power is interrupted
Operation mode
Setting temperature
Fan mode setting
Timer mode and set time (set by wireless remote controller)
Airflow direction setting
Swing
ECONOMY operation
Remote control setting
WLAN LED setting

7-2. MANUAL AUTO operation

When the wireless remote controller is lost or battery power dissipated, this function will work without the remote controller.

When MANUAL AUTO button is pressed more than 3 seconds and less than 10 seconds, MANUAL AUTO operation starts as shown in the table below. To stop operation, press the MANUAL AUTO button for 3 seconds.

Operation mode	Auto changeover
Fan mode	AUTO
Timer mode	Continuous (no timer setting available)
Setting temperature	75.2°F (24°C)
Horizontal louver setting	Standard
SWING	Off
ECONOMY	Off

7-3. Forced cooling operation

The outdoor unit may not operate depending on the room temperature.

When FORCED COOLING OPERATION button is pressed more than 10 seconds, forced cooling operation starts as shown in the table below.

Operation mode	Cooling
Fan mode	HIGH
Timer mode	Continuous (no timer setting available)
Setting temperature	75.2°F (24°C)
Horizontal louver setting	Standard
Vertical louver setting	According to memory position
SWING	Off
ECONOMY	Off

- During the forced cooling operation, it operates regardless of room temperature sensor.
- The operation indicator lamp and the timer indicator lamp blink simultaneously during the forced cooling operation.
They blink for 1 second ON and 1 second OFF on both the operation indicator lamp and the timer indicator lamp (same as test operation).

By performing one of the following action, test operation will be canceled:

- Pressing the remote controller START/STOP button
- Pressing FORCED COOLING OPERATION button for 3 seconds
- 60 minutes passed after starting forced cooling operation

NOTE: When HEAT operation is selected on the remote controller during forced cooling operation, heating test run will begin in about 3 minutes.

7-4. ECONOMY operation

The ECONOMY operation starts by pressing ECONOMY button on the remote controller.

The ECONOMY operation is almost the same operation as below settings.

Mode	Cooling/Dry	Heating
Target temperature	Setting temperature +2°F (1°C)	Setting temperature -2°F (1°C)

7-5. POWERFUL operation

The POWERFUL operation starts by pressing POWERFUL button on the remote controller.

The indoor unit and outdoor unit operate at maximum power as shown in the table below.

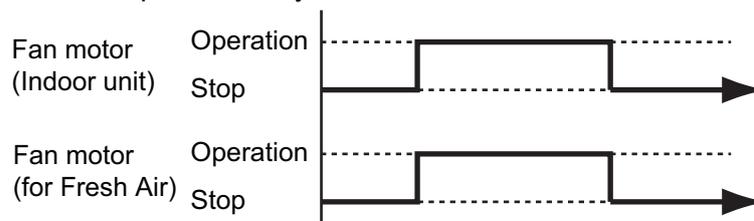
Rotation number of compressor	Maximum	
Fan mode	POWERFUL	
Vertical airflow direction louver setting	Cooling	3
	Dry	
	Heating	6

Release condition:

- Cooling/Dry
Room temperature \leq Setting temperature -1°F (-0.5°C) or Operation time has passed 20 minutes.
- Heating
Room temperature \geq Setting temperature +1°F (+0.5°C) or Operation time has passed 20 minutes.

7-6. Fresh air control

The fan motor for Fresh Air is operated in synchronization with the indoor fan operation as below.



7-7. Compressor preheating operation

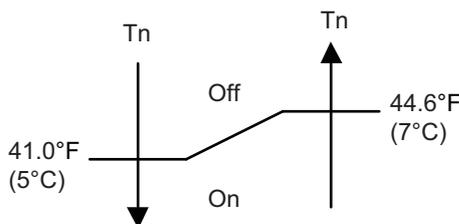
⚠ CAUTION

To perform the preheat operation, turn on the power for the outdoor unit at least 12 hours before the operation. Especially in cold climate regions, the compressor may fail if the outdoor unit is on for less than 12 hours.

Compressor preheating operation prevents the damage caused by the refrigerant in the compressor from soaking into the oil. By preheating the compressor, warm airflow is quickly discharged when the operation is started.

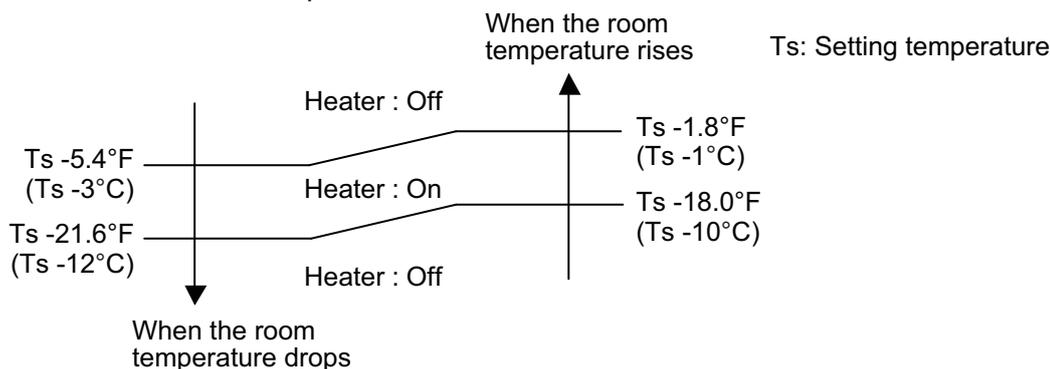
• Triggering condition

- 30 minutes after compressor stopped.
- When the jumper wire (J600) is disconnected:



7-8. External electrical heater control

The external electrical heater is operated as below.



NOTES:

- When the compressor stop, external electric heater is off.
- It operates only in heating mode and when the indoor fan operates. (However, S-LOW is excluded.)

7-9. Electronic expansion valve control

The most proper opening of the electronic expansion valve is calculated and controlled under the present operating condition based on the table below.

Operation mode	Pulse range
Cooling/dry mode	Between 52 and 480 pulses
Heating mode	

NOTE: At the time of supplying the power to the outdoor unit, the initialization of the electronic expansion valve is operated (528 pulses are input to the closing direction).

7-10. Prevention to restart for 3 minutes (3 minutes st)

When the compressor fails to start for the number of times below, it does not enter operation status for 3 minutes.

Retry number	10
Retry set number	10

When the compressor fails to start in the retry set number above, the compressor is stopped.

7-11. 4-way valve control

- If heating mode is selected at the compressor start, 4-way valve is energized for heating.
- When the air conditioner is switched between cooling and heating mode, compressor is stopped, and the 4-way valve is switched when the 140 seconds passes and the compressor is started.

8. Various protections

8-1. Discharge gas temperature over-rise prevention control

The discharge gas temperature sensor (discharge thermistor: outdoor unit side) detects the discharge gas temperature.

- When the discharge temperature becomes higher than the trigger condition, the rotation number of compressor is decreased as the table below, and it continues to decrease until the discharge temperature becomes lower than the trigger condition.
- When the discharge temperature becomes lower than the release condition, control of compressor rotation number is released.
- When the discharge temperature becomes higher than the compressor protection temperature, the compressor is stopped and the indoor unit indicator lamp starts blinking.

Trigger condition	219.2°F (104°C)	213.8°F (101°C)
Rotation number of compressor	-20 rps/120 seconds	-3 rps/60 seconds
Release condition	213.8°F (101°C)	
Compressor protection temperature	230.0°F (110°C)	

8-2. Anti-freezing control (cooling and dry mode)

The rotation number of compressor is decrease in cooling and dry mode when the indoor unit heat exchanger temperature sensor detects the temperature lower than the trigger condition.

When the indoor unit heat exchanger temperature reaches release condition, the anti-freezing control is stopped.

Trigger condition		39.2°F (4°C)
Release condition	Outdoor temp. $\geq 50^\circ\text{F}$ (10°C)*1	44.6°F (7°C)
	Outdoor temp. $\geq 53.6^\circ\text{F}$ (12°C)*2	
	Outdoor temp. $< 50^\circ\text{F}$ (10°C)*1	55.4°F (13°C)
	Outdoor temp. $< 53.6^\circ\text{F}$ (12°C)*2	

*1: During the outdoor temperature dropping

*2: During the outdoor temperature rising

8-3. Current release control

Operation mode	Outdoor temp. (Ta)	Trigger condition	Release condition
Cooling	122.0°F (50°C) \leq Ta	12.5 A	12.0 A
	114.8°F (46°C) \leq Ta $<$ 122.0°F (50°C)	13.0 A	12.5 A
	104.0°F (40°C) \leq Ta $<$ 114.8°F (46°C)	13.5 A	13.0 A
	Ta $<$ 104.0°F (40°C)	14.0 A	13.5 A
Heating	53.6°F (12°C) \leq Ta	13.0 A	12.5 A
	Ta $<$ 53.6°F (12°C)	14.0 A	13.5 A

8-4. Cooling pressure over-rise protection

When the outdoor unit heat exchanger temperature reaches trigger condition below, the compressor is stopped and trouble display is performed.

Trigger condition	149.0°F (65°C)
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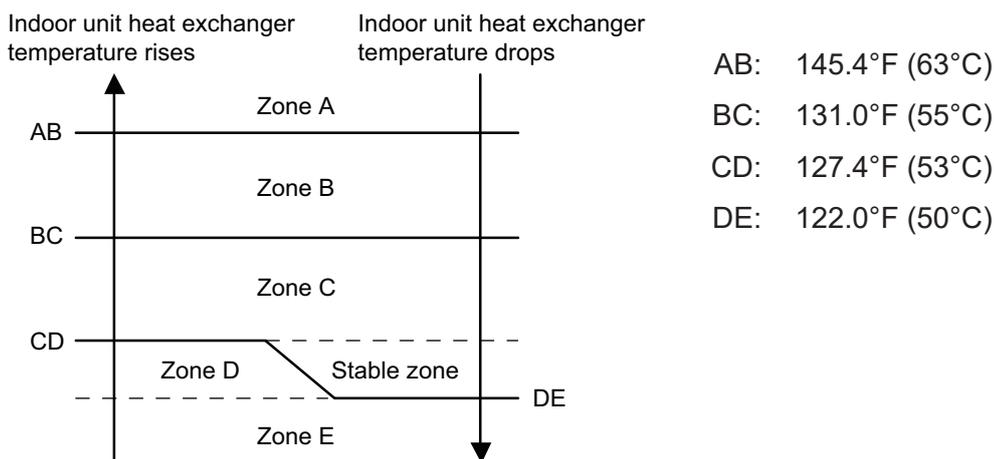
8-5. Low outdoor temperature protection Wireless remote control

When the outdoor temperature sensor detects lower than the trigger condition below, the compressor is stopped.

Operation mode	Cooling/Dry
Trigger condition	5°F (-15°C)
Release condition	14°F (-10°C)

8-6. High temperature and high pressure release control

The compressor is controlled as follows.



Zone	Operation	
Zone A	Compressor is stopped.	
Zone B	The rotation number of compressor is decreased.	-25 rps/120 sec.
Zone C		-3 rps/60 sec.
Zone D	The protection is released and the operation is returned to normal mode.	
Zone E		

5. FIELD WORKING

CONTENTS

5. FIELD WORKING

1. Function settings	05-1
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1-2. Custom code setting for wireless remote controller	05-6

1. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

NOTE: Incorrect settings can cause a product malfunction.

1-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

Before connecting the power supply of the indoor unit, reconfirm following items:

- Piping air tight test and vacuuming have been performed firmly.
- There is no wiring mistake.

Then, connect the power supply of the indoor unit.

Entering function setting mode:

While pressing the FAN SPEED button and TEMP./SELECT (^) button simultaneously, press the RESET button to enter the function setting mode.

STEP 1: Setting the remote controller custom code

Use the following steps to select the custom code of the remote controller. (The signal is correctly sent and received only when the custom codes of the air conditioner and the remote controller match.)

The custom codes that are set through this process are applicable only to the signal in the function setting.

For details on how to set the custom codes through the normal process, refer to "[Custom code setting for wireless remote controller](#)" on page 05-6.

1. Press the TEMP./SELECT (^) (v) buttons to change the custom code between $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$. Match the code on the display to the air conditioner custom code. (Initially set to \overline{A} .) If the custom code does not need to be selected, press the MODE button, and proceed to **STEP 2**.
2. Press the MODE button to accept the custom code, and proceed to **STEP 2**.



NOTES:

- The air conditioner custom code is set to \overline{A} prior to shipment.
- The remote controller resets to custom code \overline{A} when the batteries on the remote controller are replaced. If you use a custom code other than code \overline{A} , reset the custom code after replacing the batteries.
- If you do not know the air conditioner custom code setting, try each of the custom codes ($\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$) until you find the code that operates the air conditioner.

STEP 2: Selecting the function number and setting value

1. Press the TEMP./SELECT (^) (v) buttons to select the function number. To switch between the left and right digits, press the MODE button.
2. Press the FAN SPEED button to proceed the setting value. To return the function number selection, press the FAN SPEED button again.
3. Press the TEMP./SELECT (^) (v) buttons to select the setting value. To switch between the left and right digits, press the MODE button.
4. Press the TIMER button, and ϕ /I (START/STOP) button, in the order listed to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the function setting, be sure to disconnect the power supply and then reconnect it.

Function number



Setting value

**⚠ CAUTION**

After disconnecting the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30/31	Room temperature control for indoor unit sensor
3)	40	Auto restart
4)	44	Remote controller custom code
5)	49	Indoor unit fan control for energy saving for cooling
6)	95	Heat insulation condition (building insulation)

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (400 hours)	
	01	Long interval (1,000 hours)	
	02	Short interval (200 hours)	
	03	No indication	◆

2) Room temperature control for indoor unit sensor

NOTE: Before performing this setting, refer to Function 95.

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

The temperature of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 78°F and the setting value is "03" (-2°F), the corrected temp. will be 80°F (78°F - [-2°F]).

The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

*When Function 95-01 (High insulation) is set, the Standard setting "00" will be the same as "No correction 0.0°F (0.0°C)" (01).

Function number		Setting value	Setting description	Factory setting	
30 (For cooling)	31 (For heating)	00	Standard setting*	◆	
		01	No correction 0.0°F (0.0°C)		
		02	-1°F (-0.5°C)	More cooling Less heating	
		03	-2°F (-1.0°C)		
		04	-3°F (-1.5°C)		
		05	-4°F (-2.0°C)		
		06	-5°F (-2.5°C)		
		07	-6°F (-3.0°C)		
		08	-7°F (-3.5°C)		
		09	-8°F (-4.0°C)		
		10	+1°F (+0.5°C)	Less cooling More heating	
		11	+2°F (+1.0°C)		
		12	+3°F (+1.5°C)		
		13	+4°F (+2.0°C)		
		14	+5°F (+2.5°C)		
		15	+6°F (+3.0°C)		
		16	+7°F (+3.5°C)		
17	+8°F (+4.0°C)				

3) Auto restart

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	◆
	01	Disable	

NOTE: Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

4) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

Function number	Setting value	Setting description	Factory setting
44	00	A	◆
	01	B	
	02	C	
	03	D	

5) Indoor unit fan control for energy saving for cooling

Enables or disables the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

Function number	Setting value	Setting description	Factory setting
49	00	Disable	◆
	01	Enable	
	02	Remote controller	

00: When the outdoor unit is stopped, the indoor unit fan operates continuously following the setting on the remote controller.

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

02: Enable or disable this function by remote controller setting.

NOTE: Set to “00” or “01” when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter. To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

6) Heat insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

“Standard insulation” (00) allows system to rapidly respond to the cooling or heating load changes.

“High insulation” (01) is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When “High insulation” (01) is selected:

- Overheating (overcooling) is prevented at the start-up.

Function number	Setting value	Setting description	Factory setting
95	00	Standard insulation	◆
	01	High insulation	

1-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

NOTE: Air conditioner cannot receive a signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

1. Press the ϕ /I (START/STOP) button until the indicators on the remote controller turn off.
2. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to \overline{A} .)
3. Press the TEMP./SELECT (\wedge) (\vee) buttons to change the custom code between $\overline{A} \rightarrow \overline{B} \rightarrow \overline{C} \rightarrow \overline{D}$. Match the code on the display to the air conditioner custom code. (Initially set to \overline{A} .)
4. Press the MODE button again to return to the original display. The custom code will be changed.



NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original display. In this case, start again from step 1.
- The air conditioner custom code is set to \overline{A} prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code ($\overline{A} \rightarrow \overline{B} \rightarrow \overline{C} \rightarrow \overline{D}$) until you find the code which operates the air conditioner.