American Standard
HEATING & AIR CONDITIONING

MITSUBISHI ELECTRIC

June 2021

No. OCHA699
REVISED EDITION-A

HFC utilized
R410A

SERVICE MANUAL

R410A

Outdoor unit
[Model Name]

NAXSKS09A112AA

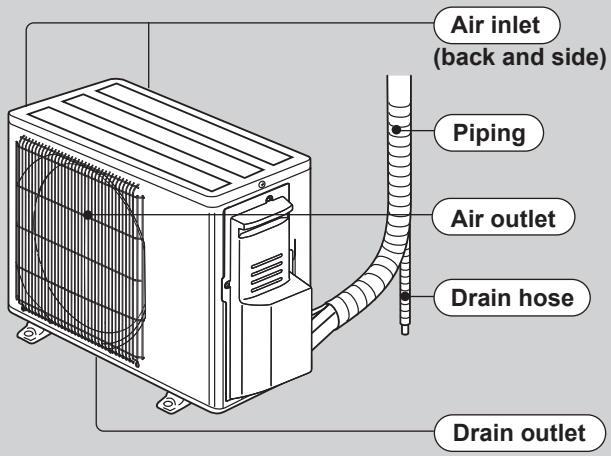
NAXSKS12A112AA

NAXSKS15A112AA

Revision:
Some descriptions have been modified in REVISED EDITION-A

OCHA699 is void.

Note:
- This service manual describes service data of the outdoor units only.



NAXSKS09A112AA

CONTENTS

1. COMBINATION OF INDOOR AND OUTDOOR UNITS ····· 2
2. PART NAMES AND FUNCTIONS ····· 2
3. SPECIFICATION ····· 3
4. OUTLINES AND DIMENSIONS ····· 4
5. WIRING DIAGRAM ····· 5
6. REFRIGERANT SYSTEM DIAGRAM ····· 7
7. DATA ····· 8
8. ACTUATOR CONTROL ····· 10
9. SERVICE FUNCTION ····· 11
10. TROUBLESHOOTING ····· 11
11. FUNCTION SETTING ····· 27
12. DISASSEMBLY INSTRUCTIONS ····· 30

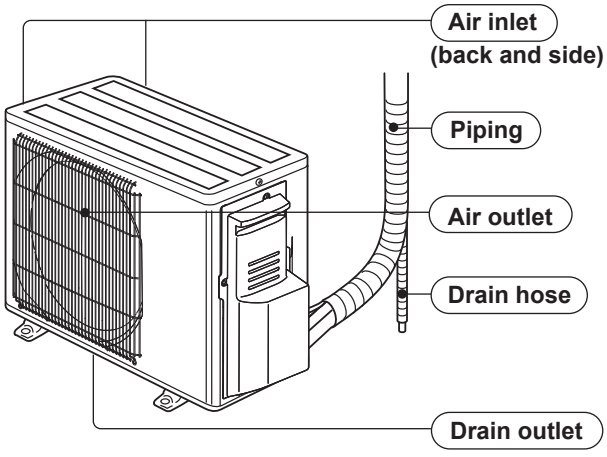
PARTS CATALOG (OCBA699)

1 COMBINATION OF INDOOR AND OUTDOOR UNITS

	Indoor unit		Outdoor unit Heat pump type		
	Service Ref.	Service Manual No.	NAXSKS09 A112AA	NAXSKS12 A112AA	NAXSKS15 A112AA
Heat pump without electric heater	NAXCKS09/12/15A112AA	OCHA669	○	○	○
	NAXDKS09/12/15A112AA	—	○	○	○
	PEAD-A09/12/15AA7.MX	HWE1608A	○	○	○
	NAXAMT12A112AA	—	—	○	—
	NAXUKS09/12A112AA	OBHA802	○	○	—

2 PART NAMES AND FUNCTIONS

NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA



3 SPECIFICATION

Outdoor unit model			NAXSKS09A112AA	NAXSKS12A112AA	NAXSKS15A112AA
Power supply	V , phase , Hz		208/230 , 1 , 60		
Max. fuse size (time delay)		A	15		
Min. circuit ampacity		A	9	9	10
Fan motor		F.L.A	0.50		
Compressor	Model		KNB073FRVMC	SNB092FQAMT	SNB130FQBMT
	R.L.A		6.2	6.6	7.4
	L.R.A		7.7	8.2	9.3
	Refrigeration oil oz(L)/(Model)		9.1(0.27)/(FV50S)	11.8(0.35)/(FV50S)	11.8(0.35)/(FV50S)
Refrigerant control			Linear expansion valve		
Sound level*1	Cooling	dB(A)	48	49	49
	Heating	dB(A)	50	51	51
Defrost method			Reverse cycle		
Dimensions	W	in	31-1/2		
	D	in	11-1/4		
	H	in	21-5/8		
Weight		lb	81		
External finish			Munsell 3Y 7.8/1.1		
Control voltage (by built-in transformer)		VDC	12 - 24		
Refrigerant piping			Not supplied		
Refrigerant pipe size (Min. wall thickness)	Liquid	in	1/4 (0.0315)		
	Gas	in	3/8 (0.0315)		1/2 (0.0315)
Connection method	Indoor		Flared		
	Outdoor		Flared		
Between the indoor & outdoor units	Height difference	ft	40		
	Piping length	ft	65		
Refrigerant charge (R410A)			2 lb 5 oz	2 lb 9 oz	

Note: Test conditions are based on AHRI 210/240.
Rating conditions (Cooling) — Indoor: 80˚F D.B., 67˚F W.B., Outdoor: 95˚F D.B., (75˚F W.B.)
(Heating) — Indoor: 70˚F D.B., 60˚F W.B., Outdoor: 47˚F D.B., 43˚F W.B.

OPERATING RANGE

(1) POWER SUPPLY

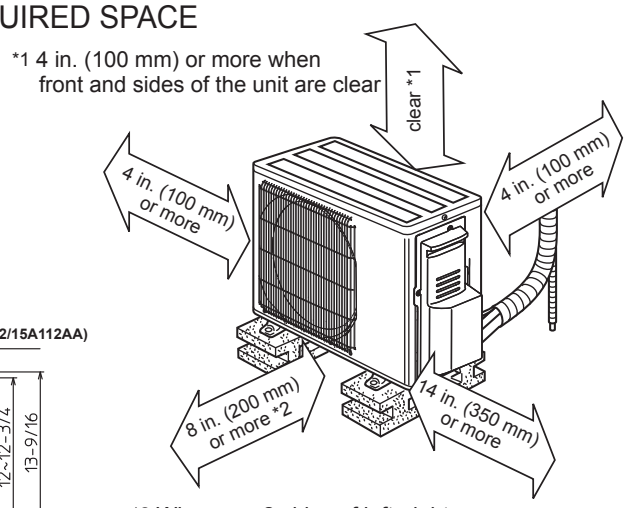
	Rated voltage	Guaranteed voltage (V)
Outdoor unit	208/230 V 1 phase 60 Hz	Min. 187 — 208 — 230 — Max. 253

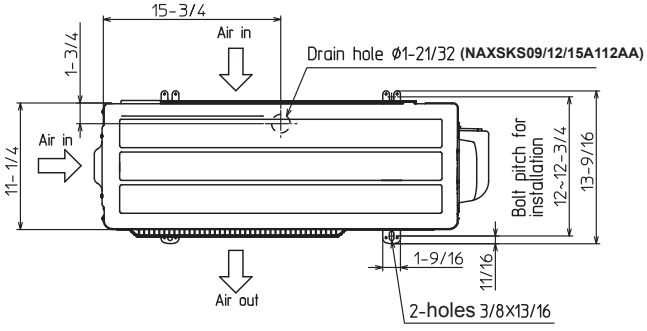
4 OUTLINES AND DIMENSIONS

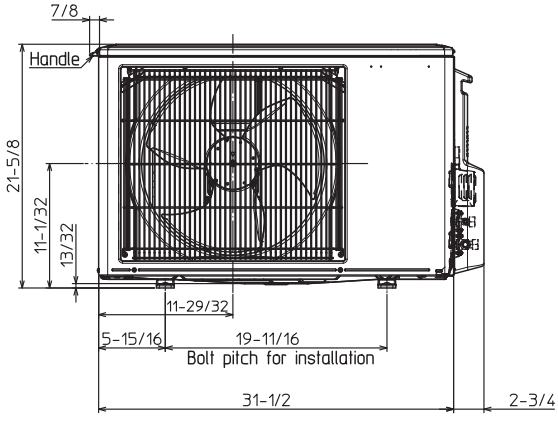
NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA

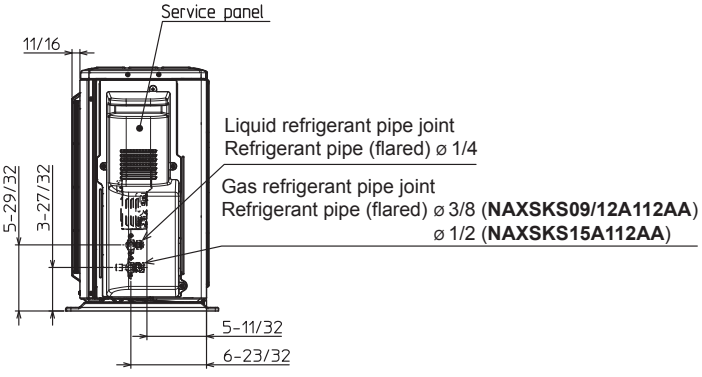
Unit: inch(mm)

REQUIRED SPACE



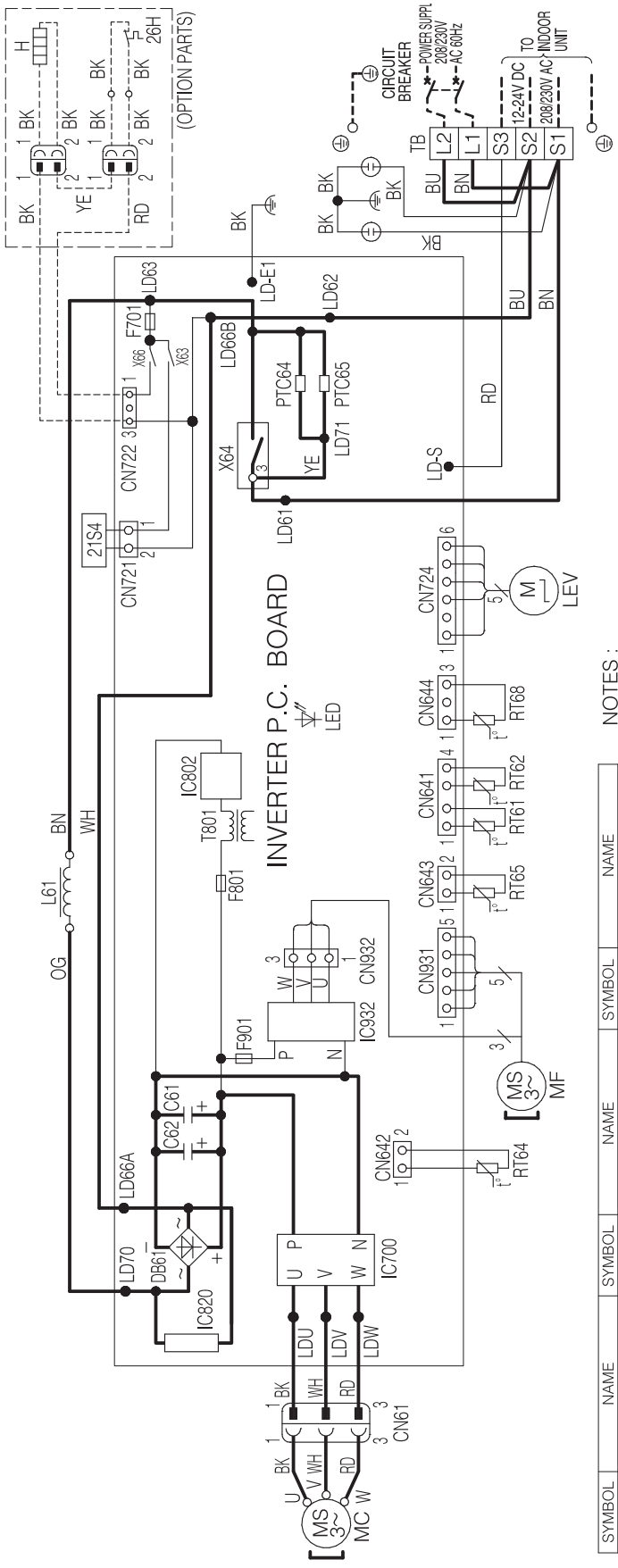






5 WIRING DIAGRAM

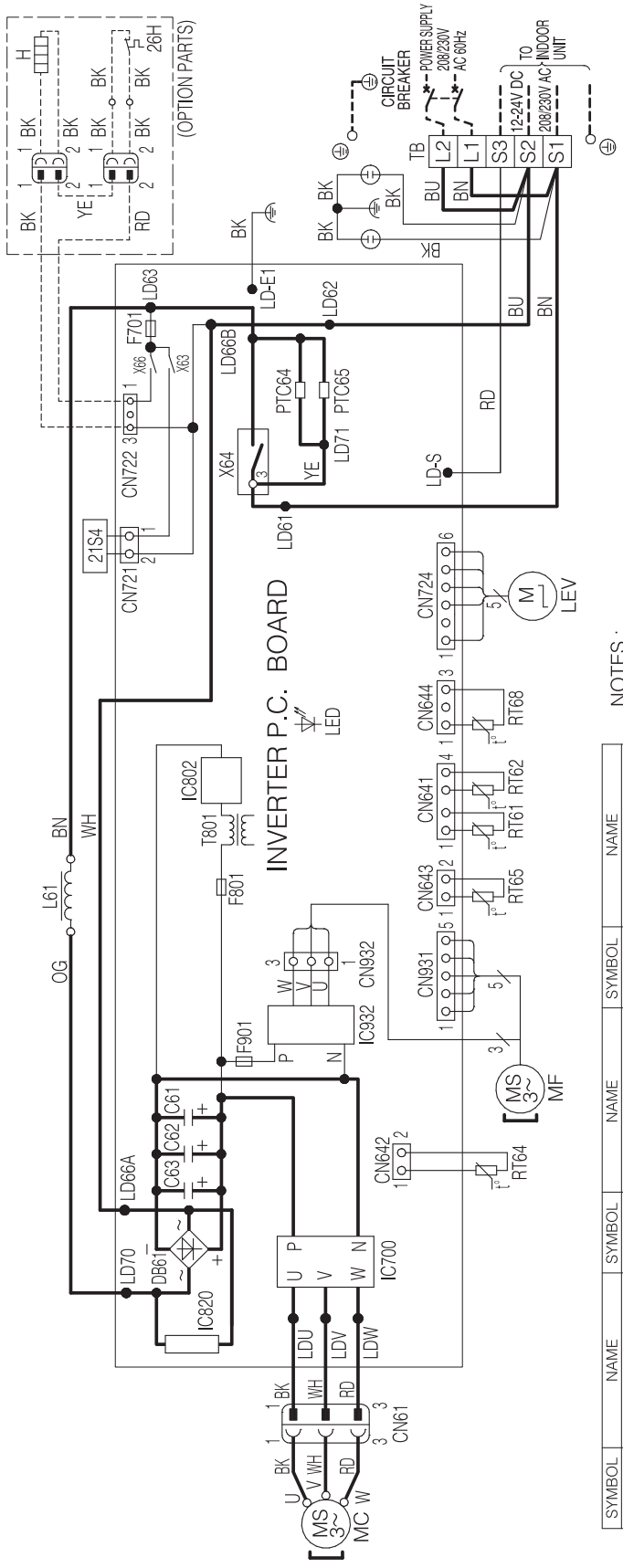
NAXSKS09A112AA NAXSKS12A112AA



NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, ▭▭▭▭ :Terminal block
○○○○○ :Connector

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR		
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	TB	TERMINAL BLOCK
H	DEFROST HEATER(OPTION PARTS)	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC700,IC820,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR(OPTION PARTS)
LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR		

NAXSKS15A112AA



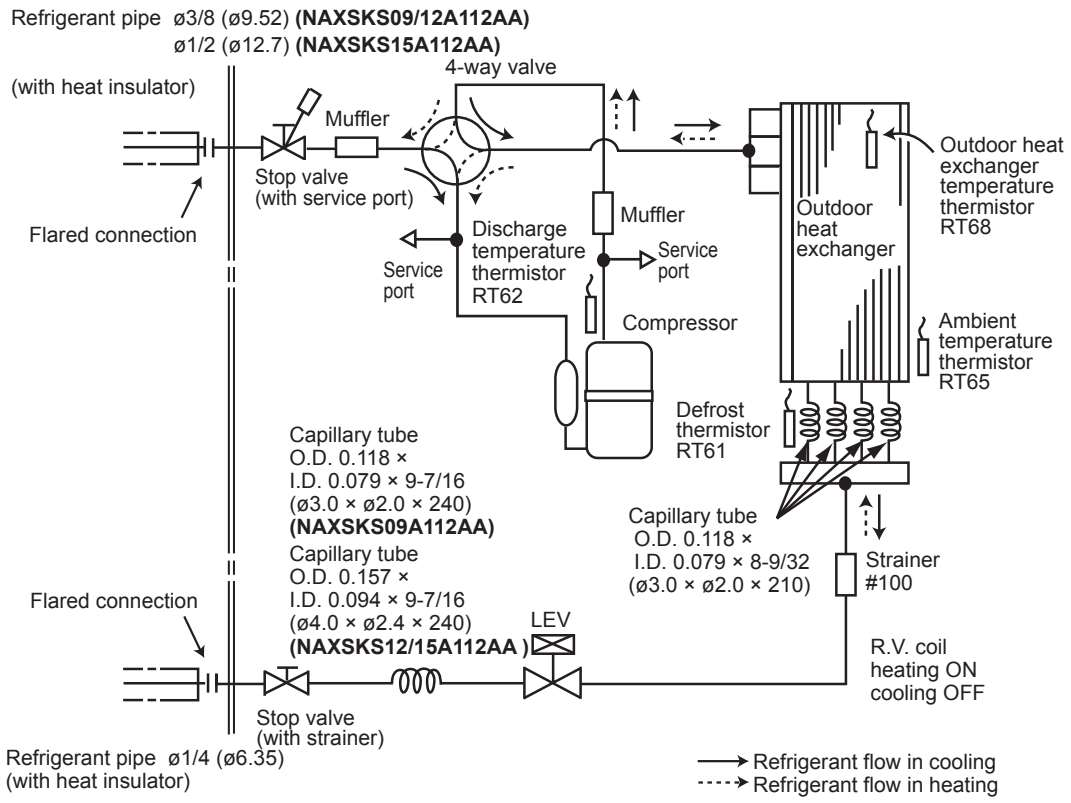
NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, ▭ :Terminal block ⊙⊙⊙⊙⊙ :Connector

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61	DIODE MODULE	MC	COMPRESSOR	TB	TERMINAL BLOCK
F701,F801,F901	FUSE (T3. 15AL250V)	MF	FAN MOTOR	T801	TRANSFORMER
H	DEFROST HEATER(OPTION PARTS)	PTC64, PTC65	CIRCUIT PROTECTION	X63, X64, X66	RELAY
IC700,IC820,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	21S4	REVERSING VALVE COIL
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR(OPTION PARTS)
LED	LED	RT64	FIN TEMP. THERMISTOR		
LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR		

6 REFRIGERANT SYSTEM DIAGRAM

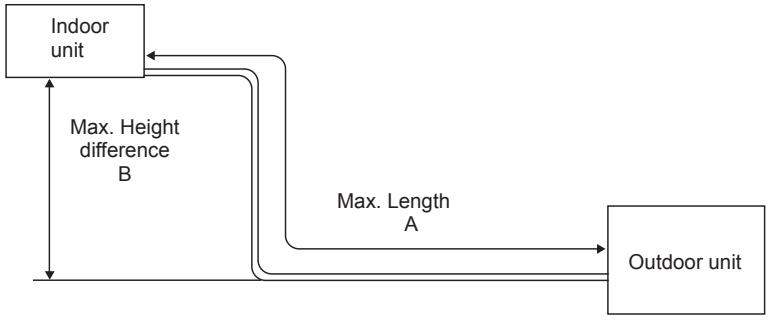
NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA

Unit: Inch (mm)



MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

Model	Refrigerant piping: ft		Piping size O.D: in	
	Max. Length A	Max. Height difference B	Gas	Liquid
NAXSKS 09/12/15A112AA	65	40	3/8 **(NAXSKS09/12A112AA)** 1/2 **(NAXSKS15A112AA)**	1/4



ADDITIONAL REFRIGERANT CHARGE (R410A: oz)

Refrigerant piping exceeding 25 ft requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft					
		25	30	40	50	60	65
NAXSKS09A112AA	2 lb 5 oz	0	1.08	2.16	3.24	4.32	5.4
NAXSKS12A112AA	2 lb 9 oz						
NAXSKS15A112AA							

Calculation: X oz = 1.08/5 oz / ft × (Refrigerant piping length (ft) - 25)

7 DATA

STANDARD OPERATION DATA

Representative matching				NAXDKS09A112AA		NAXDKS12A112AA		NAXDKS15A112AA	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		BTU/h	9000	12000	12000	15000	15000	18000
	SHF		-	0.82	—	0.82	—	0.86	—
	Input		kW	0.7	1.1	0.93	1.33	1.15	1.44
Electrical circuit	Indoor unit			NAXDKS09A112AA		NAXDKS12A112AA		NAXDKS15A112AA	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.06	0.04	0.07	0.05	0.09	0.07
	Current		A	0.5	0.39	0.57	0.46	0.74	0.63
	Outdoor unit			NAXSKS09A112AA		NAXSKS12A112AA		NAXSKS15A112AA	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.64	1.06	0.86	1.28	1.06	1.37
	Current		A	2.89	4.64	3.47	5.29	4.24	5.63
Refrigerant circuit	Condensing pressure		PSIG	358	473	387	441	415	386
	Suction pressure		PSIG	133	110	147	99	141	99
	Discharge temperature		°F	160	169	167	168	166	167
	Condensing temperature		°F	109	114	114	124	119	114
	Suction temperature		°F	63	36	66	31	55	31
	Ref. pipe length		ft	25					
	Refrigerant charge (R410A)		-	1.05		1.15		1.15	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60
	Discharge air temperature	DB	°F	59	104	57	105	57	101
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43

Representative matching				NAXCKS09A112A		NAXCKS12A112A		NAXCKS15A112A	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		BTU/h	9000	11000	12000	13000	14100	18000
	SHF		-	0.87	—	0.74	—	0.75	—
	Input		kW	0.67	0.81	0.9	1.31	1.15	1.73
Electrical circuit	Indoor unit			NAXCKS09A112A		NAXCKS12A112A		NAXCKS15A112A	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.02	0.02	0.02	0.02	0.03	0.03
	Current		A	0.2	0.15	0.24	0.19	0.32	0.27
	Outdoor unit			NAXSKS09A112AA		NAXSKS12A112AA		NAXSKS15A112AA	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.65	0.79	0.88	1.29	1.12	1.7
	Current		A	2.67	3.34	3.67	5.48	4.82	7.38
Refrigerant circuit	Condensing pressure		PSIG	358	393	391	483	397	490
	Suction pressure		PSIG	131	113	142	104	127	101
	Discharge temperature		°F	159	167	167	159	168	191
	Condensing temperature		°F	108	115	115	131	116	131
	Suction temperature		°F	56	40	62	33	54	32
	Ref. pipe length		ft	25					
	Refrigerant charge (R410A)		-	1.05		1.15		1.15	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60
	Discharge air temperature	DB	°F	57	103	56	105	57	112
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43

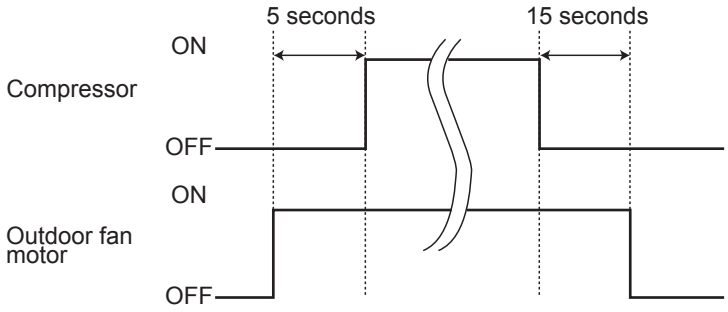
Representative matching				PEAD-A09AA7		PEAD-A12AA7		PEAD-A15AA7	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		BTU/h	9000	12000	12000	15000	15000	18000
	SHF		-	0.9	—	0.9	—	0.9	—
	Input		kW	0.72	0.9	0.93	1.16	1.15	1.35
Electrical circuit	Indoor unit			**PEAD-A09AA7**		**PEAD-A12AA7**		**PEAD-A15AA7**	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.07	0.05	0.09	0.07	0.11	0.09
	Current		A	0.54	0.43	0.67	0.56	0.95	0.84
	Outdoor unit			**NAXSKS09A112AA**		**NAXSKS12A112AA**		**NAXSKS15A112AA**	
	Power supply (V, phase, Hz)			230, 1, 60					
	Input		kW	0.65	0.85	0.84	1.09	1.04	1.26
	Current		A	2.55	3.48	3.36	4.45	4.01	5.01
Refrigerant circuit	Condensing pressure		PSIG	358	380	383	374	412	343
	Suction pressure		PSIG	133	111	153	93	144	97
	Discharge temperature		°F	157	162	167	175	165	167
	Condensing temperature		°F	108	113	113	111	119	105
	Suction temperature		°F	57	38	49	40	57	38
	Ref. pipe length		ft	25					
	Refrigerant charge (R410A)		-	1.05		1.15			
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60
	Discharge air temperature	DB	°F	58	103	59	100	58	99
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43

Representative matching				NAXAMT12A112AA		NAXUKS09A112AA		NAXUKS12A112AA	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		BTU/h	12000	15000	9000	12000	12000	15400
	SHF		-	0.89	—	0.82	—	0.74	—
	Input		kW	0.94	1.21	0.71	0.86	0.96	1.3
Electrical circuit	Indoor unit			**NAXAMT12A112AA**		**NAXUKS09A112AA**		**NAXUKS12A112AA**	
	Power supply (V, phase, Hz)			230, 1, 60		230, 1, 60			
	Input		kW	0.1		0.04			
	Current		A	0.9		0.3			
	Outdoor unit			**NAXSKS12A112AA**		**NAXSKS09A112AA**		**NAXSKS12A112AA**	
	Power supply (V, phase, Hz)			230, 1, 60		230, 1, 60			
	Input		kW	0.84	1.11	0.67	0.82	0.92	1.26
	Current		A	3.18	4.33	2.77	3.4	3.92	5.32
Refrigerant circuit	Condensing pressure		PSIG	384	374	355	344	372	437
	Suction pressure		PSIG	153	96	130	108	137	98
	Discharge temperature		°F	167	170	158	162	165	172
	Condensing temperature		°F	113	111	108	105	96	109
	Suction temperature		°F	70	41	56	41	65	37
	Ref. pipe length		ft	25		25			
	Refrigerant charge (R410A)		-	1.15		1.05		1.15	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60
	Discharge air temperature	DB	°F	59	100	57	104	57	111
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43

8 ACTUATOR CONTROL

8-1. OUTDOOR FAN MOTOR CONTROL

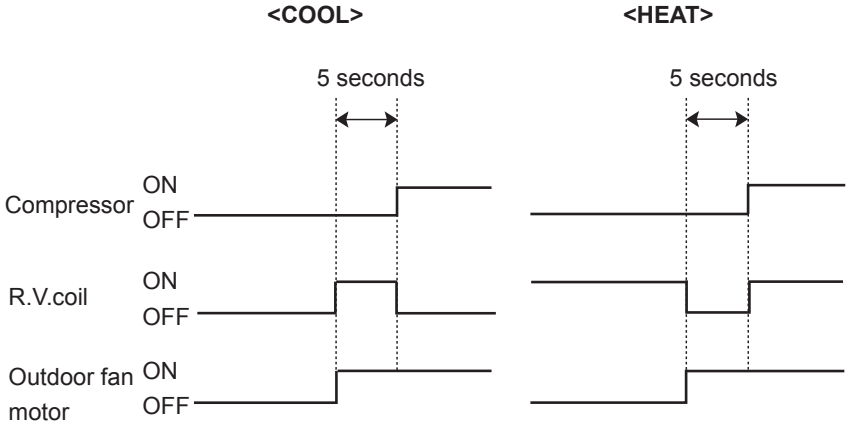
The fan motor turns ON/OFF, interlocking with the compressor.
[ON] The fan motor turns ON 5 seconds before the compressor starts up.
[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



8-2. R.V. COIL CONTROL

Heating · · · · · · · · · · · · · · · · · ON
Cooling · · · · · · · · · · · · · · · · · OFF
Dry · OFF

NOTE: The 4-way valve reverses for 5 seconds right before start-up of the compressor.



8-3. RELATION BETWEEN MAIN SENSOR AND ACTUATOR

Sensor	Purpose	Actuator				
		Compressor	LEV	Outdoor fan motor	R.V.coil	Indoor fan motor
Discharge temperature thermistor	Protection	○	○			
Indoor coil temperature thermistor	Cooling: Coil frost prevention	○				
	Heating: High pressure protection	○	○			
Defrost thermistor	Heating: Defrosting	○	○	○	○	○
Fin temperature thermistor	Protection	○		○		
Ambient temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Heating: Defrosting (Heater)					
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Cooling: High pressure protection	○	○	○		

9 SERVICE FUNCTION

9-1. CHANGE IN DEFROST SETTING

Changing defrost finish temperature

<JS> To change the defrost finish temperature, cut/solder the JS wire of the outdoor inverter P.C. board.
(Refer to "10-6. TEST POINT DIAGRAM AND VOLTAGE".)

Jumper		Defrost finish temperature
		NAXSKS09/12/15A112AA
JS	Soldered (Initial setting)	41°F (5°C)
	None (Cut)	50°F (10°C)

9-2. PRE-HEAT CONTROL SETTING

When moisture gets into the refrigerant cycle, it may interfere the start-up of the compressor at low outside temperature. The pre-heat control prevents this interference. The pre-heat control turns ON when the discharge temperature is 68°F (20°C) or below. When the pre-heat control turns ON, the compressor is energized. (About 50 W)

Pre-heat control setting

<JK>
ON: To activate the pre-heat control, cut JK wire of the inverter P.C. board.
OFF: To deactivate the pre-heat control, solder JK wire of the inverter P.C. board.
(Refer to 10-6.1.)

Jumper		Pre-heat control setting
JK	Soldered	Deactivated (Factory setting)
	Cut	Activated

NOTE: When the inverter P.C. board is replaced, check the Jumper wires, and cut/solder them if necessary.

10 TROUBLESHOOTING

10-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for miswiring.

2. Take care of the following during servicing

1) Before servicing the air conditioner, be sure to turn OFF the main unit first with the remote controller, and turn off the breaker.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electrical parts, be careful of the residual voltage of smoothing capacitor.
4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
5) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp is blinking ON and OFF to indicate an abnormality.
2) Before servicing check that the connector and terminal are connected properly.
3) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
4) Refer to "10-2. TROUBLESHOOTING CHECK TABLE" and "10-3. HOW TO PROCEED "SELF-DIAGNOSIS"".

10-2. TROUBLE SHOOTING CHECK TABLE

NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA

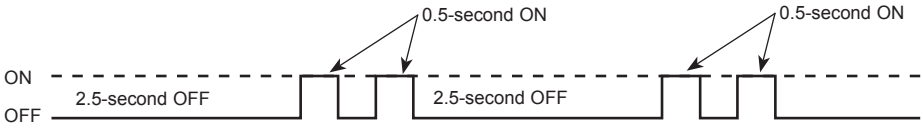
No.	Symptoms	LED indication	check code	Abnormal point/ Condition	Condition	Remedy
1	Outdoor unit does not operate.	1-time blink every 2.5 seconds	UP	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	▪Reconnect connector of compressor. ▪Refer to “10-5.Ⓐ How to check inverter/ compressor”. ▪Check stop valve.
2			U3	Outdoor thermistors	Discharge temperature thermistor shorts, or opens during compressor running.	▪Refer to “10-5.Ⓖ Check of outdoor thermistors”.
			U4		Fin temperature thermistor, defrost thermistor, P.C. board temperature thermistor, outdoor heat exchanger temperature thermistor or ambient temperature thermistor shorts, or opens during compressor running.	
3			FC	Outdoor control system	Nonvolatile memory data cannot be read properly.	▪Replace inverter P.C. board.
4		6-time blink 2.5 seconds OFF	E8 E9	Serial signal	The communication fails between the indoor and outdoor unit for 3 minutes.	▪Check indoor/outdoor connecting wire. ▪Replace indoor or outdoor P.C. board if abnormality is displayed again.
5		11-time blink 2.5 seconds OFF	UE	Stop valve/Closed valve	Closed valve is detected by compressor current.	▪Check stop valve.
6		16-time blink 2.5 seconds OFF	PL	Outdoor refrigerant system abnormality	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	▪Check for a gas leak in a connecting piping, etc. ▪Check stop valve. ▪Refer to 10-5.Ⓞ“Check of outdoor refrigerant circuit”.
7	'Outdoor unit stops and restarts 3 minutes later' is repeated.	2-time blink 2.5 seconds OFF		Overcurrent protection	Large current flows into intelligent power module.	▪Reconnect connector of compressor. ▪Refer to “10-5.Ⓐ How to check inverter/ compressor”. ▪Check stop valve.
8		3-time blink 2.5 seconds OFF		Discharge temperature overheat protection	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.	▪Check refrigerant circuit and refrigerant amount. ▪Refer to “10-5.Ⓚ Check of LEV”.
9		4-time blink 2.5 seconds OFF		Fin temperature/P.C. board temperature thermistor overheat protection	Temperature of fin temperature thermistor on the heat sink exceeds 72 to 86°C or temperature of P.C. board temperature thermistor on the inverter P.C.board exceeds 72 to 85°C.	▪Check around outdoor unit. ▪Check outdoor unit air passage. ▪Refer to “10-5.Ⓘ Check of outdoor fan motor”.
10		5-time blink 2.5 seconds OFF		High pressure protection	Indoor coil thermistor exceeds 70°C in HEAT mode. Defrost thermistor exceeds 70°C in COOL mode.	▪Check refrigerant circuit and refrigerant amount. ▪Check stop valve.
11		8-time blink 2.5 seconds OFF		Compressor synchronous abnormality	The waveform of compressor current is distorted.	▪Reconnect connector of compressor. ▪Refer to “10-5.Ⓐ How to check inverter/ compressor”.
12		10-time blink 2.5 seconds OFF		Outdoor fan motor	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up.	▪Refer to “10-5.Ⓘ Check of outdoor fan motor”. ▪Refer to “10-5.Ⓛ Check of inverter P.C. board”.
13		12-time blink 2.5 seconds OFF		Each phase current of compressor	Each phase current of compressor cannot be detected normally.	▪Refer to “10-5.Ⓛ Check of inverter P.C. board”.
14		13-time blink 2.5 seconds OFF		DC voltage	DC voltage of inverter cannot be detected normally.	▪Refer to “10-5.Ⓐ How to check inverter/ compressor”.
15	Outdoor unit operates.	1-time blink 2.5 seconds OFF		Frequency drop by current protection	When the input current exceeds approximately 7A(NAXSKS09A112AA)/8A(NAXSKS12A112AA)/9A(NAXSKS15A112AA), compressor	The unit is normal, but check the following. ▪Check if indoor filters are clogged. ▪Check if refrigerant is short. ▪Check if indoor/outdoor unit air circulation is short cycled.
16		3-time blink 2.5 seconds OFF		Frequency drop by high pressure protection	Temperature of indoor coil thermistor exceeds 131 °F [55 °C] in HEAT mode, compressor frequency lowers.	
				Frequency drop by defrosting in COOL mode	Indoor coil thermistor reads 46 °F [8 °C] or less in COOL mode, compressor frequency lowers.	
17		4-time blink 2.5 seconds OFF		Frequency drop by discharge temperature protection	Temperature of discharge temperature thermistor exceeds 232 °F [111 °C], compressor frequency lowers.	▪Check refrigerant circuit and refrigerant amount. ▪Refer to “10-5.Ⓚ Check of LEV”. ▪Refer to “10-5.Ⓖ Check of outdoor thermistors”.
18		7-time blink 2.5 seconds OFF		Low discharge temperature protection	Temperature of discharge temperature thermistor has been 122 °F [50 °C] or less for 20 minutes.	▪Refer to “10-5.Ⓚ Check of LEV”. ▪Check refrigerant circuit and refrigerant amount.
19		8-time blink 2.5 seconds OFF		PAM protection PAM: Pulse Amplitude Modulation	The overcurrent flows into IGBT (Insulated Gate Biopolar transistor:TR821) or the bus-bar voltage reaches 320 V or more, PAM stops and restarts.	This is not malfunction. PAM protection will be activated in the following cases: 1. Instantaneous power voltage drop. (Short time power failure) 2. When the power supply voltage is high.
				Zero cross detecting circuit	Zero cross signal for PAM control cannot be detected.	
20		9-time blink 2.5 seconds OFF		Inverter check mode	The connector of compressor is disconnected, inverter check mode starts.	▪Check if the connector of the compressor is correctly connected. ▪Refer to “10-5.Ⓐ How to check inverter/compressor".

NOTE: 1. The location of LED is illustrated at the right figure. Refer to "10-6. TEST POINT DIAGRAM".
2. LED is lighted during normal operation.

Inverter P.C. board

Blinking → LED

The blinking frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the blinking frequency is “2”.



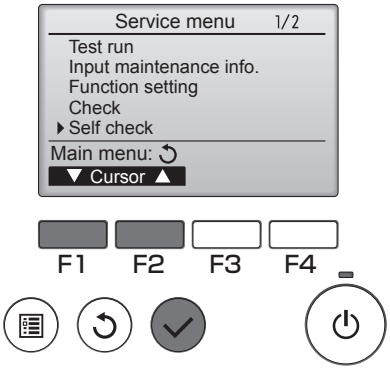
10-3. HOW TO PROCEED "SELF-DIAGNOSIS"

As this air conditioner has a function to memorize all the failures that had occurred, the latest failure detail can be recalled by following the procedure below. Use this function when the check code is not displayed with wired remote controller or the remote controller at use is wireless type.

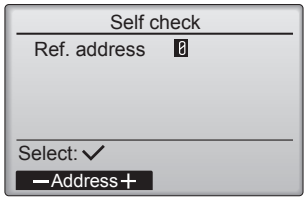
10-3-1. Self-diagnosis <PAR-3xMAA ("x" represents 0 or later)>

① Select "Service" from the Main menu, and press the button.

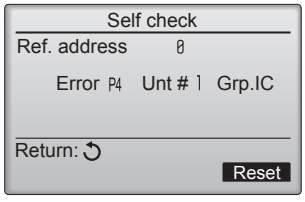
Select "Self check" with the F1 or F2 button, and press the button.



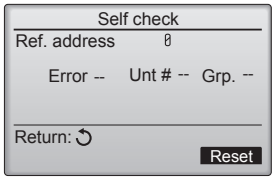
② With the F1 or F2 button, enter the refrigerant address, and press the button.



③ Check code, unit number, attribute will appear.
"-" will appear if no error history is available.



When there is no error history



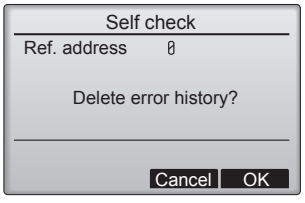
④ Resetting the error history.

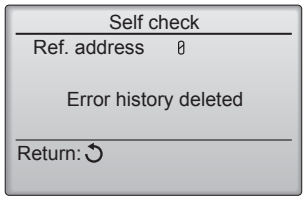
Press the F4 button (Reset) on the screen that shows the error history.

A confirmation screen will appear asking if you want to delete the error history.

Press the F4 button (OK) to delete the error history.

If deletion fails, "Request rejected" will appear.
"Unit not exist" will appear if no indoor units that are correspond to the entered address are found.





Navigating through the screens

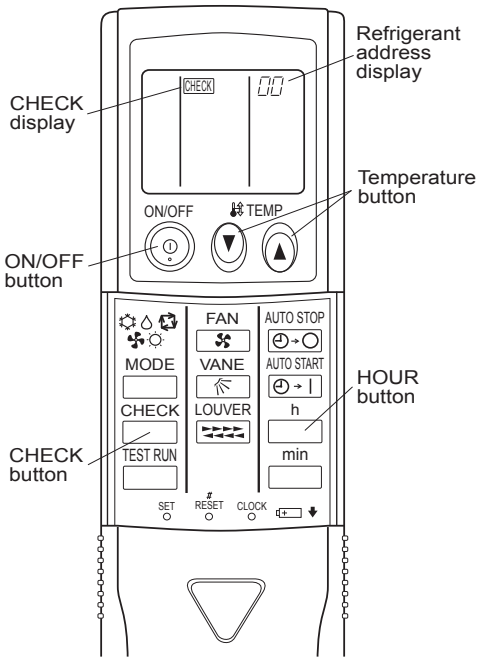
- To go back to the Service menu ..... button
- To return to the previous screen ..... button

10-3-2. Self-diagnosis <Wireless remote controller>

<In case of trouble during operation>

When a malfunction occurs to air conditioner, both indoor unit and outdoor unit will stop and operation lamp blinks to inform unusual stop.

<Malfunction-diagnosis method at maintenance service>



[Procedure]

1. Press the CHECK button twice.
   - "CHECK" lights, and refrigerant address "00" blinks.
   - Check that the remote controller's display has stopped before continuing.

2. Press the temperature ▼ ▲ buttons.
   - Select the refrigerant address of the indoor unit for the self-diagnosis.

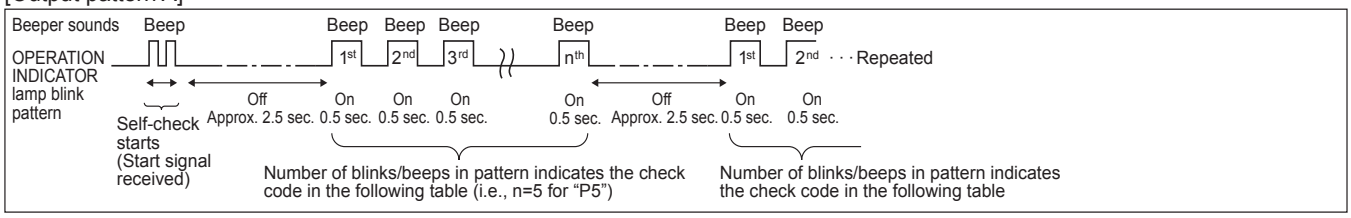
   Note: Set refrigerant address using the outdoor unit's DIP switch (SW1).
   (For more information, see the outdoor unit installation manual.)

3. Point the remote controller at the sensor on the indoor unit and press the HOUR button.
   - If an air conditioner error occurs, the indoor unit's sensor emits an intermittent buzzer sound, the operation light blinks, and the check code is output.
     (It takes 3 seconds at most for check code to appear.)

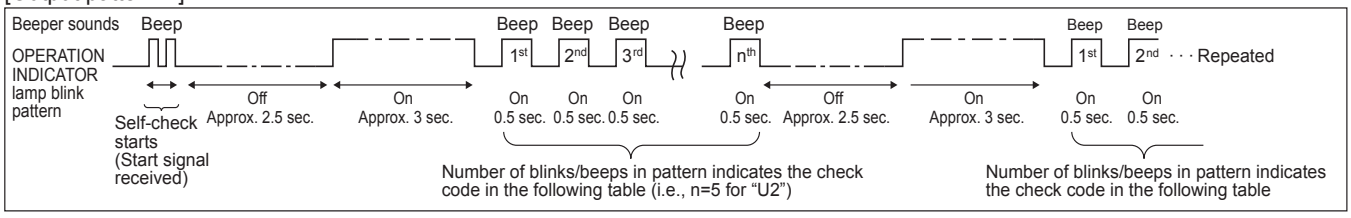
4. Point the remote controller at the sensor on the indoor unit and press the ON/OFF button.
   - The check mode is cancelled.

• Refer to the following tables for details on the check codes.

[Output pattern A]



[Output pattern B]



[Output pattern A] Errors detected by indoor unit

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller Check code	Symptom	Remark
1	P1	Intake sensor error	As for indoor unit, refer to indoor unit's service manual.
2	P2	Pipe (TH2) sensor error	
	P9	Pipe (TH5) sensor error	
3	E6,E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error/Float switch connector (CN4F) open	
5	P5	Drain pump error	
	PA	Forced compressor stop (due to water leakage abnormality)	
6	P6	Freezing/Overheating protection operation	
7	EE	Communication error between indoor and outdoor units	
9	E4,E5	Remote controller signal receiving error	
12	Fb (FB)*	Indoor unit control system error (memory error, etc.)	
14	PL	Abnormality of refrigerant circuit	
-	E0,E3	Remote controller transmission error	
-	E1,E2	Remote controller control board error	

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller Check code	Symptom
1	E9	Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)
2	UP	Compressor overcurrent interruption
3	U3,U4	Open/short of outdoor unit thermistors
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)

Notes:1. If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

2. If the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)" after the initial 2 beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

*The check code in the parenthesis indicates PAR-3xMAA model.("x" represents 0 or later).

10-4. TROUBLE CRITERION OF MAIN PARTS
NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA

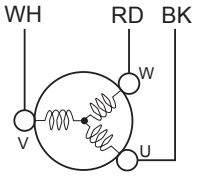
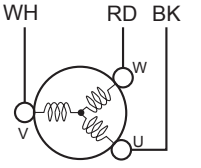
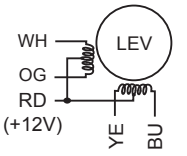
<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT61)

Fin temperature thermistor (RT64)

Ambient temperature thermistor (RT65)

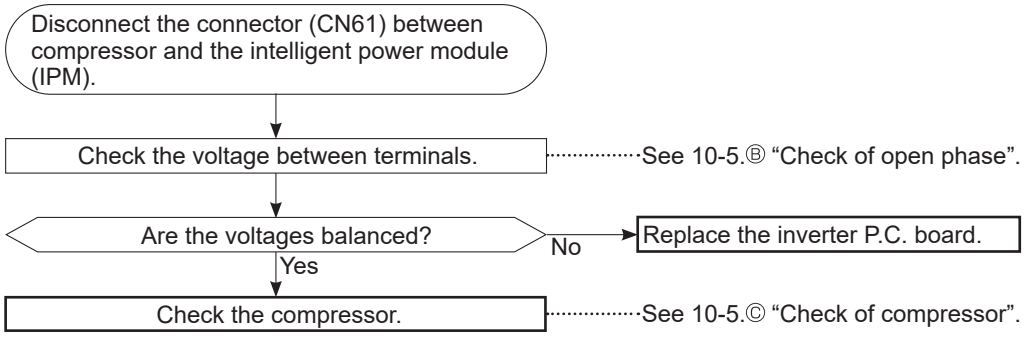
Outdoor heat exchanger temperature thermistor (RT68)</td><td>Measure the resistance with a tester.

Refer to “Inverter P.C. board” in "10-6. TEST POINT DIAGRAM AND VOLTAGE”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Discharge temperature thermistor (RT62)</td><td>Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up.

Refer to “Inverter P.C. board” in "10-6. TEST POINT DIAGRAM AND VOLTAGE”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Compressor</td><td>Measure the resistance between terminals with a tester.
(Temperature: 14 - 104 °F (-10 - 40 °C))
<table>
<tr><th></th><th colspan="3">Normal (Ω)</th></tr>
<tr><th></th><th>NAXSKS 09A112AA</th><th>NAXSKS 12A112AA</th><th>NAXSKS 15A112AA</th></tr>
<tr><td>U-V
U-W
V-W</td><td>1.26 - 1.72</td><td>1.60 - 2.17</td><td>0.82 - 1.11</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor</td><td>Measure the resistance between lead wires with a tester.
(Temperature: 14 ~ 104 °F (-10 ~ 40 °C))
<table>
<tr><th rowspan="2">Color of lead wire</th><th>Normal (Ω)</th></tr>
<tr><th>NAXSKS09/12/15A112AA</th></tr>
<tr><td>RD – BK
BK – WH
WH – RD</td><td>29 - 40</td></tr>
</table></td><td> 
</td></tr>
<tr><td>R. V. coil (21S4)</td><td>Measure the resistance using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th>Normal (kΩ)</th></tr>
<tr><td>0.97 - 1.38</td></tr>
</table></td><td></td></tr>
<tr><td>Expansion valve coil (LEV)</td><td>Measure the resistance using a tester.
[Temperature: 14 - 104°F (-10 - 40°C)]
<table>
<tr><th>Color of lead wire</th><th>Normal (Ω)</th></tr>
<tr><td>RD – OG</td><td rowspan="4">37 - 54</td></tr>
<tr><td>RD – WH</td></tr>
<tr><td>RD – BU</td></tr>
<tr><td>RD – YE</td></tr>
</table></td><td> 
</td></tr>
</table>

10-5. TROUBLESHOOTING FLOW

Ⓐ How to check inverter/compressor



Ⓑ Check of open phase

- With the connector between the compressor and the intelligent power module disconnected, activate the inverter and check if the inverter is normal by measuring the voltage balance between the terminals.

Output voltage is 50 - 130 V. (The voltage may differ according to the tester.)

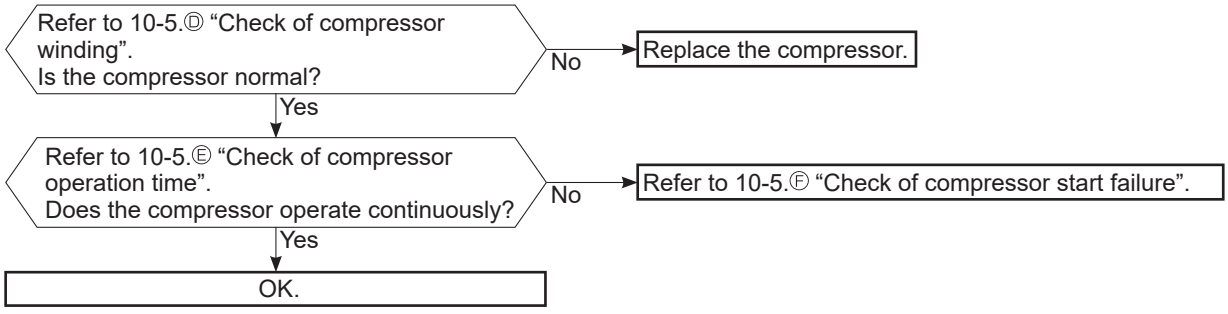
< Operation method (Test run operation)>
1. Press the TEST (RUN) button twice.
2. Press the MODE button and switch to the COOL (or HEAT) mode.
3. Compressor starts at rated frequency in COOL mode or 58 Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. To cancel test run operation, press the ON/OFF button on remote controller.

<Measurement point>
at 3 points
BK (U) - WH (V)
BK (U) - RD (W)
WH(V) - RD (W)

Measure AC voltage between the lead wires at 3 points.

NOTE: 1. Output voltage varies according to power supply voltage.
2. Measure the voltage by analog type tester.
3. During this check, LED of the inverter P.C. board blinks 9 times.
(Refer to "10-6. TEST POINT DIAGRAM AND VOLTAGE".)

Ⓒ Check of compressor



Ⓓ Check of compressor winding

● Disconnect the connector between the compressor and intelligent power module, and measure the resistance between the compressor terminals.

<Measurement point>

Measure the resistance between the lead wires at 3 points.

BK - WH

BK - RD

WH - RD

<Judgement>

Refer to "10-4. TROUBLE CRITERION OF MAIN PARTS".

0[Ω]····· Abnormal [short]

Infinite [Ω]····· Abnormal [open]

NOTE: Be sure to zero the ohmmeter before measurement.

Ⓔ Check of compressor operation time

●Connect the compressor and activate the inverter. Then measure the time until the inverter stops due to over current.

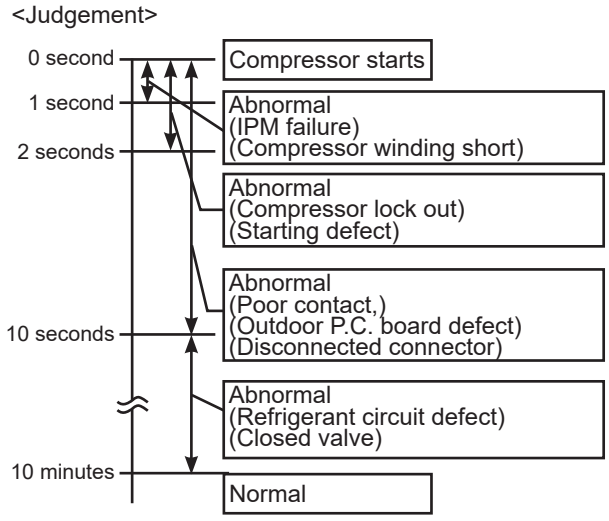
<Operation method>

Start heating or cooling operation by pressing the TEST button twice on the remote controller. (Test run mode)

(TEST RUN OPERATION: Refer to 10-5 Ⓑ.)

<Measurement>

Measure the time from the start of compressor to the stop of compressor due to overcurrent.



Ⓕ Check of compressor start failure

Confirm that 1~4 is normal.

- Electrical circuit check

1. Contact of the compressor connector
2. Output voltage of inverter P.C. board and balance of them (See 10-5.Ⓑ)
3. Direct current voltage between DB61(+) and (-) on the inverter P.C. board
4. Voltage between outdoor terminal block S1-S2

↓

Does the compressor run for 10 seconds or more after it starts?

Yes → Check the refrigerant circuit. Check the stop valve.

No ↓

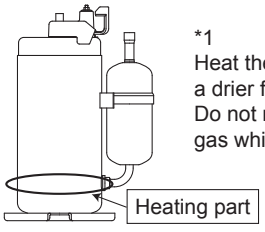
After the compressor is heated with a drier, does the compressor start?*1

No → Replace the compressor.

Yes ↓

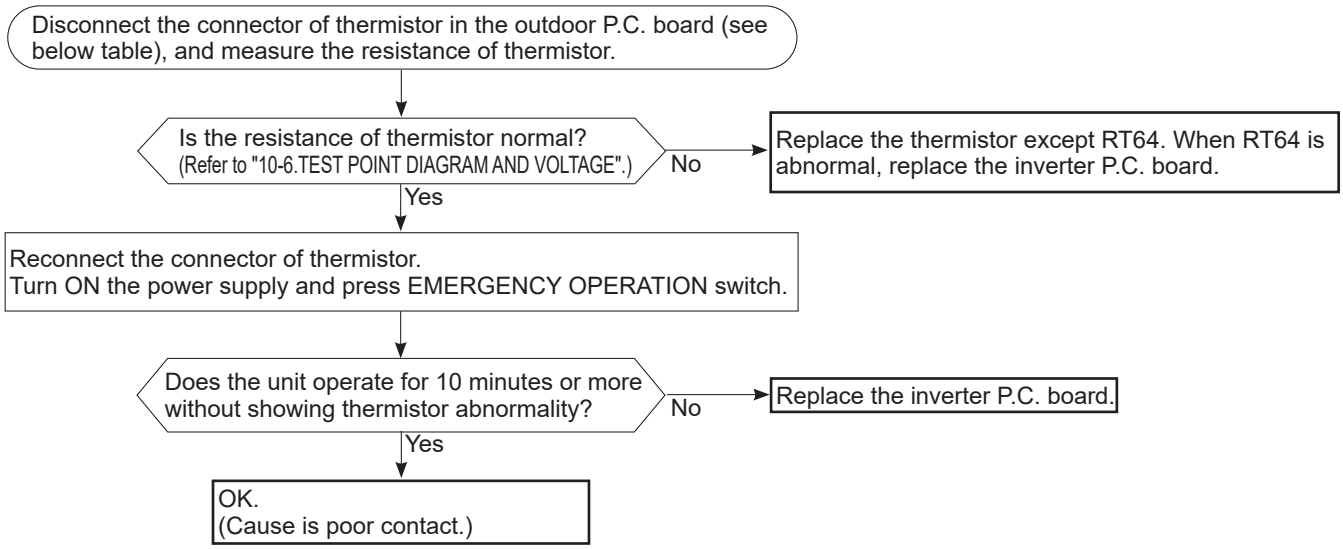
Compressor start failure. Activate pre-heat control. (Refer to "9-2. PRE-HEAT CONTROL SETTING")

WARNING:
When opening or closing the valve below freezing temperatures, refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.



*1
Heat the compressor with a drier for about 20 minutes. Do not recover refrigerant gas while heating.

Ⓖ Check of outdoor thermistors

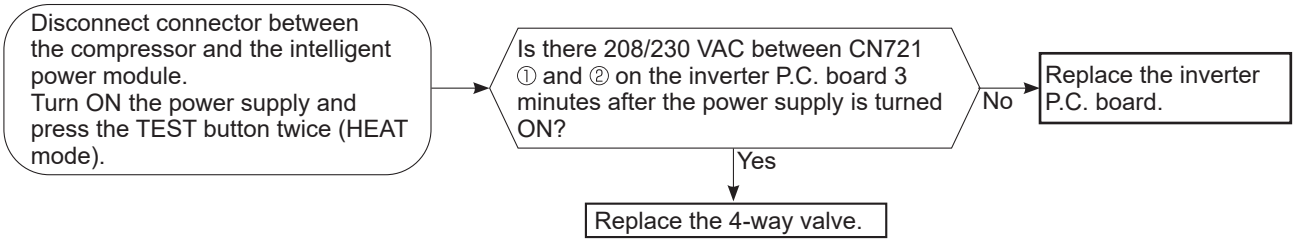


Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN641 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN641 pin3 and pin4	
Fin temperature	RT64	Between CN642 pin1 and pin2	
Ambient temperature	RT65	Between CN643 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN644 pin1 and pin3	

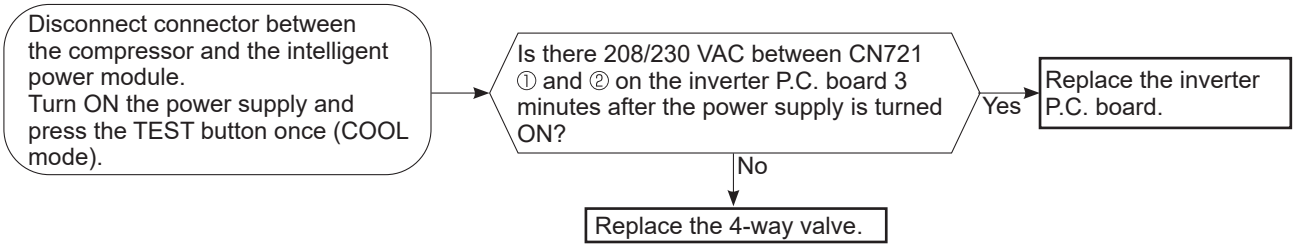
Ⓗ Check of R.V. coil

First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to "10-4. TROUBLE CRITERION OF MAIN PARTS".
In case CN721 is disconnected or R.V. coil is open, voltage is generated between the terminal pins of the connector although no signal is being transmitted to R.V. coil. Check if CN721 is connected.

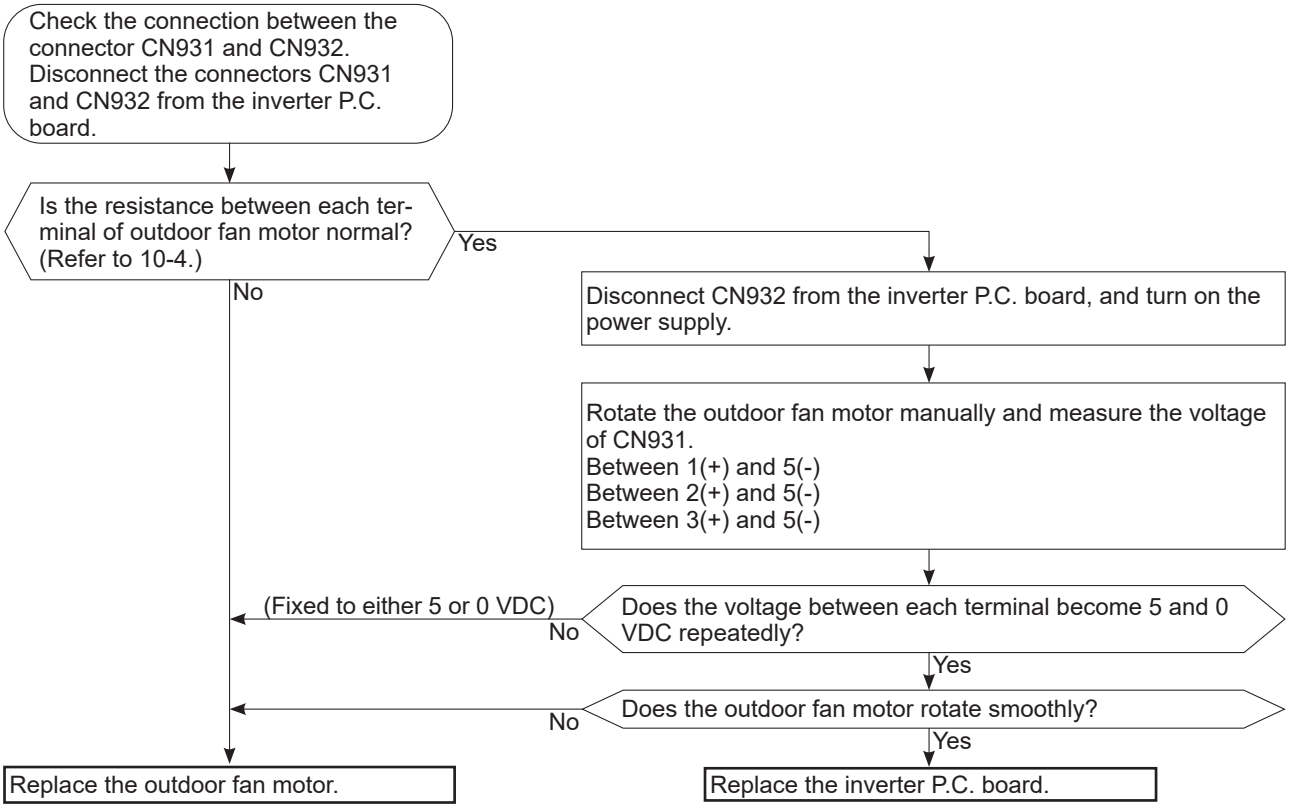
Unit operates in COOL mode even if it is set to HEAT mode.



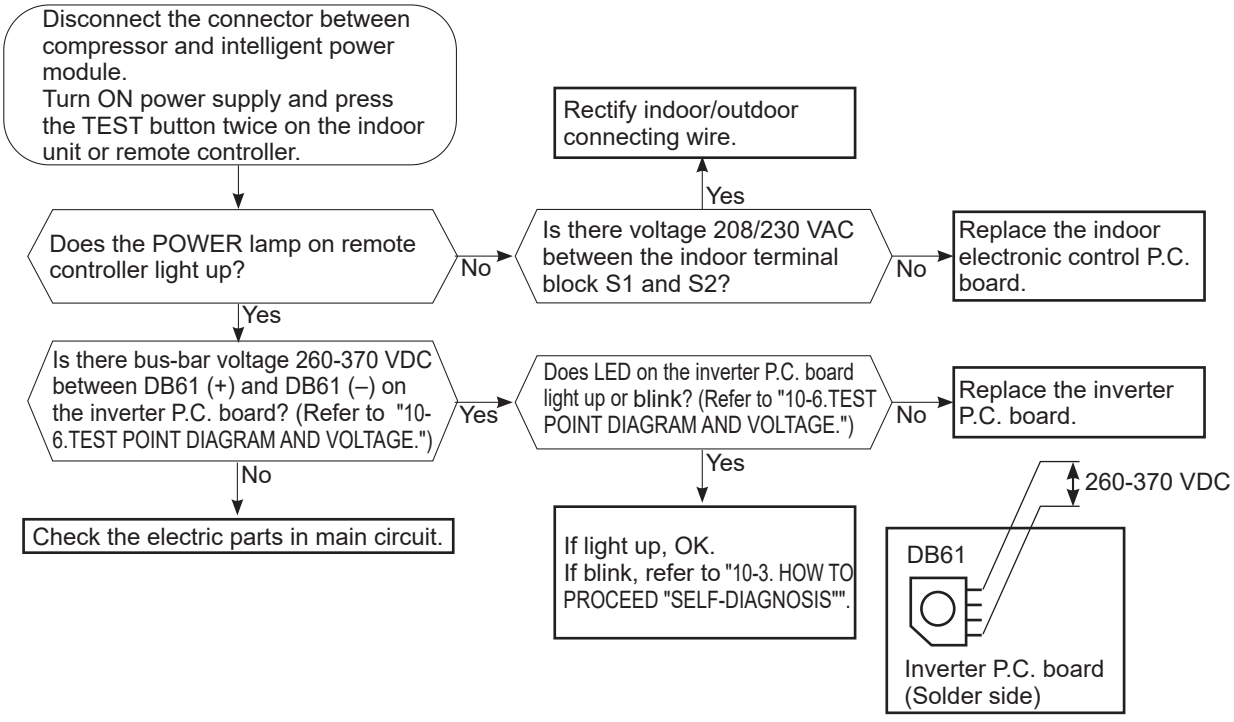
Unit operates in HEAT mode even if it is set to COOL mode.



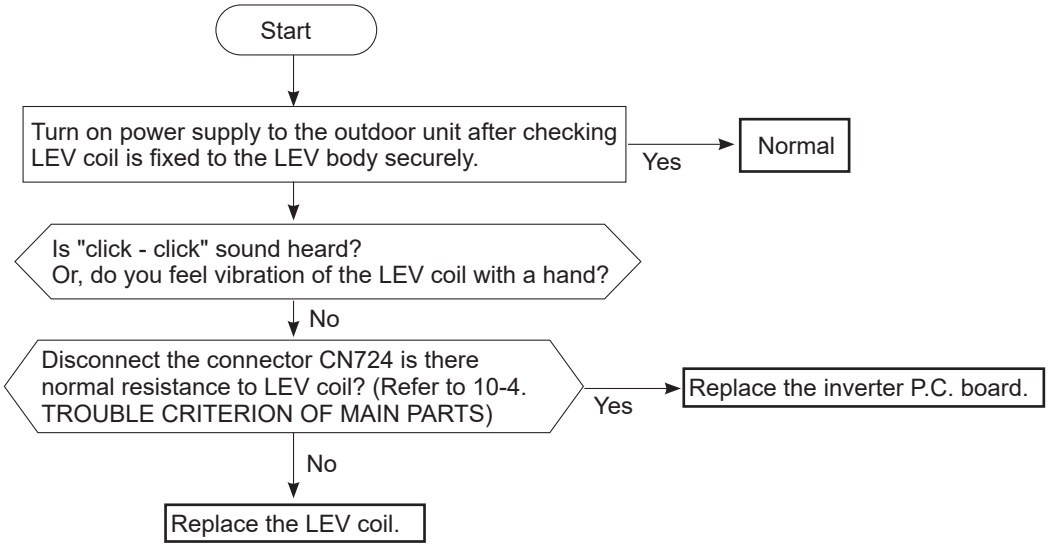
Ⓘ Check of outdoor fan motor



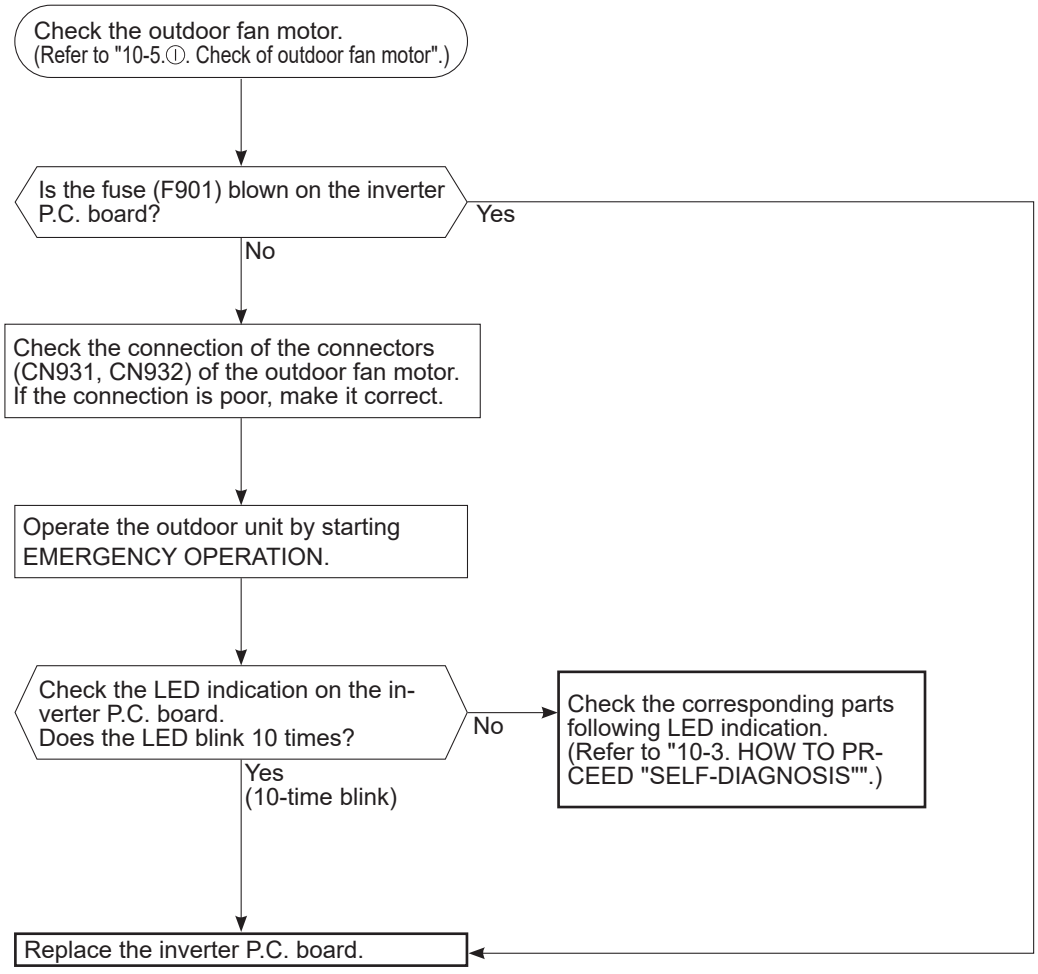
Ⓙ Check of power supply



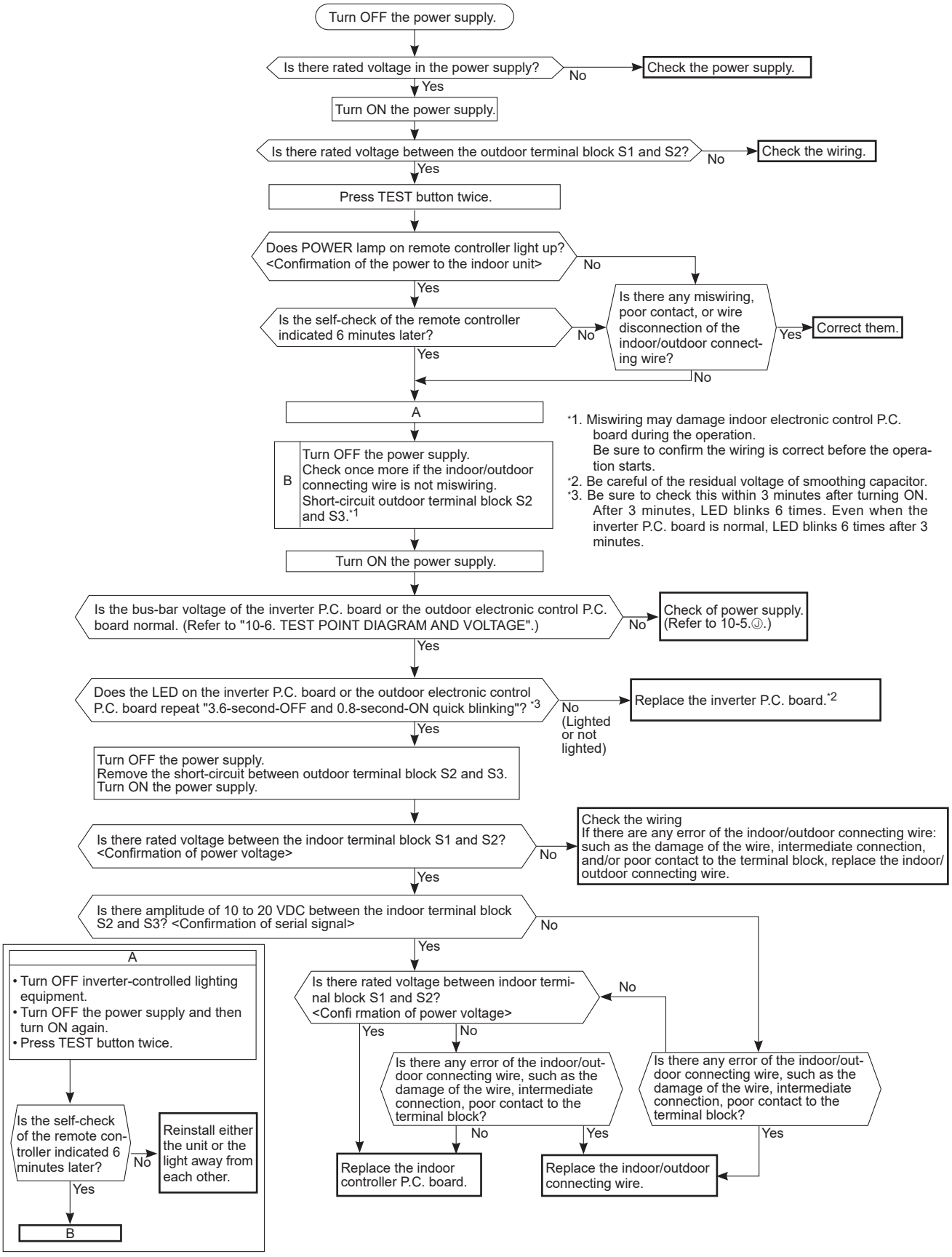
Ⓚ Check of LEV (Expansion valve)



Ⓛ Check of inverter P.C. board



Ⓜ How to check miswiring and serial signal error



*1. Miswiring may damage indoor electronic control P.C. board during the operation.
Be sure to confirm the wiring is correct before the operation starts.

*2. Be careful of the residual voltage of smoothing capacitor.

*3. Be sure to check this within 3 minutes after turning ON. After 3 minutes, LED blinks 6 times. Even when the inverter P.C. board is normal, LED blinks 6 times after 3 minutes.

Ⓝ Check the defrost heater

NAXSKS09/12/15A112AA

Check the following points before checking electric continuity.
1. Does the resistance of ambient temperature thermistor have the characteristics? Refer to 10-6.1.
2. Is the resistance of defrost heater normal? Refer to 10-4.
3. Is the heater protector closed?
4. Are both ambient temperature thermistor and circuit of defrost heater securely connected to connectors?

In HEAT mode, for more than 5 minutes, let the ambient temperature thermistor continue to read 32°F (0°C) or below, and let the defrost thermistor continue to read 30°F (-1°C) or below.

NOTE: In case both thermistors are more than the above temperature, cool them with cold water etc...

Is there 208/230 VAC between CN722 ① and ② on the inverter P.C. board? Refer to 10-6.1.

Yes → Not the problem of the inverter P.C. board.

No → Replace the inverter P.C. board.

Ⓞ Check of outdoor refrigerant circuit

Has the operation stopped during pump down?

No → Was the operation started with the stop valve closed, and was it opened during operation?

Yes → The unit occasionally stops when the stop valve is opened or closed during operation. Open the stop valve and start the cooling operation again.

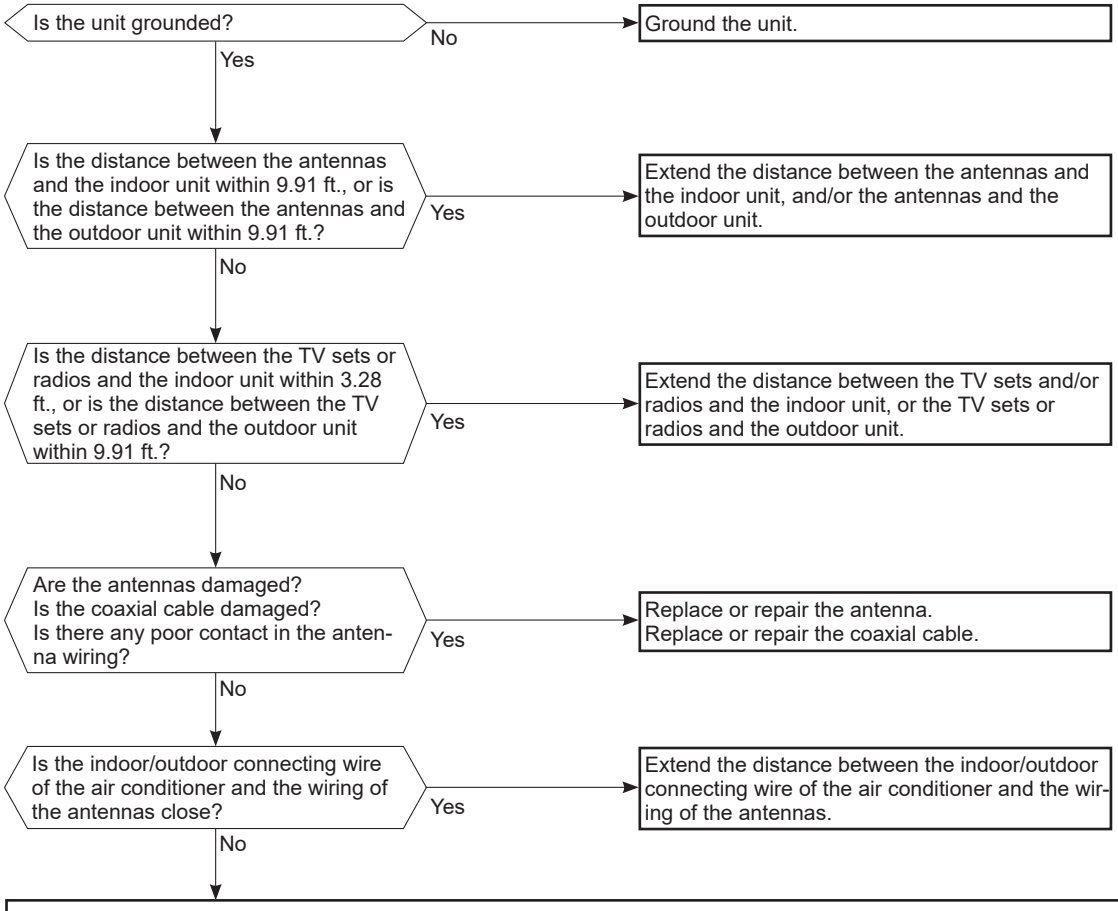
No → The refrigerant gas amount may be 60% or less than the normal amount. Identify where the gas is leaking from, and fix the leak.

Yes → The operation has stopped to prevent the diesel explosion caused by air trapped in the refrigerant circuit. Close the stop valve, and disconnect the power plug or turn the breaker OFF. *

WARNING:
When opening or closing the valve below freezing temperatures, refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.

* **CAUTION : Do not start the operation again to prevent hazards.**

Ⓟ Electromagnetic noise enters into TV sets or radios



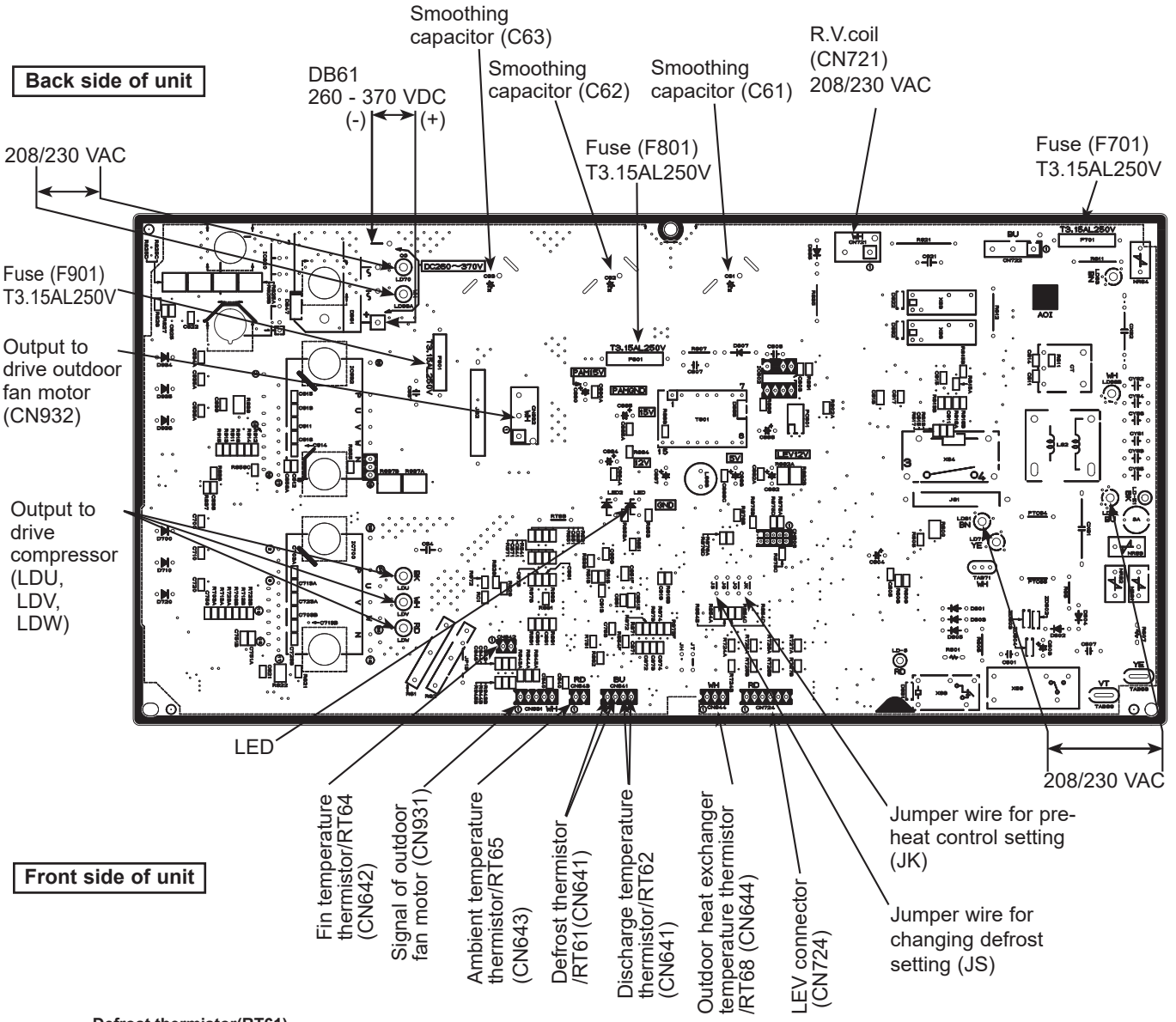
Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the followings before asking for service.

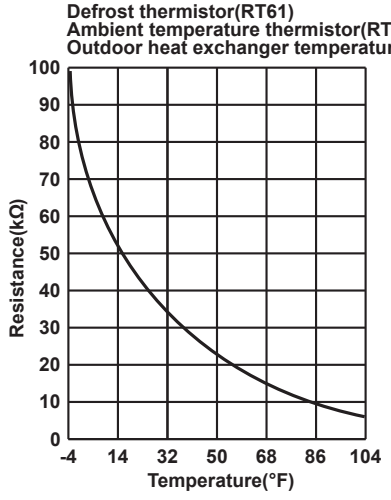
1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
   indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, grounding wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation, check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press OPERATE/STOP (ON/OFF) button on the remote controller for power ON, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press OPERATE/STOP (ON/OFF) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation, check for the electromagnetic noise.

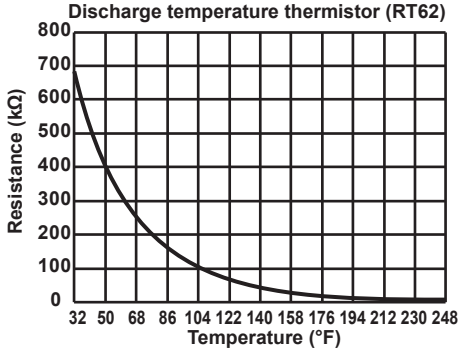
10-6. TEST POINT DIAGRAM AND VOLTAGE

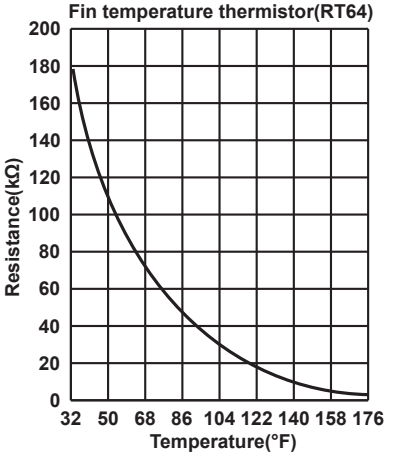
Inverter P.C. board

NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA









11 FUNCTION SETTING

11-1. UNIT FUNCTION SETTING BY THE REMOTE CONTROLLER

Each function can be set according to necessity using the remote controller. The setting of function for each unit can only be done by the remote controller. Select function available from the table 1.

<Table 1> Function selections

(1) Functions available when setting the unit number to 00 (Select 00 referring to ④ setting the indoor unit number.)

Function	Settings	Mode No. Wired remote controller (RF thermostat)	Setting No.	● : Initial setting (when sent from the factory)	Check	Remarks
Power failure automatic recovery	Not available	01 (101)	1			The setting is applied to all the units in the same refrigerant system.
	Available (Approx. 4-minute wait-period after power is restored.)		2	●		
Indoor temperature detecting	Indoor unit's internal sensor	02 (—)	1	●		
			2			
	Data from main remote controller *1		3			
LOSSNAY connectivity	Not supported	03 (103)	1	●		
	Supported (indoor unit dose not intake outdoor air through LOSSNAY)		2			
	Supported (indoor unit intakes outdoor air through LOSSNAY)		3			
Power supply voltage	230V	04 (104)	1	●		
	208V		2			
Frost prevention temperature	2℃ [36°F] (Normal)	15 (115)	1	●		
	3℃ [37°F]		2			

*1 Can be set only when a wired remote controller is used.
When using 2 remote controllers (2-remote controller operation), the remote controller with built-in sensor must be set as a main remote controller.

(2) Functions are available when setting the unit number to 01.

Function	Settings	Mode No. Wired remote controller (RF thermostat)	Setting No.	● : Initial setting (Factory setting) ** shows capacity class * changes such as A,B,C... Ceiling concealed NAXDKS**A112A*	Ceiling cassette NAXCKS**A112A*	Ceiling suspended PEAD-A*A*	Multi position NAXUKS**A112A*	Check
Filter sign	100h	07 (107)	1					
	2500h		2		●			
	No filter sign indicator		3	●		●	●	
External static pressure	5/15/35/50Pa (0.02/0.06/0.14/0.20in.WG)	08 (108)		Refer to the table below	—	Refer to the table below	Refer to the table below	
		10 (110)		Refer to the table below	—	Refer to the table below	Refer to the table below	
Heater control *2	No heater present	11 (111)	1	—	—	●	●	
	Heater present		2	—	—			
	NAXDKS, NAXCKS :Set temp -4.5°F ON PEAD, NAXUKS :Heater not operation in Defrost/Error	23 (123)	1	●	●	●	●	
	NAXDKS, NAXCKS :Set temp -1.8°F ON PEAD, NAXUKS :Heater not operation in Defrost/Error*4		2					
Set temperature in heating mode *3	Available	24 (124)	1	●	●	●	●	
	Not available		2					
Fan speed during the heating thermo OFF	Extra low	25 (125)	1	●	●	●	●	
	Stop		2					
	Set fan speed		3					
Fan speed during the cooling thermo OFF	Set fan speed	27 (127)	1	●	●	●	●	
	Stop		2					
Detection of abnormality of the pipe temperature (P8)	Available	28 (128)	1	●	●			
	Not available		2			●	●	

*2 For the detail of Heater control, refer to the service manual.
*3 4 degC (7.2 degF) up
*4 Depend on the error, heater may not operate please refer to NAXUKS service manual.

External static pressure setting for NAXDKS.

External static pressure	Setting No. Mode No. 08	Mode No. 10	● : Initial setting (Factory setting)	Check
5Pa (0.02in.WG)	1	2		
15Pa (0.06in.WG)	1	1	●	
35Pa (0.14in.WG)	2	1		
50Pa (0.20in.WG)	3	1		

External static pressure setting for PEAD.

External static pressure	Setting No. Mode No. 08	Mode No. 10	● : Initial setting (Factory setting)	Check
35Pa (0.14in.WG)	2	1		
50Pa (0.20in.WG)	3	1	●	
70Pa (0.28in.WG)	1	2		
100Pa (0.40in.WG)	2	2		
150Pa (0.60in.WG)	3	2		

External static pressure setting for NAXUKS (Vertical, Horizontal left, Horizontal right position*).

External static pressure	Setting No. Mode No. 08	Mode No. 10	● : Initial setting (Factory setting)	Check
75Pa (0.3in.WG)	1	1		
125Pa (0.5in.WG)	2	1	●	
200Pa (0.8in.WG)	3	1		

* Regarding to down flow setting, please refer to down flow kit installation manual.

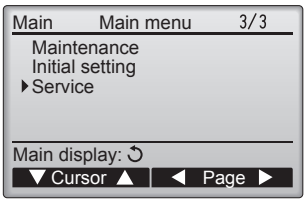
11-1-1. Selecting functions using the wired remote controller <PAR-3xMAA ("x" represents 0 or later)>

<Service menu>

Maintenance password is required

① Select "Service" from the Main menu, and press the ✓ button.

*At the main display, the menu button and select "Service" to make the maintenance setting.

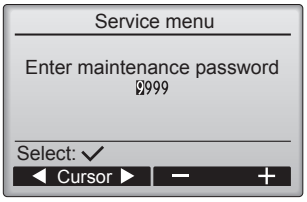


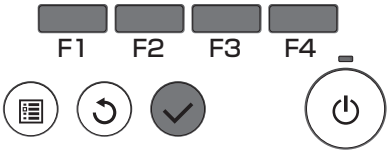
② When the Service menu is selected, a window will appear asking for the password.

To enter the current maintenance password (4 numerical digits), move the cursor to the digit you want to change with the F1 or F2 button.

Set each number (0 through 9) with the F3 or F4 button.

Then, press the ✓ button.



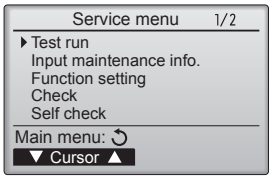


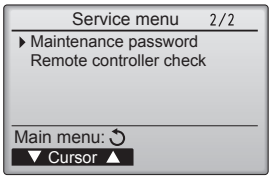
Note: The initial maintenance password is "9999". Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

: If you forget your maintenance password, you can initialize the password to the default password "9999" by pressing and holding the F1 and F2 buttons simultaneously for three seconds on the maintenance password setting screen.

③ If the password matches, the Service menu will appear.

The type of menu that appears depends on the connected indoor units' type.





Note: Air conditioning units may need to be stopped to make certain settings. There may be some settings that cannot be made when the system is centrally controlled.

A screen will appear that indicates the setting has been saved.

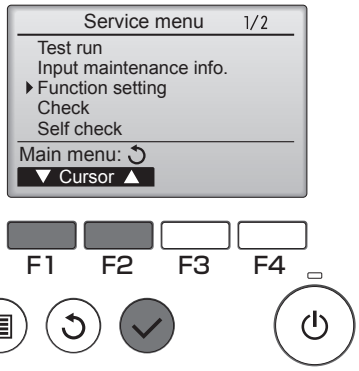
Navigating through the screens

- To go back to the Service menu ..... button
- To return to the previous screen ..... button

<Function setting>

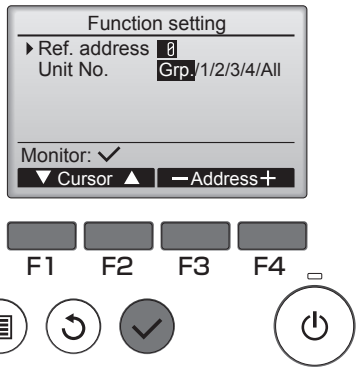
① Select "Service" from the Main menu, and press the ✓ button.

Select "Function setting" with the F1 or F2 button, and press the ✓ button.

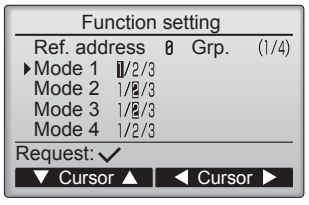


② Set the indoor unit refrigerant addresses and unit numbers with the F1 through F4 buttons, and then press the ✓ button to confirm the current setting.

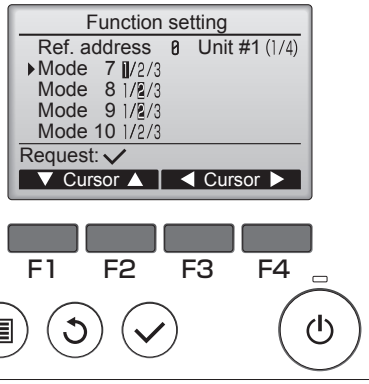
<Checking the indoor unit No.>
When the ✓ button is pressed, the target indoor unit will start fan operation. If the unit is common or when running all units, all indoor units for the selected refrigerant address will start fan operation.



③ When data collection from the indoor units is completed, the current settings appears highlighted.
Non-highlighted items indicate that no function settings are made.
Screen appearance varies depending on the "Unit No." setting.

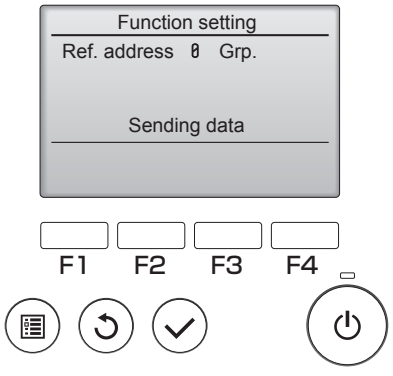


④ Use the F1 or F2 button to move the cursor to select the mode number, and change the setting number with the F3 or F4 button.



⑤ When the settings are completed, press the ✓ button to send the setting data from the remote controller to the indoor units.
When the transmission is successfully completed, the screen will return to the Function setting screen.

Note:
- **Make the above settings only on Mr. Slim units as necessary.**
- **The above function settings are not available for the CITY MULTI units.**
- **Table 1 summarizes the setting options for each mode number. Refer to the indoor unit Installation Manual for the detailed information about initial settings, mode numbers, and setting numbers for the indoor units.**
- **Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.**

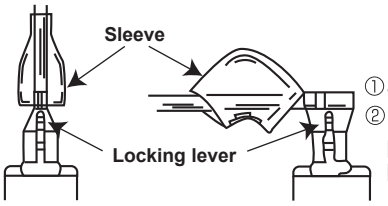


12 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

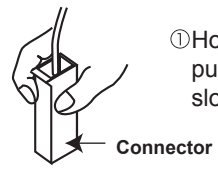
The terminal which has the locking mechanism can be detached as shown below.
There are two types (refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

12-1. NAXSKS09A112AA NAXSKS12A112AA NAXSKS15A112AA

——→ : Indicates the visible parts in the photos/figures.
- - - - - - → : Indicates the invisible parts in the photos/figures.

NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE	PHOTOS/FIGURES

1. Removing the cabinet

(1) Remove the screw fixing the service panel.
(2) Pull down the service panel and remove it.
(3) Remove the screws fixing the conduit cover.
(4) Remove the conduit cover. (Photo 4)
(5) Remove the screw fixing the conduit plate. (Photo 5)
(6) Remove the conduit plate.
(7) Disconnect the power supply wire and indoor/outdoor connecting wire.
(8) Remove the screws fixing the top panel.
(9) Remove the top panel.
(10) Remove the screws fixing the cabinet.
(11) Remove the cabinet.
(12) Remove the screws fixing the back panel.
(13) Remove the back panel.

Photo 1

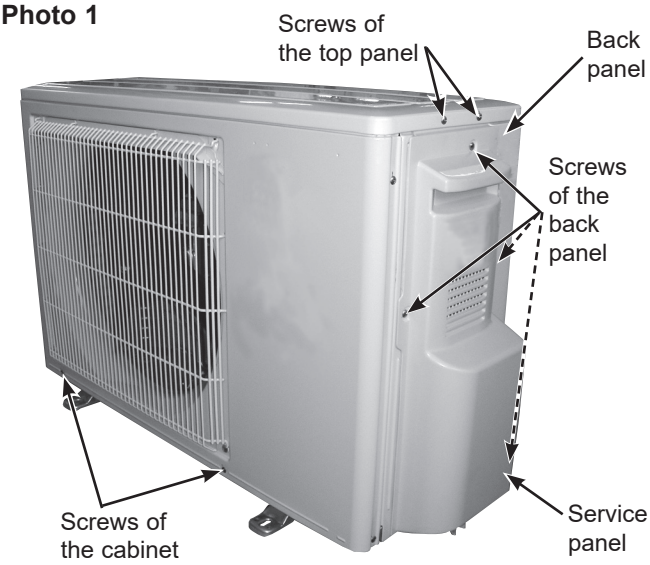


Photo 2

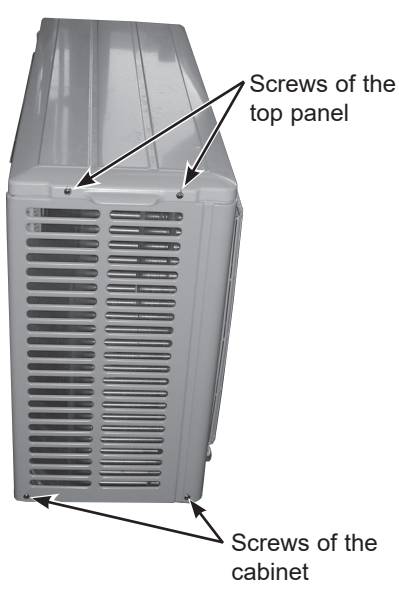
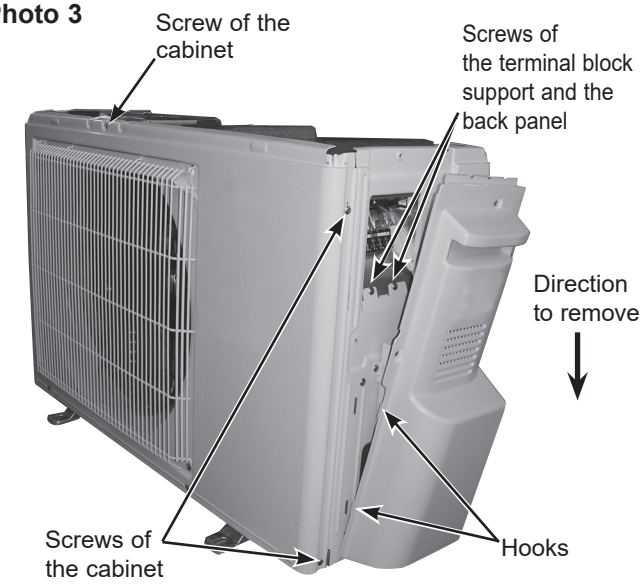
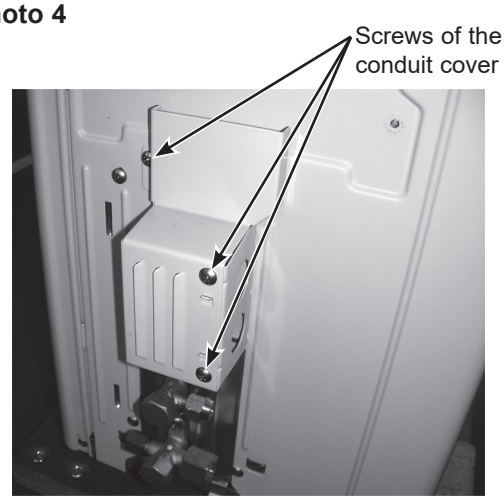
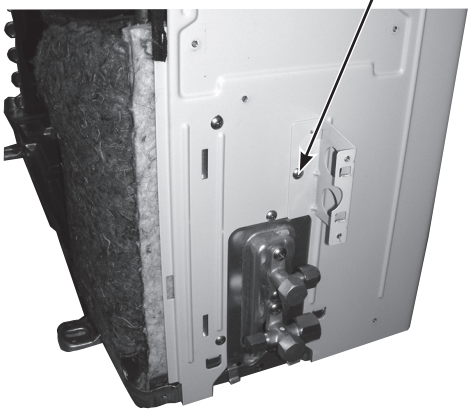
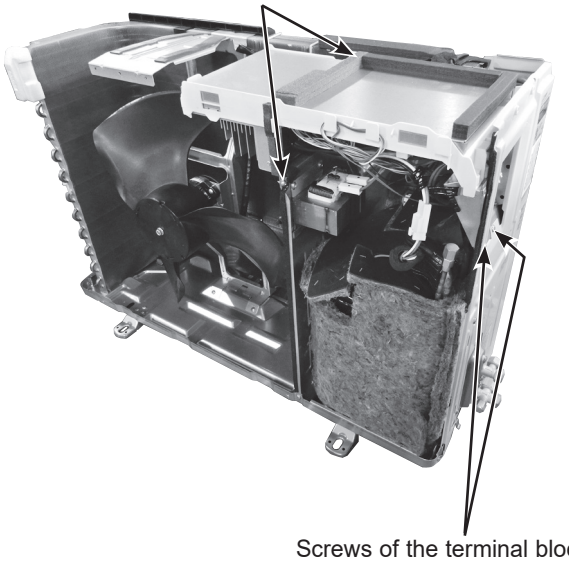
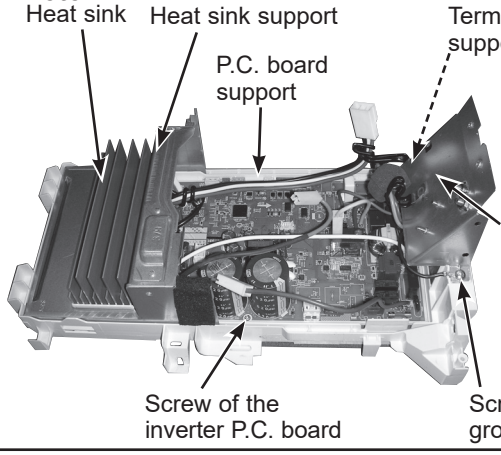
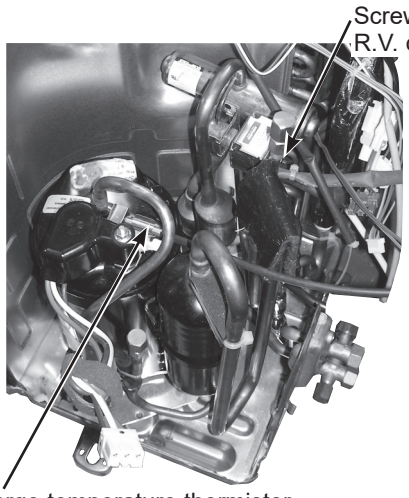
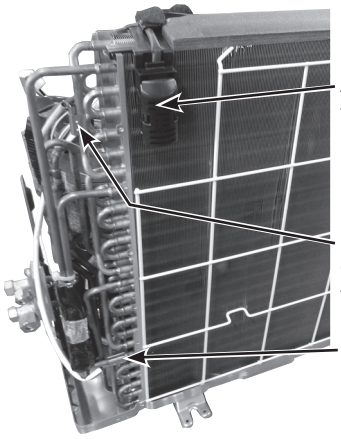


Photo 3



OPERATING PROCEDURE	PHOTOS/FIGURES
Photo 4  	**Photo 5** 
2. Removing the inverter assembly, inverter P.C. board (1) Remove the cabinet and panels. (Refer to 1.) (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN721 (R.V. coil) CN722 (Defrost heater and heater protector) (**NAXSKS09/12/15A112AA**) CN931, CN932 (Fan motor) CN641 (Defrost thermistor and discharge temperature thermistor) CN643 (Ambient temperature thermistor) CN644 (Outdoor heat exchanger temperature thermistor) CN724 (LEV) (3) Remove the compressor connector (CN61). (4) Remove the screws fixing the heat sink support and the separator. (5) Remove the fixing screws of the terminal block support and the back panel. (6) Remove the inverter assembly. (7) Remove the screw of the ground wire and screw of the terminal block support. (8) Remove the heat sink support from the P.C. board support. (9) Remove the screw of the inverter P.C. board and remove the inverter P.C. board from the P.C. board support.	**Photo 6** 
3. Removing R.V. coil (1) Remove the cabinet and panels. (Refer to 1.) (2) Disconnect the following connectors: <Inverter P.C. board> CN721 (R.V. coil) (3) Remove the R.V. coil.	**Photo 7** 

OPERATING PROCEDURE	PHOTOS/FIGURES
4. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor (1) Remove the cabinet and panels. (Refer to 1.) (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN641 (Defrost thermistor and discharge temperature thermistor) CN643 (Ambient temperature thermistor) CN644 (Outdoor heat exchanger temperature thermistor) (3) Pull out the discharge temperature thermistor from its holder. (4) Pull out the defrost thermistor from its holder. (5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (6) Pull out the ambient temperature thermistor from its holder.	**Photo 8**  **Photo 9** 

MITSUBISHI ELECTRIC TRANE HVAC US LLC

HEAD OFFICE: 1340 SATELLITE BOULEVARD, SUWANEE, GA 30024 USA

©Copyright 2018 MITSUBISHI ELECTRIC CORPORATION
Issued: Jun. 2021 No. OCHA699 REVISED EDITION-A
Published: Dec. 2018. No. OCHA699
Made in Japan

Specifications are subject to change without notice.