American Standard
HEATING & AIR CONDITIONING

MITSUBISHI ELECTRIC

June 2021

No. OCHA688
REVISED EDITION-D

SERVICE MANUAL R410A

Outdoor unit
[Model Name]

NAXSKS18A112AA

NAXSKS24A112AA

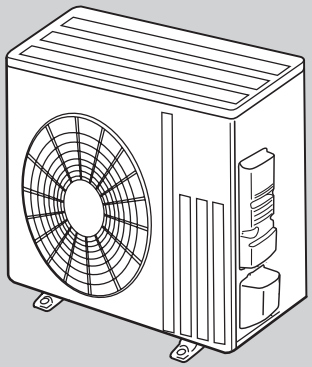
NAXSKS30A112AA

NAXSKS36A112AA

Revision:
- Some descriptions have been modified in REVISED EDITION-D.

OCHA688C is void.

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



NAXSKS18A112AA

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PARTS CATALOG (OCBA688)

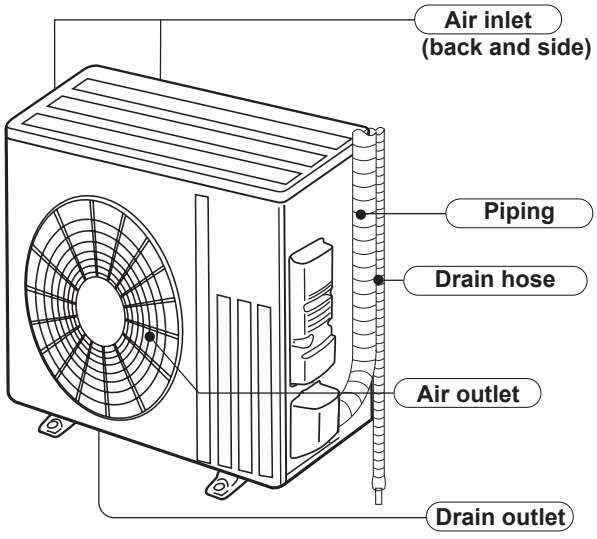
1 COMBINATION OF INDOOR AND OUTDOOR UNITS

	Indoor unit		Outdoor unit			
			Heat pump type			
	Model Name	Service Manual No.	NAXSKS 18A112AA	NAXSKS 24A112AA	NAXSKS 30A112AA	NAXSKS 36A112AA
Heat pump without electric heater	NAXDKS18A112AA	—	○	—	—	—
	NAXCKS18A112AA	OCHA669 OCBA669	○	—	—	—
	APEADA0181AA70A	HWE19040 BWE019200	○	—	—	—
	APEADA0241AA70A		—	○	—	—
	APEADA0301AA70A		—	—	○	—
	APEADA0361AA70A		—	—	—	○
	NAXAMT18A112AA	—	○	—	—	—
	NAXAMT24A112AA		—	○	—	—
	NAXAMT30A112AA		—	—	○	—
	NAXAMT36A112AA		—	—	—	○
	NAXUKS18A112AA	OBHA802 OBBA802	○	—	—	—

2 PART NAMES AND FUNCTIONS

NAXSKS18A112AA NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA

OUTDOOR UNIT



3 SPECIFICATION

Outdoor unit model			NAXSKS 18A112AA	NAXSKS 24A112AA	NAXSKS 30A112AA	NAXSKS 36A112AA
Power supply	V , phase , Hz		208/230 , 1 , 60			
Max. fuse size (time delay)		A	15	20		
Min. circuit ampacity		A	14	17		
Fan motor		F.L.A	0.67	1.00		
Compressor	Model		SNB130FQBMT	SNB220FQGM1T		
		R.L.A	10.0	13.0		
		L.R.A	12.5	16.0		
	Refrigeration oil oz. (Model)		11.8(FV50S)	15.6(FV50S)		
Refrigerant control			Linear expansion valve			
Sound level*1	Cooling	dB(A)	54	55		
	Heating	dB(A)	55			
Defrost method			Reverse cycle			
Dimensions	W	in	33-1/16			
	D	in	13			
	H	in	34-5/8			
Weight		lb	127	129		
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 (0.0265)	3/8(0.0285)		
	Gas	in	1/2 (0.0285)	5/8(0.0315)		
Connection method	Indoor		Flared			
	Outdoor		Flared			
Between the indoor & outdoor units	Height difference	ft	50	100		
	Piping length	ft	100			
Refrigerant charge (R410A)			3 lb. 9 oz.	4 lb. 14 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

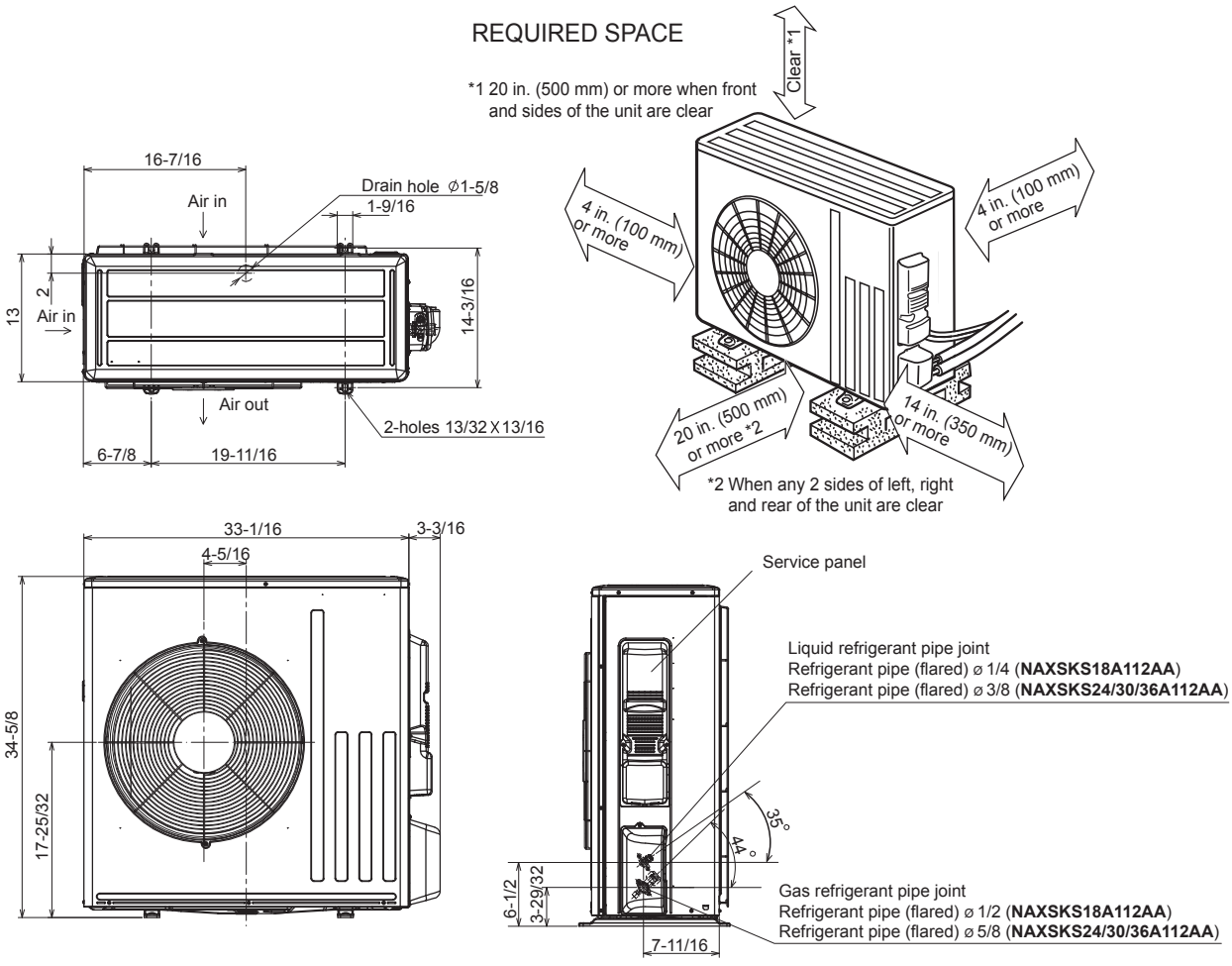
(1) POWER SUPPLY

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

4 OUTLINES AND DIMENSIONS

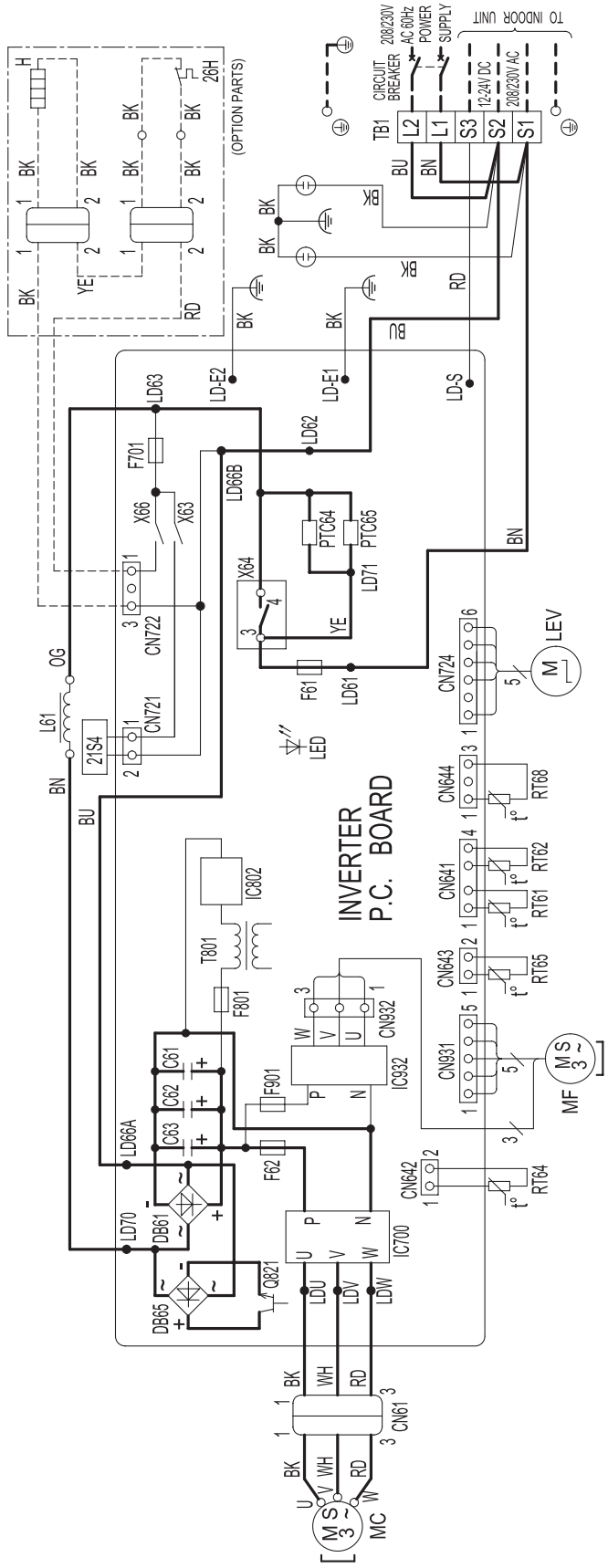
NAXSKS18A112AA NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA

Unit: inch



5 WIRING DIAGRAM

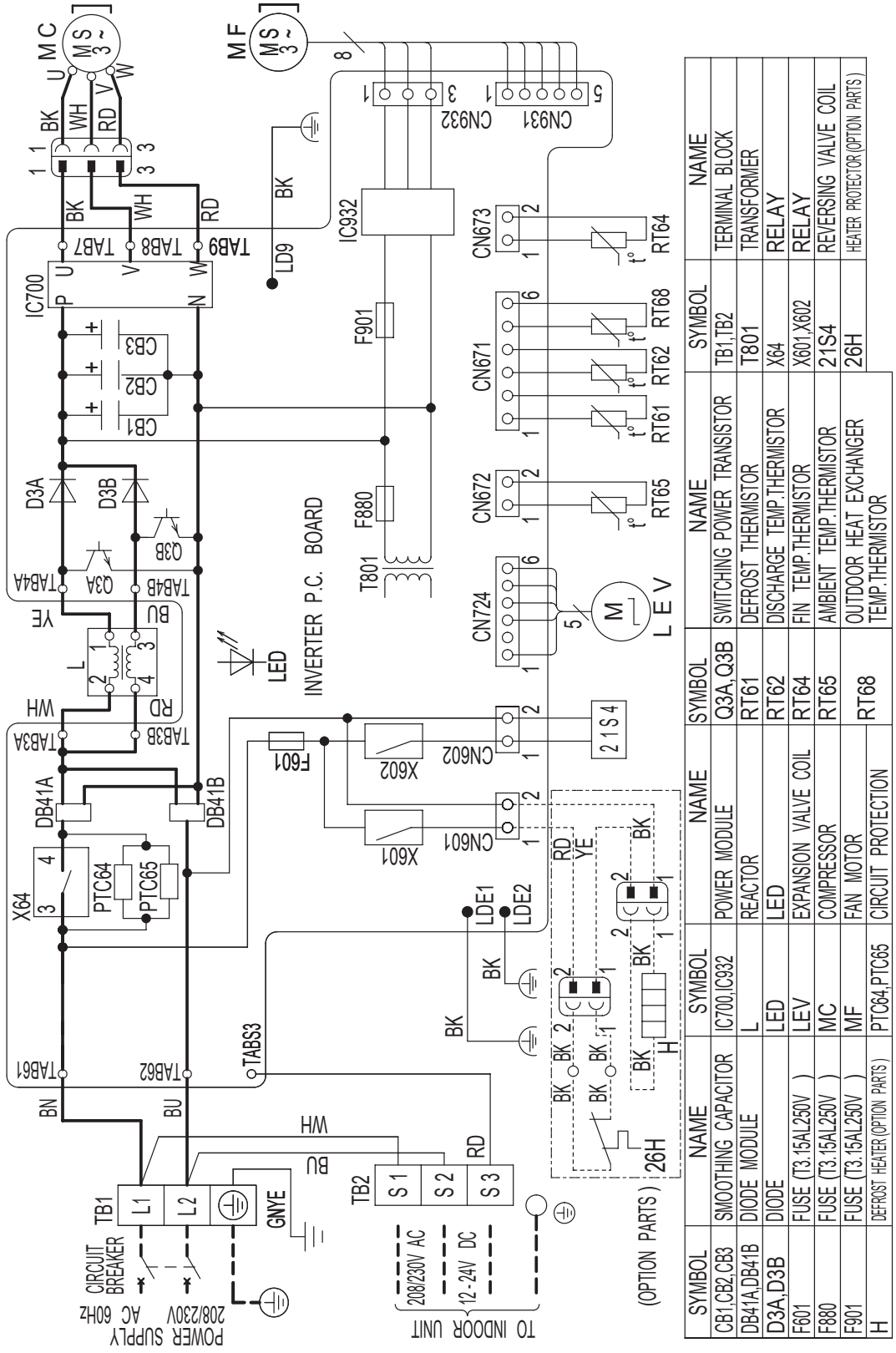
NAXSKS18A112AA



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
CN61	CONNECTOR	LED	LED	RT64	FIN TEMP. THERMISTOR
C61 , C62 , C63	SMOOTHING CAPACITOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
DB61 , DB65	DIODE MODULE	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
F61	FUSE (25A 250V)	MC	COMPRESSOR		
F62	FUSE (15A 250V)	MF	FAN MOTOR	TB1	TERMINAL BLOCK
F701 , F801 , F901	FUSE (T3.15AL250V)	PTC64 , PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
H	DEFROST HEATER (OPTION PARTS)	Q821	SWITCHING POWER TRANSISTOR	X63 , X64,X66	RELAY
IC700 , IC932	POWER MODULE	RT61	DEFROST THERMISTOR	21S4	REVERSING VALVE COIL
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)

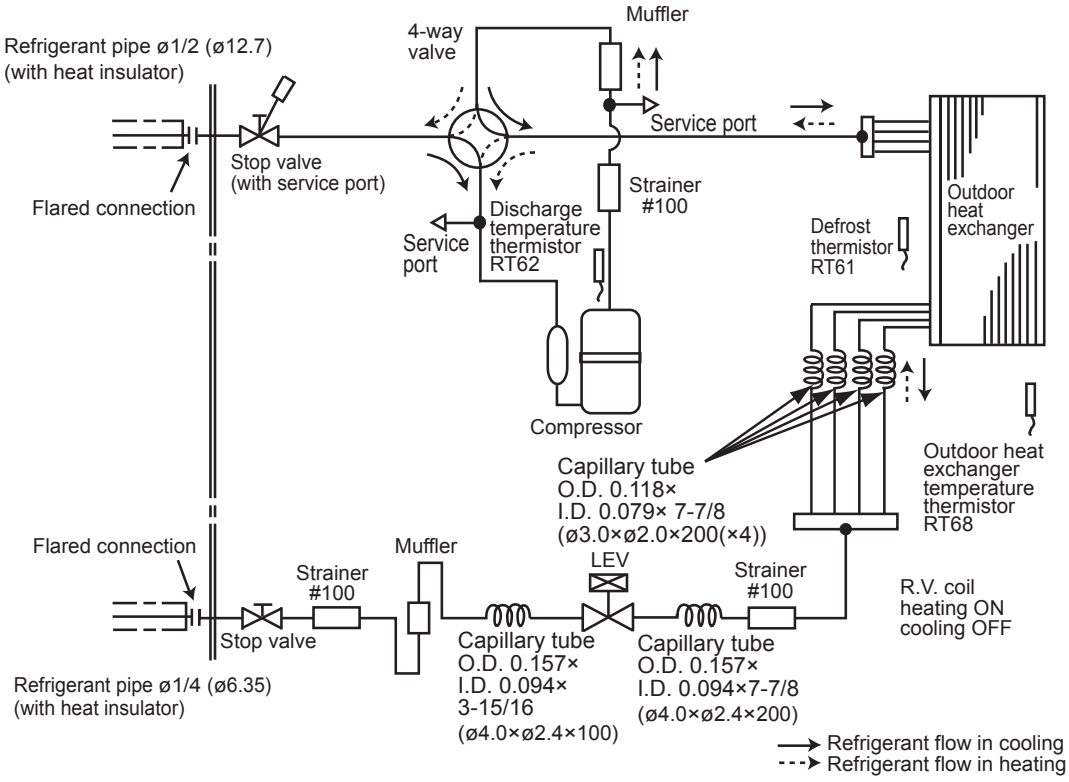
NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA



6 REFRIGERANT SYSTEM DIAGRAM

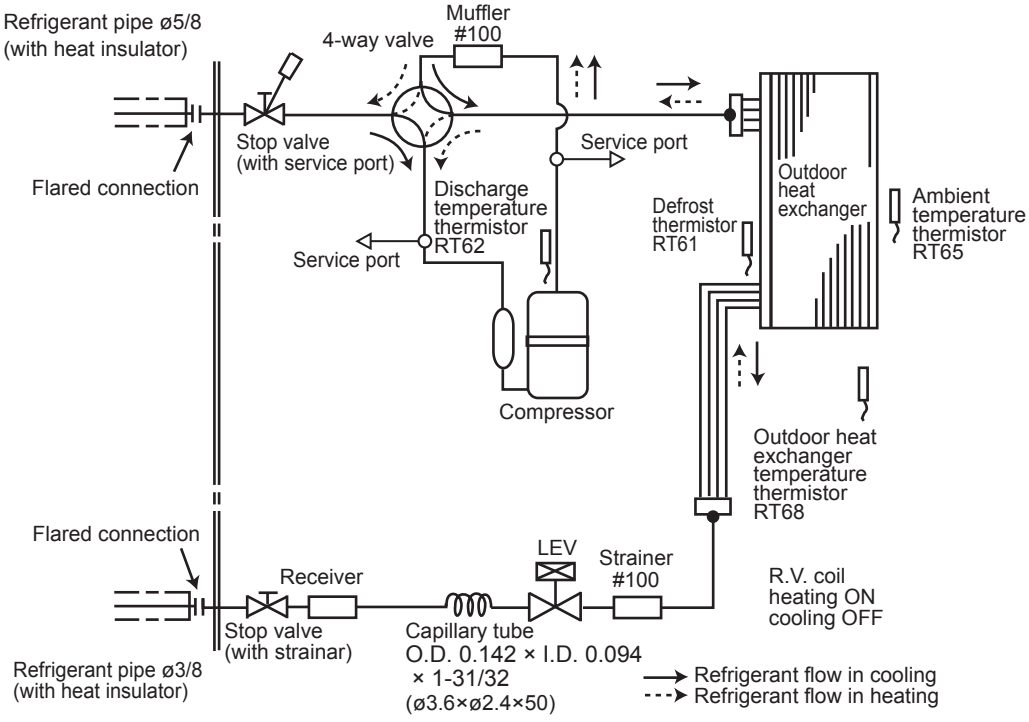
NAXSKS18A112AA

Unit: inch (mm)



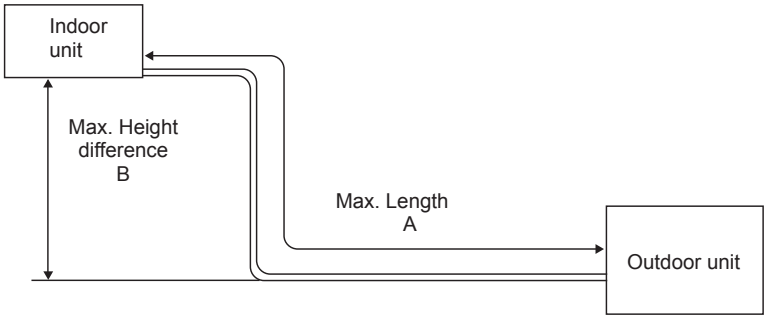
NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA

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
NAXSKS18A112AA	100	50	1/2	1/4
NAXSKS 24/30/36A112AA		100	5/8	3/8



ADDITIONAL REFRIGERANT CHARGE (R410A: oz.)

NOTE: 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	70	80	90	100
NAXSKS18A112AA	3 lb. 9 oz.	0	1.08	3.24	5.40	7.56	9.72	11.88	14.04	16.20

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

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.								
		25	30	40	50	60	70	80	90	100
NAXSKS 24/30/36A112AA	4 lb. 14 oz.	0	2.69	8.07	13.45	18.83	24.21	29.59	34.97	40.35

Calculation: X oz. = 2.65/5 oz./ft. × (Refrigerant piping length (ft.) - 25)

7 DATA

STANDARD OPERATION DATA

Representative matching				NAXDKS 18A112AA		NAXCKS 18A112AA		APEADA 0181AA70A		APEADA 0241AA70A	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	18000	21600	17700	19700	18000	21600	24000	25000
	SHF		–	0.82	–	0.71	–	0.80	–	0.77	–
	Input		kW	1.31	1.58	1.41	1.85	1.27	1.6	1.92	1.99
Electrical circuit	Indoor unit			NAXDKS 18A112AA		NAXCKS 18A112AA		APEADA 0181AA70A		APEADA 0241AA70A	
	Power supply (V, phase, Hz)			230, 1, 60		230, 1, 60		230, 1, 60			
	Input		kW	0.09	0.07	0.04	0.04	0.11	0.09	0.12	0.1
	Current		A	0.74	0.63	0.43	0.38	0.95	0.84	1.03	0.92
	Outdoor unit			NAXSKS 18A112AA		NAXSKS 18A112AA		NAXSKS 18A112AA		NAXSKS 24A112AA	
	Power supply (V, phase, Hz)			230, 1, 60		230, 1, 60		230, 1, 60			
	Input		kW	1.22	1.51	1.37	1.81	1.16	1.51	1.8	1.89
	Current		A	4.96	6.24	5.70	7.66	4.57	6.12	7.32	7.73
Refrigerant circuit	Condensing pressure		PSIG	369	366	372	492	371	365	411	418
	Suction pressure		PSIG	141	100	125	105	135	100	140	108
	Discharge temperature		°F	158	167	155	174	158	167	161	162
	Condensing temperature		°F	111	110	111	128	111	110	119	120
	Suction temperature		°F	56	41	46	34	57	41	51	35
	Ref. pipe length		ft.	25		25		25			
	Refrigerant charge (R410A)		–	1.6		1.6		1.6		2.2	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60	67	60
	Discharge air temperature	DB	°F	57	101	56	108	56	103	56	101
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43	75	43

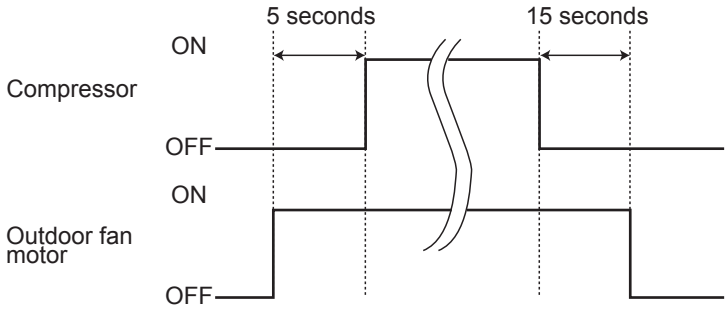
Representative matching				APEADA 0301AA70A		APEADA 0361AA70A		NAXAMT 18A112AA		NAXAMT 24A112AA	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	27000	30000	33000	33400	18000	21600	24000	25000
	SHF		–	0.84	–	0.84	–	0.85	–	0.81	–
	Input		kW	2.16	2.41	3.51	3.17	1.36	1.6	1.92	1.91
Electrical circuit	Indoor unit			APEADA 0301AA70A		APEADA 0361AA70A		NAXAMT 18A112AA		NAXAMT 24A112AA	
	Power supply (V, phase, Hz)			230, 1, 60				230, 1, 60			
	Input		kW	0.17	0.15	0.25	0.23	0.16		0.18	
	Current		A	1.31	1.2	1.71	1.6	1.44		1.6	
	Outdoor unit			NAXSKS 30A112AA		NAXSKS 36A112AA		NAXSKS 18A112AA		NAXSKS 24A112AA	
	Power supply (V, phase, Hz)			230, 1, 60				230, 1, 60			
	Input		kW	1.99	2.26	3.26	2.94	1.2	1.44	1.74	1.73
	Current		A	8.08	9.28	13.55	12.18	4.47	5.52	6.75	6.70
Refrigerant circuit	Condensing pressure		PSIG	419	417	456	356	369	349	411	415
	Suction pressure		PSIG	147	105	142	97	144	100	145	108
	Discharge temperature		°F	164	162	176	176	158	158	156	167
	Condensing temperature		°F	120	120	127	108	111	108	116	119
	Suction temperature		°F	53	34	50	30	58	37	59	35
	Ref. pipe length		ft.	25				25			
	Refrigerant charge (R410A)		–	2.2				1.6		2.2	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70	80	70	80	70
		WB	°F	67	60	67	60	67	60	67	60
	Discharge air temperature	DB	°F	58	98	57	95	58	100	59	96
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47	95	47	95	47
		WB	°F	75	43	75	43	75	43	75	43

Representative matching				NAXAMT30A112AA		NAXAMT36A112AA		NAXUKS18A112AA	
Item			Unit	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	27000	30000	33400	33400	18000	20000
	SHF		–	0.9	–	0.84	–	0.67	–
	Input		kW	2.16	2.06	3.71	3.03	1.44	1.77
Electrical circuit	Indoor unit			**NAXAMT30A112AA**		**NAXAMT36A112AA**		**NAXUKS18A112AA**	
	Power supply (V, phase, Hz)			230, 1, 60				230, 1, 60	
	Input		kW	0.21		0.34		0.04	
	Current		A	2.0		3.0		0.4	
	Outdoor unit			**NAXSKS 30A112AA**		**NAXSKS 36A112AA**		**NAXSKS 18A112AA**	
	Power supply (V, phase, Hz)			230, 1, 60				230, 1, 60	
	Input		kW	1.95	1.85	3.38	2.69	1.4	1.73
	Current		A	7.39	6.96	13.17	10.17	5.86	7.30
Refrigerant circuit	Condensing pressure		PSIG	414	322	453	336	368	453
	Suction pressure		PSIG	155	87	139	95	123	105
	Discharge temperature		°F	160	159	174	175	164	175
	Condensing temperature		°F	116	102	124	109	110	118
	Suction temperature		°F	61	39	55	36	56	34
	Ref. pipe length		ft.	25				25	
	Refrigerant charge (R410A)		–	2.2				1.6	
11Indoor 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	60	93	59	99	52	117
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

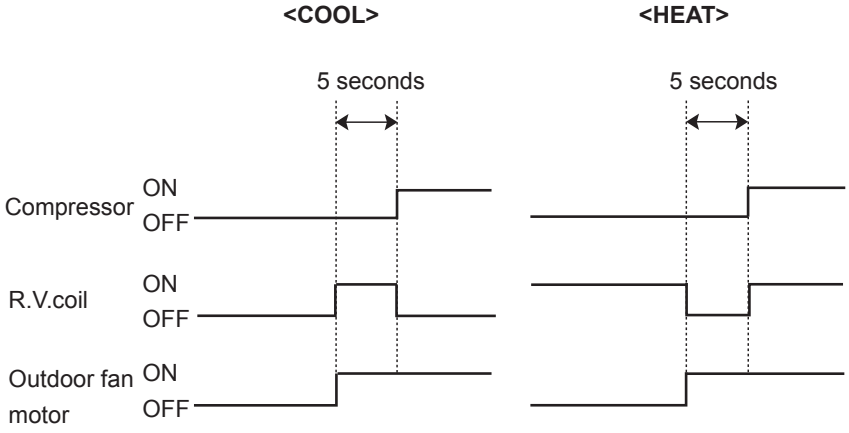
The fan motor turns ON/OFF, interlocking with the compressor.
[ON] The fan motor turns ON 5 seconds before the compressor starts up.
[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



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	○	○	○		
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Cooling: High pressure protection	○	○	○		

9 SERVICE FUNCTIONS

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	
		NAXSKS18A112AA	NAXSKS24/30/36A112AA
JS	Soldered (Initial setting)	48°F (9°C)	50°F (10°C)
	None (Cut)	64°F (18°C)	64°F (18°C)

9-2. PRE-HEAT CONTROL SETTING

PRE-HEAT CONTROL

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 outside temperature is 68°F (20°C) or below. When pre-heat control is turned ON, compressor is energized. (About 50 W)

<JK> To activate the pre-heat control, cut the JK wire of the inverter P.C. board. (Refer to "10-6. TEST POINT DIAGRAM AND VOLTAGE".)

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

10 TROUBLESHOOTING

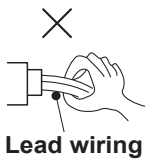
10-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following

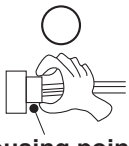
1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for miswiring.

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.



Lead wiring



Housing point

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

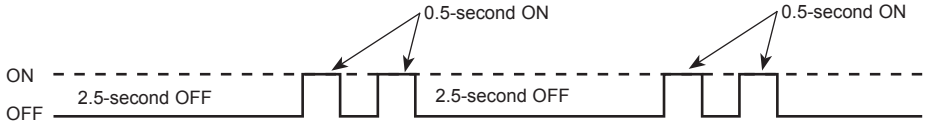
No.	Symptoms	LED indication	check code	Abnormal point/ Condition	Condition	Remedy
1	Outdoor unit does not operate.	1-time blink every 2.5 seconds	UP	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	• Reconnect connector 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		6-time blink 2.5 seconds OFF	FC	Outdoor control system	Nonvolatile memory data cannot be read properly.	• Replace inverter P.C. board.
4			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 flash 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.Ⓛ How to check inverter/compressor".
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 12A(NAXSKS18A112AA)/16A(NAXSKS24/30/36A112AA), compressor frequency lowers.	• 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”.



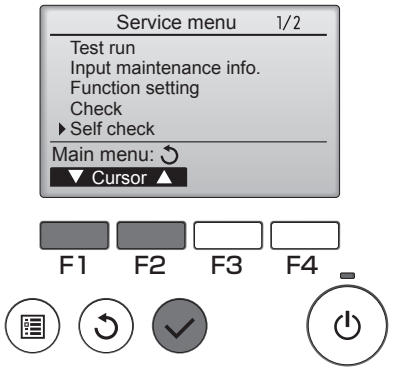
10-3. HOW TO PROCEED "SELF-DIAGNOSIS"

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.

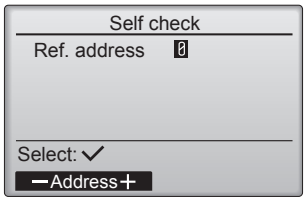
10-3-1. Self-diagnosis <PAR-3xMAA ("x" represents 0 or later)>

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

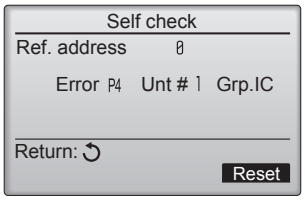
Select "Self check" with the F1 or F2 button, and press the ✓ button.



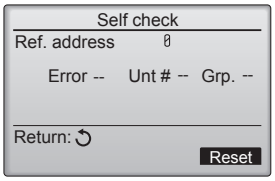
② With the F1 or F2 button, enter the refrigerant address, and press the ✓ button.



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



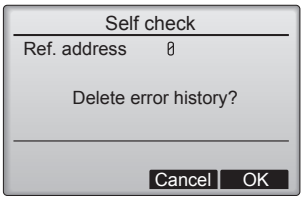
When there is no error history



④ <u>Resetting the error history.</u>

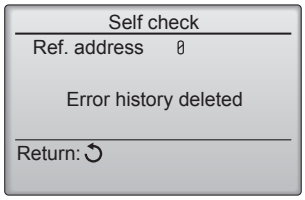
Press the F4 button (Reset) on the screen that shows the error history.

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.



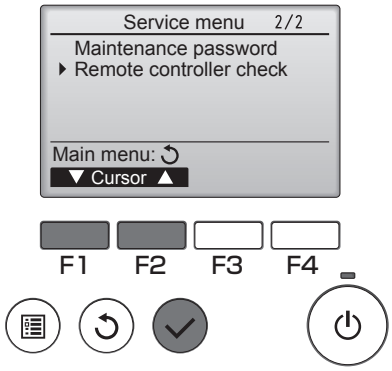
Navigating through the screens
- To go back to the Service menu ..... button
- To return to the previous screen ..... button

10-3-2. Remote controller check <PAR-3xMAA ("x" represents 0 or later)>

If operations cannot be completed with the remote controller, diagnose the remote controller with this function.

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

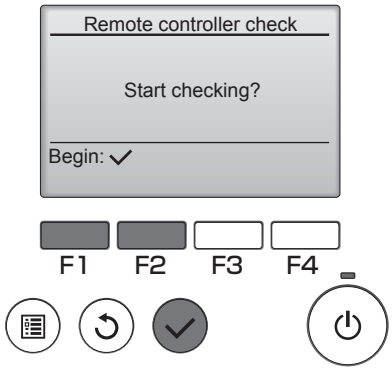
Select "Remote controller check" with the F1 or F2 button, and press the button.



② Select "Remote controller check" from the Service menu, and press the button to start the remote controller check and see the check results.

To cancel the remote controller check and exit the Remote controller check menu screen, press the or the button.

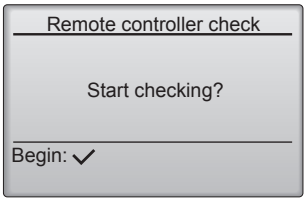
The remote controller will not reboot itself.



③

OK:	No problems are found with the remote controller. Check other parts for problems.
E3, 6832:	There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.
NG (ALL0, ALL1):	Send-receive circuit fault. Remote controller needs replacing.
ERC:	The number of data errors is the discrepancy between the number of bits in the data transmitted from the remote controller and that of the data that was actually transmitted over the transmission line. If data errors are found, check the transmission line for external noise interference.

Remote controller check results screen



If the button is pressed after the remote controller check results are displayed, remote controller check will end, and the remote controller will automatically reboot itself.

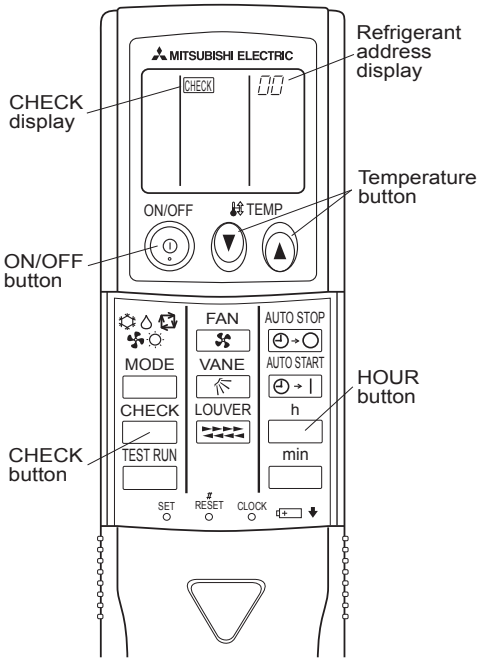
Check the remote controller display and see if anything is displayed (including lines). Nothing will appear on the remote controller display if the correct voltage (8.5–2 V DC) is not supplied to the remote controller. If this is the case, check the remote controller wiring and indoor units.

10-3-3. 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.)

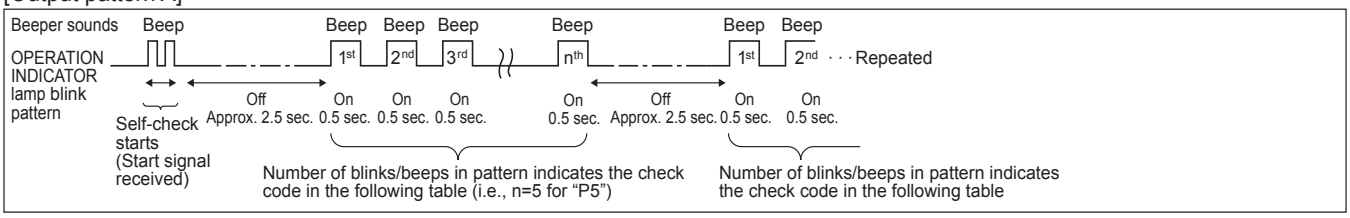
3. Point the remote controller at the sensor on the indoor unit and press the HOUR button.
   - If an air conditioner error occurs, the indoor unit's sensor emits an intermittent buzzer sound, the operation light blinks, and the check code is output.

   (It takes 3 seconds at most for check code to appear.)

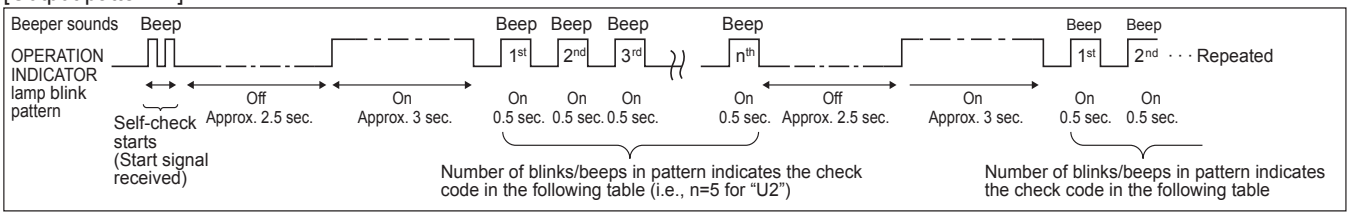
4. Point the remote controller at the sensor on the indoor unit and press the ON/OFF button.
   - The check mode is cancelled.

• 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-30MAA model.

10-4. TROUBLE CRITERION OF MAIN PARTS

NAXSKS18A112AA NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA

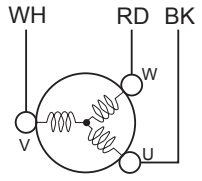
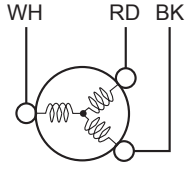
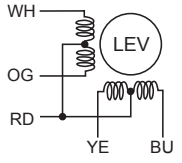
<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT61)

Fin temperature thermistor (RT64)

Ambient temperature thermistor (RT65)

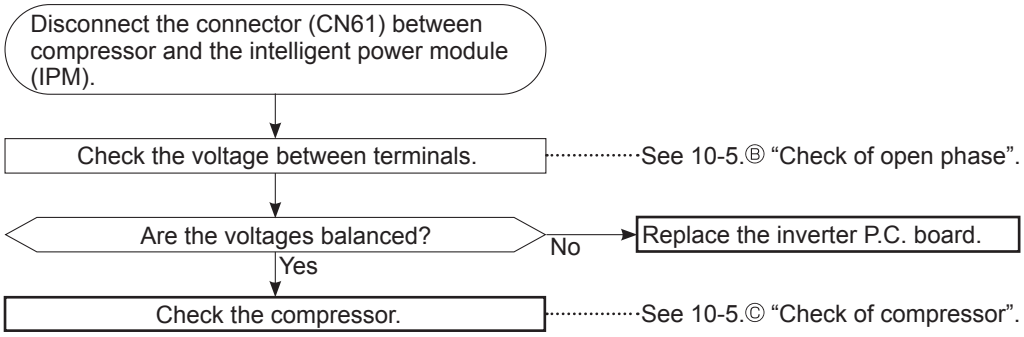
Outdoor heat exchanger temperature thermistor (RT68)</td><td>Measure the resistance with a tester.

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 to 104 °F (-10 to 40 °C))
<table>
<tr><th></th><th colspan="2">Normal (Ω)</th></tr>
<tr><th></th><th>NAXSKS18A112AA</th><th>NAXSKS24/30/36A112AA</th></tr>
<tr><td>U-V
U-W
V-W</td><td>0.82 to 1.11</td><td>0.83 to 1.03</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 colspan="2">Normal (Ω)</th></tr>
<tr><th>NAXSKS 18A112AA</th><th>NAXSKS 24/30/36A112AA</th></tr>
<tr><td>RD – BK
BK – WH
WH – RD</td><td>12 to 16</td><td>12 to 17</td></tr>
</table></td><td> 
</td></tr>
<tr><td>R. V. coil (21S4)</td><td>Measure the resistance with a tester.
(Temperature: 14 to 104 °F (-10 to 40°C))
<table>
<tr><th>Normal (kΩ)</th></tr>
<tr><td>0.97 to 1.38</td></tr>
</table></td><td></td></tr>
<tr><td>Expansion valve coil (LEV)</td><td>Measure the resistance with 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 to 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.)

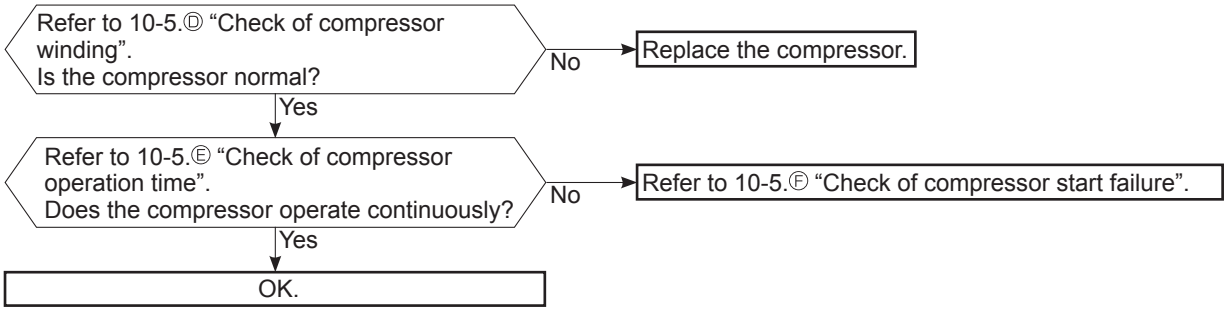
<Operation method (Test run operation)>
1. Press the TEST (RUN) button twice.
2. Press the MODE button and switch to the COOL (or HEAT) mode.
3. Compressor starts at rated frequency in COOL mode or 58 Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. To cancel test run operation, press the ON/OFF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

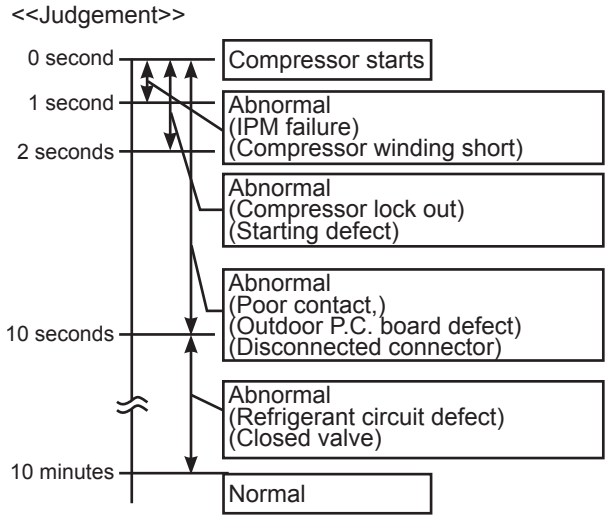
<Operation method>

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?

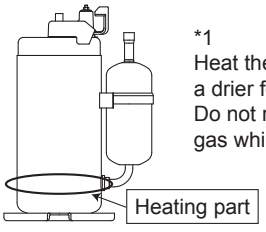
- Yes → Check the refrigerant circuit. Check the stop valve.
- No ↓

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

Disconnect the connector of thermistor in the outdoor P.C. board (see below table), and measure the resistance of thermistor.

↓

Is the resistance of thermistor normal?
(Refer to "10-6.TEST POINT DIAGRAM AND VOLTAGE".)

→ No → Replace the thermistor except RT64. When RT64 is abnormal, replace the inverter P.C. board.

↓ Yes

Reconnect the connector of thermistor.
Turn ON the power supply and press EMERGENCY OPERATION switch.

↓

Does the unit operate for 10 minutes or more without showing thermistor abnormality?

→ No → Replace the inverter P.C. board.

↓ Yes

OK.
(Cause is poor contact.)

Thermistor	Symbol	Connector, Pin No.		Board
		NAXSKS18A112A	NAXSKS24/30/36A112A	
Defrost	RT61	Between CN641 pin1 and pin2	Between CN671 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN641 pin3 and pin4	Between CN671 pin3 and pin4	
Fin temperature	RT64	Between CN642 pin1 and pin2	Between CN673 pin1 and pin2	
Ambient temperature	RT65	Between CN643 pin1 and pin2	Between CN672 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN644 pin1 and pin3	Between CN671 pin5 and pin6	

Ⓗ 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.

Disconnect connector between the compressor and the intelligent power module.
Turn ON the power supply and press the TEST button twice (HEAT mode).

→ Is there 208/230 VAC between CN721 ① and ② on the inverter P.C. board 3 minutes after the power supply is turned ON?

→ No → Replace the inverter P.C. board.

↓ Yes

Replace the 4-way valve.

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

Disconnect connector between the compressor and the intelligent power module.
Turn ON the power supply and press the TEST button once (COOL mode).

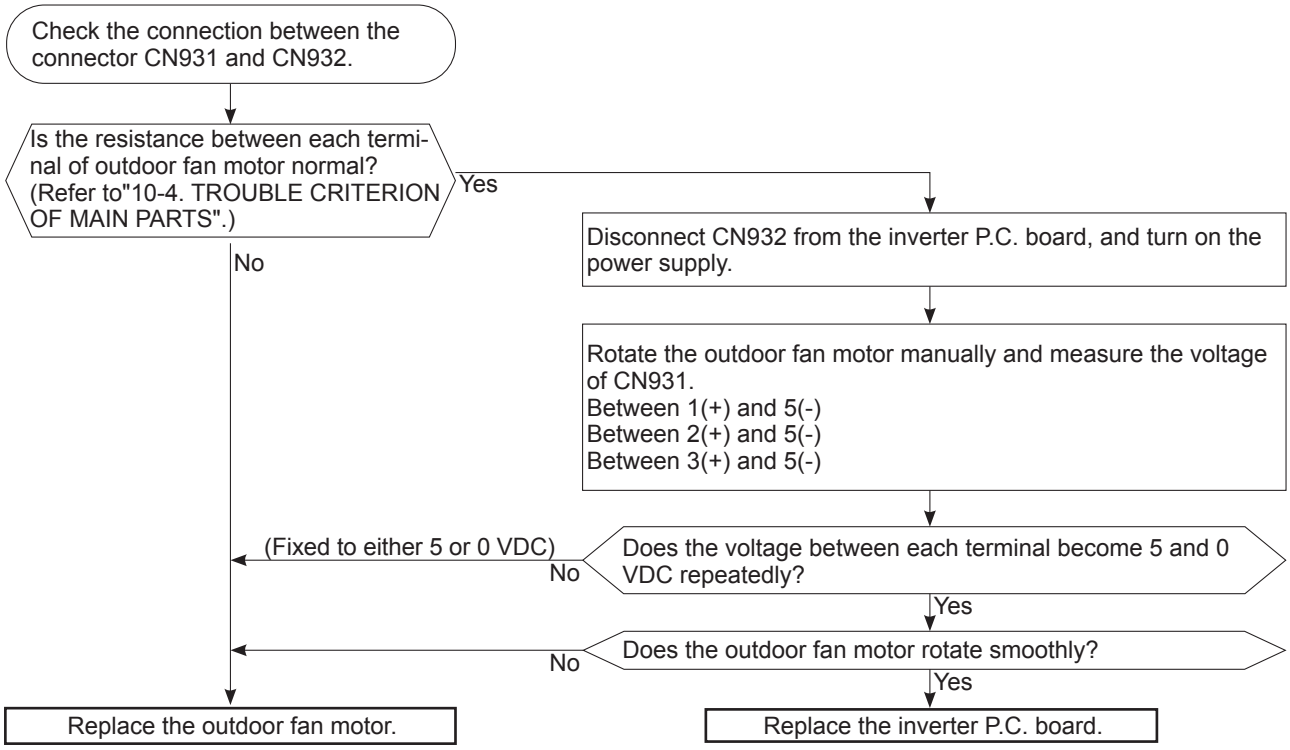
→ Is there 208/230 VAC between CN721 ① and ② on the inverter P.C. board 3 minutes after the power supply is turned ON?

→ Yes → Replace the inverter P.C. board.

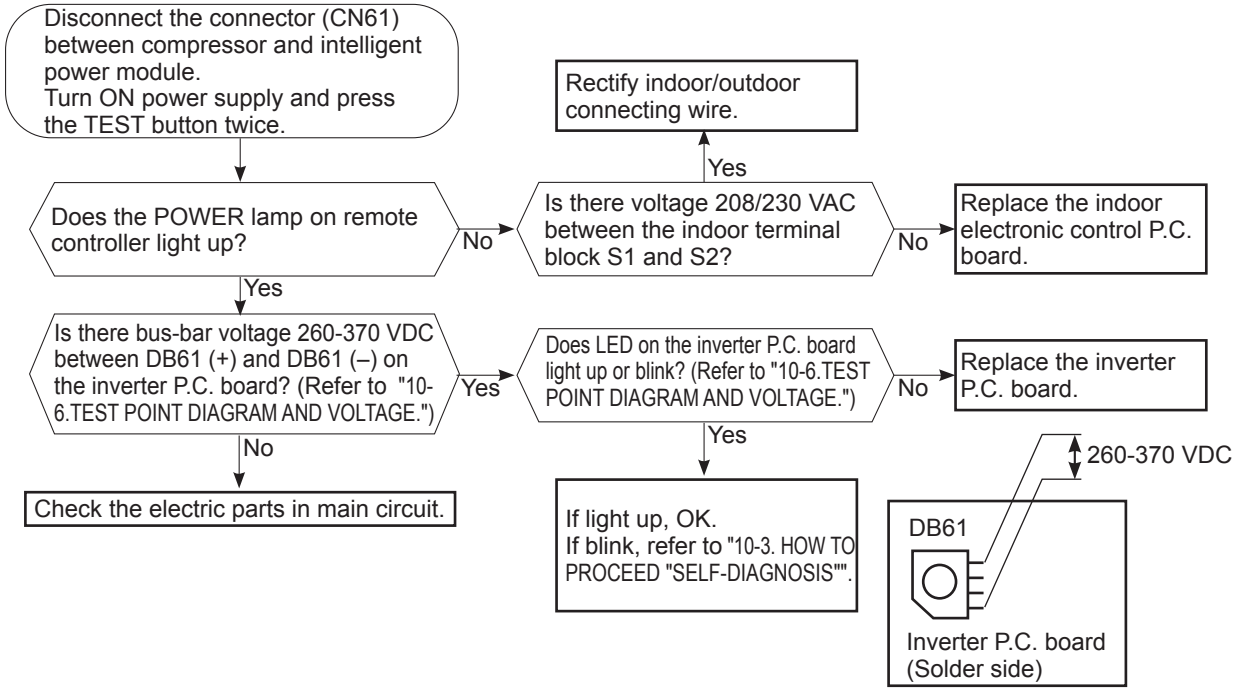
↓ No

Replace the 4-way valve.

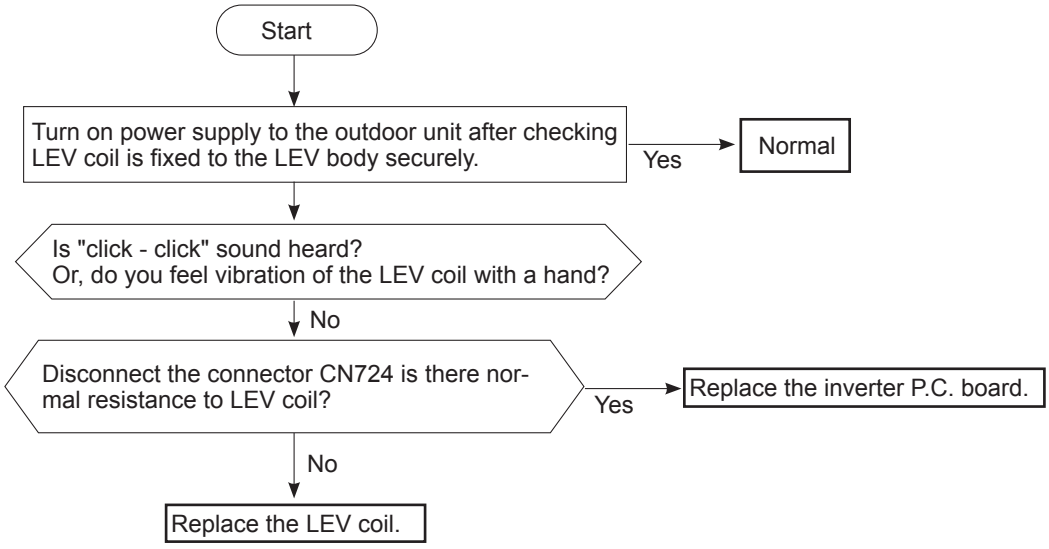
Ⓘ Check of outdoor fan motor



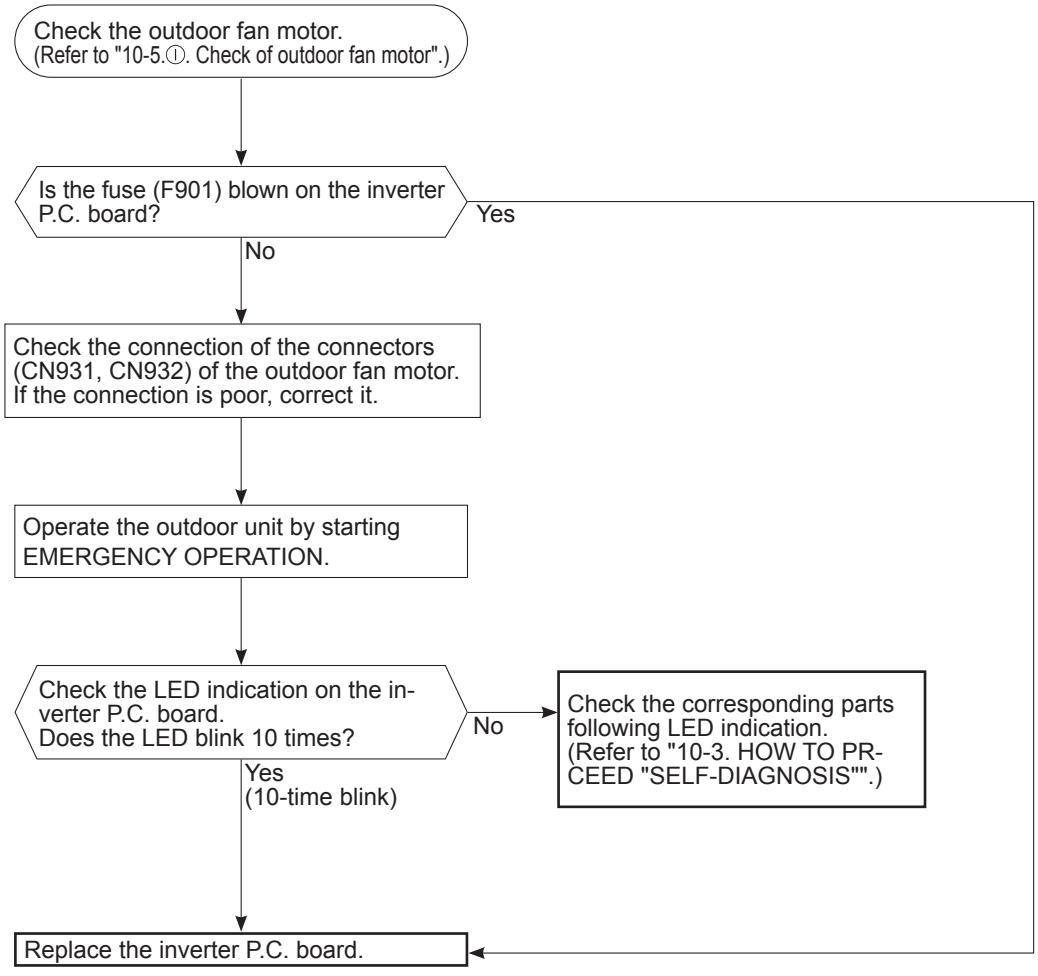
Ⓙ Check of power supply



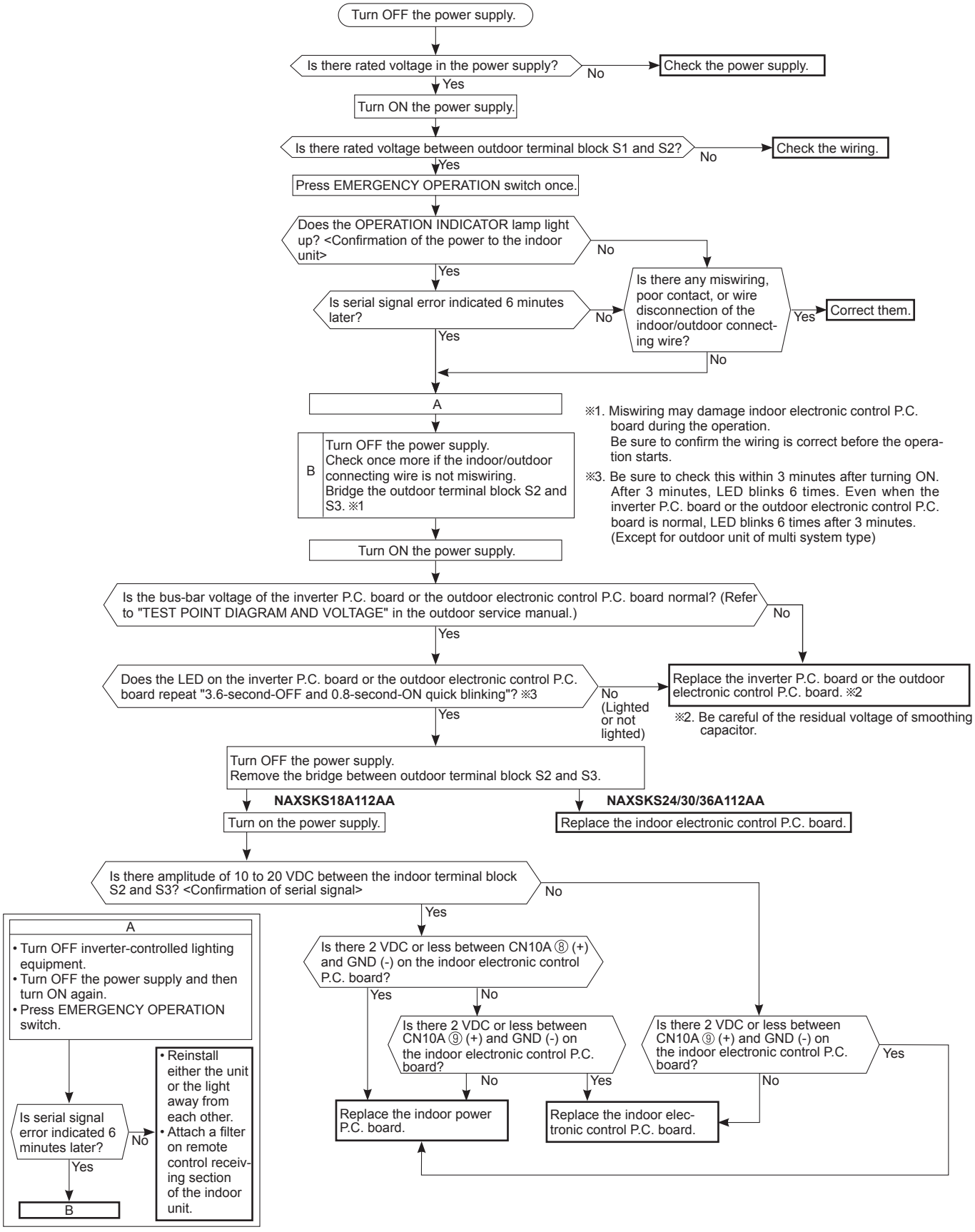
Ⓚ Check of LEV



Ⓛ Check of inverter P.C. board



Ⓜ How to check miswiring and serial signal error



Ⓝ Check the defrost heater (base pan heater)

NAXSKS18/24/30/36A112AA

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. Does the heater protector remain conducted (not open)?
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 ③ (**NAXSKS18A112AA**)/CN601 ① and ② (**Other models**) 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

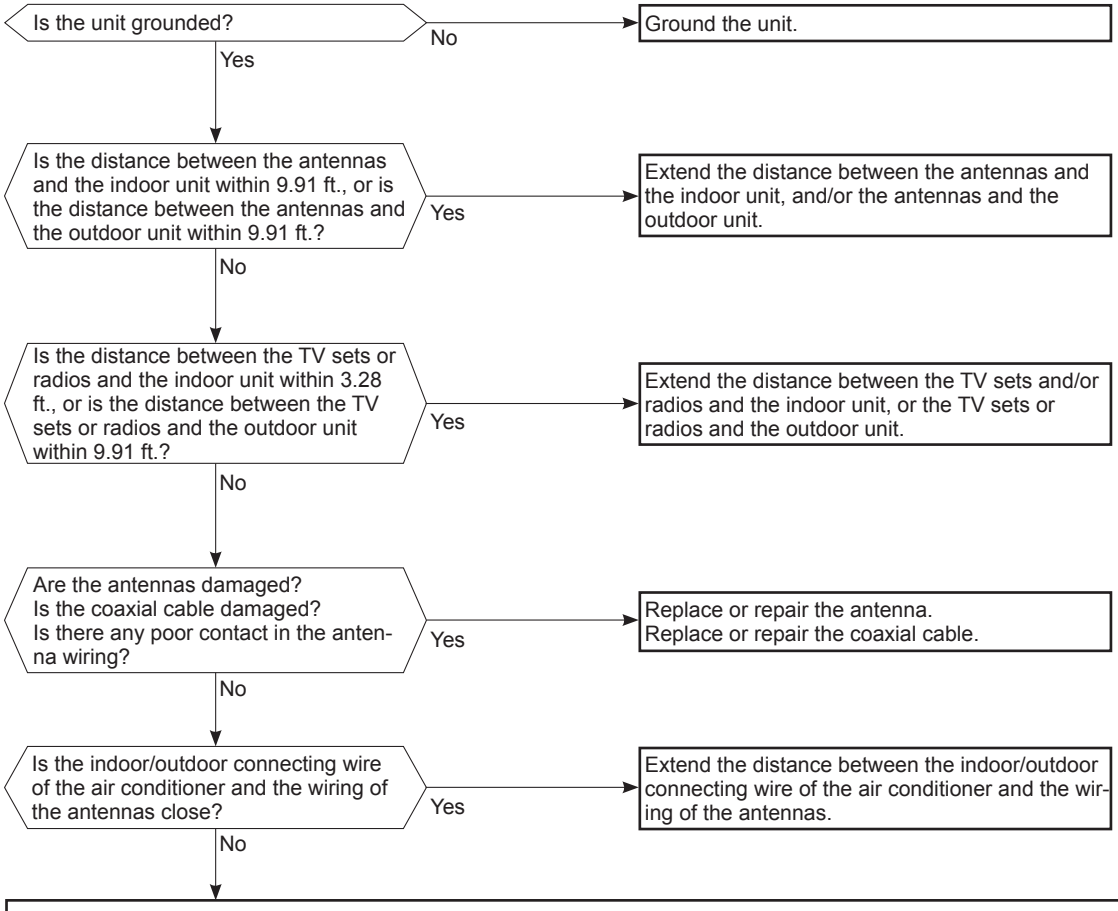
Has the operation stopped during pump down?

- 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.
- 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.

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

Ⓟ Electromagnetic noise enters into TV sets or radios



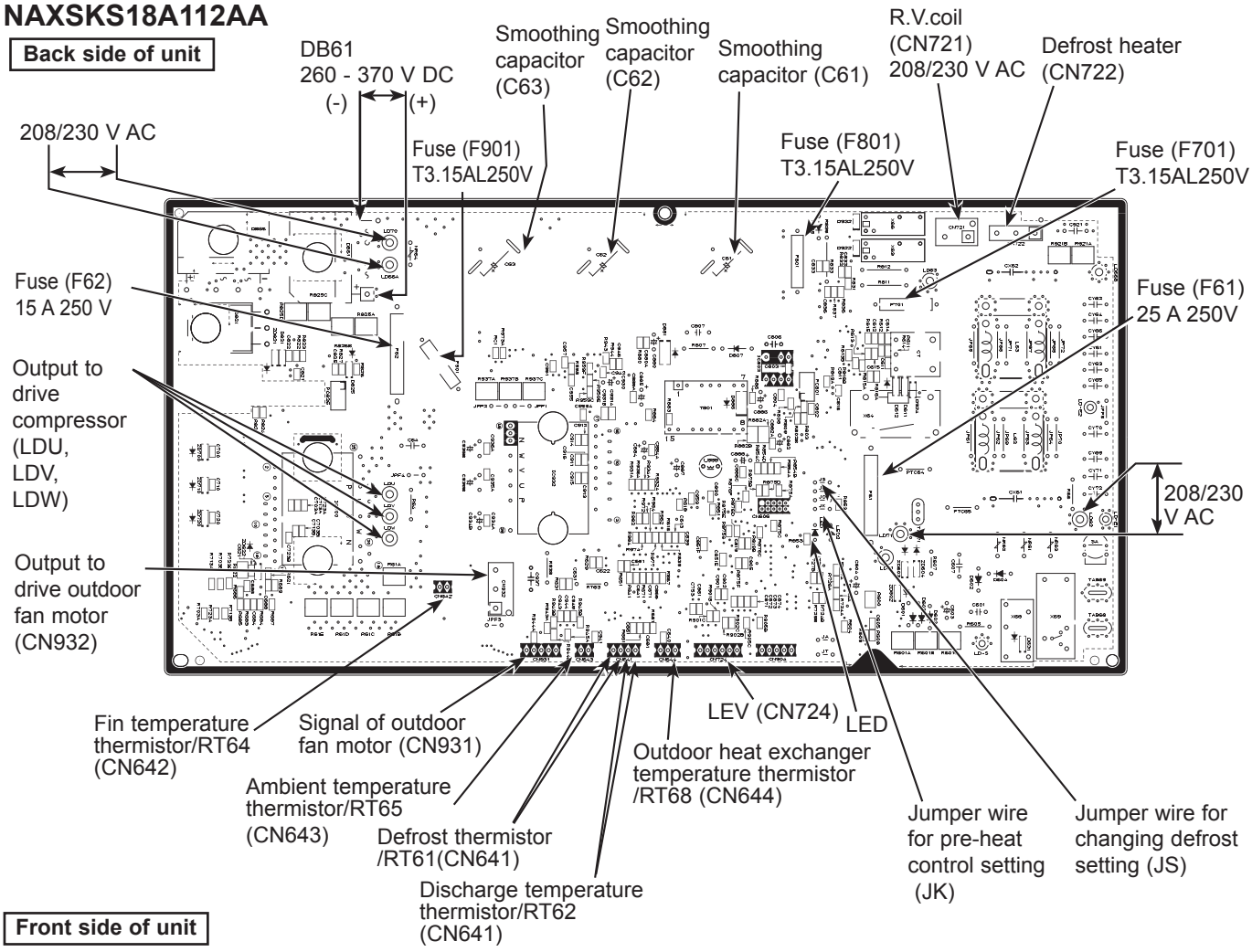
Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the followings before asking for service.

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.

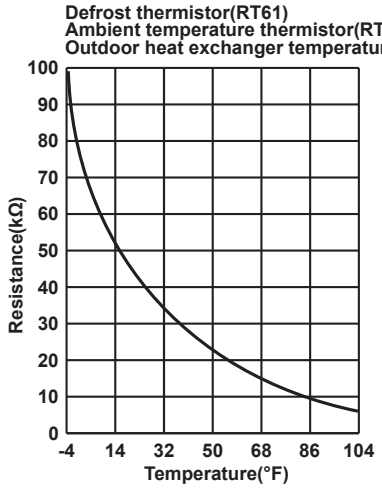
10-6. TEST POINT DIAGRAM AND VOLTAGE
Inverter P.C. board

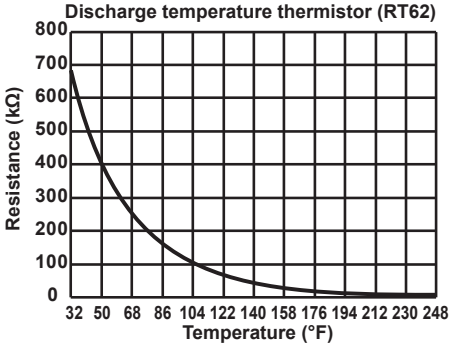
NAXSKS18A112AA

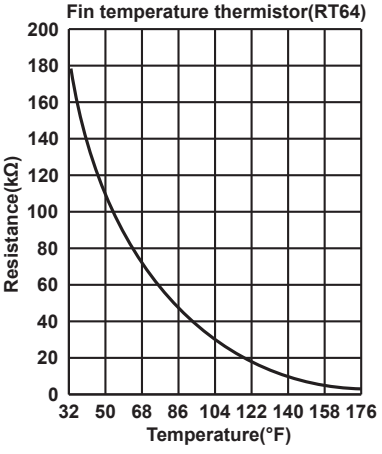
Back side of unit



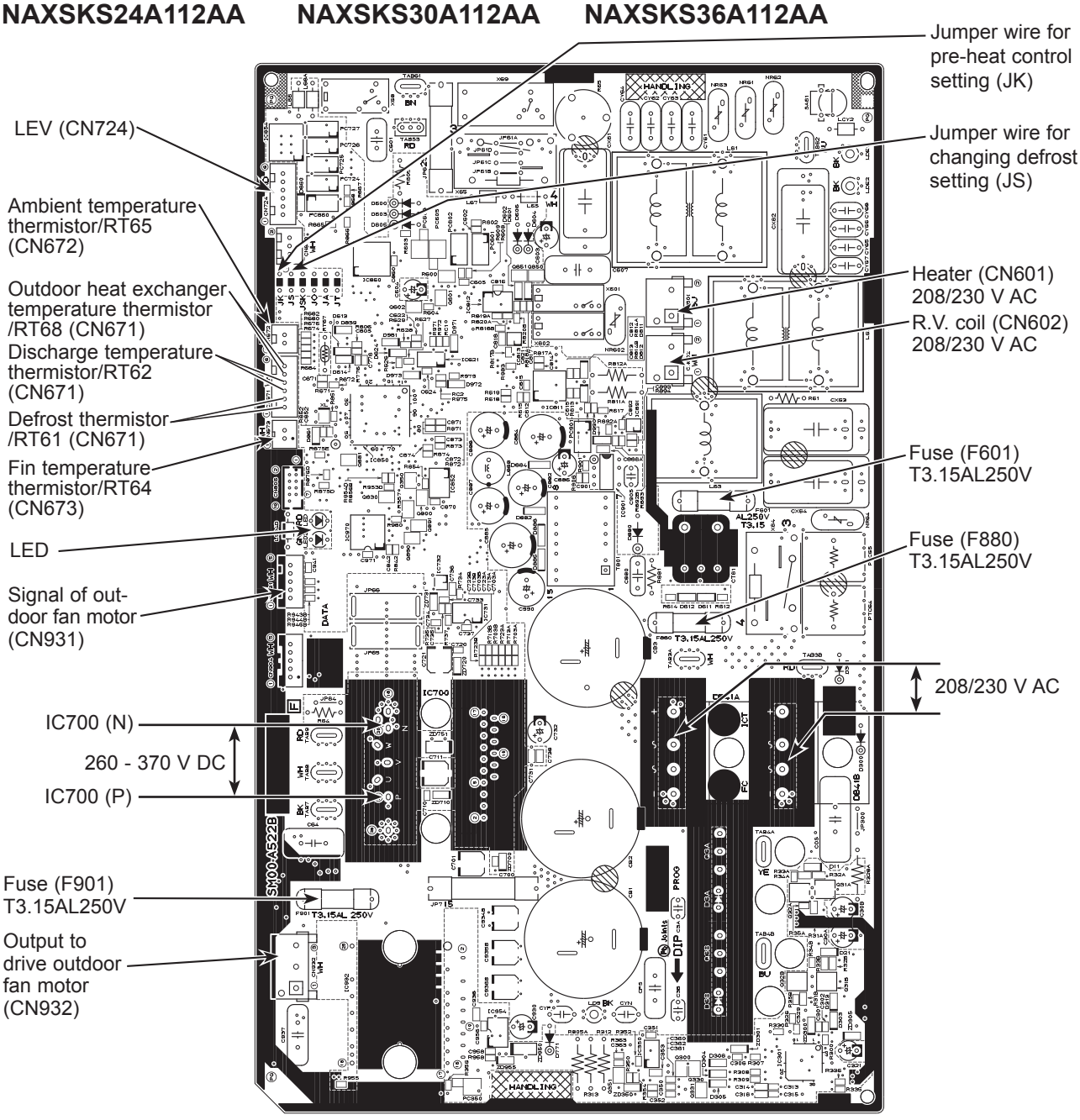
Front side of unit

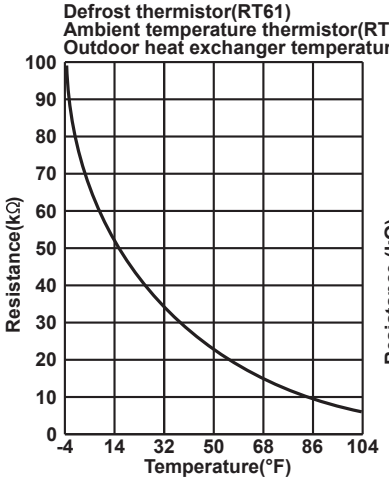


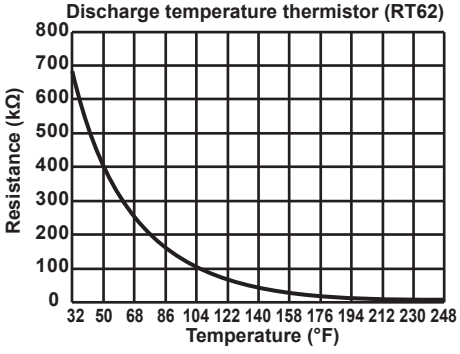


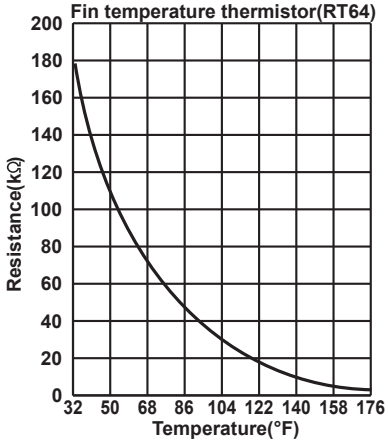


NAXSKS24A112AA NAXSKS30A112AA NAXSKS36A112AA









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 APEADA0**1AA70*	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 APEADA0, NAXUKS :Heater not operation in Defrost/Error	23 (123)	1	●	●	●	●	
	NAXDKS, NAXCKS :Set temp -1.8°F ON APEADA0, 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 APEADA0.

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.

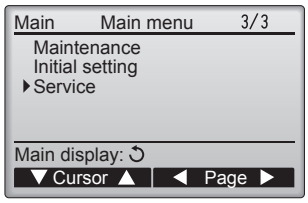
11-1-1. Selecting functions using the wired remote controller <PAR-3xMAA ("x" represents 0 or later)>

<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.

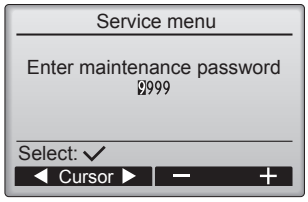


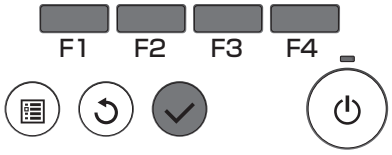
② When the Service menu is selected, a window will appear asking for the password.

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.



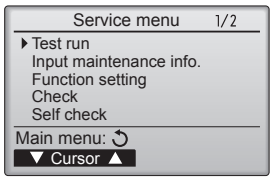


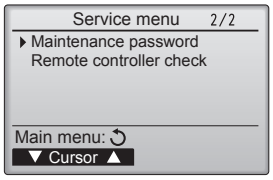
Note: The initial maintenance password is "9999". Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

: 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.

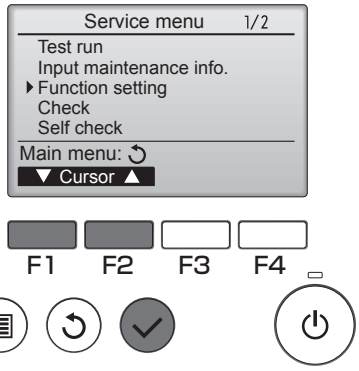
Navigating through the screens

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

<Function setting>

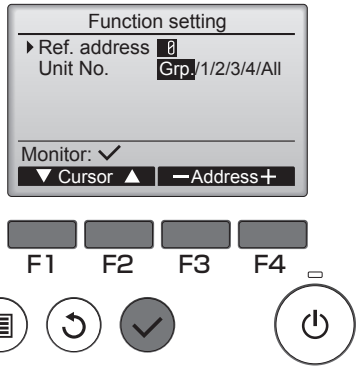
① Select "Service" from the Main menu, and press the button.

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

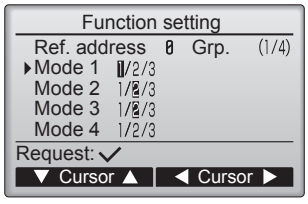


② Set the indoor unit refrigerant addresses and unit numbers with the F1 through F4 buttons, and then press the button to confirm the current setting.

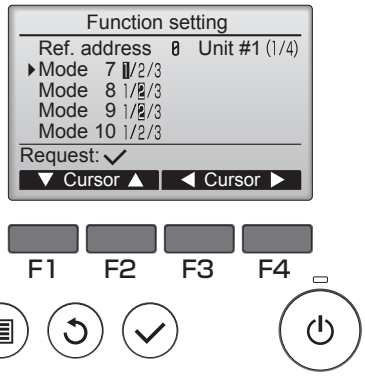
<Checking the indoor unit No.>
When the button is pressed, the target indoor unit will start fan operation. If the unit is common or when running all units, all indoor units for the selected refrigerant address will start fan operation.



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.

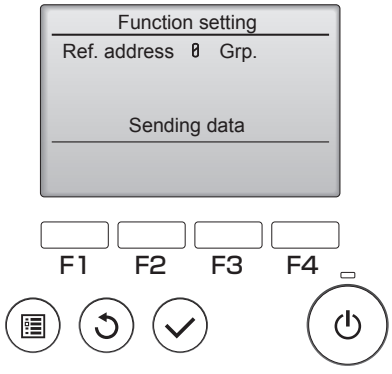


④ Use the F1 or F2 button to move the cursor to select the mode number, and change the setting number with the F3 or F4 button.



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.**

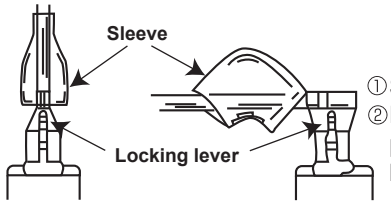


12 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

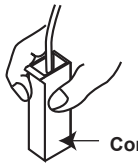
The terminal which has the locking mechanism can be detached as shown below.
There are two types (refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(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.

NAXSKS18A112AA **NAXSKS24A112AA** **NAXSKS30A112AA** **NAXSKS36A112AA**

→ : 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 screws of the service panel.
(2) Remove the screws of the top panel.
(3) Remove the screw of the valve cover.
(4) Remove the service panel.
(5) Remove the screws fixing the conduit cover.
(6) Remove the conduit cover.
(7) Remove the screw of fixing the conduit plate.
(8) Remove the conduit plate.
(9) Remove the top panel.
(10) Remove the valve cover.
(11) Disconnect the power supply and indoor/outdoor connecting wire.
(12) Remove the screws of the cabinet.
(13) Remove the cabinet.
(14) Remove the screws of the back panel.
(15) Remove the back panel.

Photo 1

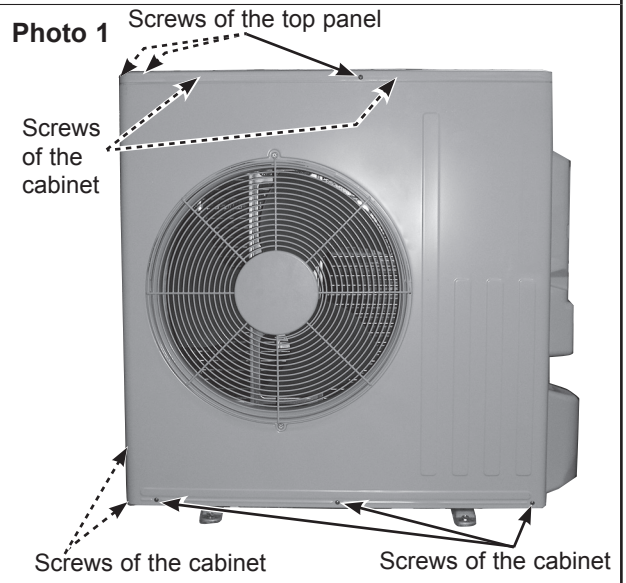


Photo 3

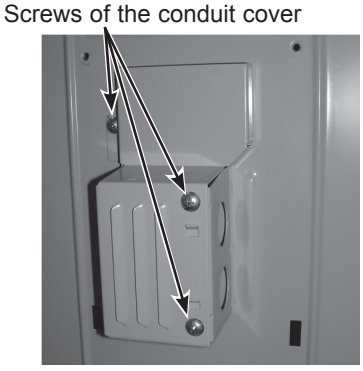
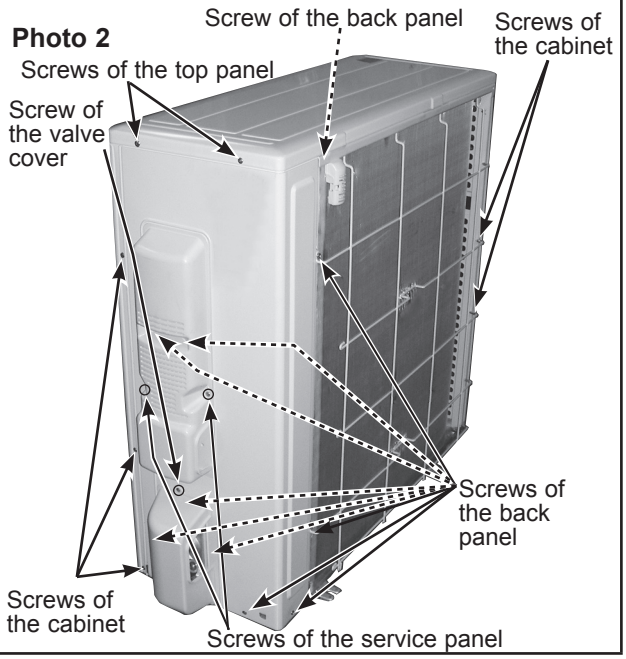


Photo 4

Photo 2



OPERATING PROCEDURE	PHOTOS/FIGURES

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) (**NAXSKS18A112AA**)
CN931, CN932 (Fan motor)
CN601(Defrost heater) (**NAXSKS24/30/36A112AA**)
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
CN724 (LEV)
(3) Remove the compressor connector.
(4) Remove the screw 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, screw of the P.C. board cover and screws 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 the inverter P.C. board from the P.C. board support.

3. Removing R.V. coil

(1) Remove the cabinet and panels. (Refer to 1.)
(2) Disconnect the following connector:
<Inverter P.C. board>
CN721 (R.V. coil)
(3) Remove the R.V. coil.

Photo 7

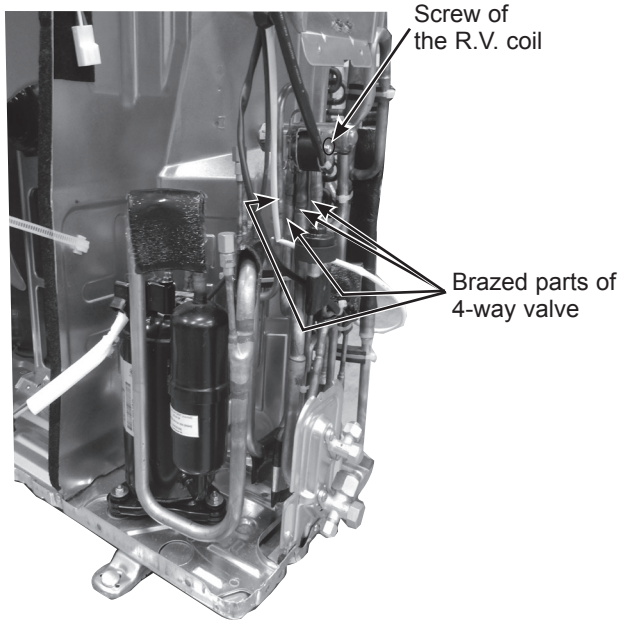


Photo 5

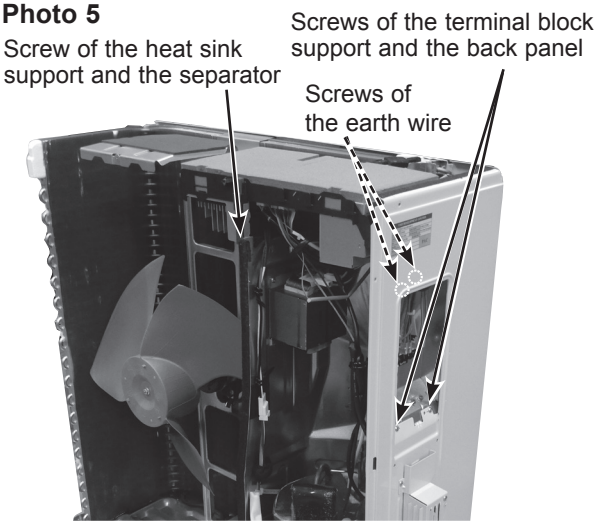


Photo 6-1 (NAXSKS18A112AA)

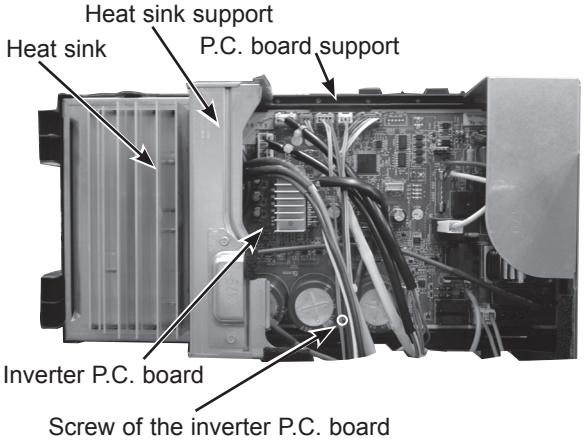
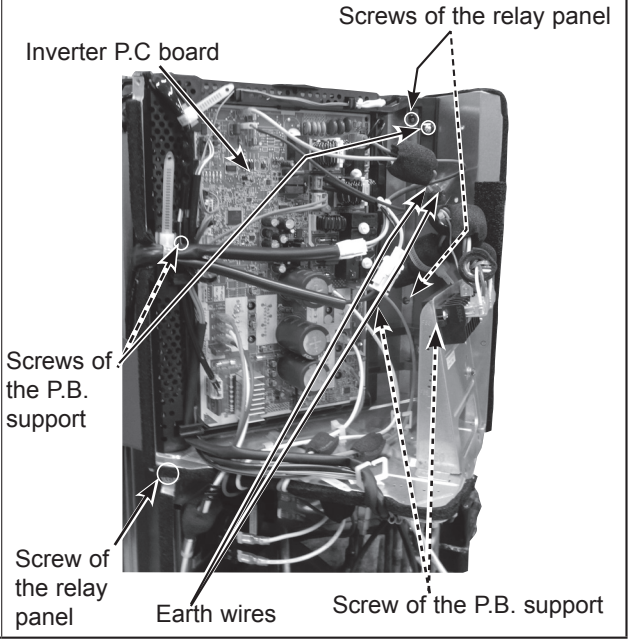


Photo 6-2 (NAXSKS24/30/36A112AA)

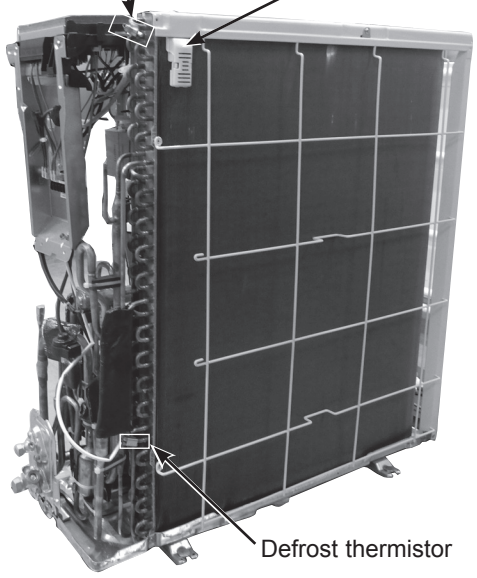


OPERATING PROCEDURE	PHOTOS/FIGURES

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.

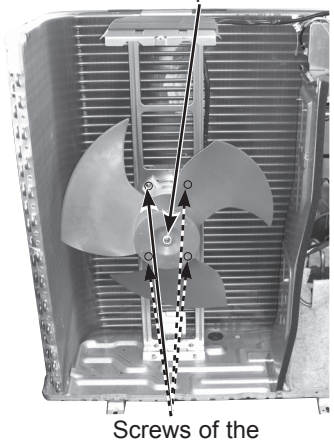
Photo 8



5. Removing outdoor fan motor

(1) Remove the top panel, cabinet and service panel. (Refer to 1.)
(2) Disconnect the following connectors:
<Inverter P.C. board>
CN931 and CN932 (Fan motor)
(3) Remove the propeller fan nut.
(4) Remove the propeller fan.
(5) Remove the screws fixing the fan motor.
(6) Remove the fan motor.
NOTE: The propeller fan nut is a revers thread.

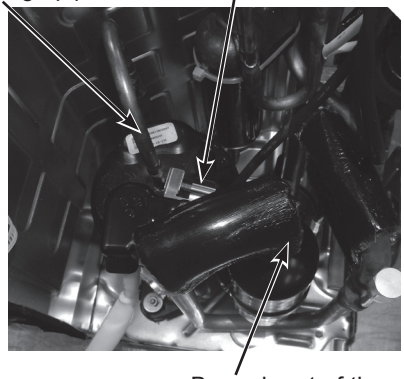
Photo 9



6. Removing the compressor and 4-way valve

(1) Remove the top panel, cabinet and service panel. (Refer to 1.)
(2) Remove the back panel. (Refer to 1.)
(3) Remove the inverter assembly. (Refer to 2.)
(4) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 PSIG.
(5) Detach the brazed part of the suction and the discharge pipe connected with compressor.
(6) Remove the compressor nuts.
(7) Remove the compressor.
(8) Detach the brazed part of 4-way valve and pipe. (Photo 7)

Photo 10



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