

**MULTI SPLIT TYPE  
AIR CONDITIONER  
WALL MOUNTED type**

**SERVICE  
MANUAL**

<b>Models</b>	<b>Indoor unit</b>	<b>Outdoor unit</b>
	ASU12D1	AOU24D1

**CONTENTS**

SPECIFICATIONS .....	1
OUTLINE AND DIMENSIONS .....	2
REFRIGERANT SYSTEM DIAGRAM .....	3
CIRCUIT DIAGRAM .....	4
INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM .....	5
OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM .....	6
PRINTED CIRCUIT BOARD LAYOUTS .....	8
DISASSEMBLY ILLUSTRATION .....	11
PARTS LIST .....	17

# S P E C I F I C A T I O N S

INDOOR UNIT	ASU12D1	ASU12D1 x 2
OUTDOOR UNIT	AOU24D1	
COOLING CAPACITY (BTU/hr)	11,300 - 11,500	22,600 - 23,000

## ELECTRICAL DATA

POWER SOURCE (V)	208 - 230	
FREQUENCY (Hz)	60	
RUNNING CURRENT (A)	6.3 - 5.8	12.0 - 10.8
INPUT WATTS (W)	1,300 - 1,300	2,450 - 2,450
SEER	10.0	10.5
MOISTURE REMOVAL Pts/hr (ℓ /hr)	3.4 (1.6)	3.4 (1.6) + 3.4 (1.6)
AIR CIRCULATION-Hi (m <sup>3</sup> /hr)	530	530 + 530

## COMPRESSOR

TYPE	Hermetic type, Permanent split condenser, 2 pole, Single phase, Induction motor	
CODE	RH167NRAT 208 - 230V 60Hz	
REFRIGERANT R-22 lbs (g)	2.31 (1,050) x 2	

## FAN MOTOR

POWER SOURCE (V)	208 - 230	
INDOOR UNIT	HI (r.p.m.)	1,350 ± 20
	MED (r.p.m.)	1,250 ± 20
	LO (r.p.m.)	1,150 ± 20
	QUIET (r.p.m.)	1,050 ± 20
OUTDOOR UNIT (r.p.m.)	750 ± 50	

## DIMENSIONS

INDOOR UNIT	H x W x D inch (mm)	11 (280) x 32-1/8 (815) x 7 (179)
OUTDOOR UNIT		25-6/16 (643) x 33-1/16 (840) x 13-3/16 (335)

## WEIGHT

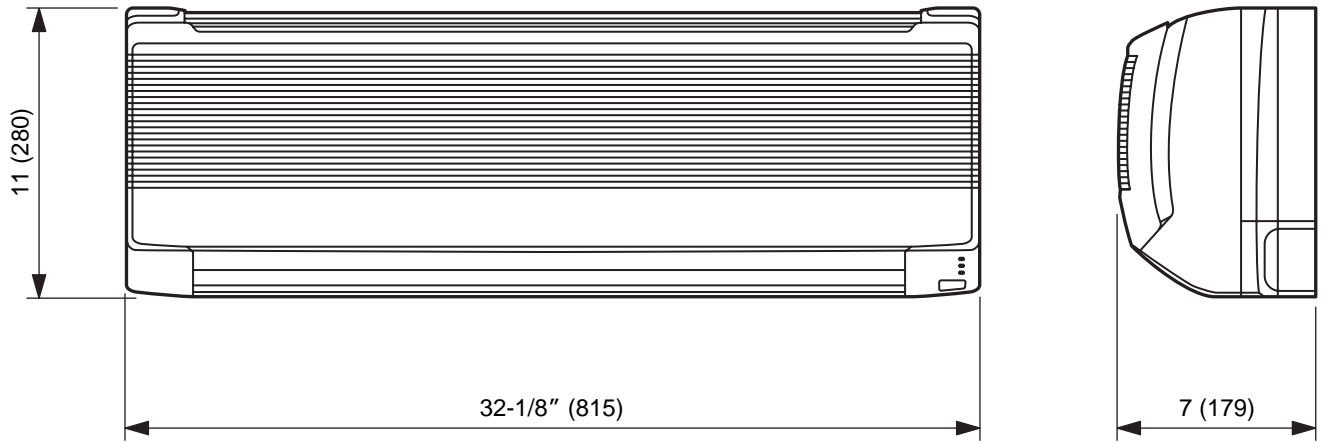
INDOOR UNIT	GROSS / NET lbs (kg)	26 / 22 (12 / 10)
OUTDOOR UNIT		168 / 150 (76 / 68)

# OUTLINE AND DIMENSIONS

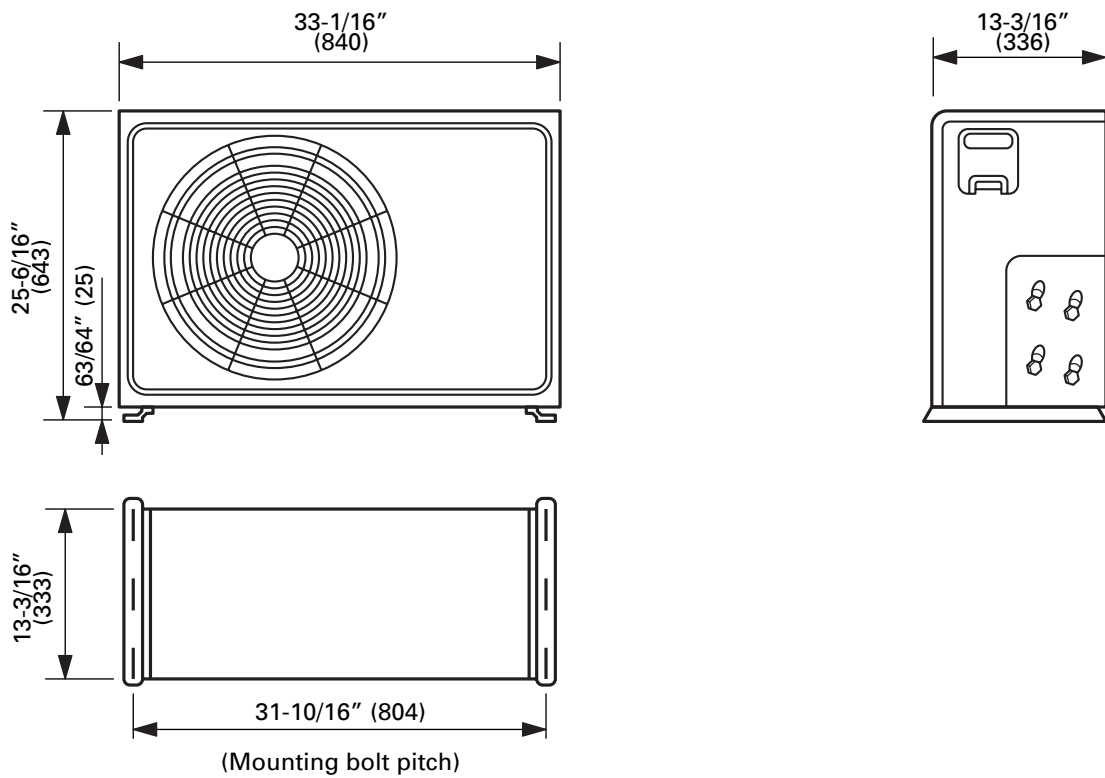
Models : ASU12D1 / AOU24D1

Unit : inch (mm)

## INDOOR UNIT

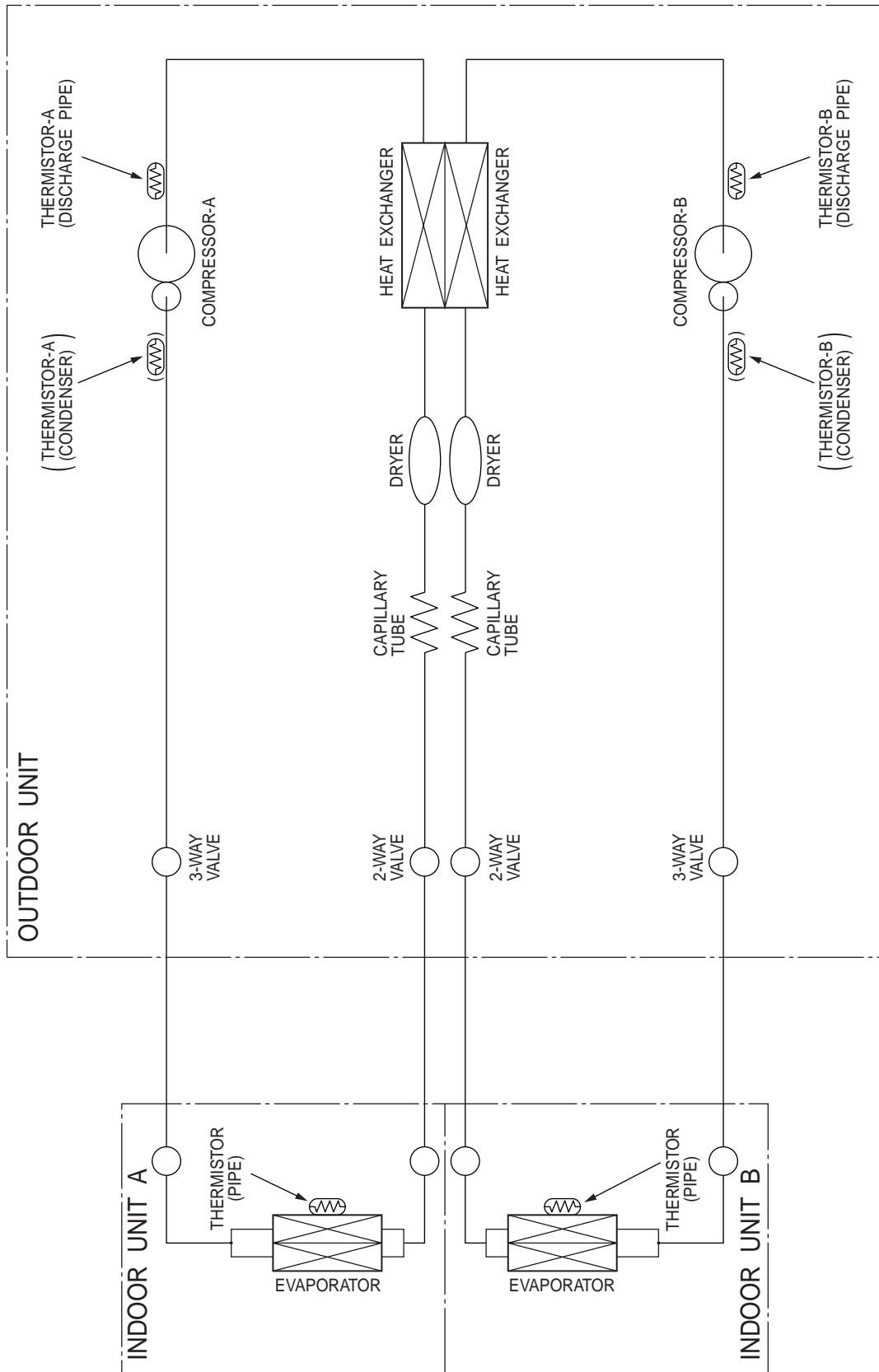


## OUTDOOR UNIT



# REFRIGERANT SYSTEM DIAGRAM

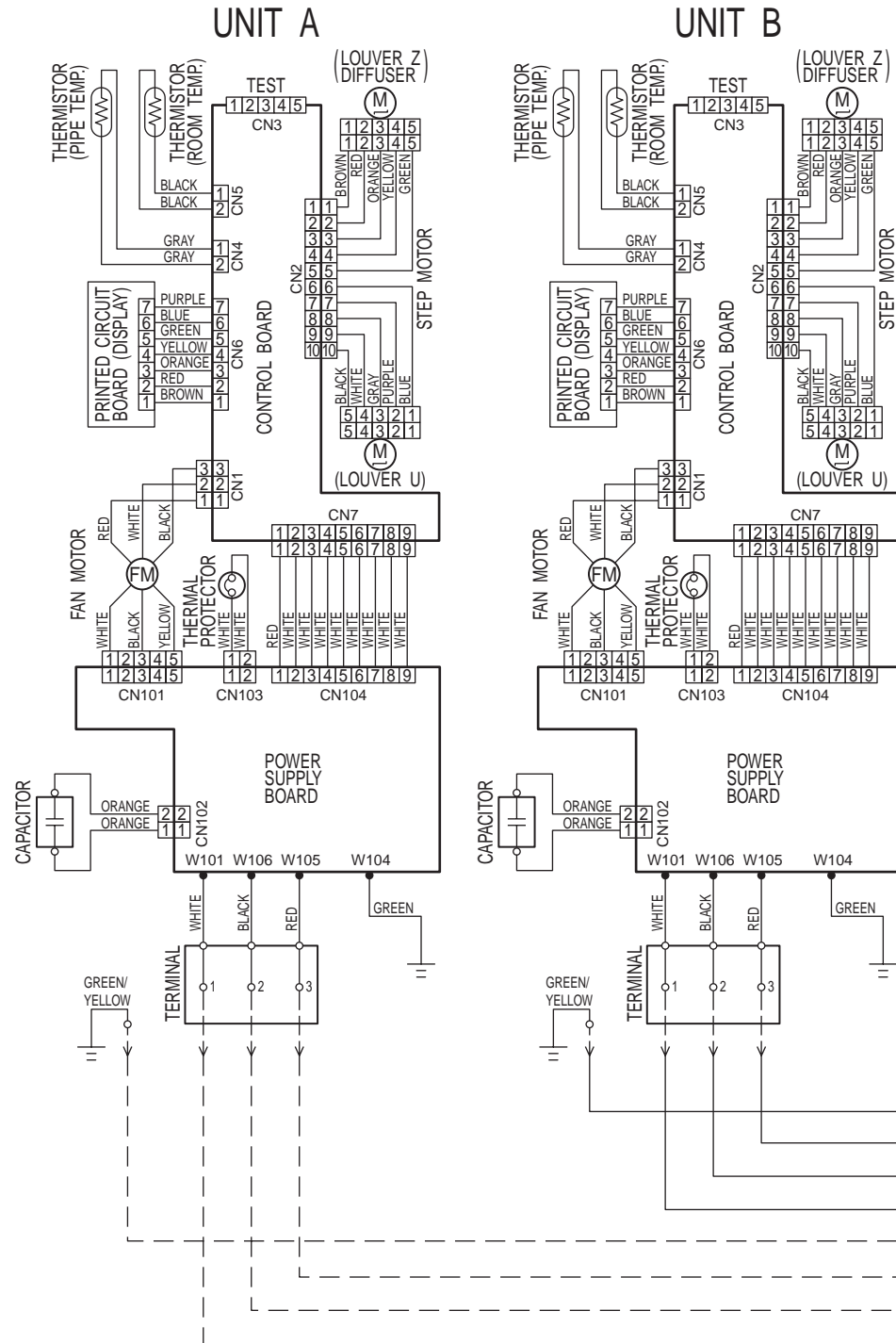
Models : ASU12D1 x 2 / AOU24D1



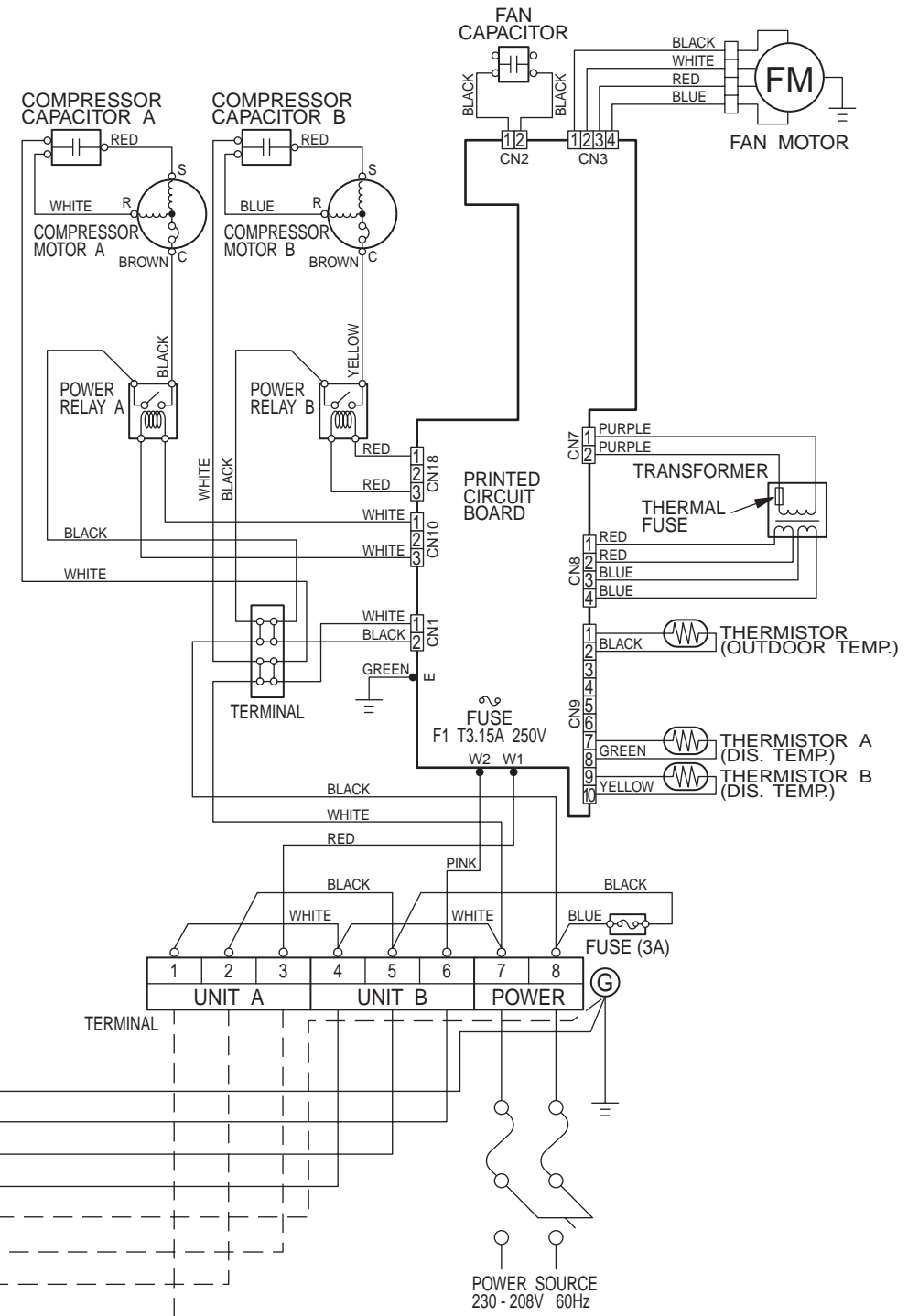
# CIRCUIT DIAGRAM

Models : ASU12D1 x 2 / AOU24D1

## INDOOR UNIT

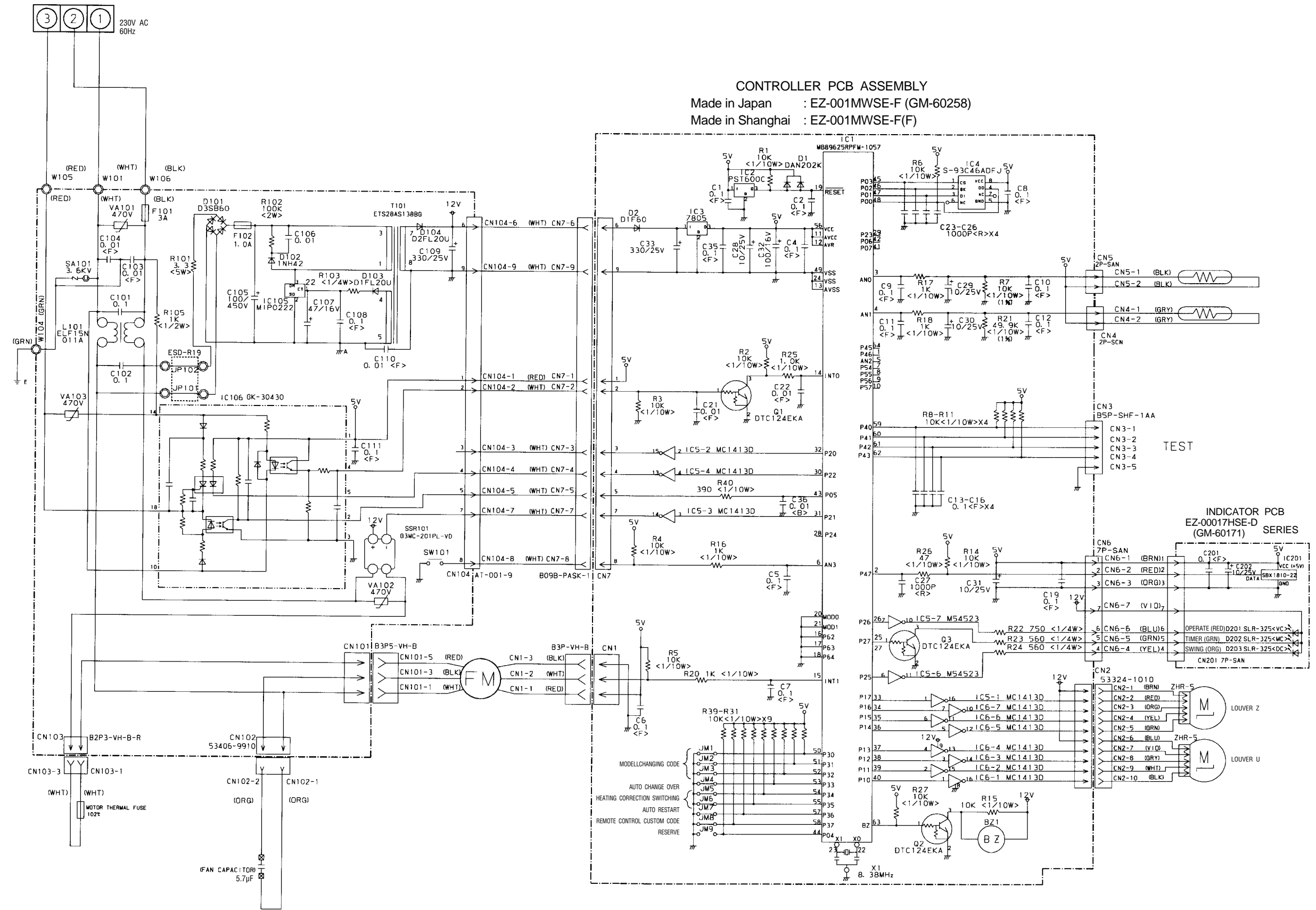


## OUTDOOR UNIT



# INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Model : ASU12D1



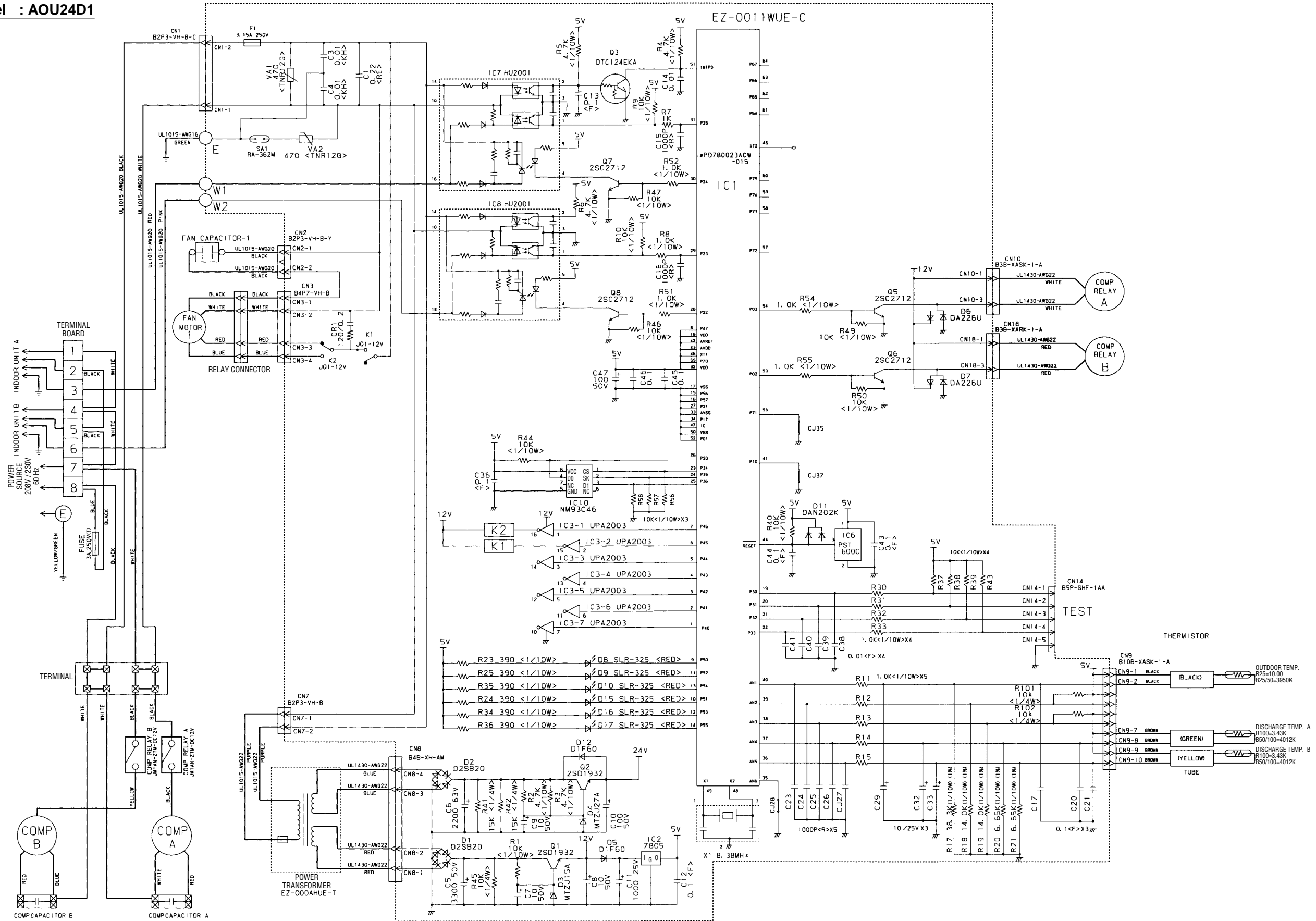
CONTROLLER PCB ASSEMBLY  
 Made in Japan : EZ-001MWSE-F (GM-60258)  
 Made in Shanghai : EZ-001MWSE-F(F)

TEST

INDICATOR PCB  
 EZ-00017HSE-D  
 (GM-60171) SERIES

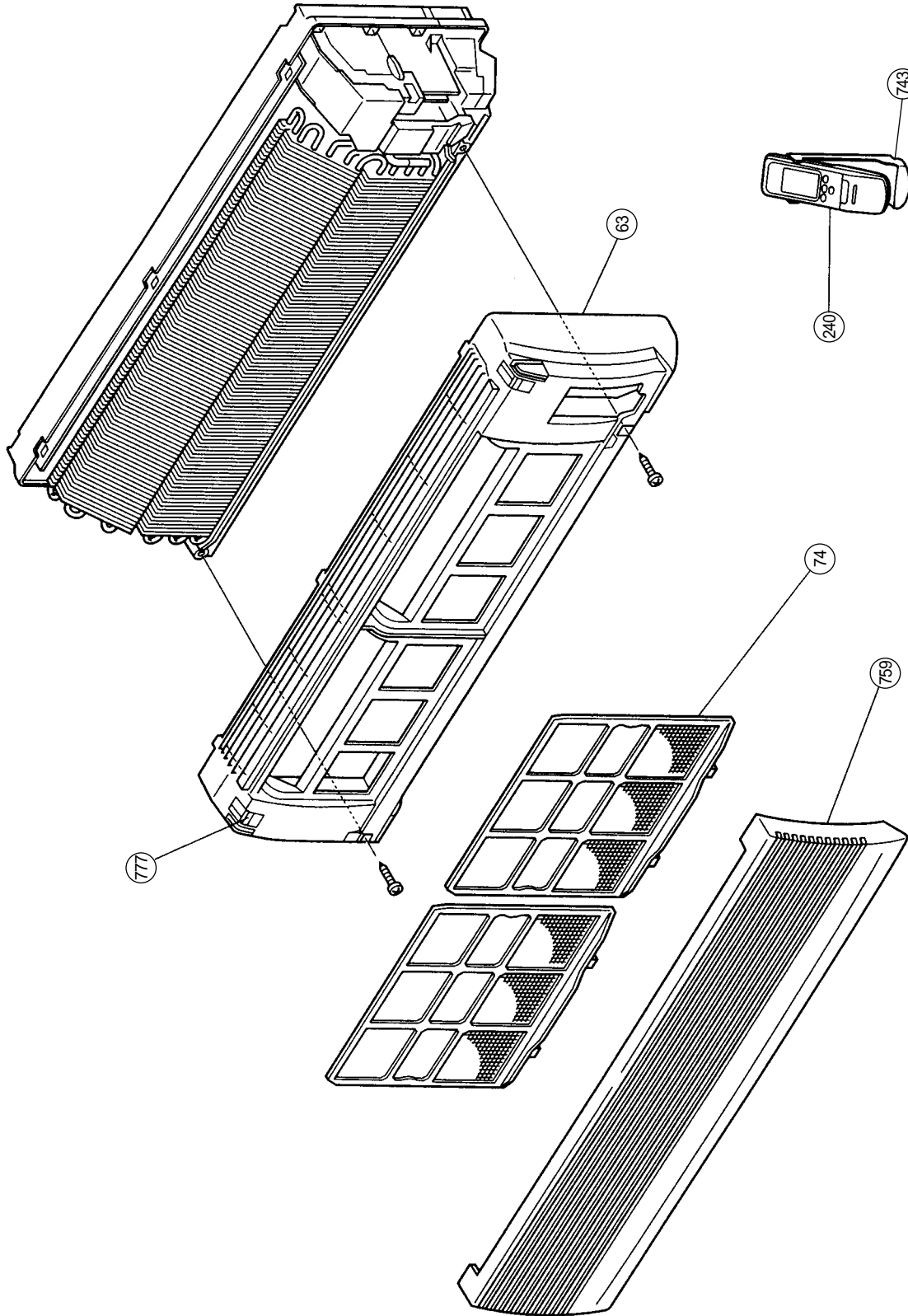
# OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

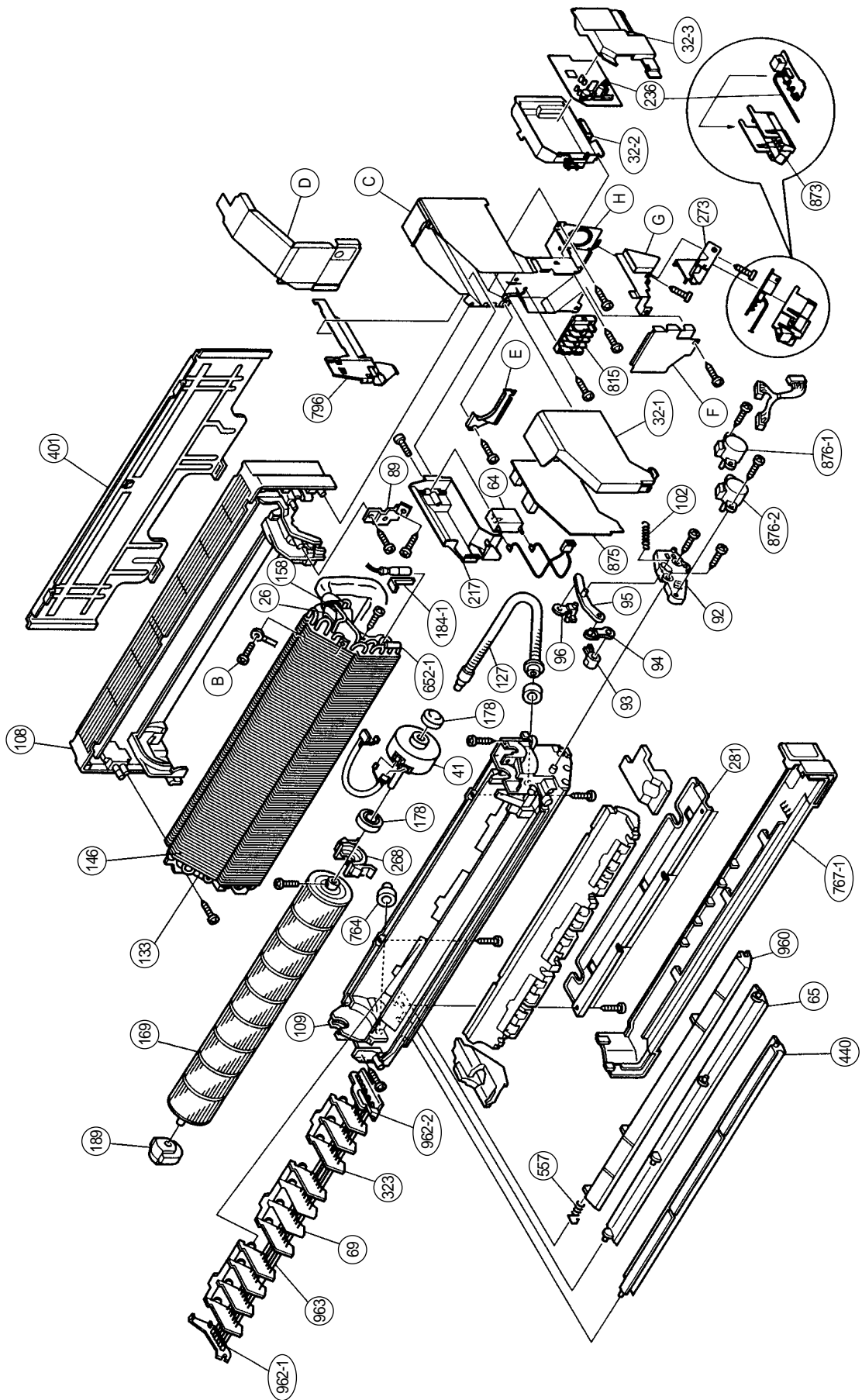
Model : AOU24D1



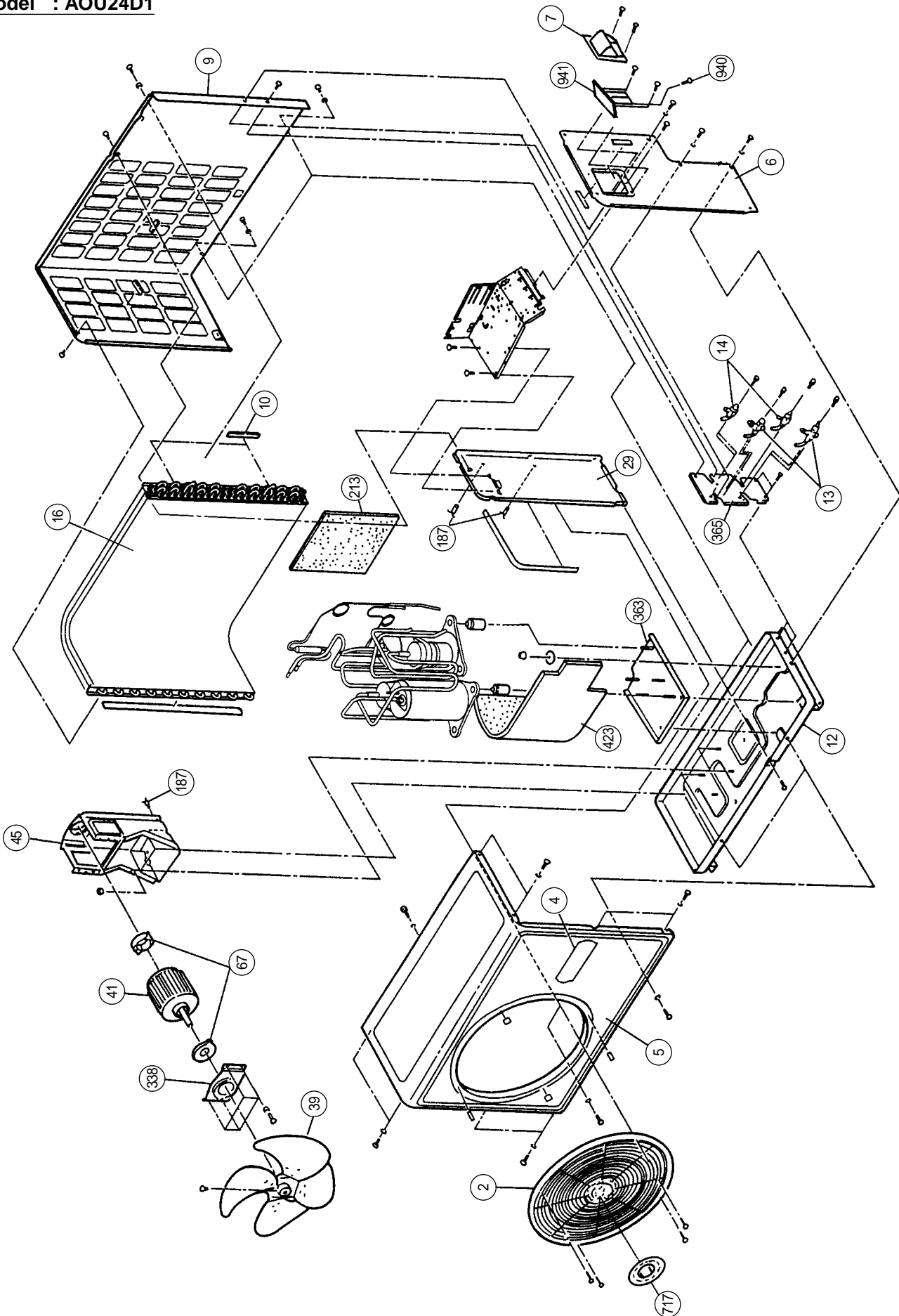
# DISASSEMBLY ILLUSTRATION

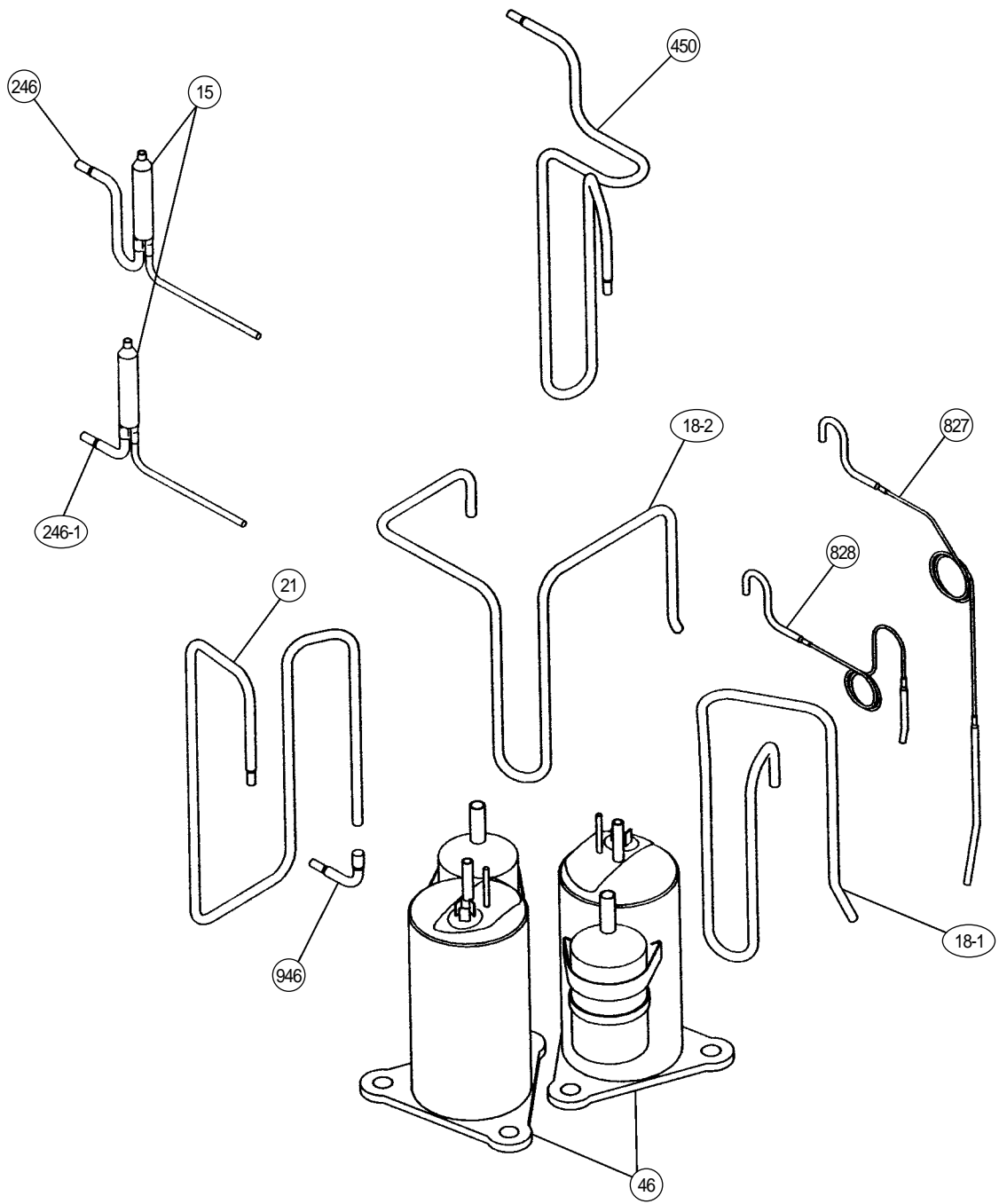
Model : ASU12D1

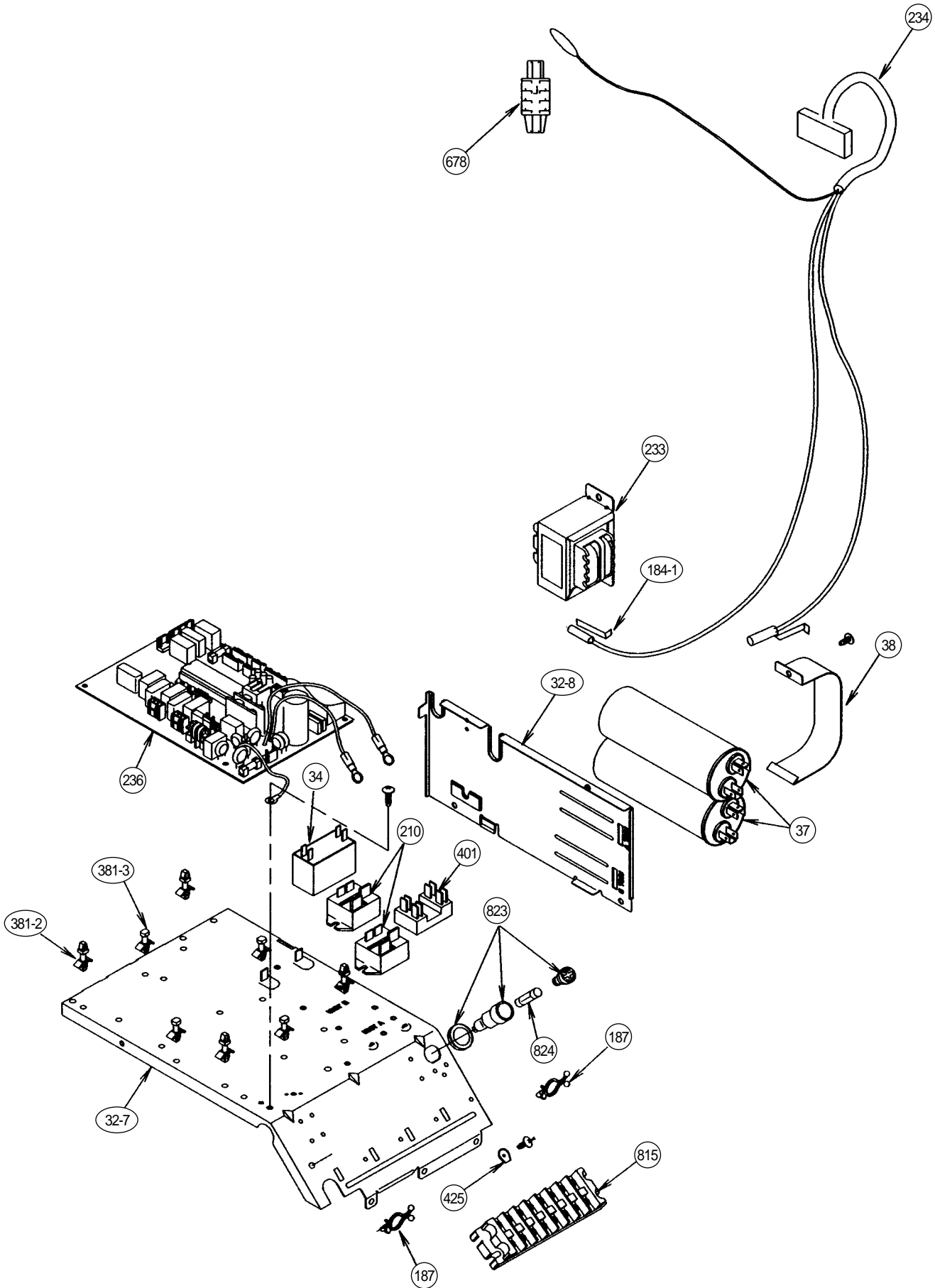


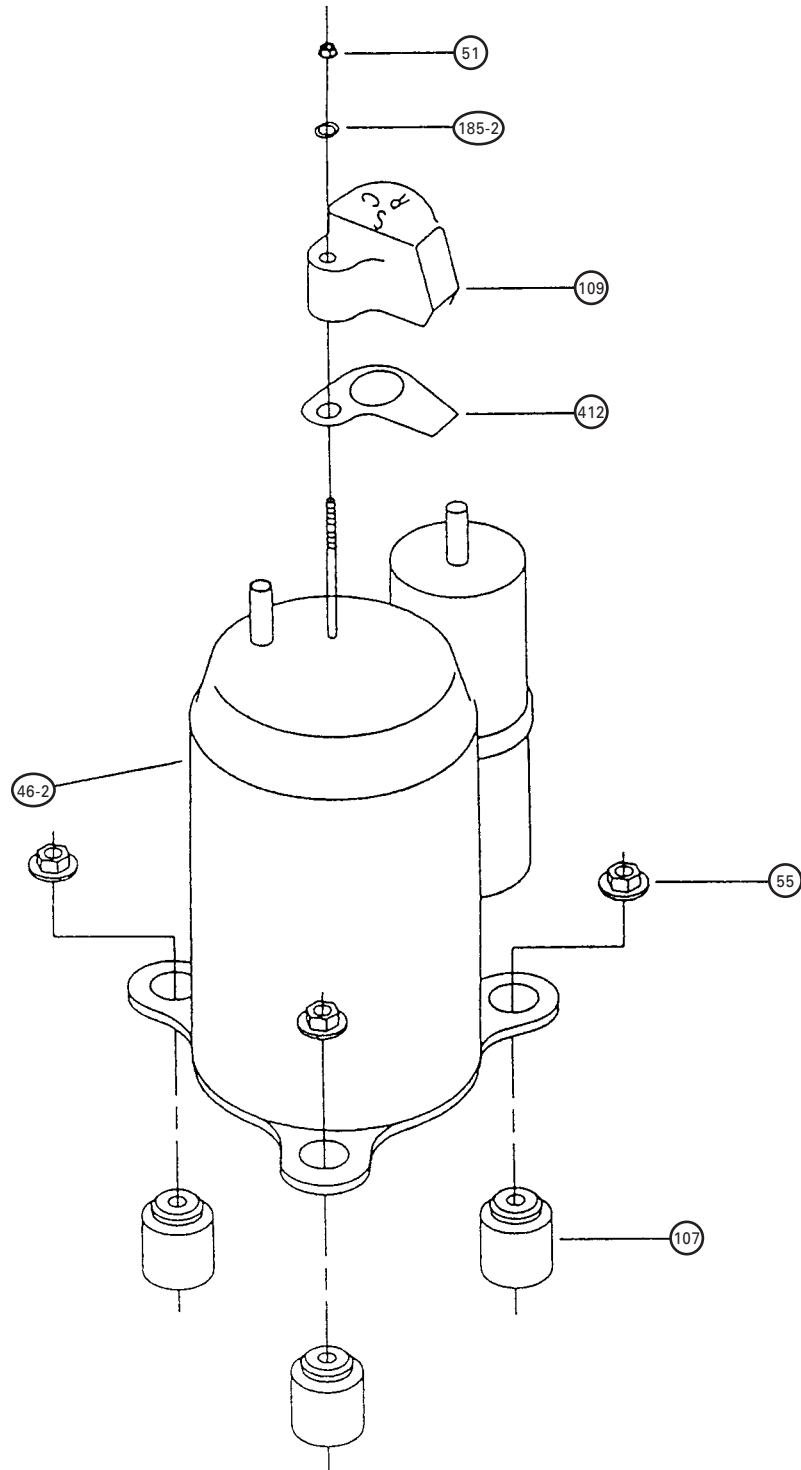


Model : AOU24D1









# PARTS LIST

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

## INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
26	BR Sheet 40 x 80 x T5	9305039043		268	Motor Cover-B	9306582012	
32-1	Control Box-A	9309045019		273	Lamp Cover Holder	9309048010	
32-2	Control Box-B	9309046016		281	Clamp Metal (Pipe)	9306607012	
32-3	Control Box-C	9309055018		323	Louver-B	9306584016	
41	Fan Motor Assy -In (MFA-09GP)	9600881026		401	Wall Hook Bracket	9306588014	
63	Front Panel Assy w/o Filter	9306817176		440	Flow Control Panel-U	9306570019	
64	Capacitor (Fan Motor) 7µF/ 200V	9700468103		557	Diffuser Spring	9306611019	
65	Flow Control Panel-Z	9306571016		652-1	Therm. Holder Pipe	313714262805	
69	Louver-A	9306583019		743	Remote Control Unit Holder Case	9305642014	
74	Filter	9306601010		759	Intake Grille Assy	9307130052	
89	Casing Fixture Metal	9307018008		764	Drain Cap Assy	9304150008	
92	Link Plate	9306577018		767-1	Bottom Cover-A	9306567019	
93	Link-A	9306573010		777	Intake Grille Clamp	9306755010	
94	Link-B	9306574017		796	Control Box-D	9309049017	
95	Link-C	9306575014		815	Terminal 4P	9703455018	
96	Link-D	9306576011		873	Lamp Cover	9306593025	
102	Link Spring	9306610012		875	Power Supply PCB Assy EZ-00017HSE-P	9704125019	
108	Base Sub Assy	9306830014		876-1	Step Motor	9305780006	
109	Casing	9306569013		876-2	Step Motor	9305892006	
127	Drain Hose Assy	9305550029		960	Diffuser Assy	9307692017	
133	Evaporator Cover	9306606015		962-1	Guard Holder-L	9307229015	
146	Evaporator Assy	9308200013		962-2	Guard Holder-R	9307228018	
158	Connecting Pipe Assy	9308100016		963	Fan Guard	9305751020	
169	Cross-flow Fan Assy	9307836015		B	Screw(w/Spring Washer)	0700179013	
178	Motor Cushion-A (Fan Motor)	9303528006		C	Control Box Assy	9309044012	
184-1	Thermistor Spring-A	313728262708		D	Control Box Cover A	9309039018	
189	Shaft Holder-C	9306628017		E	Control Box Cover B	9309040014	
217	Capacitor Holder	9309047013		F	Control Box Cover C	9309041011	
236	Controller PCB Assy EZ-001MWSE-F	9704124036		G	Control Box Cover D	9309042018	
240	Remote Control Unit AR-FB2	9309143012		H	Conduit Holder	9309043015	

## OUTDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
2	Fan Cover	9363678000		184-1	Thermo Spring-A	313728262708	
4	Emblem Rear	9351355005		185-2	Rubber Washer	9358078006	
5	Cabinet-A, Painted	9303876015		187	Clamp No.1219	313361271706	
6	Cabinet-C, Painted	9352674006		210	Main Relay	9356781007	
7	Connector Cover	9359467014		213	Noise Insulation-B	9352670008	
9	Cabinet-B, Painted	9353629012		233	Transformer	9704034014	
10	Noise Insulation-E	313791106305		234	Thermistor Assy	9900031015	
12	Base Assy, Painted	9352577017		236	Controller PCB Assy (EZ-0011WUE-C)	9704088031	
13	3-Way Valve	9359750000		246	Outlet Pipe-A	9368937010	
14	2-Way Valve	9357967004		246-1	Outlet Pipe-B	9363851007	
15	Dryer	9368116019		338	Motor Fixture	313029297108	
16	Condenser Assy	9368936013		363	Bracket (Compressor)	9363840001	
18-1	Suction Pipe-A	9368932015		365	Bracket (3-Way Valve)	9355842020	
18-2	Suction Pipe-B	9368933012		381-2	Locking Spacer KGLS-8S	0600035020	
21	Discharge Pipe-B Assy	9368935023		381-3	Locking Spacer KGPS-8S	0600118051	
29	Separate Wall	313111033209		401	Terminal 2P	9701971015	
32-7	Control Box Metal-U	9365924006		412	Terminal Packing	9358077009	
32-8	Control Box Metal-S	9365925003		423	Noise Insulation-F	9350944019	
34	Capacitor (Fan Motor) 2.5µF 200V AC	9355306010		425	Earth Terminal	9355678001	
37	Running Capacitor 25µF 400V AC	9356386035		450	Discharge Pipe-A Assy	9368934026	
38	Capacitor Band	9352123009		678	Bracket (Thermistor)	313557406106	
39	Propeller Fan Assy	9300855013		717	Center Plate	9363776003	
41	Fan Motor Assy-Out	9600738139		815	Terminal 8P	9358659021	
45	Motor Fixing Table Assy	313029311100		823	Fuse Holder	0500802111	
46-2	Compressor Assy	9368939007		824	Fuse 3A-250V	0600106546	
51	Special Nut	9358079003		827	Capillary-A Assy	9368930011	
55	Special Nut M8	313252257701		828	Capillary-B Assy	9368931018	
67	Rubber	313659068604		940	Hole Plug No.0875	9355891004	
107	Rubber Seat-A	9358080009		941	Conduit Plate	9359468011	
109	Terminal Cover	9358076002		946	Inlet Pipe-B	9363849004	

[INDOOR UNIT]

CONTROLLER PCB ASSEMBLY (Ref. No. 236)

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC MB89625RPFM-1057	1302682017		R21	Res. 1/10W 49.9kΩ±1%	0200279824	
IC2	IC PST600CMT	0101461120		R22	Res. 1/4W 750Ω±5%	0200230719	
IC3	IC NJM7805FA	0100462081		R23,24	Res. 1/4W 560Ω±5%	0200230689	
IC4	IC S-93C46ADFJ-TB	0101919027		R25	Res. 1/10W 1kΩ±5%	0200212746	
IC5,6	IC MC1413D	0101736013		R26	Res. 1/10W 47Ω±5%	0201010426	
Q1~3	Xstr DTC124EKA	0000936033		R40	Res. 1/10W 390Ω±5%	0201010648	
D1	Diode DAN202K	0000684019		JM1,3,5,6	Res. 1/4W 0Ω	0200230016	
D2	Diode D1F60	0000208024		JM7,8	Wire IPS-3043-02	1903332014	
C1,2,4-16,19,35	Cap. Ceramic 25V 0.1μF	0301102885		X1	Ceramic Resonator CST8.38MTW-TF01	0400061021	
C21,22	Cap. Ceramic 50V 0.01μF	0301102830		BZ1	Buzzer PKM13EPY-4000-TF01	9701298013	
C23~27	Cap. Ceramic 50V 1000pF	0300277096		CN1	Plug, PCB B3P-VH-B	0500011520	
C28~31	Cap. Elec. 25V 10μF	0300328026		CN2	Plug, PCB 53324-1010	0501052096	
C32	Cap. Elec. 16V 100μF	0301192251		CN3	Plug, PCB B5P-SHF-1AA	0500006069	
C33	Cap. Elec. 25V 330μF	0301196952		CN4	Thermistor 105-503-96063	9702039028	
C36	Cap. Ceramic 50V 0.01μF	0301102809		CN5	Thermistor 105-103-86119	9700801078	
R1~6,8-11,14,15,27,31,39	Res. 1/10W 10kΩ±5%	0201011010		CN6	Wire w/Connector L=170	9703353017	
R7	Res. 1/10W 10kΩ±1%	0200279497		CN7	Plug, PCB B09B-PASK-1	0501360092	
R16~18,20	Res. 1/10W 1kΩ±5%	0201010747					

[INDOOR UNIT]

INDICATOR PCB ASSEMBLY (Ref. No. 385)

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC201	Remote Control Amplifier SBX1810-22	0101525129		D203	Diode SLR-325DC ORG	0000813235	
D201	Diode SLR-325VC RED	0000813259		C201	Cap. Ceramic 25V 0.1μF	0301102885	
D202	Diode SLR-325MC GRN	0000813242		C202	Cap Elec. 25V 10μF	0300099339	

[INDOOR UNIT]

POWER SUPPLY PCB ASSEMBLY (Ref. No. 875)

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC105	IC MIP0222SYOLT	0101972077		VA101-103	Varistor TNR10V471K	0000361224	
IC106	IC GK-30430	1082951006		SA101	Surge Absorber RAM-362LAS	0600275037	
D101	Diode D3SB60	0000689045		F101	Fuse MT3 3A-250V	0600239015	
D102	Diode 1NH42 (TPA3)	0000325028		F102	Fuse TSCR 1A-250V	0600078119	
D103	Diode D1FL20U	0000746519		T101	Switching Transformer ETS28AS138BG	1302433022	
D104	Diode D2FL20U	0000906500		L101	EMI Filter ELF15N011A	0400165095	
C101,102	Cap. Plastic 0.1μF	0300304075		SW101	Push Switch KSM0632B	9703476013	
C103,104,110	Cap. Ceramic 0.01μF	0300031063		CN101	Plug, PCB B3P5-VH-B	0500011735	
C105	Cap. Elec. 450V 100μF	0300256060		CN102	Plug, PCB 53406-9910	0500951048	
C106	Cap. Plastic 0.01μF	0300334010		CN103	Plug, PCB B2P3-VH-B-R	0500011766	
C107	Cap. Elec. 16V 47μF	0301197447		CN104	Wire w/Connector L=200	9703350016	
C108,111	Cap. Ceramic 50V 0.1μF	0300311752		W101	Wire w/Terminal WHT L=150	1302453013	
C109	Cap. Elec. 25V 330μF	0301196952		W104	Wire w/Terminal GRN L=130	9703348037	
R101	Res. Cement 5W 3.3Ω±10%	0200153148		W105	Wire w/Terminal RED L=150	1302454010	
R102	Res. Metal Oxide 2W 100kΩ±5%	0201107690		W106	Wire w/Terminal BLK L=150	9703348044	
R103	Res. 1/4W 22Ω±5%	0200230344		JP101,102	Wire YEL/ORG L=200	1301974038	
R105	Res. 1/2W 1kΩ±5%	0200731742					
SSR101	Relay G3MC-201PL-VD	9702430016					

[OUTDOOR UNIT]

CONTROLLER PCB ASSEMBLY (Ref. No.236)

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC $\mu$ PD780023CW-015	9702969011		C5	Cap. Elec. 50V 3300 $\mu$ F	0301190998	
IC2	IC $\mu$ PC7805AHF	0100008036		C6	Cap. Elec. 63V 2200 $\mu$ F	0301191117	
IC3	Transistor Array $\mu$ PA2003GR	0100028041		C7-9	Cap. Elec. 50V 10 $\mu$ F	0301192541	
IC6	IC PST600CMTR	0101461120		C10,47	Cap. Elec. 50V 100 $\mu$ F	0301192589	
IC7,8	IC HU2001	9701651016		C11	Cap. Elec. 25V 1000 $\mu$ F	0301190615	
IC10	IC NM/FM93C46M8-X	0101622026		C12,13,17,20,21,36,43-46	Cap. Ceramic 50V 0.1 $\mu$ F	0300311752	
Q1,2	Xstr 2SD1932	9701235018		C15,16,23-26, CJ27	Cap. Ceramic 50V 1000pF	0300308509	
Q3	Xstr DTC124EKA	0000936033		C14,38-41	Cap. Ceramic 50V 0.01 $\mu$ F	0300311738	
Q5-8	Xstr 2SC2712	0000781053		C29,32,33	Cap. Elec. 25V 10 $\mu$ F	0300822340	
D1,2	Diode D2SB20	0000599023		X1	Ceramic Resonator EF0EC8384T4	9701261017	
D3	Diode MTZJ15A	0000852081		K1,2	Relay JQ1-12V	9701316014	
D4	Diode MTZJ27A	0000852098		GR1-3	GR Absorber RPEL-121204-C	9701125012	
D5,12	Diode D1F60	0000208024		VA1,2	Varistor TNR10V471K	0000361224	
D6,7	Diode DA226U	0000625036		F1	Fuse MT3 3.15A-250V	0600239534	
D8-10,15-17	Diode SLR-325VC	0000813259		SA1	Arrester RA-362M-V7-F	0600280154	
D11	Diode DAN202K	0000684019		JM1,2	Wire 0.6dia. L=10mm	9700025016	
R1,9,10,37-40,43,44,46,47,49,50,56-58	Res. 1/10W 10k $\Omega$ $\pm$ 5%	0200213019		HT1	Heat Sink PUG-46	9702966010	
R2-6	Res. 1/10W 4.7k $\Omega$ $\pm$ 5%	0200212906		HT2	Heat Sink B.PUE-16	9701376018	
R7,8,11-15,30-33,51,52,54,55	Res. 1/10W 1k $\Omega$ $\pm$ 5%	0200212746		CN1	Plug, PCB B2P3-VH-B-C	0500011773	
R17	Res. 1/10W 38.3k $\Omega$ $\pm$ 1%	0201114575		CN2	Plug, PCB B2P3-VH-B-Y	0500011827	
R18,19	Res. 1/10W 14k $\Omega$ $\pm$ 1%	0201114193		CN3	Plug, PCB B4P7-VH-B	0500011742	
R20,21	Res. 1/10W 6.65k $\Omega$ $\pm$ 1%	0201113806		CN7	Plug, PCB B2P3-VH-B	0500011728	
R23-25,34-36	Res. 1/10W 390 $\Omega$ $\pm$ 5%	0200212647		CN8	Plug, PCB B4B-XH-AM	0500005314	
R41,42	Res. 1/4W 15k $\Omega$ $\pm$ 5%	0200231051		CN9	Plug, PCB B10B-XASK-1-A	0501045098	
R45	Res. 1/4W 10k $\Omega$ $\pm$ 5%	0200231013		CN10	Plug, PCB B3B-XASK-1-A	0501045029	
CJ28,35,37	Res. 1/10W 0 $\Omega$	0200212012		CN14	Plug, PCB B5P-SHF-1AA	0500006069	
C1	Cap. Plastic 0.22 $\mu$ F	0300304099		CN18	Plug, PCB B3B-XARK-1-A	0501045319	
C3,4	Cap. Ceramic 0.01 $\mu$ F	0300209127		E	Wire w/Terminal L=100 mm GRN	9702313012	
				W1	Wire w/Terminal L=330 mm RED	9703932021	
				W2	Wire w/Terminal L=380 mm PNK	9703932014	

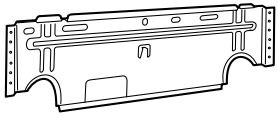
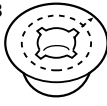



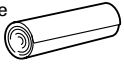
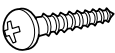

Note : 1. The difference in the spare parts made in Japan and those made in Shanghai is as follows. Controller parts other than those shown below are used in common.

	Made in Japan	Made in Shanghai
JM7,8	Wire IPS-3043-02 (P/N 1903332014)	Wire 0.6dia. L=10mm (P/N 9700025016)
W101	Wire w/Terminal L=150 WHT (P/N 1302453013)	Wire w/Terminal L=150 WHT (P/N 9704703026)
W105	Wire w/Terminal L=150 RED (P/N 1302454010)	Wire w/Terminal L=150 RED (P/N 9704703019)
C108,111	Cap. Ceramic 50V 0.1 $\mu$ F (P/N 0300311752)	Cap. Ceramic 25V 0.1 $\mu$ F (P/N 0300266748)



2. Note that units made in Japan have the Serial No. 4xxxxxx, and units made in Shanghai have Serial No. Exxxxxx.

# STANDARD ACCESSORIES

## INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Part No.
Wall hook bracket 	1	9306588014
Wall cap-B 	1	313714296205
Remote control unit 	1	9309143012 (AR-FB2)
Battery (penlight) 	1 set	0600185534
Remote control unit holder 	1	9305642014
Cloth tape 	1	9308117007
Tapping screw (big) (ø4 x 25) 	8	0700076046
Tapping screw (small) (ø3 x 12) 	2	0700019036

## OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Part No.
Cable mark 	1	9352786006
Hexagon wrench 	1	9351228019