



**INVERTER MULTI
AIR CONDITIONER
DUCT type**

**SERVICE
MANUAL**



Models

Indoor unit		Outdoor unit
ARH12LUAD	}	AOHA18LAT3
ARH14LUAD		
ARH12LUAD	}	AOHA24LAT3
ARH14LUAD		
ARH18LUAD		

CONTENTS

SPECIFICATIONS	1
OUTLINE AND DIMENSIONS	3
REFRIGERANT SYSTEM DIAGRAM	5
CIRCUIT DIAGRAM	6
INDOOR PCB CIRCUIT DIAGRAM	8
OUTDOOR PCB CIRCUIT DIAGRAM	9
ERROR CONTENTS	12
DISASSEMBLY ILLUSTRATION	14
PARTS LIST	20
ACCESSORIES	22

SPECIFICATIONS

INDOOR UNIT

TYPE	Cool and Heat		
MODEL NAME	ARH12LUAD	ARH14LUAD	ARH18LUAD

ELECTRICAL DATA

POWER SOURCE	230 V		
FREQUENCY	50 Hz		
AIR CIRCULATION HIGH	600 m ³ /hr	800 m ³ /hr	

FAN MOTOR

POWER SOURCE	230 V		
DISCRIMINATION	MFA-18NTT		
HIGH SPEED	750 r.p.m.	1,000 r.p.m.	1,040 r.p.m.
MED SPEED	680 r.p.m.	860 r.p.m.	890 r.p.m.
LOW SPEED	610 r.p.m.	720 r.p.m.	750 r.p.m.

NOISE LEVEL

HIGH SPEED	--- dB	--- dB	--- dB
MED SPEED	--- dB	--- dB	--- dB
LOW SPEED	--- dB	--- dB	--- dB

DIMENSIONS	H x W x D	217 x 953 x 595 mm	
WEIGHT	Gross / Net	29 kg / 25 kg	30 kg / 26 kg

OUTDOOR UNIT

TYPE	Colling & Heating	
MODEL NAME	AOHA18LAT3	AOHA24LAT3
COOLING CAPACITY	5.4 kW	6.8 kW
HEATING CAPACITY	6.8 kW	8.0 kW

ELECTRICAL SPECIFICATIONS

POWER SUPPLY		(220V) - 230V - (240V)	
FREQUENCY		50 Hz	
RUNNING CURRENT	Cooling	5.9 A	8.5 A
	Heating	7.1 A	8.8 A
INPUT	Cooling	1.35 kW	1.94 kW
	Heating	1.62 kW	2.00 kW
EER	Cooling	4.00 kW/kW	3.50 kW/kW
	Heating	4.20 kW/kW	4.00 kW/kW
AIR CIRCULATION HIGH		3,050 m ³ /hr	3,300 m ³ /hr

COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, 3-phase, DC motor, Twin Rotary		
DISCRIMINATION	DA150A1F-20NA		
REFRIGERANT	R410A	2,200 g	

FAN MOTOR

DISCRIMINATION	MFE-60PO	
HIGH SPEED (COOL)	730 r.p.m.	780 r.p.m.
HIGH SPEED (HEAT)	660 r.p.m.	780 r.p.m.

DIMENSIONS	H x W x D	700 x 900 x 330 mm
WEIGHT	Net / Gross	55 kg / 63 kg

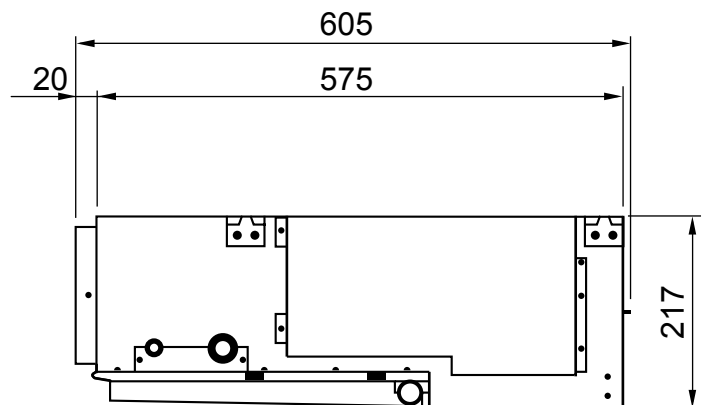
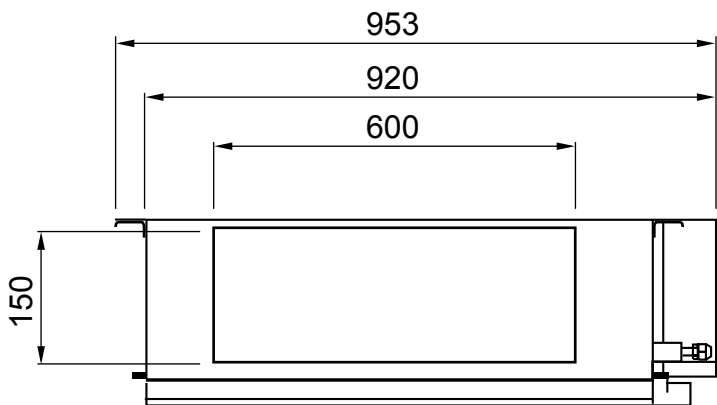
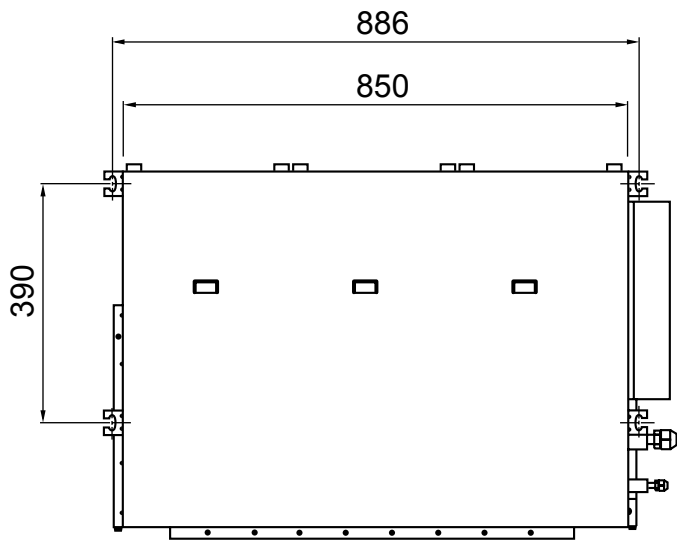
REFRIGERANT CHARGE (R410A)

FULL CHARGE AMOUNT	Total Pipe Length	30.0 m	2,200 g
		40.0 m	2,400 g
		50.0 m	2,600 g
ADDITIONAL CHARGE			20 g / m
CHARGELESS			30 m
MAX PIPE LENGTH (each unit)			25 m
MAX PIPE LENGTH (total)			50 m
MAX ELEVATION (between indoor units)			10 m
MAX ELEVATION (between indoor and outdoor)			15 m
MIN. PIPE LENGTH (each unit)			5 m

OUTLINE AND DIMENSIONS

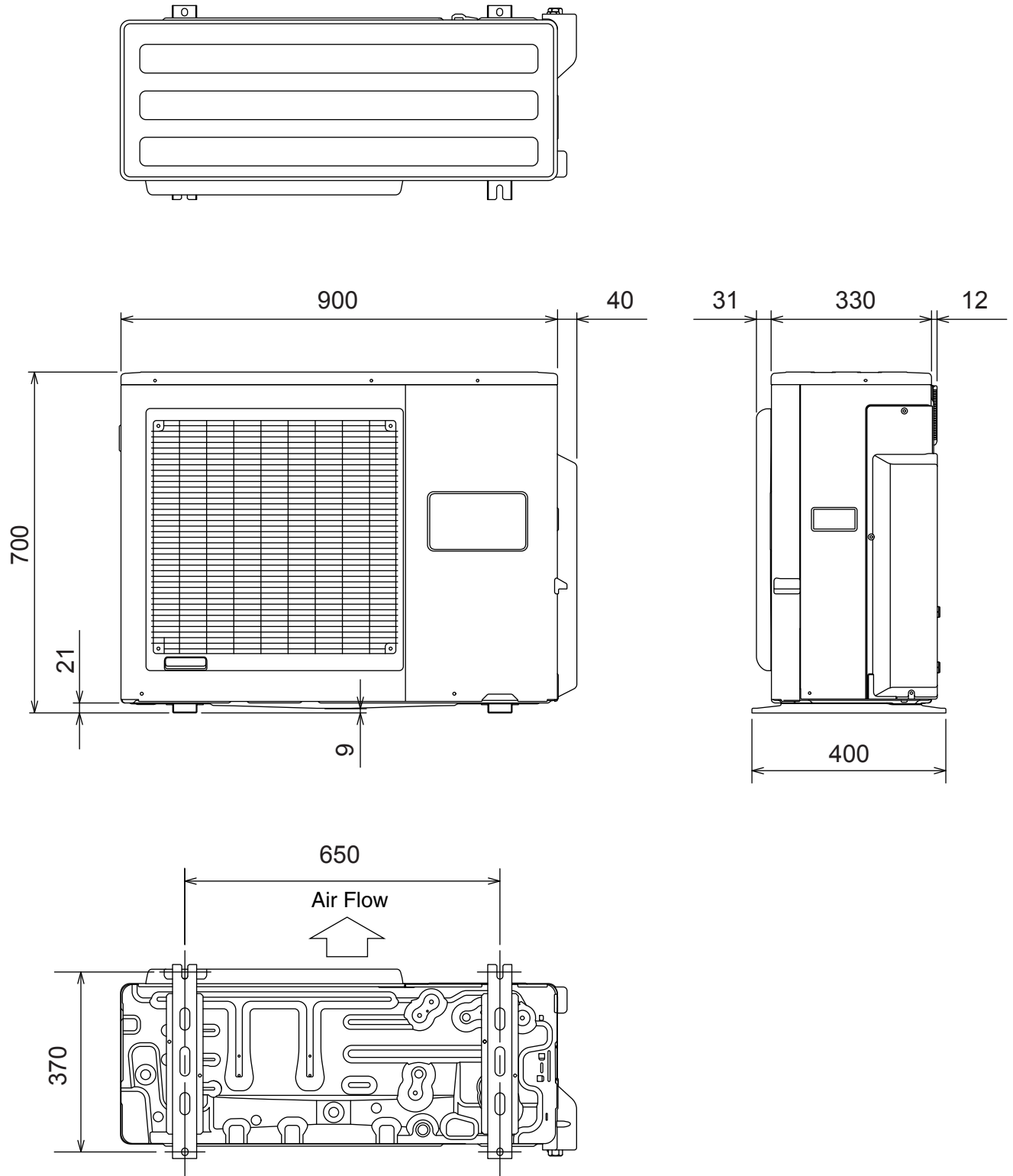
INDOOR UNIT

Unit : mm



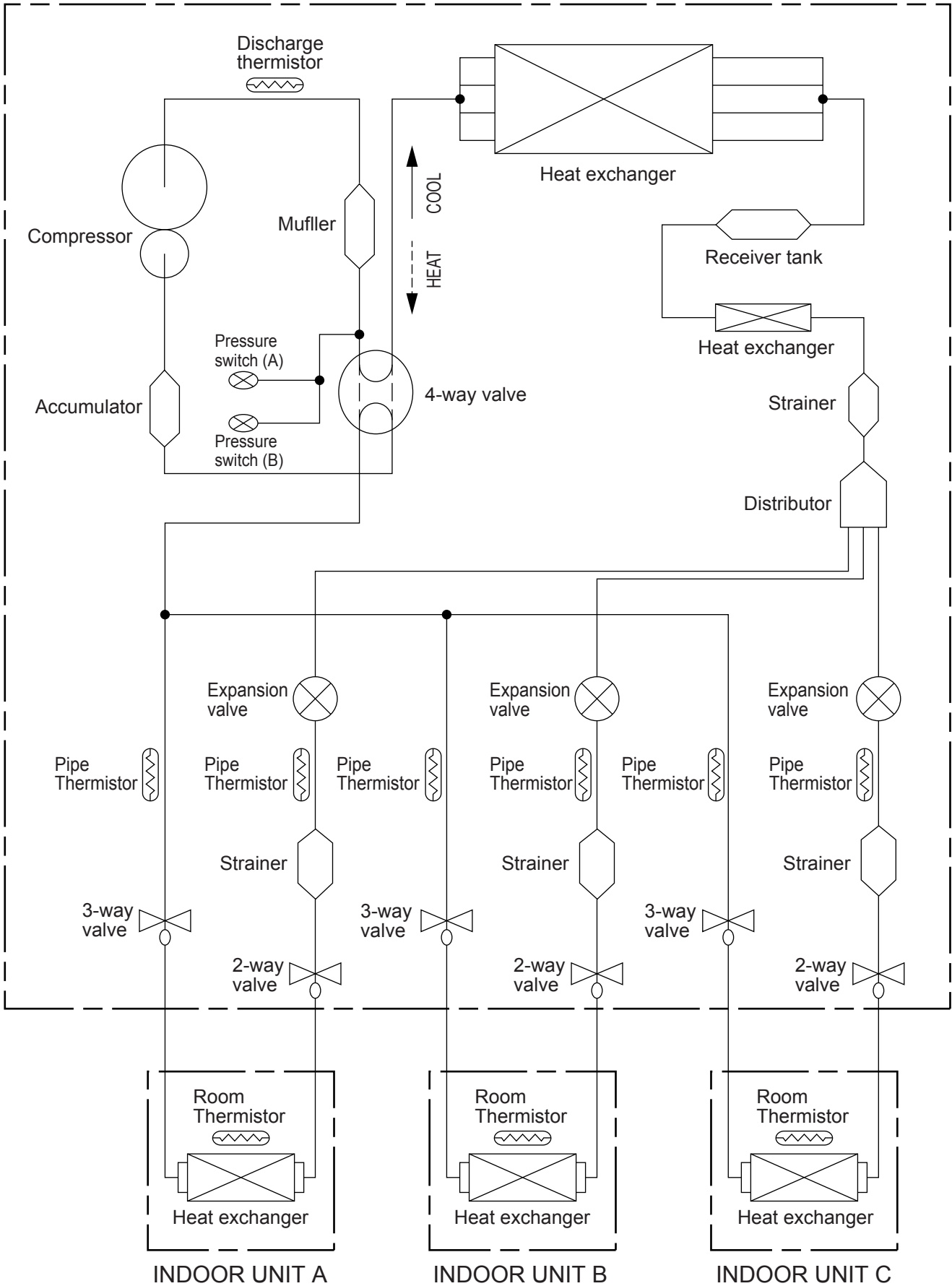
OUTDOOR UNIT

(Unit : mm)



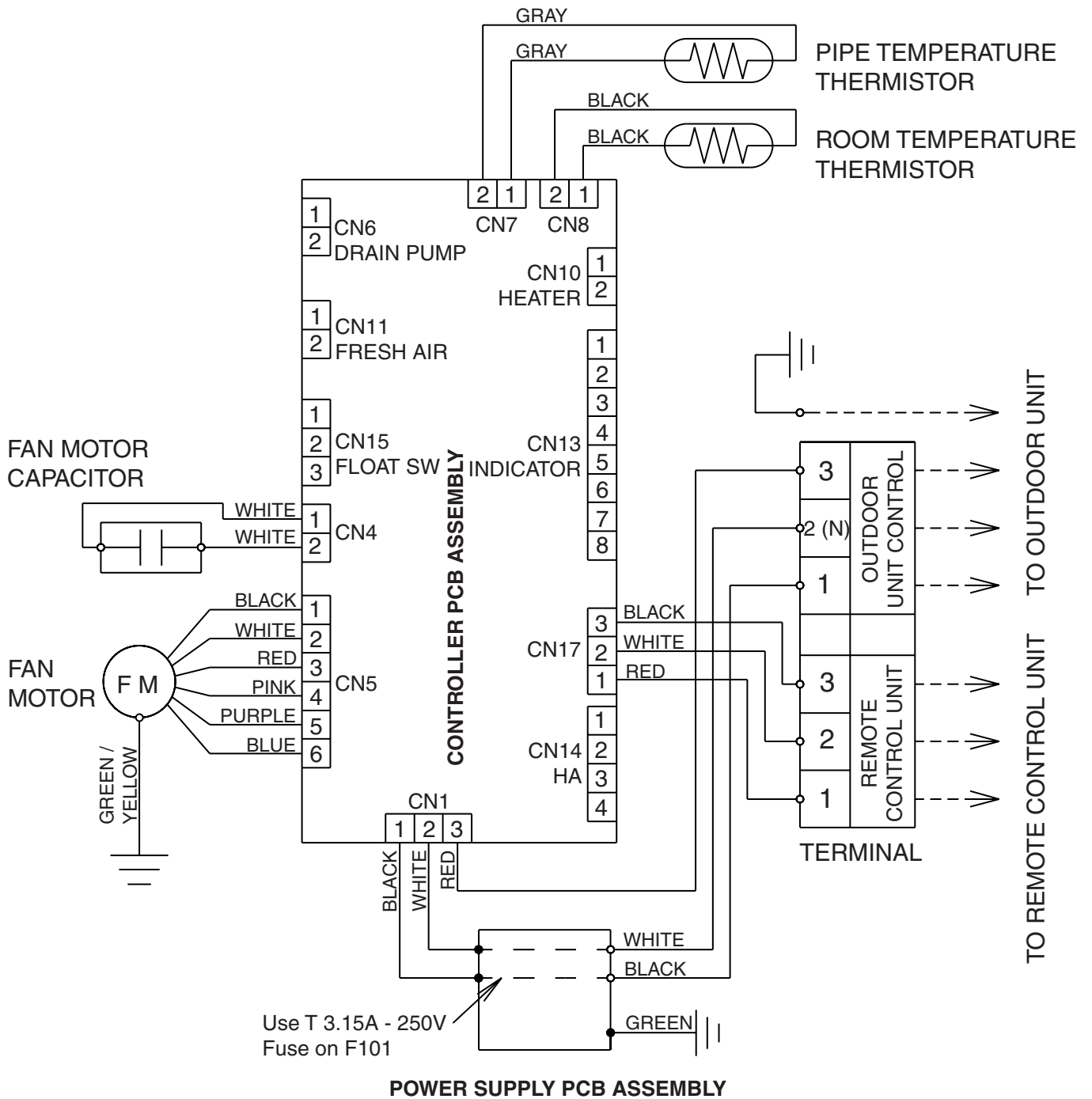
REFRIGERANT SYSTEM DIAGRAM

OUTDOOR UNIT

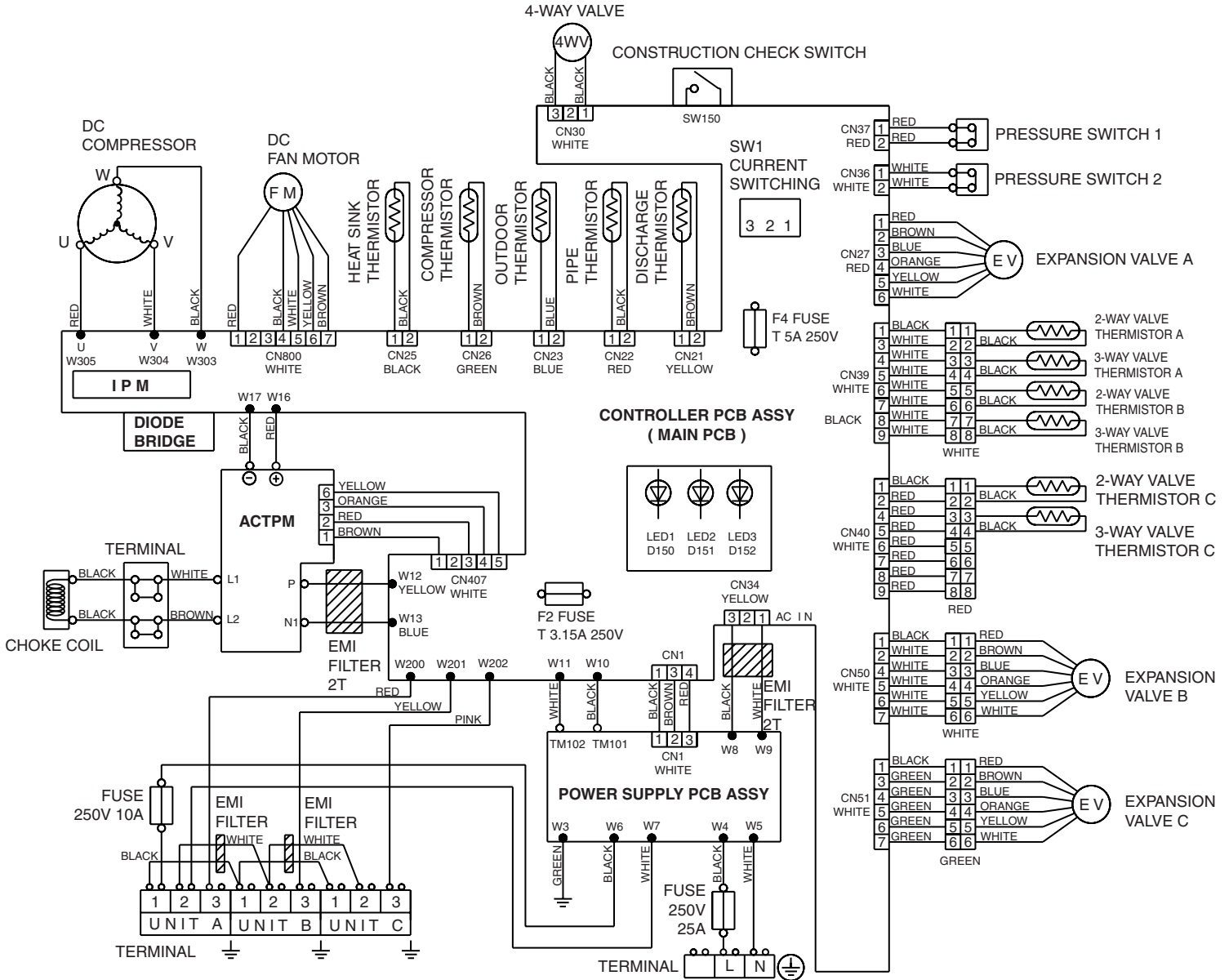


CIRCUIT DIAGRAM

INDOOR UNIT



OUTDOOR UNIT



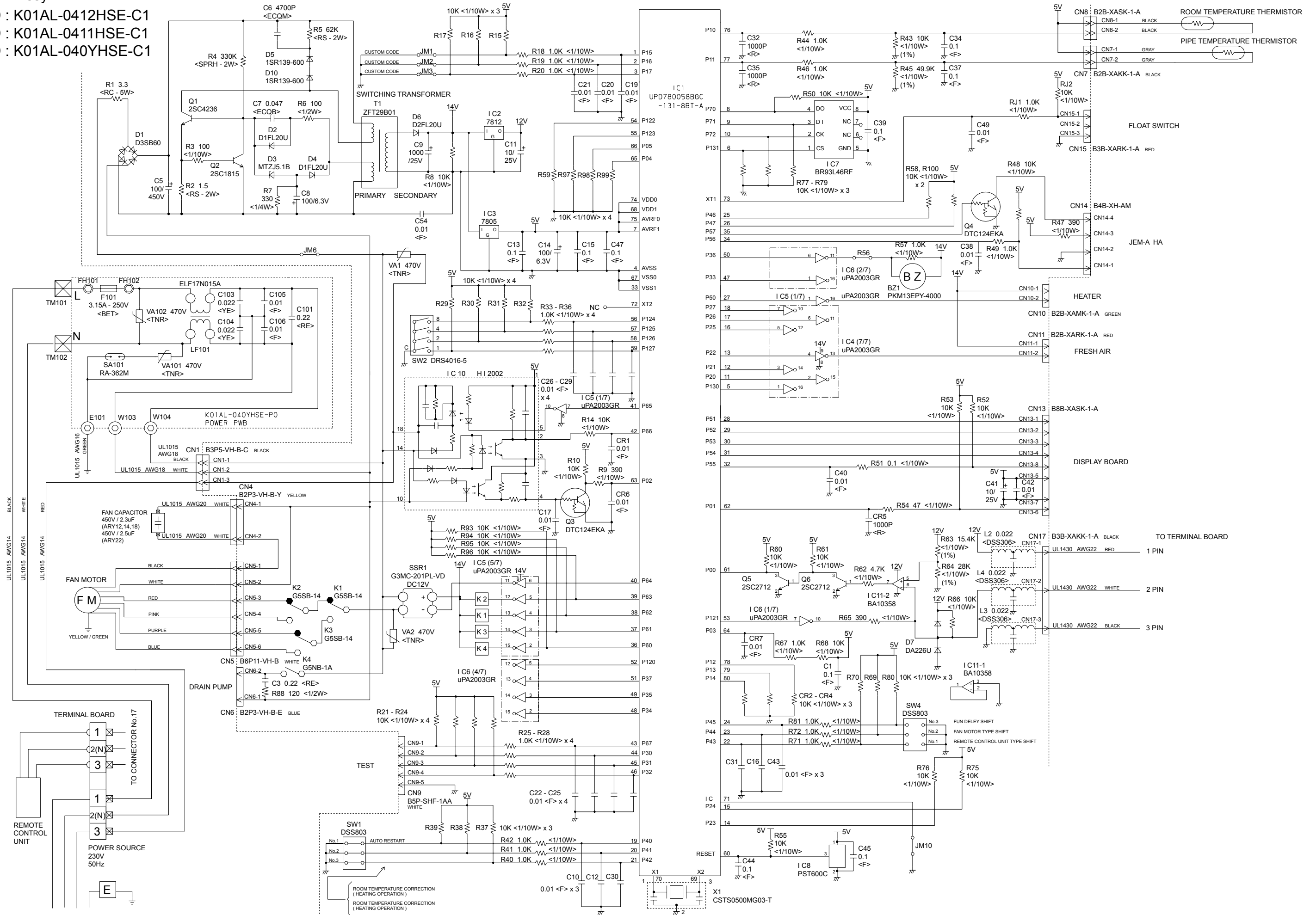
INDOOR PCB CIRCUIT DIAGRAM

Controller PCB Assy

ARH12LUAD : K01AL-0412HSE-C1

ARH14LUAD : K01AL-0411HSE-C1

ARH18LUAD : K01AL-040YHSE-C1

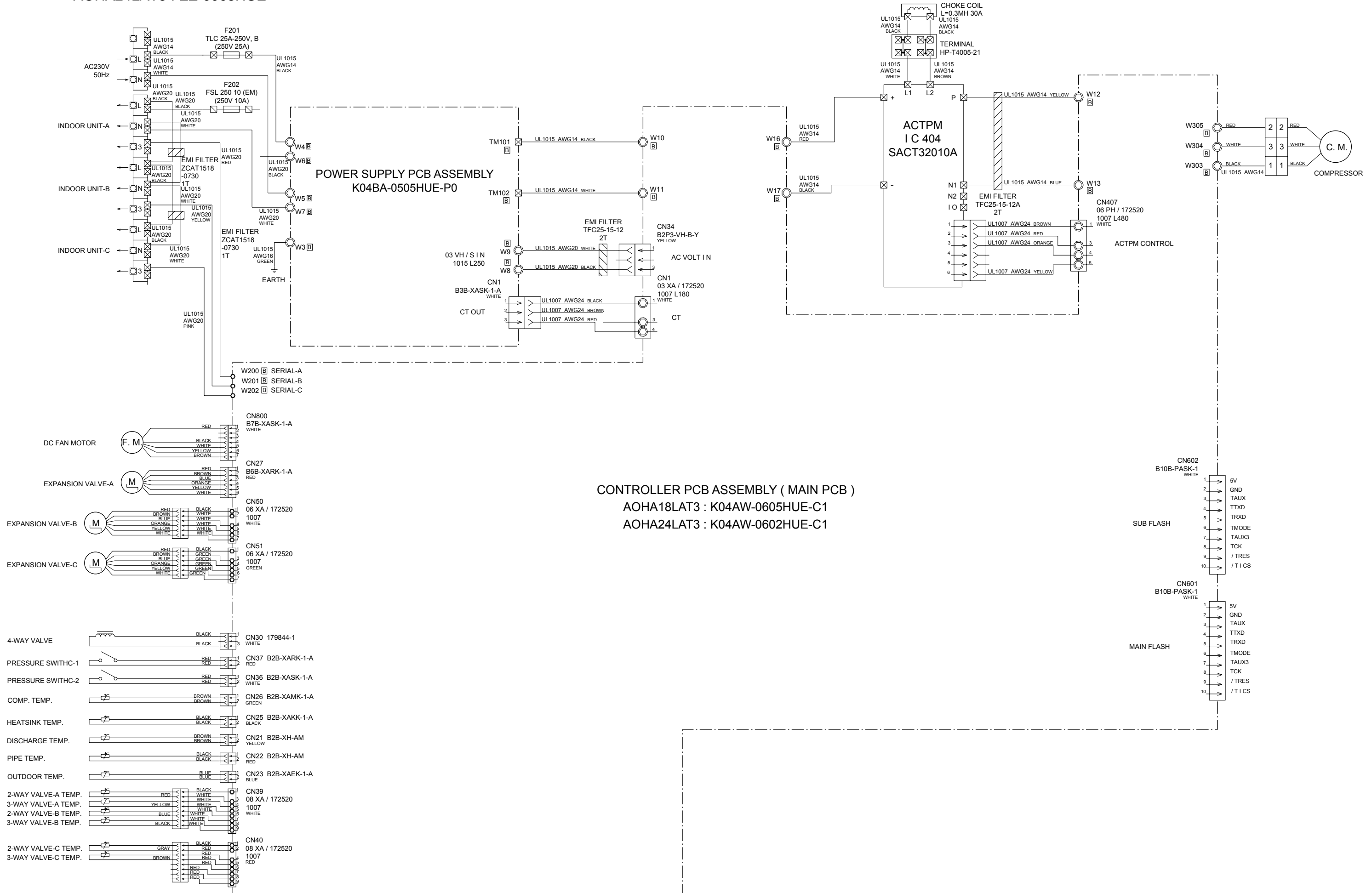


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY

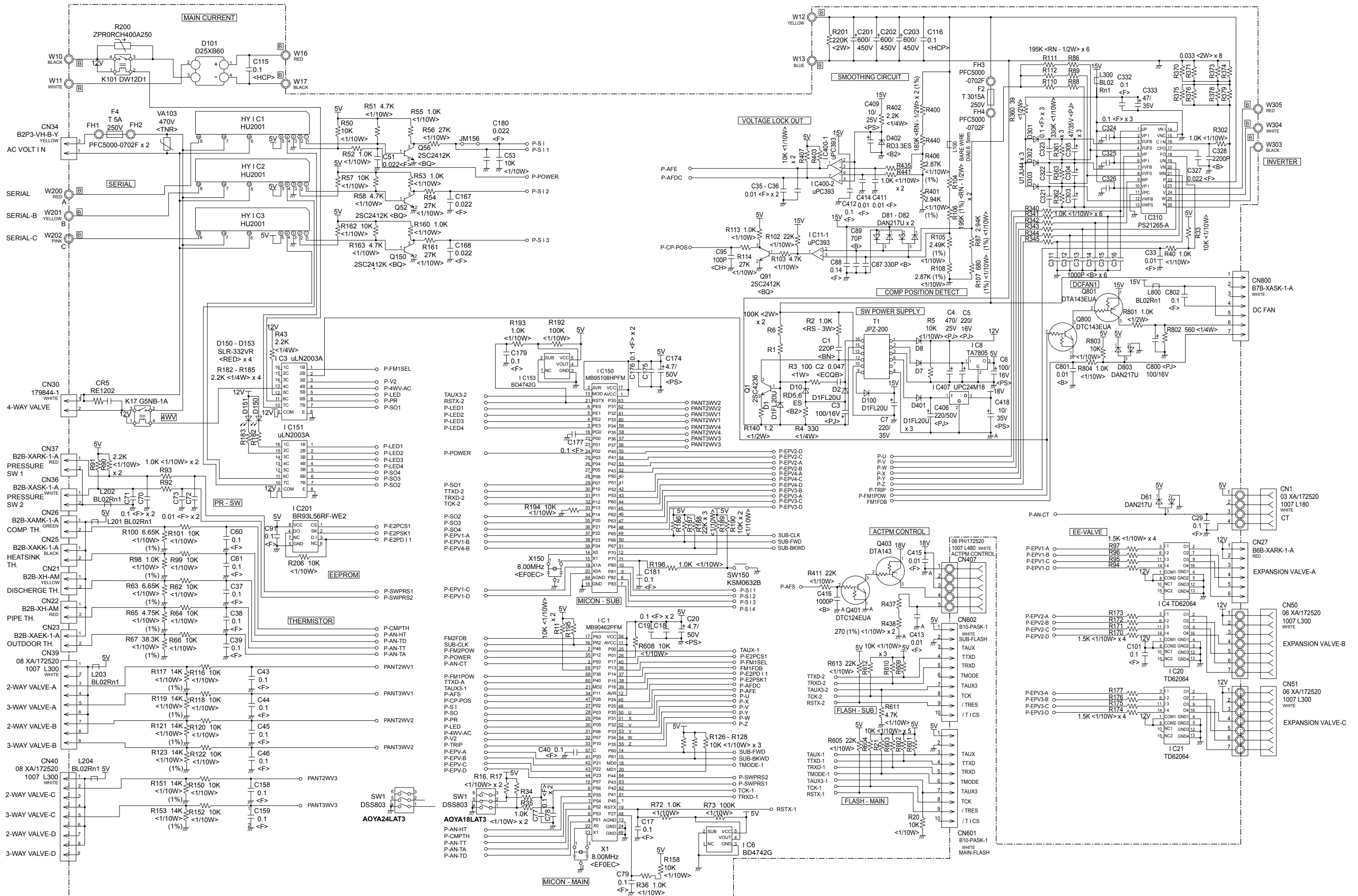
AOHA18LAT3 : EZ-006KHUE

AOHA24LAT3 : EZ-0068HUE



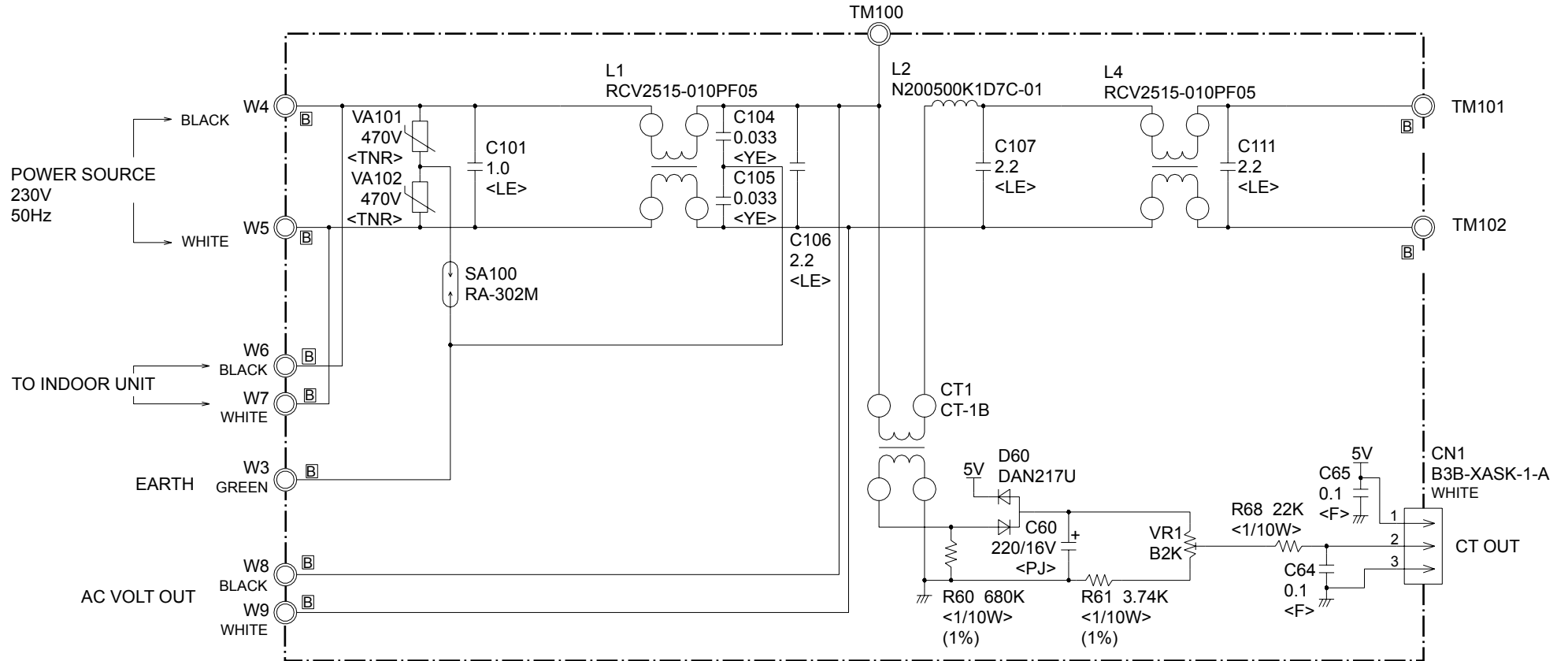
CONTROLLER PCB ASSEMBLY (MAIN PCB)
 AOHA18LAT3 : K04AW-0605HUE-C1
 AOHA24LAT3 : K04AW-0602HUE-C1

CONTROLLER PCB ASSEMBLY
 AOHA18LAT3 : K04AW-0605HUE-C1
 AOHA24LAT3 : K04AW-0602HUE-C1



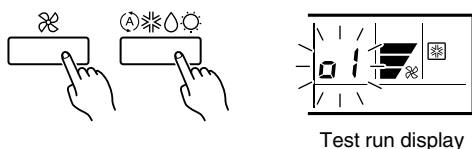
OUTDOOR UNIT

POWER SUPPLY PCB ASSEMBLY K04BA-0505HUE-P0



ERROR CONTENTS

- (1) Stop the air conditioner operation.
- (2) Press the master control button and the fan control button simultaneously for 2 seconds or more to start the test run.



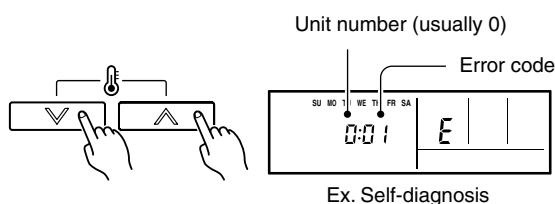
- (3) Press the start/stop button to stop the test run.

[SELF-DIAGNOSIS]

When the error indication "E:EE" is displayed, follow the following items to perform the self-diagnosis. "E:EE" indicates an error has occurred.

1. REMOTE CONTROLLER DISPLAY

- 1) Stop the air conditioner operation.
- 2) Press the set temperature buttons Δ / ∇ simultaneously for 5 seconds or more to start the self-diagnosis.
Refer to the following tables for the description of each error code.



- (3) Press the set temperature buttons Δ / ∇ simultaneously for 5 seconds or more to stop the self-diagnosis.

Error code	Error contents
00	Communication error (indoor unit \leftrightarrow remote controller)
01	Communication error (outdoor unit \rightarrow indoor unit)
02	Room temperature sensor open
03	Room temperature sensor short-circuited
04	Indoor heat exchanger temperature sensor open
05	Indoor heat exchanger temperature sensor short-circuited
06	Outdoor heat exchanger temperature sensor
08	Power source connection error
09	Float switch operated
0A	Outdoor temperature sensor
0c	Discharge pipe temperature sensor
11	Model abnormal
12	Indoor fan abnormal
13	Outdoor signal abnormal
14	Outdoor EEPROM abnormal
15	Compressor temperature sensor
16	Pressure switch abnormal
17	IPM error
1A	Compressor cannot operate
1b	Outdoor fan abnormal

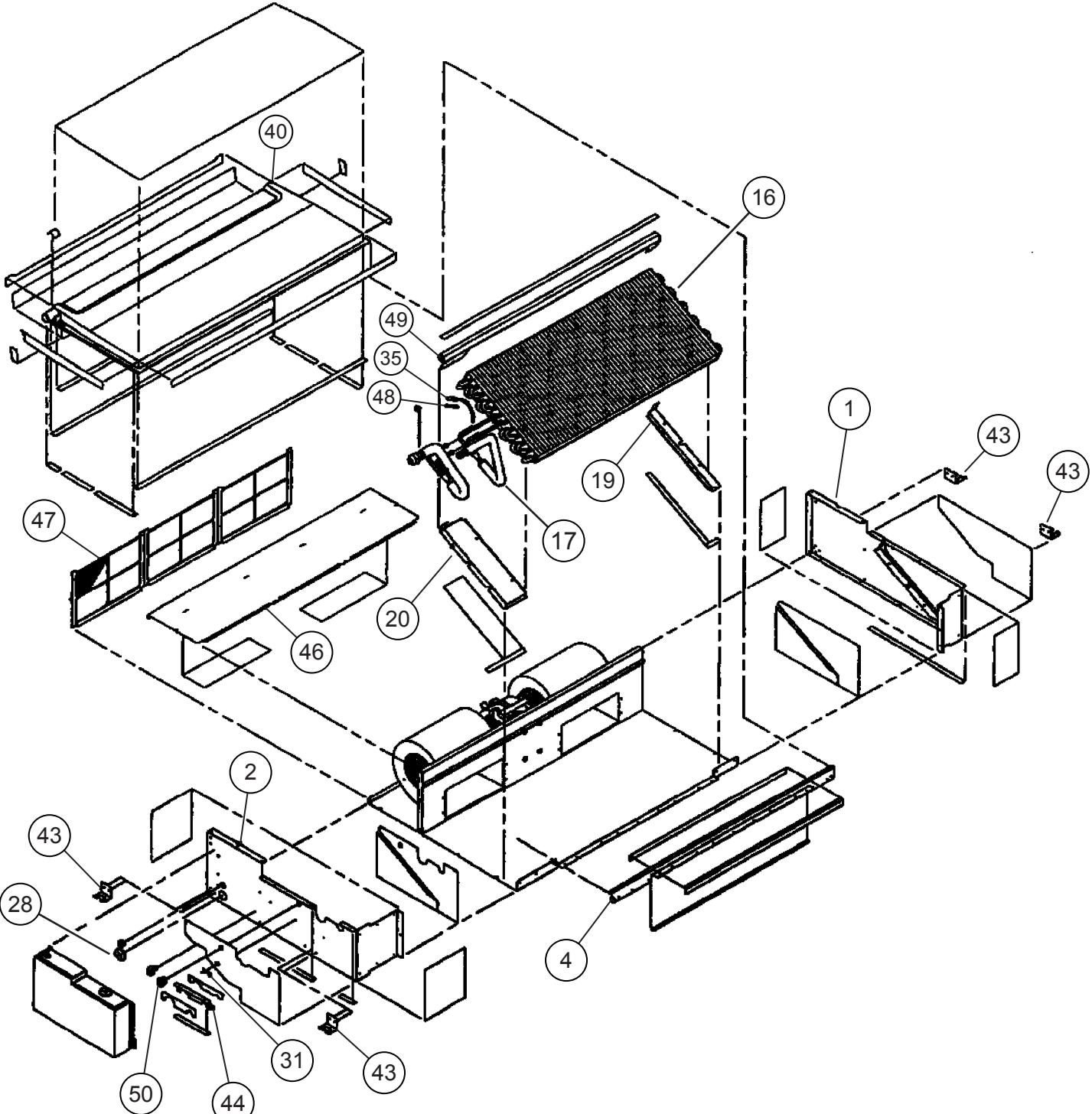
OUTDOOR UNIT LEDS

	LED A	LED B	LED C
Communication error (indoor unit A to outdoor unit)	● 1 time	—	—
Communication error (indoor unit B to outdoor unit)	—	● 1 time	—
Communication error (indoor unit C to outdoor unit)	—		● 1 time
Discharge pipe temperature sensor	● 2 times	—	—
Outdoor heat exchanger temperature sensor	● 3 times	—	—
Outdoor temperature sensor	● 4 times	—	—
Outdoor 2way valve(A) temperature sensor	● 5 times	—	—
Outdoor 2way valve(B) temperature sensor	—	● 5 times	—
Outdoor 2way valve(C) temperature sensor	—	—	● 5 times
Outdoor 3way valve(A) temperature sensor	● 6 times	—	—
Outdoor 3way valve(B) temperature sensor	—	● 6 times	—
Outdoor 3way valve(C) temperature sensor	—	—	● 6 times
Compressor temperature sensor	● 7 times	—	—
Heatsink temperature sensor	● 8 times	—	—
Pressure switch A abnormal	● 9 times	—	—
Pressure switch B abnormal	● 10 times	—	—
Indoor unit connection capacity error	● 11 times	—	—
IPM error	● 12 times	—	—
Compressor loter location error	● 13 times	—	—
Compressor can not start to operate	● 14 times	—	—
Outdoor fan (upper) motor error	● 15 times	—	—
Outdoor fan (lower) motor error	● 16 times	—	—
Microcomputer error	● 17 times	—	—
4way valve (Solenoid) abnormal	● 18 times	—	—

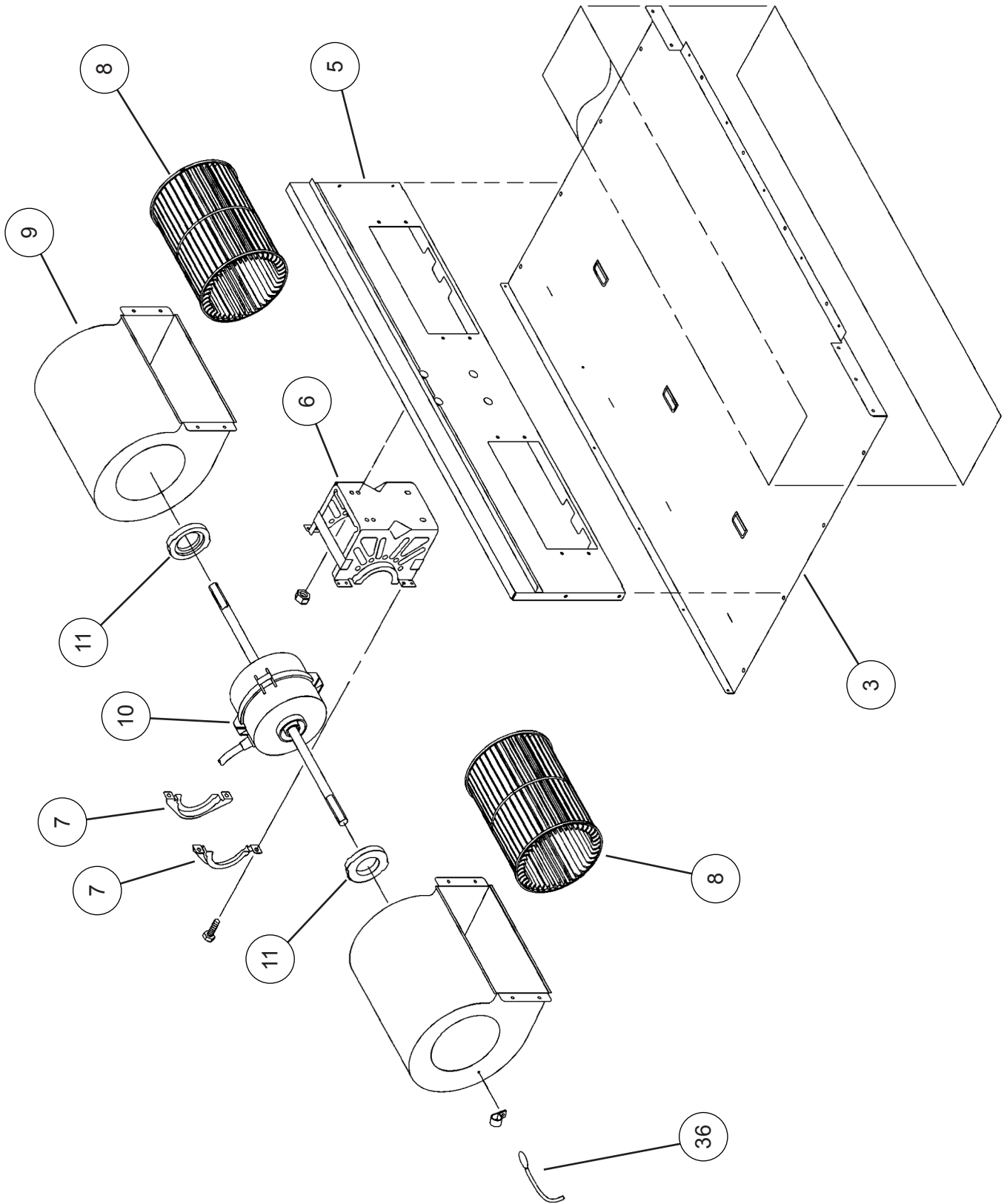
● : Slow flashing - : Off

DISASSEMBLY ILLUSTRATION

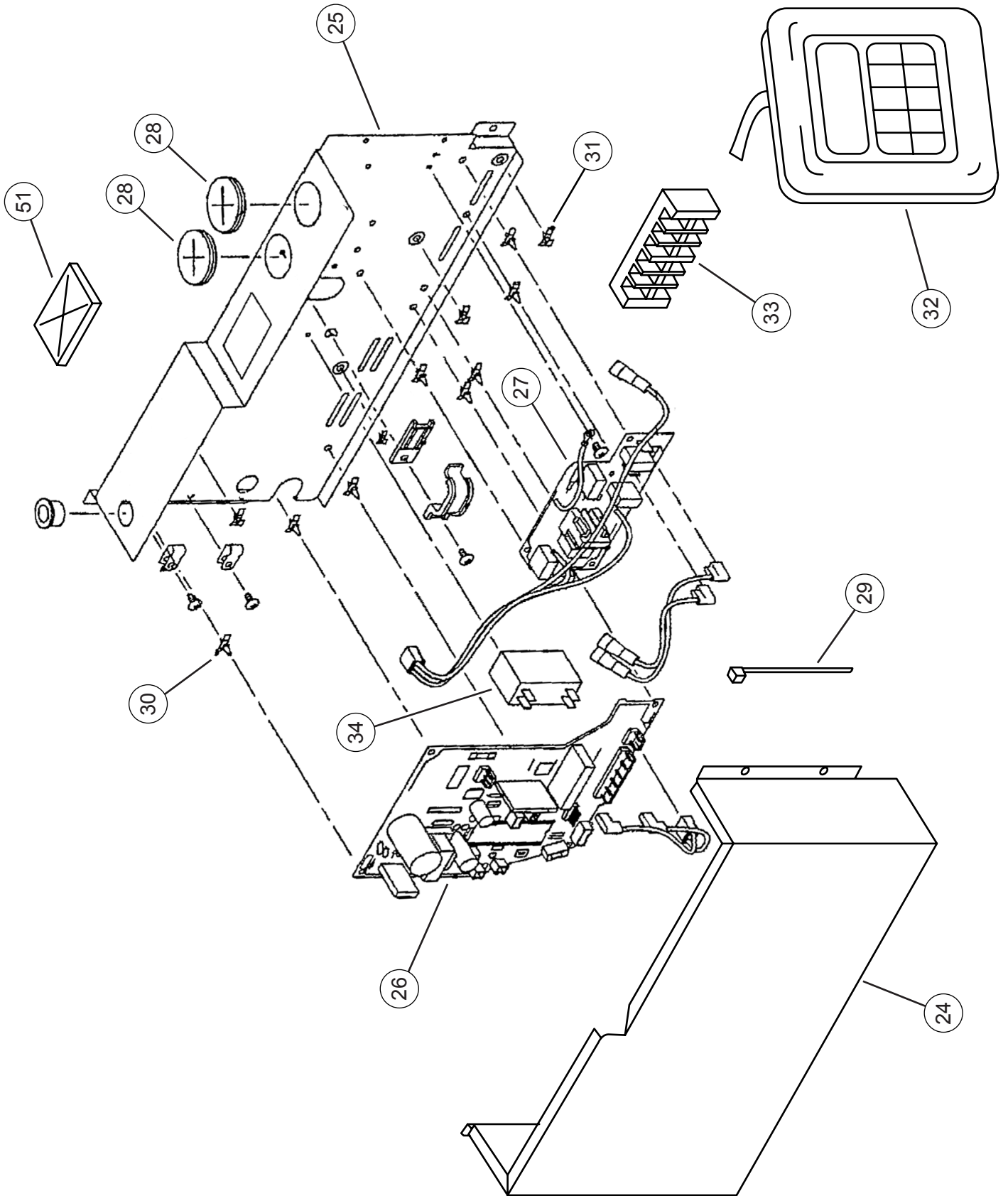
INDOOR UNIT



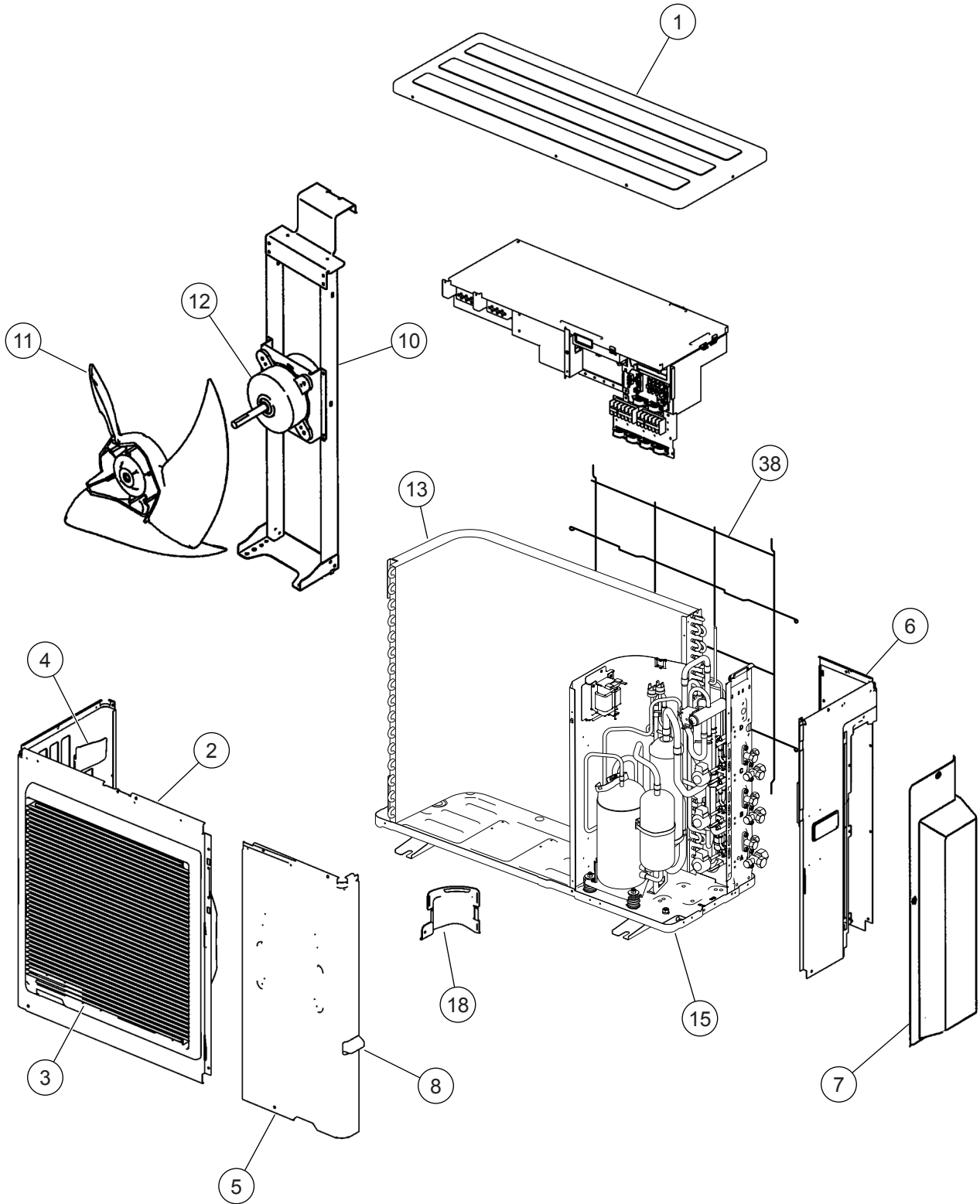
INDOOR UNIT
Fan motor



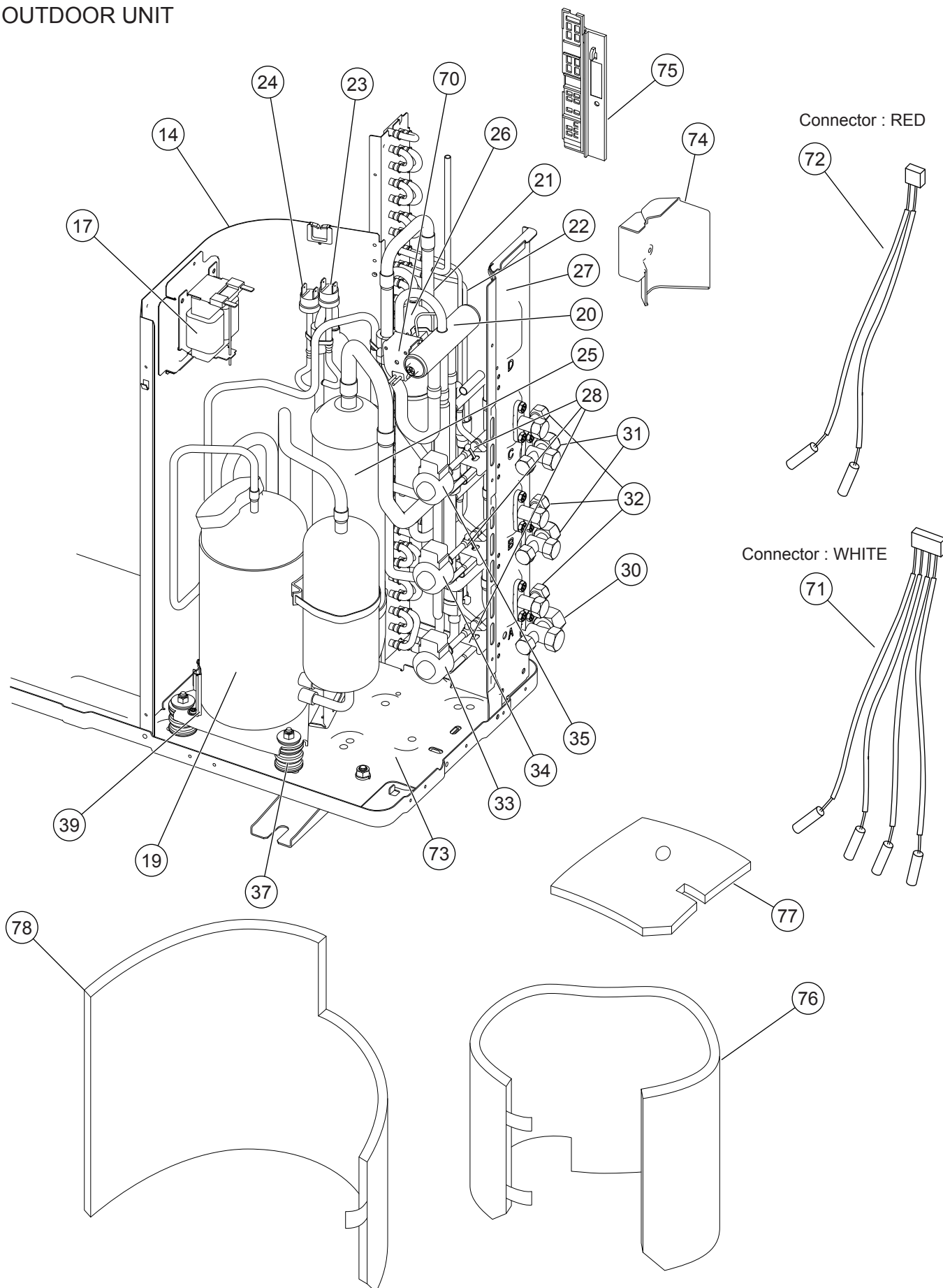
INDOOR UNIT



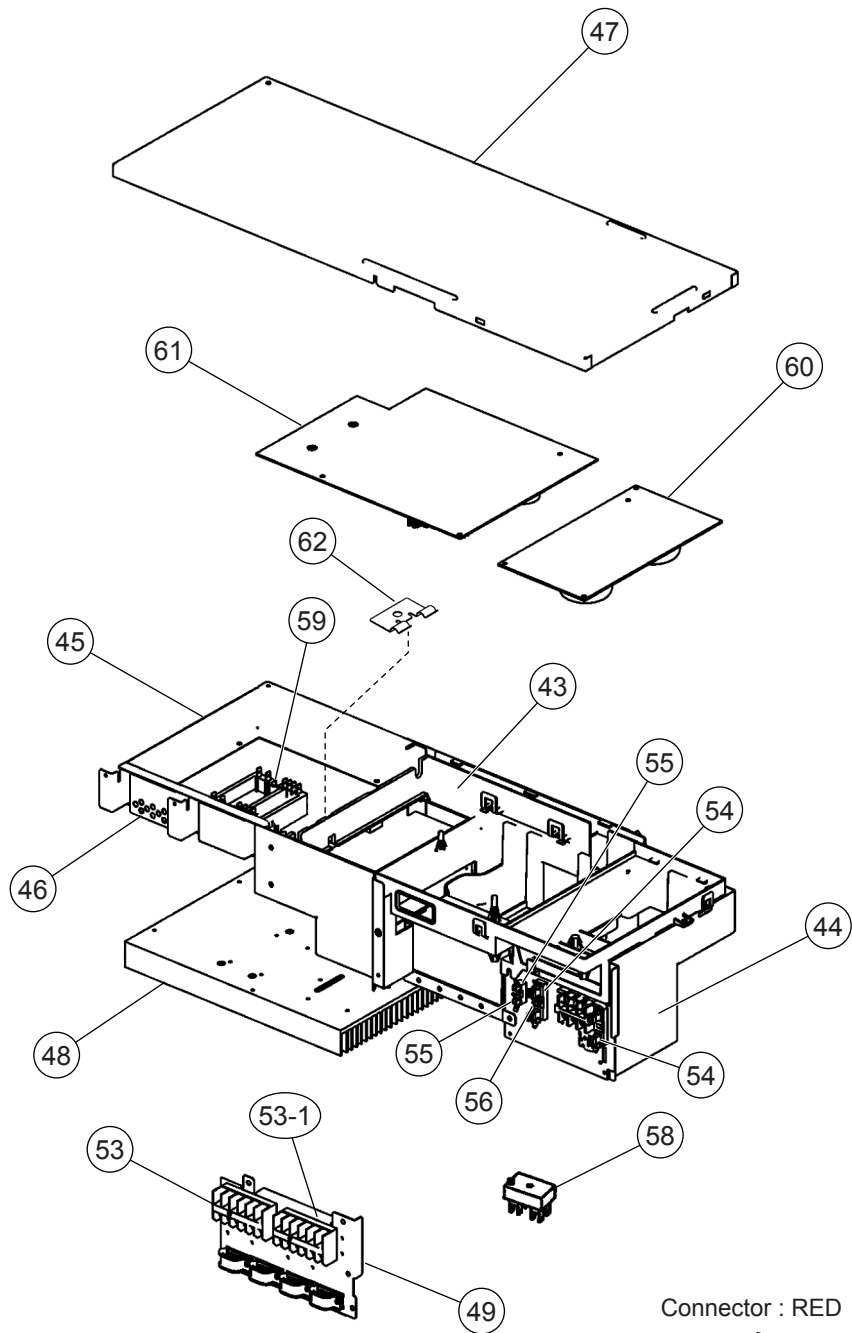
OUTDOOR UNIT



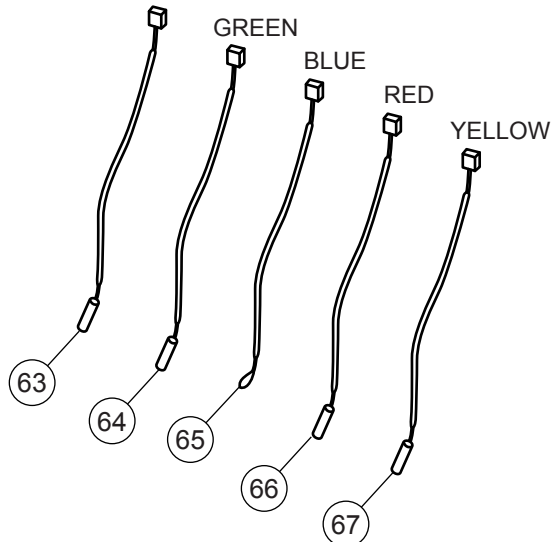
OUTDOOR UNIT



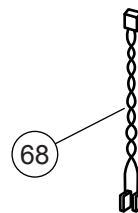
OUTDOOR UNIT
INVERTER ASSY



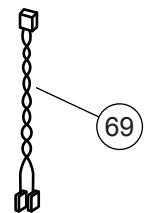
Connector : BLACK



Connector : RED



WHITE



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.			Ord. Q'ty
		ARH12LUAD	ARH14LUAD	ARH18LUAD	
1	Side Panel R Assy	9363507003	9363507003	9363507003	
2	Side Panel L Sub Assy	9364506029	9364506029	9364506029	
3	Panel Top Sub Assy	9364507026	9364507026	9364507026	
4	Front Panel Assy	9363723007	9363723007	9363723007	
5	Panel Assy (Motor)	9363401004	9363401004	9363401004	
6	Motor Fixing Table Assy	9358591000	9358591000	9358591000	
7	Motor Fixture	9358594001	9358594001	9358594001	
8	Sirocco Fan Assy	9358621004	9358621004	9358621004	
9	Casing Assy	9363322002	9363322002	9363322002	
10	Fan Motor Assy	9600778210	9600778210	9600778210	
11	Rubber (Vibration proof)	313659068604	313659068604	313659068604	
16	Evaporator Assy	9373255024	9373255024	9372972014	
17	Inlet Pipe (Eva.) Assy	9373034063	9373034063	9373034056	
19	Bracket Eva. R	9363199000	9363199000	9363199000	
20	Bracket Eva. L	9363198003	9363198003	9363198003	
24	Control Box Cover	9363201000	9363201000	9363201000	
25	Control Box	9366299004	9366299004	9366299004	
26	Controller PCB Assy	9704557988	9704557971	9704557957	
		(KO1AL-0412HSE-C1)	(KO1AL-0411HSE-C1)	(KO1AL-040YHSE-C1)	
27	Filter PCB Assy	9704561251	9704561251	9704561251	
28	Cap (Power)	9352173011	9352173011	9352173011	
29	Clamp SKB-100	313361275805	313361275805	313361275805	
30	Locking Spacer	313209391403	313209391403	313209391403	
31	Spacer	0600118075	0600118075	0600118075	
32	Remote Control Unit	9372266014	9372266014	9372266014	
33	Terminal 7P	9703403019	9703403019	9703403019	
34	Capacitor (Fan Motor)	9900270179	9900270179	9900270179	
35	Pipe Thermistor	9703297090	9703297090	9703297090	
36	Room Thermistor	9703299018	9703299018	9703299018	
40	Drain Pan Assy	9364502021	9364502021	9364502021	
43	Hook Metal	9363195002	9363195002	9363195002	
44	Cover (Piping)	9363327007	9363327007	9363327007	
46	Cover (Cabinet)	9363400007	9363400007	9363400007	
47	Air Filter	9366833017	9366833017	9366833017	
48	Thermo. Spring-A	313728262708	313728262708	313728262708	
49	Support Plate (Eva.)	9363404005	9363404005	9363404005	
50	Cord Bushing	9359240006	9359240006	9359240006	
51	Rubber Bushing	9357376004	9357376004	9357376004	

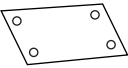












OUTDOOR UNIT

Ref. No.	Description	Part No.		Ref. No.	Description	Part No.	
		AOHA18LAT3	AOHA24LAT3			AOHA18LAT3	AOHA24LAT3
1	Top Panel Sub Assy	9374417049		45	Inverter Box C	9375140014	
2	Front Panel Sub Assy	9374414048		46	Inverter Box Duct	9374609017	
5	Service Panel Sub Assy	9374415045		47	Inverter Box Cover	9375139018	
6	Right Panel Sub Assy	9374416103		48	Heat Sink A	9375138011	
7	Valve Cover Sub Assy	9374827015		49	Inverter Box D	9374606023	
10	Motor Bracket Sub Assy	9374418060		52	Terminal (3P)	9900203016	
11	Propeller Fan Assy	9366378020		53	Terminal (6P)	9900016036	
12	Motor. DC Brushless	9601882015		53-1	Terminal (3P)	9306489045	
13	Condenser A Assy	9374433179		54	Fuse Holder (Big)	0501454012	
14	Separate Wall Assy SS	9375226022		55	Fuse Holder (Small)	0501456016	
15	Base Assy	9374166121		56	Fuse (Big)	0600086039	
17	Coil. Choke	9900366018		57	Fuse (Small)	0600376116	
18	Cap Foot	9374345014		58	Terminal (2P)	9701971015	
19	Compressor Assy	9315297037		59	ACTPM	9703457012	
20	4-Way Valve Assy	9374425136		60	Power Supply PCB Assy	9705647091	
21	Inlet Pipe (Cond) A Assy	9373461104		61	Controller PCB Assy (AOYA18L)	9705642225	
22	Outlet Pipe (Cond) A Assy	9374266111		61	Controller PCB Assy (AOYA24L)	9705642195	
23	Pressure Switch A	9900186012		62	Holder (Thermo)	9372797013	
24	Pressure Switch B	9900341015		63	Heat Sink Thermistor	9900311018	
25	Accumulator Assy	9375250027		64	Compressor Temp Thermistor	9900156053	
26	Receiver Tank Assy	9374575039		65	Thermistor (Outdoor Temp)	9900378028	
27	Valve Plate A Assy	9374628148		66	Heat Exchanger Thermistor	9900374020	
28	Pulse Motor Valve	9900056025		67	Discharge Temp Thermistor	9704219039	
30	3-Way Valve Assy (1/2")	9375104016		68	Wire (Pressure Sw) (Red)	9377823014	
31	3-Way Valve Assy (3/8")	9375103019		69	Wire (Pressure Sw) (White)	9377823021	
32	2-Way Valve Assy	9375102012		70	Solenoid	9900165079	
33	Coil (Expansion Valve) (A=Red)	9900057084		71	Thermistor (Pipe)(White)	9900373030	
34	Coil (Expansion Valve) (B=White)	9900057053		72	Thermistor (Pipe)(Red)	9900372019	
35	Coil (Expansion Valve) (C=Green)	9900057060		73	Compressor Plate Assy	9375221058	
37	Rubber Cushion (For Comp)	9312680016		74	Water Seal Plate	9375222017	
38	Net S Protective	9375381028		75	Thermo Holder	9375211011	
39	Thermistor Holder	9377911018		76	Compressor Cover A	9374430093	
43	Inverter Box A	9374603015		77	Compressor Cover B	9374431090	
44	Inverter Box B Assy	9374625024		78	Compressor Cover C	9372067079	
				---	Emblem Rear	9372171011	

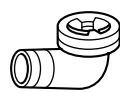



When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Installation template 	1	For positioning the indoor unit	9364225005
Hanger 	4	For suspending the indoor unit from ceiling	9363195002
Tapping screw (φ 4 x 10) 	8	For installing the hanger	301171164104
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (small flange) 	4		313005446759
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Binder 	(Small) 1	For remote controller and remote controller cord binding	313361275805
	(Large) 4	For fixing the coupler heat insulation	312300787605
Remote controller 	1	Heat & Cooling model	9372266014
Remote controller cord 	1	For connecting the remote controller	9372714010
Tapping screw (φ 4 x 16) 	2	For installing the remote controller	0700181108
Filter 	3	For installing to indoor unit	9366833017
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part No.
Drain pipe 	1	For outdoor unit drain piping work	9303029015
Drain cap 	2		313166024302
Adapter assy 12.7 mm (1/2 in.) ↓ 9.52 mm (3/8 in.) 	1	For use when connecting models 9-12 to outdoor port A	9370244007
Putty 	1	For sealing	303020200114

0610G3160