



INVERTER MULTI
AIR CONDITIONER
DUCT TYPE

SERVICE MANUAL

Indoor unit Outdoor unit
ARHF09LALU AOH30LMAW4



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SPECIFICATIONS

INDOOR UNIT

ELECTRICAL DATA

TYPE	COOL & HEAT MULTI
MODEL NAME	ARHF09LALU
POWER SOURCE	230 V
FREQUENCY	50 Hz
COOLING CAPACITY	2.7 kW
HEATING CAPACITY	3.3 kW
MOISTURE REMOVAL	1.0 L/hr
AIR CIRCULATION HIGH	480 m3/hr

FAN MOTOR

POWER SOURCE	230 V	
DISCRIMINATION	MFG-09TVL	
FAN SPEED	HIGH SPEED	1,010 r.p.m.
	MIDDLE	950 r.p.m.
	LOW	880 r.p.m.
	QUIET	830 r.p.m.
NOISE LEVEL	HIGH	35 dB
	MIDDLE	33 dB
	LOW	31 dB
	QUIET	30 dB

Note : Static pressure : 0 pa

Duct length : Inlet 1m, Outlet 2m (indoor unit)

MEASUREMENT

DIMENSIONS	H x W x D	217 x 663 x 595 mm
WEIGHT	Gross / Net	22 kg / 18 kg

OUTDOOR UNIT

ELECTRICAL SPECIFICATIONS

TYPE		Colling & Heating
MODEL NAME		AOH30LMAW4
COOLING CAPACITY		8.0 kW
HEATING CAPACITY		9.6 kW
POWER SUPPLY		230 V
FREQUENCY		50 Hz
RUNNING CURRENT	Cooling	9.7 A
	Heating	10.5 A
INPUT	Cooling	2.22 kW
	Heating	2.40 kW
E.E.R.	Cooling	3.60 kW/kW
	Heating	4.00 kW/kW
AIR CIRCULATION HIGH		3,300 m ³ /hr

FAN MOTOR

DISCRIMINATION	MFE-60PO
HIGH SPEED (Cooling)	820 r.p.m.
HIGH SPEED (Heating)	780 r.p.m.

NOISE LEVEL

COOLING	50dB
HEATING	51dB

COMPRESSOR AND REFRIGERANT

TYPE		Hermetic type, Inverter, 4 poles, 3-phase, DC motor, Twin Rotary
DISCRIMINATION		TNB220FPBMT
WEIGHT (with oil)		14.3 kg
PRECHARGED REFRIGERANT		3,300 g
REFRIGERANT TYPE		R410A
FULL CHARGE	Total Pipe Length 50 m	3,300 g
	60 m	3,550 g
	70 m	3,800 g
ADDITIONAL CHARGE		25 g/m
CHARGELESS		50 m
MAX PIPE LENGTH (each unit)		25 m
MAX PIPE LENGTH (total)		70 m
MAX ELEVATION (between indoor units)		10 m
(between indoor and outdoor units)		10 m
MIN. PIPE LENGTH (each unit)		5 m

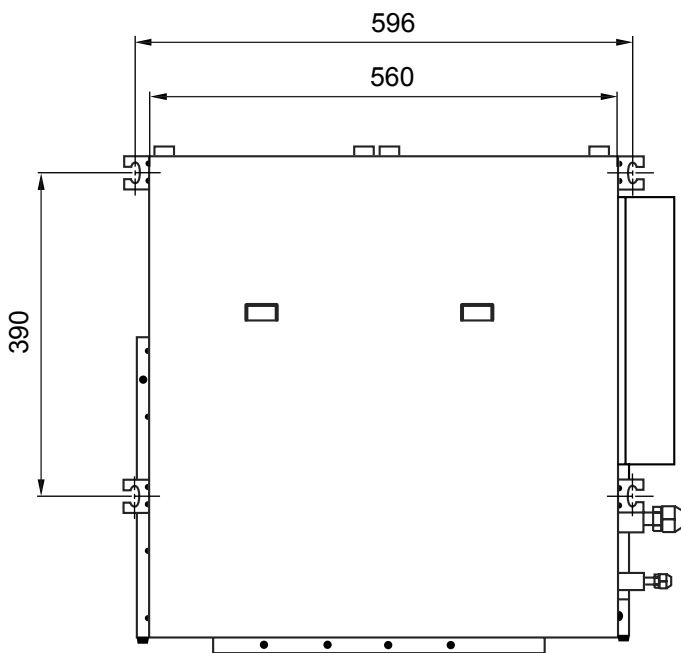
MEASUREMENT

DIMENSIONS	H x W x D	830 x 900 x 330 mm
WEIGHT	Gross / Net	78 kg / 68 kg

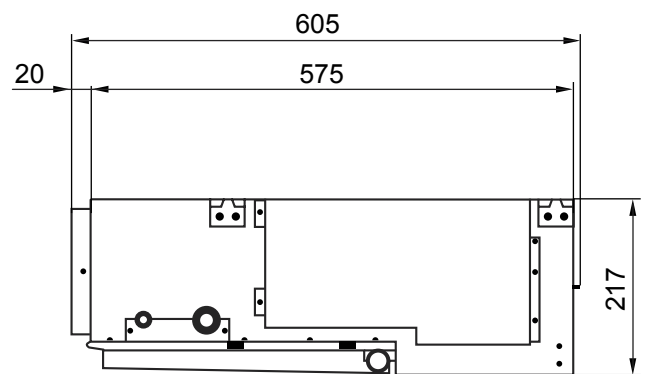
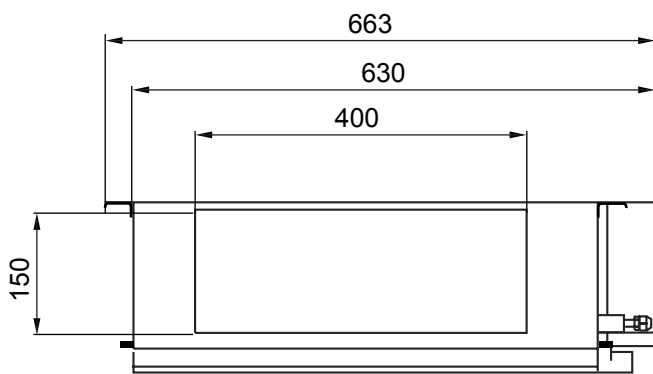
OUTLINE AND DIMENSIONS

INDOOR UNIT

Unit : mm

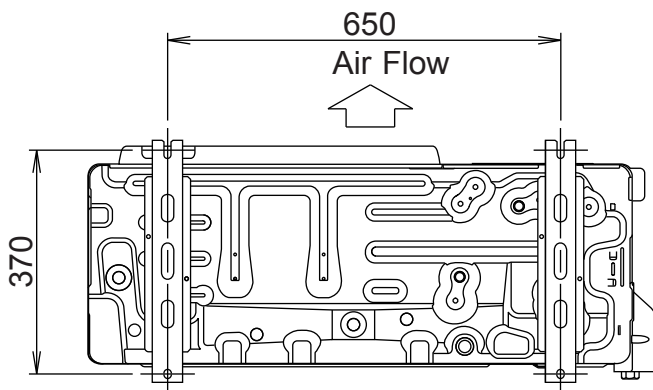
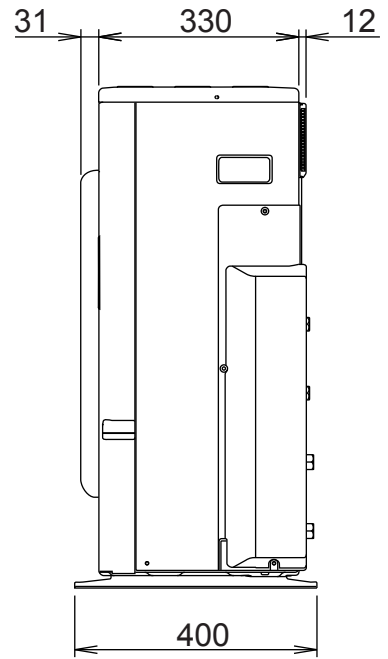
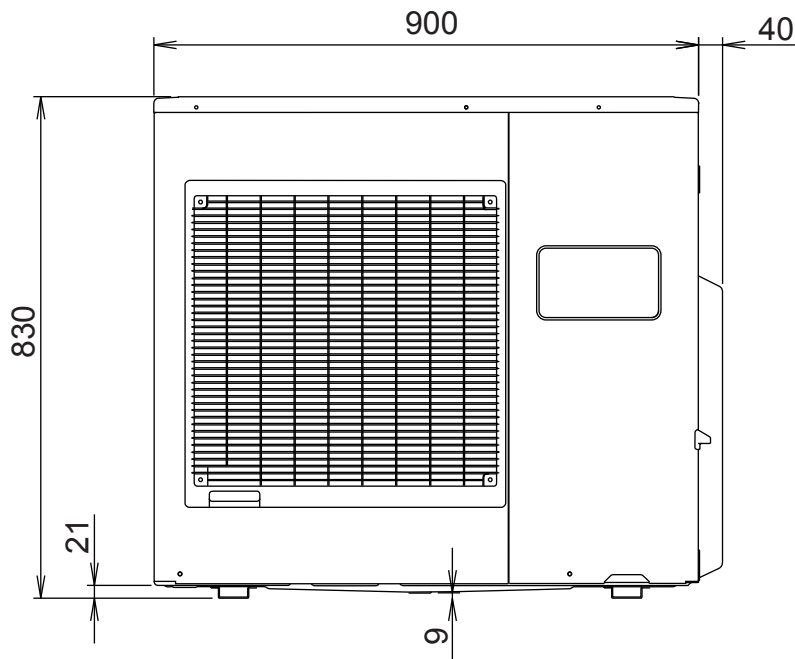
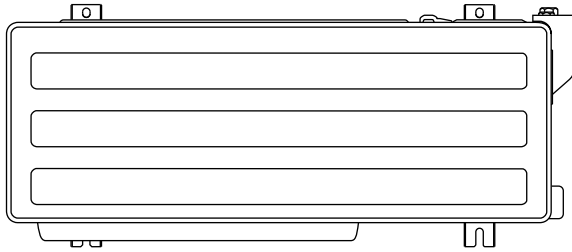


Drain pipe diameter
Inside : 21.5 mm
Outside : 26.0 mm



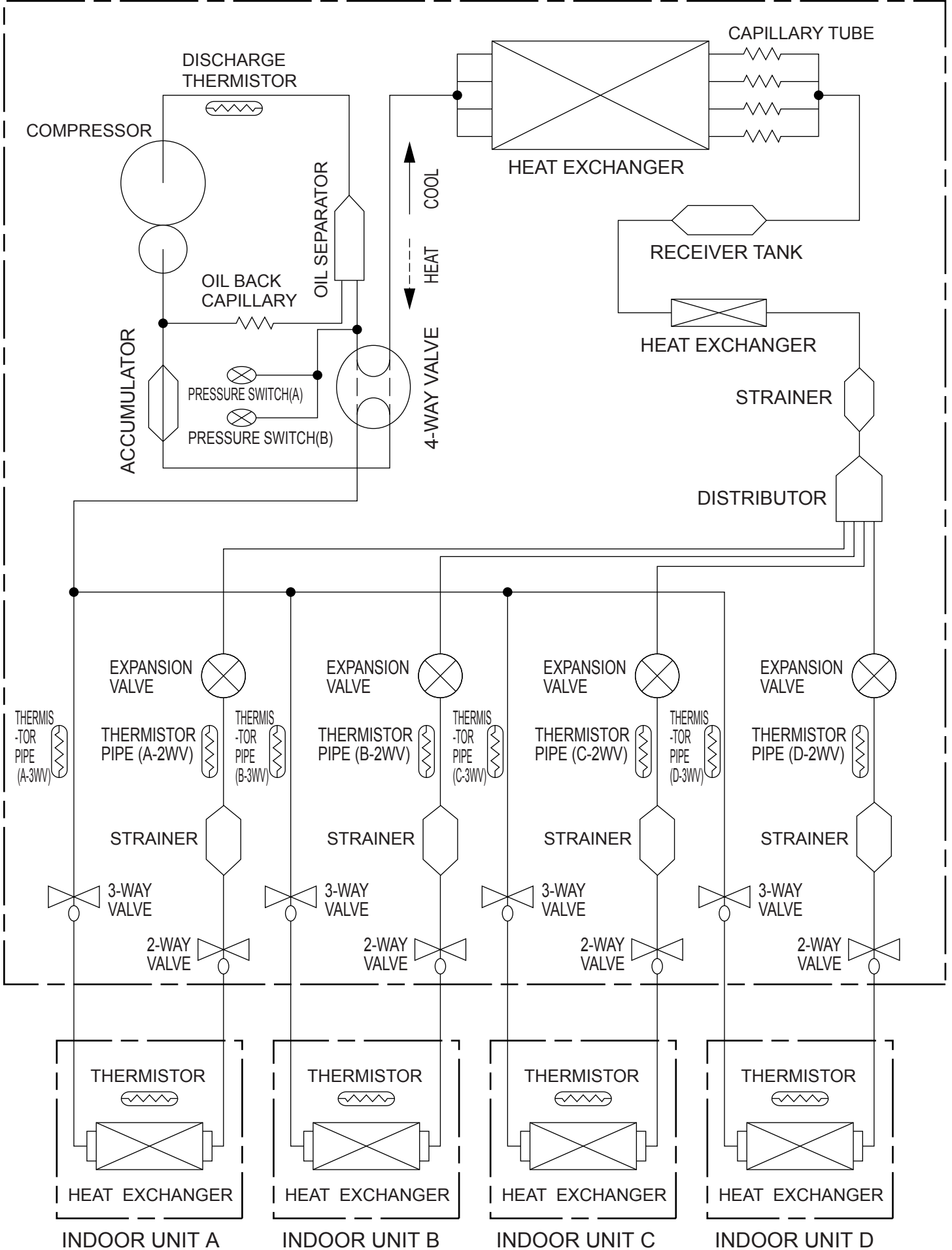
OUTDOOR UNIT

Unit : mm



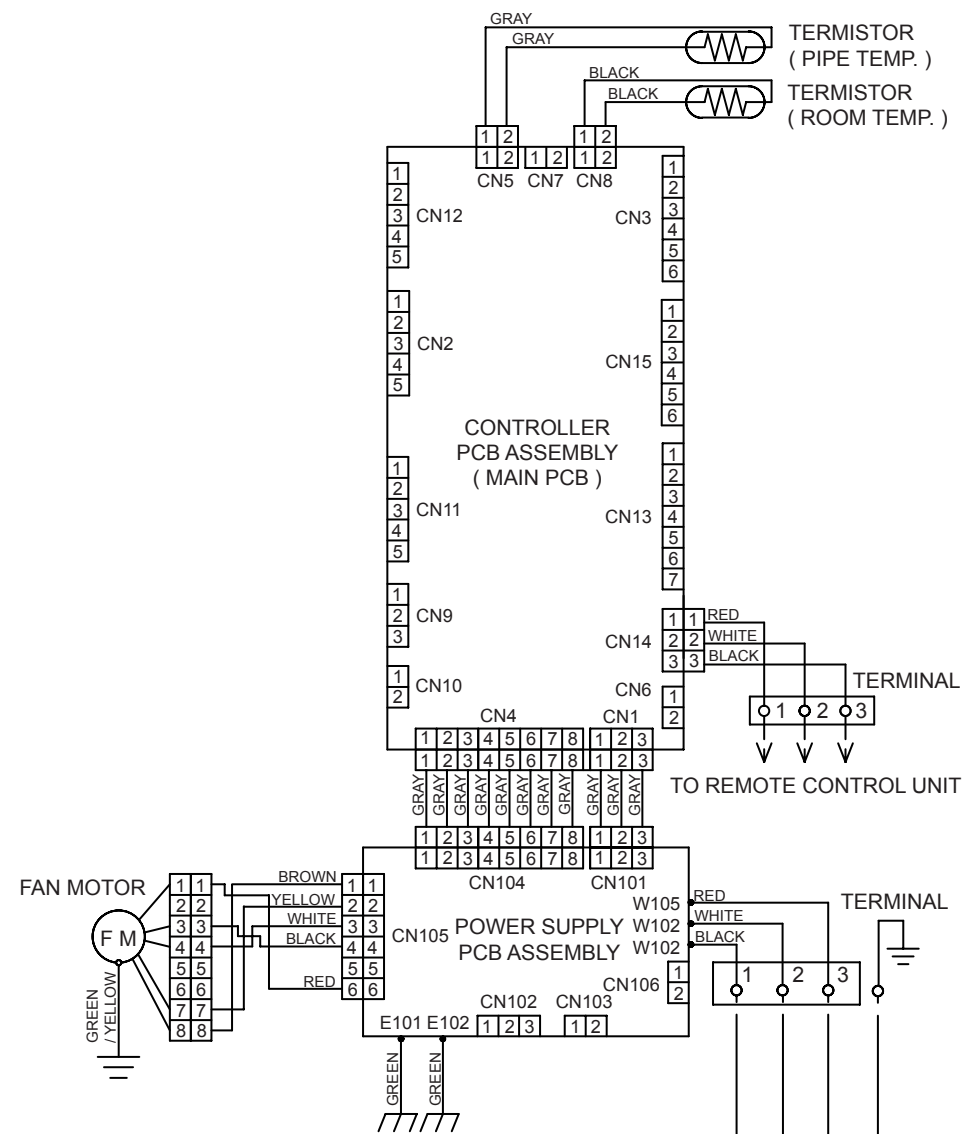
REFRIGERANT SYSTEM DIAGRAM

OUTDOOR UNIT

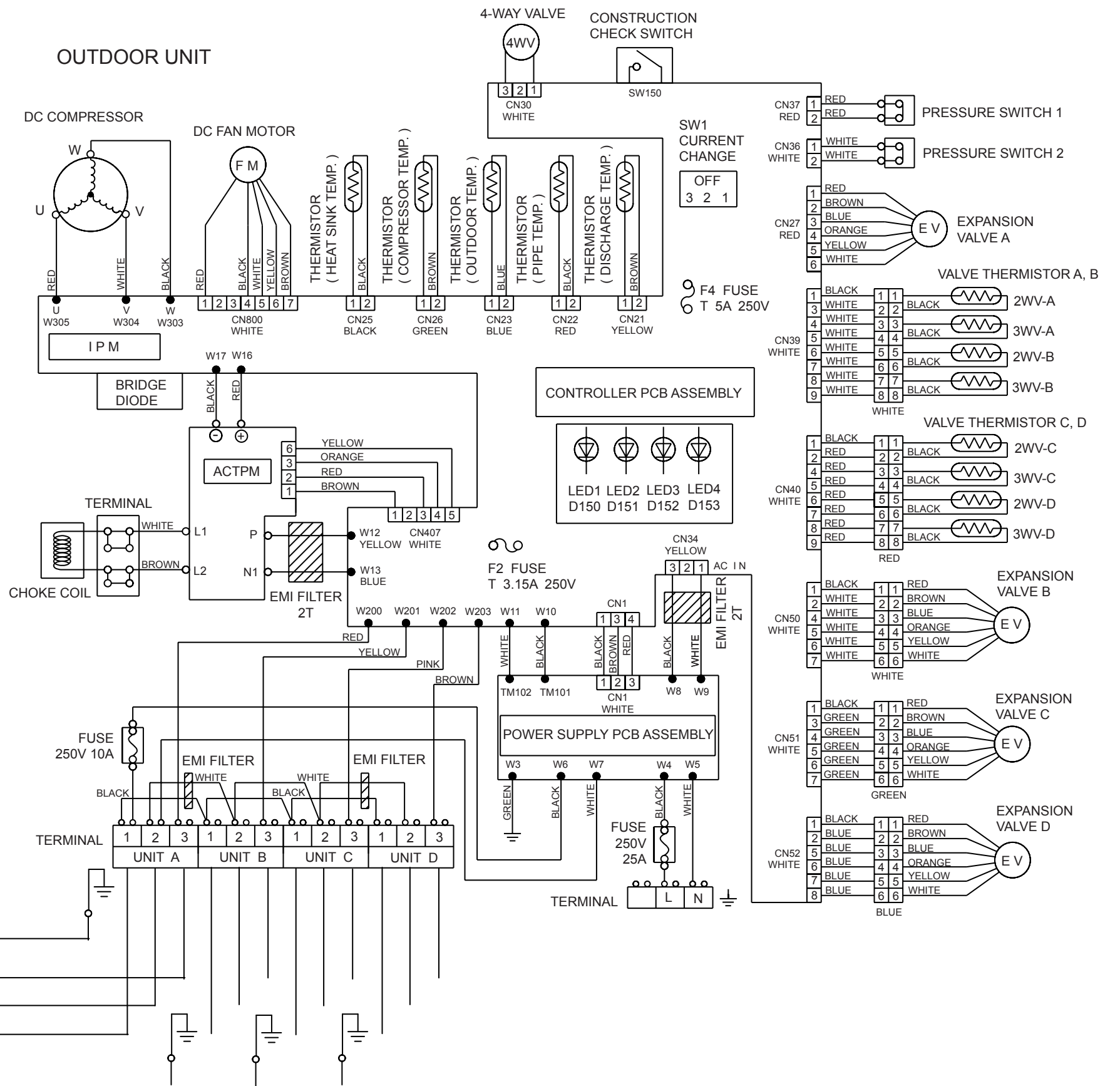


CIRCUIT DIAGRAM

INDOOR UNIT

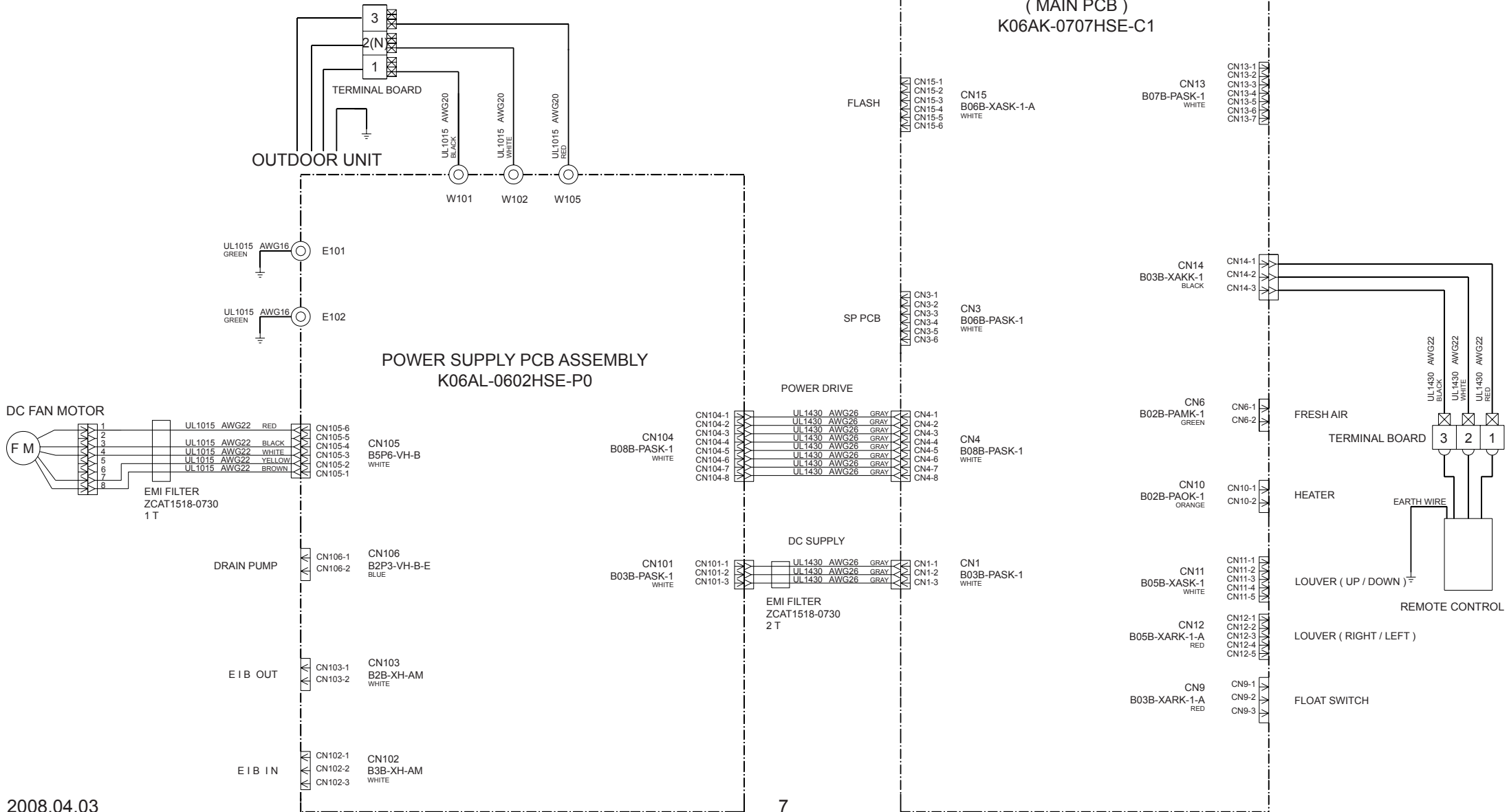


OUTDOOR UNIT

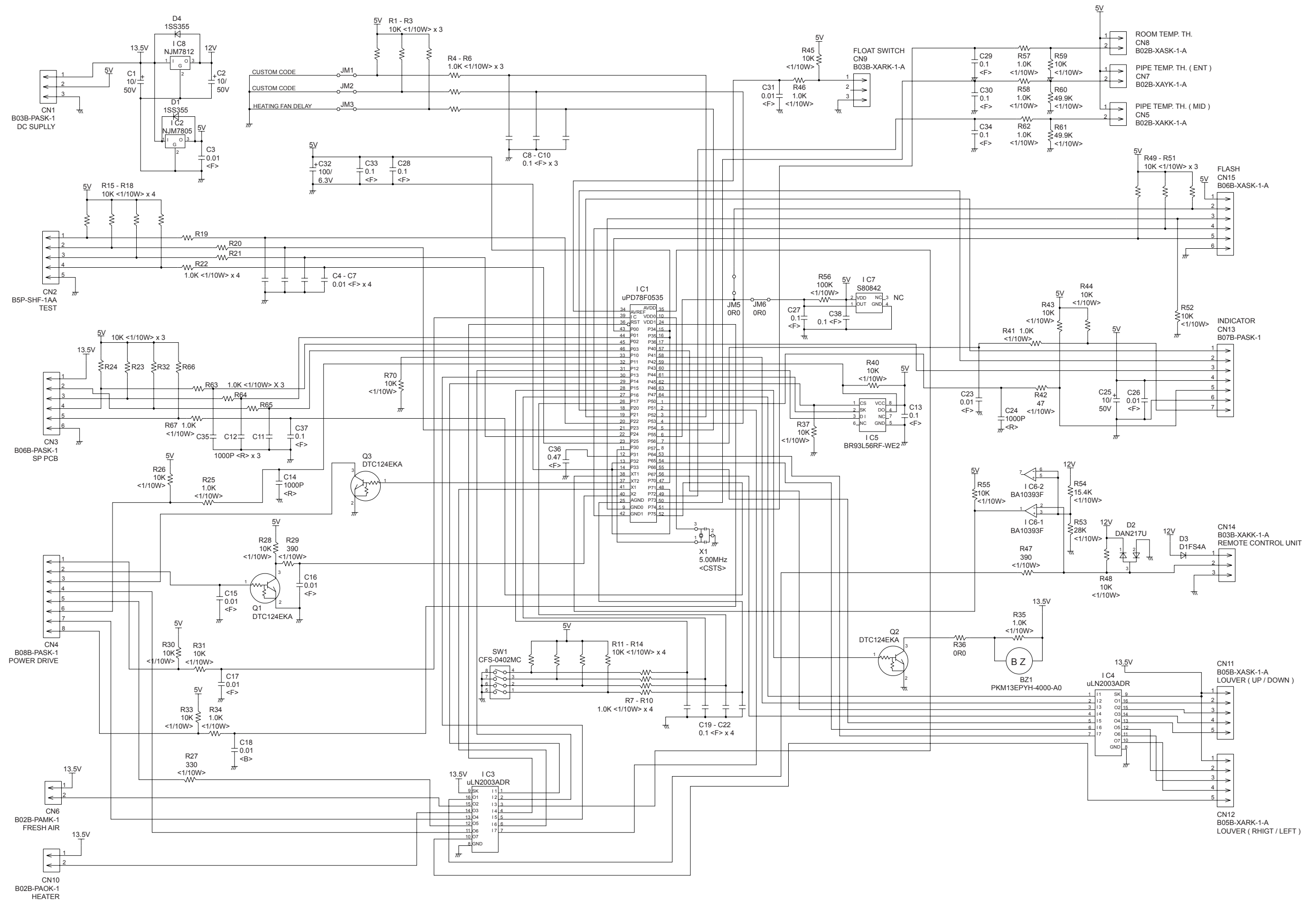


INDOOR PCB CIRCUIT DIAGRAM

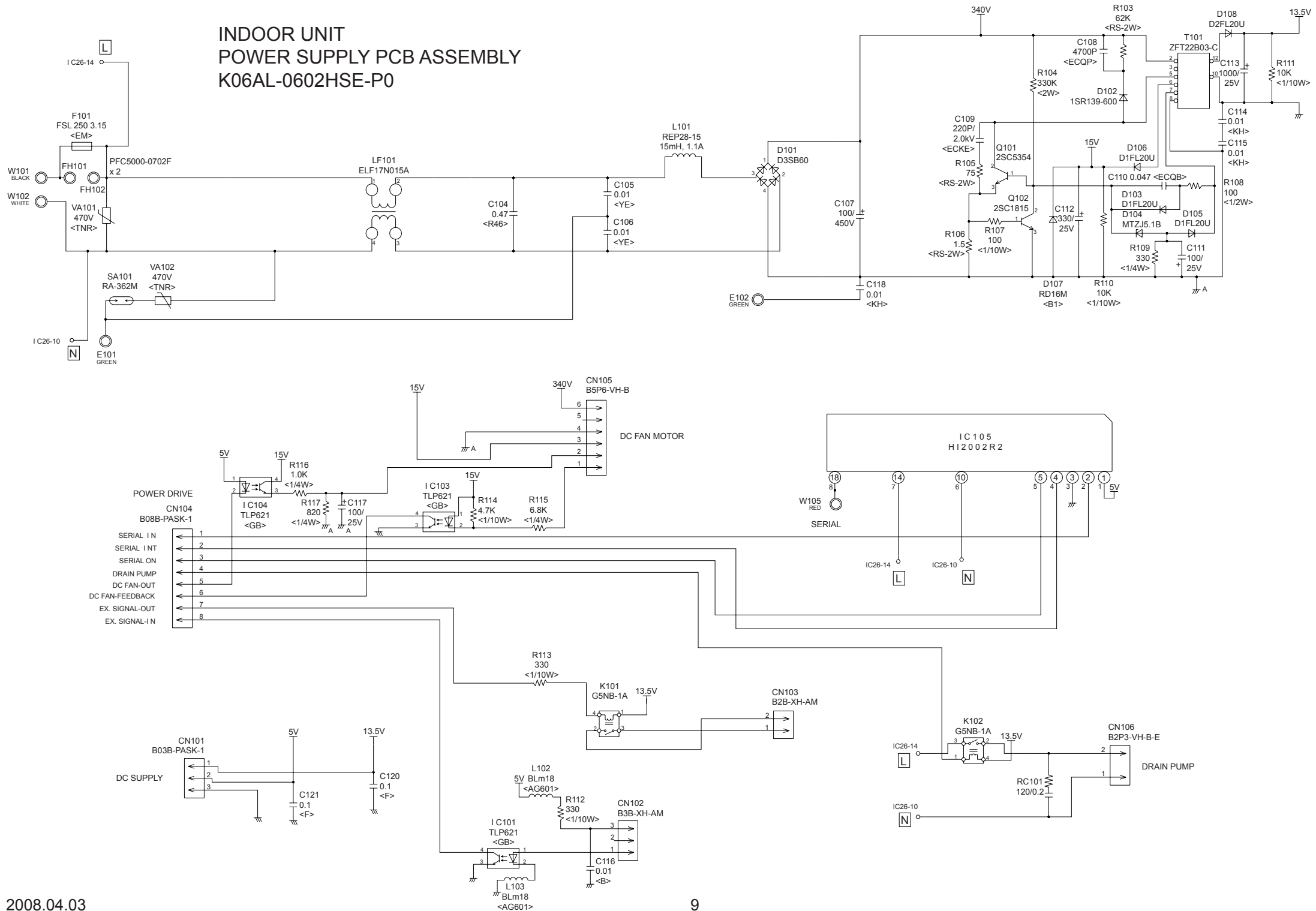
CONTROL UNIT
EZ-0070RHSE



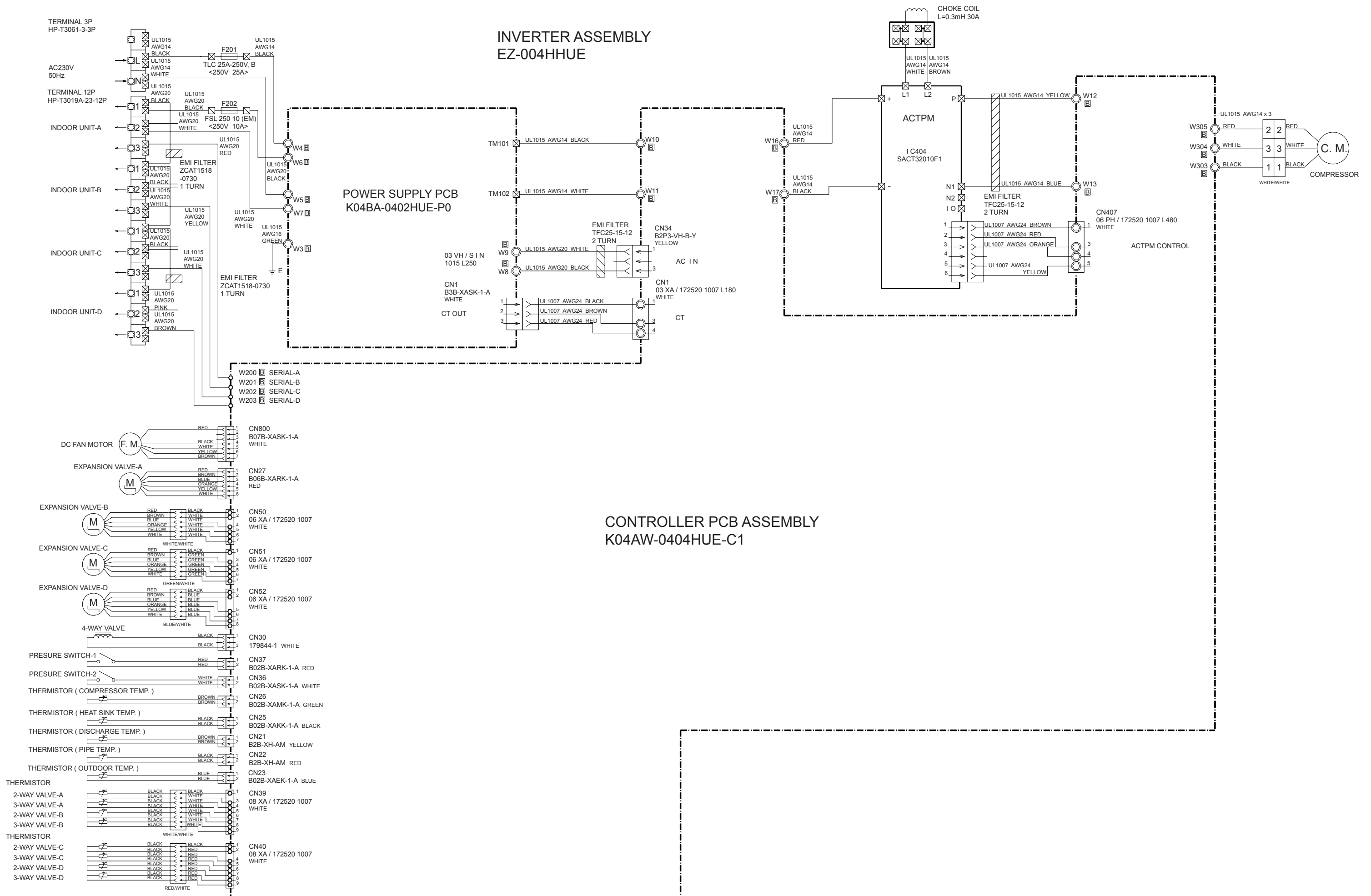
INDOOR UNIT
CONTROLLER PCB ASSEMBLY
K06AK-0707HSE-C1



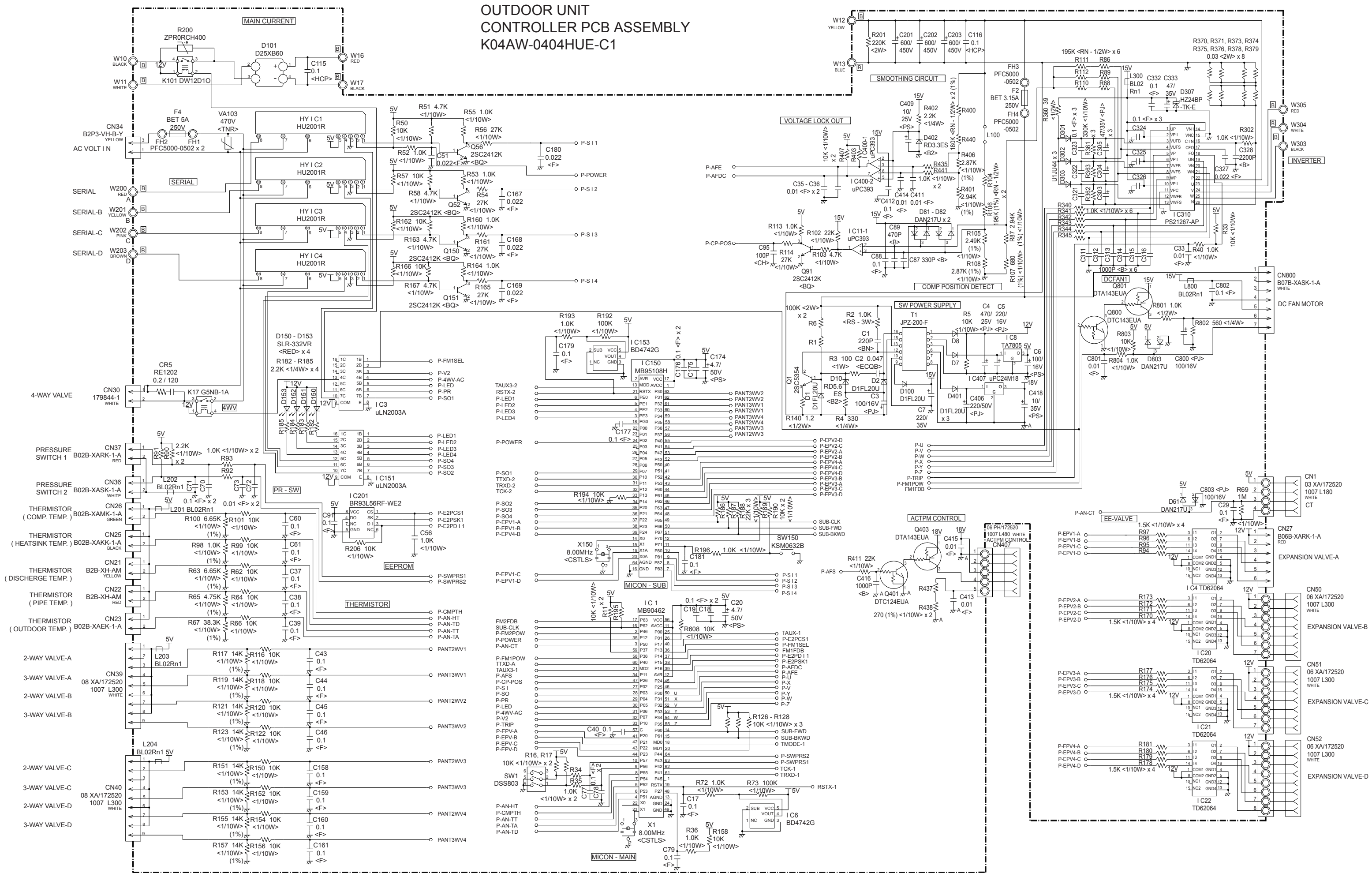
INDOOR UNIT POWER SUPPLY PCB ASSEMBLY K06AL-0602HSE-P0



OUTDOOR PCB CIRCUIT DIAGRAM



OUTDOOR UNIT CONTROLLER PCB ASSEMBLY K04AW-0404HUE-C1



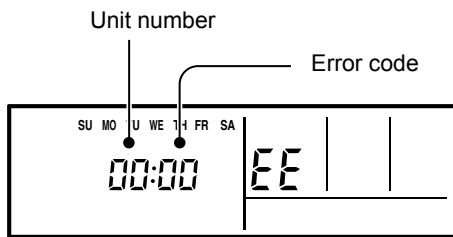
ERROR CONTENTS

REMOTE CONTROL

Troubleshooting at the remote control LCD
This is possible only on the wired remote control.

SELF-DIAGNOSIS

If an error occurs, the following display will be shown.
("EE" will appear in the set room temperature display.)



Ex. Self-diagnosis

Code	Error contents
01 13 26 27	Indoor signal error
00	Wired remote controller abnormal
02	Indoor room temperature sensor error
04	Indoor heat exchanger temperature sensor (middle) error
28	Indoor heat exchanger temperature sensor (inlet) error
09	Float switch operated
0C	Outdoor discharge pipe temperature sensor error
06	Outdoor heat exchanger temperature sensor (outlet) error
0A	Outdoor temperature sensor error
15	Compressor temperature sensor error
1d	2-way valve temperature sensor error
1E	3-way valve temperature sensor error
29	Outdoor heat exchanger temperature sensor (middle) error
20	Indoor manual auto switch abnormal
2A	Power supply frequency detection error
17	IPM protection
18	CT error
1A	Compressor location error
1b	Outdoor fan error
1F	Connected indoor unit abnormal
1c	Outdoor unit computer communication error
12	Indoor fan abnormal
0F	Discharge temperature error
24	Excessive high pressure protection on cooling
2c	4-way valve abnormal
16	Pressure switch abnormal
2b	Compressor temperature error
19	Active filter abnormal
25	PFC circuit error

If "CO" appears in the unit number display,
there is a remote control error.

Unit number	Error code	Content
CO	1d	Incompatible indoor unit is connected
CO	1c	Communication error between indoor unit and remote control

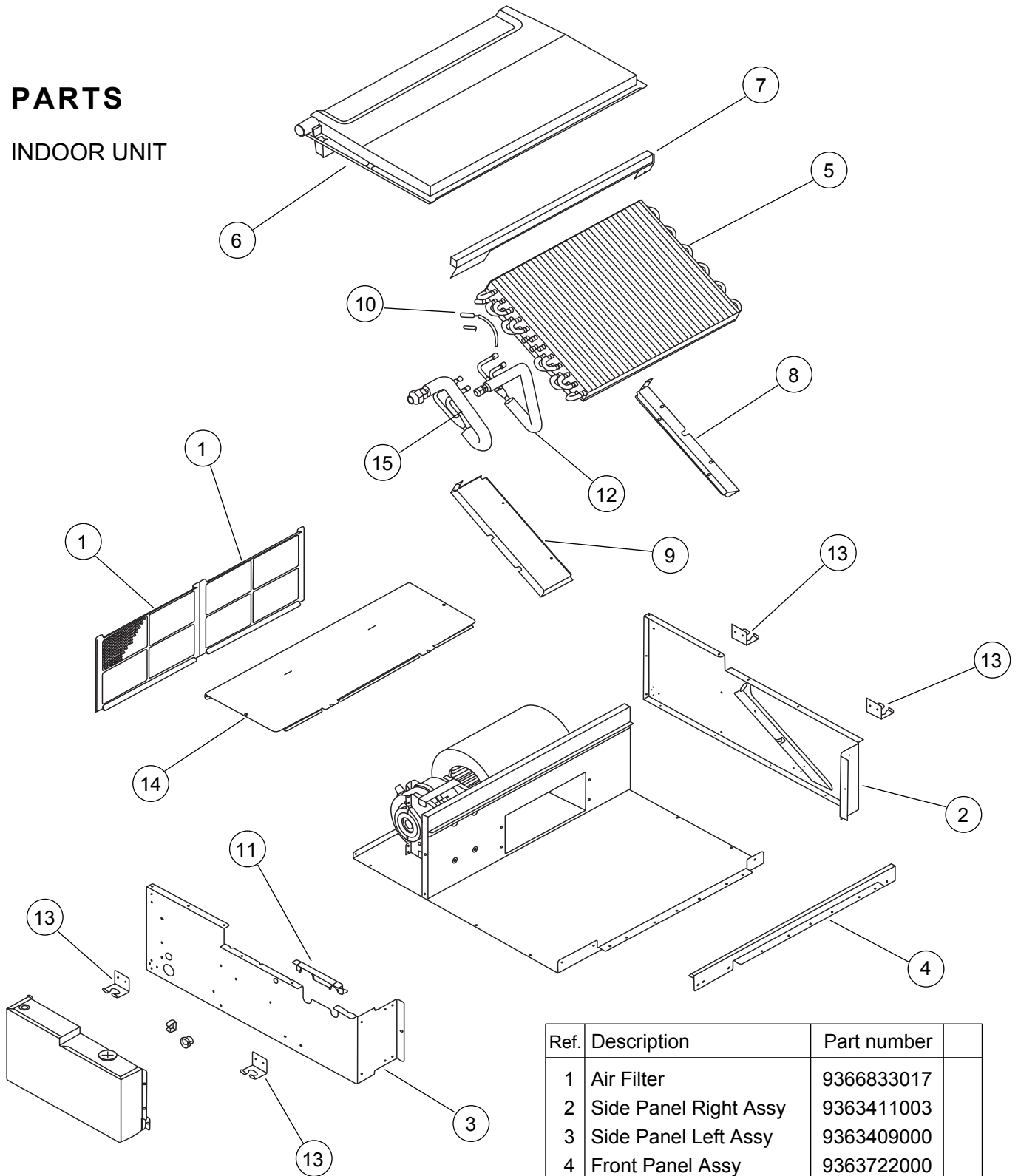
OUTDOOR UNIT

	LED A	LED B	LED C	LED D
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	—
Communication error (indoor unit D 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 2way valve(D) 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	—
Outdoor 3way valve(D) 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 later 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	—	—	—

● : Slow flashing - : Off

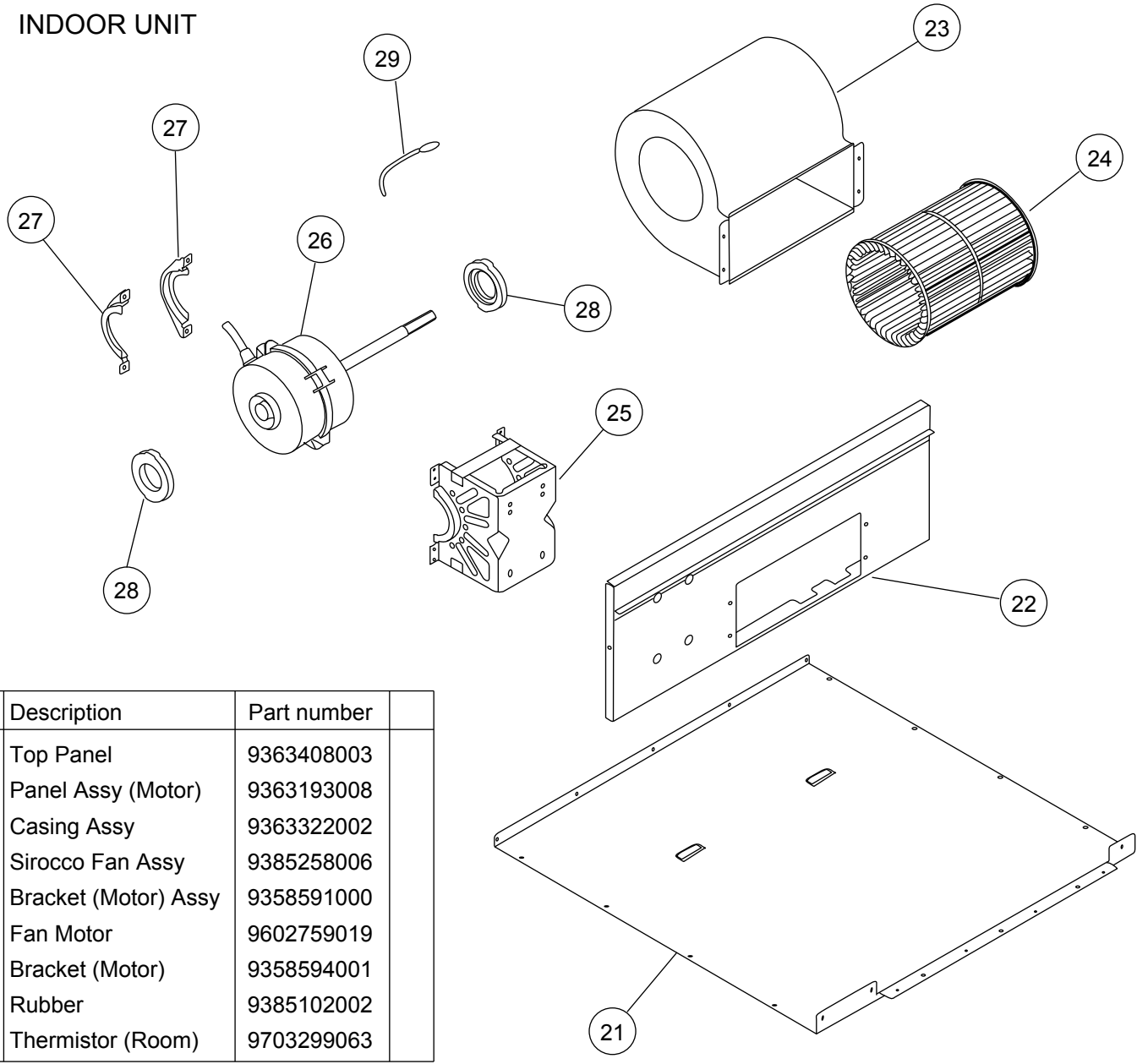
PARTS

INDOOR UNIT



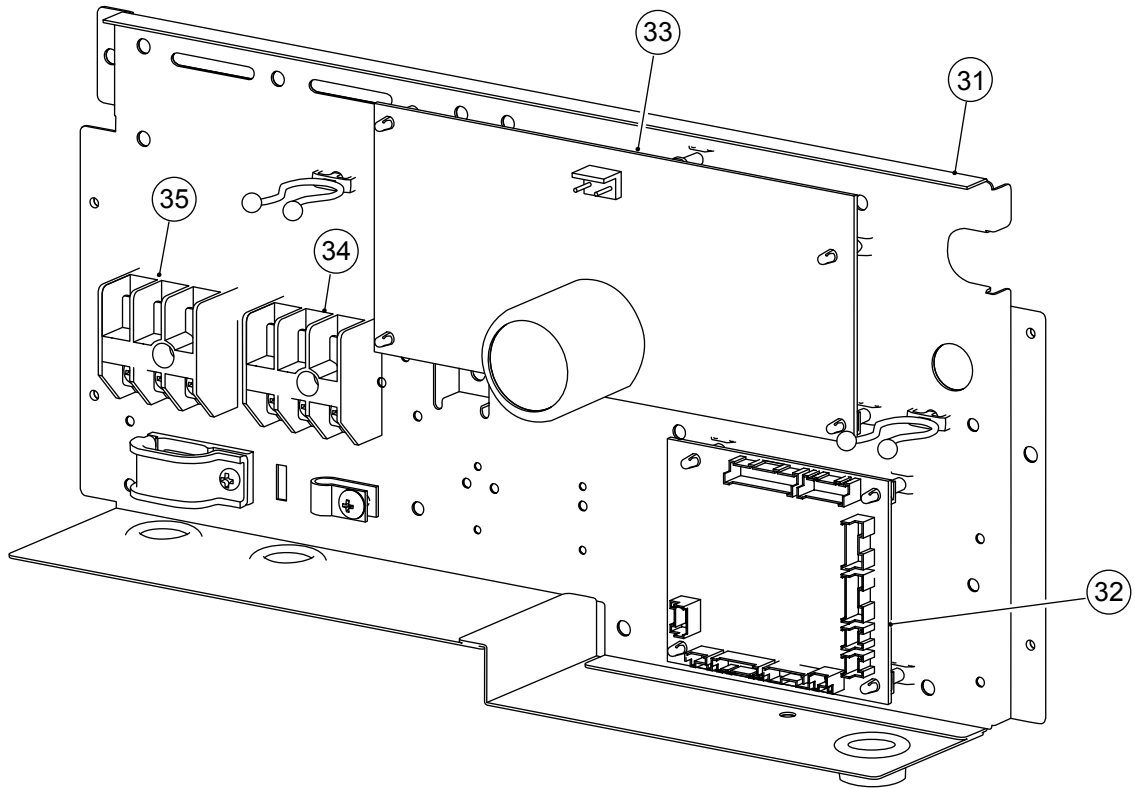
Ref.	Description	Part number
1	Air Filter	9366833017
2	Side Panel Right Assy	9363411003
3	Side Panel Left Assy	9363409000
4	Front Panel Assy	9363722000
5	Evaporator Assy	9373255055
6	Drain Pan Sub Assy	9364502052
7	Support Plate (Evaporator)	9363323009
8	Bracket Evaporator R	9363199000
9	Bracket Evaporator L	9363198003
10	Pipe Thermistor	9703297090
11	Cover (Piping)	9363330007
12	Distributor Assy	9373034193
13	Hook Metal	9363195002
14	Cabinet Cover	9363325003
15	Coupling Pipe Assy	9373038498
--	Drain Cap Assy	9377878014

INDOOR UNIT



Ref.	Description	Part number
21	Top Panel	9363408003
22	Panel Assy (Motor)	9363193008
23	Casing Assy	9363322002
24	Sirocco Fan Assy	9385258006
25	Bracket (Motor) Assy	9358591000
26	Fan Motor	9602759019
27	Bracket (Motor)	9358594001
28	Rubber	9385102002
29	Thermistor (Room)	9703299063

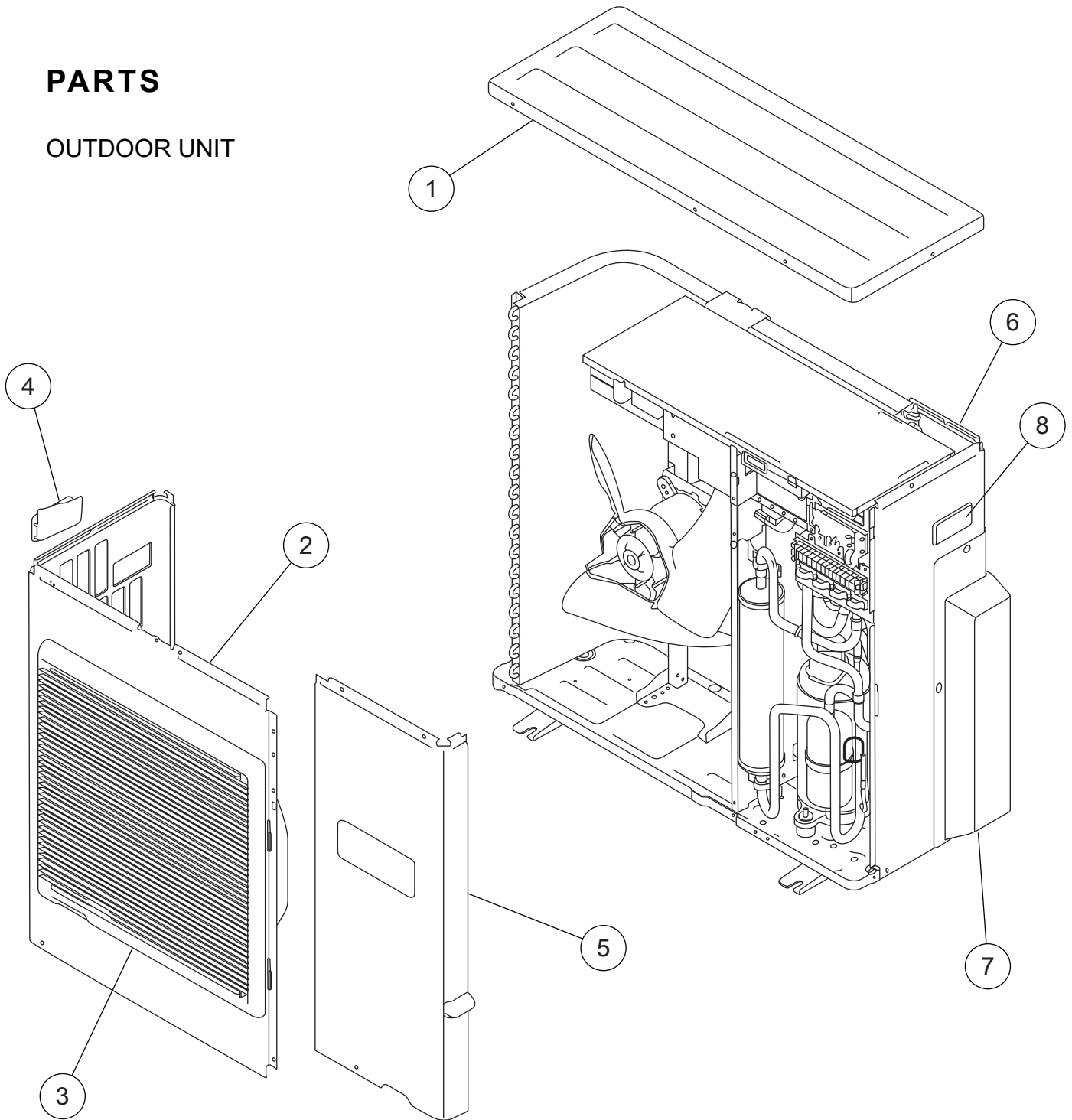
INDOOR UNIT



Ref.	Description	Part number
31	Control Box	9375240035
32	Controller PCB Assy	9707393361
33	Power Supply PCB Assy	9707398038
34	Terminal	9703345012
35	Terminal	9306489045
--	Control Box Cover	9363201000
--	Remote Control	9372266199
--	Wire between C and P (8 lines)	9703339028
--	Wire between C and P (3 lines)	9707442014
--	Hole Cover	9378176010
--	Cap (Power)	9352173011

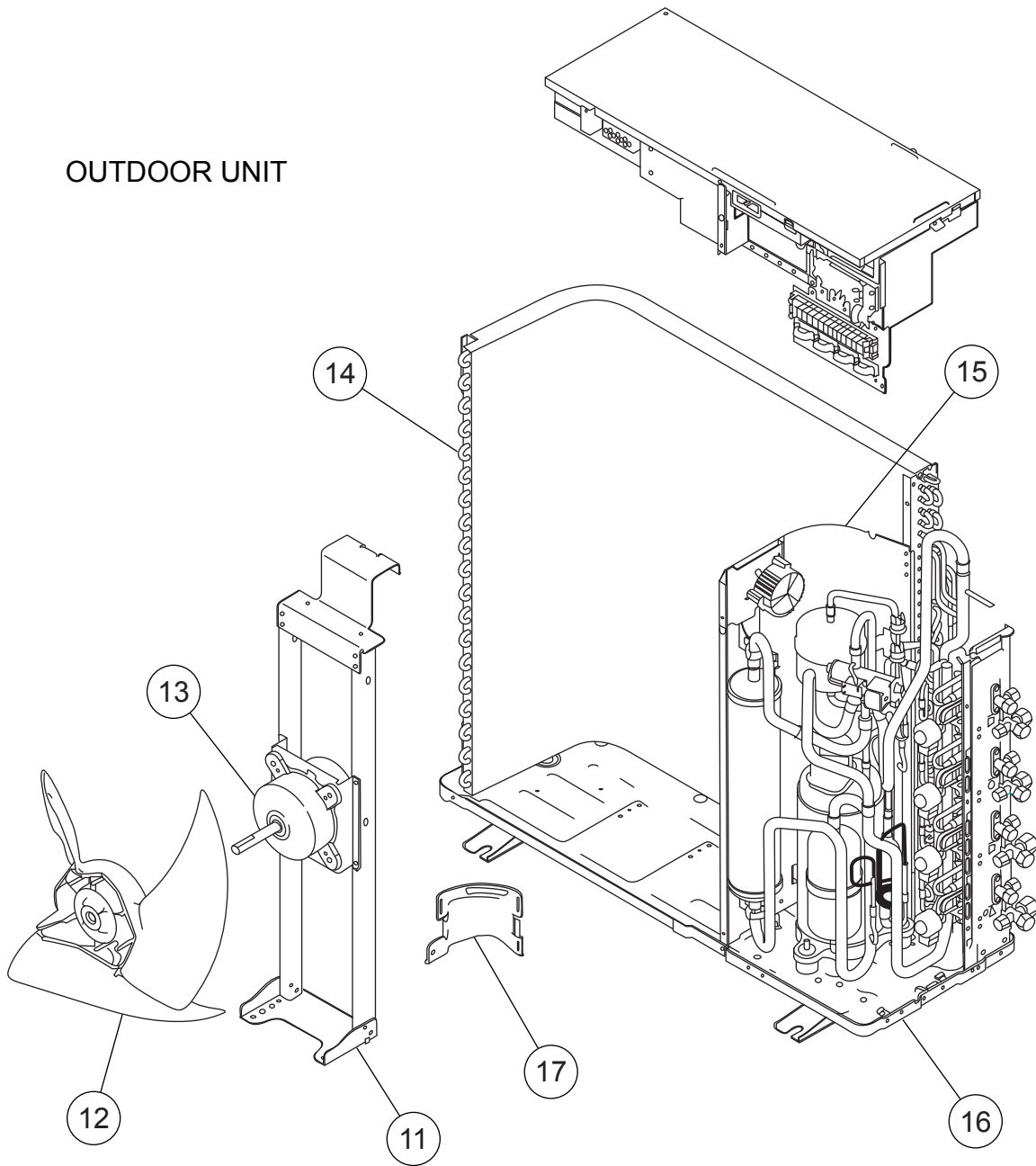
PARTS

OUTDOOR UNIT



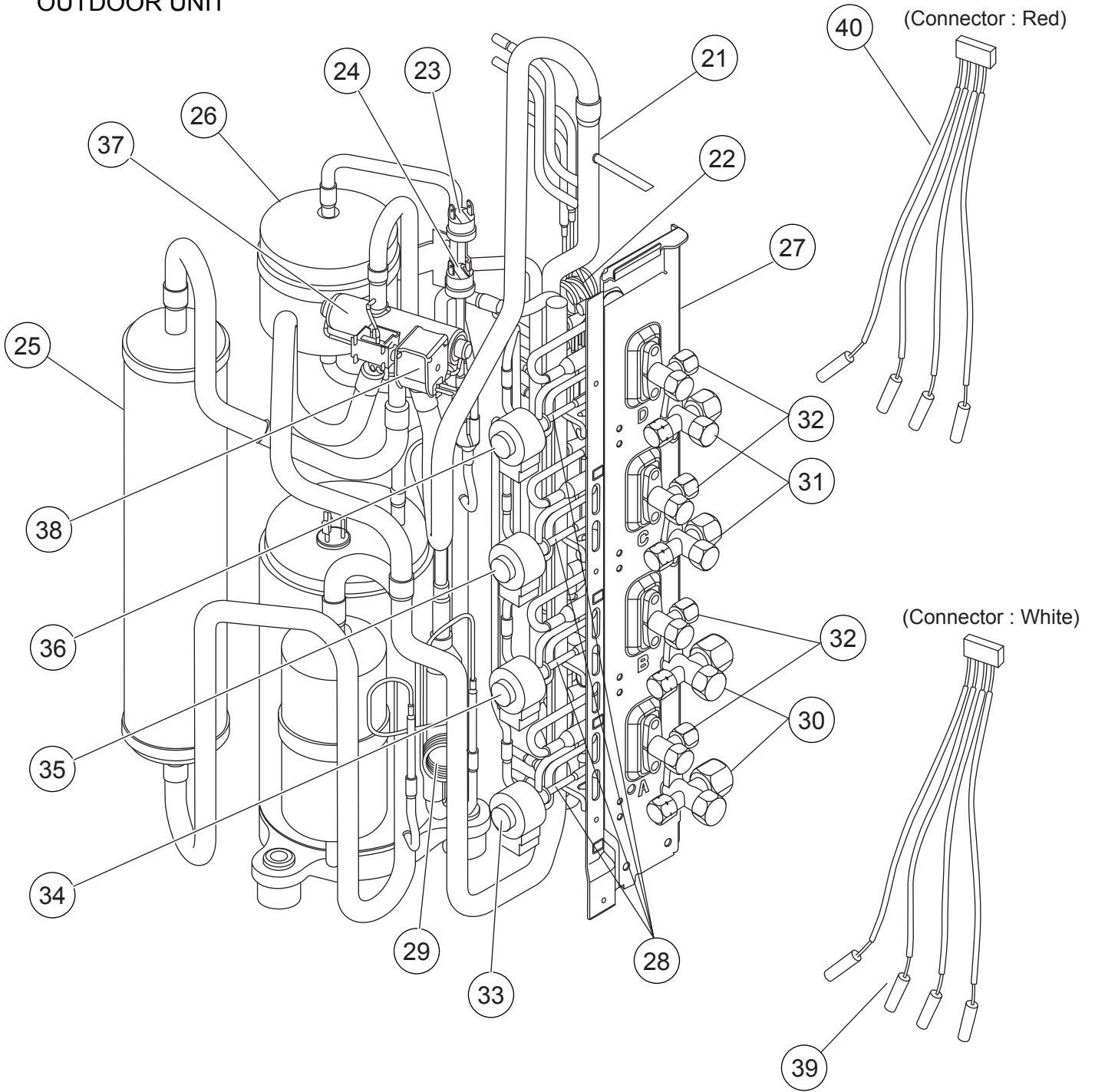
Ref.	Description	Part number
1	Top Panel Sub Assy	9374417025
2	Front Panel	9374094066
3	Fan Guard	9374330010
4	Grip Side	9374173013
5	Service Panel Assy	9374415038
6	Right Panel M	9374599028
7	Valve Cover Sub Assy	9374827015
8	Grip	9374172016
--	Emblem Rear	9372171011
--	Protective Net	9375381011

OUTDOOR UNIT



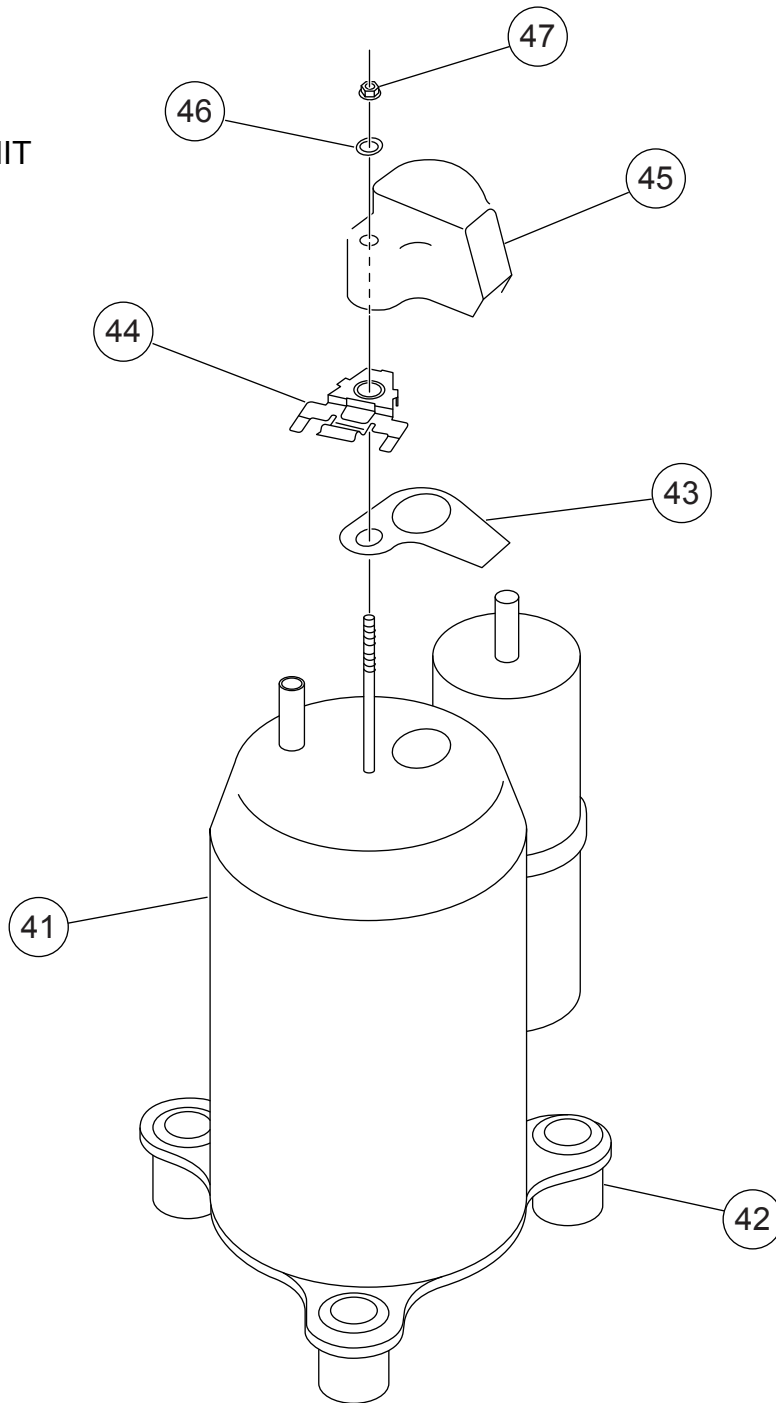
Ref.	Description	Part number
11	Motor Bracket Sub Assy	9374418053
12	Propeller Fan Assy	9366378020
13	Fan Motor	9601882015
14	Condenser A Assy	9374433056
15	Separate Wall Assy	9374629022
16	Base Assy	9374166084
17	Cap Foot	9374345014
--	Drain Assy	9303029015
--	Drain Cap	313166024302

OUTDOOR UNIT



Ref.	Description	Part number	Ref.	Description	Part number
21	Inlet Pipe (Cond) A Assy	9373461067	32	2-Way Valve Assy	9372204054
22	Outlet Pipe (Cond) A Assy	9374266067	33	Expansion Valve Coil (A, Red)	9900057084
23	Pressure Switch A Assy	9367726028	34	Expansion Valve Coil (B, White)	9900057053
24	Pressure Switch B Assy	9367727025	35	Expansion Valve Coil (C, Green)	9900057060
25	Accumulator Sub Assy	9374426072	36	Expansion Valve Coil (D, Blue)	9900057077
26	Receiver Tank Sub Assy	9373426028	37	4-Way Valve Assy	9374425044
27	Valve Plate A Assy	9374628025	38	Solenoid	9900165055
28	Expansion Valve Assy	9370947106	39	Pipe Thermistor (White)	9900322014
29	Capillary Assy	9372197370	40	Pipe Thermistor (Red)	9900289010
30	3-Way Valve Assy (1/2")	9372205051	--	Strainer	9372524015
31	3-Way Valve Assy (3/8")	9372205044	--	Strainer	9366602019

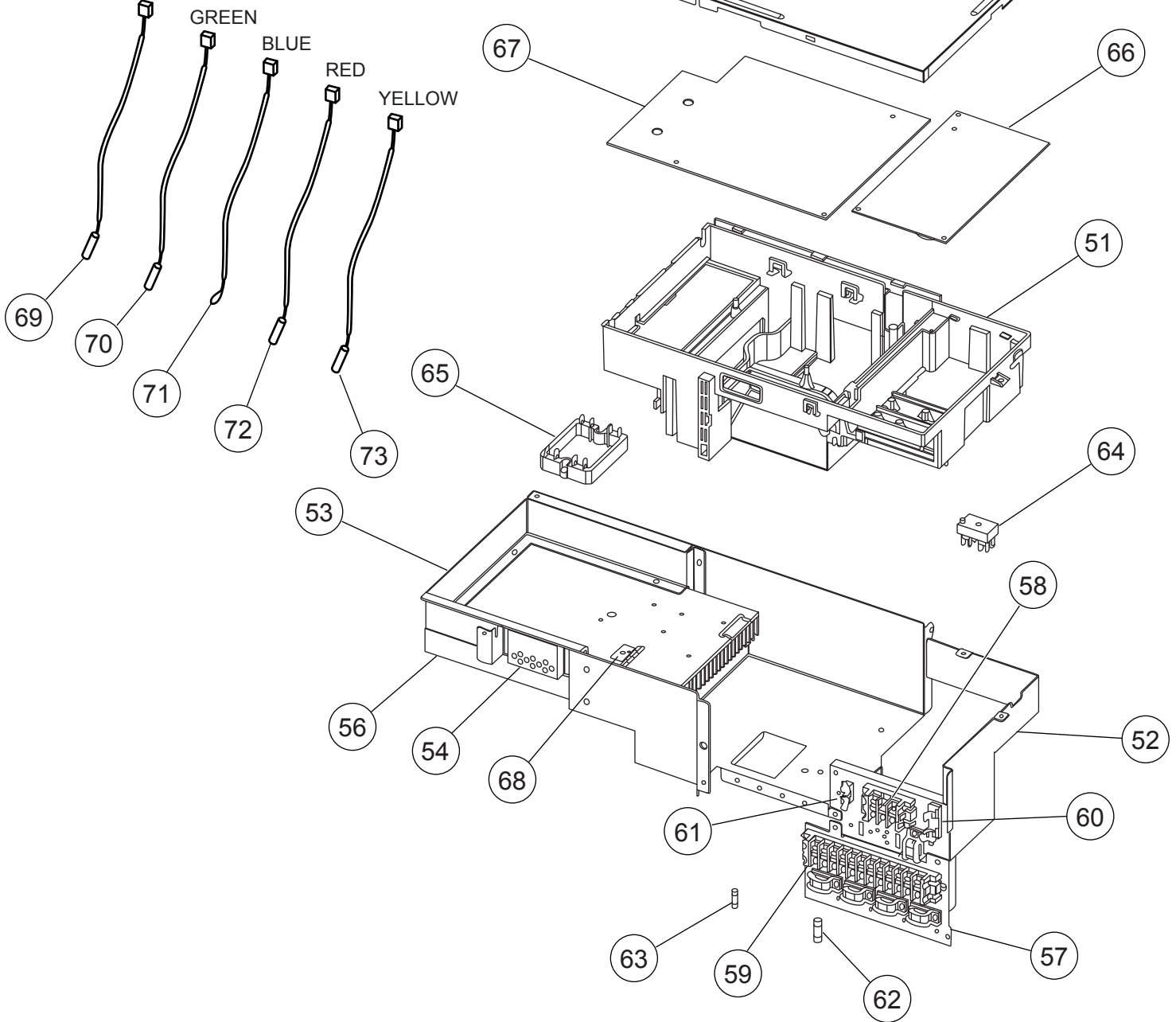
OUTDOOR UNIT
Compressor



Ref.	Description	Part number
41	Compressor Assy	9377946010
42	Rubber Seat	9377951014
43	Terminal Packing	9377948014
44	Holder	9377952011
45	Terminal Cover	9377947017
46	Washer (Rubber)	9377949011
47	Frang Nut	9377950017
--	Compressor Cover A	9374430055
--	Compressor Cover B	9374431052
--	Compressor Cover C	9372067048

OUTDOOR UNIT Inverter assy

Connector : BLACK

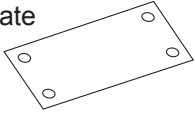
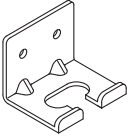
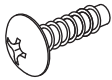



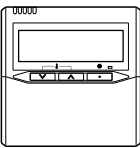
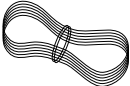





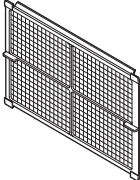


Ref.	Description	Part number
51	Inverter Box A	9374603015
52	Inverter Box B Assy	9374625017
53	Inverter Box C	9374605019
54	Inverter Box Duct	9374609017
55	Inverter Box Cover	9374608010
56	Heat Sink A	9374607013
57	Inverter Box D	9374606016
58	Terminal (3P)	9900203016
59	Terminal (12P)	9358660164
60	Fuse Holder (Big)	0501454012
61	Fuse Holder (Small)	0501456016
62	Fuse (Big)	0600086039

Ref.	Description	Part number
63	Fuse (Small)	0600376116
64	Terminal	9701971015
65	ACTPM	9703457012
66	Power Supply PCB Assy	9705647039
67	Controller PCB Assy	9705642058
68	Holder (Thermo)	9372797013
69	Heat Sink Thermistor	9900311018
70	Compressor Thermistor	9900156022
71	Thermistor (Outdoor)	9703516078
72	Heat Exchanger Thermistor	9704220059
73	Discharge Pipe Thermistor	9704219114

ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty	Application
Installation template 	1	For positioning the indoor unit (P/N 9364224008)
Hanger 	4	For suspending the indoor unit from ceiling (P/N 9363195002)
Tapping screw (ø4 x 10) 	8	For installing the hanger (P/N 301171164104)
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling (P/N 313005446653) (P/N 313005446759)
Special nut B (small flange) 	4	
Binder 	(Small) 1	For remote control and cord binding (P/N 313361275805)
	(Large) 4	For fixing the coupler heat insulation (P/N 312300787605)
Remote control 	1	For air conditioner operation (P/N 9372266199)
Remote control cord 	1	For connecting a remote control (P/N 9372714010)
Tapping screw (ø4 x 16) 	2	For installing a remote control (P/N 0700181108)

Name and Shape	Q'ty	Application
Coupler heat insulation (large) 	1	For indoor side pipe joint (gas pipe) (P/N 9350716029)
Coupler heat insulation (small) 	1	For indoor side pipe joint (liquid pipe) (P/N 9352766015)
Filter 	2	For protecting air conditioner from dust (P/N 9366833017)
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection (P/N 313806217708)
Edge cover 	1	For making a wiring hole for connecting optional units (P/N 9378176010)

OPTIONAL PARTS

The following options are available.

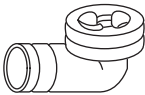
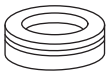




Remote sensor :UTD-RS100 (P/N 9072619004)

External control set :UTD-ECS5A (P/N 9077359004)

IR receiver unit : UTY-LRHY1 (P/N 9048098000)

Drain pump unit : UTZ-PX1BBA(P/N 9052976004)

OUTDOOR UNIT

Name and Shape	Q'ty	Application
Drain pipe 	1	For outdoor unit drain piping work (May not be supplied, depending on the model.)
Drain cap 	2	
Putty 	1	For filling in a gap at the entrance of connection cords.
Adapter E (1/4" → 3/8") 6.35mm → 9.52mm 	1	For connecting a pipe with different diameter to the outdoor unit.
Adapter G (1/2" → 5/8") 12.7mm → 15.88mm 	1	
Adapter D (1/2" → 3/8") 12.7mm → 9.52mm 	2	

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