

INVERTER MULTI AIR CONDITIONER CASSETTE type (50Hz)

SERVICE MANUAL



Indoor unit	Outdoor unit
AUYF09LAL	AOY30LMAW4
AUYF12LAL	
AUYF14LAL	
AUYF18LAL	

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SPECIFICATIONS

INDOOR UNIT

ELECTRICAL DATA

TYPE		Inverter multi cooling & heating			
MODEL NAME		AUYF09LAL	AUYF12LAL	AUYF14LAL	AUYF18LAL
COOLING CAPACITY		2.7 kW	3.5 kW	4.2 kW	5.2 kW
HEATING CAPACITY		3.3 kW	3.8 kW	4.8 kW	6.0 kW
MOISTURE REMOVAL		0.7 L/hr	1.1 L/hr	1.5 L/hr	1.7 L/hr
AIR CIRCULATION (HIGH)	Cooling	540 m³/hr	610 m³/hr	680 m³/hr	750 m³/hr
	Heating	540 m³/hr	600 m³/hr	700 m³/hr	800 m³/hr

FAN MOTOR

Discrimination		MFF-24RVL			
cool / heat	High speed	590 / 590 r.p.m.	660 / 650 r.p.m.	730 / 740 r.p.m.	790 / 840 r.p.m.
	Med speed	540 / 540 r.p.m.	580 / 580 r.p.m.	630 / 670 r.p.m.	660 / 750 r.p.m.
	Low speed	490 / 490 r.p.m.	520 / 520 r.p.m.	540 / 600 r.p.m.	570 / 650 r.p.m.
	Quiet	440 / 440 r.p.m.	460 / 460 r.p.m.	460 / 480 r.p.m.	460 / 500 r.p.m.

NOISE LEVEL

cool / heat	High speed	33 dB / 34 dB	37 dB / 37 dB	40 dB / 40 dB	42 dB / 44 dB
	Med speed	31 dB / 32 dB	33 dB / 33 dB	35 dB / 37 dB	37 dB / 41 dB
	Low speed	29 dB / 29 dB	31 dB / 31 dB	32 dB / 34 dB	33 dB / 37 dB
	Quiet	26 dB / 27 dB	27 dB / 28 dB	27 dB / 29 dB	27 dB / 30 dB

DIMENSIONS

INDOOR UNIT	H x W x D	245 x 570 x 570 mm
PANEL	H x W x D	49 x 700 x 700 mm

WEIGHT

INDOOR UNIT	Net / Gross	15 kg / 18 kg
PANEL	Net / Gross	2.6 kg / 4.5 kg

OUTDOOR UNIT

ELECTRICAL SPECIFICATIONS

TYPE		Cooling & heating multi
MODEL NAME		AOY30LMAW4
COOLING CAPACITY		8.0 kW
HEATING CAPACITY		9.6 kW
POWER SUPPLY		(220) - 230 - (240) V
FREQUENCY		50 Hz
RUNNING CURRENT	Cooling	9.7 A
	Heating	10.5 A
INPUT	Cooling	2.22 kW
	Heating	2.40 kW
EER	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.

MEASUREMENT

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

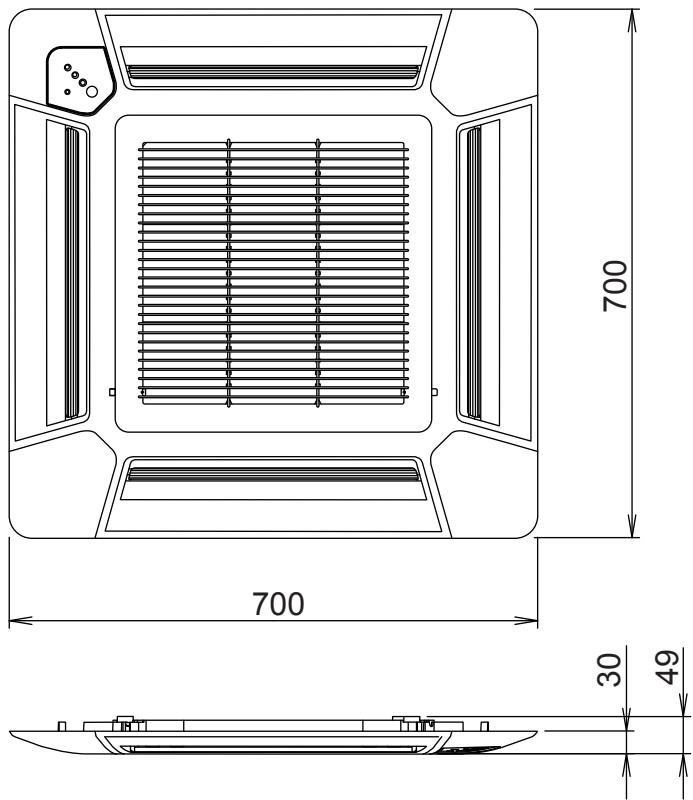
COMPRESSOR AND REFRIGERANT

TYPE		Hermetic type, Inverter, 4 poles, 3-phase, DC motor, Twin Rotary
DISCRIMINATION		TNB220FPBMT
WEIGHT (with oil)		14.3 kg
STANDARD 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
MAX ELEVATION (between indoor and outdoor)		10 m
MIN. PIPE LENGTH (each unit)		5 m

OUTLINE AND DIMENSIONS

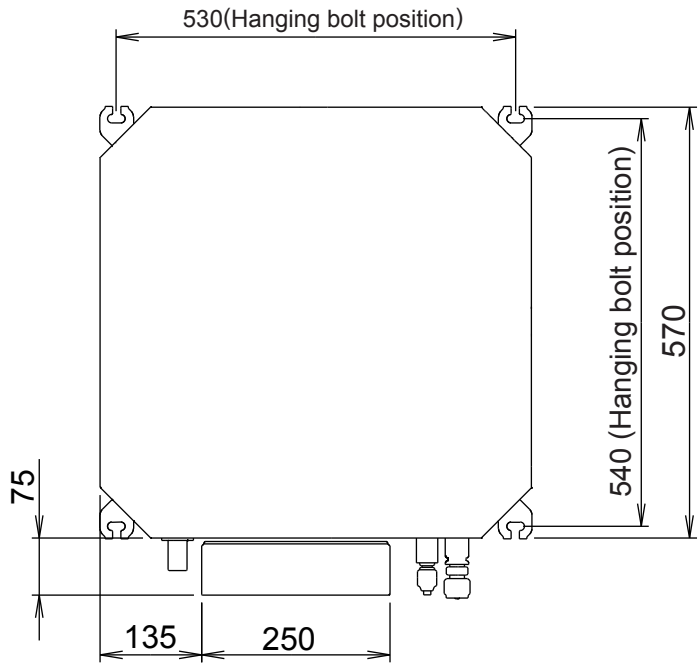
Unit : mm

DECORATION PANEL

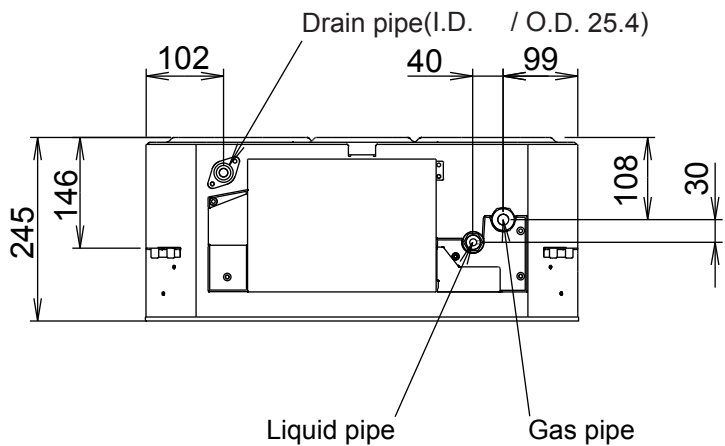


INDOOR UNIT

TOP VIEW

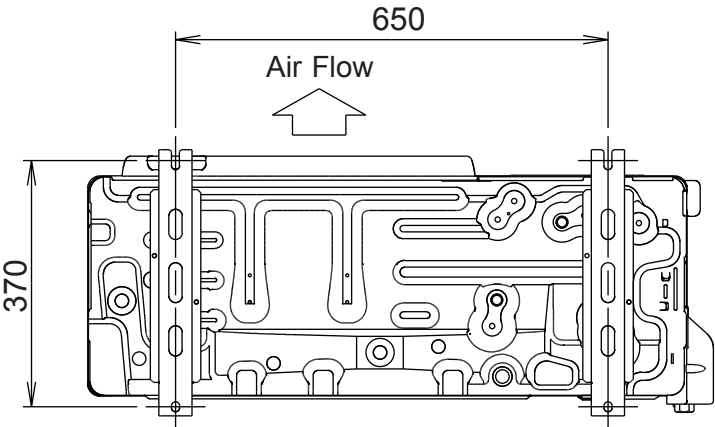
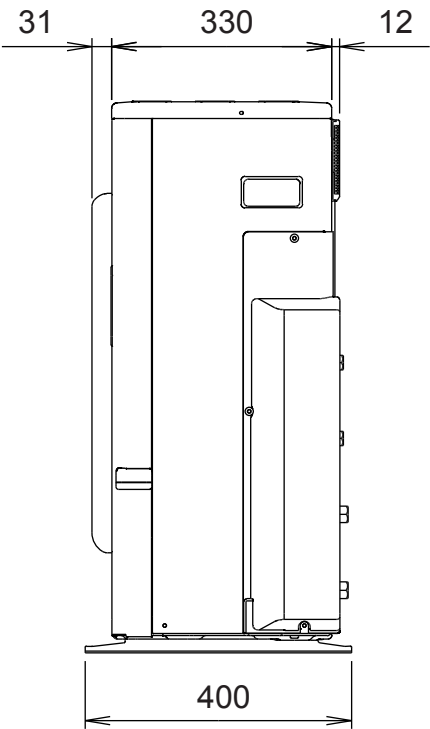
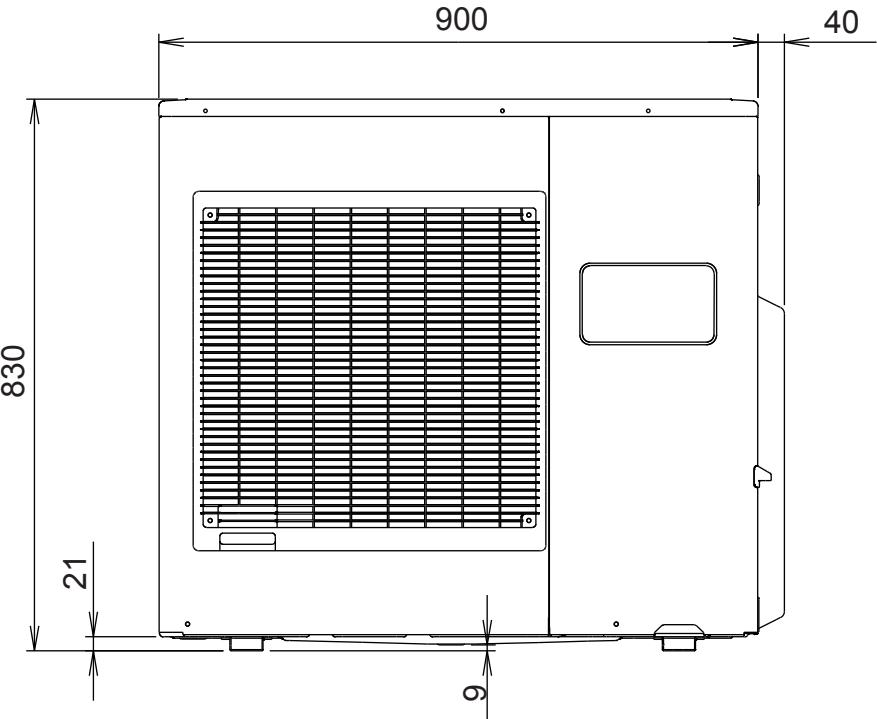
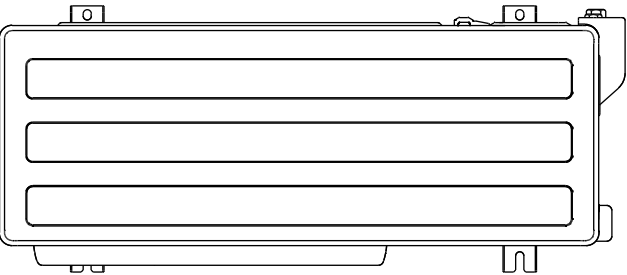


SIDE VIEW



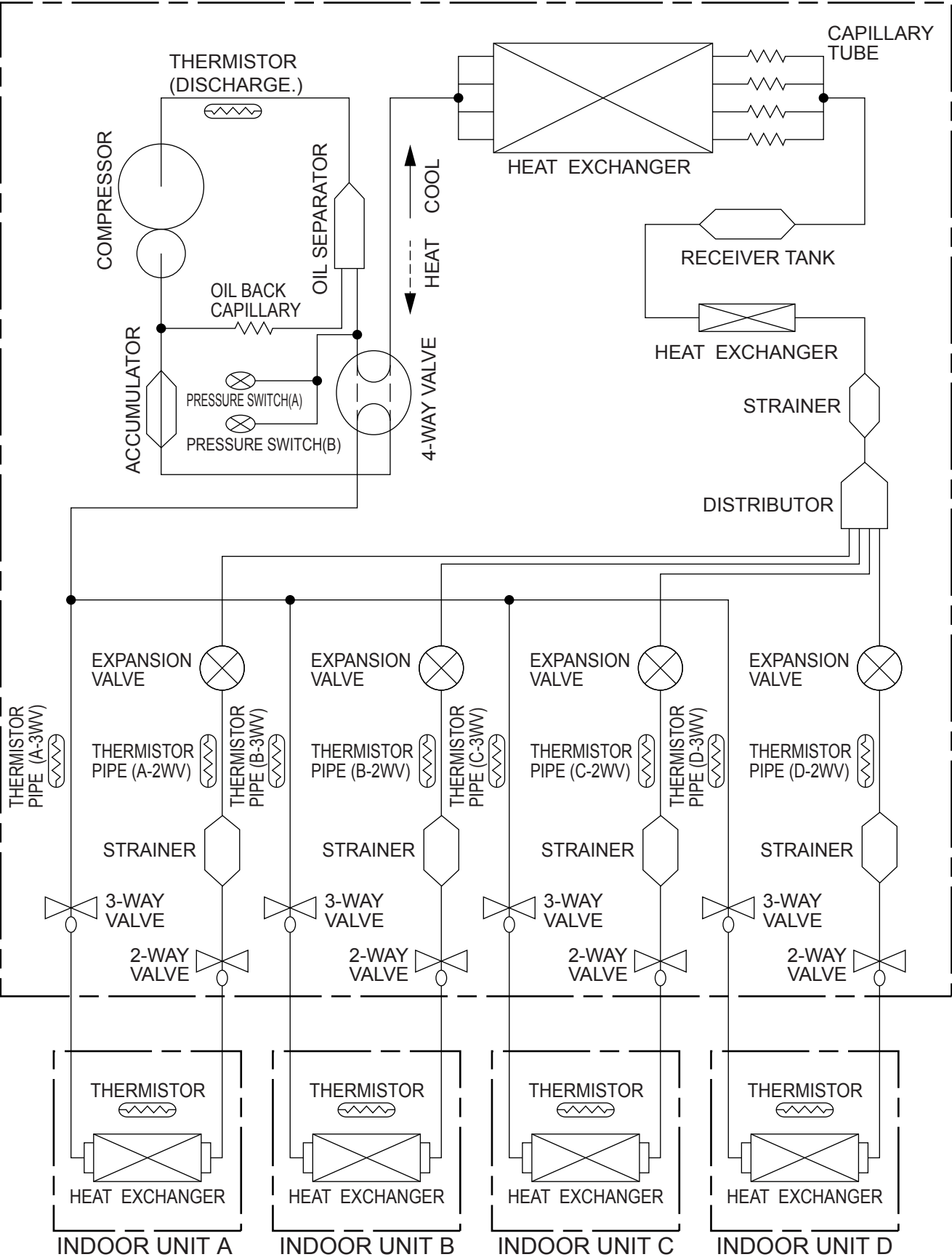
OUTDOOR UNIT

(Unit : mm)



REFRIGERANT SYSTEM DIAGRAM

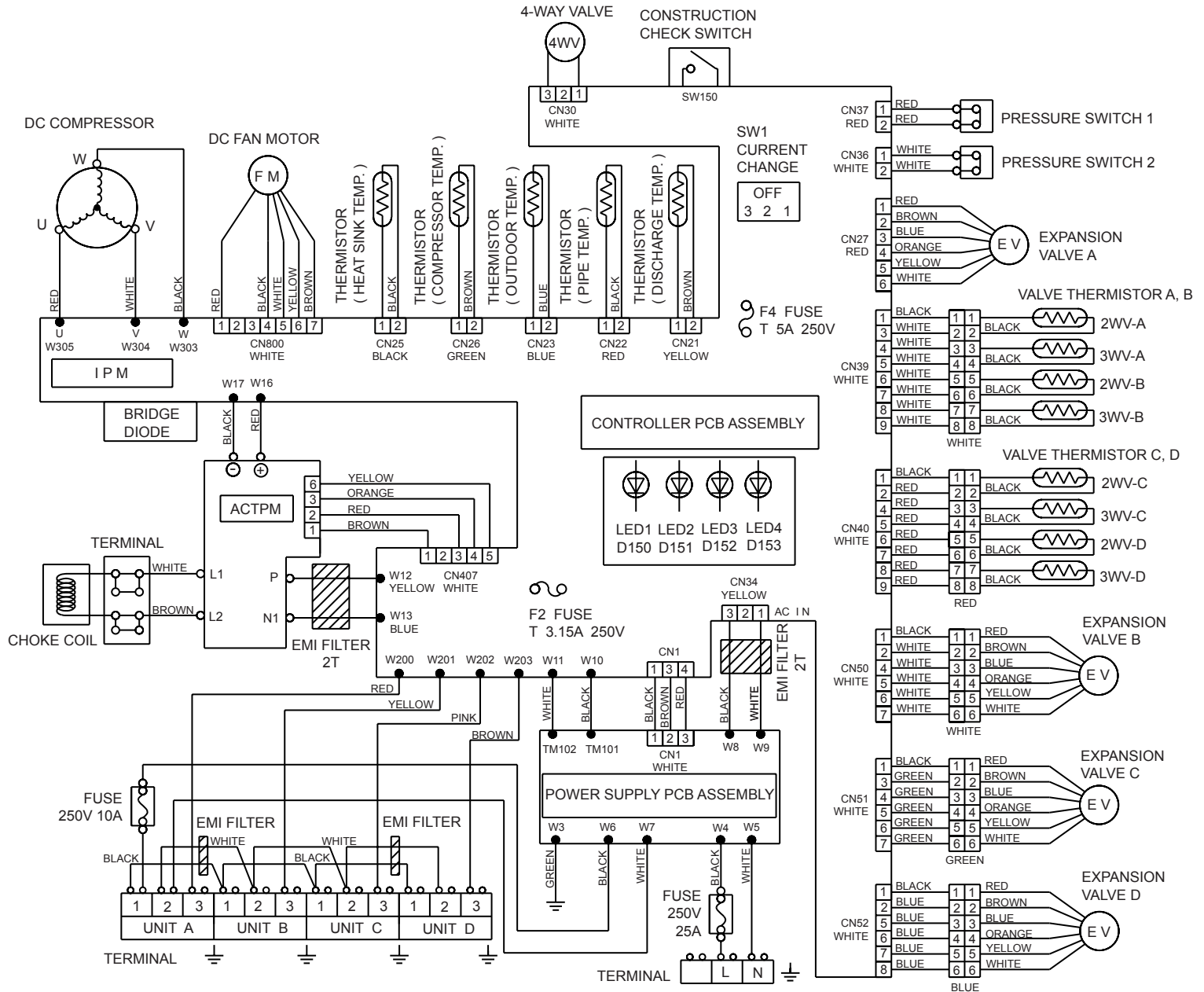
OUTDOOR UNIT



INDOOR UNIT

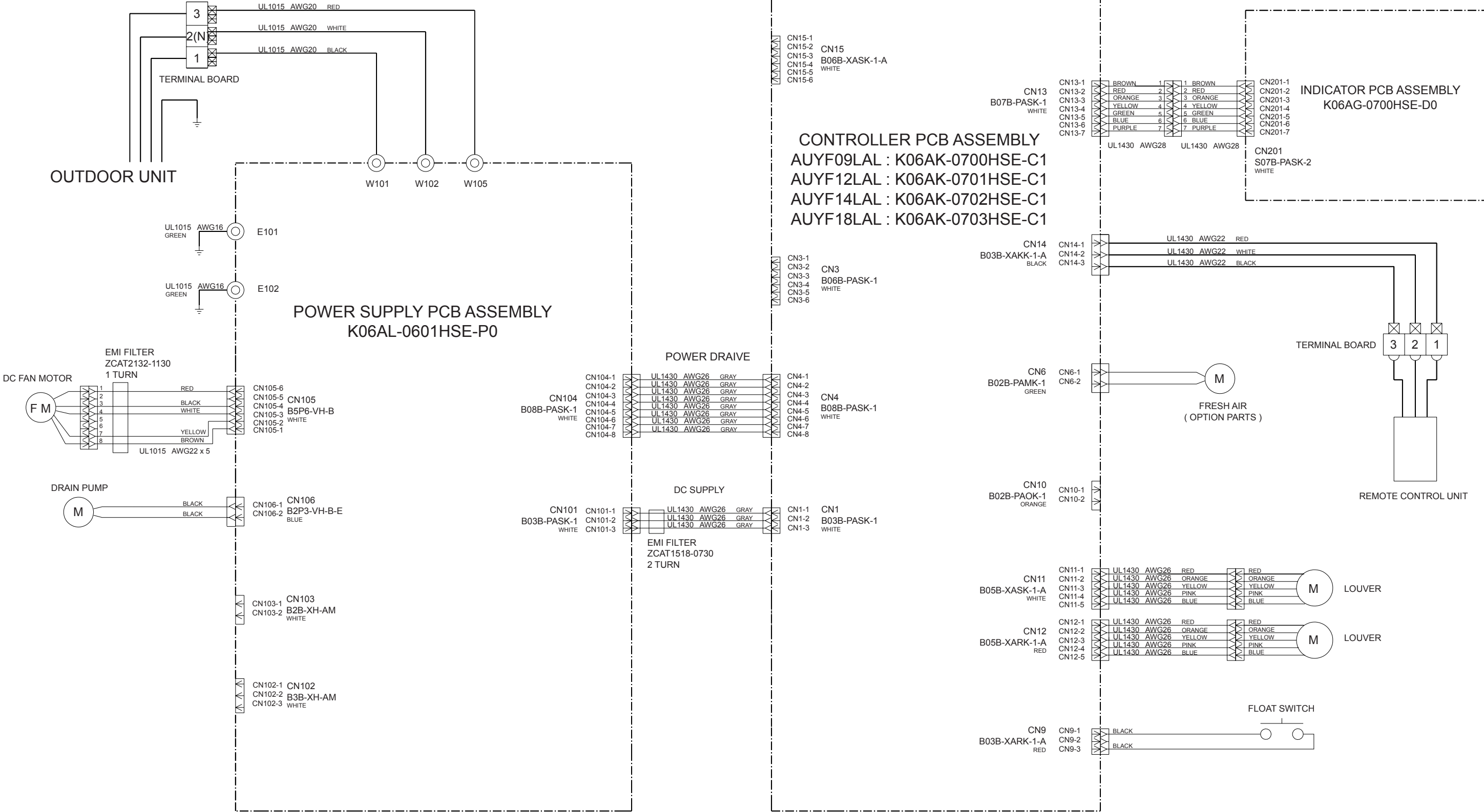


OUTDOOR UNIT

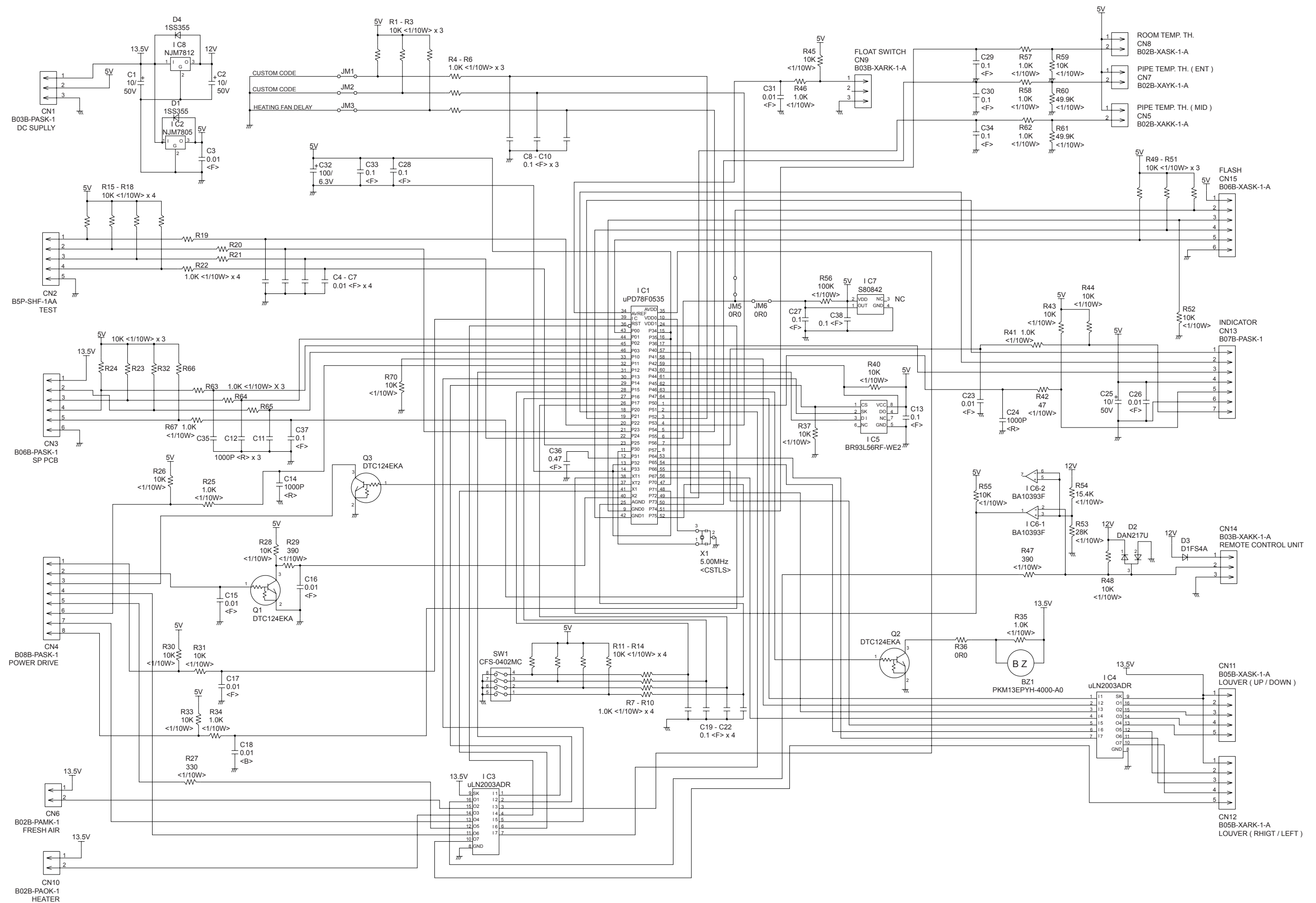


INDOOR PCB CIRCUIT DIAGRAM

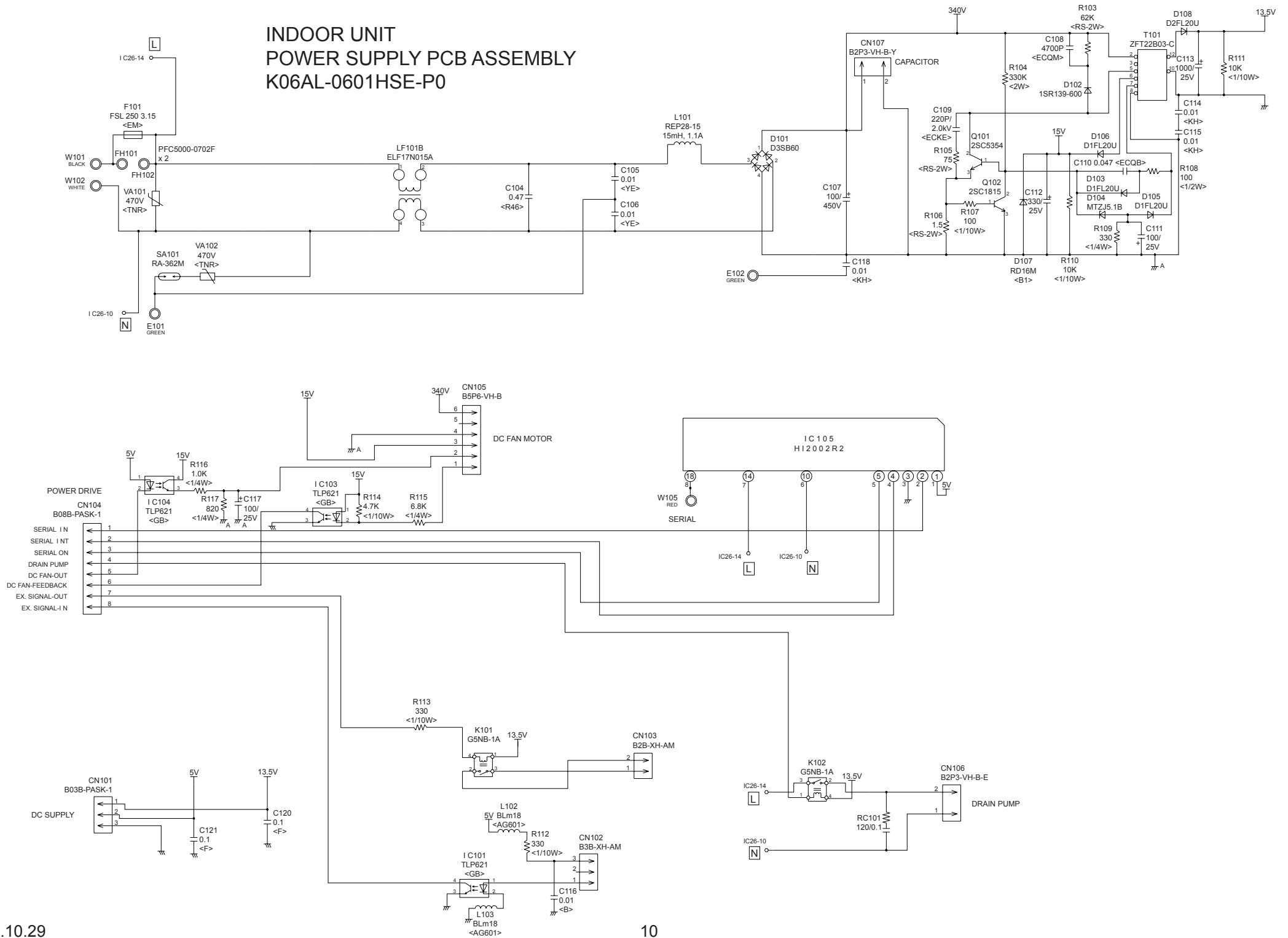
CONTROL UNIT
AUYF09LAL : EZ-0070FHSE
AUYF12LAL : EZ-0070GHSE
AUYF14LAL : EZ-0070HHSE
AUYF18LAL : EZ-0070KHSE



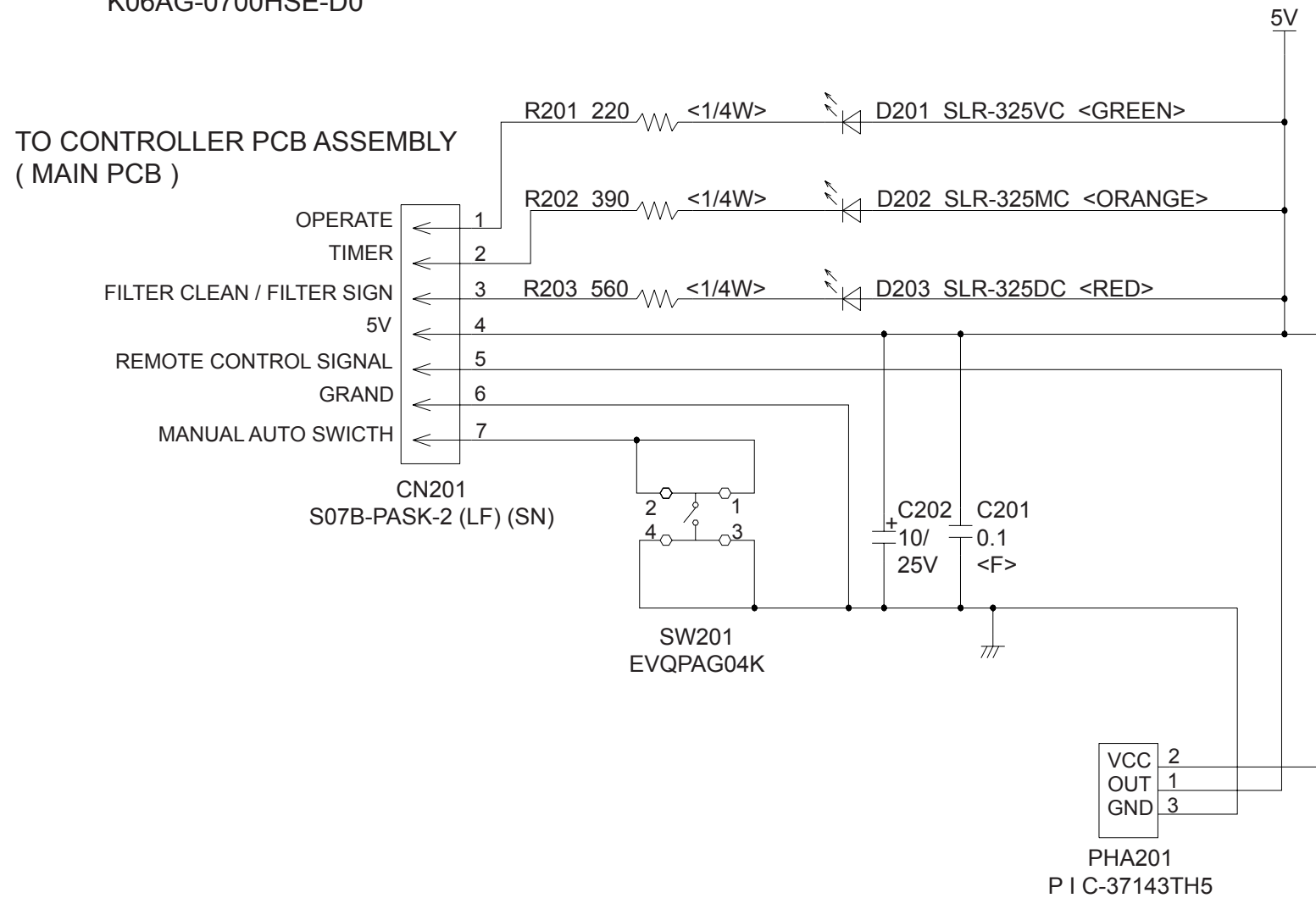
CONTROLLER PCB ASSEMBLY
 AUYF09LAL : K06AK-0700HSE-C1
 AUYF12LAL : K06AK-0701HSE-C1
 AUYF14LAL : K06AK-0702HSE-C1
 AUYF18LAL : K06AK-0703HSE-C1



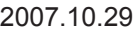
INDOOR UNIT POWER SUPPLY PCB ASSEMBLY K06AL-0601HSE-P0



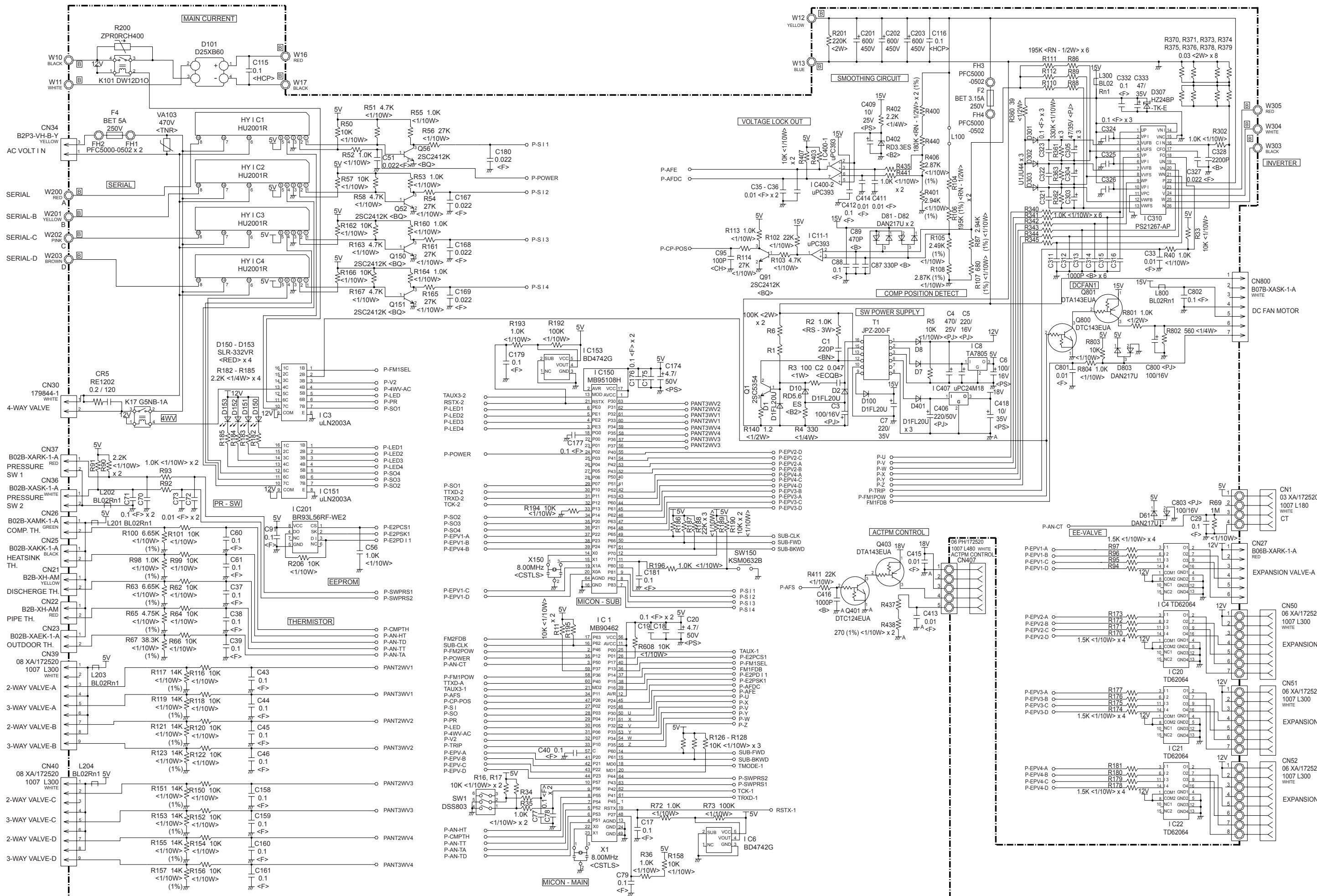
INDOOR UNIT
INDICATOR PCB ASSEMBLY
K06AG-0700HSE-D0



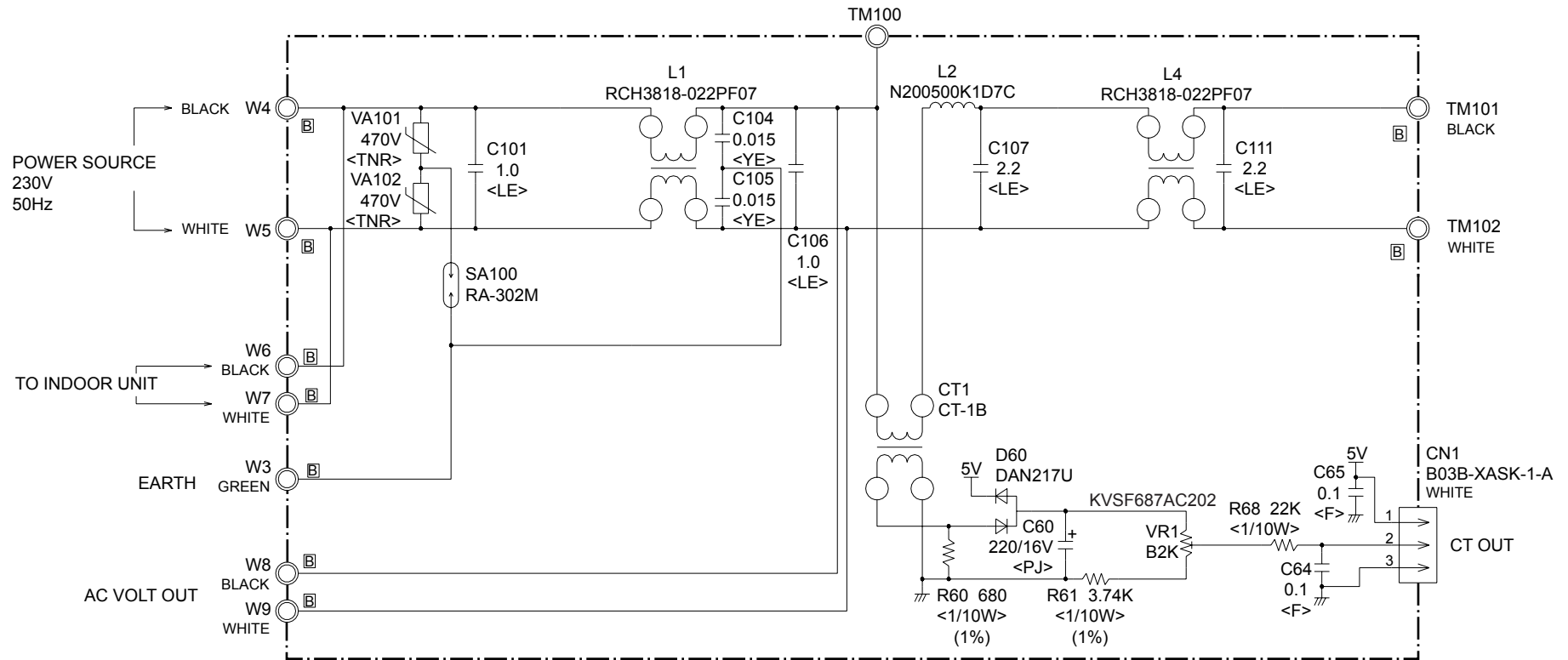
INVERTER ASSEMBLY
EZ-004HHUE



OUTDOOR UNIT
CONTROLLER PCB ASSEMBLY (MAIN PCB)
K04AW-0404HUE-C1



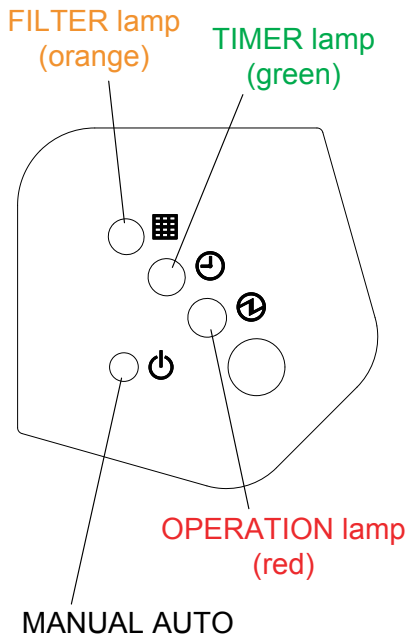
OUTDOOR UNIT
POWER SUPPLY PCB ASSEMBLY
K04BA-0402HUE-P0



ERROR DETECTION

INDOOR UNIT

The three lamps show error contents



○ : 0.5s on / 0.5s off (Flash)

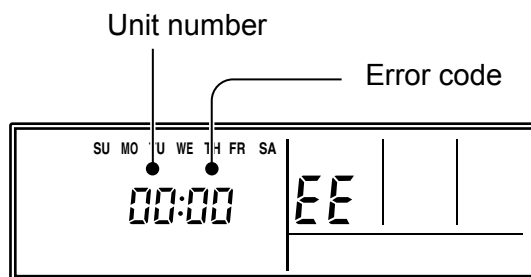
× : off

Error contents	OPERATION lamp (red)	TIMER lamp (green)	FILTER lamp (orange)
Indoor signal error (reverse) after power-on	×	2 times ○	×
Indoor signal error (reverse) during operation	×	3 times ○	×
Indoor signal error (forward) after power-on	×	4 times ○	×
Indoor signal error (forward) during operation	×	5 times ○	×
Main PCB to indicator PCB error	×	6 times ○	×
Indicator PCB to main PCB error	×	7 times ○	×
Wired remote control abnormal	×	8 times ○	×
Indoor room thermistor error	2 times ○	2 times ○	×
Indoor heat exchanger thermistor (middle) error	2 times ○	3 times ○	×
Indoor heat exchanger thermistor (inlet) error	2 times ○	4 times ○	×
Float switch operated	2 times ○	6 times ○	×
Outdoor discharge pipe thermistor error	3 times ○	2 times ○	×
Outdoor heat exchanger thermistor (outlet) error	3 times ○	3 times ○	×
Outdoor thermistor error	3 times ○	4 times ○	×
Compressor thermistor error	3 times ○	8 times ○	×
2-way valve thermistor error	3 times ○	×	2 times ○
3-way valve thermistor error	3 times ○	×	3 times ○
Outdoor heat exchanger thermistor (middle) error	3 times ○	×	4 times ○
Indoor manual auto switch abnormal	4 times ○	2 times ○	×
Power supply frequency detection error	4 times ○	4 times ○	×
IPM protection	5 times ○	2 times ○	×
CT error	5 times ○	3 times ○	×
Compressor location error	5 times ○	5 times ○	×
Outdoor fan error	5 times ○	6 times ○	×
Connected indoor unit abnormal	5 times ○	7 times ○	×
Outdoor unit computer communication error	5 times ○	8 times ○	×
Indoor fan abnormal	6 times ○	2 or 3 times ○	×
Discharge temperature error	7 times ○	2 times ○	×
Excessive high pressure protection on cooling	7 times ○	3 times ○	×
4-way valve abnormal	7 times ○	4 times ○	×
Pressure switch abnormal	7 times ○	5 times ○	×
Compressor temperature error	7 times ○	6 times ○	×
Active filter abnormal	8 times ○	2 or 3 times ○	×
PFC circuit error	8 times ○	4 times ○	×

Troubleshooting at the wired remote control LCD

Self diagnosis

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



Ex. Self-diagnosis

Error 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	
16	
2b	
19	
25	

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

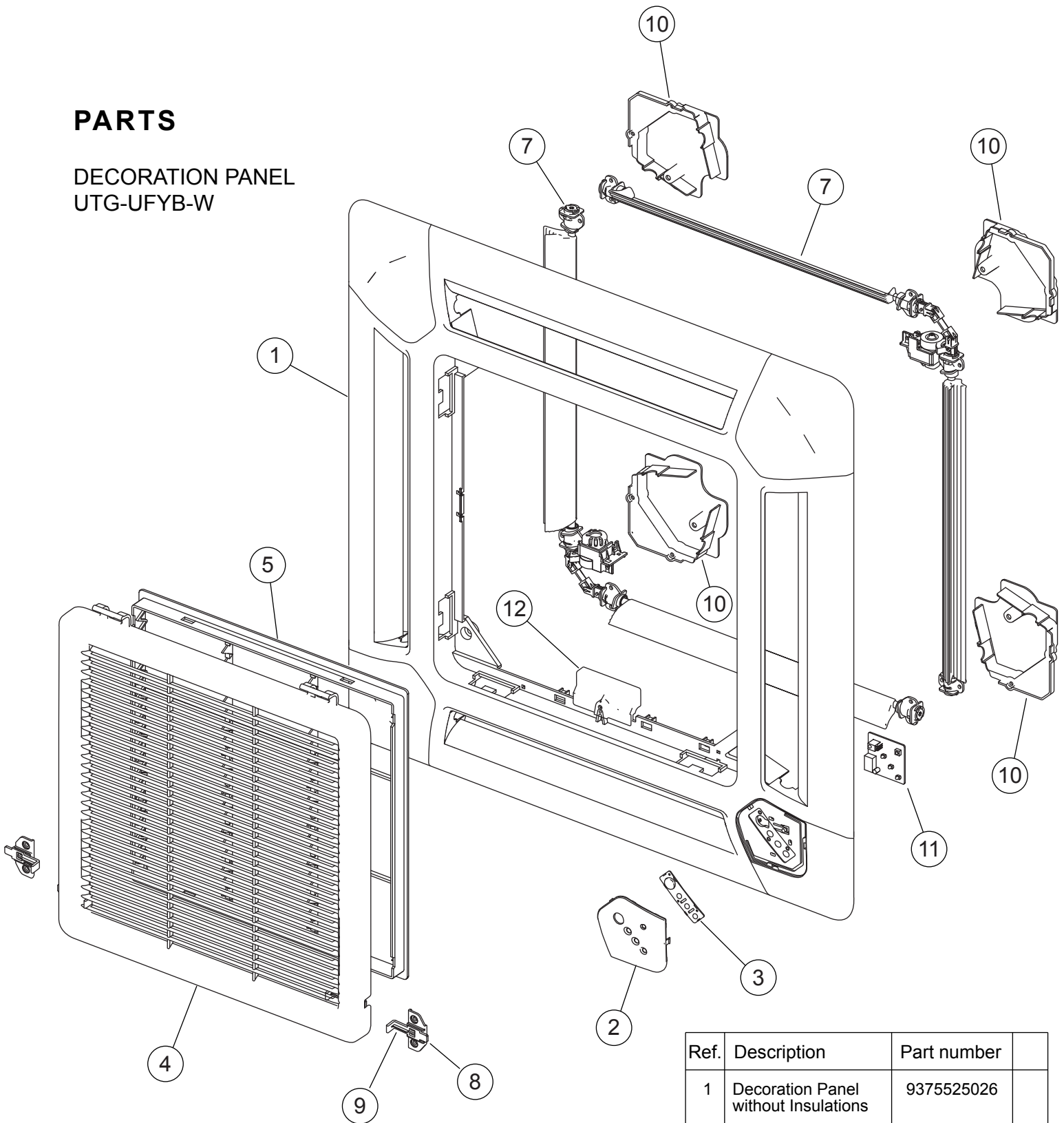
OUTDOOR UNIT

	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 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	—	—	—

● : Slow flashing — : Off

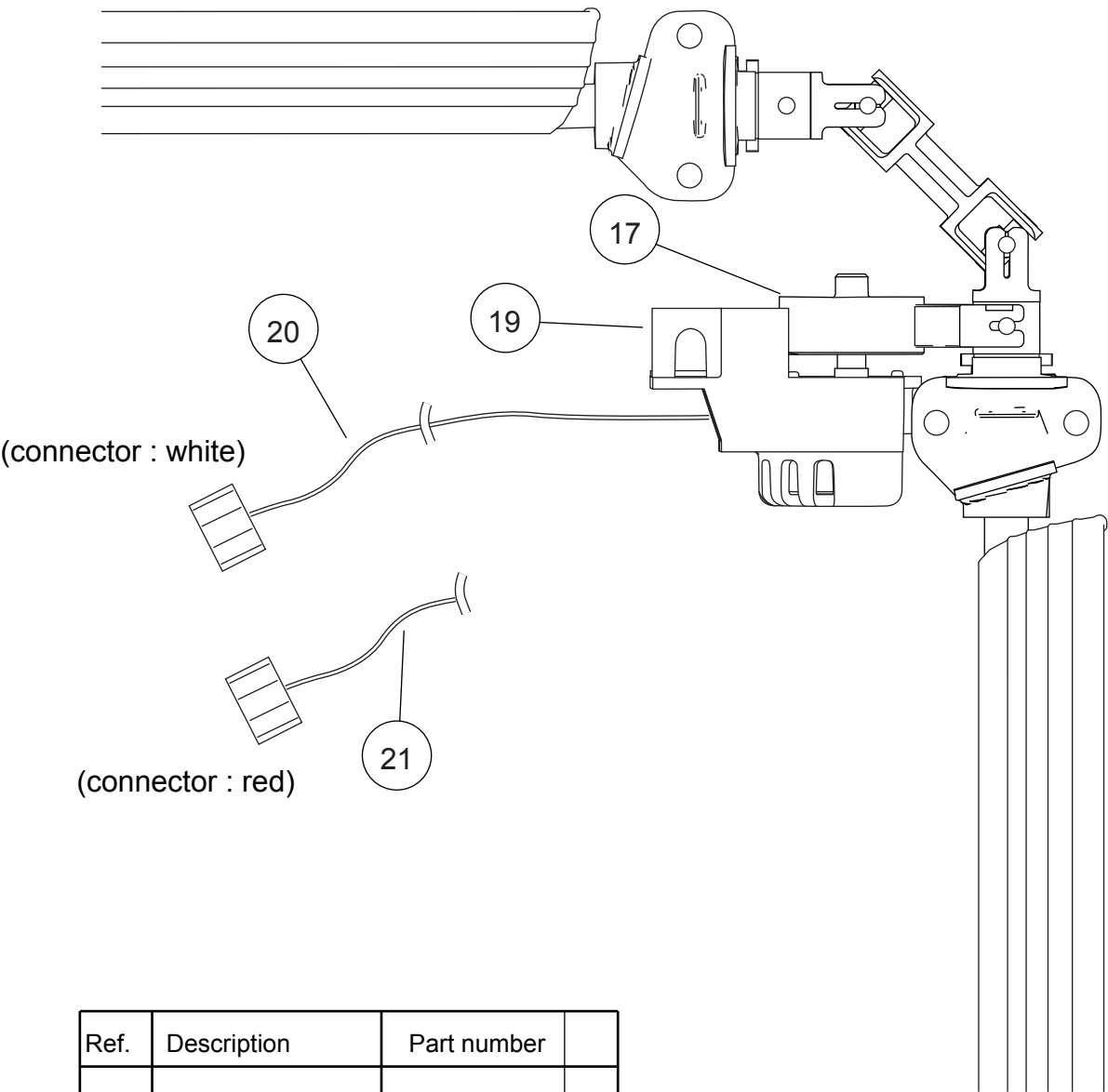
PARTS

DECORATION PANEL
UTG-UFYB-W



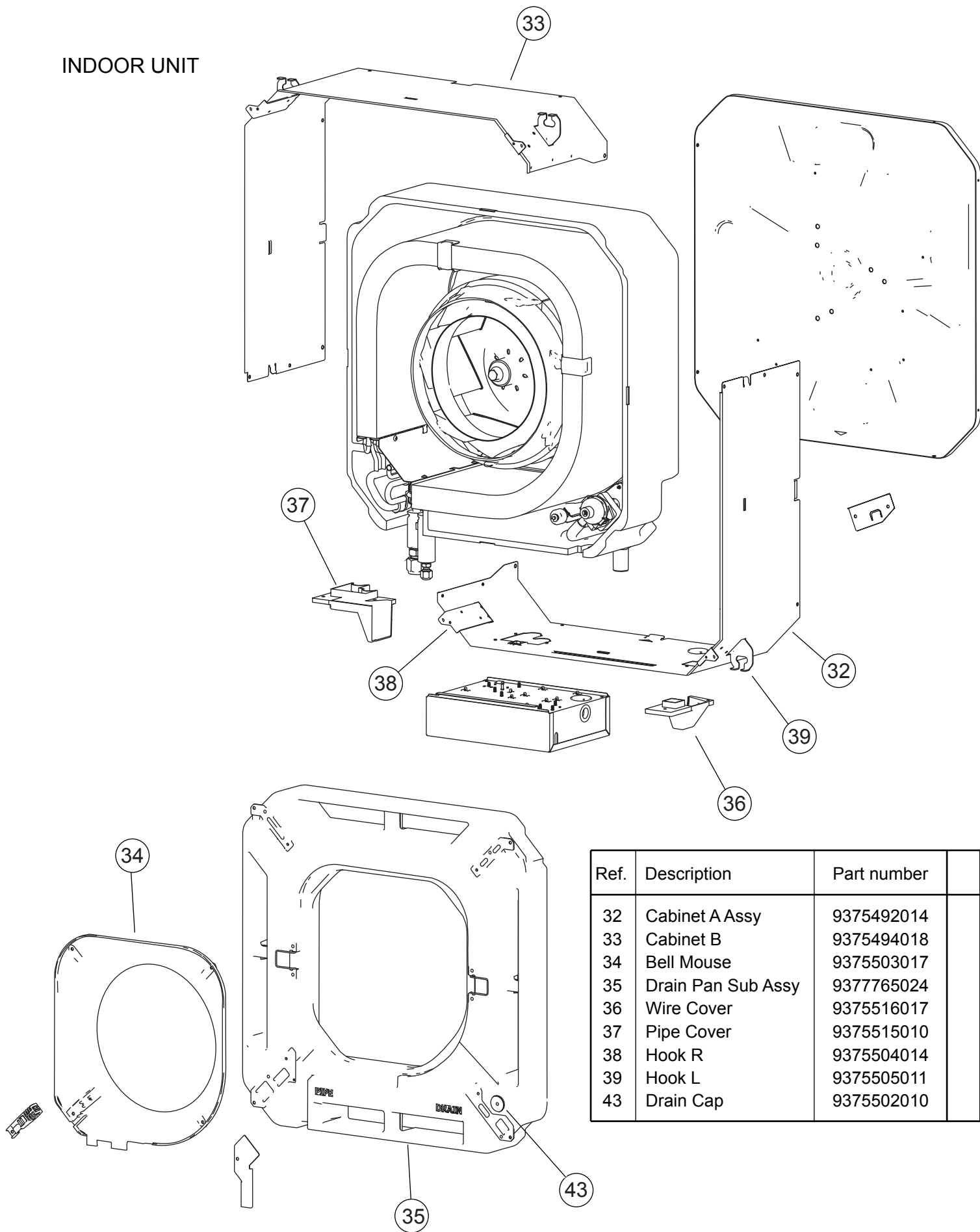
Ref.	Description	Part number
1	Decoration Panel without Insulations	9375525026
2	Display Panel	9375529055
3	Receiver Window	9375547011
4	Intake Grille	9375531027
5	Long Life Filter	9375533014
7	Flap Total Assy	9377760029
8	Hook Bracket	9375546014
9	Grille Hook	9375532024
10	Panel Cover without Insulations	9375530013
11	Indicator PCB Assy	9707371024
12	Connector Cover	9375549015

DECORATION PANEL
UTG-UFYB-W
Flap total assy
Motor holder assy

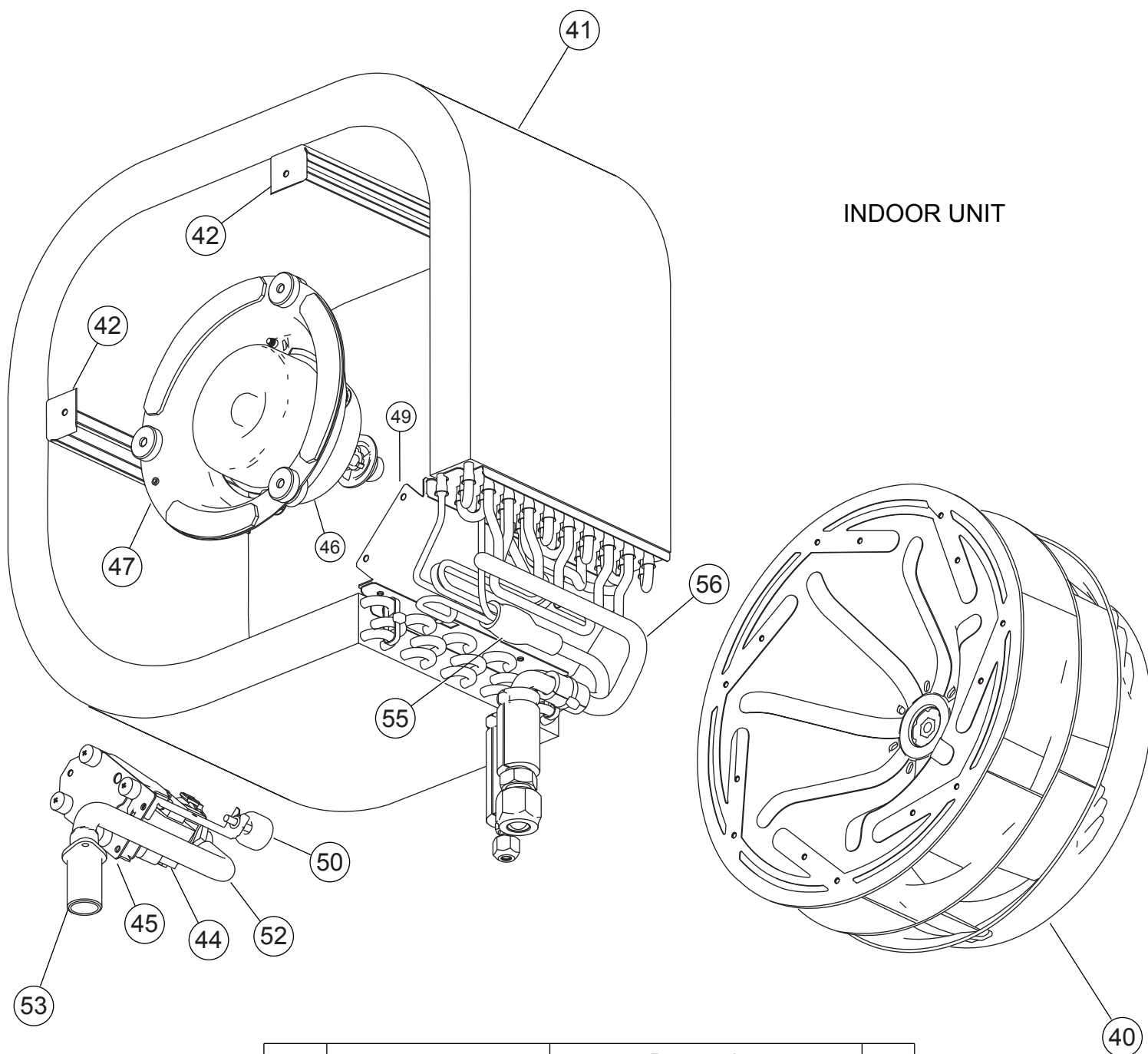


Ref.	Description	Part number	
17	Gear A	9375536015	
19	Motor Holder	9375535018	
20	Step Motor (white connector)	9900139070	
21	Step Motor (red connector)	9900139087	

INDOOR UNIT

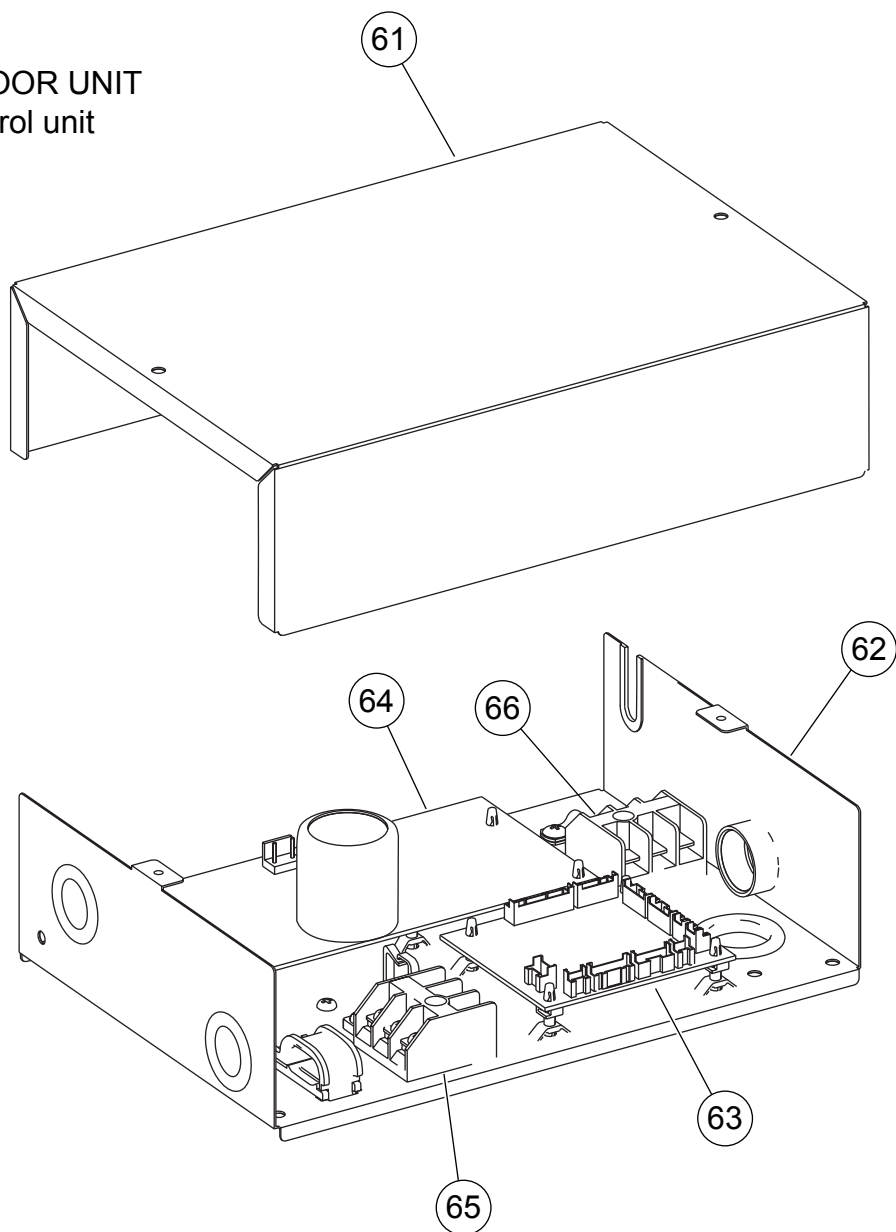


Ref.	Description	Part number	
32	Cabinet A Assy	9375492014	
33	Cabinet B	9375494018	
34	Bell Mouse	9375503017	
35	Drain Pan Sub Assy	9377765024	
36	Wire Cover	9375516017	
37	Pipe Cover	9375515010	
38	Hook R	9375504014	
39	Hook L	9375505011	
43	Drain Cap	9375502010	



Ref.	Description	Part number		
		AUYF09LAL AUYF12LAL	AUYF14LAL AUYF18LAL	
40	2 Stage Turbo Fan Assy	9375480011	9375480011	
41	Evaporator Assy	9372585085	9372585054	
42	Evaporator Holder	9375508012	9375508012	
44	Pump Assy	9900360047	9900360047	
45	Drain Pump Holder B	9375518011	9375518011	
46	Fan Motor	9602436019	9602436019	
47	Fan Motor Holder	9375552015	9375552015	
49	Separate Wall	9375506018	9375506018	
50	Float Switch	9900361037	9900361037	
52	Drain Hose	9375519018	9375519018	
53	Drain Port	9375520014	9375520014	
55	Distributor Assy	9371325316	9371325316	
56	Coupling Pipe Assy	9373038412	9373038368	

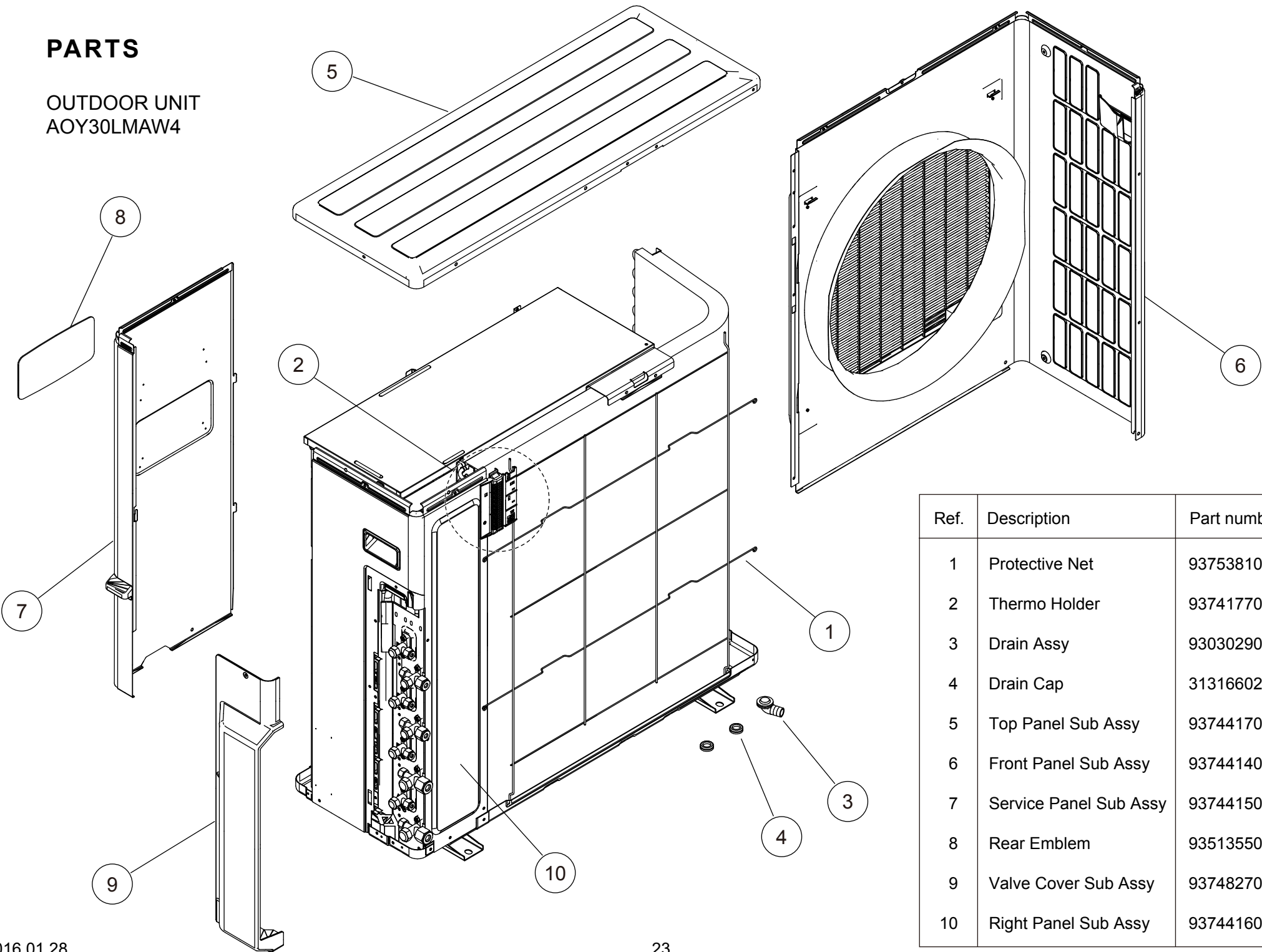
INDOOR UNIT
Control unit



Ref.	Description	Part number	
61	Control Box Cover	9375512019	
62	Control Box A	9375511012	
63	Controller PCB Assy (09)	9707393194	
63	Controller PCB Assy (12)	9707393200	
63	Controller PCB Assy (14)	9707393217	
63	Controller PCB Assy (18)	9707393224	
64	Puwer Supply PCB Assy	9707398021	
65	Terminal	9306489045	
66	Terminal	9703345012	
--	Pipe Thermistor	9703297014	
--	Room Thermistor	9703299223	

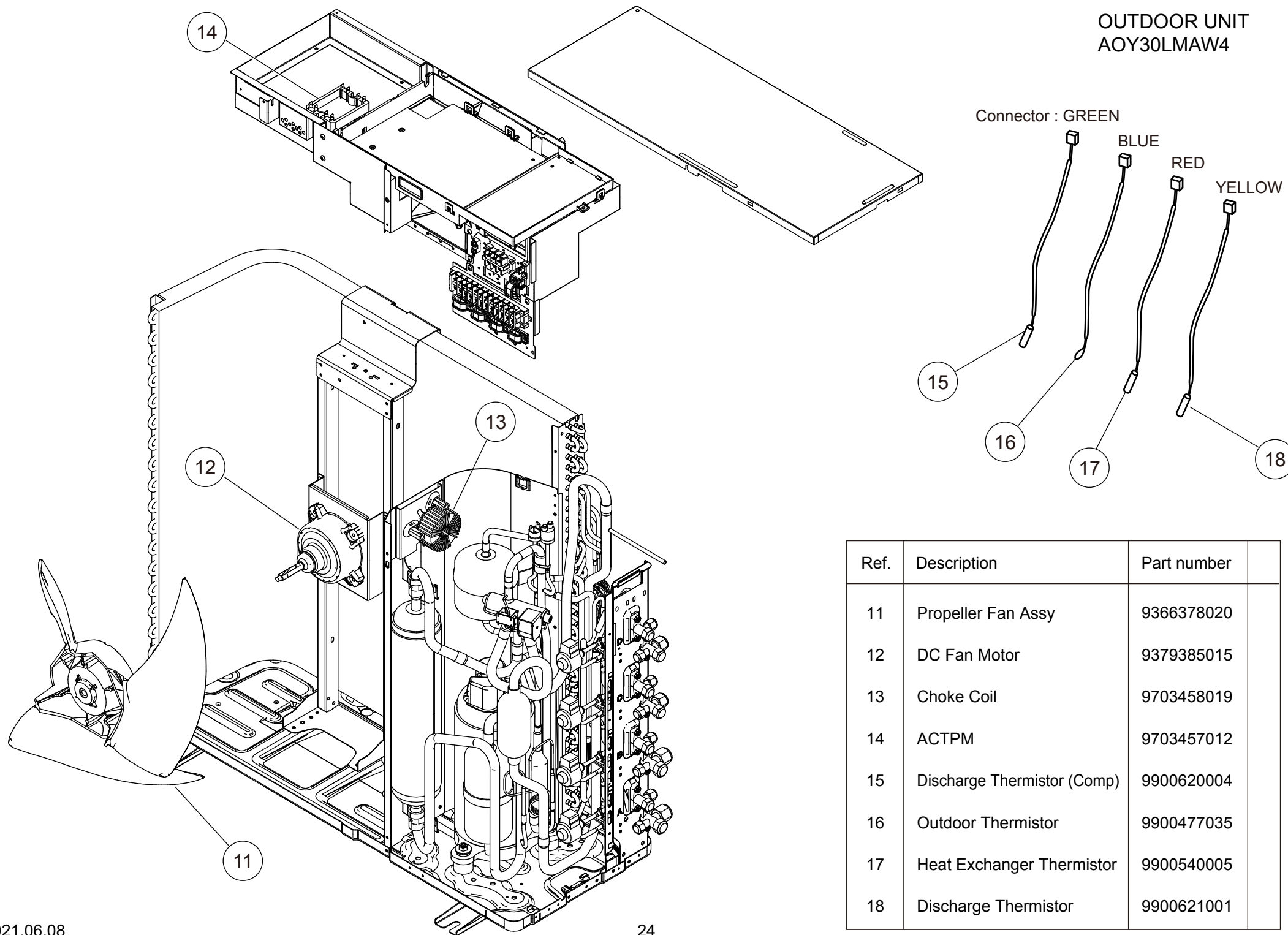
PARTS

OUTDOOR UNIT
AOY30LMAW4



Ref.	Description	Part number	
1	Protective Net	9375381011	
2	Thermo Holder	9374177011	
3	Drain Assy	9303029015	
4	Drain Cap	313166024302	
5	Top Panel Sub Assy	9374417025	
6	Front Panel Sub Assy	9374414031	
7	Service Panel Sub Assy	9374415038	
8	Rear Emblem	9351355005	
9	Valve Cover Sub Assy	9374827015	
10	Right Panel Sub Assy	9374416059	

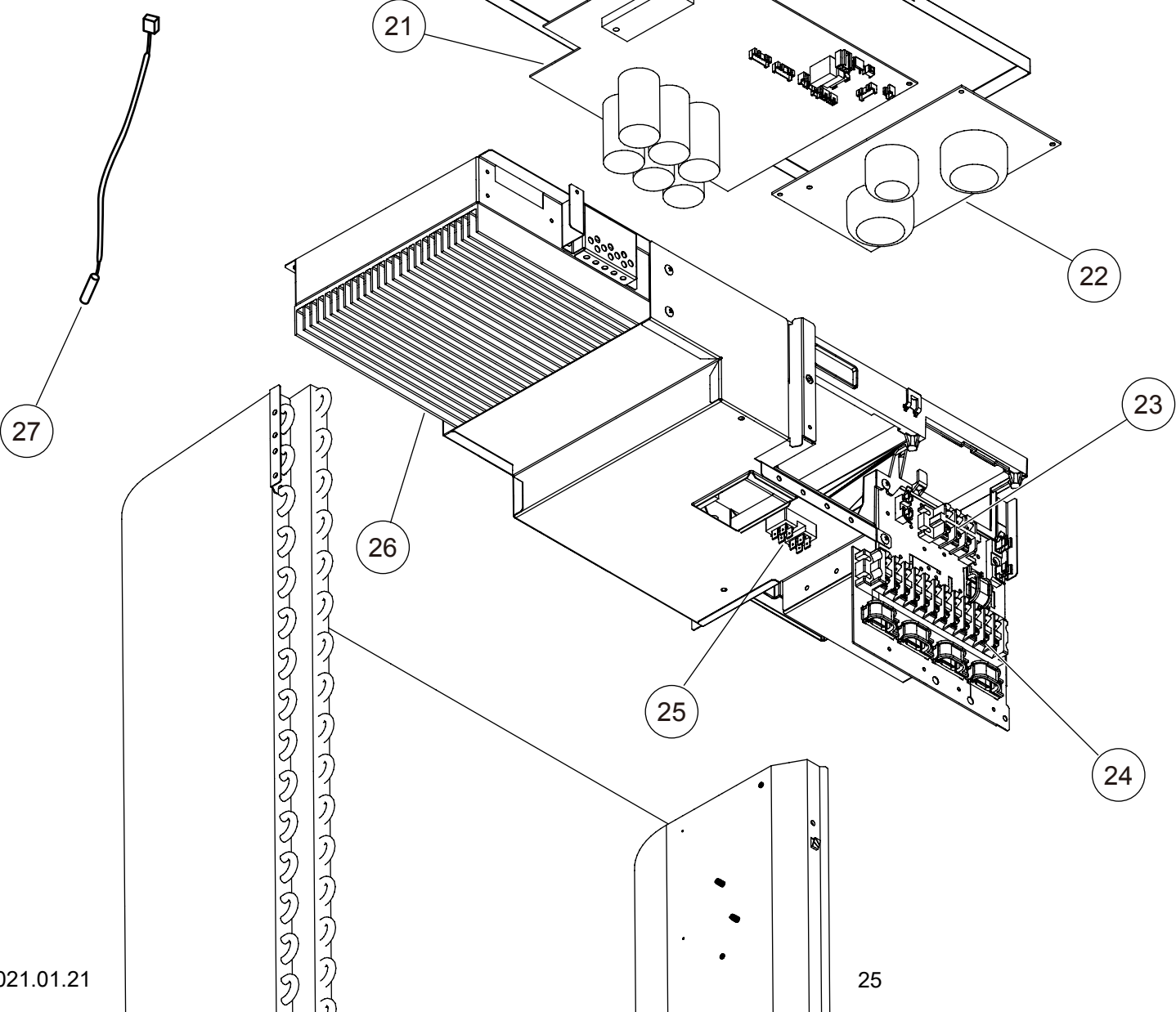
OUTDOOR UNIT AOY30LMAW4



Ref.	Description	Part number	
11	Propeller Fan Assy	9366378020	
12	DC Fan Motor	9379385015	
13	Choke Coil	9703458019	
14	ACTPM	9703457012	
15	Discharge Thermistor (Comp)	9900620004	
16	Outdoor Thermistor	9900477035	
17	Heat Exchanger Thermistor	9900540005	
18	Discharge Thermistor	9900621001	

Inverter Box Cover

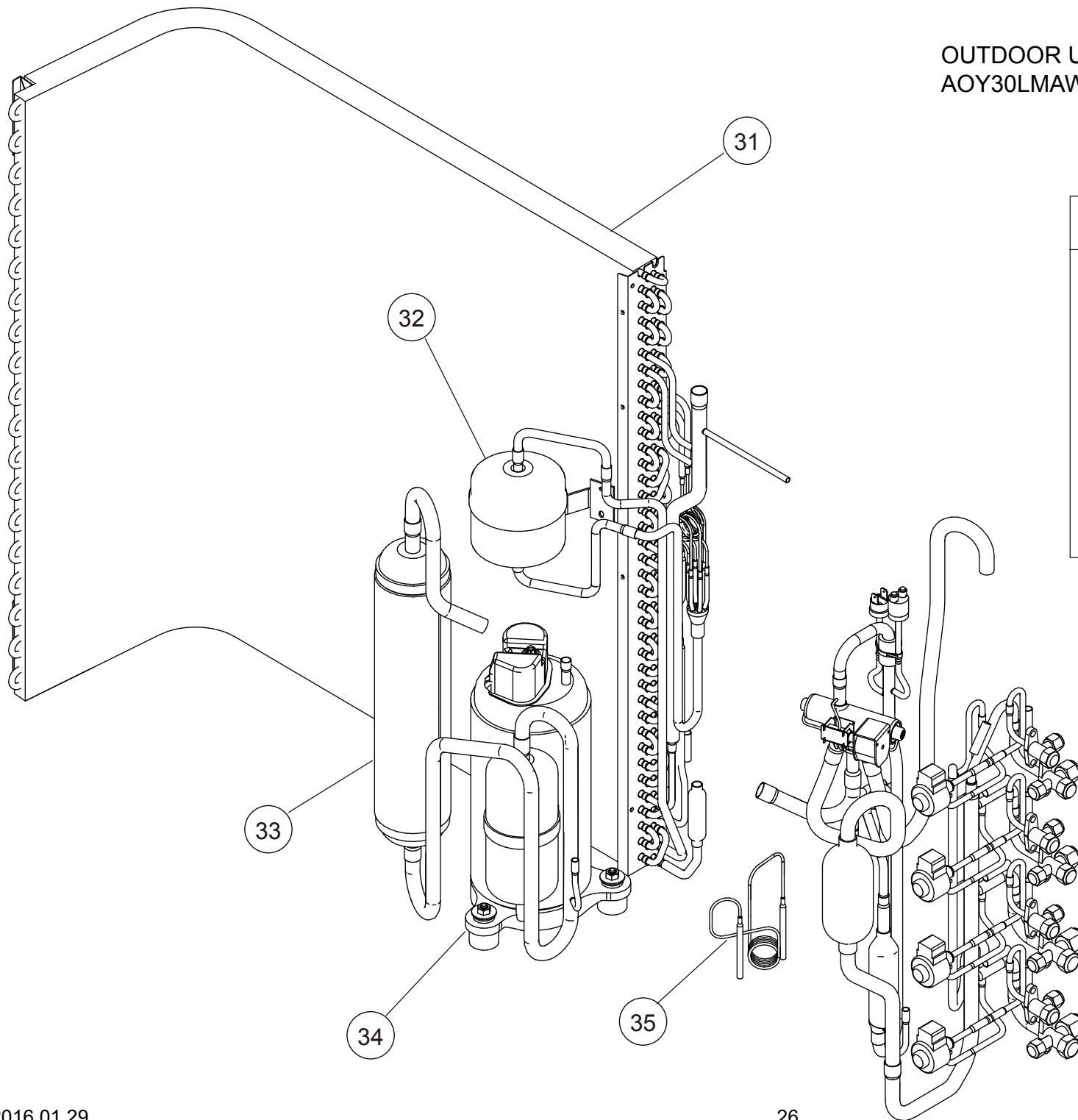
Connector : BLACK



OUTDOOR UNIT
AOY30LMAW4
Inverter assy

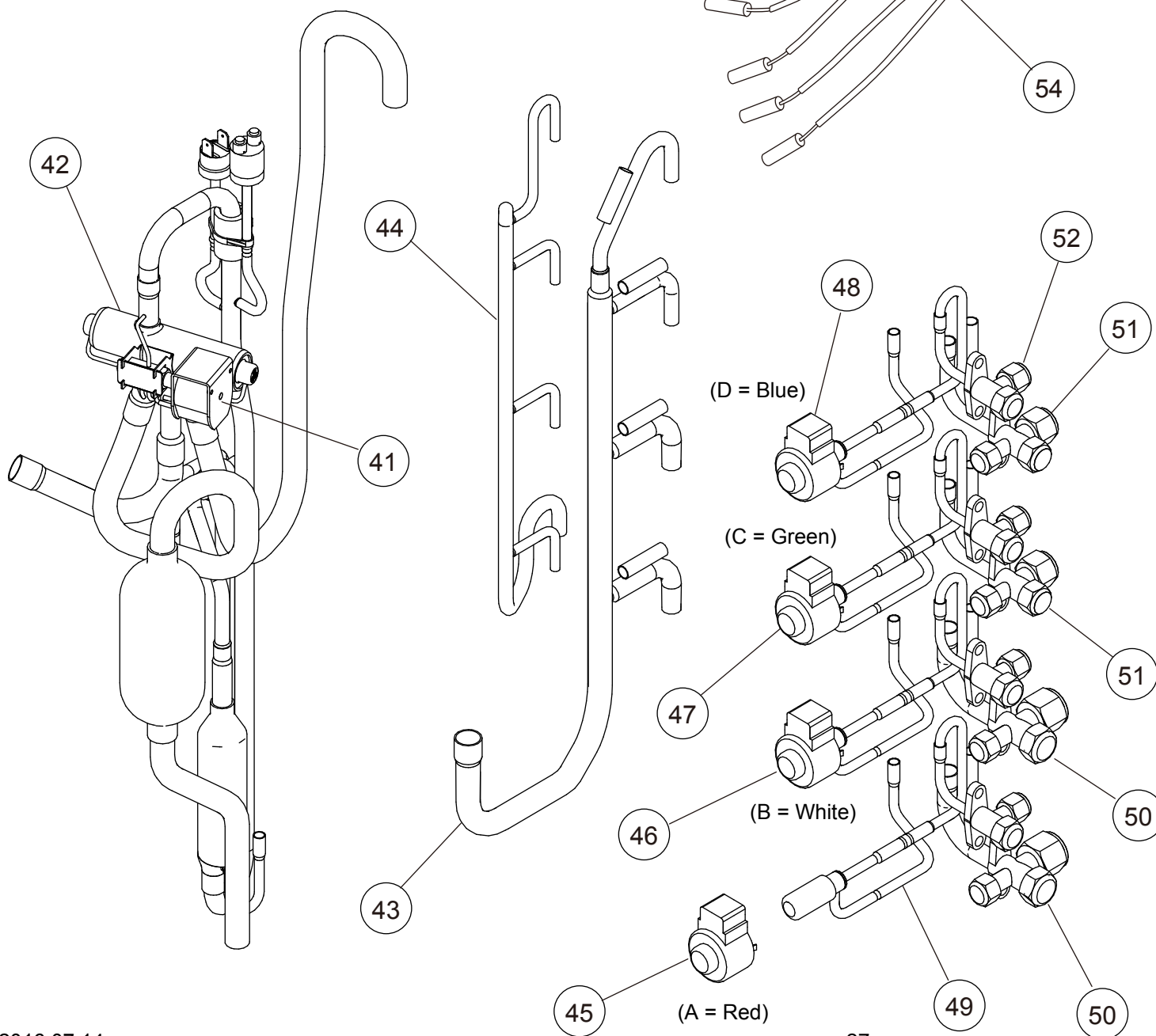
Ref.	Description	Part number
21	Controller PCB	9709682760
22	Power Supply PCB	9709893012
23	Terminal 3P	9900203016
24	Terminal 12P	9358660164
25	Terminal	9900433017
26	Heat Sink A	9374607013
27	Heat Sink Thermistor	9900311018

OUTDOOR UNIT AOY30LMAW4

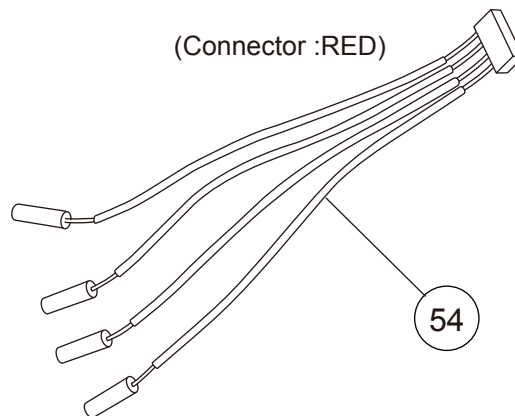


Ref.	Description	Part number	
31	Condenser A Sub Assy	9374420087	
32	Receiver Tank Sub Assy	9373426028	
33	Accumulator Sub Assy	9374426072	
34	Compressor Sub Assy	9374423194	
35	Capillary Assy	9372197370	

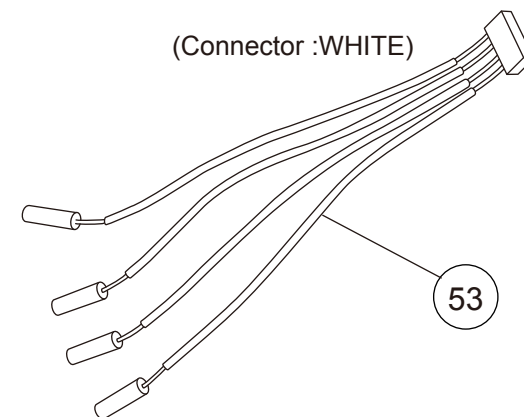
OUTDOOR UNIT
AOY30LMAW4



(Connector :RED)



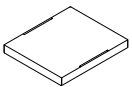
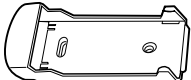
(Connector :WHITE)



Ref.	Description	Part number
41	Solenoid	9900165055
42	4-Way Valve Assy	9374425204
43	Joint Pipe (Valve) Assy	9374840151
44	Condensing Pipe C Assy	9375241032
45	Expansion Valve Coil	9970101069
46	Expansion Valve Coil	9970101038
47	Expansion Valve Coil	9970101045
48	Expansion Valve Coil	9970101052
49	Expansion Valve Assy	9370947151
50	3-Way Valve Assy (1/2")	9378282018
51	3-Way Valve Assy (3/8")	9377958013
52	2-Way Valve Assy	9375614027
53	Pipe Thermistor (White)	9900543020
54	Pipe Thermistor (Red)	9900543013

STANDARD ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty	Application
Coupler heat insulation 	2	For indoor side pipe joint
Special nut A (large flange) 	4	For installing indoor unit
Special nut B (small flange) 	4	For installing indoor unit
Template (Carton top) 	1	For ceiling openings cutting Also used as packing
Remote control 	1	For air conditioner operation
Remote control holder 	1	For installing remote control on the wall
Battery 	2	For remote control
Tapping screw 	2	For mounting the remote control holder

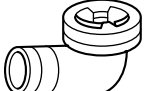
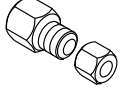
DECORATION PANEL

Name and Shape	Q'ty	Application
Connector cover 	4	For covering connector
Screw 	4	For mounting decoration panel
Screw 	1	For mounting connector cover

OPTIONAL PARTS

Name and Shape	Summary
Wired remote control UTB-* YD 	Unit control is performed by wired remote control.
Air outlet shutter plate UTR-YDZB 	Install the plate at outlet when carrying out 3-way direction operation.

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part number
Drain pipe 	1	For outdoor unit drain piping work	9303029015
Drain cap 	1		313166024302
Adapter assy 12.7 mm → 9.52 mm (1/2 in.) (3/8 in.) 	1	For use when connecting models 9-12 to outdoor port A	9370244007

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