

SPLIT TYPE
AIR CONDITIONER
CASSETTE TYPE (50Hz)

SERVICE MANUAL

Indoor unit Outdoor unit
AUYA45LCLU AOYA45LBTL



CONTENTS

SPECIFICATIONS	1
DIMENSIONS	2
REFRIGERANT SYSTEM DIAGRAM	4
CIRCUIT DIAGRAM	5
INDOOR PCB CIRCUIT DIAGRAM	6
OUTDOOR PCB CIRCUIT DIAGRAM	10
ERROR DETECTION	13
PARTS (INDOOR UNIT)	17
PARTS (OUTDOOR UNIT)	24
ACCESSORIES	28

SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cooling & Heating
INDOOR UNIT		AUYA45LCLU
OUTDOOR UNIT		AOYA45LBTL
COOLING CAPACITY		12.5 kW
HEATING CAPACITY		14.0 kW
POWER SOURCE		230 V 50 Hz
RUNNING CURRENT	Cooling	17.0 A
	Heating	16.5 A
INPUT WATTS	Cooling	3.89 kW
	Heating	3.77 kW
E.E.R.	Cooling	3.21 kW/kW
	Heating	3.71 kW/kW
STARTING CURRENT		15 A
MOISTURE REMOVAL		4.5 L/hr
AIRCIRCULATION INDOOR		1,900 m3/hr
AIRCIRCULATION OUTDOOR		6,600 m3/hr
MAXIMUM CURRENT		20.0 A

FAN MOTOR

INDOOR UNIT	Discrimination	MFF-54TVM
	High speed	690 r.p.m.
	Med speed	610 r.p.m.
	Low speed	550 r.p.m.
	Quiet	470 r.p.m.
OUTDOOR UNIT	Discrimination	MFE-60TVT
	Upper fan	850 r.p.m.
	Lower fan	750 r.p.m.

NOISE LEVEL

INDOOR UNIT	High speed	46 dB
	Med speed	42 dB
	Low speed	40 dB
	Quiet	36 dB
OUTDOOR UNIT	Cooling	55 dB
	Heating	56 dB

DIMENSIONS

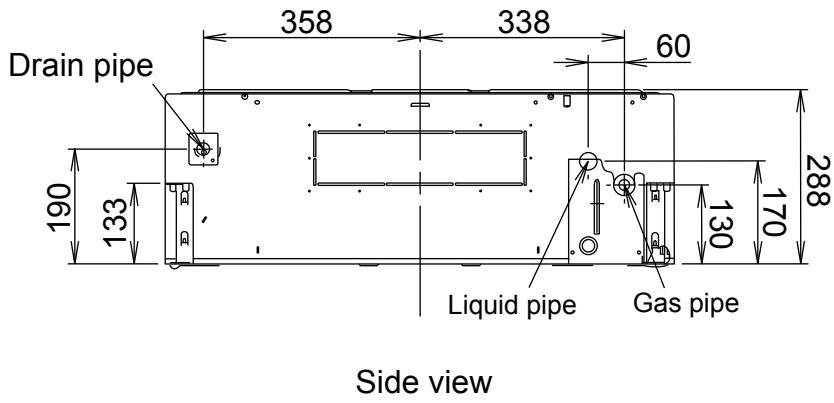
DECORATION PANEL	H x W x D	50 x 950 x 950 mm
INDOOR UNIT	H x W x D	288 x 840 x 840 mm
OUTDOOR UNIT	H x W x D	1,290 x 900 x 330 mm

WEIGHT

DECORATION PANEL	Gross / Net	8.5 kg / 5.5 kg
INDOOR UNIT	Gross / Net	33 kg / 27 kg
OUTDOOR UNIT	Gross / Net	107 kg / 98 kg

COMPRESSOR AND REFRIGERANT

TYPE		Hermetic type, Inverter, 4 poles, 3 phase, DC motor, Twin Rotary	
DISCRIMINATION		DA420A3F-21ZA	
WEIGHT (with oil)		23.7 kg	
REFRIGERANT TYPE		R410A	
PRECHARGED REFRIGERANT		3,350 g	
MAX PIPE LENGTH		50 m	
MAX PIPE HEIGHT		30 m	
FULL CHARGE	Pipe length	20 m	3,350 g
		30 m	3,850 g
		40 m	4,350 g
		50 m	4,850 g
ADDITIONAL CHARGE		50 g/m	

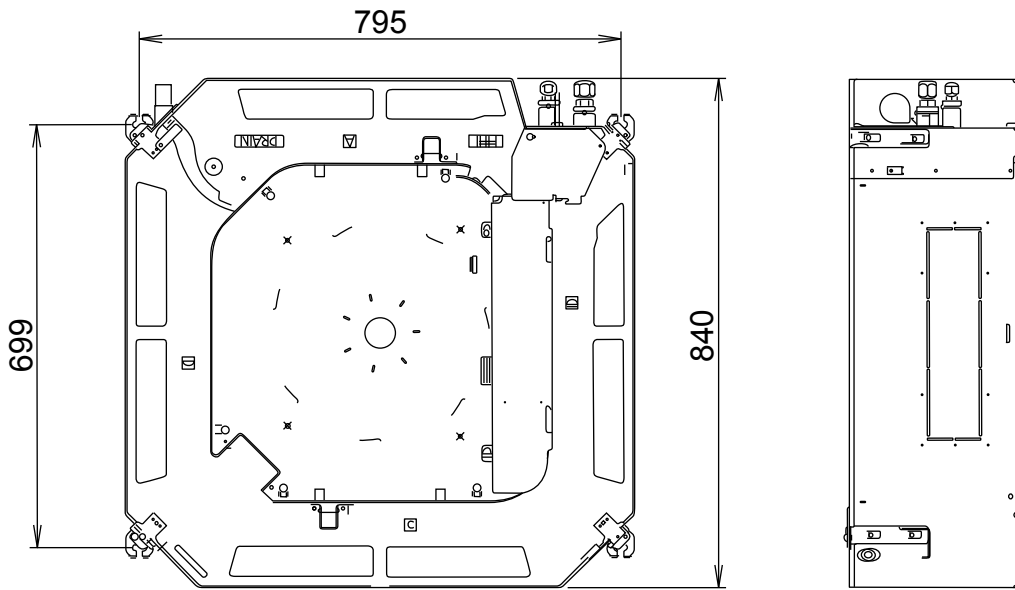


DIMENSIONS

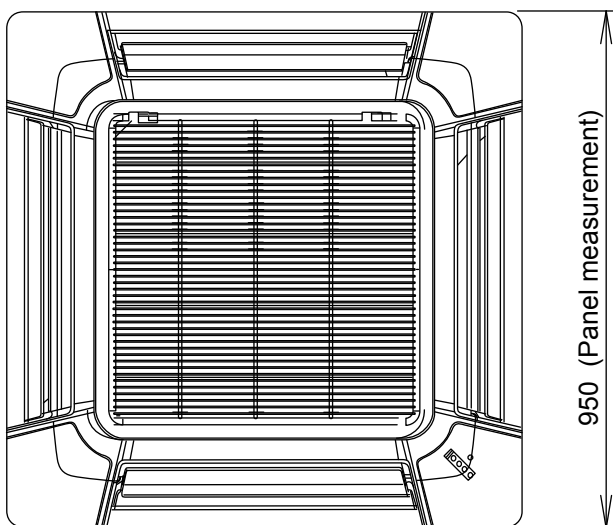
INDOOR UNIT
DECORATION PANEL

(Unit : mm)

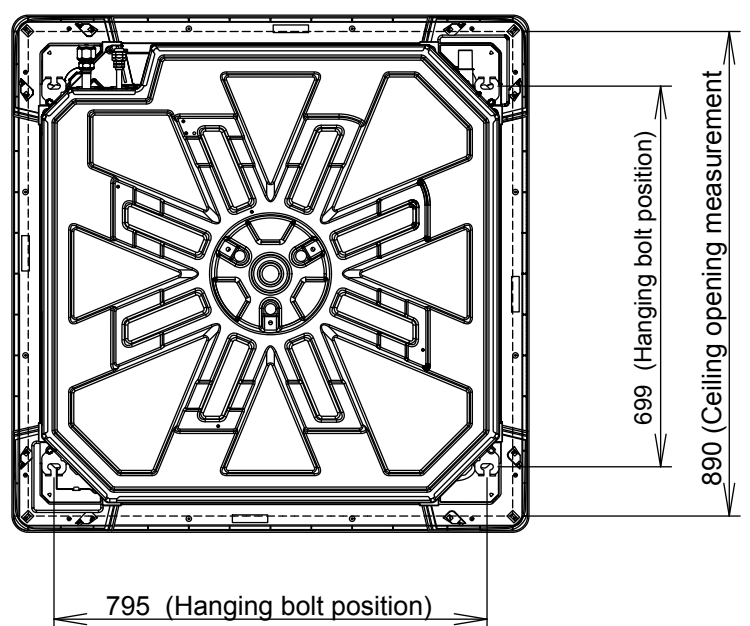
Drain pipe diameter
Inside : 20 mm
Outside : 26 mm



Bottom view



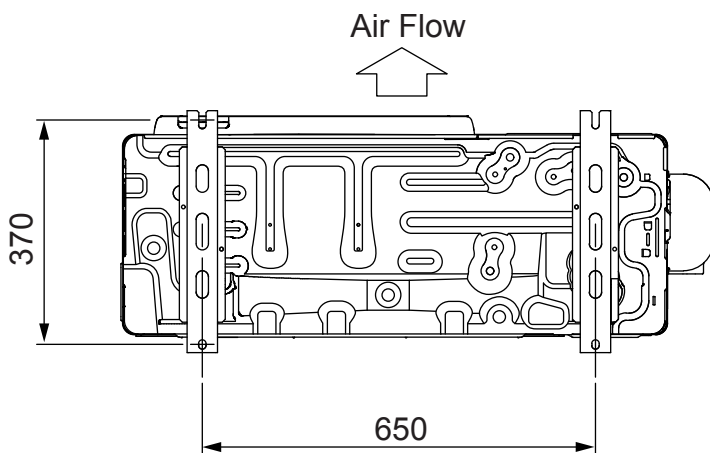
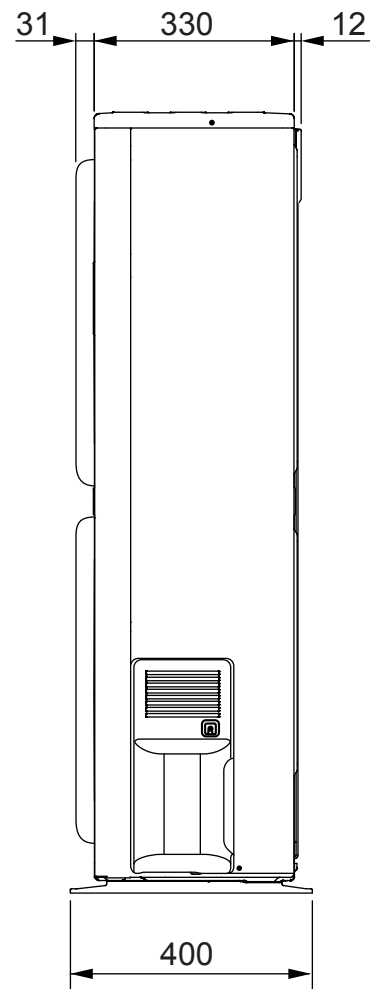
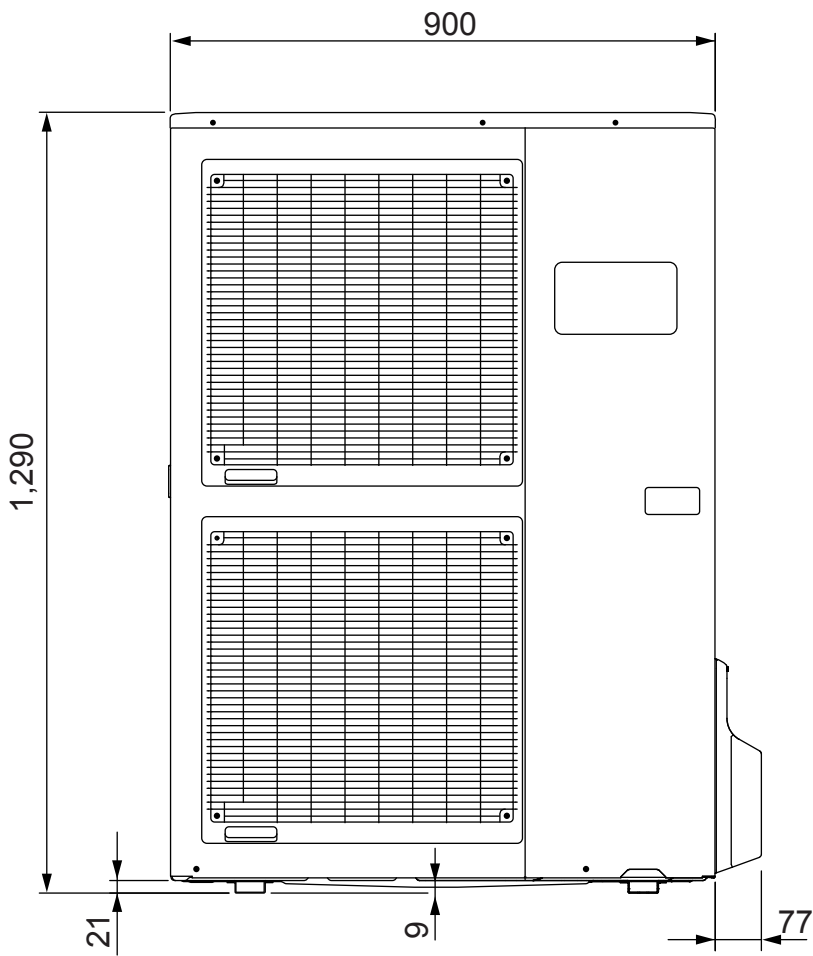
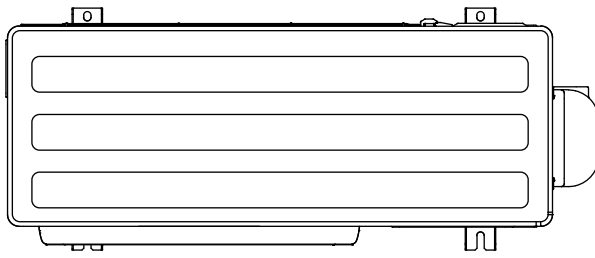
Bottom view



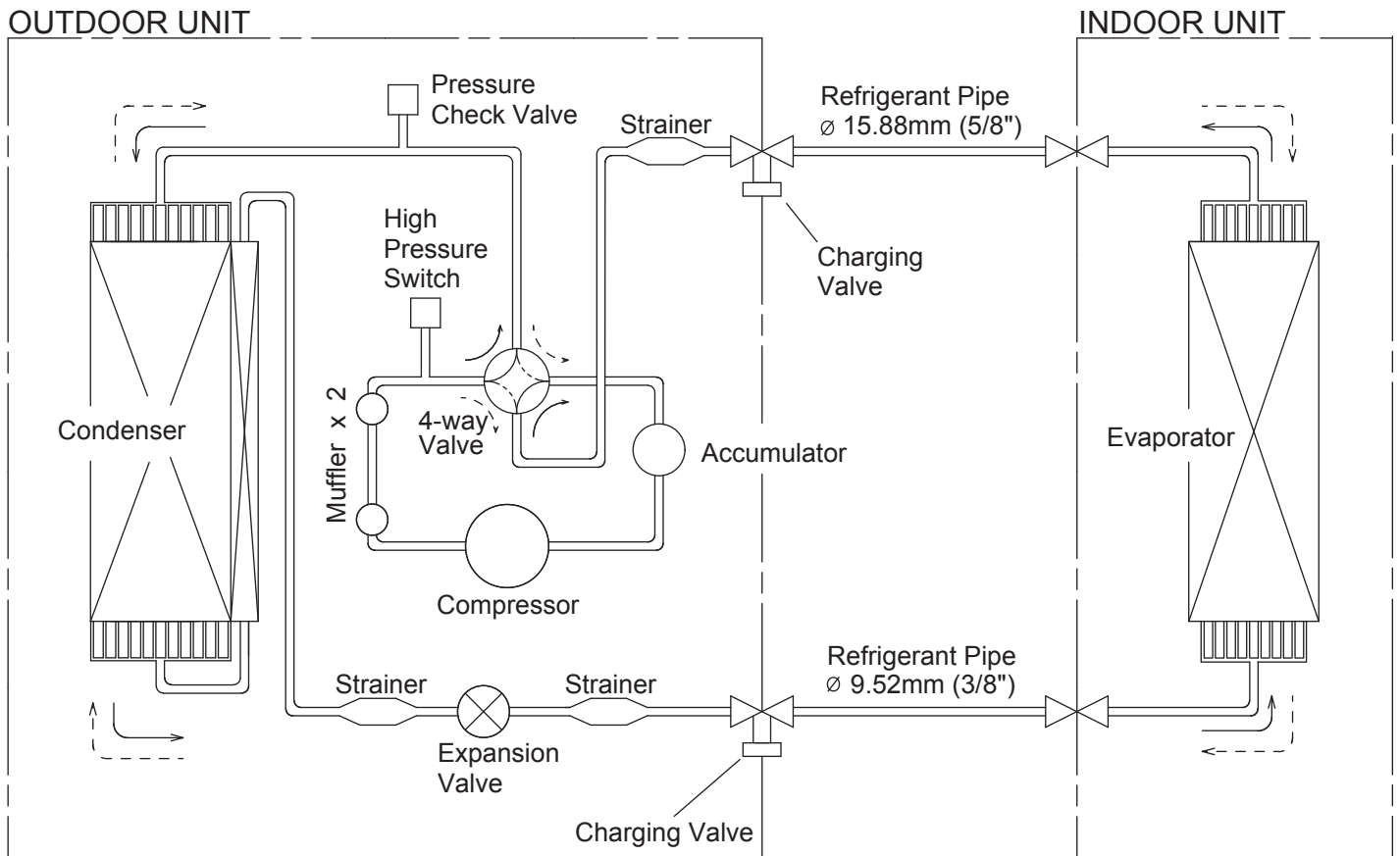
Top view

OUTDOOR UNIT

(Unit : mm)



REFRIGERANT SYSTEM DIAGRAM



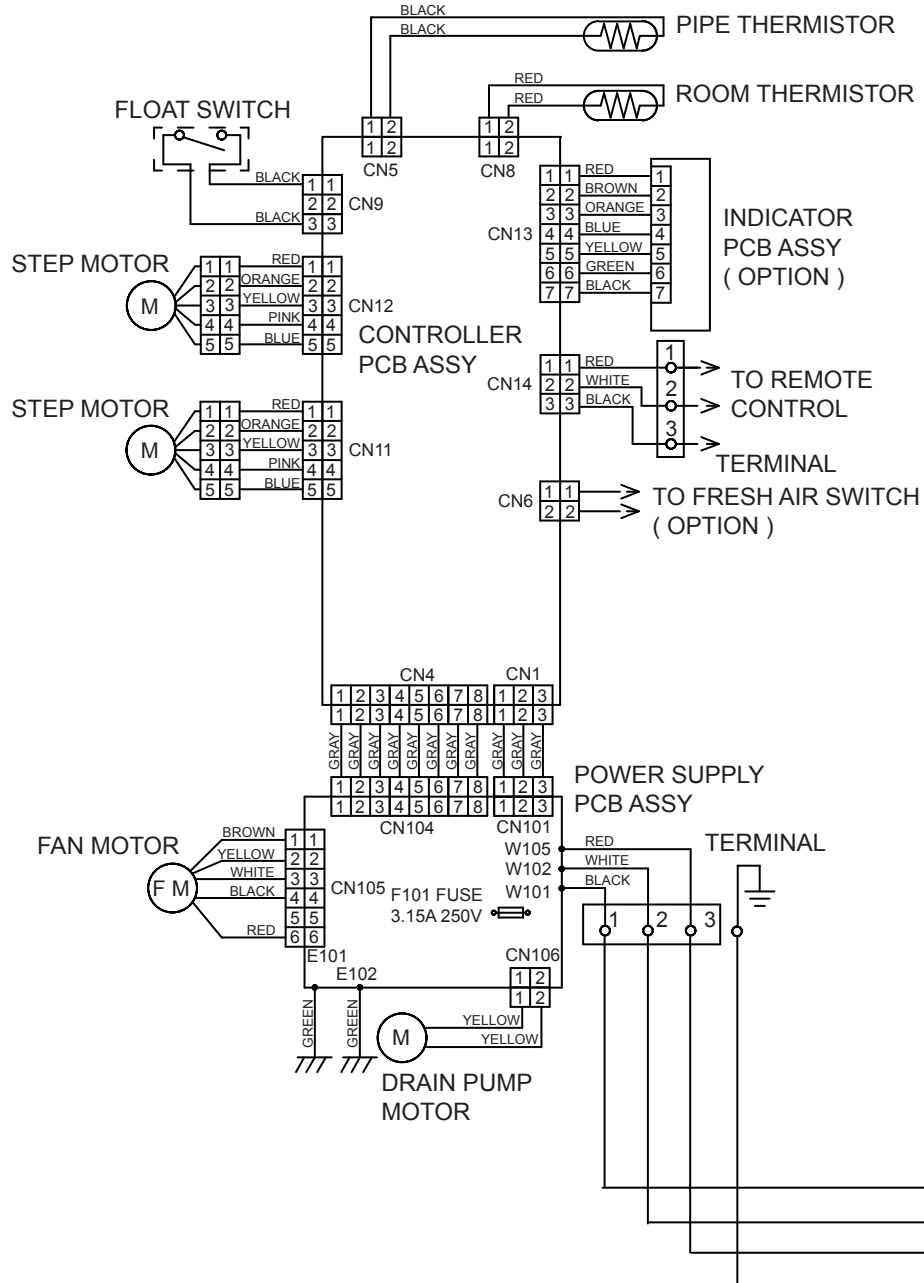
Refrigerant direction

→ : Cool

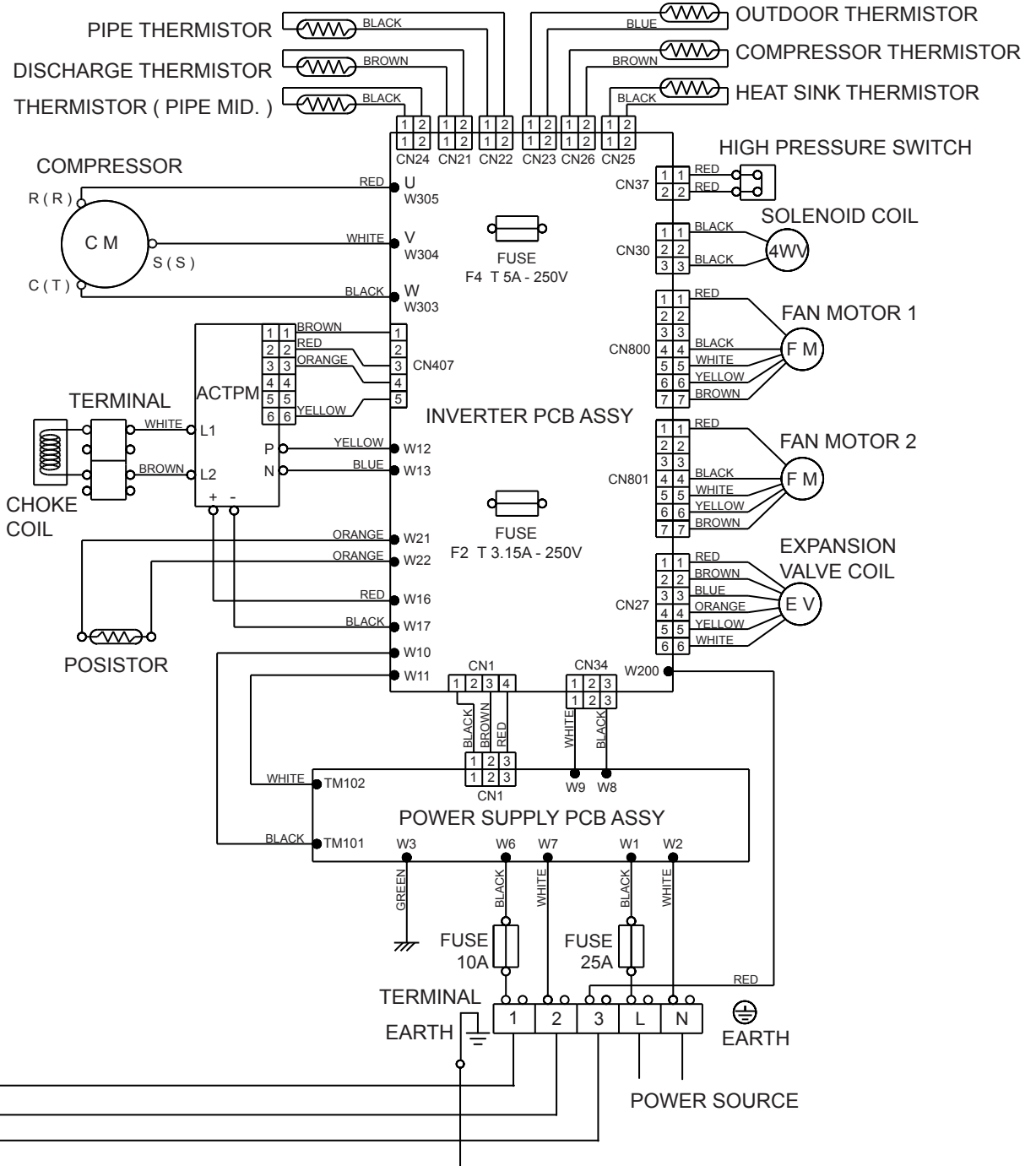
---> : Heat

CIRCUIT DIAGRAM

INDOOR UNIT

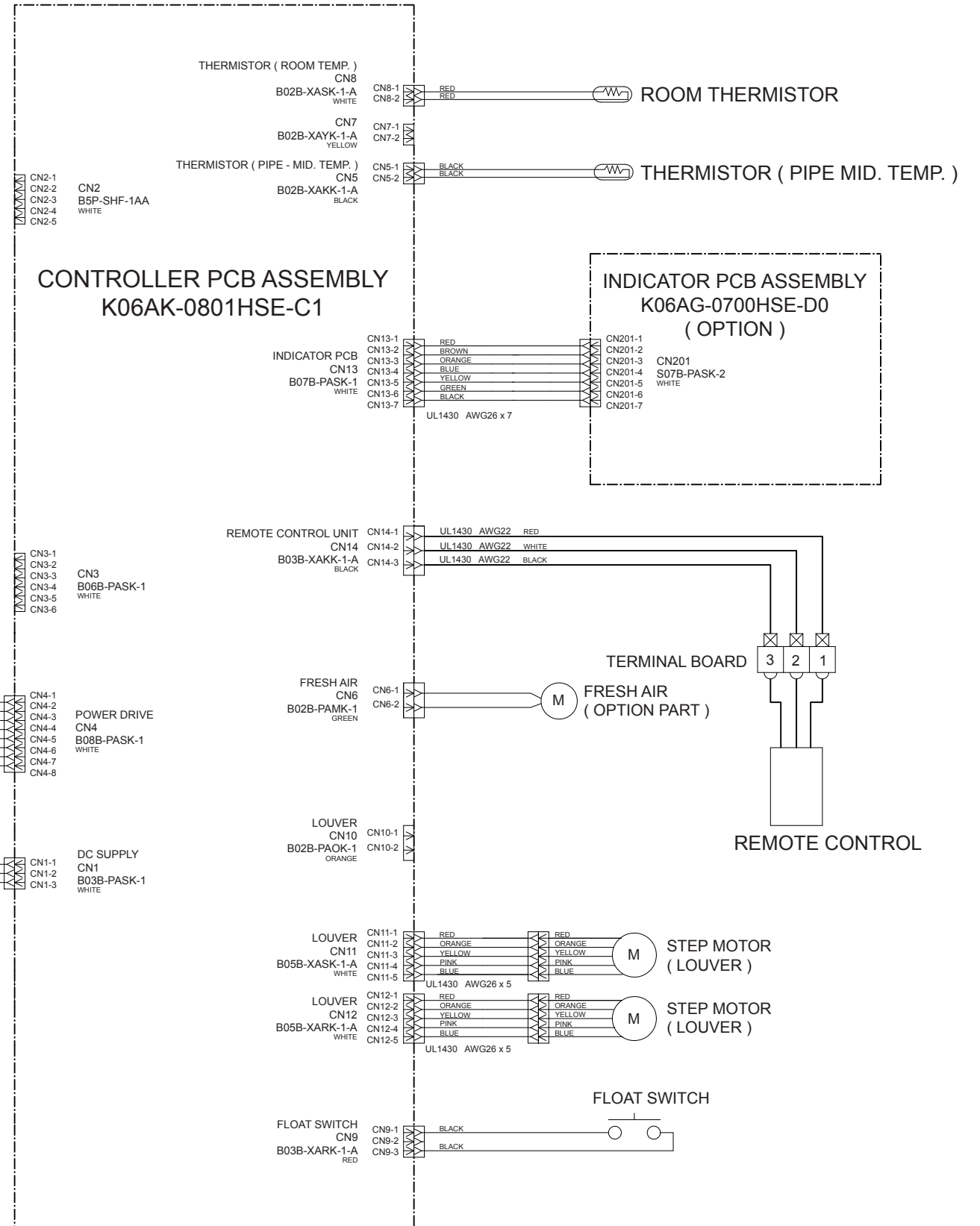
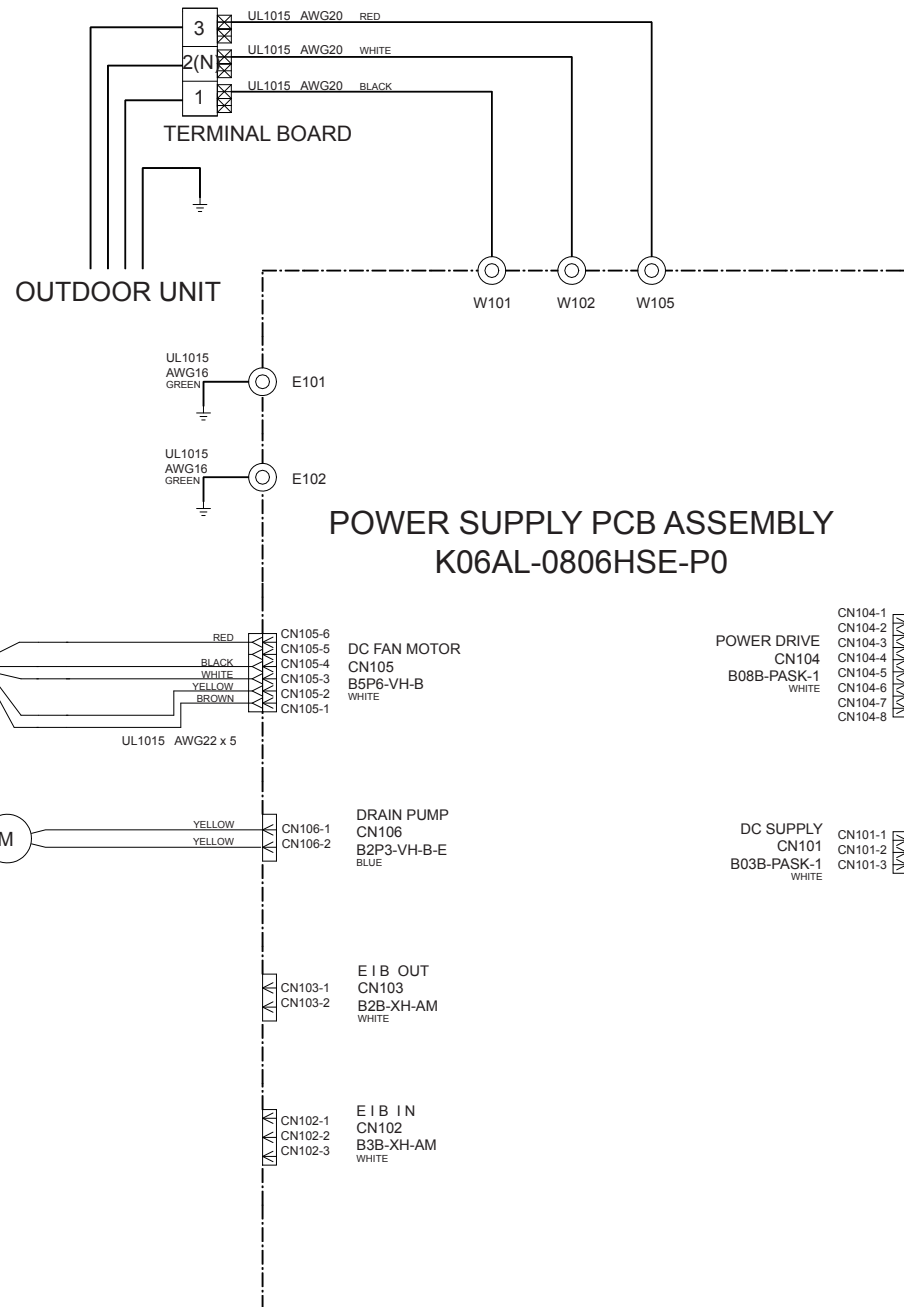


OUTDOOR UNIT

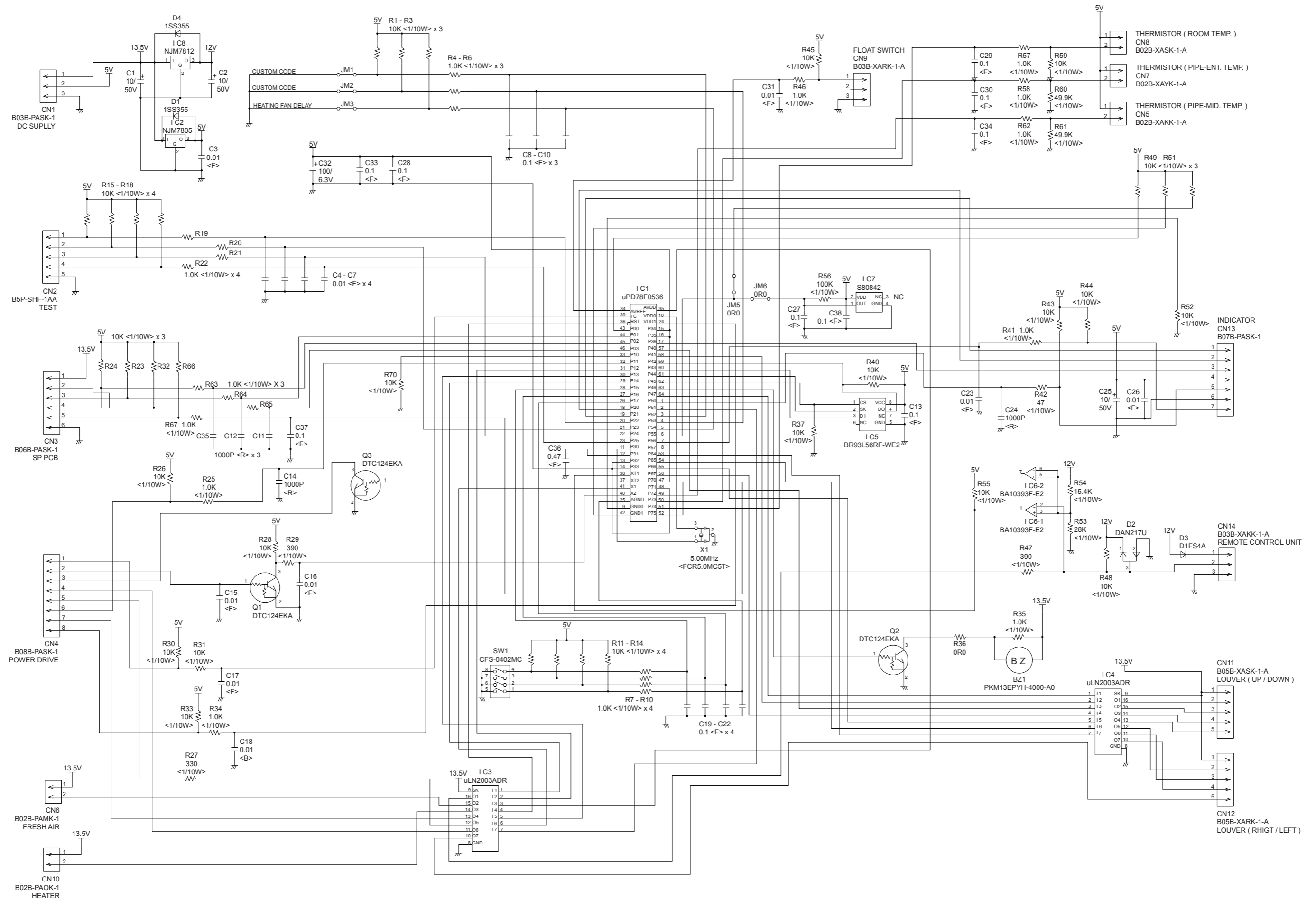


INDOOR PCB CIRCUIT DIAGRAM

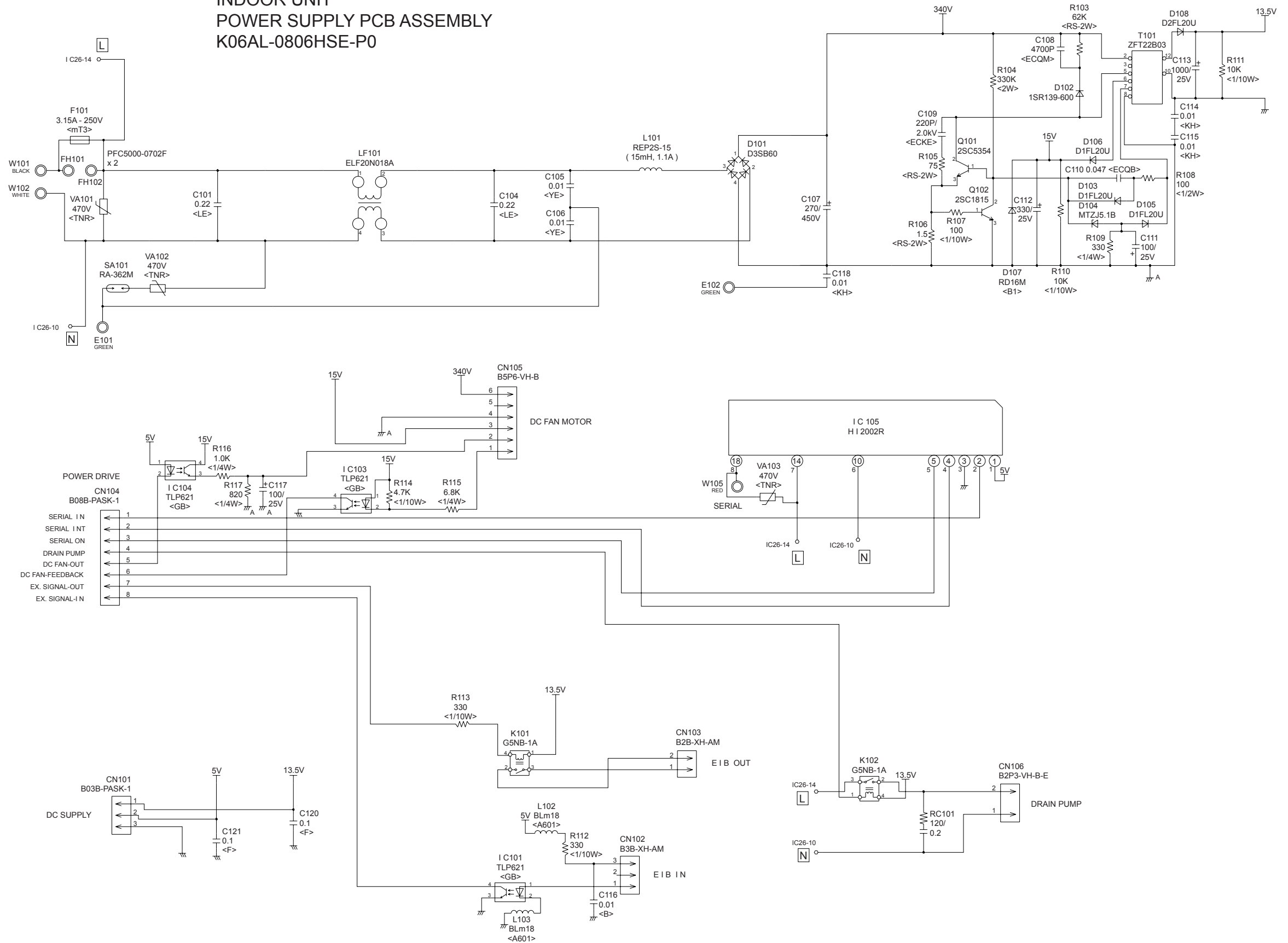
CONTROL UNIT
EZ-00806HSE



INDOOR UNIT
CONTROLLER PCB ASSEMBLY
K06AK-0801HSE-C1

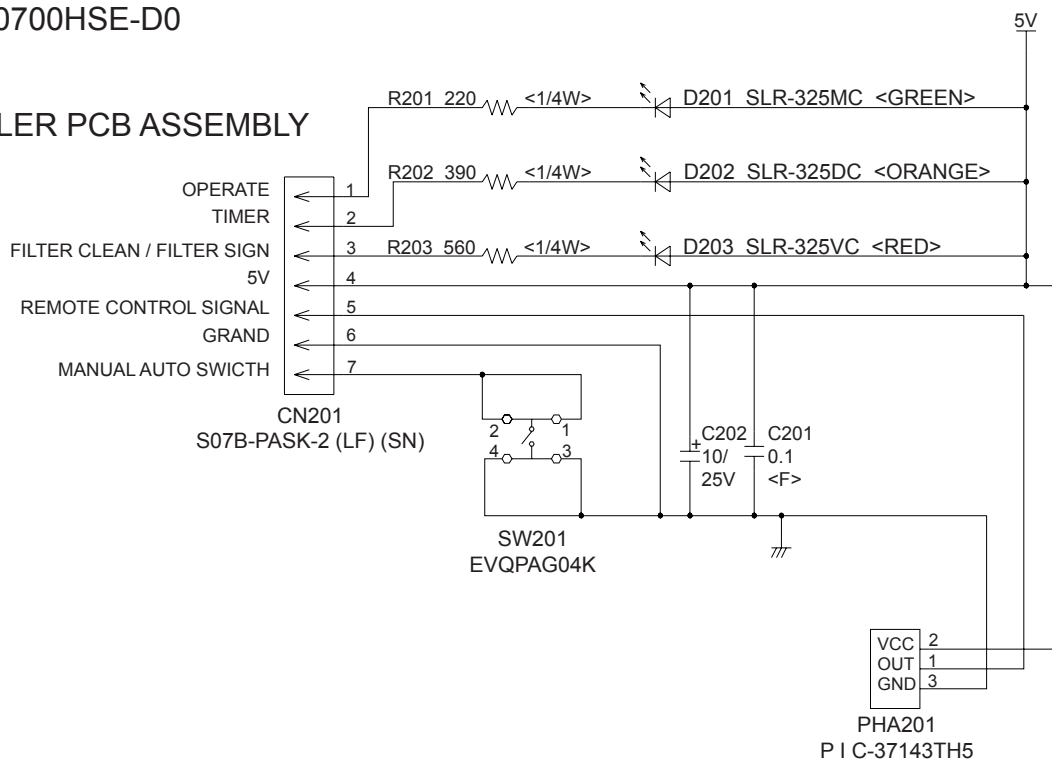


INDOOR UNIT POWER SUPPLY PCB ASSEMBLY K06AL-0806HSE-P0

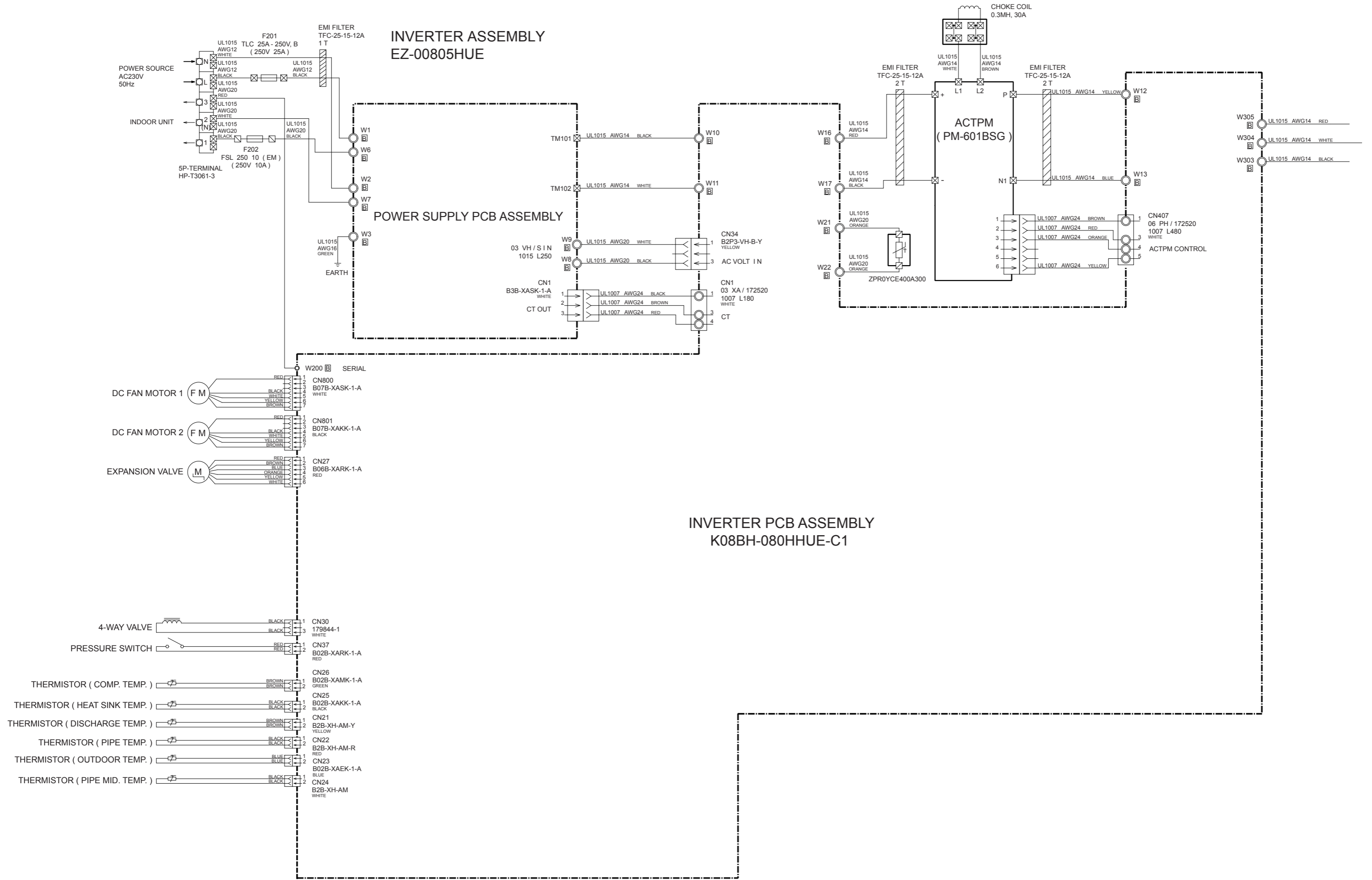


INDOOR UNIT
 INDICATOR PCB ASSEMBLY
 (OPTION)
 K06AG-0700HSE-D0

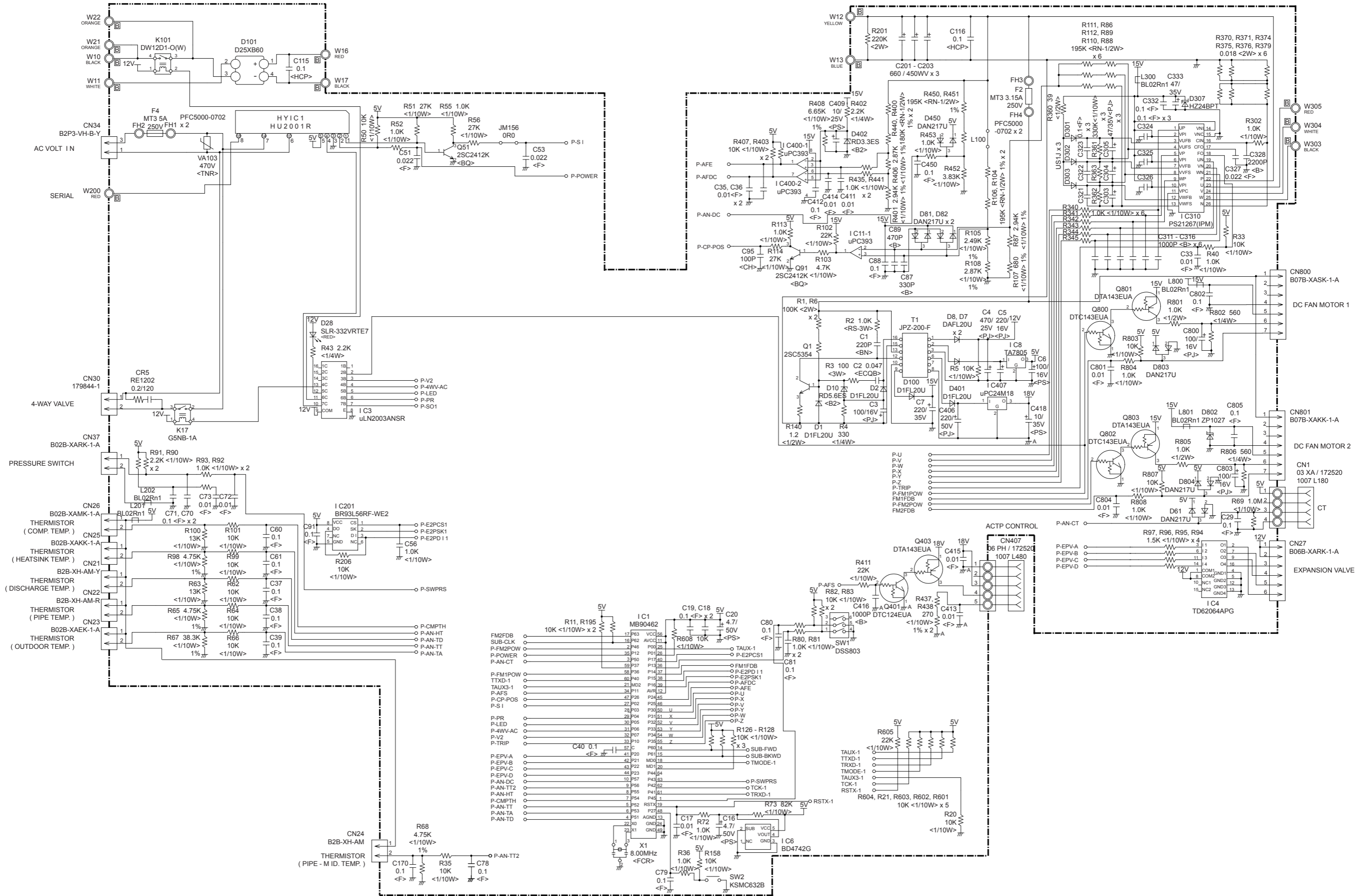
TO CONTROLLER PCB ASSEMBLY



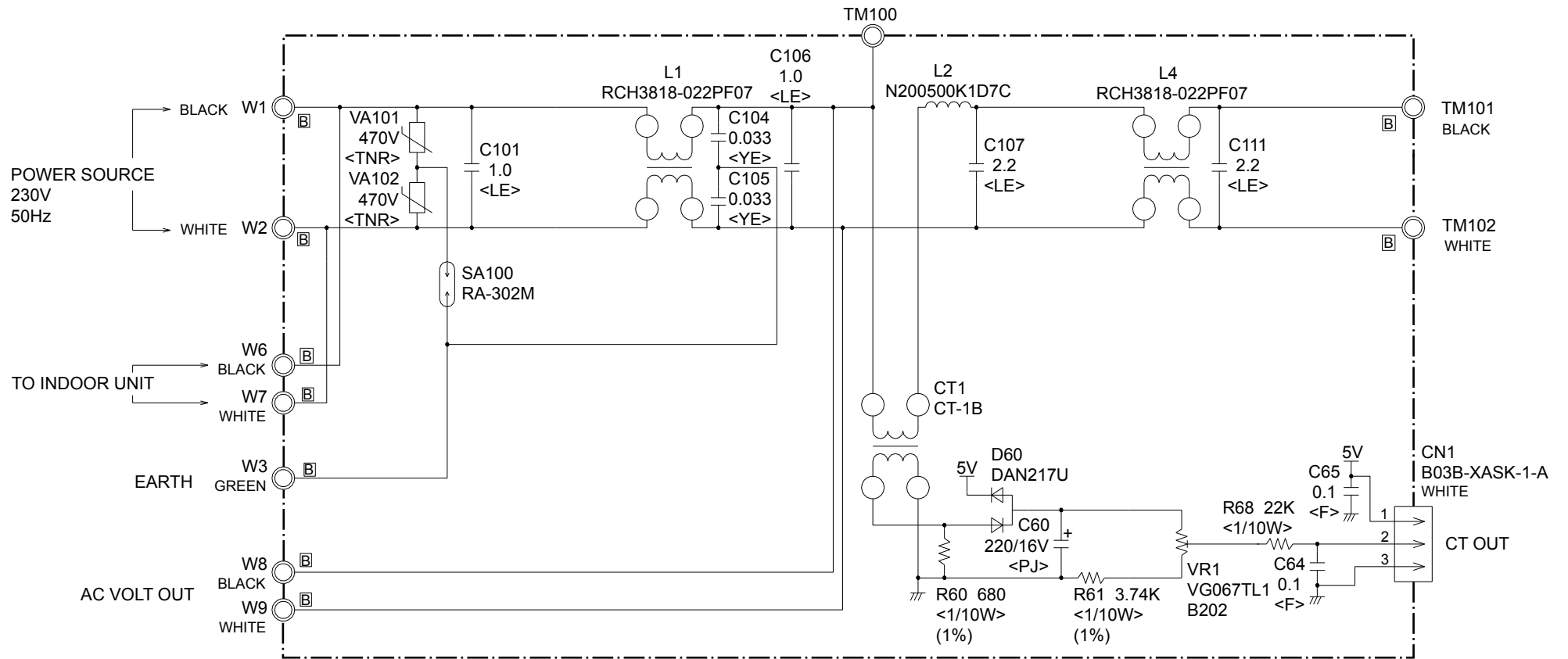
OUTDOOR PCB CIRCUIT DIAGRAM



OUTDOOR UNIT
INVERTER PCB ASSEMBLY
K08BH-080HHUE-C1



OUTDOOR UNIT
 POWER SUPPLY PCB ASSEMBLY
 K04BA-0401HUE-P0



ERROR DETECTION

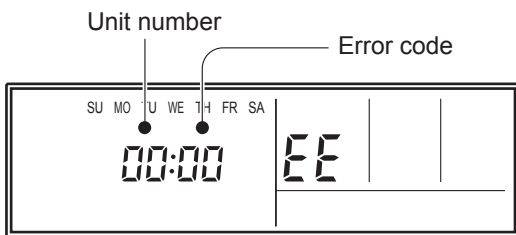
REMOTE CONTROL

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

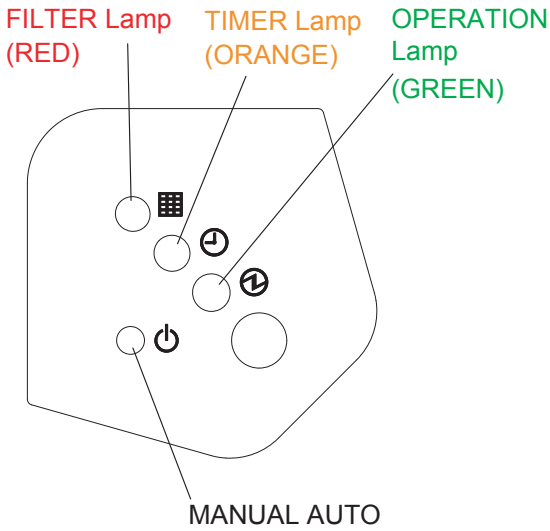
If "CO" appears in the unit number display, there is a remote control error. Refer to the installation instruction sheet included with the remote control.

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 thermistor (middle) error
28	Indoor heat exchanger thermistor (inlet) error
09	Float switch operated
0c	Outdoor discharge pipe temperature sensor error
06	Outdoor heat exchanger thermistor (outlet) error
0A	Outdoor temperature sensor error
0E	Heat sink thermistor (Inverter) error
15	Compressor temperature sensor error
1d	2-way valve temperature sensor error
1E	3-way valve temperature sensor error
29	Outdoor heat exchanger thermistor (middle) error
2d	Heat sink thermistor (P.F.C.) 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
2E	Inverter 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, Pressure sensor abnormal
2b	Compressor temperature error
2F	Low pressure error
19	Active filter abnormal
25	P.F.C. circuit error
30	Refrigerant circuit address set-up error
31	Master unit, Slave unit set-up error
32	Connected the indoor number set-up error
33	P.F.C. PCB error

INDOOR UNIT (Option)

Troubleshooting with the indoor display

Error is displayed on the wired and wireless remote control.



Lamps show error contents by flashing as follows.

OPERATION Lamp	TIMER Lamp	FILTER Lamp	Error contents
off	2 times	off	Indoor signal error
off	3 times	off	
off	4 times	off	
off	5 times	off	
off	8 times	off	Wired remote controller abnormal
2 times	2 times	off	Indoor room temperature sensor error
2 times	3 times	off	Indoor heat exchanger temperature sensor (middle) error
2 times	4 times	off	Indoor heat exchanger temperature sensor (inlet) error
2 times	6 times	off	Float switch operated
3 times	2 times	off	Outdoor discharge pipe temperature sensor error
3 times	3 times	off	Outdoor heat exchanger temperature sensor (outlet) error
3 times	4 times	off	Outdoor temperature sensor error
3 times	7 times	off	Heat sink thermistor (Inverter) error
3 times	8 times	off	Compressor temperature sensor error
3 times	off	2 times	2-way valve temperature sensor error
3 times	off	3 times	3-way valve temperature sensor error
3 times	off	4 times	Outdoor heat exchanger temperature sensor (middle) error
3 times	off	5 times	Heat sink thermistor (P.F.C) error
4 times	2 times	off	Indoor manual auto switch abnormal
4 times	4 times	off	Power supply frequency detection error
5 times	2 times	off	IPM protection
5 times	3 times	off	CT error
5 times	5 times	off	Compressor location error
5 times	6 times	off	Outdoor fan error
5 times	7 times	off	Connected indoor unit abnormal
5 times	8 times	off	Outdoor unit computer communication error
5 times	off	2 times	Inverter error
6 times	2 or 3 times	off	Indoor fan abnormal
7 times	2 times	off	Discharge temperature error
7 times	3 times	off	Excessive high pressure protection on cooling
7 times	4 times	off	4-way valve abnormal
7 times	5 times	off	Pressure switch abnormal, Pressure sensor abnormal
7 times	6 times	off	Compressor temperature error
7 times	7 times	off	Low pressure error
8 times	2 or 3 times	off	Active filter abnormal
8 times	4 times	off	PFC circuit error
8 times	6 times	off	P.F.C PCB error
9 times	2 times	off	Refrigerant circuit address set-up error
9 times	3 times	off	Master unit, Slave unit set-up error
9 times	4 times	off	Connected indoor number set-up error

Flash means "0.5 second on / 0.5 second off".

OUTDOOR UNIT LED

Make a TEST RUN in accordance with the installation instruction sheet for the indoor unit.

When a malfunction occurs in the outdoor unit, the LED on the circuit board lights to indicate the error. Refer to the following table for the description of each error according to the LED.

LED	Error contents
1 flash	Communication error (Indoor unit - Outdoor unit)
2 flash	Discharg pipe temperature sensor
3 flash	Outdoor heat exchanger temperature (outlet) sensor
4 flash	Outdoor temperature sensor
5 flash	Outdoor heat exchanger temperature (mid) sensor
6 flash	Discharge pipe temperature abnormal
7 flash	Compressor temperature sensor
8 flash	Heat sink temperature sensor
9 flash	Pressure switch abnormal
10 flash	Compressor temperature abnormal
12 flash	IPM error
13 flash	Compressor rotor position cannot detect
14 flash	Compressor cannot operate
15 flash	Outdoor fan abnormal (upper fan)
16 flash	Outdoor fan abnormal (lower fan)
5 sec. on/ 1 sec. off repeat	Protect operation
1 sec. on/ 1 sec. off repeat	Pump down operation
off	No error

SPECIAL INSTALLATION SETTING

PUMP DOWN (Refrigerant collecting operation)

Perform the following procedures to collect the refrigerant when moving the indoor unit or outdoor unit

1. When the product is stopped:

①	Press the PUMP DOWN switch on the outdoor unit. (The LED on the outdoor unit circuit board starts flashing.) (1 sec. on / 1 sec. off repeated)
②	The pump down operation (cooling operation) begins right away. After operation starts, close the three-way valve (liquid).
③	After 2 - 3 minutes, operation stops. Close the three-way valve (gas) within one minute after operations stops.
④	The LED will go out three minutes after it stops. Disconnect the power supply after confirming that the LED has gone out.

2. When the product is operating:

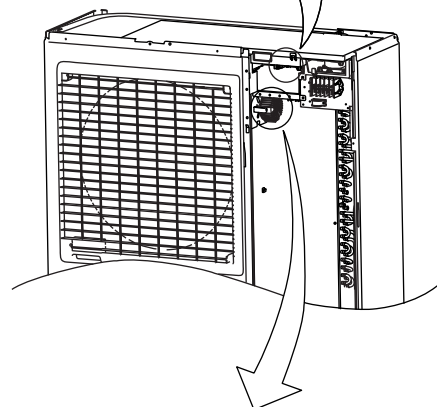
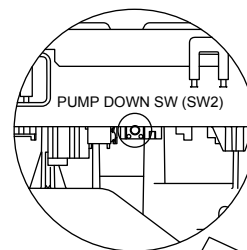
①	Press the PUMP DOWN switch on the outdoor unit. The LED on the outdoor unit circuit board starts flashing (1 sec. on / 1 sec. off repeated), and operation stops. At this point, recovery has not been completed, so do not close the three-way valves. (liquid and gas)
②	The pump down operation (cooling operation) begins after three minutes. Close the three-way valve (liquid) after operation starts.
③	After 2 - 3 minutes, operation stops. Close the three-way valve (gas) within one minute after operations stops.
④	The LED will go out three minutes after it stops. Disconnect the power supply after confirming that the LED has gone out.

*When the pump down operation is repeated, temporarily disconnect the power supply after opening the closed valves (both liquid and gas).

Reconnect the power supply after 2 - 3 minutes and perform the pump down operation.

*When the start of the operation after pump down operation has been completed, temporarily disconnect the power supply after opening the closed valves (both liquid and gas).

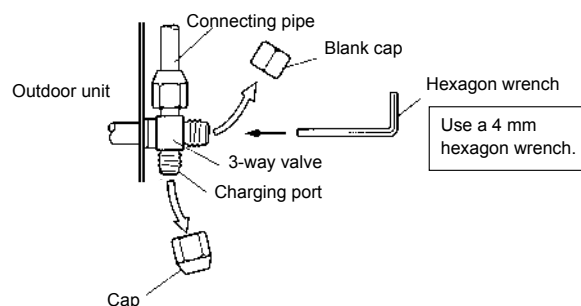
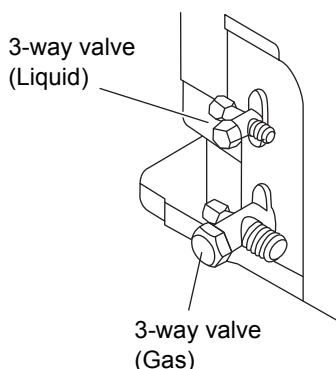
Reconnect the power supply after 2-3 minutes and be sure to perform a test operation for cooling.



⚠ DANGER

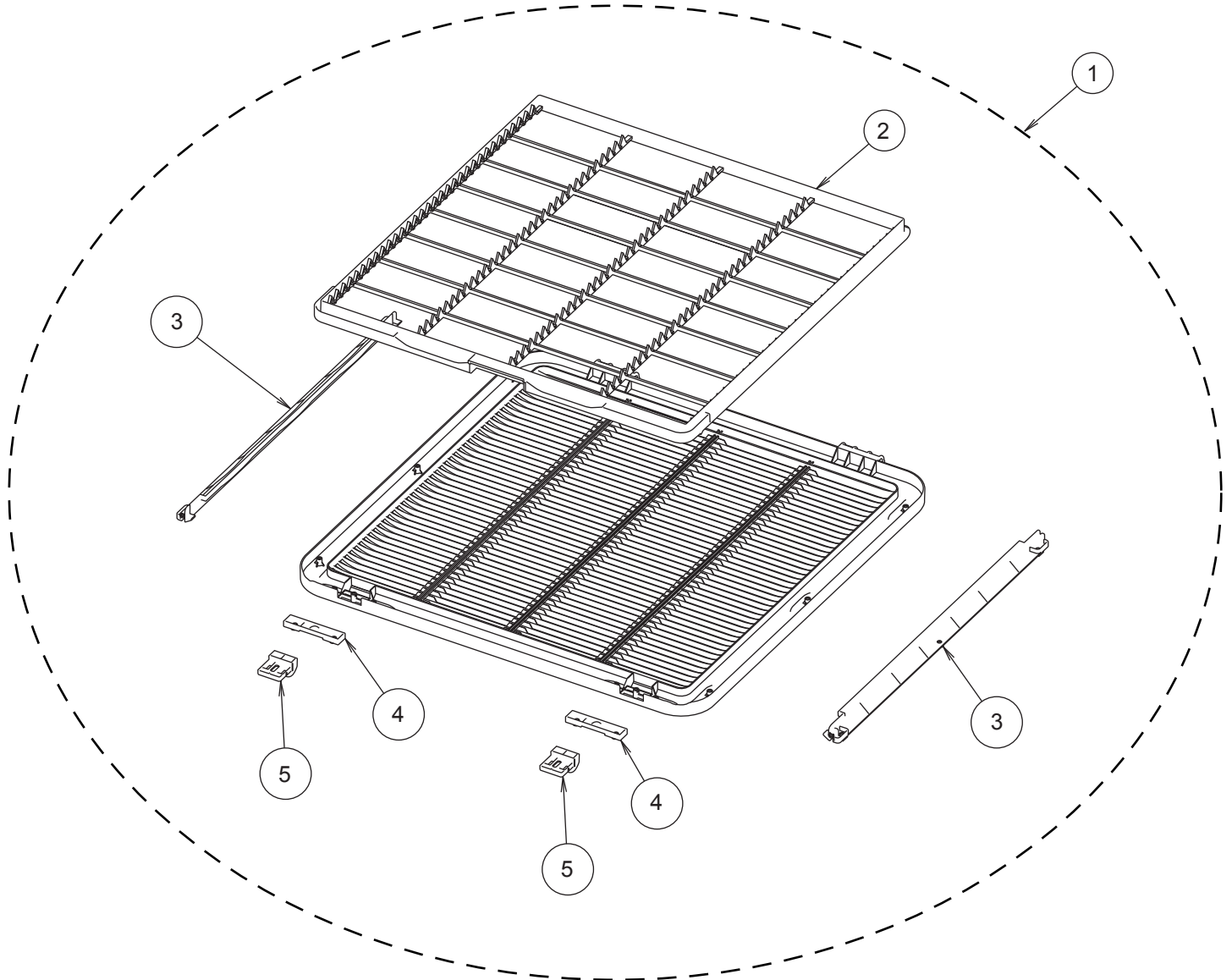
This part (Choke coil) generates high voltages.
Never touch this part.

		Tightening torque
Blank cap	6.35 mm (1/4 in.)	20 to 25 N-m (200 to 250 kgf-cm)
	9.52 mm (3/8 in.)	20 to 25 N-m (200 to 250 kgf-cm)
	12.70 mm (1/2 in.)	25 to 30 N-m (250 to 300 kgf-cm)
	15.88 mm (5/8 in.)	30 to 35 N-m (300 to 350 kgf-cm)
	19.05 mm (3/4 in.)	35 to 40 N-m (350 to 400 kgf-cm)
Charging port cap		10 to 12 N-m (100 to 120 kgf-cm)
Spindle (Hexagon wrench)		6 to 7 N-m (60 to 70 kgf-cm)

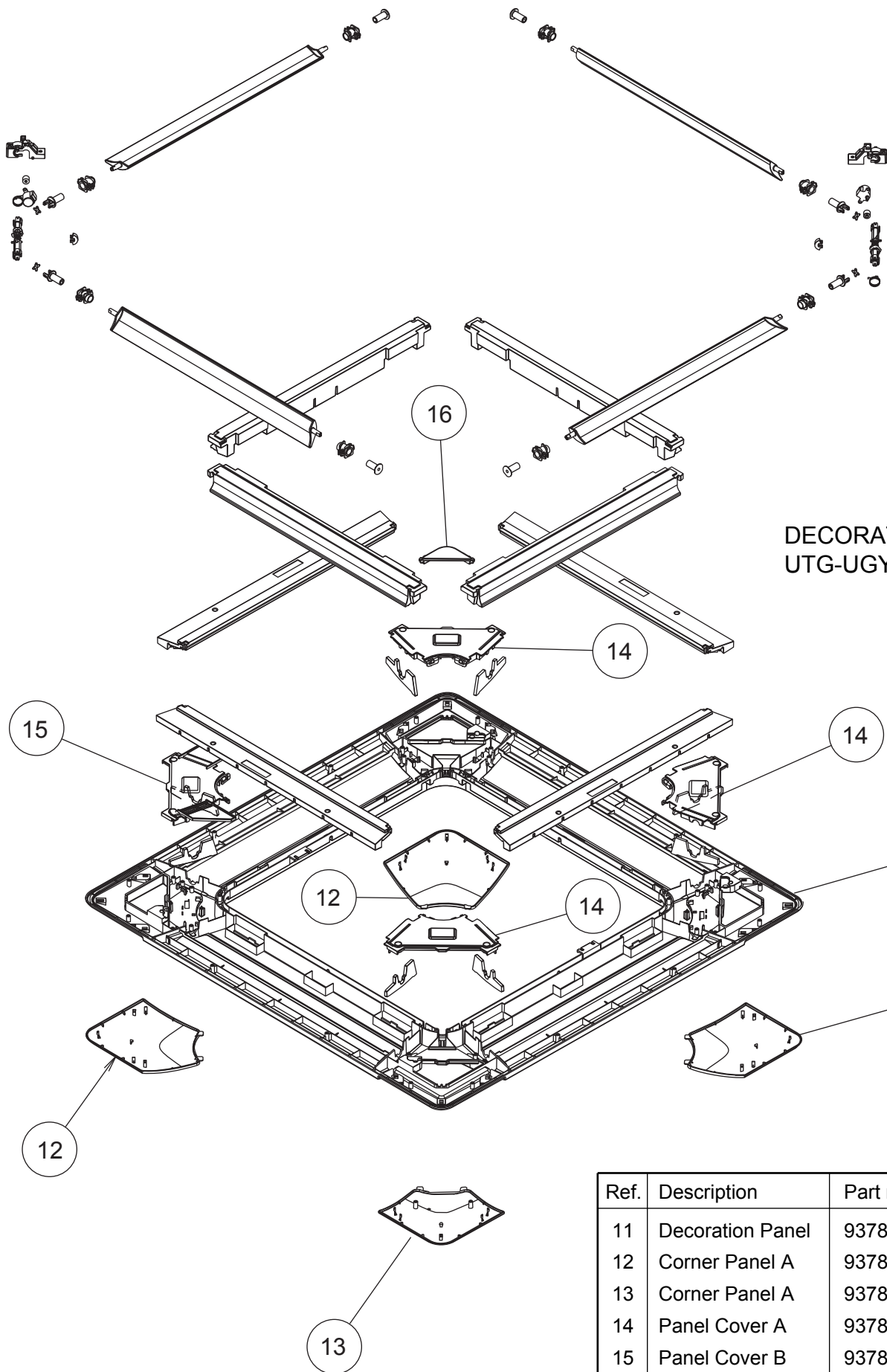


PARTS

DECORATION PANEL
UTG-UGYA-W



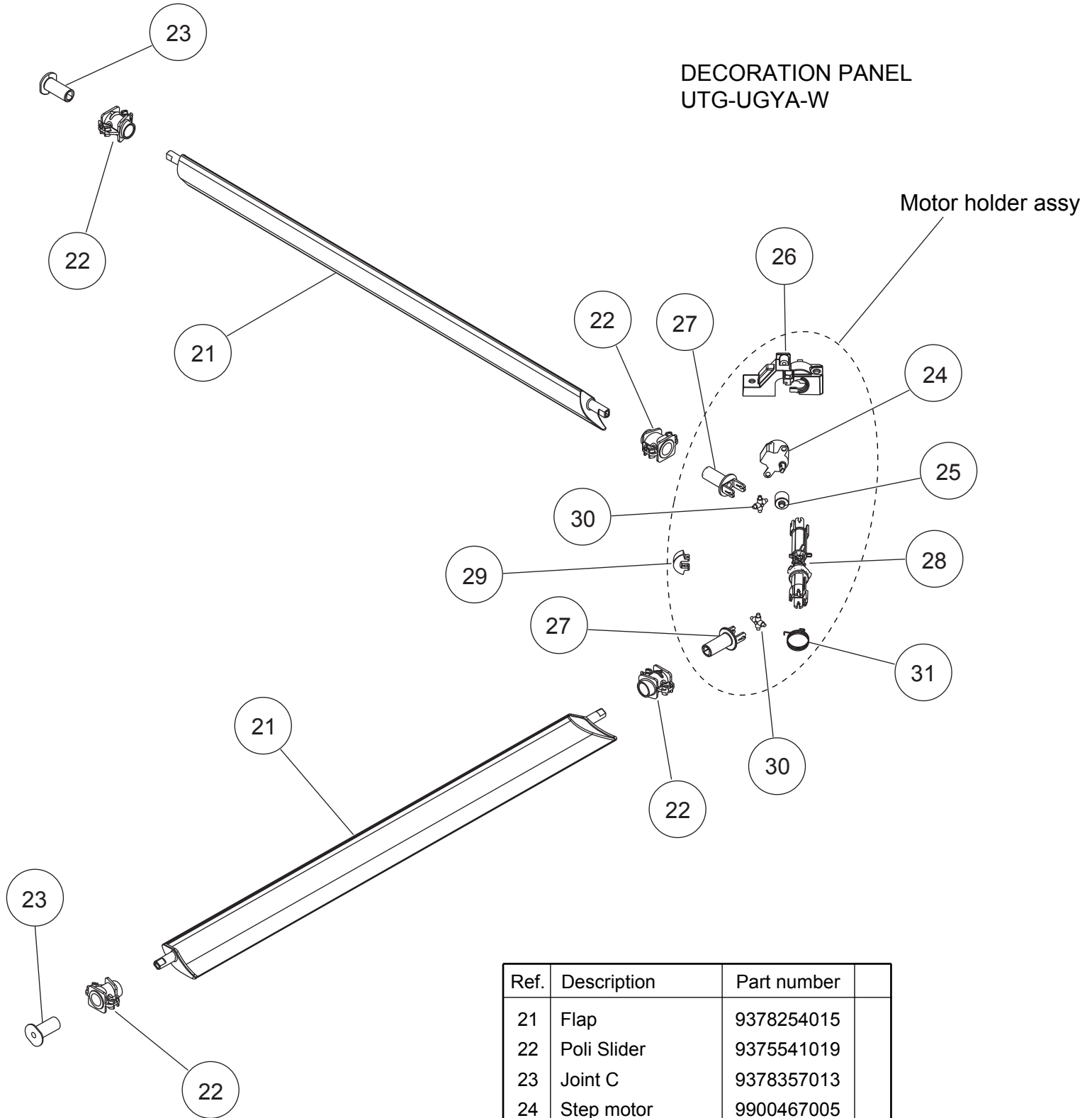
Ref.	Description	Part number	
1	Intake Grille Assy	9378565012	
2	Long Life Filter	9378252011	
3	Filter Guide	9378253018	
4	Hook Bracket	9378435018	
5	Grille Hook	9378250017	



DECORATION PANEL
UTG-UGYA-W

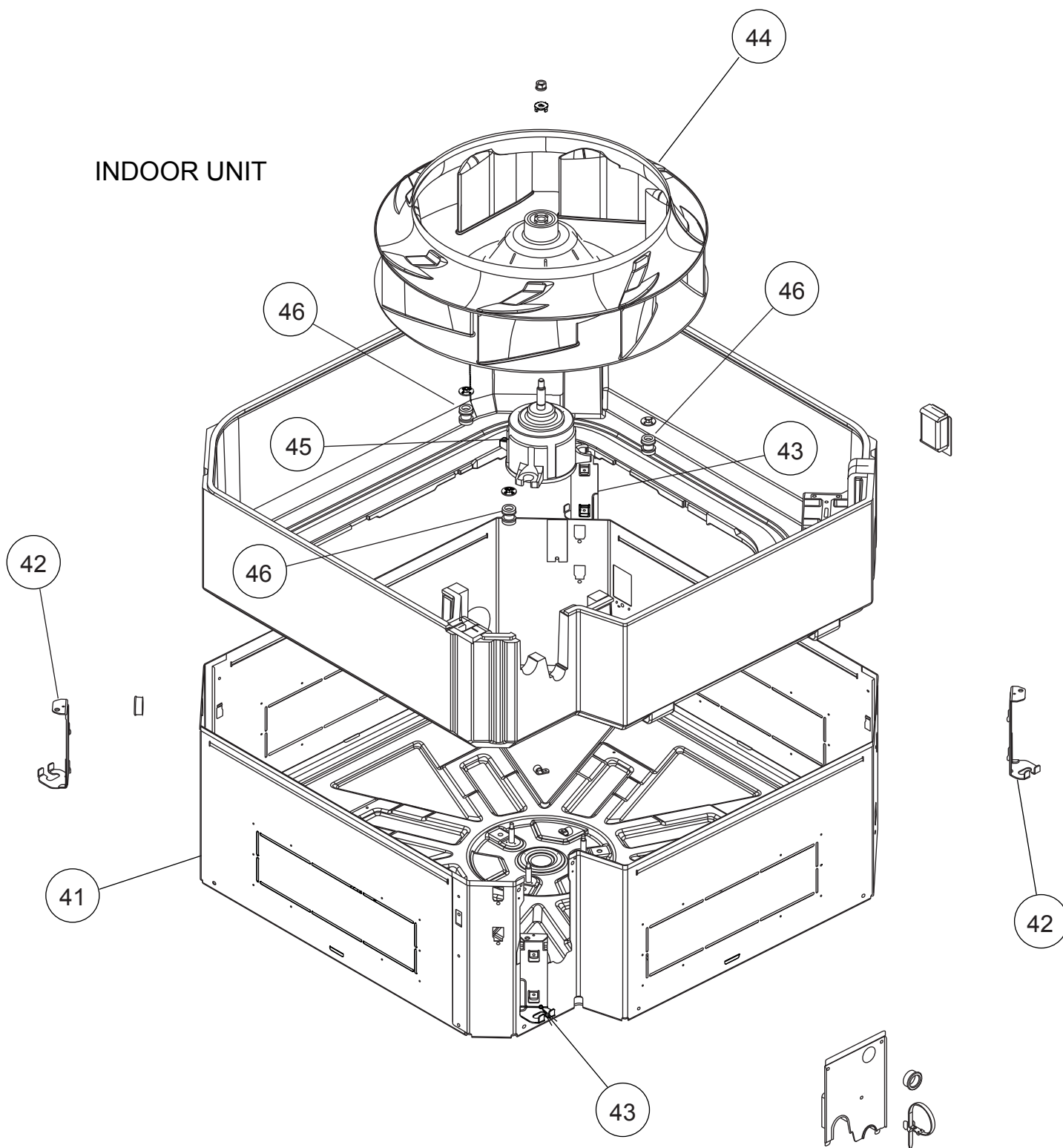
Ref.	Description	Part number
11	Decoration Panel	9378242012
12	Corner Panel A	9378243019
13	Corner Panel A	9378243026
14	Panel Cover A	9378261013
15	Panel Cover B	9378262010
16	Drain Cover	9378359017

DECORATION PANEL
UTG-UGYA-W



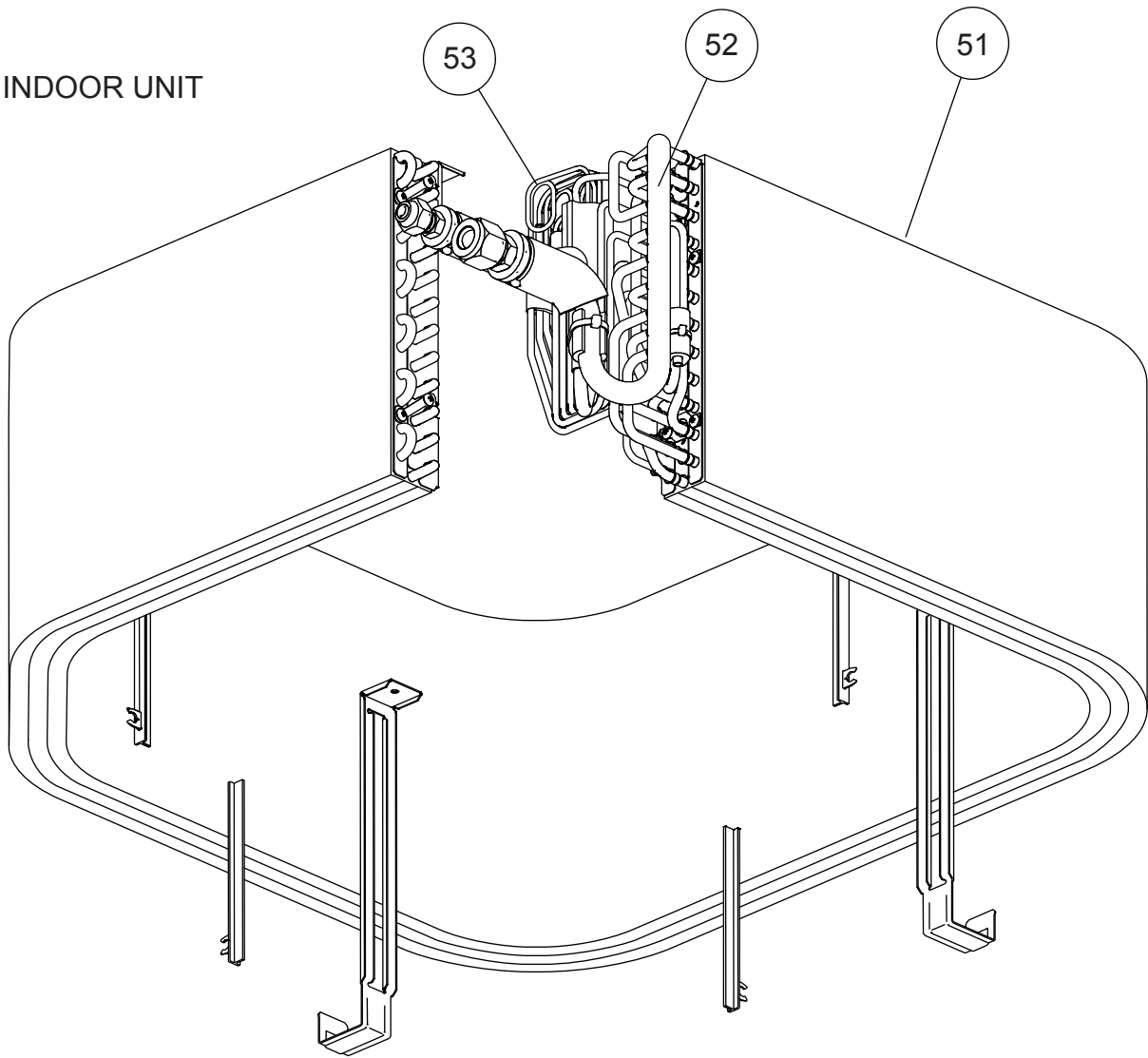
Ref.	Description	Part number
21	Flap	9378254015
22	Poli Slider	9375541019
23	Joint C	9378357013
24	Step motor	9900467005
25	Gear A	9378256019
26	Motor Holder	9378255012
27	Joint A	9378258013
28	Joint B	9378259010
29	Gear B	9378257016
30	Joint Shaft	9378260016
31	Flap Spring	9378356016
--	Wire (Step Motor)	9707869019
--	Wire (Step Motor)	9707869026

INDOOR UNIT



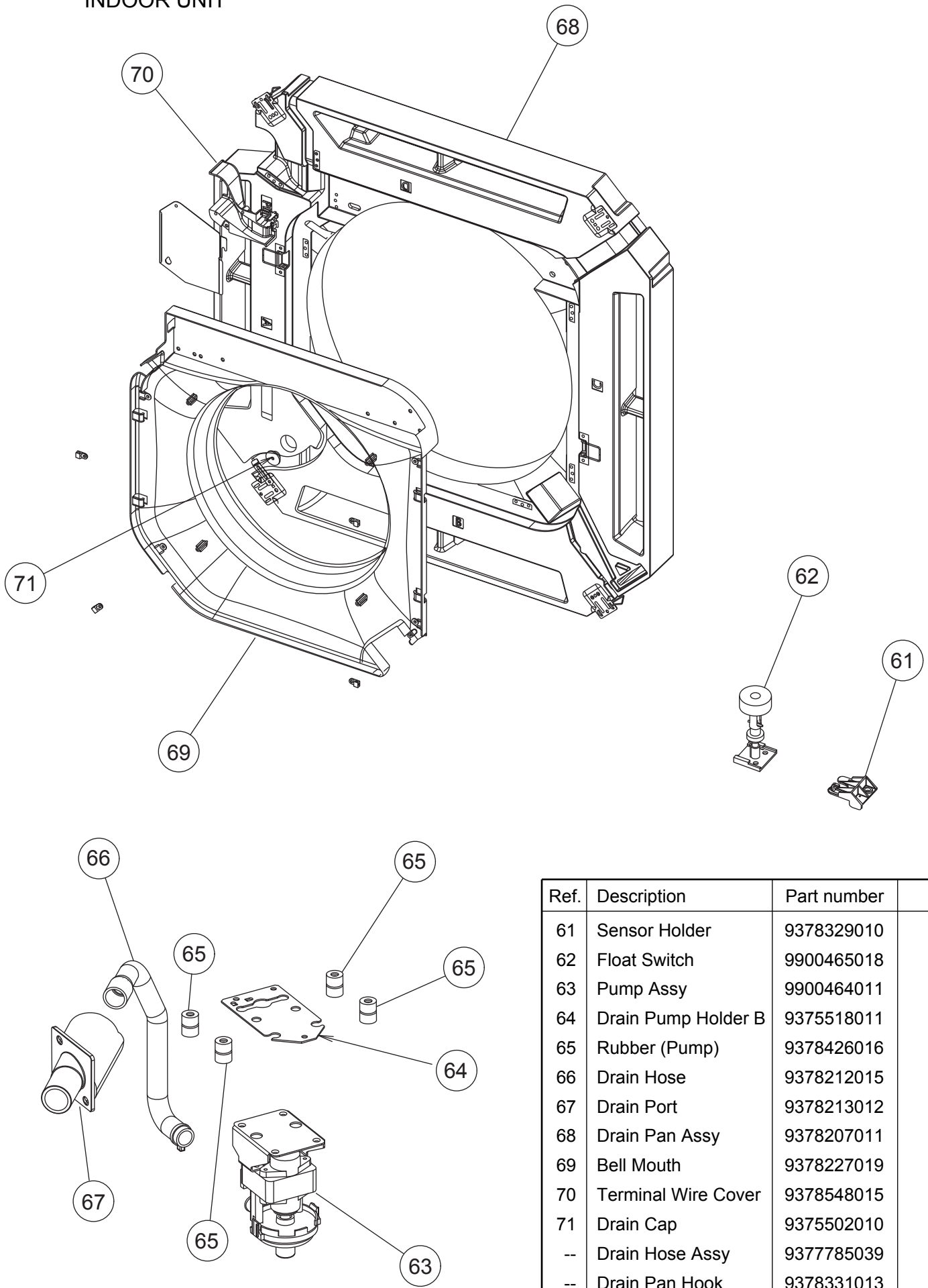
Ref.	Description	Part number
41	Cabinet C	9378196018
42	Hook R	9378197015
43	Hook L	9378198012
44	Turbo Fan Assy	9378228016
45	Motor, DC Brushless	9602716005
46	Rubber (Motor)	9378223011

INDOOR UNIT



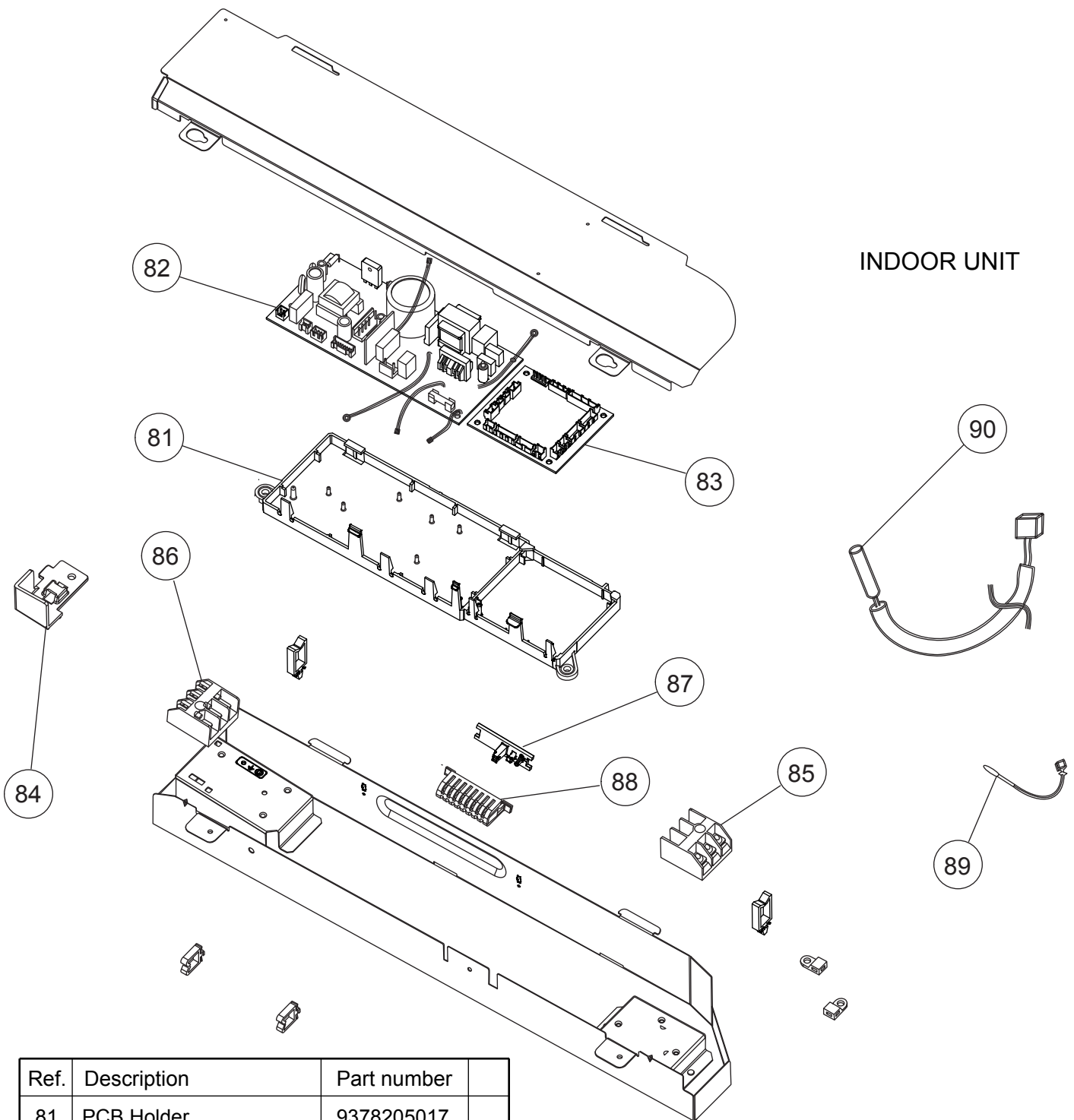
Ref.	Description	Part number	
51	Evaporator Total Assy	9378580053	
52	Coupling Pipe Assy	9373038627	
53	Distributor Assy	9371325552	

INDOOR UNIT



Ref.	Description	Part number
61	Sensor Holder	9378329010
62	Float Switch	9900465018
63	Pump Assy	9900464011
64	Drain Pump Holder B	9375518011
65	Rubber (Pump)	9378426016
66	Drain Hose	9378212015
67	Drain Port	9378213012
68	Drain Pan Assy	9378207011
69	Bell Mouth	9378227019
70	Terminal Wire Cover	9378548015
71	Drain Cap	9375502010
--	Drain Hose Assy	9377785039
--	Drain Pan Hook	9378331013

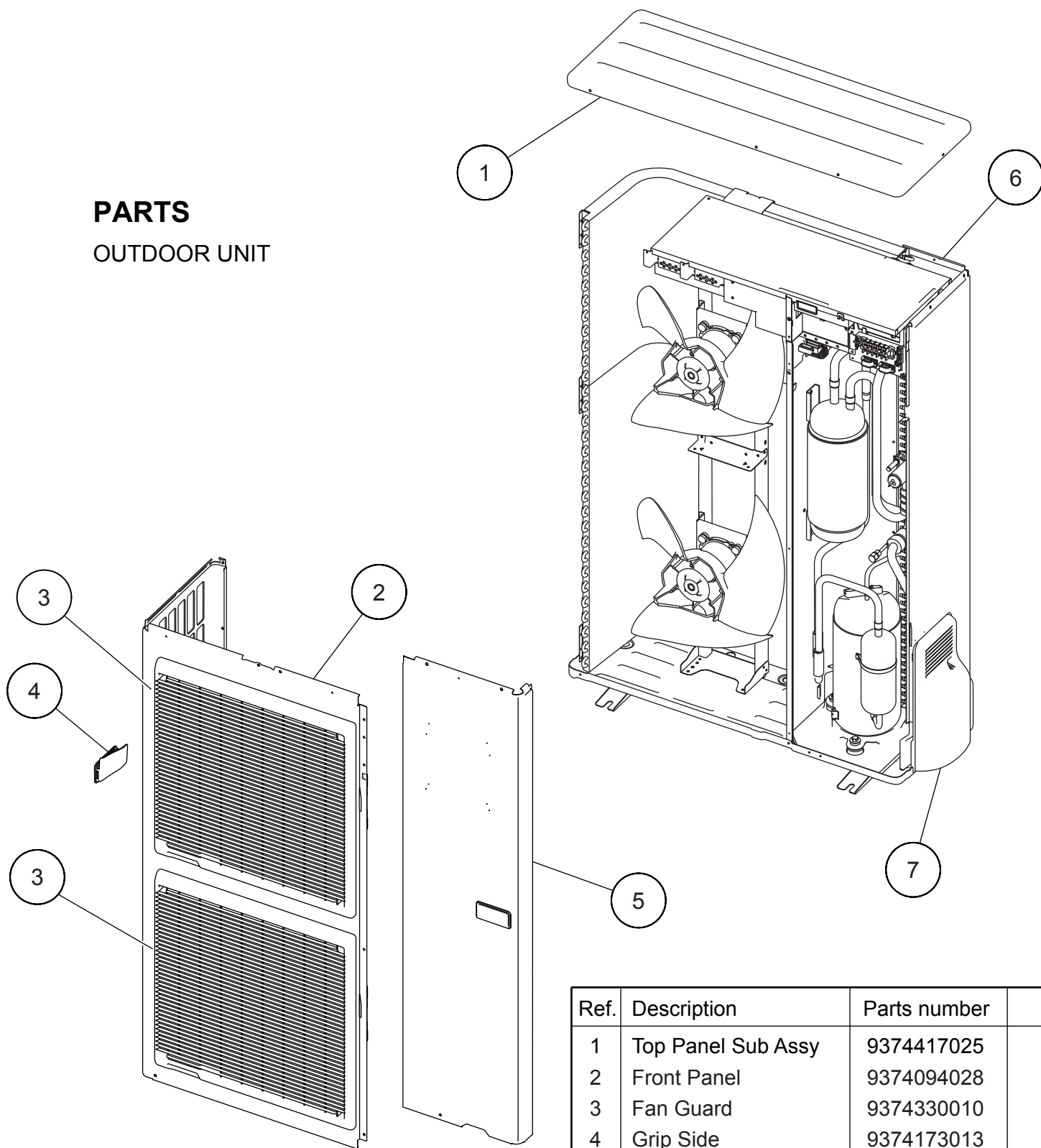
INDOOR UNIT



Ref.	Description	Part number
81	PCB Holder	9378205017
82	Power PCB Assy	9707398175
83	Controller PCB Assy	9707393422
84	Clamp	9378237018
85	Terminal 3P	9306489045
86	Terminal 3P	9703345012
87	Thermistor Holder A	9378206014
88	Thermistor Holder B	9378330016
89	Room Thermistor	9900445010
90	Pipe Thermistor	9900470012
--	Remote Control	9372266199
--	Wire (to Remote Control)	9703301049
--	Wire (Control - Power) 8 lines	9703339035
--	Wire (Control - Power) 3 lines	9707442021

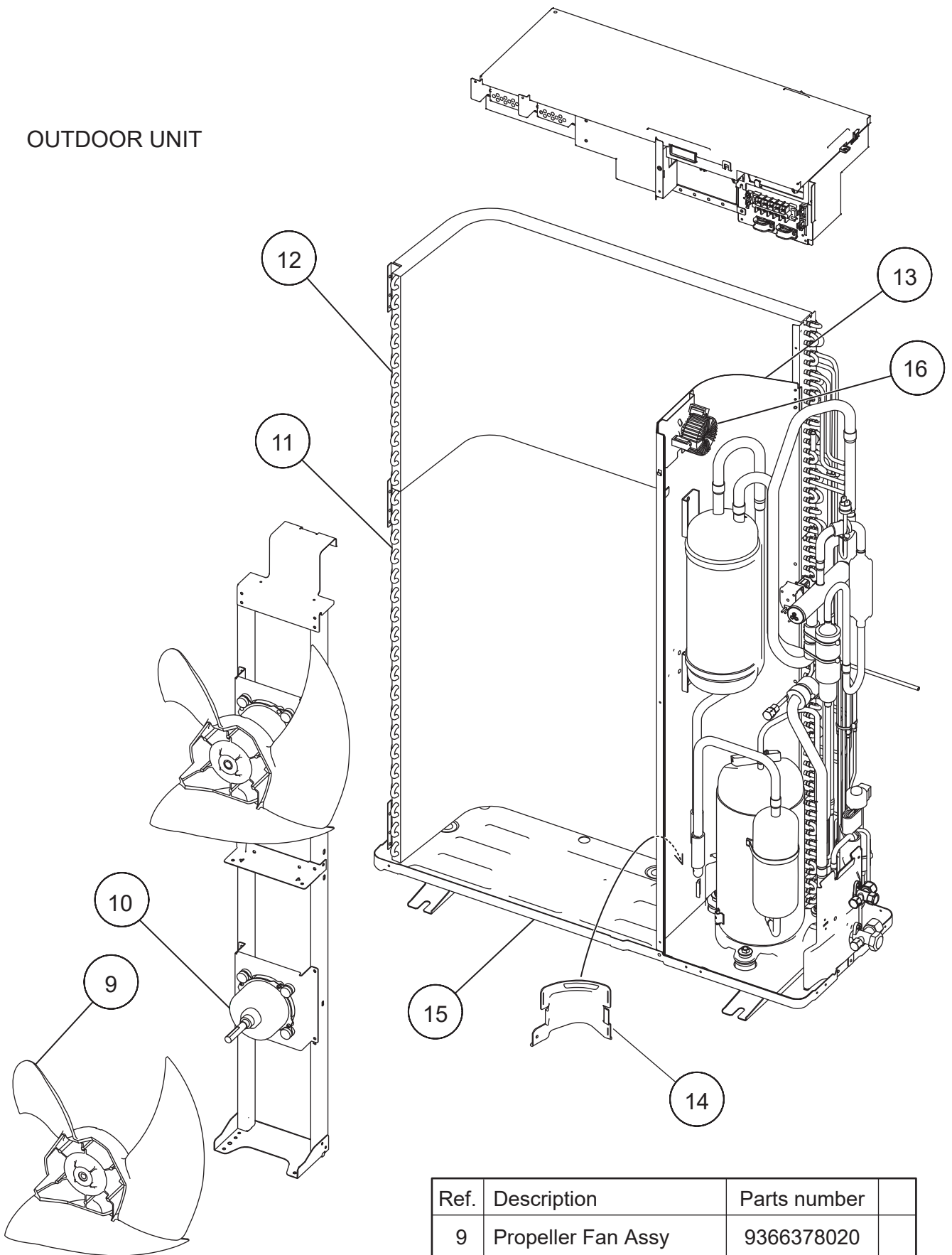
PARTS

OUTDOOR UNIT



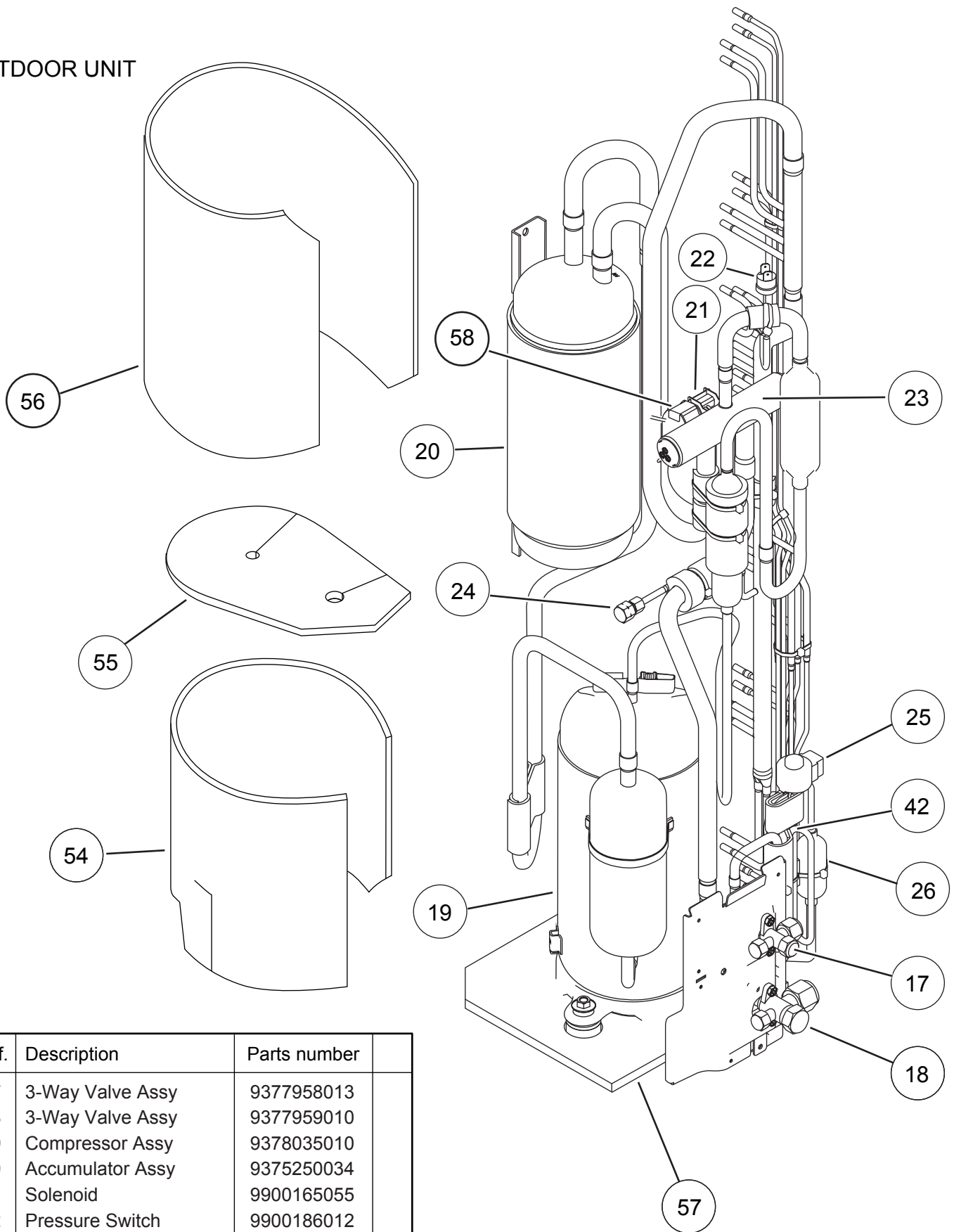
Ref.	Description	Parts number
1	Top Panel Sub Assy	9374417025
2	Front Panel	9374094028
3	Fan Guard	9374330010
4	Grip Side	9374173013
5	Service Panel Sub Assy	9374415069
6	Right Panel Sub Assy	9374416141
7	Valve Cover	9374174010
--	Emblem Rear	9351355005

OUTDOOR UNIT



Ref.	Description	Parts number
9	Propeller Fan Assy	9366378020
10	Motor DC Brushless	9602843015
11	Condenser A Sub Assy	9374420247
12	Condenser B Sub Assy	9374422074
13	Separate Wall	9374629015
14	Cap Foot	9374345014
15	Base Assy	9374166046
16	Coil Choke	9703458019

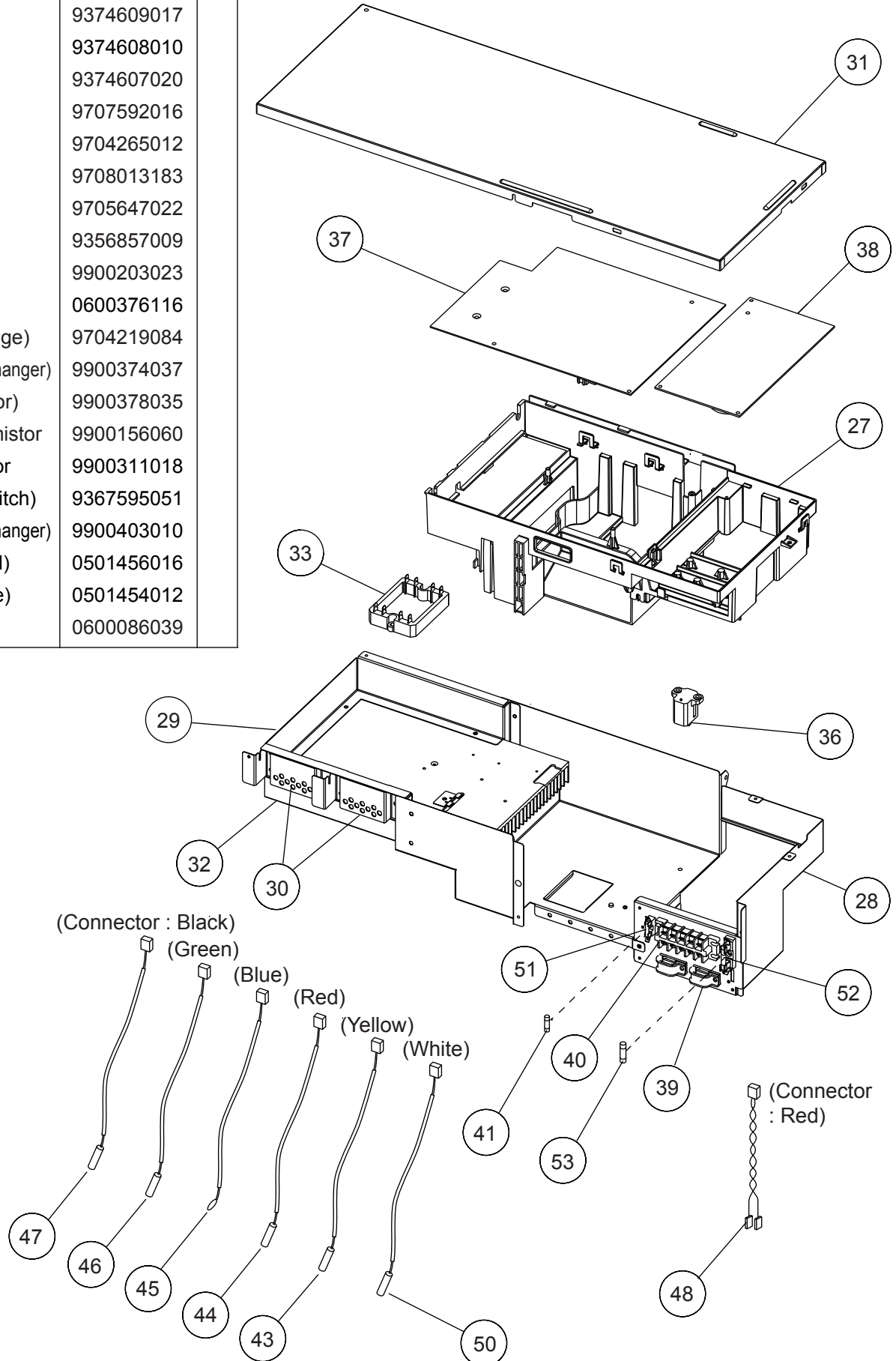
OUTDOOR UNIT



Ref.	Description	Parts number
17	3-Way Valve Assy	9377958013
18	3-Way Valve Assy	9377959010
19	Compressor Assy	9378035010
20	Accumulator Assy	9375250034
21	Solenoid	9900165055
22	Pressure Switch	9900186012
23	4-Way Valve	9970035029
24	Check Valve Assy	9374274017
25	Coil (Expansion Valve)	9900197025
26	Strainer Assy	9372524039
42	Expansion Valve Assy	9370947175
54	Compressor Cover A	9374430109
55	Compressor Cover B	9374431106
56	Compressor Cover C	9372067086
57	Compressor Cover D	9375382025
58	Solenoid	9900165055



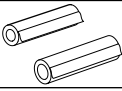
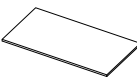







Ref.	Description	Parts number
27	Inverter Box A	9374603015
28	Inverter Box B	9374625017
29	Inverter Box C	9374605026
30	Inverter Box Duct	9374609017
31	Inverter Box Cover	9374608010
32	Heat Sink B	9374607020
33	ACTPM	9707592016
36	Posistor	9704265012
37	Inverter PCB Assy	9708013183
38	Power PCB Assy	9705647022
39	Clamp (Cord)	9356857009
40	Terminal	9900203023
41	Fuse (Small)	0600376116
43	Thermistor (Dischage)	9704219084
44	Thermistor (Heat Exchanger)	9900374037
45	Thermistor (Outdoor)	9900378035
46	Compressor Thermistor	9900156060
47	Heatsink Thermistor	9900311018
48	Wire (Pressure Switch)	9367595051
50	Thermistor (Heat Exchanger)	9900403010
51	Fuse Holder (Small)	0501456016
52	Fuse Holder (Large)	0501454012
53	Fuse (Large)	0600086039

OUTDOOR UNIT

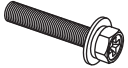

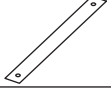



ACCESSORIES

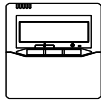
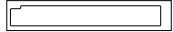


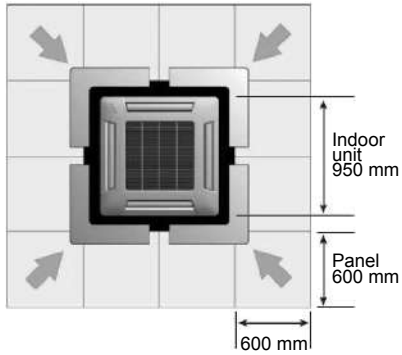
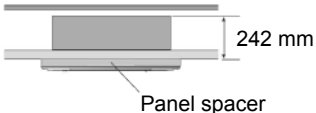
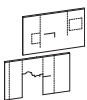
INDOOR UNIT

Name and Shape	Q'ty	Application	Part number
Template (Carton top) 	1	For installing indoor unit	9378552029
Washer 	8	For installing indoor unit	0700132278
Coupler heat insulation 	2	For indoor side pipe joint	Large:9378173569 Small:9378173521
Insulation 	1	For installing drain pipe	9314450419
Drain hose assy 	1	For installing drain pipe	9377785039
Hose band assy 	1	For installing drain pipe	9378427013
Drain pipe insulation 	1	For installing drain pipe	9378601017
Binder (Large) 	3	For electrical wiring	313035356905
Binder (Small) 	1	For electrical wiring	313361275805
Wired remote control 	1		9372266199
Tapping screw (φ 4 x 16) 	2	For installing remote control	0700181108

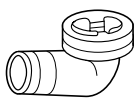

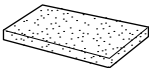
DECORATION PANEL

Name and Shape	Q'ty	Application	Part number
Hexigon Screw 	4	For mounting decoration panel	0700087103
Screw 	4	For installing grille holding wire	0700009037
Strap 	4	For installing corner panel	9378558014
Grille holding Wire 	2	For installing intake grille	9378597020

OPTIONAL PARTS

Name and Shape	Model name	Application
Wired remote control 	UTB-TUD	Control unit on wall
Air outlet shutter plate 	UTR-YDZC	Install the plate at outlet when carrying out 3-way direction operation.
Wireless remote control 	UTB-YNA	Control unit wirelessly
IR receiver unit 	UTY-LRHYA1	Control unit wirelessly
Wide panel 	UTG-AGYA	For ceiling hole
Panel spacer 	UTG-BGYA-W	For making up difference
Insulation kit for high humidity 	UTZ-KXGA	Install when the under roof condition is expected to be the humidity of over 80% and the temperature of over 30 degrees C

OUTDOOR UNIT

Name and Shape	Q'ty	Application	Part number
Drain pipe 	1	For outdoor unit drain piping work	9303029015
Drain cap 	2		313166024302
Installation (seal) 	1	For filling in a gap at the entrance of connection cords	9374756018

0902G3599