



**SPLIT TYPE
AIR CONDITIONER**

DUCT type (50Hz)

SERVICE MANUAL



Models

Indoor unit	Outdoor unit
ARHA36LATN	AOHA36LATL
ARHA45LATN	AOHA45LATL

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cooling & Heating	
INDOOR UNIT		ARHA36LATN	ARHA45LATN
OUTDOOR UNIT		AOHA36LATL	AOHA45LATL
COOLING CAPACITY		10.0 kW	12.5 kW
HEATING CAPACITY		11.2 kW	14.0 kW
POWER SOURCE		230 V 50 Hz	230 V 50 Hz
RUNNING CURRENT	Cooling	13.6 A	17.0 A
	Heating	13.2 A	16.5 A
INPUT WATTS	Cooling	3.11 kW	3.89 kW
	Heating	3.02 kW	3.77 kW
E.E.R.	Cooling	3.21 kW/kW	3.21 kW/kW
	Heating	3.71 kW/kW	3.71 kW/kW
STARTING CURRENT		15 A	15 A
MOISTURE REMOVAL		3.0 L/hr	3.5 L/hr
AIRCIRCULATION INDOOR		2,020 m3/hr	2,250 m3/hr
AIRCIRCULATION OUTDOOR		6,600 m3/hr	6,600 m3/hr

FAN MOTOR

INDOOR UNIT	Discrimination	MFG-45RVN	MFG-45RVN
	High speed	1,200 r.p.m.	1,310 r.p.m.
	Med speed	1,020 r.p.m.	1,020 r.p.m.
	Low speed	840 r.p.m.	840 r.p.m.
	Quiet	670 r.p.m.	670 r.p.m.
OUTDOOR UNIT	Discrimination	MFE-60PO	MFE-60PO
	Upper fan	850 r.p.m.	850 r.p.m.
	Lower fan	750 r.p.m.	750 r.p.m.

NOISE LEVEL

INDOOR UNIT	High speed	42 dB	44 dB
	Med speed	37 dB	38 dB
	Low speed	32 dB	33 dB
	Quiet	29 dB	29 dB
OUTDOOR UNIT	Cooling	54 dB	55 dB
	Heating	55 dB	56 dB

Note : Static pressure : 30Pa
Duct length : Inlet 1m, Outlet 2m

DIMENSIONS

INDOOR UNIT	H x W x D	270 x 1,135 x 700 mm
OUTDOOR UNIT	H x W x D	1,290 x 900 x 330 mm

WEIGHT

INDOOR UNIT	Gross / Net	48 kg / 41 kg
OUTDOOR UNIT	Gross / Net	107 kg / 98 kg

COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, 3 phase, DC motor, Twin Rotary
DISCRIMINATION	DA420A3F-21ZA
REFRIGERANT R410A	3,350 g

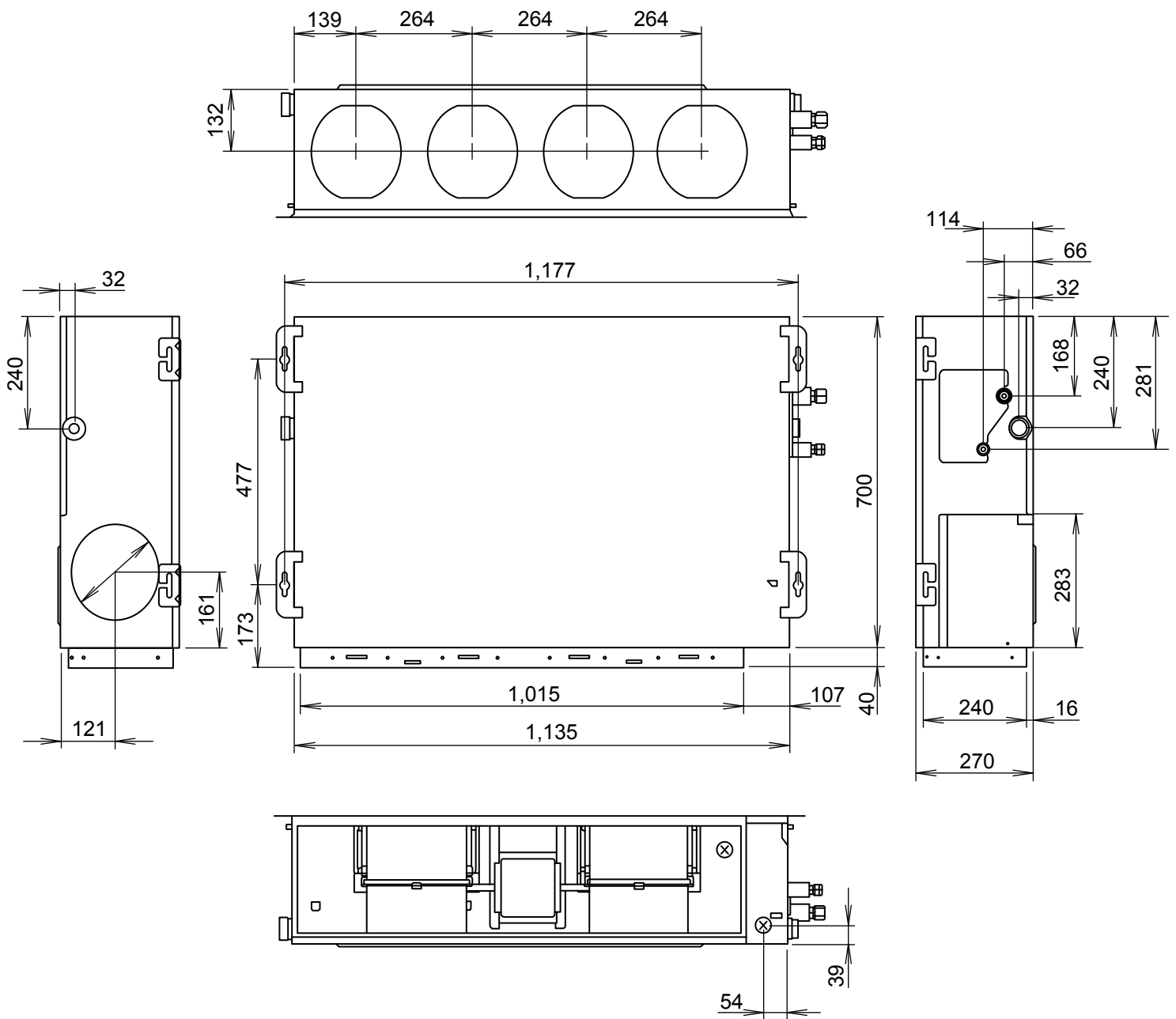
REFRIGERANT CHARGE (R410A)

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

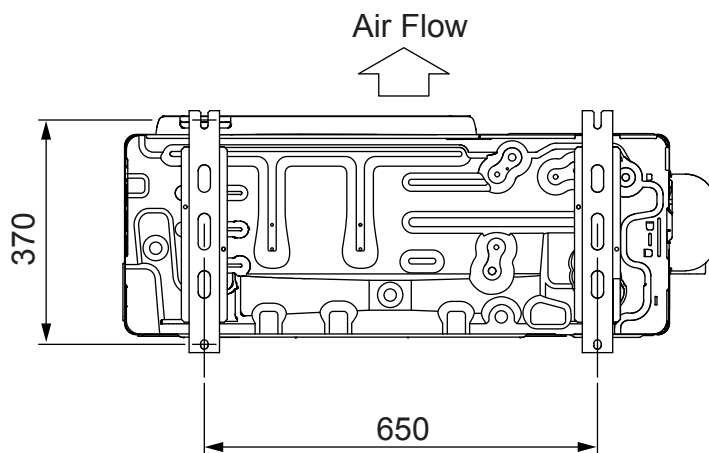
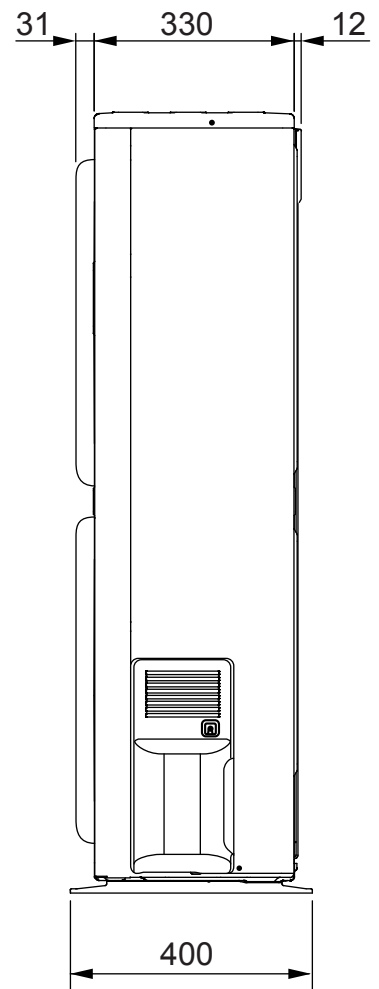
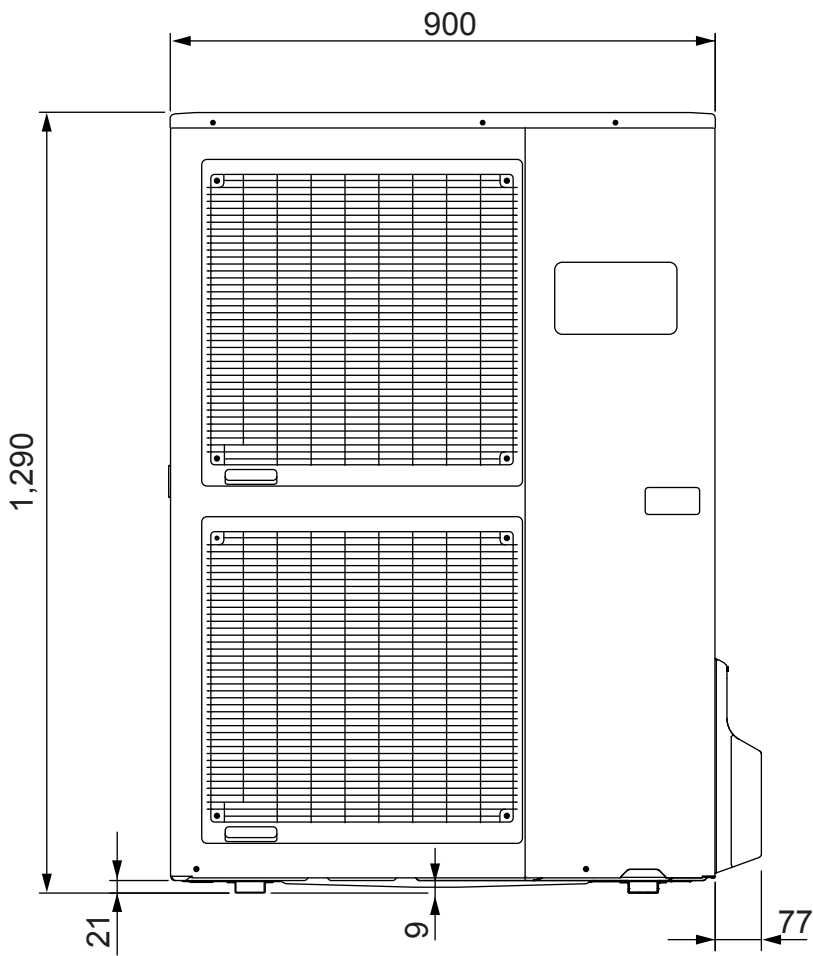
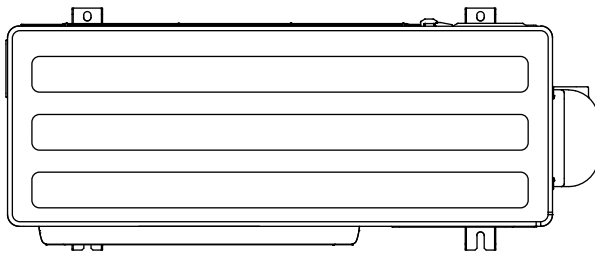
INDOOR UNIT

(Unit : mm)



OUTDOOR UNIT

(Unit : mm)



REFRIGERANT SYSTEM DIAGRAM

Refrigerant direction

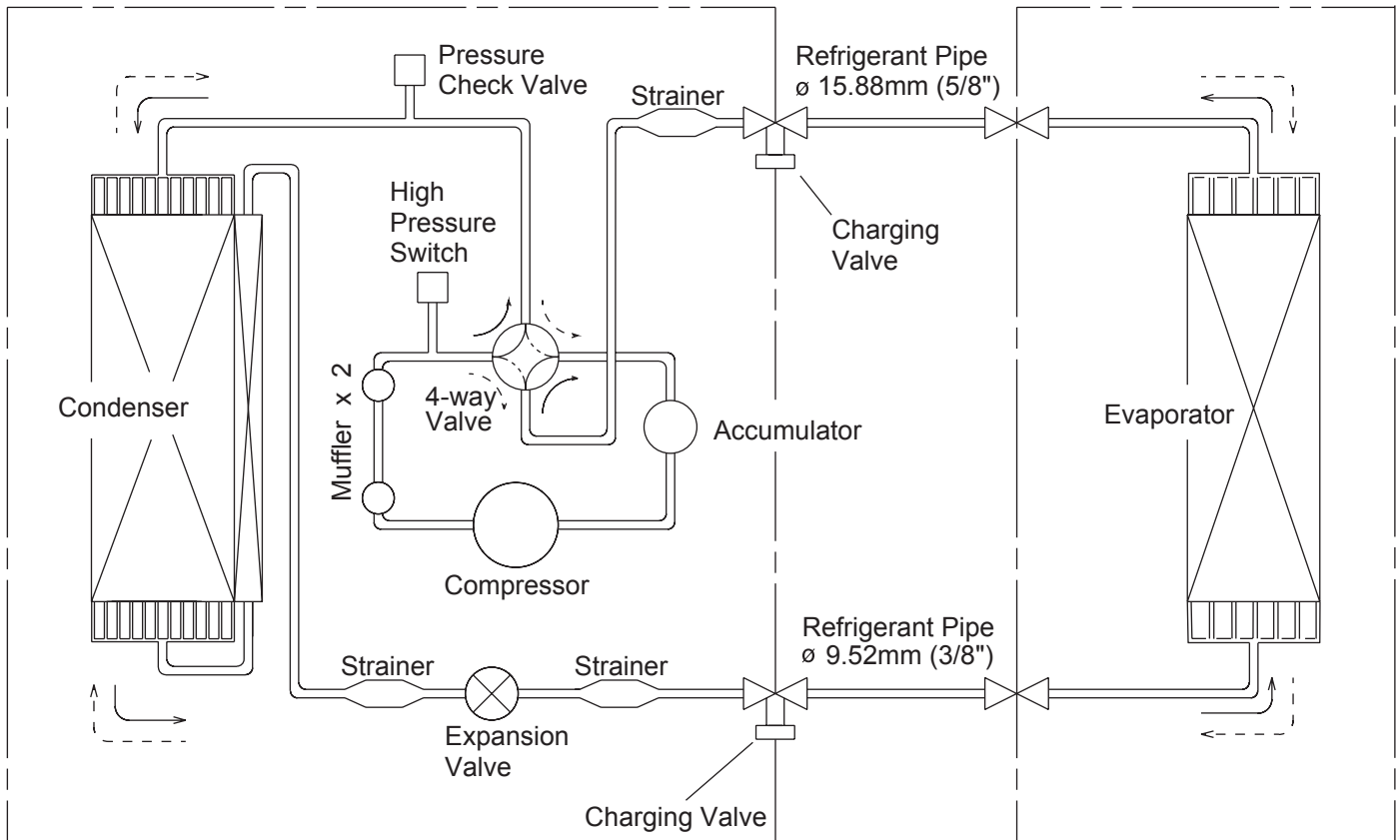
—→ : Cool

- - -> : Heat

Model : ARHA36LATN / AOHA36LATL

OUTDOOR UNIT

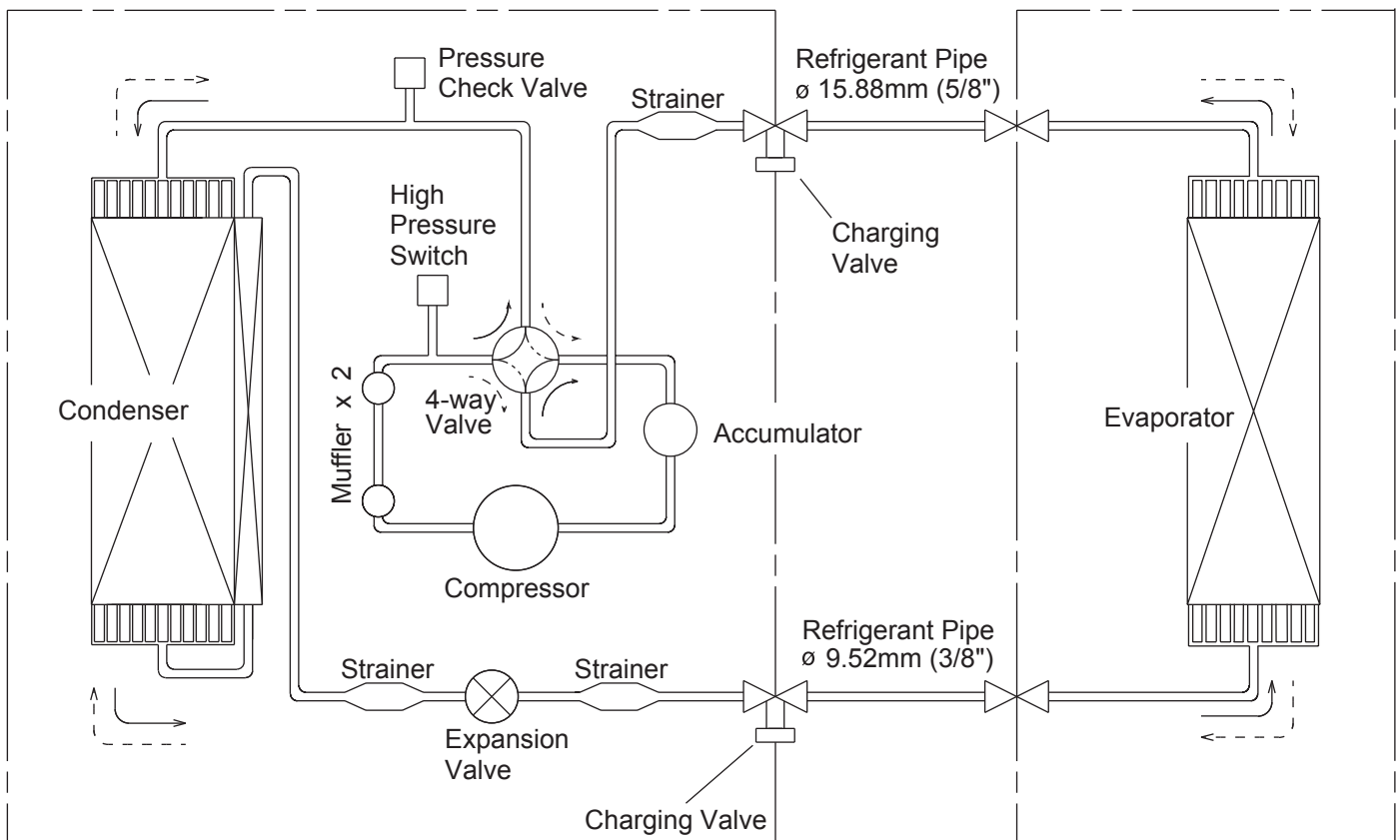
INDOOR UNIT



Model : ARHA45LATN / AOHA45LATL

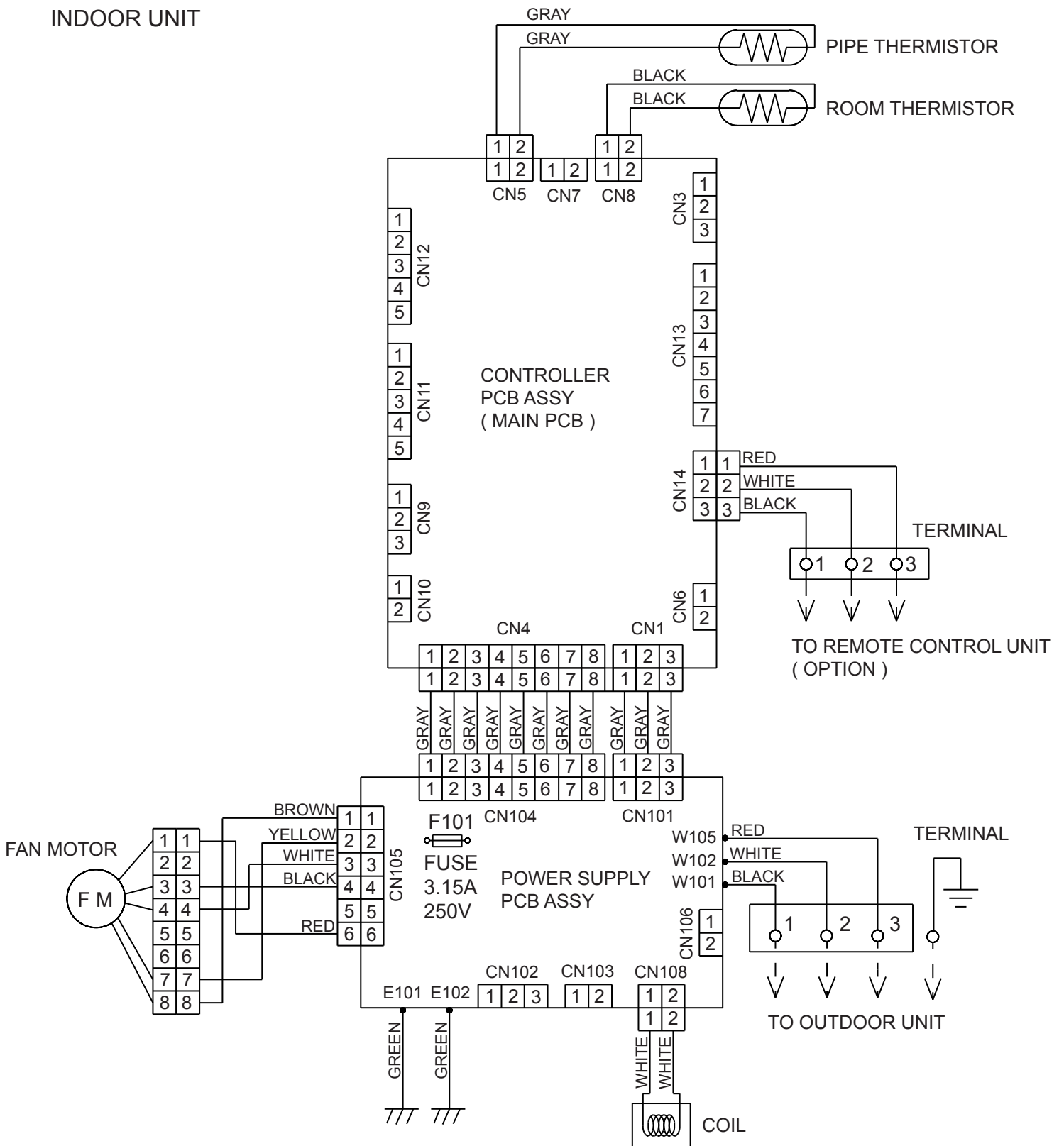
OUTDOOR UNIT

INDOOR UNIT

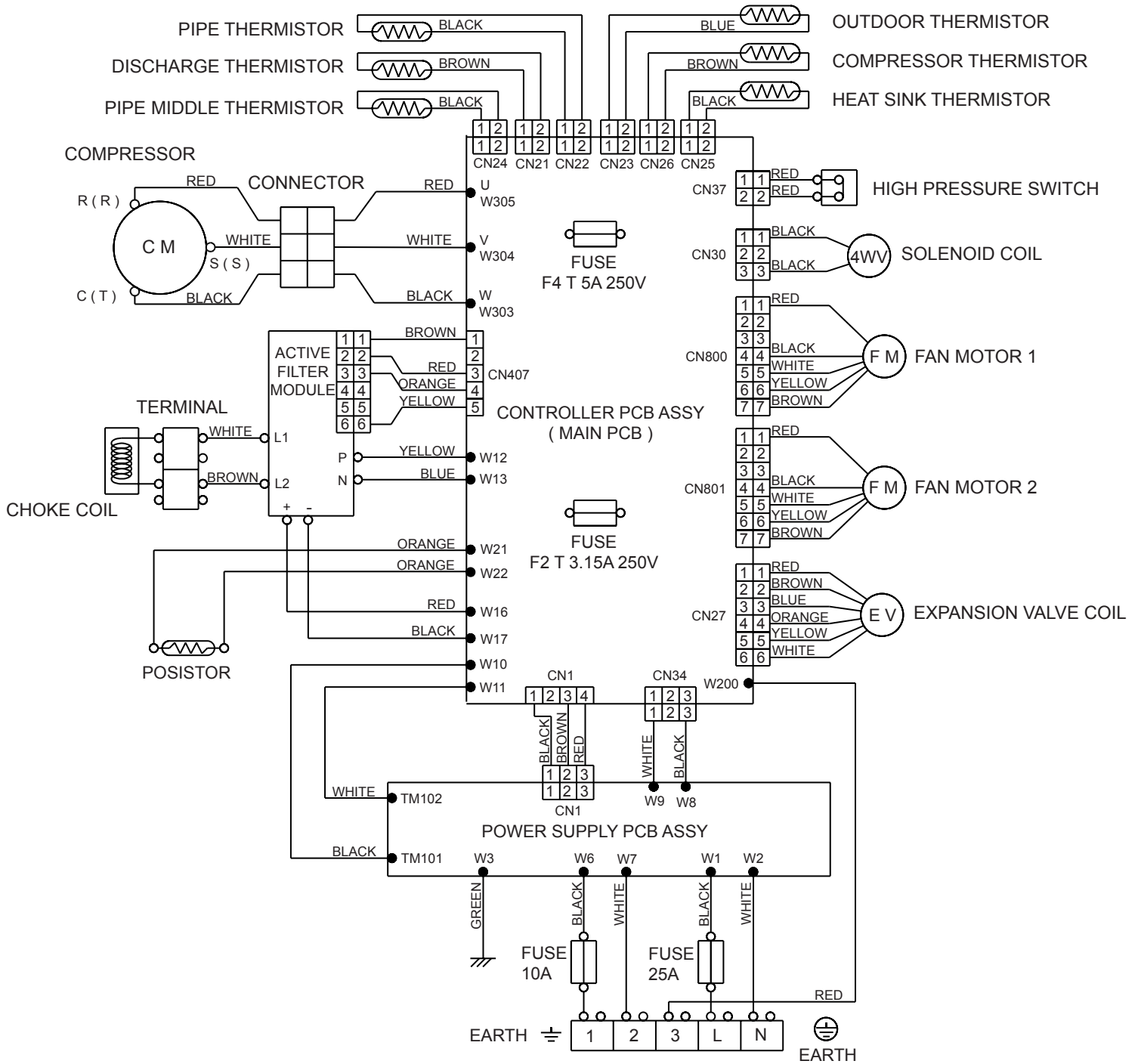


CIRCUIT DIAGRAM

INDOOR UNIT

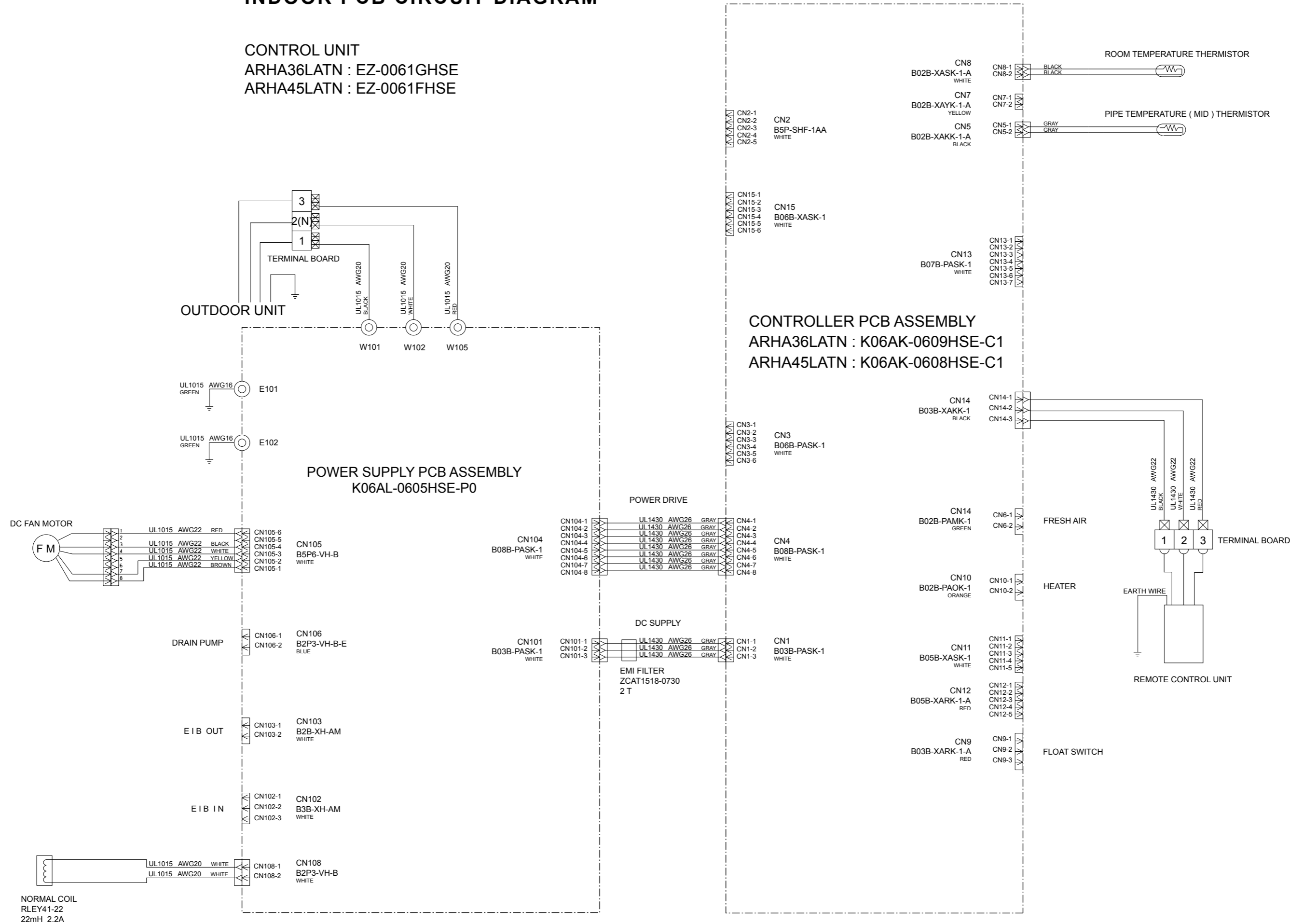


OUTDOOR UNIT

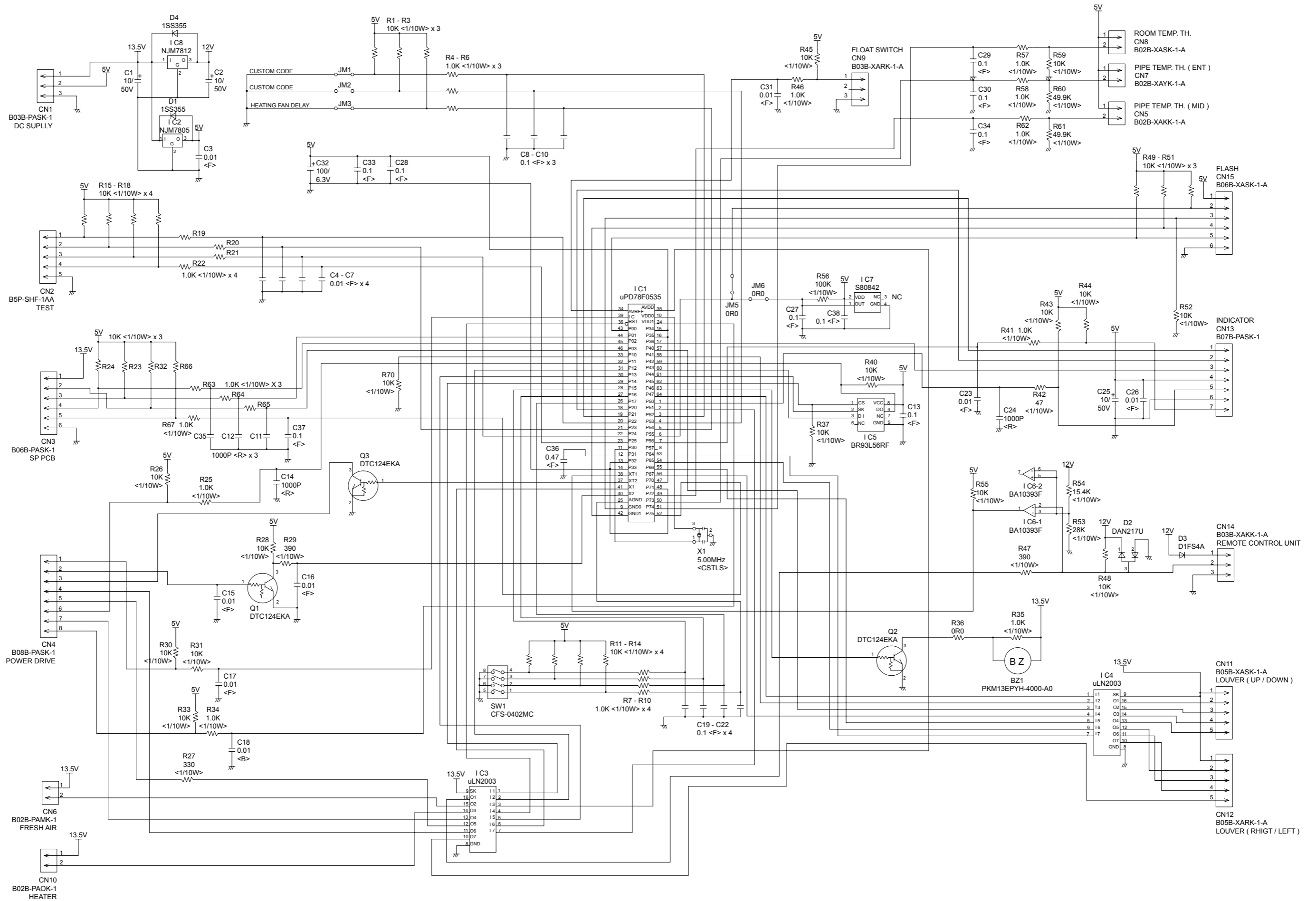


INDOOR PCB CIRCUIT DIAGRAM

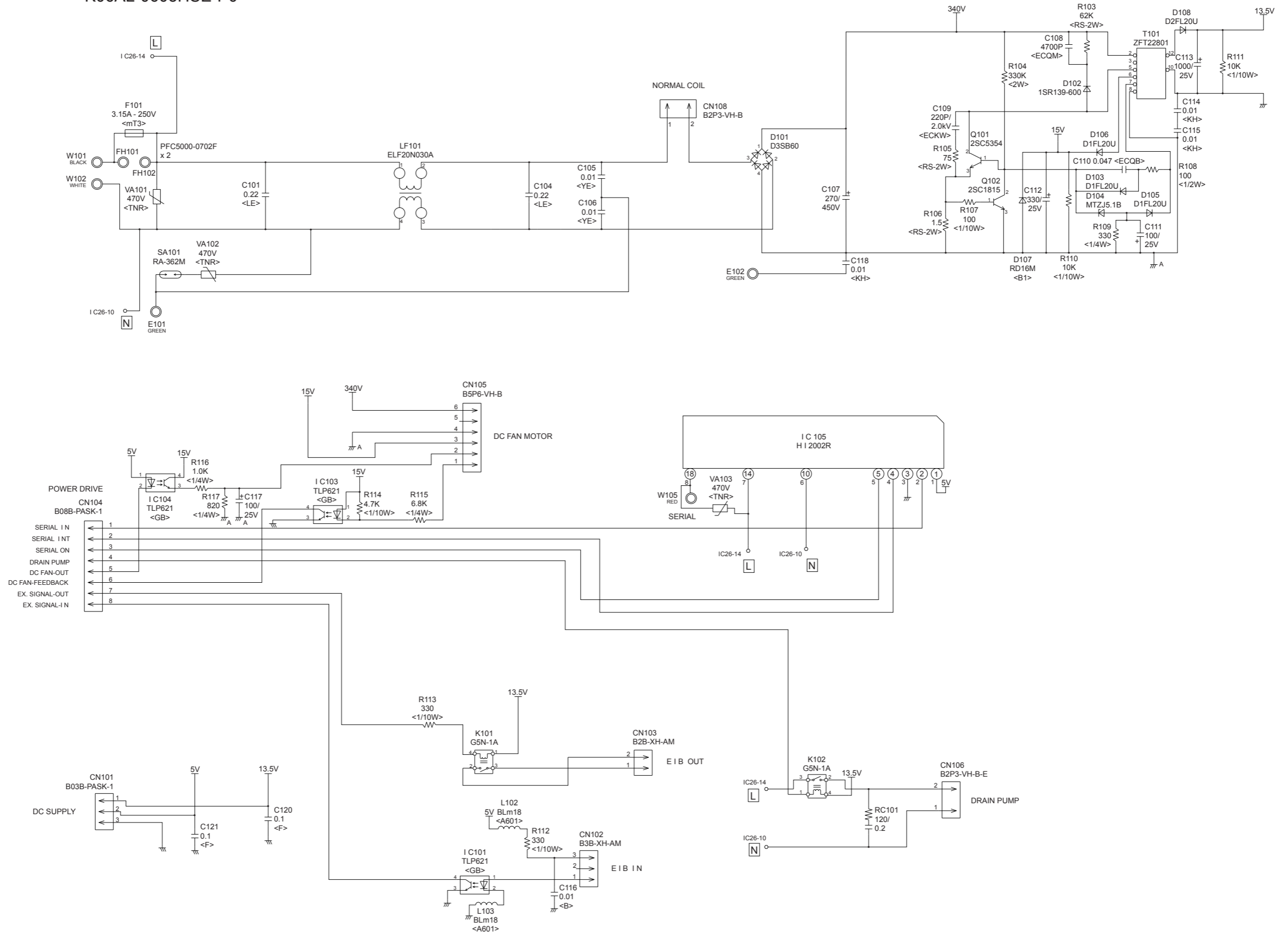
CONTROL UNIT
 ARHA36LATN : EZ-0061GHSE
 ARHA45LATN : EZ-0061FHSE



CONTROLLER PCB ASSEMBLY
 ARHA36LATN : K06AK-0609HSE-C1
 ARHA45LATN : K06AK-0608HSE-C1



INDOOR UNIT
 POWER SUPPLY PCB ASSEMBLY
 K06AL-0605HSE-P0

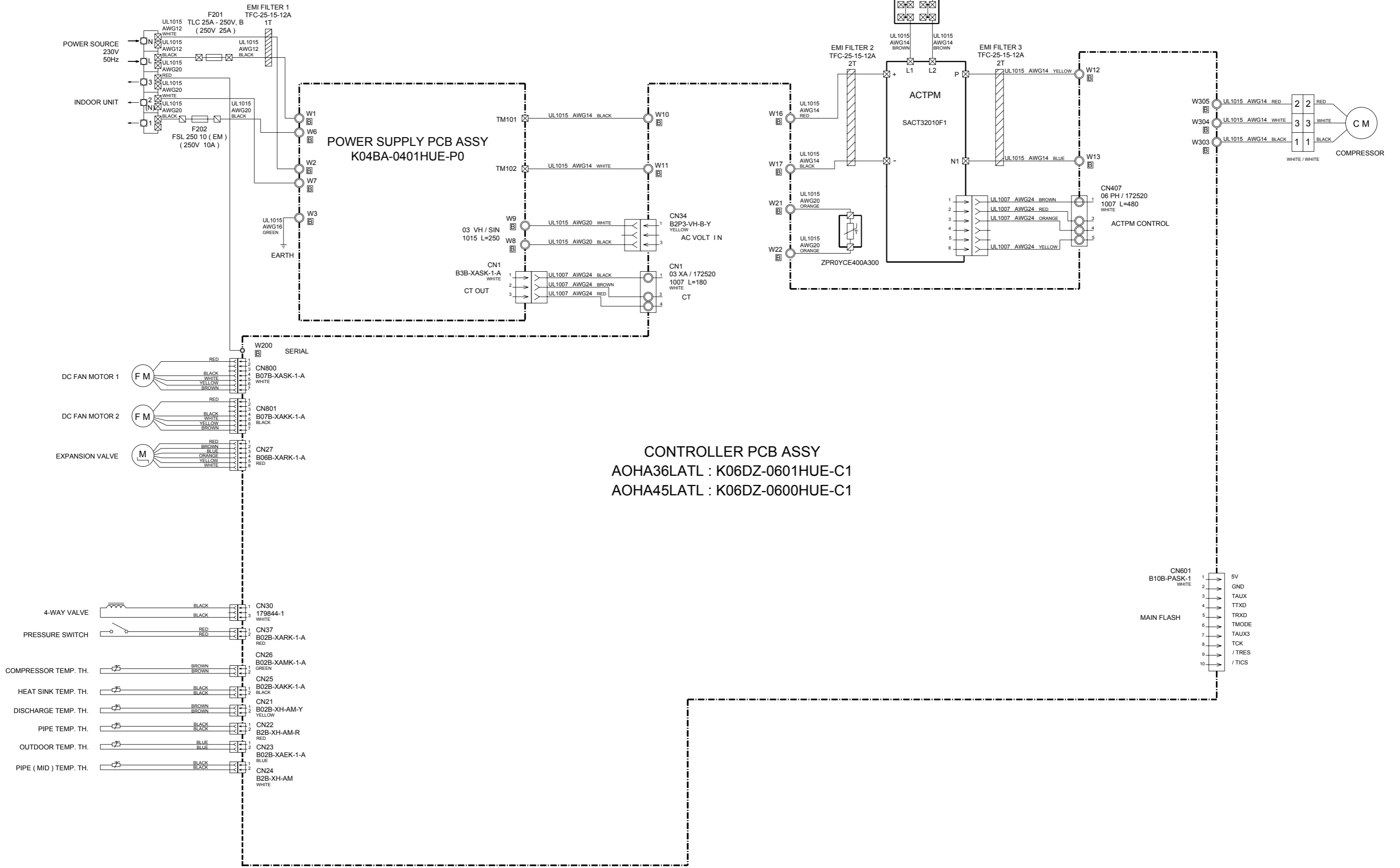


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY

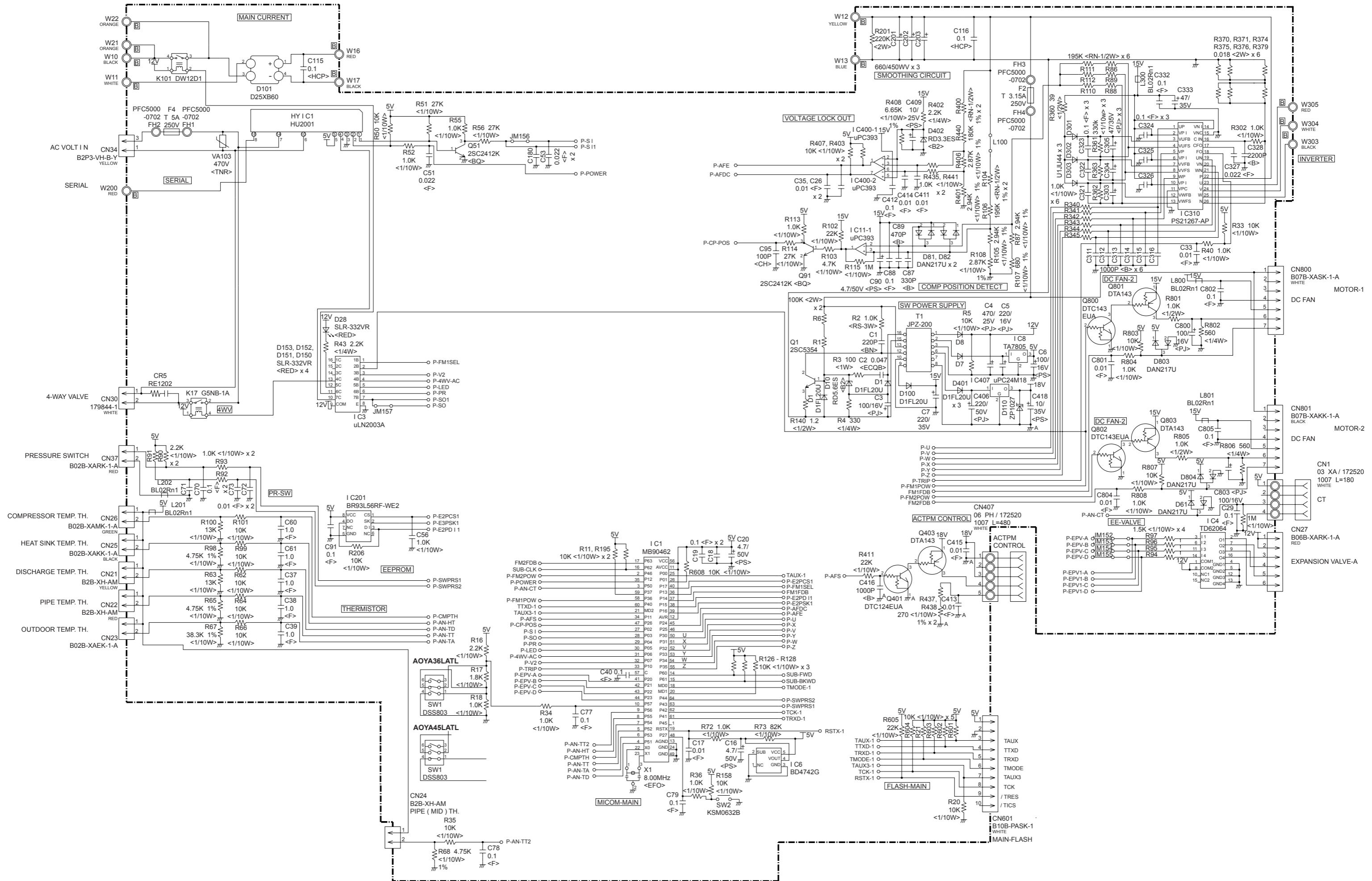
AOHA36LATL : EZ-00603HUE

AOHA45LATL : EZ-00604HUE

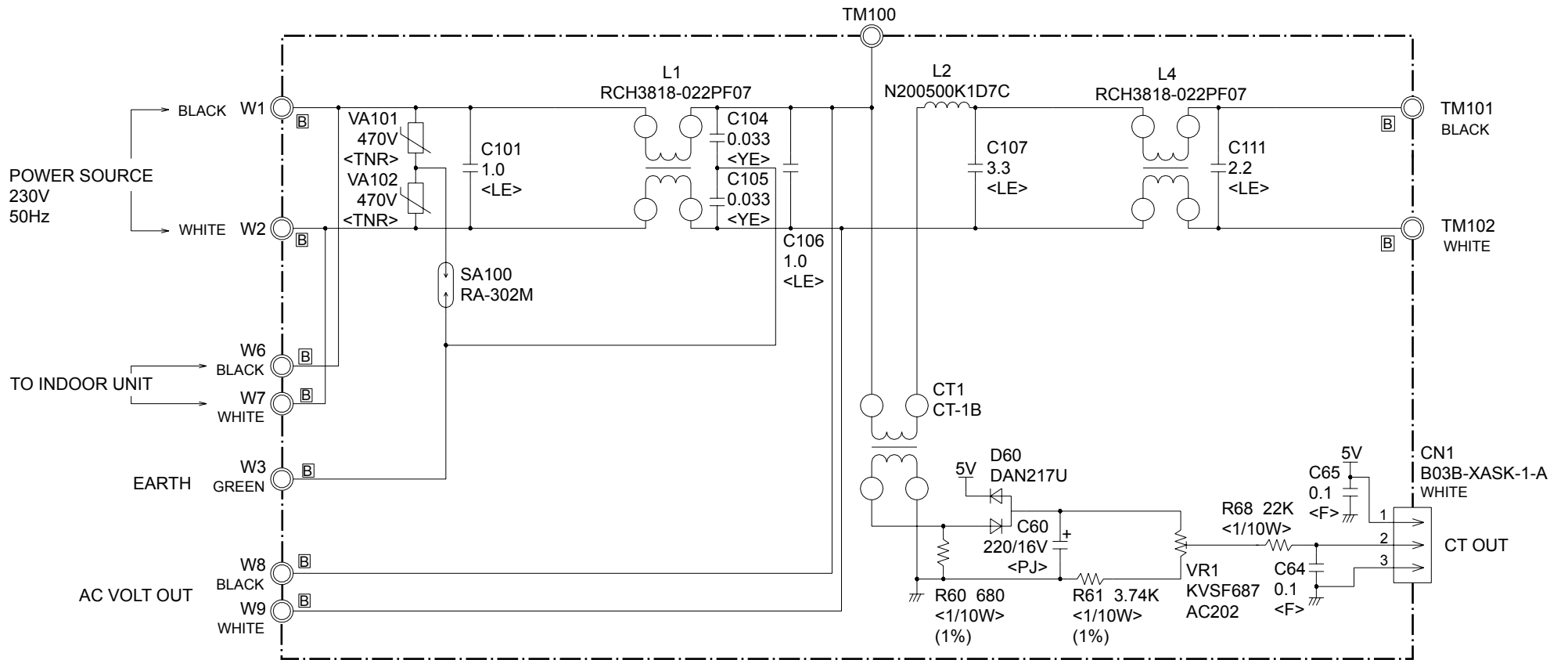


CONTROLLER PCB ASSY
 AOHA36LATL : K06DZ-0601HUE-C1
 AOHA45LATL : K06DZ-0600HUE-C1

CONTROLLER PCB ASSEMBLY
 AOHA36LATL : K06DZ-0601HUE-C1
 AOHA45LATL : K06DZ-0600HUE-C1



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



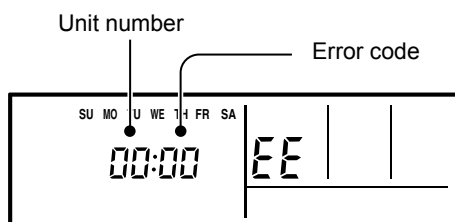
ERROR CONTENTS

REMOTE CONTROL UNIT

Troubleshooting at the remote control LCD

This is possible only on the wired remote control.

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



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. Refer to the installation instruction sheet included with the remote control.

OUTDOOR UNIT LEDS

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	Discharge 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:

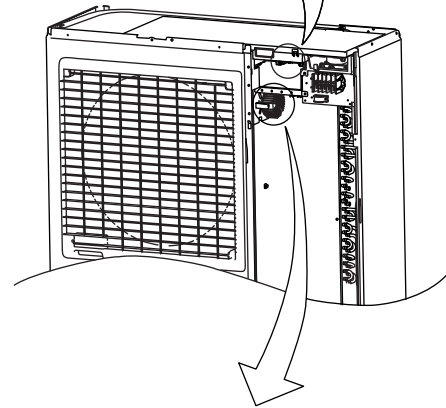
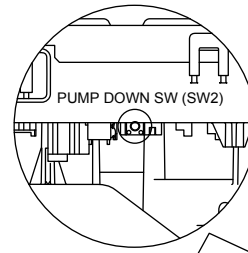
①	Press the PUMP DOWN switch on the outdoor unit. (The LED on the outdoor unit circuit board starts flashing.) (1 sec. on / 1 sec. off repeated)
②	The pump down operation (cooling operation) begins right away. After operation starts, close the three-way valve (liquid).
③	After 2 - 3 minutes, operation 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.

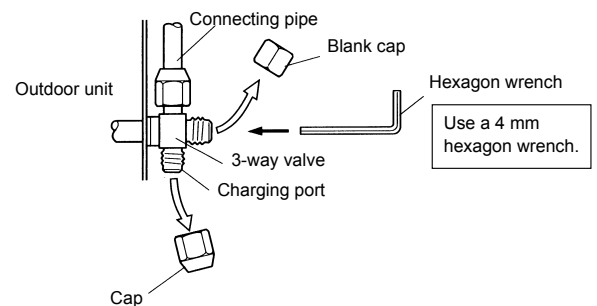
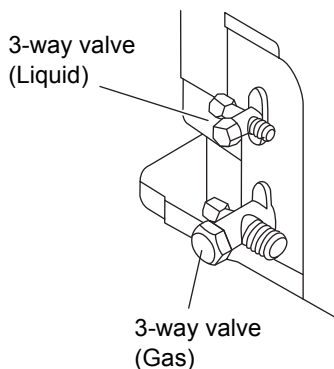
*When the pump down operation is repeated, temporarily disconnect the power supply after opening the closed valves (both liquid and gas). Reconnect the power supply after 2 - 3 minutes and perform the pump down operation.

*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.



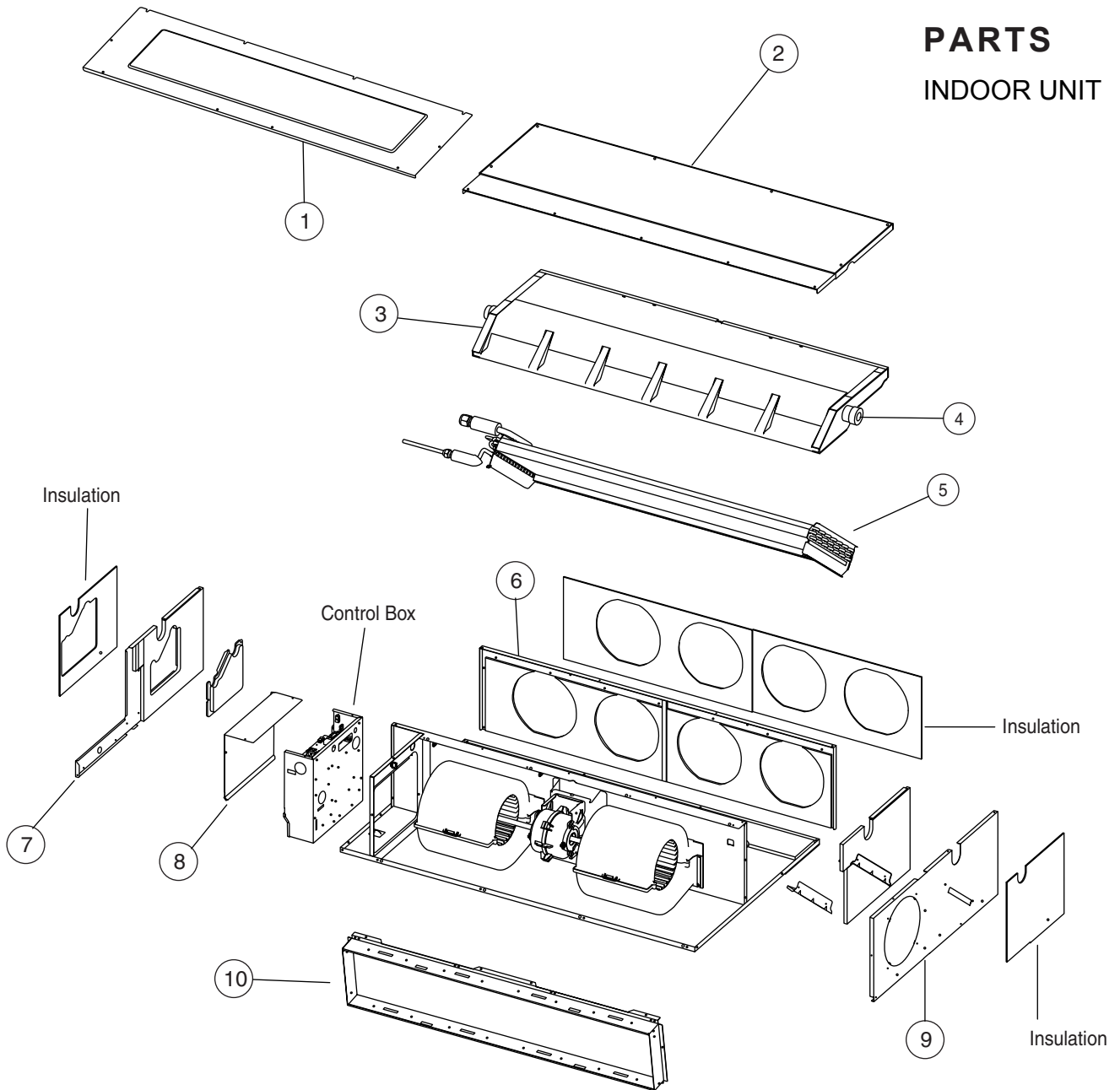
⚠ DANGER
This part (Choke coil) generates high voltages. Never touch this part.

		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)



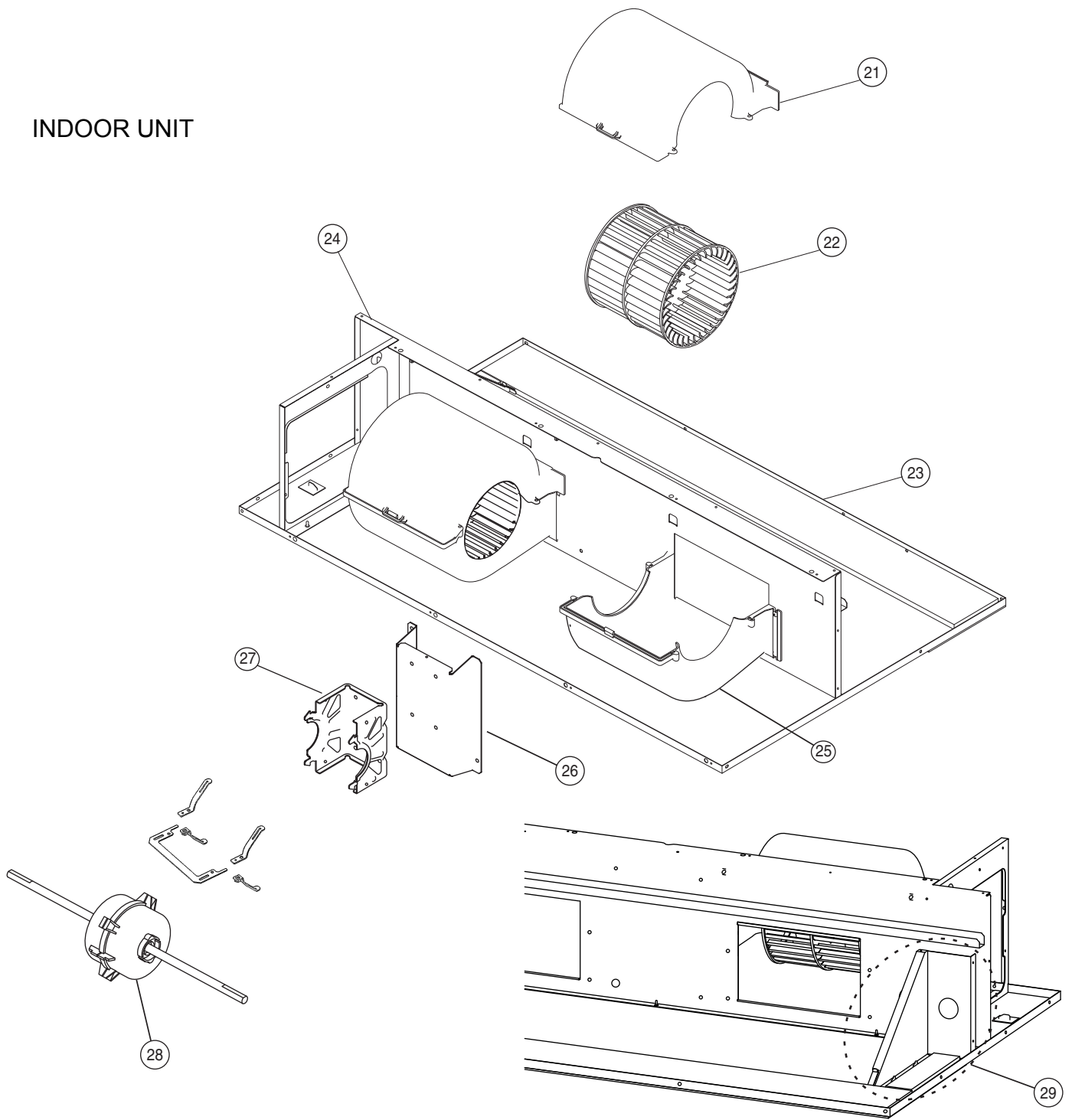
PARTS

INDOOR UNIT



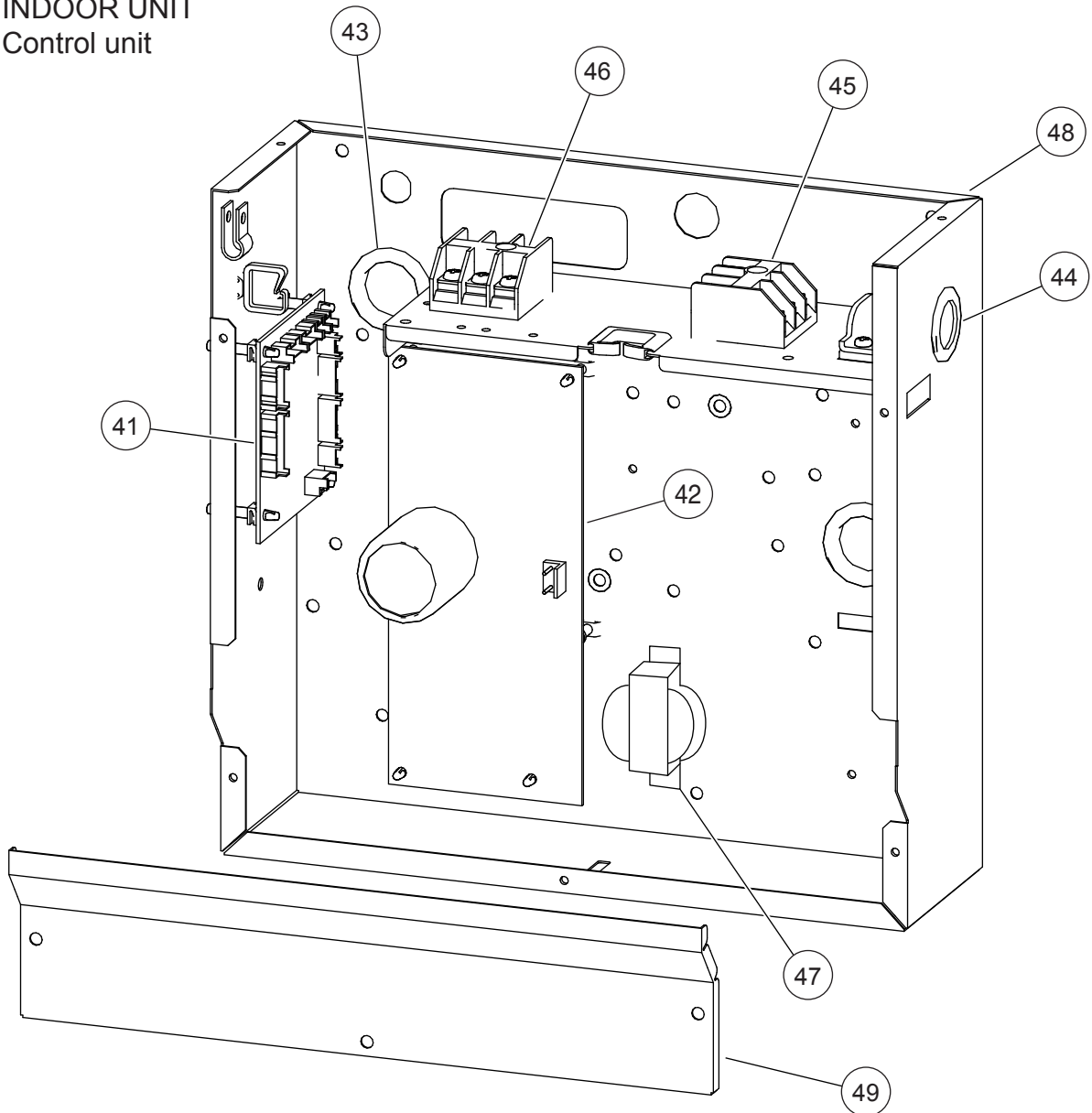
Ref. No.	Description	Part number	Ord. Q'ty
1	Intake Cover Sub Assy	9374512010	
2	Main Panel Sub Assy	9374511013	
3	Drain Pan Sub Assy	9374513017	
4	Drain Cap	9356541007	
5	Evaporator Assy	9372585047	
6	Outlet Panel Sub Assy	9374510016	
7	Cabinet R Sub Assy	9374508020	
8	Control Cover A Sub Assy	9374516018	
9	Cabinet L Sub Assy	9374509010	
10	Intake Frame Assy	9374216017	
---	Distributor Assy	9371325385	
---	Coupling Pipe Assy	9373038283	
---	Seal Panel Sub Assy	9374515011	
---	Bracket Pipe Sub Assy	9374514014	
---	Thermo Holder Pipe	313714262805	
---	Thermistor Spring A	313728262708	

INDOOR UNIT



Ref. No.	Description	Part number	Ord. Q'ty
21	Casing B	9374234011	
22	Sirocco Fan Assy	9356531046	
23	Base Sub Assy	9374504015	
24	Separate Wall Assy	9374228010	
25	Casing A	9374233014	
26	Bracket Motor Assy	9374230013	
27	Motor Mount	9378002012	
28	Fan Motor	9602466016	
29	Bracket (Eva) R	9374207015	
---	Bracket (Eva) L	9374208012	
---	Panel (Control Box)	9374210015	
---	Cap (Power)	9352173011	
---	Motor Band	9378031012	

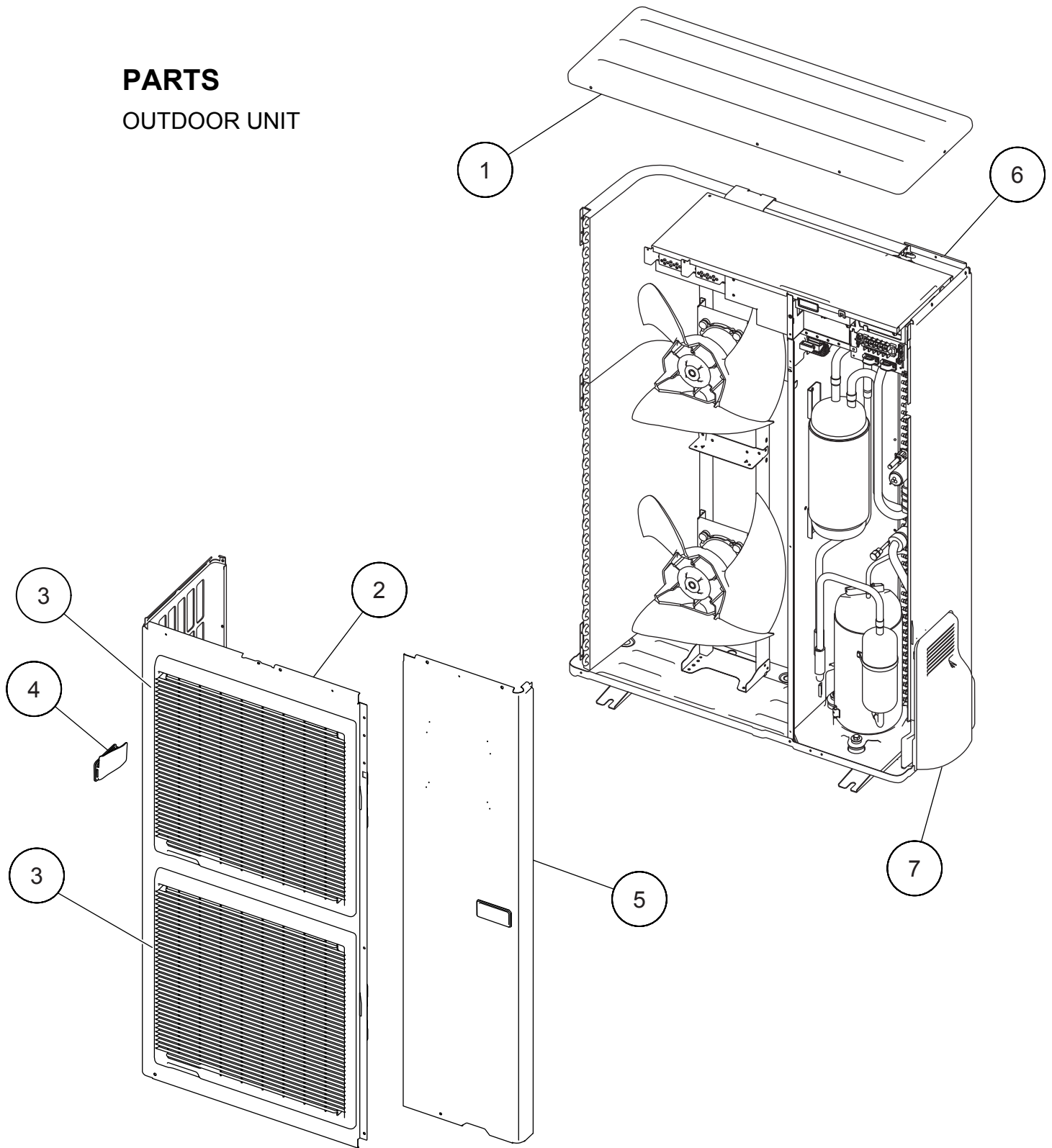
INDOOR UNIT
Control unit



Ref. No.	Description	Part number		Ord. Q'ty
		ARHA36LATN	ARHA45LATN	
41	Controller PCB Assy	9707393125	9707393118	
42	Power Supply PCB Assy	9707398069	9707398069	
43	Cap (Power)	9352173011	9352173011	
44	One Touch Bush	9374407019	9374407019	
45	Terminal 3P	9703345012	9703345012	
46	Terminal 3P	9306489045	9306489045	
47	Reactor Assy	9707457018	9707457018	
48	Control Box A	9374219018	9374219018	
49	Control Cover B	9374222018	9374222018	
----	Control Box B	9374220014	9374220014	
----	Room Thermistor	9703299025	9703299025	
----	Pipe Thermistor	9703297021	9703297021	

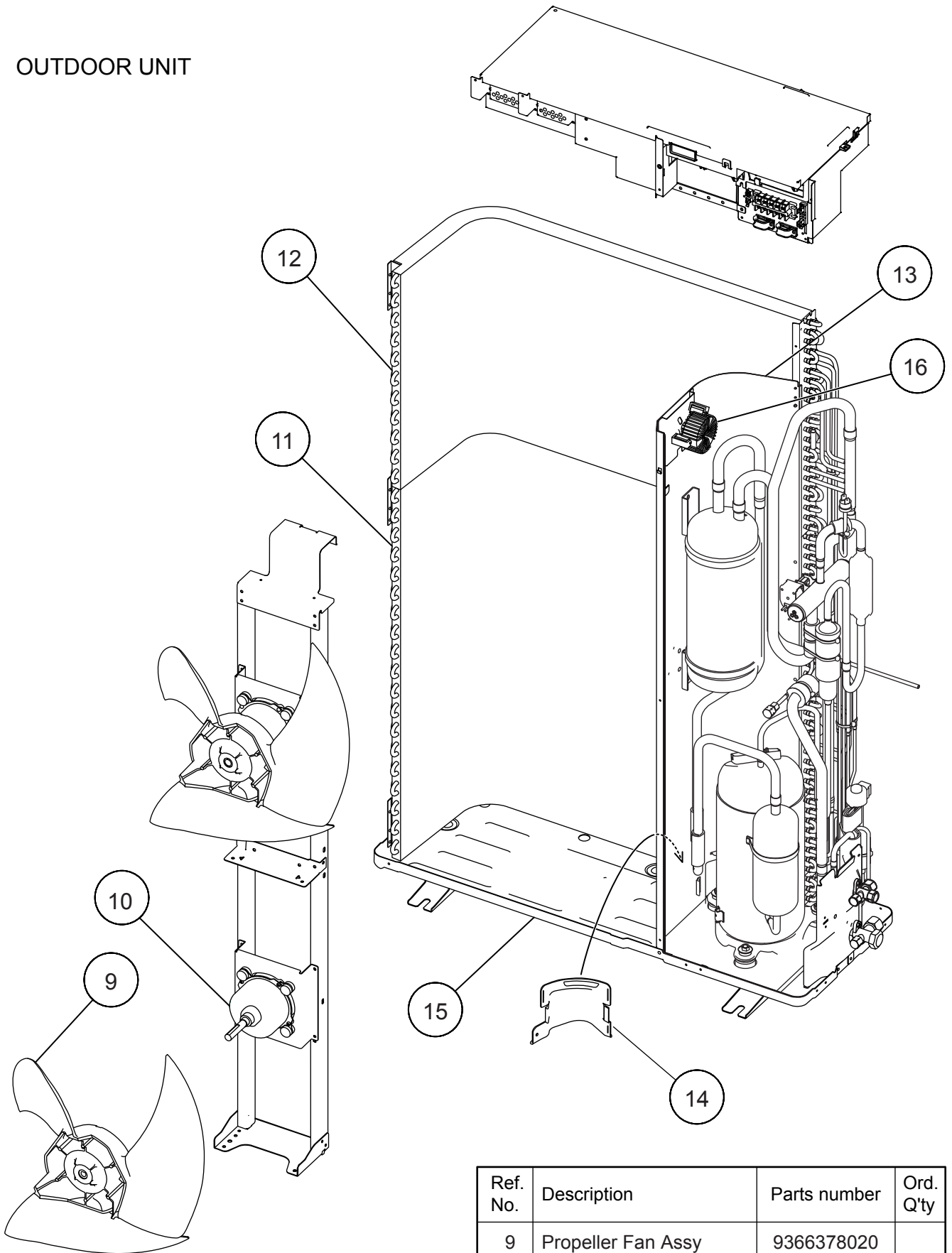
PARTS

OUTDOOR UNIT



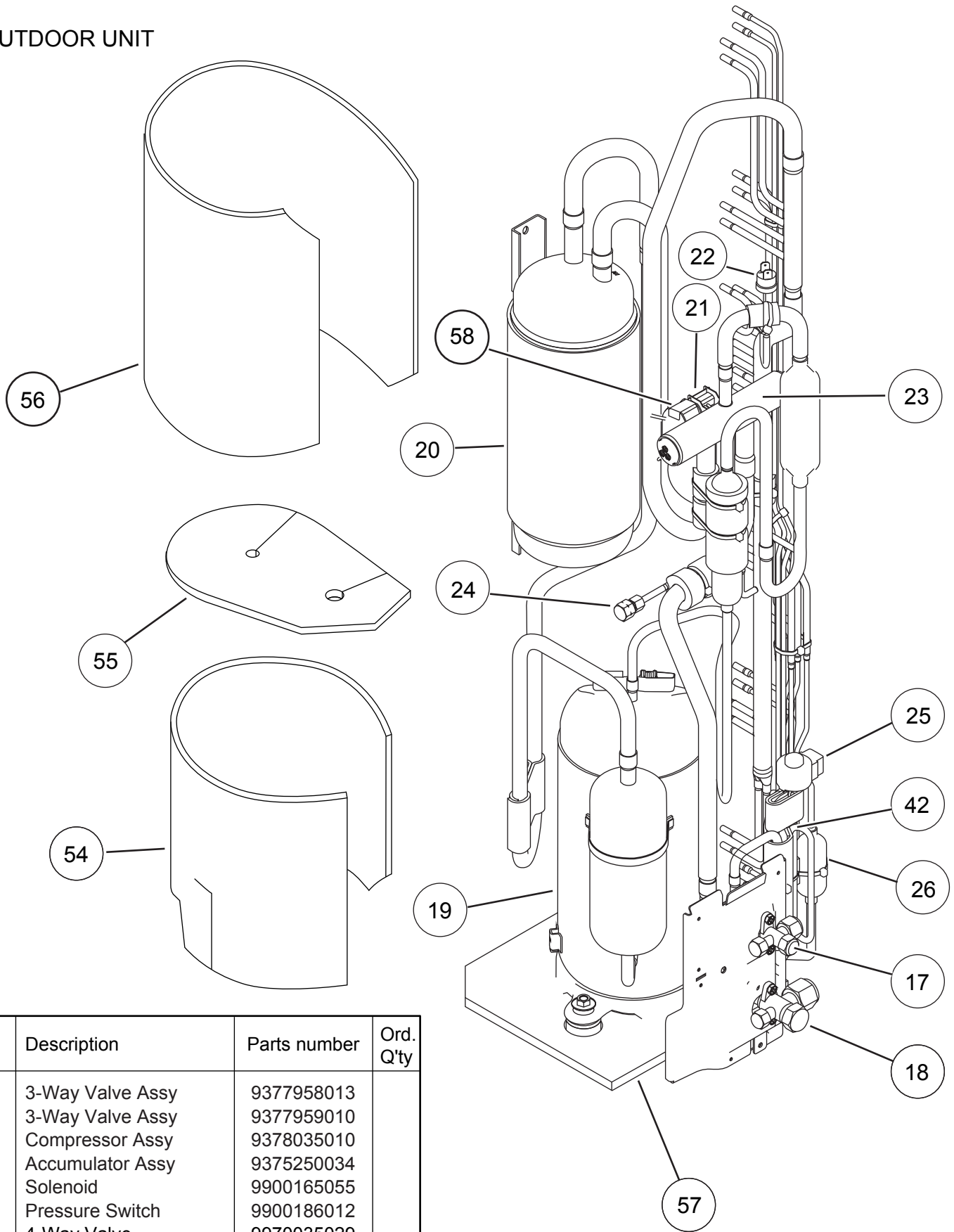
Ref. No.	Description	Parts number	Ord. Q'ty
1	Top Panel Sub Assy	9374417025	
2	Front Panel	9374094028	
3	Fan Guard	9374330010	
4	Grip Side	9374173013	
5	Service Panel Sub Assy	9374415069	
6	Right Panel Sub Assy	9374416141	
7	Valve Cover	9374174010	
--	Emblem Rear	9372171011	

OUTDOOR UNIT



Ref. No.	Description	Parts number	Ord. Q'ty
9	Propeller Fan Assy	9366378020	
10	Motor DC Brushless	9601882015	
11	Condenser A Assy	9374433018	
12	Condenser B Assy	9374434015	
13	Sepa Wall	9374629015	
14	Cap Foot	9374345014	
15	Base Assy	9374166046	
16	Coil Choke	9703458019	

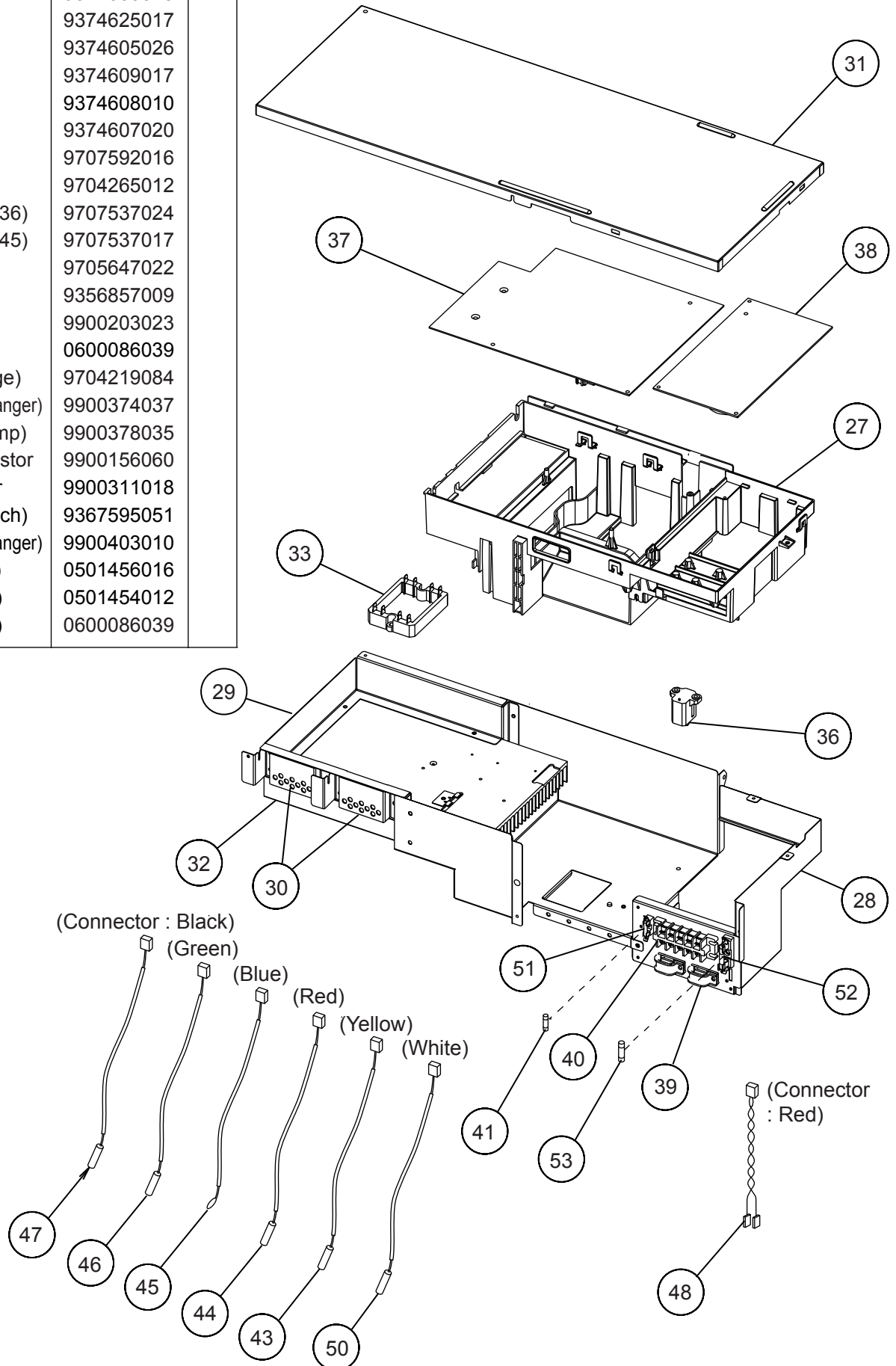
OUTDOOR UNIT



Ref. No.	Description	Parts number	Ord. Q'ty
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	

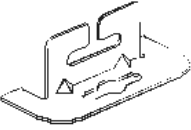




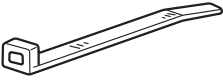
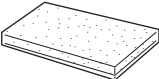
Ref. No.	Description	Parts number	Ord. Q'ty
27	Inverter Box A	9374603015	
28	Inverter Box B	9374625017	
29	Inverter Box C	9374605026	
30	Inverter Box Duct	9374609017	
31	Inverter Box Cover	9374608010	
32	Heat Sink B	9374607020	
33	ACTPM	9707592016	
36	Posistor	9704265012	
37	Inverter PCB Assy (36)	9707537024	
37	Inverter PCB Assy (45)	9707537017	
38	Power PCB Assy	9705647022	
39	Clamp (Cord)	9356857009	
40	Terminal	9900203023	
41	Fuse (Small)	0600086039	
43	Thermistor (Dischage)	9704219084	
44	Thermistor (Heat Exchanger)	9900374037	
45	Thermistor (Out Temp)	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 Holder (Large)	0600086039	

OUTDOOR UNIT



ACCESSORIES

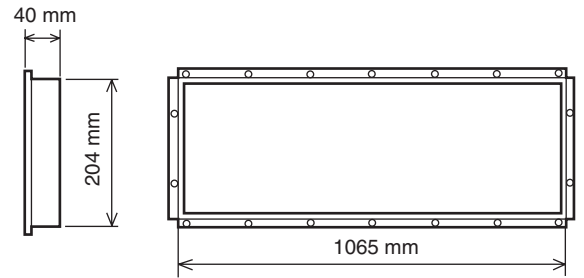
INDOOR UNIT

Name and Shape	Q'ty	Application
Hanger 	4	For suspending the indoor unit from ceiling
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling
Special nut B (small flange) 	4	
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)
Binder 	1 (large)	For fixing the drain hose
	1 (small)	For fixing the remote controller cord
Drain hose insulation 	1	Insulates the drain hose and vinyl hose

OPTIONAL PARTS

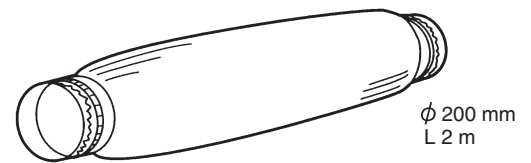
Square flange

Model name : UTD-SF045T (P/N 9098180007)



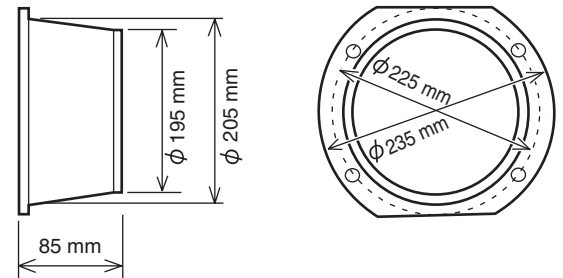
Flexible duct

Model name : UTD-RD202 (P/N 9074165004)

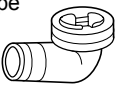

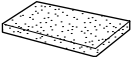


Round flange

Model name : UTD-RF204 (P/N 9093160004)

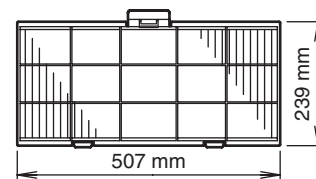


OUTDOOR UNIT

Name and Shape	Q'ty	Application	Part No.
Drain pipe 	1	For outdoor unit drain piping work (May not be supplied, depending on the model)	9303029015
Drain cap 	2		313166024302
Installation (seal) 	1	For filling in a gap at the entrance of connection cords	9374756018

Long-life filter

Model name : UTD-LF25NA (P/N9079892004)

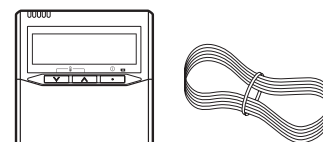


Remote sensor

Model name : UTD-RS100 (P/N9072619004)

Remote controller

Model name : UTB-GUD (P/N 9077030002)



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