

SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
AGYF09LAC	AOYV09LAC
AGYF12LAC	AOYV12LAC
AGYF14LAC	AOYV14LAC

CONTENTS

SPECIFICATIONS.....	1
DIMENSIONS.....	2
REFRIGERANT SYSTEM DIAGRAM....	4
CIRCUIT DIAGRAM.....	5
INDOOR PCB CIRCUIT DIAGRAM.....	7
OUTDOOR PCB CIRCUIT DIAGRAM....	10
ERROR CONTENTS.....	12
PARTS LIST (INDOOR UNIT).....	13
PARTS LIST (OUTDOOR UNIT).....	18
ACCESSORIES.....	24

SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cooling & heating inverter		
INDOOR UNIT		AGYF09LAC	AGYF12LAC	AGYF14LAC
OUTDOOR UNIT		AOYV09LAC	AOYV12LAC	AOYV14LAC
COOLING CAPACITY		2.60 kW	3.50 kW	4.20 kW
HEATING CAPACITY		3.50 kW	4.50 kW	5.20 kW
POWER SOURCE		230 V	230 V	230 V
FREQUENCY		50 Hz	50 Hz	50 Hz
RUNNING CURRENT	Cooling	2.6 A	4.4 A	5.2 A
	Heating	3.8 A	5.5 A	6.4 A
INPUT WATTS	Cooling	0.53 kW	0.94 kW	1.14 kW
	Heating	0.79 kW	1.19 kW	1.44 kW
E.E.R.	Cooling	4.91 kW/kW	3.72 kW/kW	3.68 kW/kW
COP	Heating	4.43 kW/kW	3.78 kW/kW	3.61 kW/kW
MOISTURE REMOVAL		1.3 L/hr	1.8 L/hr	2.1 L/hr
AIR CIRCULATION HIGH	Cooling	570 m ³ /hr	570 m ³ /hr	650 m ³ /hr
	Heating	600 m ³ /hr	600 m ³ /hr	650 m ³ /hr

FAN MOTOR

POWER SOURCE		230 V	230 V	230 V
INDOOR UNIT cooling (upper fan / lower fan)	High speed	1,190 r.p.m. / 1,000 r.p.m.		1,330 / 1,120 r.p.m.
	Med speed	1,000 r.p.m. / 850 r.p.m.		1,100 / 930 r.p.m.
	Low speed	820 r.p.m. / 690 r.p.m.		890 / 750 r.p.m.
	Quiet	660 r.p.m. / 560 r.p.m.		660 / 560 r.p.m.
INDOOR UNIT heating (upper fan / lower fan)	High speed	1,240 r.p.m. / 1,040 r.p.m.		1,330 / 1,120 r.p.m.
	Med speed	1,040 r.p.m. / 880 r.p.m.		1,100 / 930 r.p.m.
	Low speed	840 r.p.m. / 700 r.p.m.		860 / 730 r.p.m.
	Quiet	660 r.p.m. / 560 r.p.m.		660 / 560 r.p.m.
OUTDOOR UNIT cooling		760 r.p.m.	760 r.p.m.	820 r.p.m.
OUTDOOR UNIT heating		680 r.p.m.	760 r.p.m.	750 r.p.m.

NOISE LEVEL

INDOOR UNIT (cooling / heating)	High speed	40 dB / 40 dB	40 dB / 40 dB	44 dB / 43 dB
	Med speed	35 dB / 35 dB	35 dB / 35 dB	38 dB / 37 dB
	Low speed	29 dB / 29 dB	29 dB / 29 dB	31 dB / 29 dB
	Quiet	22 dB / 22 dB	22 dB / 22 dB	22 dB / 22 dB
OUTDOOR UNIT (cool / heat)		47 dB / 48 dB	48 dB / 49 dB	50 dB / 50 dB

DIMENSIONS

INDOOR UNIT	H x W x D	600 x 740 x 200 mm		
OUTDOOR UNIT	H x W x D	540 x 790 x 290 mm		578 x 790 x 300 mm

WEIGHT

INDOOR UNIT	Gross / Net	17 kg / 14 kg	17 kg / 14 kg	17 kg / 14 kg
OUTDOOR UNIT	Gross / Net	40 kg / 36 kg	40 kg / 36 kg	44 kg / 40 kg

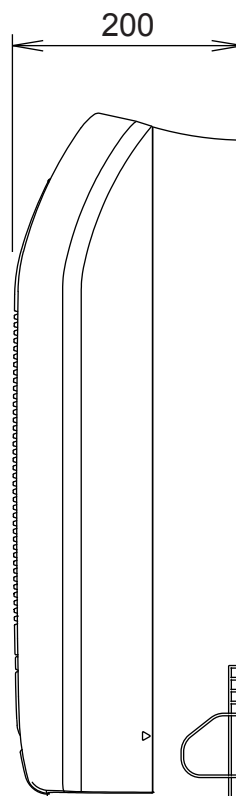
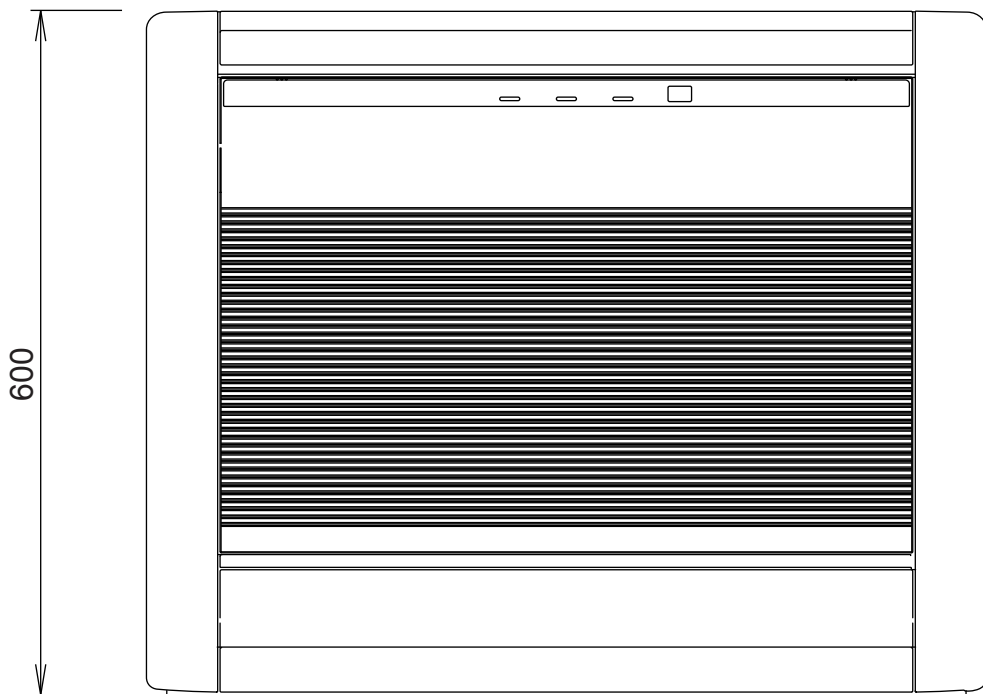
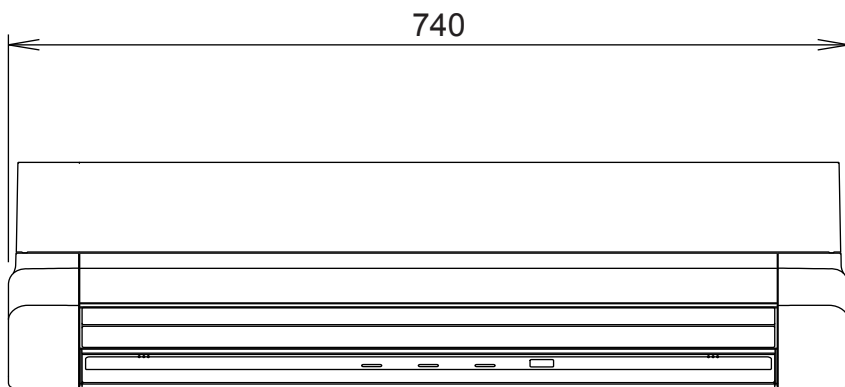
REFRIGERANT

COMPRESSOR TYPE		Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary		
DISCRIMINATION		DA89X1C-20FZ	DA89X1C-20FZ	DA130A1F-25F
STANDARD REFRIGERANT		1,050 g	1,050 g	1,150 g
REFRIGERANT TYPE		R410A	R410A	R410A
FULL CHARGE	Pipe Length 15 m	1,050 g	1,050 g	1,150 g
	20 m	1,150 g	1,150 g	1,250 g
ADDITIONAL CHARGE		20 g/m	20 g/m	20 g/m
MAXIMUM PIPE HEIGHT		15 m	15 m	15 m

DIMENSIONS

INDOOR UNIT

(unit : mm)



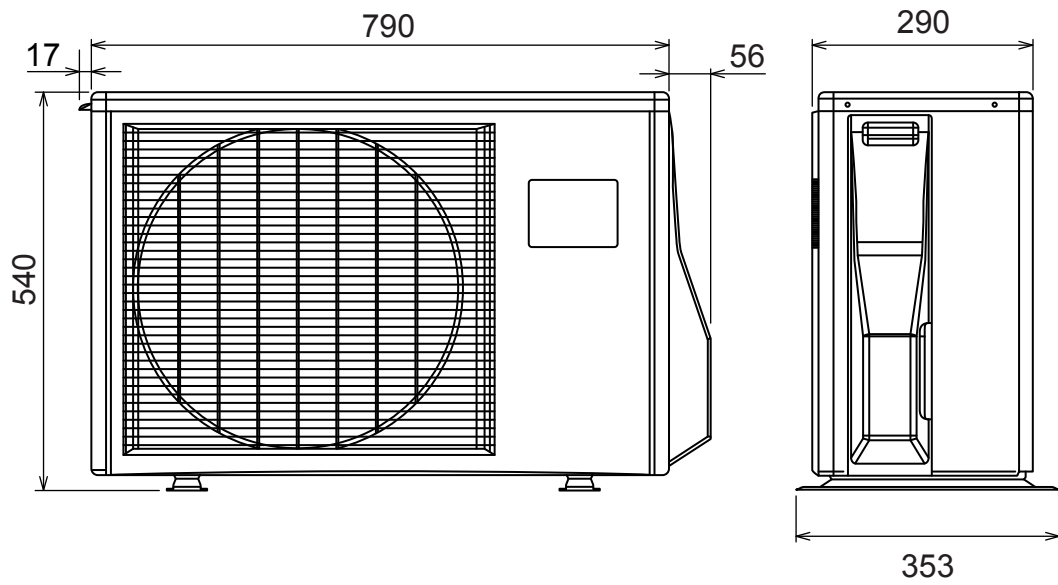
OUTDOOR UNIT

(unit : mm)

Models :

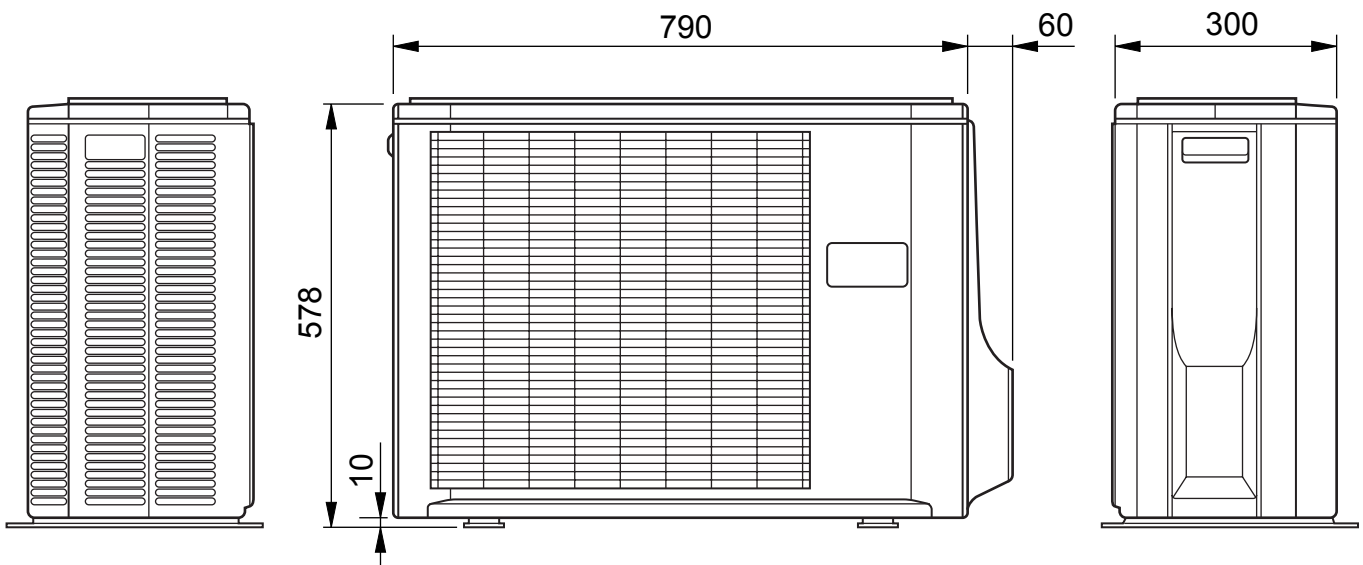
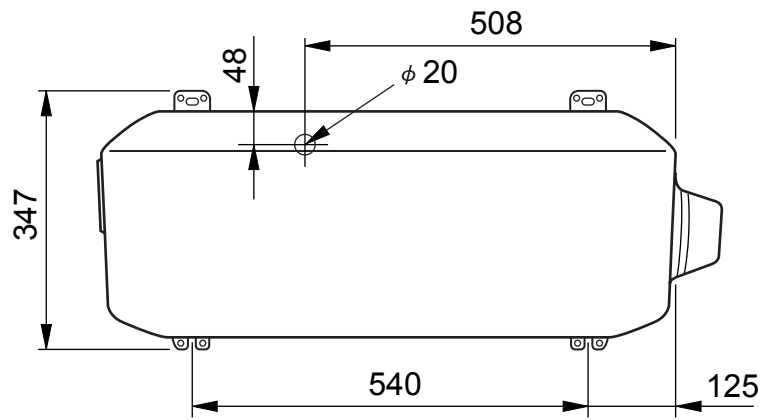
AOYV09LAC

AOYV12LAC

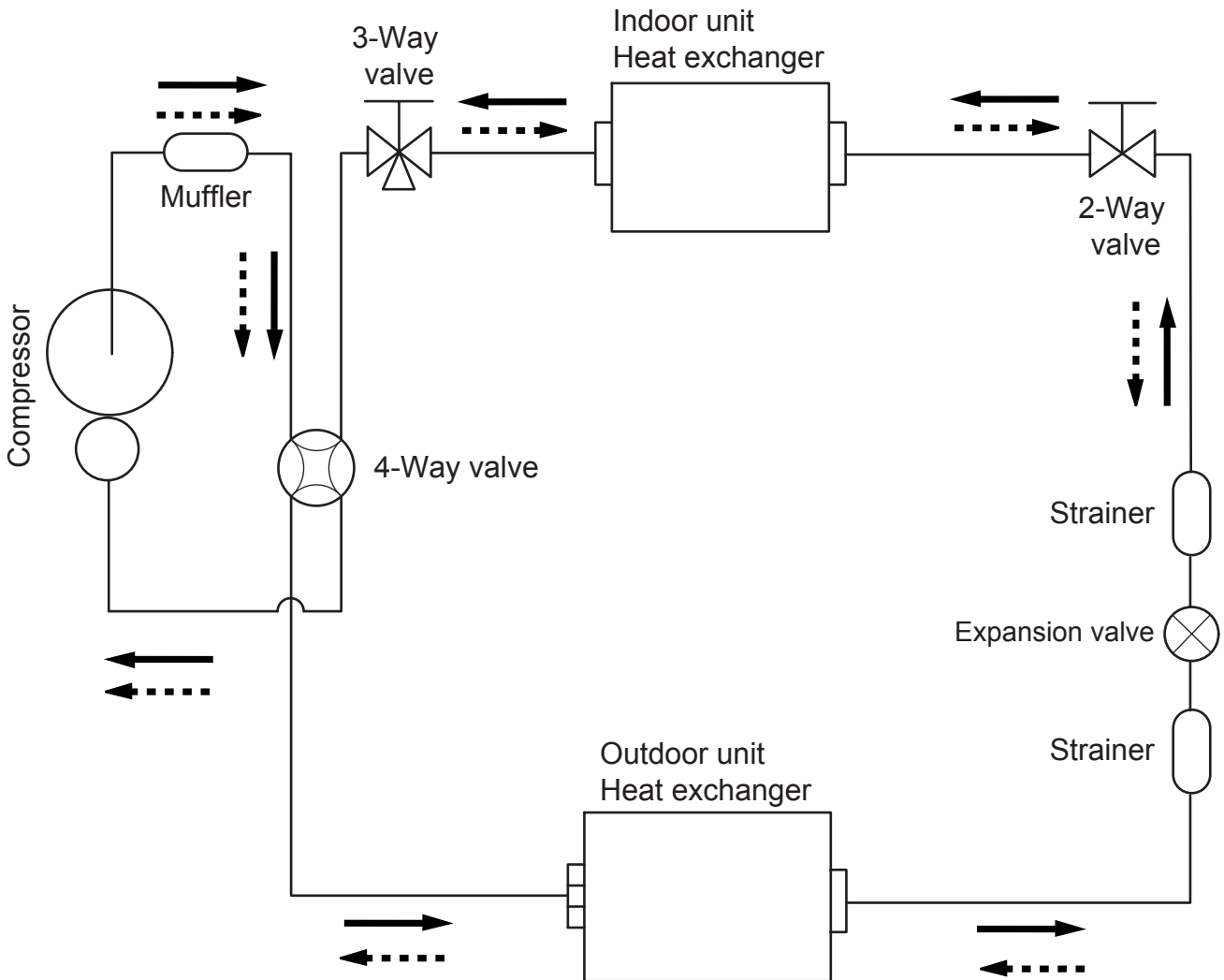


Model :

AOYV14LAC



REFRIGERANT SYSTEM DIAGRAM



Refrigerant direction

—————> Cooling

-----> Heating

Refrigerant pipe diameter

AGYF09LAC / AOYV09LAC

AGYF12LAC / AOYV12LAC

Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm)

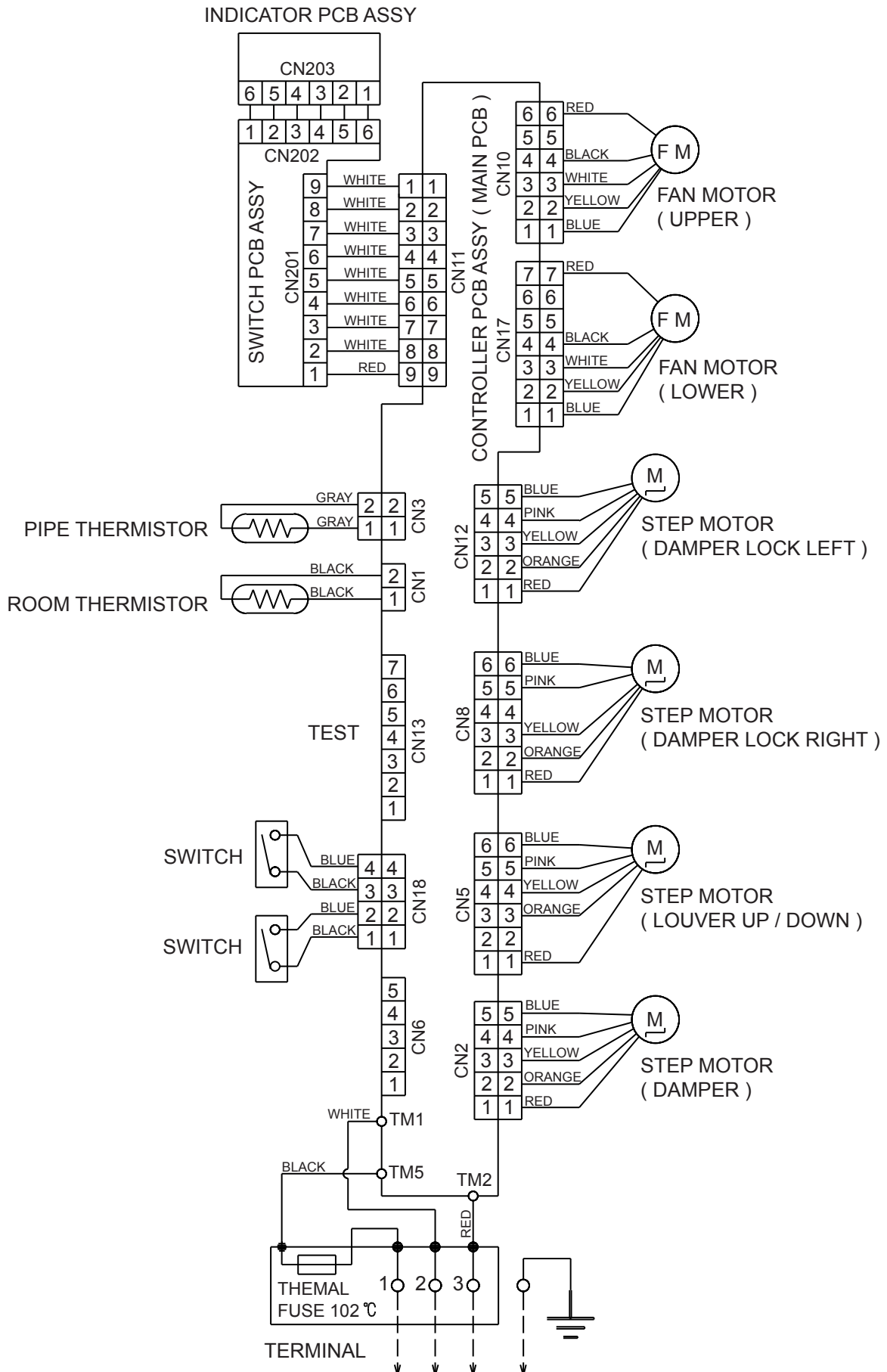
AGYF14LAC / AOYV14LAC

Liquid : 1/4" (6.35 mm)

Gas : 1/2" (12.7 mm)

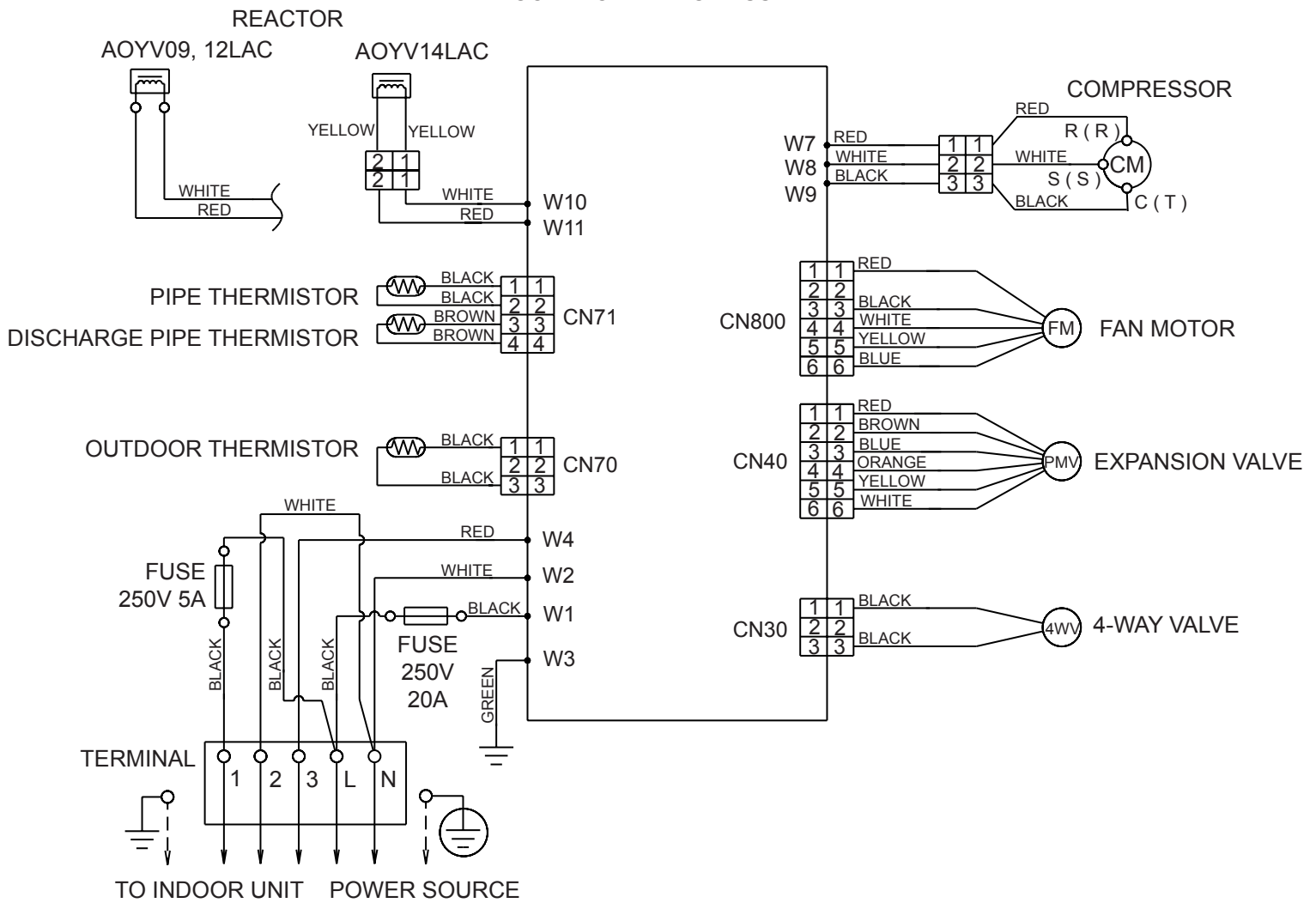
CIRCUIT DIAGRAM

INDOOR UNIT



OUTDOOR UNIT

CONTROLLER PCB ASSEMBLY



INDOOR PCB CIRCUIT DIAGRAM

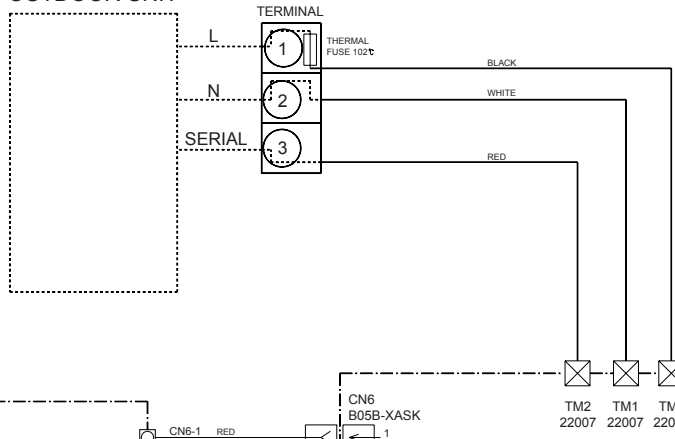
CONTROL UNIT

AGYF09LAC : EZ-0070CHSE

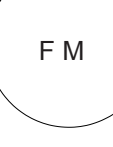
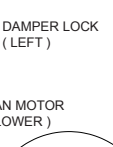
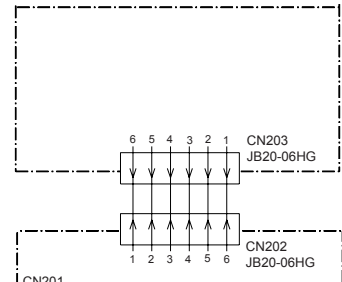
AGYF12LAC : EZ-0070DHSE

AGYF14LAC : EZ-0070EHSE

OUTDOOR UNIT

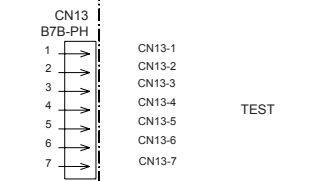
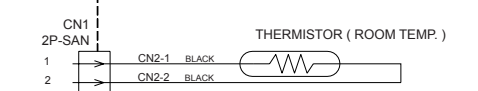
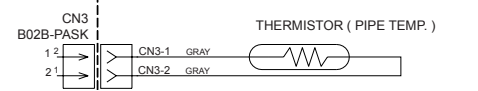
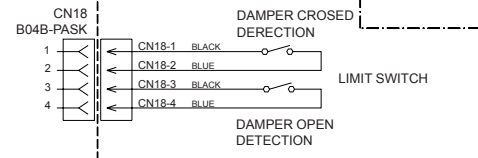
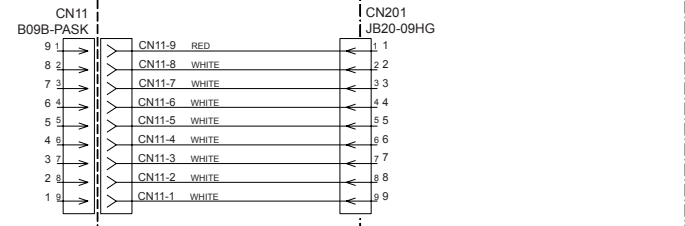


INDICATOR PCB ASSEMBLY K06DD-0700HSE-F0

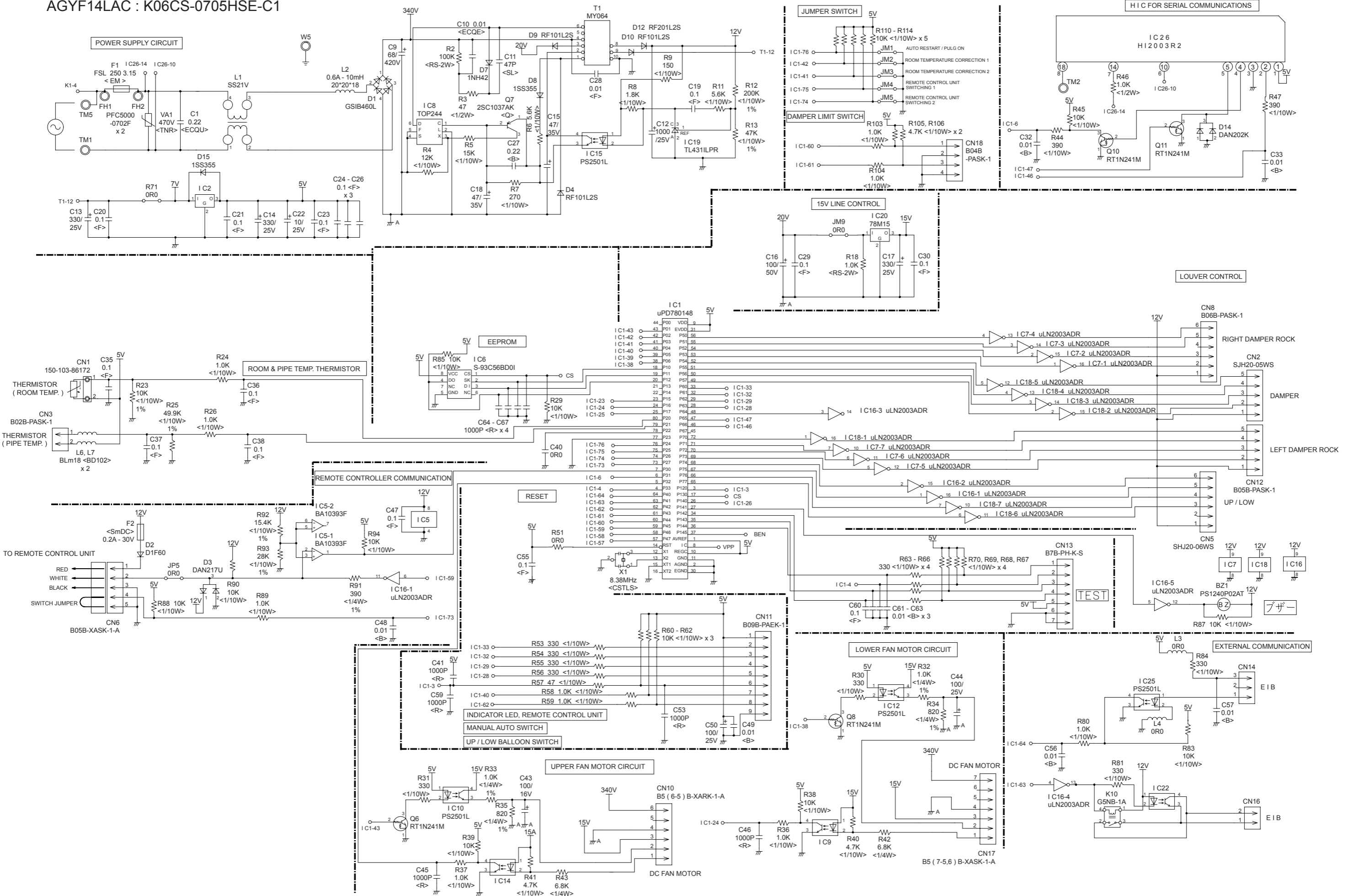


CONTROLLER PCB ASSEMBLY (MAIN PCB)

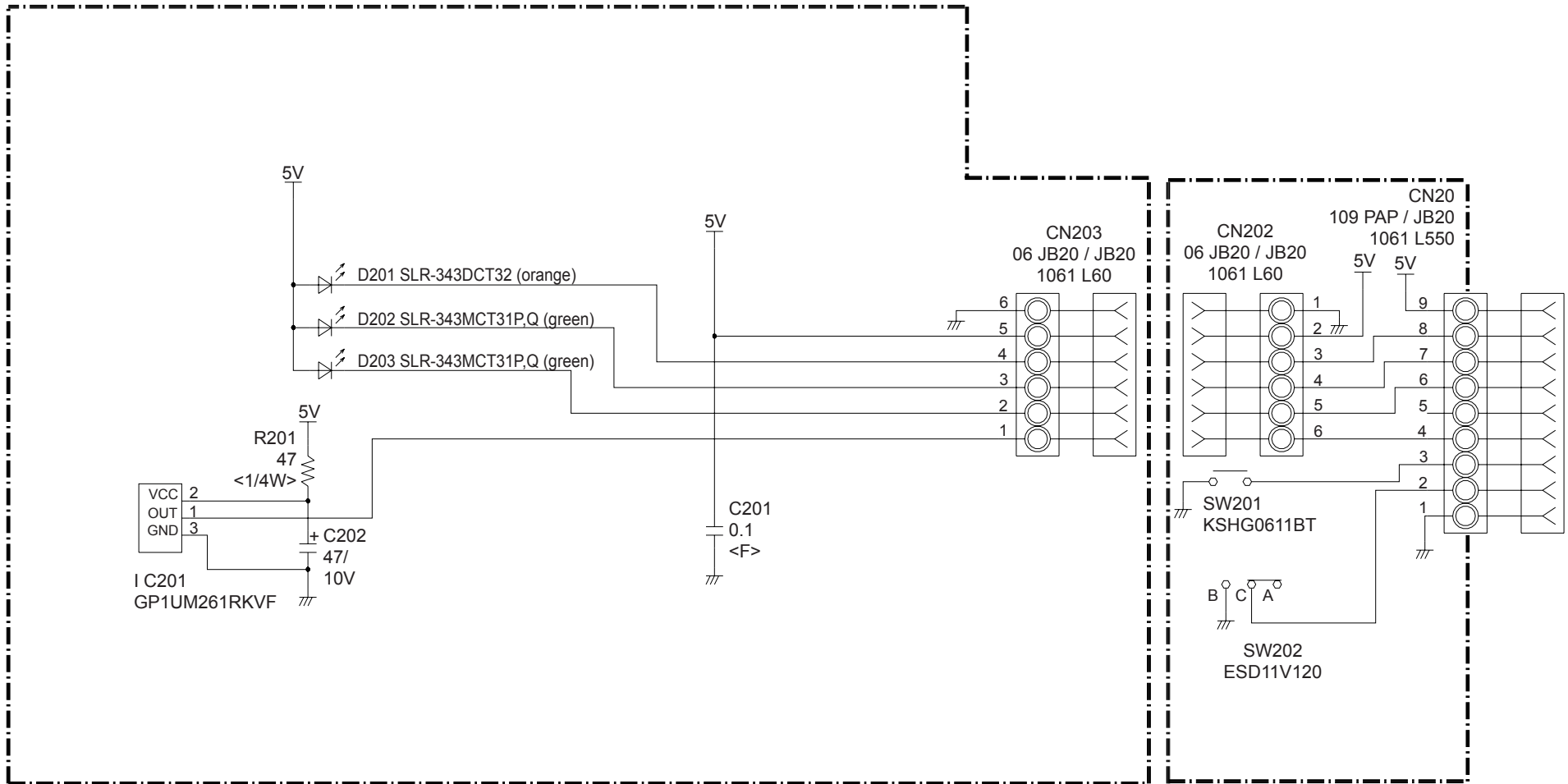
AGYF09LAC : K06CS-0703HSE-C1
 AGYF12LAC : K06CS-0704HSE-C1
 AGYF14LAC : K06CS-0705HSE-C1



INDOOR UNIT
 CONTROLLER PCB ASSEMBLY (MAIN PCB)
 AGYF09LAC : K06CS-0703HSE-C1
 AGYF12LAC : K06CS-0704HSE-C1
 AGYF14LAC : K06CS-0705HSE-C1

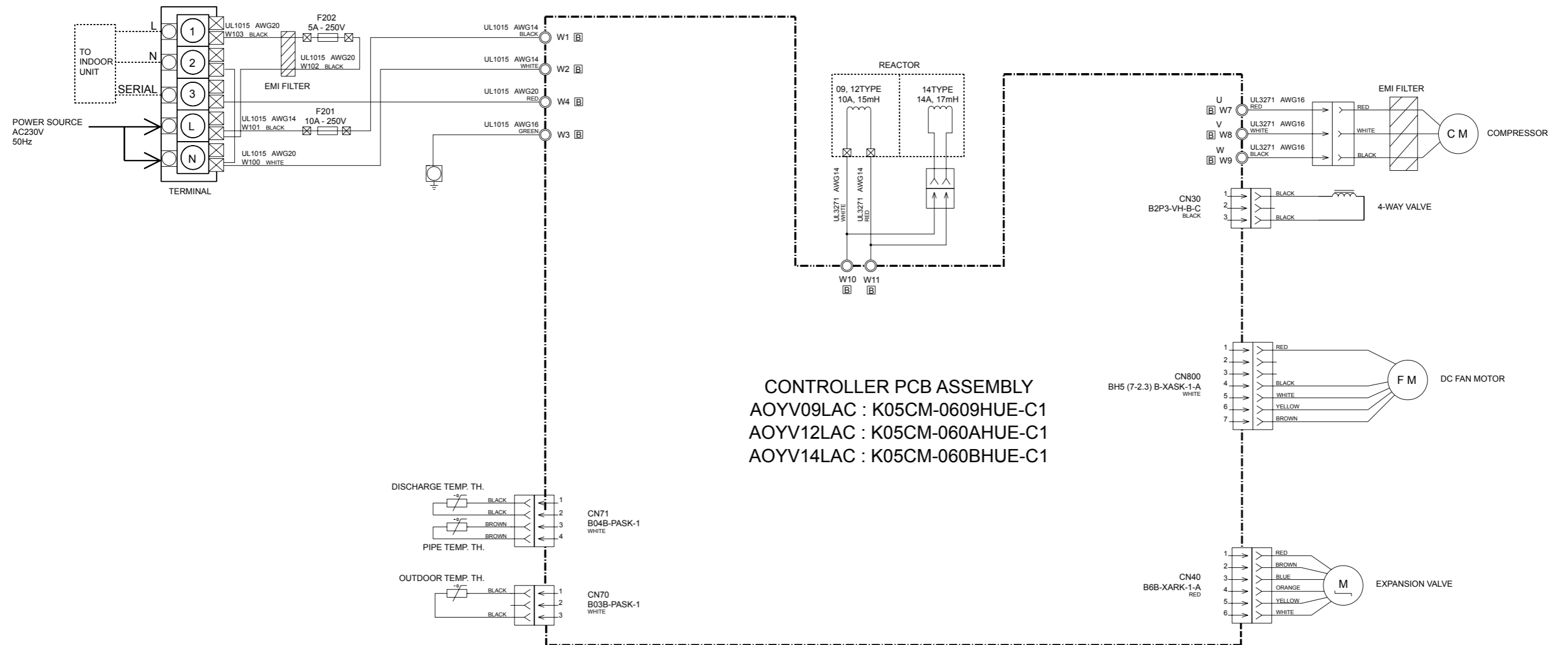


INDOOR UNIT
 INDICATOR PCB ASSEMBLY
 K06DD-0700HSE-F0



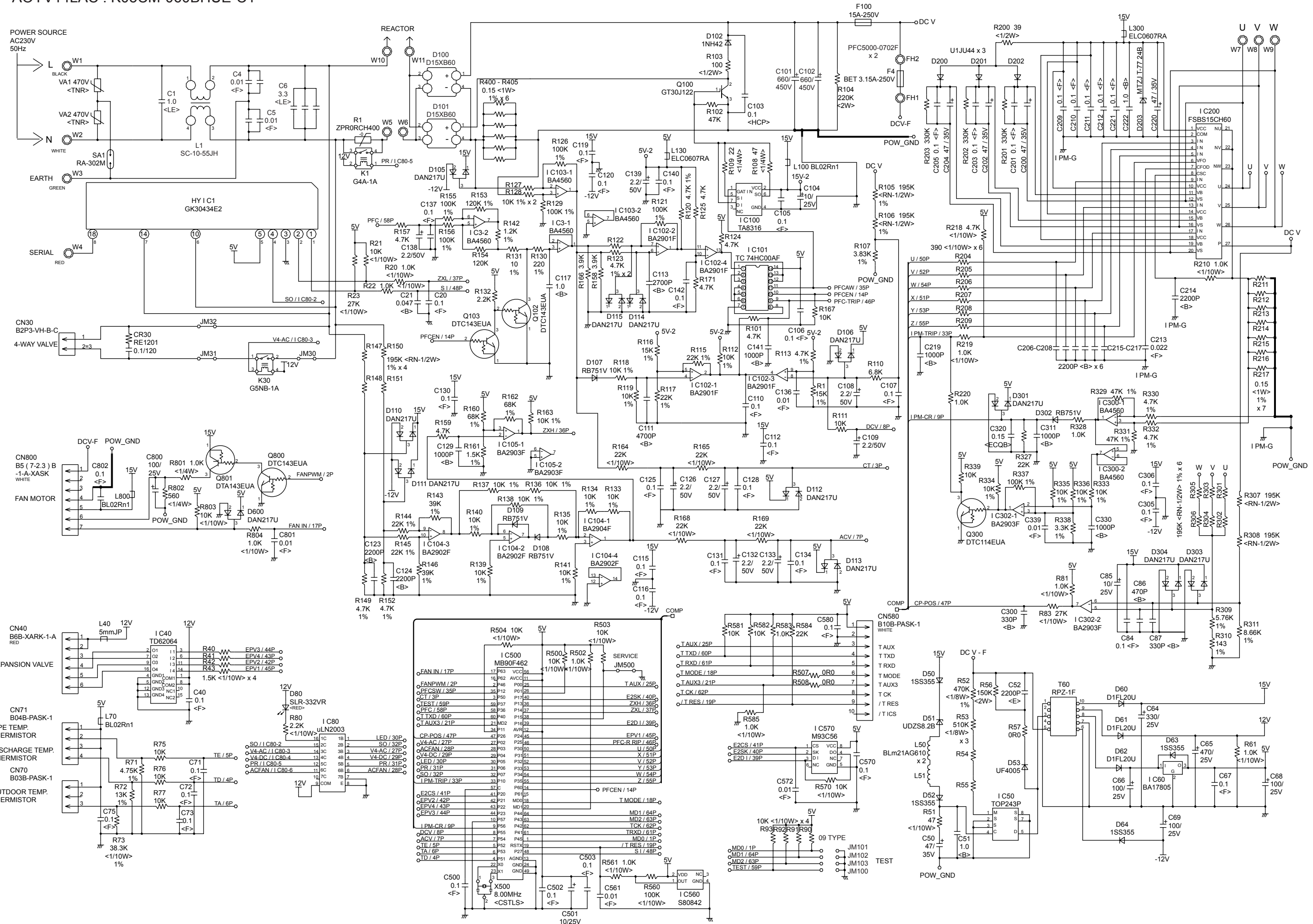
OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
 AOYV09LAC : EZ-00605HUE
 AOYV12LAC : EZ-00606HUE
 AOYV14LAC : EZ-00607HUE



CONTROLLER PCB ASSEMBLY
 AOYV09LAC : K05CM-0609HUE-C1
 AOYV12LAC : K05CM-060AHUE-C1
 AOYV14LAC : K05CM-060BHUE-C1

CONTROLLER PCB ASSEMBLY
 AOYV09LAC : K05CM-0609HUE-C1
 AOYV12LAC : K05CM-060AHUE-C1
 AOYV14LAC : K05CM-060BHUE-C1

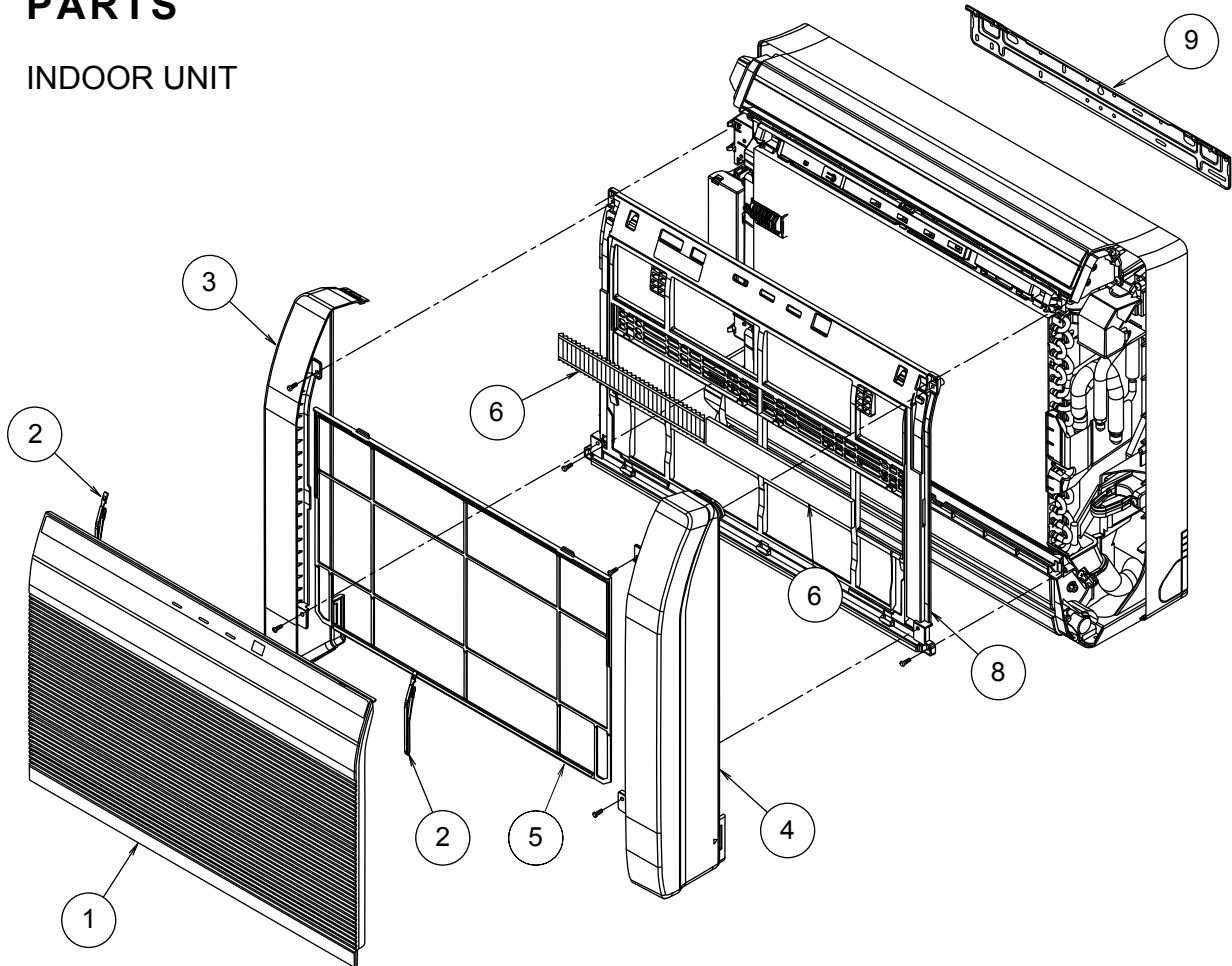


ERROR CONTENTS

Error	Indoor unit LED			Wired remote controller	Error
	Operation LED	Timer LED	10°C heat LED		
Serial signal error	Off	2 flash	Off	01	Serial signal (reverse) error, at operation start up
		3 flash	Off	01	Serial signal (reverse) error, during operation
		4 flash	Off	13	Serial signal (forward) error, at operation start up
		5 flash	Off	13	Serial signal (forward) error, during operation
		8 flash	Off	00	Wired remote controller error
Indoor unit thermistor error	2 flash	2 flash	Off	02	Indoor air thermistor error
		3 flash	Off	04	Heat exchanger middle thermistor error
Outdoor unit thermistor error	3 flash	2 flash	Off	0C	Discharge pipe thermistor error
		3 flash	Off	06	Heat exchanger thermistor error
		4 flash	Off	0A	Outdoor air thermistor error
		8 flash	Off	15	Compressor thermistor error
Indoor unit control error	4 flash	2 flash	Off	20	Manual auto button welded
Outdoor unit control error	5 flash	2 flash	Off	17	Current trip error
		3 flash	Off	18	CT abnormal
		5 flash	Off	1A	Compressor location detection error
		6 flash	Off	1b	Outdoor unit fan drive system abnormal
Indoor fan motor error	6 flash	2 flash	Off	12	Abnormal lock (upper fan motor)
		3 flash	Off	12	Abnormal rotation (upper fan motor)
		Off	2 flash	12	Abnormal lock (lower fan motor)
		Off	3 flash	12	Abnormal rotation (lower fan motor)
		5 flash	Off	2E	Damper is not normally open or closed
		Off	4 flash	2E	Damper is not normally open or closed
		Off	5 flash	2E	Damper is not normally open or closed
Refrigerant cycle error	7 flash	2 flash	Off	0F	Discharge temperature abnormal
		3 flash	Off	24	Cooling high pressure abnormal rise
		6 flash	Off	2b	Compressor temperature abnormal
Optional function error	8 flash	4 flash	Off	25	PFC circuit error
Power source error	0.1 sec on/off	Off	0.1 sec on/off	08	Power source error
Model information error	0.1 sec on/off	0.1 sec on/off	0.1 sec on/off	11	Model information error

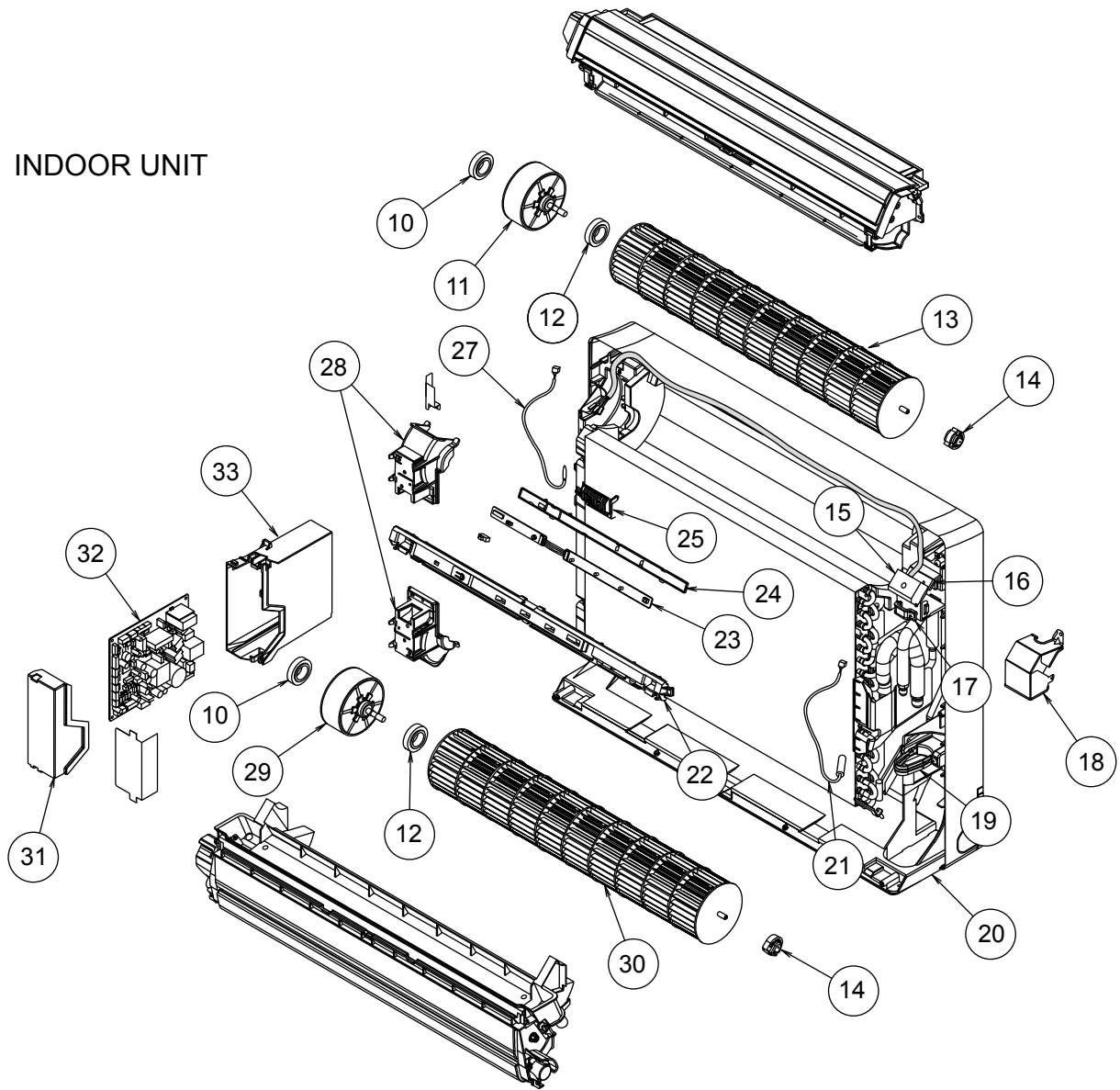
PARTS

INDOOR UNIT



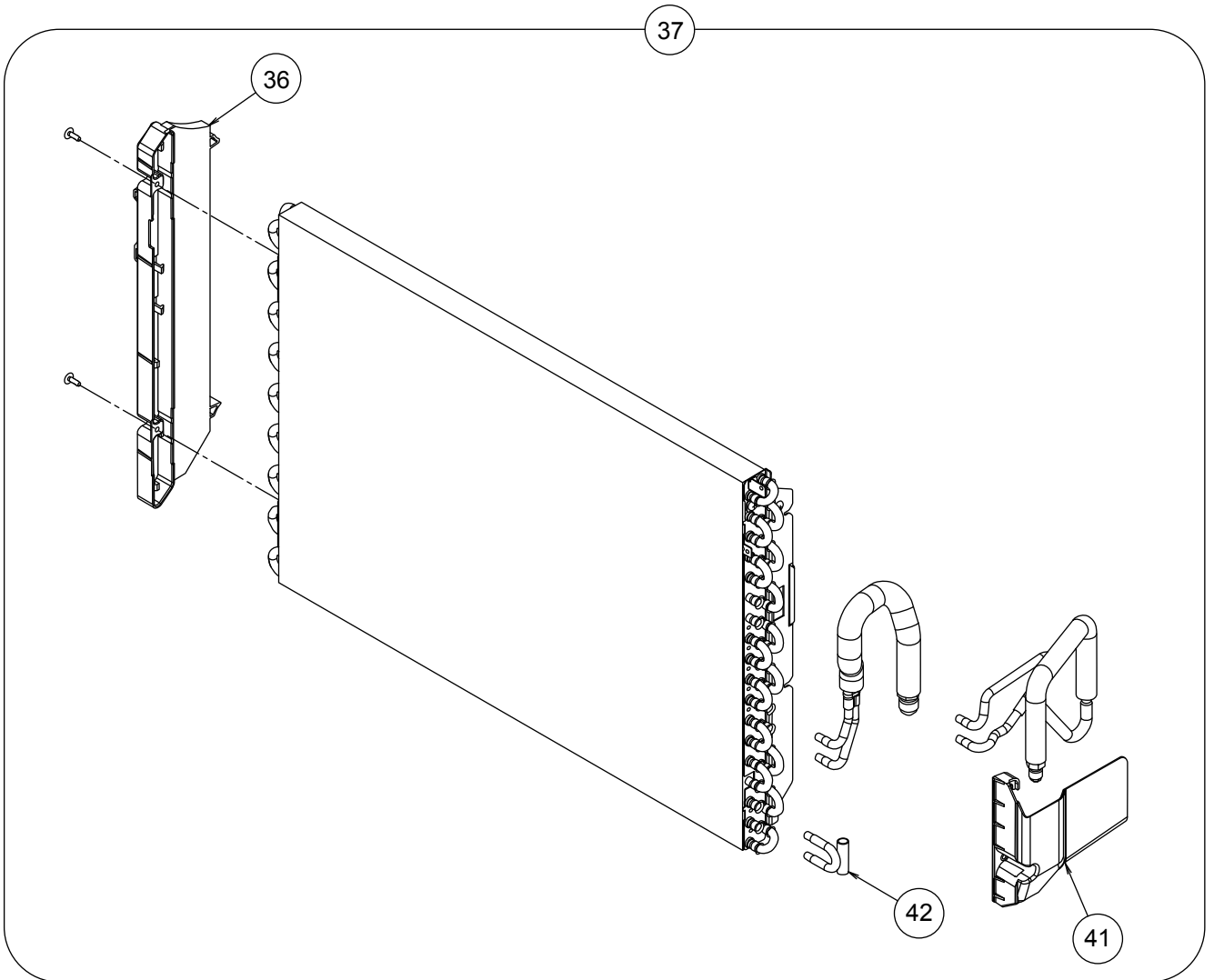
Ref	Description	Parts number
1	Intake Grille Assy	9316418011
2	Rope Assy	9316458017
3	Panel (Front) L	9316187016
4	Panel (Front) R	9316186019
5	Air Filter	9316189010
6	Air Clean Filter Assy	9312152018
8	Panel (Front)	9316185012
9	Bracket Panel	9316272019
--	Remote Control	9316397019
--	Remote Control Holder	9305642045

INDOOR UNIT



Ref	Description	Parts number	Ref	Description	Parts number
10	Motor Cushion NR	9313168018	23	Display PCB Assy	9707571028
11	Fan Motor, MFD-34ROM	9602109029	24	Display Cover	9316191013
12	Motor Cushion N	9312979011	25	Thermistor Holder	9316192010
13	Crossflow Fan Assy	9312004034	27	Room Thermistor	9700801108
14	Bearing C Assy	9306628017	28	Motor Holder	9316195011
15	Terminal	9900385026	29	Fan Motor, MFD-14SXM	9602481019
16	Bracket (Terminal)	9316269019	30	Crossflow Fan B Assy	9316309012
17	Cord Clamp	9302271002	31	Control Cover	9316201019
18	Cover (Terminal)	9316307018	32	Controller PCB Assy (09)	9707505078
19	Bracket (Pipe)	9316270015	32	Controller PCB Assy (12)	9707505085
20	Base	9316193017	32	Controller PCB Assy (14)	9707505092
21	Pipe Thermistor	9900425012	33	Control Box	9316200012
22	Display Case	9316194014			

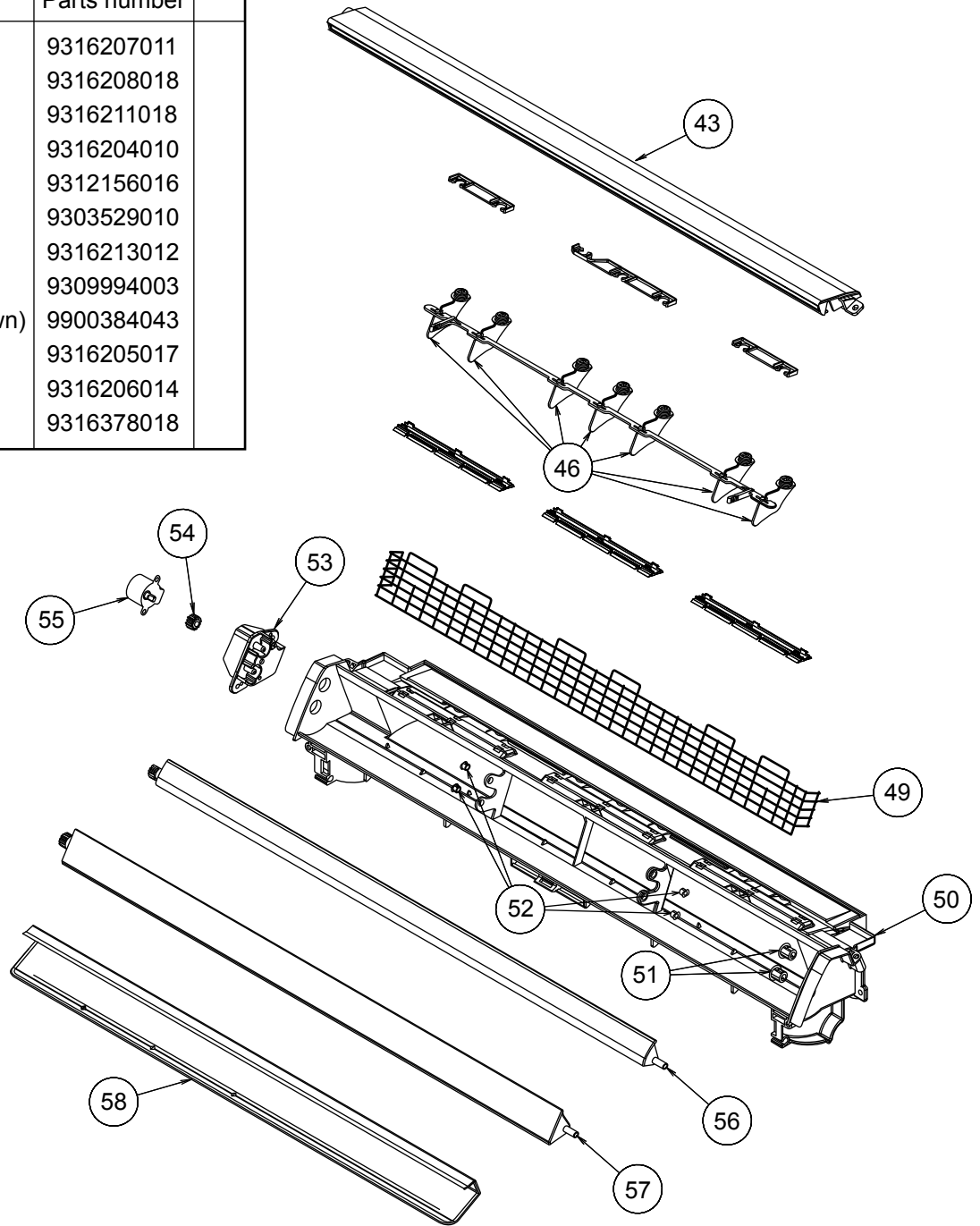
INDOOR UNIT



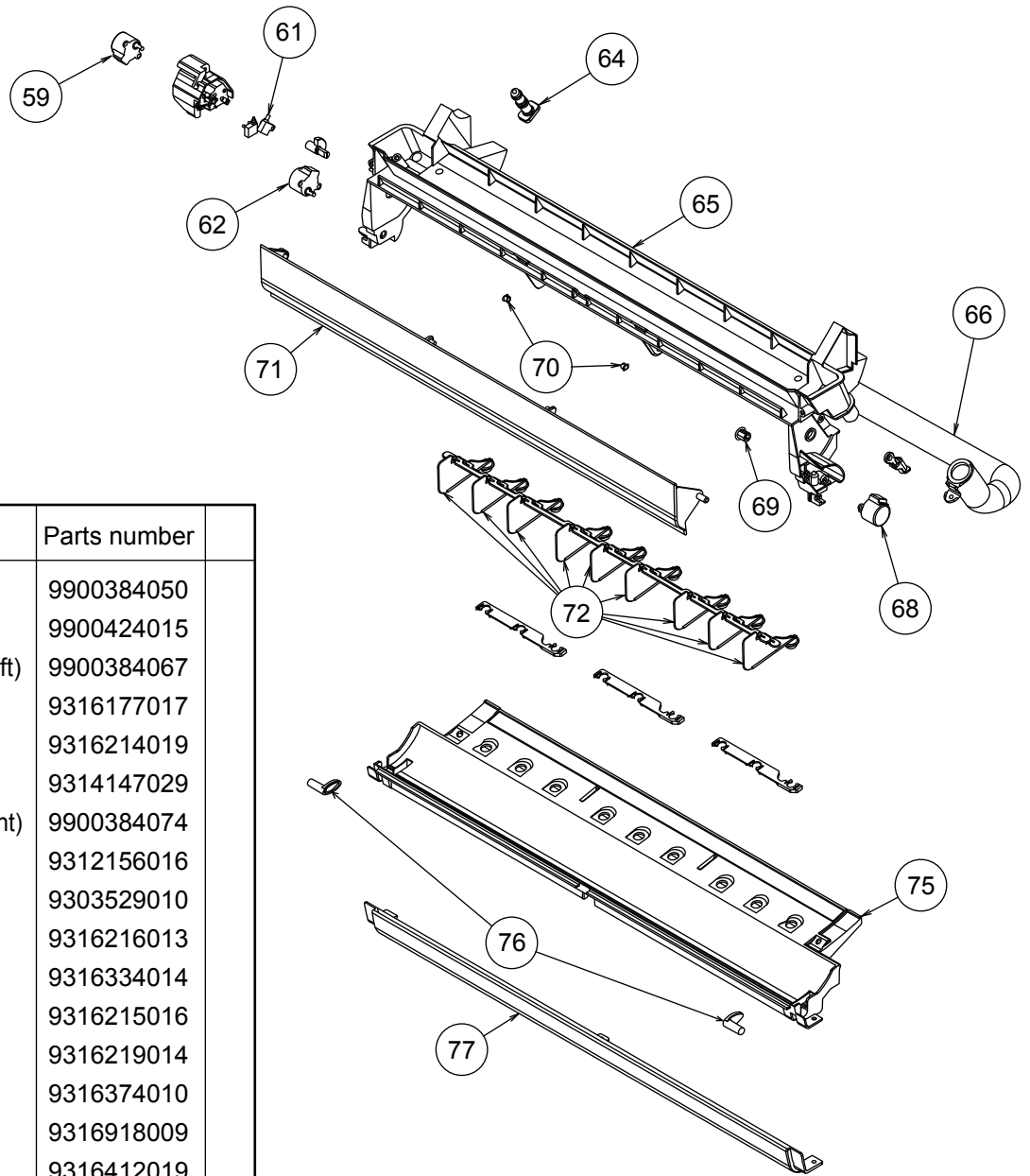
Ref	Description	Parts number	
36	Evaporator Holder	9316199019	
37	Evaporator Total Assy (09, 12)	9316091016	
37	Evaporator Total Assy (14)	9316091023	
41	Water Seal	9316271012	
42	U Pipe AA Assy	9316095014	

INDOOR UNIT

Ref	Description	Parts number
43	Top Cover	9316207011
46	R and L Louver U	9316208018
49	Fan Guard	9316211018
50	Casing	9316204010
51	Bushing B	9312156016
52	Bushing A	9303529010
53	Gear Case	9316213012
54	Gear A	9309994003
55	Motor Step (up / down)	9900384043
56	Louver U	9316205017
57	Louver Z	9316206014
58	REF (Casing)	9316378018



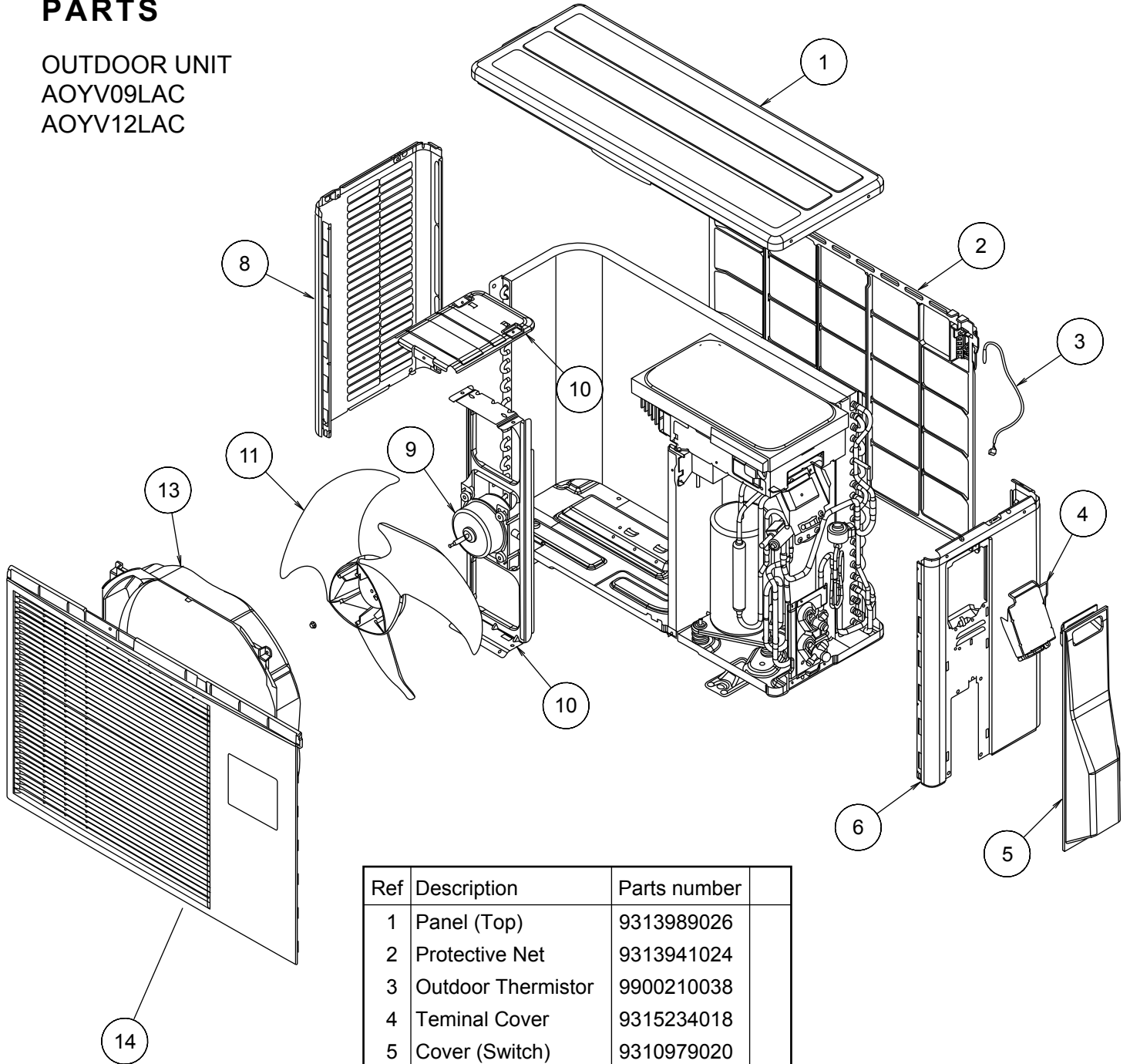
INDOOR UNIT



Ref	Description	Parts number
59	Motor Step (Damper)	9900384050
61	Switch Micro	9900424015
62	Motor Step (Damper Lock Left)	9900384067
64	Drain Cap	9316177017
65	Drain Pan U	9316214019
66	Drain Hose Assy	9314147029
68	Motor Step (Damper Lock Right)	9900384074
69	Bushing B	9312156016
70	Bushing A	9303529010
71	Damper	9316216013
72	R and L Louver Z	9316334014
75	Drain Pan Z	9316215016
76	Stopper	9316219014
77	Cover (Lower)	9316374010
--	Fan Guard Z	9316918009
--	Drain Pan Assy	9316412019

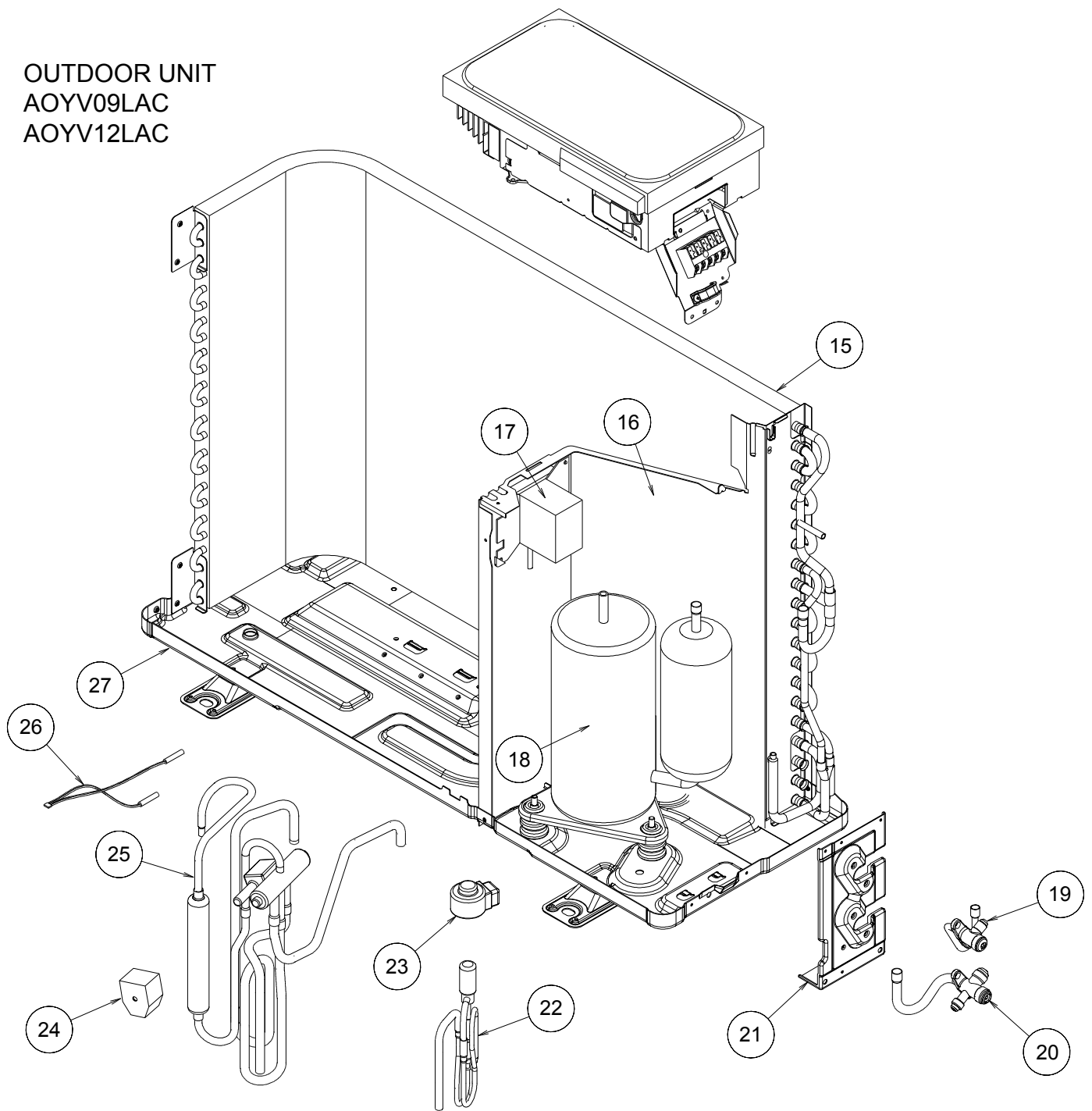
PARTS

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



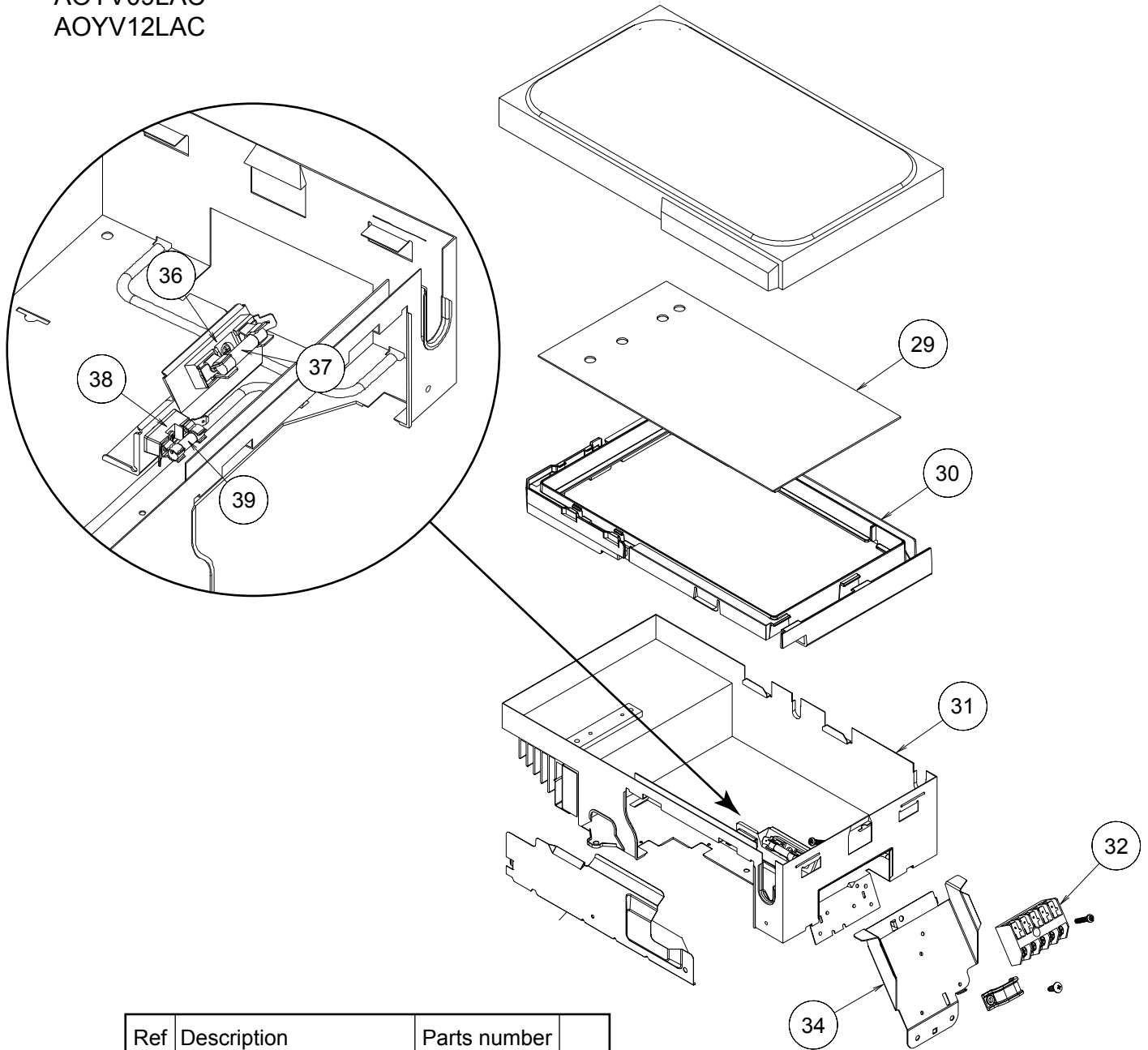
Ref	Description	Parts number
1	Panel (Top)	9313989026
2	Protective Net	9313941024
3	Outdoor Thermistor	9900210038
4	Terminal Cover	9315234018
5	Cover (Switch)	9310979020
6	Cabinet Right Assy	9313994082
8	Cabinet Left Assy	9313991012
9	Motor DC Brushless	9602111015
10	Motor Bracket Assy	9313990039
11	Propeller Fan	9313808013
13	Ring (Fan)	9313807016
14	Panel (Front)	9313806026
--	Emblem Rear	9315210012
--	Drain Pipe Assy	9303029022

OUTDOOR UNIT
 AOYV09LAC
 AOYV12LAC



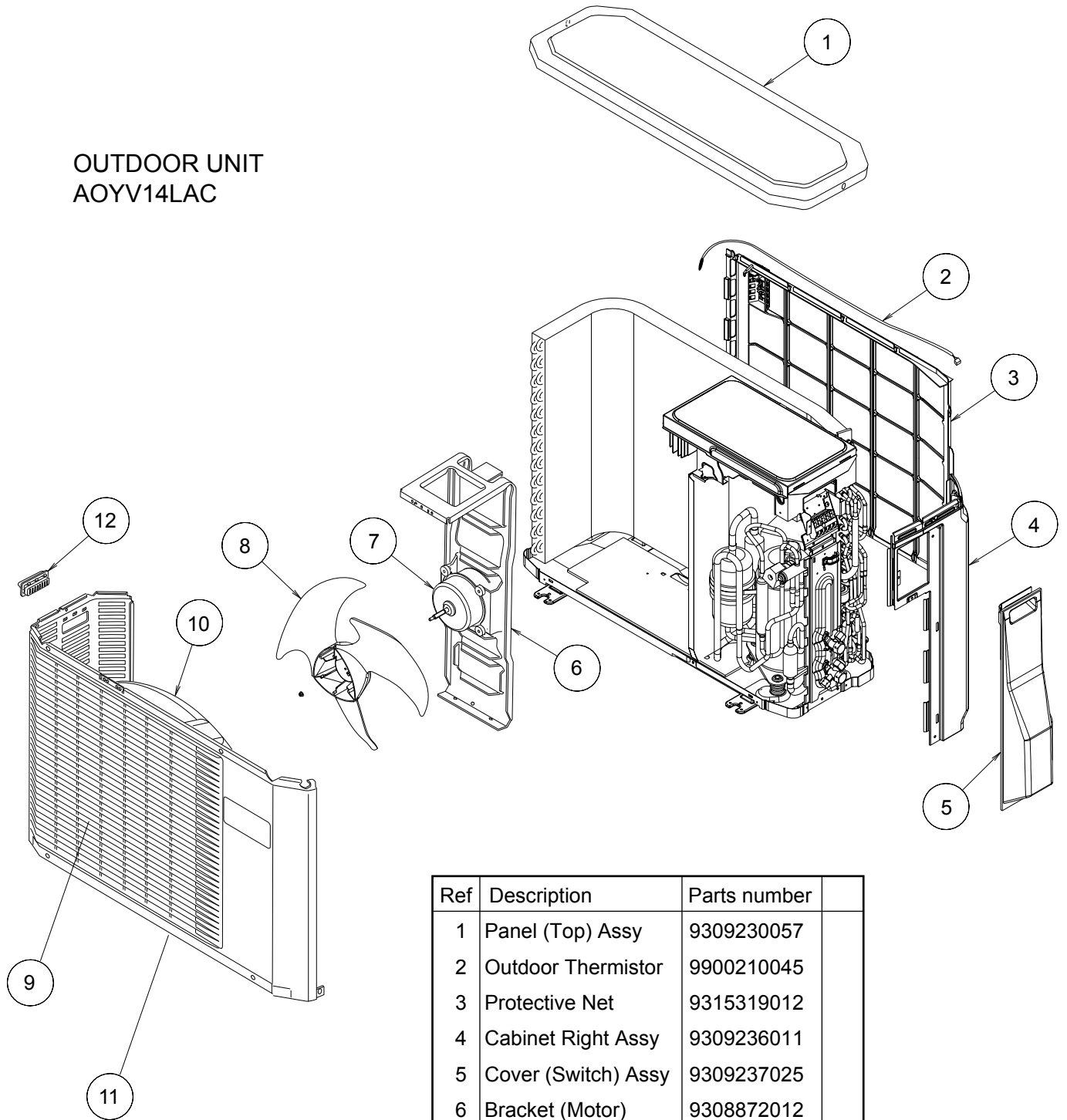
Ref	Description	Parts number
15	Condenser Assy	9314106019
16	Separator B	9313815011
17	Reactor Assy	9900343019
18	Compressor Assy	9315206015
19	2-Way Valve Assy	9314554018
20	3-Way Valve Assy	9314022012
21	Bracket (Valve)	9331649001
22	Pulse Motor Valve Assy	9314557019
23	Coil (Expansion Valve)	9900057039
24	Solenoid	9970033018
25	4-Way Valve Assy	9314093012
26	Thermistor Assy (Discharge)	9900473013
27	Base Assy	9316885004

OUTDOOR UNIT
 AOYV09LAC
 AOYV12LAC



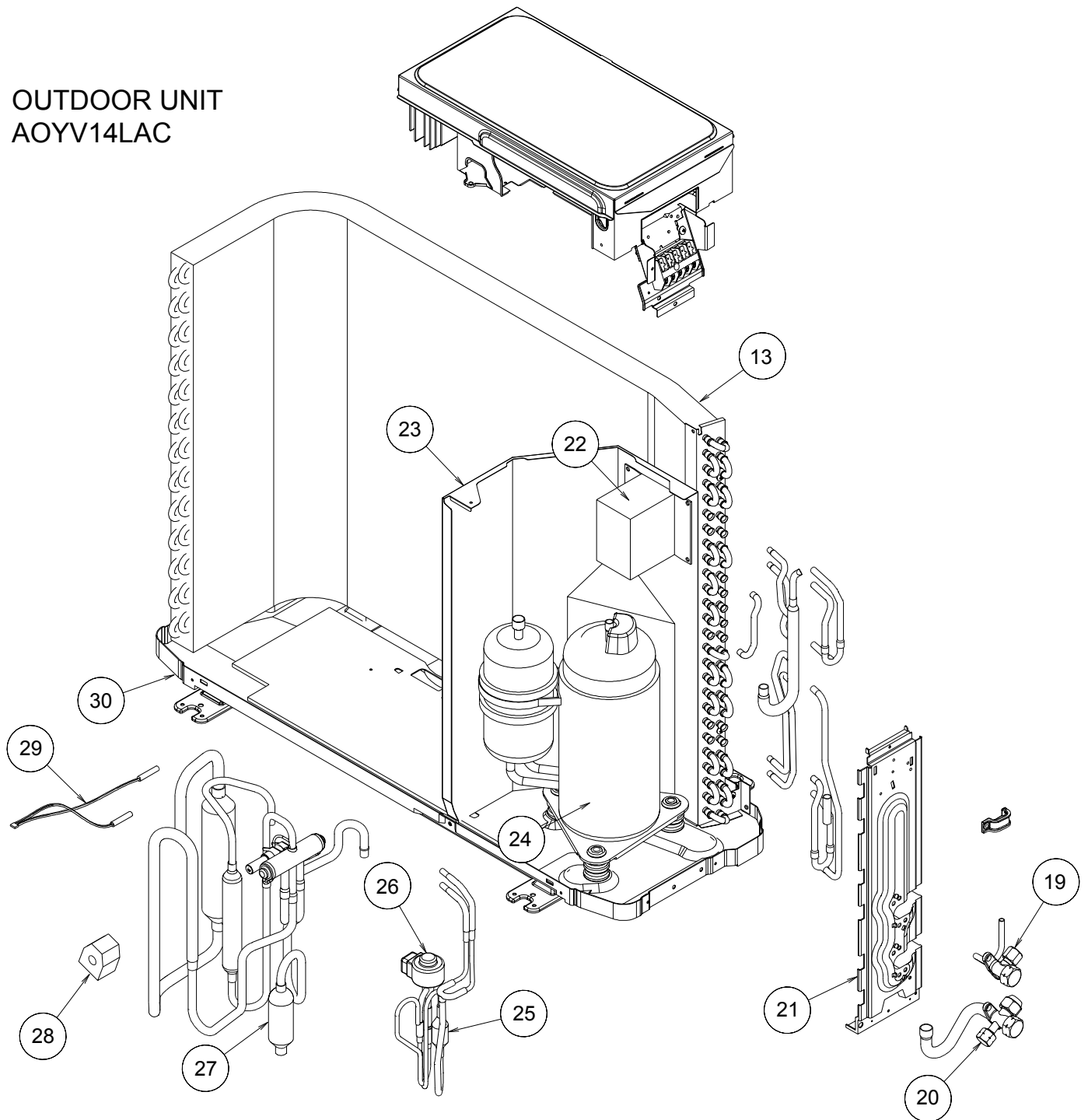
Ref	Description	Parts number	
29	Inverter PCB Assy (09)	9707039221	
29	Inverter PCB Assy (12)	9707039238	
30	Holder (PCB)	9313074029	
31	Inverter Case Assy	9315690012	
32	Terminal	9703874031	
34	Terminal Bracket	9315233028	
36	Fuse Holder	0501454012	
37	Fuse 250V-20A	0600382018	
38	Fuse Holder	0501456016	
39	Fuse 250V- 5A	0600376086	

OUTDOOR UNIT
AOYV14LAC



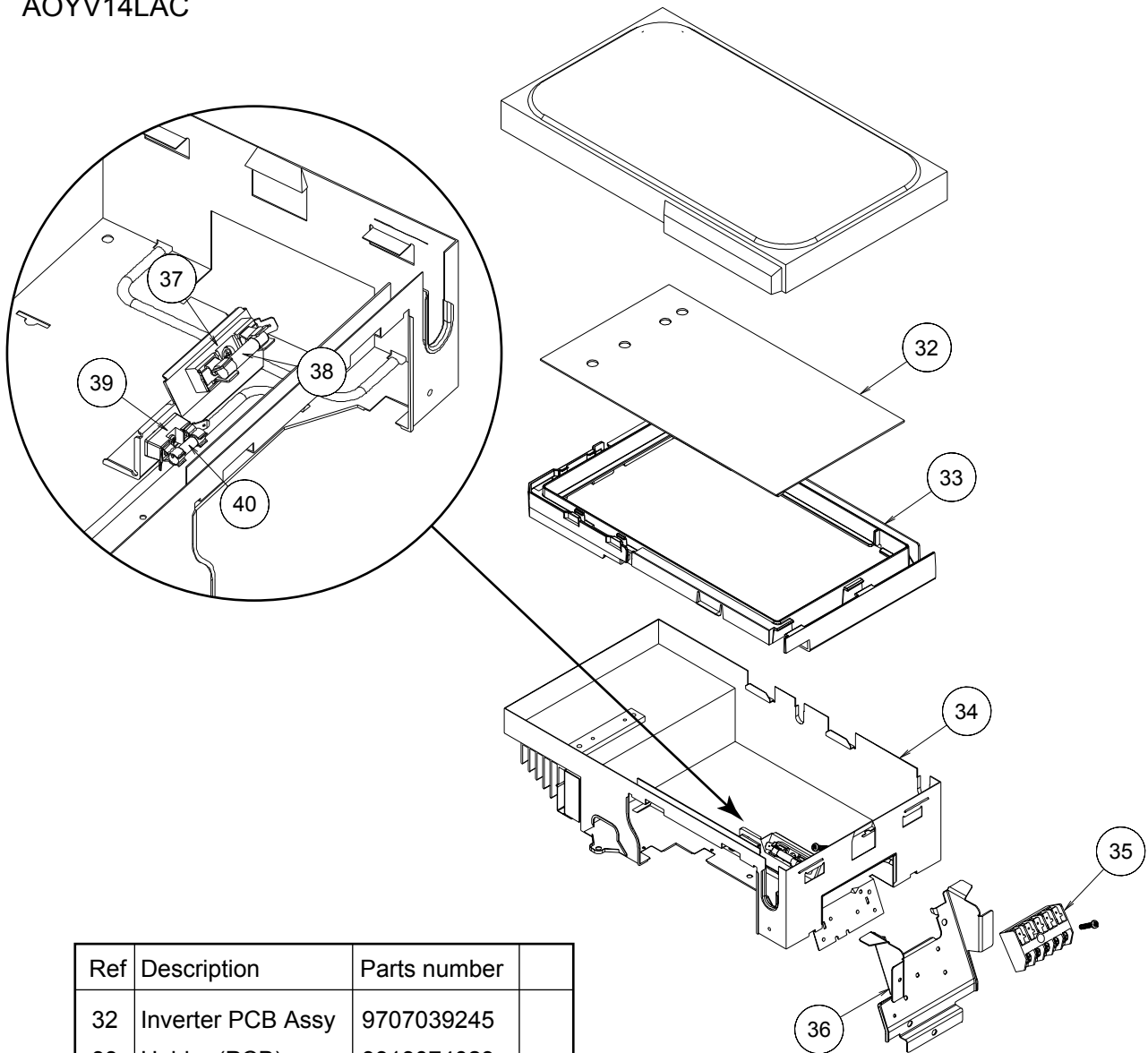
Ref	Description	Parts number
1	Panel (Top) Assy	9309230057
2	Outdoor Thermistor	9900210045
3	Protective Net	9315319012
4	Cabinet Right Assy	9309236011
5	Cover (Switch) Assy	9309237025
6	Bracket (Motor)	9308872012
7	Motor DC Brushless	9601725015
8	Propeller Fan	9309909014
9	Blow Grill	9308884015
10	Ring (Fan)	9308885012
11	Cabinet Assy	9314809040
12	Grip	9308880017
--	Emblem Rear	9315210012
--	Drain Pipe Assy	9303029015

OUTDOOR UNIT
AOYV14LAC



Ref	Description	Parts number
13	Condenser Assy	9311382065
19	2-Way Valve Assy	9313064013
20	3-Way Valve Assy	9315159014
21	Bracket (Valve)	9308870025
22	Reactor Assy	9900354015
23	Separator Assy	9312971015
24	Compressor Assy	9313763022
25	Pulse Motor Valve Assy	9311641018
26	Coil (Expansion Valve)	9900057039
27	Valve (4-Way) Assy	9316475014
28	Solenoid	9970033018
29	Thermistor Assy (Discharge)	9900473013
30	Base Assy	9308869081

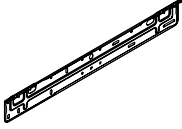

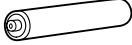
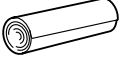

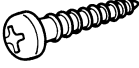

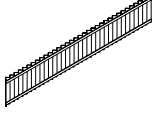
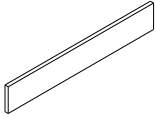
OUTDOOR UNIT
AOYV14LAC



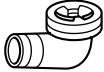
Ref	Description	Parts number
32	Inverter PCB Assy	9707039245
33	Holder (PCB)	9313074029
34	Inverter Case Assy	9315690012
35	Terminal	9703874031
36	Terminal Bracket	9315037039
37	Fuse Holder	0501454012
38	Fuse 250V-20A	0600382018
39	Fuse Holder	0501456016
40	Fuse 250V- 5A	0600376086

ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty	Use	Part No.	
Bracket panel 	1	For indoor unit installation	9316272019	
Remote control unit AR-RAC1E 	1	Use for air conditioner operation	9316397019	
Battery (penlight) 	2	For remote control unit	0600185527	
Cloth tape 	1	For indoor unit installation	9310519004	
Remote control unit holder 	1	Use as remote control unit holder	9305642045	
Tpping screw (big) ($\phi 4 \times 25$) 	9	For wall hook bracket and body installation	0700076046	
Tpping screw (small) ($\phi 3 \times 12$) 	2	For remote control unit holder installation	0700019036	
Electric filter UTR-FC03-2 	1	With 2 sheets	9312832002	
Ion deodrant filter UTR-FC03-3 	1	With 2 sheets	9312833009	

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part No.	
			AOYV09/12LAC	AOYV14LAC
Drain pipe assy 	1	For outdoor unit drain piping work	9303029022	9303029015

0804G3463