

SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
AGYF09LAC	AOYV09LAC
AGYF12LAC	AOYV12LAC
AGYF14LAC	AOYV14LAC
AGYF14LAC	AOYV14LAL

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 (INDOOR UNIT).....	13
PARTS (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 m3/hr	570 m3/hr	650 m3/hr
	Heating	600 m3/hr	600 m3/hr	650 m3/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		
OUTDOOR UNIT	Gross / Net	40 kg / 36 kg		44 kg / 40 kg

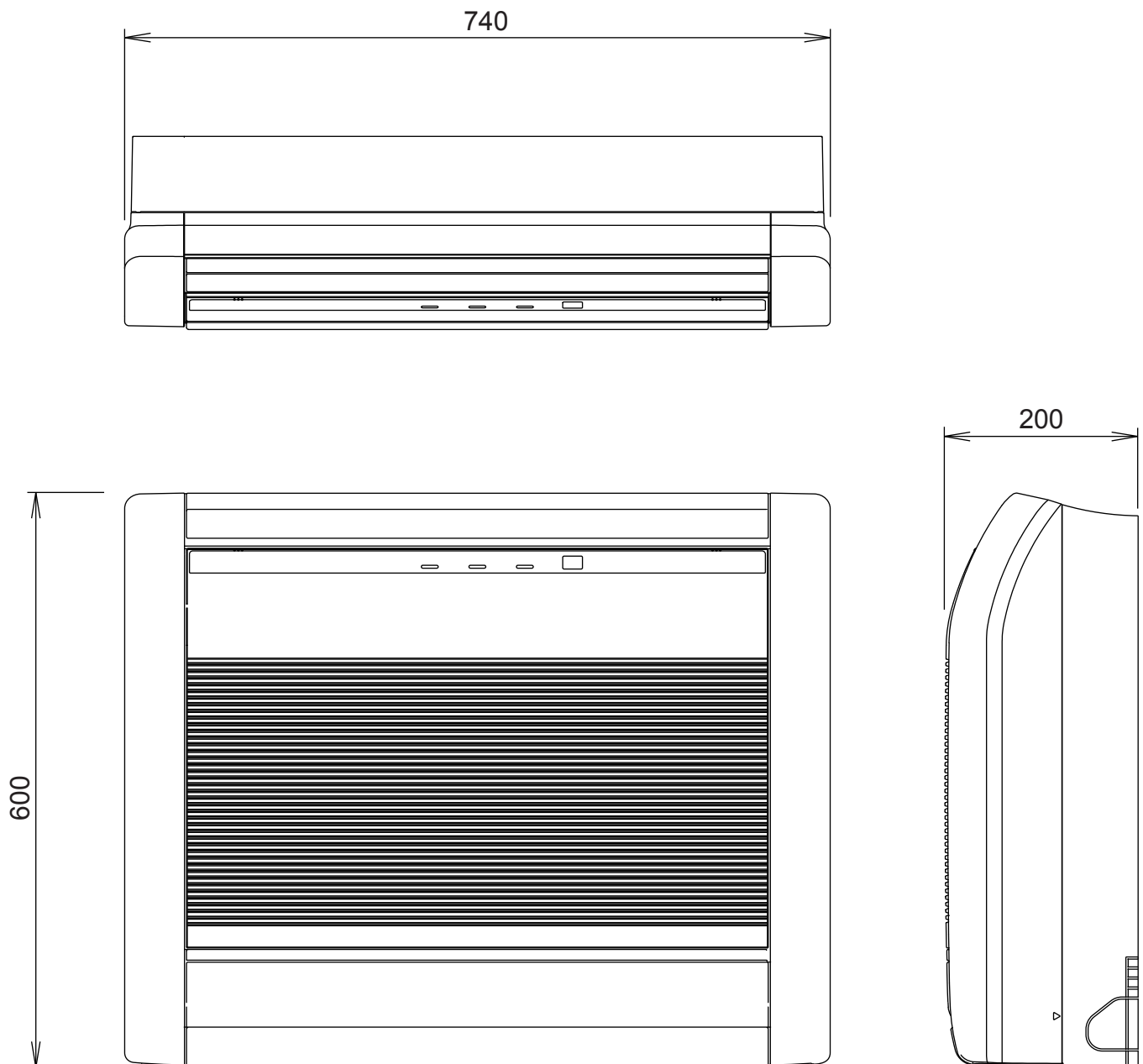
REFRIGERANT

COMPRESSOR TYPE		Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary		
DISCRIMINATION		DA89X1C-20FZ	DA89X1C-20FZ2	DA130A1F-25F
PRECHARGED 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)



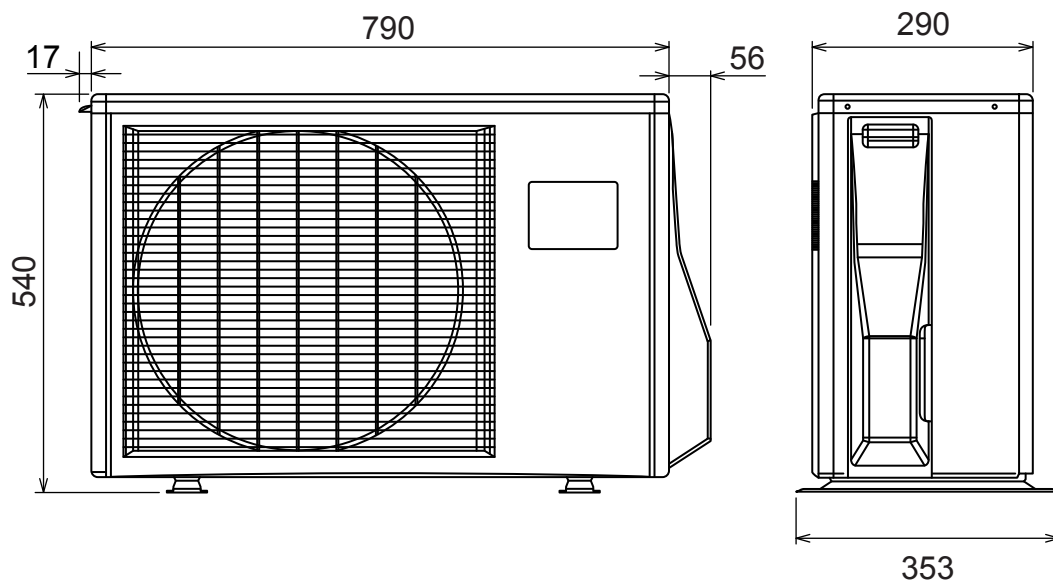
OUTDOOR UNIT

(unit : mm)

Models :

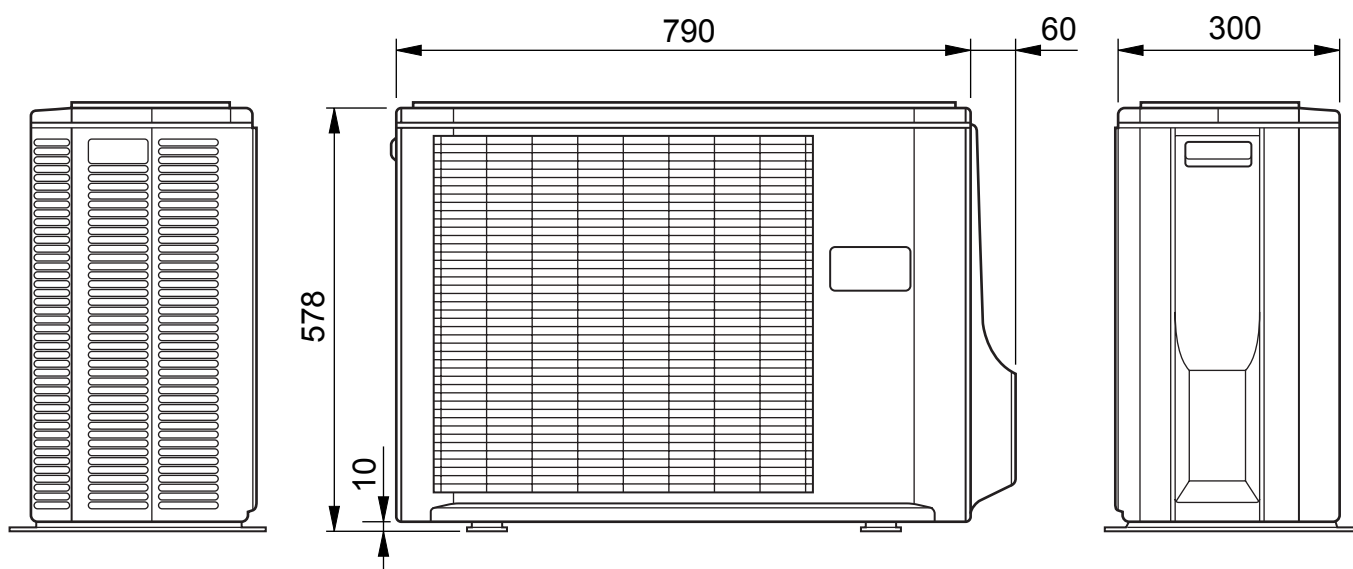
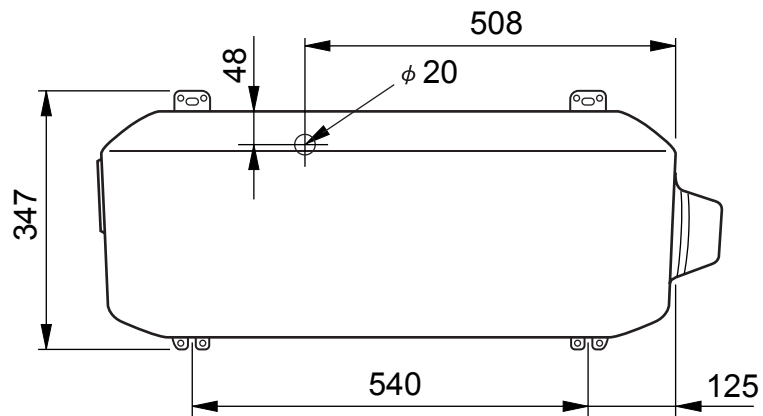
AOYV09LAC

AOYV12LAC

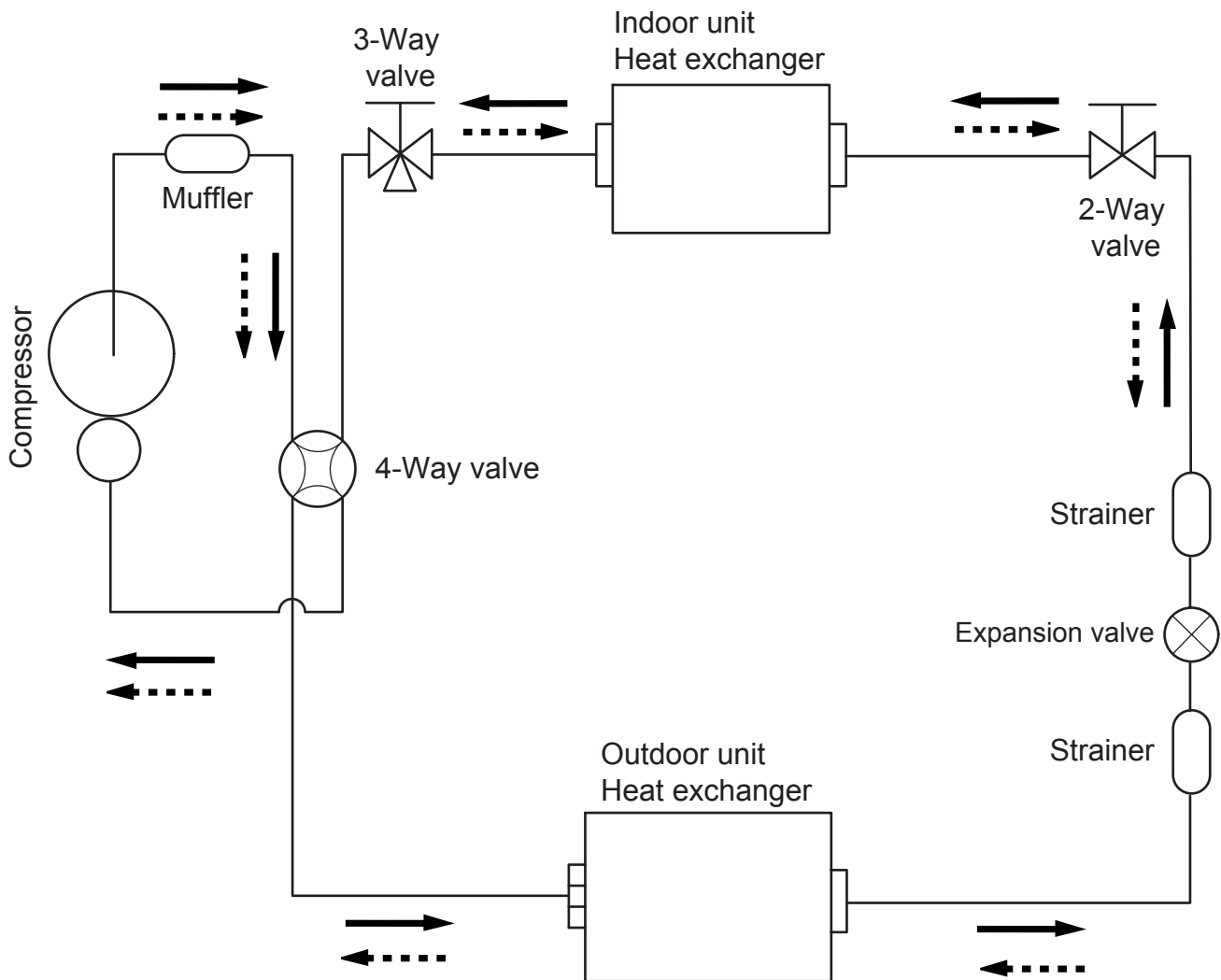


Model :

AOYV14LA_



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)

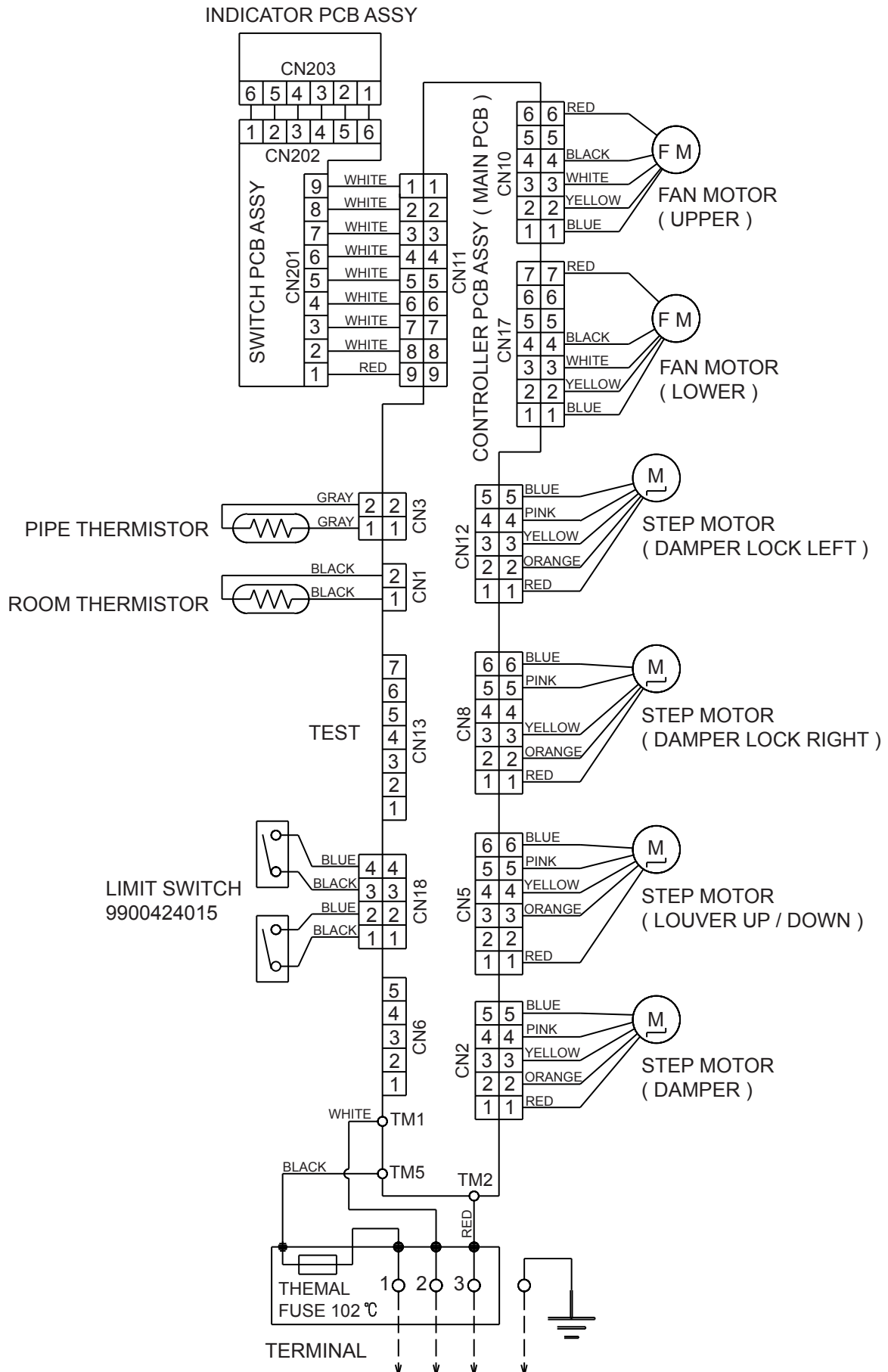
AGYF14LAC / AOYV14LA_

Liquid : 1/4" (6.35 mm)

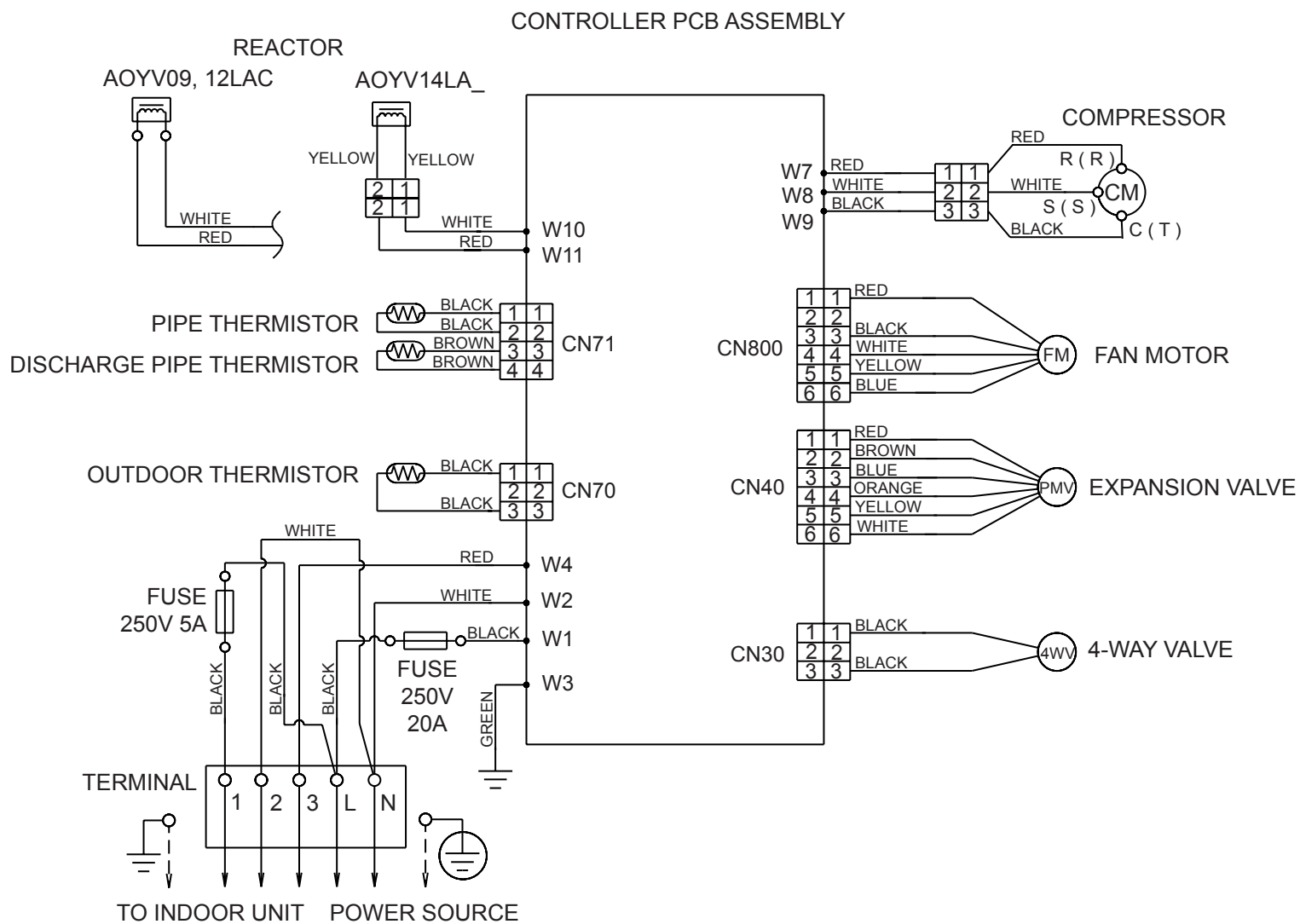
Gas : 1/2" (12.7 mm)

CIRCUIT DIAGRAM

INDOOR UNIT



OUTDOOR UNIT



INDOOR PCB CIRCUIT DIAGRAM

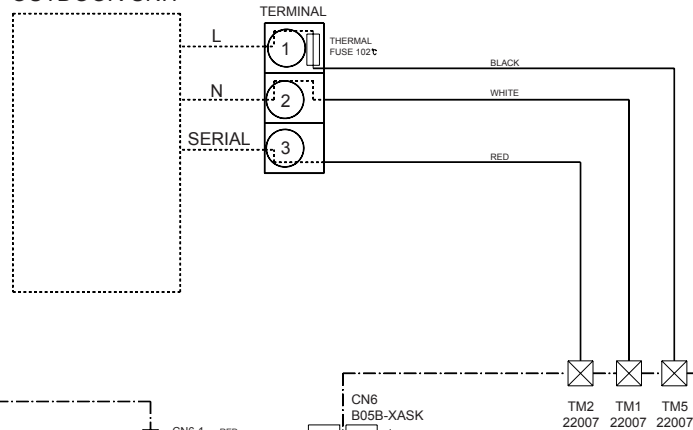
CONTROL UNIT

AGYF09LAC : EZ-0070CHSE

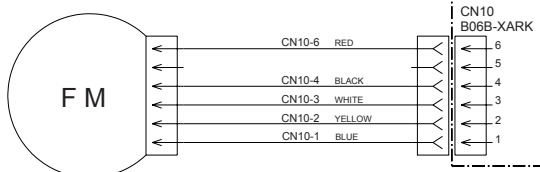
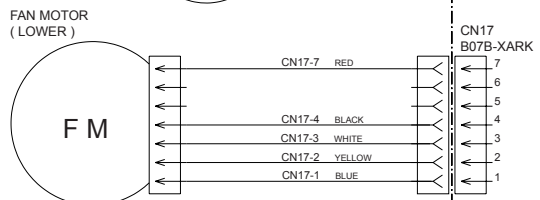
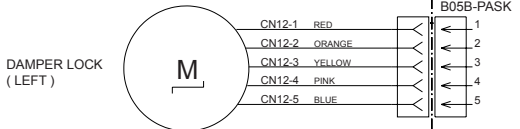
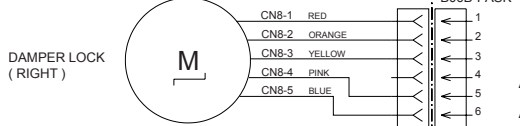
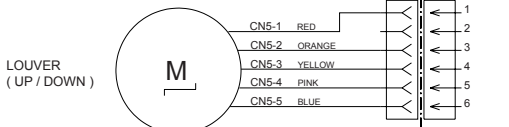
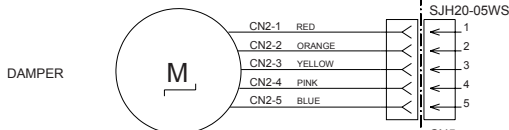
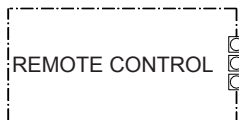
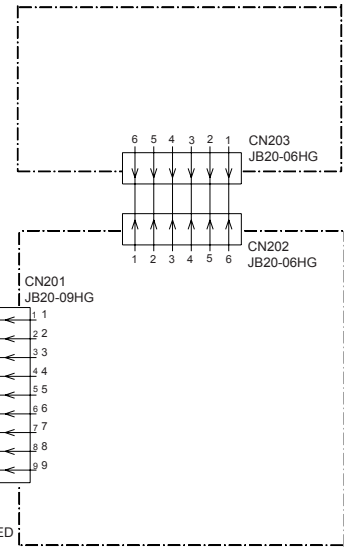
AGYF12LAC : EZ-0070DHSE

AGYF14LAC : EZ-0070EHSE

OUTDOOR UNIT



INDICATOR PCB ASSEMBLY K06DD-0700HSE-F0



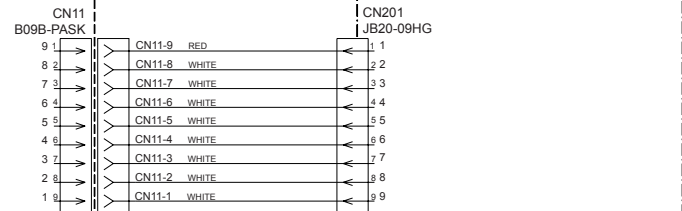
FAN MOTOR
(UPPER)

CONTROLLER PCB ASSEMBLY (MAIN PCB)

AGYF09LAC : K06CS-0703HSE-C1

AGYF12LAC : K06CS-0704HSE-C1

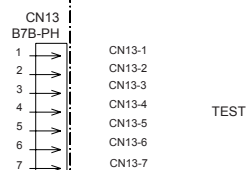
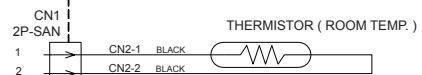
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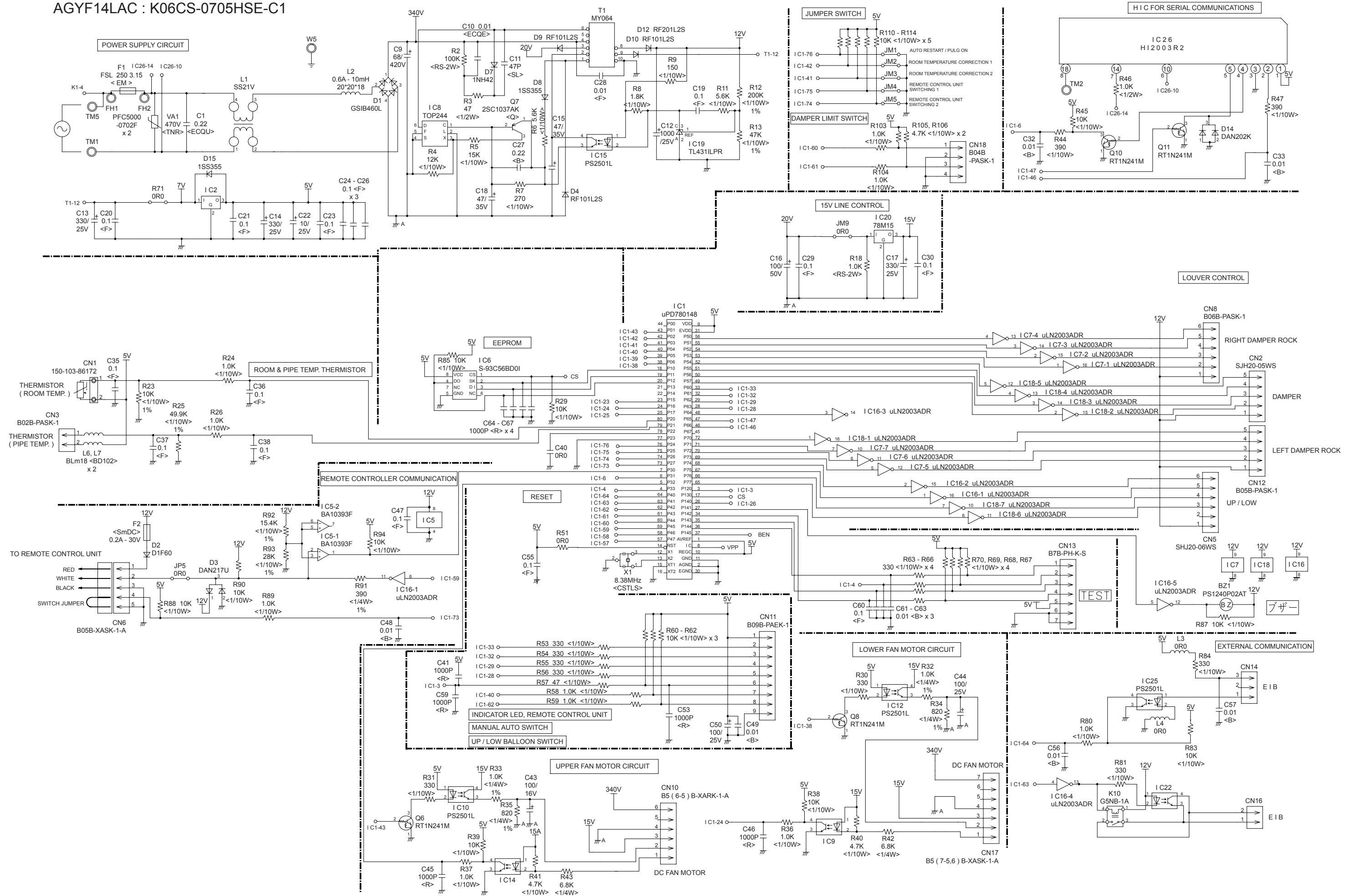
DAMPER CLOSED
DERECTION

LIMIT SWITCH
9900424015

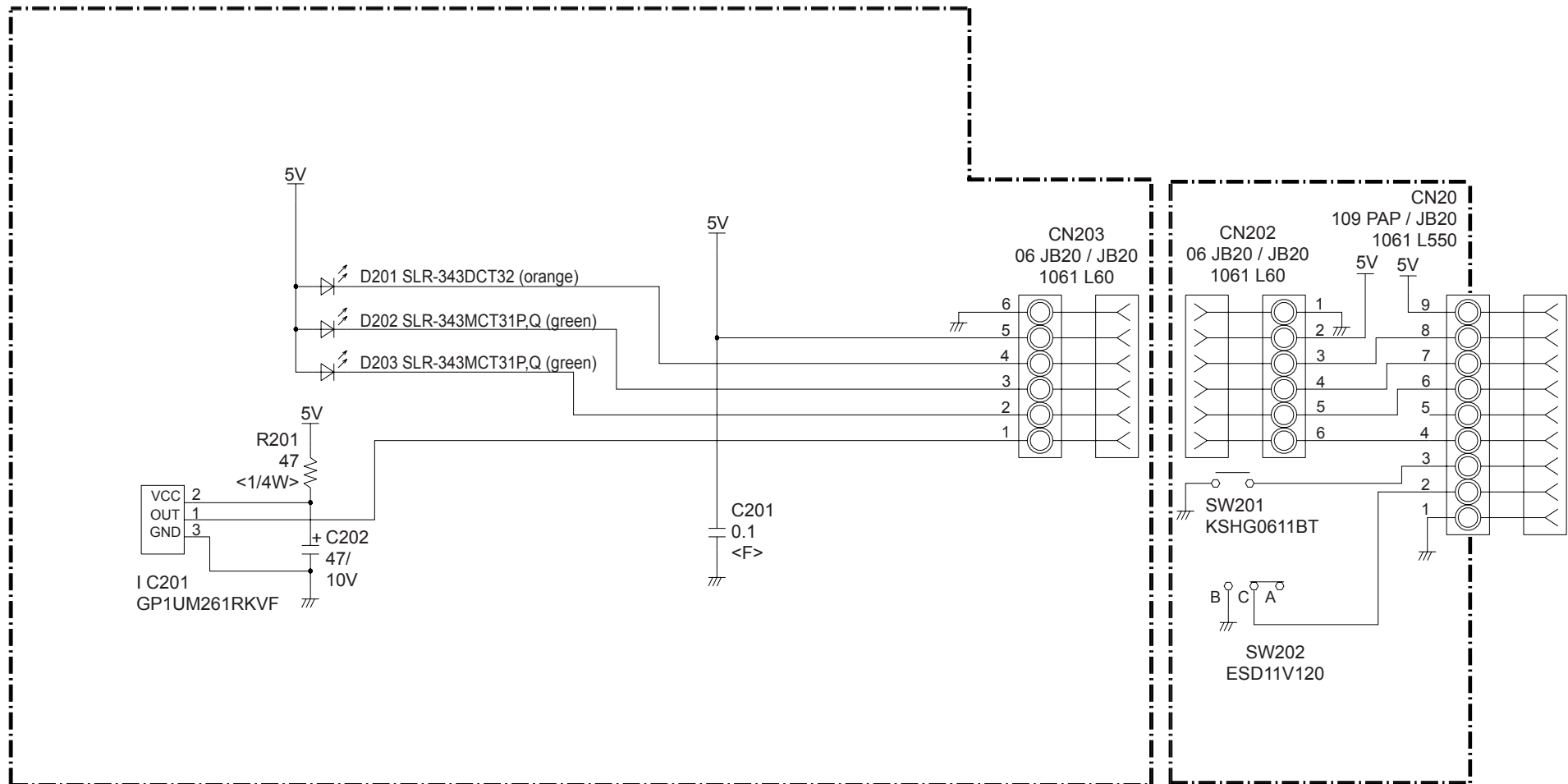
DAMPER OPEN
DETECTION



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

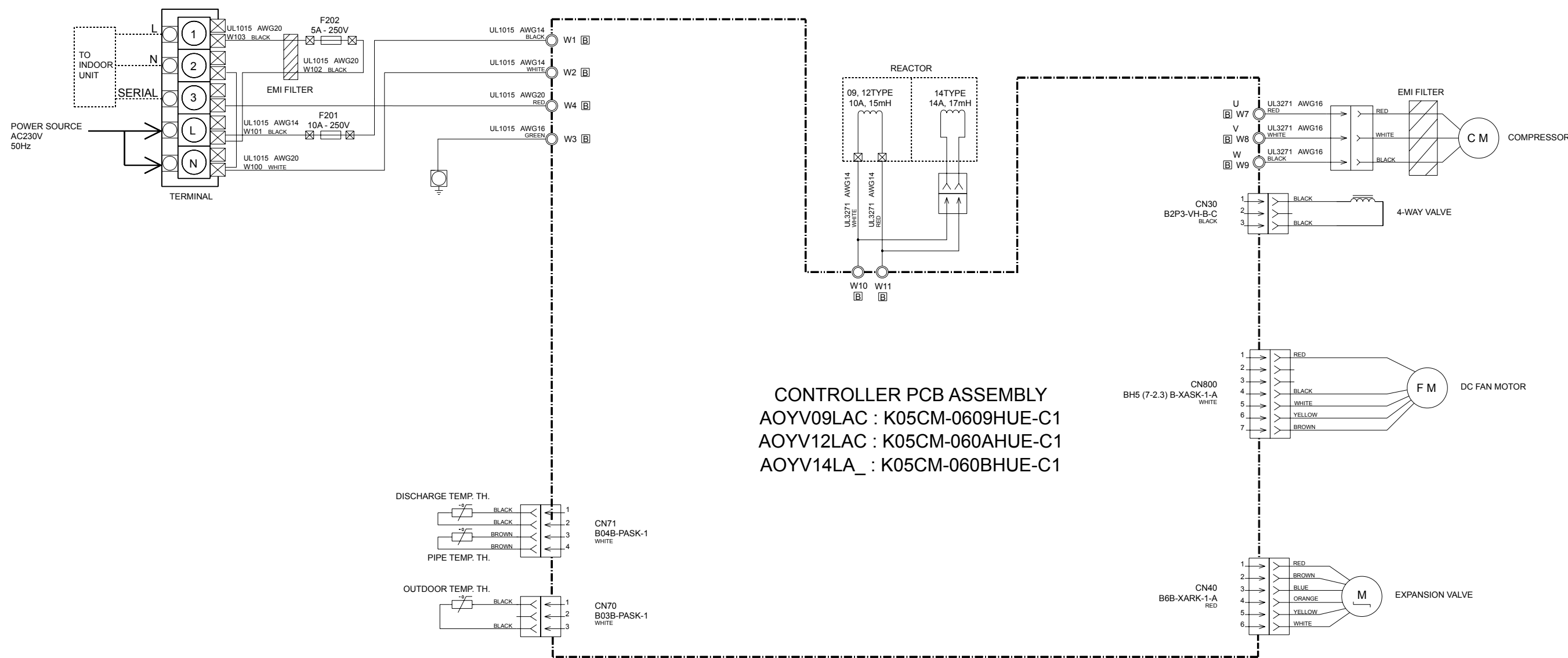


INDOOR UNIT
INDICATOR PCB ASSEMBLY
K06DD-0700HSE-F0

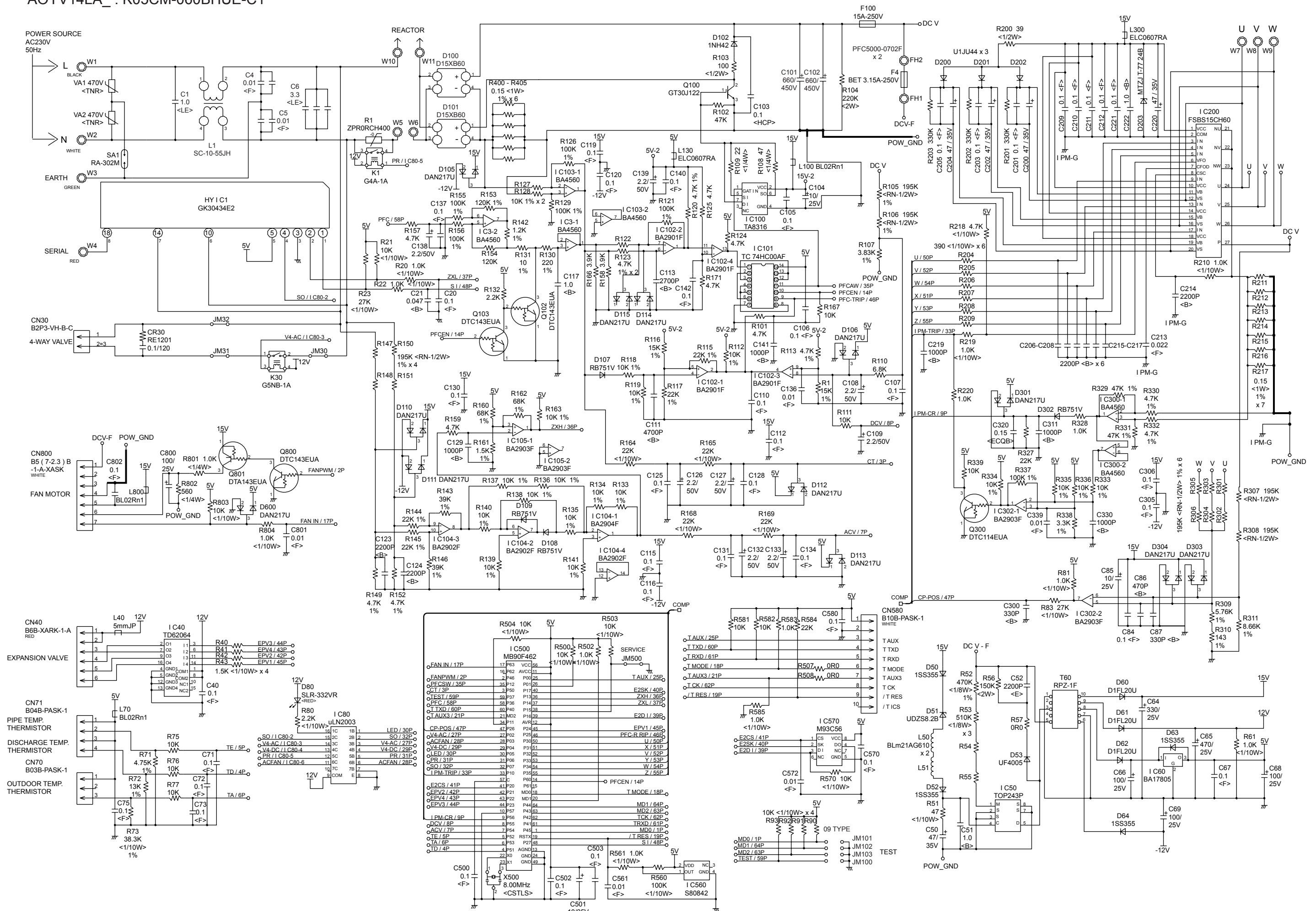


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
AOYV09LAC : EZ-00605HUE
AOYV12LAC : EZ-00606HUE
AOYV14LA_ : EZ-00607HUE



CONTROLLER PCB ASSEMBLY
AOYV09LAC : K05CM-0609HUE-C1
AOYV12LAC : K05CM-060AHUE-C1
AOYV14LA_ : K05CM-060BHUE-C1

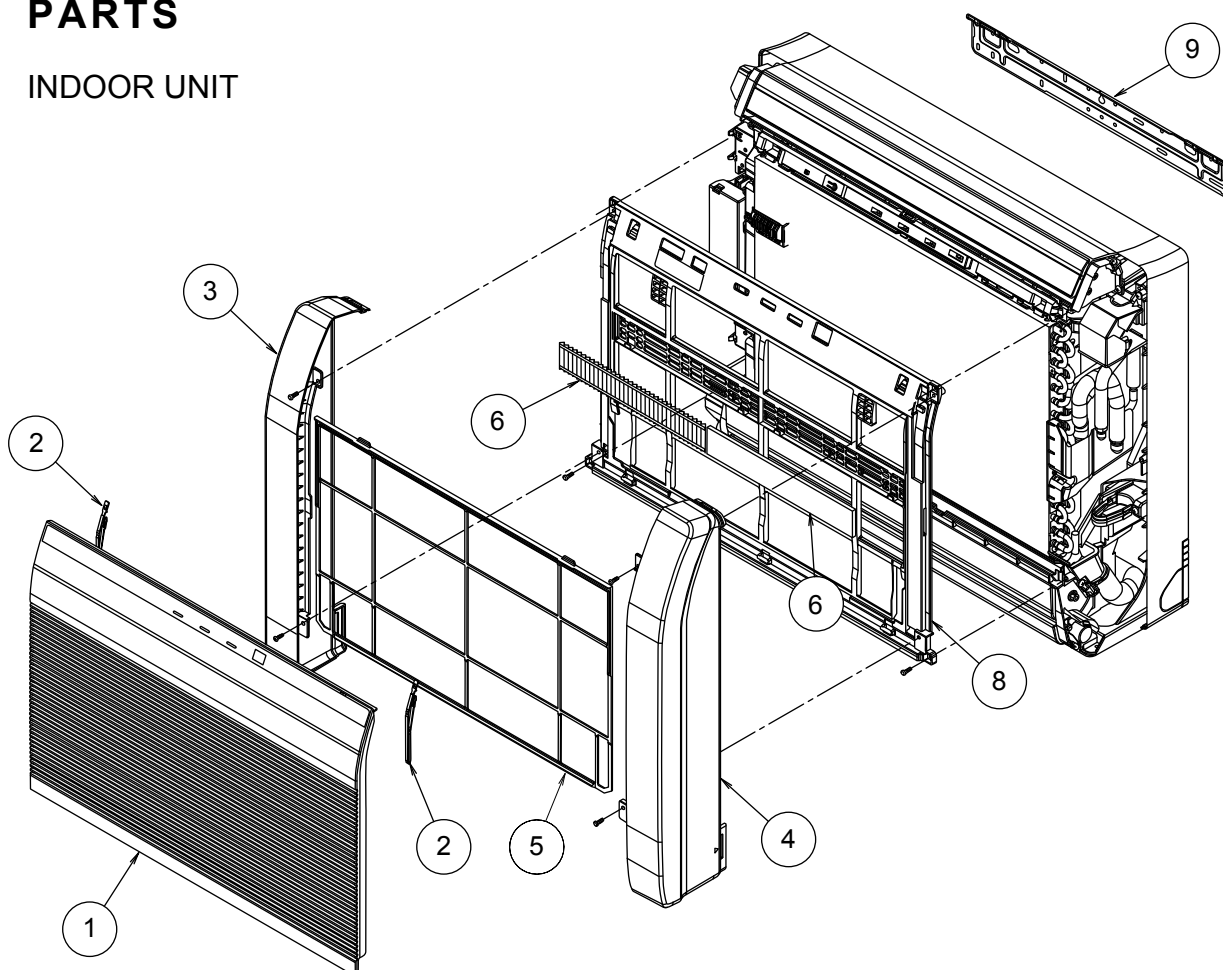


ERROR CONTENTS

Error	Indoor unit LED			Wired remote controller	Error
	Operation LED	Timer LED	10℃ 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

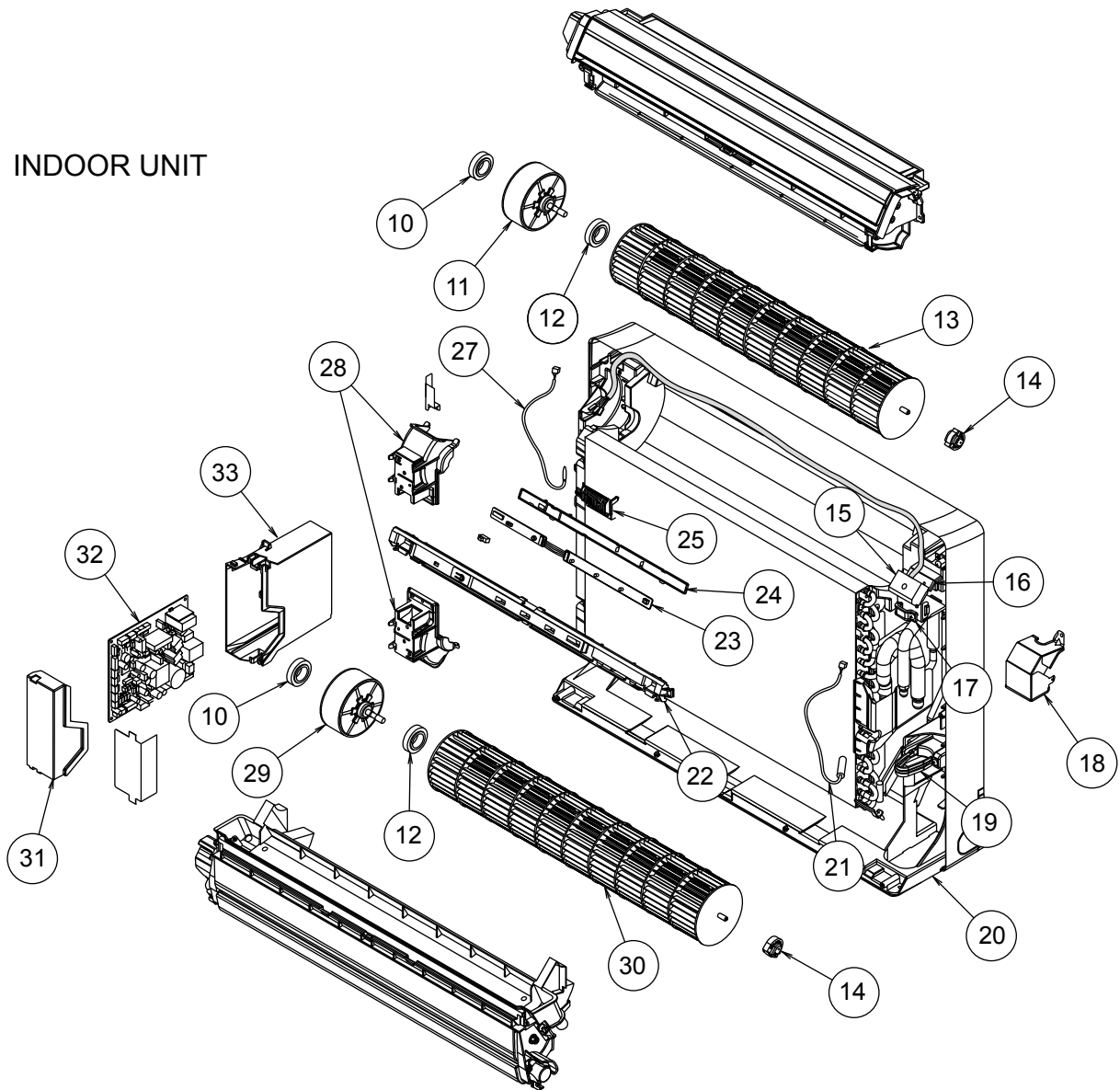
PARTS

INDOOR UNIT



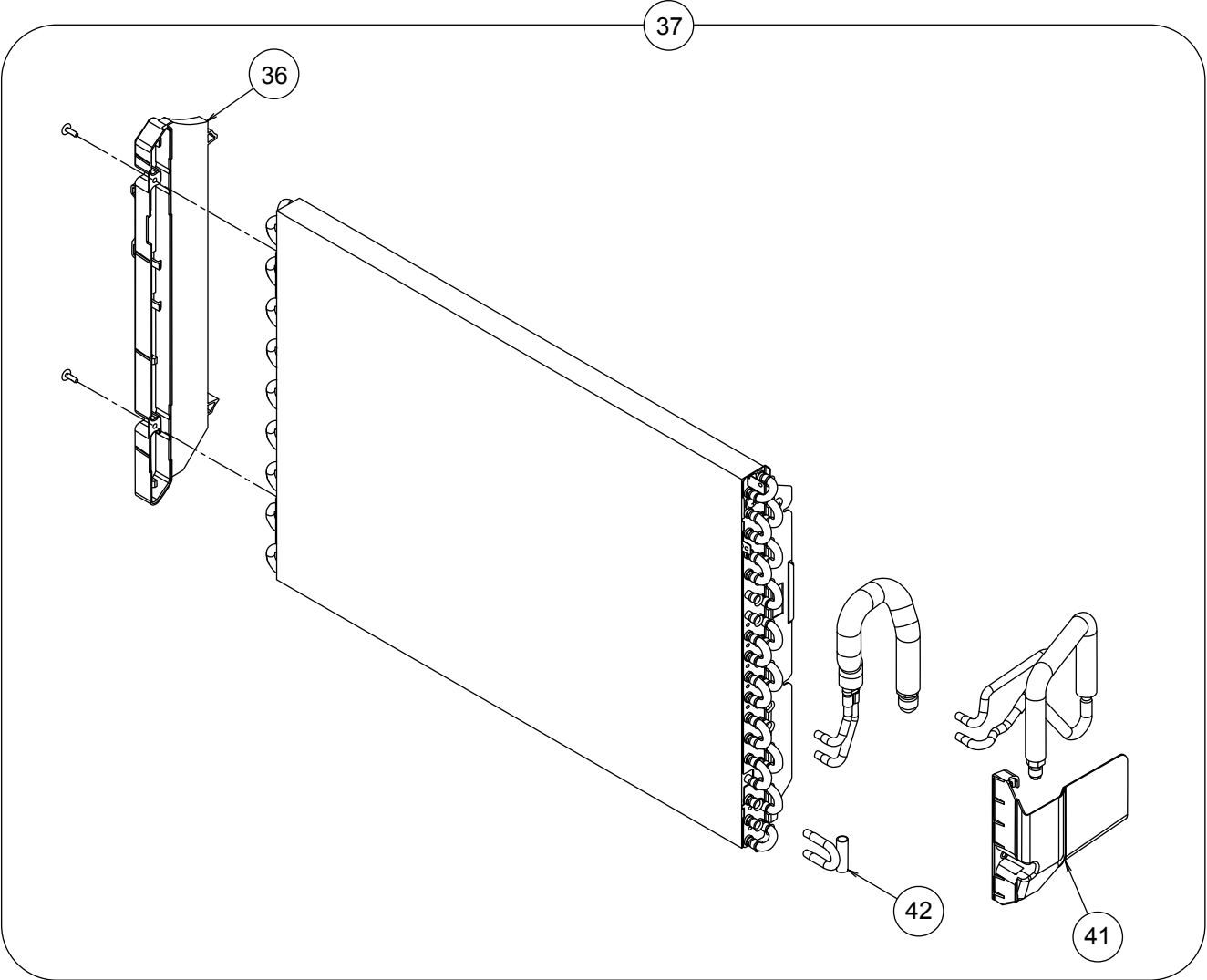
Ref	Description	Parts number	
1	Intake Grille Assy	9316418011	
2	Rope Assy	9316458017	
3	Panel (Front) L	9316187016	
4	Panel (Front) R	9316186019	
5	Air Filter	9316189010	
6	Air Clean Filter Assy	9312152018	
8	Panel (Front)	9316185012	
9	Bracket Panel	9316272019	
--	Remote Control	9316397019	
--	Remote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

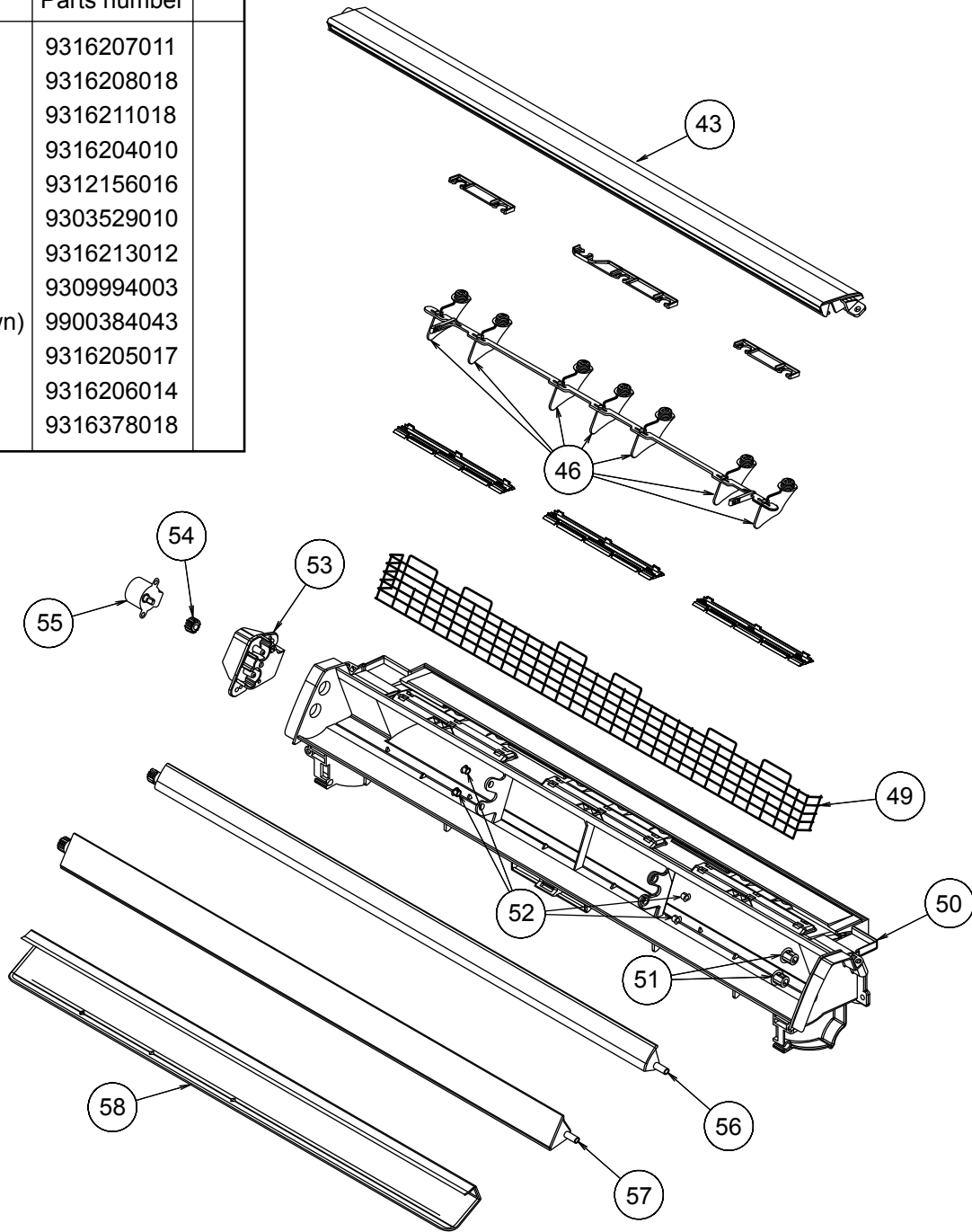
INDOOR UNIT



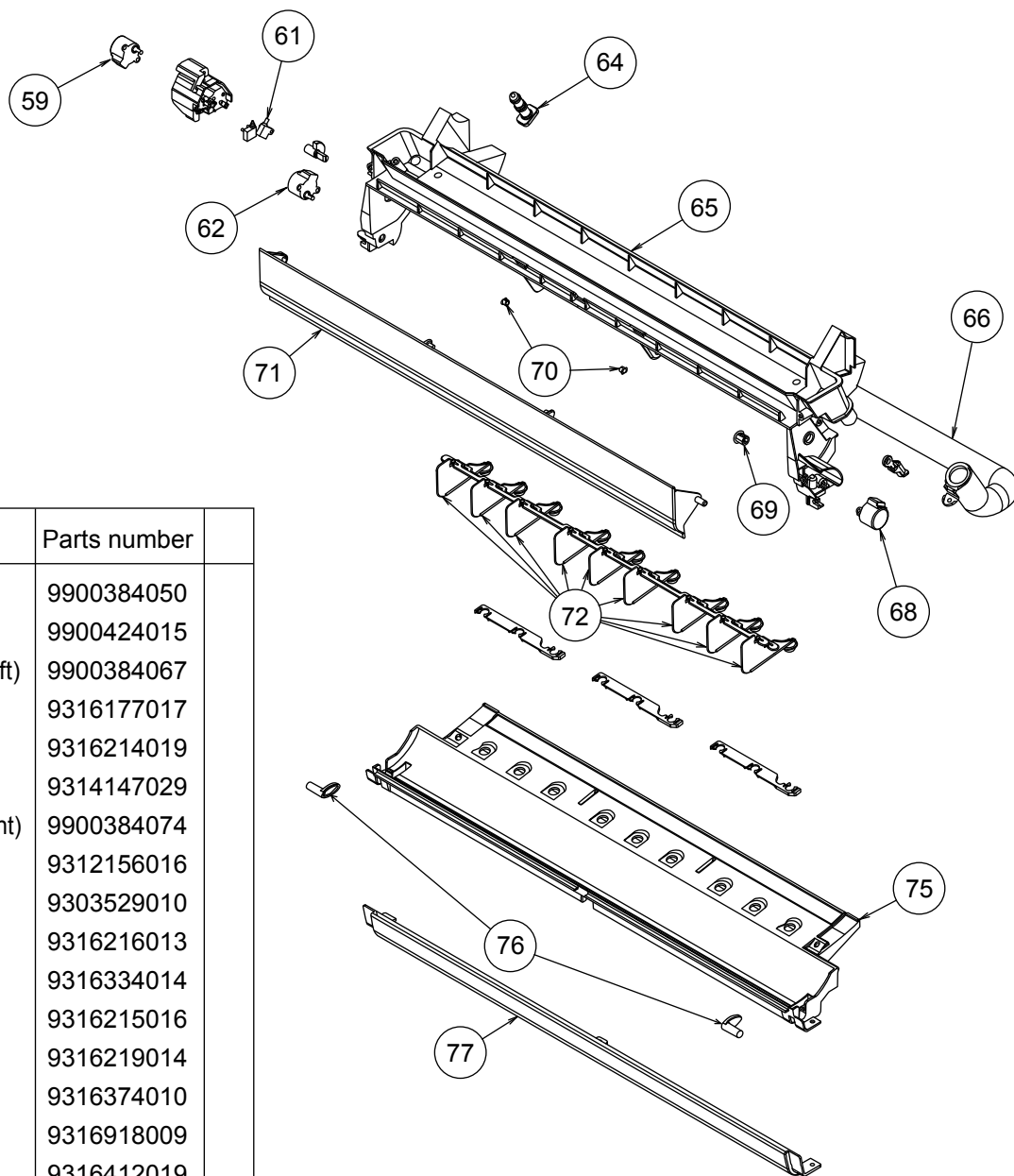
Ref	Description	Parts number	
36	Evaporator Holder	9316199019	
37	Evaporator Total Assy (09, 12)	9316091016	
37	Evaporator Total Assy (14)	9316091023	
41	Water Seal	9316271012	
42	U Pipe AA Assy	9316095014	

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	



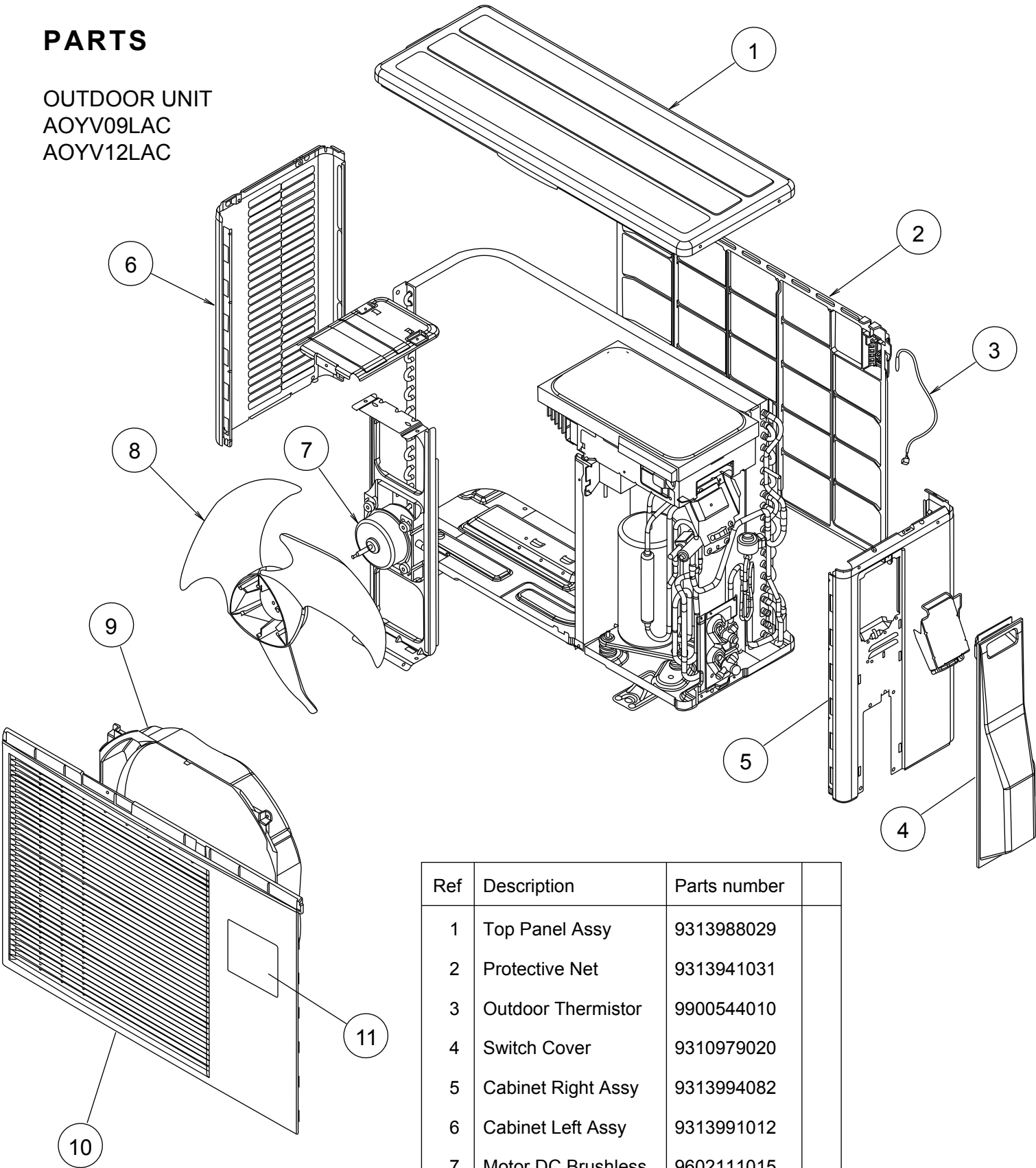
INDOOR UNIT



Ref	Description	Parts number	
59	Motor Step (Damper)	9900384050	
61	Switch Micro (Limit switch)	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	

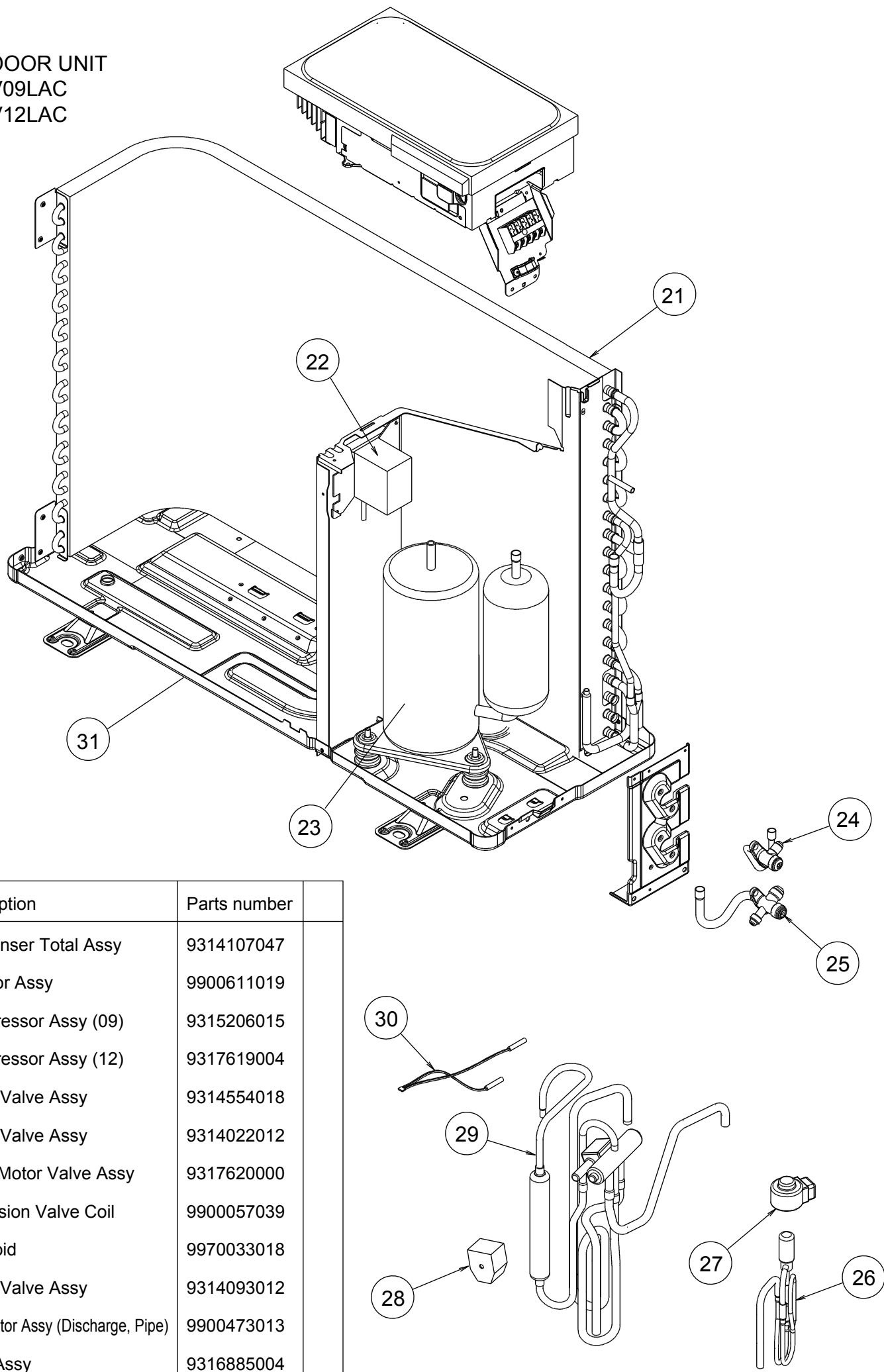
PARTS

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



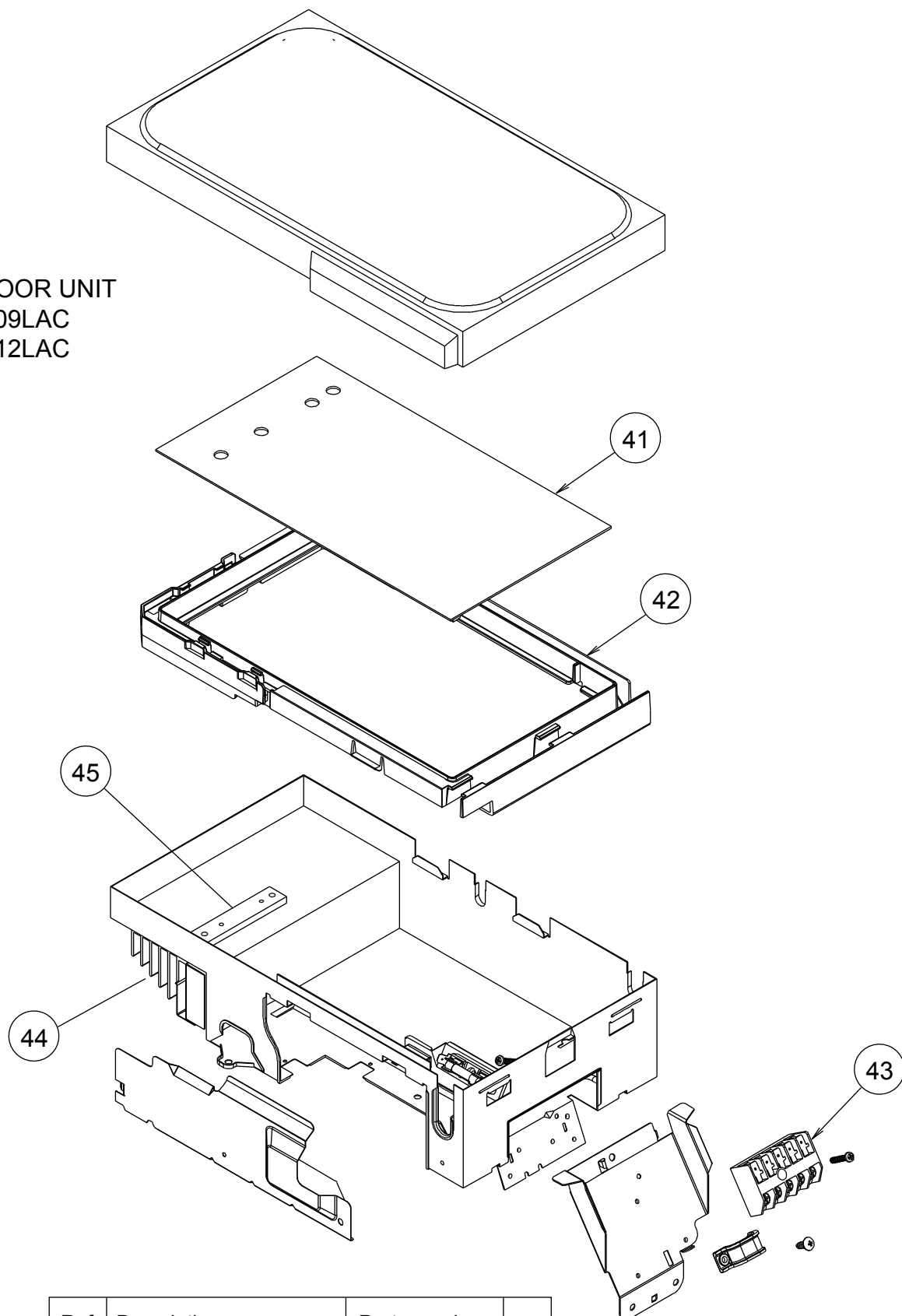
Ref	Description	Parts number	
1	Top Panel Assy	9313988029	
2	Protective Net	9313941031	
3	Outdoor Thermistor	9900544010	
4	Switch Cover	9310979020	
5	Cabinet Right Assy	9313994082	
6	Cabinet Left Assy	9313991012	
7	Motor DC Brushless	9602111015	
8	Propeller Fan	9313808013	
9	Fan Ring	9313807016	
10	Front Panel	9313806026	
11	Rear Emblem	9315210012	

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



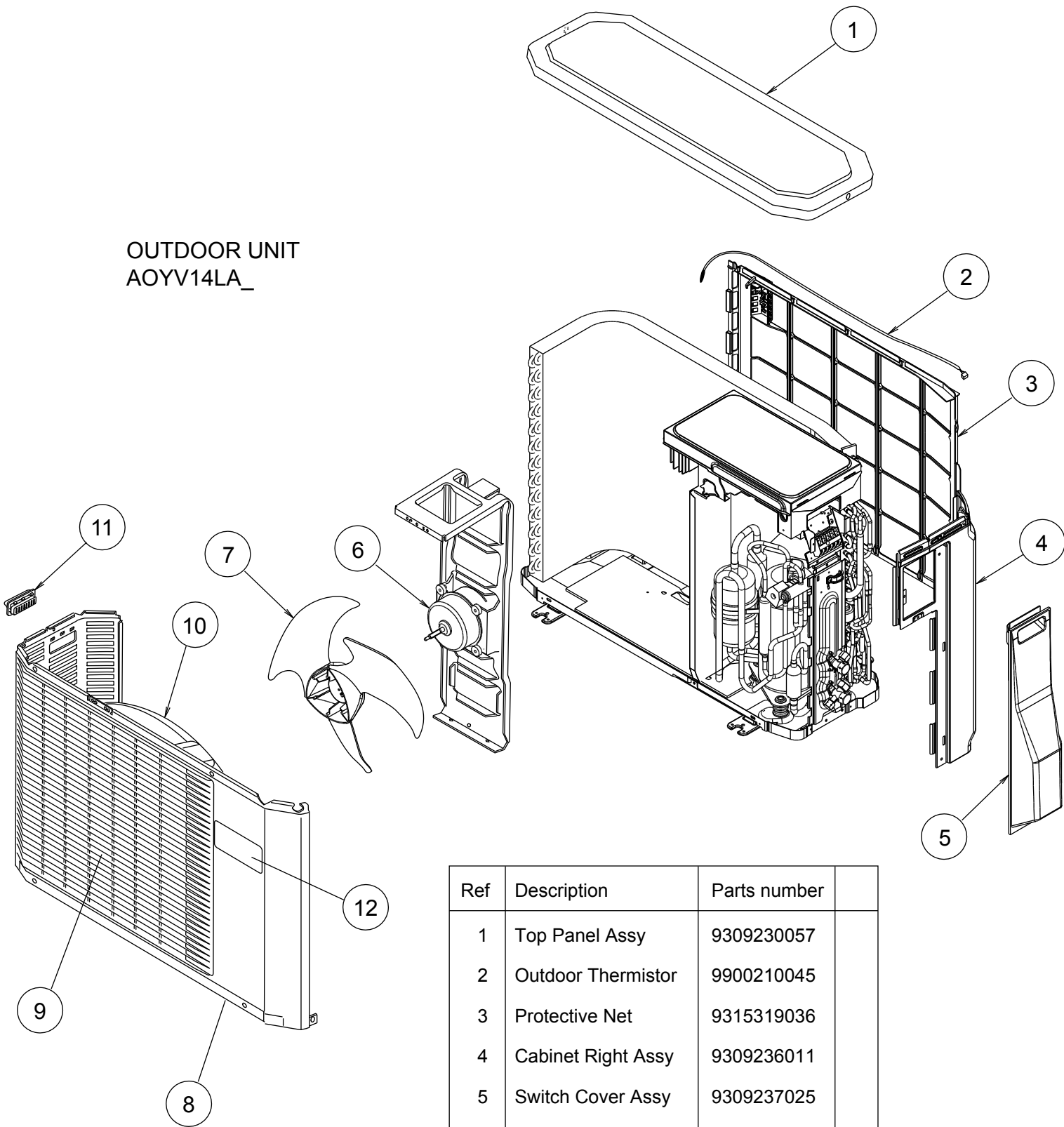
Ref	Description	Parts number
21	Condenser Total Assy	9314107047
22	Reactor Assy	9900611019
23	Compressor Assy (09)	9315206015
23	Compressor Assy (12)	9317619004
24	2-way Valve Assy	9314554018
25	3-way Valve Assy	9314022012
26	Pulse Motor Valve Assy	9317620000
27	Expansion Valve Coil	9900057039
28	Solenoid	9970033018
29	4-way Valve Assy	9314093012
30	Thermistor Assy (Discharge, Pipe)	9900473013
31	Base Assy	9316885004

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



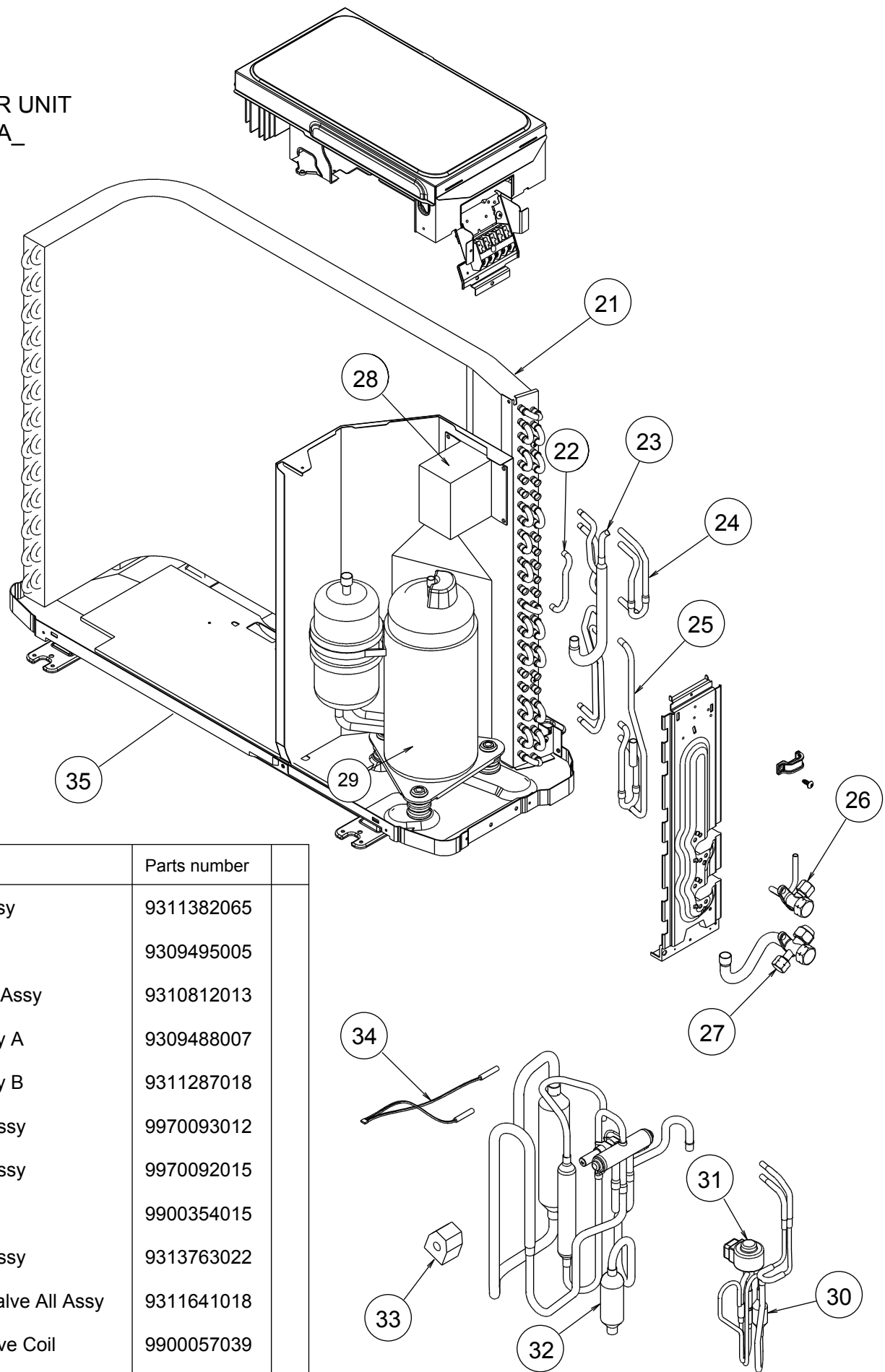
Ref	Description	Parts number	
41	Inverter PCB Assy (09)	9707039221	
41	Inverter PCB Assy (12)	9707039238	
42	PCB Holder	9313074029	
43	Terminal	9703874031	
44	Heat Sink A	9314410017	
45	Heat Sink B	9314090011	

OUTDOOR UNIT
AOYV14LA_



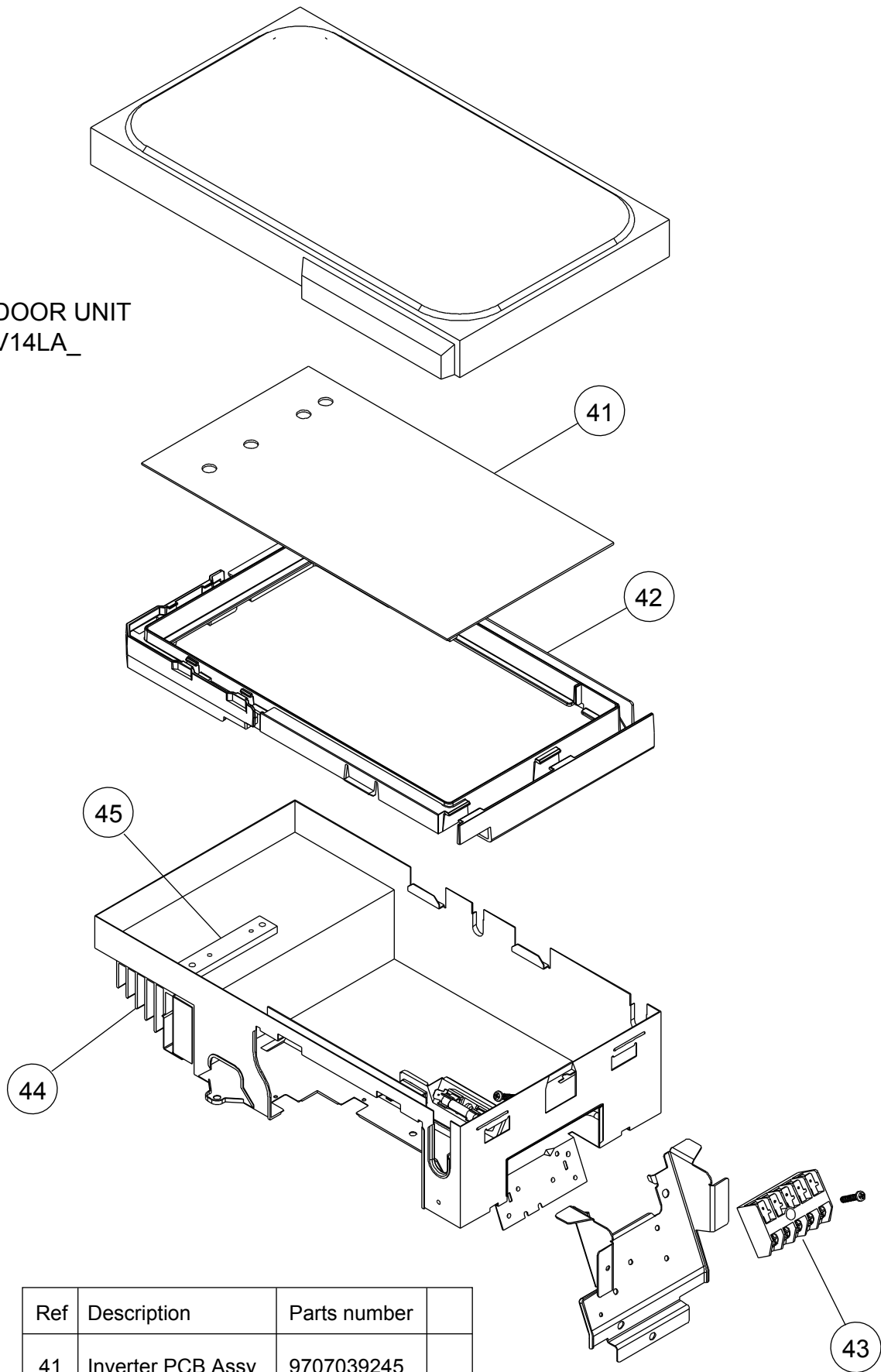
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1	Top Panel Assy	9309230057	
2	Outdoor Thermistor	9900210045	
3	Protective Net	9315319036	
4	Cabinet Right Assy	9309236011	
5	Switch Cover Assy	9309237025	
6	Motor DC Brushless	9601725015	
7	Propeller Fan	9309909014	
8	Cabinet Assy	9314809040	
9	Blow Grille	9308884015	
10	Fan Ring	9308885012	
11	Grip	9308880017	
12	Rear Emblem	9315210012	

OUTDOOR UNIT
AOYV14LA_



Ref	Description	Parts number
21	Condenser Assy	9311382065
22	Joint E	9309495005
23	Entrance Pipe Assy	9310812013
24	Joint Pipe Assy A	9309488007
25	Joint Pipe Assy B	9311287018
26	2-way Valve Assy	9970093012
27	3-way Valve Assy	9970092015
28	Reactor Assy	9900354015
29	Compressor Assy	9313763022
30	Pulse Motor Valve All Assy	9311641018
31	Expansion Valve Coil	9900057039
32	4-way Valve Assy	9316475014
33	Solenoid	9970033018
34	Thermistor Assy (Discharge, Pipe)	9900473013
35	Base Assy	9308869081

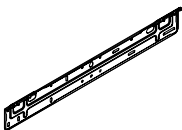
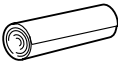
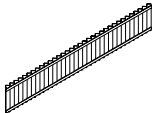
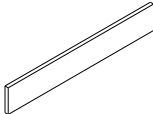
OUTDOOR UNIT
AOYV14LA_



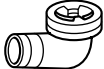
Ref	Description	Parts number	
41	Inverter PCB Assy	9707039245	
42	PCB Holder	9313074029	
43	Terminal	9703874031	
44	Heat Sink A	9314410017	
45	Heat Sink B	9314090011	

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	AOYV14LA_
Drain pipe assy 	1	For outdoor unit drain piping work	9303029022	9303029015

