

SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR type

SERVICE
MANUAL



Models

Indoor unit	Outdoor unit
AGTV09LAC	AOTV09LAC
AGTV12LAC	AOTV12LAC
AGTV14LAC	AOTV14LAC

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cooling & heating inverter		
INDOOR UNIT		AGTV09LAC	AGTV12LAC	AGTV14LAC
OUTDOOR UNIT		AOTV09LAC	AOTV12LAC	AOTV14LAC
COOLING CAPACITY		2.60 kW	3.50 kW	4.20 kW
HEATING CAPACITY		3.50 kW	4.50 kW	5.20 kW
POWER SOURCE		240 V	240 V	240 V
FREQUENCY		50 Hz	50 Hz	50 Hz
RUNNING CURRENT	Cooling	2.8 A	4.6 A	5.3 A
	Heating	3.8 A	5.5 A	6.1 A
INPUT WATTS	Cooling	0.60 kW	1.03 kW	1.22 kW
	Heating	0.81 kW	1.23 kW	1.44 kW
E.E.R.	Cooling	4.33 kW/kW	3.40 kW/kW	3.44 kW/kW
COP	Heating	4.32 kW/kW	3.66 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		240 V	240 V	240 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

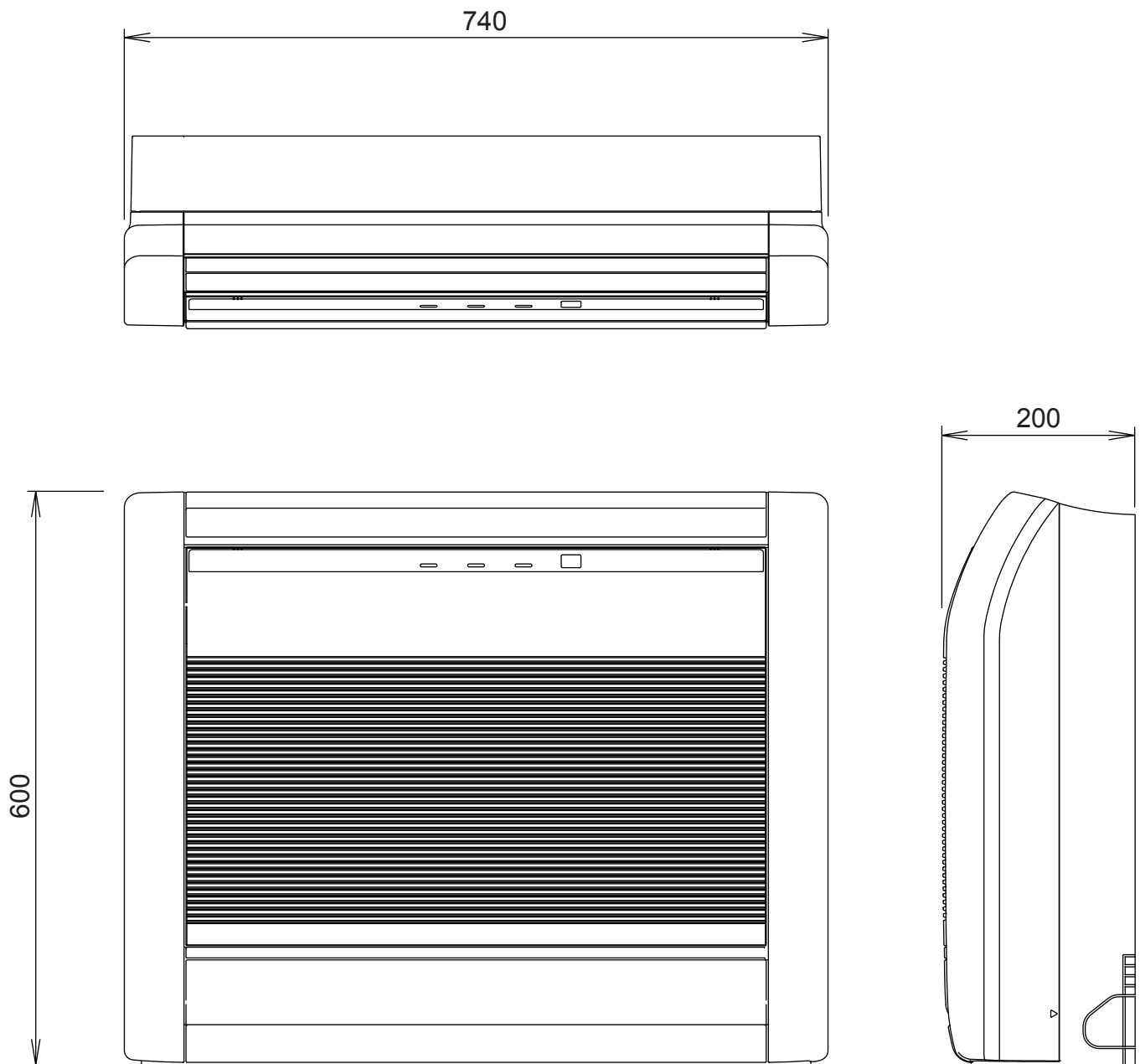
REFRIGERANT

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)



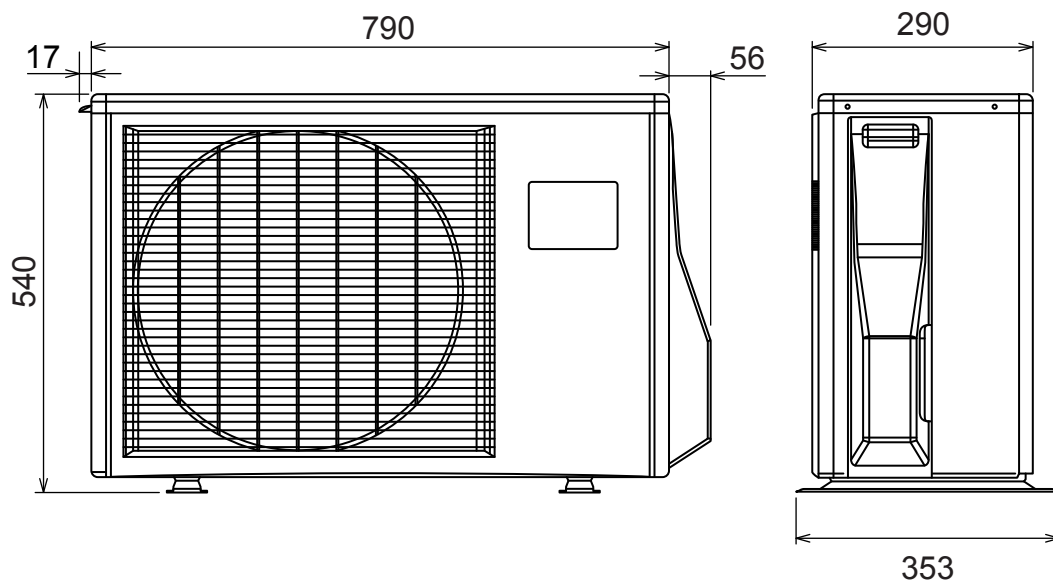
OUTDOOR UNIT

(unit : mm)

Models :

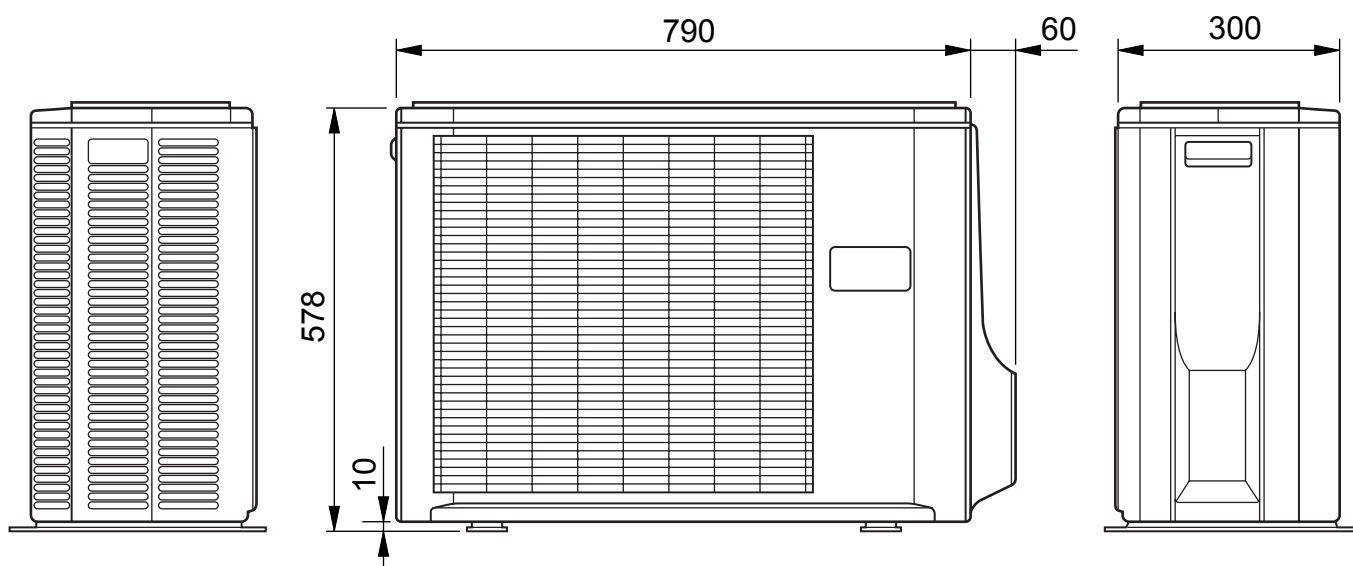
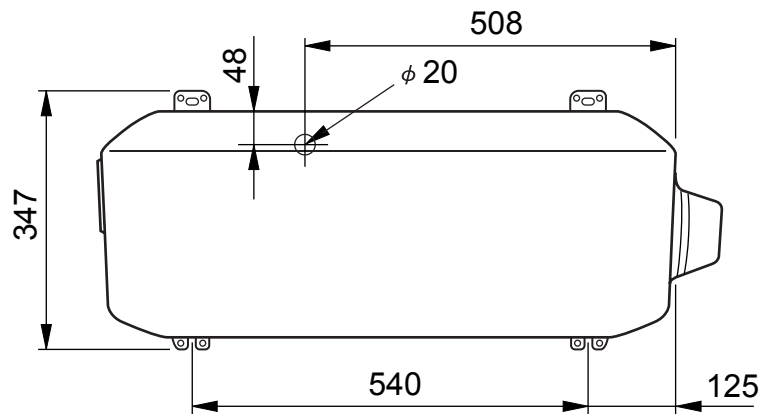
AOTV09LAC

AOTV12LAC

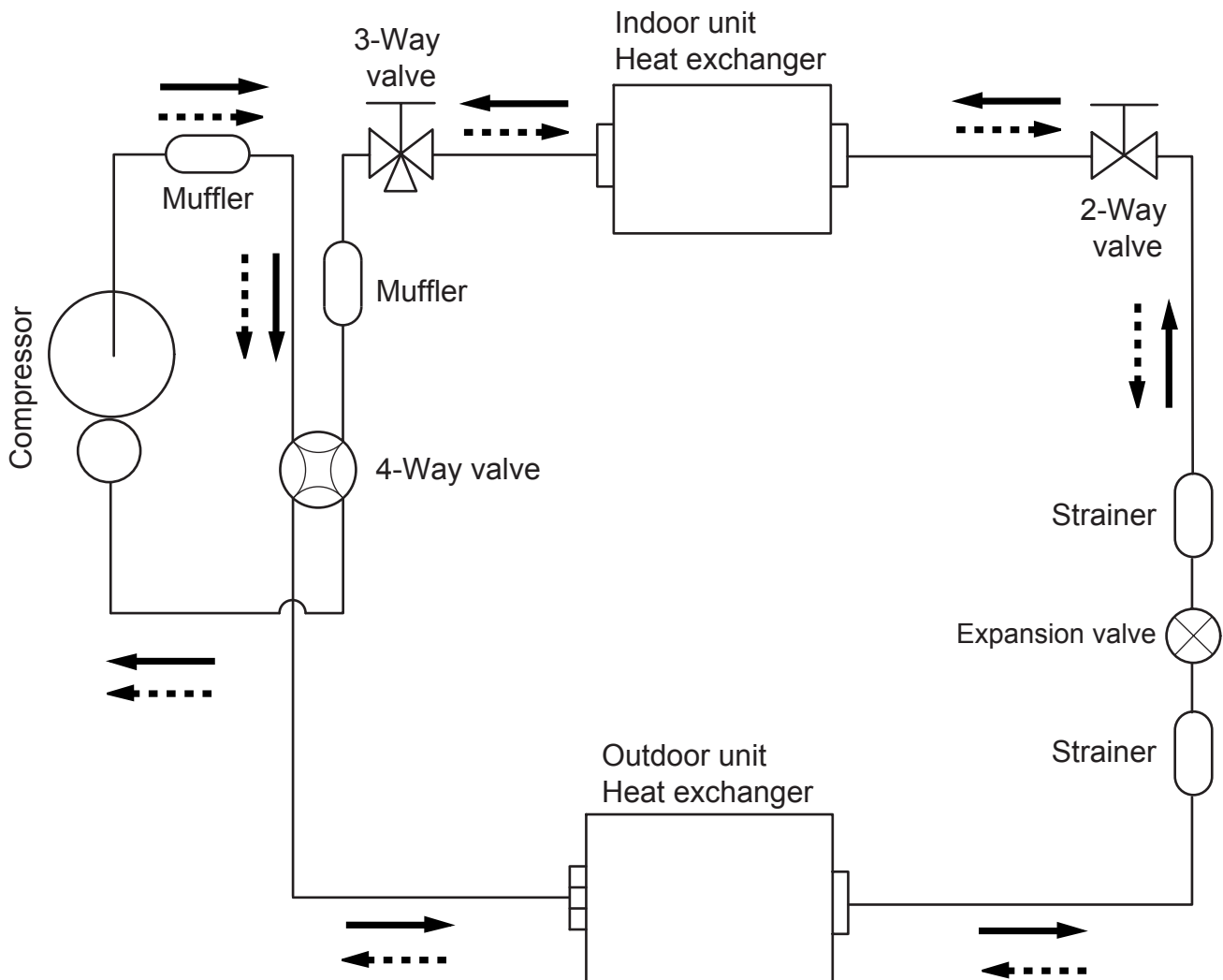


Model :

AOTV14LAC



REFRIGERANT SYSTEM DIAGRAM



Refrigerant direction

→ Cooling
→ Heating

Refrigerant pipe diameter

AGTV09LAC / AOTV09LAC

AGTV12LAC / AOTV12LAC

Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm)

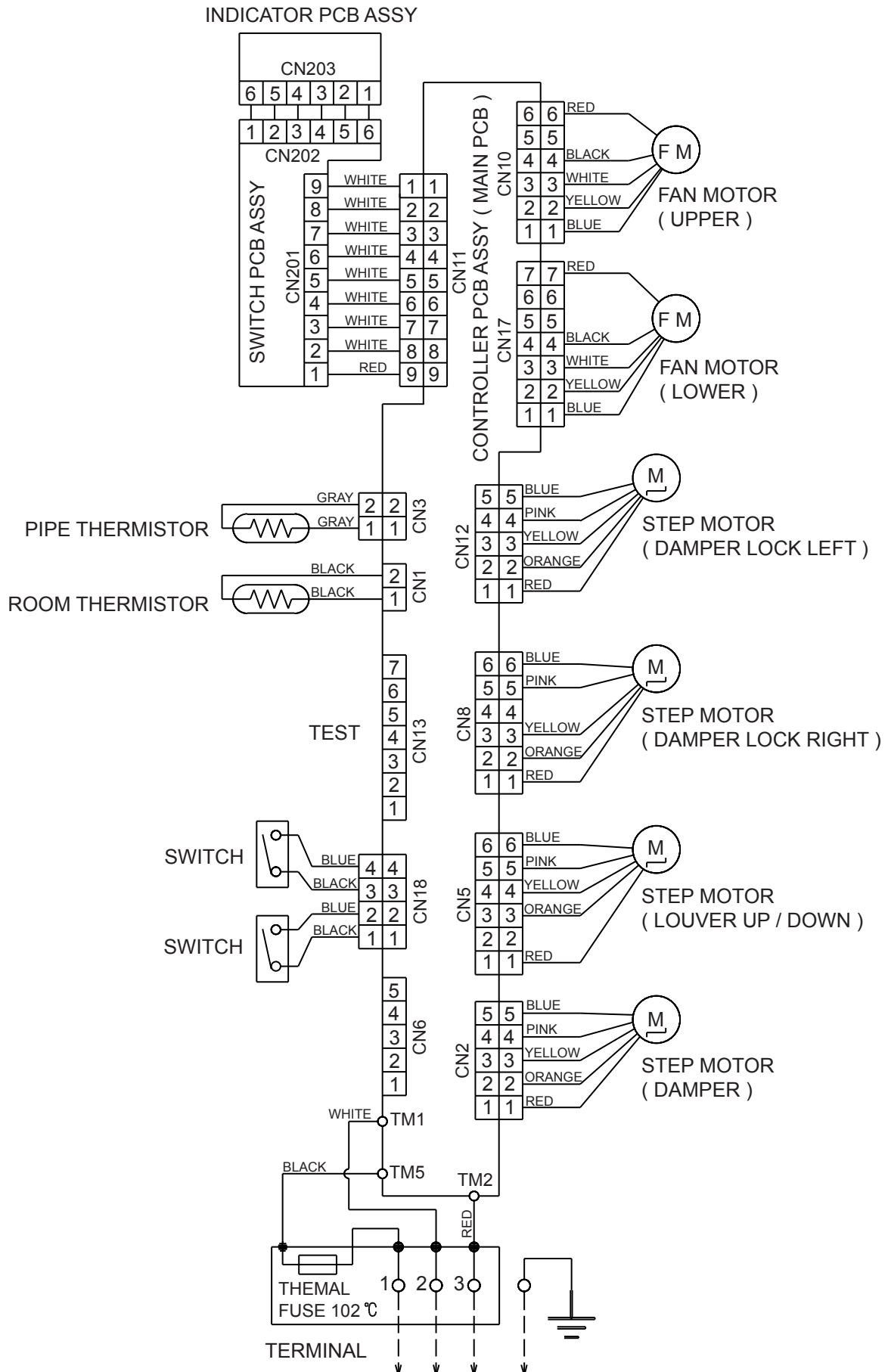
AGTV14LAC / AOTV14LAC

Liquid : 1/4" (6.35 mm)

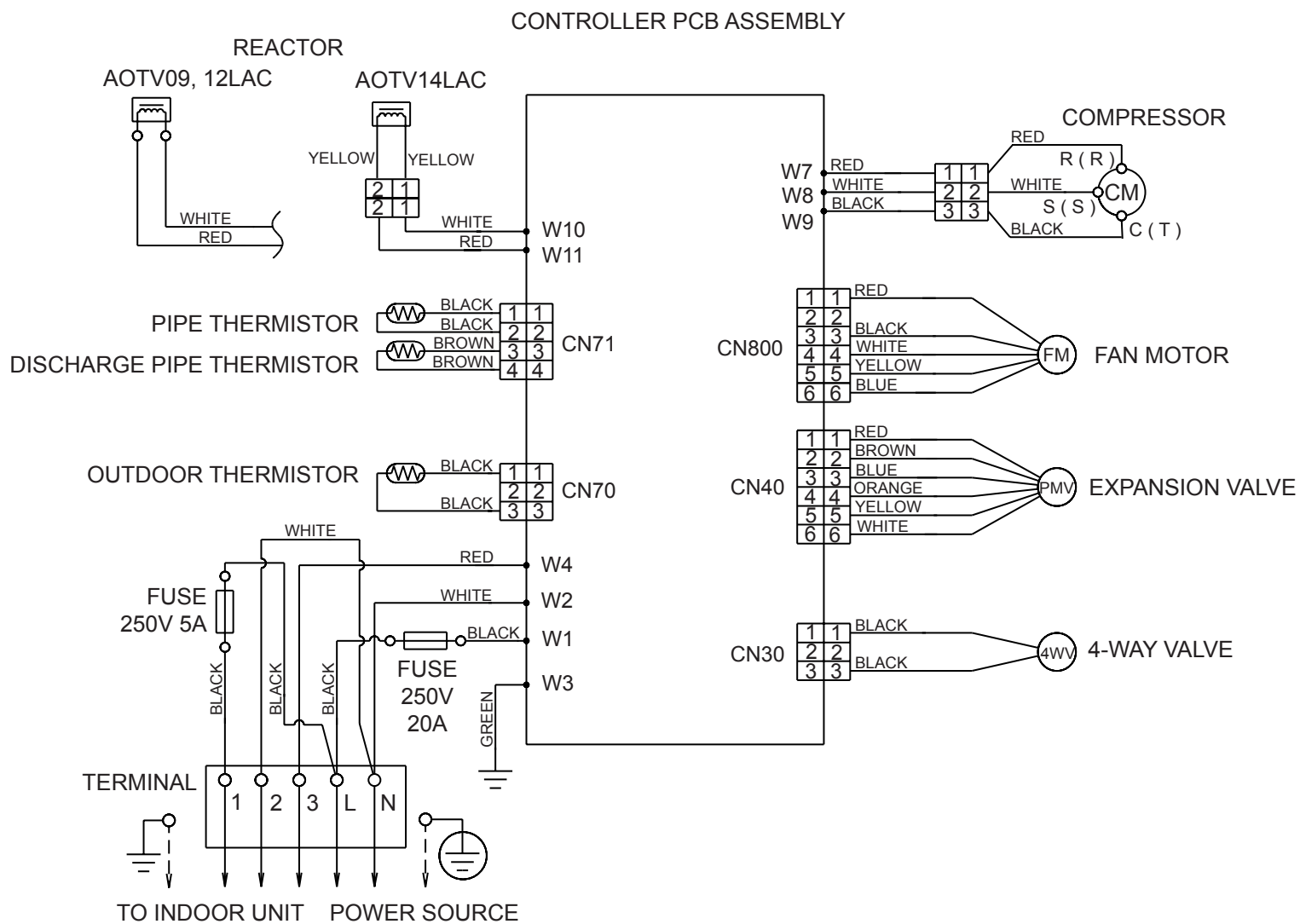
Gas : 1/2" (12.7 mm)

CIRCUIT DIAGRAM

INDOOR UNIT

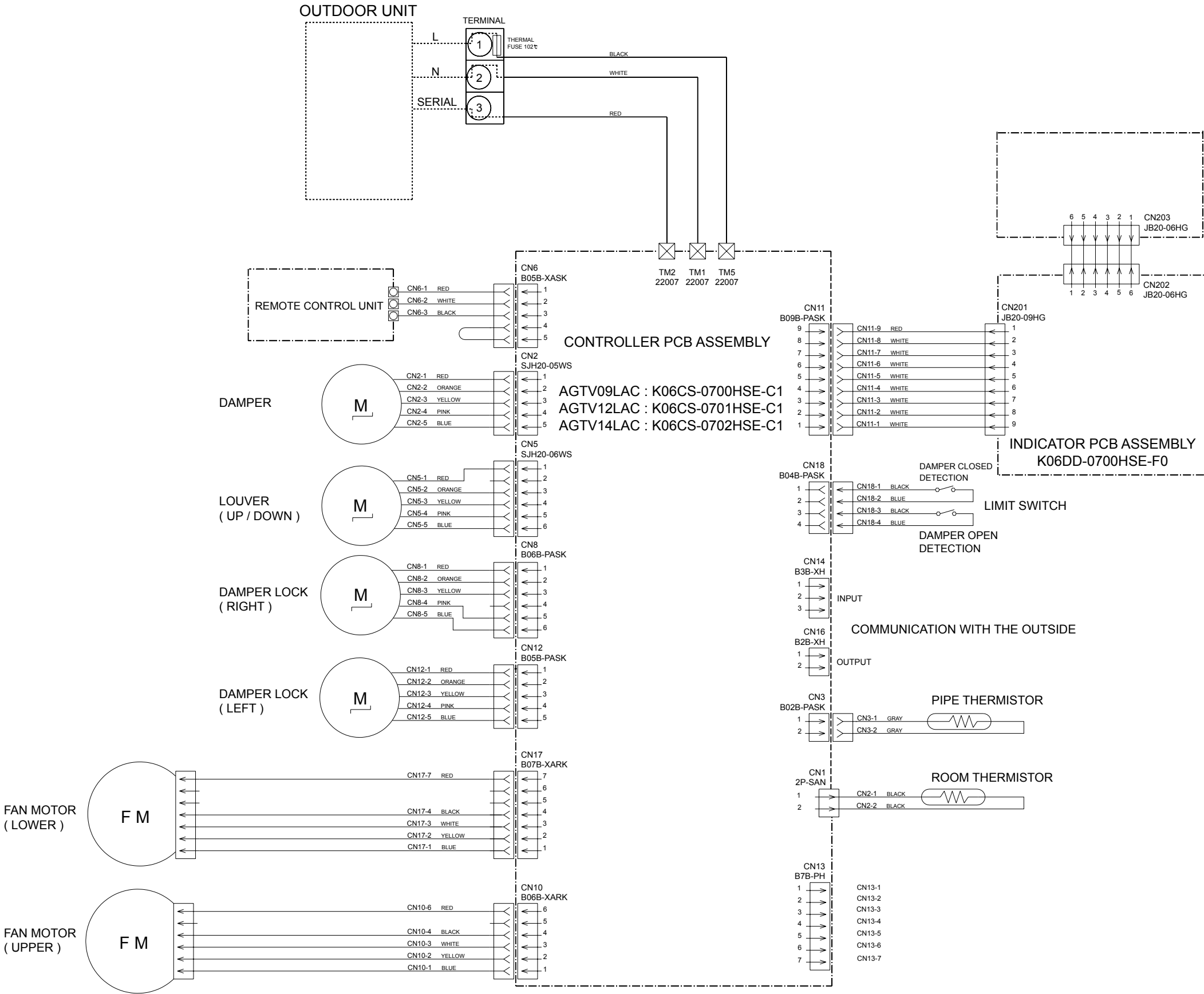


OUTDOOR UNIT



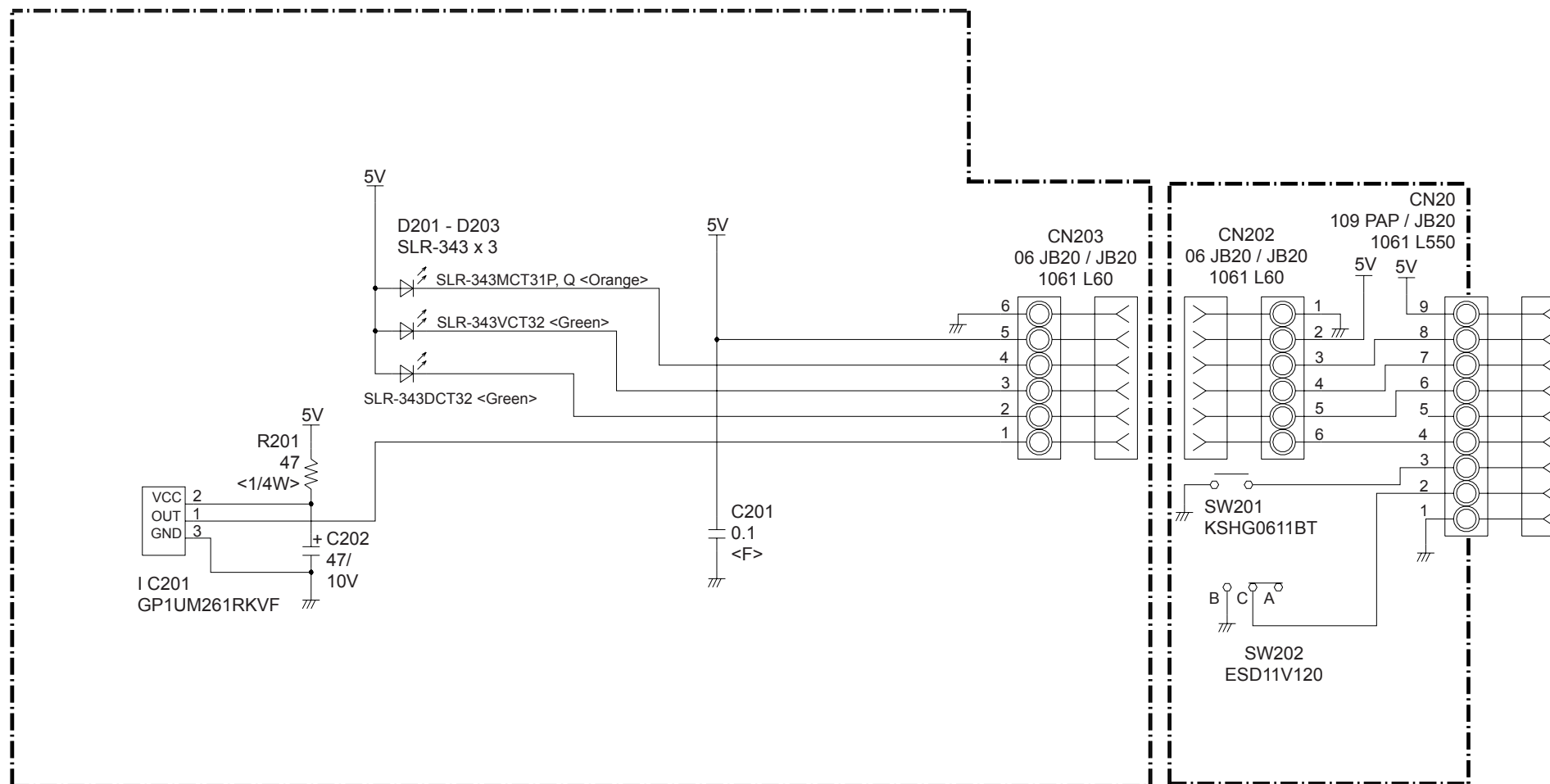
INDOOR PCB CIRCUIT DIAGRAM

CONTROL UNIT
AGTV09LAC : EZ-00709HSE
AGTV12LAC : EZ-0070AHSE
AGTV14LAC : EZ-0070BHSE



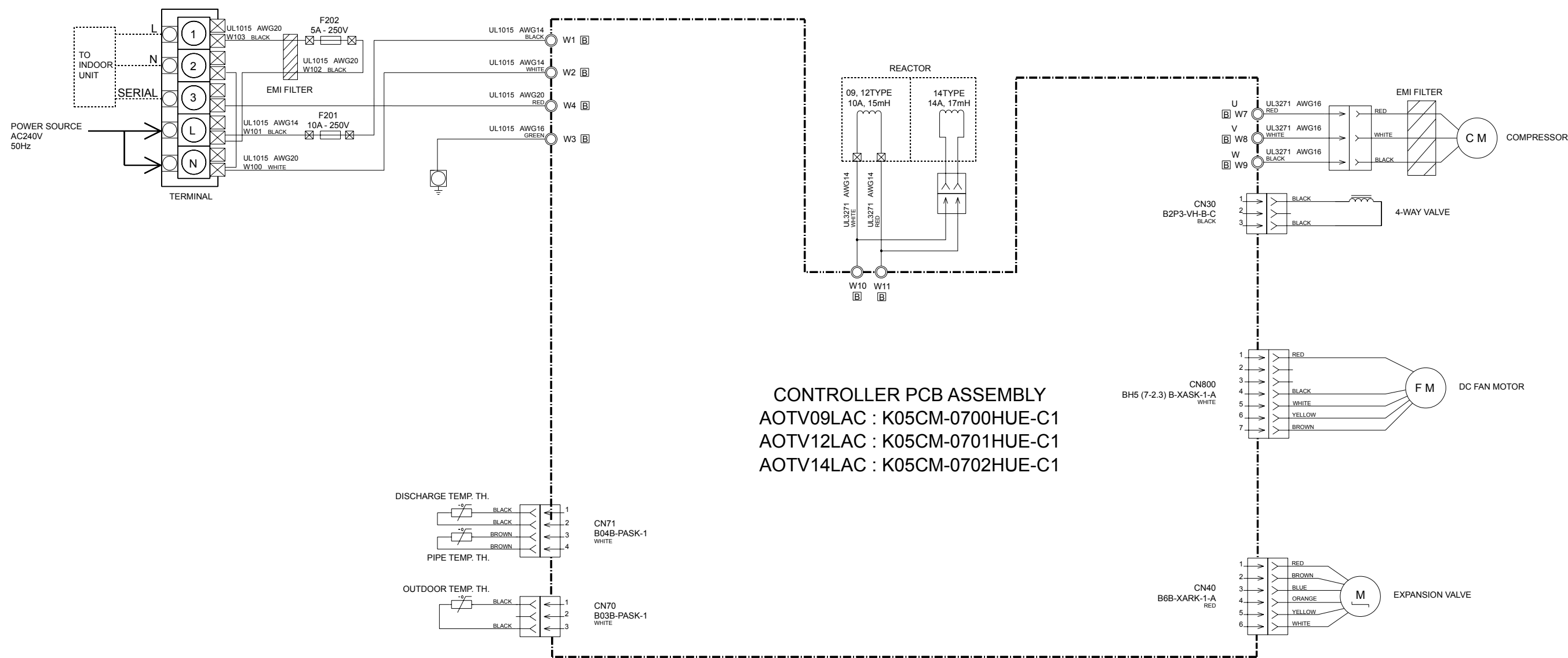
INDOOR UNIT

INDICATOR PCB ASSEMBLY K06DD-0700HSE-F0

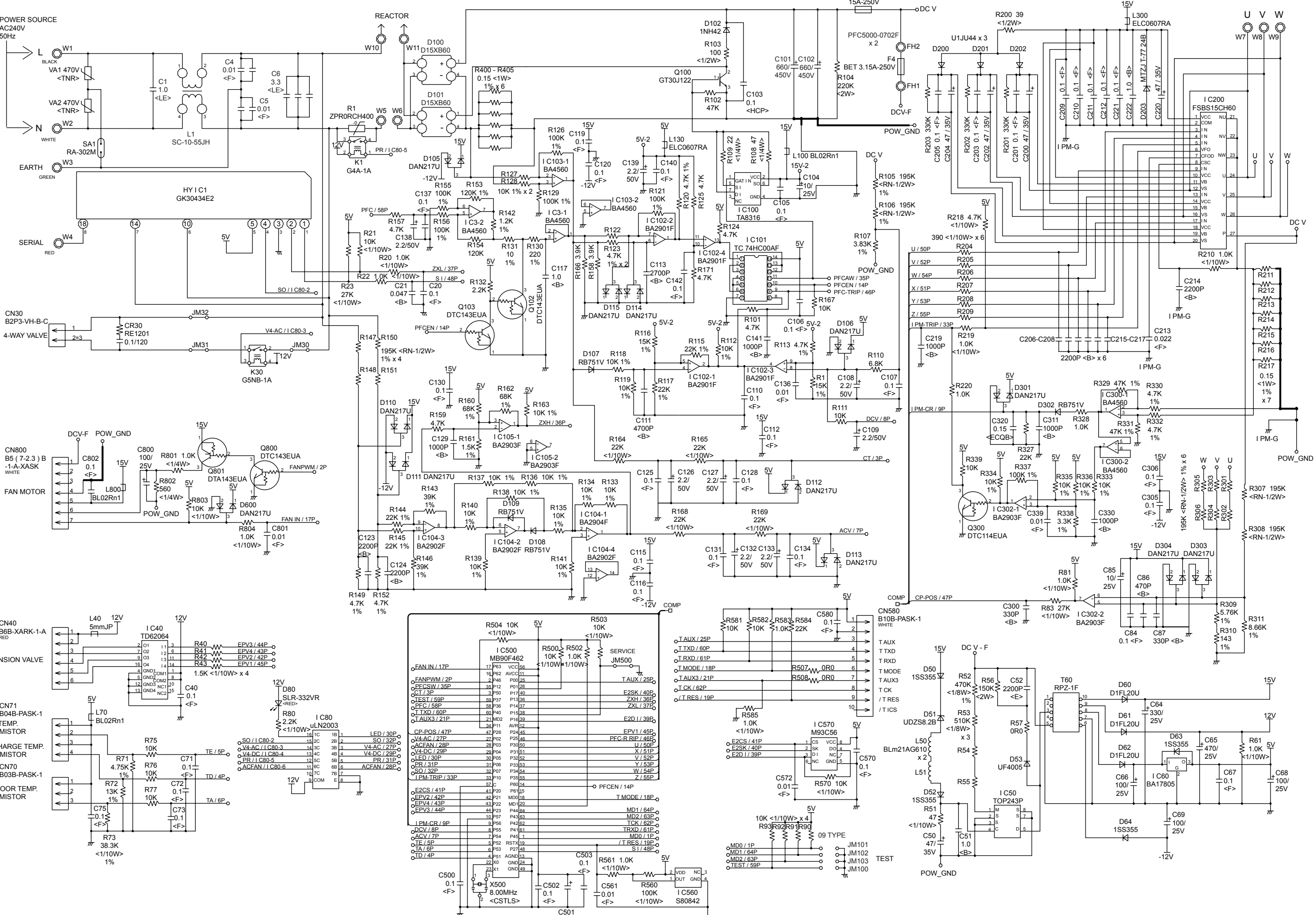


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
AOTV09LAC : EZ-0077HUE
AOTV12LAC : EZ-0078HUE
AOTV14LAC : EZ-0079HUE



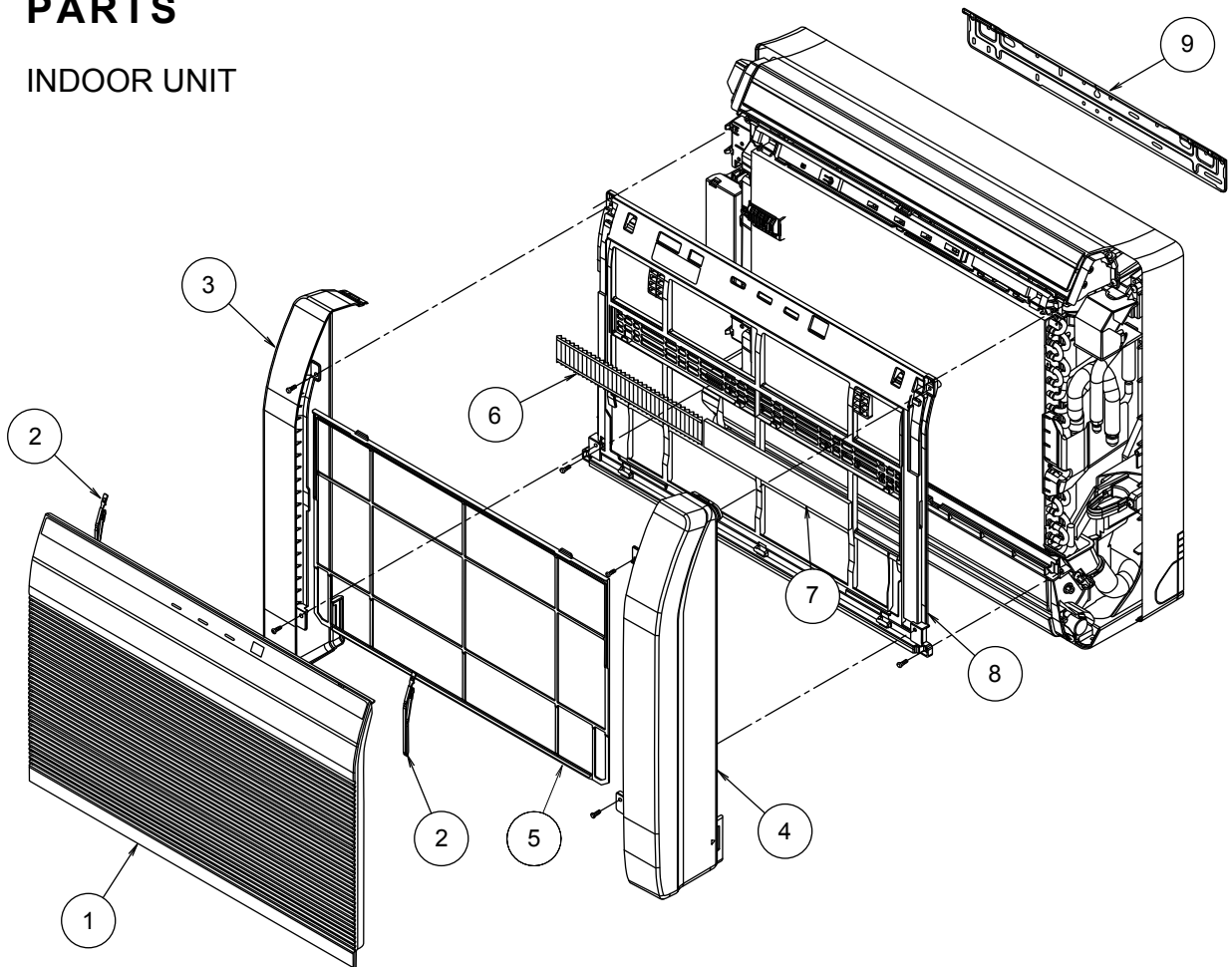
CONTROLLER PCB ASSEMBLY
 AOTV09LAC : K05CM-0700HUE-C1
 AOTV12LAC : K05CM-0701HUE-C1
 AOTV14LAC : K05CM-0702HUE-C1



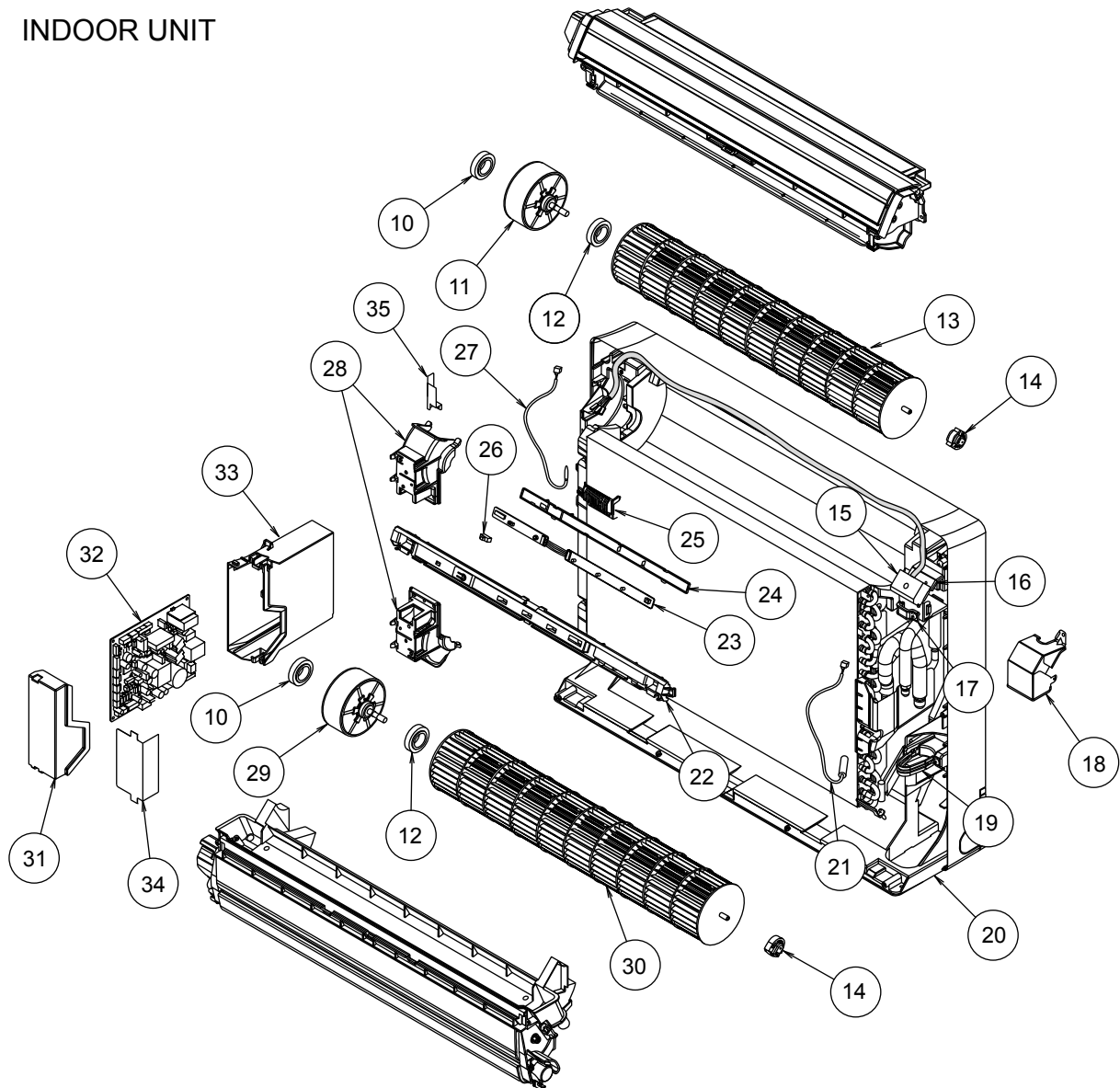
ERROR CONTENTS

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
Indoor unit control error	4 flash	2 flash	Off	20	Manual auto button welded
		2 flash	Off	--	Main relay 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
Optional function error	8 flash	4 flash	Off	25	PFC circuit error
Model information error	0.1 sec on/off	0.1 sec on/off	0.1 sec on/off	11	Model information error

INDOOR UNIT

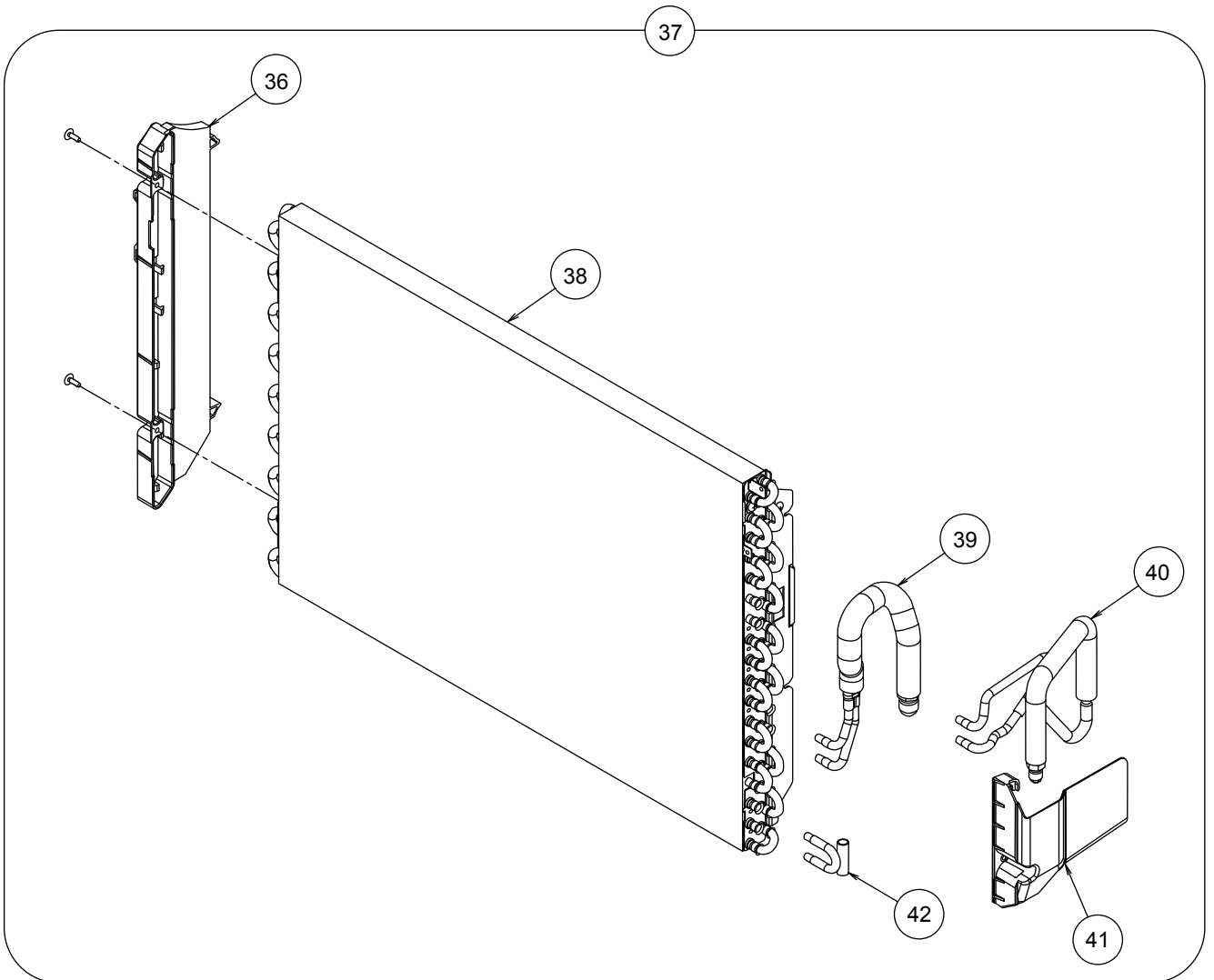
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INDOOR UNIT

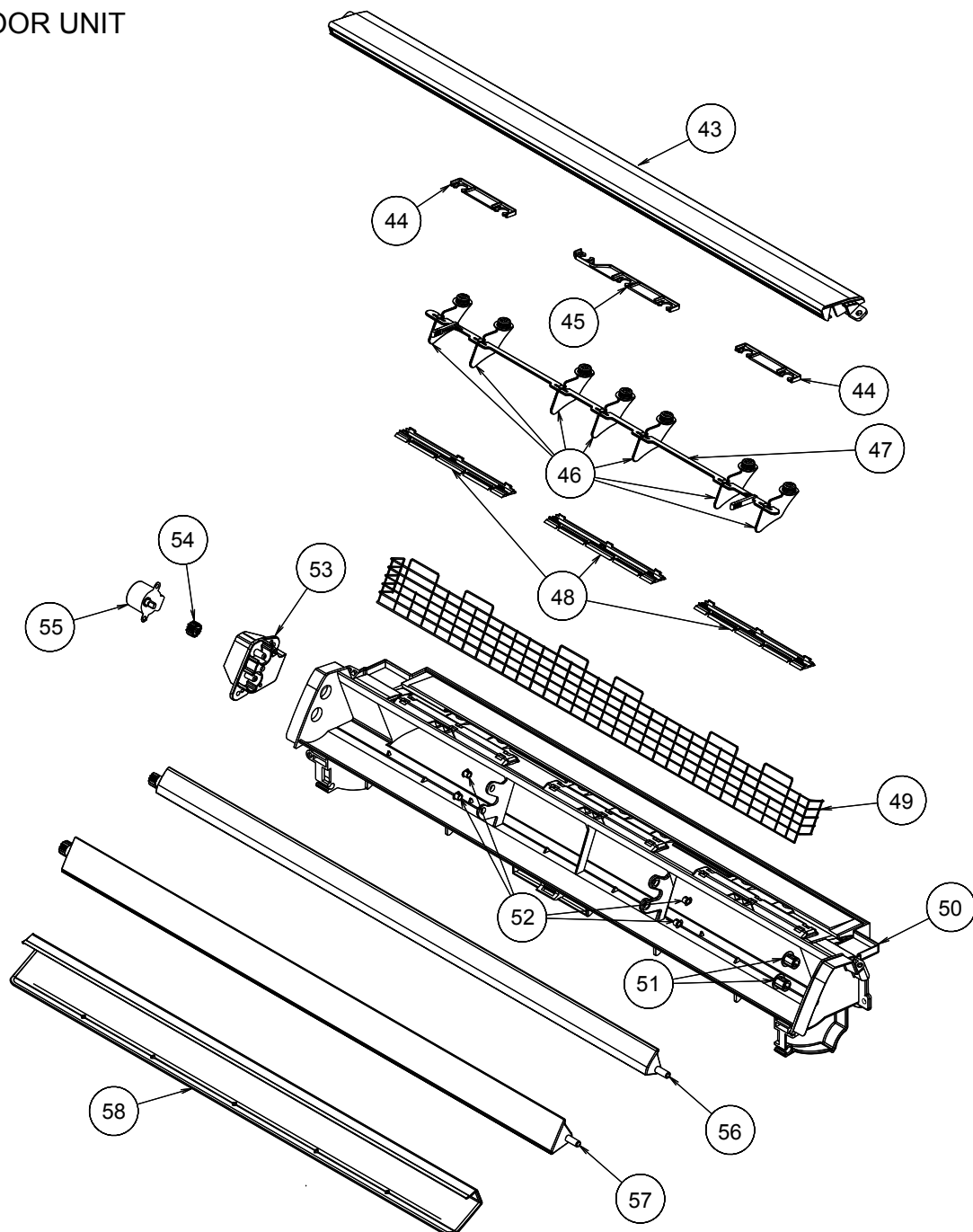


Ref No.	Description	Parts No.					Q'ty
		AGTV09LAC	AGTV12LAC	AGTV14LAC	-	-	
10	MOTOR CUSHION NR	9313168018	9313168018	9313168018	-	-	
11	MOTOR DC BRUSHLESS MFD-34ROM	9602109012	9602109012	9602109012	-	-	
12	MOTOR CUSHION N	9312979011	9312979011	9312979011	-	-	
13	CROSS FLOW FAN ASSY	9312004034	9312004034	9312004034	-	-	
14	BEARING C ASSY	9306628017	9306628017	9306628017	-	-	
15	TERMINAL	9900385026	9900385026	9900385026	-	-	
16	BRACKET (TERMINAL)	9316269019	9316269019	9316269019	-	-	
17	CORD CLAMP	9302271002	9302271002	9302271002	-	-	
18	COVER (TERMINAL)	9316307018	9316307018	9316307018	-	-	
19	BRACKET (PIPE)	9316270015	9316270015	9316270015	-	-	
20	BASE	9316193017	9316193017	9316193017	-	-	
21	PIPE THERMISTOR	9900425012	9900425012	9900425012	-	-	
22	DISPLAY CASE	9316194014	9316194014	9316194014	-	-	
23	DISPLAY PCB	9707571028	9707571028	9707571028	-	-	
24	DISPLAY COVER	9316191013	9316191013	9316191013	-	-	
25	THERMISTOR HOLDER	9316192010	9316192010	9316192010	-	-	
26	SLIDE SWITCH COVER	9316267015	9316267015	9316267015	-	-	
27	ROOM TEMP THERMISTOR	9700801108	9700801108	9700801108	-	-	
28	MOTOR HOLDER	9316195011	9316195011	9316195011	-	-	
29	MOTOR DC BRUSHLESS MFD-14SXM	9602481019	9602481019	9602481019	-	-	
30	CROSS FLOW FAN B ASSY	9316309012	9316309012	9316309012	-	-	
31	CONTROL COVER	9316201019	9316201019	9316201019	-	-	
32	CONTROLLER PCB	9707505047	9707505054	9707505061	-	-	
33	CONTROL BOX	9316200012	9316200012	9316200012	-	-	
34	CONTROL INNER COVER	9316487017	9316487017	9316487017	-	-	
35	SEALED PANEL	9316441019	9316441019	9316441019	-	-	

INDOOR UNIT

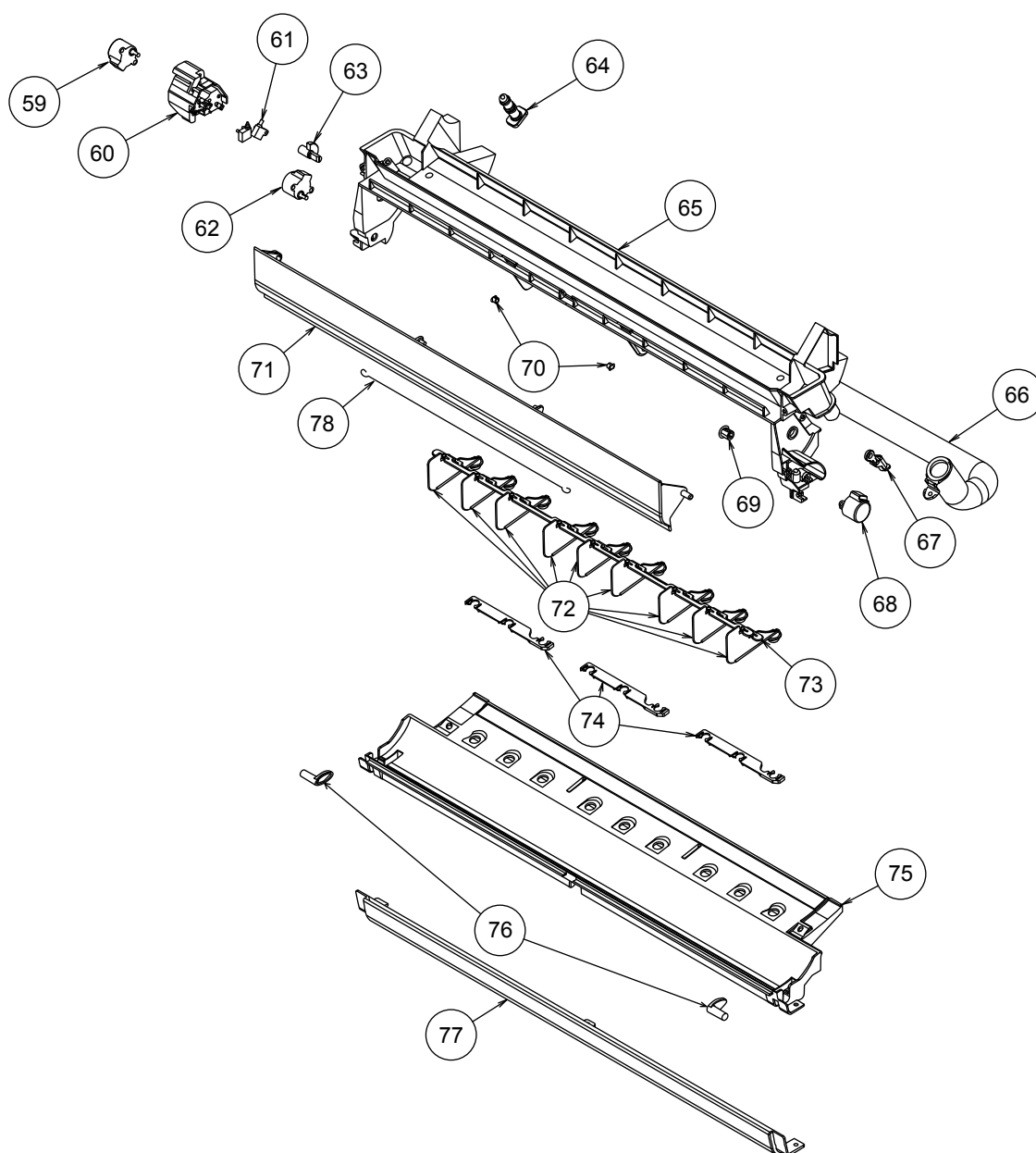
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INDOOR UNIT



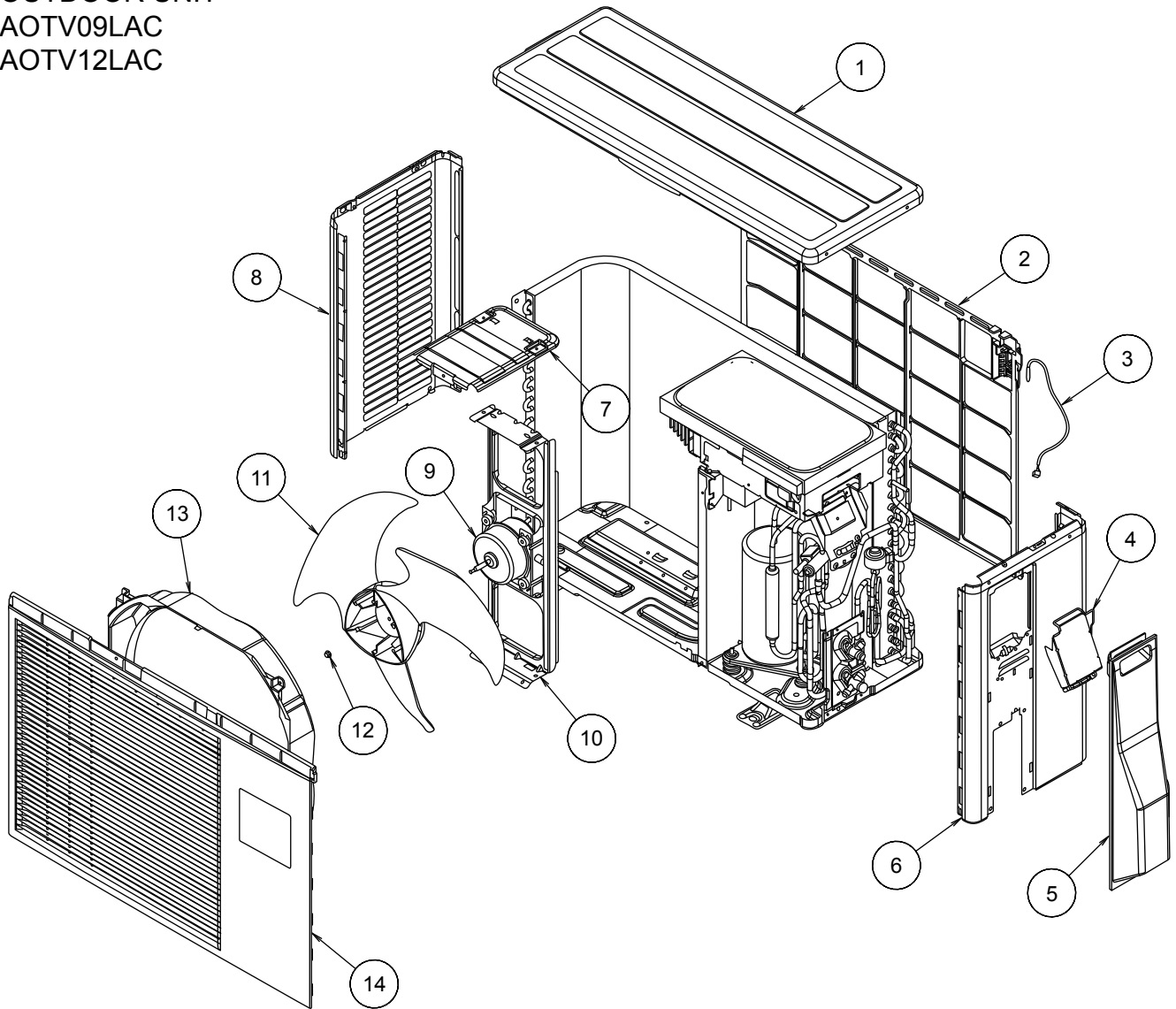
Ref No.	Description	Parts No.					Q'ty
		AGTV09LAC	AGTV12LAC	AGTV14LAC	-	-	
43	TOP COVER	9316207011	9316207011	9316207011	-	-	
44	SPACER C	9315281012	9315281012	9315281012	-	-	
45	SPACER D	9315282019	9315282019	9315282019	-	-	
46	R AND L LOUVER U	9316208018	9316208018	9316208018	-	-	
47	JOINT U	9316209015	9316209015	9316209015	-	-	
48	HOLDER (GUARD)	9316210011	9316210011	9316210011	-	-	
49	GUARD (FAN)	9316211018	9316211018	9316211018	-	-	
50	CASING	9316204010	9316204010	9316204010	-	-	
51	BUSING B	9312156016	9312156016	9312156016	-	-	
52	BUSING A	9303529010	9303529010	9303529010	-	-	
53	GEAR CASE	9316213012	9316213012	9316213012	-	-	
54	GEAR A	9309994003	9309994003	9309994003	-	-	
55	MOTOR STEP (UP/DOWN)	9900384043	9900384043	9900384043	-	-	
56	LOUVER U	9316205017	9316205017	9316205017	-	-	
57	LOUVER Z	9316206014	9316206014	9316206014	-	-	
58	REF (CASING)	9316378018	9316378018	9316378018	-	-	

INDOOR UNIT

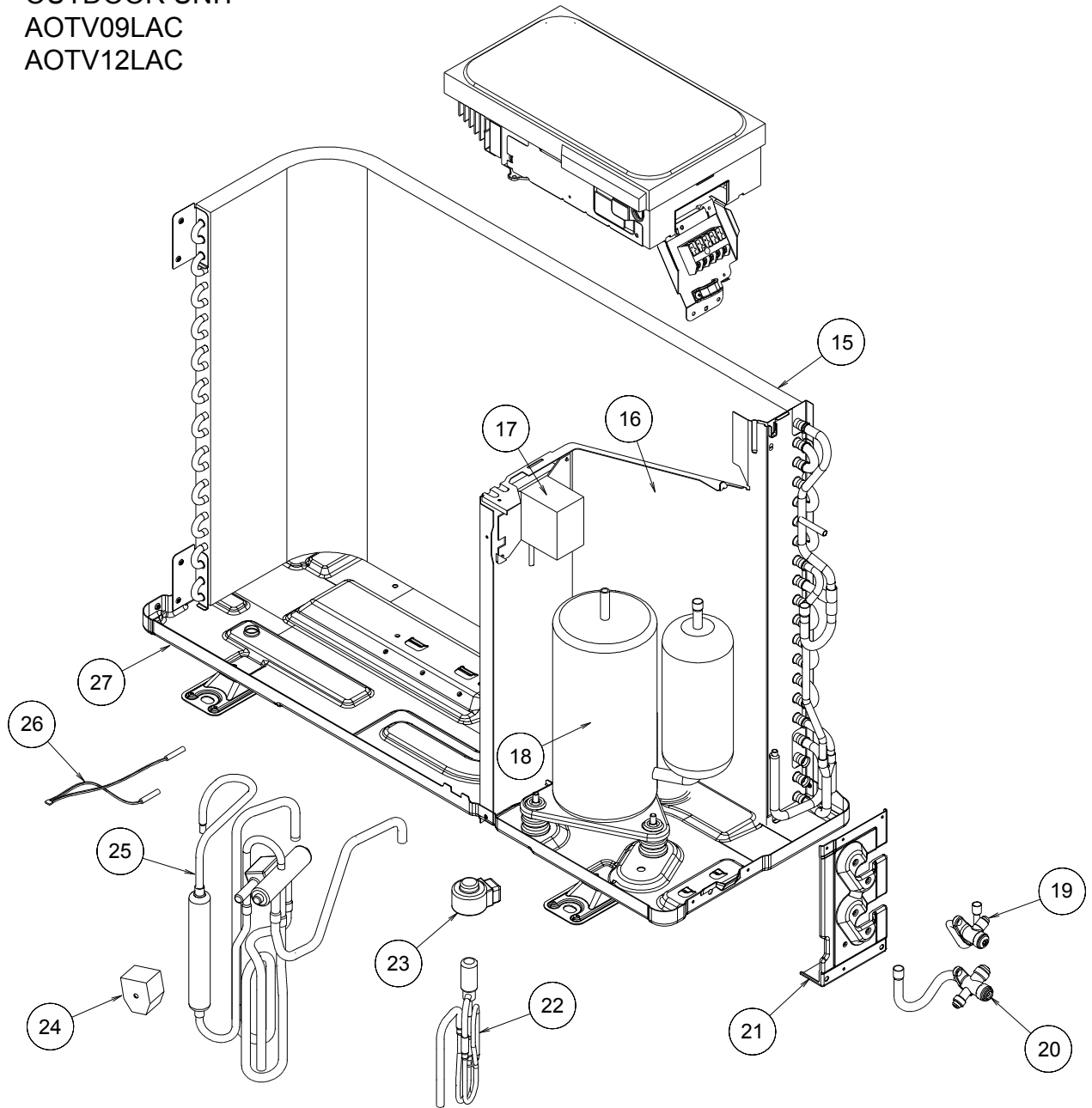


Ref No.	Description	Parts No.					Q'ty
		AGTV09LAC	AGTV12LAC	AGTV14LAC	-	-	
59	MOTOR STEP (DAMPER)	9900384050	9900384050	9900384050	-	-	
60	LIMIT SWITCH COVER	9316217010	9316217010	9316217010	-	-	
61	SWITCH MICRO	9900424015	9900424015	9900424015	-	-	
62	MOTOR STEP (DAMPER LOCK LEFT)	9900384067	9900384067	9900384067	-	-	
63	KEY TOP	9316218017	9316218017	9316218017	-	-	
64	CAP (DRAIN)	9316177017	9316177017	9316177017	-	-	
65	DRAIN PAN U	9316214019	9316214019	9316214019	-	-	
66	HOSE (DRAIN) ASSY	9314147029	9314147029	9314147029	-	-	
67	HOLDER (DRAIN HOSE)	9316384019	9316384019	9316384019	-	-	
68	MOTOR STEP (DAMPER LOCK RIGHT)	9900384074	9900384074	9900384074	-	-	
69	BUSING B	9312156016	9312156016	9312156016	-	-	
70	BUSING A	9303529010	9303529010	9303529010	-	-	
71	DAMPER	9316216013	9316216013	9316216013	-	-	
72	R AND L LOUVER Z	9316334014	9316334014	9316334014	-	-	
73	JOINT Z	9316335011	9316335011	9316335011	-	-	
74	SPACER D	9315282019	9315282019	9315282019	-	-	
75	DRAIN PAN Z	9316215016	9316215016	9316215016	-	-	
76	STOPPER	9316219014	9316219014	9316219014	-	-	
77	COVER (LOWER)	9316374010	9316374010	9316374010	-	-	
78	GUARD(FAN)Z	9316918009	9316918009	9316918009	-	-	

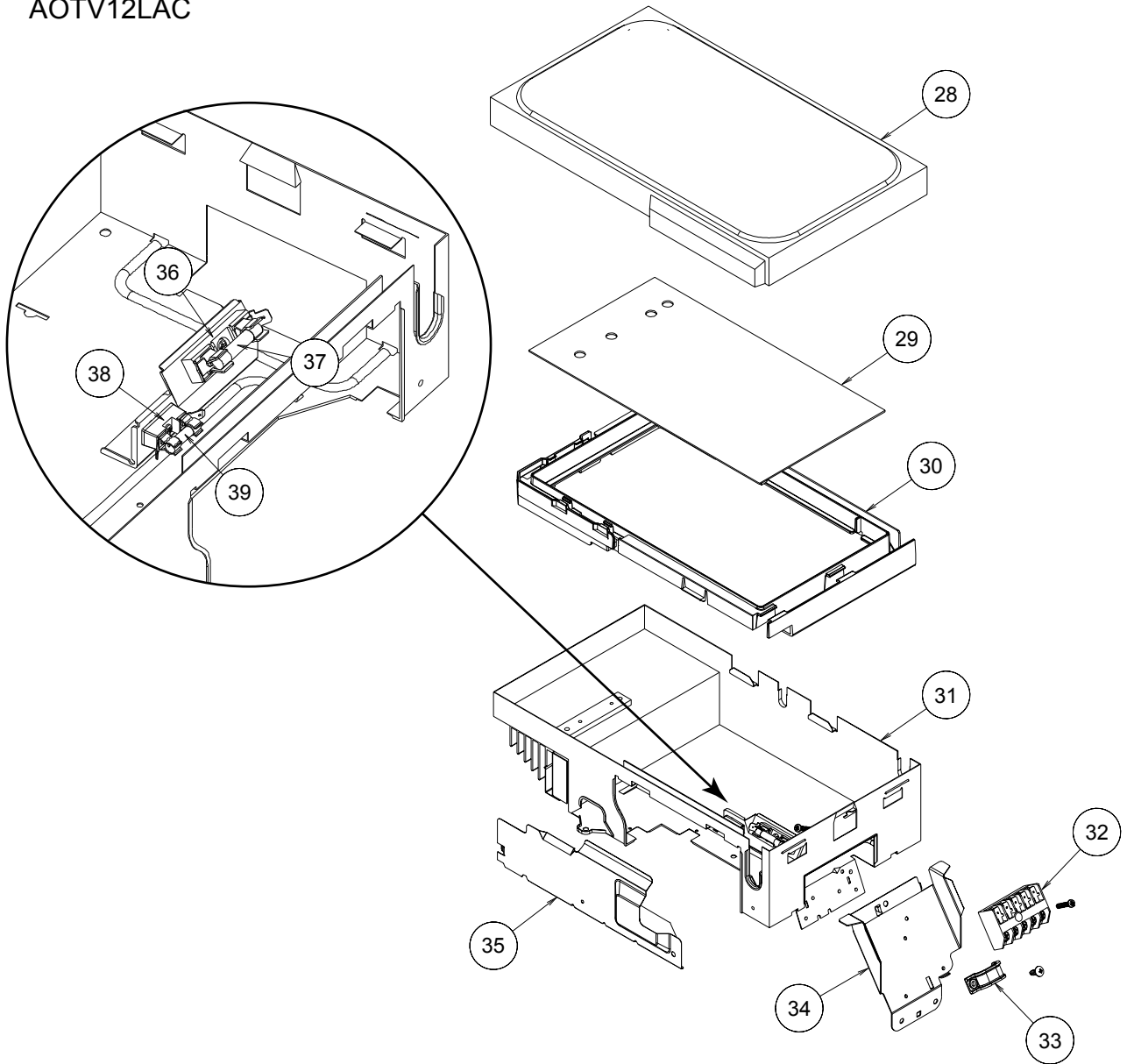
OUTDOOR UNIT
AOTV09LAC
AOTV12LAC

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OUTDOOR UNIT
AOTV09LAC
AOTV12LAC

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OUTDOOR UNIT
AOTV09LAC
AOTV12LAC

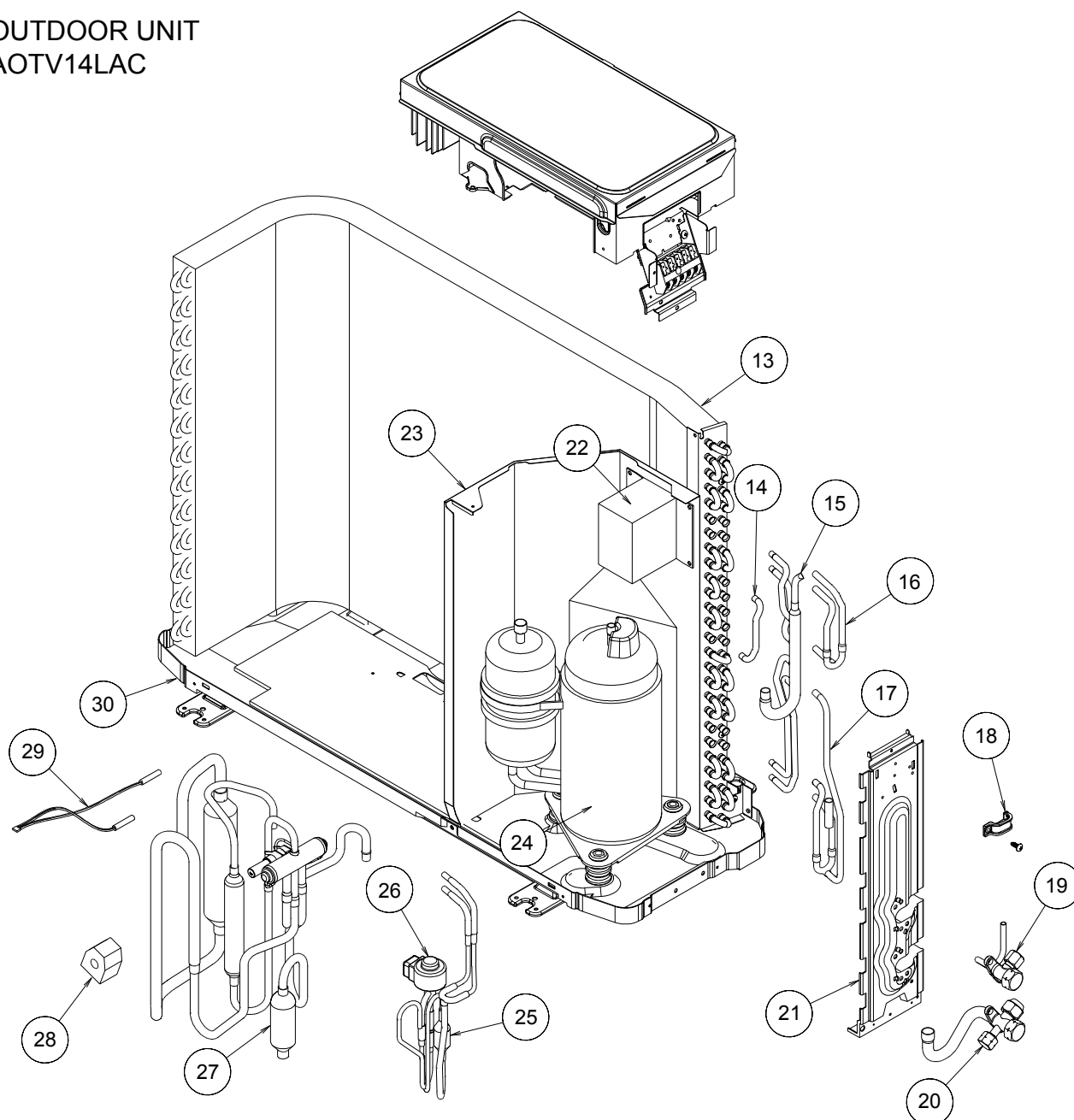
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This exploded view diagram illustrates the assembly of a refrigerator. The components are labeled as follows:

- 1:** The top door panel, shown as a separate piece above the main assembly.
- 2:** The top hinge or support rail, positioned at the top of the door frame.
- 3:** The main door frame or inner panel, which houses the internal components.
- 4:** The bottom hinge or support rail, located at the base of the door frame.
- 5:** The bottom door panel, shown as a separate piece below the main assembly.
- 6:** The main refrigerator body or cabinet, which contains the internal cooling system and shelving.

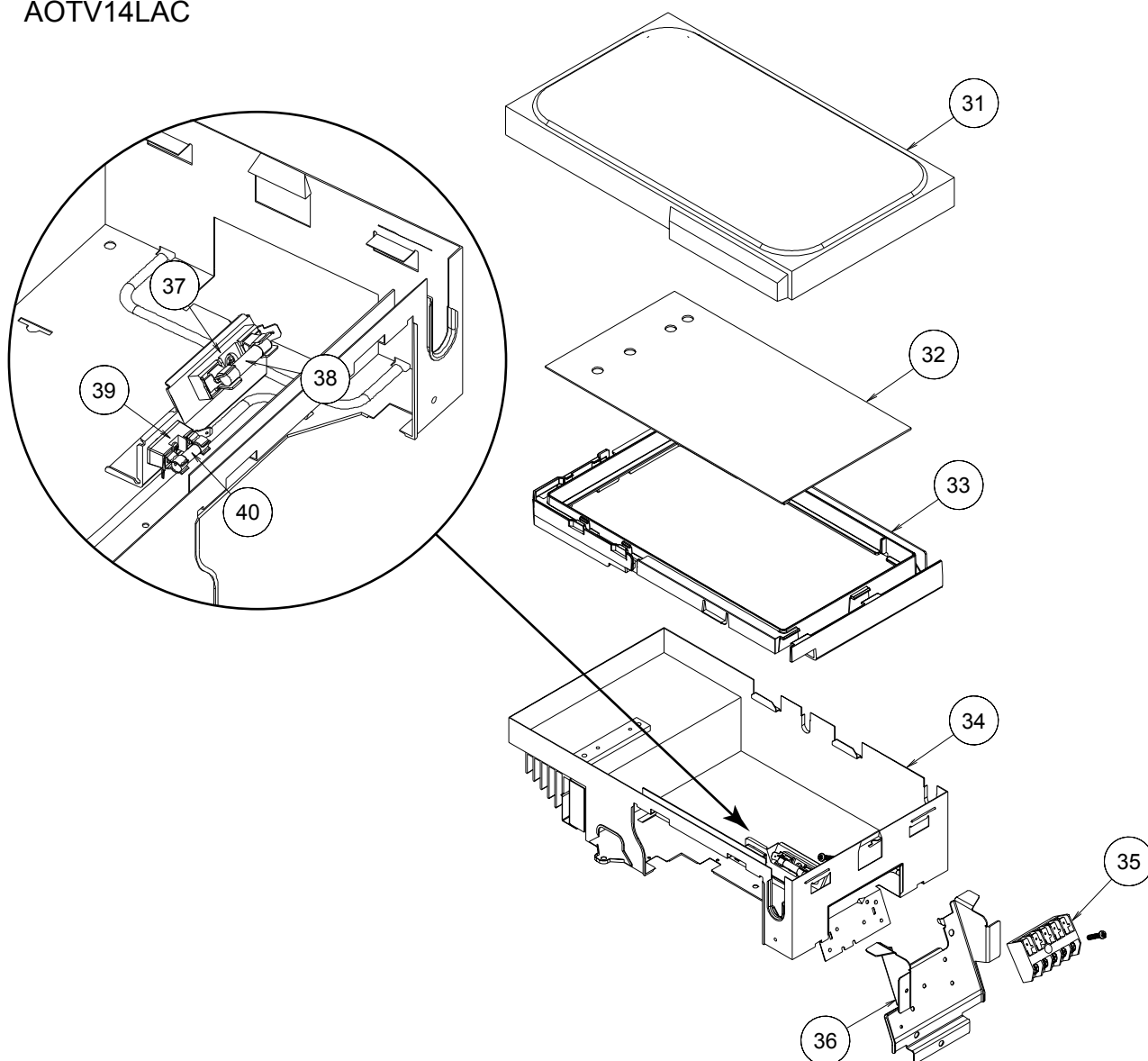
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OUTDOOR UNIT AOTV14LAC



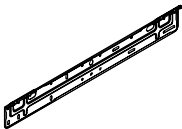
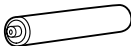
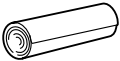
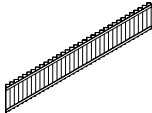
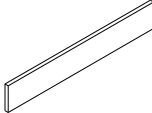
Ref No.	Description	Parts No.					Q'ty
		AOTV14LAC	-	-	-	-	
13	CONDENSER ASSY	9311382065	-	-	-	-	
14	JOINT E	9309495005	-	-	-	-	
15	ENTRANCE PIPE ASSY	9310812013	-	-	-	-	
16	JOINT PIPE ASSY A	9309488007	-	-	-	-	
17	JOINT PIPE ASSY B	9311287018	-	-	-	-	
18	CORD CLAMP	9307271014	-	-	-	-	
19	2-WAY VALVE ASSY	9313064013	-	-	-	-	
20	3-WAY VALVE ASSY	9315159014	-	-	-	-	
21	BRACKET (VALVE)	9308870025	-	-	-	-	
22	REACTOR ASSY	9900354015	-	-	-	-	
23	SEPARATER ASSY	9312971015	-	-	-	-	
24	COMPRESSOR ASSY	9313763022	-	-	-	-	
25	PULSE MOTOR VALVE ALL ASSY	9311641018	-	-	-	-	
26	COIL (EXPANSION VALVE)	9900057039	-	-	-	-	
27	VALVE (4-WAY) ASSY	9316475014	-	-	-	-	
28	SOLENOID	9970033018	-	-	-	-	
29	THERMISTOR ASSY (DISCHARGE, PIPE)	9900148027	-	-	-	-	
30	BASE ASSY PAINTED	9308869081	-	-	-	-	

OUTDOOR UNIT
AOTV14LAC

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STANDARD 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