

SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
AGU9RLF	AOU9RLFFH
AGU12RLF	AOU12RLFFH

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SPECIFICATIONS

INDOOR UNIT

Type				Floor type		
				Inverter, Heat pump		
Model name				AGU9RLF	AGU12RLF	
Power supply				208/230 V~ 60 Hz		
Power supply intake				Outdoor unit		
Available voltage range				187—253 V		
Capacity	Cooling	Rated	kW	2.64	3.52	
			Btu/h	9,000	12,000	
		Min.—Max.	kW	0.90—3.80	0.90—4.20	
	Heating		Btu/h	3,100—13,000	3,100—14,300	
		Rated	kW	3.52	4.69	
			Btu/h	12,000	16,000	
	Min.—Max.	kW	0.90—5.50	0.90—5.70		
			Btu/h	3,100—18,800	3,100—19,500	
		Heating (17°F)*1	Rated	kW	2.2	3.11
			Btu/h	7,500	10,600	
			kW	4.1	4.4	
	Heating (5°F)*2		Btu/h	14,000	15,000	
Rated		kW	3.93			
		Btu/h	13,400			
Max.	kW	4.17	4.41			
		Btu/h	14,220	15,050		
		Btu/h				
Input power	Cooling	Rated	kW	0.56	0.91	
		Min.—Max.		0.20—2.05		
	Heating	Rated		0.88	1.44	
		Min.—Max.		0.20—2.62		
	Heating (17°F)*1	Rated		0.78	1.19	
		Max.		1.97	2.32	
	Heating (5°F)*2	Rated		2.06		
		Max.		2.25	2.32	
Current	Cooling	Rated	A	2.9	4.2	
	Heating			4.1	6.7	
EER2	Cooling		kW/kW	4.71	3.87	
			Btu/h	16.0	13.1	
COP2	Heating		kW/kW	4.00	3.24	
			Btu/h	13.6	11.1	
SEER2	Cooling		Btu/h	26.0	22.7	
HSPF2	Heating		Btu/h	11.6	11.0	
Power factor	Cooling		%	84.0	94.2	
	Heating			93.3	93.4	
Moisture removal			pints/h (L/h)	2.7 (1.3)	3.8 (1.8)	
Maximum operating current*3		Cooling	A	10.3	10.3	
		Heating		11.8	11.8	
Fan	Airflow rate	Cooling	HIGH	336 (570)		
			MED	271 (460)		
			LOW	212 (360)		
			QUIET	159 (270)		
		Heating	HIGH	353 (600)		
			MED	283 (480)		
			LOW	218 (370)		
			QUIET	159 (270)		
	Type × Qty			Cross flow fan × 2		
	Motor output			W	16 × 2	
Sound pressure level*4	Cooling	HIGH	dB (A)	40		
		MED		35		
		LOW		29		
		QUIET		23		
	Heating	HIGH		40		
		MED		35		
		LOW		29		
		QUIET		23		
Heat exchanger type	Dimensions (H × W × D)		in (mm)	14-7/8 × 21-5/8 × 1-1/16 (378 × 550 × 26.6)		
	Fin pitch		FPI	21		
	Rows × Stages			2 × 18		
	Pipe type			Copper tube		
	Fin type			Aluminum		
Enclosure	Material		Polystyrene			
	Color		White			
Dimensions (H × W × D)	Net		in	23-5/8 × 29-1/8 × 7-7/8		
			mm	600 × 740 × 200		
	Gross		in	27-9/16 × 32-5/16 × 12-3/16		
			mm	700 × 820 × 310		
Weight	Net		lb (kg)	31 (14)		
	Gross			37 (17)		
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		
	Method		Flare			
Operation range	Cooling		°F (°C)	64 to 90 (18 to 32)		
			%RH	80 or less		
	Heating		°F (°C)	60 to 88 (16 to 30)		
Remote controller type				Wireless (Wired [option])		
Drain hose	Material		PP + LLDPE			
	Size		in (mm)	Ø9/16 (Ø13.8) (I.D.), Ø5/8 to Ø11/16 (Ø15.8 to Ø16.7) (O.D.)		

Type	Floor type	
	Inverter, Heat pump	
Model name	AGU9RLF	AGU12RLF
NOTES: <ul style="list-style-type: none"> Specifications are based on the following conditions: <ul style="list-style-type: none"> Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FDB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FDB (23.9°CWB). Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FDB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FDB (6.11°CWB). *1: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FDB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FDB (-9.44°CWB). *2: Heating (5°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FDB (15.56°CWB), and outdoor temperature of 5°FDB (-15.0°CDB)/4°FDB (-15.56°CWB). Test conditions are based on AHRI 210/240 2023. Pipe length: 24 ft (7.5 m.) Height difference: 0 m. (Between outdoor unit and indoor unit.) Protective function might work when using it outside the operation range. *3: Maximum current is maximum value when operated within the operation range. *4: Sound pressure level: <ul style="list-style-type: none"> Measured values in manufacturer's anechoic chamber. Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. 		

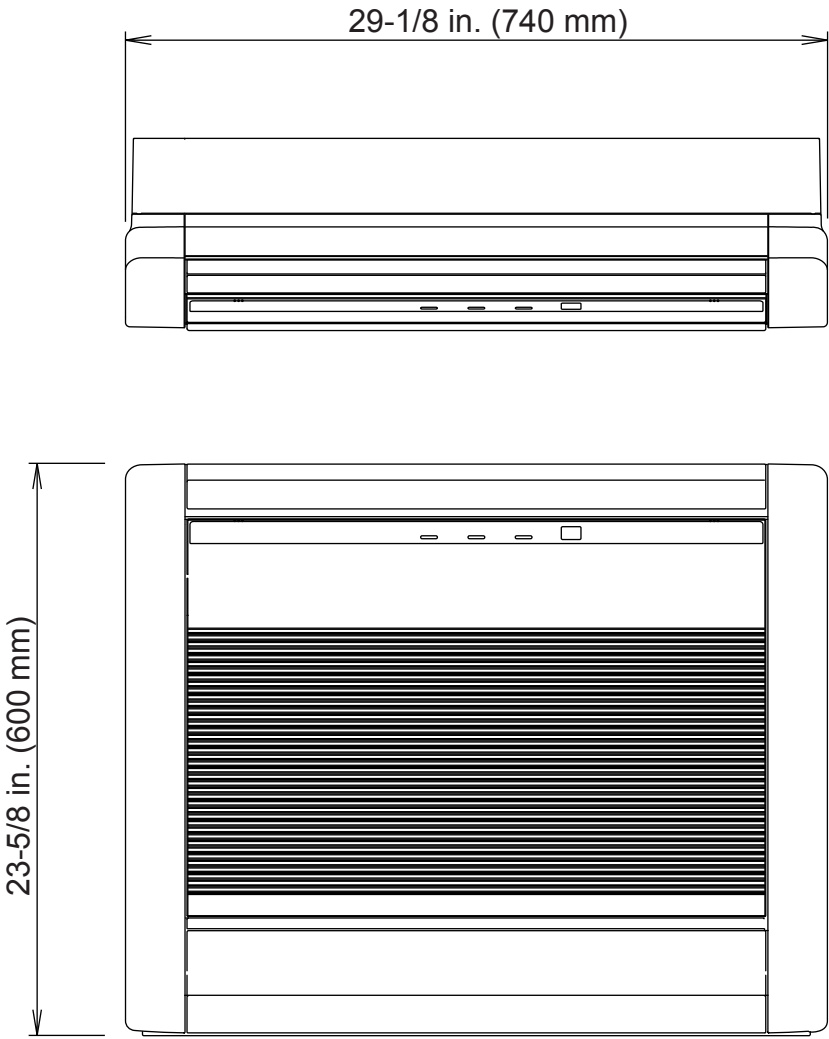
M condition								
Model name				AGU9RLF		AGU12RLF		
Capacity	Cooling	Rated	kW	2.64		3.52		
			Btu/h	9,000		12,000		
		Min.—Max.	kW	0.90—3.80		0.90—4.20		
			Btu/h	3,100—13,000		3,100—14,300		
	Heating	Rated	kW	3.52		4.69		
			Btu/h	12,000		16,000		
		Min.—Max.	kW	0.90—5.50		0.90—5.70		
			Btu/h	3,100—18,800		3,100—19,500		
	Heating (17°F)*	Rated	kW	2.2		3.11		
			Btu/h	7,500		10,600		
		Max.	kW	4.1		4.4		
			Btu/h	14,000		15,000		
Input power	Cooling	Rated	kW	0.56		0.91		
		Min.—Max.		0.20—2.05				
	Heating	Rated		0.88		1.44		
		Min.—Max.		0.20—2.62				
	Heating (17°F)*	Rated		0.78		1.19		
		Max.		1.97		2.32		
Current	Cooling	Rated	A	2.9		4.2		
	Heating			4.1		6.7		
EER	Cooling			kW/kW	4.71		3.87	
				Btu/h	16.0		13.1	
COP	Heating			kW/kW	4.00		3.24	
				Btu/h	13.6		11.1	
SEER	Cooling			Btu/h	26.0		22.7	
HSPF	Heating			Btu/h	12.4		11.3	
Power factor	Cooling		%	84.0		94.2		
	Heating			93.3		93.4		
NOTES: Specifications are based on the following conditions: <ul style="list-style-type: none">• Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).• Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).• *: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FWB (-9.44°CWB).• Test conditions are based on AHRI 210/240 2017.• Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)								

OUTDOOR UNIT

Type				Inverter, Heat pump	
Model name				AOU9RLFFH	AOU12RLFFH
Power supply				208/230 V ~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				187—253 V	
Starting current			A	4.1	6.7
Fan	Airflow rate	Cooling	CFM (m³/h)	1,207 (2,050)	1,457 (2,475)
		Heating		1,207 (2,050)	1,207 (2,050)
	Type × Qty			Propeller fan × 1	
Motor output			W	115	
Sound pressure level *1		Cooling	dB (A)	49	53
		Heating		50	52
Heat exchanger type		Dimensions (H × W × D)	in	23-1/8 × 34-11/16 × 1-7/16	
			mm	588 × 881 × 36.4	
		Fin pitch	FPI	20	
		Rows × Stages		2 × 28	
		Pipe type		Copper	
		Fin type	Type (Material)	Corrugate (Aluminum)	
			Surface treat-ment	PC Fin	
Compressor	Type			Rotary	
	Motor output		W	850	
Refrigerant		Type		R410A	
		Charge	lb oz	2 lb 10 oz	
			g	1,200	
Refrigerant oil		Type		FREOL α68SZ	
		Amount	in³ (cm³)	21.4 (350)	
Enclosure		Material		Steel sheet	
		Color		Beige	
				Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)	Net		in	24-7/16 × 31-1/8 × 11-7/16	
			mm	620 × 790 × 290	
	Gross		in	28-1/16 × 37-3/16 × 15-9/16	
			mm	713 × 945 × 395	
Weight	Net		lb (kg)	86 (39)	
	Gross			95 (43)	
Connection pipe		Size	Liquid	in (mm)	Ø1/4 (Ø6.35)
			Gas		Ø3/8 (Ø9.52)
		Method			Flare
		Pre-charge length		ft (m)	49 (15)
		Max. length			66 (20)
		Min. length			10 (3)
		Max. height difference			49 (15)
Operation range		Cooling	°F (°C)	14 to 115 (-10 to 46)	
		Heating		-15 to 75 (-26 to 24)	
NOTES:					
<ul style="list-style-type: none">Specifications are based on the following conditions:<ul style="list-style-type: none">Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FDB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FDB (23.9°CWB).Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FDB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FDB (6.11°CWB).Pipe length: 24 ft (7.5 m), Height difference: 0 m. (Between outdoor unit and indoor unit.)Protective function might work when using it outside the operation range.*1: Sound pressure level<ul style="list-style-type: none">Measured values in manufacturer's anechoic chamber.Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.					

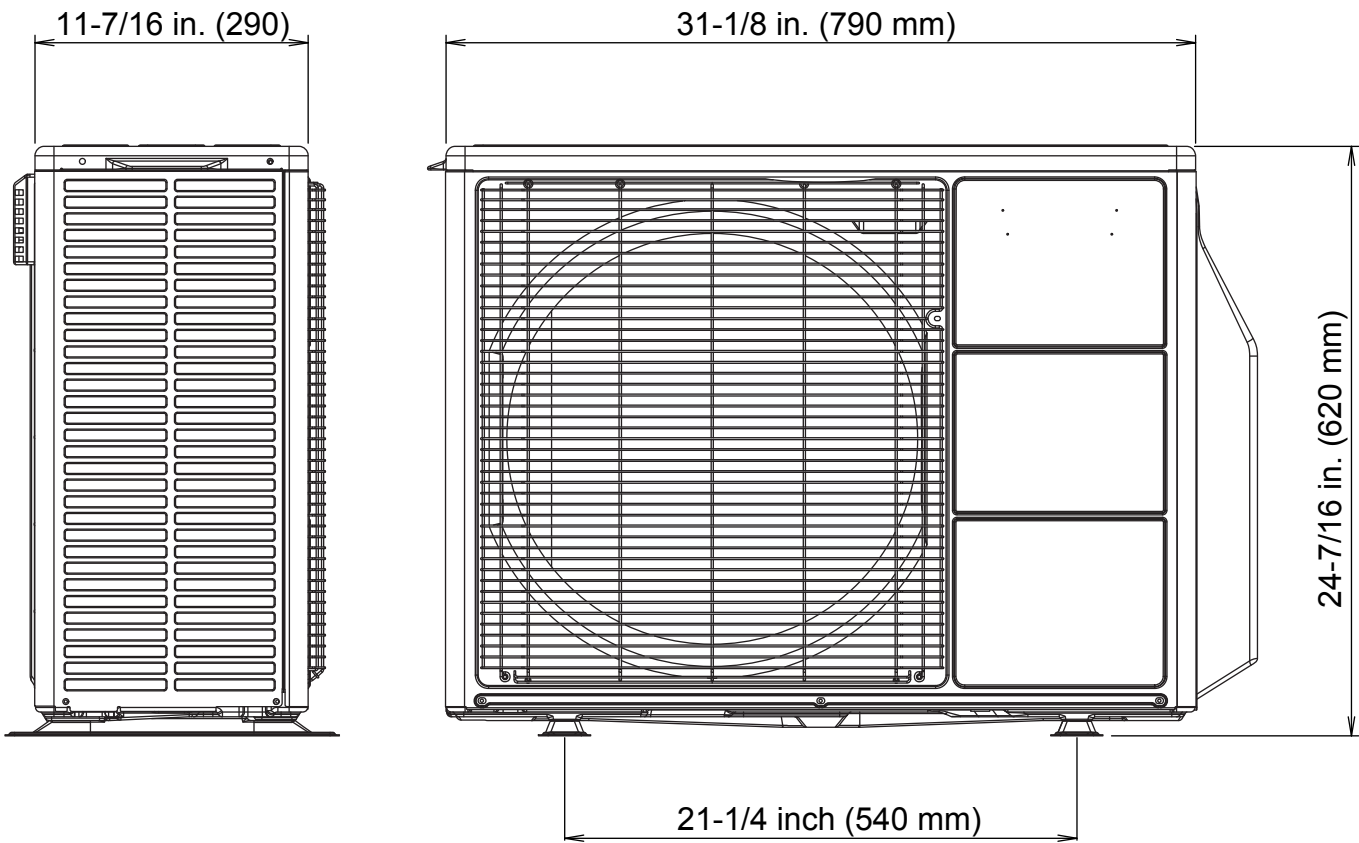
DIMENSIONS

INDOOR UNIT

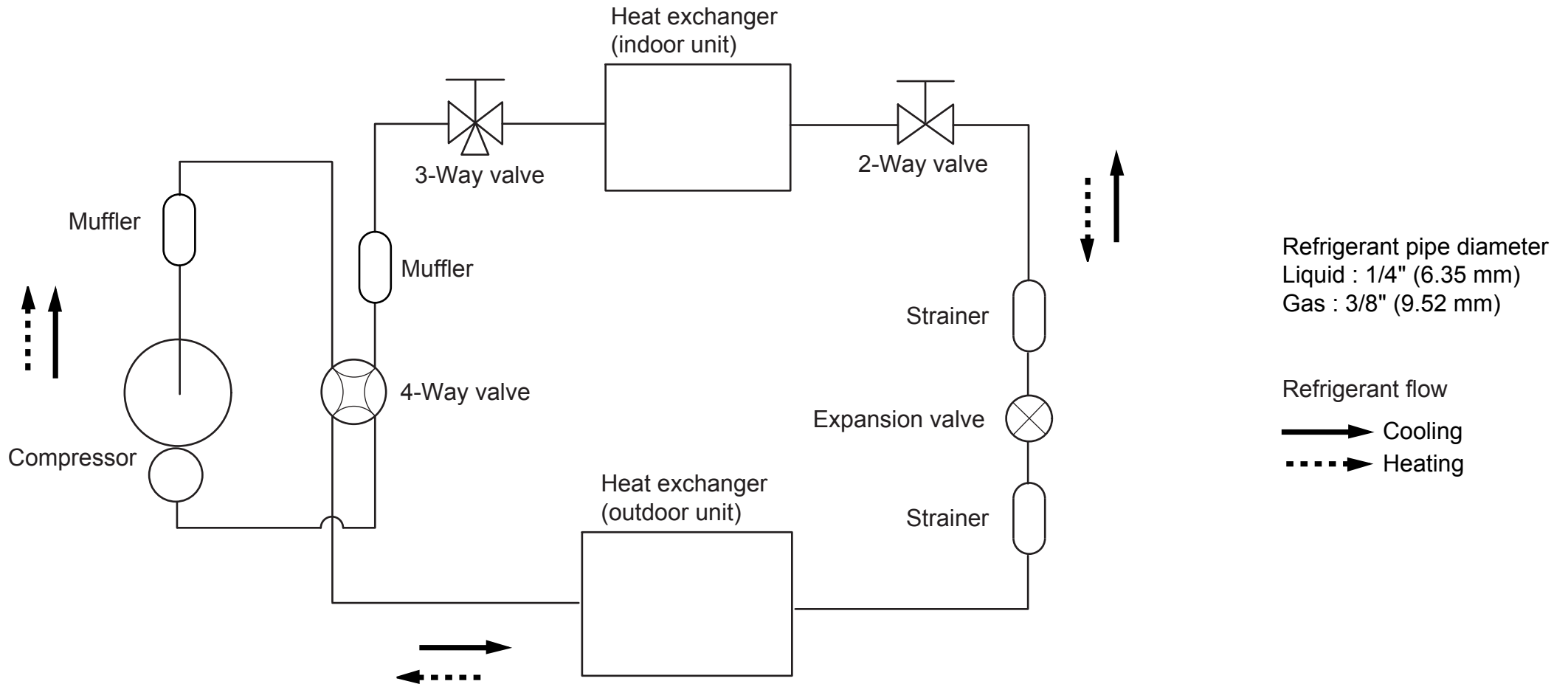


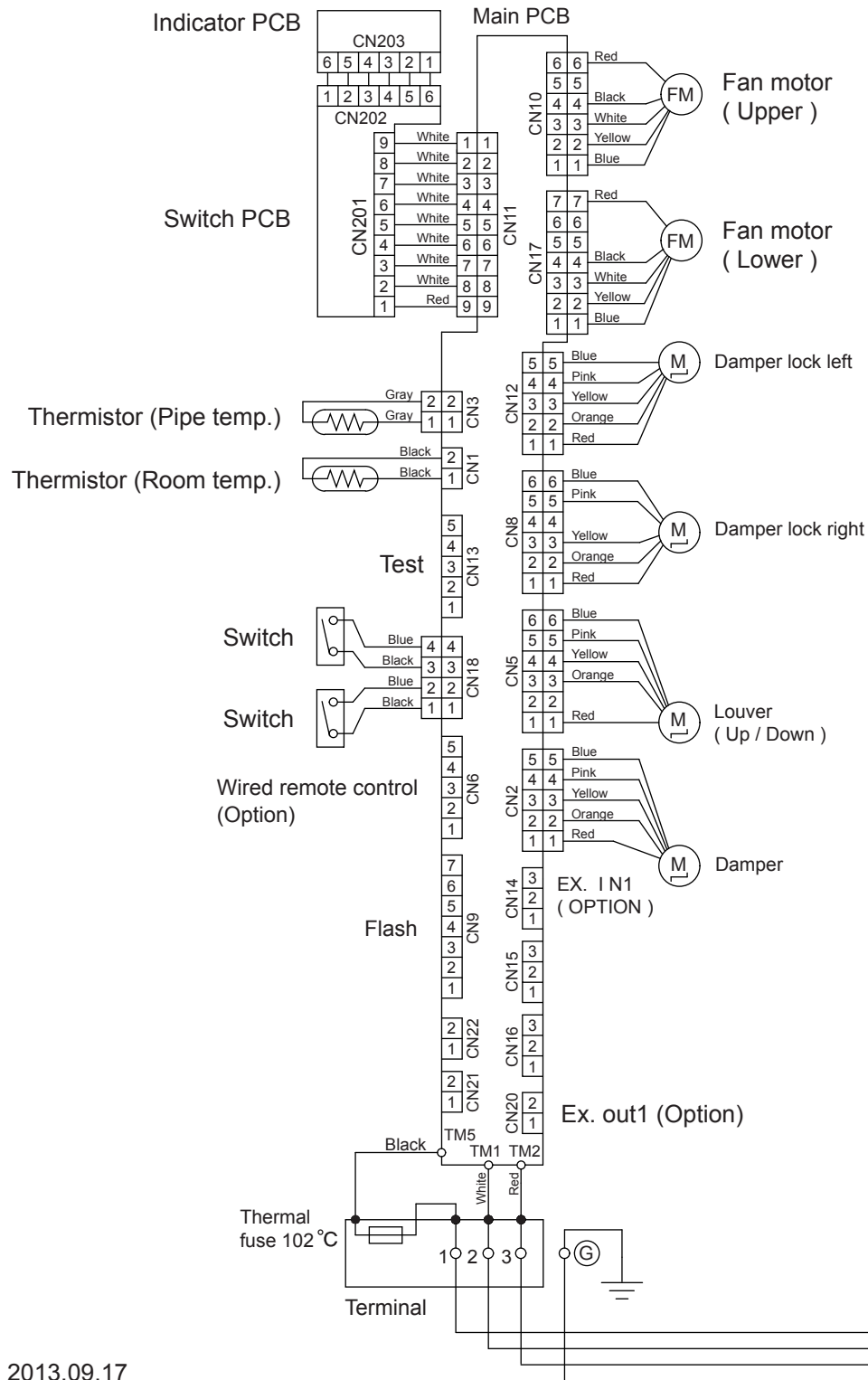
Drain hose length : 600 mm
Drain pipe diameter
Inside : 14.2 mm
Outside : 16.2 mm

OUTDOOR UNIT



REFRIGERANT SYSTEM DIAGRAM

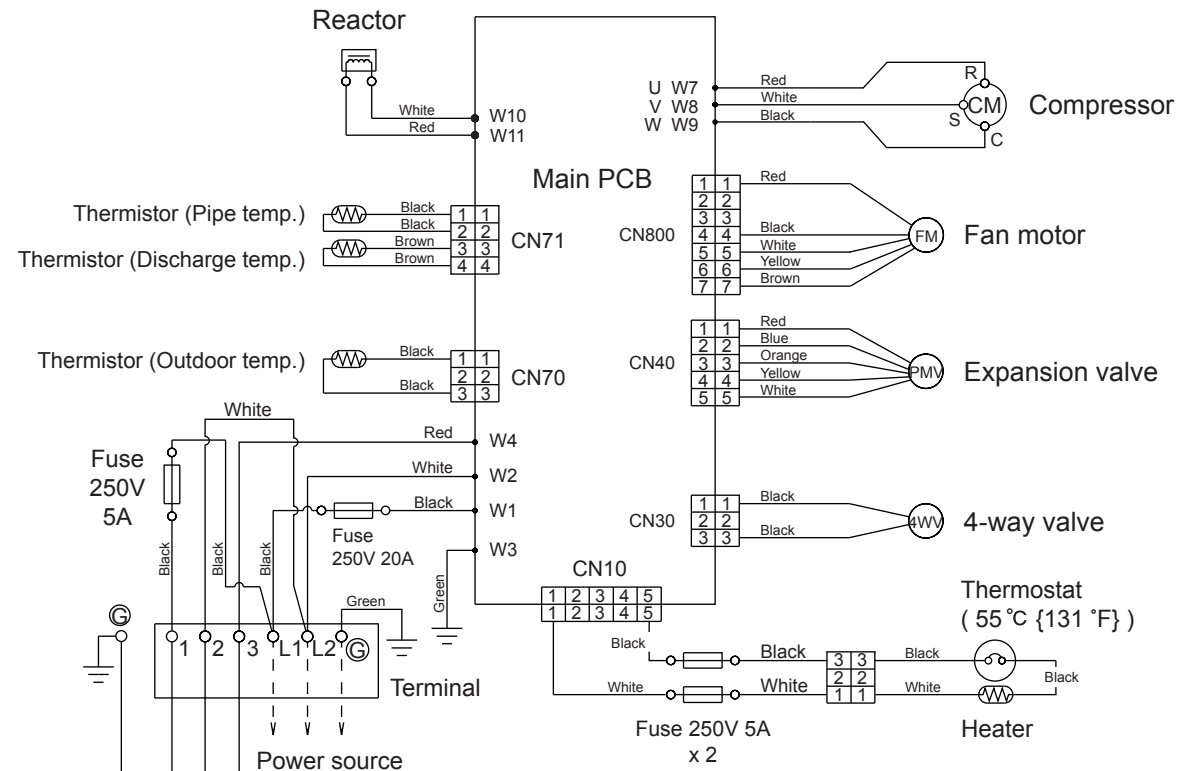




INDOOR UNIT

CIRCUIT DIAGRAM

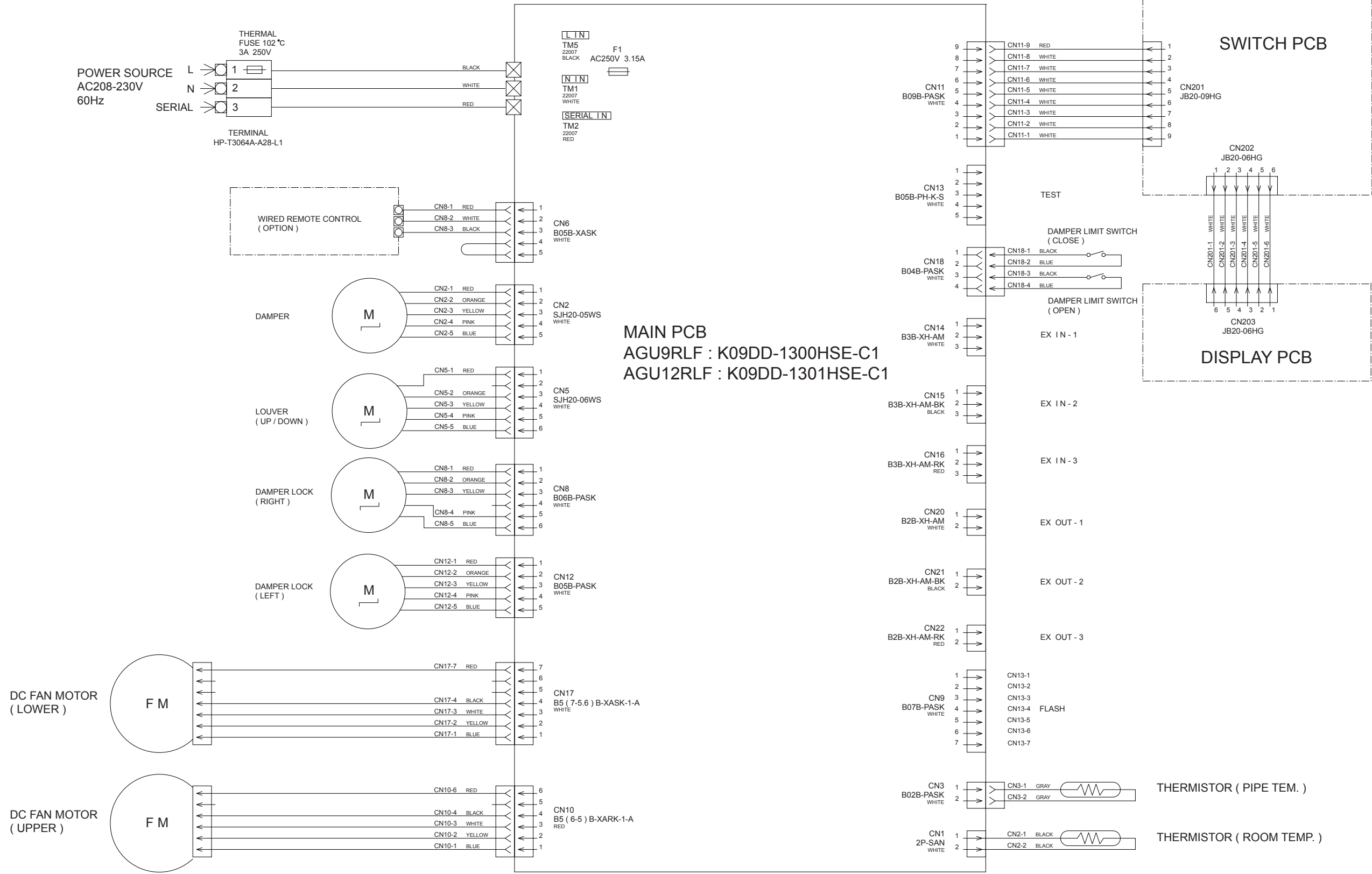
OUTDOOR UNIT



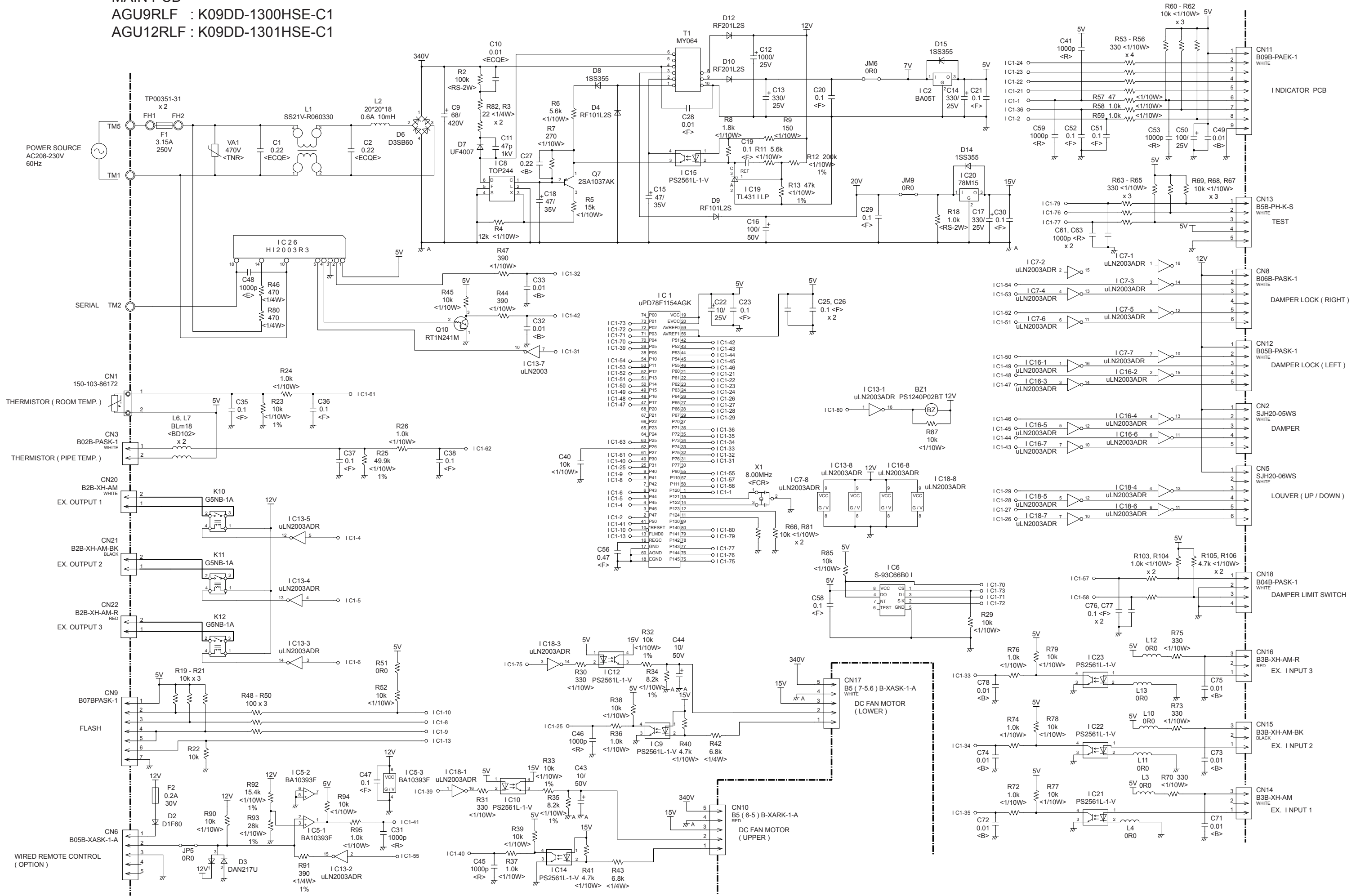
INDOOR PCB CIRCUIT DIAGRAM

CONTROL UNIT
AGU9RLF : EZ-01302HSE
AGU12RLF : EZ-01303HSE

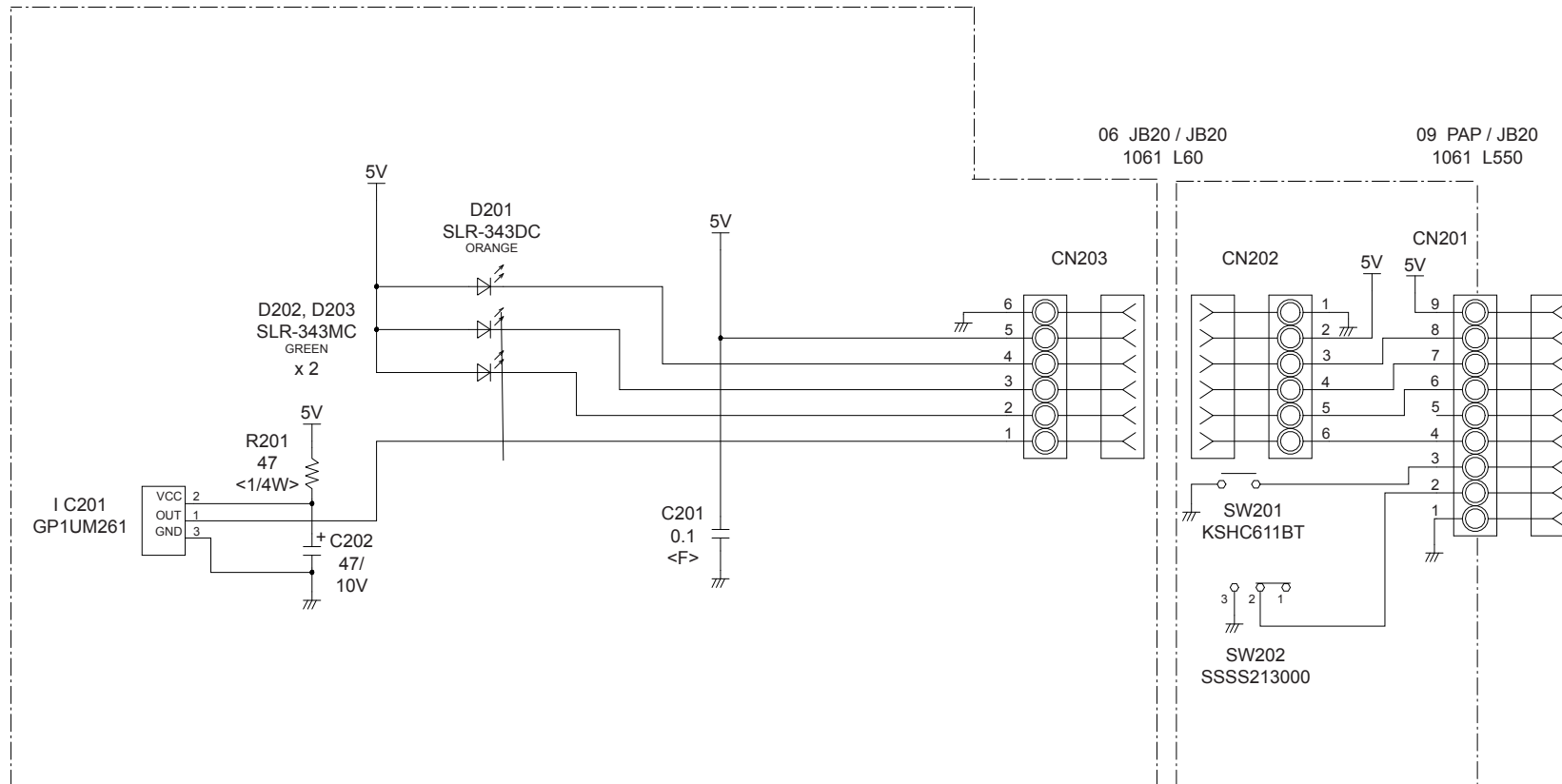
INDICATOR PCB
(SWITCH + DISPLAY)
K06DD-0801HSE-F0



INDOOR UNIT
MAIN PCB
AGU9RLF : K09DD-1300HSE-C1
AGU12RLF : K09DD-1301HSE-C1

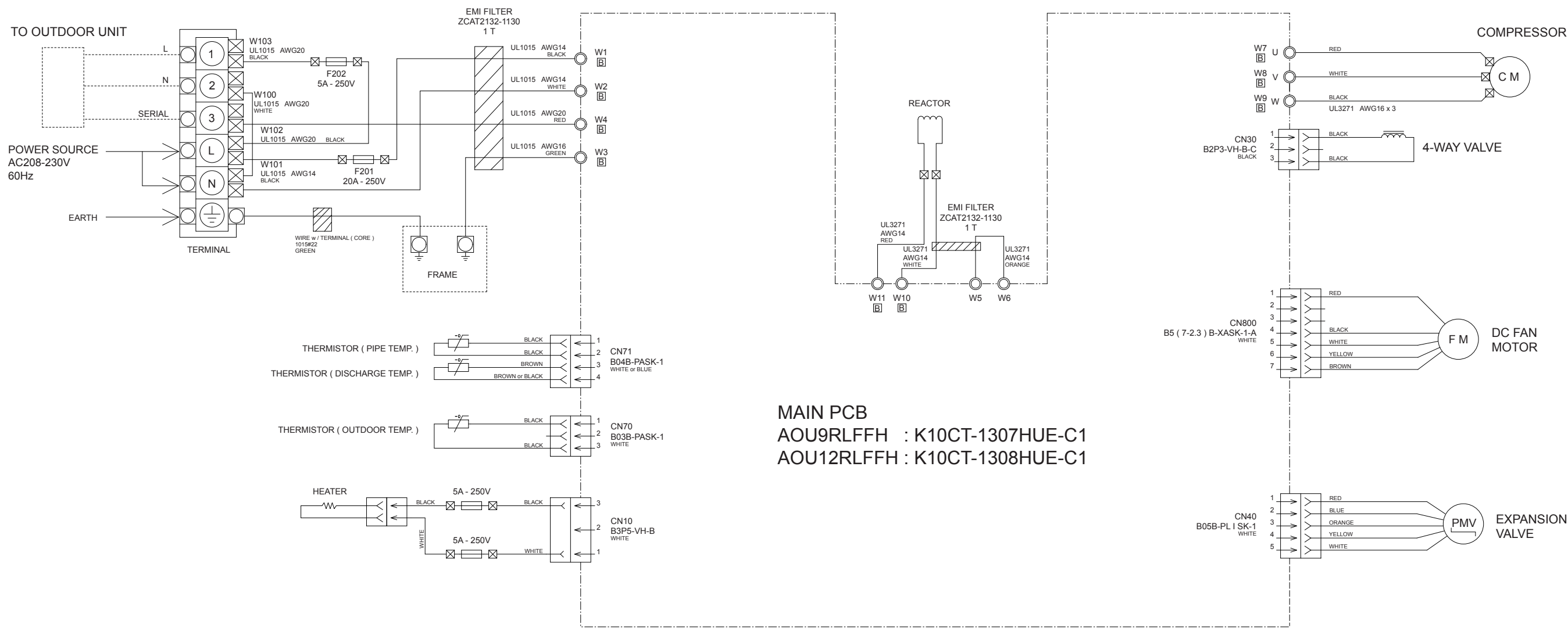


INDOOR UNIT
INDICATOR PCB
K06DD-0801HSE-F0

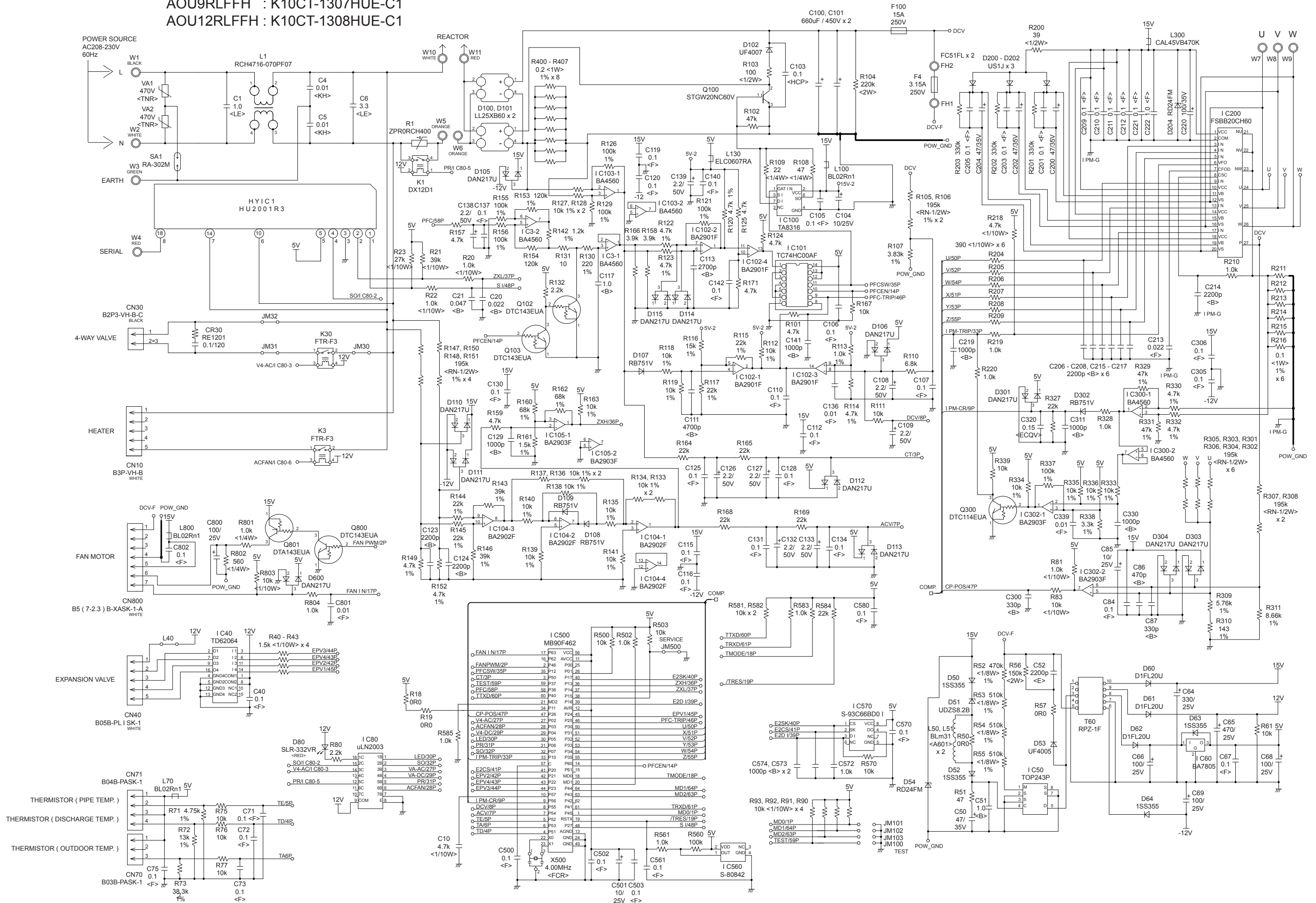


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
AOU9RLFFH : EZ-0130CHUE
AOU12RLFFH : EZ-0130DHUE



OUTDOOR UNIT
MAIN PCB
AOU9RLFFH : K10CT-1307HUE-C1
AOU12RLFFH : K10CT-1308HUE-C1



ERROR DETECTION

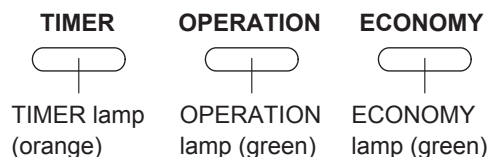
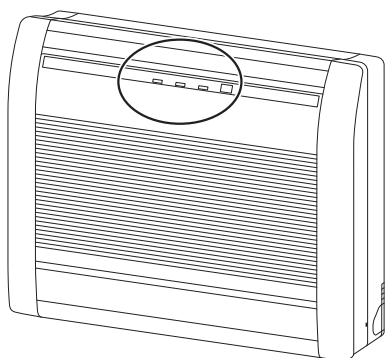
INDOOR UNIT REMOTE CONTROL

If you use a wireless remote control, the lamp on the photo detector unit will output error codes by way of blinking patterns.

If you use a wired remote control, error codes will appear on the remote control display.

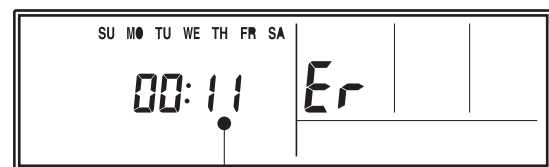
See the lamp blinking patterns and error codes in the table.

An error display is displayed only during operation.



Wired remote control display (Option)

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



Error code

● : 0.5s on / 0.5s off
◇ : 0.1s on / 0.1s off

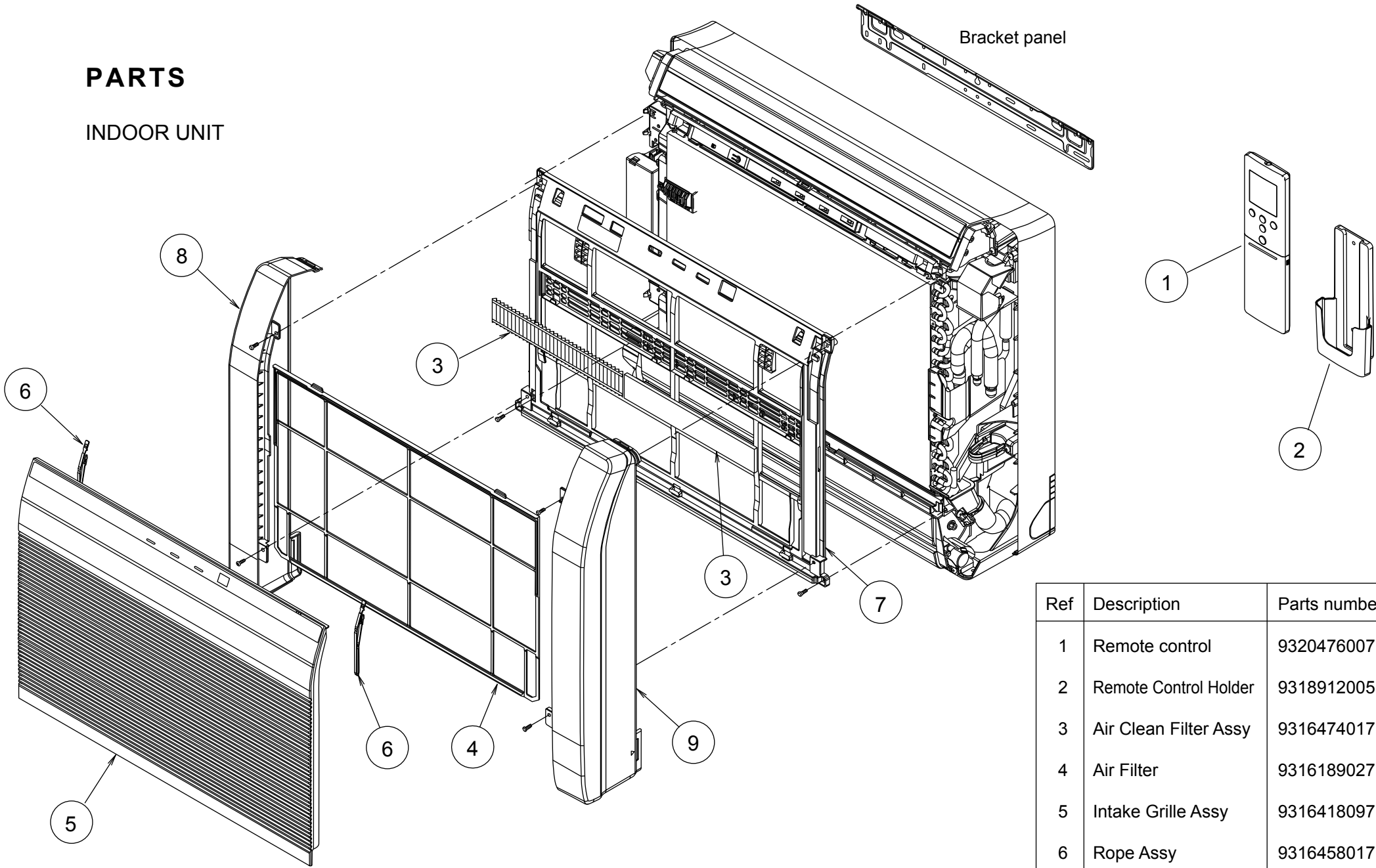
() : Number of flashing

Lamps			Wired remote control	Description
OPERATION	TIMER	ECONOMY		
● (1)	● (1)	◇	11	Serial communication error
● (1)	● (2)	◇	12	Wired remote control communication error
● (1)	● (5)	◇	15	Check run unfinished
● (2)	● (1)	◇	21	Unit number or Refrigerant circuit address setting error [Simultaneous Multi]
● (2)	● (2)	◇	22	Indoor unit capacity error
● (2)	● (3)	◇	23	Combination error
● (2)	● (4)	◇	24	• Connection unit number error (indoor slave unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi]
● (2)	● (7)	◇	27	Master unit, slave unit set-up error [Simultaneous Multi]
● (3)	● (2)	◇	32	Indoor unit PCB model information error
● (3)	● (5)	◇	35	Manual auto switch error
● (4)	● (1)	◇	41	Room temp. sensor error
● (4)	● (2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
● (5)	● (1)	◇	51	Indoor unit fan motor error
● (5)	● (3)	◇	53	Drain pump error
● (5)	● (7)	◇	57	Damper error
● (5)	● (15)	◇	5U	Indoor unit error
● (6)	● (2)	◇	62	Outdoor unit main PCB model information error or communication error
● (6)	● (3)	◇	63	Inverter error
● (6)	● (4)	◇	64	Active filter error, PFC circuit error
● (6)	● (5)	◇	65	Trip terminal L error

Lamps			Wired remote control	Description
OPERATION	TIMER	ECONOMY		
● (6)	● (10)	◇	6A	Display PCB microcomputers communication error
● (7)	● (1)	◇	71	Discharge temp. sensor error
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
● (7)	● (4)	◇	74	Outdoor temp. sensor error
● (7)	● (5)	◇	75	Suction Gas temp. sensor error
● (7)	● (6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
● (7)	● (7)	◇	77	Heat sink temp. sensor error
● (8)	● (2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
● (8)	● (3)	◇	83	Liquid pipe temp. sensor error
● (8)	● (4)	◇	84	Current sensor error
● (8)	● (6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
● (9)	● (4)	◇	94	Trip detection
● (9)	● (5)	◇	95	Compressor rotor position detection error
● (9)	● (7)	◇	97	Outdoor unit fan motor error
● (9)	● (9)	◇	99	4-way valve error
● (10)	● (1)	◇	A1	Discharge temp. error
● (10)	● (3)	◇	A3	Compressor temp. error
● (10)	● (4)	◇	A4	High pressure error
● (10)	● (5)	◇	A5	Low pressure error
● (13)	● (2)	◇	12	Branch boxes error [Flexible Multi]

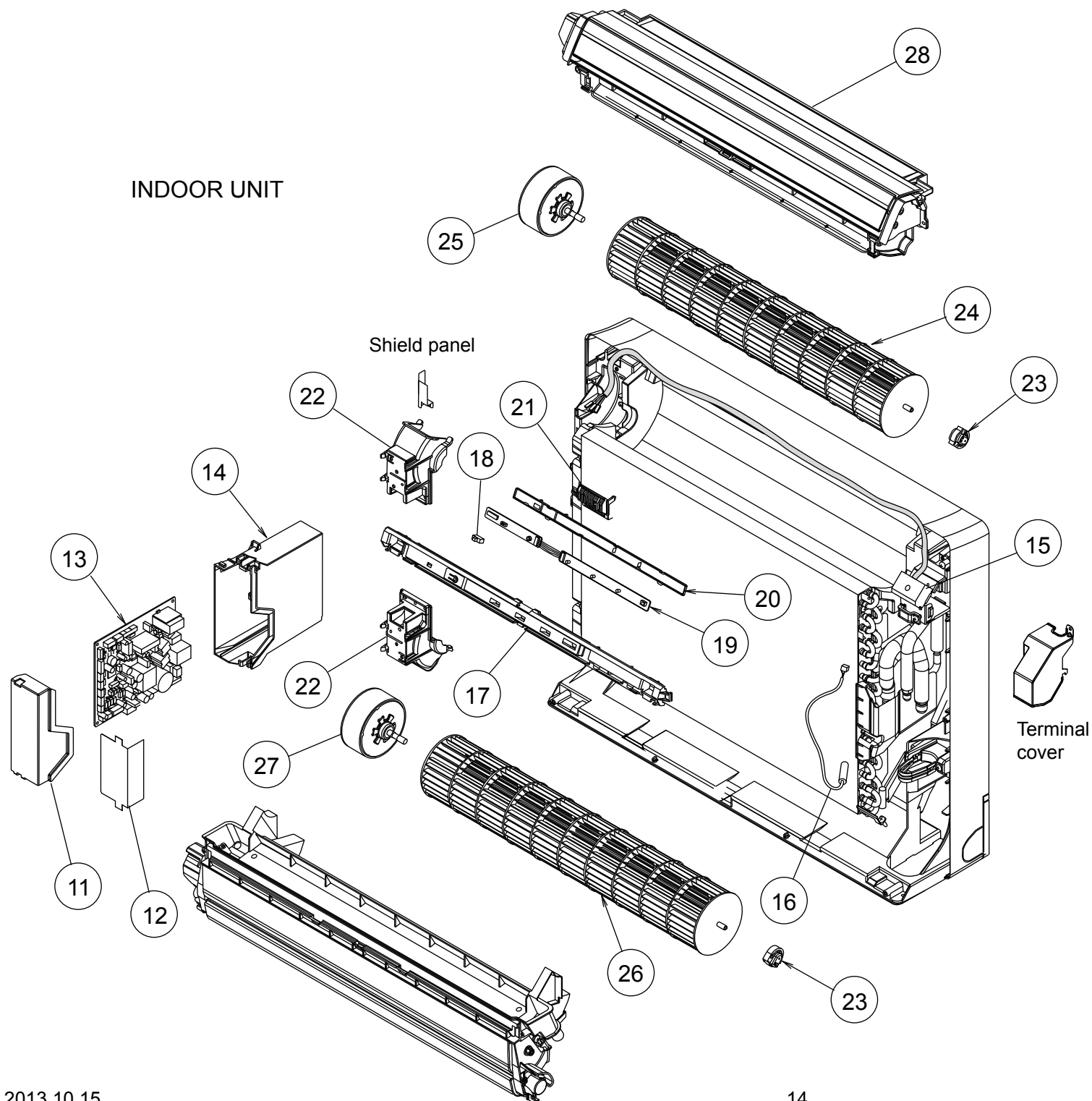
PARTS

INDOOR UNIT



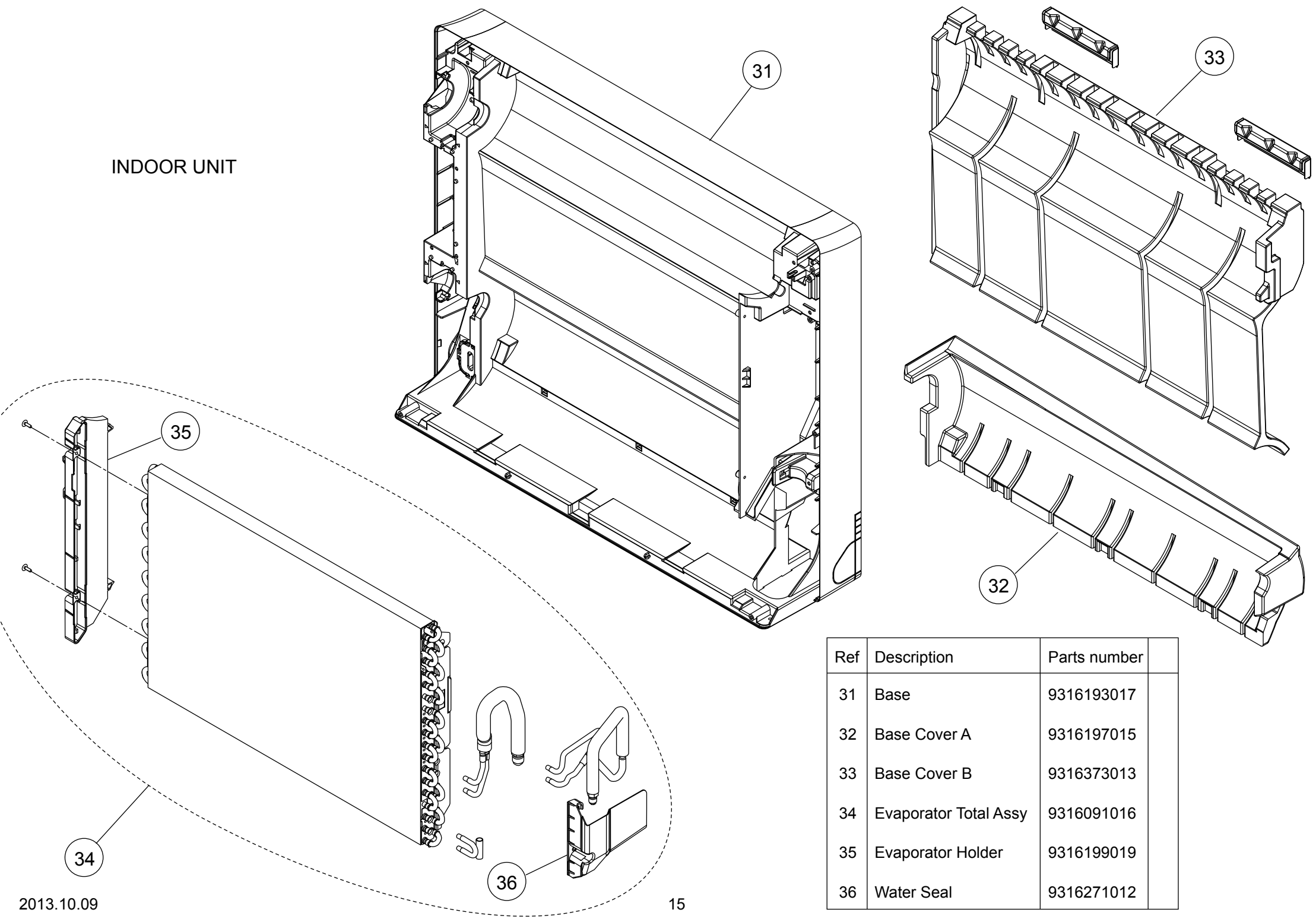
Ref	Description	Parts number	
1	Remote control	9320476007	
2	Remote Control Holder	9318912005	
3	Air Clean Filter Assy	9316474017	
4	Air Filter	9316189027	
5	Intake Grille Assy	9316418097	
6	Rope Assy	9316458017	
7	Front Panel	9316185012	
8	Front Panel L	9316187016	
9	Front Panel R	9316186019	

INDOOR UNIT



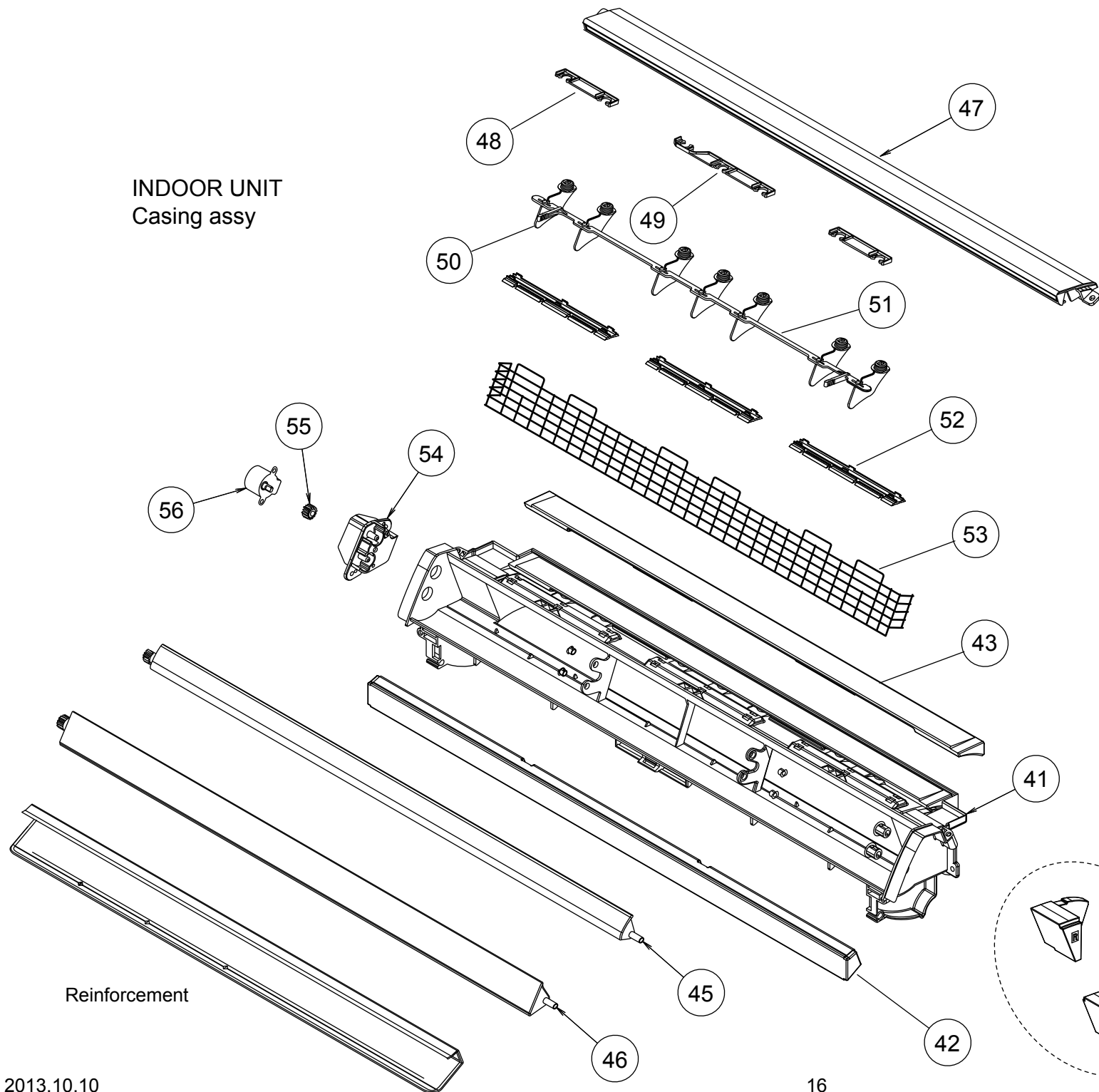
Ref	Description	Parts number	
11	Control Cover	9316201026	
12	Control Inner Cover	9316487017	
13	Main PCB (AGU9RLF)	9708532134	
13	Main PCB (AGU12RLF)	9708532141	
14	Control Box	9316200029	
15	Terminal	9900385026	
16	Pipe Thermistor	9900425012	
17	Display Case	9316194014	
18	Slide Switch Cover	9316267015	
19	Display PCB	9707571042	
20	Display Cover	9316191013	
21	Thermistor Holder	9316192010	
22	Motor Holder	9316195011	
23	Bearing C Assy	9306628017	
24	Crossflow Fan Assy	9312004034	
25	Fan Motor, MFD-14TXAN	9602850013	
26	Crossflow Fan B Assy	9316309012	
27	Fan Motor, MFD-14SXAN	9602851010	
28	Casing Assy	9316411012	

INDOOR UNIT

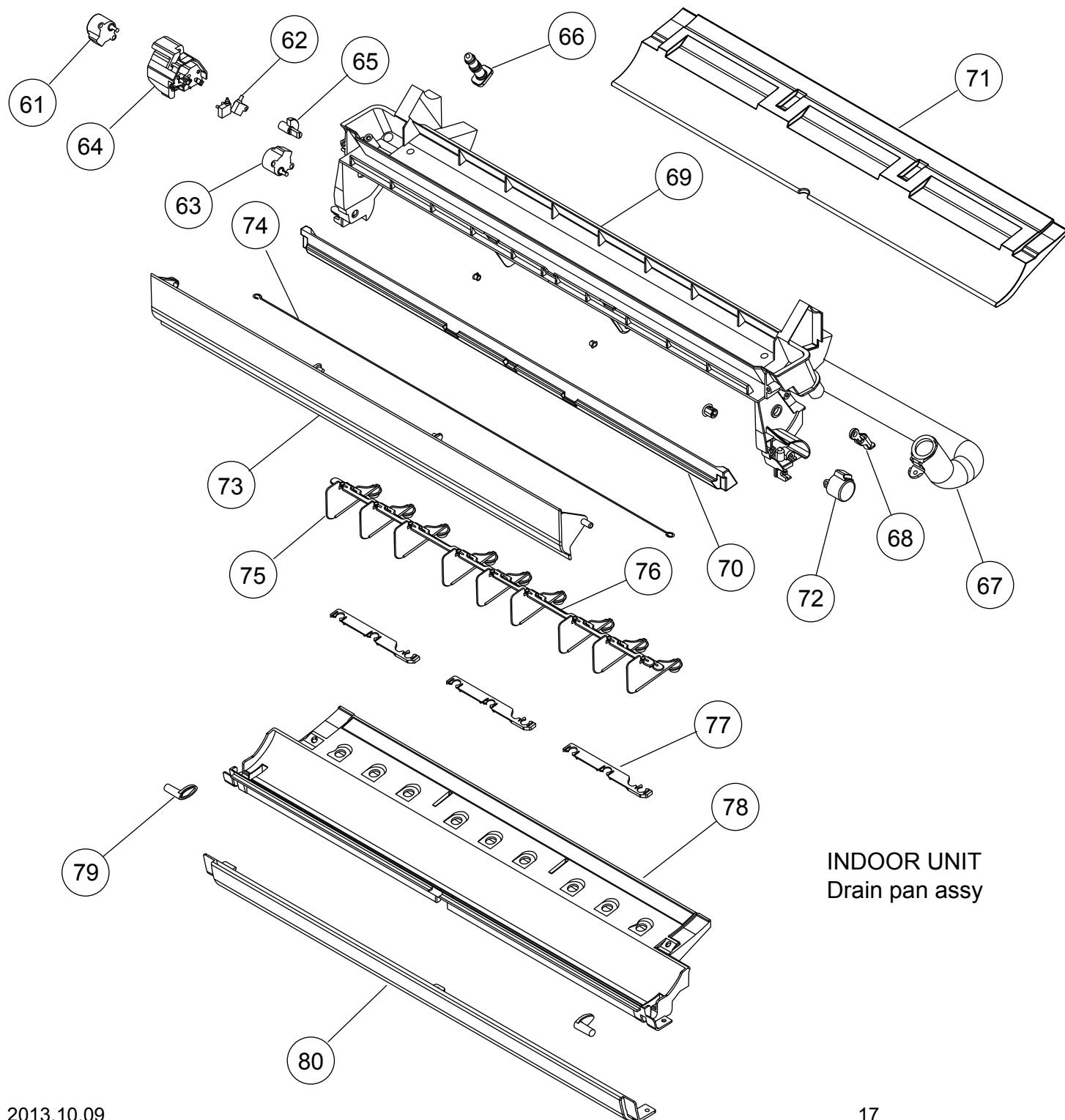


Ref	Description	Parts number	
31	Base	9316193017	
32	Base Cover A	9316197015	
33	Base Cover B	9316373013	
34	Evaporator Total Assy	9316091016	
35	Evaporator Holder	9316199019	
36	Water Seal	9316271012	

INDOOR UNIT
Casing assy

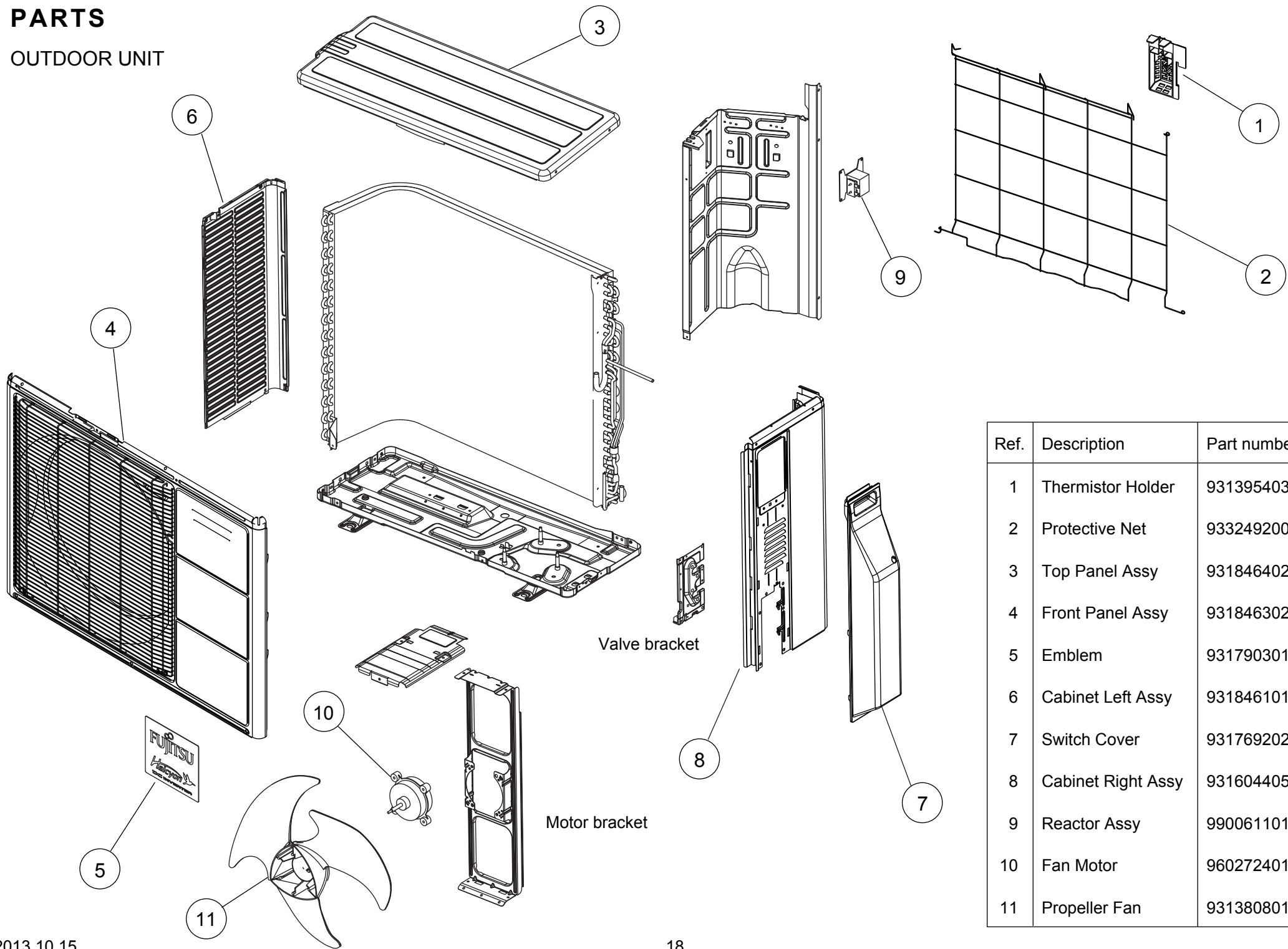


Ref	Description	Parts number	
41	Casing	9316204010	
42	Casing Cover F	9316308015	
43	Casing Cover B	9316273016	
44	Casing Cover LR	9316310018	
45	Louver U (upper)	9316205017	
46	Louver Z (lower)	9316206014	
47	Top Cover	9316207011	
48	Spacer C	9315281012	
49	Spacer D	9315282019	
50	R and L Louver U	9316208018	
51	Joint U	9316209015	
52	Guard Holder	9316210011	
53	Fan Guard	9316211018	
54	Gear Case	9316213012	
55	Gear A	9309994003	
56	Step Motor (up / down)	9900384043	

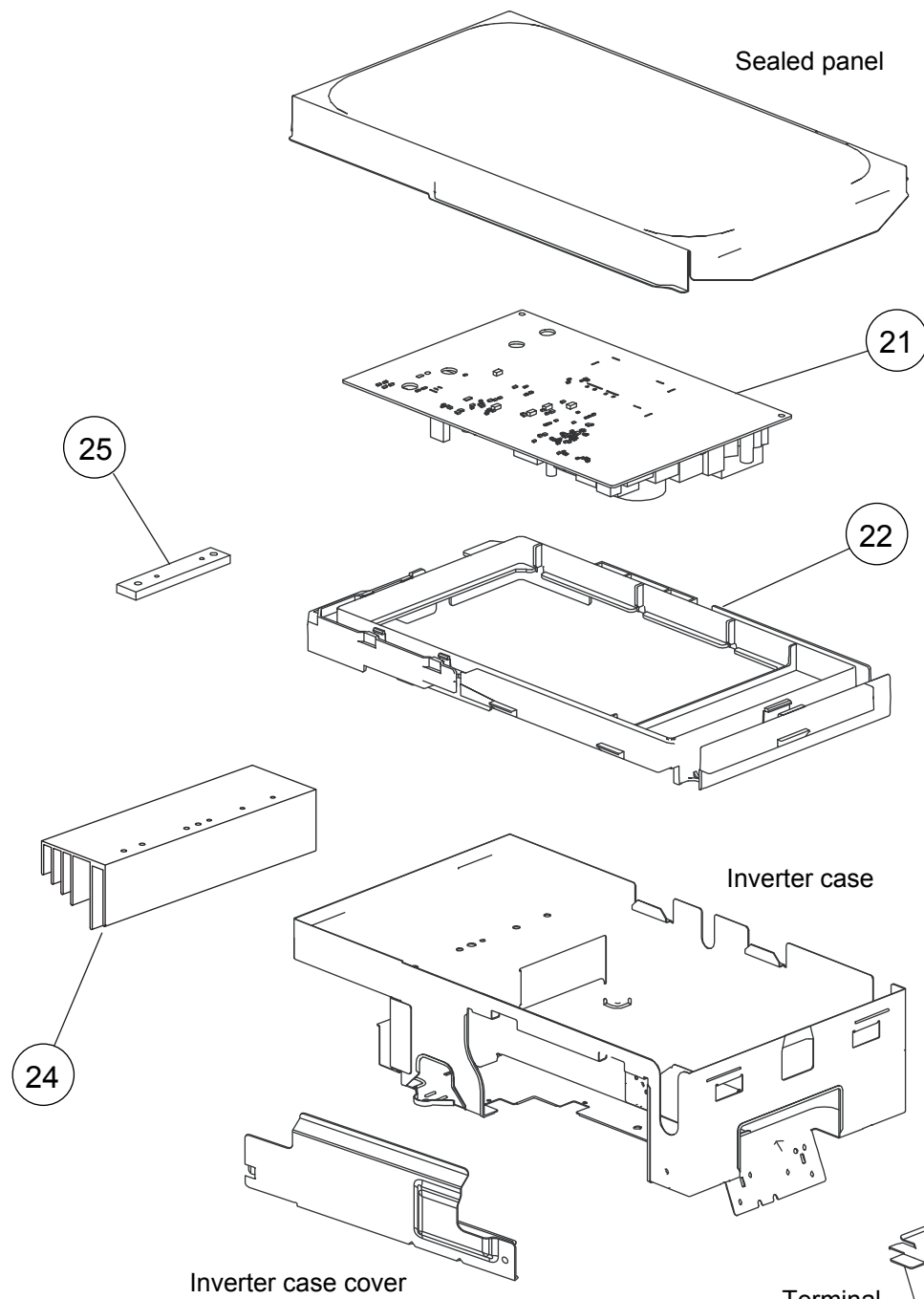


Ref	Description	Parts number	
61	Motor Step (Damper)	9900384050	
62	Micro Switch (Limit Switch)	9900424015	
63	Motor Step (Damper Lock Left)	9900384067	
64	Limit Switch Cover	9316217010	
65	Key Top	9316218017	
66	Drain Cap	9316177017	
67	Drain Hose Assy	9314147029	
68	Drain Holder	9316384019	
69	Drain Pan U	9316214019	
70	Drain Cover F	9316274013	
71	Drain Cover B	9316386013	
72	Step Motor (Damper Lock Right)	9900384074	
73	Damper	9316216013	
74	Fan Guard Z	9316918009	
75	R and L Louver Z	9316334014	
76	Joint Z	9316335011	
77	Spacer D	9315282019	
78	Drain Pan Z	9316215016	
79	Stopper	9316219014	
80	Under Cover	9316374010	

PARTS
OUTDOOR UNIT

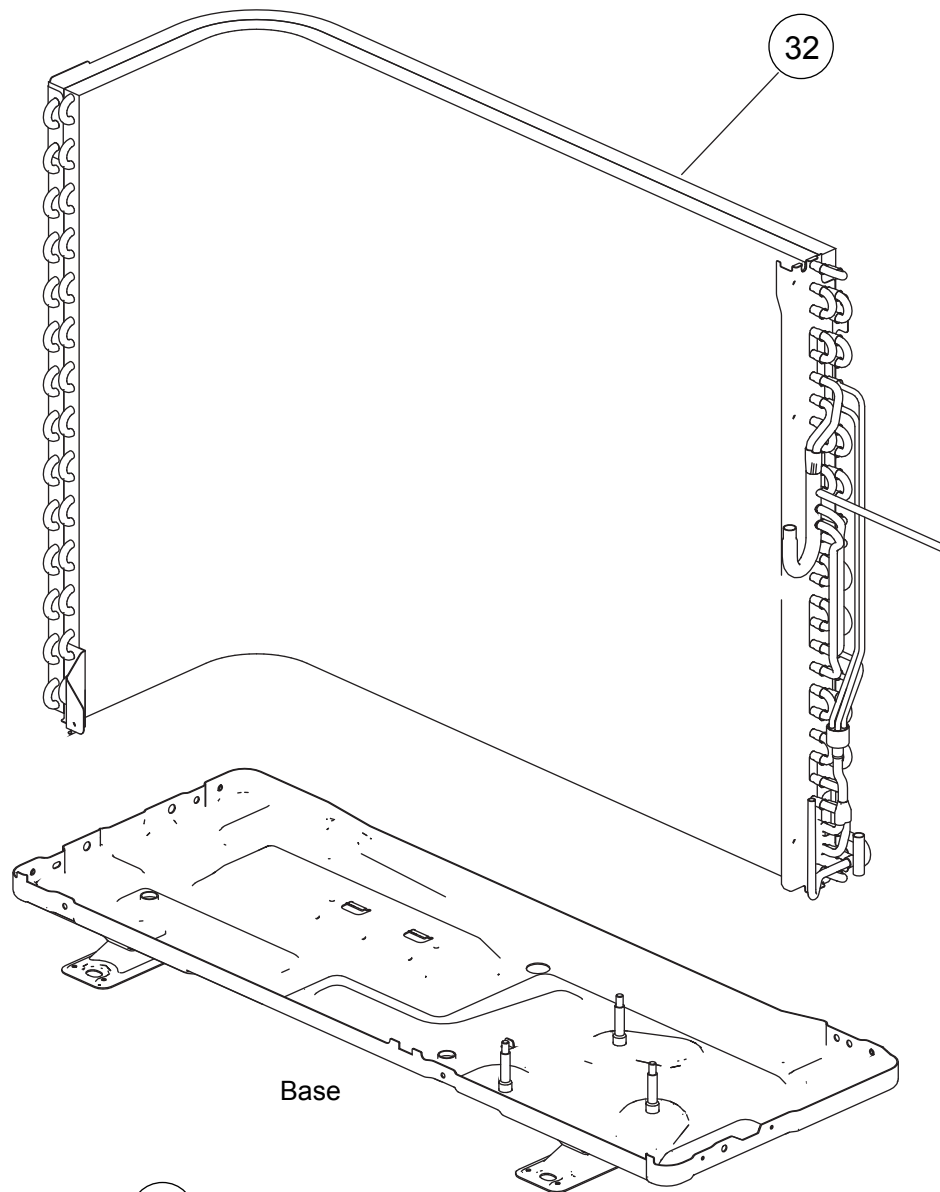


Ref.	Description	Part number
1	Thermistor Holder	9313954031
2	Protective Net	9332492002
3	Top Panel Assy	9318464023
4	Front Panel Assy	9318463026
5	Emblem	9317903011
6	Cabinet Left Assy	9318461015
7	Switch Cover	9317692021
8	Cabinet Right Assy	9316044050
9	Reactor Assy	9900611019
10	Fan Motor	9602724017
11	Propeller Fan	9313808013

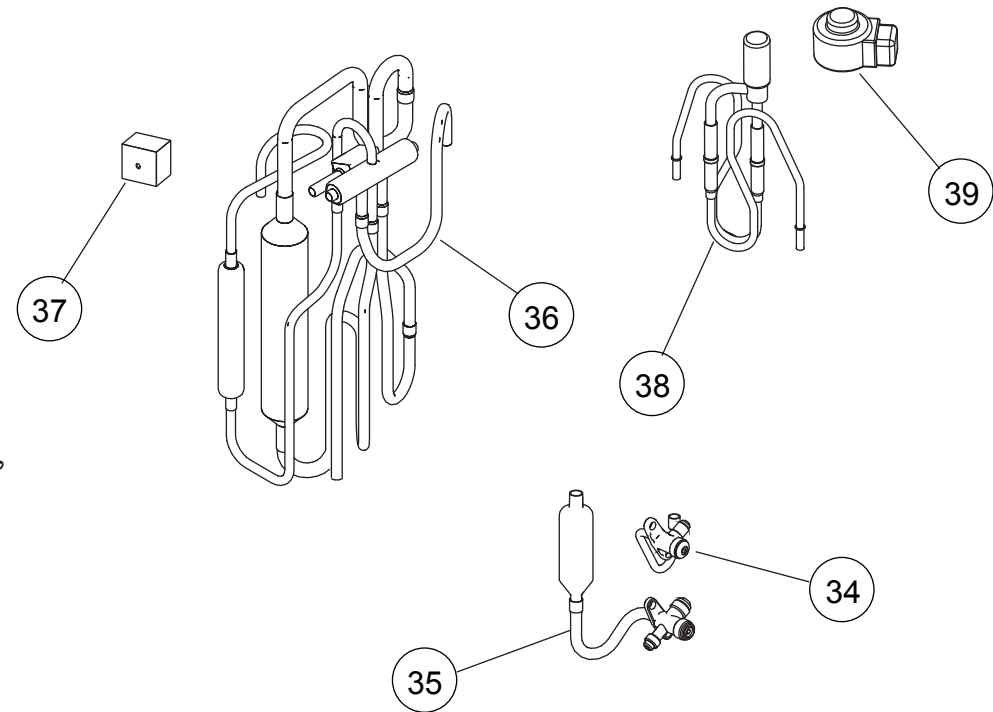


OUTDOOR UNIT

Ref.	Description	Part number	
21	Main PCB with grease (9)	9709680117	
21	Main PCB with grease (12)	9709680131	
22	PCB Holder	9313074029	
23	Terminal 6P	9900016081	
24	Heatsink A	9314410017	
25	Heatsink B	9314090011	
--	Outdoor Thermistor	9900544010	
--	Thermistor Assy	9900614027	

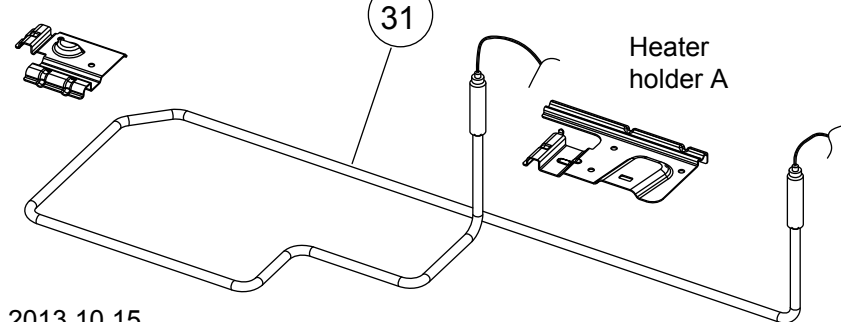


OUTDOOR UNIT



Ref.	Description	Part number
31	Heater Unit Assy	9900616014
32	Condenser Total Assy	9317089098
33	Compressor Assy	9317117005
34	2-way Valve Assy	9332371000
35	3-way Valve Sub Assy	9317109000
36	4-way Valve Assy	9315311092
37	Solenoid	9970110047
38	Pulse Motor Valve Assy	9332368000
39	Expansion Valve Coil	9970095030

Heater holder B

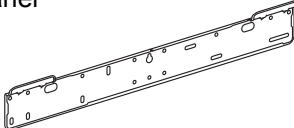
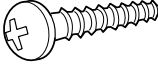
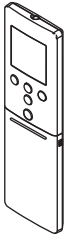
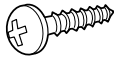

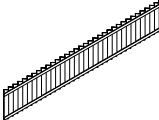
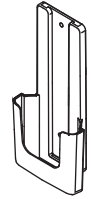
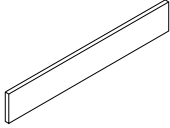
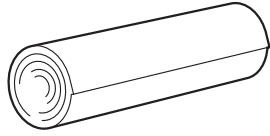



Base

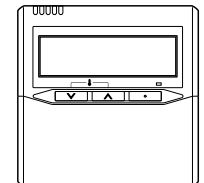
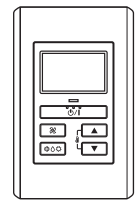
Heater
holder A

ACCESSORIES

INDOOR UNIT

Name and part number	Q'ty	Name and part number	Q'ty
Bracket panel  9316272019	1	Tapping screw (big) (φ 4 x 25)  0700076046	9
Remote control  9320476007	1	Tpping screw (small) (φ 3 x 12)  0700019036	2
Battery (penlight)  0600185541	2	Electric filter  9312153015	1
Remote control holder  9318912005	1	Ion deodrant filter  9311925033	1
Cloth tape  9310519004	1	Cable tie  312300787605	1

OPTIONAL PARTS

Name and part model name
Wired remote control UTY-RNNUM 
Simple remote control UTY-RSNUM 
External connect kit UTY-XWZXZ5 