

SERVICE MANUAL



Indoor unit	Outdoor unit
RDG12LLTB	ROG12LALL
RDG14LLTB	ROG14LALL
RDG18LLTB	ROG18LALL

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Inverter cooling & heating		
INDOOR UNIT		RDG12LLTB	RDG14LLTB	RDG18LLTB
OUTDOOR UNIT		ROG12LALL	ROG14LALL	ROG18LALL
COOLING CAPACITY		3.50 kW	4.30 kW	5.20 kW
HEATING CAPACITY		4.10 kW	5.00 kW	6.00 kW
POWER SOURCE		230 V, 50 Hz		
RUNNING CURRENT	Cooling	4.8 A	6.1 A	7.2 A
	Heating	5.1 A	6.1 A	7.4 A
INPUT WATTS	Cooling	1.05 kW	1.33 kW	1.62 kW
	Heating	1.11 kW	1.34 kW	1.66 kW
E.E.R.	Cooling	3.33 kW/kW	3.21 kW/kW	3.21 kW/kW
COP	Heating	3.69 kW/kW	3.71 kW/kW	3.61 kW/kW
MOISTURE REMOVAL		1.3 L/hr	1.5 L/hr	2.0 L/hr
AIR CIRCULATION (HIGH)		650 m3/hr	800 m3/hr	940 m3/hr
MAXIMUM CURRENT	Cooling	7.5 A	9.0 A	9.0 A
	Heating	10.0 A	12.5 A	12.5 A

FAN MOTOR

INDOOR UNIT, Discrimination		MFG-14WV		
INDOOR UNIT	High	1,340 r.p.m.	1,560 r.p.m.	1,380 r.p.m.
	Medium	1,240 r.p.m.	1,400 r.p.m.	1,300 r.p.m.
	Low	1,140 r.p.m.	1,240 r.p.m.	1,220 r.p.m.
	Quiet	1,030 r.p.m.	1,030 r.p.m.	1,140 r.p.m.
OUTDOOR UNIT, Discrimination		MFE-63NOM		
OUTDOOR UNIT (cool)		770 r.p.m.	820 r.p.m.	860 r.p.m.
OUTDOOR UNIT (heat)		700 r.p.m.	750 r.p.m.	820 r.p.m.

NOISE LEVEL

INDOOR UNIT (cool)	High	29 dB	32 dB	32 dB
	Medium	28 dB	30 dB	30 dB
	Low	26 dB	28 dB	29 dB
	Quiet	25 dB	26 dB	27 dB
INDOOR UNIT (heat)	High	29 dB	32 dB	32 dB
	Medium	28 dB	30 dB	30 dB
	Low	26 dB	28 dB	29 dB
	Quiet	24 dB	25 dB	27 dB
OUTDOOR UNIT (cool)		47 dB	49 dB	50 dB
OUTDOOR UNIT (heat)		48 dB	49 dB	50 dB

COMPRESSOR AND REFRIGERANT

COMPRESSOR		DA130A1F-25NA		
WEIGHT (with oil)		9.6 kg		
REFRIGERANT TYPE		R410A		
PRECHARGED		1,150 g	1,250 g	1,250 g
FULL CHARGE	Pipe length 15 m	1,150 g	1,250 g	1,250 g
	20 m	1,250 g	1,350 g	1,350 g
	25 m	1,350 g	1,450 g	1,450 g
ADDITIONAL CHARGE		20 g/m		
MAXIMUM PIPING HEIGHT		15 m		

DIMENSIONS

INDOOR UNIT H x W x D	198 x 700 x 620 mm	198 x 900 x 620
OUTDOOR UNIT H x W x D	578 x 790 x 300 mm	

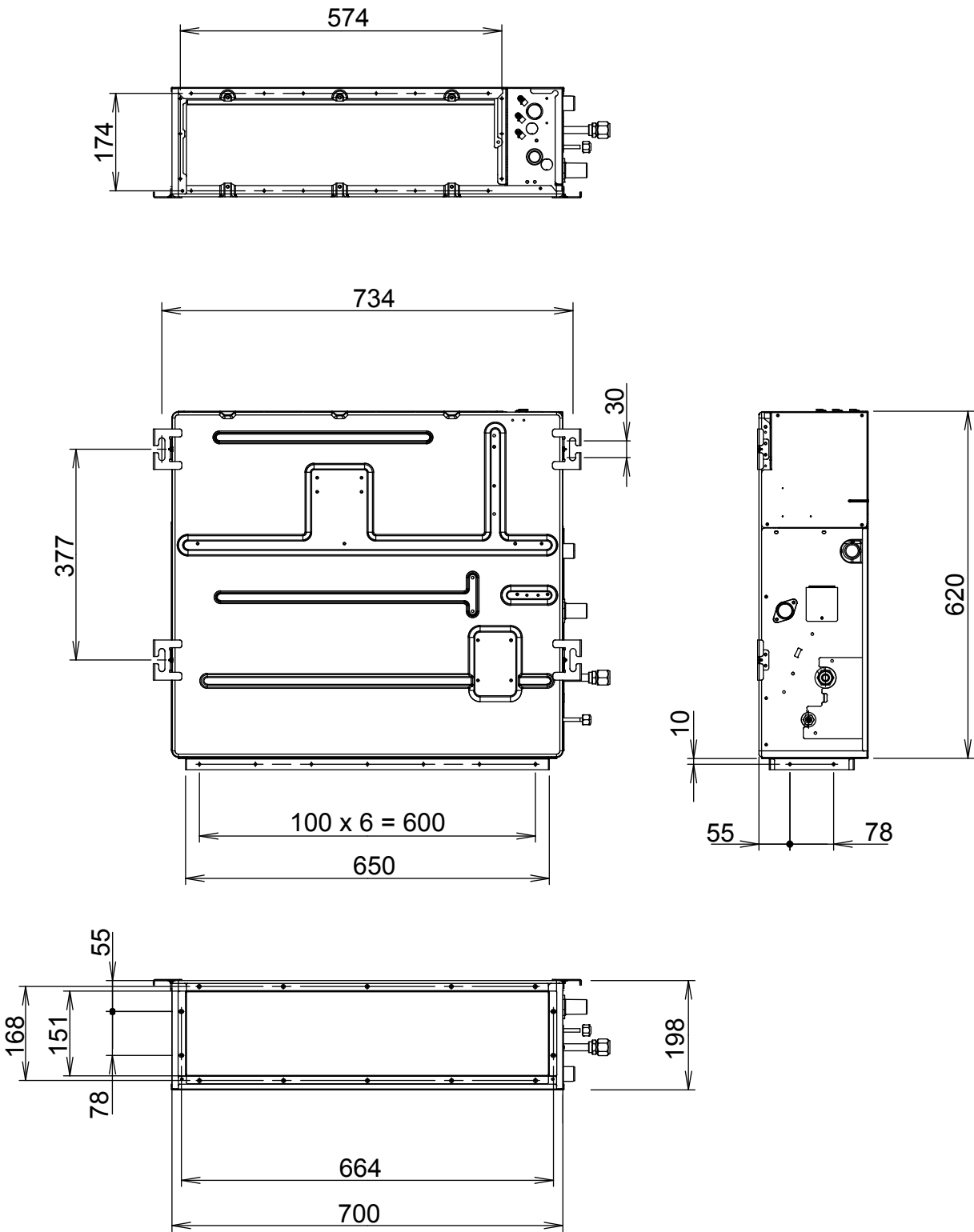
WEIGHT

INDOOR UNIT Net / Shipping	19 kg / 26 kg	23 / 30 kg
OUTDOOR UNIT Net / Shipping	40 kg / 44 kg	

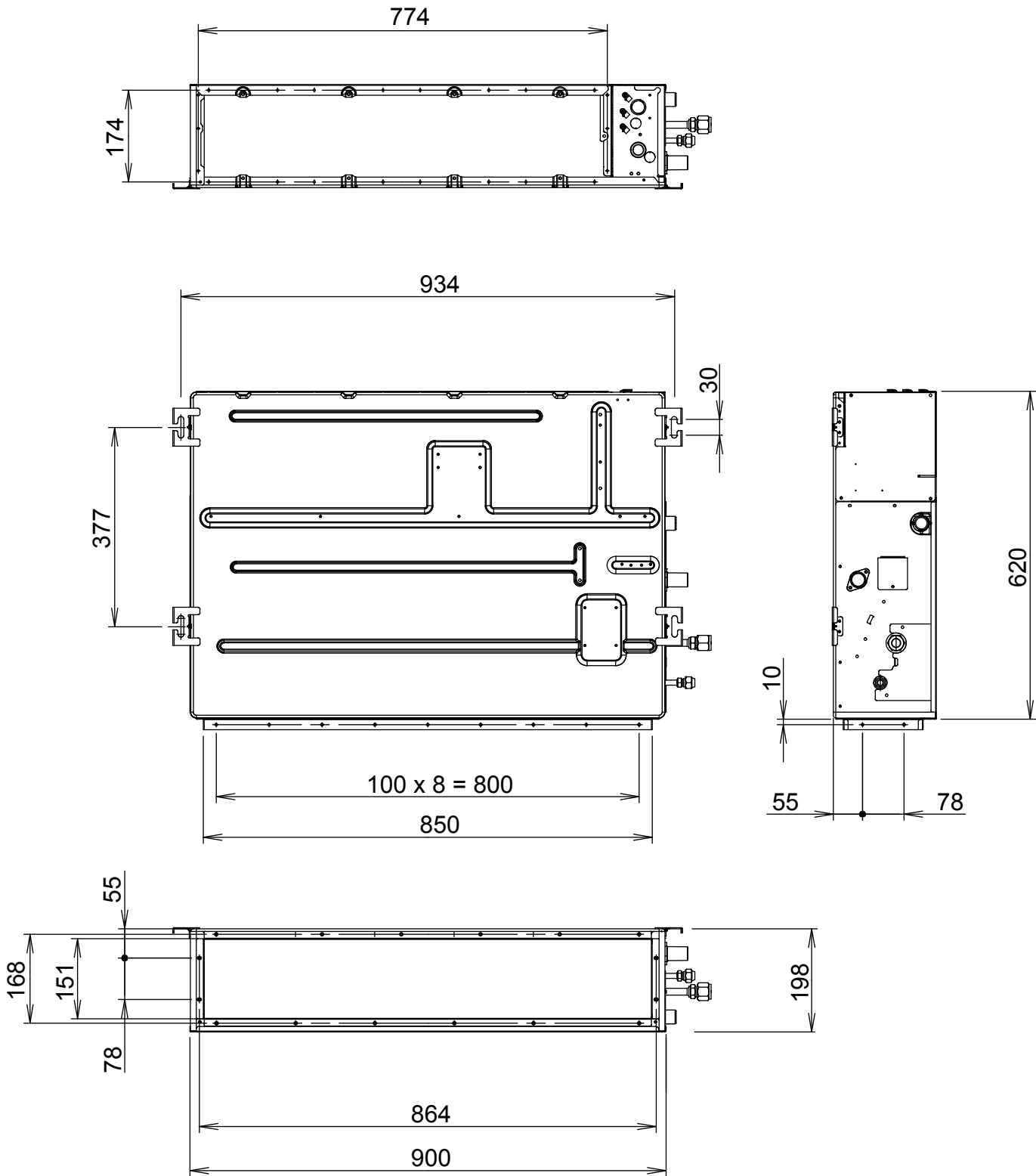
DIMENSIONS

Unit : mm

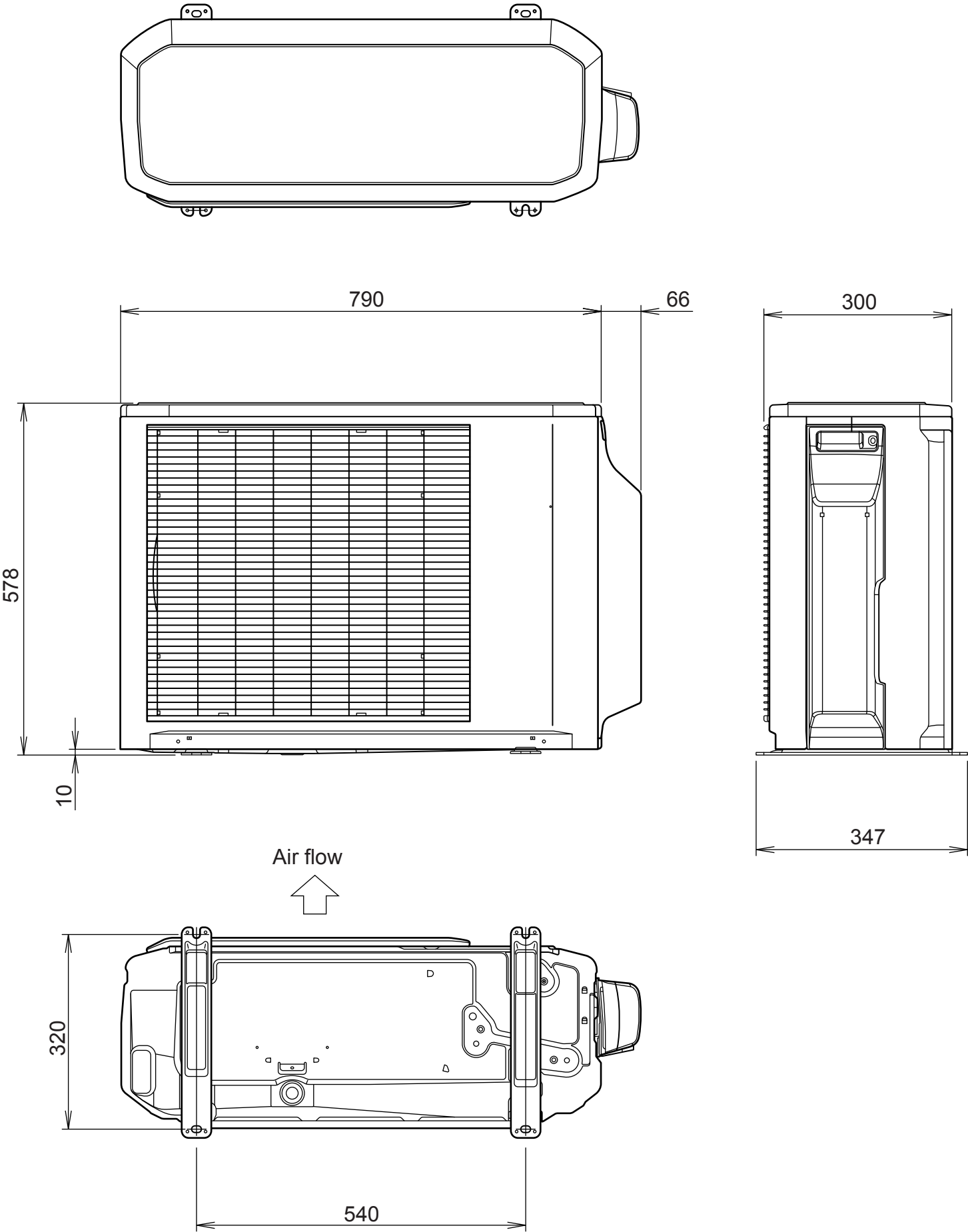
INDOOR UNIT
RDG12LLTB
RDG14LLTB



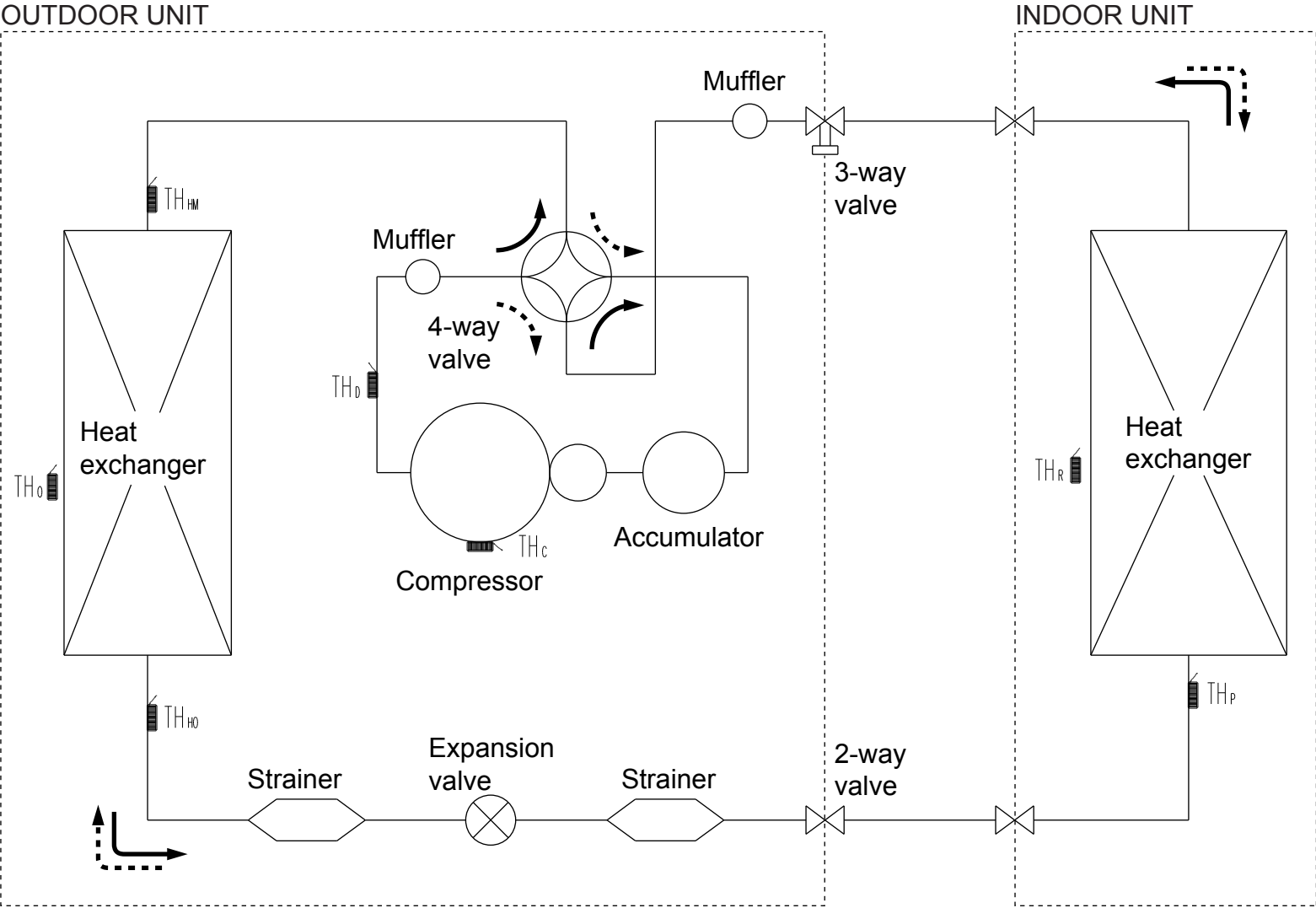
INDOOR UNIT
RDG18LLTB



Unit : mm
OUTDOOR UNIT



REFRIGERANT SYSTEM DIAGRAM



<Refrigerant direction>

→ Cooling

...→ Heating

<Refrigerant pipe diameter>

12

Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm)

14, 18

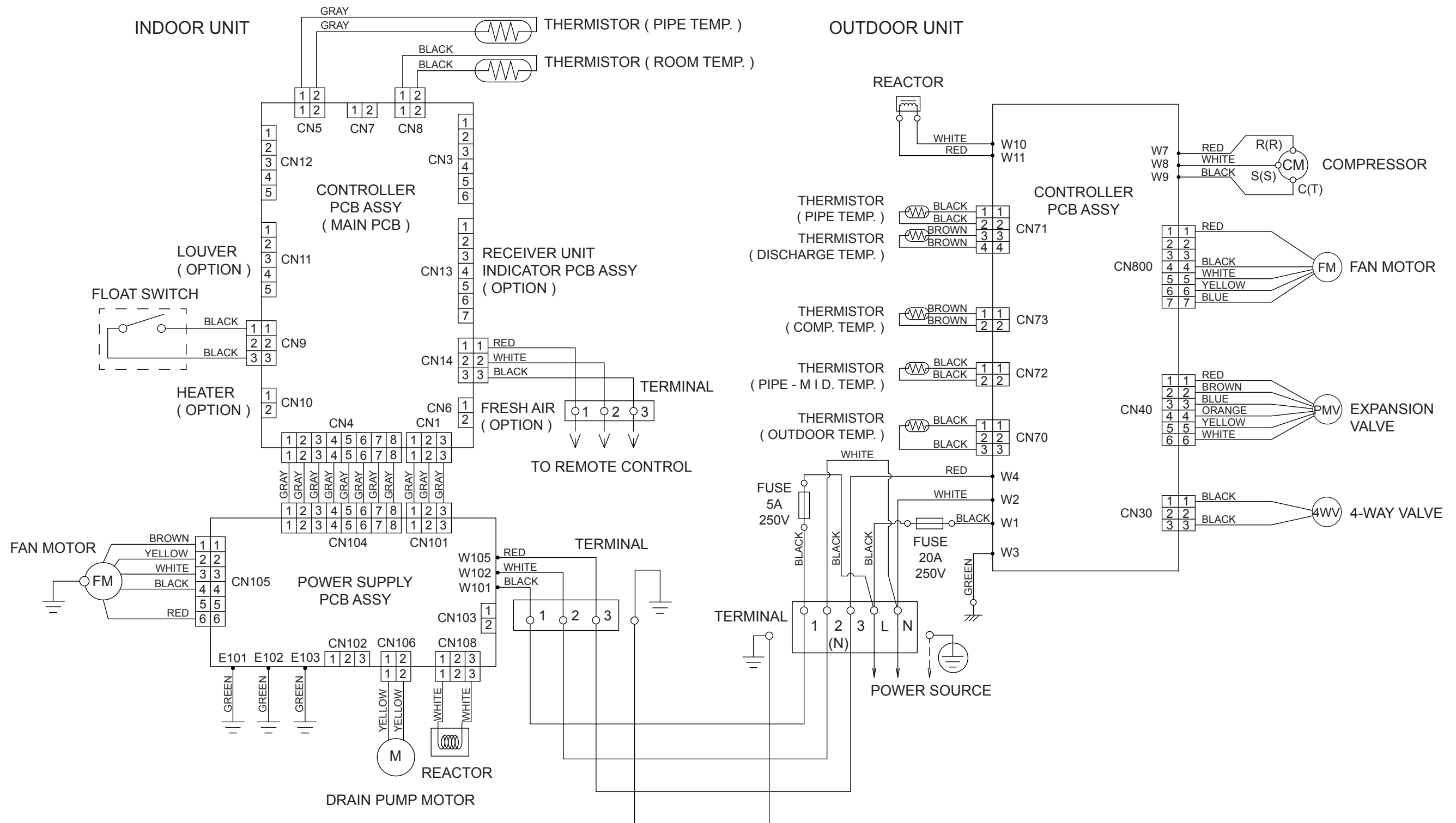
Liquid : 1/4" (6.35 mm)

Gas : 1/2" (12.70 mm)

TH_C : Compressor thermistor
 TH_D : Discharge pipe thermistor
 TH_{HM} : Heat exchanger thermistor (Middle)
 TH_{HO} : Heat exchanger thermistor (Out)
 TH_O : Outdoor thermistor

TH_P : Pipe thermistor
 TH_R : Room thermistor

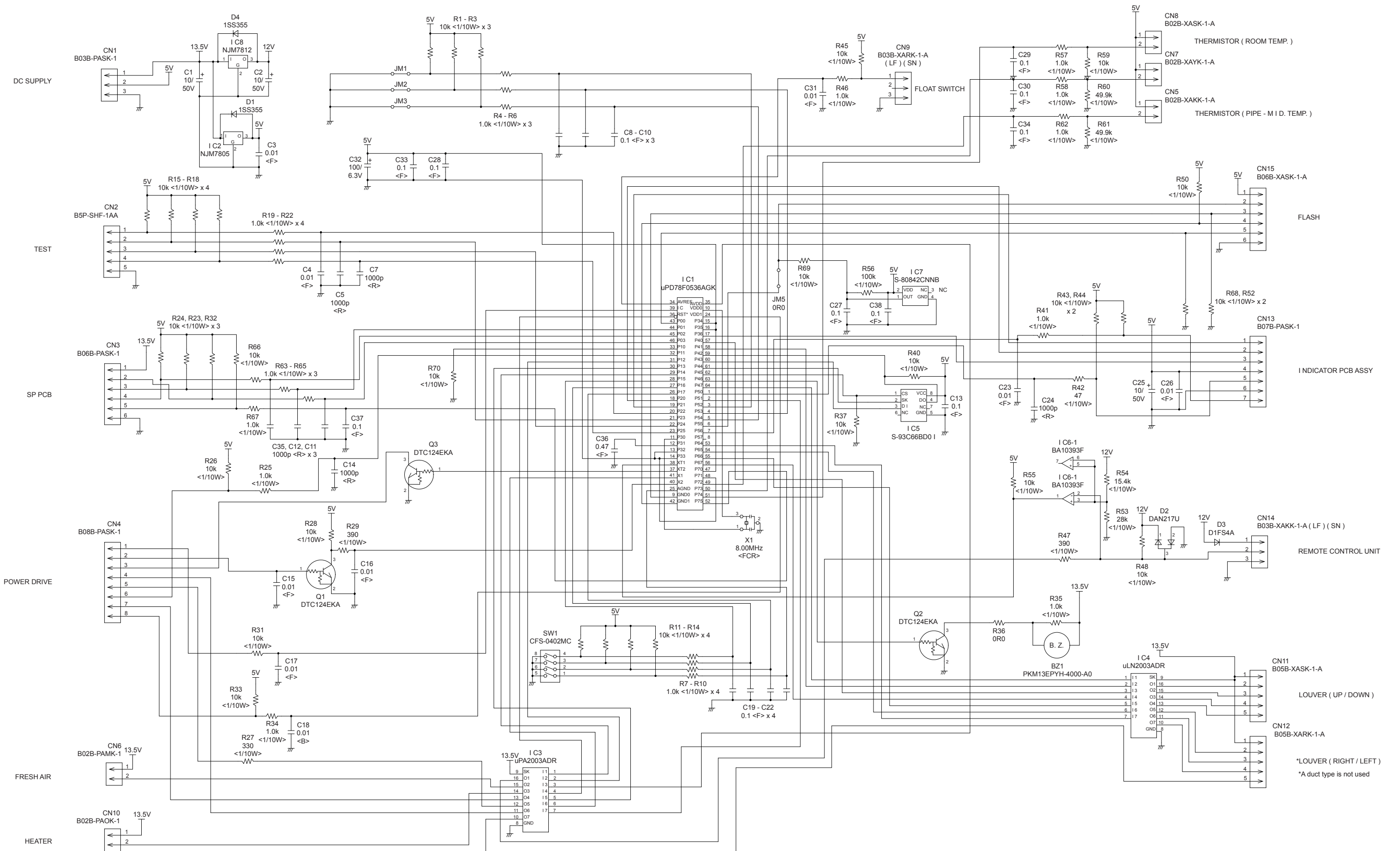
CIRCUIT DIAGRAM



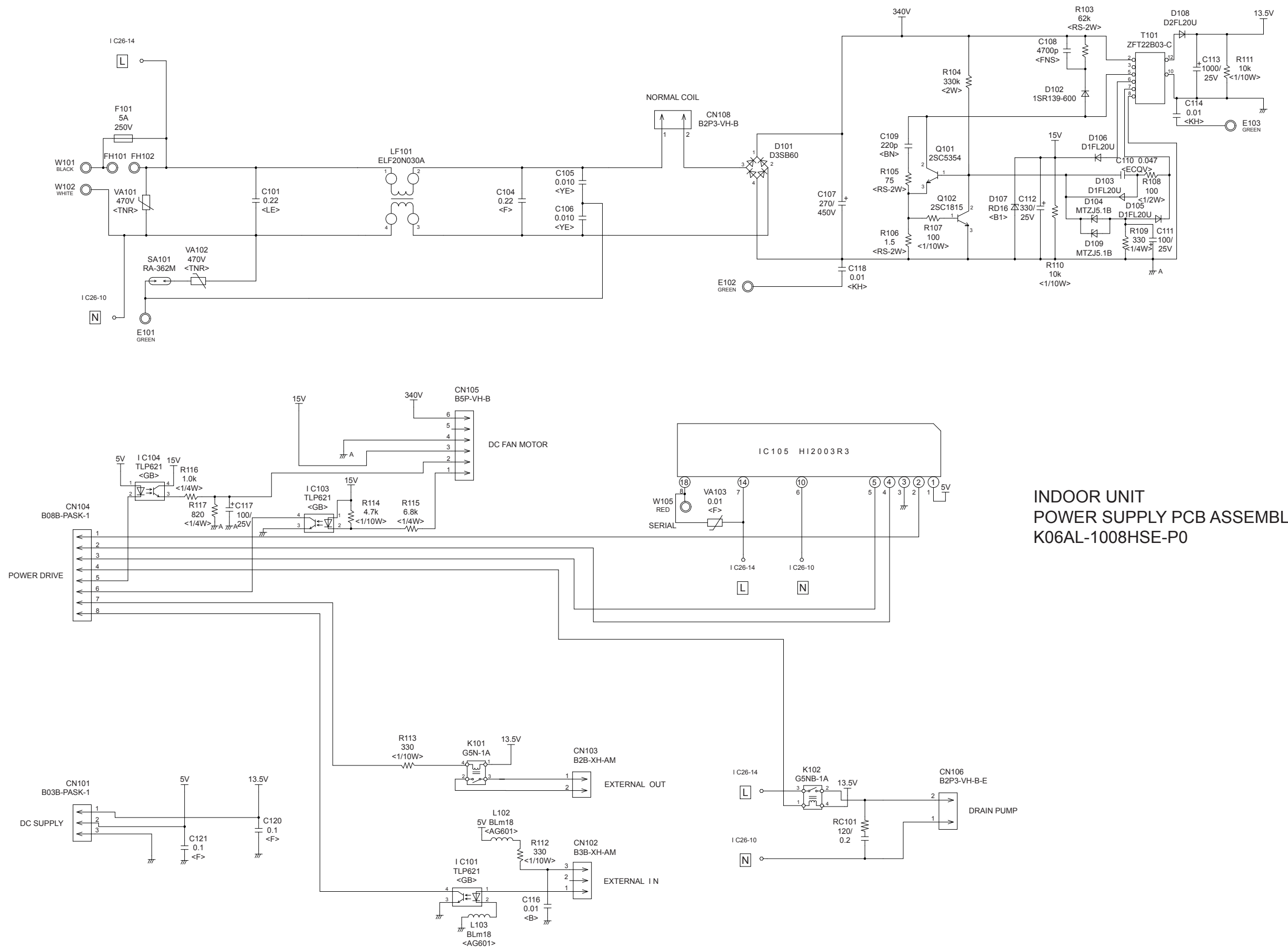
CONTROL UNIT
RDG12LLTB : EZ-01110HSE
RDG14LLTB : EZ-01111HSE
RDG18LLTB : EZ-01112HSE



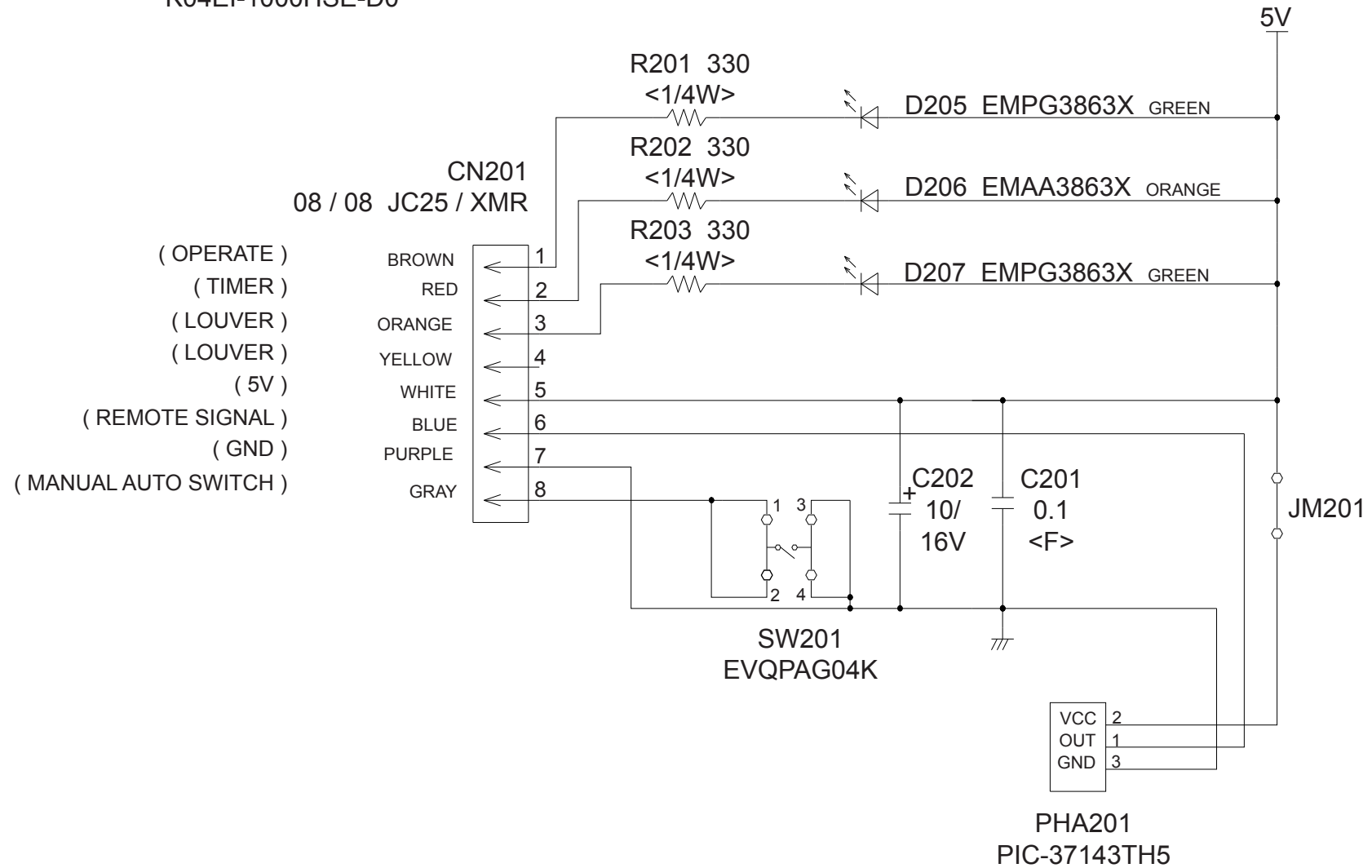
INDOOR UNIT
 CONTROLLER PCB ASSEMBLY (MAIN PCB)
 RDG12LLTB : K06AK-1101HSE-C1
 RDG14LLTB : K06AK-1102HSE-C1
 RDG18LLTB : K06AK-1103HSE-C1



*LOUVER (RIGHT / LEFT)
 *A duct type is not used

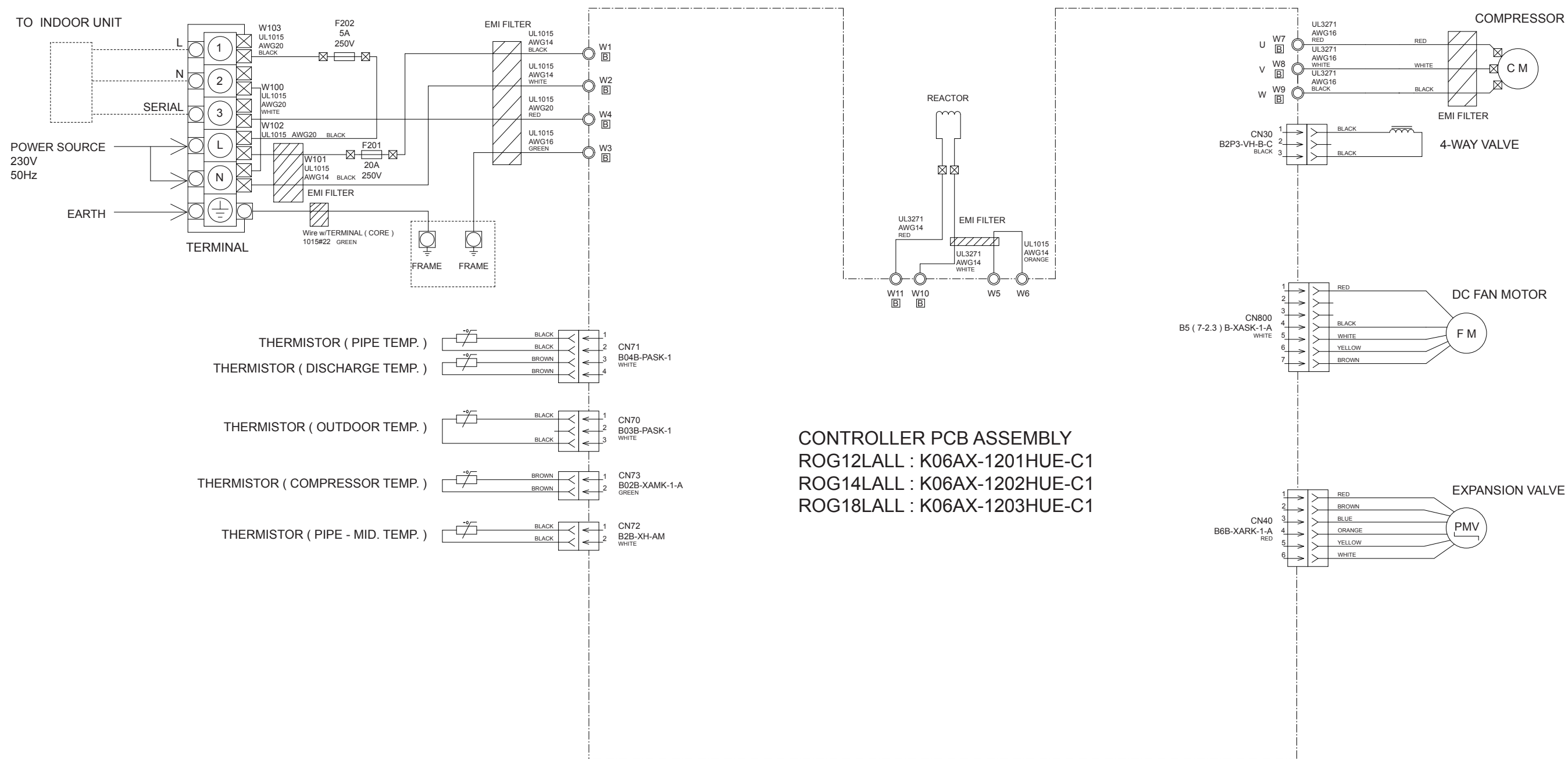


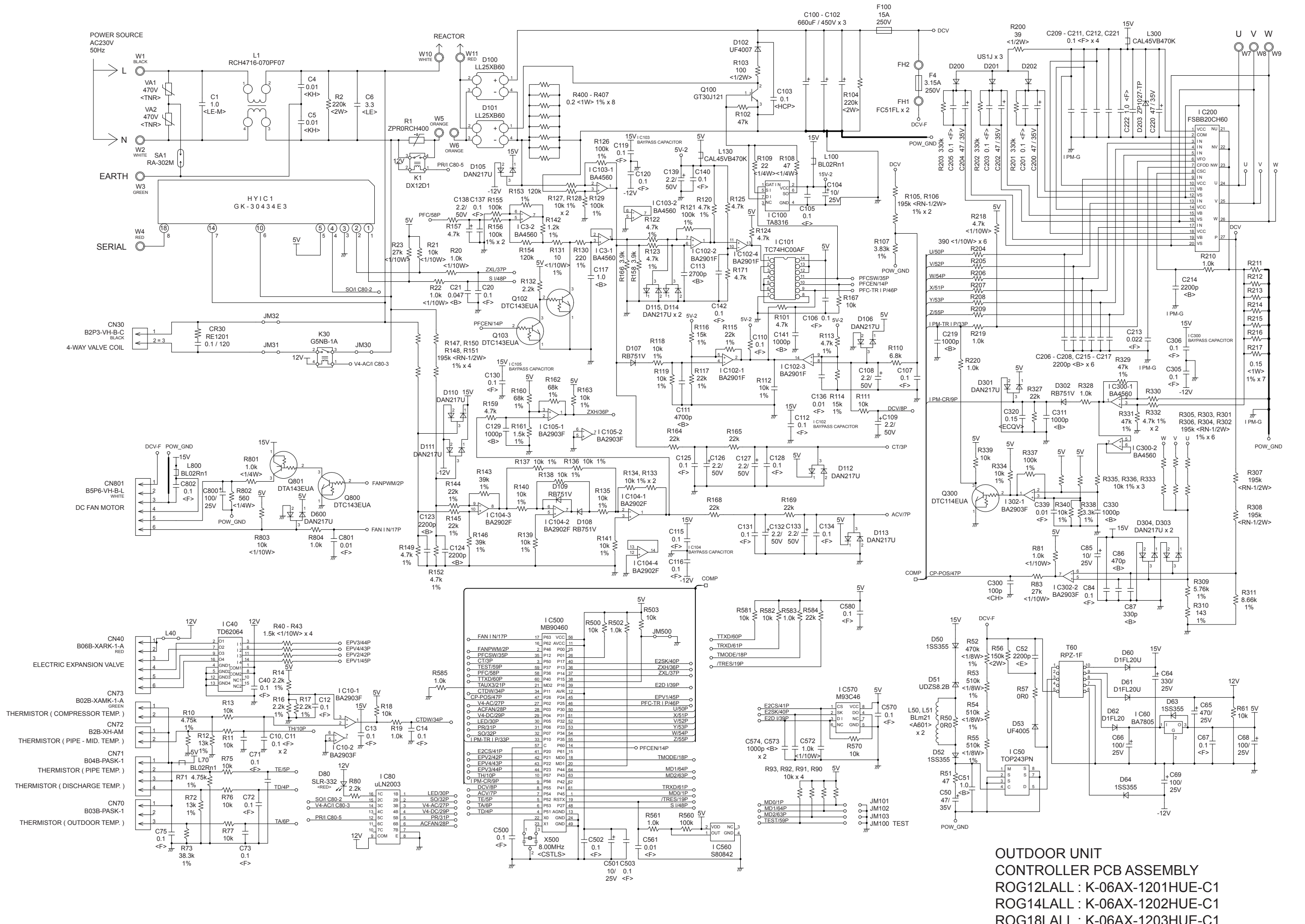
INDOOR UNIT
INDICATOR PCB ASSEMBLY (OPTION)
K04EI-1000HSE-D0



OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
ROG12LALL : EZ-0121PHUE
ROG14LALL : EZ-0121RHUE
ROG18LALL : EZ-0121SHUE





OUTDOOR UNIT
CONTROLLER PCB ASSEMBLY
ROG12LALL : K-06AX-1201HUE-C1
ROG14LALL : K-06AX-1202HUE-C1
ROG18LALL : K-06AX-1203HUE-C1

- : 0.5s on / 0.5s off
- ◇ : 0.1s on / 0.1s off
- () : Number of flashing

ERROR DETECTION

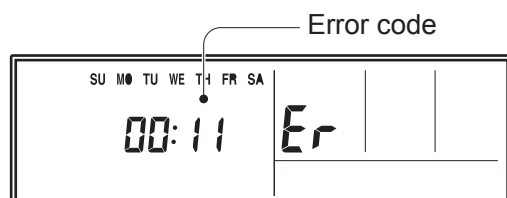
INDOOR UNIT and WIRED REMOTE CONTROL

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 type 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 running.

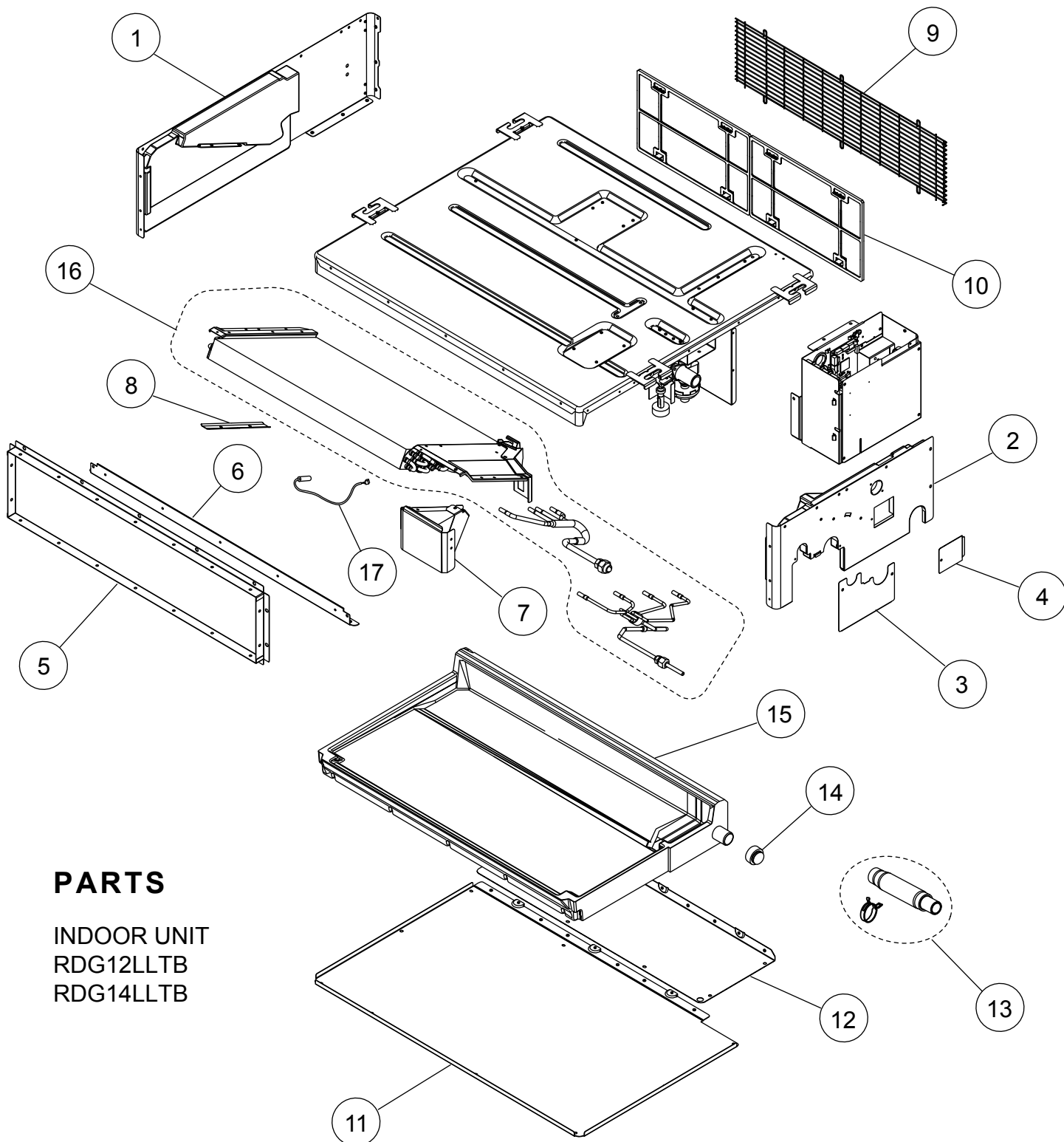
This is possible only on a wired remote control.

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



EX. Self-diagnosis

Indoor unit			Wired remote control	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
● (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	Inlet air 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
● (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 (permanent stop)
● (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)	◇	J2	Branch boxes error [Flexible Multi]

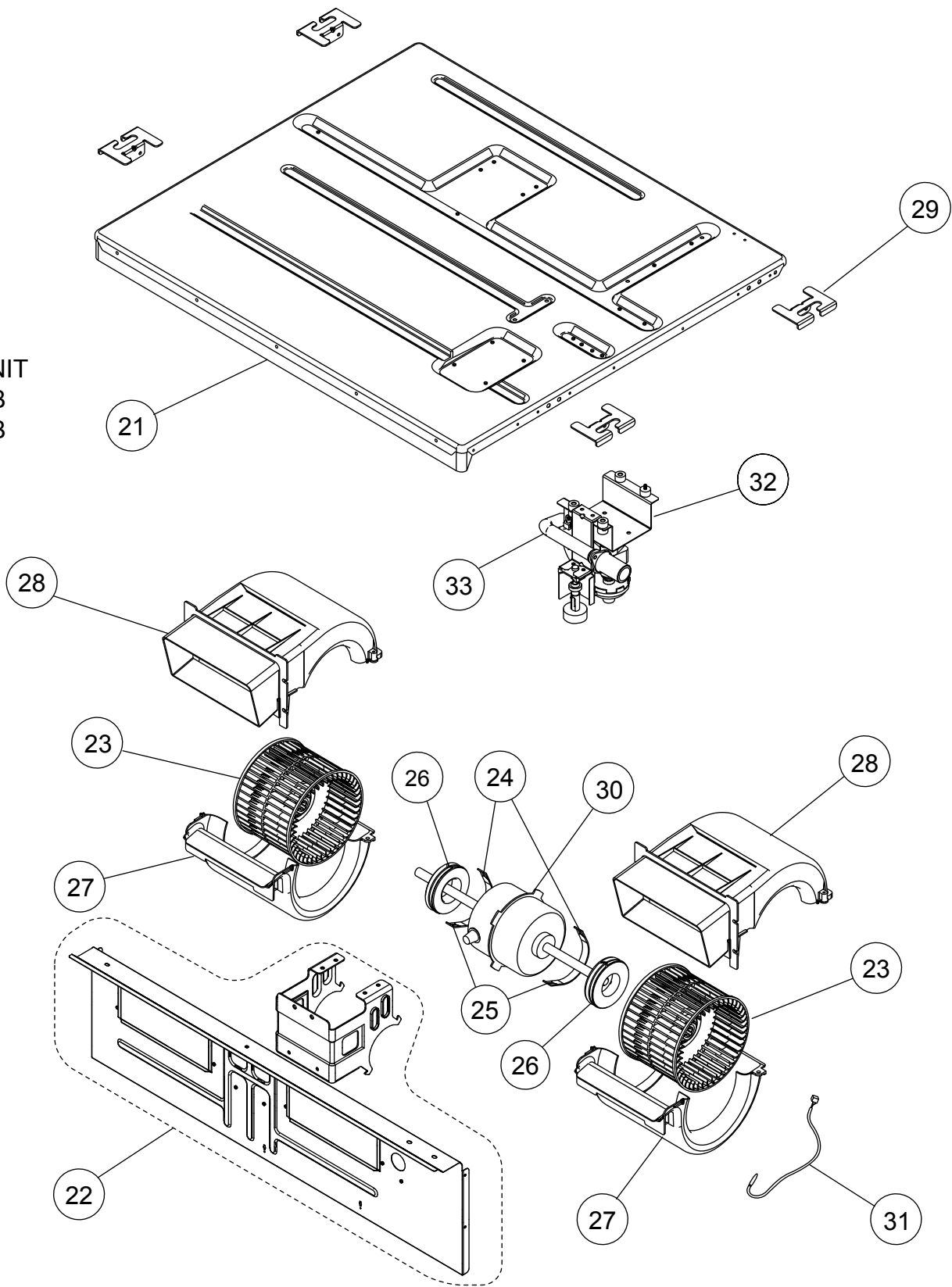


PARTS

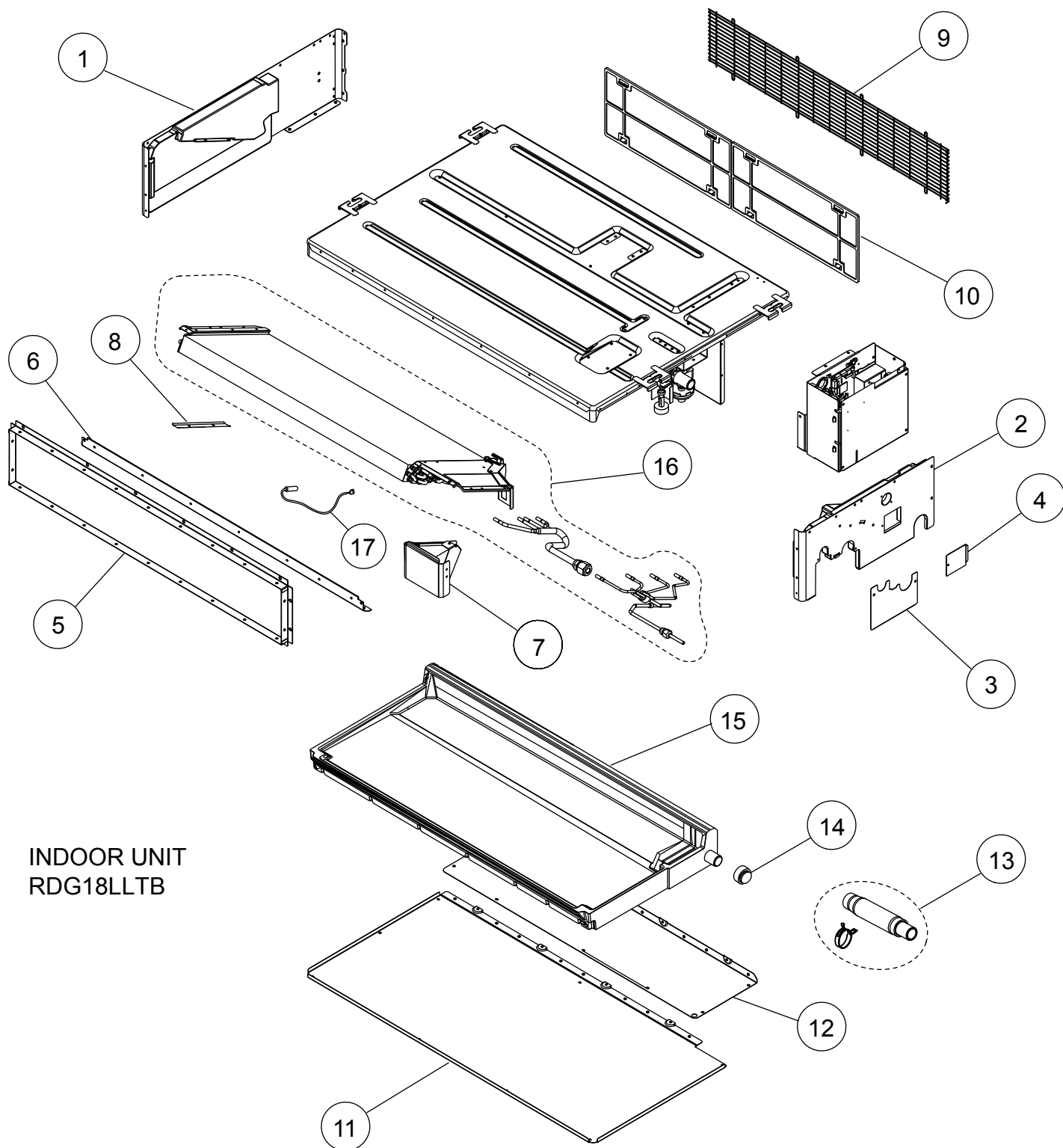
INDOOR UNIT
RDG12LLTB
RDG14LLTB

Ref	Description	Parts number	Ref	Description	Parts number
1	Side Panel R Sub Assy	9379906005	10	Air Filter	9379574006
2	Side Panel L Sub Assy	9379907002	11	Main Panel Sub Assy	9379902007
3	Pipe Panel Sub Assy	9379900003	12	Cabinet Panel (2 Fan)	9379596008
4	Panel (Window) Sub Assy	9379915007	13	Hose Sub Assy	9378450103
5	Outlet Frame Sub Assy	9379909006	14	Drain Cap	9358746004
6	Front Panel (2 Fan)	9379593007	15	Drain Pan Sub Assy	9379901000
7	Valve Cover Sub Assy	9379576000	16	Evaporater Sub Assy (12)	9364499581
8	Cover Pipe Sub Assy	9380033004	16	Evaporater Sub Assy (14)	9364499673
9	Fan Guard (2 Fan)	9379637008	17	Pipe Thermistor	9900623005

INDOOR UNIT
RDG12LLTB
RDG14LLTB



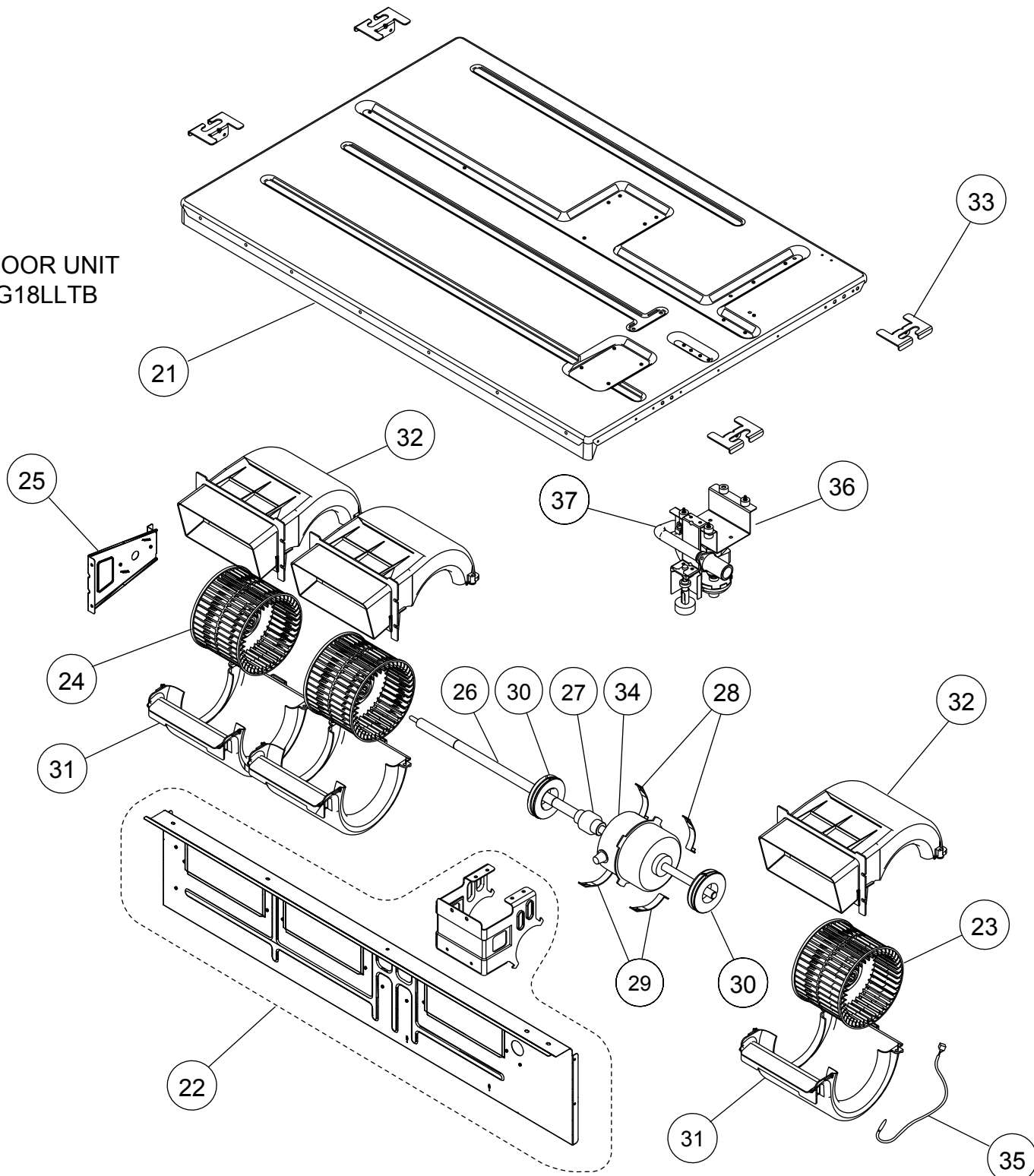
Ref	Description	Parts number		Ref	Description	Parts number	
21	Top Panel Sub Assy	9379908009		28	Casing U	9379571005	
22	Separator Sub Assy	9379898003		29	Hook Metal	9379889001	
23	Sirroco Fan Assy	9379570015		30	Fan Motor Assy	9602967018	
24	Motor Band Assy	9379613002		31	Room Thermistor	9703299247	
25	Motor Band	9379614009		32	Drain Pump Sub Assy	9379914000	
26	Rubber (Vibration Proof)	9379644006		33	Drain Hose Assy	9379913003	
27	Casing B	9379572002					



INDOOR UNIT
RDG18LLTB

Ref	Description	Parts number		Ref	Description	Parts number	
1	Side Panel R Sub Assy	9379906005		10	Air Filter	9379575003	
2	Side Panel L Sub Assy	9379907002		11	Main Panel Sub Assy	9379902014	
3	Pipe Panel Sub Assy	9379900003		12	Cabinet Panel (3 Fan)	9379597005	
4	Panel (Window) Sub Assy	9379915007		13	Hose Sub Assy	9378450103	
5	Outlet Frame Sub Assy	9379909013		14	Drain Cap	9358746004	
6	Front Panel (3 Fan)	9379594004		15	Drain Pan Sub Assy	9379901017	
7	Valve Cover Sub Assy	9379576000		16	Evaporator Sub Assy	9364499604	
8	Cover Pipe Sub Assy	9380033004		17	Pipe Thermistor	9900623005	
9	Fan Guard (3 Fan)	9379638005					

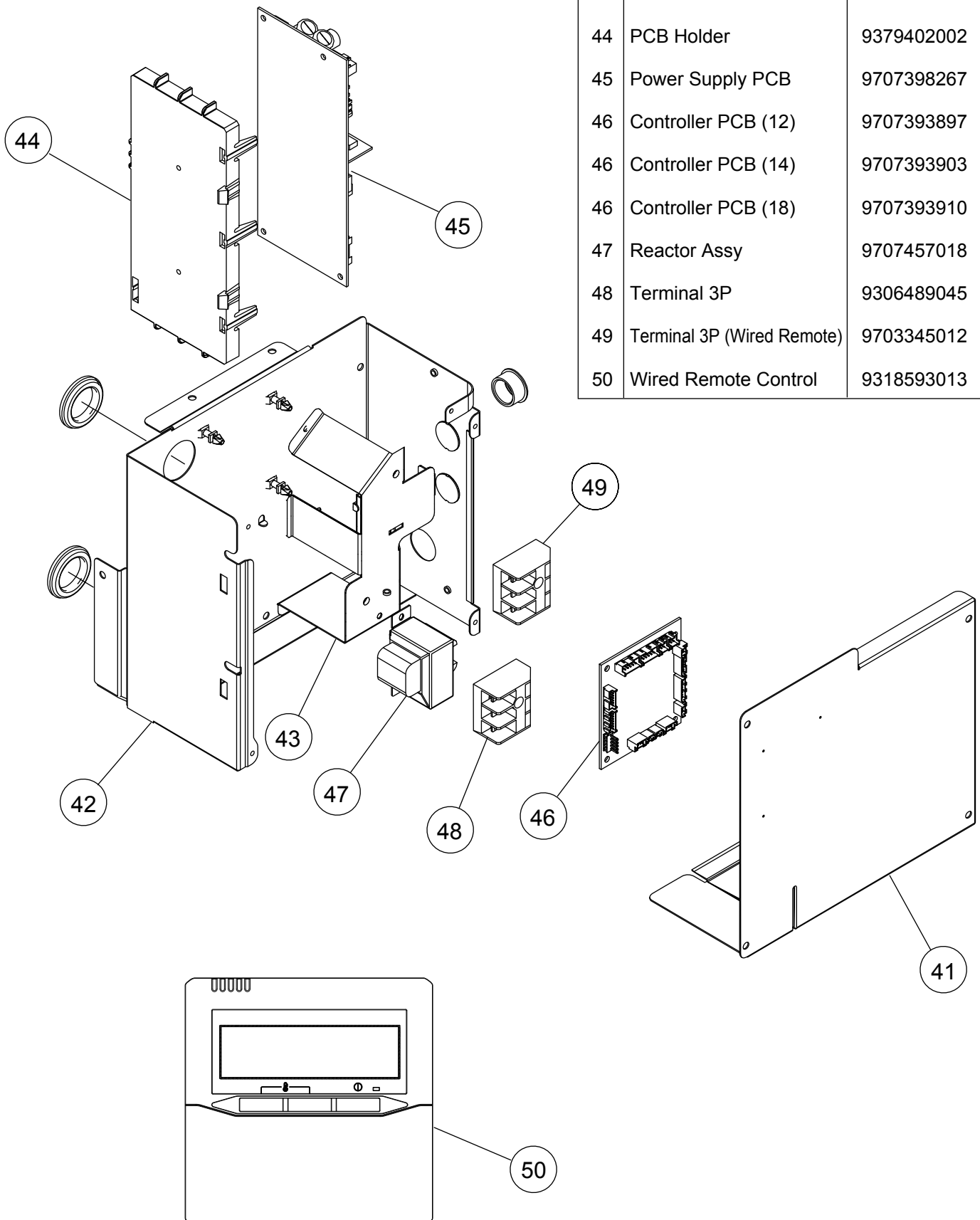
INDOOR UNIT
RDG18LLTB



Ref	Description	Parts number
21	Top Panel Sub Assy	9379908016
22	Separator Sub Assy	9379898010
23	Sirroco Fan Assy	9379570022
24	Sirroco Fan Assy	9379570039
25	Bracket (Bearing Sub Assy)	9379627009
26	Shaft	9380398004
27	Joint Assy	9378038011
28	Motor Band Assy	9379613002
29	Motor Band	9379614009

Ref	Description	Parts number
30	Rubber (Vibration Proof)	9379644006
31	Casing B	9379572002
32	Casing U	9379571005
33	Hook Metal	9379889001
34	Fan Motor Assy	9602968015
35	Thermistor (Room)	9703299247
36	Drain Pump Sub Assy	9379914000
37	Drain Hose Assy	9379913003

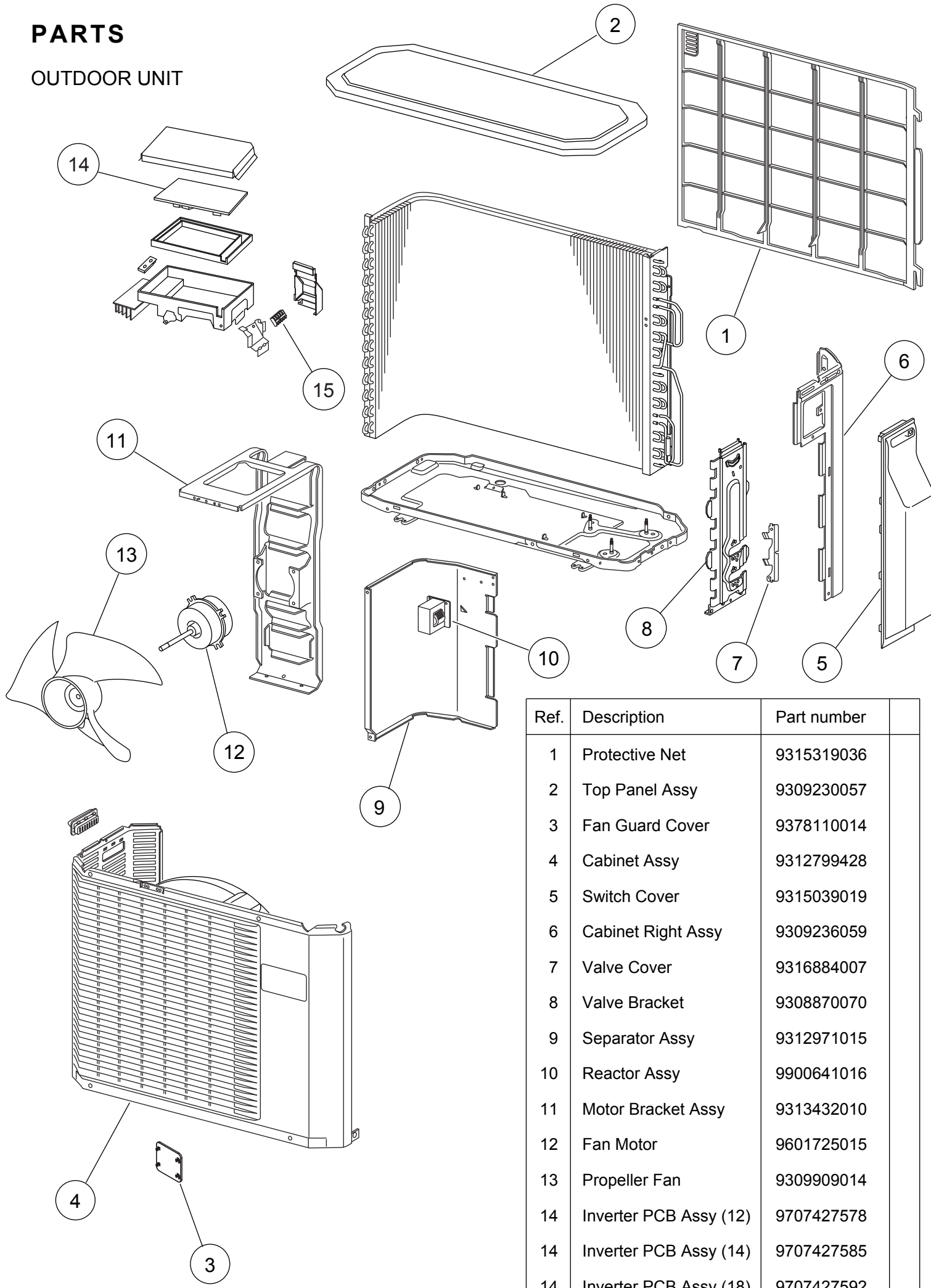
INDOOR UNIT
RDG12LLTB
RDG14LLTB
RDG18LLTB



Ref	Description	Parts number
41	Control Cover Sub Assy	9379806039
42	Control Box Assy	9380041023
43	Terminal Bracket	9380132011
44	PCB Holder	9379402002
45	Power Supply PCB	9707398267
46	Controller PCB (12)	9707393897
46	Controller PCB (14)	9707393903
46	Controller PCB (18)	9707393910
47	Reactor Assy	9707457018
48	Terminal 3P	9306489045
49	Terminal 3P (Wired Remote)	9703345012
50	Wired Remote Control	9318593013

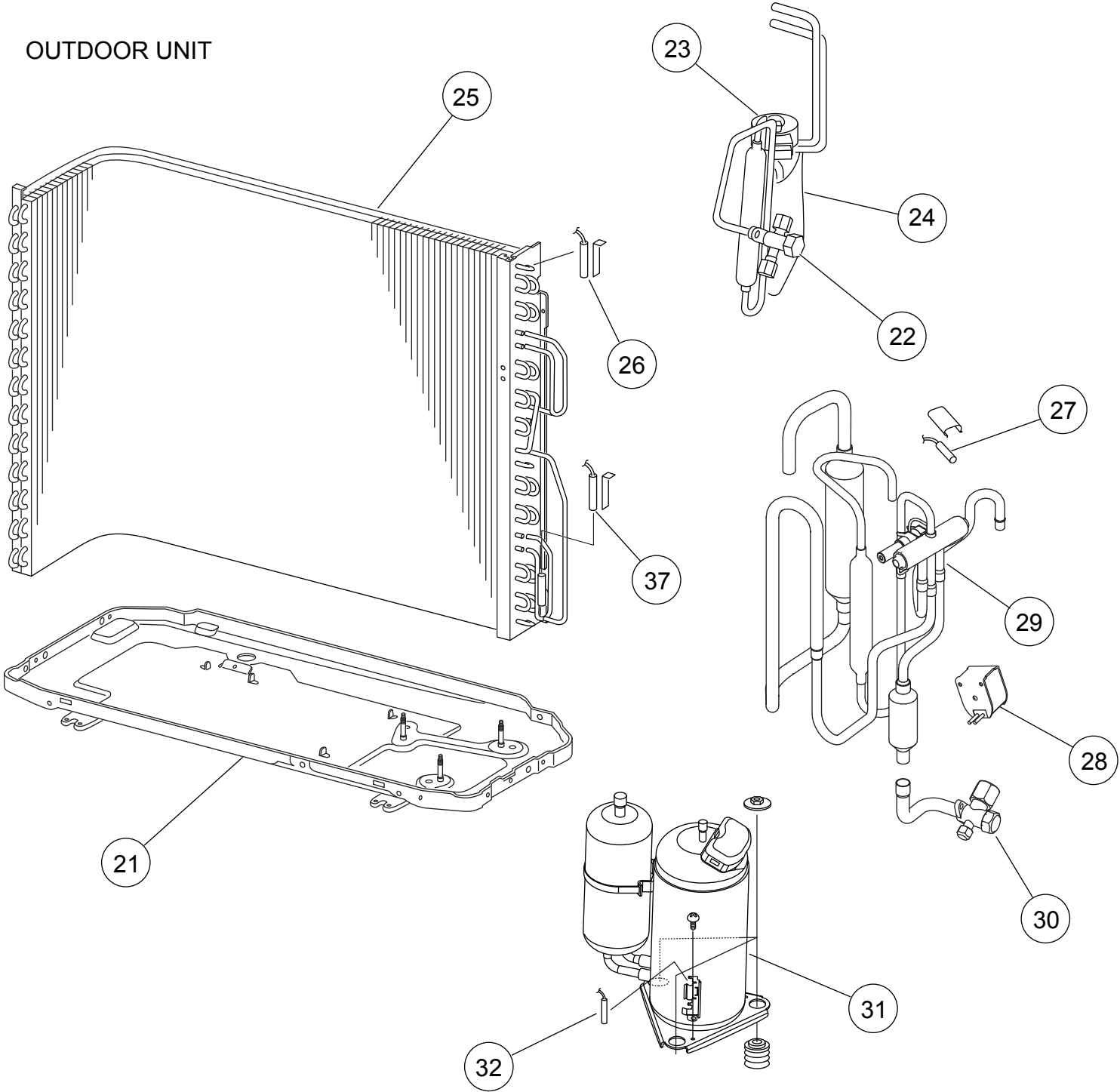
PARTS

OUTDOOR UNIT



Ref.	Description	Part number	
1	Protective Net	9315319036	
2	Top Panel Assy	9309230057	
3	Fan Guard Cover	9378110014	
4	Cabinet Assy	9312799428	
5	Switch Cover	9315039019	
6	Cabinet Right Assy	9309236059	
7	Valve Cover	9316884007	
8	Valve Bracket	9308870070	
9	Separator Assy	9312971015	
10	Reactor Assy	9900641016	
11	Motor Bracket Assy	9313432010	
12	Fan Motor	9601725015	
13	Propeller Fan	9309909014	
14	Inverter PCB Assy (12)	9707427578	
14	Inverter PCB Assy (14)	9707427585	
14	Inverter PCB Assy (18)	9707427592	
15	Terminal	9703874031	

OUTDOOR UNIT

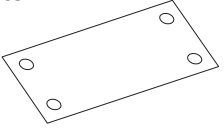
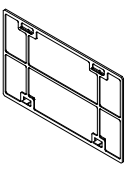
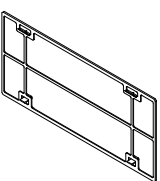


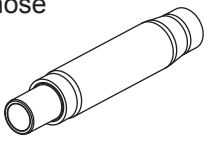
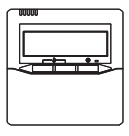
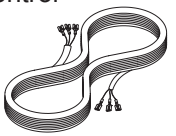
Ref.	Description	Part number	
21	Base Ass'y	9308869081	
22	2-way Valve Ass'y	9970093012	
23	Expansion Valve Coil	9900057039	
24	Pulse Motor Valve Ass'y	9311641018	
25	Condenser Total Ass'y	9311381068	
26	Heat Exchanger Thermistor	9900403010	
27	Thermistor Ass'y	9900148027	

Ref.	Description	Part number	
28	Solenoid	9970033018	
29	4-way Valve Ass'y	9315311030	
30	3-way Valve Ass'y	9970092015	
31	Compressor Ass'y	9313763039	
32	Compressor Thermistor	9900156046	
--	Outdoor Thermistor	9900210045	
--	Drain Ass'y	9303029015	

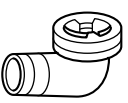
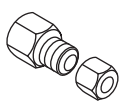
ACCESSORIES

INDOOR UNIT

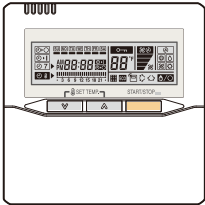
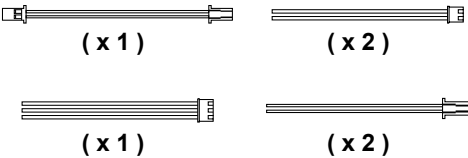
Name and Shape	Q'ty	Application
Installation template 	1	For positioning the indoor unit
Washer 	8	For installing indoor unit
Coupler heat insulation (Large) 	1	For indoor side pipe joint (Large pipe)
Coupler heat insulation (Small) 	1	For indoor side pipe joint (Small pipe)
Binder 	Medium 3	For power supply and remote control cable binding.
	Large 4	For fixing the coupler heat insulation.
Filter (Small) 	2	(RDG12LLTB RDG14LLTB)
Filter (Big) 	2	(RDG18LLTB)

Name and Shape	Q'ty	Application
Drain hose 	1	For installing drain pipe VP25 (O.D.32 I.D.26)
Hose band 	1	For installing drain hose
Drain hose insulation B 	1	Insulates a drain hose
Wired remote control 	1	
Remote control cable 	1	For connecting the remote control
Tapping screw (M4 × 16 mm) 	2	For installing the remote control

OUTDOOR UNIT

Name and Shape	Q'ty	Application
Drain pipe 	1	For drain piping work. 9303029015
Adapter assy 	1	To connect 12,000 BTU model 9370244007

OPTIONAL PARTS

Exterior	Parts name	Model number	Summary
	Wired remote controller	UTY-RNNXM	Unit control is performed by wired remote controller .
	Simple remote controller	UTY-RSNXM	Unit control is performed by simple remote controller.
	IR receiver unit	UTY-LRHXM	Unit control is performed by wired remote controller.
	External control set	UTD-ECS5A	Use to connect with various peripheral devices and air conditioner PC board. (Set of 6)
	Remote sensor unit	UTY-XSZX	New amenity space can be offered by installing the Remote sensor in the remote controller.
	Auto louver grille kit	UTD-GXSA-W	(RDG12LLTB RDG14LLTB)
		UTD-GXSB-W	(RDG18LLTB)

1112G4007