



SPLIT TYPE  
ROOM AIR CONDITIONER  
WALL MOUNTED TYPE

# SERVICE MANUAL



Indoor unit	Outdoor unit
ASHG12LTCA	AOHG12LTC

## CONTENTS

SPECIFICATIONS.....	1
DIMENSIONS.....	2
REFRIGERANT SYSTEM DIAGRAM... ..	3
CIRCUIT DIAGRAM.....	4
INDOOR PCB CIRCUIT DIAGRAM.....	5
OUTDOOR PCB CIRCUIT DIAGRAM... ..	8
ERROR DETECTION.....	10
PARTS (INDOOR UNIT).....	12
PARTS (OUTDOOR UNIT).....	17
ACCESSORIES.....	20

# SPECIFICATIONS

## ELECTRICAL DATA

TYPE		Cool & heat inverter
INDOOR UNIT		ASHG12LTCA
OUTDOOR UNIT		AOHG12LTC
COOLING CAPACITY		3.50 kW
HEATING CAPACITY		4.00 kW
POWER SOURCE		230 V
FREQUENCY		50 Hz
RUNNING CURRENT	Cooling	4.0 A
	Heating	4.3 A
INPUT WATTS	Cooling	0.850 kW
	Heating	0.910 kW
E.E.R.	Cooling	4.12 kW/kW
COP	Heating	4.40 kW/kW
MOISTURE REMOVAL		1.8 L/h
AIR CIRCULATION HIGH	Cooling	850 m <sup>3</sup> /h
	Heating	850 m <sup>3</sup> /h
MAXIMUM CURRENT	Cooling	9.0 A
	Heating	10.5 A

## FAN MOTOR

POWER SOURCE		230 V
INDOOR UNIT Cooling	High speed	1,370 r.p.m.
	Medium speed	1,120 r.p.m.
	Low speed	960 r.p.m.
	Quiet	650 r.p.m.
INDOOR UNIT Heating	High speed	1,370 r.p.m.
	Medium speed	1,120 r.p.m.
	Low speed	960 r.p.m.
	Quiet	650 r.p.m.
OUTDOOR UNIT Cooling		870 r.p.m.
OUTDOOR UNIT Heating		780 r.p.m.

## NOISE LEVEL

INDOOR UNIT Cooling	High speed	43 dB
	Medium speed	37 dB
	Low speed	32 dB
	Quiet	21 dB
INDOOR UNIT Heating	High speed	43 dB
	Medium speed	38 dB
	Low speed	32 dB
	Quiet	21 dB
OUTDOOR UNIT Cooling		48 dB
OUTDOOR UNIT Heating		49 dB

## COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE	Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary	
DISCRIMINATION	808-884-80	
WEIGHT (with oil)	9.3 kg	
PRECHARGED REFRIGERANT	1,200 g	
REFRIGERANT TYPE	R410A	
FULL CHARGE	Pipe length 15 m	1,200 g
	20 m	1,300 g
ADDITIONAL CHARGE	20 g/m	
MAXIMUM PIPING HEIGHT	15m	

## DIMENSIONS

INDOOR UNIT	H x W x D	282 x 870 x 185 mm
OUTDOOR UNIT	H x W x D	620 x 790 x 290 mm

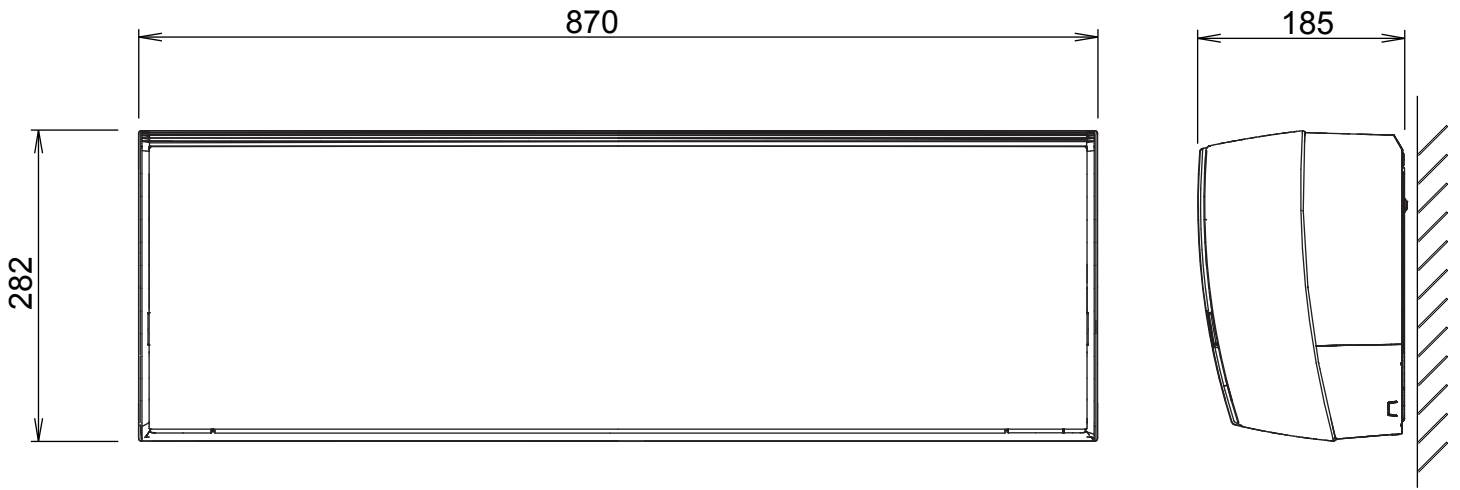
## WEIGHT

INDOOR UNIT	Shipping / Net	12 kg / 9.5 kg
OUTDOOR UNIT	Shipping / Net	43 kg / 40 kg

# DIMENSIONS

unit : mm

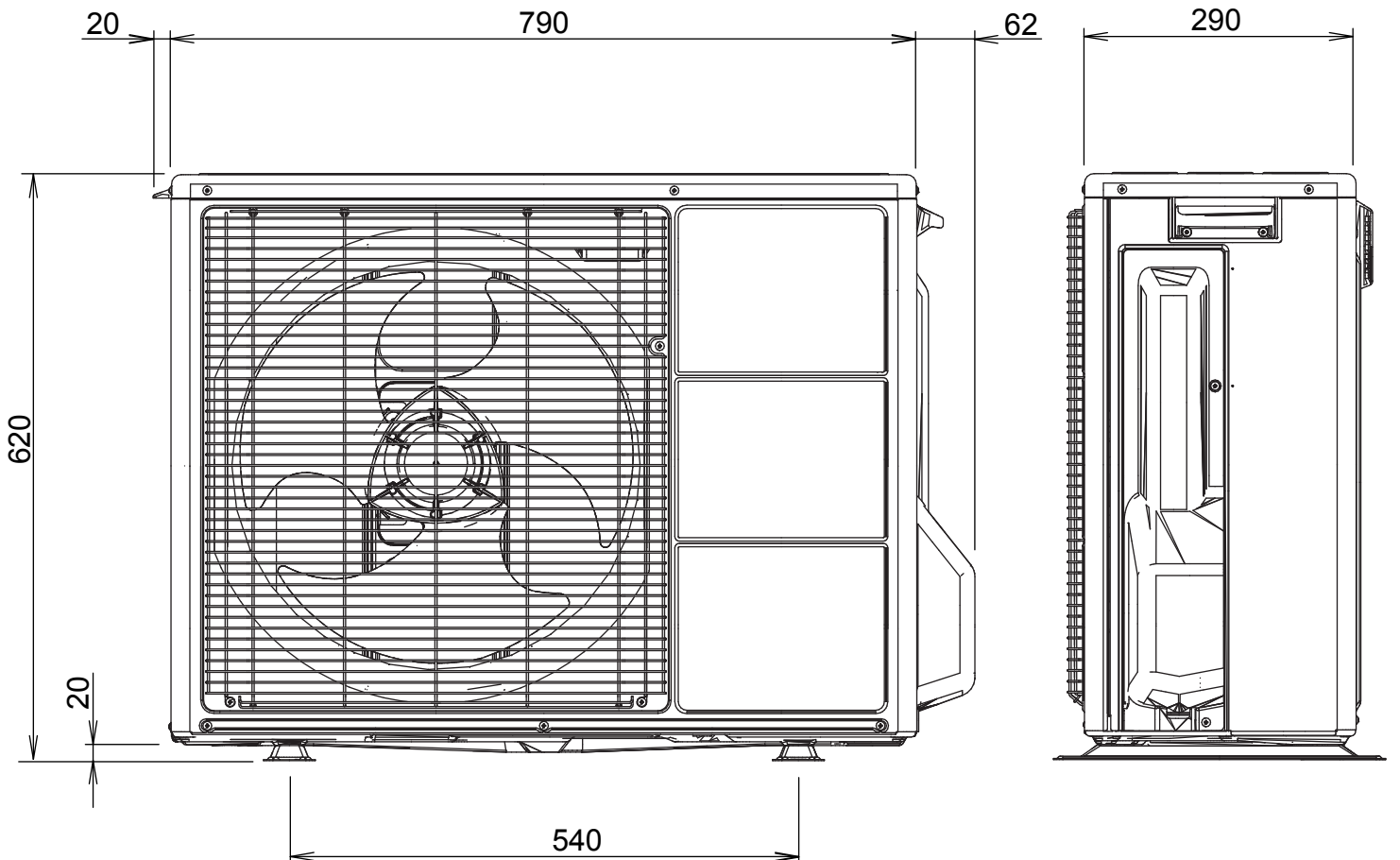
## INDOOR UNIT



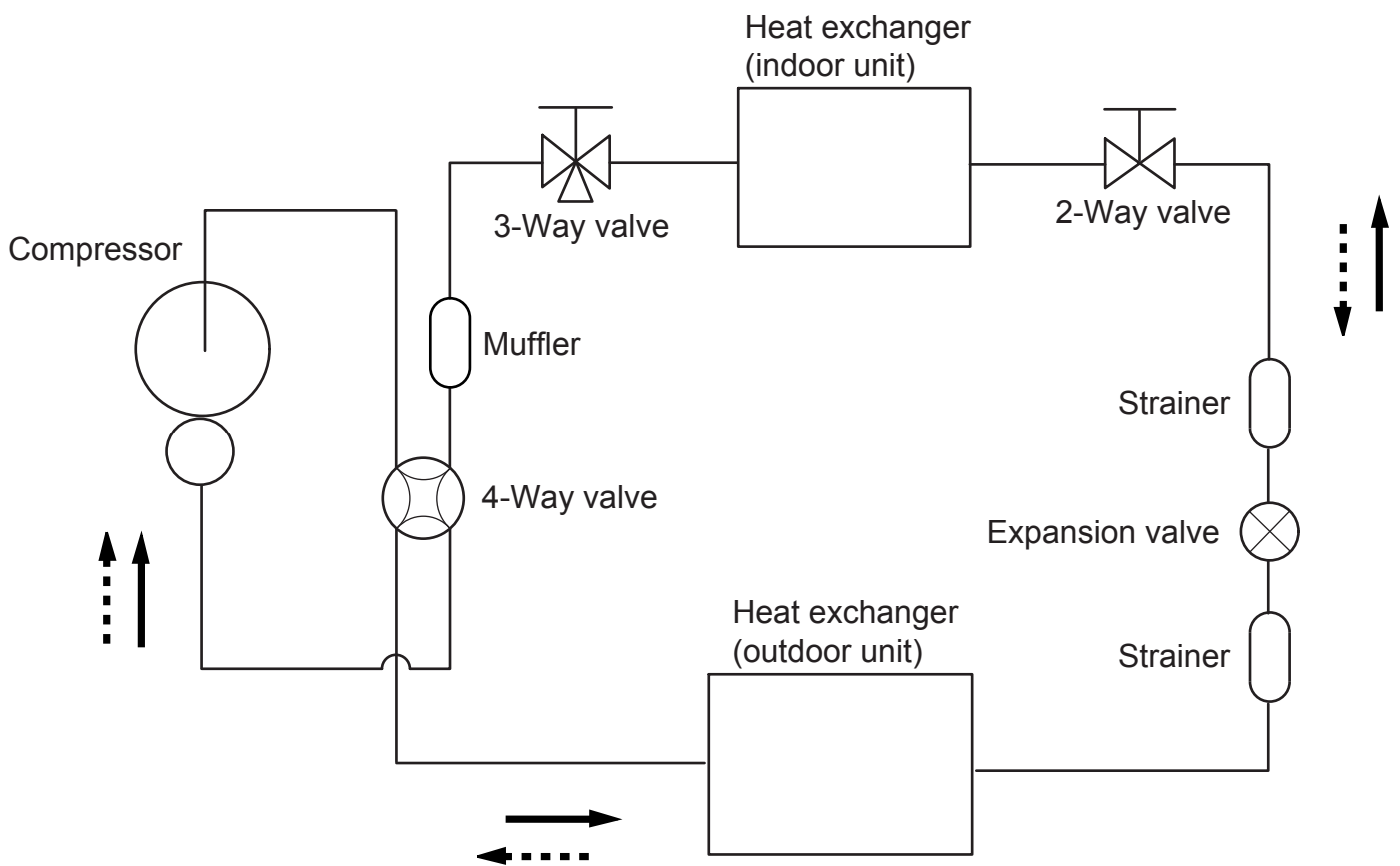
Drain pipe diameter  
16.2 mm

Liquid pipe diameter : 6.35 mm  
Gas pipe diameter : 9.52 mm

## OUTDOOR UNIT



# REFRIGERANT SYSTEM DIAGRAM



Refrigerant pipe diameter  
 Liquid : 1/4" (6.35 mm)  
 Gas : 3/8" (9.52 mm)

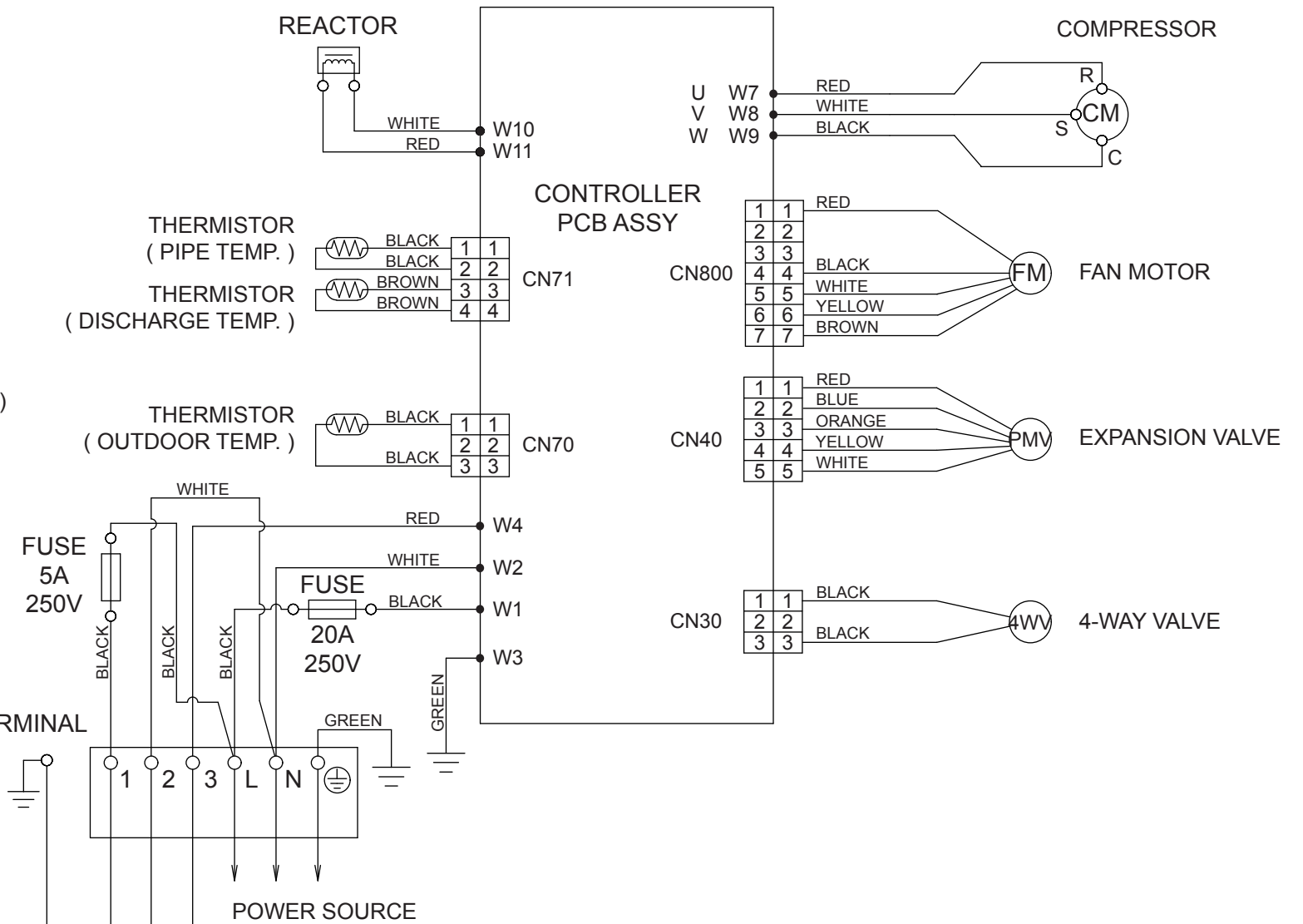
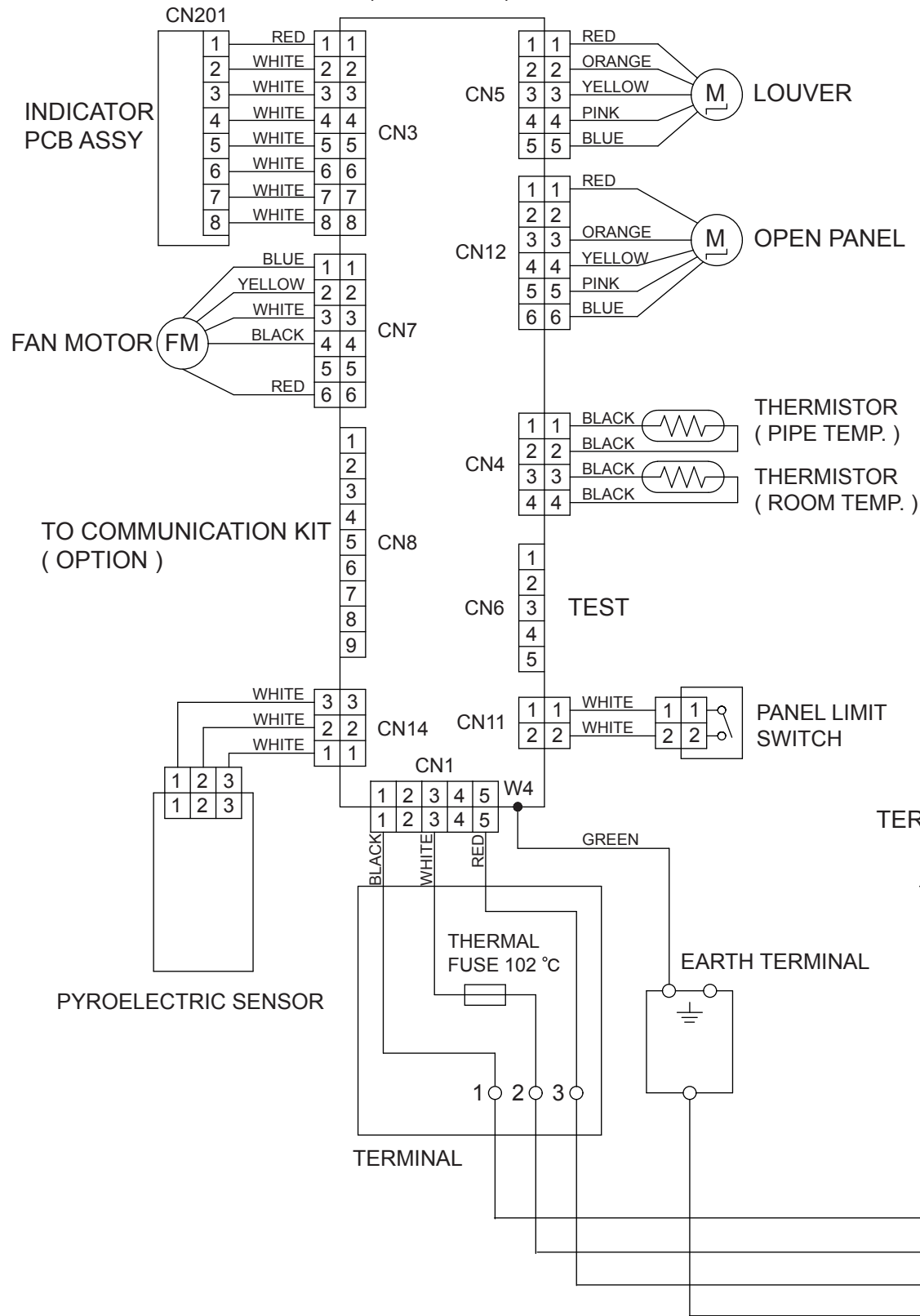
Refrigerant direction  
 ———→ Cooling  
 - - - -> Heating

CONTROLLER PCB ASSY  
( MAIN PCB )

INDOOR UNIT

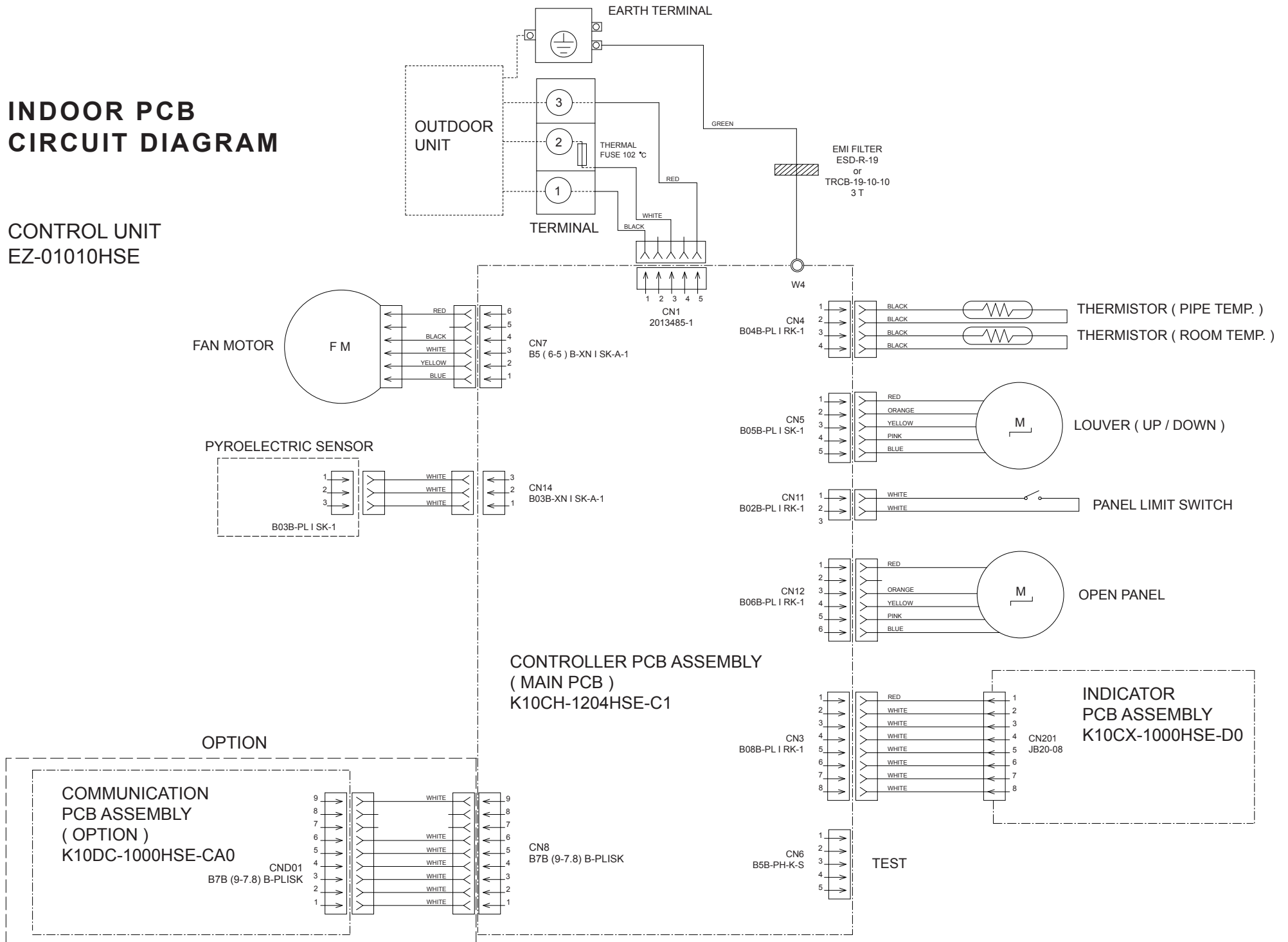
CIRCUIT DIAGRAM

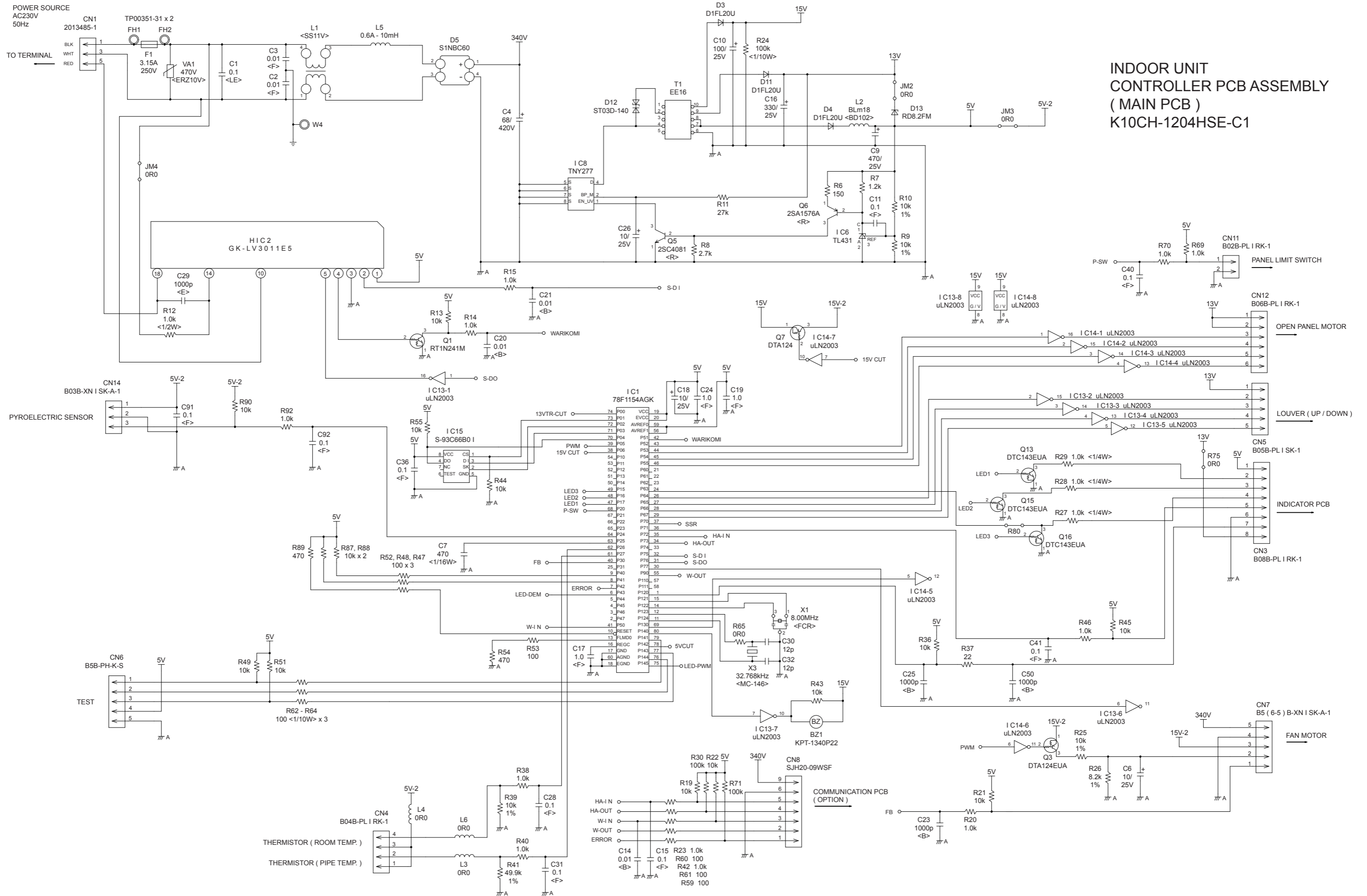
OUTDOOR UNIT



# INDOOR PCB CIRCUIT DIAGRAM

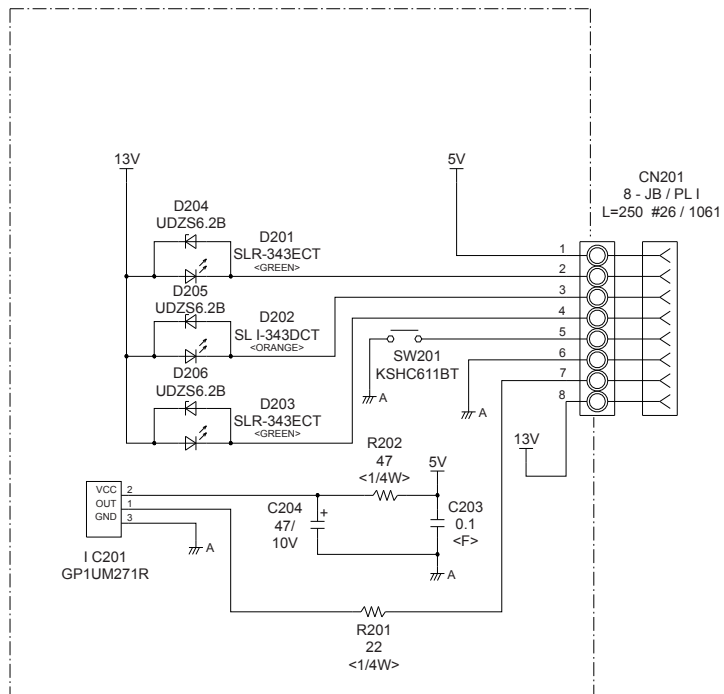
CONTROL UNIT  
EZ-01010HSE





**INDOOR UNIT  
CONTROLLER PCB ASSEMBLY  
( MAIN PCB )  
K10CH-1204HSE-C1**

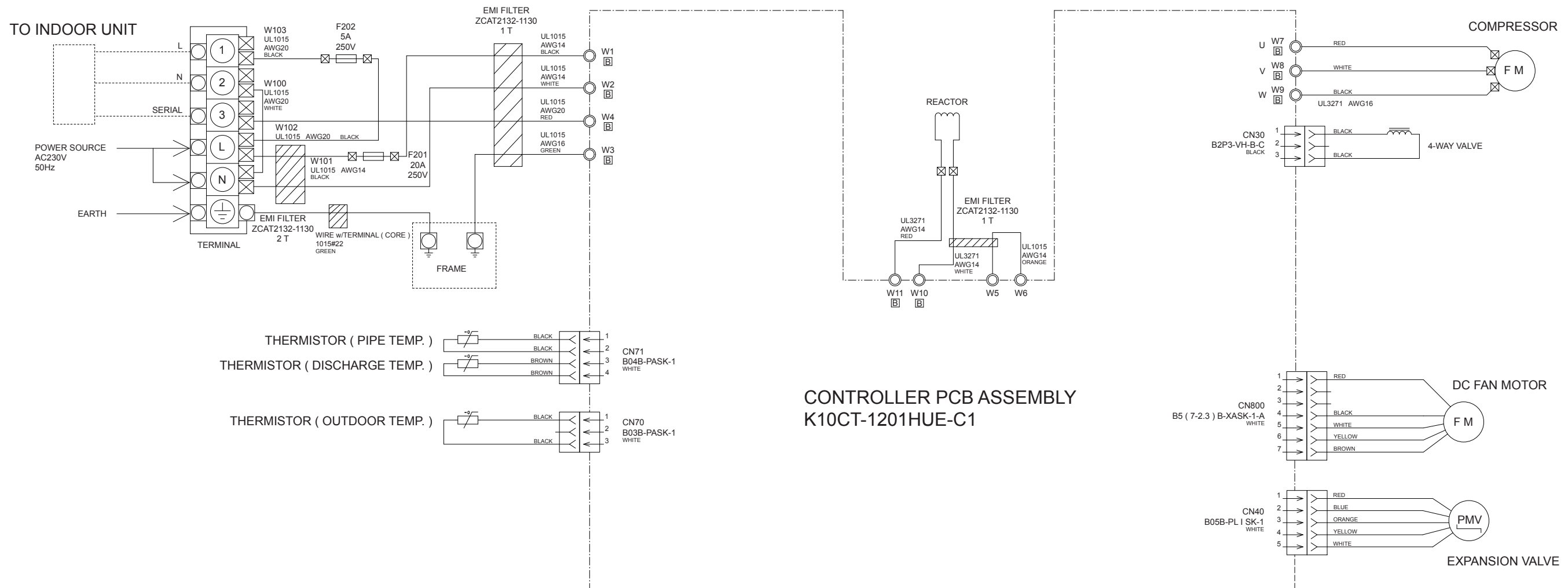
INDOOR UNIT  
 INDICATOR PCB ASSEMBLY  
 K10CX-1000HSE-D0



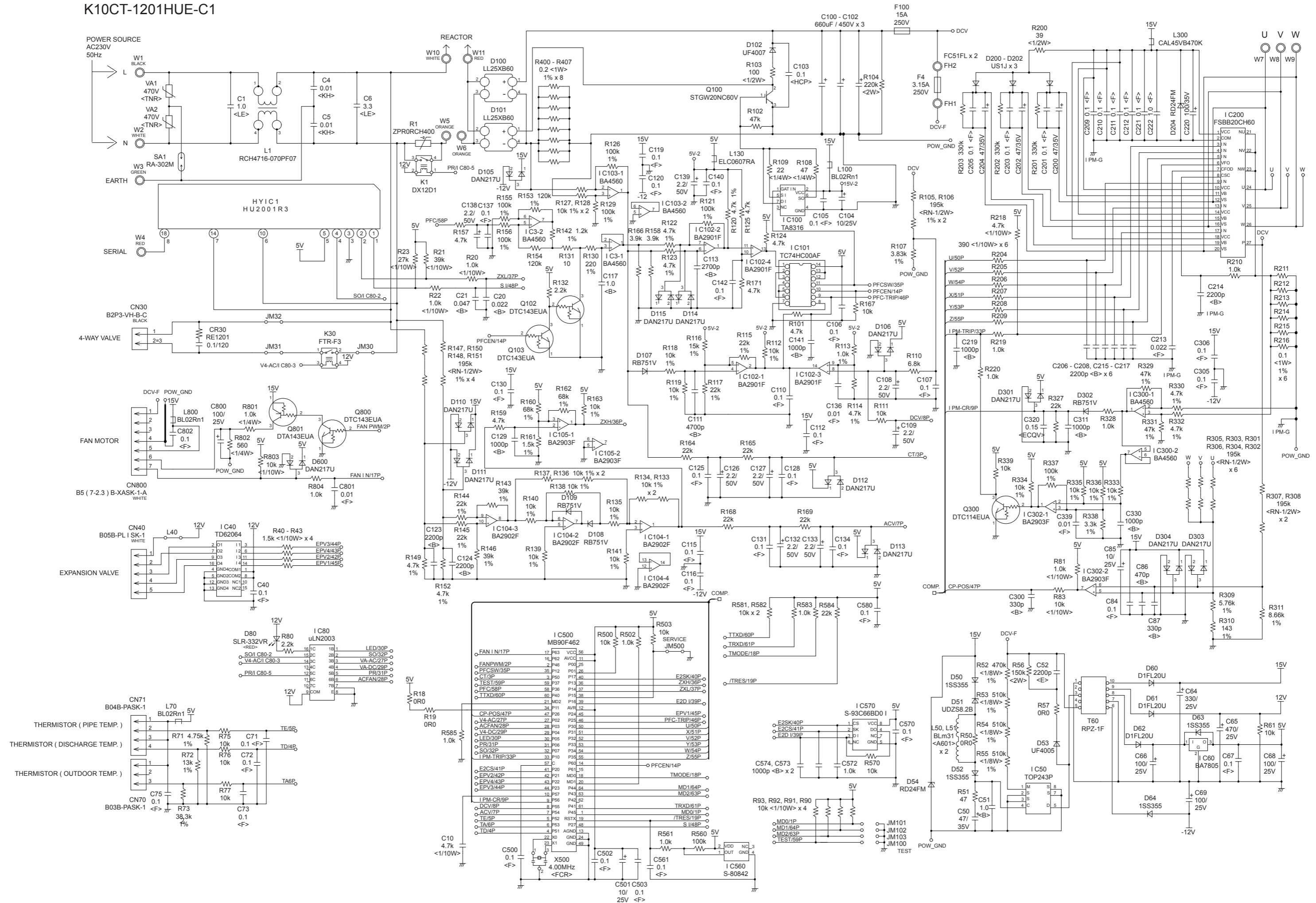


# OUTDOOR PCB CIRCUIT DIAGRAM

## INVERTER ASSEMBLY EZ-01010HUE



OUTDOOR UNIT  
 CONTROLLER PCB ASSEMBLY  
 K10CT-1201HUE-C1



## Indoor unit display



OPERATION indicator lamp (green) —  
 TIMER indicator lamp (orange) —  
 ECONOMY indicator lamp (green) —

# 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.

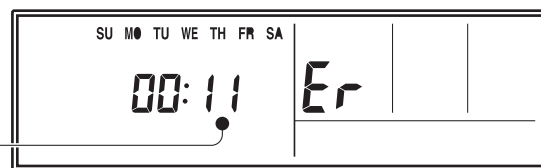
● : 0.5s ON / 0.5s OFF

( ) : Number of flashing

◇ : Constantly flashing

## 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

Indoor unit lamp			Wired remote control	Description
OPERATION (green)	TIMER (orange)	ECONOMY (green)		
● (1)	● (1)	◇	11	Serial communication error
● (1)	● (2)	◇	12	Wired remote control communication error
● (1)	● (5)	◇	15	Check run unfinished
● (2)	● (2)	◇	22	Indoor unit capacity error
● (2)	● (3)	◇	23	Combination error
● (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)	● (8)	◇	58	Intake grille 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

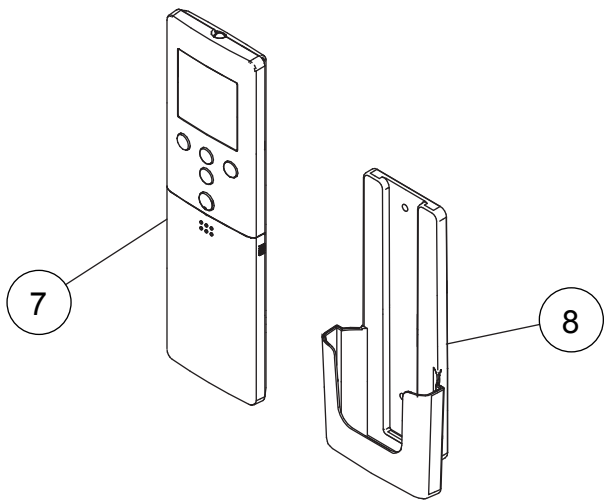
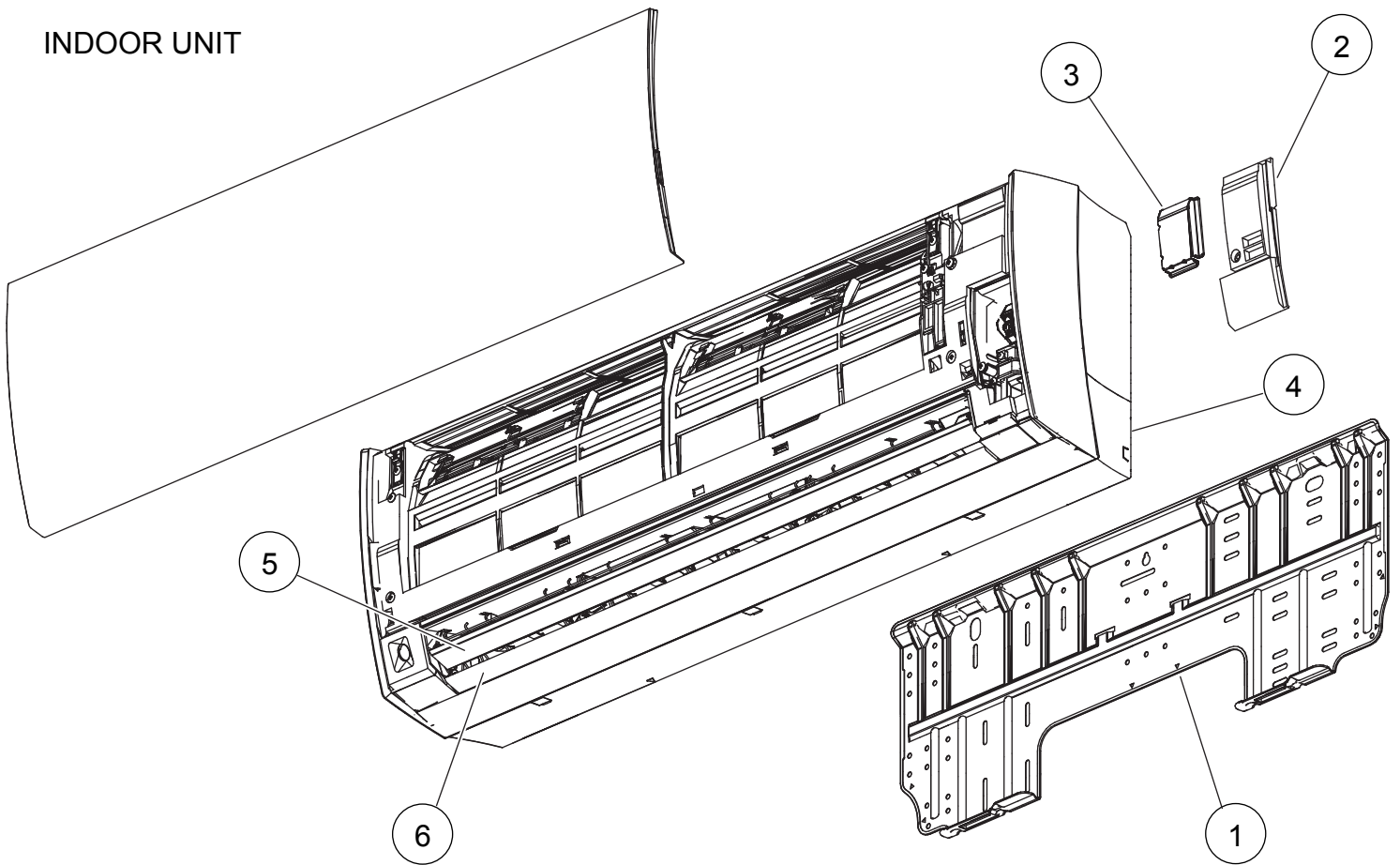
Indoor unit lamp			Wired remote control	Description
OPERATION (green)	TIMER (orange)	ECONOMY (green)		
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
● (7)	● (4)	◇	74	Outdoor temp. sensor error
● (7)	● (5)	◇	75	Suction Gas temp. sensor 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

#### OUTDOOR UNIT

LED	ERROR
on	Discharge temperature abnormal
0.5 second on / 0.5 second off	IPM overcurrent protection
0.1 second on / 0.1 second off	Thermistor abnormal
2.0 second on / 2.0 second off	CT abnormal
0.1 second on / 2.0 second off	Compressor location abnormal
5.0 second on / 5.0 second off	Fan abnormal

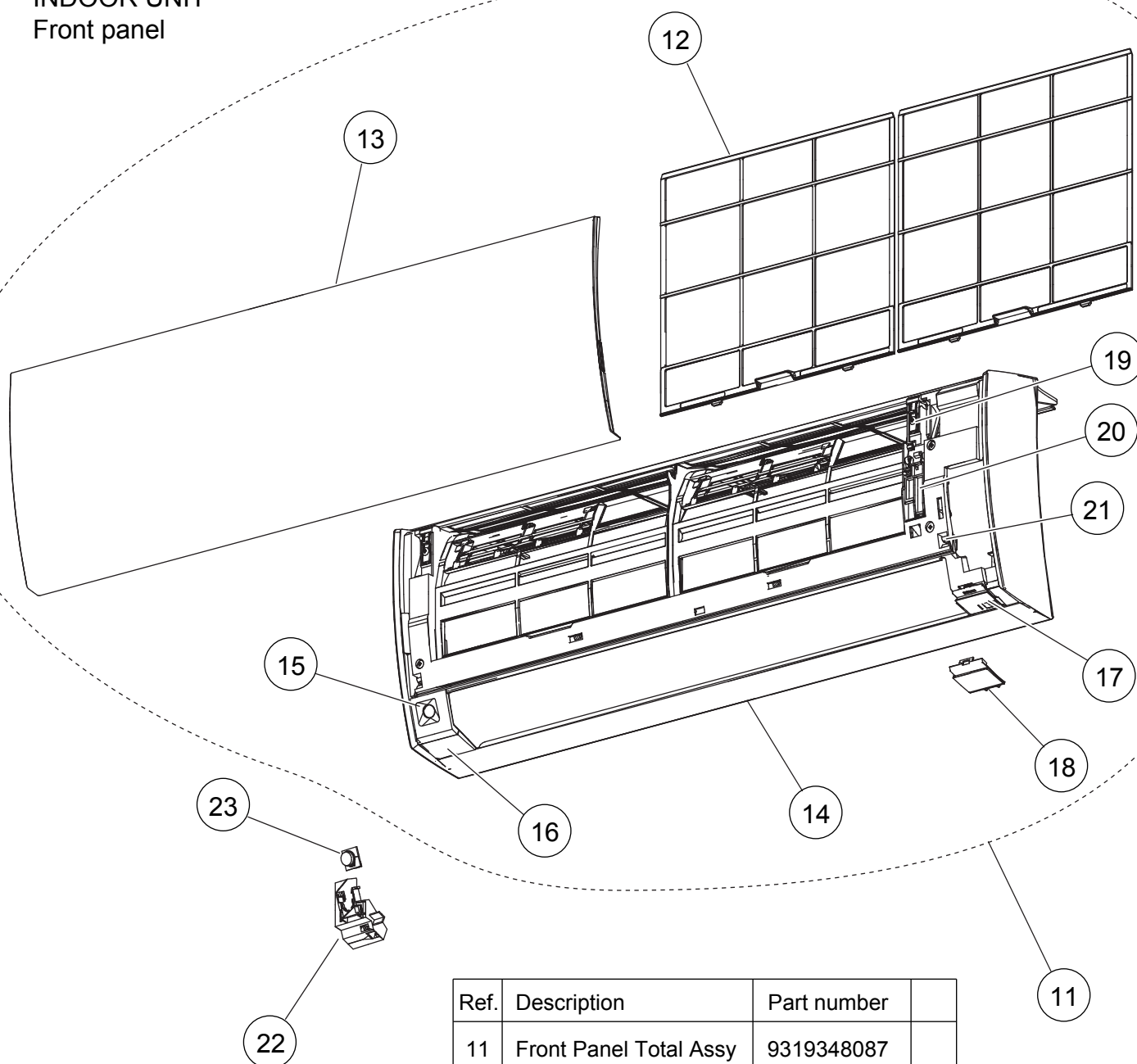
# PARTS

## INDOOR UNIT



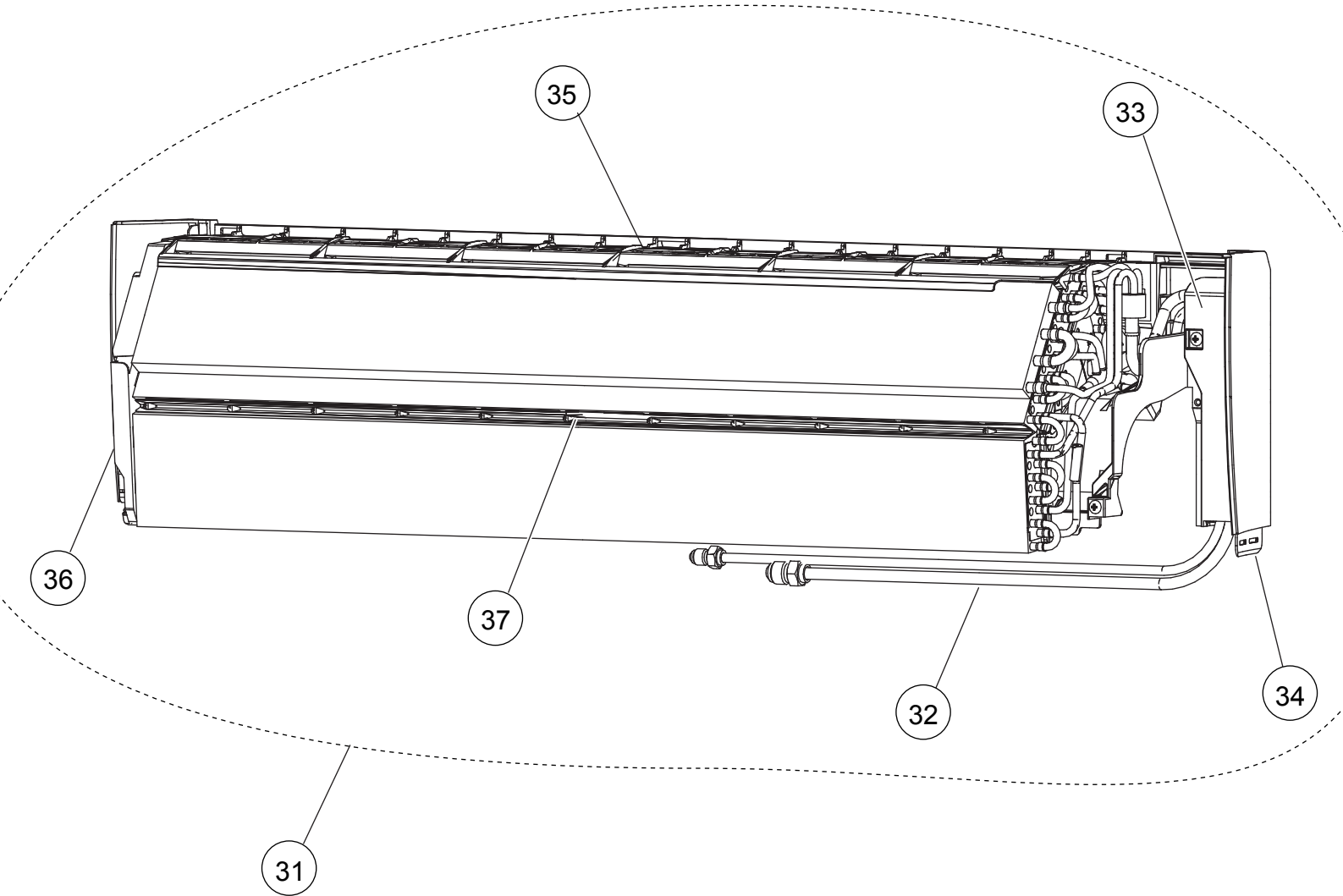
Ref.	Description	Part number
1	Bracket Panel	9318913002
2	Wire Cover	9318911008
3	Wire Shield	9318919004
4	Under Cover	9318879001
5	Louver (Upper)	9318880007
6	Louver (Lower)	9318881004
7	Remote Control	9319207001
8	Remote Control Holder	9318912005
--	Air Clean Filter Assy	9317250009

INDOOR UNIT  
Front panel

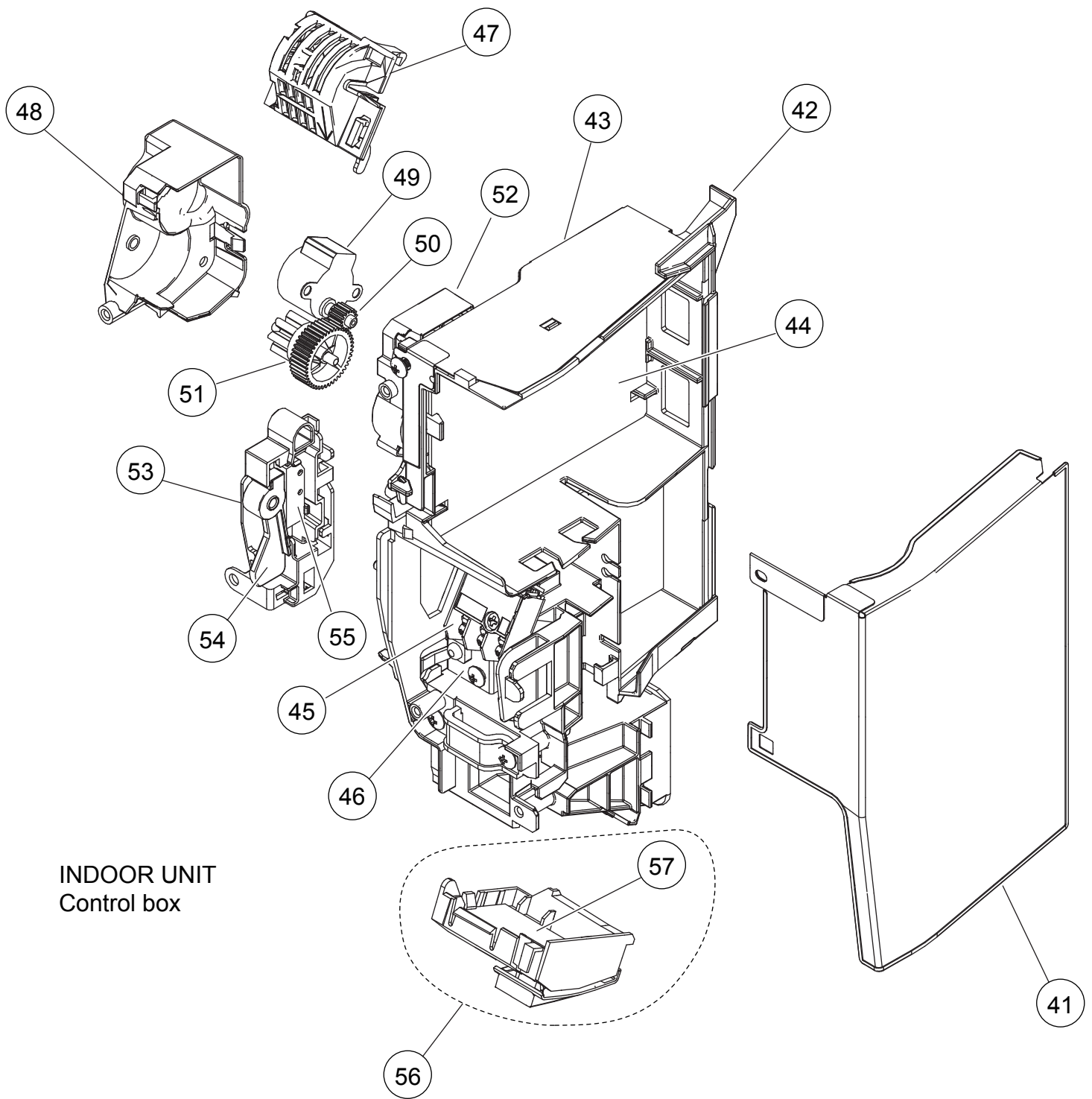


Ref.	Description	Part number
11	Front Panel Total Assy	9319348087
12	Air Filter	9318883008
13	Intake Grille Assy	9319351063
14	Front Panel	9318876000
15	Front Panel Cover T	9318909005
16	Display Plate Holder L	9318894004
17	Display Plate Holder R	9318895001
18	Display Plate R	9318893007
19	Arm Cover	9318900002
20	Grille Stay	9318899009
21	Grille Clamper B	9316951006
22	Motion LED Display Case	9318907001
23	Pyroelectric Sensor	9317755023

INDOOR UNIT  
Evaporator



Ref.	Description	Part number
31	Evaporator Total Assy	9319327006
32	Joint Pipe Assy	9319322001
33	Joint Pipe Holder	9318901009
34	Base	9318874006
35	Filter Guide	9318887006
36	Evaporator Holder L	9318875003
37	Air Seal	9319295008

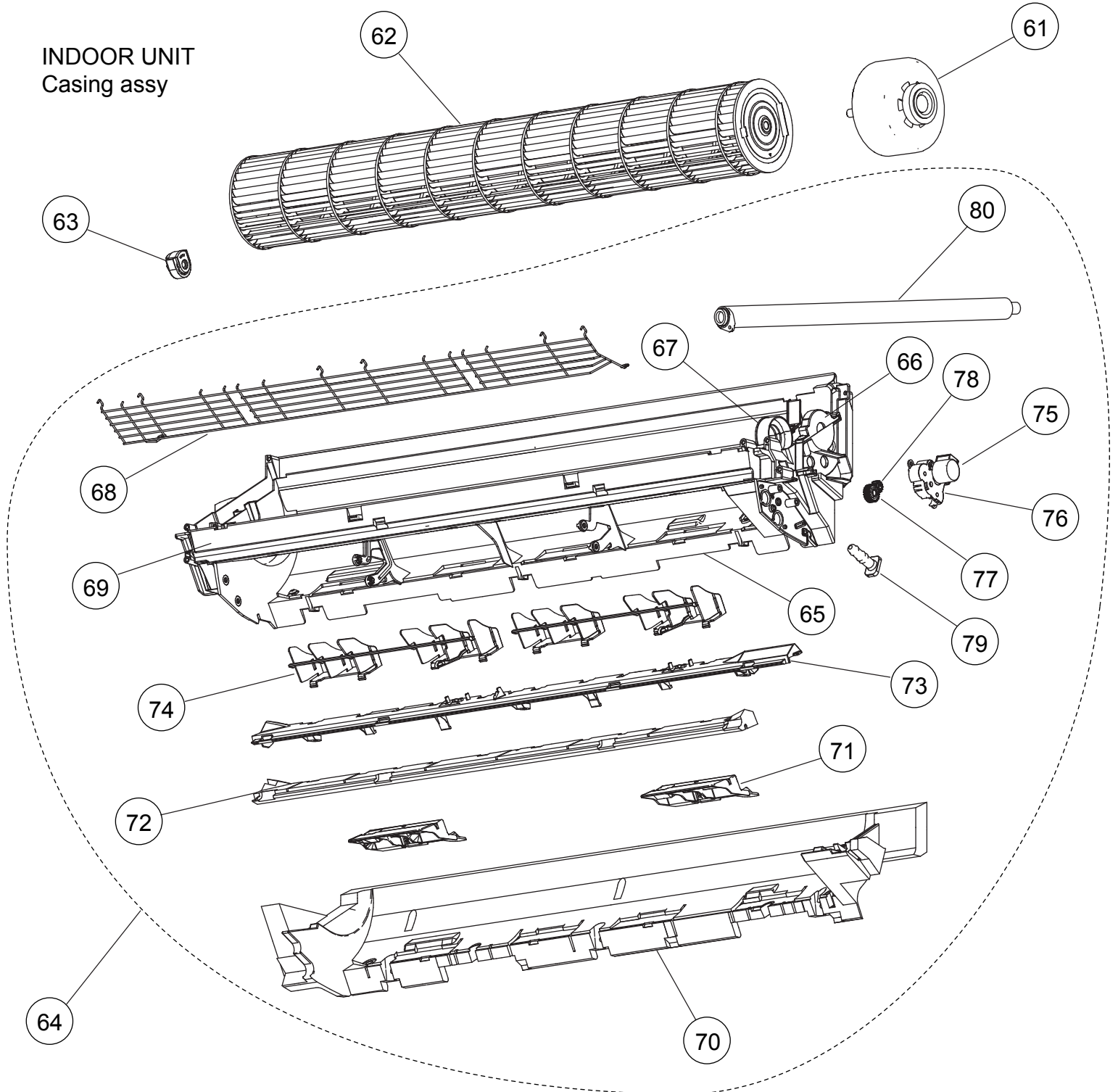


Ref.	Description	Part number
41	Cover Shield A	9318916003
42	Control Box	9318882001
43	Box Shield Assy	9319344003
44	Controller PCB Assy	9708713274
45	Terminal	9900638009
46	Earth Terminal	9318918007
47	Room Thermistor Holder	9319068008
48	Gear Cover	9318902006
49	Step Motor	9900384166

Ref.	Description	Part number
50	Gear B	9319294001
51	Panel Gear	9319293004
52	Gear Case	9318903003
53	Switch Case	9319332000
54	Grille Key Top	9319334004
55	Micro Switch	9900625009
56	Display Assy	9708823010
57	Display PCB Assy	9708824017
--	Thermistor Assy	9900627003



INDOOR UNIT  
Casing assy

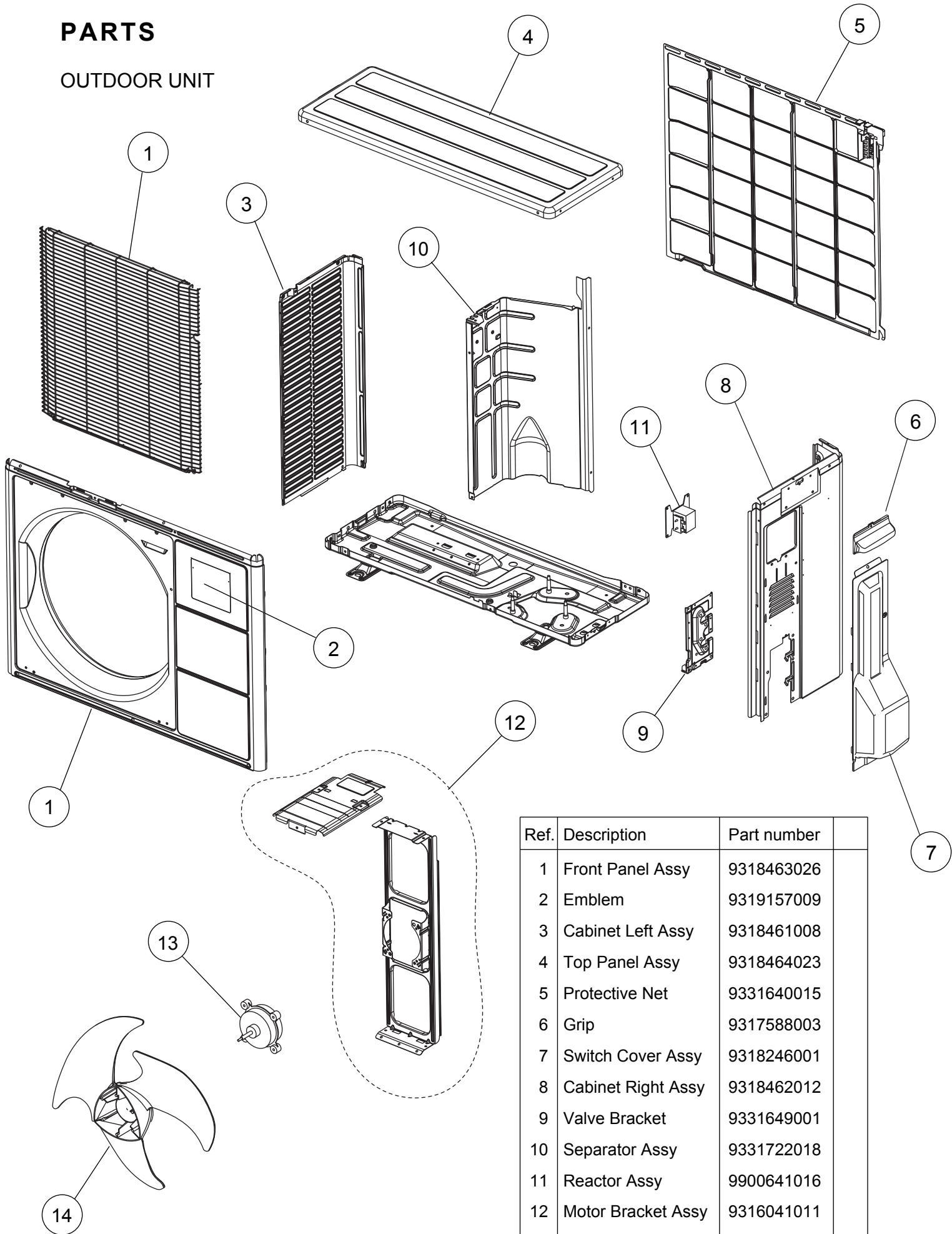


Ref.	Description	Part number
61	Fan Motor	9602947003
62	Crossflow Fan Assy	9319361000
63	Bearing C Assy	9306628017
64	Casing Assy	9319342009
65	Casing	9318873009
66	Motor Cover	9316601000
67	Motor Cover	9318888003
68	Fan Guard	9318924008
69	Casing Cover F	9318923001
70	Casing Cover B	9318920000

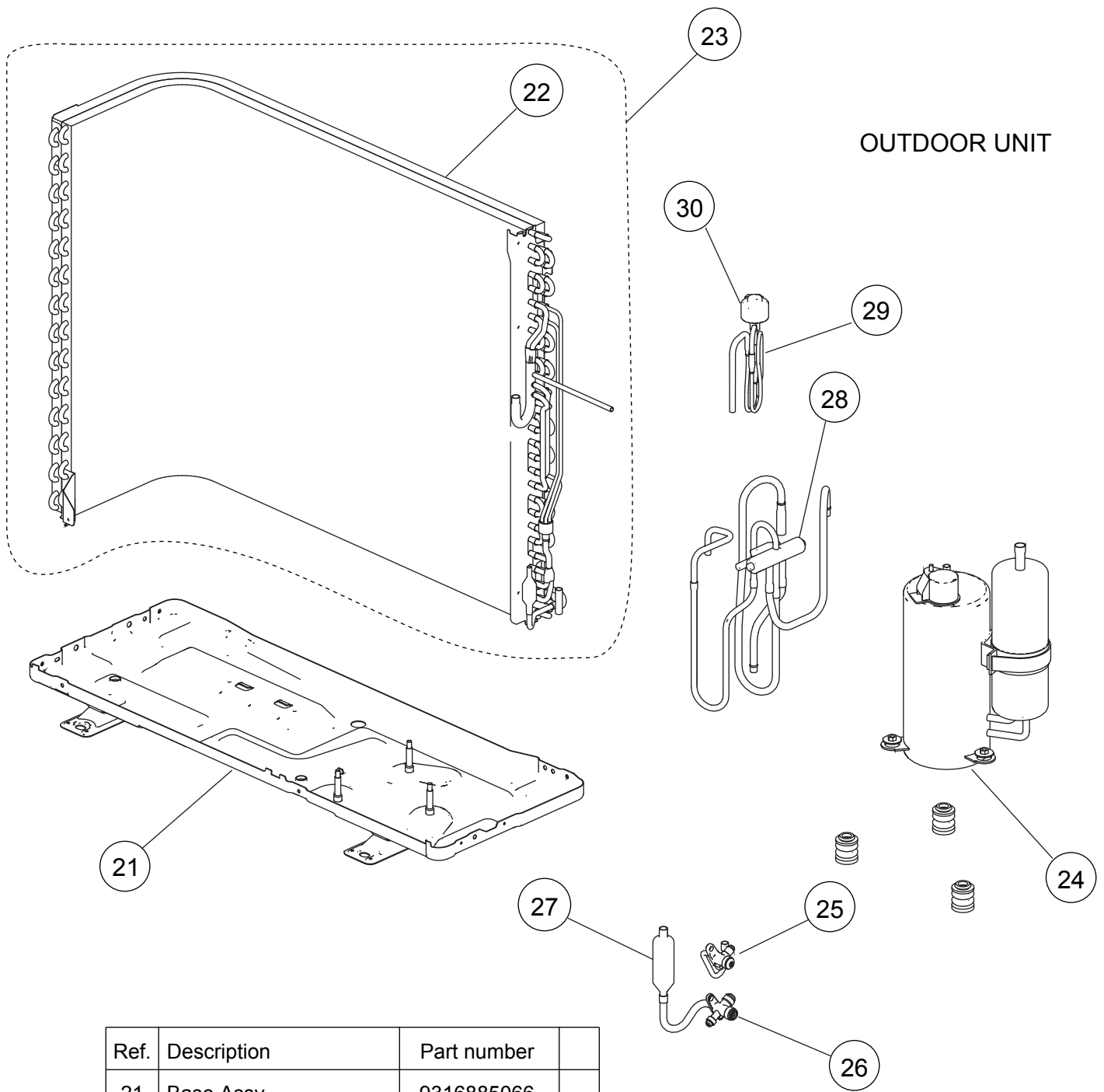
Ref.	Description	Part number
71	Pipe Bracket	9318889000
72	Panel Cover	9319296005
73	Louver Holder	9318886009
74	R and L Louver	9318885002
75	Motor Step	9900384128
76	Louver Gear Holder	9318905007
77	Louver Gear	9318904000
78	Gear A	9309994003
79	Drain Cap	9316177017
80	Drain Hose Assy	9316904002

# PARTS

## OUTDOOR UNIT



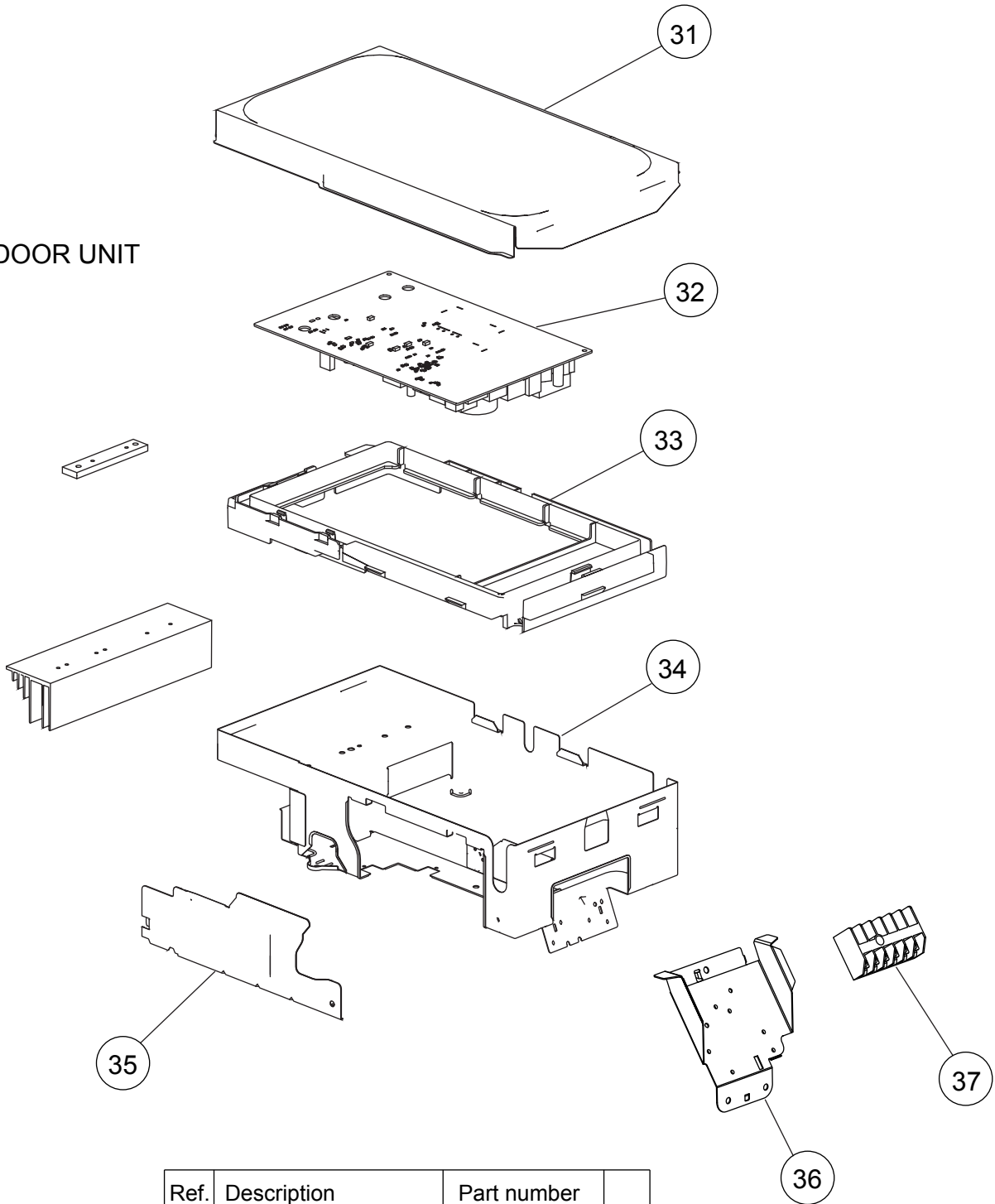
Ref.	Description	Part number
1	Front Panel Assy	9318463026
2	Emblem	9319157009
3	Cabinet Left Assy	9318461008
4	Top Panel Assy	9318464023
5	Protective Net	9331640015
6	Grip	9317588003
7	Switch Cover Assy	9318246001
8	Cabinet Right Assy	9318462012
9	Valve Bracket	9331649001
10	Separator Assy	9331722018
11	Reactor Assy	9900641016
12	Motor Bracket Assy	9316041011
13	Fan Motor	9602724017
14	Propeller Fan	9313808013
--	Drain Pipe	9303029022



OUTDOOR UNIT

Ref.	Description	Part number
21	Base Assy	9316885066
22	Condenser Assy	9317090001
23	Condenser Total Assy	9317089005
24	Compressor Assy	9317117005
25	2-way Valve Assy	9315573018
26	3-way Valve Assy	9317174015
27	Muffler	9308625007
28	4-way Valve Assy	9317110013
29	Pulse Motor Valve Assy	9314557019
30	Expansion Valve Coil	9970095030
--	Solenoid	9970055010

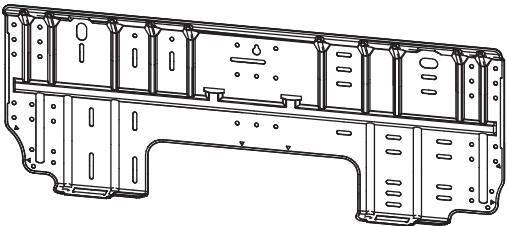
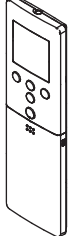
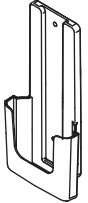

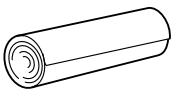
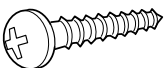
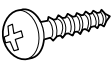
OUTDOOR UNIT



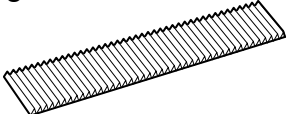
Ref.	Description	Part number
31	Sealed Panel	9309913011
32	Controller PCB Assy	9708753232
33	PCB Holder	9313074029
34	Inverter Case Assy	9315690043
35	Inverter Case Cover	9314507014
36	Terminal Bracket	9315233073
37	Terminal	9900435028
--	Outdoor Thermistor	9900544010
--	Thermistor Assy	9900614027

# ACCESSORIES

## INDOOR UNIT

Name and Shape	Part number
Bracket panel 	9318913002
Remote control 	9319207001
Remote control holder 	9318912005
Battery (penlight) 	0600185046
Cloth tape 	9308117007
Tapping screw (big) ( $\phi$ 4 x 25) 	0700076046
Tapping screw (small) ( $\phi$ 3 x 12) 	0700019036

## OPTION

Name and Shape	Part number
Air cleaning filter 	UTR-FA16 UTR-FA16-2

1104G3935