

INVERTER SPLIT TYPE  
AIR CONDITIONER (50Hz)  
CEILING TYPE

# SERVICE MANUAL



Indoor unit	Outdoor unit
ABYG24LVTA	AOYG24LALA

## 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).....	19
ACCESSORIES.....	21

# SPECIFICATIONS

## ELECTRICAL DATA

TYPE	Inverter cool & heat	
INDOOR UNIT	ABYG24LVTA	
OUTDOOR UNIT	AOYG24LALA	
COOLING CAPACITY	6.80 kW	
HEATING CAPACITY	8.00 kW	
POWER SOURCE	230 V	
FREQUENCY	50 Hz	
RUNNING CURRENT	Cooling	9.7 A
	Heating	9.9 A
INPUT WATTS	Cooling	2.21 kW
	Heating	2.26 kW
E.E.R.	Cooling	3.08 kW/kW
COP	Heating	3.54 kW/kW
AIR FLOW, INDOOR UNIT	980 m3/h	
AIR FLOW, OUTDOOR UNIT	2,470 m3/h	
MOISTURE REMOVAL	2.9 L/hr	
MAXIMUM CURRENT	Cooling	12.0 A
	Heating	13.5 A

## FAN SPEED

INDOOR UNIT	Discrimination	MFH-24RVL
	High	1,040 r.p.m.
	Medium	950 r.p.m.
	Low	800 r.p.m.
	Quiet	740 r.p.m.
OUTDOOR UNIT	Discrimination	MFE-24ROAM
	Cooling	1,050 r.p.m.
	Heating	1,050 r.p.m.

## NOISE LEVEL

INDOOR UNIT	High	48 dB
	Medium	44 dB
	Low	40 dB
	Quiet	35 dB
OUTDOOR UNIT	Cooling	52 dB
	Heating	53 dB

## COMPRESSOR AND REFRIGERANT

TYPE	Hermetic type, 4 poles		
DISCRIMINATION	DA150A1F-20NA		
COMPRESSOR WEIGHT (with oil)	10.0 kg		
PRECHARGED REFRIGERANT	1,700 g		
REFRIGERANT TYPE	R410A		
FULL CHARGE	Pipe length	15 m	1,700 g
		20 m	1,800 g
		25 m	1,900 g
		30 m	2,000 g
ADDITIONAL CHARGE	20 g/m		
MAXIMUM PIPE HEIGHT	20 m		

## DIMENSIONS

INDOOR UNIT	H x W x D	190 x 990 x 655 mm
OUTDOOR UNIT	H x W x D	570 x 790 x 315 mm

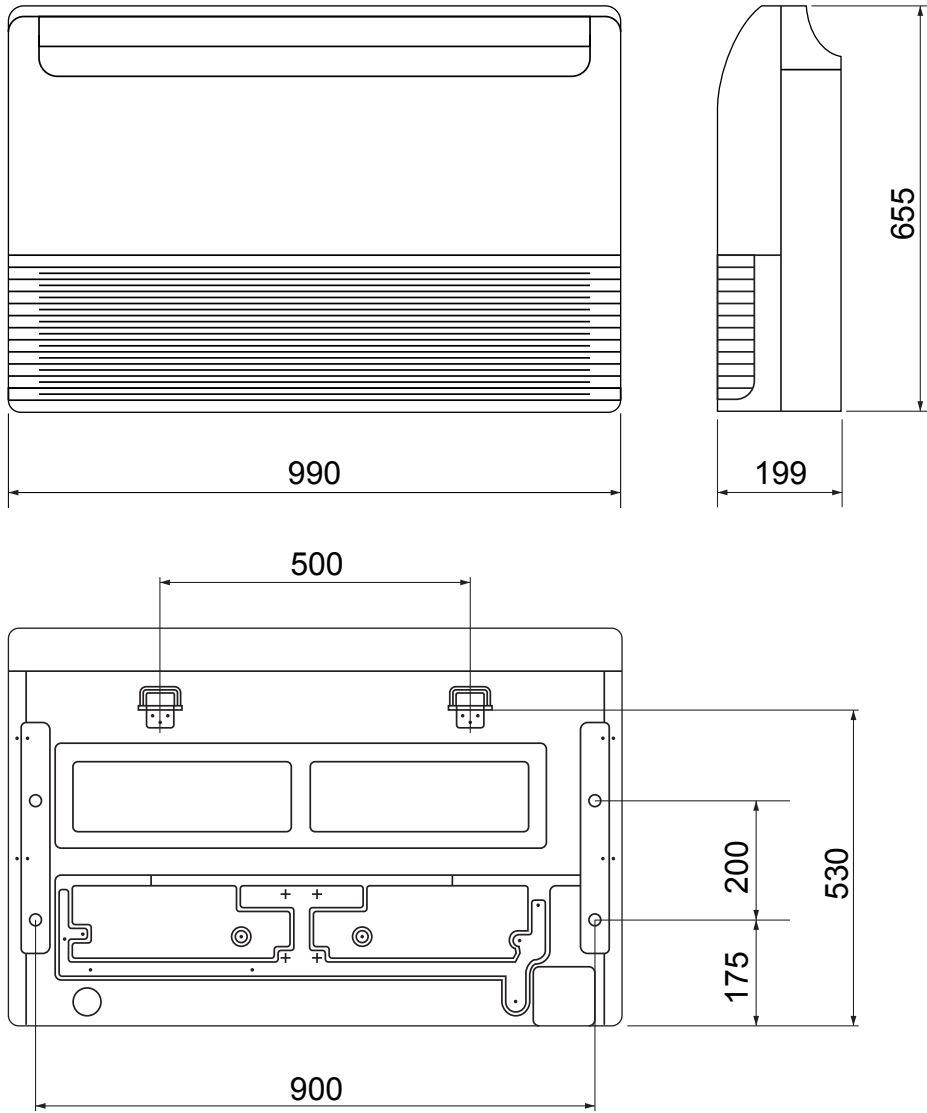
## WEIGHT

INDOOR UNIT	Net / Shipping	27 kg / 36 kg
OUTDOOR UNIT	Net / Shipping	44 kg / 48 kg

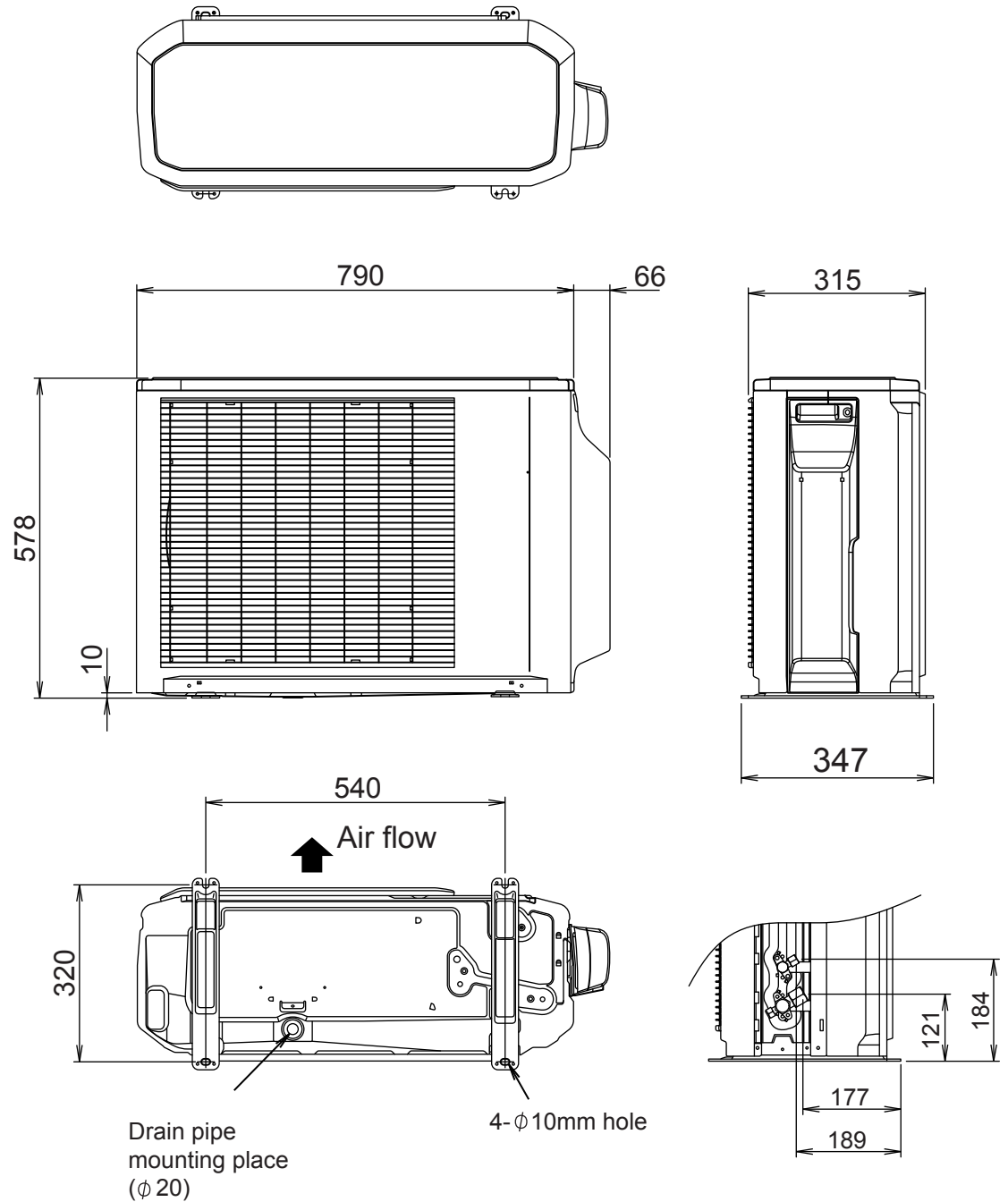
# DIMENSIONS

Unit : mm

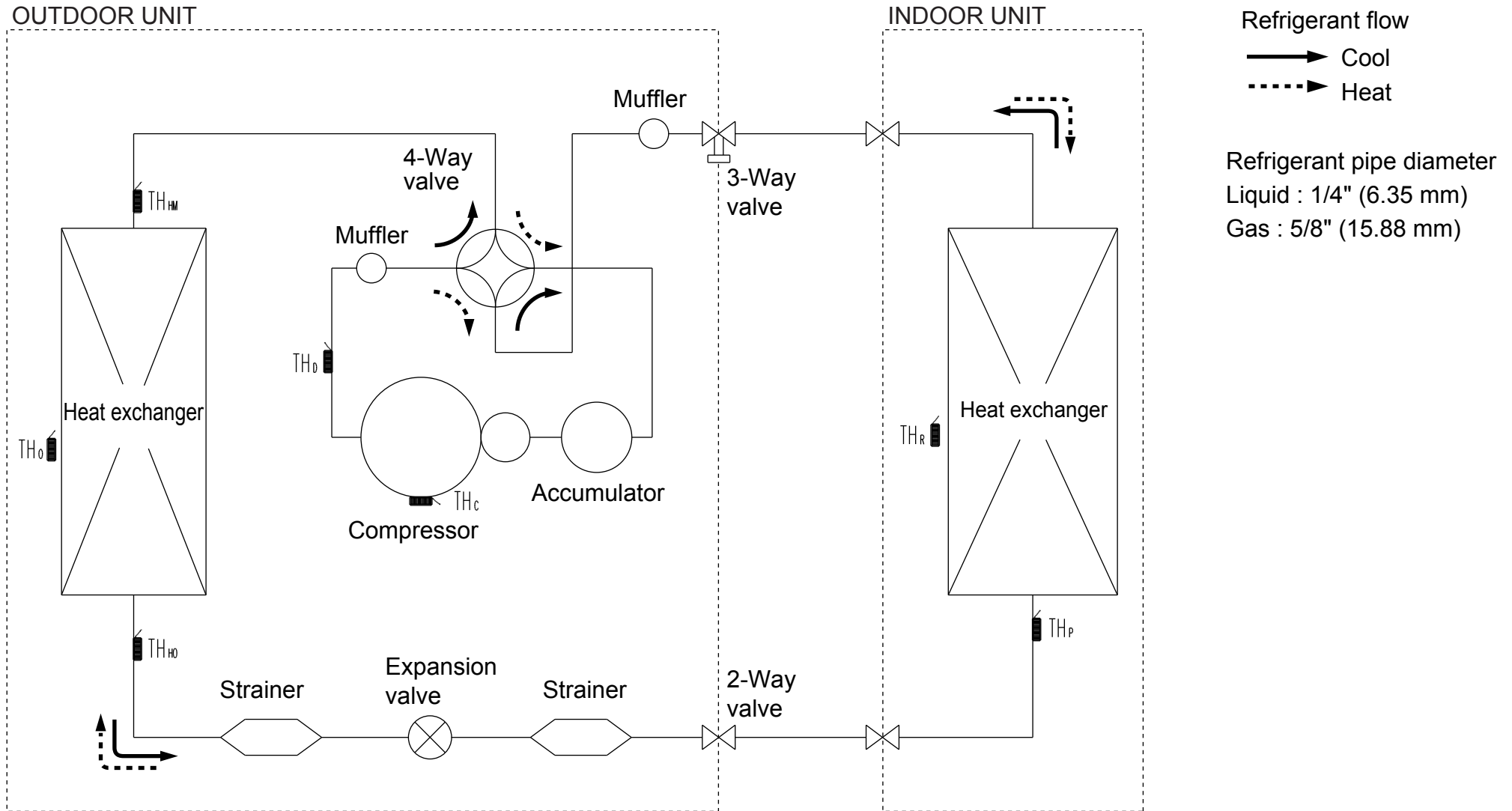
## INDOOR UNIT



## OUTDOOR UNIT



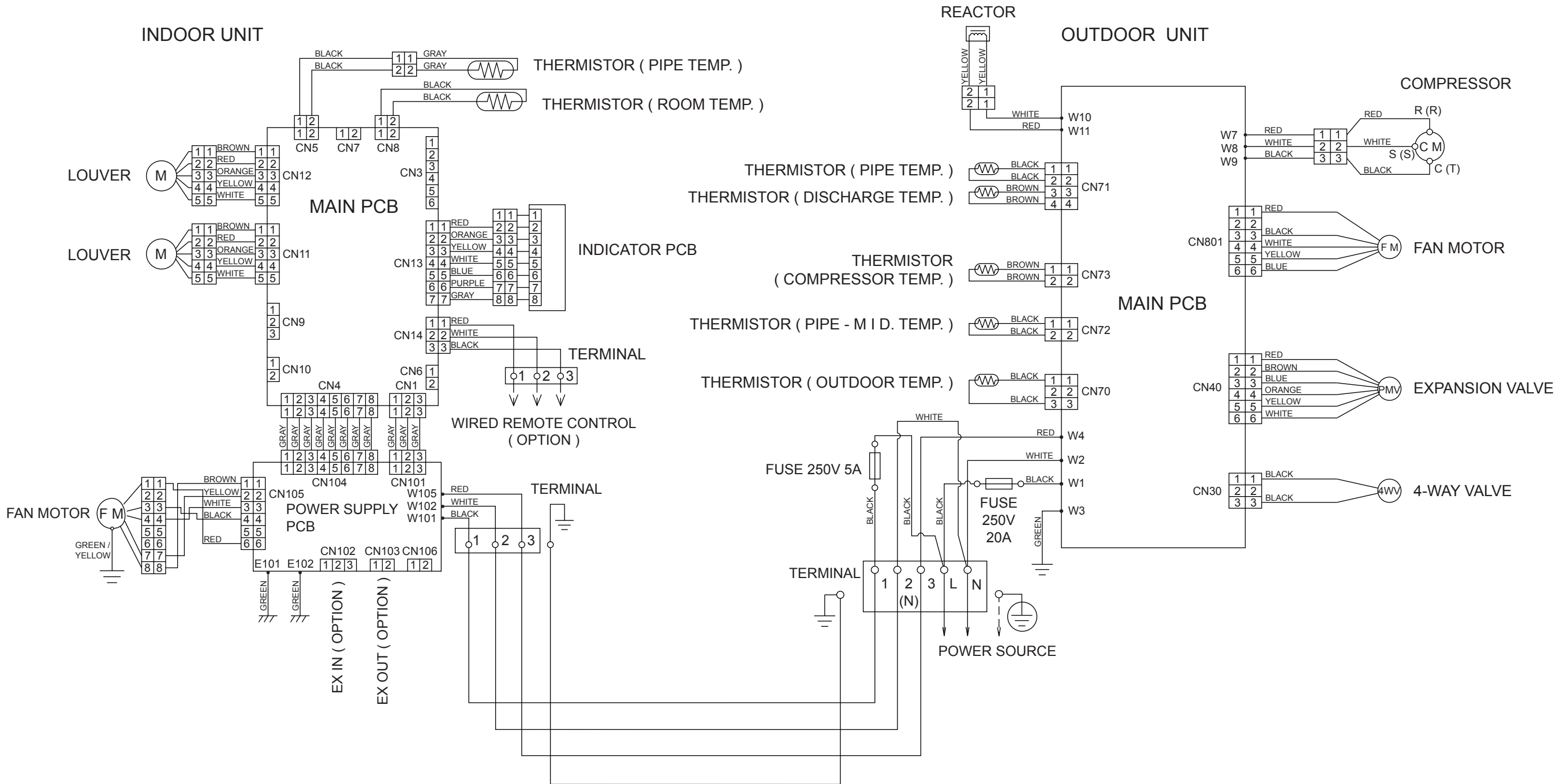
# REFRIGERANT SYSTEM DIAGRAM



TH<sub>c</sub> : THERMISTOR (COMPRESSOR TEP.)  
 TH<sub>d</sub> : THERMISTOR (DISCHARGE TEP.)  
 TH<sub>HM</sub> : THERMISTOR (HEAT EXCHANGER MED TEP.)  
 TH<sub>HO</sub> : THERMISTOR (HEAT EXCHANGER OUT TEP.)  
 TH<sub>o</sub> : THERMISTOR (OUTDOOR TEP.)

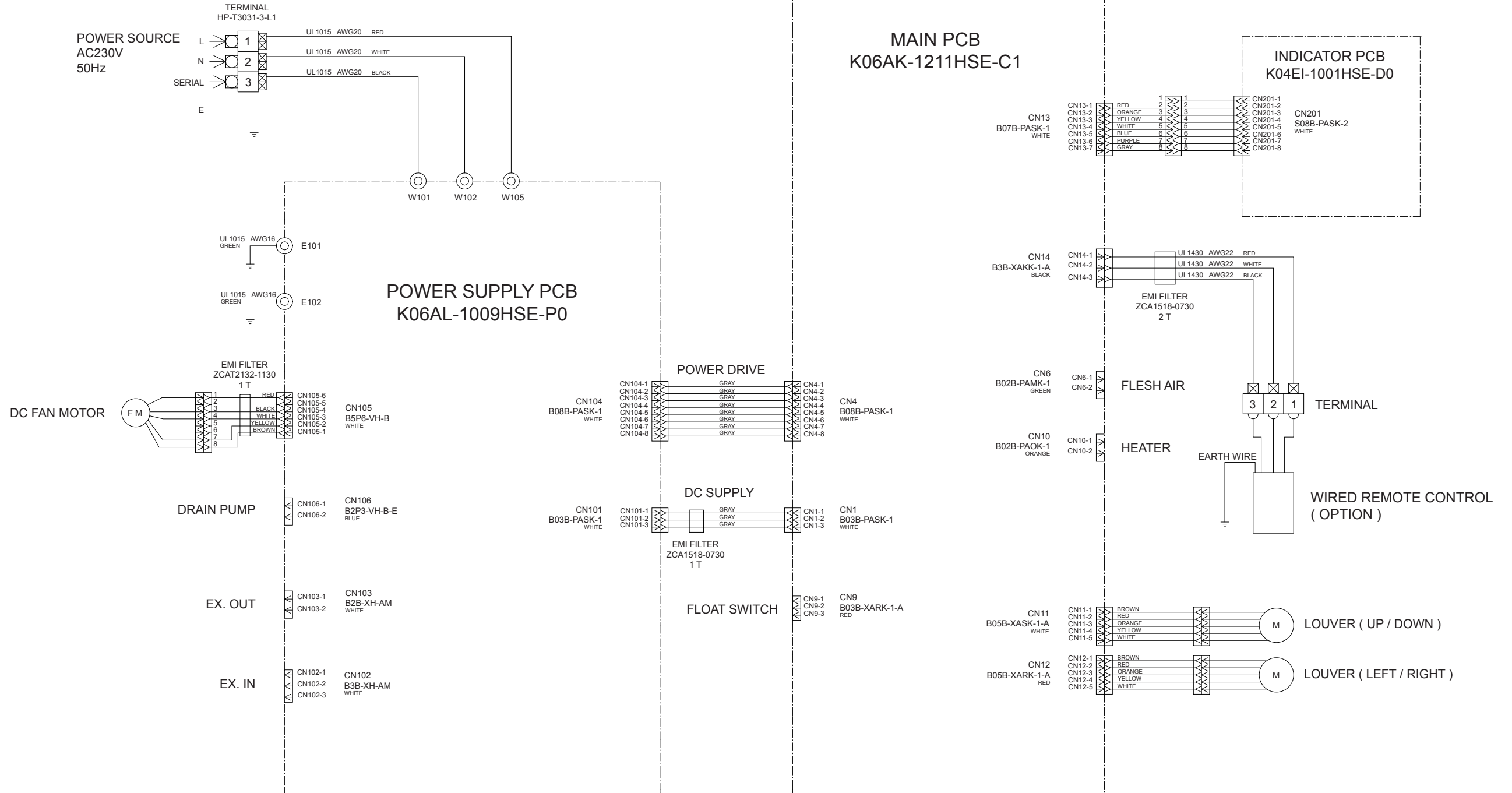
TH<sub>p</sub> : THERMISTOR (PIPE TEP.)  
 TH<sub>R</sub> : THERMISTOR (ROOM TEP.)

# CIRCUIT DIAGRAM

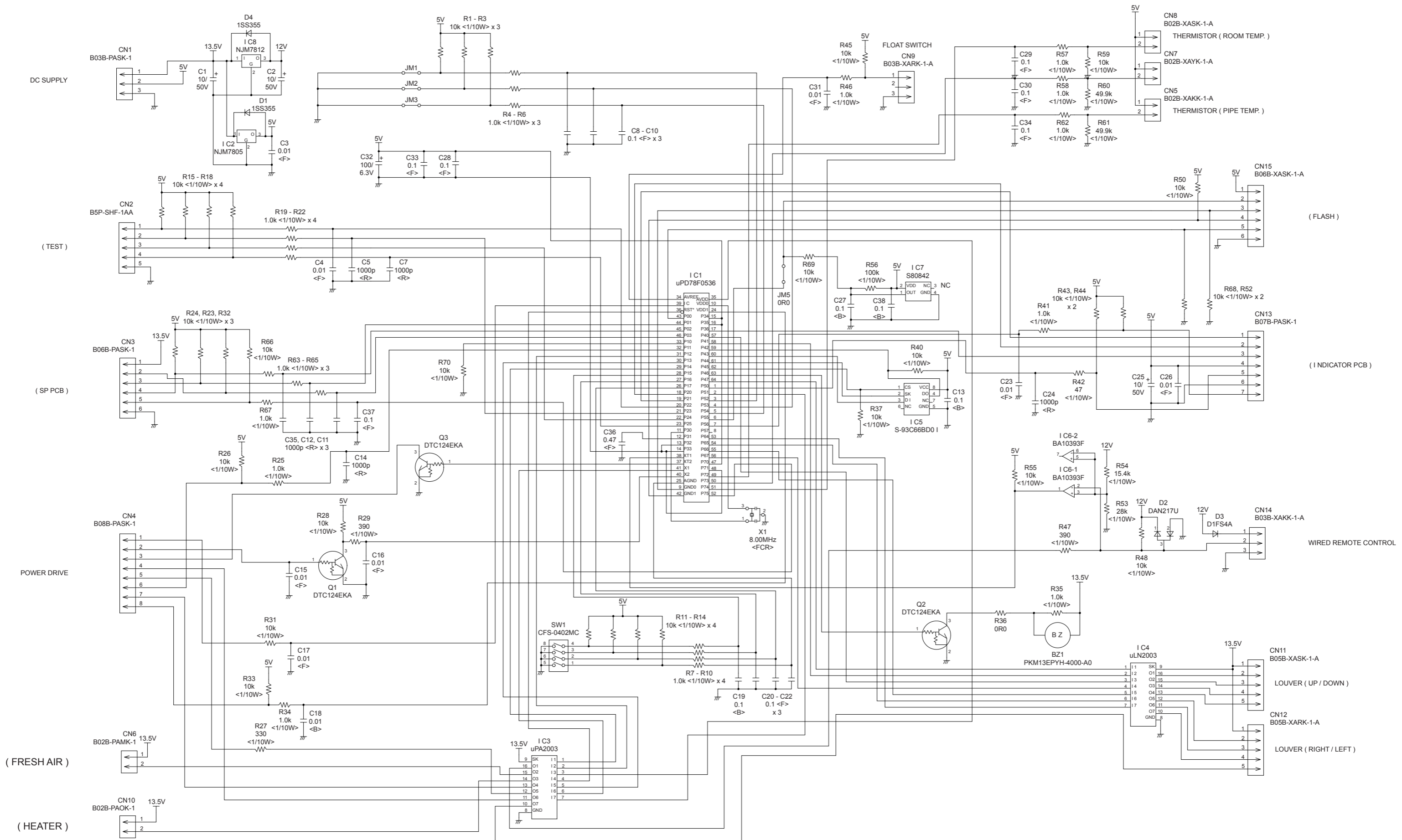


# INDOOR PCB CIRCUIT DIAGRAM

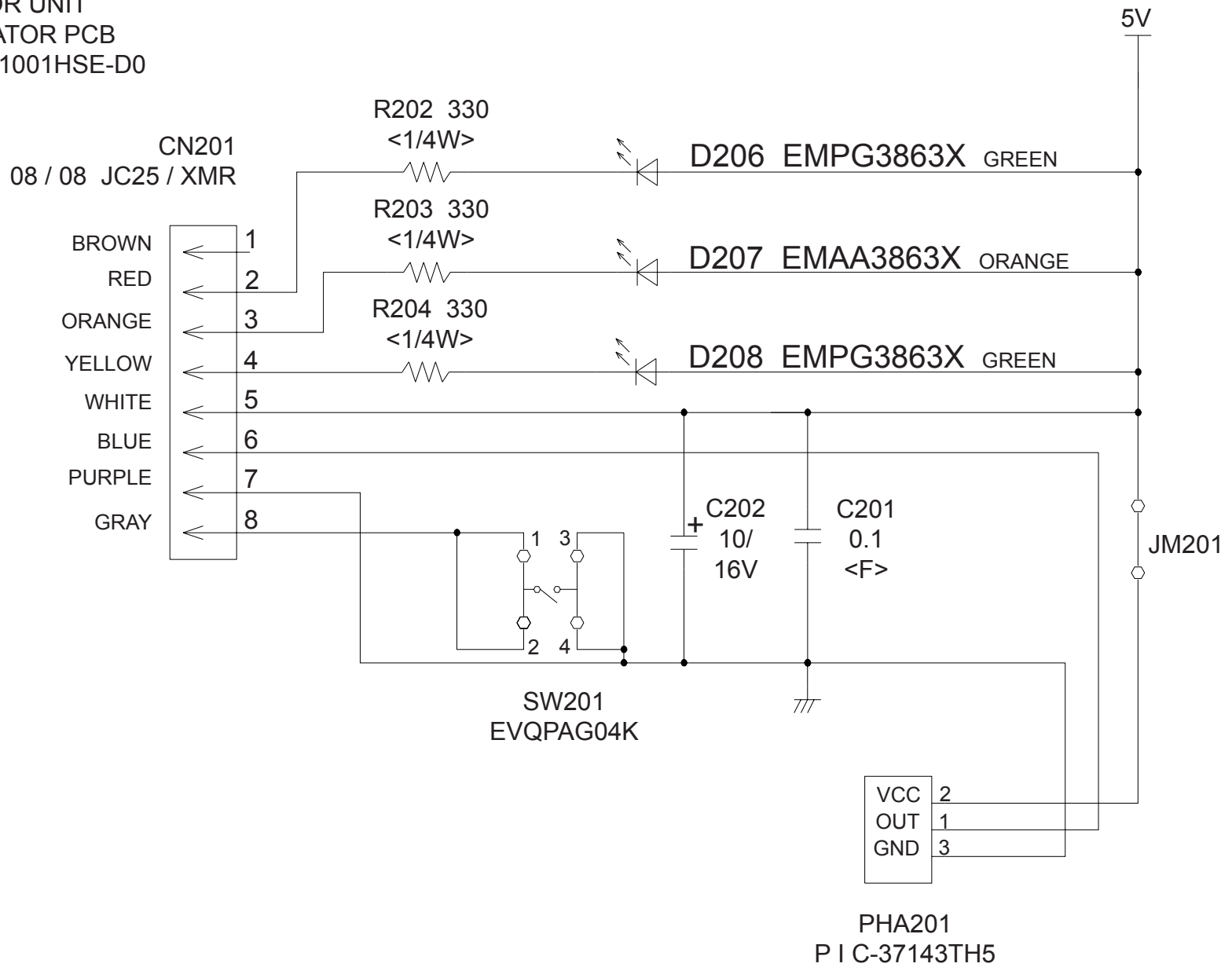
CONTROL UNIT  
EZ-0122CHSE



INDOOR UNIT  
MAIN PCB  
K06AK-1211HSE-C1



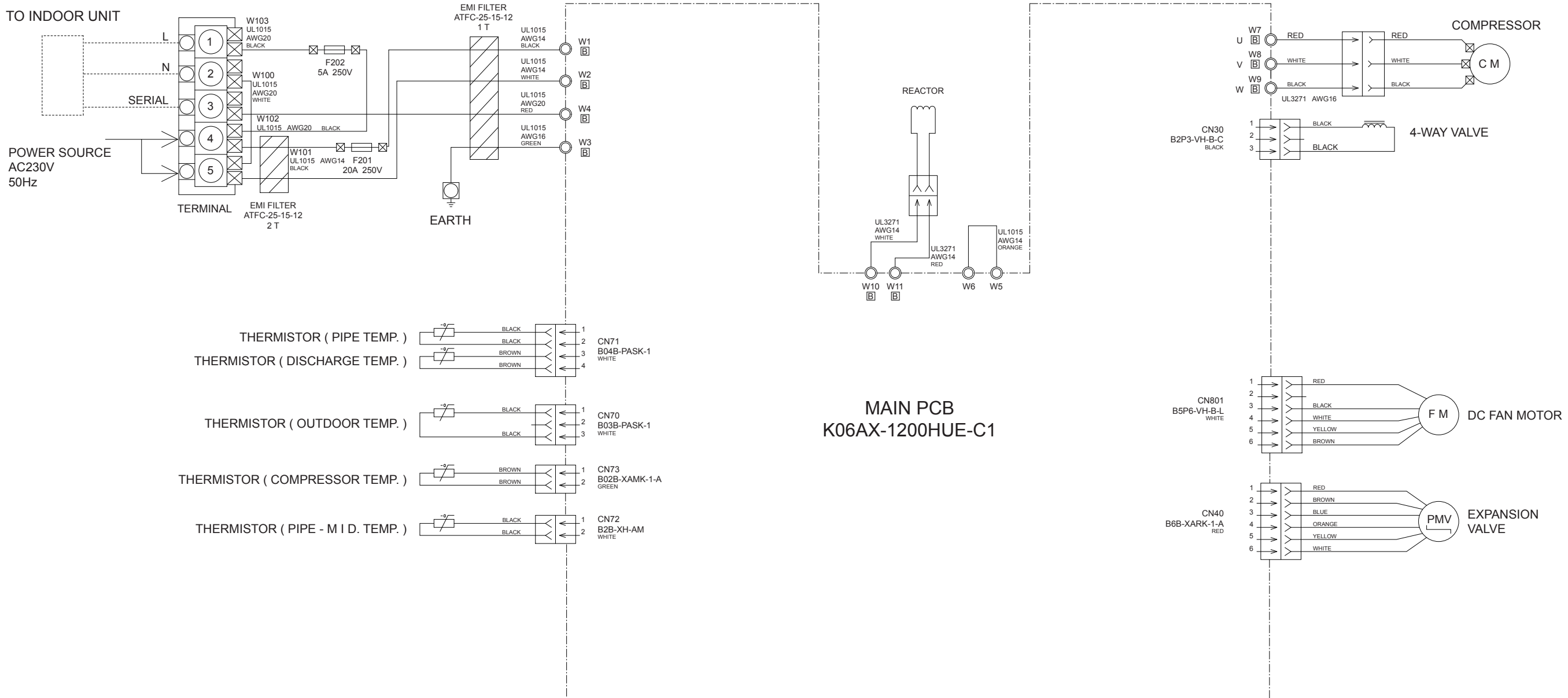
INDOOR UNIT  
 INDICATOR PCB  
 K04EI-1001HSE-D0



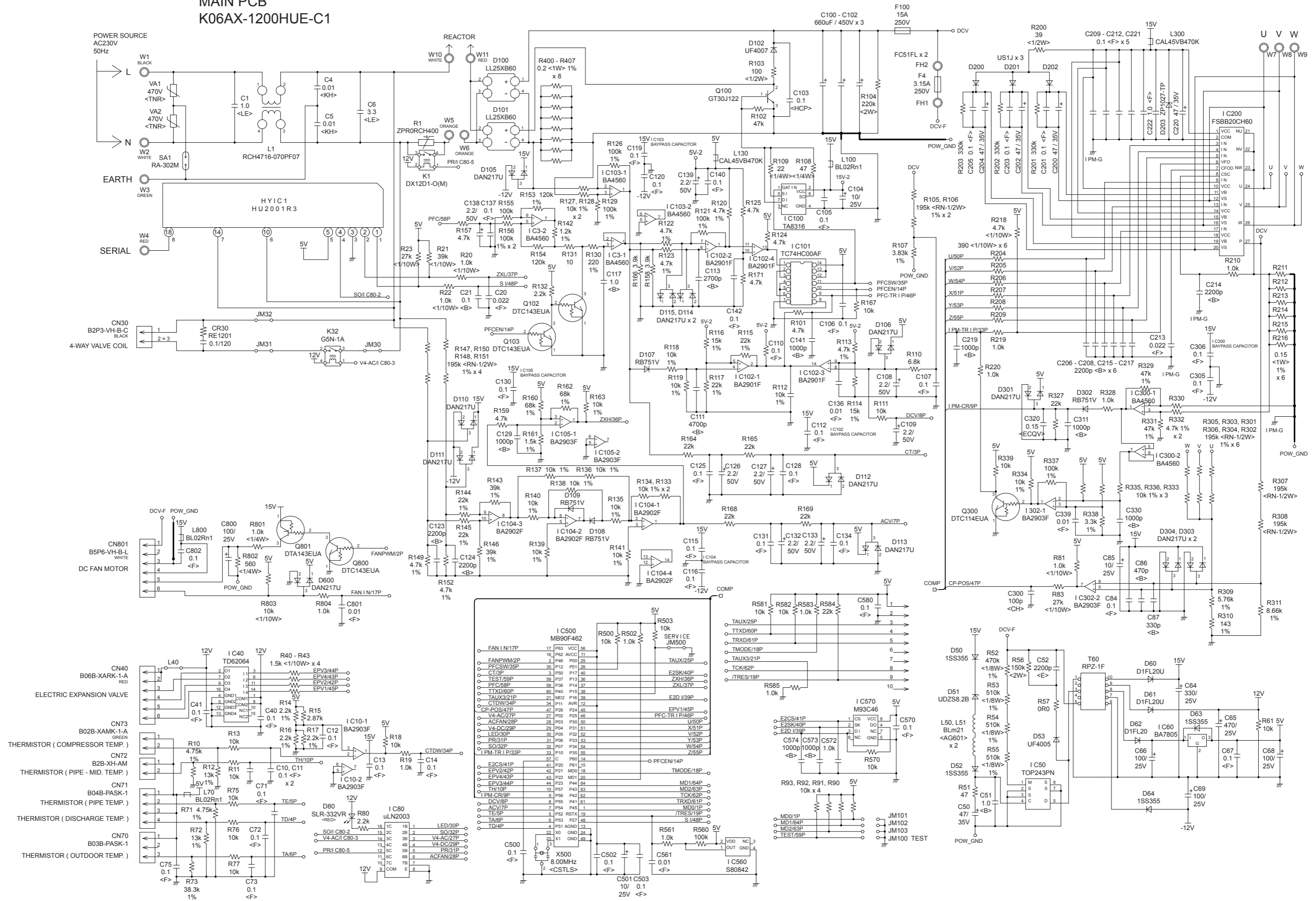


# OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY  
EZ-0121EHUE



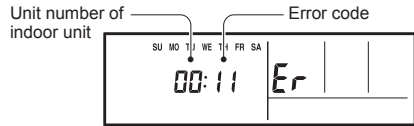
# OUTDOOR UNIT MAIN PCB K06AX-1200HUE-C1



# ERROR DETECTION

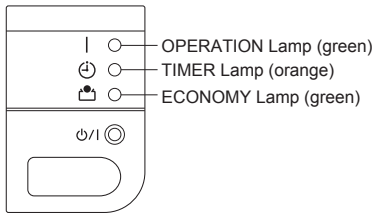
## WIRED REMOTE CONTROL

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



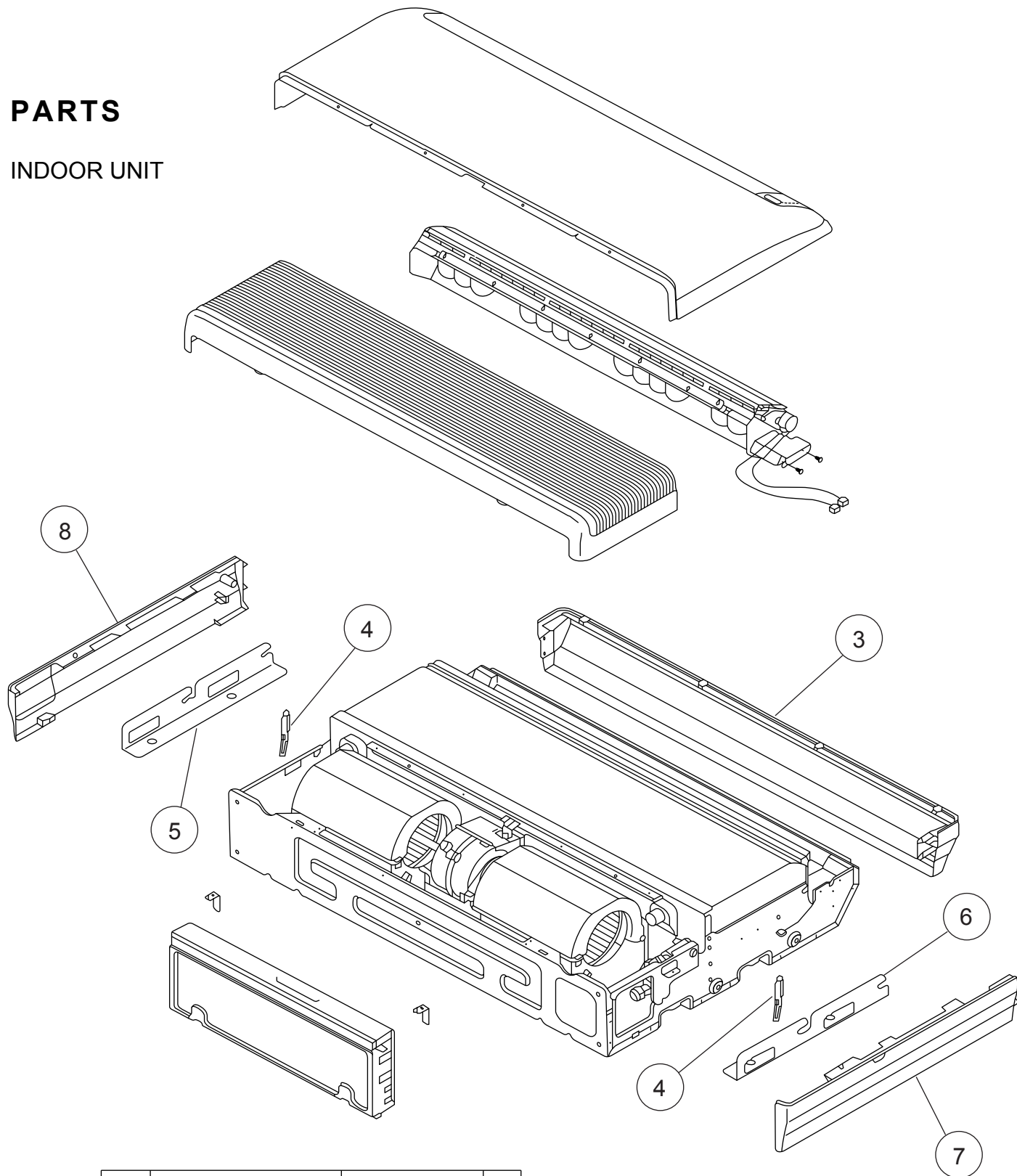
- : 0.5s on / 0.5s off
- ◇ : 0.1s on / 0.1s off
- ( ) : Number of flashing

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)	● (1)	◇	31	Power supply interruption error
● (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 Error
● (6)	● (10)	◇	6A	Display PCB microcomputers communication error

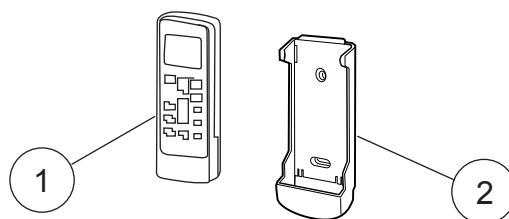
Indoor unit			Wired remote control	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
● (7)	● (1)	◇	71	Discharge temp. sensor error
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
● (7)	● (4)	◇	74	Outdoor temp. 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)	● (8)	◇	98	Outdoor unit fan motor 2 error
● (9)	● (9)	◇	99	4-way valve error
● (9)	● (10)	◇	9A	Coil (expansion 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

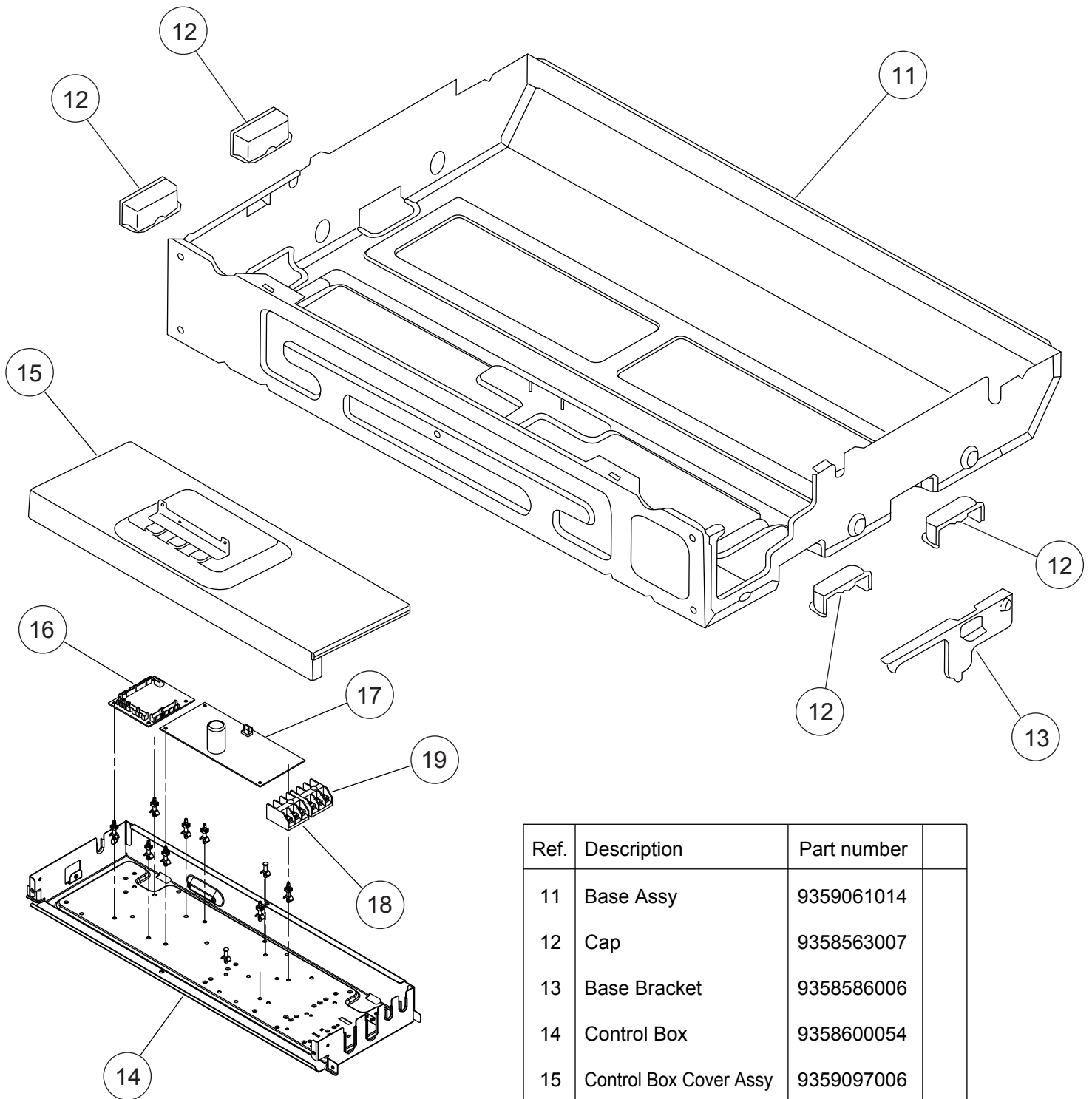
## INDOOR UNIT



Ref.	Description	Part number
1	Remote Control	9379219037
2	Remote Control Holder	9305642045
3	Top Cover	9358534021
4	Arm	9358565001
5	Hanger Bracket L	9358596005
6	Hanger Bracket R	9358595008
7	Cosmetic Panel R	9358535028
8	Cosmetic Panel L	9358536025

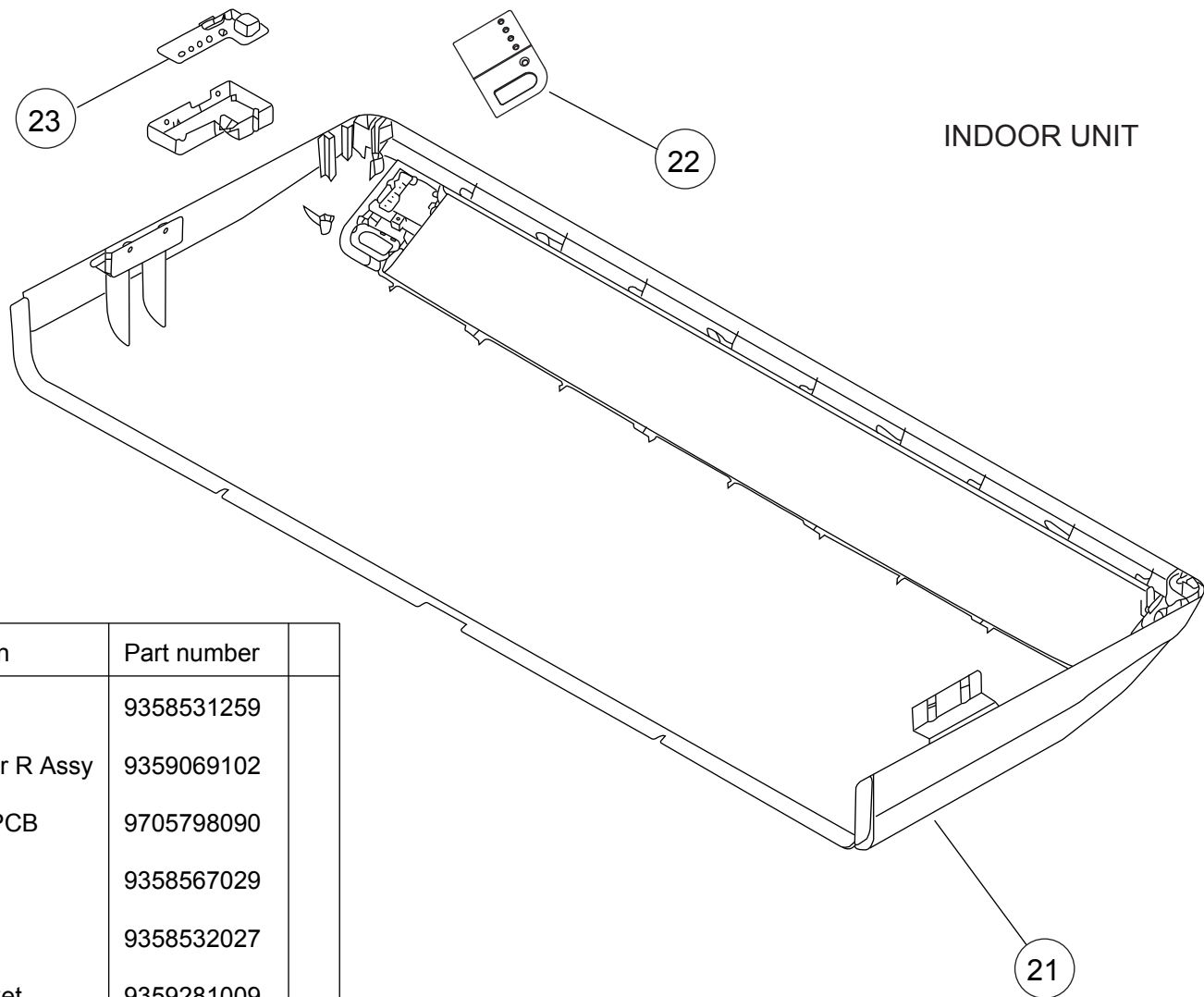


# INDOOR UNIT

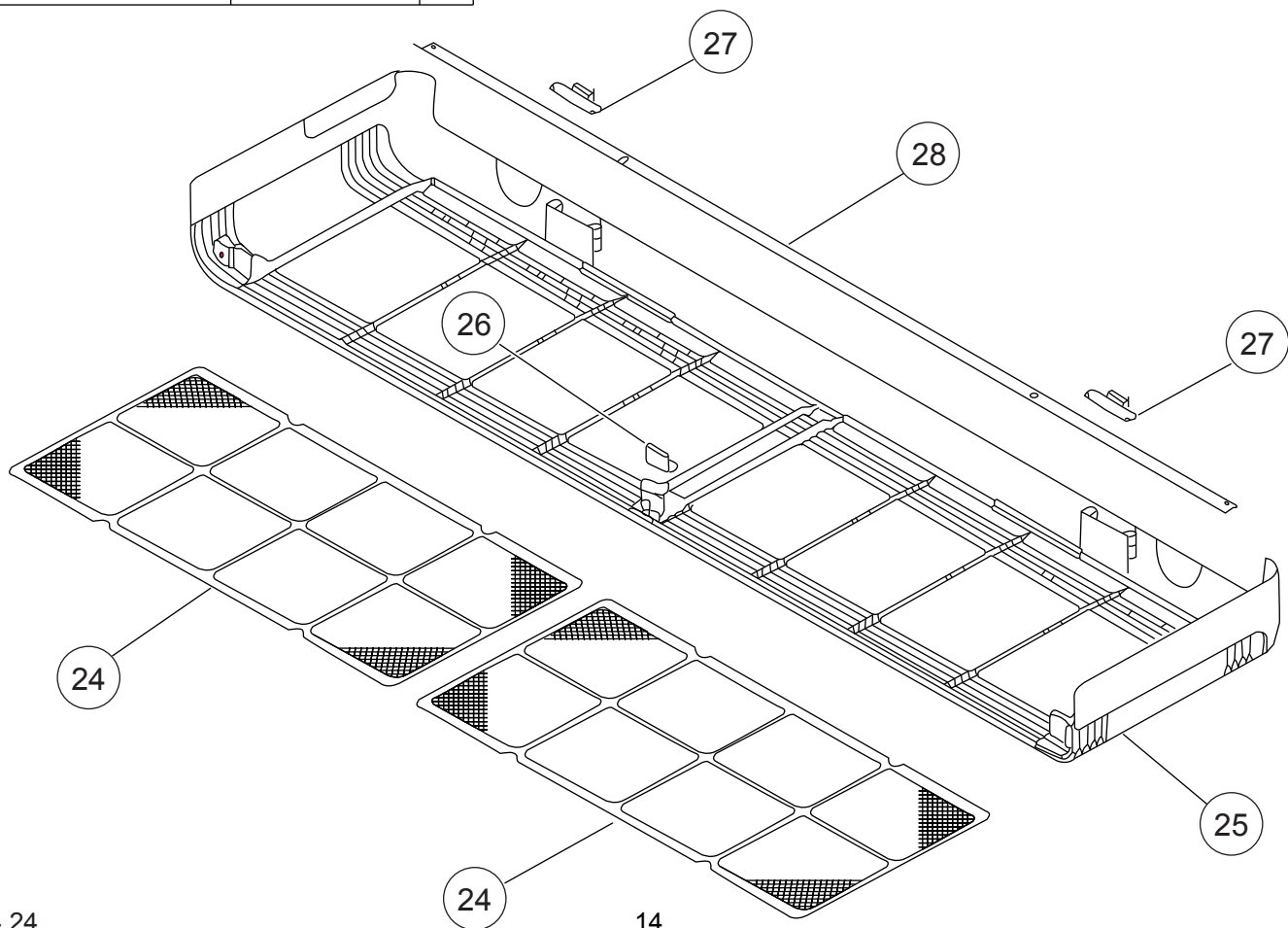


Ref.	Description	Part number	
11	Base Assy	9359061014	
12	Cap	9358563007	
13	Base Bracket	9358586006	
14	Control Box	9358600054	
15	Control Box Cover Assy	9359097006	
16	Main PCB	9709245378	
17	Power Supply PCB	9707398274	
18	Terminal 3P	9306489045	
19	Terminal 3P	9703345012	
--	Room Thermistor	9703299087	

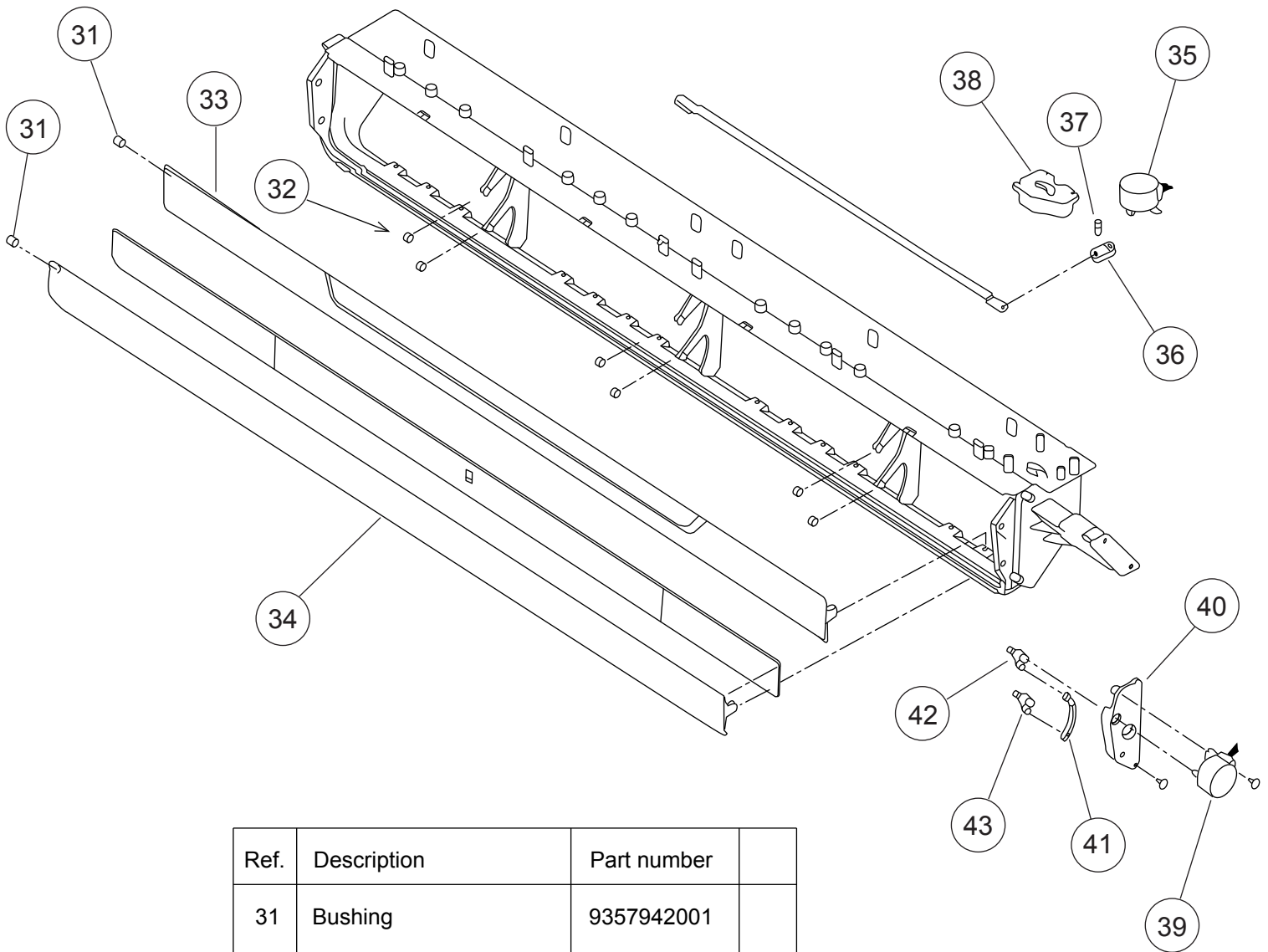
INDOOR UNIT



Ref.	Description	Part number
21	Panel	9358531259
22	Side Cover R Assy	9359069102
23	Indicator PCB	9705798090
24	Air Filter	9358567029
25	Grill F	9358532027
26	Arm Bracket	9359281009
27	Grille Support	9358602003
28	Filter Bracket	9358607008

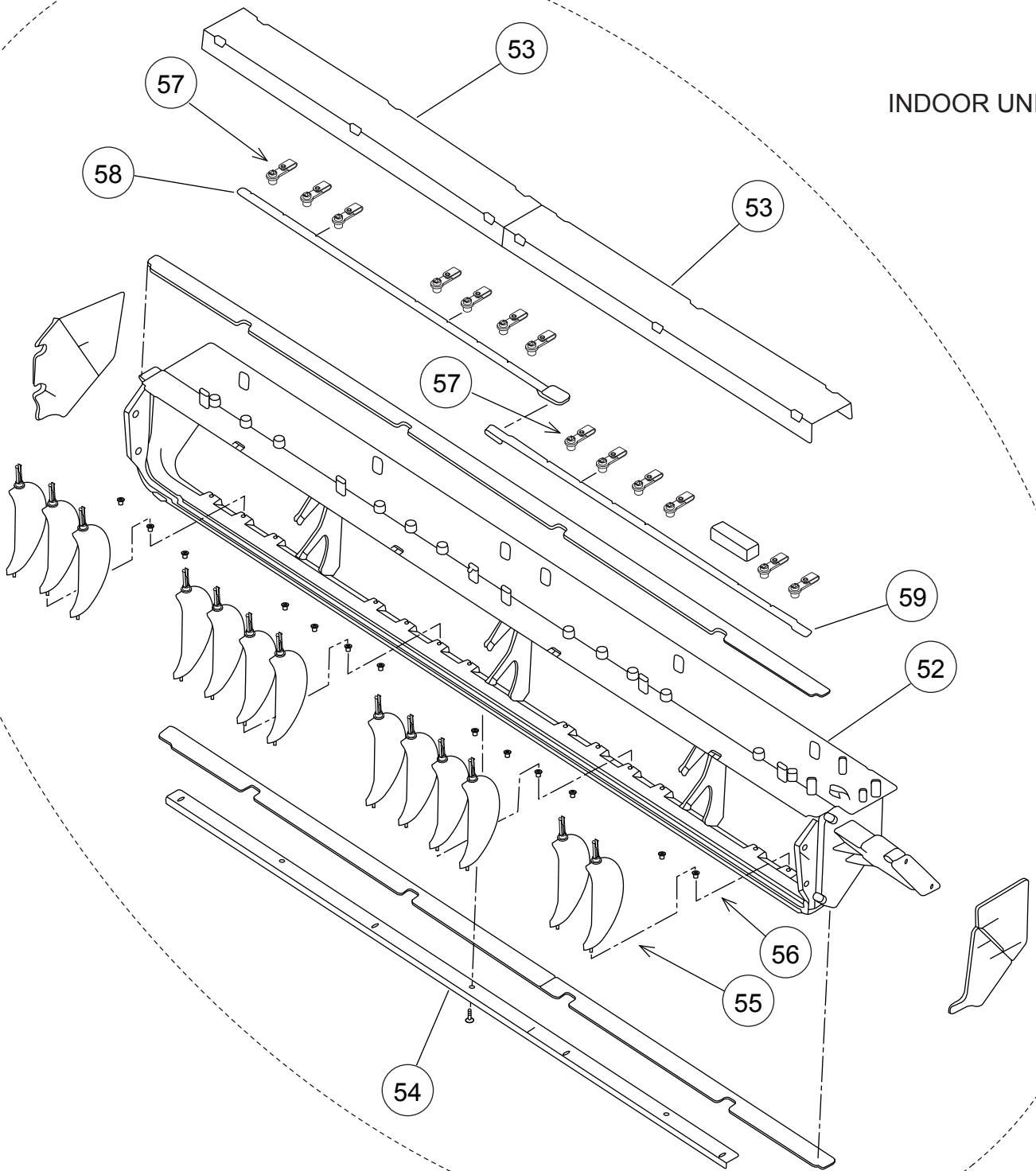


# INDOOR UNIT



Ref.	Description	Part number
31	Bushing	9357942001
32	Bushing C	9358553008
33	Flap (Upper) F	9358538029
34	Kit (Flap Lower)	9372671023
35	Step Motor H	9900297015
36	Louver Link	9358556009
37	Louver Shaft	9358557006
38	Louver Link Cover	9358558010
39	Step Motor-V	9900362010
40	Motor Base	9358562017
41	Motor Rod-A (Step V)	9358550007
42	Flap Link-Upper (Step V)	9358551004
43	Flap Link-Lower (Step V)	9358552001

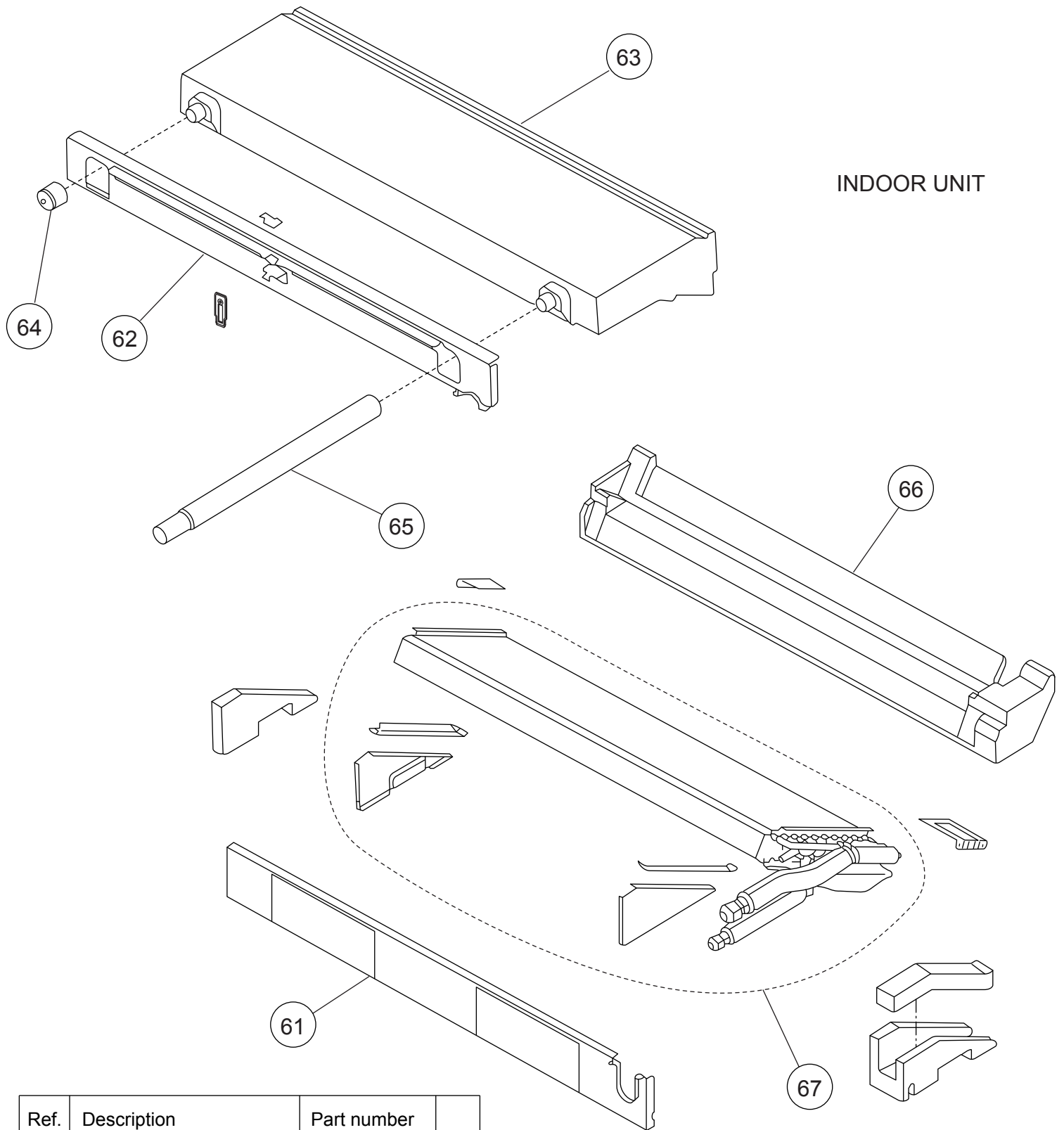
INDOOR UNIT



Ref.	Description	Part number
51	Kit (Flap Base)	9372670040
52	Flap Base	9358537022
53	Protect Cover	9358564011
54	Support Stay	9358599006
55	Louver	9358561027
56	Bushing B	9358554005
57	Louver Stopper	9358555002
58	Louver Rod	9358559017
59	Motor Rod	9358560013

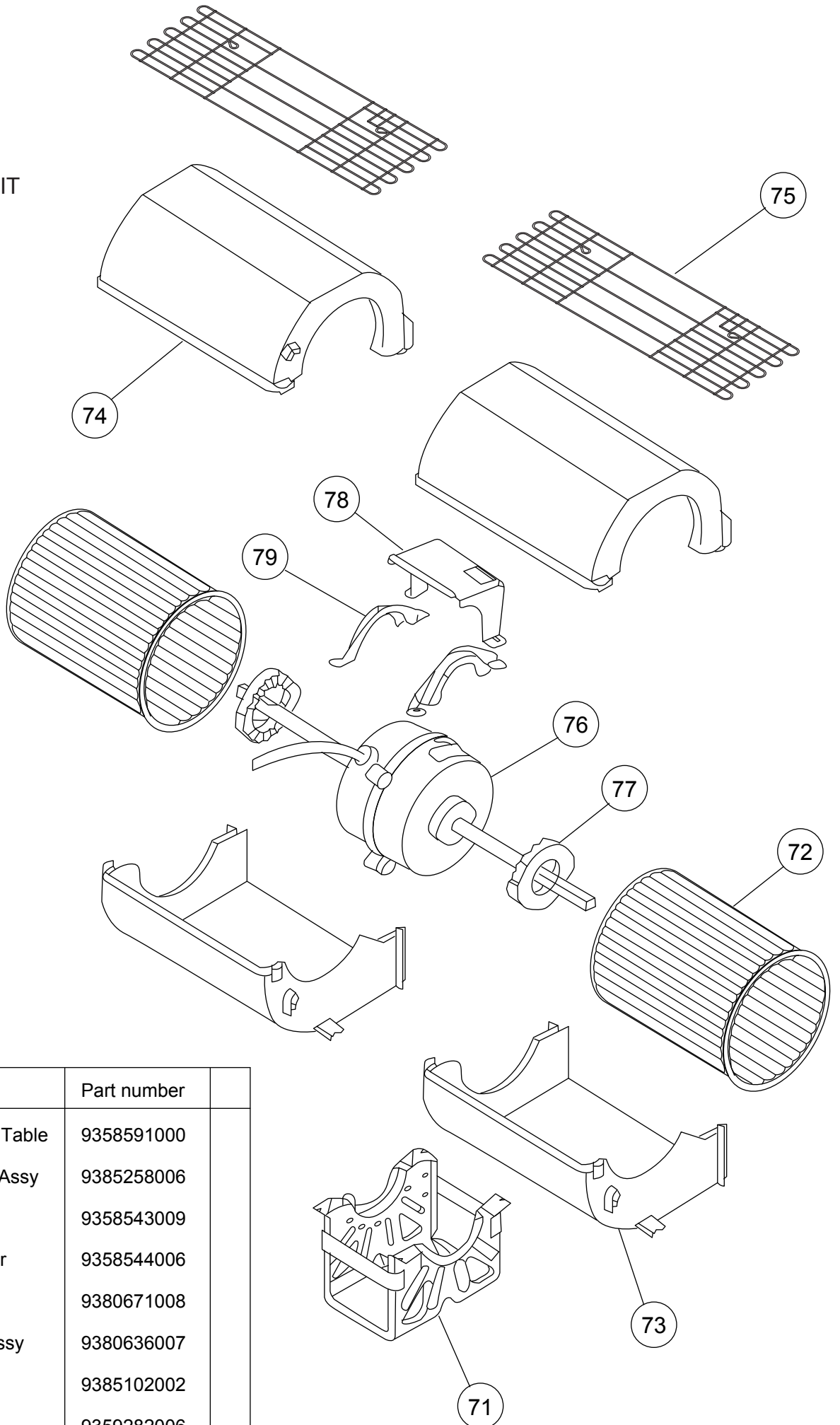


INDOOR UNIT



Ref.	Description	Part number
61	Kit (Separate Wall A)	9372666012
62	Kit (Separate Wall B)	9373448013
63	Kit (Drain Pan Assy)	9372669013
64	Drain Cap	9358746004
65	Drain Hose Assy	9377785060
66	Kit (Insulation Flap Base)	9372672013
67	Evaporator Sub Assy	9359051268
--	Pipe Thermistor	9900022020

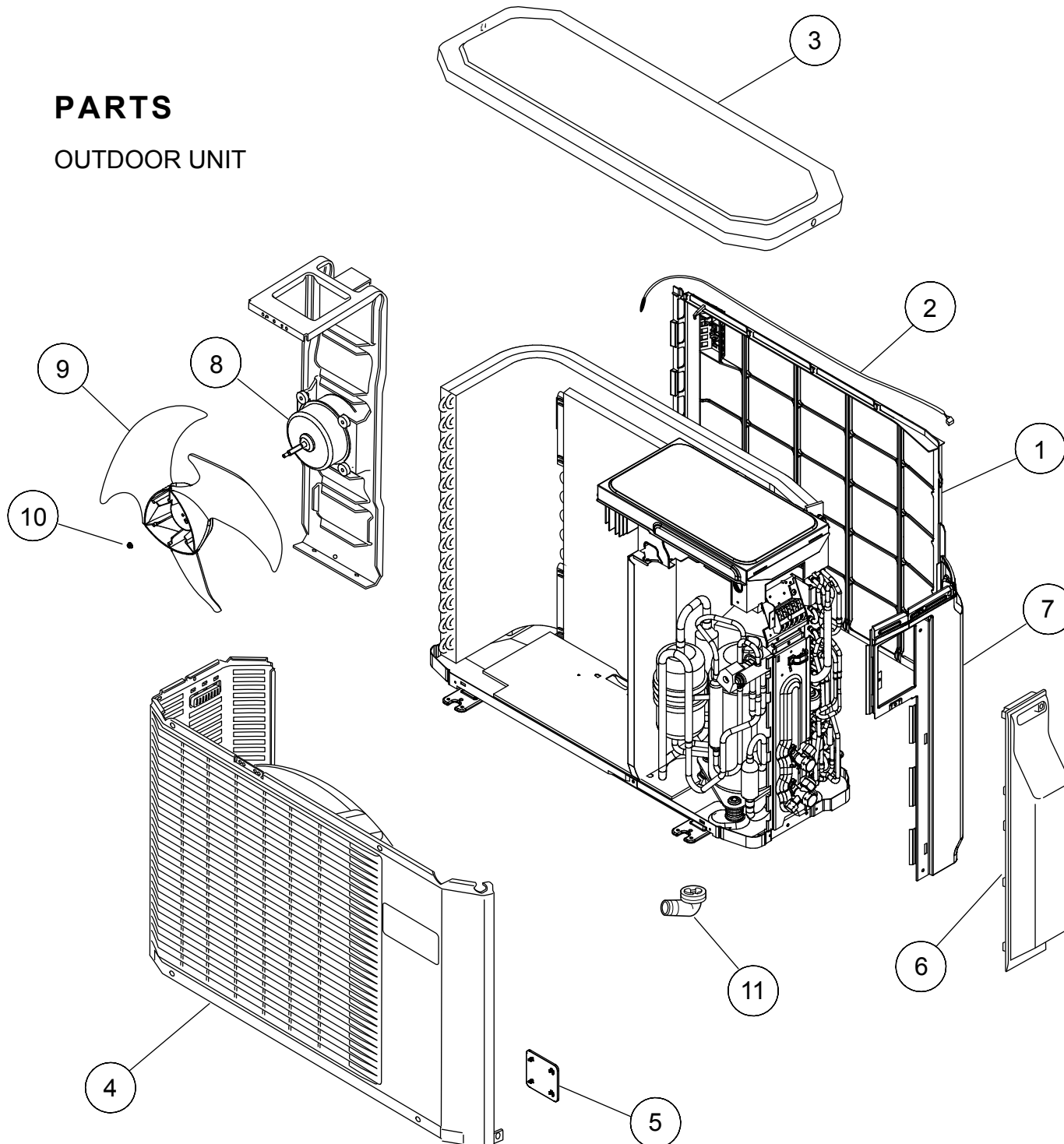
INDOOR UNIT



Ref.	Description	Part number
71	Motor Fixing Table	9358591000
72	Sirocco Fan Assy	9385258006
73	Casing	9358543009
74	Casing Cover	9358544006
75	Barrier	9380671008
76	Fan Motor Assy	9380636007
77	Rubber	9385102002
78	Protector	9359282006
79	Motor Fixture	9358594001

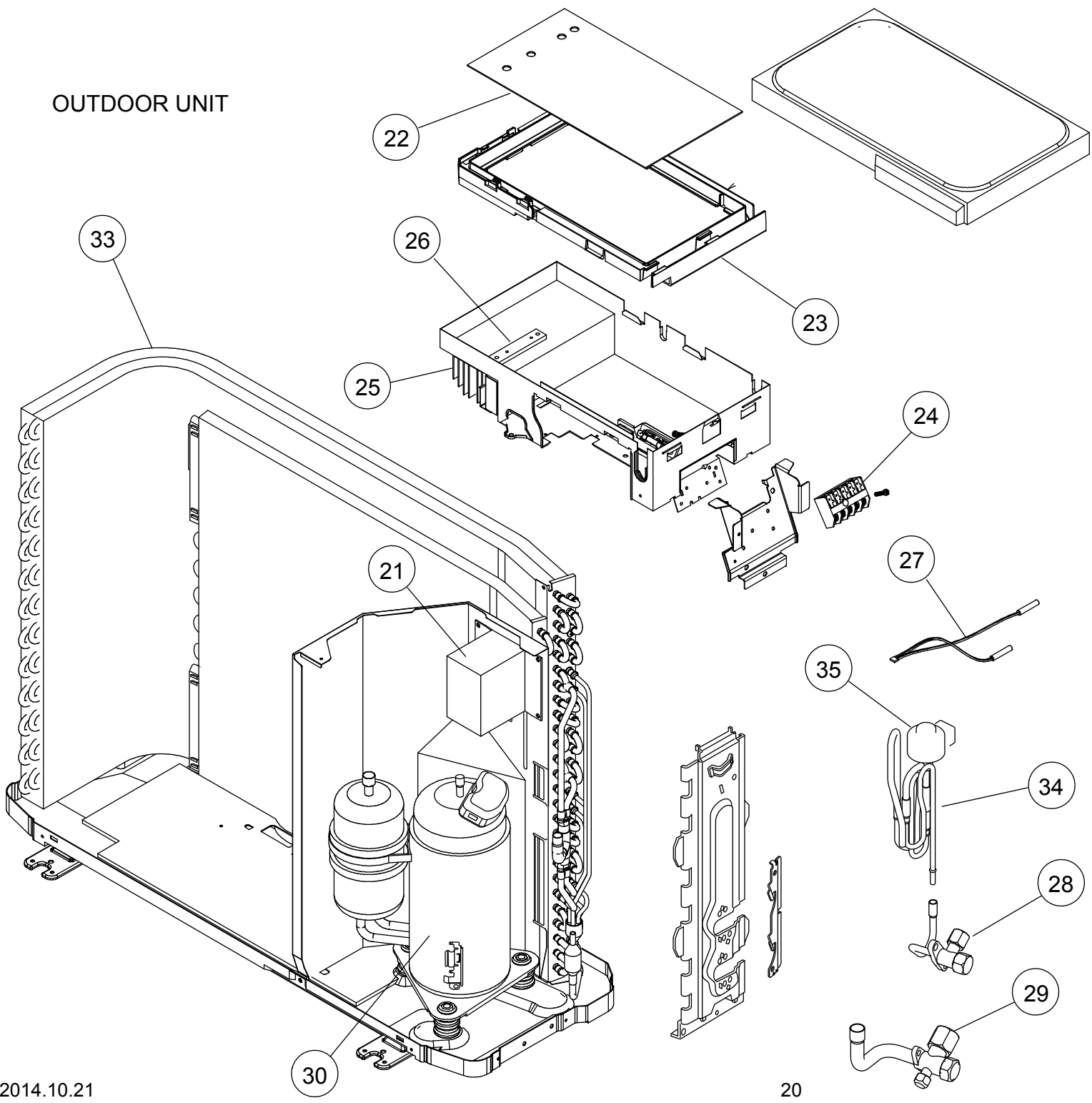
# PARTS

## OUTDOOR UNIT

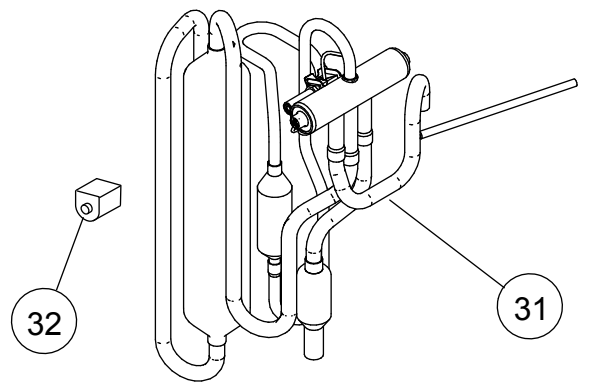


Ref	Description	Parts number
1	Protective Net	9315033017
2	Outdoor Thermistor	9900210045
3	Top Panel Assy	9309230057
4	Cabinet Assy	9312799459
5	Fan Guard Cover	9378110014
6	Switch Cover Assy	9309237032
7	Cabinet Right Assy	9309236028
8	Fan Motor	9602451012
9	Propeller Fan	9309909014
10	Nut with Washer	9304902003
11	Drain Assy	9303029015

# OUTDOOR UNIT



Ref	Description	Parts number
21	Reactor Assy	9900354015
22	Main PCB with grease	9709680322
23	PCB Holder	9313074029
24	Terminal	9703874031
25	Heat Sink A	9314410017
26	Heat Sink B	9314090011
27	Thermistor Assy	9900148027
28	2-way Valve Assy	9313062019
29	3-way Valve Assy	9315414014
30	Compressor Assy	9315297037
31	4-way Valve Assy	9315311023
32	Solenoid	9970055010
33	Condenser Sub Assy	9312069118
34	Pulse Motor Valve Assy	9315310019
35	Expansion Valve Coil	9900057039
--	Compressor Thermistor	9900156046
--	Heat Exchanger Thermistor	9900403010



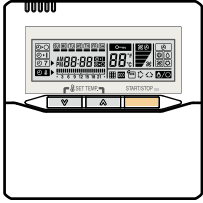

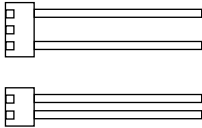
# ACCESSORIES

## INDOOR UNIT

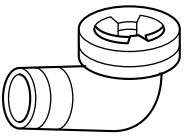
Name and Shape	Q'ty
Cover plate (Left) 	1
Screw (M4 × 10mm) 	2
Bracket (Left)  For suspending the indoor unit from ceiling	1
Special nut  For suspending the indoor unit from ceiling	4
Screw (M4 × 20mm)  For fixing the wall bracket	6
Coupler heat insulator (Small)  For indoor side pipe joint (Small pipe)	1
Cable tie (Small)  For electrical wiring	2
Drain hose 	1
Insulation (Drain hose)  Adhesive type 100 x 220(mm)	1
Remote control 	1
Remote control holder 	1

Name and Shape	Q'ty
Cover plate (Right) 	1
Installation template Positioning for under ceiling type 	1
Bracket (Right)  For suspending the indoor unit from ceiling	1
Wall bracket  For suspending the indoor unit on the wall	2
Coupler heat insulator (Large)  For indoor side pipe joint(Large pipe)	1
Cable tie (Large)  For fixing drain hose	1
Wire clammer  For electrical wiring	1
Hose band  For installing drain hose	1
VT wire  For fixing drain hose L 280mm	1
Battery  For remote control	2
Screw (M3 × 12mm)  For remote control holder installation	2

INDOOR UNIT  
OPTIONAL PARTS

Name and Shape	Model name	Use
Wired remote control 	UTY-RNNYM	Unit control is performed by wired remote control
Simple remote control 	UTY-RSNYM	Unit control is performed by simple remote control
External connect kit 	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PCB.

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part number
Drain pipe 	1	For outdoor unit drain piping work.	9303029015

1302G4181