

Service and Parts Manual



F R I E D R I C H



Models

Indoor Unit	MW24C3G
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Outdoor Unit	MR24C3G
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CUSTOMER SATISFACTION and QUALITY ASSURANCE

Friedrich is a conscientious manufacturer, concerned about customer satisfaction, product quality, and controlling warranty costs. As an Authorized Service Provider you play a vital role in these areas. By adhering to the policies and procedures you provide us with vital information on each warranty repair you complete. This information is used to identify product failure trends, initiate corrective action, and improve product quality, thereby further reducing warranty expenses while increasing customer satisfaction levels.

FRIEDRICH AUTHORIZED PARTS DEPOTS

AAA Refrigeration Service

1322 24th Street, Suite B
Kenner, Louisiana 70062
504-464-7444
877-813-7444

The Gabbert Company

6868 Ardmore
Houston, Texas 77054
713-747-4110
800-458-4110

Reeve Air Conditioning, Inc.

2501 South Park Road
Hallandale, Florida 33009
954-962-0252
800-962-3383

Alamo Service Company

1450 North Flores Street
San Antonio, Texas 78212
210-227-2450
800-328-2450

Johnstone Supply of Woodside

27-01 Brooklyn Queens Expway
Woodside, New York 11377
718-545-5464
800-431-1143

TECHNICAL SUPPORT CONTACT INFORMATION



F R I E D R I C H

FRIEDRICH AIR CONDITIONING CO.

10001 Reunion Place, Ste. 500, San Antonio, TX 78216
(210) 546-0500 877-599-5665 x 261 FAX (210) 546-0630
Email: tac@friedrich.com
www.friedrich.com

Printed in the U.S.A.

SPECIFICATIONS

ELECTRICAL DATA

INDOOR UNIT	MW24C3G
OUTDOOR UNIT	MR24C3G
COOLING CAPACITY	24,000 BTU, 7.03 kW
POWER SOURCE	208 / 230 V
FREQUENCY	60 Hz
RUNNING CURRENT	10.5 A
INPUT WATTS	2.4 kW
E.E.R.	10.0 BTU/hW, 2.93 kW/kW
MOISTURE REMOVAL	6.3 Pt/h, 3.0 L/hr
AIR CIRCULATION HIGH	659 cfm, 1,120 m ³ /hr
MAXIMUM CURRENT	11.5 A

FAN MOTOR

POWER SOURCE		230 V
INDOOR UNIT	High	1,480 r.p.m.
	Medium	1,220 r.p.m.
	Low	1020 r.p.m.
	Quiet	900 r.p.m.
OUTDOOR UNIT		1,100 r.p.m.

NOISE LEVEL

INDOOR UNIT	High	48 dB
	Medium	42 dB
	Low	37 dB
	Quiet	33 dB
OUTDOOR UNIT		56 dB

COMPRESSOR AND REFRIGERANT

TYPE		Hermetic type, 4 pole, DC inverter motor, Scroll
DISCRIMINATION		DA150A1F-20NA
WEIGHT (with oil)		22 lbs, 10.0 kg
REFRIGERANT TYPE		R410A
PRECHARGED REFRIGERANT		2 lbs 14 oz, 1,300 g
FULL CHARGE	Pipe length 49 ft, 15 m	2 lbs 14 oz, 1,300 g
	66 ft, 20 m	3 lbs 1 oz, 1,400 g
	82 ft, 25 m	3 lbs 5 oz, 1,500 g
	98 ft, 30 m	3 lbs 8 oz, 1,600 g
ADDITIONAL CHARGE		0.21 oz/ft, 20 g/m
MAXIMUM HEIGHT DIFFERENCE		66 ft, 20 m

DIMENSIONS

INDOOR UNIT	H x W x D	12-5/8 x 39-1/4 x 9 inch 320 x 998 x 228 mm
OUTDOOR UNIT	H x W x D	24-13/32 x 31-3/32 x 11-13/32 inch, 620 x 790 x 290 mm

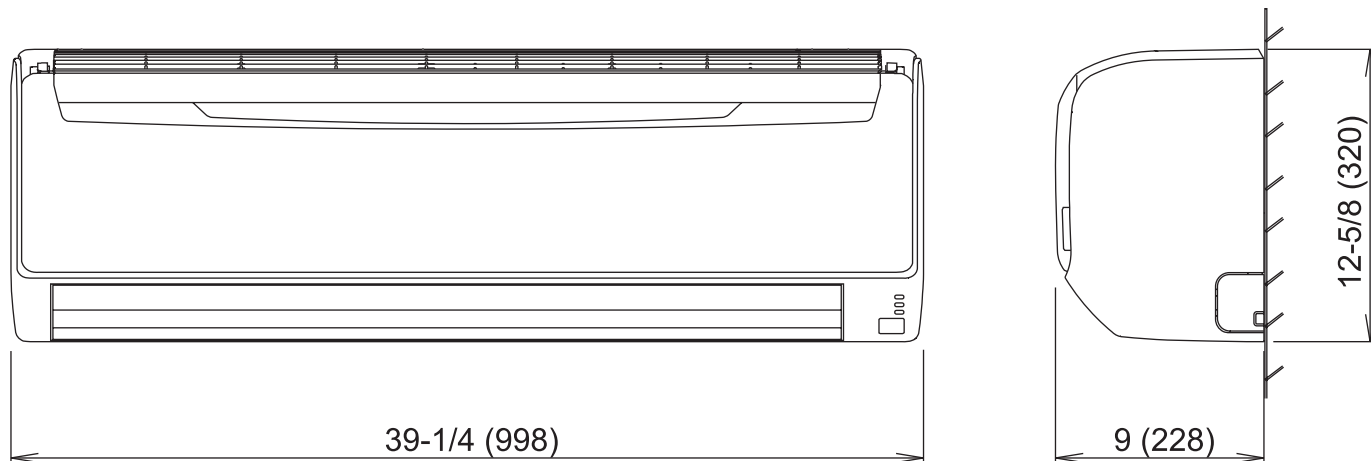
WEIGHT

INDOOR UNIT	Shipping / Net	40 lbs / 31 lbs 18 kg / 14 kg
OUTDOOR UNIT	Shipping / Net	97 lbs / 88 lbs 44 kg / 40 kg

DIMENSIONS

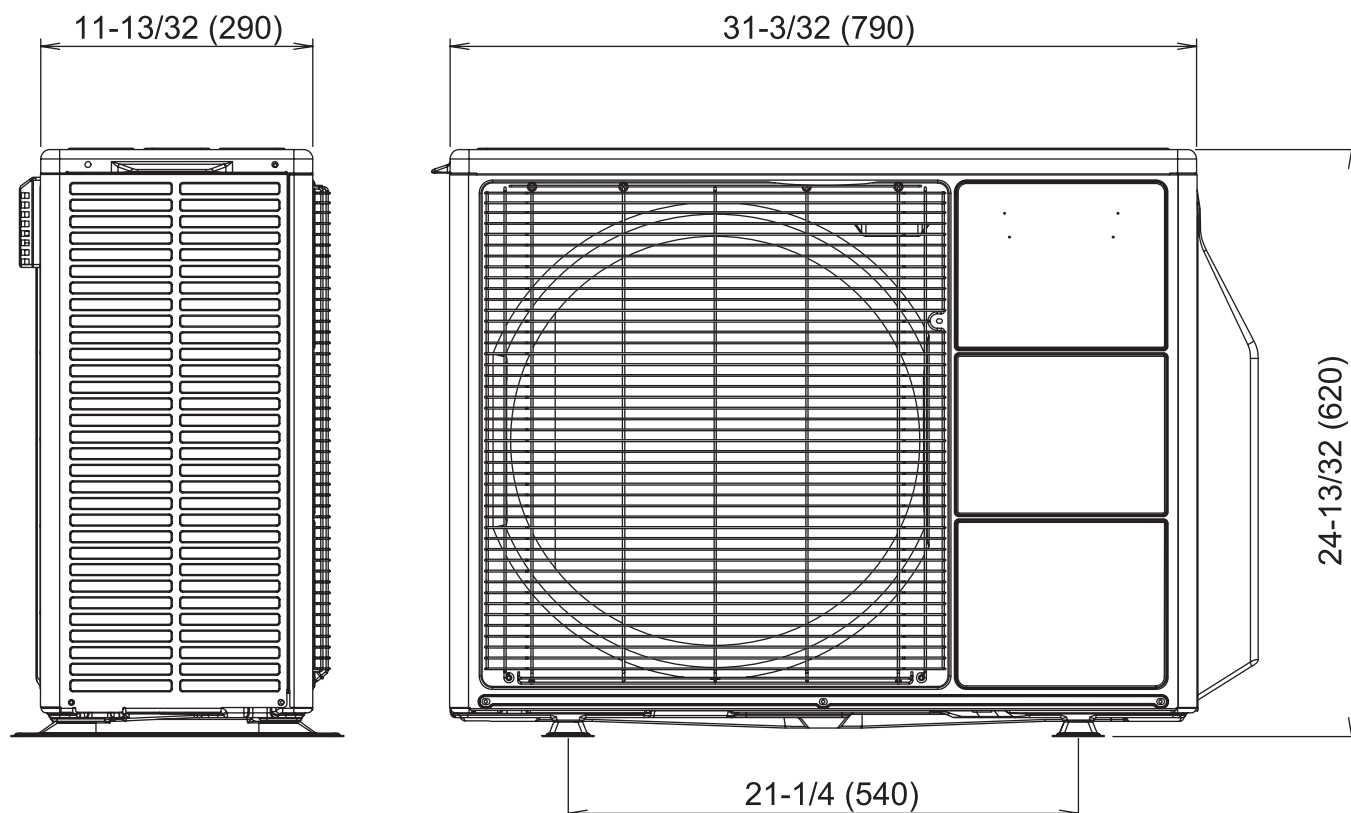
Unit : inch (mm)

INDOOR UNIT

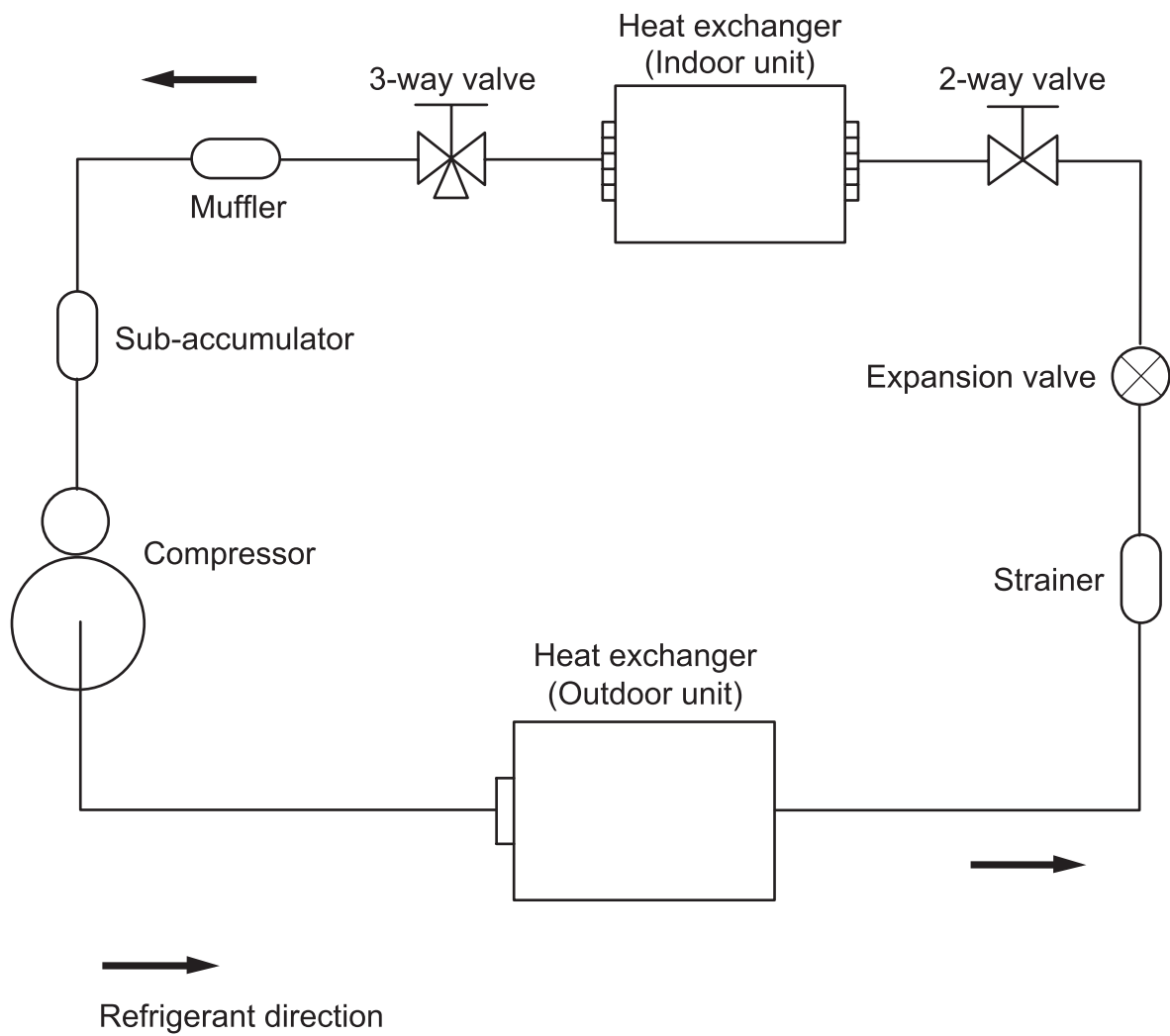


Drain hose length : $26\frac{3}{8}$ inch (670 mm)

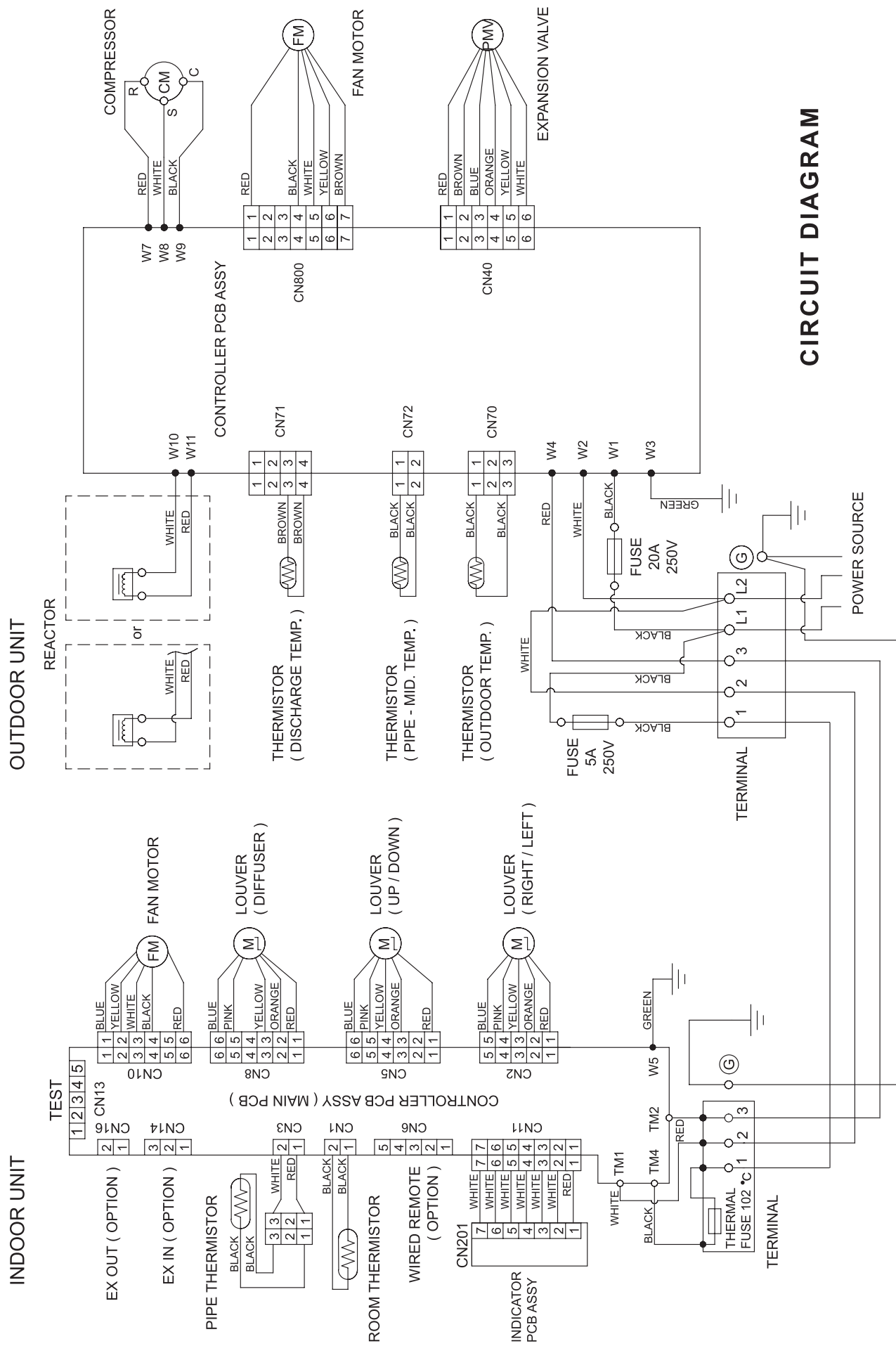
OUTDOOR UNIT



REFRIGERANT SYSTEM DIAGRAM



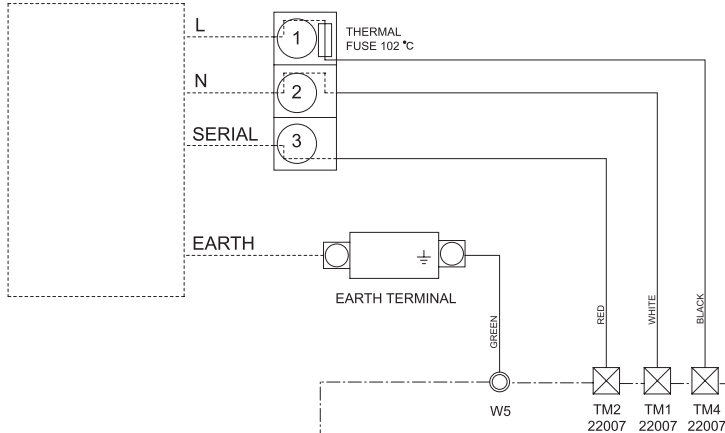
Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 5/8" (15.88 mm)



INDOOR PCB CIRCUIT DIAGRAM

OUTDOOR UNIT

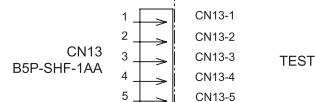
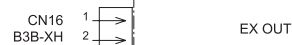
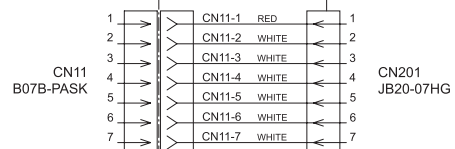
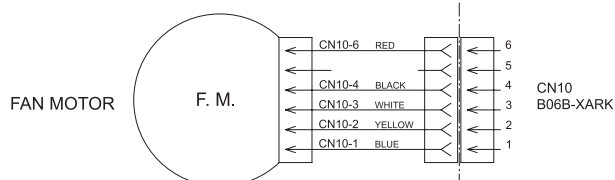
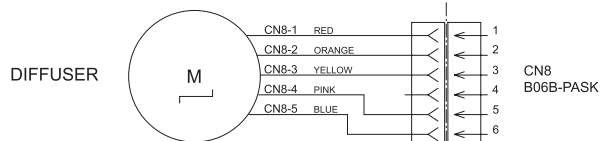
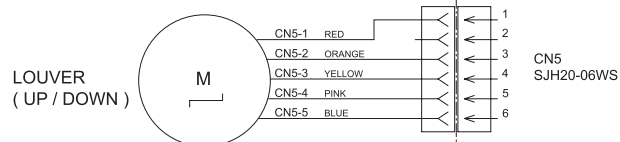
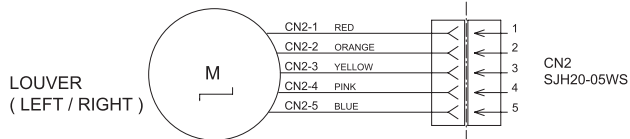
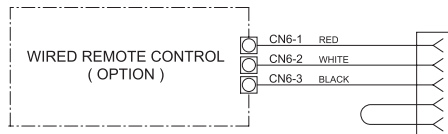
TERMINAL BOARD

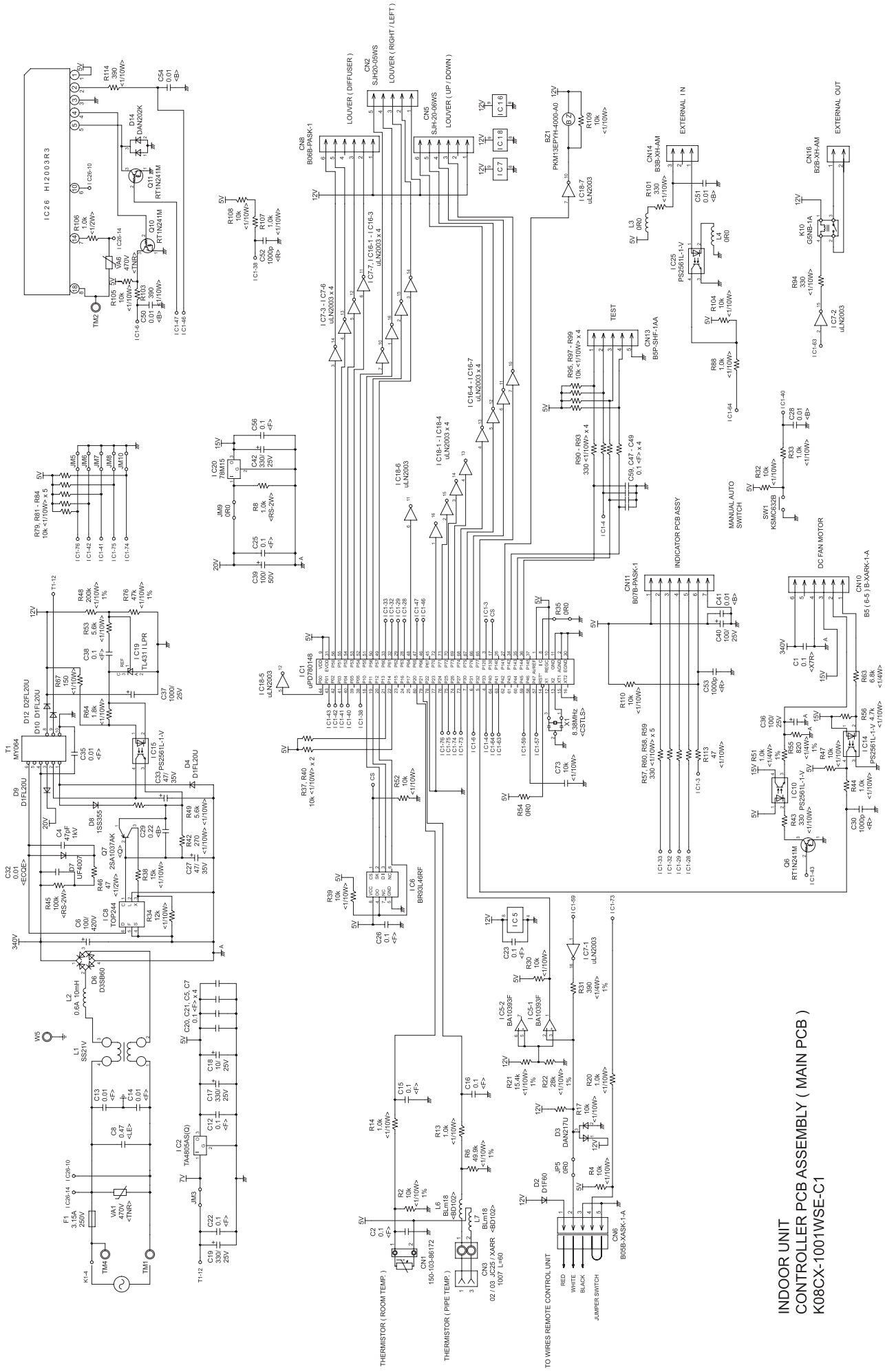


CONTROL UNIT
EZ-0107WSE

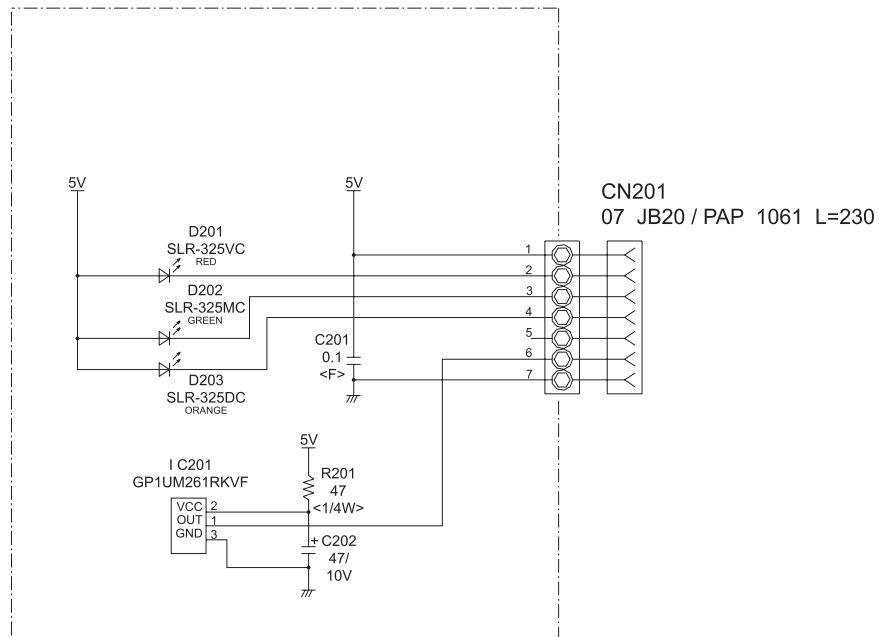
INDICATOR PCB ASSEMBLY
K05CY-0500HSE-D0

CONTROLLER PCB ASSEMBLY
(MAIN PCB)
K08CX-1001WSE-C1



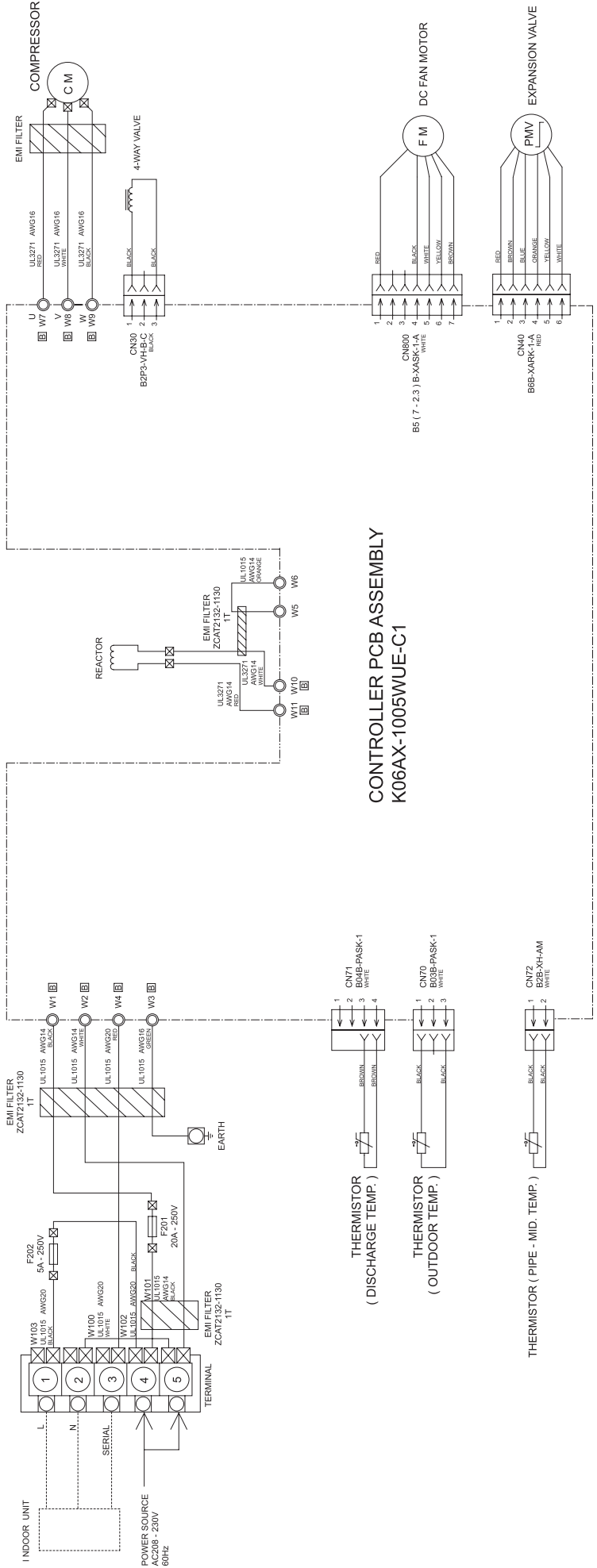


INDOOR UNIT
INDICATOR PCB ASSEMBLY
K05CY-0500HSE-D0

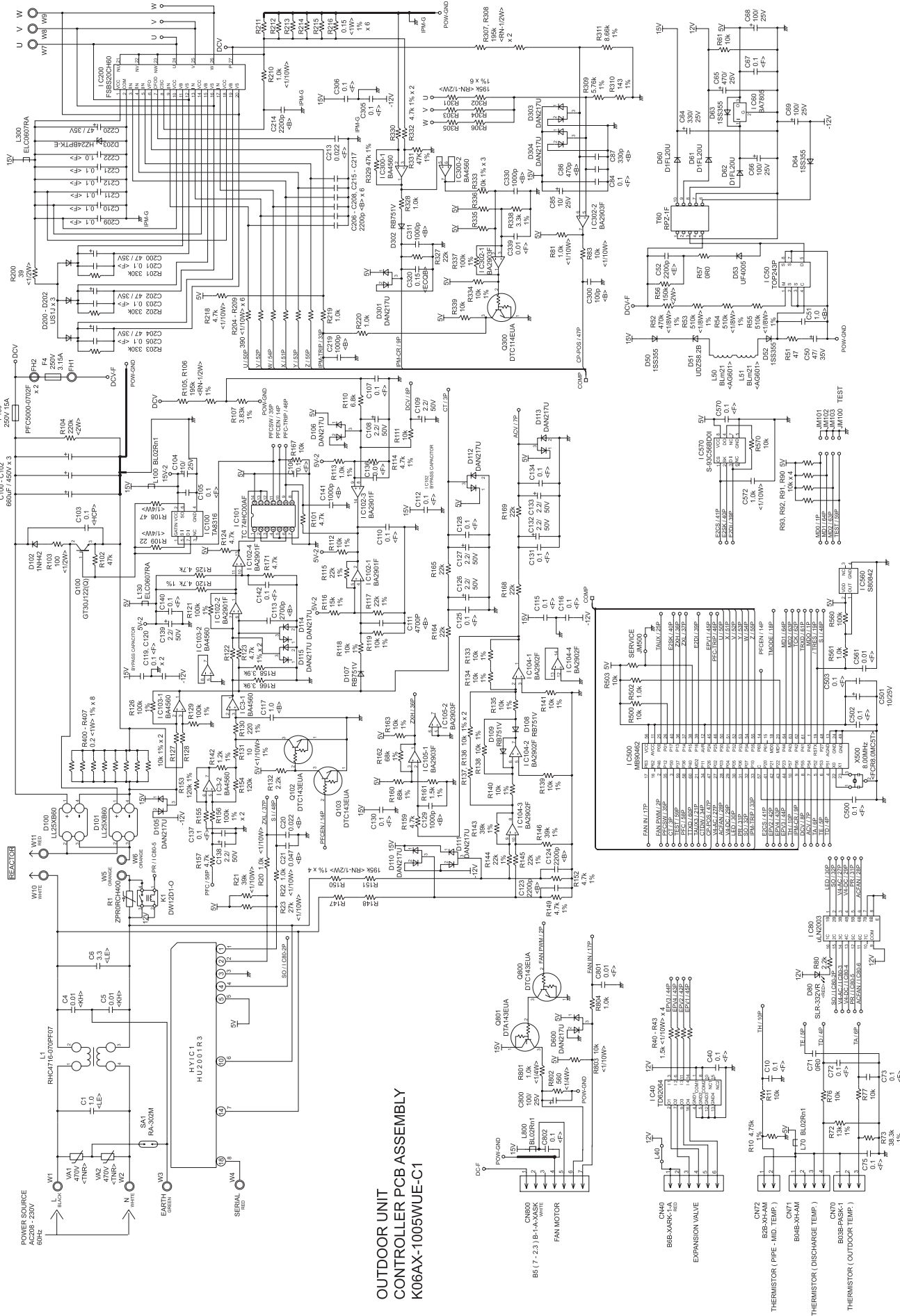


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY EZ-0101WUE



CONTROLLER PCB ASSEMBLY K06AX-1005WUE-C1



OUTDOOR UNIT CONTROLLER PCB ASSEMBLY K06AX-1005WUE-C1

ERROR DETECTION

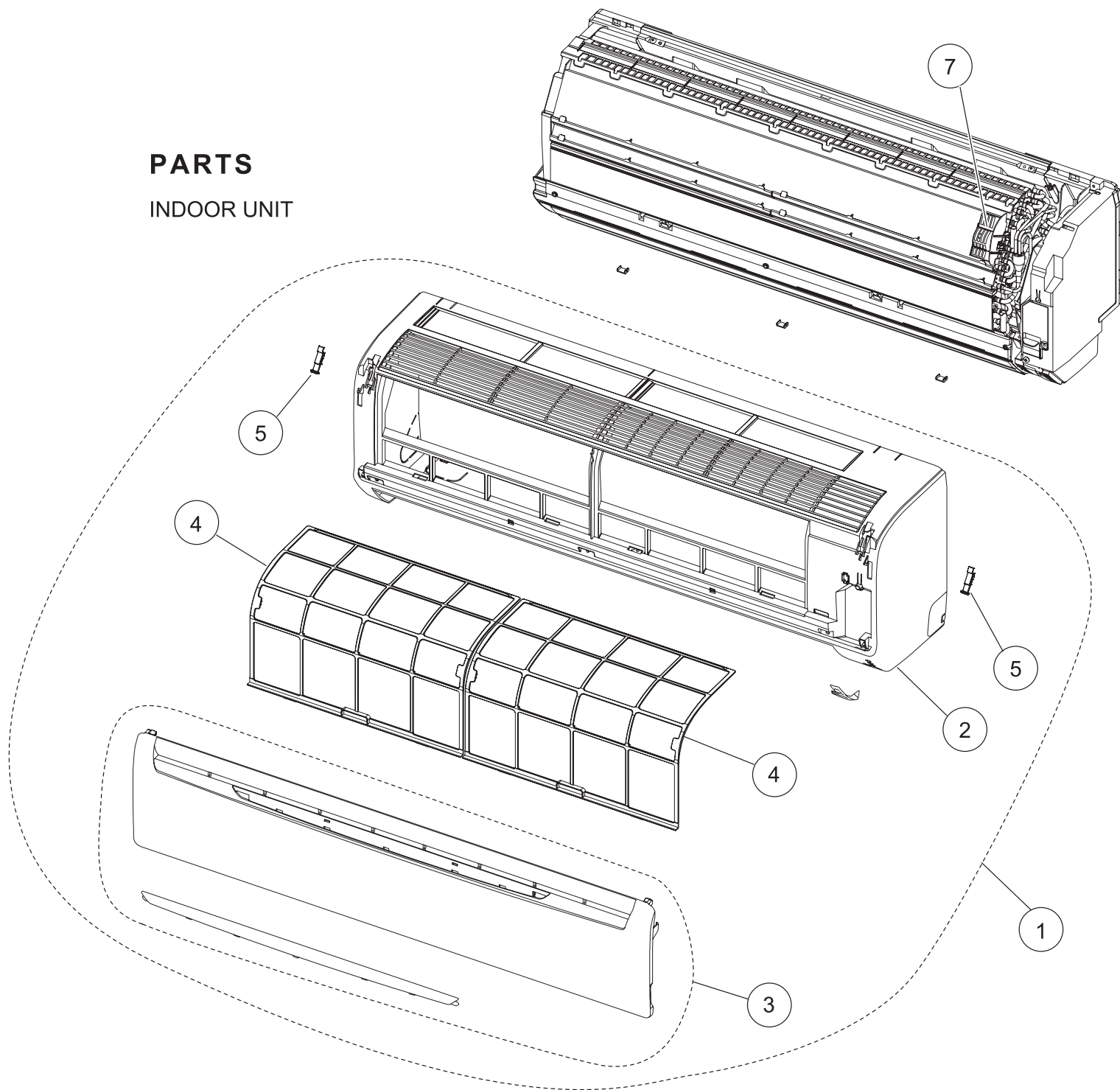
Error	Display		Error
	Operation LED	Timer LED	
Serial signal error	Off	2 flash	Serial signal (reverse) error, at operation start up
		3 flash	Serial signal (reverse) error, during operation
		4 flash	Serial signal (forward) error, at operation start up
		5 flash	Serial signal (forward) error, during operation
		8 flash	Wired remote controller error
Indoor unit thermistor error	2 flash	2 flash	Indoor temperature thermistor open / short
		3 flash	Heat exchanger middle thermistor open / short
Outdoor unit thermistor error	3 flash	2 flash	Discharge thermistor open / short
		3 flash	Heat exchanger thermistor open
		4 flash	Outdoor temperature thermistor open / short
Indoor unit control error	4 flash	2 flash	Forced automatic SW welded
		3 flash	Main relay welded
		4 flash	Power interruption error
		7 flash	VDD permanent stop protection
		8 flash	reverse VDD permanent stop protection
Outdoor unit control error	5 flash	2 flash	Current trip error
		3 flash	CT abnormal
		5 flash	Compressor location detection error
		6 flash	Outdoor unit fan drive system abnormal
Indoor fan motor error	6 flash	2 flash	Abnormal lock
		3 flash	Abnormal rotation
Refrigerant cycle error	7 flash	2 flash	Discharge Temperature abnormal
		3 flash	Cooling high pressure abnormal rise
Optional function error	8 flash	4 flash	PFC circuit error
Model information error	0.1 sec on/off	0.1 sec on/off	Model information error

OUTDOOR UNIT

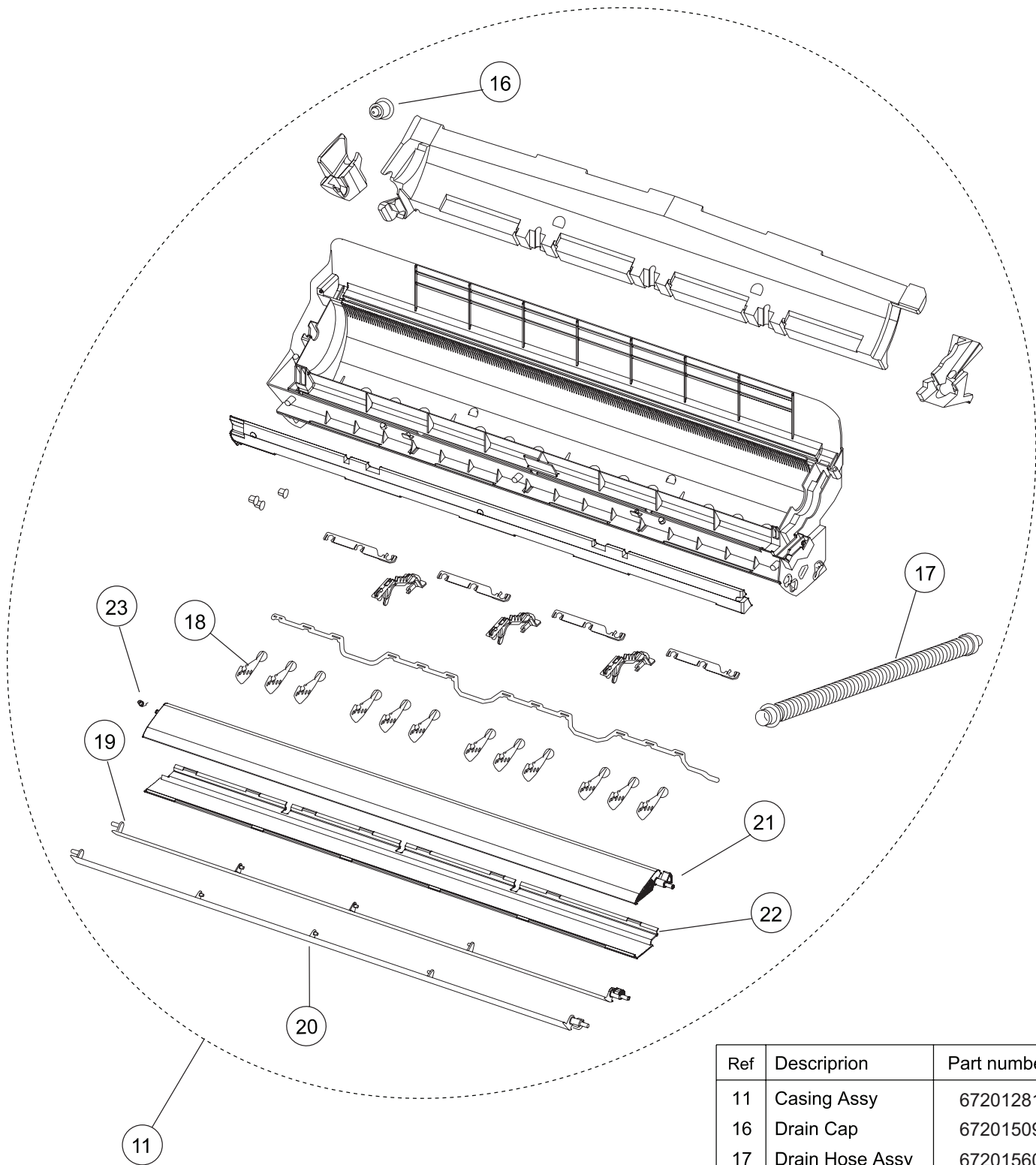
LED	ERROR
on	Discharge temperature abnormal
5.0 second on / 5.0 second off	Fan abnormal
5.0 second on / 0.1 second off	AF PAM voltage abnormal
2.0 second on / 2.0 second off	CT abnormal
0.5 second on / 0.5 second off	Trip
0.1 second on / 2.0 second off	Compressor location abnormal
0.1 second on / 0.1 second off	Thermistor abnormal

PARTS

INDOOR UNIT

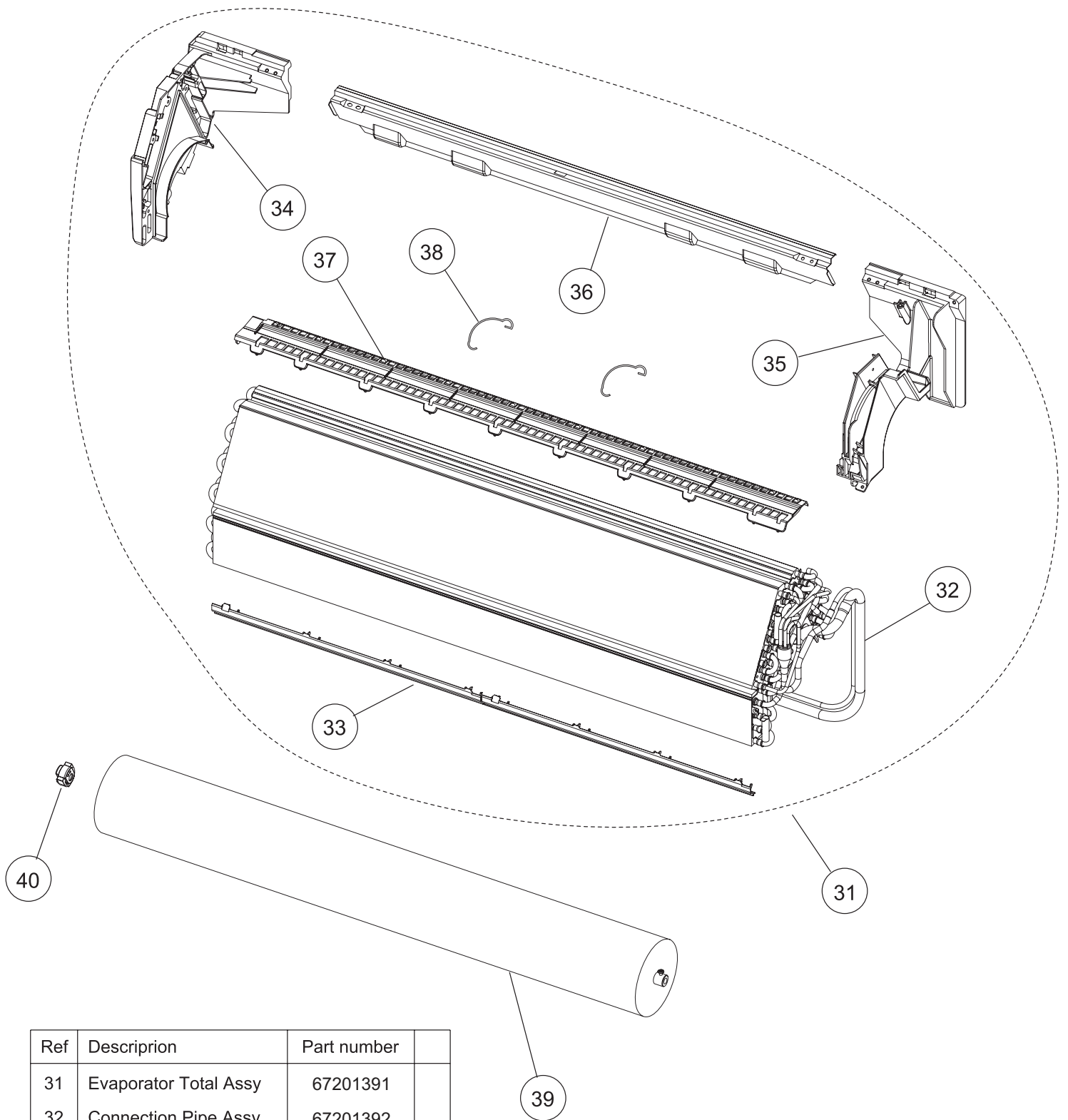


Ref	Description	Part number	
1	Front Panel Total Assy	67201500	
2	Front Panel	67201790	
3	Intake Grille Assy	67201501	
4	Air Filter	67201502	
5	Clamper Grille	67200936	
7	Room Thermistor Holder	67201280	
--	Remote Control	67201532	
--	Remote Control Holder	67201533	



INDOOR UNIT

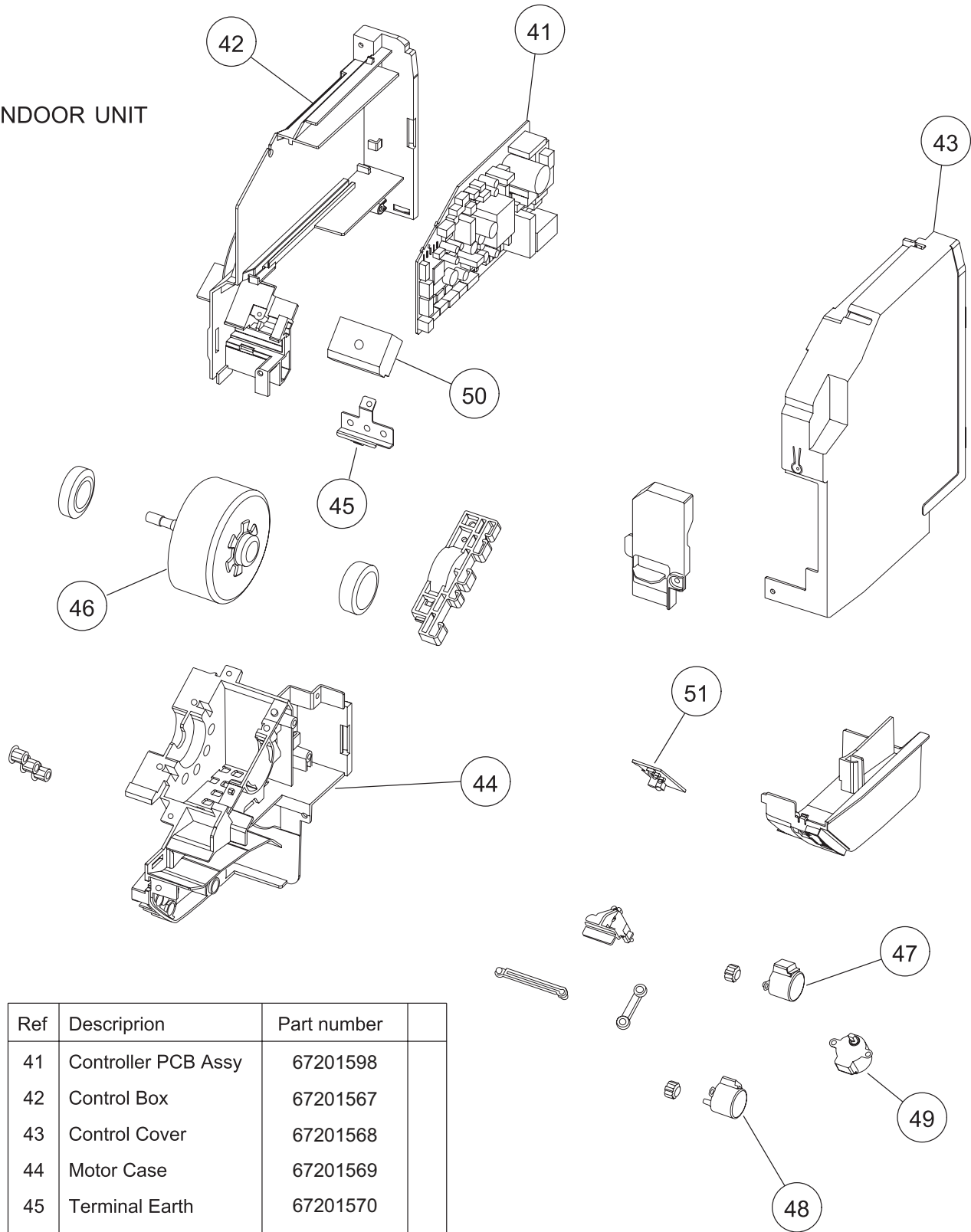
Ref	Description	Part number	
11	Casing Assy	67201281	
16	Drain Cap	67201509	
17	Drain Hose Assy	67201560	
18	R and L Louver	67201506	
19	Louver U	67201565	
20	Louver Z	67201566	
21	Diffuser U	67201562	
22	Diffuser Z	67201563	
23	Spring C	67201564	
--	Fan Guard	67201271	
--	Fan Guard Holder R	67201289	
--	Fan Guard Holder L	67201290	



INDOOR UNIT

Ref	Description	Part number	
31	Evaporator Total Assy	67201391	
32	Connection Pipe Assy	67201392	
33	Water Seal	67201552	
34	Evaporater Holder R	67201515	
35	Evaporater Holder L	67201516	
36	Rear Bracket	67201553	
37	Filter Guide	67201554	
38	Filter Guard	67201555	
39	Crossflow Fan Assy	67201504	
40	Bearing C Assy	67200922	

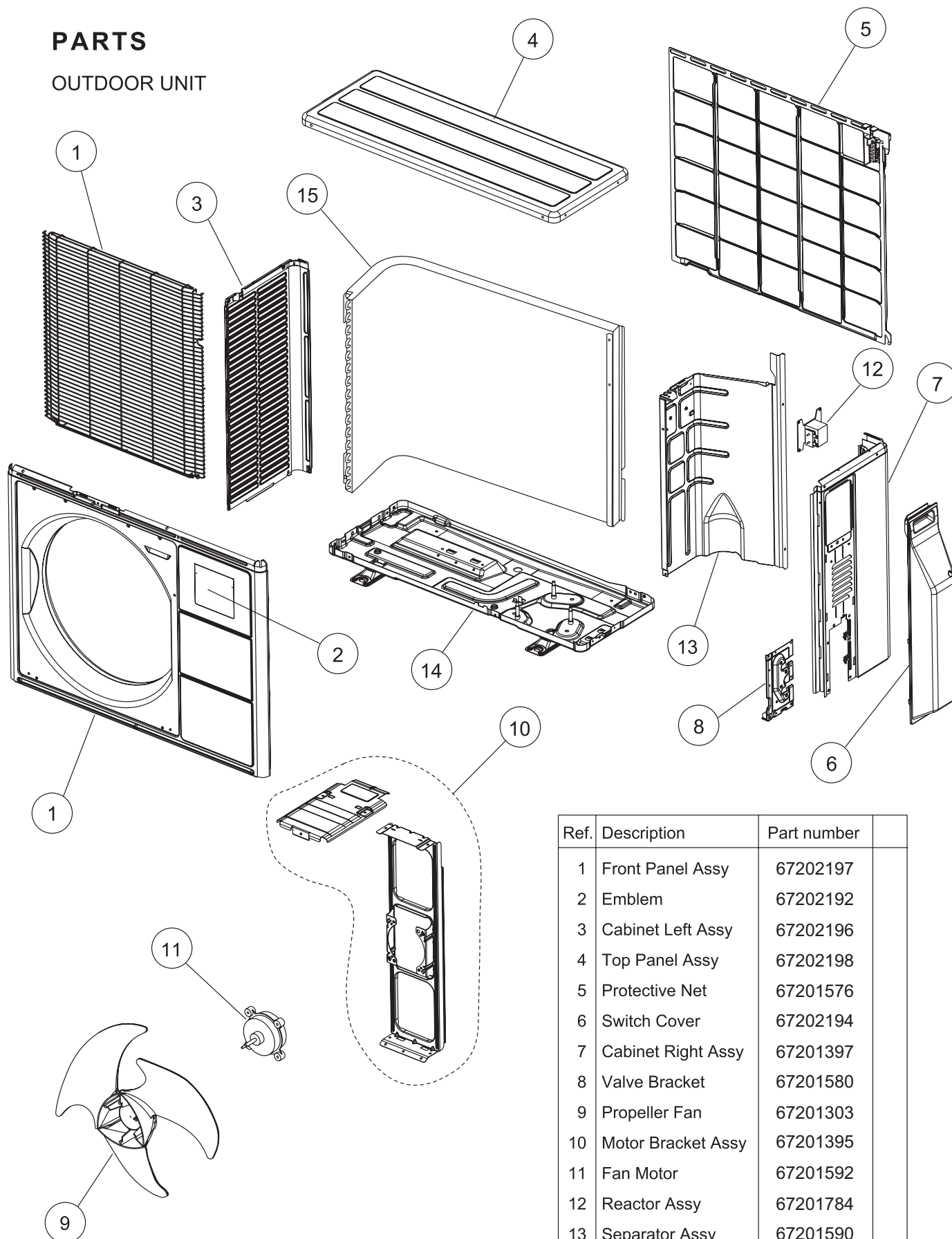
INDOOR UNIT



Ref	Description	Part number
41	Controller PCB Assy	67201598
42	Control Box	67201567
43	Control Cover	67201568
44	Motor Case	67201569
45	Terminal Earth	67201570
46	DC Brushless Motor	67201571
47	Motor, Step	67201526
48	Motor, Step	67201527
49	Motor, Step	67201528
50	Terminal	67201381
51	Indicator PCB Assy	67201530
--	Pipe Thermistor	67201574

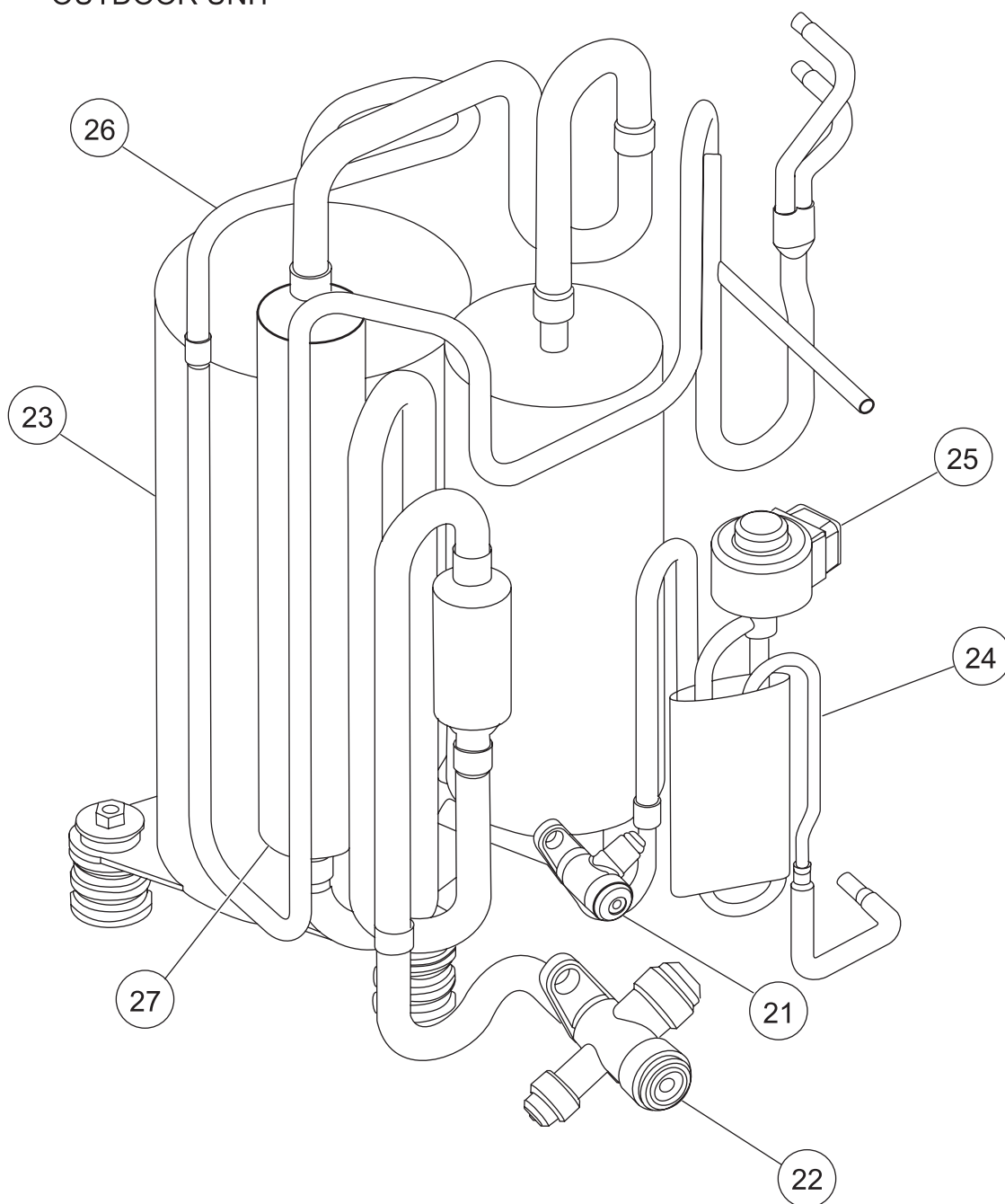
PARTS

OUTDOOR UNIT

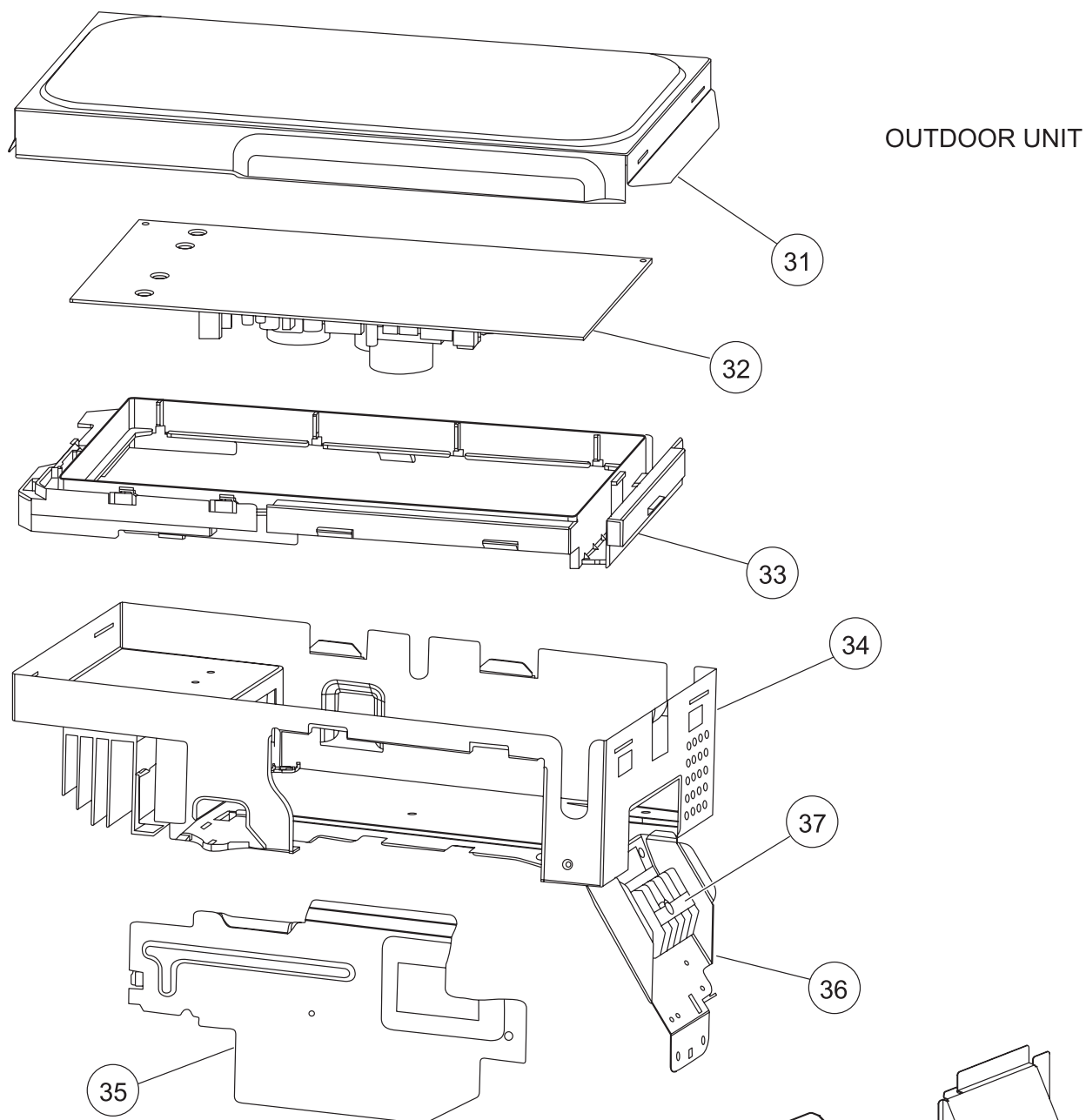


Ref.	Description	Part number
1	Front Panel Assy	67202197
2	Emblem	67202192
3	Cabinet Left Assy	67202196
4	Top Panel Assy	67202198
5	Protective Net	67201576
6	Switch Cover	67202194
7	Cabinet Right Assy	67201397
8	Valve Bracket	67201580
9	Propeller Fan	67201303
10	Motor Bracket Assy	67201395
11	Fan Motor	67201592
12	Reactor Assy	67201784
13	Separator Assy	67201590
14	Base Assy	67201399
15	Condencer Total Assy	67201392

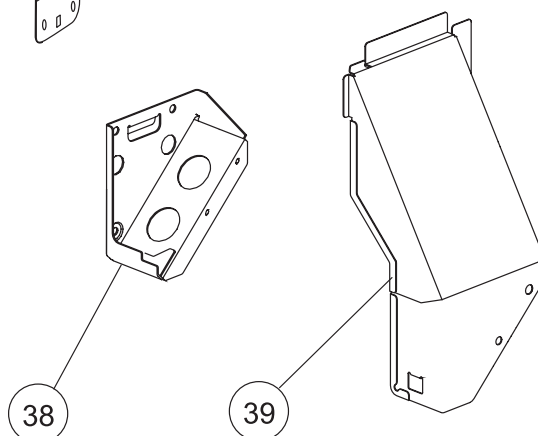
OUTDOOR UNIT



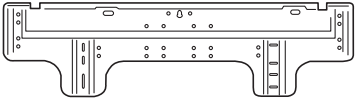
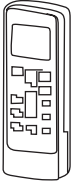
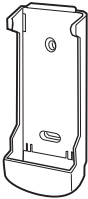
Ref	Description	Parts number	
21	2-way Valve Assy	67201316	
22	3-way Valve Assy	67201583	
23	Compressor Assy	67201591	
24	Pulse Motor Valve Assy	67201579	
25	Expansion Valve Coil	67201422	
26	Discharge Pipe Assy	67201578	
27	Suction Pipe Assy	67201577	



Ref	Description	Parts number
31	Case Cover	67201386
32	PCB Assy	67201595
33	PCB Holder	67201270
34	Inverter Case Assy	67201393
35	Inverter Case Cover	67201389
36	Terminal Bracket	67202193
37	Terminal	67201593
38	Bracket Conduit	67202160
39	Terminal Cover Assy	67202195
--	Discharge Thermistor	67201599
--	Heat Exchanger Thermistor	67201687
--	Outdoor Thermistor	67201327



ACCESSORIES

Name and Shape	Part number
Wall hook bracket 	67201531
Remote control 	67201532
Remote control holder 	67201533

[illegible]



F R I E D R I C H

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