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# FRIEDRICH MR24C3F Owner's Manual

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**SPLIT TYPE  
ROOM AIR CONDITIONER  
WALL MOUNTED type**

**SERVICE  
MANUAL**

**Models**

**Indoor unit**

MW24C3F

MW24Y3F

**Outdoor unit**

MR24C3F

MR24Y3F

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# SPECIFICATIONS

INDOOR UNIT	MW24C3F	MW24Y3F
OUTDOOR UNIT	MR24C3F	MR24Y3F
COOLING CAPACITY	24,200 BTU/hr	24,200 BTU/hr
HEATING CAPACITY	-	27,600 BTU/hr

## ELECTRICAL DATA

POWER SOURCE	208 V / 230 V	208 V / 230 V
FREQUENCY	60Hz	60Hz
RUNNING CURRENT	COOLING	10.1 A
	HEATING	-
INPUT WATTS	COOLING	2,310 W
	HEATING	-
SEER	18.0	18.0
MOISTURE REMOVAL	6.3 Pts/hr (3.0 L/hr)	6.3 Pts/hr (3.0 L/hr)
AIR CIRCULATION -High	647 cfm (1,100 m <sup>3</sup> /hr)	647 cfm (1,100 m <sup>3</sup> /hr)

## COMPRESSOR

TYPE	Hermetic motor compressor, 4 poles, Involute scroll type
DISCRIMINATION	5CS160 XAA23
POWER SOURCE	208 V / 230 V 60Hz
REFRIGERANT	R410A 3 lb. 8 oz ( 1,600 g )

## FAN MOTOR

POWER SOURCE	208 V / 230 V	
INDOOR UNIT	HIGH	1,310 r.p.m.
	MED	1,120 r.p.m.
	LOW	940 r.p.m.
	QUIET	830 r.p.m.
OUTDOOR UNIT	COOL	1,000 r.p.m.
	HEAT	-

## 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	22-3/4 x 31-1/8 x 12-3/8 inch
		578 x 790 x 315 mm

## WEIGHT

INDOOR UNIT	Gross / Net	40 / 31 lbs. ( 18 / 14 kg )
OUTDOOR UNIT	Gross / Net	106 / 97 lbs. ( 48 / 44 kg )

## NOISE LEVEL

INDOOR UNIT	HIGH	47 dB	C 47 dB / H 45 dB
	MED	41 dB	C 41 dB / H 41 dB
	LOW	36 dB	C 36 dB / H 36 dB
	QUIET	32 dB	C 32 dB / H 32 dB
OUTDOOR UNIT		52 dB	C 52 dB / H 53 dB

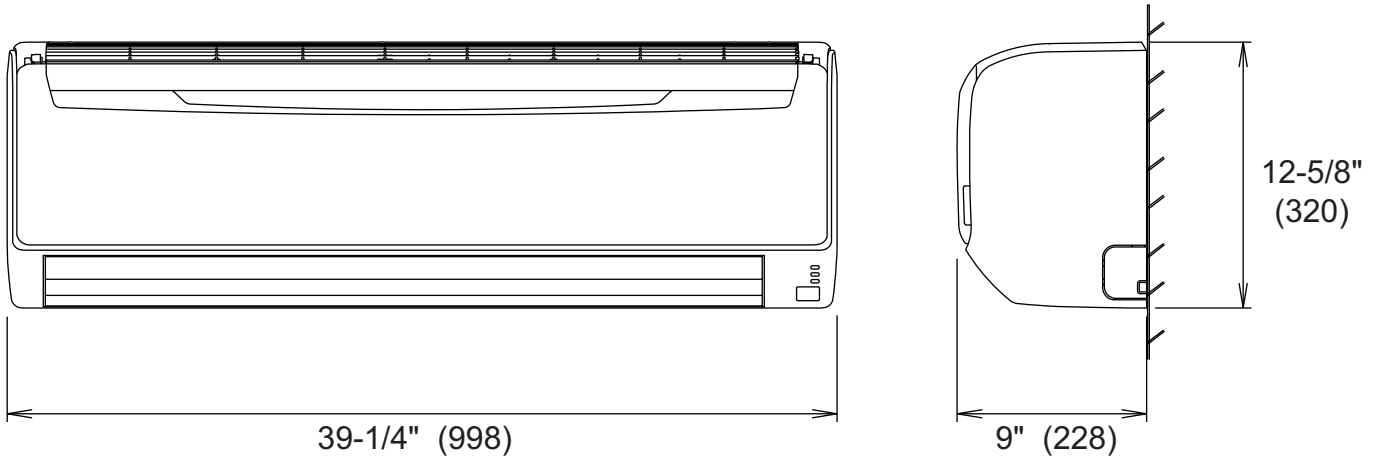
## REFRIGERANT CHARGE (R410A)

Pipe Length	15 m	3 lb. 8 oz. (1,600 g)
FULL CHARGE AMOUNT	20 m	3 lb. 12 oz. (1,700 g)
	25 m	3 lb. 15 oz. (1,800 g)
	30 m	4 lb. 3 oz. (1,900 g)
ADDITIONAL CHARGE		0.2 oz./ft. (20 g / m)

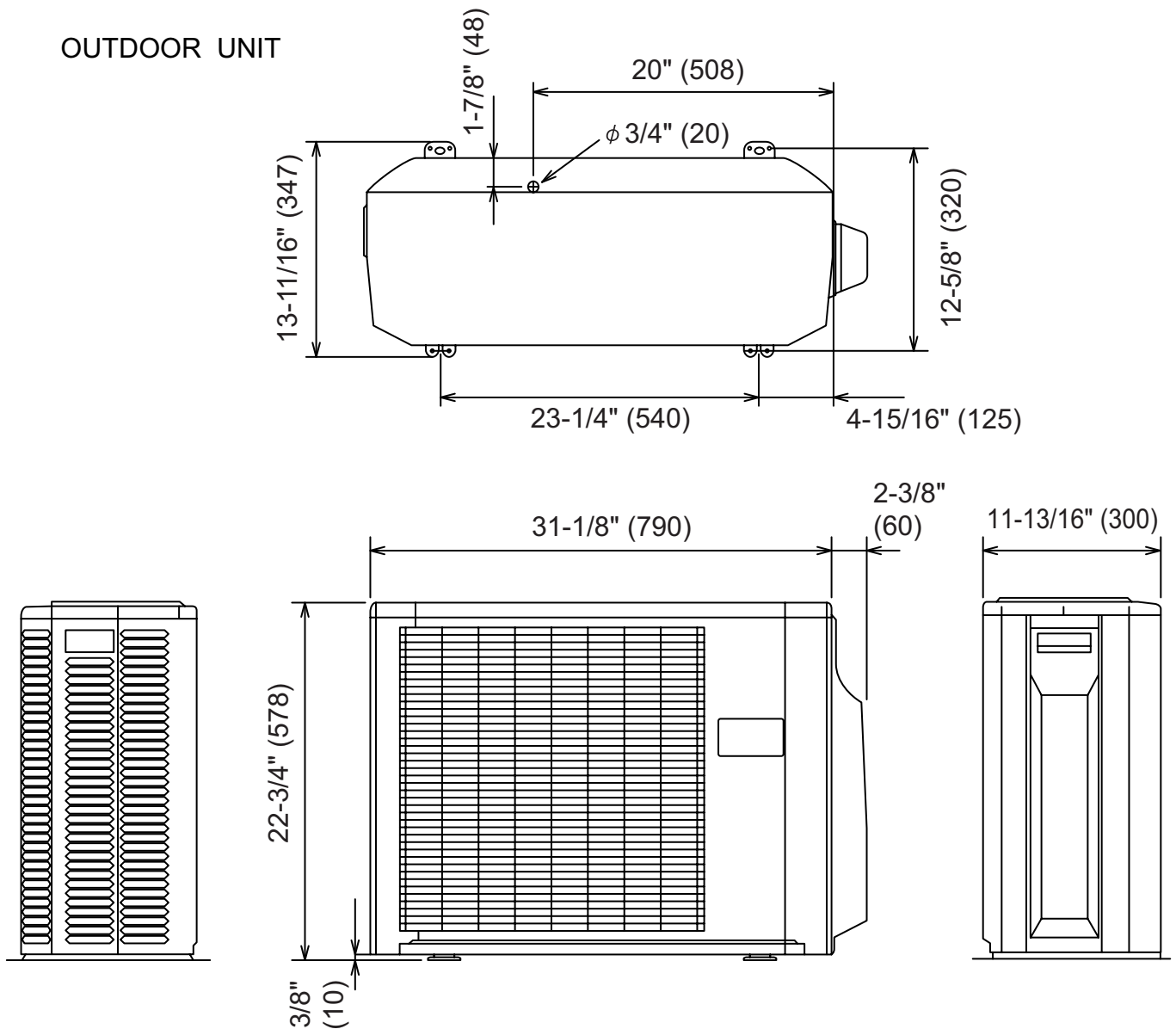
# OUTLINE AND DIMENSIONS

Unit : inch (mm)

## INDOOR UNIT

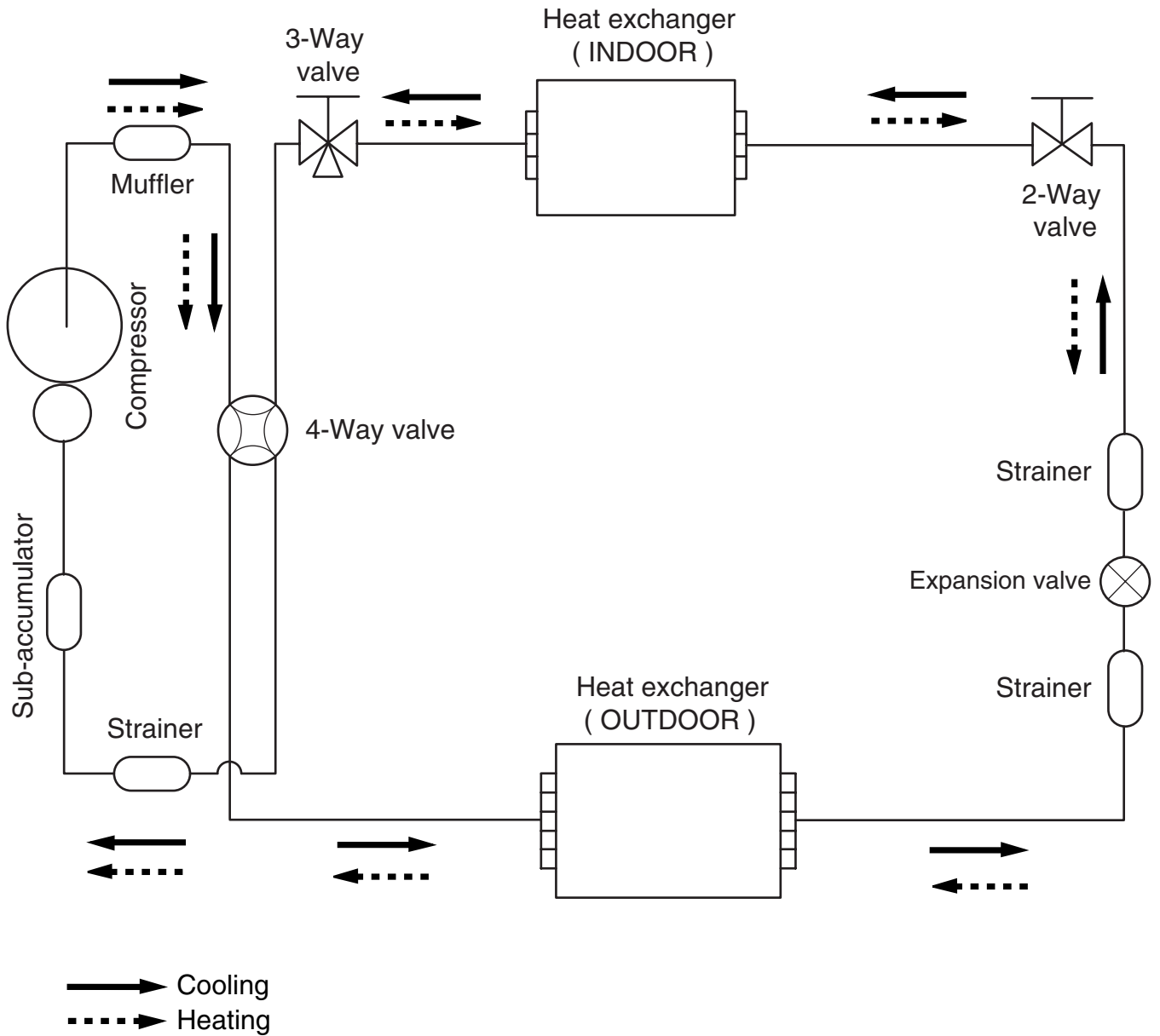


## OUTDOOR UNIT



# REFRIGERANT SYSTEM DIAGRAM

Models : MW24C3F / MR24C3F  
 MW24Y3F / MR24Y3F

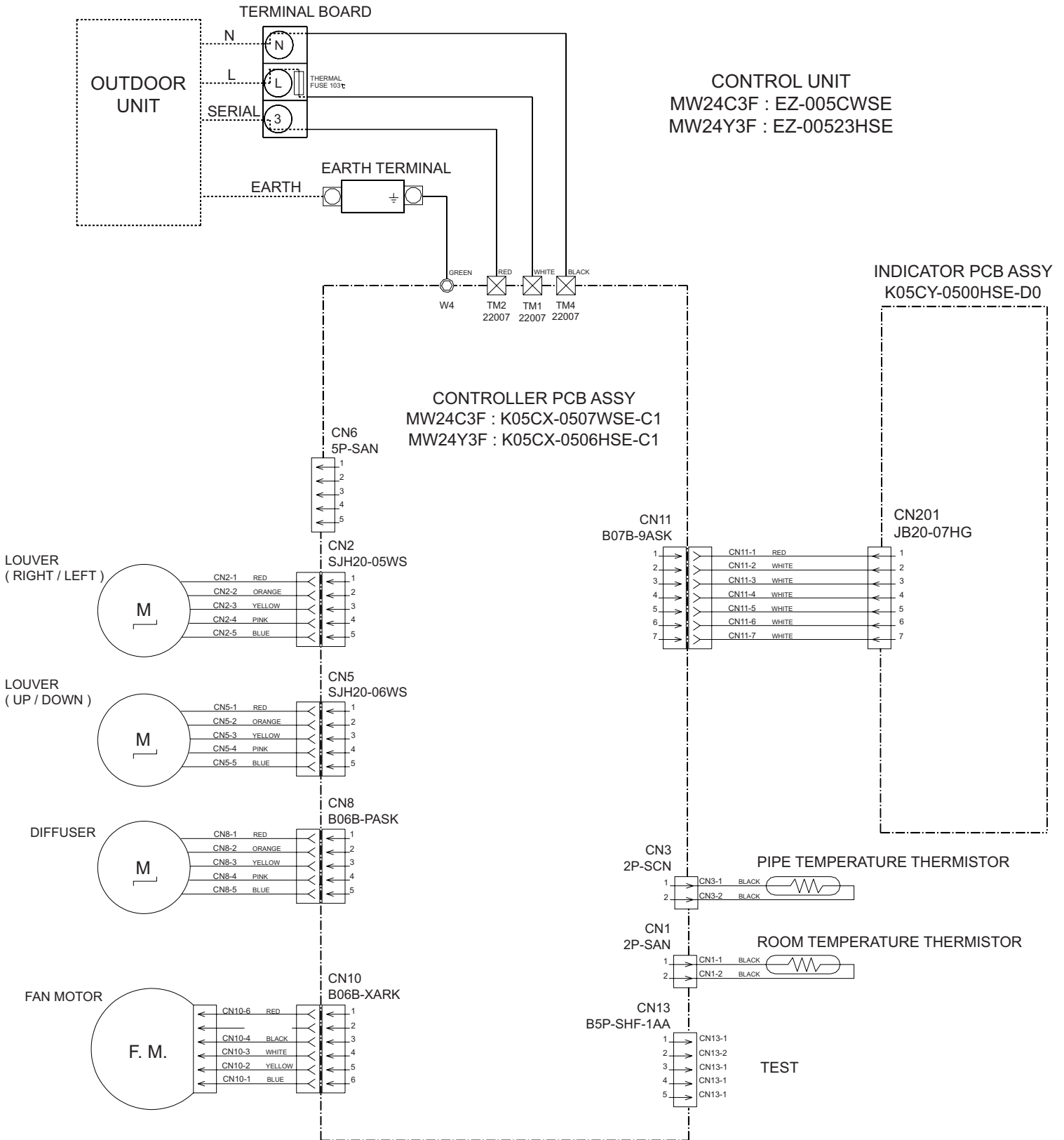


Refrigerant pipe diameter  
 Liquid : 1/4" (6.35 mm)  
 Gas : 5/8" (15.88 mm)



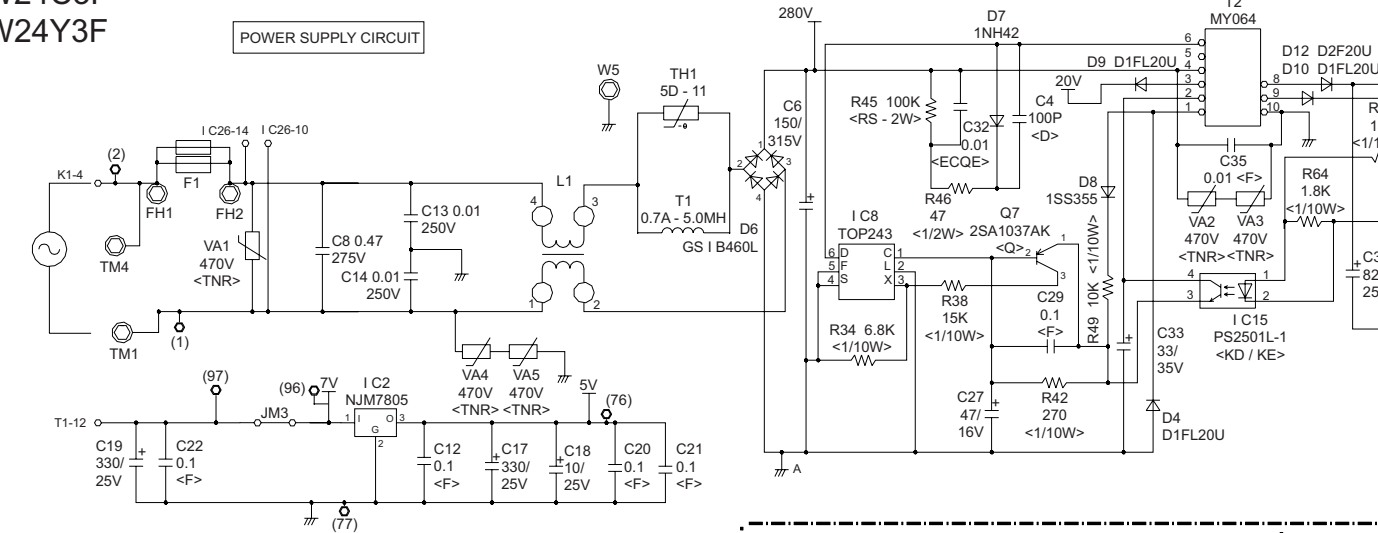
# INDOOR PCB CIRCUIT DIAGRAM

Models :  
 MW24C3F  
 MW24Y3F

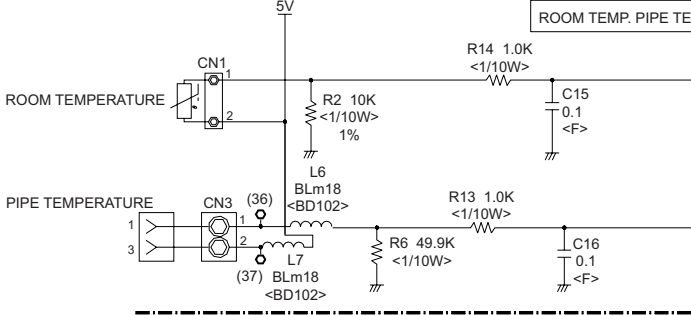


Models :  
 MW24C3F  
 MW24Y3F

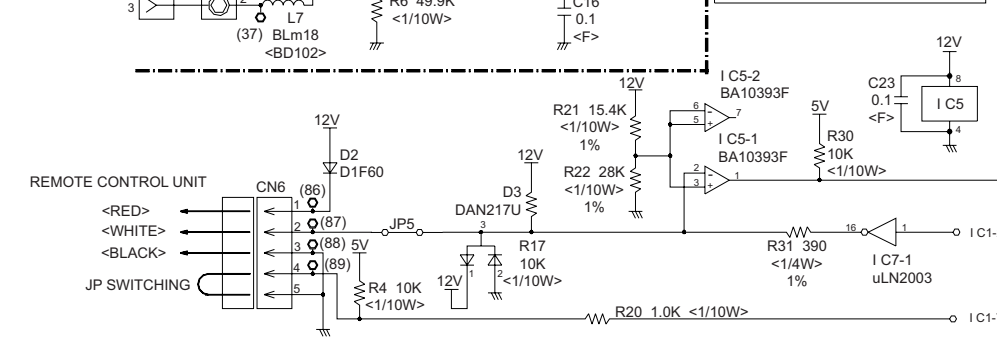
POWER SUPPLY CIRCUIT



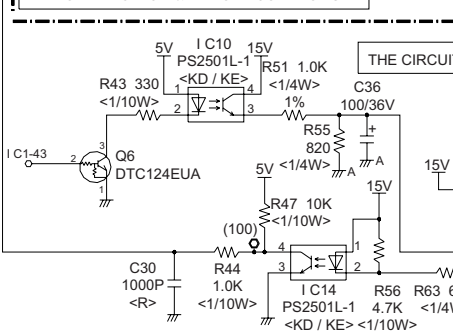
ROOM TEMP. PIPE TEMP. THERMISTOR



REMOTE CONTROL COMMUNICATION

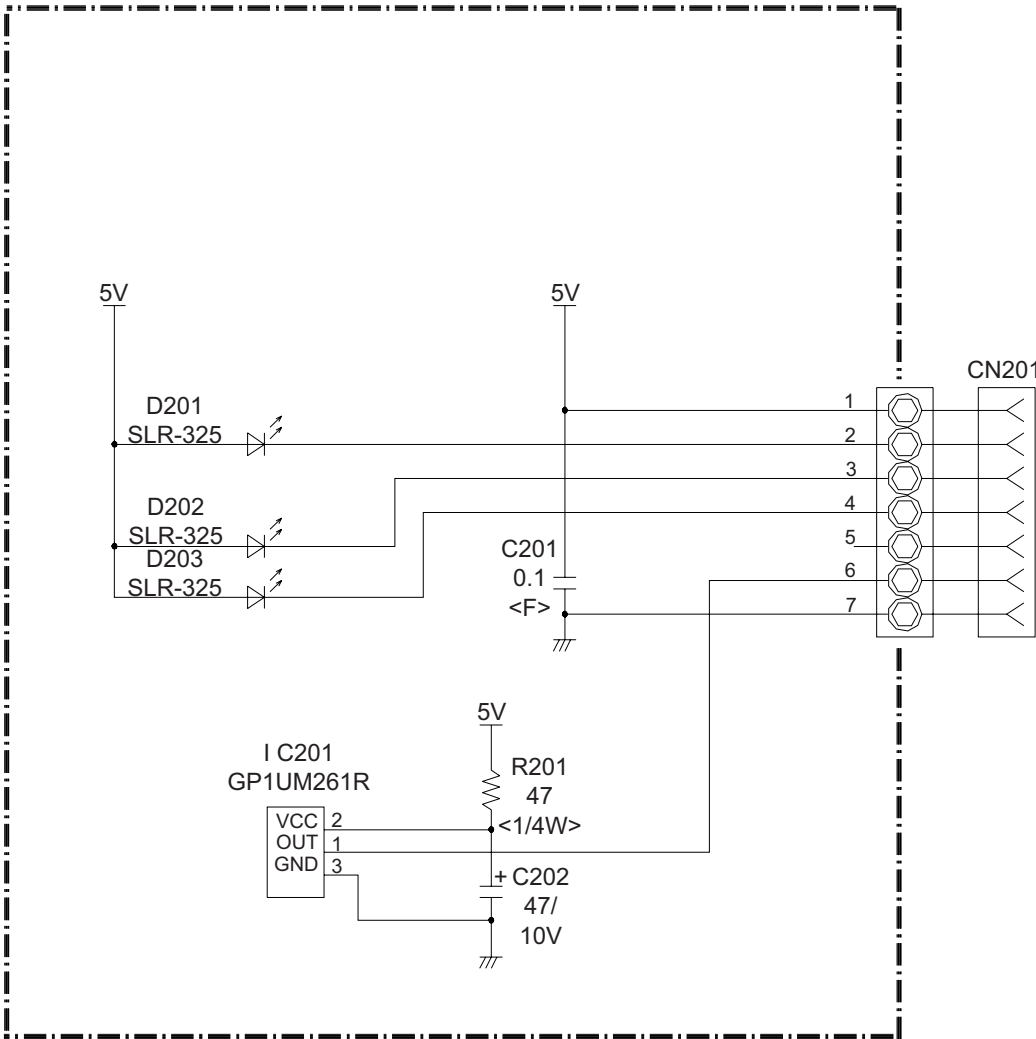


LED FOR INDICATOR & REMOTE CONTROL UNIT



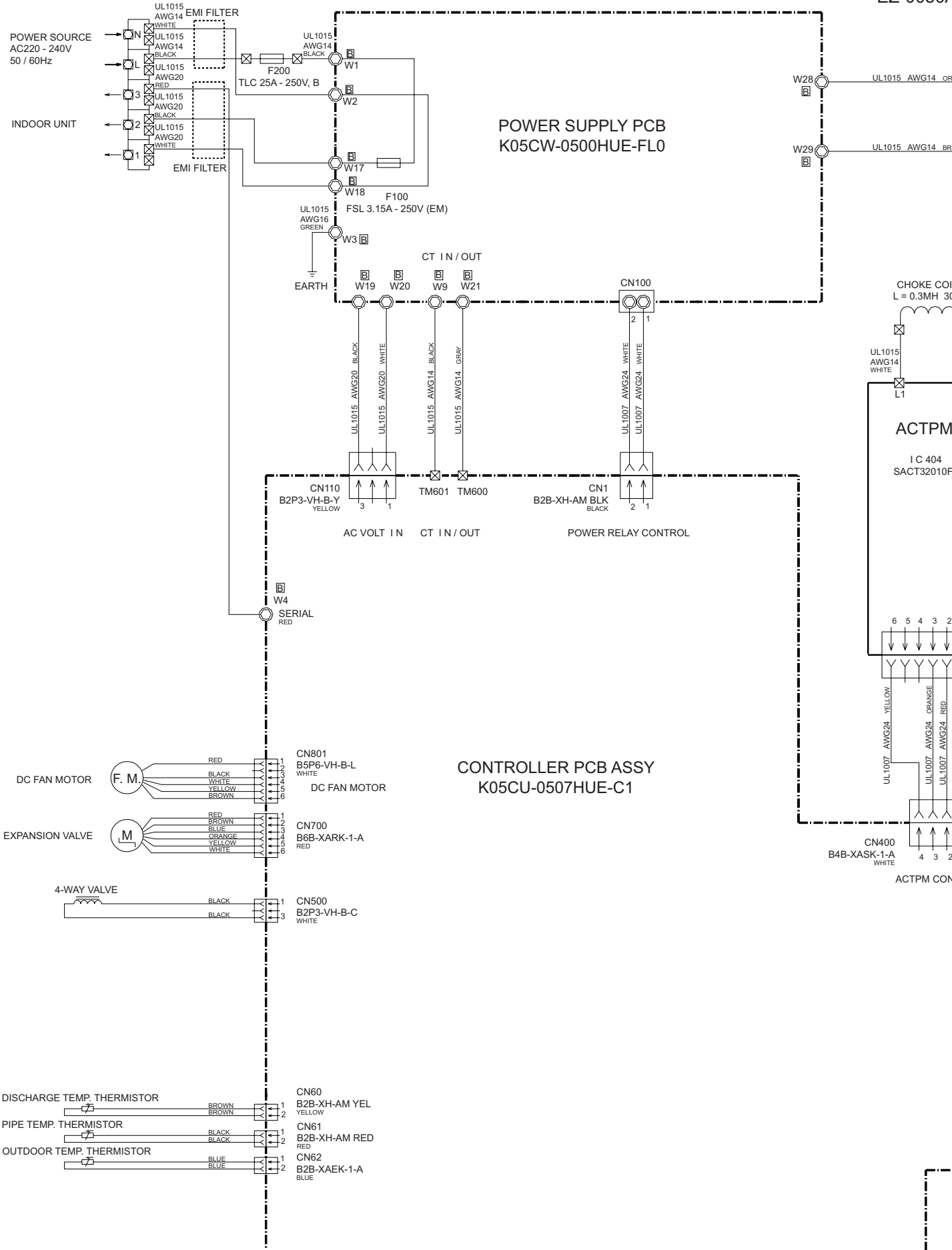
Models :  
MW24C3F  
MW24Y3F

### INDICATOR PCB ASSY K05CY-0500HSE-D0



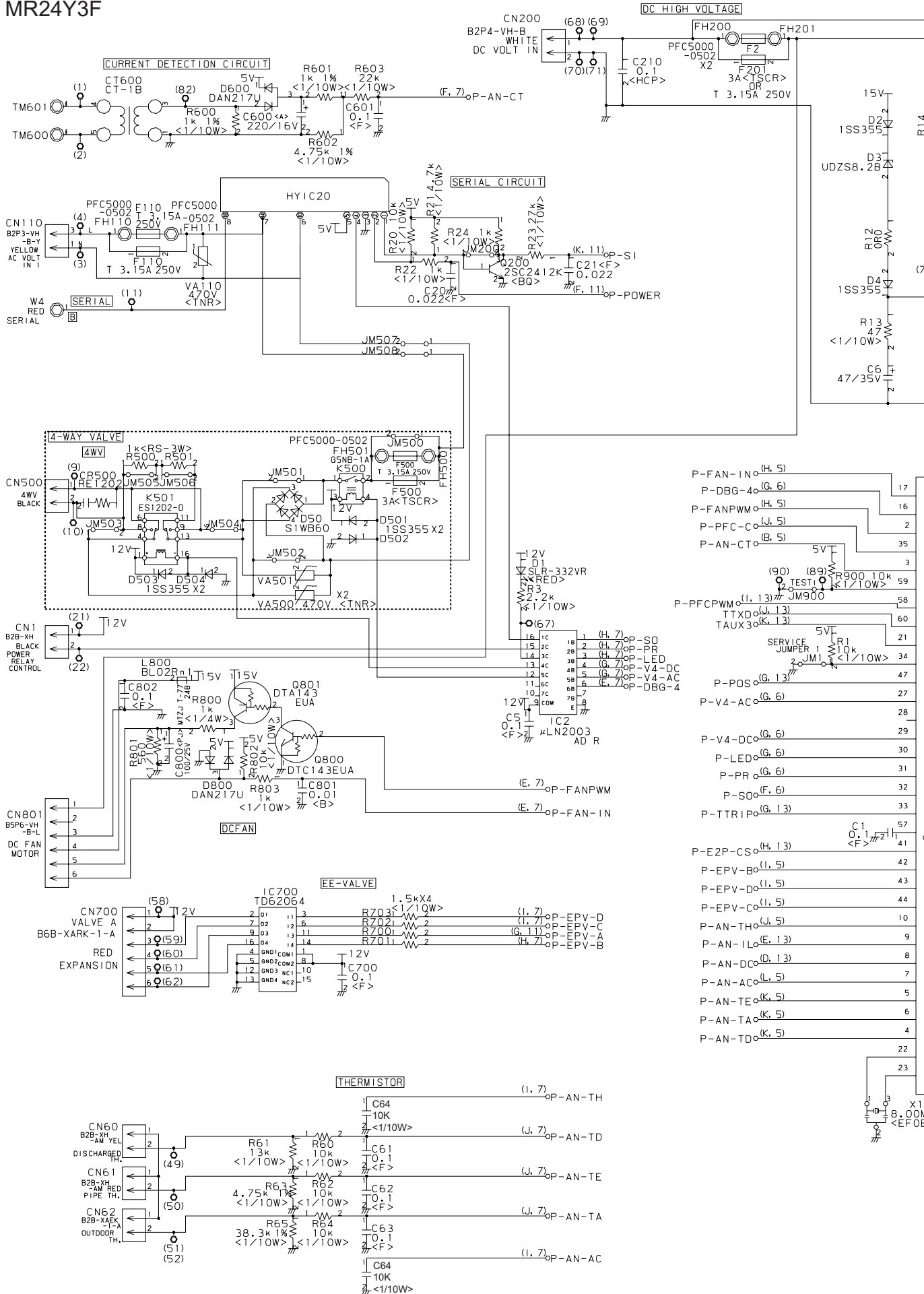
# OUTDOOR PCB CIRCUIT DIAGRAM

Models :  
MR24C3F  
MR24Y3F



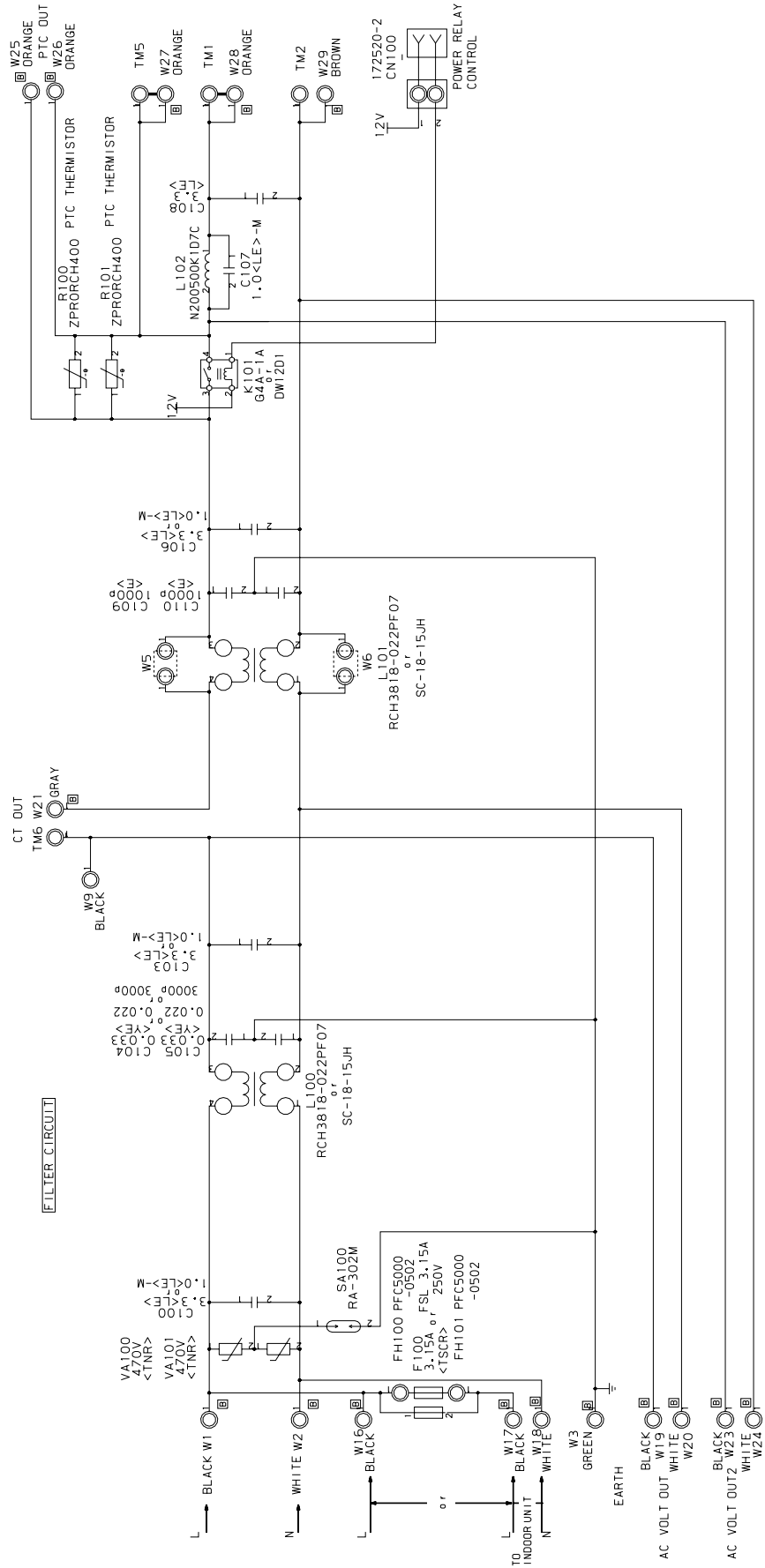
Models :  
MR24C3F  
MR24Y3F

CONTROLLER  
K05CU-0507



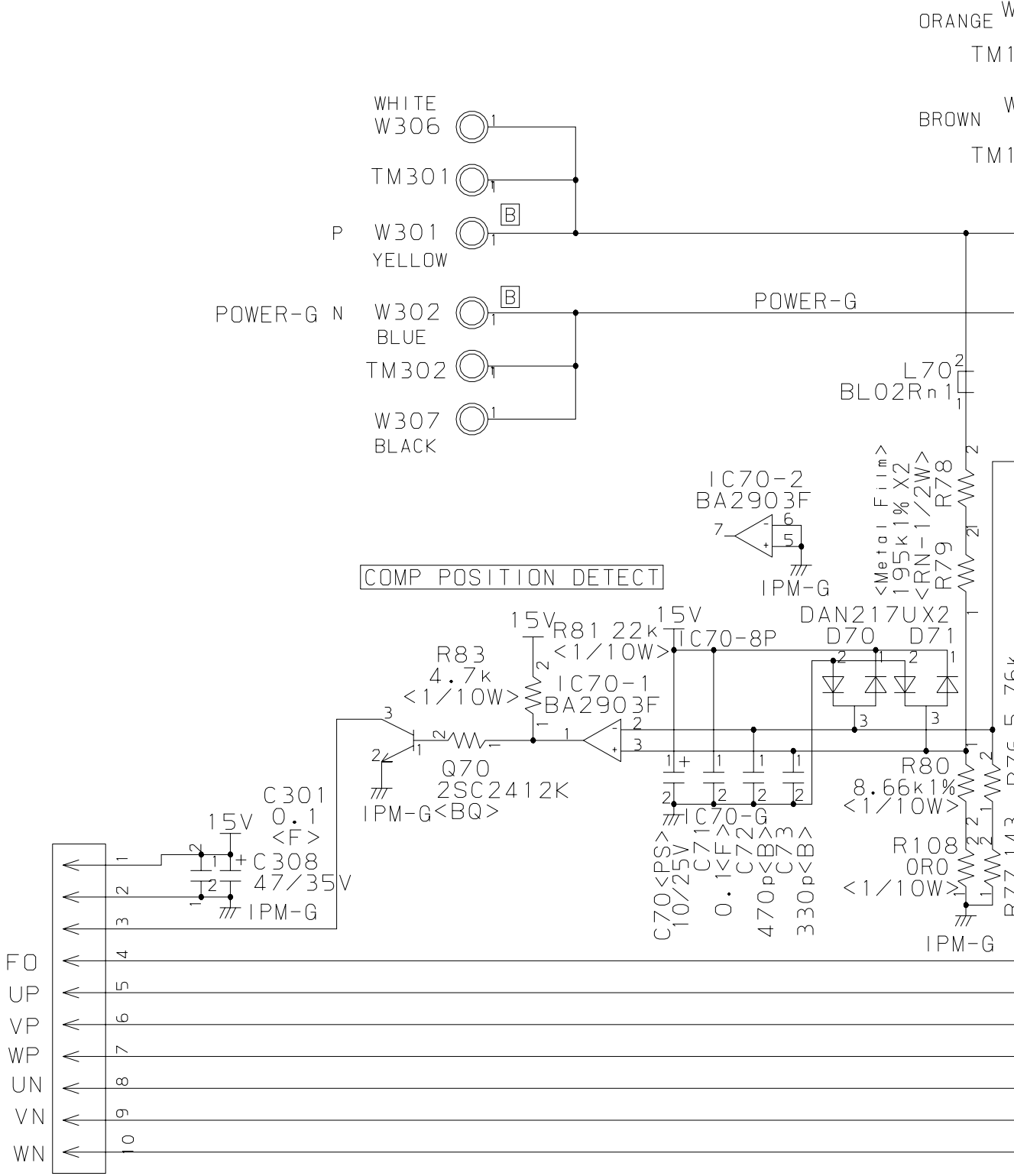
Models :  
MR24C3F  
MR24Y3F

POWER SUPPLY PCB  
K05CW-0500HUE-FLO



Models :  
 MR24C3F  
 MR24Y3F

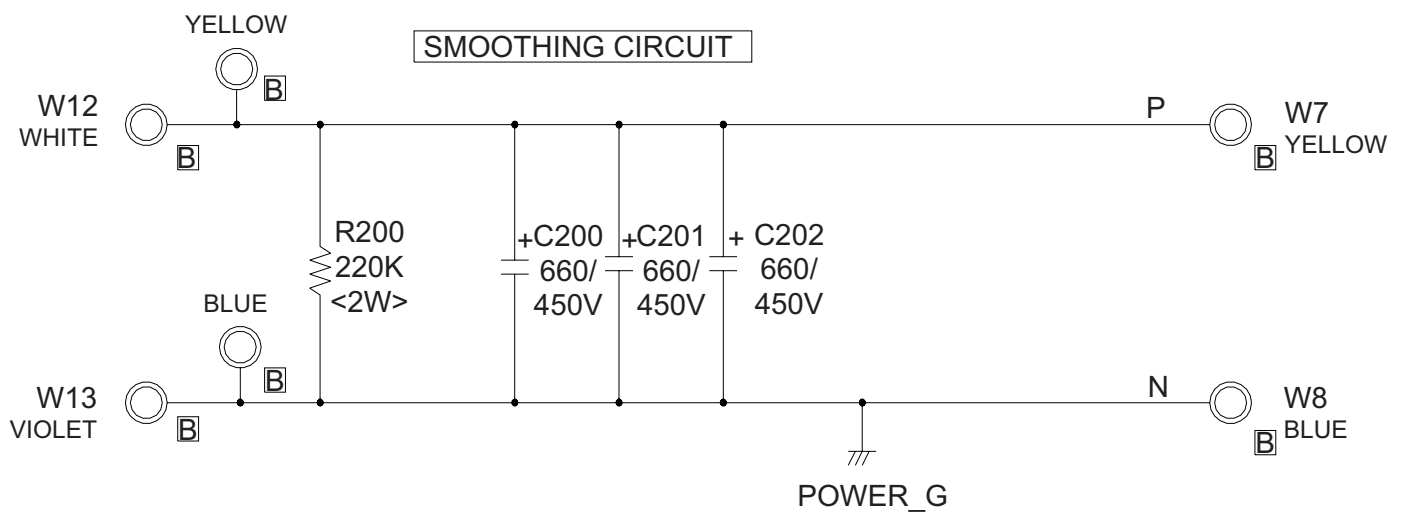
TR PCB ASSY  
 K05CZ-0500H



CN301 WHITE  
 B10B-XASK-1-A

Models :  
MR24C3F  
MR24Y3F

### CAPACITOR PCB ASSY K05DG-0500HUE-P0

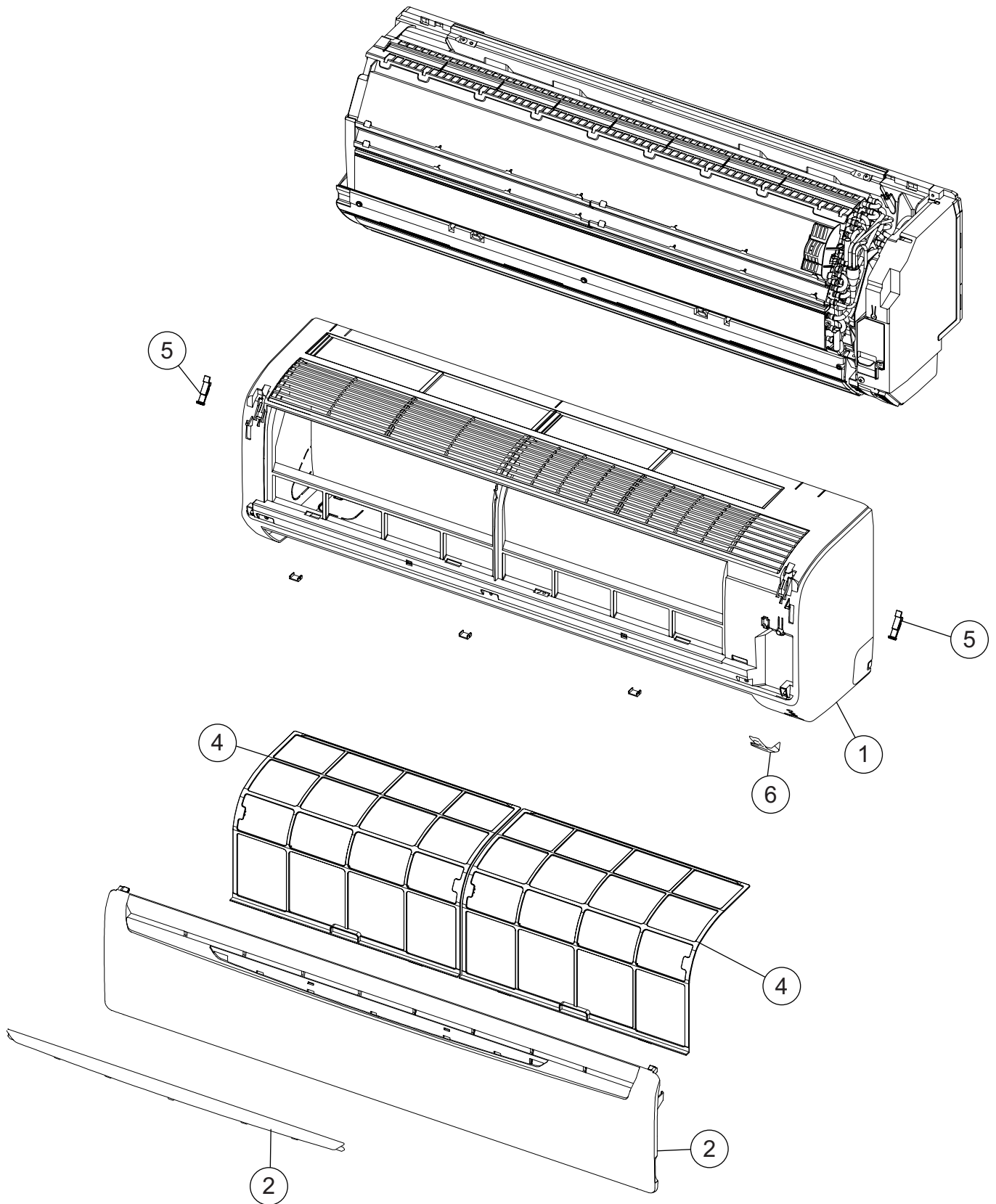


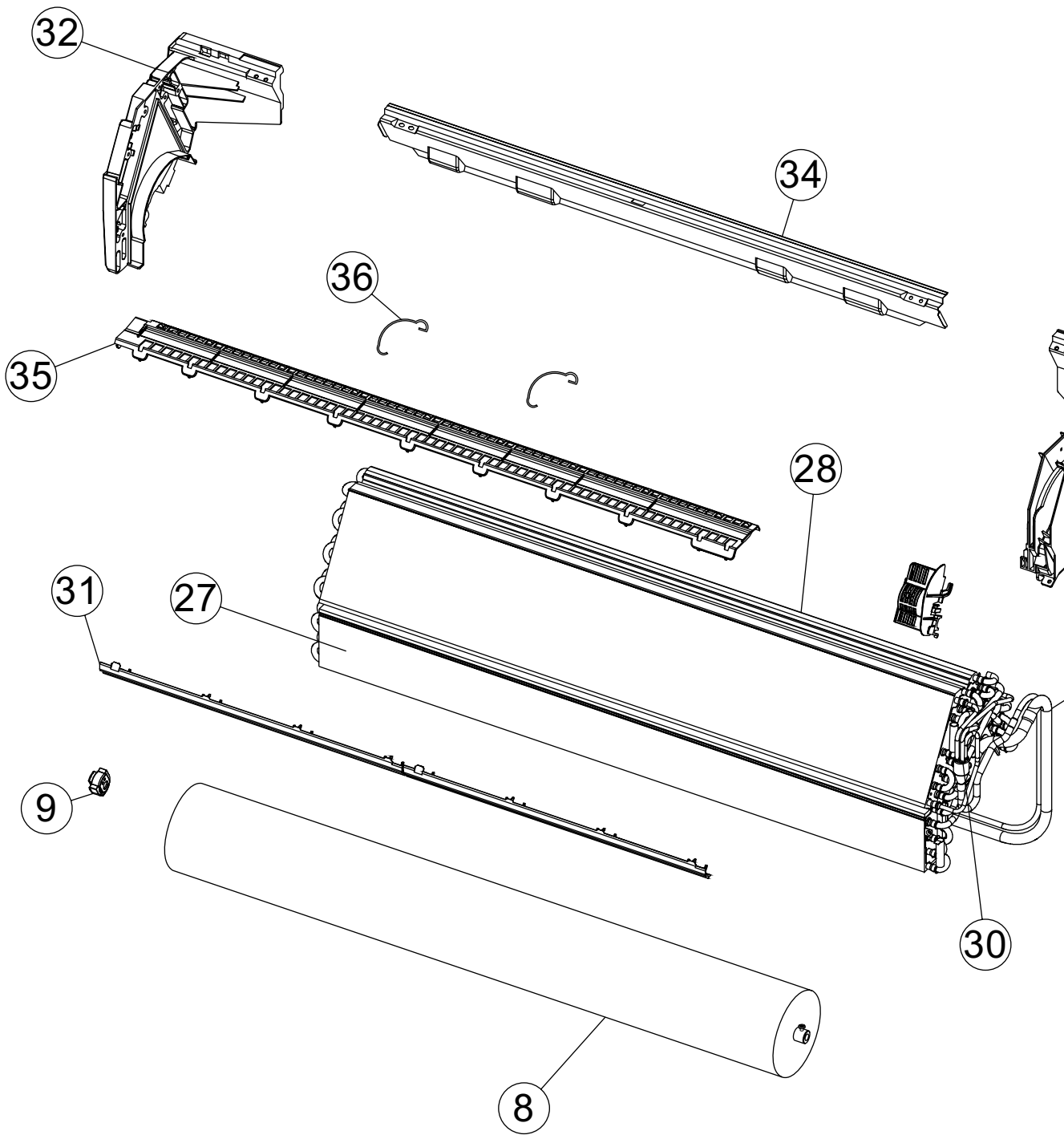
# ERROR CONTENTS

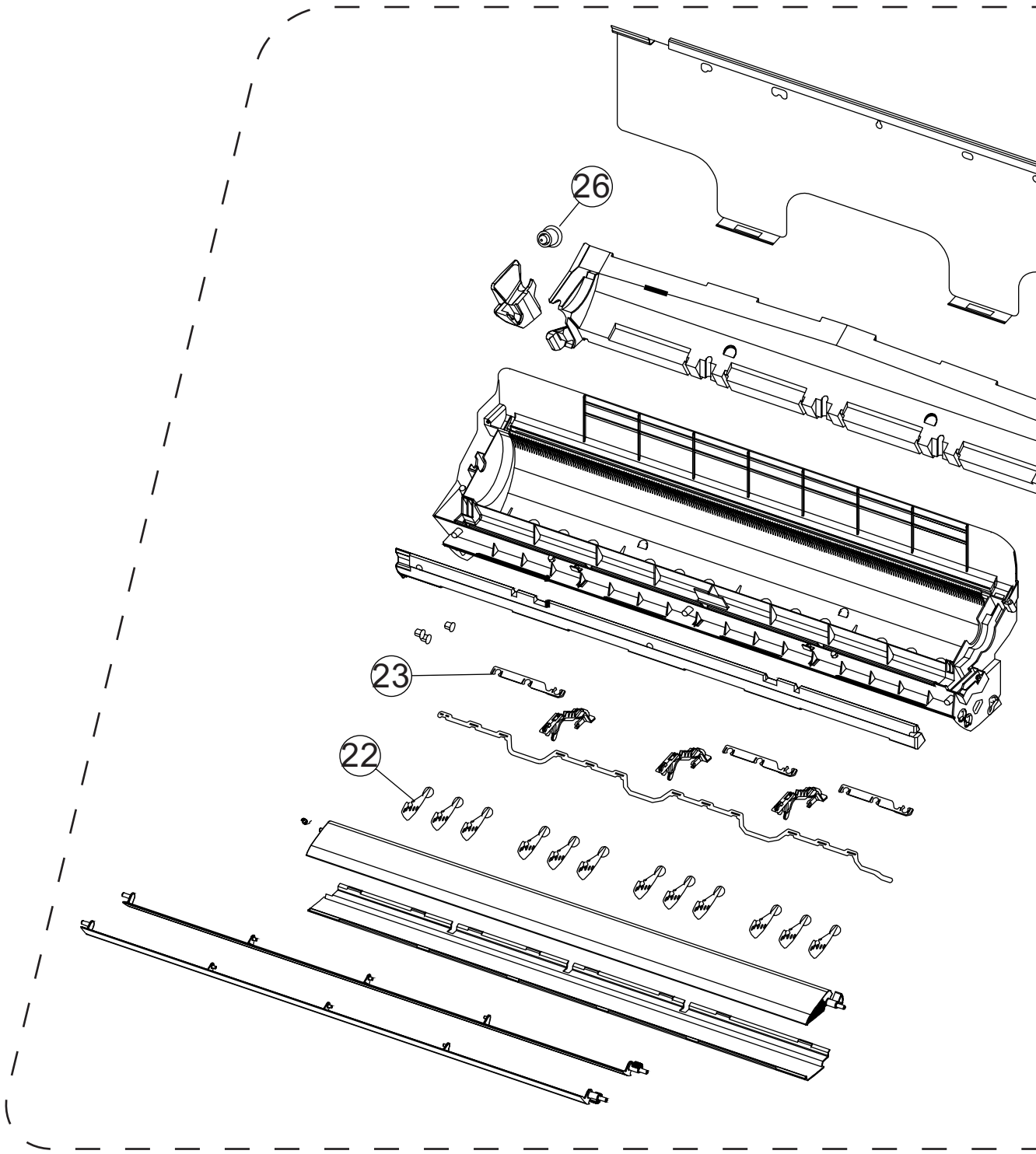
Error	Display		Error
	Operation LED	Timer LED	
Serial signal error	Normal	2 flash	Serial signal (reverse) error, at operation start up
		3 flash	Serial signal (reverse) error, during operation
		4 flash	Serial signal (forward) error, at operation start up
		5 flash	Serial signal (forward) error, during 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
		8 flash	Compressor 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
		5 flash	Pressure switch trouble
Optional function error	8 flash	2 flash	Active filter voltage trouble (second time)
		3 flash	Active filter voltage trouble (first time)
		4 flash	PFC circuit error
Model error	Blinking	Blinking	Model error

# DISASSEMBLY ILLUSTRATION

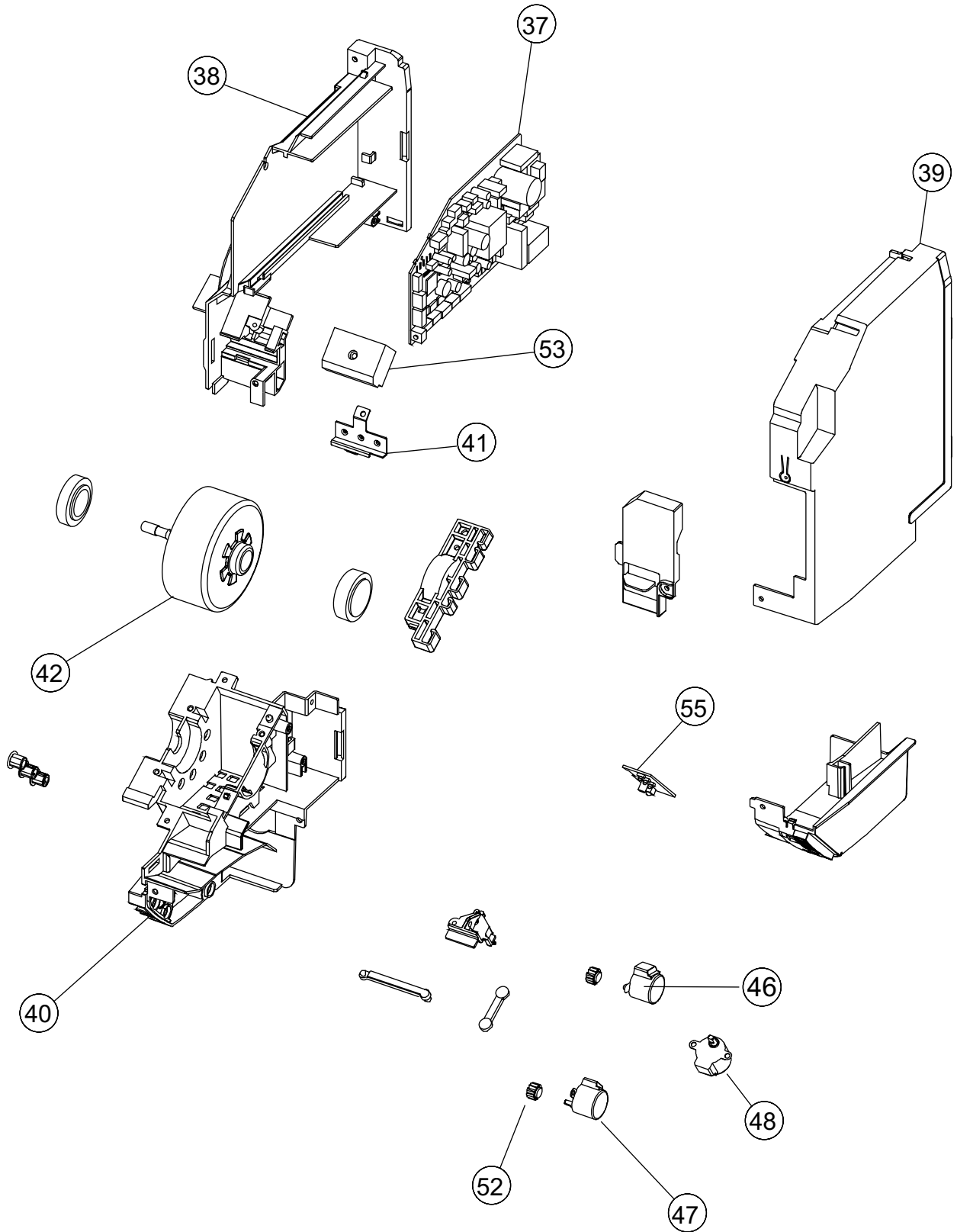
Models : MW24C3F, MW24Y3F



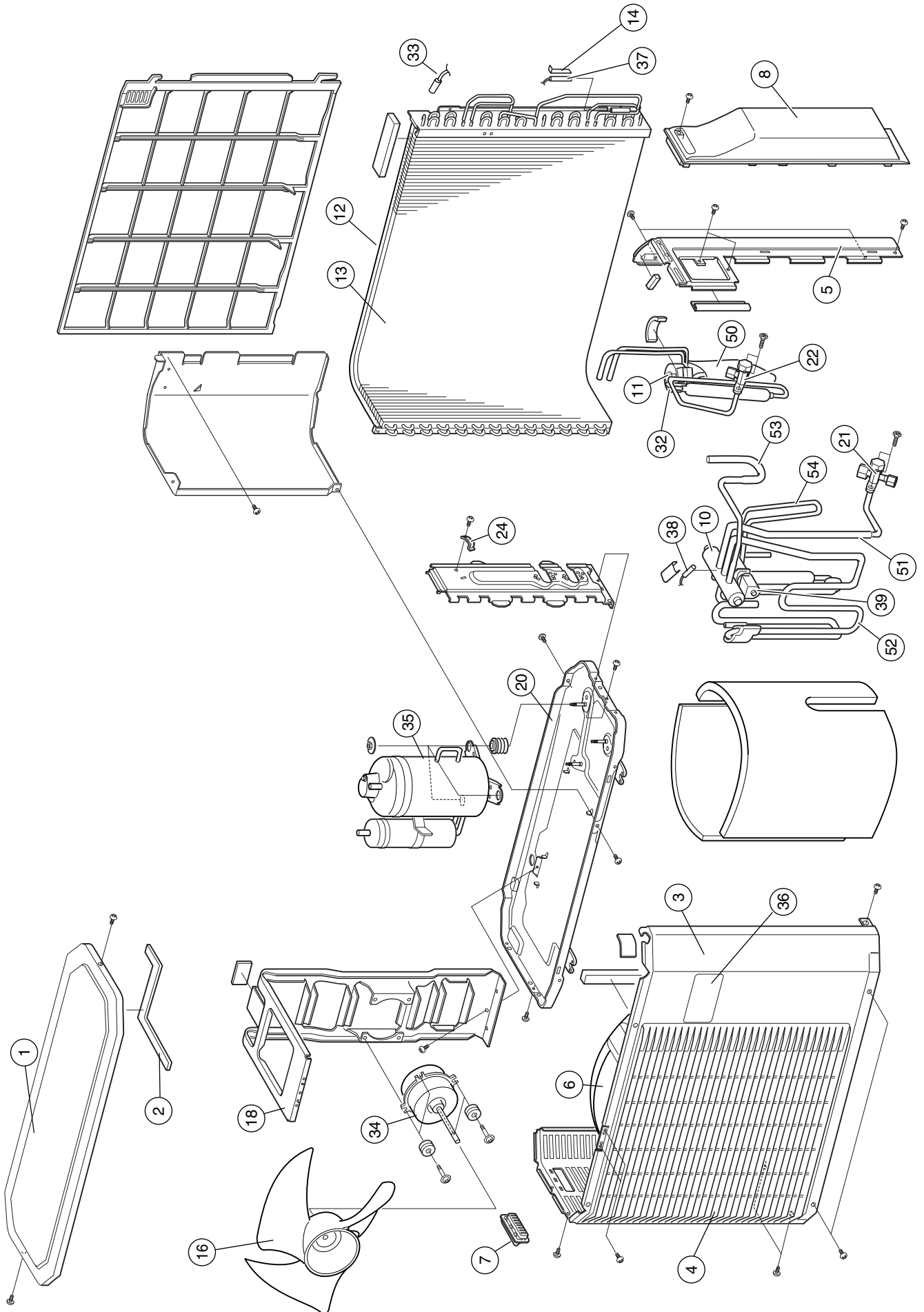




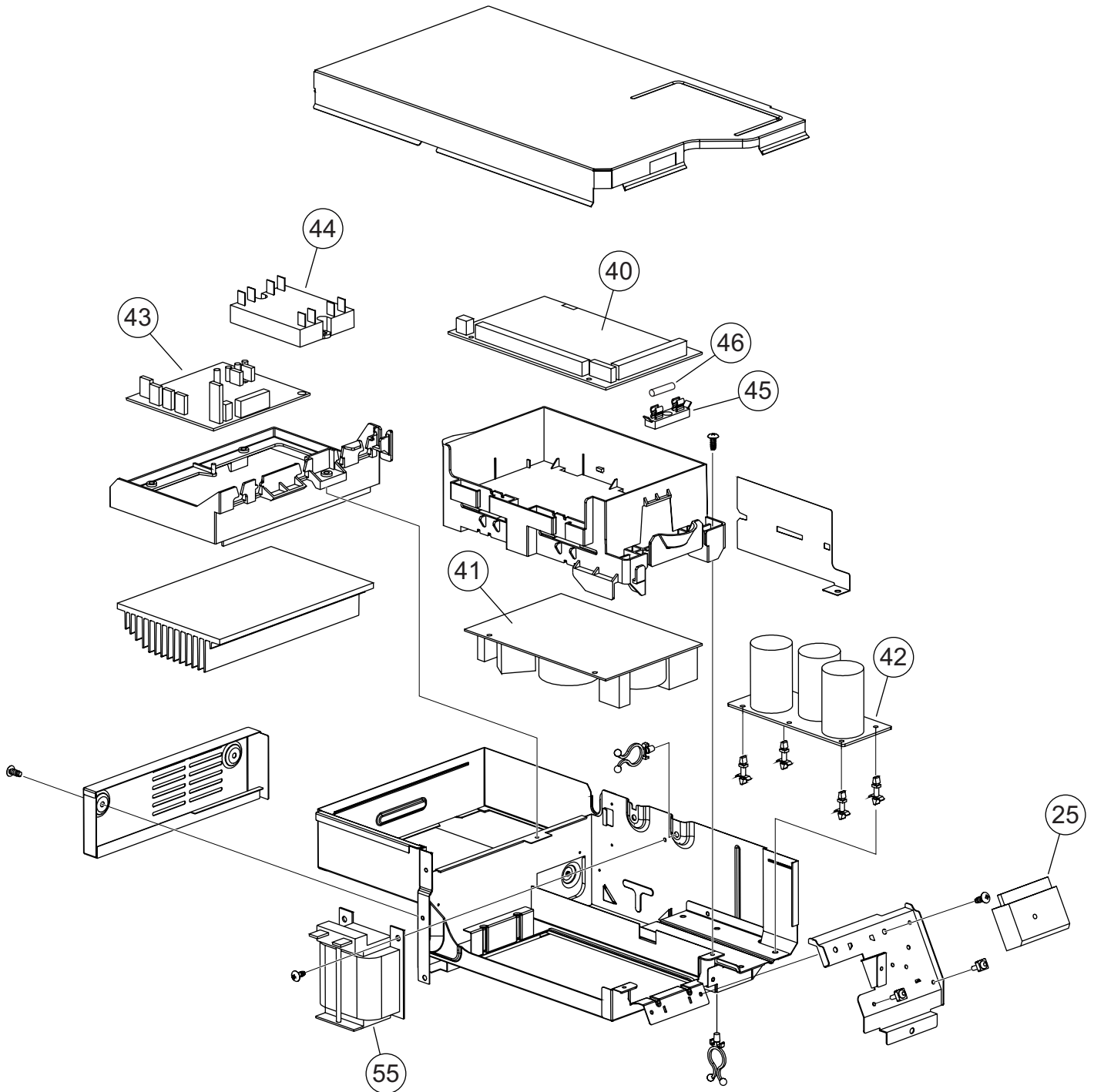
Models : MW24C3F, MW24Y3F



Models : MR24C3F, MR24Y3F



Models : MR24C3F, MR24Y3F



# PARTS LIST

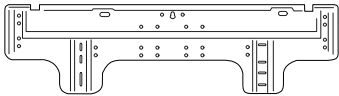

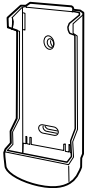

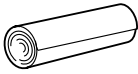


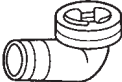
## INDOOR UNIT

Ref. No	Description	Part No.		Ord. Q'ty
		MW24C3F	MW24Y3F	
1	Front Panel Total Assy	67201500	67201540	
2	Intake Grille Assy	67201501	67201501	
4	Air Filter	67201502	67201502	
5	Clamper Grille	67200936	67200936	
6	Receiver Window	67201503	67201503	
8	Crossflow Fan Assy	67201504	67201504	
9	Bearing C Assy	67200922	67200922	
10	Casing Assy	67201541	67201541	
22	R and L Louver	67201506	67201506	
23	SpacerB	67201507	67201507	
26	Drain Cap	67201509	67201509	
27	EvaporatorAssy	67201542	67201542	
28	EvaporatorAssy B	67201511	67201511	
29	Connection Pipe Assy	67201543	67201543	
30	Distributor Assy	67201544	67201544	
31	Water Seal	67201514	67201514	
32	Evaporater Holder R	67201515	67201515	
33	Evaporater Holder L	67201516	67201516	
34	RearBracket	67201517	67201517	
35	Filter Guide	67201518	67201518	
36	Filter Guard	67201519	67201519	
37	Controller PCB Assy	67201545	67201546	
38	Control Box	67201521	67201521	
39	ControlCover	67201522	67201522	
40	MotorCase	67201523	67201523	
41	TerminalEarth	67201524	67201524	
42	DC Brushless Motor	67201525	67201525	
46	Motor, Step	67201526	67201526	
47	Motor, Step	67201527	67201527	
48	Motor, Step	67201528	67201528	
52	GearA	67201206	67201206	
53	Terminal	67201529	67201529	
55	Display PCB Assy	67201530	67201530	
-	Remote Controller	67201532	67201547	

OUTDOOR UNIT

Ref. No	Description	Part No.		Ord. Q'ty
		MR24C3F	MR24Y3F	
1	Top PanelAssy	67201400	67201400	
2	Seal(Top)	67201401	67201401	
3	CabinetSub Assy	67201440	67201440	
4	Blow Grill	67201403	67201403	
5	Cabinet Right Assy	67201441	67201441	
6	Fan Ring	67201405	67201405	
7	Grip	67201406	67201406	
8	Switch Cover Assy	67201407	67201407	
10	4-Way Valve	67201442	67201442	
11	Pulse Motor Valve	67201443	67201443	
12	CondenserAssy B	67201444	67201444	
13	CondenserAssy	67201445	67201445	
14	Thermistor Spring A	67206400	67206400	
16	PropellerFan	67201413	67201413	
18	Motor Bracket Assy	67201446	67201446	
20	Base Assy	67201447	67201447	
21	3-Way Valve Assy	67201448	67201448	
22	2-Way Valve Assy	67201449	67201449	
24	Cord Clamp	67201419	67201419	
25	Terminal, 5 Pin	67201450	67201450	
32	Expansion Valve Coil	67201422	67201422	
33	Outdoor Temp. Thermistor	67201451	67201451	
34	DC Brushless Motor	67201452	67201452	
35	Compressor Assy	67201453	67201453	
36	Emblem Rear	67201425	67201425	
37	HeatExchangerThermistor	67201454	67201454	
38	Discharge Thermistor	67201455	67201455	
39	Solenoid	67201456	67201456	
40	InverterPCB Assy	67201457	67201457	
41	PowerPCB Assy	67201458	67201458	
42	PowerPCB Assy	67201459	67201459	
43	TR PCB Assy	67201460	67201460	
44	ACTPM	67201627	67201627	
45	Fuse Holder	67201461	67201461	
46	Fuse	67201462	67201462	
50	Pulse Motor Valve Assy	67201463	67201463	
51	JNT PIPE(3WV)AS	67201464	67201464	
52	PIPE(COND OLT)AS	67201465	67201465	
53	PIPE(COND ILT)AS	67201466	67201466	
54	Discharge Pipe Assy	67201467	67201467	
55	Chock Coil	67201633	67201633	

## STANDARD ACCESSORIES

Name and Shape	Part No.
Wall hook bracket 	9315023018
Remote control unit 	9315027160 (for cooling only)  9315027153 (for heat and cool)
Remote control unit holder 	9305642045
Battery (penlight) 	0600185534
Cloth tape 	9310519004
Tapping screw (big) 	0700076046
Tapping screw (small) 	0700019036
Drain pipe 	9301102000 (for heat and cool)

0602G3029