



SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR CONSOLE /
UNDER CEILING
DUAL type

SERVICE MANUAL

Models	Indoor unit	Outdoor unit
	RY-18LA	ROT-18LA
	RY-24LA	RO-24LA



Preliminary

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SPECIFICATIONS

TYPE	Cool and Heat	
INDOOR UNIT	RY-18LA	RY-24LA
OUTDOOR UNIT	ROT-18LA	RO-24LA
COOLING CAPACITY (kW)	5.20	6.50
HEATING CAPACITY (kW)	6.20	6.80

ELECTRICAL DATA

POWER SOURCE (V)	230	
FREQUENCY (Hz)	50	
RUNNING CURRENT (Cool) (A)	7.4	9.4
RUNNING CURRENT (Heat) (A)	8.3	8.7
INPUT WATTS (Cool) (kW)	1.70	2.15
INPUT WATTS (Heat) (kW)	1.90	1.99
E.E.R. (Cool) (kW/kW)	3.06	3.02
E.E.R. (Heat) (kW/kW)	3.26	3.42
MOISTURE REMOVAL (ℓ /hr)	1.7	2.5
AIR CIRCULATION-HI (m³/hr)	780	880

COMPRESSOR

TYPE	Hermetic type, 4 poles. DC motor, Twin Rotary	
DISCRIMINATION	TNB220FPCM	TNB220FPCM9
REFRIGERANT R410A (g)	1,500	1,850

FAN MOTOR

POWER SOURCE		(V)	230	
INDOOR UNIT	DISCRIMINATION		MFA-18JTT	MFA-24JTT
	HI-SPEED	(r.p.m.)	1,030	1,180
	MED-SPEED	(r.p.m.)	890	1,040
	LO-SPEED	(r.p.m.)	770	900
OUTDOOR UNIT	DISCRIMINATION		MFB-24JTAT	MFB-30NTAT
	HI- SPEED	(r.p.m.)	780	730
	LO-SPEED	(r.p.m.)	400	450

DIMENSIONS

INDOOR UNIT H x W x D (mm)	199 x 990 x 655	
OUTDOOR UNIT H x W x D (mm)	650 x 830 x 320	900 x 900 x 350

WEIGHT

INDOOR UNIT GROSS / NET (kg)	37 / 28	
OUTDOOR UNIT GROSS / NET (kg)	58 / 54	78 / 70

REFRIGERANT CHARGE (R410A)

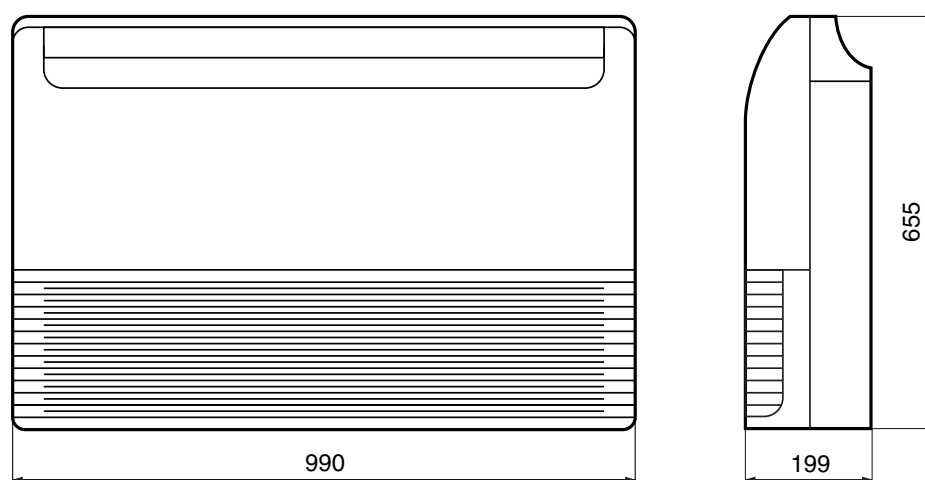
FULL CHARGE AMOUNT	PIPE LENGTH 10 m (33 ft)	1,500 g (52.9oz)	1,850 g (65.3oz)
	15 m (49 ft)	1,600 g (55.4oz)	2,100 g (74.1oz)
	20 m (66 ft)	1,700 g (60.0oz)	2,350 g (83.0oz)
	25 m (82 ft)	1,800 g (63.5oz)	2,600 g (91.7oz)
ADDITIONAL REFRIGERANT		20g (0.71oz) / 1m(3.3ft) (over 10m)	50g (1.76oz) / 1m(3.3ft) (over 10m)

OUTLINE AND DIMENSIONS

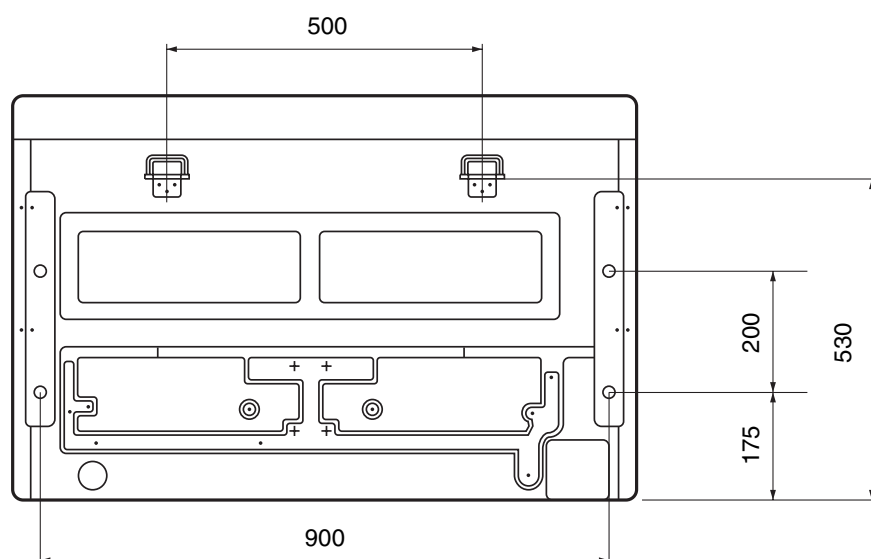
Unit : mm

INDOOR UNIT

Models : RY-18LA, RY-24LA



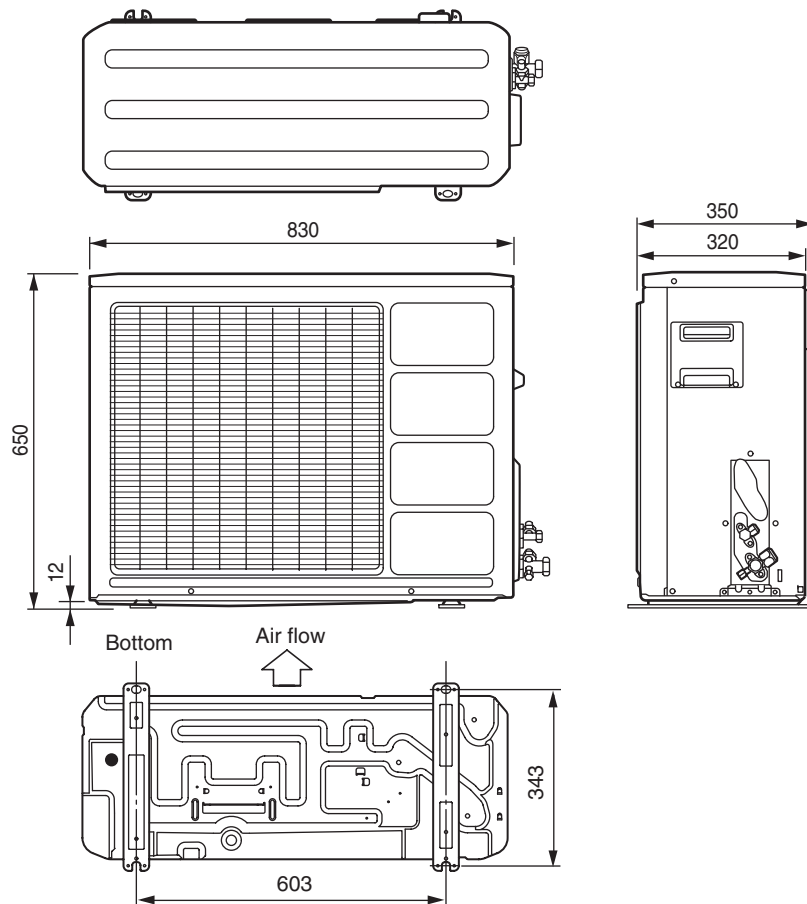
(rear view)



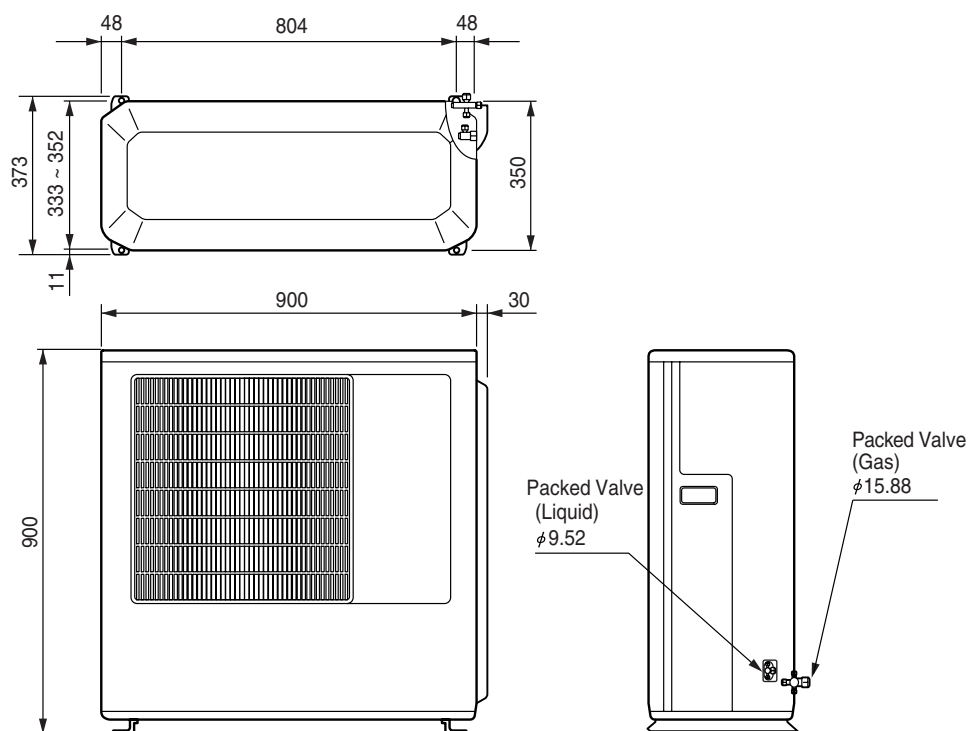
OUTDOOR UNIT

Unit : mm

Model : ROT-18LA



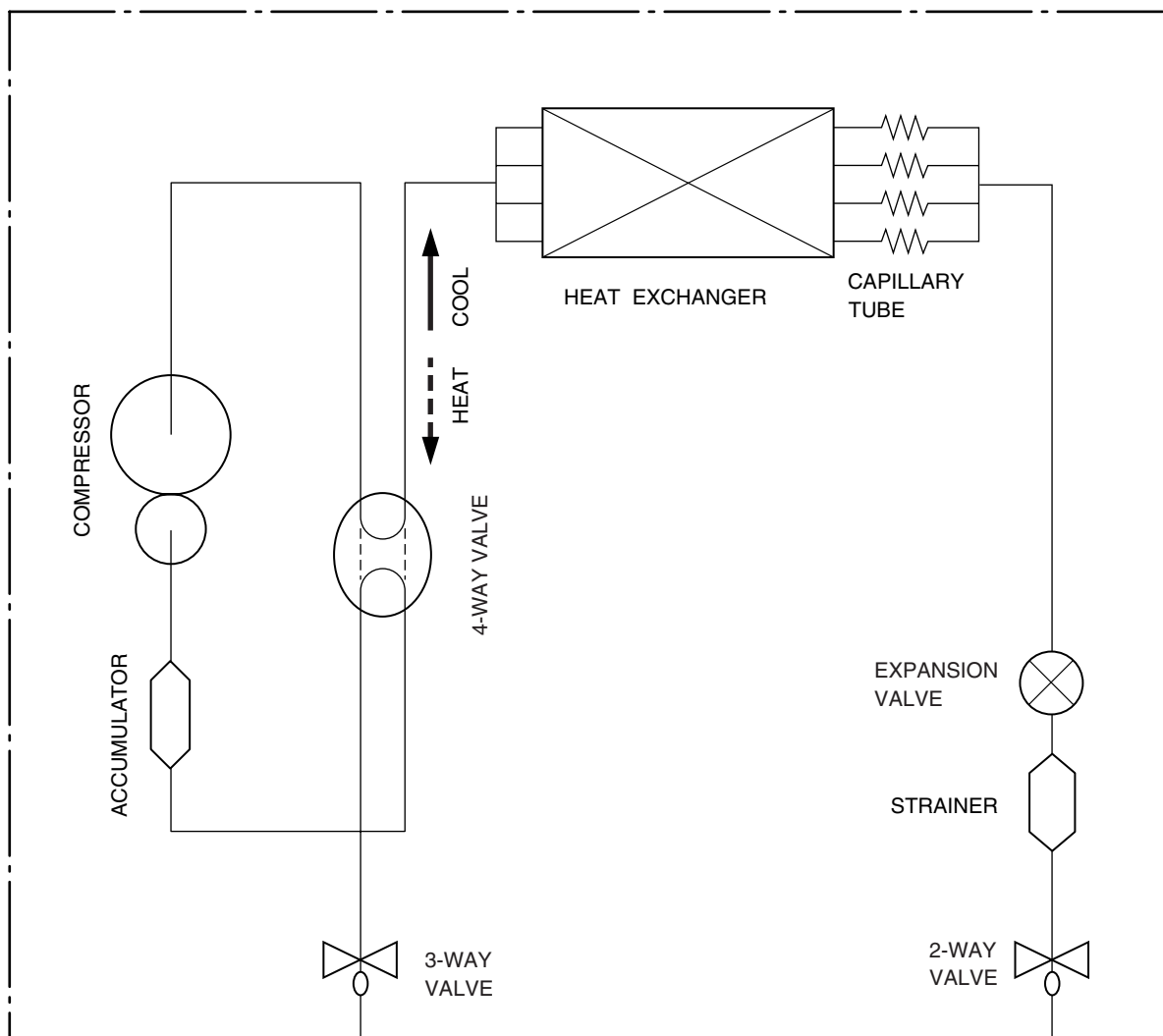
Model : RO-24LA



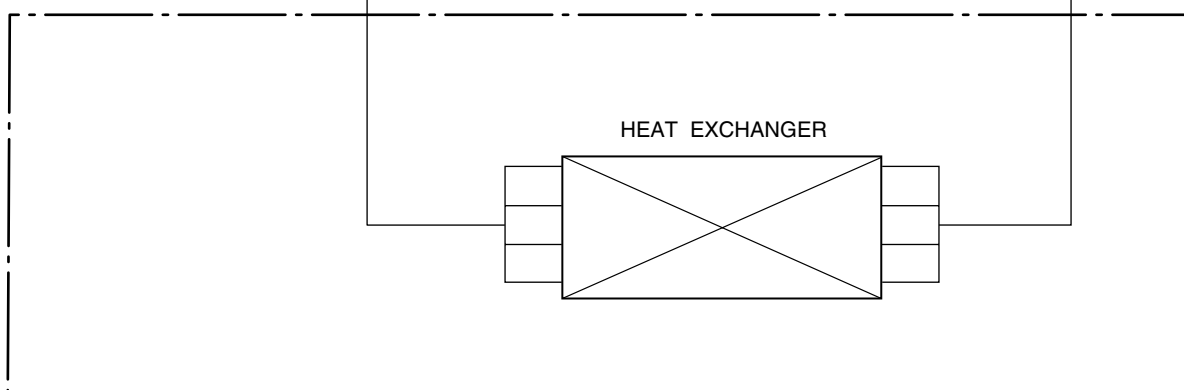
REFRIGERANT SYSTEM DIAGRAM

Models : RY-18LA / ROT-18LA
RY-24LA / RO-24LA

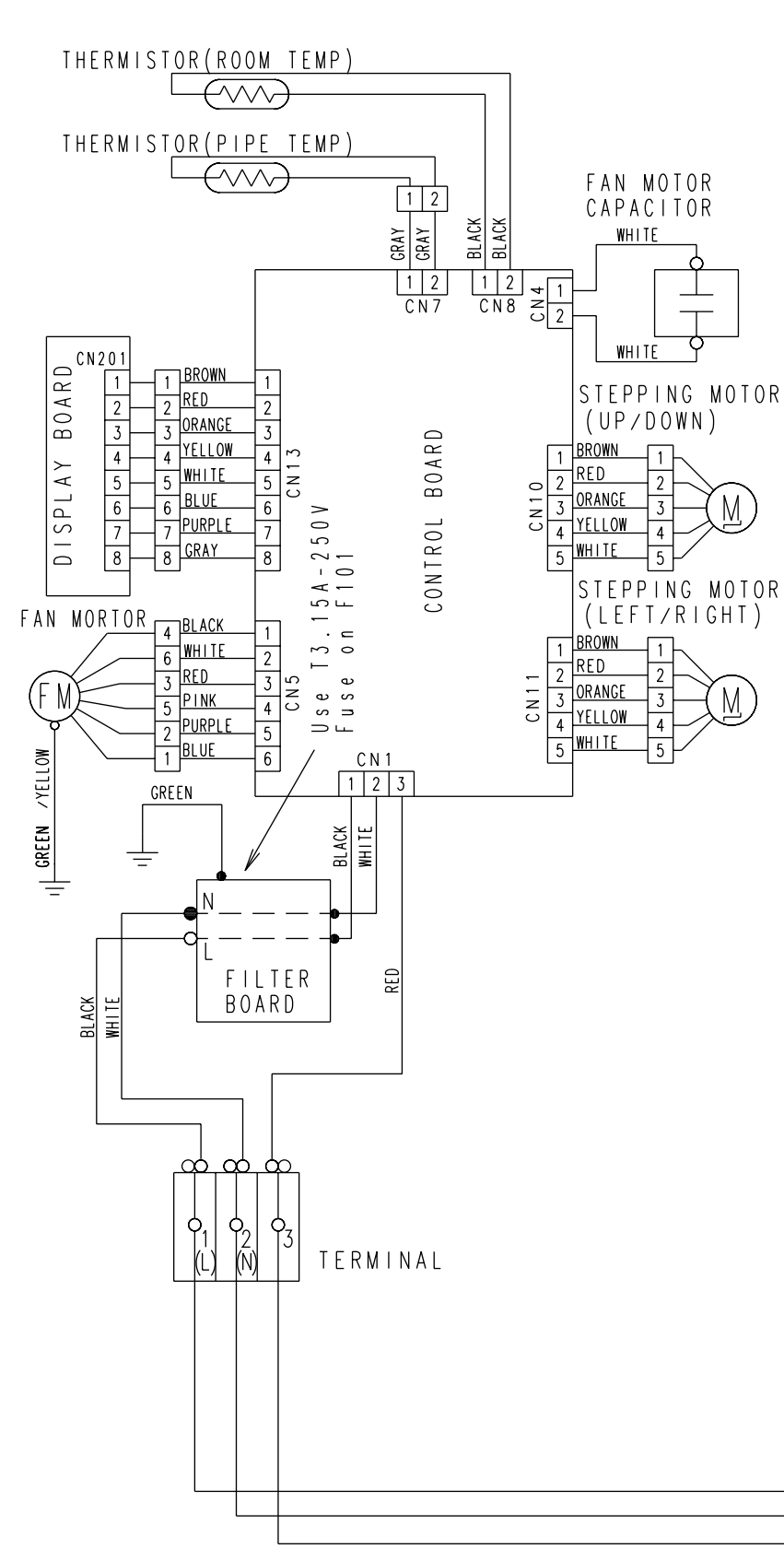
OUTDOOR UNIT



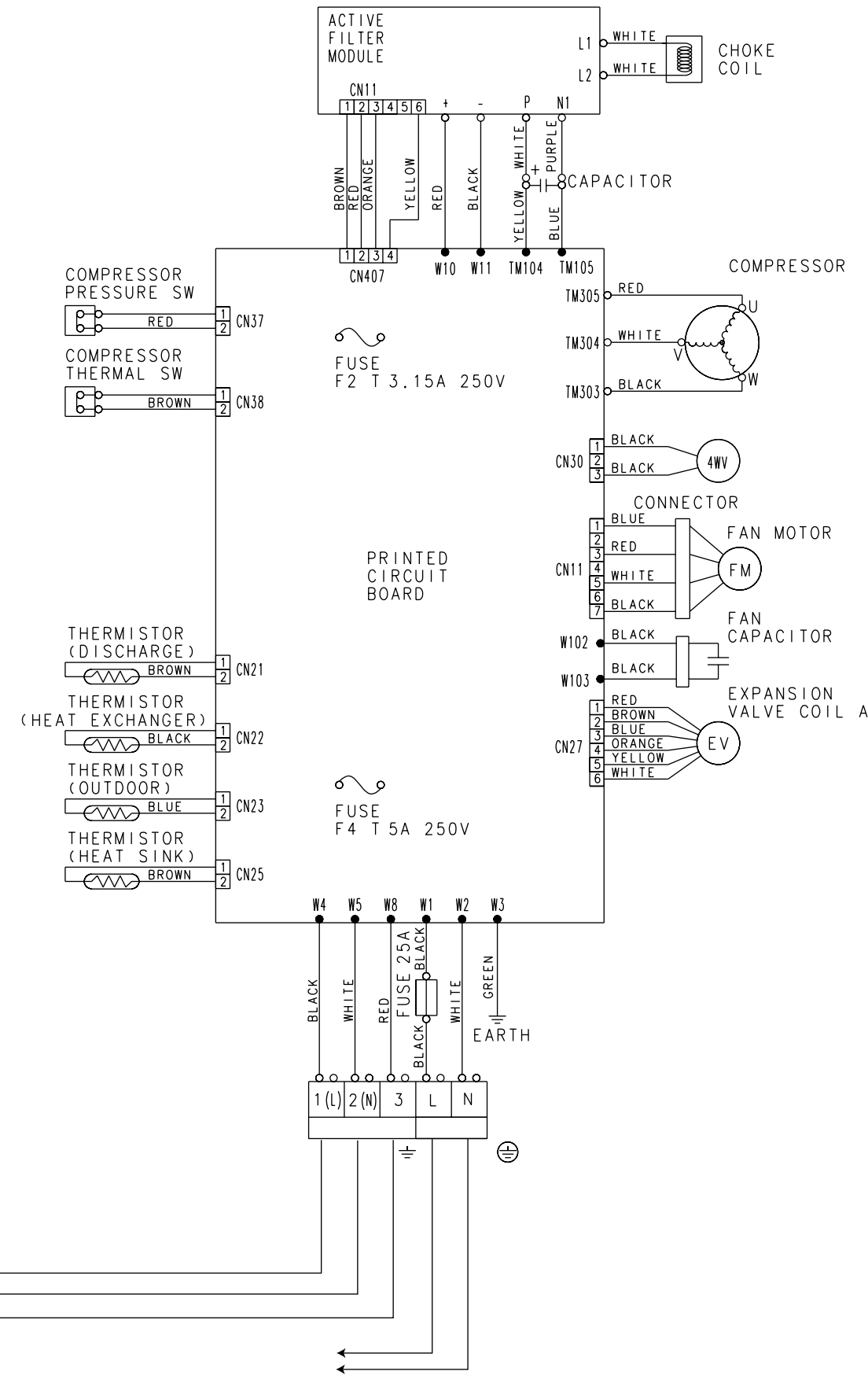
INDOOR UNIT



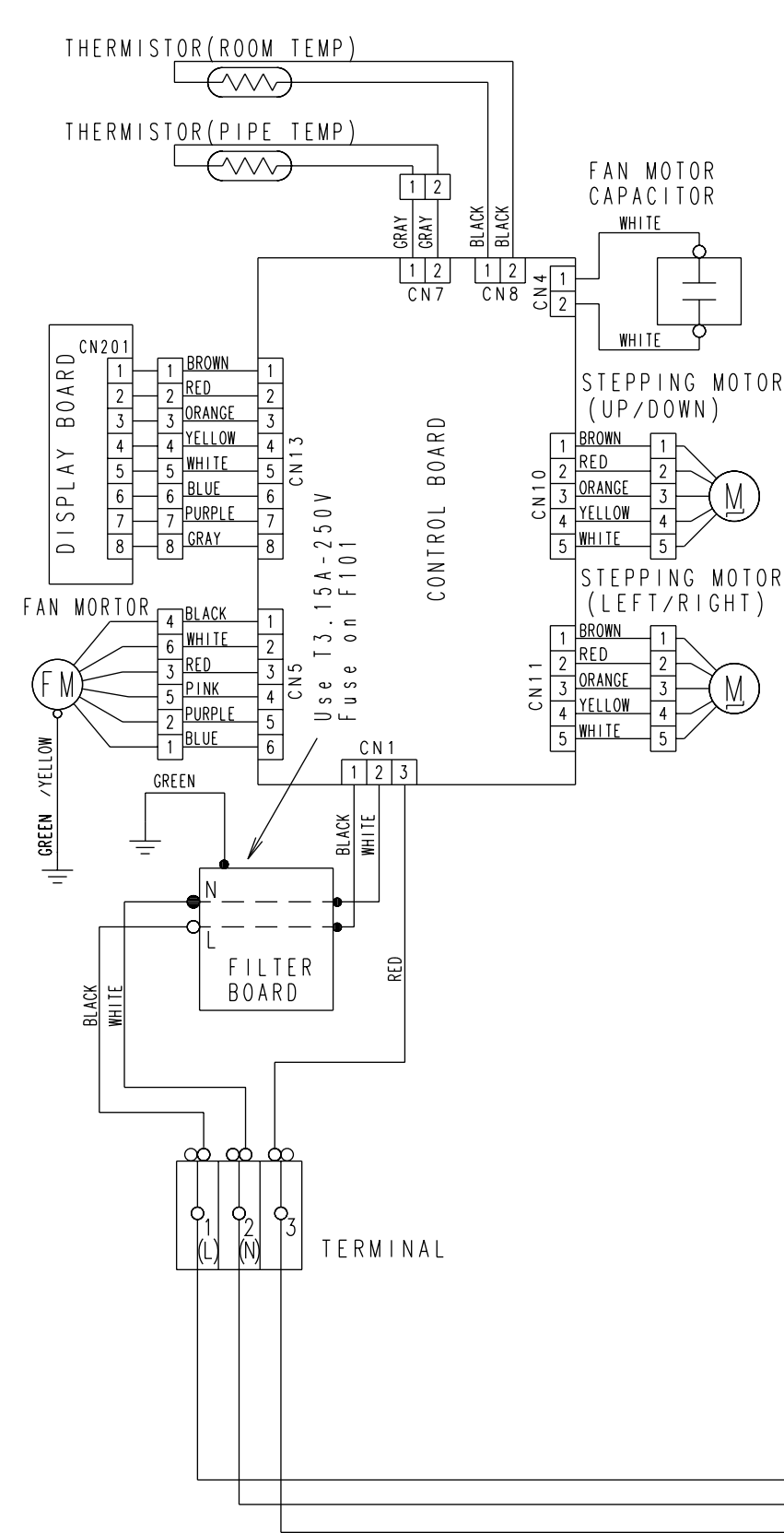
INDOOR UNIT



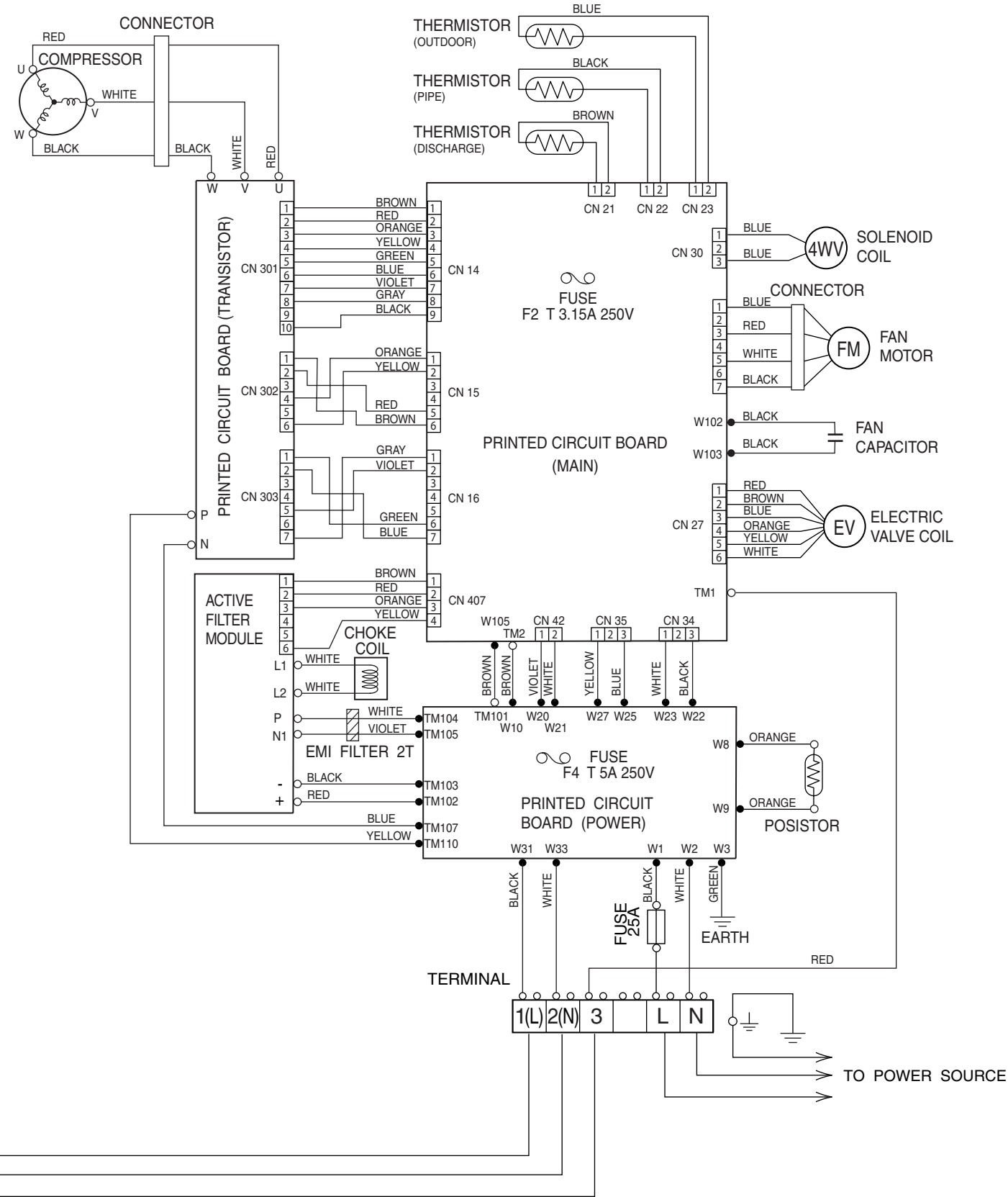
OUTDOOR UNIT



INDOOR UNIT



OUTDOOR UNIT

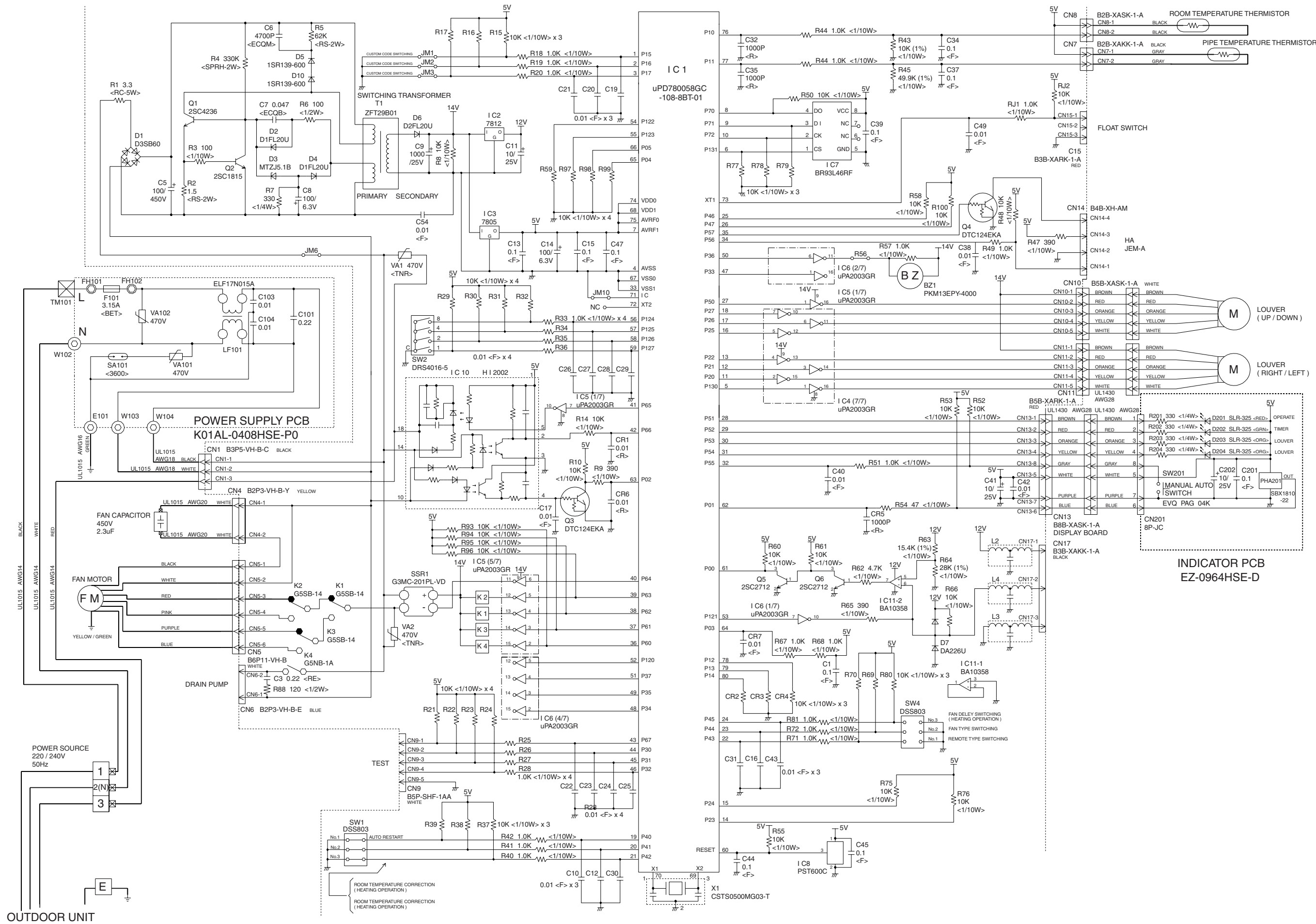


INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models : RY-18LA
RY-24LA

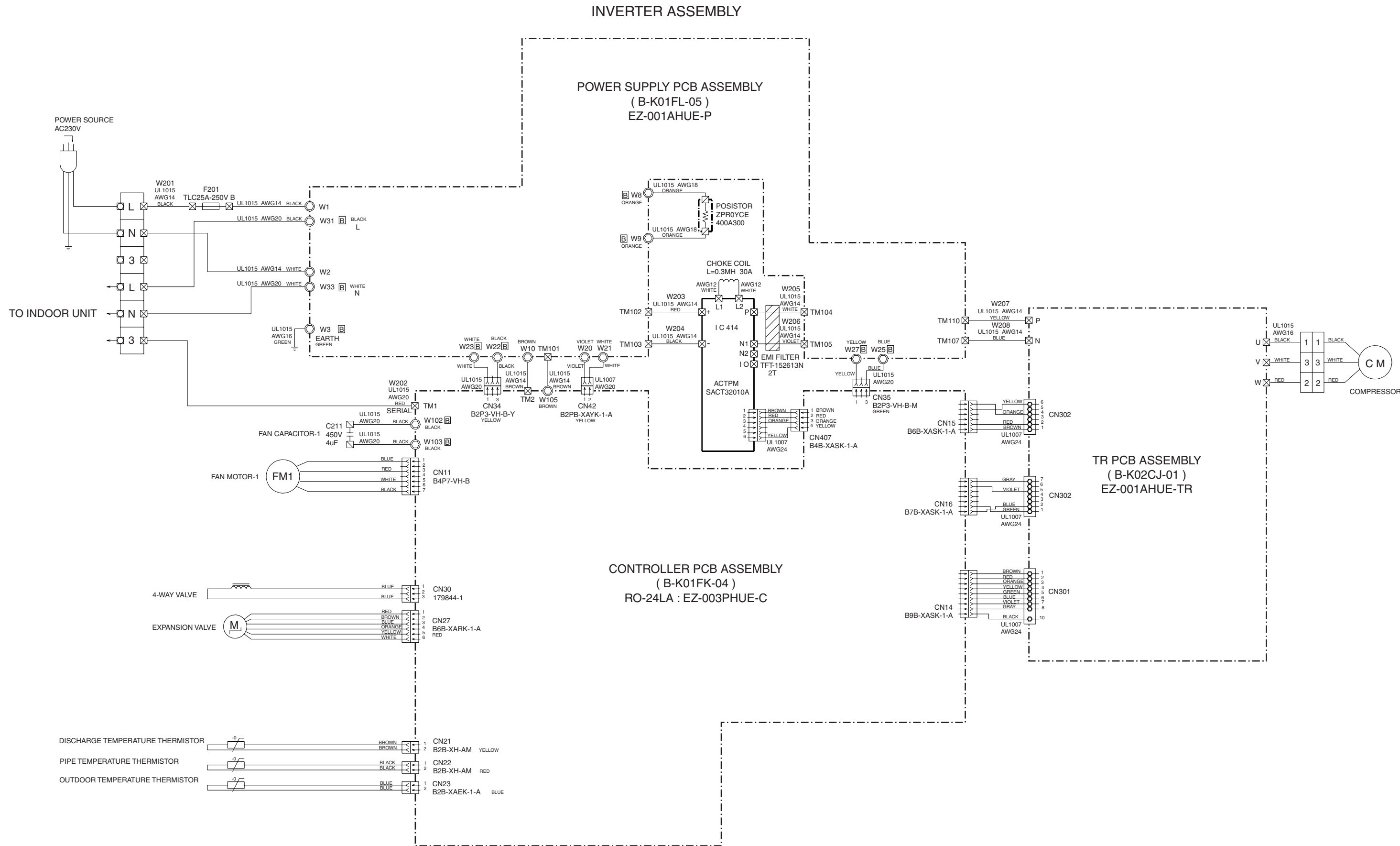
CONTROLLER PCB ASSEMBLY (MAIN PCB)

RY-18LA : K01AL-040DHSE-F1
RY-24LA : K01AL-0408HSE-F1



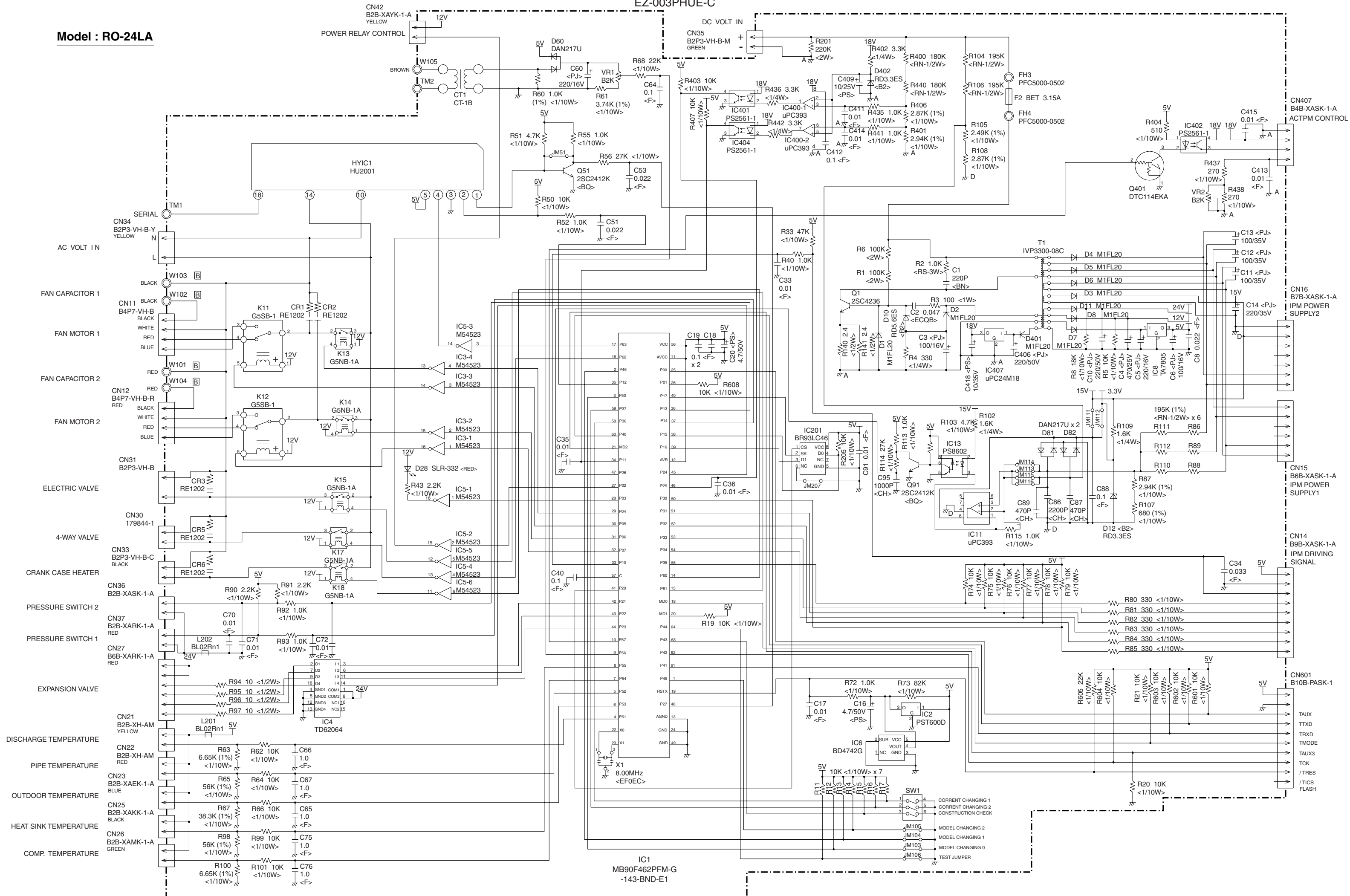
Model : ROT-18LA

Model : RO-24LA



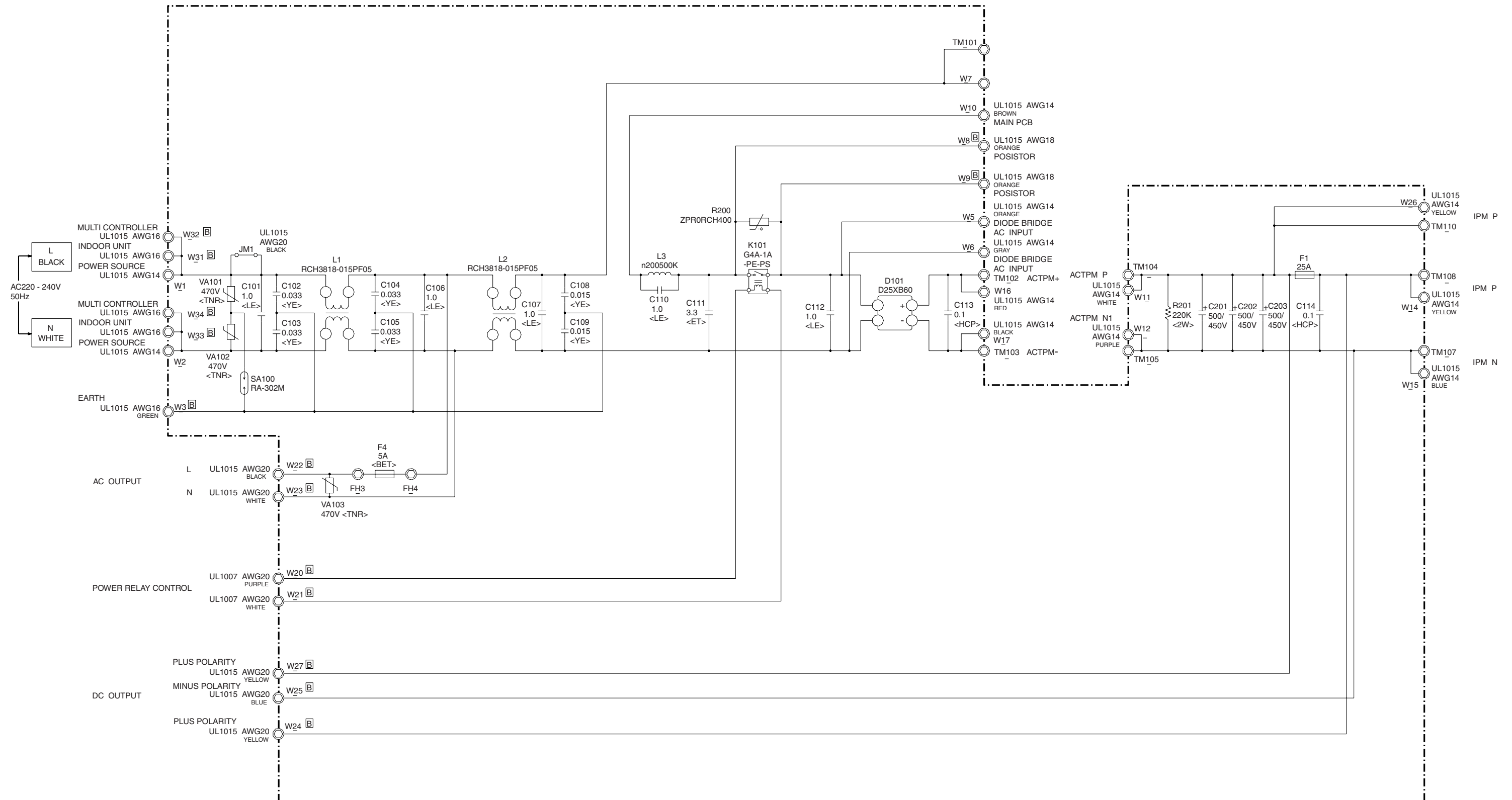
Model : RO-24LA

CONTROLLER PCB ASSEMBLY
EZ-003PHUE-C



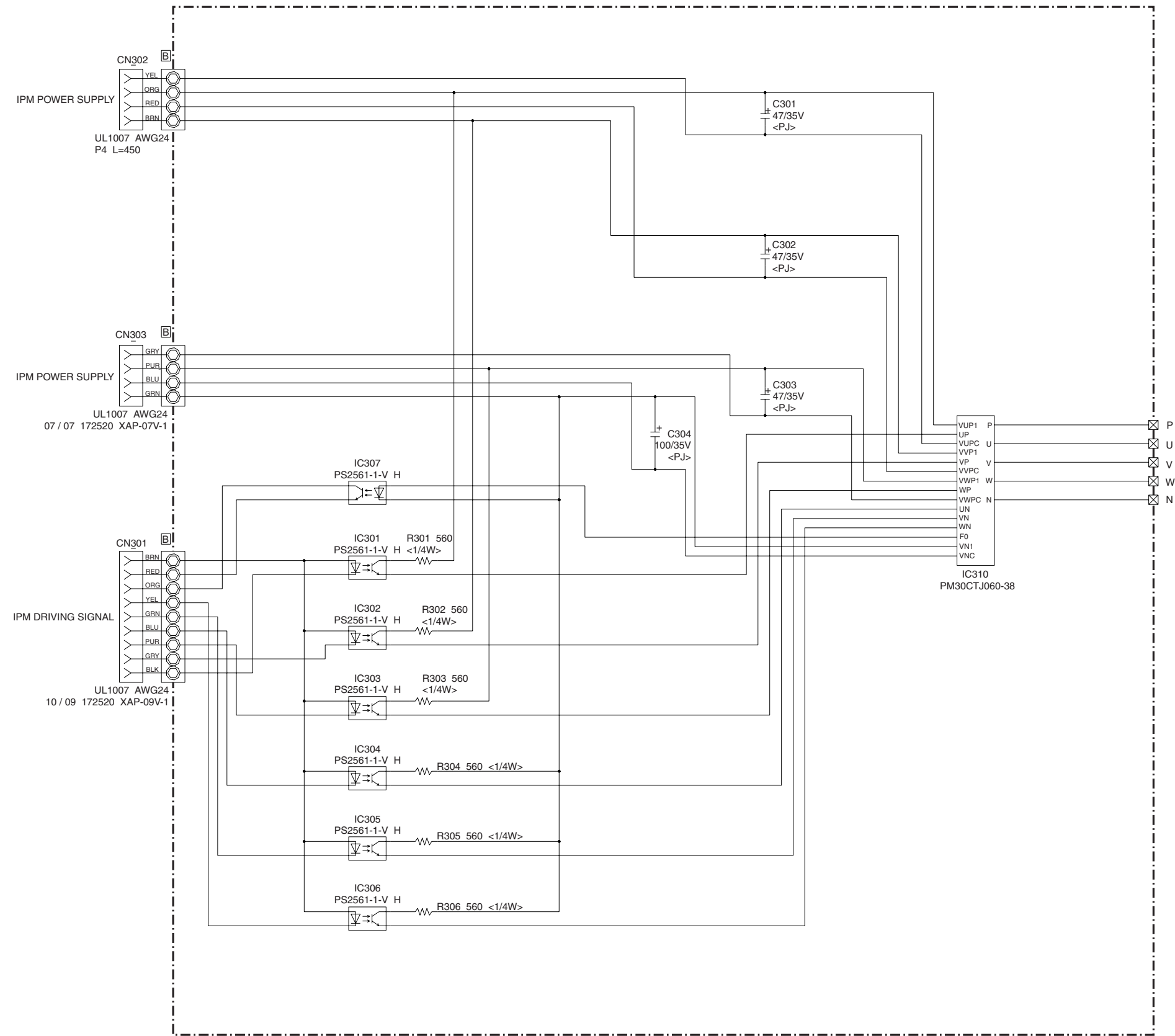
Model : RO-24LA

POWER SUPPLY PCB ASSEMBLY
EZ-001AHUE-P



Model : RO-24LA

TR PCB ASSEMBLY
EZ-001AHUE-TR



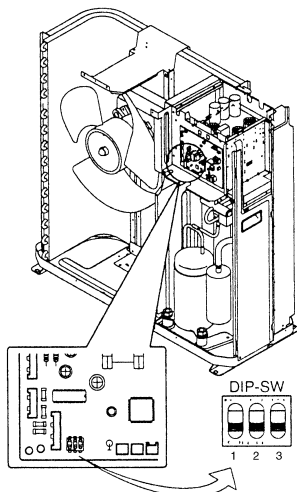
ERROR CONTENTS

The OPERATION, TIMER and SWING lamps operate as follows according to the error contents.

Error contents	Error display		
	OPERATION (RED)	TIMER (GREEN)	SWING (ORANGE)
Indoor unit circuit board error	○	○	—
Indoor unit room temperature sensor wire opened	2 times ●	○	—
Indoor unit room temperature sensor wire short circuited	2 times ●	○	○
Indoor unit piping sensor wire opened	3 times ●	○	—
Indoor unit piping sensor short circuited	3 times ●	○	○
Serial error	5 times ●	○	—
Outdoor unit circuit board error or miswiring between outdoor unit and indoor unit	5 times ●	○	○
Indoor unit fan error	6 times ●	○	—
Outdoor unit piping sensor	○	3 times ●	—
Outdoor unit outdoor temperature sensor error	○	4 times ●	—
Outdoor unit discharge temperature sensor error	○	5 times ●	—
Outdoor unit compressor temperature sensor error	○	9 times ●	—
IPM error	○	10 times ●	—
Current transformer error	○	11 times ●	—
Active filter module error	○	12 times ●	—
Compressor location error	○	13 times ●	—
Outdoor fan motor error	○	14 times ●	—

○ : Fast flashing ● : Slow flashing — : Off

Model : RO-24LA

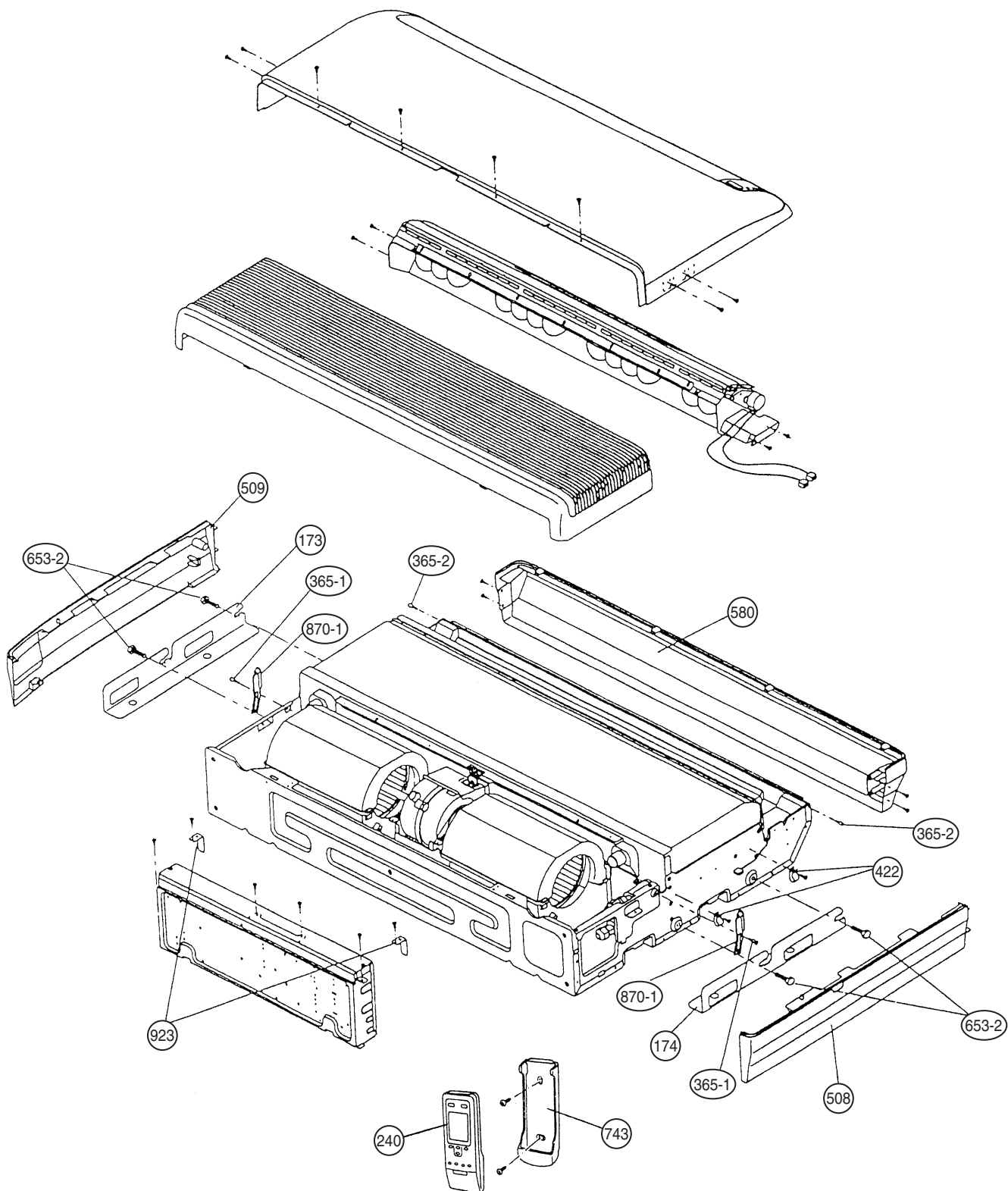


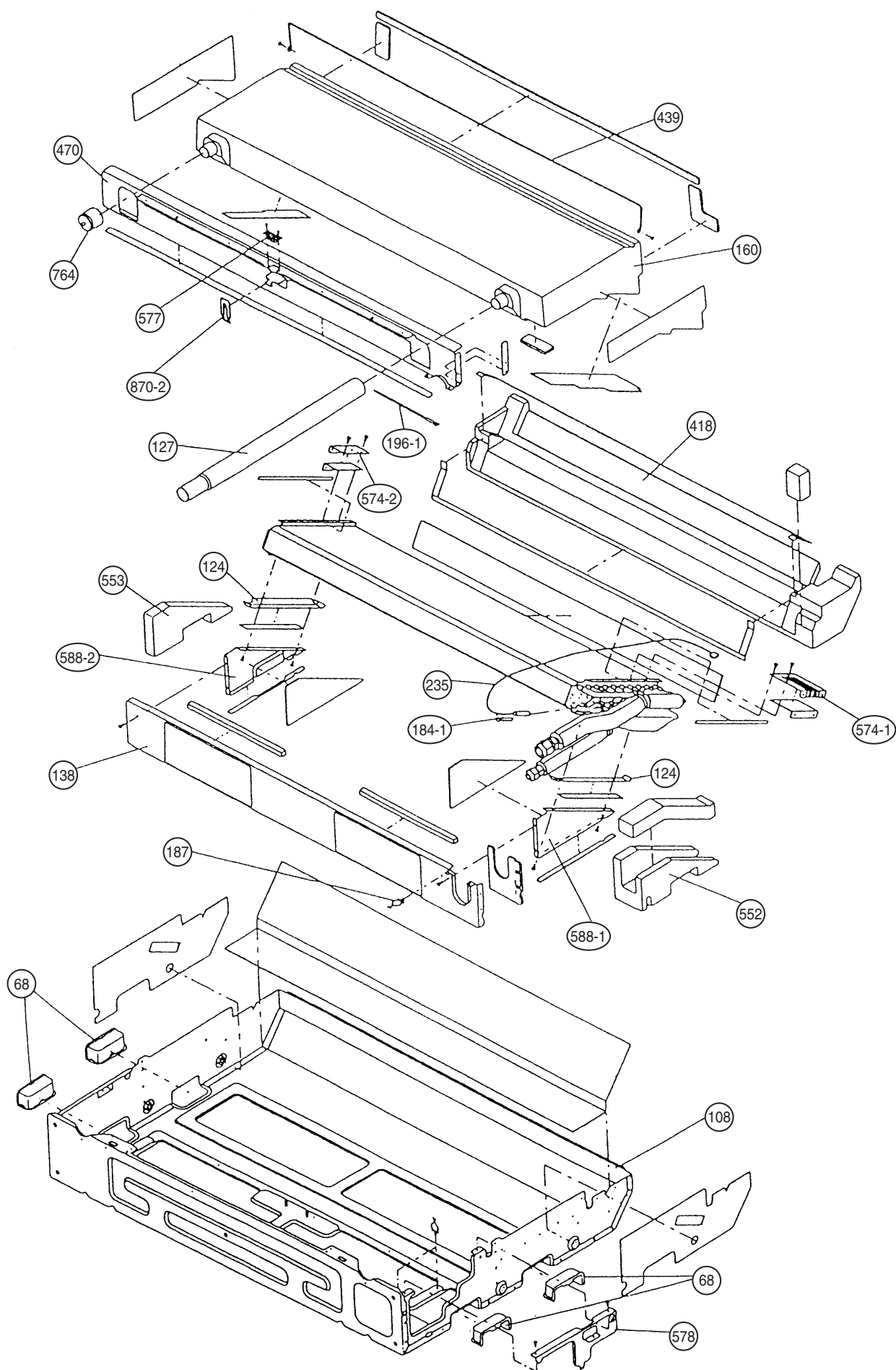
DIP switch

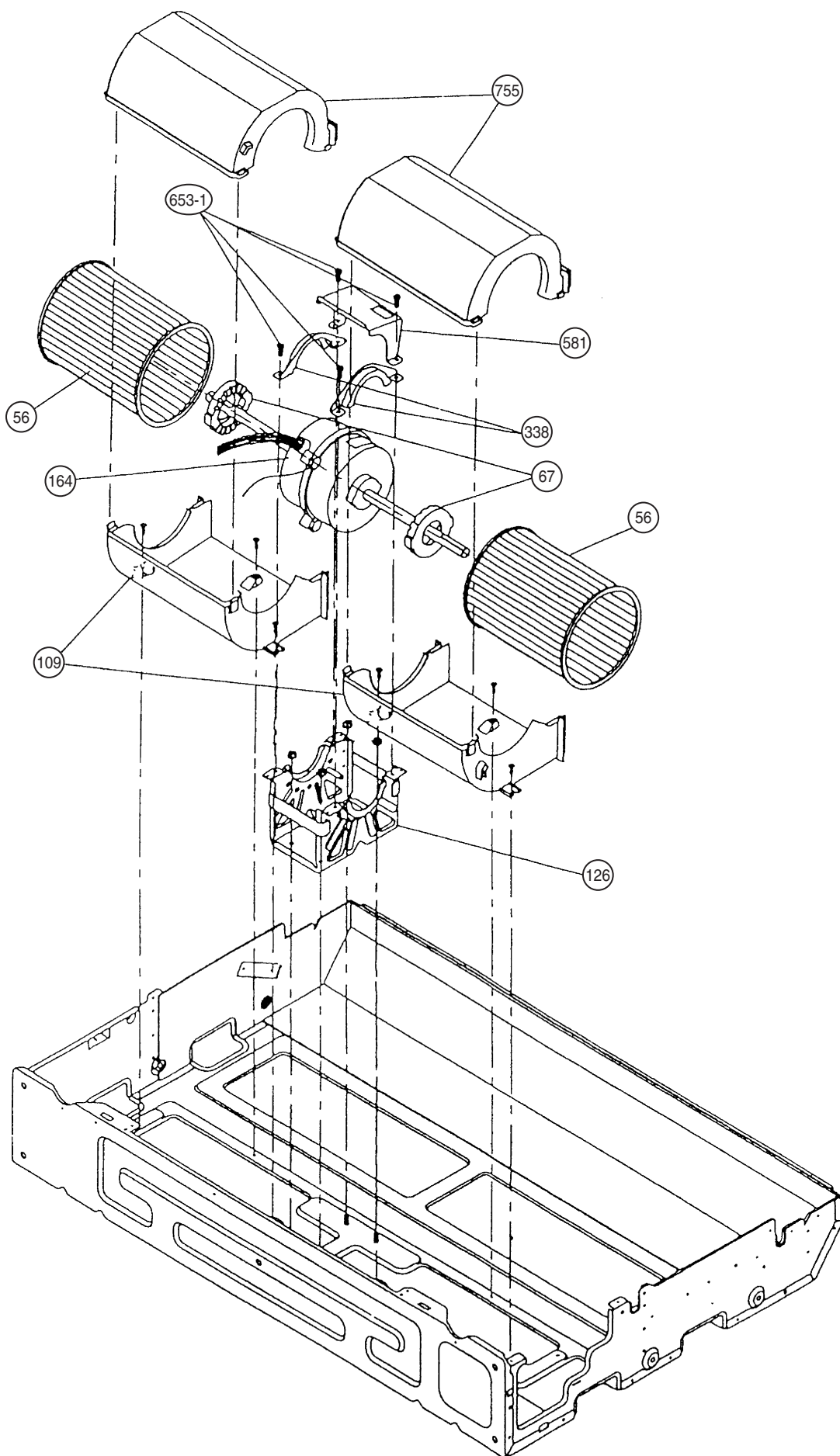
DIP-SW			Current (Max.)	Model
1	2	3		
OFF	OFF	OFF	16.5A	RO-24LA
ON	OFF	OFF	14.5A	
OFF	ON	OFF	12.0A	
ON	ON	OFF	9.5A	

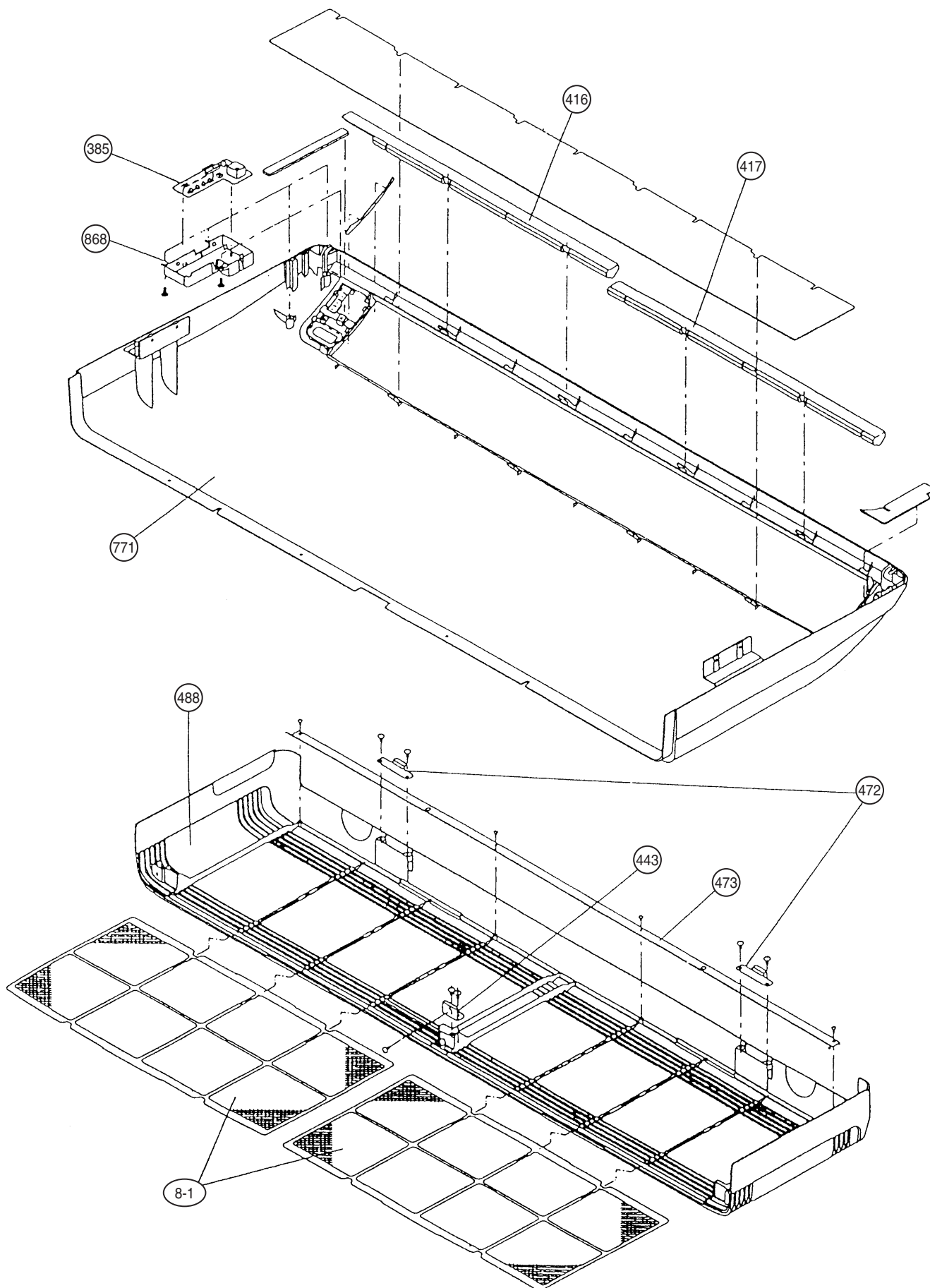
DISASSEMBLY ASSEMBLY

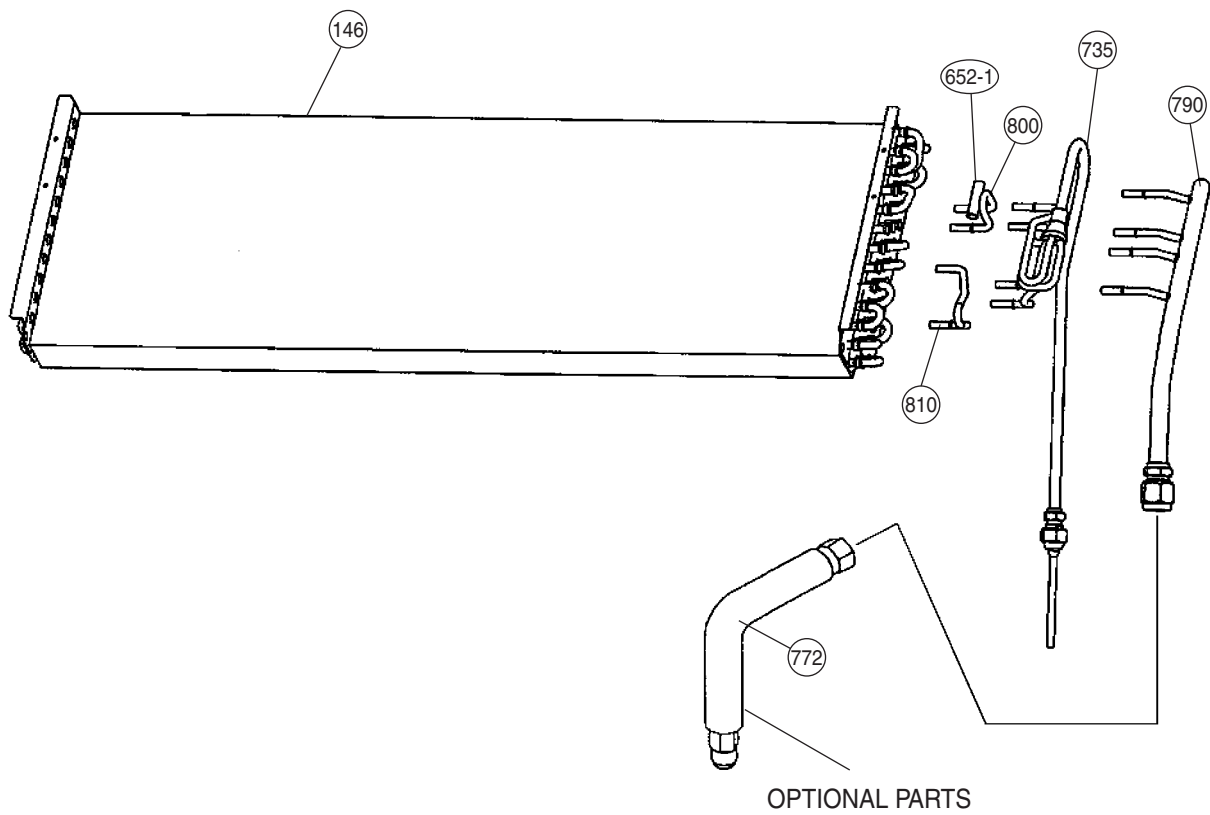
Models : RY-18LA, RY-24LA

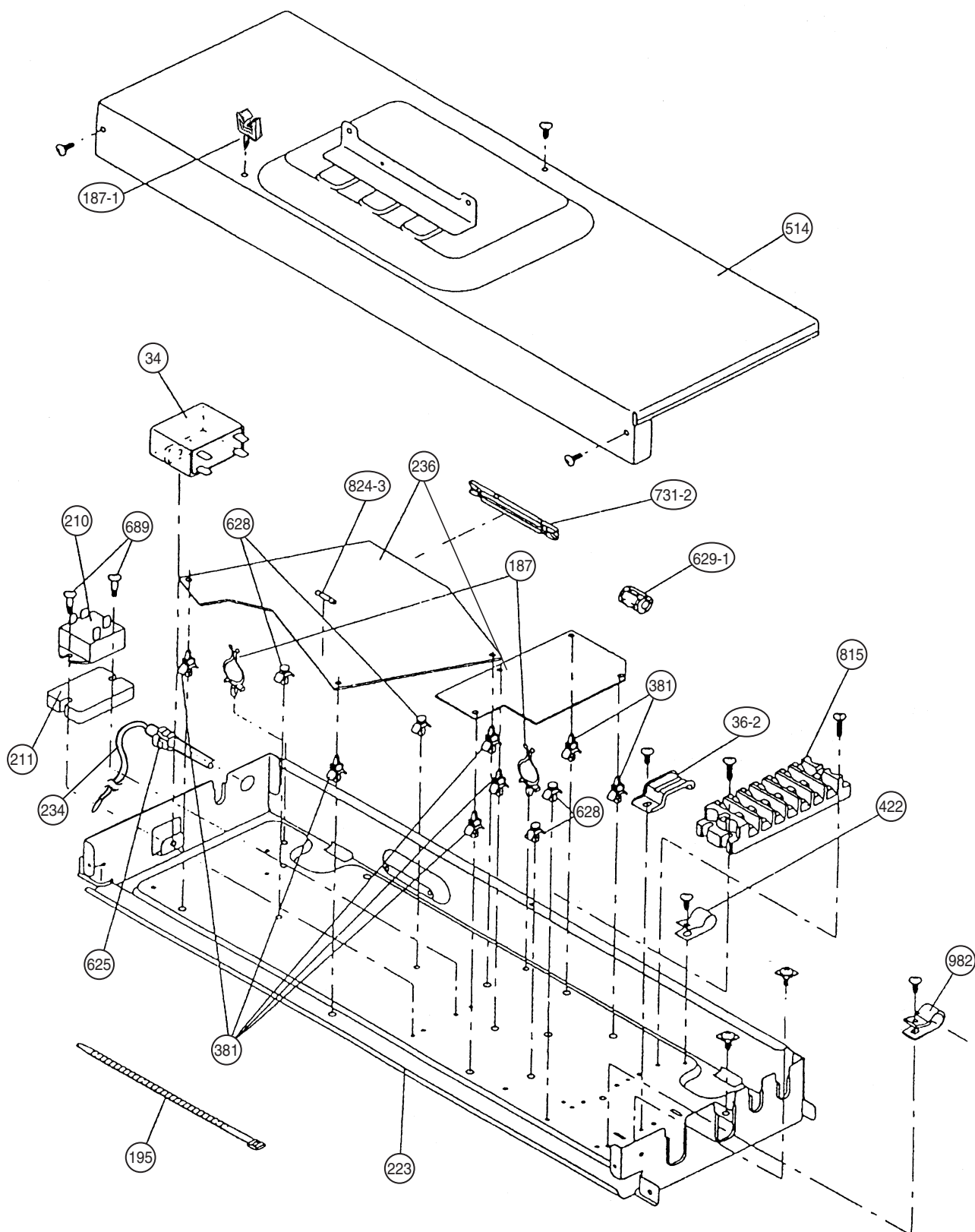


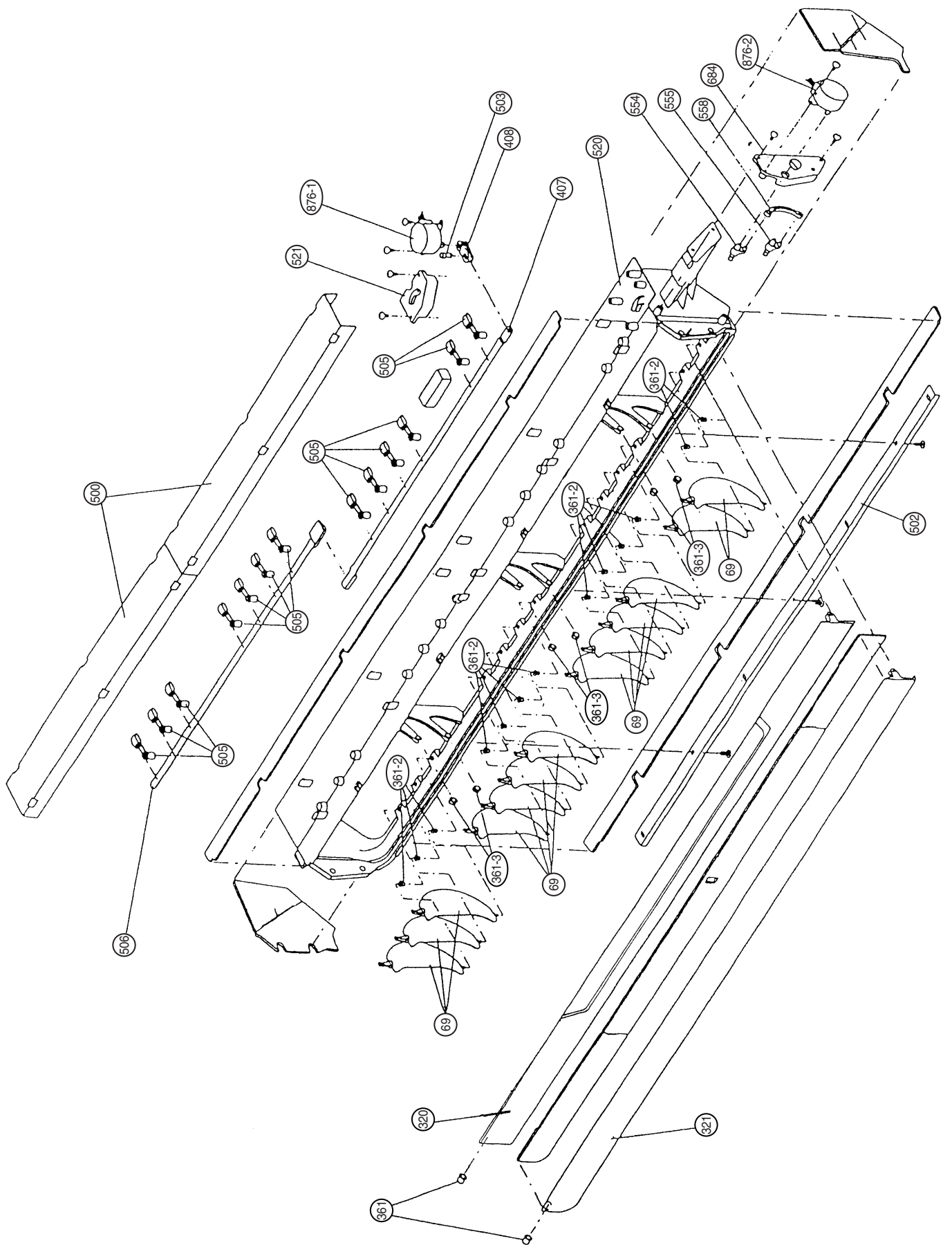




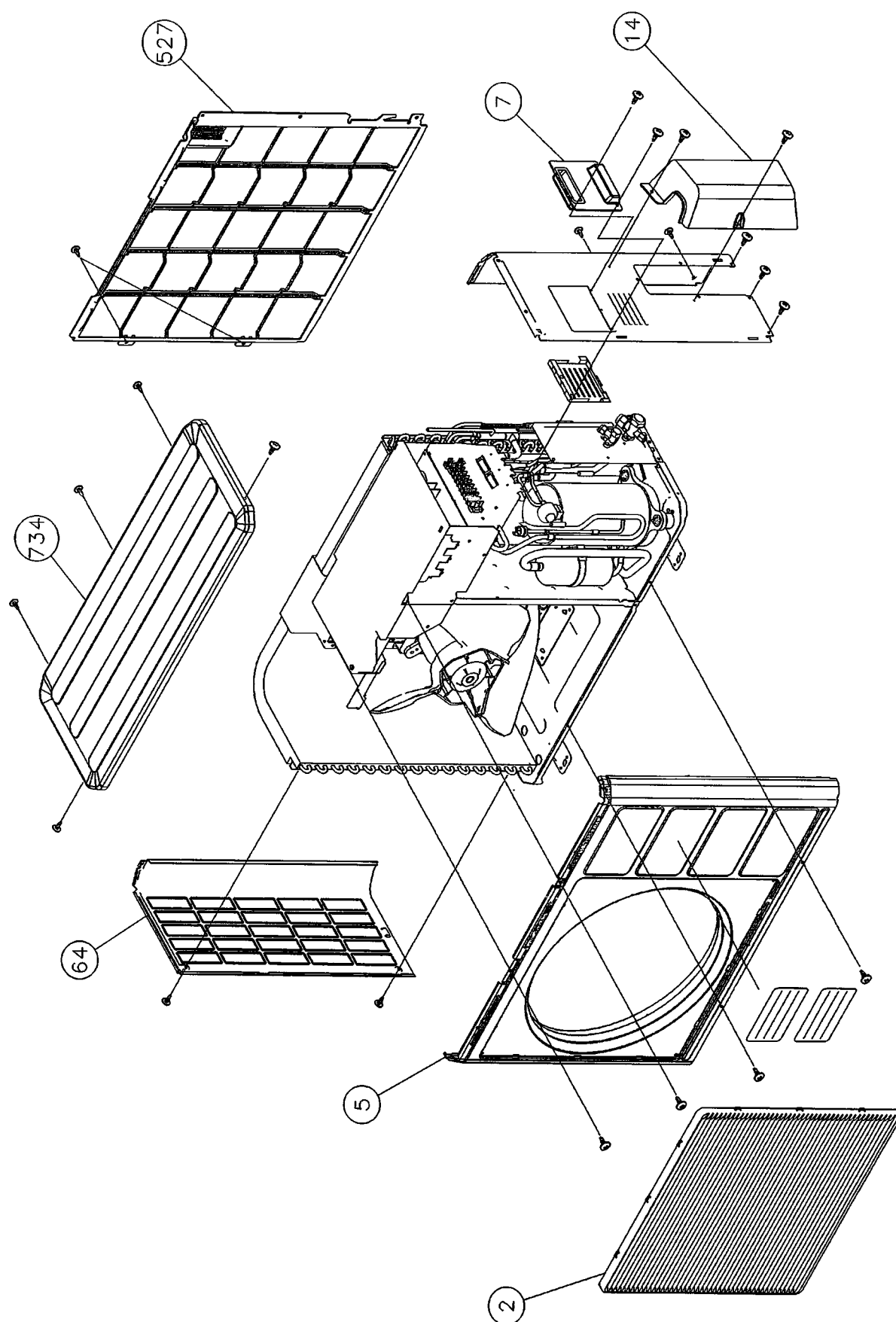




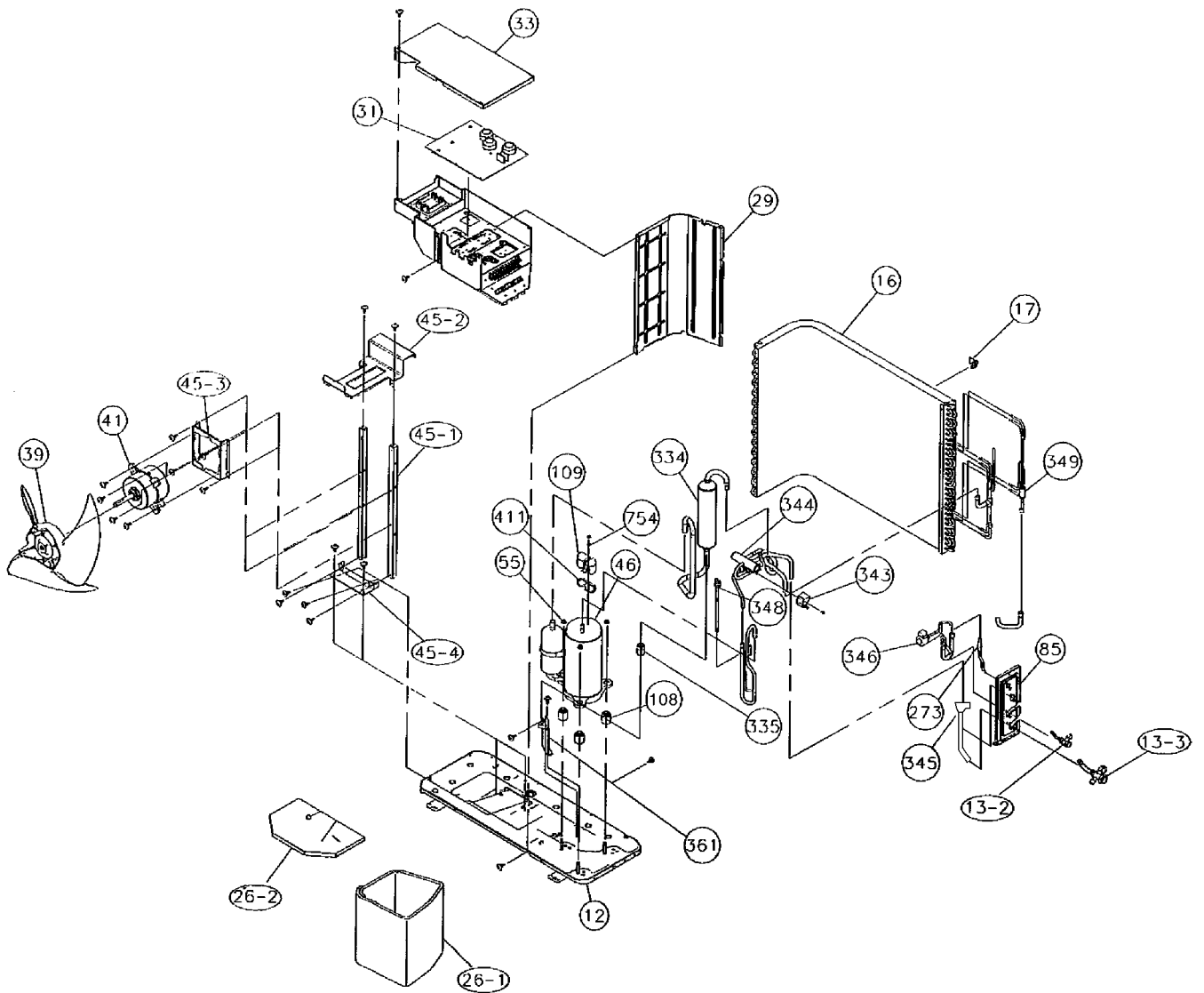




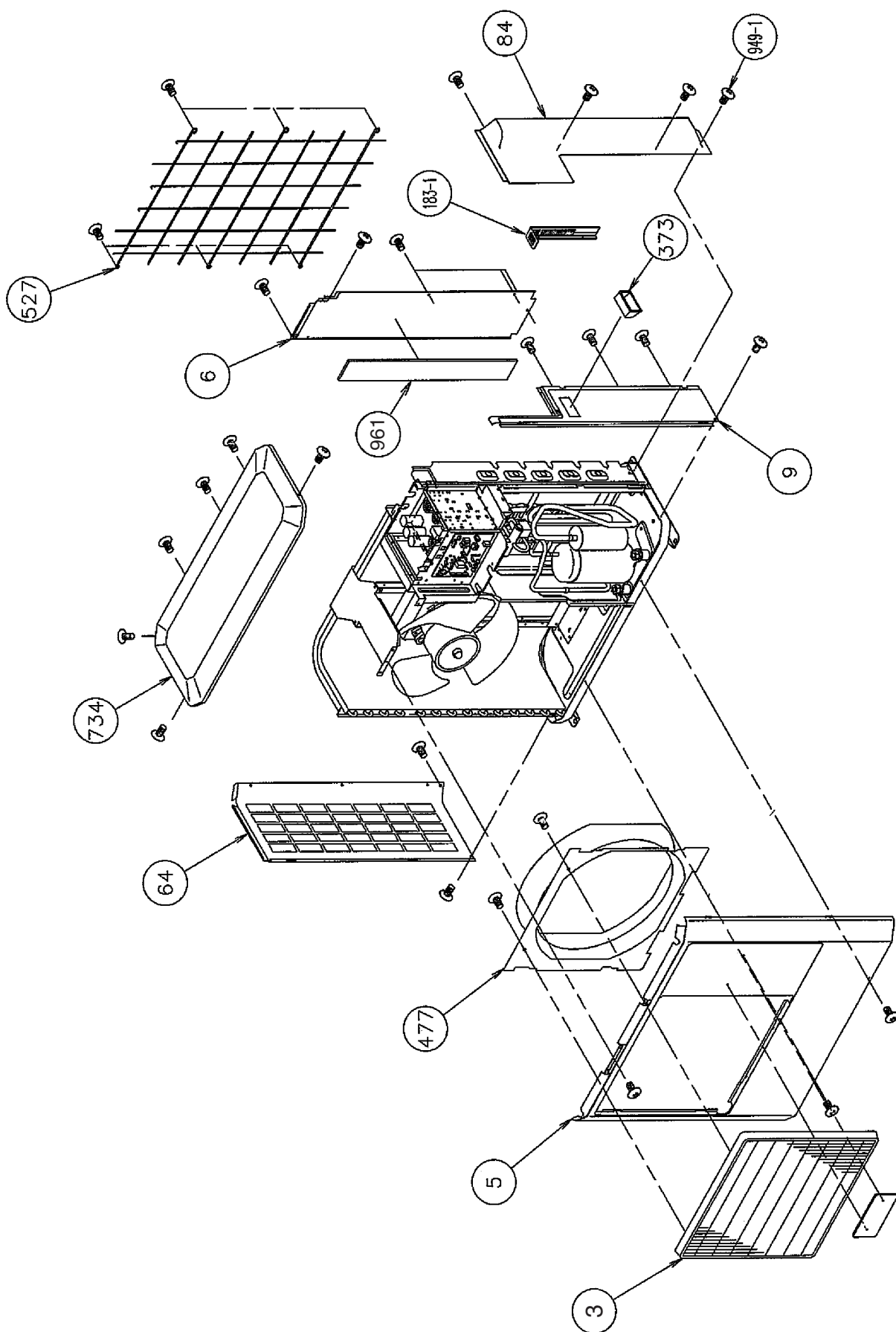
Model : ROT-18LA



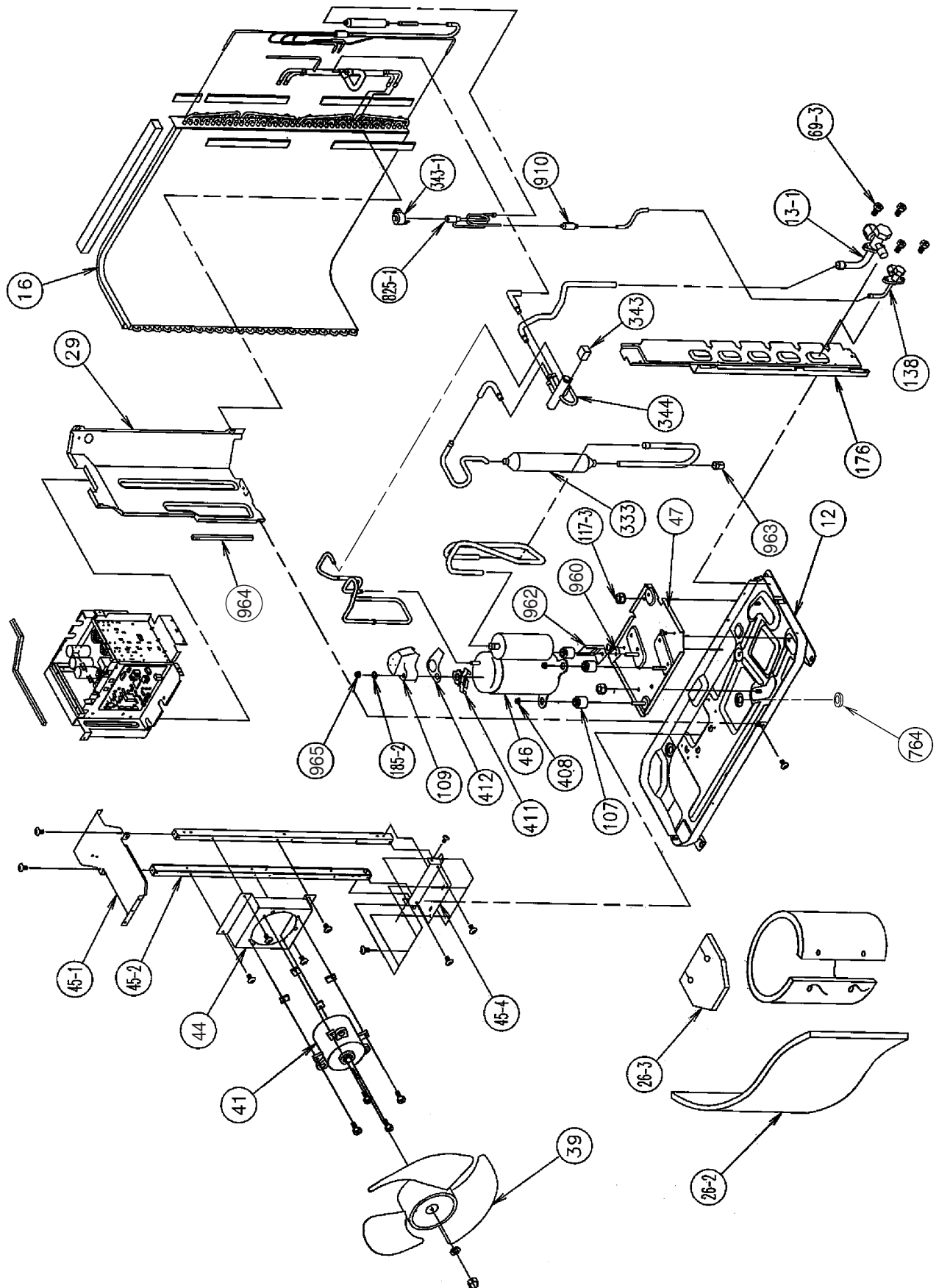
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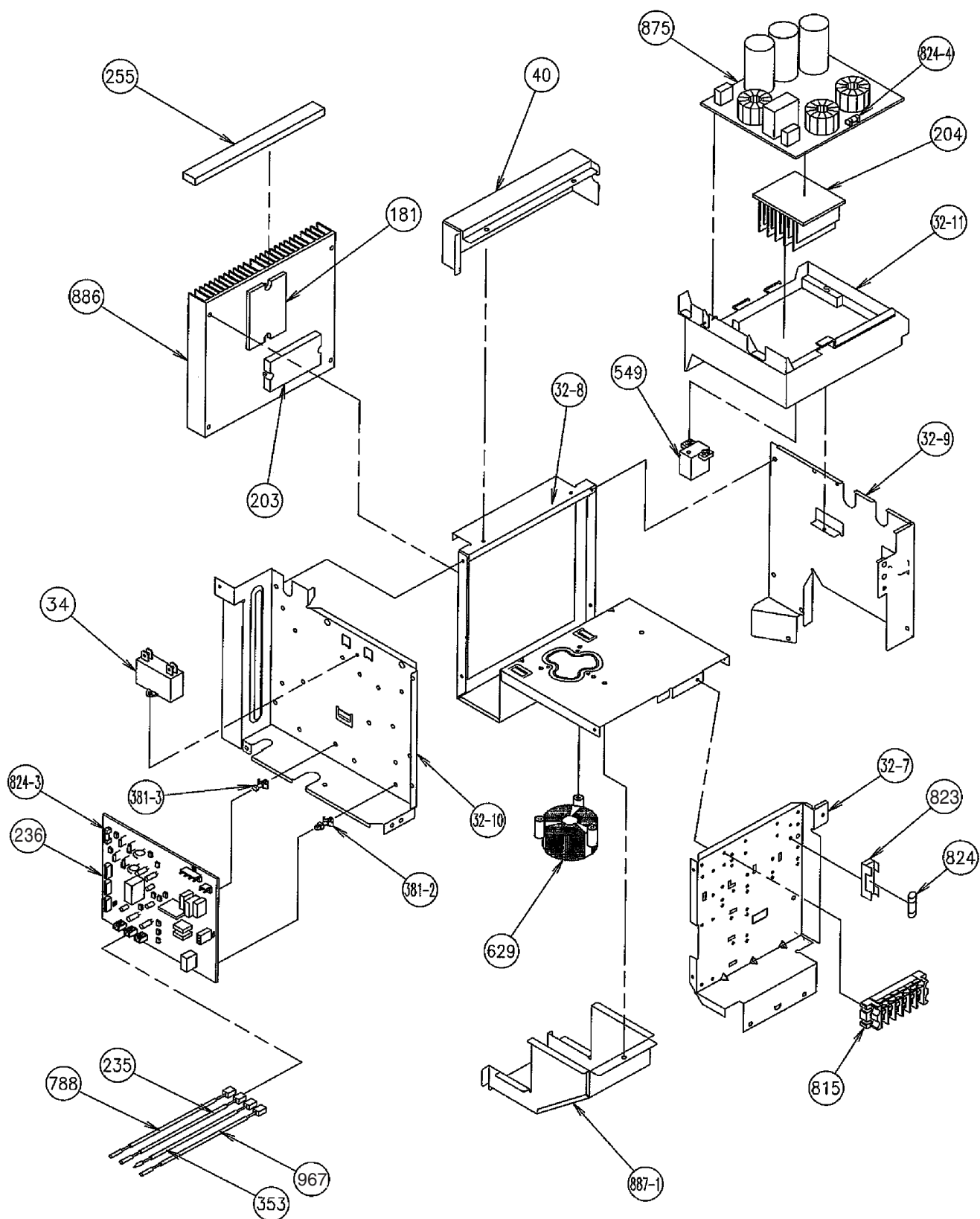
Model : RO-24LA



Model : RO-24LA



Model : RO-24LA



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		RY-18LA	RY-24LA	
8-1	Air Filter	9358567029	9358567029	
34	Capacitor (Fan Motor) 2.3μF/450V	9703306044	9703306044	
36-2	Cord Holder Metal	9356362008	9356362008	
56	Sirocco Fan Assy	9385258006	9385258006	
67	Rubber (Vibration-proof)	9385102002	9385102002	
69	Louver	9358561010	9358561010	
68	Cap, Plastic	9358563007	9358563007	
108	Base Assy	9359061038	9359061038	
109	Casing, Plastic	9358543009	9358543009	
124	Dew Proof Plate	9359196006	9359196006	
126	Motor Fixing Table Assy	9358591000	9358591000	
127	Drain Hose Assy	9359242000	9359242000	
138	Separate Wall-A	9358584002	9358584002	
146	Evaporator Assy KB07	9362513036	9362513036	
160	Drain Pan Assy	9358568002	9358568002	
164	Fan Motor Assy-IN MFA-24JTT	-----	9601527015	
164	Fan Motor Assy-IN MFA-18JTT	9601527022	-----	
173	Hanger Bracket-L	9358596005	9358596005	
174	Hanger Bracket-R	9358595008	9358595008	
184-1	Thermistor Spring-A	313728262708	313728262708	
187	Clamp No. 1219	313361271706	313361271706	
187-1	Clip (Cable)	9352715006	9352715006	
195	Clamp SKB-100	313361275805	313361275805	
196-1	Clamp SKB-3M	312300787605	312300787605	
223	Control Box	9358600016	9358600016	
234	Thermistor Assy-Room	9703299087	9703299087	
235	Thermistor Assy-Pipe	9900022020	9900022020	
236	Controller PCB Assy	9704557780	9704557773	
		(K01AL-040DHSE-F1)	(K01AL-040HSE-F1)	
240	Remote Control Unit AR-JW1	9371190013	9371190013	
320	Flap (Upper)-F	9358538012	9358538012	
321	Flap (Lower)	9358541012	9358541012	
338	Motor Fixture	9358594001	9358594001	
361	Bushing	9357942001	9357942001	
361-2	Bushing-B, Plastic	9358554005	9358554005	
361-3	Bushing-C, Plastic	9358553008	9358553008	
365-1	Special Screw	9359092001	9359092001	
365-2	Special Screw	9359091004	9359091004	
381	Locking Spacer, KGLS-4S	313209391506	313209391506	
385	Indicator PCB Assy EZ-0964HSE-D	9701873012	9701873012	
407	Motor Rod	9358560006	9358560006	
408	Louver Link	9358556009	9358556009	
416	Insulation (Panel)-A	9358574003	9358574003	
417	Insulation (Panel)-B	9358914007	9358914007	
418	Insulation (Flap Base)	9358572009	9358572009	
422	Clamp NK-10N	9359183006	9359183006	
439	Drain Pan Wire	9358598009	9358598009	
443	Arm Bracket	9359281009	9359281009	
470	Separate Wall-B	9358585009	9358585009	
472	Grille Support	9358602003	9358602003	
473	Filter Bracket	9358607008	9358607008	
488	Grill-F	9358533017	9358533017	

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

INDOOR UNIT (Continued)

Ref. No.	Description	Part No.		Ord. Q'ty
		RY-18LA	RY-24LA	
500	Protect Cover	9358564004	9358564004	
502	Support Stay	9358599006	9358599006	
503	Louver Shaft	9358557006	9358557006	
505	Louver Stopper	9358555002	9358555002	
506	Louver Rod	9358559000	9358559000	
508	Cosmetic Panel-R	9358535011	9358535011	
509	Cosmetic Panel-L	9358536018	9358536018	
514	Control Box Cover	9359097006	9359097006	
520	Flap Base	9358537015	9358537015	
521	Louver Link Cover	9358558003	9358558003	
552	Insulation (Eva.)-R	9358575000	9358575000	
553	Insulation (Eva.)-L	9358857007	9358857007	
554	Flap Link-Upper (Step Motor-V)	9358551004	9358551004	
555	Flap Link-Lower (Step Motor-V)	9358552001	9358552001	
558	Motor Rod-A (Step Motor-V)	9358550007	9358550007	
574-1	Evaporator Fixture-R (Bracket)	9358589007	9358589007	
574-2	Evaporator Fixture-L (Bracket)	9358590003	9358590003	
577	Catch TL-119	9359096009	9359096009	
578	Base Bracket (Reinforcement Metal)	9358586006	9358586006	
580	Top Cover	9358534014	9358534014	
581	Protector, Metal (Fan Motor)	9359282006	9359282006	
588-1	Evaporator Bracket-R	9358587003	9358587003	
588-2	Evaporator Bracket-L	9358588000	9358588000	
625	Cord Bushing KR-51	9359240006	9359240006	
628	Locking Spacer-B	313005446558	313005446558	
629-1	EMI Filter	0400247074	0400247074	
652-1	Thermistor Holder Pipe	313806262805	313806262805	
653-1	Bolt (Fan Motor Fixing)	0700156014	0700156014	
653-2	Bolt	0700190018	0700190018	
684	Motor Base	9358562000	9358562000	
731-2	Holder (Guide Rail)	0600241018	0600241018	
743	Remote Control Unit Holder	9305642014	9305642014	
755	Casing Cover	9358544006	9358544006	
764	Drain Cap	9358746004	9358746004	
771	Panel Assy	9359076124	9359076124	
735	Distributor As	9373034032	9373034025	
790	Coupling Pipe Assy	9373038153	9373038023	
800	Bypass Pipe Assy	9373032021	9373032021	
815-1	Terminal 3P	9900203016	9900203016	
824-3	Fuse BET3.15A - 250V	0600222512	0600222512	
868	PCB Holder	9358547007	9358547007	
870-1	Arm	9358565001	9358565001	
870-2	Center Arm	9359280002	9359280002	
875	Power Supply PCB Assy	9704561077 (EZ-00210HSE-P)	9704561190 (K01AL-0408HSE-PO)	
876-1	Step Motor-H	9359106012	9359106012	
876-2	Step Motor-V	9359105015	9359105015	
923	Control Box Bracket	9358717004	9358717004	
982	Cord Clamp	9357886008	9357886008	

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

OUTDOOR UNIT

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		ROT-18LA				ROT-18LA	
2	Fan Guard	9371187013		199	Br Sheet	9363708042	
5	Front Panel Painted	9371924014		218-3	Relay	9900117016	
7	Connecter Cover (Cabinet)	9366398004		273	Strainer Assy	9366602019	
12	Base Assy, Painted	9371920078		334	Accumulator	9368391003	
13-2	2-Way Valve	9372204054		335	Accumulator Holder Rubber	9354022010	
13-3	3-Way Valve	9372205051		343	Solenoid	9900165079	
14	Valve Cover	9372796016		344	4-Way Valve	9900163013	
15	Condenser Sub Assy	9372313183		348	Pressur Switch Assy	9373729044	
16	Condenser Assy	9372181096		349	Capillary Assy	9373729433	
17	Thermister Holder Pipe	313714262805		361	Accum Support Assy	9372252017	
26-1	Compressor Cover A	9373730019		411	Gasket	9373266013	
26-2	Compressor Cover B	9373730026		527	Protective Net	9371934013	
29	Separate Wall	9372795019		734	Top Plate	9371925011	
31	PWB Assy	9705285033		754	Washer (Rubber)	9358078006	
33	Control Cover	9372792018		---	Compressor pressure switch	9900186012	
34	Capacitor, Plastic	9704305077		---	Compressor thermal switch	9373263012	
39	Propeller Fan Assy	9366378013		---	Thermistor discharge	9704219039	
41	Motor Induct	9601671046		---	Heat exchanger thermistor	9704220059	
45-1	Motor Bracket	9371929019		---	Thermistor outdoor	9703516047	
45-2	Motor Bracket-Top	9371931012		---	Thermistor heat sink	9900195014	
45-3	Motor Bracket-Ctr	9371930015					
45-4	Motor Bracket-Bottom	9371932019					
46	Compressor Assy	9373262015					
55	Special Nut M8	9355091008					
64	Side Panel L Ptd	9371926018					
69-3	Bolt, hex, Socket	301210060360					
85	Valve Plate Ptd	9371928036					
108	Rubber Seat (Comp)	9358080009					
109	Terminal Cover (Comp)	9373264019					
187	Clip (Cable)	9352715006					

Inverter Assy

Ref. No.	Description	Part No.	Ord. Q'ty
31	Controller PCB Assy	9705285033	
---	ACTPM	9703457012	
---	Capacitor, Elec	9705387010	
34	Capacitor, Plastic	9704305077	
---	Fuse	0600086039	
---	Terminal 5P	9900203023	
---	Fuse Holder	0501454012	
---	Terminal 2P	9701971015	

OUTDOOR UNIT

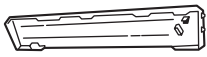
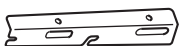
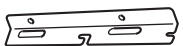
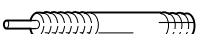
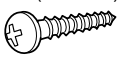
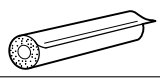
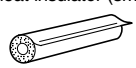
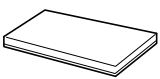
Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		RO-24LA				RO-24LA	
3	Fan Guard	9371187013		236	Controller PCB Assy	9704719072	
5	Cabinet-A, Painted	9359797029				(EZ-003PHUE-C)	
6	Cabinet-C, Painted	9363798029		255	Insulation (Heat Sink)	9370844009	
9	Cabinet-B	9363797022		333	Accumulator	9351997014	
12	Base Assy, Painted	9364145020		343	Solenoid	9900165024	
13-1	3-Way Valve Assy	9372205075		343-1	Coil (EXP Valve)	9970006012	
16	Condenser Assy	9373254010		344	4-way Valve	9900163013	
17	Condenser Sub Assy	9360274182		353	Thermistor Assy-Out	9703516054	
26-2	Compressor Cover	9372067017		373	Grip	9352157004	
26-3	Compressor Cover-C	9370186000		381-2	Locking Spacer	0600035020	
29	Separate Wall-B	9369625015		381-3	Locking Spacer	0600118051	
32-7	Control Box Metal-G	9369616006		408	Special Nut M8	9355091008	
32-8	Control Box Metal-H	9369617003		411	Holder	9372066010	
32-9	Control Box Metal-I	9369618000		412	Terminal Packing	9370290004	
32-10	Control Box Metal-J	9369619007		477	Bell-Mouth	9359809012	
32-11	Control Box-K	9369620010		527	Protection Net	9359844013	
34	Capacitor (Fan Motor)	9704305015		549	PTC Thermistor	9704265012	
39	Propeller Fan	9359837015		629	Coil, Choke	9703458019	
40	Air seal Plate	9369623004		734	Cabinet Top Plate	9359799023	
41	Fan Motor Assy Out	9601754015		764	Drain Cap	313166024302	
44	Motor Bracket CTR	9373076018		788	Thermistor (Disc Temp.)	9704219077	
45-1	Motor Bracket-A	9369627002		815	Terminal-6P	9358660089	
45-2	Motor Bracket-B	9369628009		823	Fuse Holder	0500158072	
45-4	Motor Bracket-D	9369630002		824	Fuse	0600086039	
46	Compressor Assy	9373531012		824-3	Fuse	0600222512	
47	Comp Plate Assy	9363800005		824-4	Fuse	0600222529	
64	Cabinet Left.	9359840022		825-1	EXP Valve Assy	9373251019	
69-3	Bolt, Hex.Socket	301210060360		875	Filter PCB Assy	9704722010	
84	Valve Cover	9363802009		886	Heat Sink-A	9369792007	
107	Rubber Seat-A	9358080009		887-1	Reactor Cover	9369622007	
109	Terminal Cover	9370289008		910	Strainer-B	9365099018	
117-3	Hex. Nut w/SP. Washer	301721180114		949-1	Screw , Painted	9305648009	
138	2-Way Valve Assy	9372204061		960	Accum Support Sheet	9354022010	
176	Valve Fixing Plate-A	9363799064		961	Noise Ins A	9370181005	
181	ACTPM	9703457012		962	Accum SPT AS	313986353804	
183-1	Water Seal Plate-B	9369626012		963	Acum HLD Rub	9354022010	
185-2	Rubber Washer	9358078006		964	Seperate Wall Ins B	9360074201	
203	TR PCB Assy	9704009029		965	Frange nut	9358079003	
204	Heat Sink-B	9369793004		967	Comp Temp Thermo.	9900156015	
235	Thermo.(Heat Exchi)	9704220059		----	Capacitor	9704729019	

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

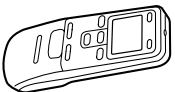
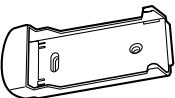
STANDARD ACCESSORIES

The following installation parts are furnished. Use them as required.

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Cosmetic Panel-L 	1		9358536018
Cosmetic Panel-R 	4		9358535011
Tapping screw (φ 4 x 10) 	2		301171164104
Installation template 	1	For positioning the indoor unit. For under ceiling type.	9359107002
Hanger bracket (left) 	1	For suspending the indoor unit from ceiling.	9358596005
Hanger bracket- (right) 	1		9358595008
Anchor bolt (M12) 	4		313806339400
Special nut 	4		
Spring washer 	4		301821112213
Wall bracket 	2	For suspending the indoor unit on the wall.	9358597002
Tapping screw (φ 4 x 20) 	6	For fixing the wall bracket.	301141164200
Coupler heat insulator (large) 	1	For indoor side pipe joint. (Large pipe)	9350716012
Coupler heat insulator (small) 	1	For indoor side pipe joint. (Small pipe)	313209328104
Nylon fastener (small) 	1	For fixing the drain hose.	312300787605
Drain hose 	1		9359242000
Insulation (drain hose) 	1	Adhesive type 70 x 230	9359225003
VT wire 	1	For fixing the drain hose L 280 mm	313806350303

REMOTE CONTROL UNIT

Name and Shape	Q'ty	Application	Part No.
Remote control unit 	1	Use for air conditioner operation (AR-JW1)	9371190013
Battery (penlight) 	2	For remote control unit	0600185534
Remote control unit holder 	1	For mounting the remote control unit	9305642014
Tapping screw (φ 3 x 12) 	2	For remote control unit holder installation	301141533125

OPTIONAL PARTS FOR INDOOR UNIT

Name and Shape	Q'ty	Application	Part No.
Joint pipe-A 		For indoor side pipe joint (RY-24LA)	9302812021

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.	
			ROT-18LA	RO-24LA
Drain pipe 	1	For outdoor unit drain piping work [Heat & Cool model (Reverse cycle) only]	9303029015	9303029015
Drain cap 	2		313166024302	313166024302
Hexagon wrench 	1	For opening the refrigerant valve on the outdoor unit	—	9351228019
Cable clip 	1	For power supply cord binding	—	313739340109
Putty 	1	For sealing	—	303020200114

