



INVERTER MULTI AIR CONDITIONER

WALL MOUNTED type

SERVICE MANUAL

Models	Indoor unit	Outdoor unit
	RSM-18LA	ROM-24LA2
	RSM-12LA	
	RSM-9LA	
	RSM-7LA	



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S P E C I F I C A T I O N S

TYPE	COOL & HEAT			
INDOOR UNIT	RSM-18LA	RSM-12LA	RSM-9LA	RSM-7LA
OUTDOOR UNIT	ROM-24LA2			
COOLING CAPACITY (kW)	5.8			
HEATING CAPACITY (kW)	6.4			

ELECTRICAL DATA

POWER SOURCE (V)	230 - 240			
FREQUENCY (Hz)	50			
RUNNING CURRENT (A)	COOLING	7.6 - 7.3		
	HEATING	7.2 - 6.9		
INPUT WATTS (kW)	COOLING	1.73 - 1.73		
	HEATING	1.64 - 1.64		
E.E.R. (kW / kW)	COOLING	3.35 - 3.35		
	HEATING	3.90 - 3.90		
MOISTURE REMOVAL (ℓ /hr)	2.2	1.6	1.2	1.0
AIR CIRCULATION-HI (m³/hr)	950	520	460	380

COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, Three phase, DC motor, Twin Rotary			
DISCRIMINATION	TNB 220 FPCM			
REFRIGERANT R410A (g)	1,900			

FAN MOTOR

POWER SOURCE (V)	230 - 240				
INDOOR UNIT	DISCRIMINATION	MFA-30HTT	MFA-40GR	MFA-40GR	MFA-40GR
	HI (r.p.m.)	1,160 - 1,180	1,310 - 1,310	1,200 - 1,200	1,000 - 1,000
	MED (r.p.m.)	1,000 - 1,020	1,260 - 1,260	1,100 - 1,100	900 - 900
	LO (r.p.m.)	850 - 870	1,190 - 1,190	1,000 - 1,000	850 - 850
QUIET (r.p.m.)	800 - 820	1,100 - 1,100	940 - 940	800 - 800	
OUTDOOR UNIT (r.p.m.)	780 - 790				

DIMENSIONS

INDOOR UNIT H x W x D (mm)	320 x 1,120 x 220	257 x 808 x 187
OUTDOOR UNIT H x W x D (mm)	650 x 830 x 320	

WEIGHT

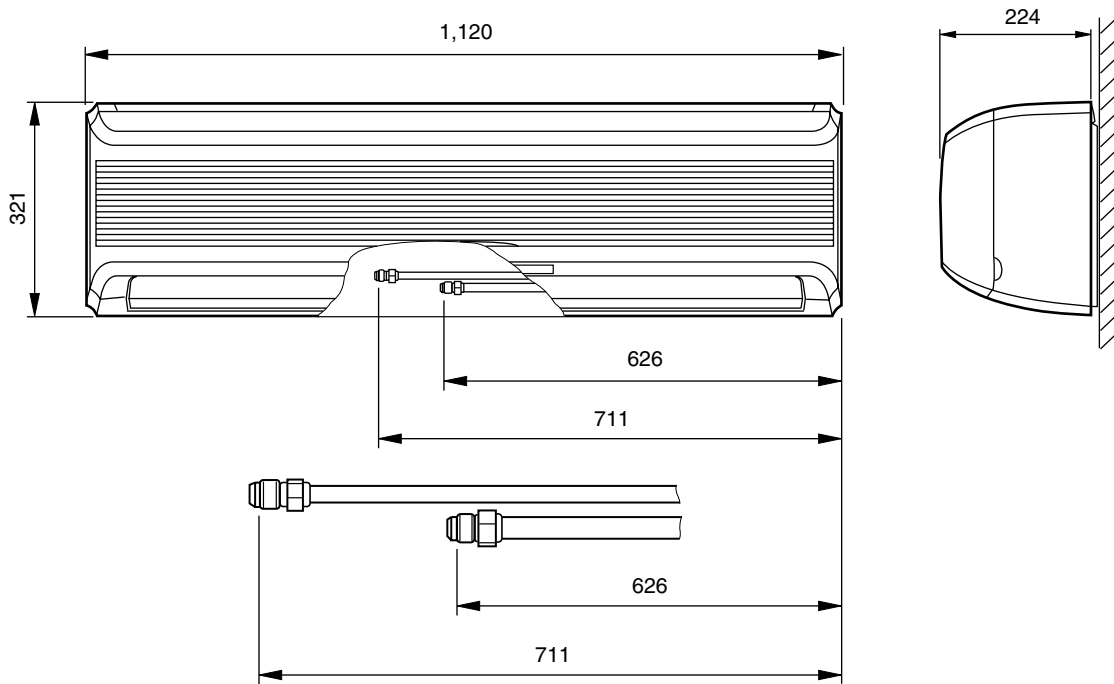
INDOOR UNIT GROSS / NET (kg)	22 / 16	10 / 8
OUTDOOR UNIT GROSS / NET (kg)	62 / 56	

OUTLINE AND DIMENSIONS

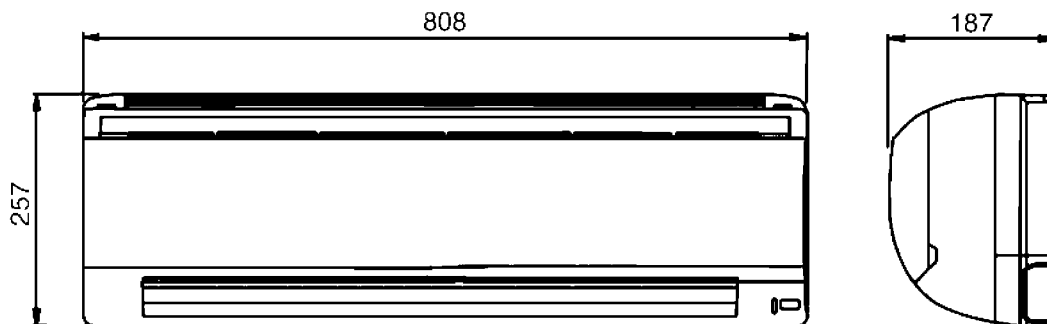
INDOOR UNIT

Unit : mm

Model : RSM-18LA



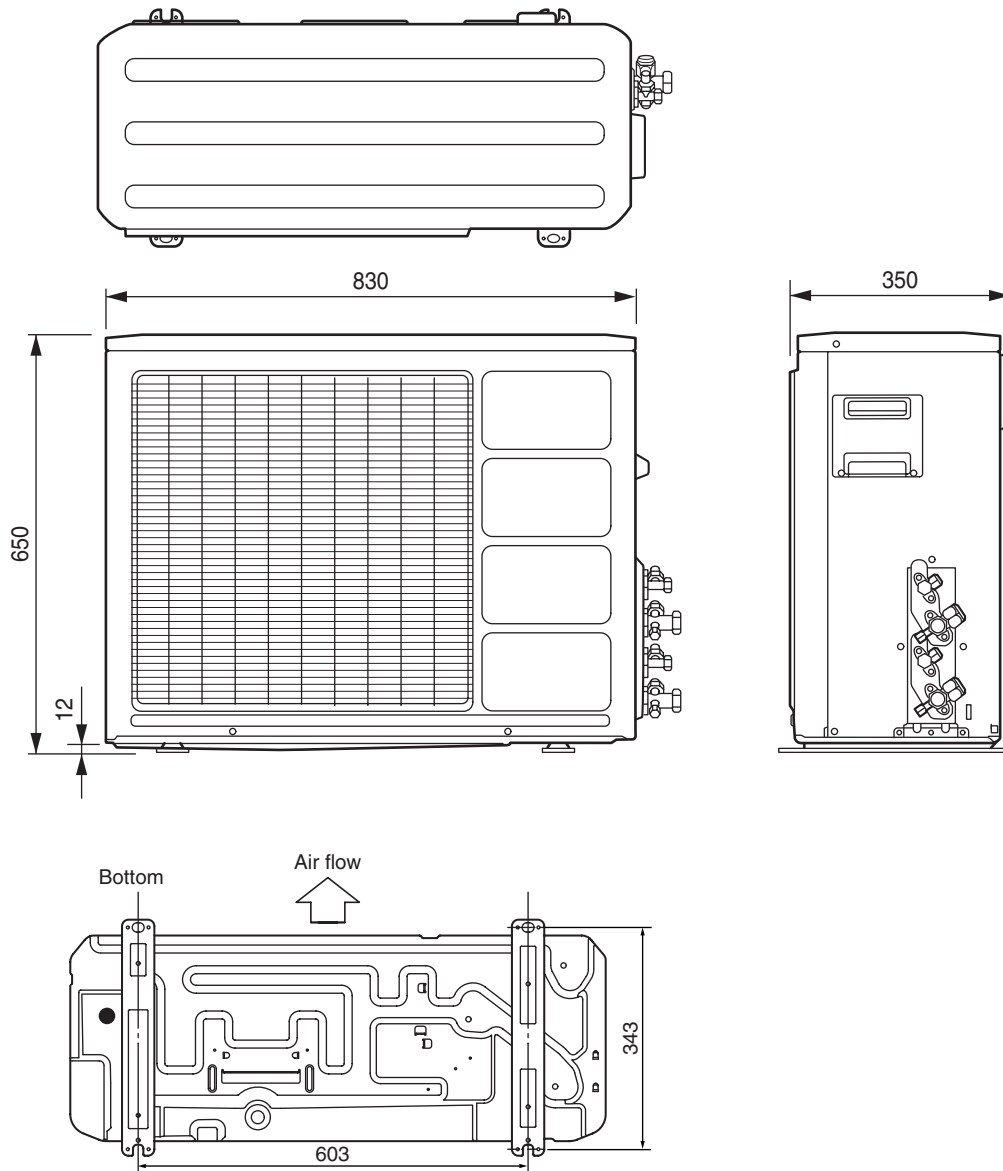
Models : RSM-12LA RSM-9LA RSM-7LA



OUTDOOR UNIT

Unit : mm

Model : ROM-24LA2



ERROR CONTENTS

○ : Fast flashing
 ● : Slow flashing
 Operation lamp : Red lamp
 Timer lamp : Green lamp

HSM-18LA

Error contents	Red lamp	Green lamp	Orange lamp
Heat exchanger thermistor error (outdoor unit)	○	● (3times)	—
Outdoor temperature thermistor error (outdoor unit)	○	● (4times)	—
Discharge thermistor error (outdoor unit)	○	● (5times)	—
Compressor thermostat error (outdoor unit)	○	● (8times)	—
Pressure switch error (outdoor unit)	○	● (9times)	—
IPM error (inverter unit)	○	● (10times)	—
Compressor later location error (inverter unit)	○	● (13times)	—
2way valve thermistor error (outdoor unit)	○	○	● (2times)
3way valve thermistor error (outdoor unit)	○	○	● (3times)
Capacity error of connecting indoor unit	○	—	● (4times)
Serial reverse transmission error	○	—	● (5times)
Thermistor error (room temp.) (indoor unit)	● (2times)	○	(○)
Thermistor error (heat exchanger) (indoor unit)	● (3times)	○	(○)
Serial order transmission error	● (5times)	○	○
fan motor error (indoor unit)	● (6times)	○	—

HSM-12LA

HSM-9LA

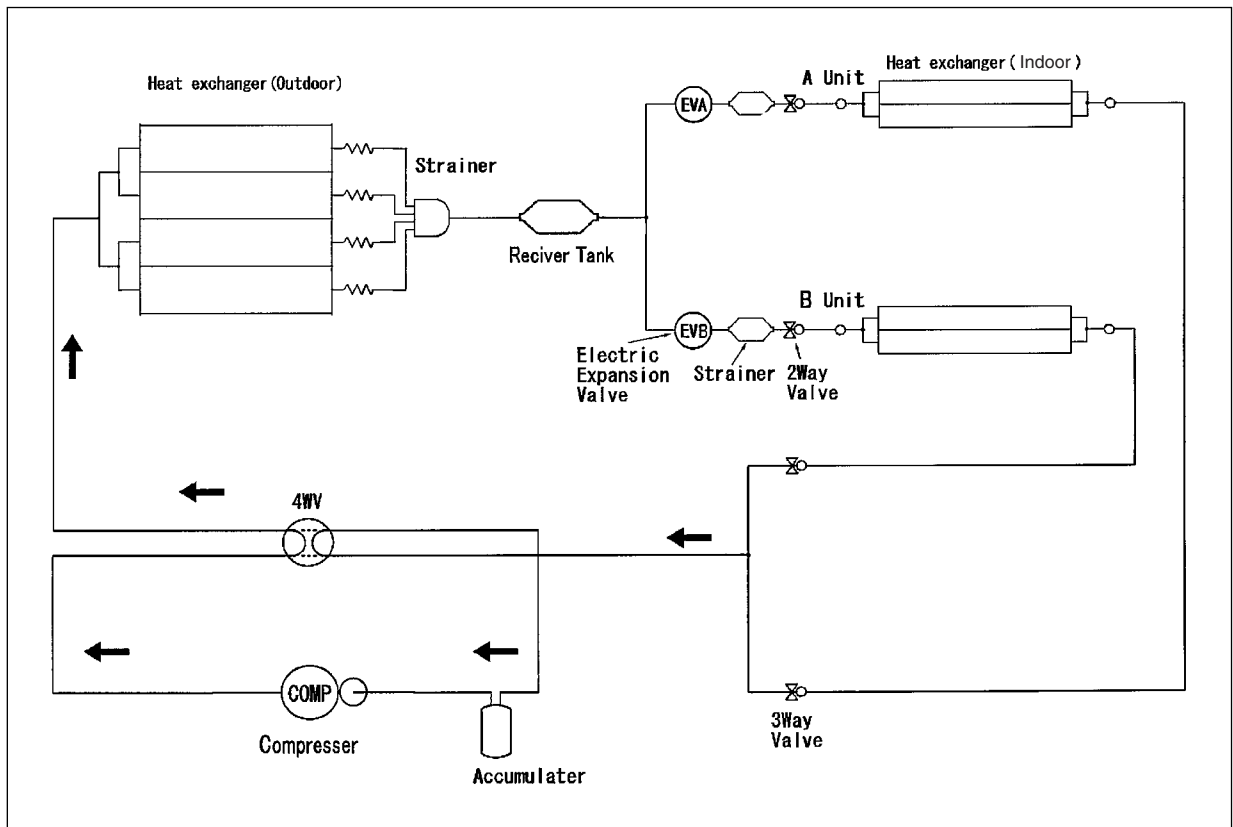
HSM-7LA

○ : Fast flashing
 ● : Slow flashing
 Operation lamp : Red lamp
 Timer lamp : Green lamp

Large division indication			Small division indication		
Error contents	LED indication		Error contents	LED indication	
Thermistor error (indoor unit)	Red lamp Green lamp	●(2times) ○	Thermistor error (room temp.)	Red lamp	○
			Thermistor error (heat exchanger)	Green lamp	●(2times)
Control unit error (indoor unit)	Red lamp Green lamp	●(4times) ○	MANUAL AUTO button error	Red lamp	○
			Power source Hz decision error	Green lamp	●(2times)
Serial error	Red lamp Green lamp	●(5times) ○	Serial reverse transmission error	Red lamp	○
			Serial order transmission error	Green lamp	●(2times)
Fan motor error (indoor unit)	Red lamp Green lamp	●(6times) ○	Lock error	Red lamp	○
			r.p.m error	Green lamp	●(2times)
Thermistor error (outdoor unit)	Red lamp Green lamp	○ ●(2times)	Discharge thermistor error	Red lamp	●(2times)
			Heat exchanger thermistor error	Green lamp	○
			Outdoor temperature thermistor error	Red lamp	●(4times)
			Compressor thermostat error	Green lamp	○
			2way valve thermistor error	Red lamp	●(8times)
			3way valve thermistor error	Green lamp	○
Pressure switch error	Red lamp Green lamp	○ ●(3times)	Pressure switch error	Red lamp	●(2times)
Control unit error (outdoor unit)	Red lamp Green lamp	○ ●(4times)	Capacity error of connecting indoor unit	Green lamp	○
			Outdoor unit IPM error	Red lamp	●(2times)
Inverter error	Red lamp Green lamp	○ ●(5times)	Compressor later location error	Green lamp	○
				Red lamp	●(5times)

When an error occurs, "Large division indication" is indicated first.
 Secondly, "Small division indication" is indicated by pushing "TEST RUN" button of remote controller.

REFRIGERANT SYSTEM DIAGRAM

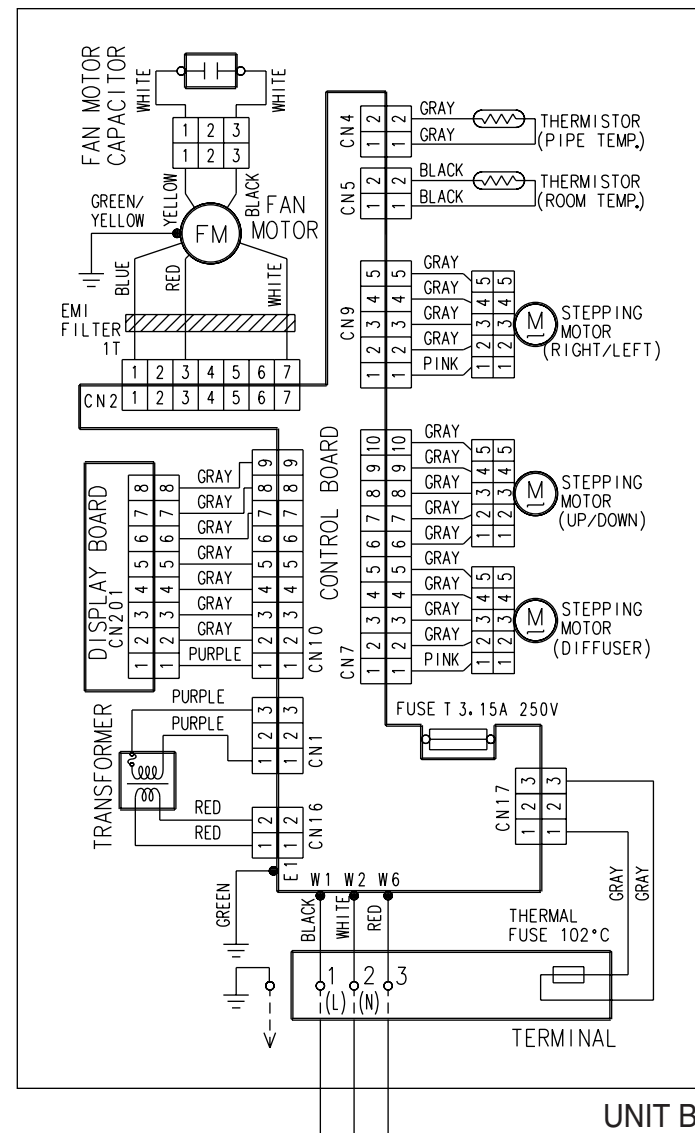


CIRCUIT DIAGRAM

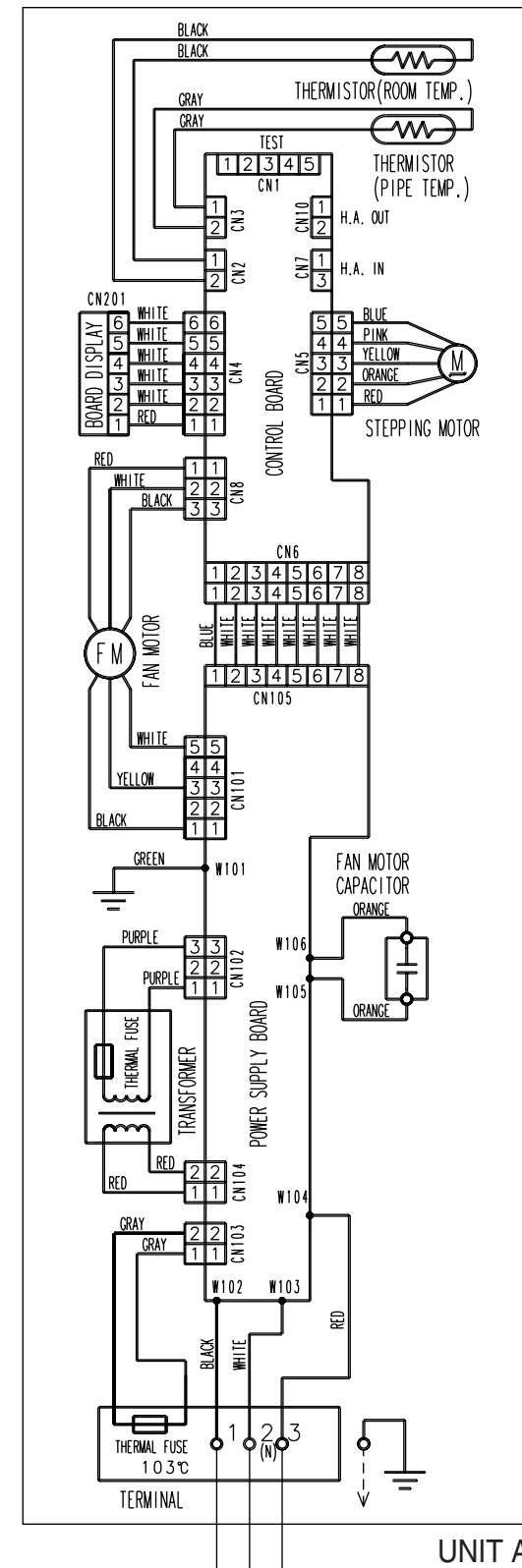
INDOOR UNIT

* RSM-18LA can't be connected to "UNIT A".

Model : RSM-18LA

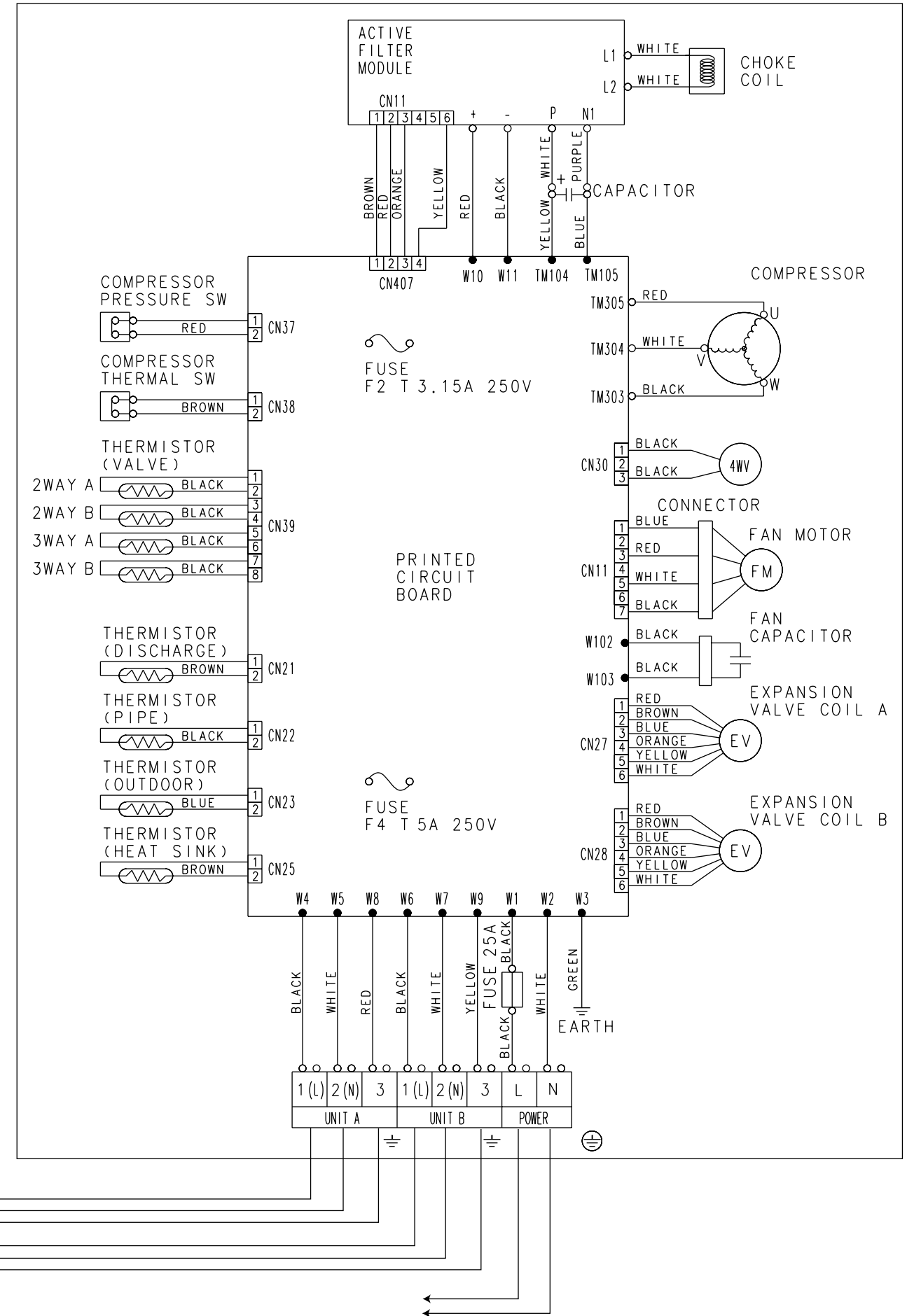


Models : RSM-7LA RSM-9LA RSM-12LA



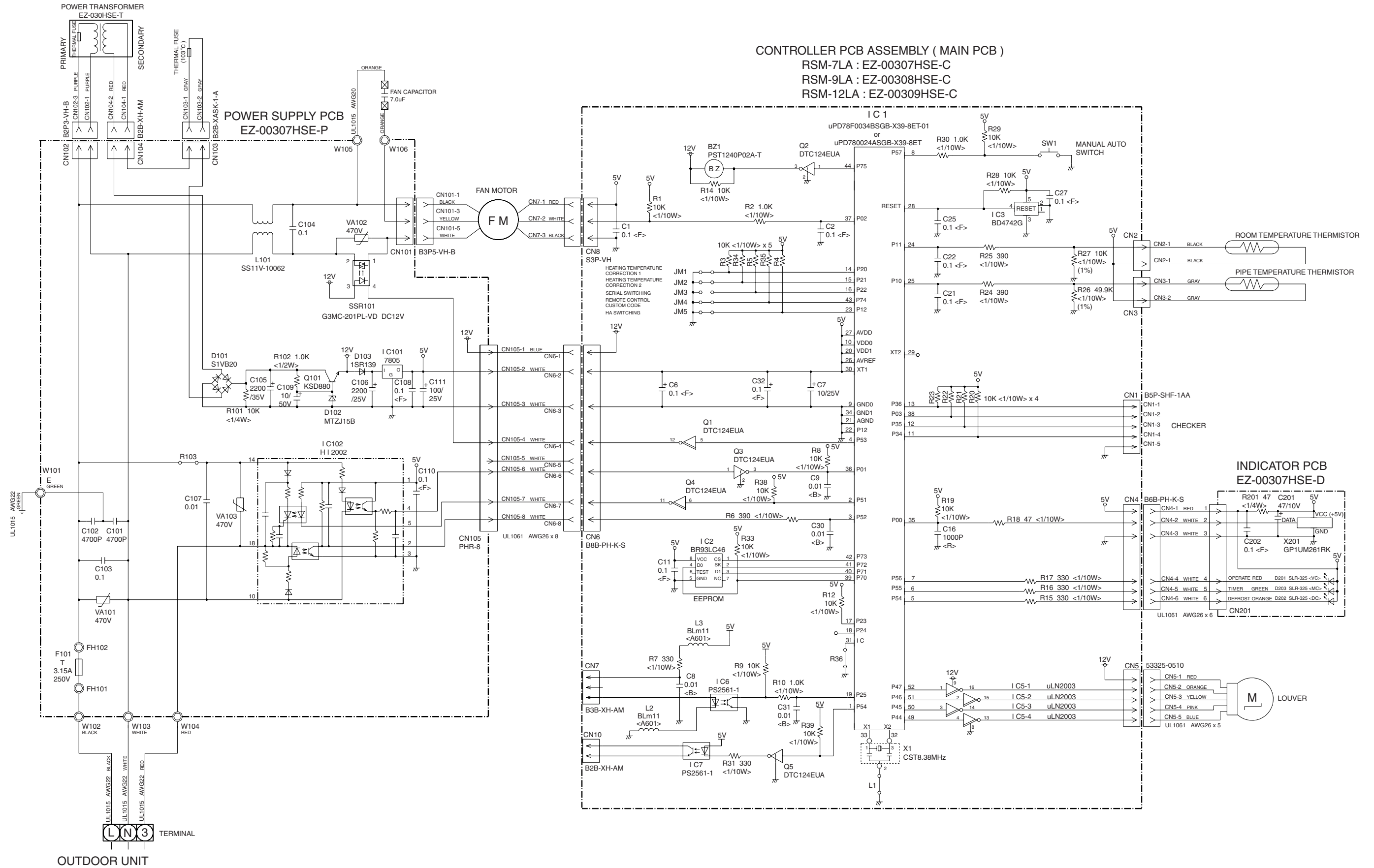
OUTDOOR UNIT

Model : ROM-24LA2



INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models : RSM-7LA
RSM-9LA
RSM-12LA

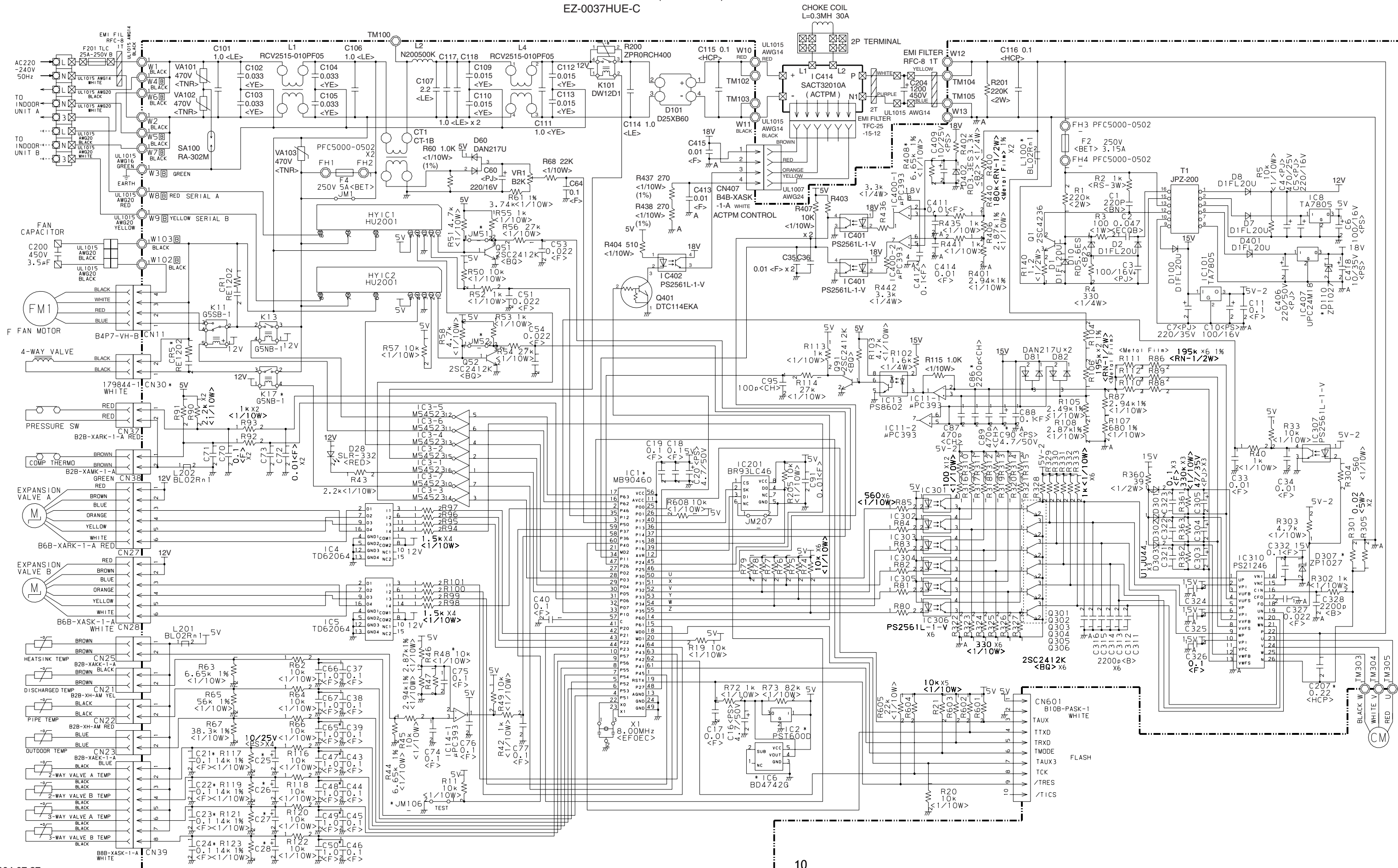


CONTROLLER PCB ASSEMBLY (MAIN PCB)
RSM-7LA : EZ-00307HSE-C
RSM-9LA : EZ-00308HSE-C
RSM-12LA : EZ-00309HSE-C

OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

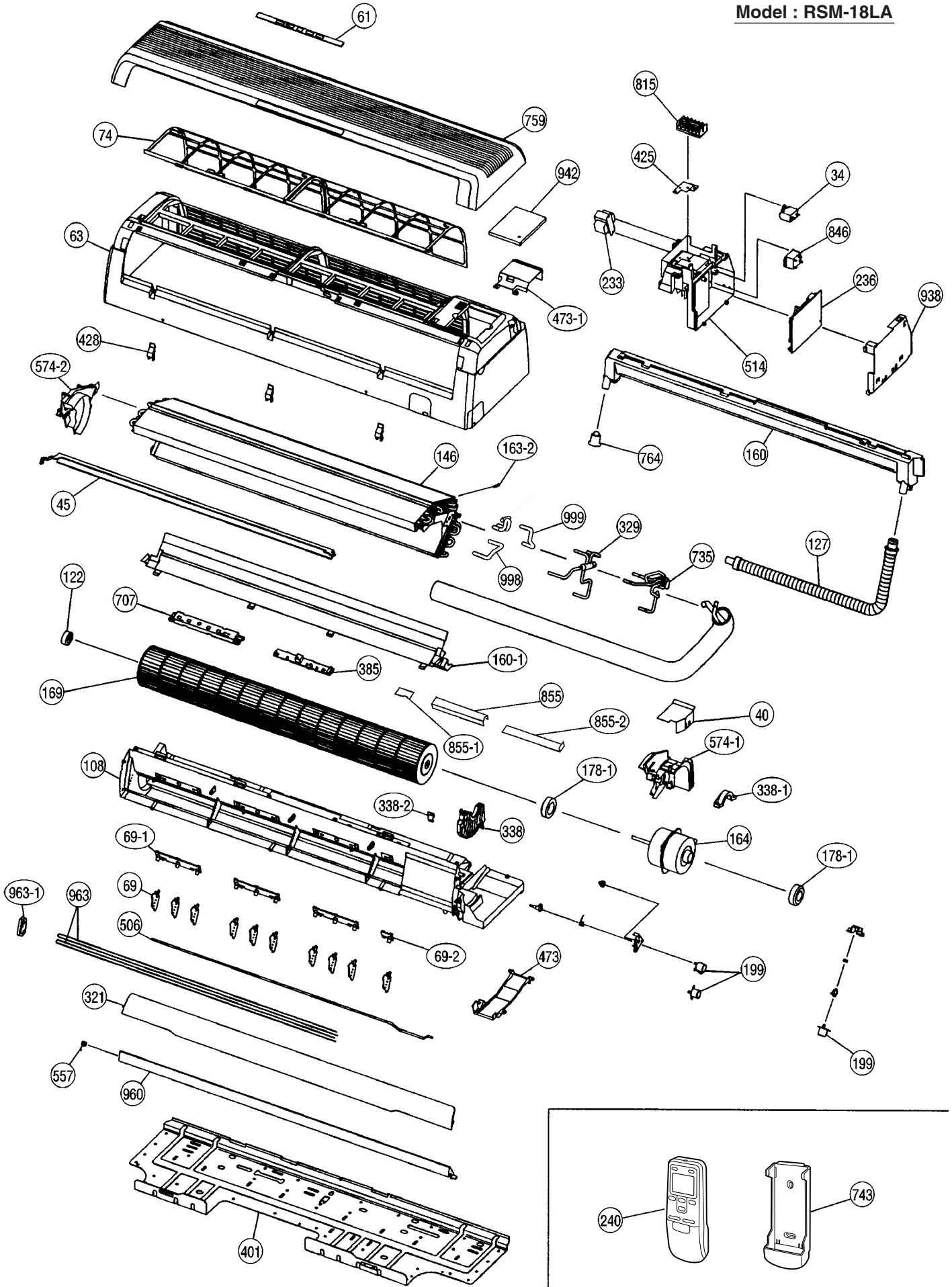
Model : ROM-24LA2

CONTROLLER PCB ASSEMBLY (MAIN PCB)
EZ-0037HUE-C

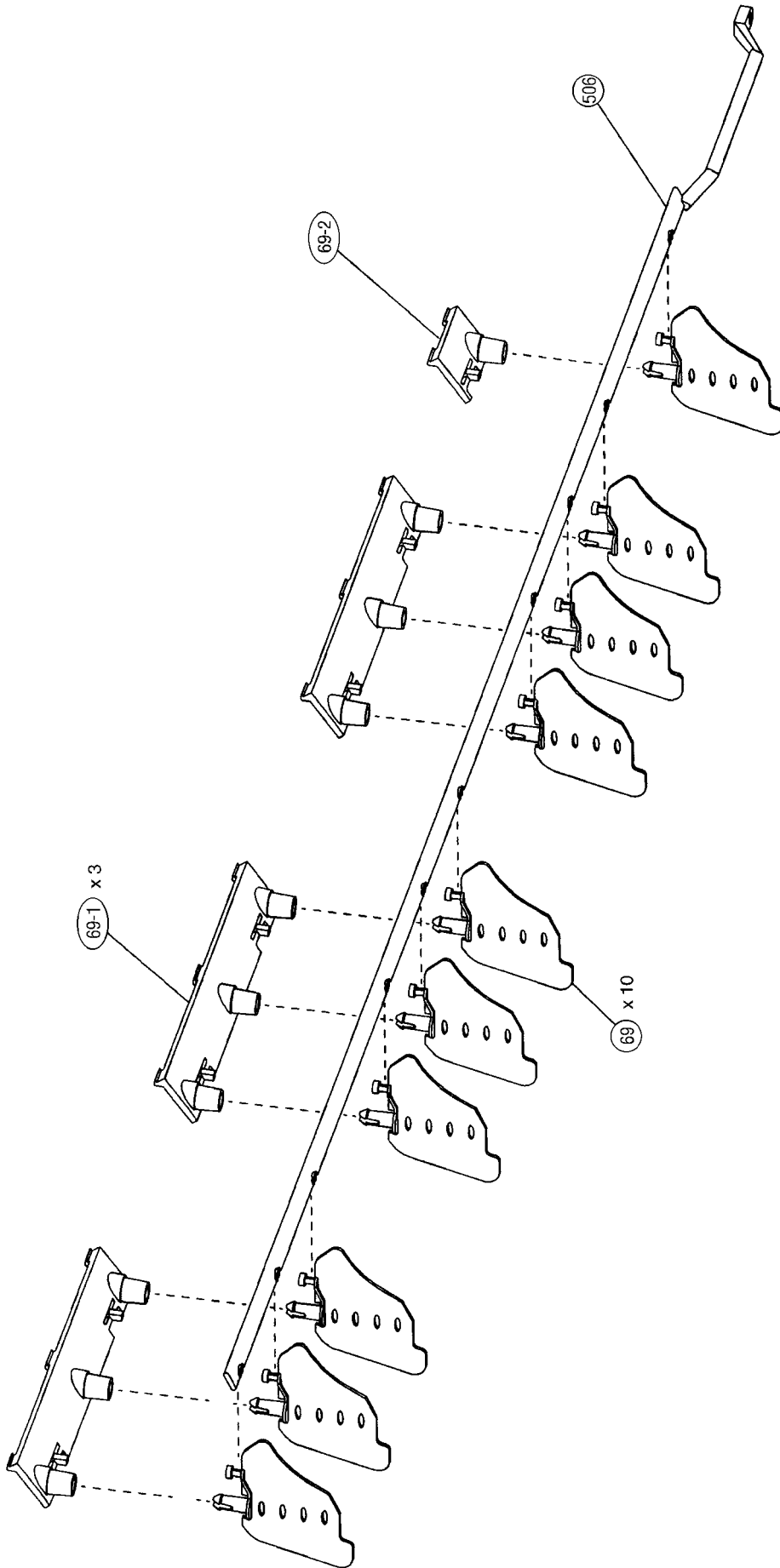


DISASSEMBLY ILLUSTRATION

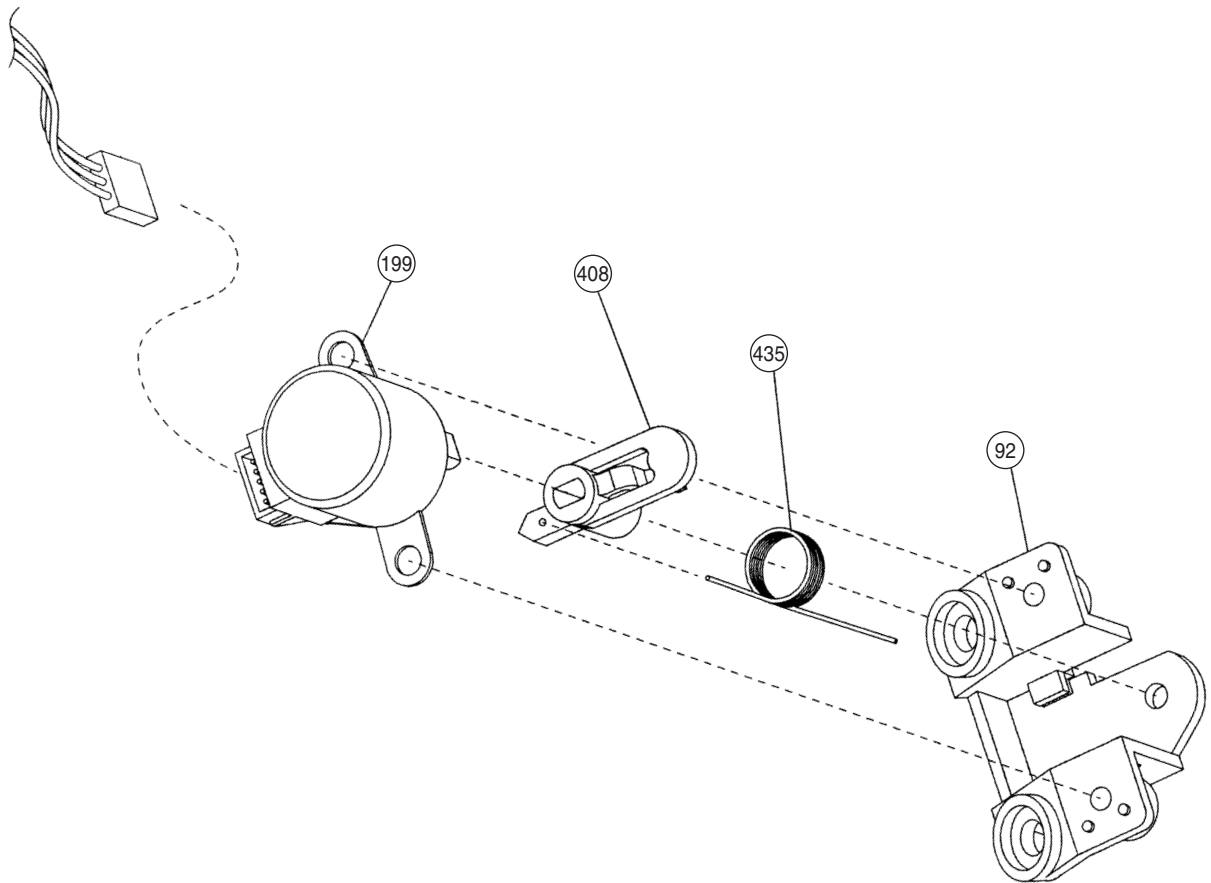
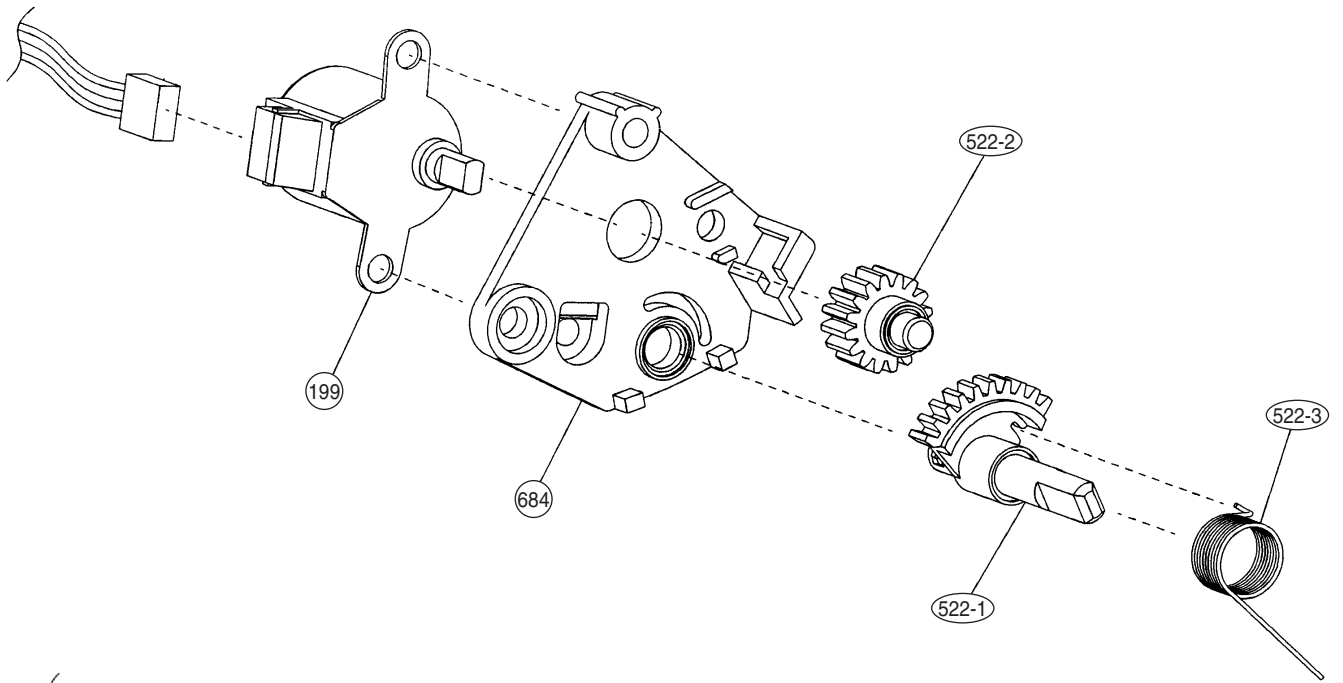
Model : RSM-18LA



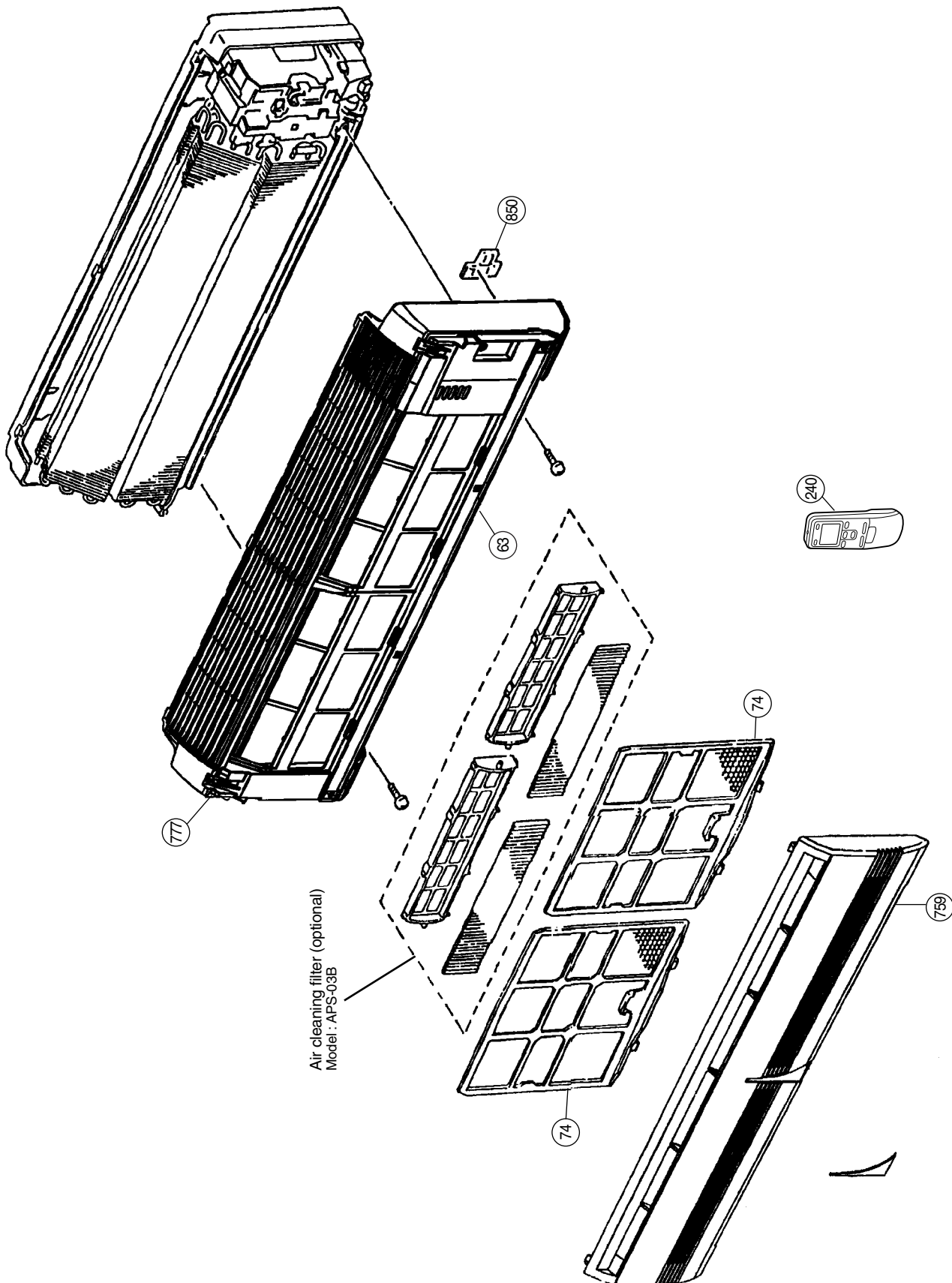
Model : RSM-18LA



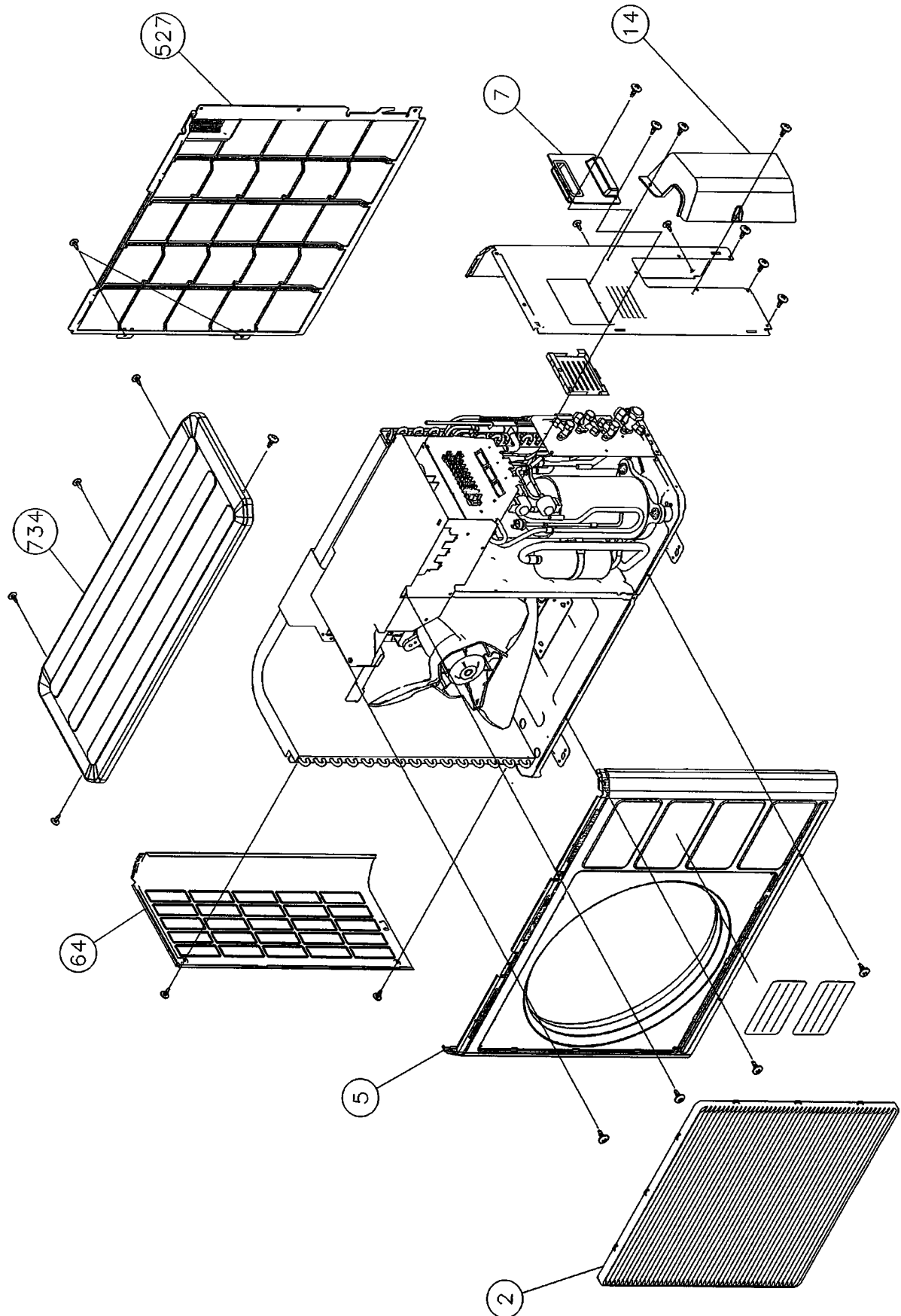
Model : RSM-18LA

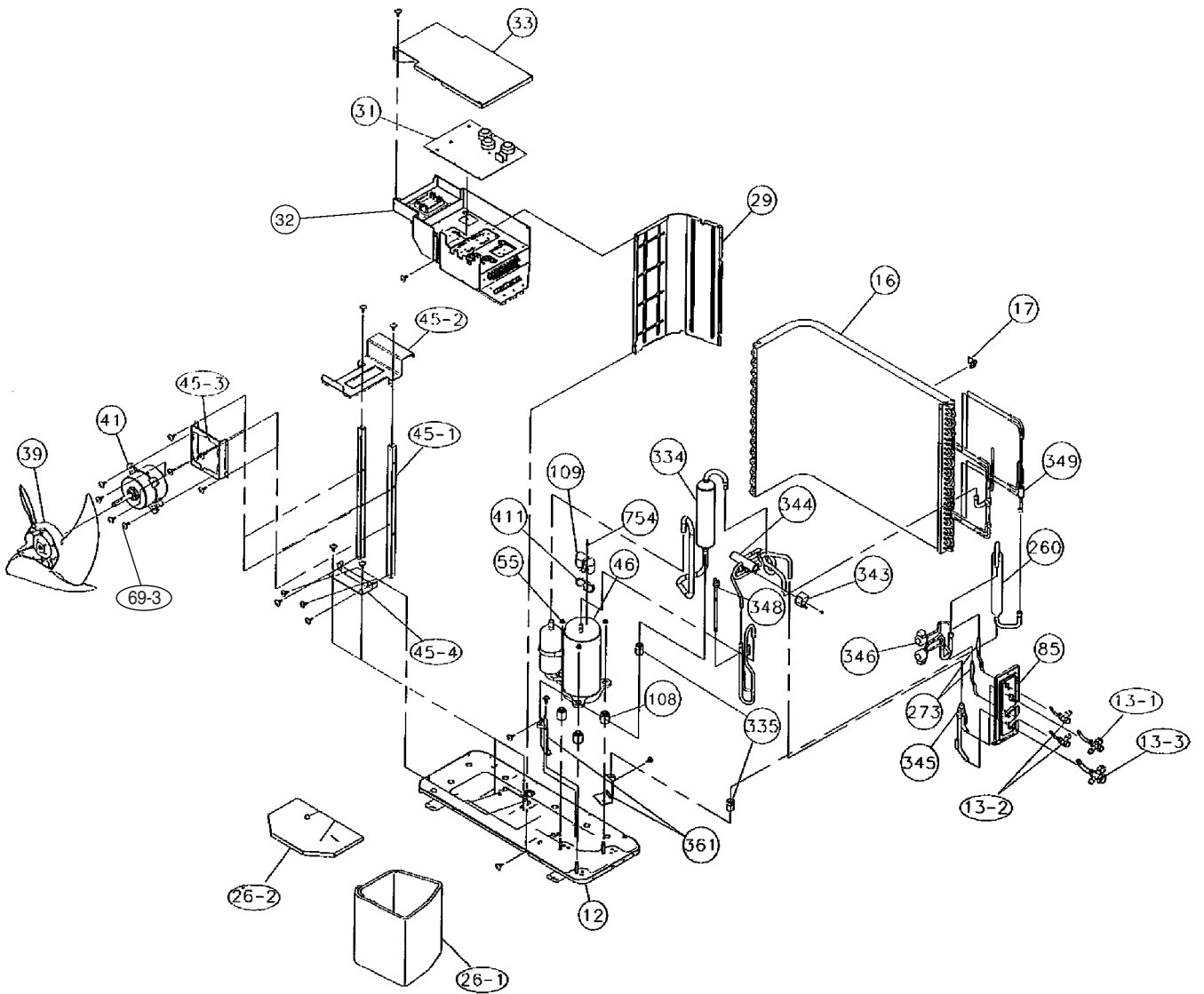


Models : RSM-12LA
RSM-9LA
RSM-7LA



Model : ROM-24LA2





PARTS LIST

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

INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		RSM-18LA				RSM-18LA	
34	Capacitor (Fan Motor)	9704305060		401	Wall Hook Bracket	9368579005	
40	Water Seal Plate	9369684005		408	Louver Link	9368562007	
45	Bracket (Evaporator)	9369372001		425	Earth Plate	9368580001	
61	Decoration Plate	9367731015		428	Screw Cover	9368576011	
63	Front Panel	9368540012		435	Louver Spring	9368613006	
69	Louver	9368560010		473	Pipe Holder	9368565008	
69-1	Louver Base-A	9368558017		473-1	Cord Holder	9368566005	
69-2	Louver Base-B	9368559014		506	Louver Rod	9368561017	
74	Air Filter	9368552008		514	Control Box	9368543006	
92	Link Holder	9368563004		522-1	Sector Gear	9368556006	
108	Base Assy	9369209017		522-2	Pinion Gear	9368557003	
122	Bearing Assy	9368574000		522-3	Flap Spring	9368612009	
127	Drain Hose	9367695003		557	Diffuser Spring	9368587000	
146	Evaporator Assy	9372102015		574-1	Evaporator Support-R	9368549008	
160	Front Drain Pan (kit)	9370932010		574-2	Evaporator Support-L	9368548001	
160-1	Rear Drain Pan Assy	9369201011		684	Motor Base	9368555009	
163-2	Thermistor Spring-A	313728262708		707	Display Cover	9368564001	
164	Fan Motor Assy-IN	9601388012		735	Distributor Assy	9371178004	
169	Cross Flow Fan Assy	9368586003		743	Remote Control Unit Case	9305642014	
178-1	Rubber (Motor)	9368575007		759	Intake Grill-F	9368541057	
199	Step Motor	9900020019		764	Drain Cap	9367677009	
233	Power Transformer	9900069018		815	Terminal	9306489106	
236	Controller PCB Assy	9704714091		846	Relay G5NB-1A	9701316014	
240	Remote Control Unit	9371190112		855	Cover Display	9369264016	
321	Flap	9368544010		855-1	Cover Display-B	9369594014	
329	Coupling Pipe Assy	9369241000		855-2	Cover Display-C	9369683015	
338	Motor Holder-A	9368550004		938	Control Box Cover-R	9369631009	
338-1	Motor Holder-B	9368551001		942	Control Box Cover	9368611002	
338-2	Motor Holder-C	9368769000		960	Diffuser Assy	9369346019	
385	Indicator PCB Assy	9702307011		963	Fan Guard	9368588007	
				963-1	Fan Guard Holder	9368554002	
				998	Bypass Pipe-A	9369238000	
				999	Bypass Pipe-B	9369239007	

INDOOR UNIT

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Ref. No.	Description	Part No.			Ord. Q'ty
		RSM-12LA	RSM-9LA	RSM-7LA	
34	Capacitor (Fan motor)	9900089061	9900089061	9900089061	
63	Front Panel Assy	9312172214	9312172214	9312172214	
65	Flow Control Panel-Z	9306058043	9306058043	9306058043	
69	Louver-A	9306055028	9306055028	9306055028	
74	Filter	9305444014	9305444014	9305444014	
108	Base	9309755062	9309755062	9309755062	
109	Casing	9306052027	9306052027	9306052027	
122	Shaft Holder-B	9303066010	9303066010	9303066010	
127	Drain Hose Assy	9305550029	9305550029	9305550029	
146	Evaporator Assy	9373044017	9308559036	9308559036	
151	Control Box	9330007017	9330007017	9330007017	
158	Connecting Pipe Assy	9306416010	9306416010	9306416010	
164	Fan Motor Assy-IN	9601171010	9601171010	9601171010	
169	Cross-Flow Fan Assy	9307836015	9307836015	9307836015	
178	Motor Cushion-M	9601302018	9601302018	9601302018	
184	Thermistor Spring	313728262708	313728262708	313728262708	
196	Clamp SKB-150	313035356905	313035356905	313035356905	
233	Power Transformer	9900028015	9900028015	9900028015	
236	Controller PCB Assy	9705289031	9705289024	9705289017	
240	Remote Control Unit	9371190174	9371190174	9371190174	
281	BRACKET(PIPE)	9330011014	9330011014	9330011014	
283	Bushing-A	9303529010	9303529010	9303529010	
323	Louver-B	9306056025	9306056025	9306056025	
385	Indicator PCB Assy	9705296015	9705296015	9705296015	
401	Wall Hook Bracket	9304358008	9304358008	9304358008	
440	Flow Control Panel-U	9306057046	9306057046	9306057046	
522-1	Gear-A	9306062002	9306062002	9306062002	
523	Gear Bracket	9306407001	9306407001	9306407001	
652-1	Thermistor Holder Pipe	313714262805	313714262805	313714262805	
668	Screw w/Washer	313681304205	9330012011	9330012011	
687	Earth Terminal	9330012011	313681304205	313681304205	
759	Intake Grille	9330002067	9330002067	9330002067	
764	Drain Cap Assy	9304150008	9304150008	9304150008	
767-1	Bottom Cover	9330004016	9330004016	9330004016	
777	CLAMPER(GRILL)	9306755010	9306755010	9306755010	
815	Terminal	9900040055	9900040055	9900040055	
850	Window (Receiver)	9330003019	9330003019	9330003019	
872	Indicator Case	9330009011	9330009011	9330009011	
873	Lamp Cover	9330014015	9330014015	9330014015	
874	Control Box Cover	9330008014	9330008014	9330008014	
875	Power Supply PCB Assy	9705294011	9705294011	9705294011	
876	Step Motor	9900139018	9900139018	9900139018	
962-1	Guard Holder-L	9306678012	9306678012	9306678012	
962-2	Guard Holder-R	9306677015	9306677015	9306677015	
963	Fan Guard	9305751013	9305751013	9305751013	

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
		ROM-24LA2				ROM-24LA2	
2	Fan Guard	9371187013		45-3	Motor Bracket-Ctr	9371930015	
5	Front Panel Painted	9371924014		45-4	Motor Bracket-Bottom	9371932019	
7	Connecteur Cover (Cabinet)	9366398004		46	Compressor Assy	9373262015	
12	Base Assy, Painted	9371920078		55	Special Nut M8	9355091008	
13-1	3-Way Valve	9372205044		64	Side Panel L Ptd	9371926018	
13-2	2-Way Valve	9372204054		69-3	Bolt, hex, Socket	301210060360	
13-3	3-Way Valve	9372205051		85	Valve Plate Ptd	9371928036	
14	Valve Cover	9372796016		108	Rubber Seat (Comp)	9358080009	
16	Condenser Assy	9372181096		109	Terminal Cover (Comp)	9373264019	
17	Thermister Holder Pipe	313714262805		260	Receiver Tank Assy	9373426011	
26-1	Compressor Cover A	9373730019		273	Strainer Assy	9366602019	
26-2	Compressor Cover B	9373730026		334	Accumlator	9368391003	
29	Separate Wall	9372795019		335	Accumlator Holder Rubber	9354022010	
31	PWB Assy	9705285019		343	Solenoid	9900165079	
33	Control Cover	9372792018		344	4-Way Valve	9900163013	
34	Capacitor, Plastic	9704305077		345	Joint Pipe (3Way) Assy	9373729129	
39	Propeller Fan Assy	9366378013		346	Expansion Valve Assy	9373729068	
41	Motor Induct	9601671046		348	Pressur Switch Assy	9373729044	
45-1	Motor Bracket	9371929019		349	Capirarry Assy	9373729211	
45-2	Motor Bracket-Top	9371931012		361	Accum Support Assy	9372252017	
				411	Gasket	9373266013	
				527	Protective Net	9371934013	
				734	Top Plate	9371925011	
				754	Washer (Rubber)	9358078006	

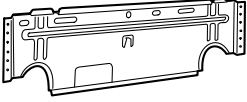

Inverter Assy (Ref. No.32)

Ref. No.	Description	Part No.	Ord. Q'ty
31	Controllor PCB Assy	9705285019	
---	ACTPM	9703457012	
---	Capacitor, Elec	9705387010	
34	Capacitor, Plastic	9704305077	
---	Fuse	0600086039	
---	Terminal 8P	9900203047	
---	Fuse Holder	0501454012	
---	Terminal 2P	9701971015	

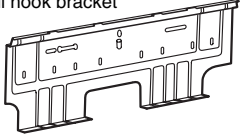
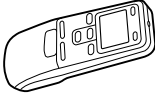

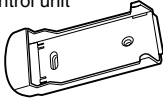
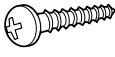
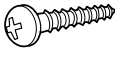

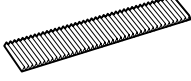
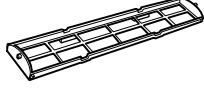
STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Models : RSM-12LA, RSM-9LA
RSM-7LA

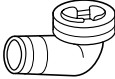


Name and Shape	Part No.
Wall hook bracket 	9304358008
Wall cap-B 	313714296205
Remote control unit 	9371190174 (AR-JW17)
Battery (penlight) 	0600185534
Remote control unit holder 	9305642014
Cloth tape 	9308117007
Tapping screw (big) ($\phi 4 \times 20$) 	301141164200
Tapping screw (small) ($\phi 3 \times 12$) 	0700019036
Air cleaning filter 	DEODRANT FILTER 9310441015 ELECTRIC FILTER 9310442012
Air cleaning filter frame 	9305445011
Adapter D (1/2" \rightarrow 3/8") 12.7 mm \rightarrow 9.52 mm 	9Q model only 9370244007

Model : RSM-18LA

Name and Shape	Part No.
Wall hook bracket 	9368579005
Remote control unit 	9371190112 (AR-JW11)
Battery (penlight) 	0600185534
Remote control unit holder 	9368847012
Tapping screw (big) ($\phi 4 \times 20$) 	301141164200
Tapping screw (big) ($\phi 4 \times 12$) 	301171164129
Tapping screw (small) ($\phi 3 \times 12$) 	301141533125
Air cleaning filter 	DEODORANT FILTER 9370527018 ELECTRIC FILTER 9370528015
Air cleaning filter frame 	9368568009

OUTDOOR UNIT ACCESSORIES

Model : ROM-24LA2

Name and Shape	Part No.
Drain pipe 	9303029015
Drain cap 	313166024302
Adapter D (1/2" \rightarrow 3/8") 12.7mm \rightarrow 9.52mm 	9370244007

Thermistor resistance values <Indoor unit side>

1) Room temperature thermistor (TH_{IA})

Room temperature (°C)	0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
Resistance value (kΩ)	33.6	29.5	25.9	22.8	20.2	17.9	15.8	14.1	12.5	11.2	10.0	9.0	8.0

Room temperature (°C)	32.5	35	37.5	40	42.5	45	47.5	50
Resistance value (kΩ)	7.2	6.5	5.9	5.3	4.8	4.3	3.9	3.6

2) Indoor heat exchanger temperature thermistor (TH_{HM}, TH_{HI})

Heat exchanger temperature (°C)	0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
Resistance value (kΩ)	176.0	153.5	134.2	117.6	103.3	91.0	80.3	71.0	62.9	55.9	49.7	44.3	39.6

Heat exchanger temperature (°C)	32.5	35	37.5	40	42.5	45	47.5	50	52.5	55	57.5	60
Resistance value (kΩ)	35.4	31.7	28.5	25.6	23.1	20.8	18.8	17.1	15.5	14.1	12.8	11.6

