

SERVICE MANUAL



Models

Indoor unit	Outdoor unit
RS-9LB	RO-9LB
RS-12LB	RO-12LB

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SPECIFICATIONS

TYPE		COOL & HEAT INVERTER	
INDOOR UNIT		RS-9LB	RS-12LB
OUTDOOR UNIT		RO-9LB	RO-12LB
COOLING CAPACITY	(kW)	2.60	3.50
HEATING CAPACITY	(kW)	3.60	4.80

ELECTRICAL DATA

POWER SOURCE		(V)	230	
FREQUENCY		(Hz)	50	
RUNNING CURRENT	(A)	COOLING	3.0	4.3
		HEATING	3.8	5.6
INPUT WATTS	(kW)	COOLING	0.62	0.92
		HEATING	0.82	1.23
E.E.R.	(kW/kW)	COOLING	4.19	3.80
COP	(kW/kW)	HEATING	4.39	3.90
MOISTURE REMOVAL		(ℓ/hr)	1.3	1.8
AIR CIRCULATION-Hi		(m³/hr)	C 595 H 645	C 635 H 670

COMPRESSOR

TYPE		Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary	
DISCRIMINATION		DA 89 X 1F - 20F	
REFRIGERANT	R410A	(g)	950 1,050

FAN MOTOR

POWER SOURCE		(V)	230	
INDOOR UNIT	HI-SPEED	(r.p.m.)	C 1,300 H 1,390	C 1,370 H 1,440
	MED-SPEED	(r.p.m.)	C 1,120 H 1,200	C 1,150 H 1,200
	LO-SPEED	(r.p.m.)	C 950 H 1,000	C 950 H 1,000
	QUIET	(r.p.m.)	C 700 H 760	C 700 H 760
OUTDOOR UNIT		(r.p.m.)	C 840 H 840	C 830 H 830

DIMENSIONS

INDOOR UNIT	H x W x D	(mm)	275 x 790 x 215	
OUTDOOR UNIT	H x W x D	(mm)	540 x 790 x 290	

WEIGHT

INDOOR UNIT	GROSS / NET	(kg)	12 / 9	
OUTDOOR UNIT	GROSS / NET	(kg)	39 / 35	42 / 38

NOISE LEVEL

INDOOR UNIT	(dB)	C 42 H 42	C 43 H 43
OUTDOOR UNIT	(dB)	C 47 H 48	C 47 H 49

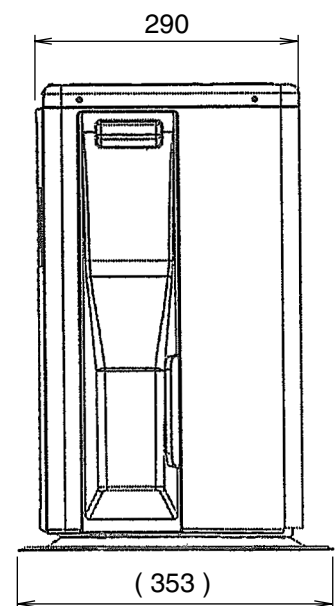
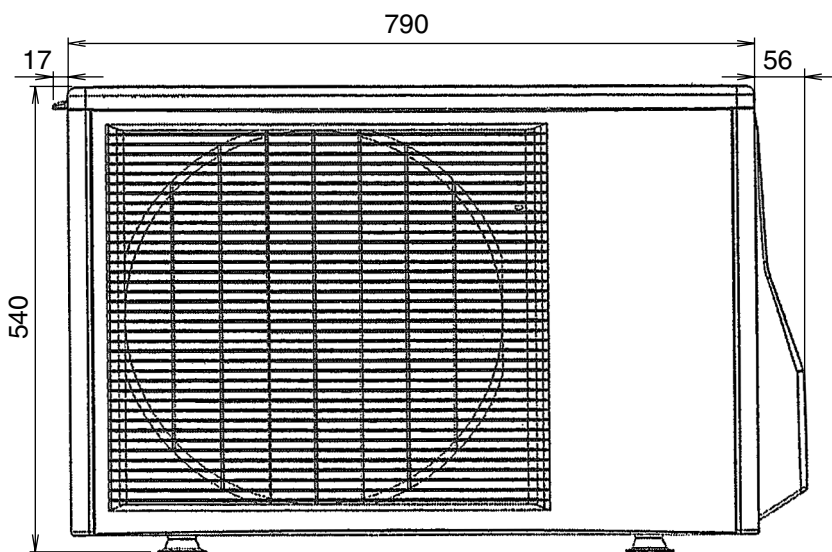
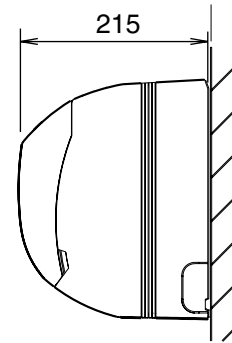
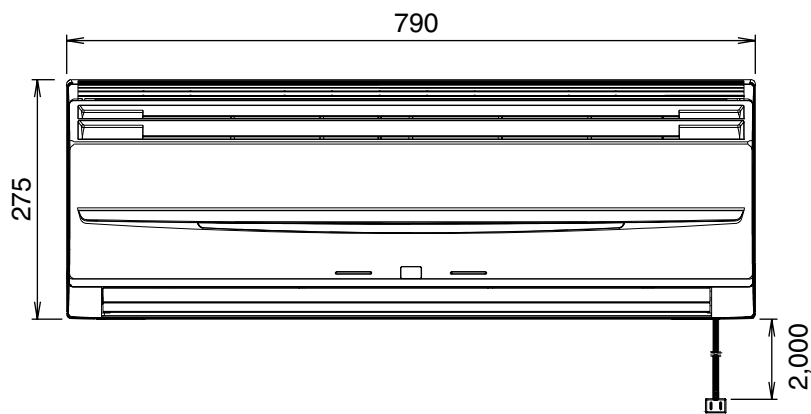
REFRIGERANT (R410A)

FULL CHARGE AMOUNT	Pipe Length	15 m	950 g	1,050 g
		20 m	1,050 g	1,150 g
ADDITIONAL REFRIGERANT		20 g / m		

DIMENSIONS

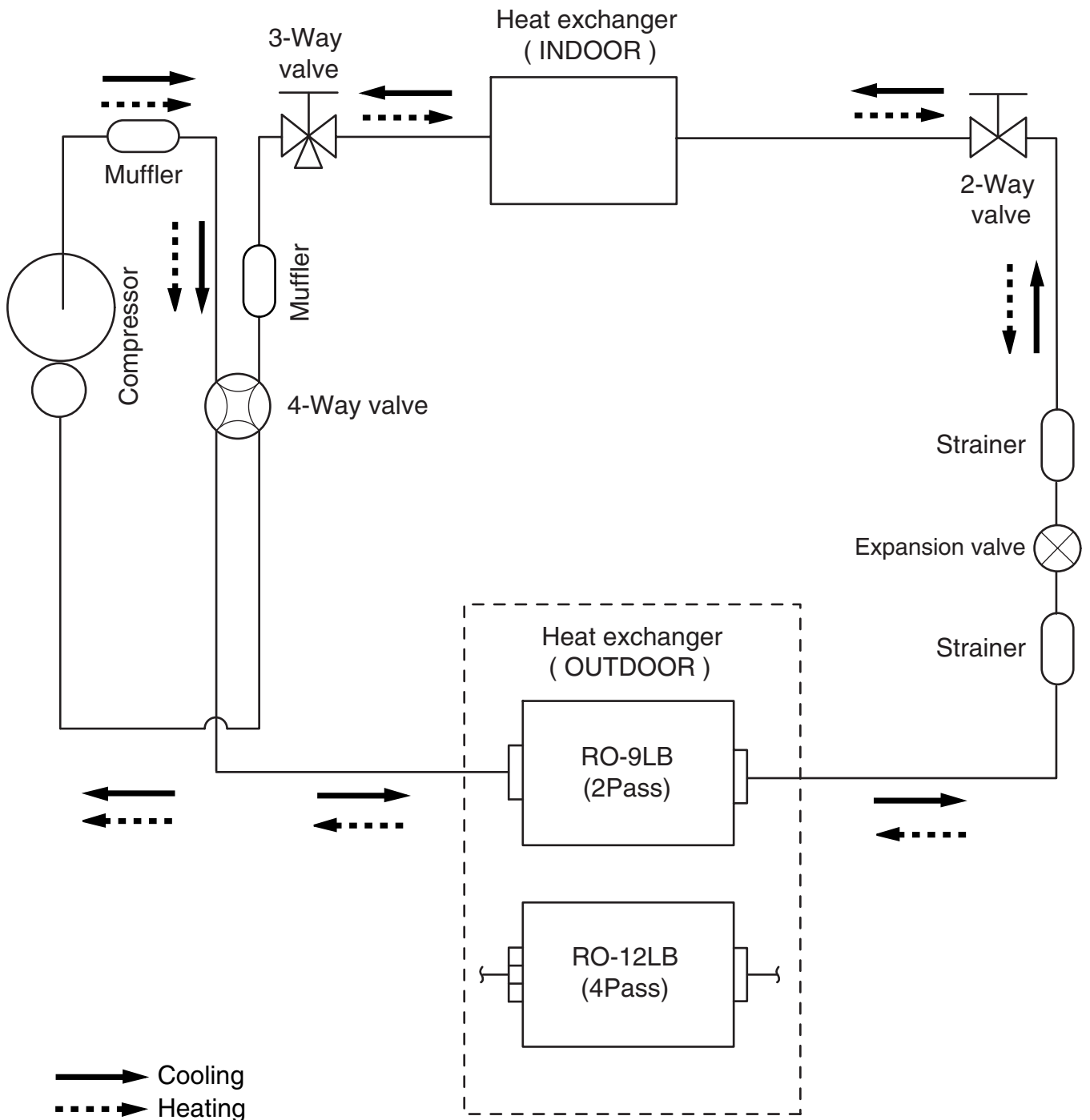
Models : RS-9LB / RO-9LB
RS-12LB / RO-12LB

(unit : mm)



REFRIGERANT SYSTEM DIAGRAM

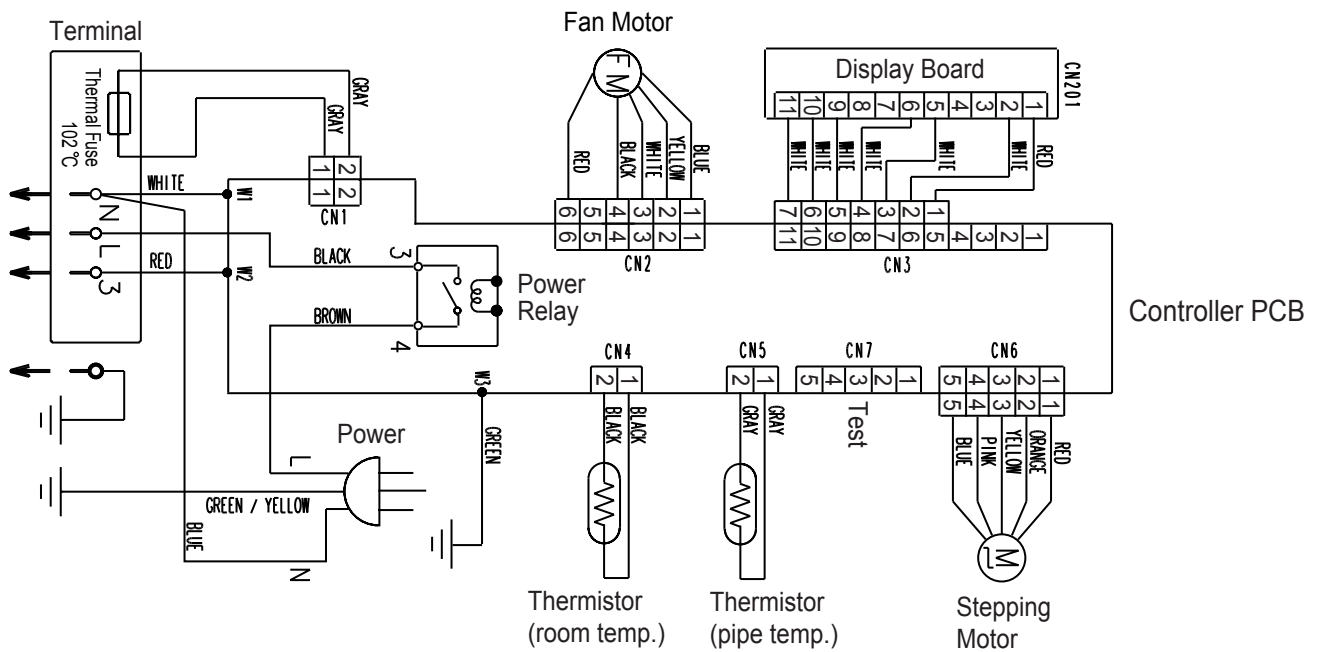
Models : RS-9LB / RO-9LB
RS-12LB / RO-12LB



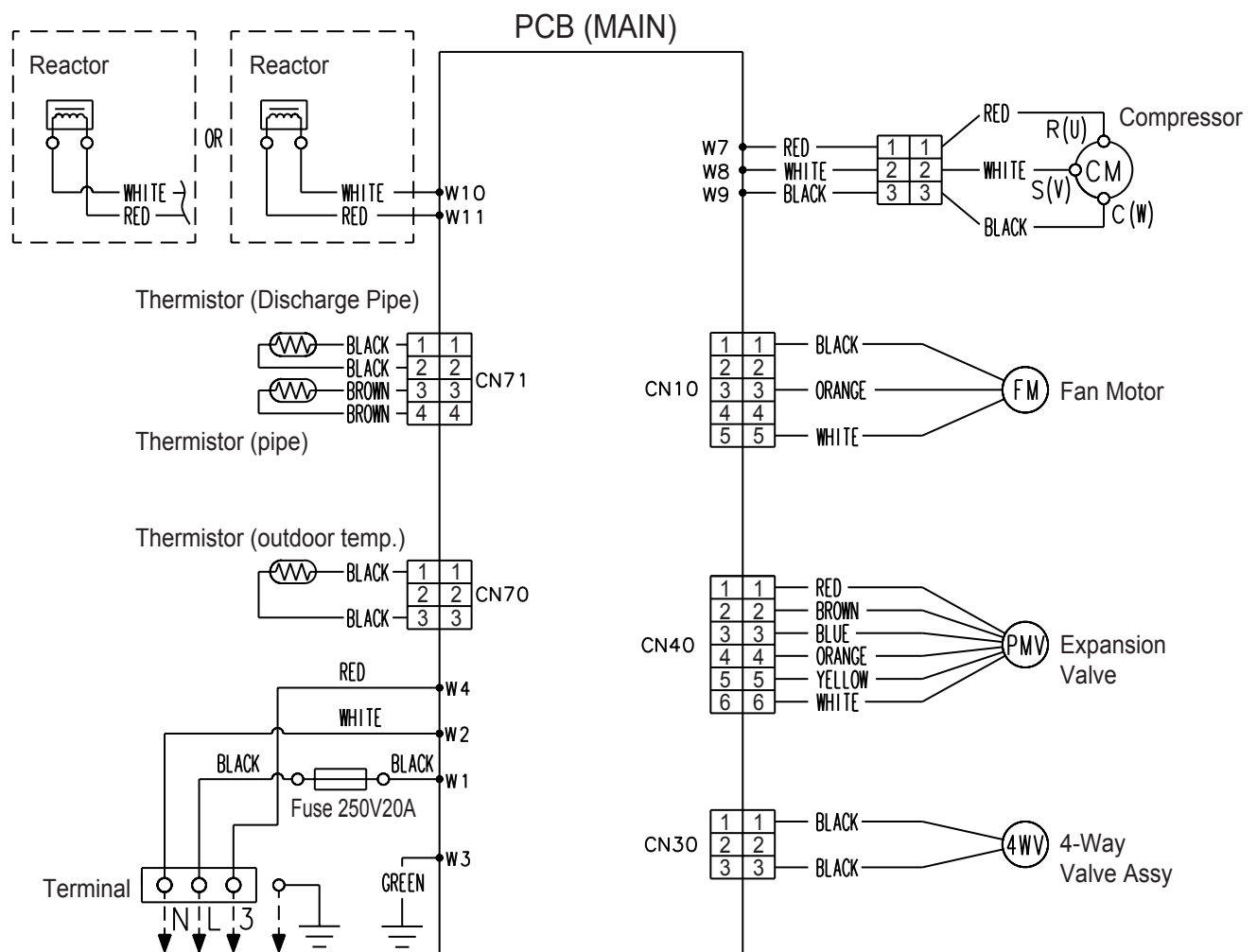
CIRCUIT DIAGRAM

Models : RS-9LB / RO-9LB
RS-12LB / RO-12LB

INDOOR UNIT



OUTDOOR UNIT

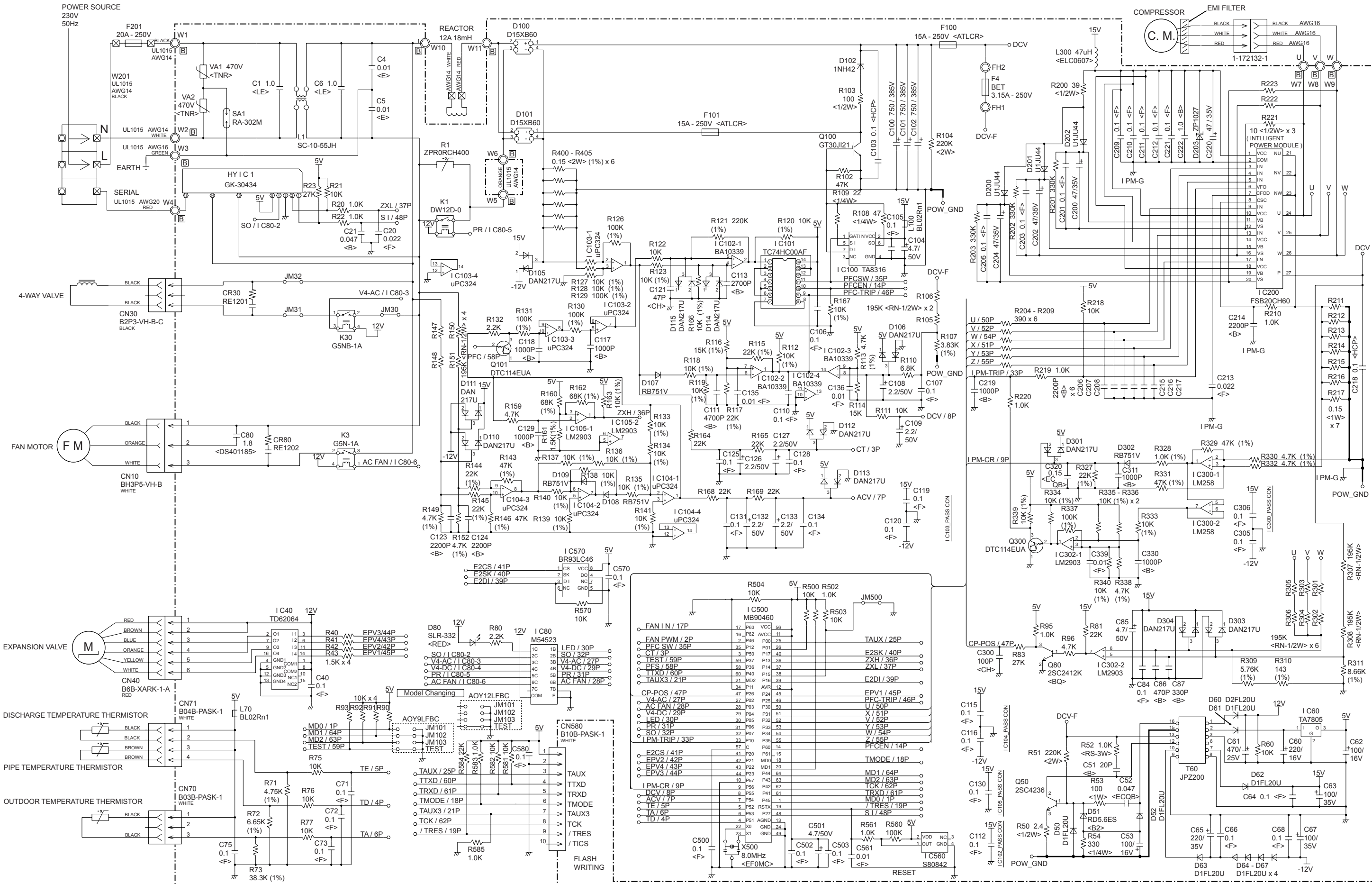


Models : RS-9LB
RS-12LB

OUTDOOR PCB CIRCUIT DIAGRAM

Models : RO-9LB
RO-12LB

CONTROLLER PCB ASSY
RO-9LB : K04DT-0400HUE-C1
RO-12LB : K04DT-0401HUE-C1



ERROR CONTENTS

Self-diagnosis function table (Flashing LED Display)

Applicable model : RS-9LB, RS-12LB

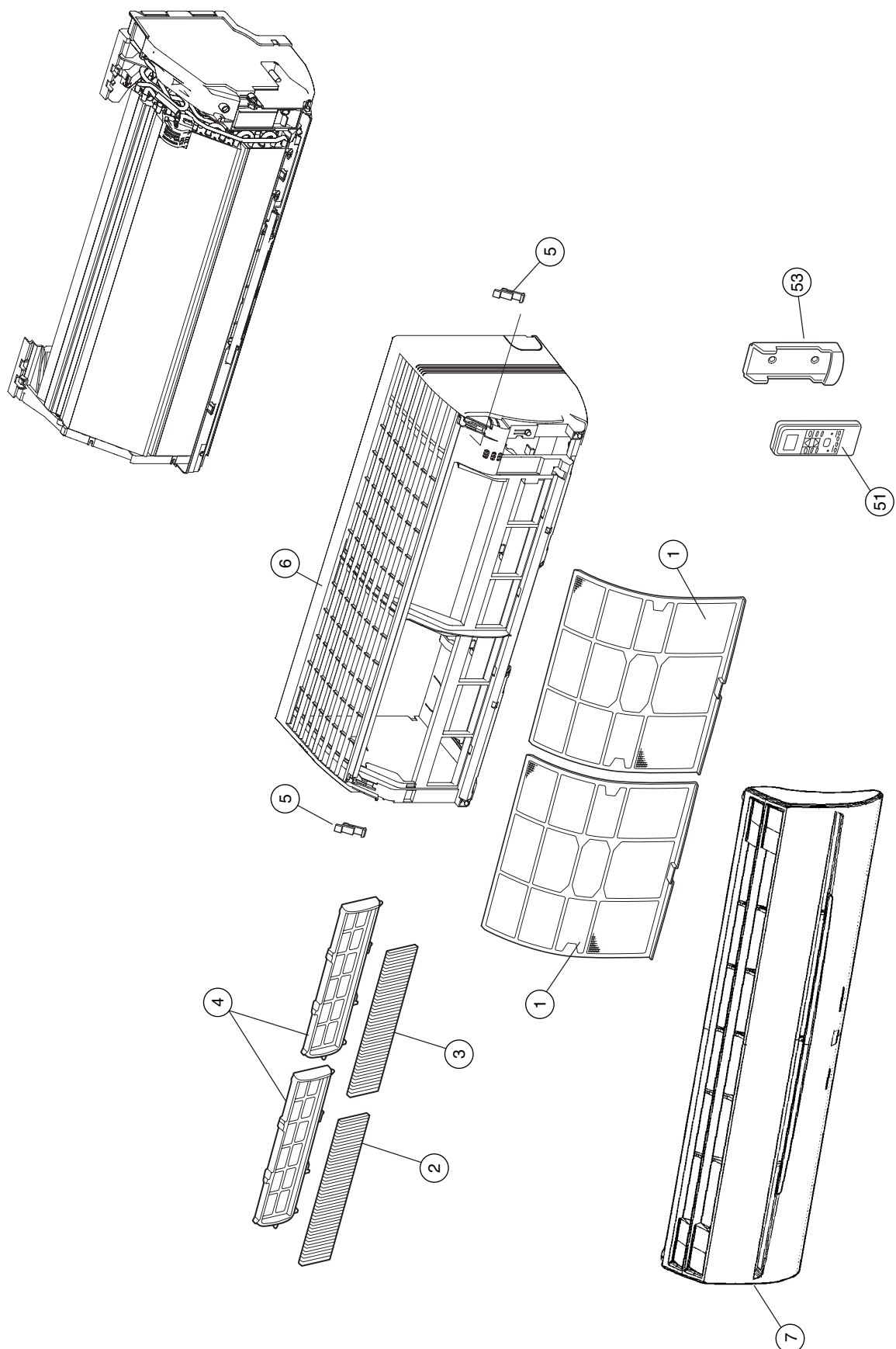
* Detailed Trouble Display (secondary level) can be indicated by pressing Test Operation button.

Trouble Display (primary)			Detailed Trouble Display (by Test Button)				Detailed Error Item
Error	Operation	Timer	Error	Operation	Timer		
Serial signal error	Normal	1 sec blinking	Serial reverse signal error at operation start up	0.1sec blinking	0.5sec 2 times		When a signal is not read continuously for 10 secs from power relay ON immediately after operation starts >>Cooling 0 code transmission, automatic reset When a signal is not read for 20 secs thereafter >>Trouble display continues and power relay OFF >>Permanent stop
			Signal reverse signal error during operation	0.1sec blinking	0.5sec 3 times		When a signal is not read continuously for 10 secs from power relay ON immediately after operation starts >>Cooling 0 code transmission, automatic reset When a signal is not read for 20 secs thereafter >>Trouble display continues and power relay OFF >>Permanent stop
			Serial forward signal error at operation start up	0.1sec blinking	0.5 sec 4 times		Normal Serial Forward Signal can not be received more than 10 secs >>Releases when it becomes normal
			Serial forward signal error during operation	0.1sec blinking	0.5sec 5 times		Normal Serial Forward Signal can not be received more than 10 secs (after receiving effective forward transfer signal) >>Releases when it becomes normal
Indoor unit thermistor error	0.5sec 2 times	0.1sec blinking	Indoor temperature thermistor open	0.1sec blinking	0.5sec 2 times	Indoor	Thermistor detection value is open when AC plug is inserted >>Releases when value becomes normal
			Pipe thermistor open or short	0.1sec blinking	0.5sec 3 times	Indoor	Thermistor detection value is open or short when AC plug is inserted >>Releases when value becomes normal
Outdoor unit thermistor error	0.5sec 3 times	0.1sec blinking	Discharge thermistor open or short	0.1sec blinking	0.5sec 2 times	Outdoor	Thermistor detection value is open or short >>Outdoor unit stops Releases when it becomes normal
			Heat exchanger thermistor open	0.1sec blinking	0.5sec 3 times	Outdoor	Thermistor detection value is open >>Outdoor unit stops Releases when it becomes normal
			Outdoor temperature thermistor open or short	0.1sec blinking	0.5sec 4 times	Outdoor	Thermistor detection value is open or short >>Outdoor unit stops Releases when it becomes normal
Indoor unit control error	0.5sec 4 times	0.1sec blinking	Forced automatic SW welded	0.1sec blinking	0.5sec 2 times	Indoor	Forced Auto SW is ON for more than 10 secs continuously >>Error is indicated while it is ON Normal Operation other than error indication
			Main relay welded	0.1sec blinking	0.5sec 3 times	Indoor	Serial Reverse Signal is received 1 min. after Main relay becomes OFF >>Error is indicated while serial reverse signal is input on normal operation Normal operation except error indication
			Power interruption error	0.1sec blinking	0.5sec 4 times	Indoor	50/60Hz is not detected after 4 secs of power ON. >>Error is indicated and unit is stopped

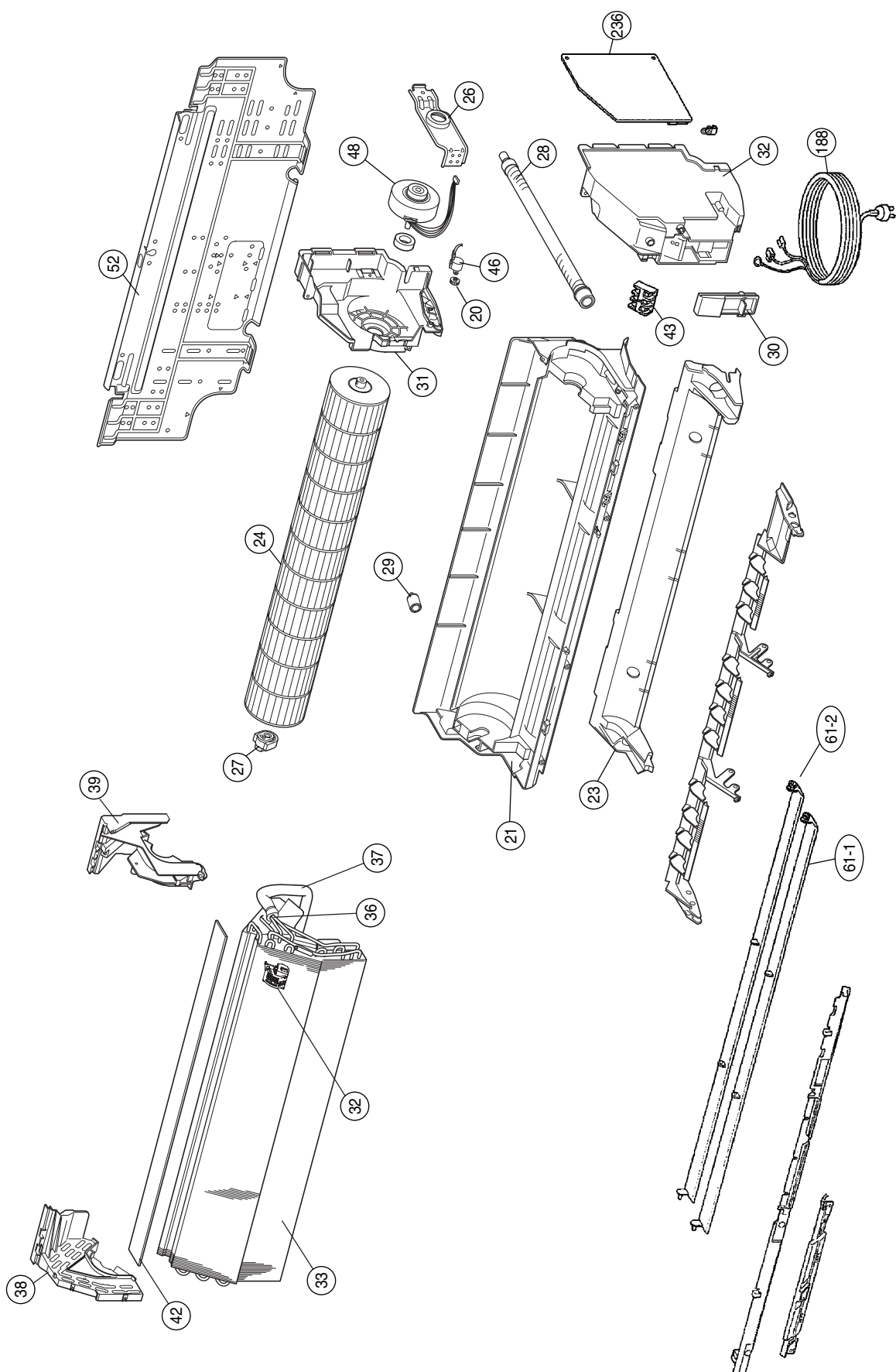
Trouble Display (primary)			Detailed Trouble Display (by Test Button)				Detailed Error Item
Error	Operation	Timer	Error	Operation	Timer		
Outdoor unit control error	0.5sec 5 times	0.1sec blinking	Current trip	0.1sec blinking	0.5sec 2 times	Outdoor	Current trip error is 2nd time within start up >>Permanent stop
			CT abnormal	0.1sec blinking	0.5sec 3 times	Outdoor	Current detection value is 0A for more than 1 sec when compressor is operated at more than 56rps >>Automatic release after 3 min. ST
			Compressor rotation error	0.1sec blinking	0.5sec 5 times	Outdoor	Compressor location detection error (incl. failed start up) for 3 times >>Permanent stop
			Outdoor unit fan drive system abnormal	0.1sec blinking	0.5sec 6 times	Outdoor	When outdoor fan abnormal • fan motor duty abnormal operated 5 times >>Permanent stop
Indoor fan motor error	0.5sec 6 times	0.1sec blinking	Abnormal lock	0.1sec blinking	0.5sec 2 times	Indoor	Detected rotation is 0 r.p.m. at start up or at 56 secs after Fan mode is selected >>Permanent stop
			Abnormal rotation	0.1sec blinking	0.5sec 3 times	Indoor	Detected rotation is 1/3 of target r.p.m. at start up or at 56 secs after Fan mode is selected >>Permanent stop
Refrigerant cycle error	0.5sec 7 times	0.1sec blinking	Discharge temperature abnormal	0.1sec blinking	0.5sec 2 times	Outdoor	Discharge Temperature protection (Discharge temperature is 110degC) operated 2 times >>Permanent stop
			Cooling high pressure abnormal rise	0.1sec blinking	0.5sec 3 times	Outdoor	High pressure rise protection (Outdoor heat exchanger temperature is 65degC) operated >>Comp. OFF (releases after 3min.ST) Error is indicated while 3 min.ST
Optional function error	0.5sec 8 times	0.1sec blinking	Active filter voltage abnormal (3rd time)	0.1sec blinking	0.5sec 2 times	Outdoor	Active Filter voltage error operated 3 times >>Permanent stop
			Active filter voltage abnormal (1st time)	0.1sec blinking	0.5sec 3 times	Outdoor	Active Filter Module error or open detection protection operated >>Automatic release after 3 min. ST
			PFC circuit abnormal	0.1sec blinking	0.5sec 4 times	Outdoor	 >>Permanent stop

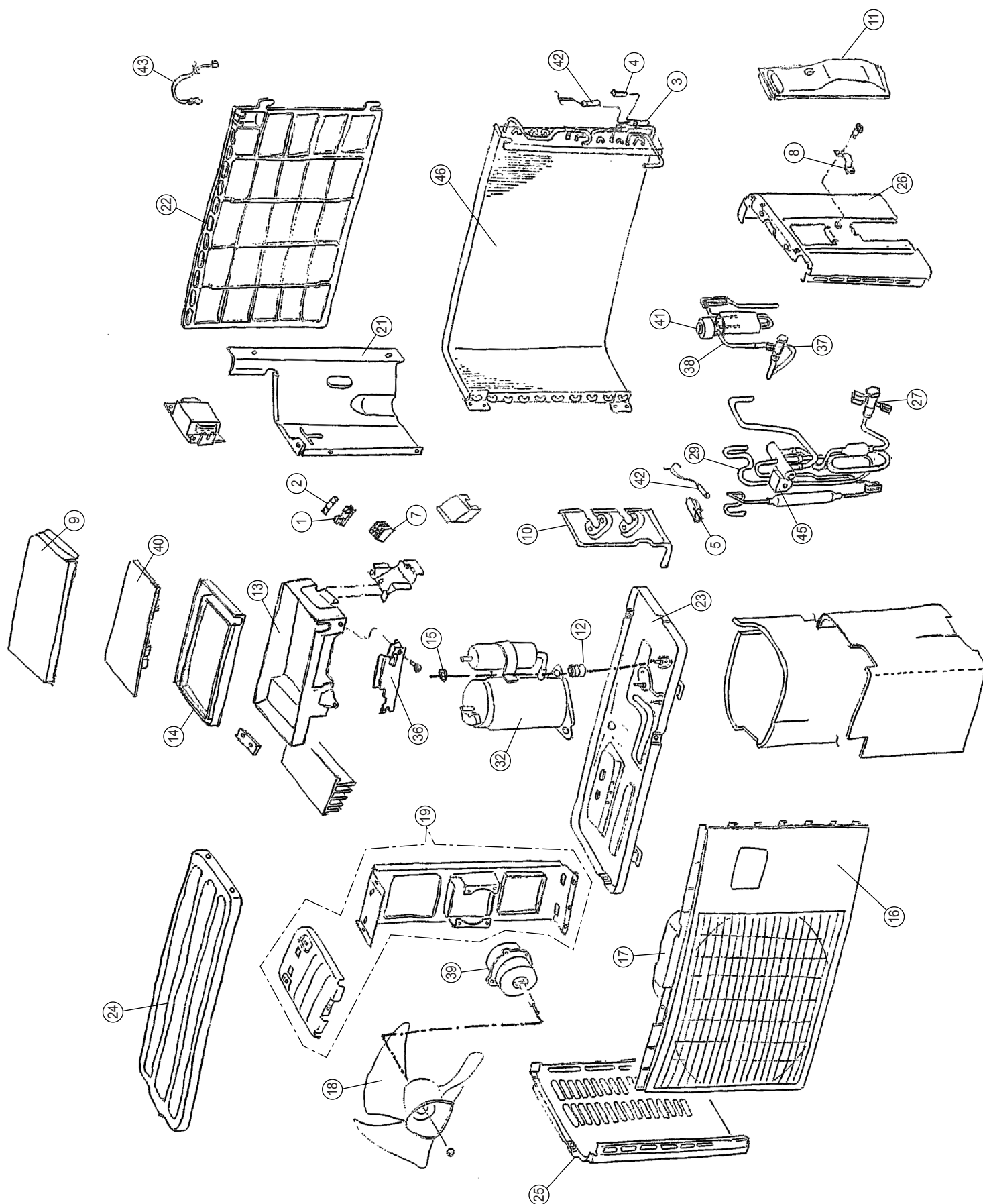
DISASSEMBLY ILLUSTRATION

Models : RS-9LB
RS-12LB



Models : RS-9LB
RS-12LB





PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		RS-9LB	RS-12LB	
1	Air Filter	9309997011	9309997011	
2	Filter (Electric)	9312153015	9312153015	
3	Filter (ION)	9311925033	9311925033	
4	Holder (Filter)	9306602017	9306602017	
5	Clamper (Grille)	9306755010	9306755010	
6	Front Panel Total Assy	9313130114	9313130114	
7	Intake Grille Assy	9313131074	9313131074	
20	Gear-A	9309994003	9309994003	
21	Casing Assy	9312112081	9312112081	
23	Cover (Casing)-B	9311916017	9311916017	
24	Crossflow Fan Assy	9307836015	9307836015	
26	Clamp (Motor)	9310102008	9310102008	
27	Shaft Holder-C Assy	9306628017	9306628017	
28	Drain Hose Assy	9310357019	9310357019	
29	Drain Cap Assy	9304150008	9304150008	
30	Wire Clamper	9311946014	9311946014	
31	Box (Switch)	9309996014	9309996014	
32	Cover (Switch)	9311863014	9311863014	
33	Evaporator Total Assy	9313099015	9313099015	
36	Joint Pipe Assy	9313104016	9313104016	
37	Insulation (Pipe)-E	9304607007	9304607007	
38	Holder (Evaporator)-L	9309982017	9309982017	
39	Holder (Evaporator)-R	9309983014	9309983014	
42	Air Seal	9310611005	9310611005	
43	Terminal	9701955077	9701955077	
46	Step Motor	9900139025	9900139025	
48	Fan Motor Assy	9601814016	9601814016	
51	Remote Control Unit	9313144012	9313144012	
52	Bracket Panel	9310001004	9310001004	
53	Remote Control Unit Holder	9305642014	9305642014	
61-1	Flow Control Panel-U	9309991033	9309991033	
61-2	Flow Control Panel-Z	9309992030	9309992030	
188	Power Cord	9900157012	9900157012	
236	Controller PCB Assy	9705656055	9705656062	
		(K02DR-0410HSE-C1)	(K02DR-0411HSE-C1)	
---	Pipe Temperature Thermistor	9702039042	9702039042	
---	Room Temperature Thermistor	9700801108	9700801108	
---	Indicator PCB Assy	9705039032	9705039032	

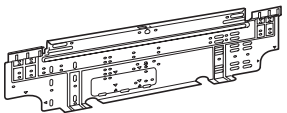
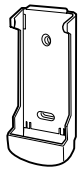
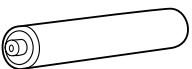
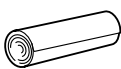
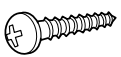
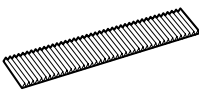
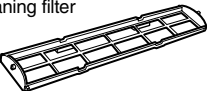
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

OUTDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		RO-9LB	RO-12LB	
1	Fuse Holder	0501454012	0501454012	
2	Fuse	0600382018	0600382018	
3	Thermister Holder Pipe	313714262805	313714262805	
4	Thermistor Spring-A	313728262708	313728262708	
5	Thermistor Spring	9300089012	9300089012	
7	Terminal	9306489038	9306489038	
8	Cord Clamp	9307271014	9307271014	
9	Cover (Case)	9309913011	9309913011	
10	Bracket Valve	9310229026	9310229026	
11	Cover (Switch)	9310979013	9310979013	
12	Rubber Cushion	9312680016	9312680016	
13	Inverter Case Assy	9312972029	9312972029	
15	Nut Special Assy	9313452018	9313452018	
16	Front Panel	9313806026	9313806026	
17	Fan Ring	9313807016	9313807016	
18	Propeller Fan	9313808013	9313808013	
19	Bracket (Motor) Assy	9313990015	9313990015	
21	Separator-B	9313815011	9313815011	
22	Protective Net	9313941017	9313941017	
23	Base Assy (Painted)	9313987015	9313987015	
24	Top Panel (Painted)	9313989026	9313989026	
25	Cabinet Left (Painted)	9313992019	9313992019	
26	Cabinet Right (Painted)	9313995027	9313995027	
27	3-Way Valve Assy	9314022012	9314022012	
29	4-Way Valve Assy	9314093012	9314093012	
32	Compressor Assy	9314278013	9314278013	
36	Cover (Inverter Case)	9314507014	9314507014	
37	2-Way Valve Assy	9314554018	9314554018	
38	Pulse Motor Valve Assy	9314557019	9314557019	
39	Motor	9601859017	9601859017	
40	Inverter PCB Assy	9705706019	9705706026	
41	Expansion Valve Coil	9900057039	9900057039	
42	Thermistor Assy	9900148027	9900148027	
43	Thermistor (Outdoor Temp)	9900210038	9900210038	
45	Solenoid	9970033018	9970033018	
46	Condenser Total Assy	9314107016	9314032011	
---	Emblem Rear	9312637027	9312637027	

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

STANDARD ACCESSORIES

Name and Shape	Part No.
	RS-9LB, RS-12LB
Wall hook bracket 	9312752010
Remote control unit 	9308846099
Remote control unit holder 	9305642014
Battery (penlight) 	0600185534
Cloth tape 	9310519004
Tapping screw (big) (φ 4 x 25) 	0700076046
Tapping screw (small) (φ 3 x 12) 	0700019036
Air cleaning filter 	9312153015
	9311925033
Air cleaning filter frame 	9306602017

