



**INVERTER SPLIT TYPE
AIR CONDITIONER (50Hz)**

DUCT type

SERVICE MANUAL

Models

Indoor unit

ARH18LUAD

ARH24LUAN

Outdoor unit

AOH18LMAKL

AOH24LMAKL



CONTENTS

SPECIFICATIONS	1
DIMENSIONS	3
REFRIGERANT SYSTEM DIAGRAM	5
CIRCUIT DIAGRAM	6
INDOOR PCB CIRCUIT DIAGRAM	8
OUTDOOR PCB CIRCUIT DIAGRAM	10
ERROR CONTENTS	11
DISASSEMBLY ILLUSTRATION	12
PARTS LIST	20
STANDARD ACCESSORIES	22

SPECIFICATIONS

TYPE		COOLING & HEATING	
INDOOR UNIT		ARH18LUAD	ARH24LUAN
OUTDOOR UNIT		AOH18LMAKL	AOH24LMAKL
COOLING CAPACITY	(kW)	5.20	7.10
HEATING CAPACITY	(kW)	6.20	8.00

ELECTRICAL DATA

POWER SOURCE		(V)	230	
FREQUENCY		(Hz)	50	
RUNNING CURRENT	(A)	COOLING	7.4	11.1
		HEATING	8.3	10.6
INPUT WATTS	(kW)	COOLING	1.70	2.53
		HEATING	1.90	2.43
E.E.R.	(kW/kW)	COOLING	3.06	2.81
		HEATING	3.26	3.29
STARTING CURRENT		(A)	10	
MOISTURE REMOVAL		(ℓ /hr)	1.7	1.5

Note : The above list shows values at the external static pressure of 0Pa [ARH18L] / 30Pa [ARH24L] , setting the fan speed high notch.

COMPRESSOR

TYPE		Hermetic type, 4 poles, DC motor, Twin Rotary	
DISCRIMINATION		TNB220FPCM	
REFRIGERANT	R410A	(g)	1,500 1,800

	DISCRIMINATION		MFA-18NTT	MFA-30PTT
	FAN SPEED (r.p.m.)	INDOOR	HIGH	1,040
MED			890	890
LOW			750	810
	OUTDOOR HI / LO		780 / 400	
AIR FLOW (m ³ /h)	INDOOR		800	1,490
	OUTDOOR		2,800	
DIMENSIONS H x W x D (mm)	INDOOR		217 x 953 x 595	270 x 1,135 x 700
	OUTDOOR		650 x 830 x 320	
WEIGHT GROSS / NET (kg)	INDOOR		29 / 25	48 / 41
	OUTDOOR		58 / 54	
MAX PIPE LENGTH / HEIGHT		(m)	25 / 15	
REMOTE CONTROLLER TYPE			WIRED	

Note : The above list shows values at the external static pressure of 0Pa [ARH18L] (10mm Ag) / 30Pa [ARH24L] (10mm Ag), setting the fan speed high notch.

TYPE	COOLING & HEATING	
INDOOR UNIT	ARH18LUAD	ARH24LUAN
OUTDOOR UNIT	AOH18LMAKL	AOH24LMAKL

NOISE LEVEL

INDOOR UNIT	HI-SPEED (dB)	38	34
	MED-SPEED (dB)	34	32
	LO-SPEED (dB)	30	29
OUTDOOR UNIT	(dB)	COOL 50 / HEAT 52	COOL 52 / HEAT 54

Note : Static pressure : 0Pa [ARH18L], 30Pa [ARH24L]

Duct length : Inlet 1m, Outlet 2m

FULL CHARGE AMOUNT	Pipe Length	7.5 m	1,500 g	1,800 g
		10.0 m	1,500 g	1,800 g
		15.0 m	1,600 g	2,000 g
		20.0 m	1,700 g	2,200 g
		25.0 m	1,800 g	2,400 g
ADDITIONAL REFRIGERANT			20 g / m	40 g / m

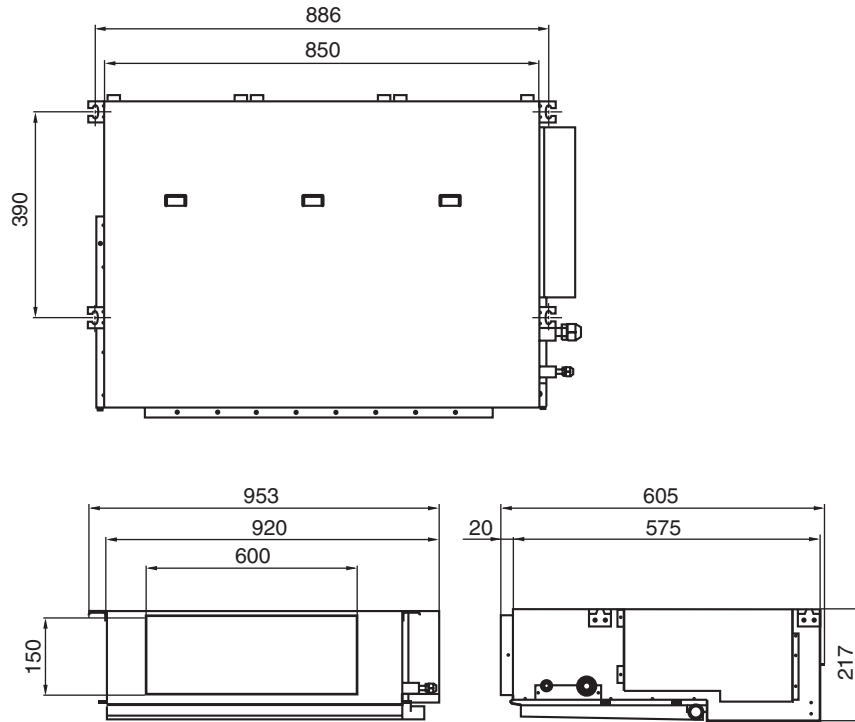
When you dismantle indoor units which are installed, take care not to make parts fall down, especially motors.

DIMENSIONS

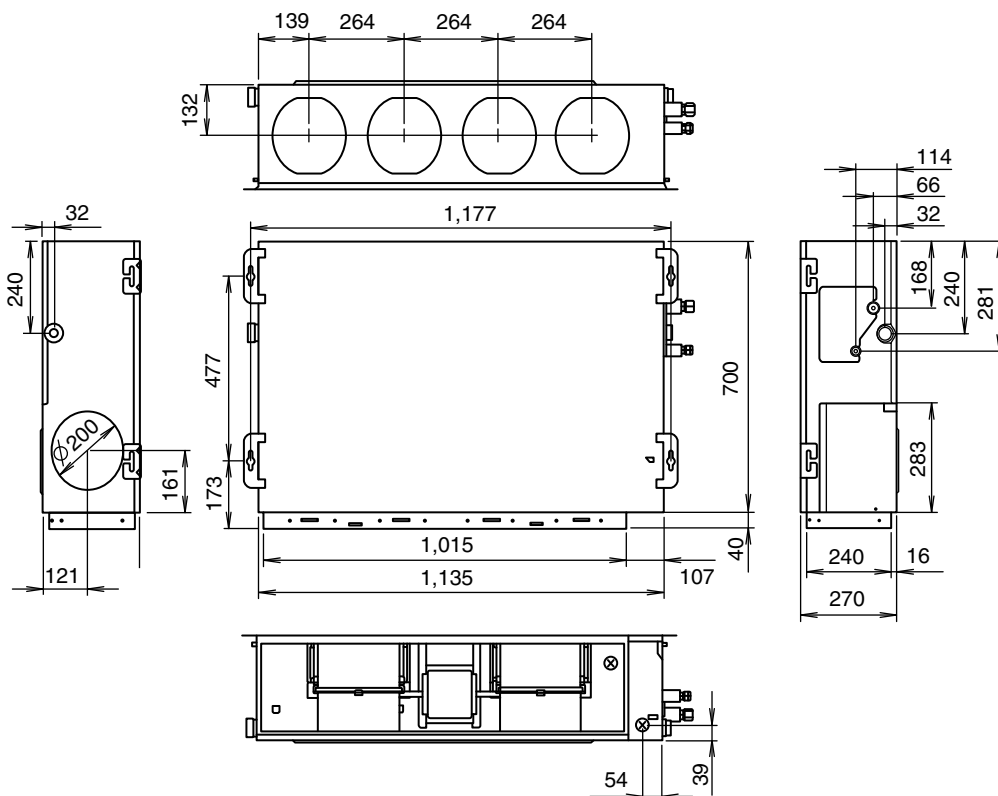
INDOOR UNIT

(Unit : mm)

Model : ARH18LUAD



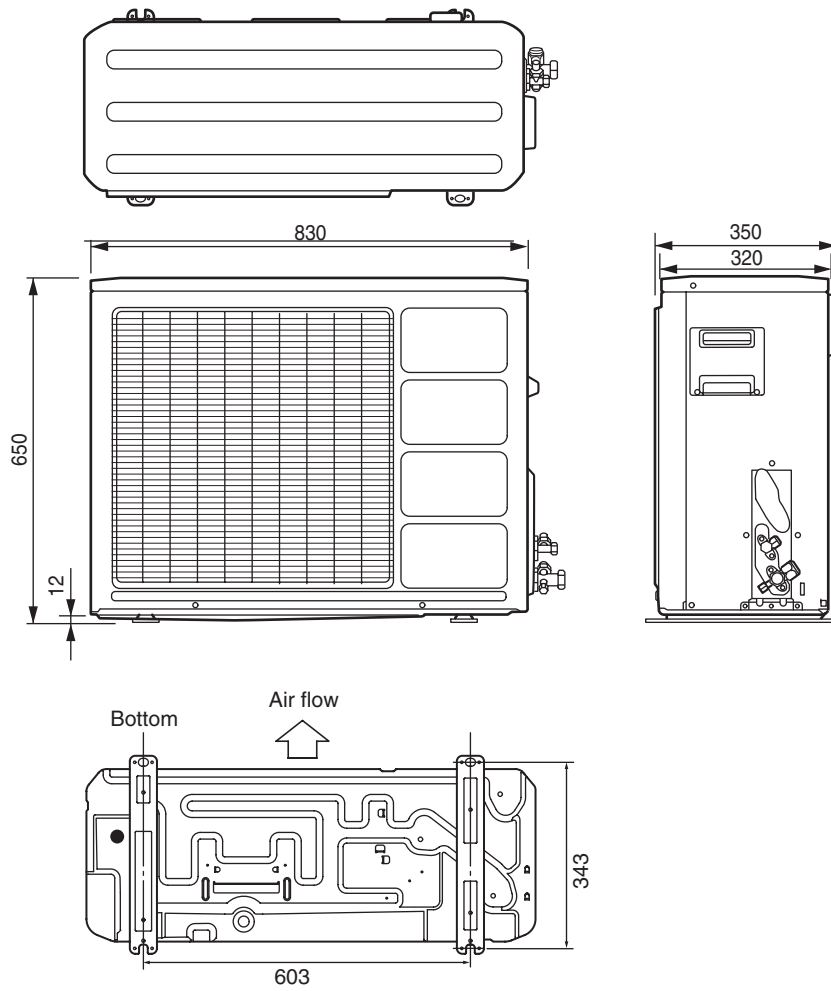
Model : ARH24LUAN



OUTDOOR UNIT

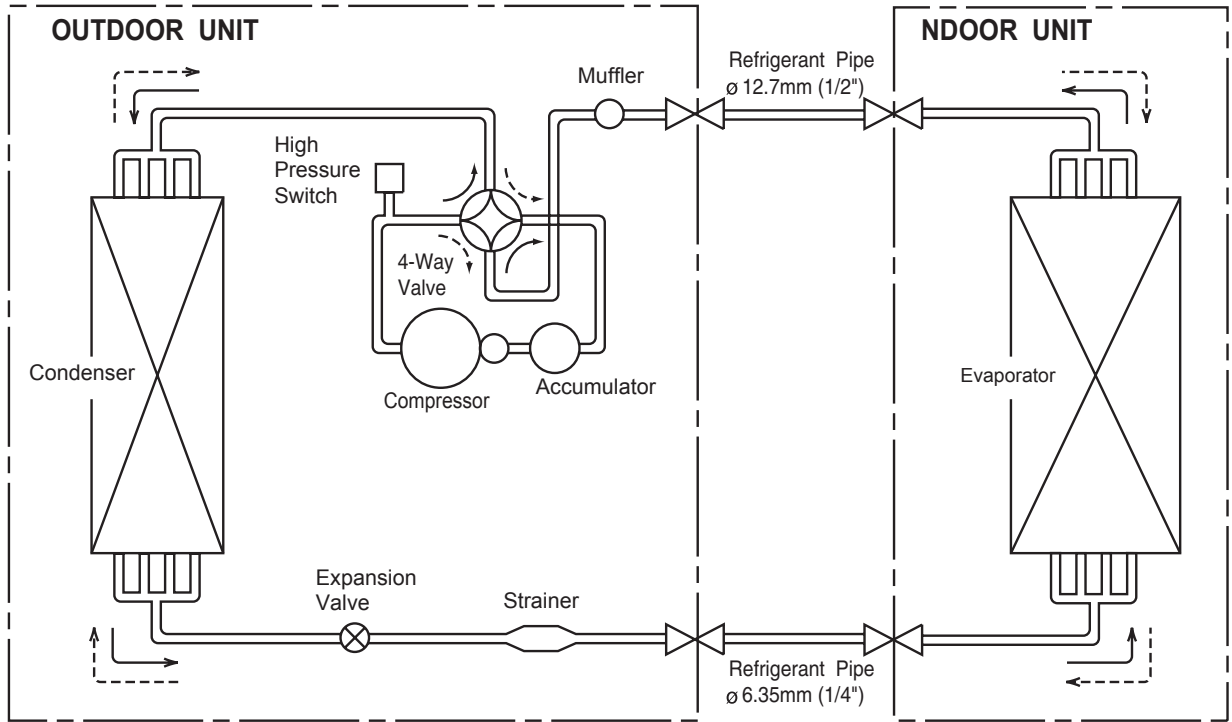
Models : AOH18LMAKL
AOH24LMAKL

(Unit : mm)

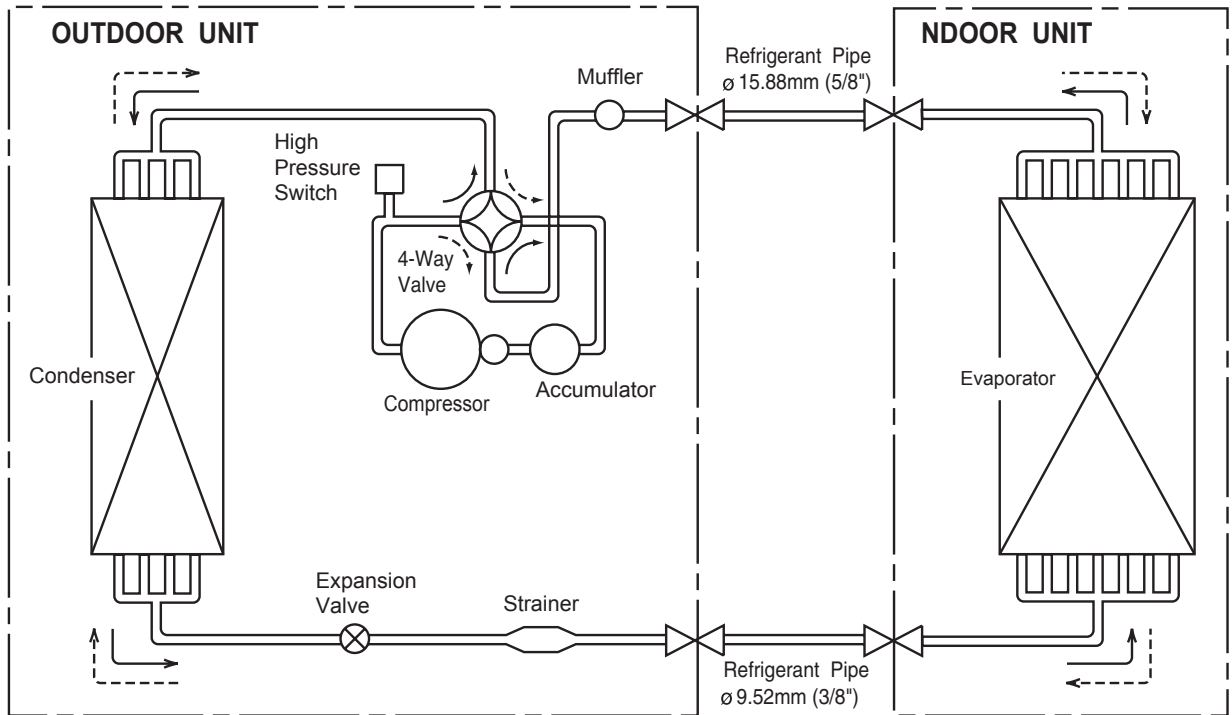




REFRIGERANT SYSTEM DIAGRAM

Models : ARH18LUAD / AOH18LMAKL



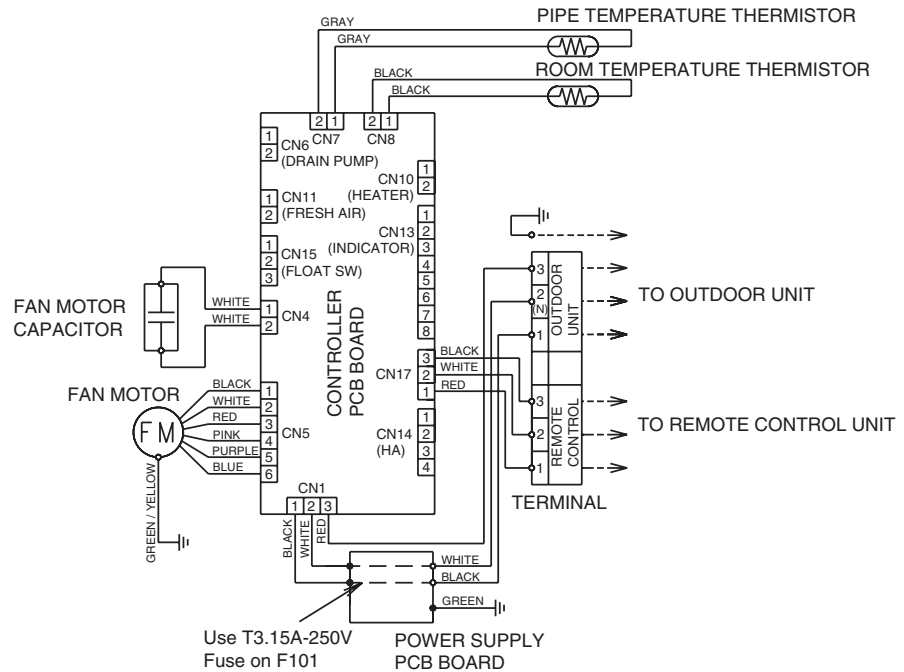
Models : ARH24LUAN / AOH18LMAKL



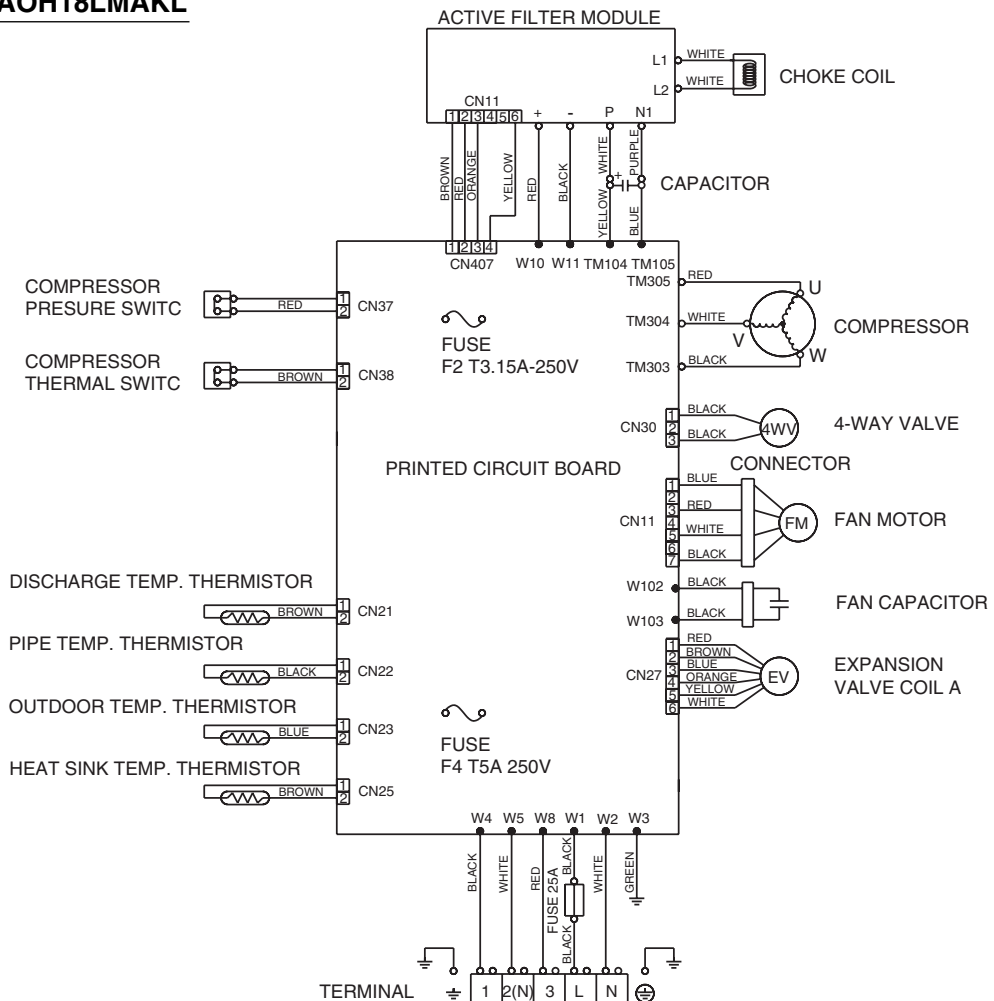
 Cool
 Heat

CIRCUIT DIAGRAM

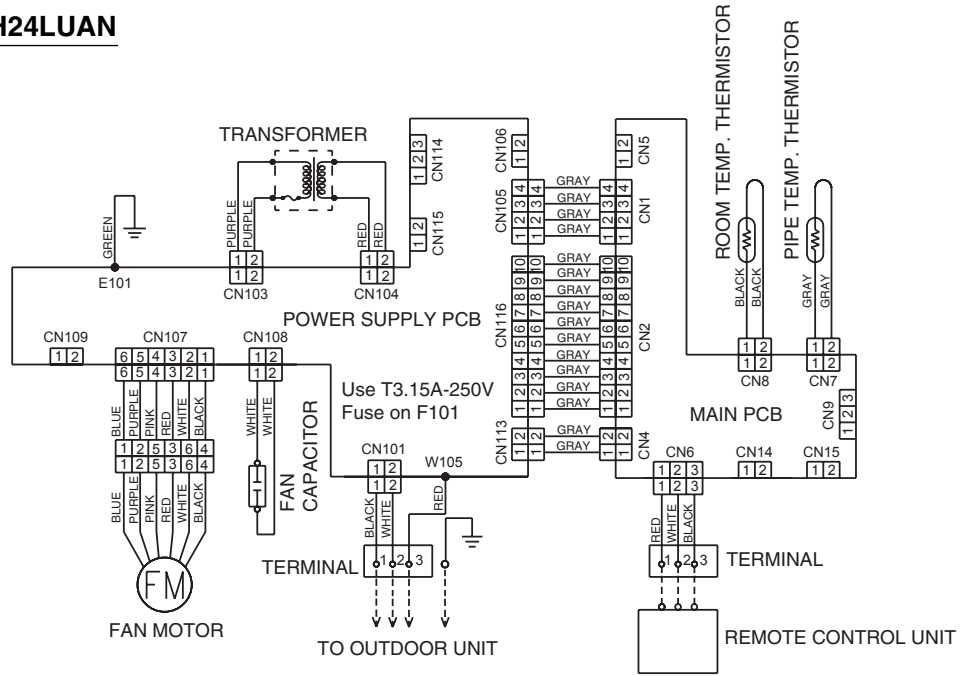
Model : ARH18LUAD



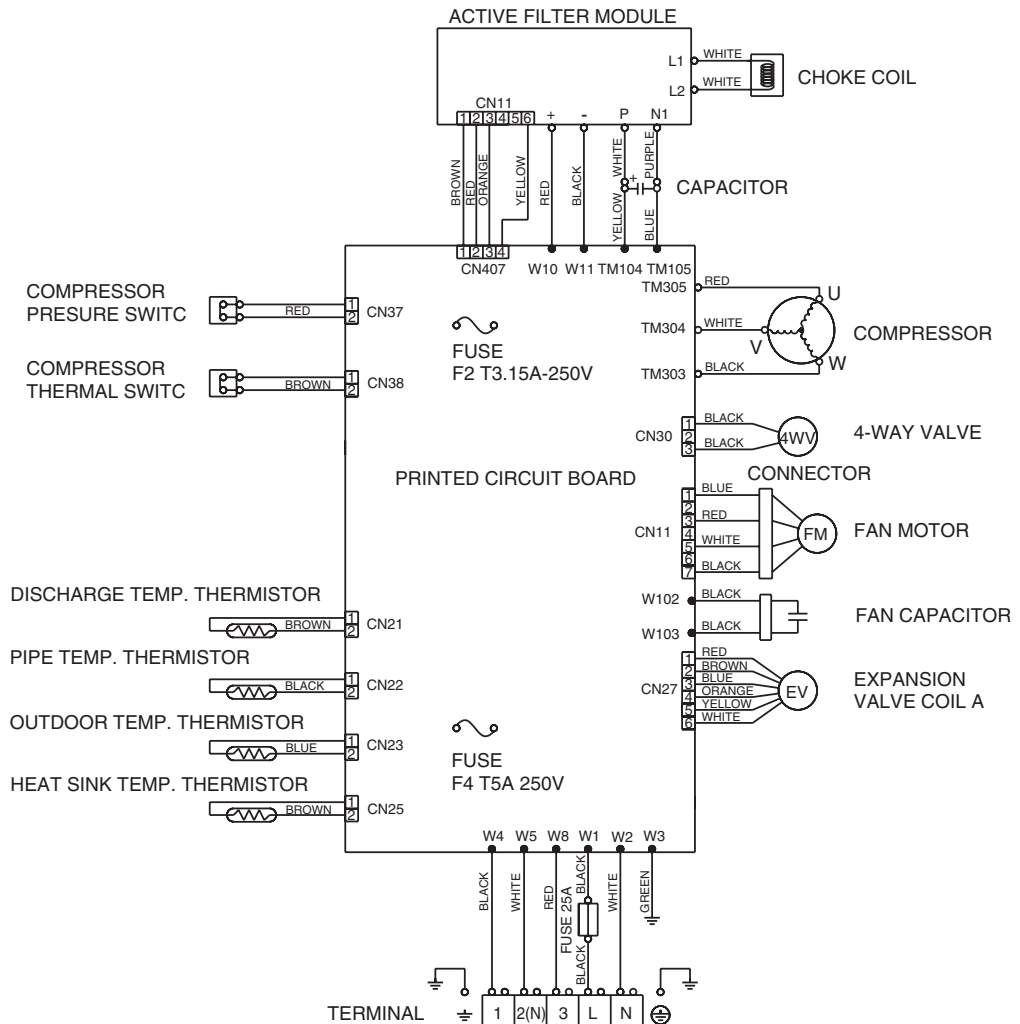
Model : AOH18LMAKL



Model : ARH24LUAN

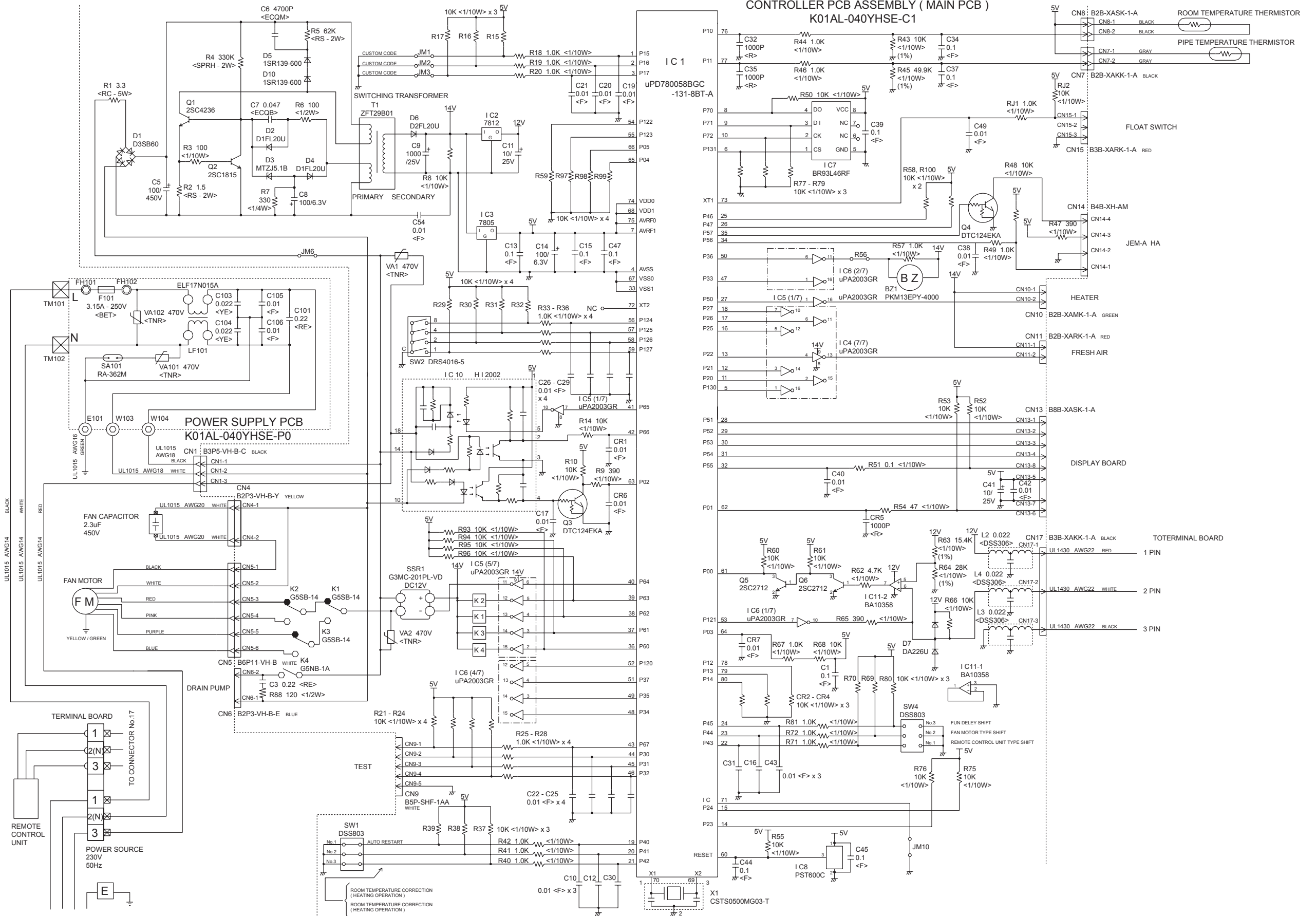


Model : AOH24LMAKL

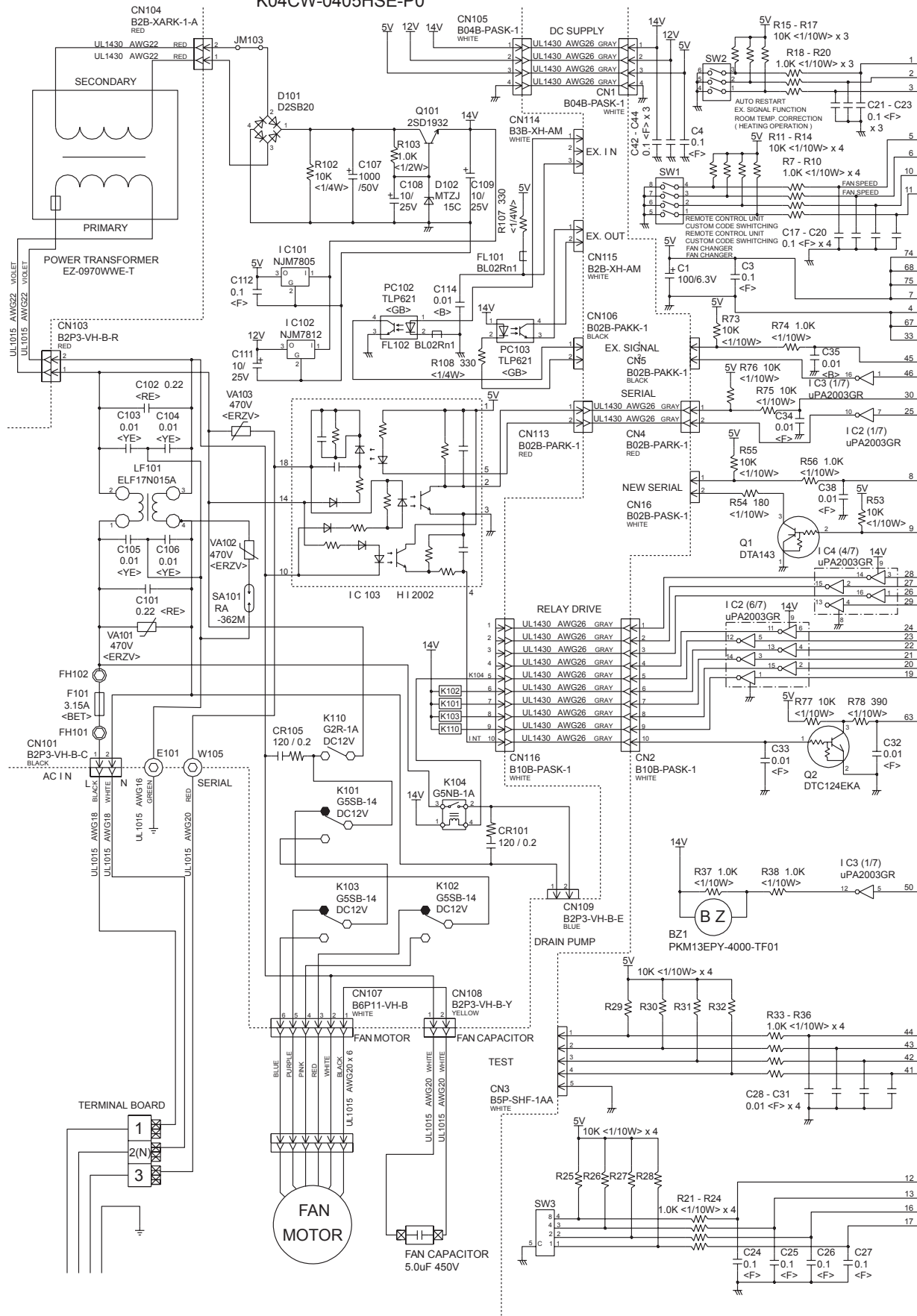


INDOOR PCB CIRCUIT DIAGRAM

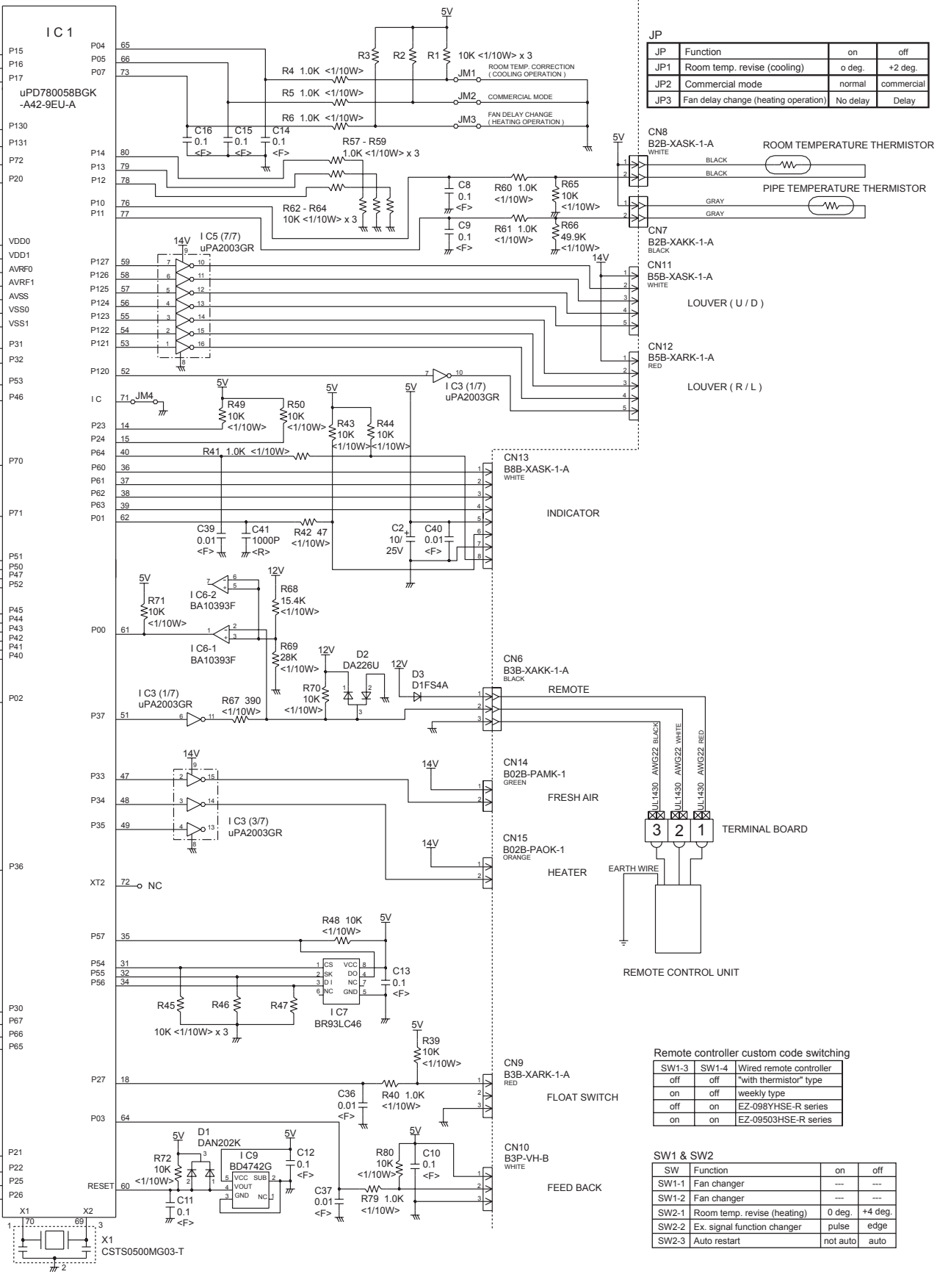
Model : ARH18LUAD



POWER SUPPLY PCB
K04CW-0405HSE-P0



CONTROLLER PCB ASSEMBLY (MAIN PCB)
K03BZ-040EHSE-C1



JP	Function	on	off
JP1	Room temp. revise (cooling)	0 deg	+2 deg.
JP2	Commercial mode	normal	commercial
JP3	Fan delay change (heating operation)	No delay	Delay

Remote controller custom code switching

SW1-3	SW1-4	Wired remote controller
off	off	"with thermistor" type
on	off	weekly type
off	on	EZ-098YHSE-R series
on	on	EZ-09503HSE-R series

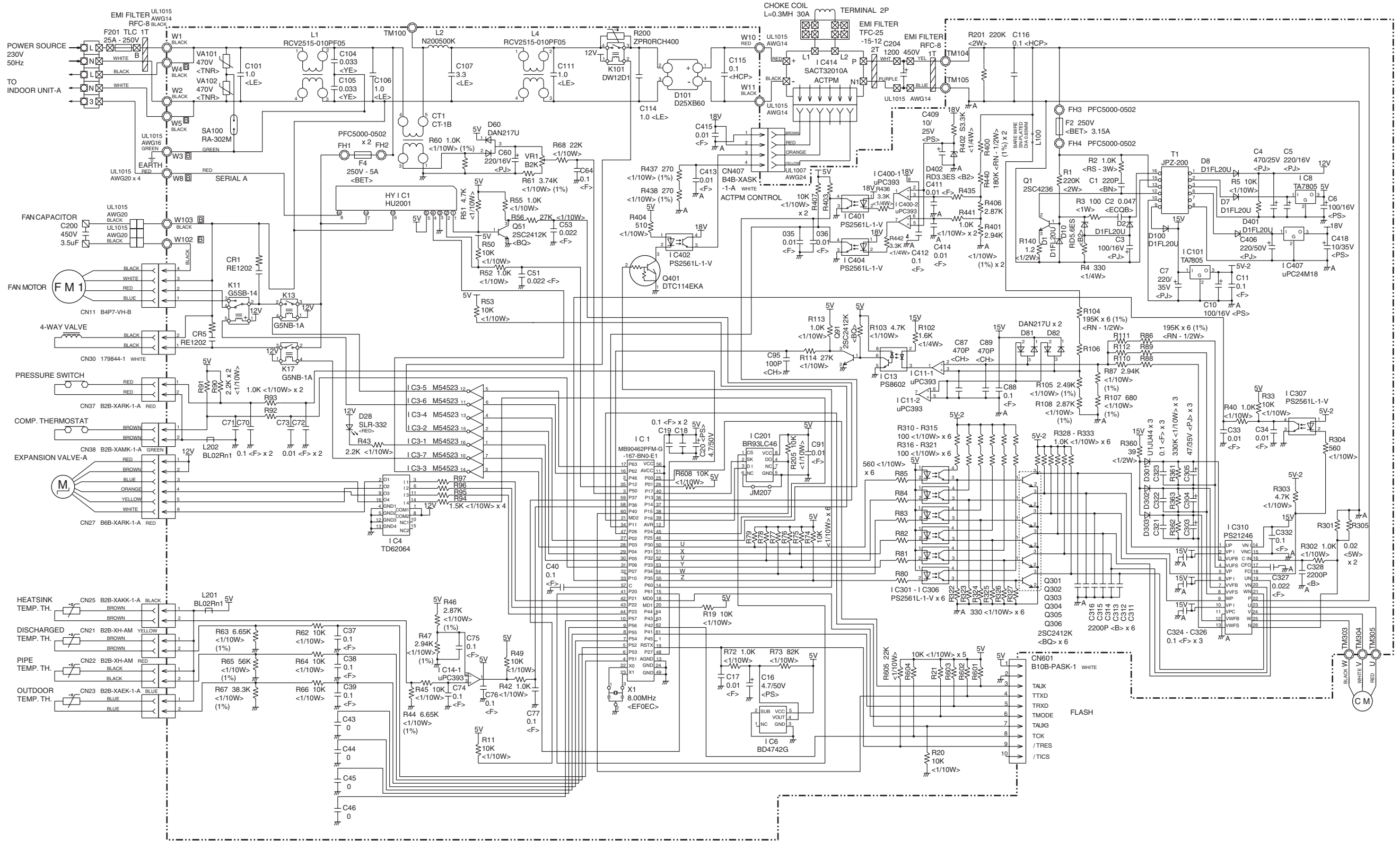
SW1 & SW2

SW	Function	on	off
SW1-1	Fan changer	---	---
SW1-2	Fan changer	---	---
SW2-1	Room temp. revise (heating)	0 deg.	+4 deg.
SW2-2	Ex. signal function changer	pulse	edge
SW2-3	Auto restart	not auto	auto

OUTDOOR PCB CIRCUIT DIAGRAM

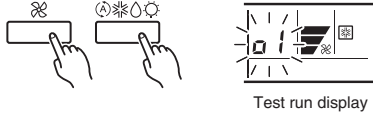
Models : AOH18LMAKL
AOH24LMAKL

CONTROLLER PCB ASSEMBLY
AOH18LMAKL : K03AV-0401HUE-C1
AOH24LMAKL : K03AV-0402HUE-C1



ERROR CONTENTS

- Stop the air conditioner operation.
- Press the master control button and the fan control button simultaneously for 2 seconds or more to start the test run.



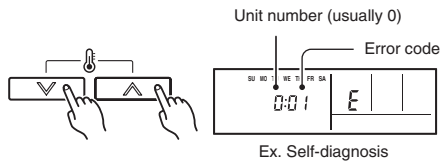
- Press the start/stop button to stop the test run.

[SELF-DIAGNOSIS]

When the error indication E:EE is displayed, follow the following items to perform the self-diagnosis. E:EE indicates an error has occurred.

REMOTE CONTROLLER DISPLAY

- Stop the air conditioner operation.
- Press the set temperature buttons \wedge/\vee simultaneously for 5 seconds or more to start the self-diagnosis. Refer to the following tables for the description of each error code.



- Press the set temperature buttons \wedge/\vee simultaneously for 5 seconds or more to stop the self-diagnosis.

Error code	Error contents
00	Communication error (indoor unit \leftrightarrow remote controller)
01	Communication error (indoor unit \leftrightarrow outdoor unit)
02	Room temperature sensor open
03	Room temperature sensor short-circuited
04	Indoor heat exchanger temperature sensor open
05	Indoor heat exchanger temperature sensor short-circuited
06	Outdoor heat exchanger temperature sensor
08	Power source connection error
09	Float switch operated
0A	Outdoor temperature sensor
0c	Discharge pipe temperature sensor
0E	Outdoor high pressure abnormal
11	Model abnormal
12	Indoor fan abnormal
13	Outdoor signal abnormal
14	Outdoor EEPROM abnormal
15	Compressor temperature sensor
16	Pressure switch error
17	IPM error
18	CT error
19	Active filter module (AFM) error

Error code	Error contents
1A	Compressor does not operate
1b	Outdoor unit fan error
1c	Communication error (inverter \rightarrow multicontroller)
1d	2 way valve sensor error
1E	Expansion valve error
1F	Connection indoor unit error

OUTDOOR UNIT

- Is there any abnormal noise and vibration during operation?
- Will noise, wind or drain water from the unit disturb the neighbours?
- Is there any gas leakage?

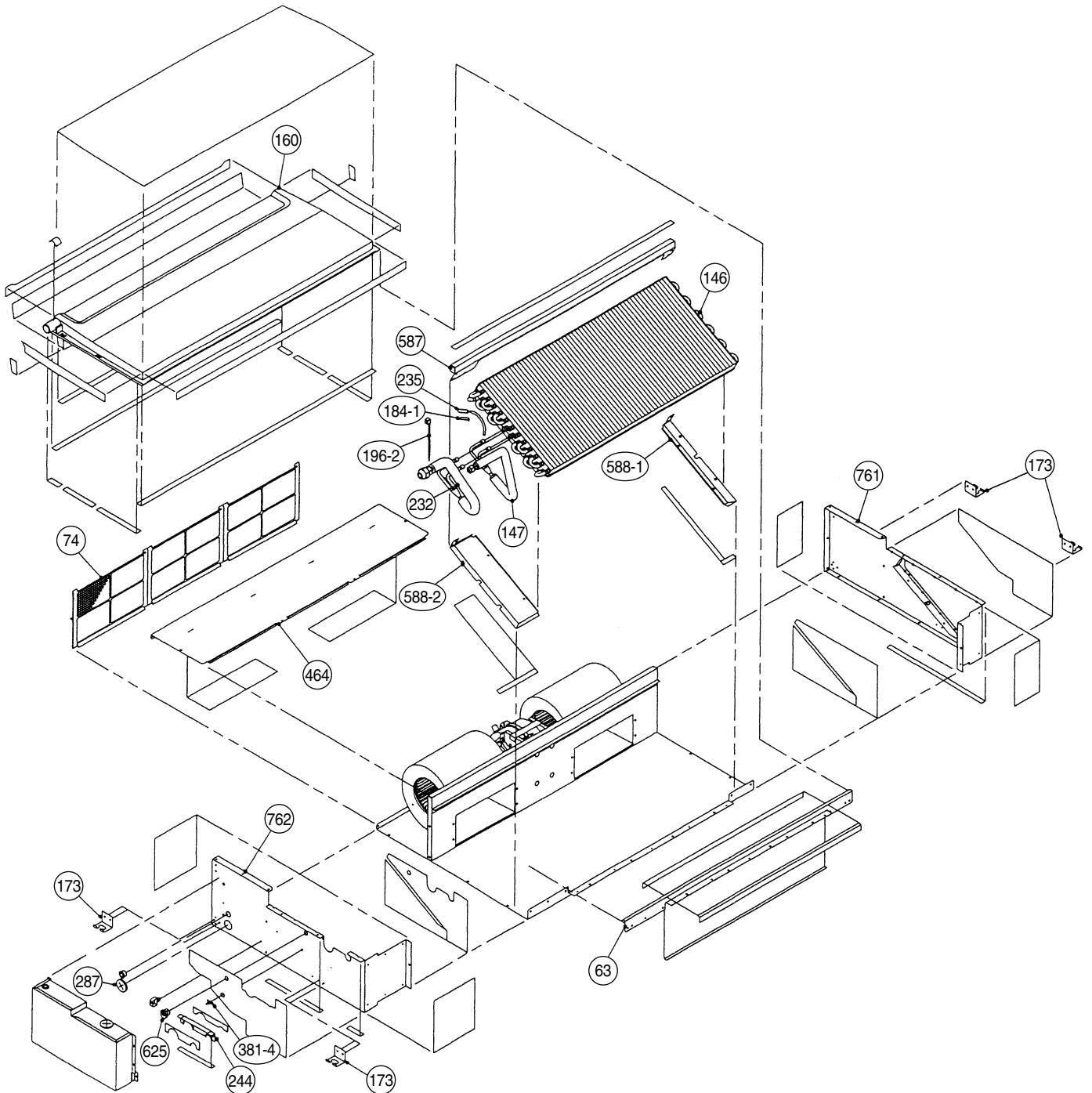
- Do not operate the air conditioner in the test running state for a long time.

OUTDOOR UNIT

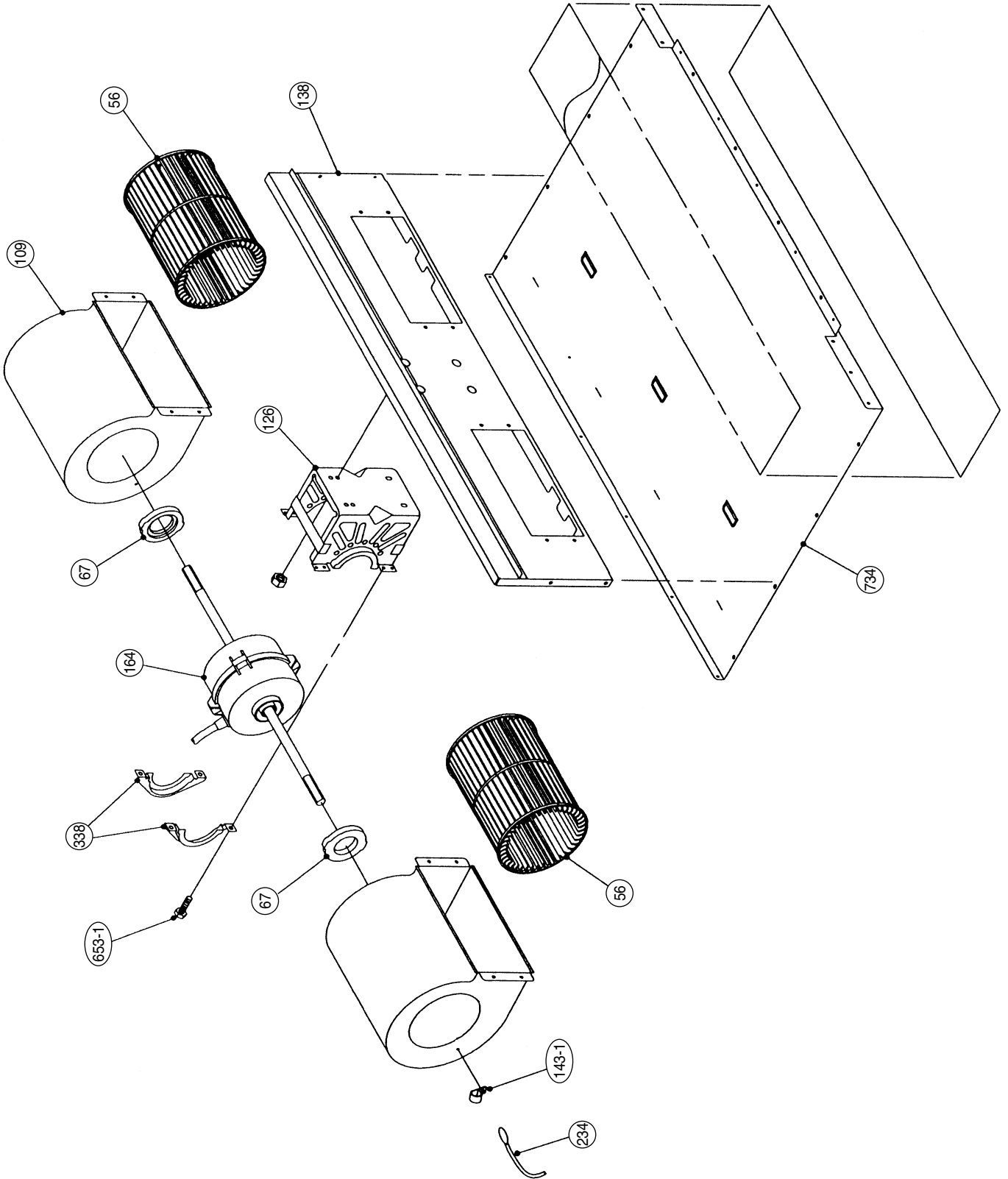
Error contents	LED (RED)
Serial signal error	1 time blink
Discharge pipe thermistor error	2 times blink
Heat exchanger thermistor error	3 times blink
Outdoor temperature thermistor error	4 times blink
2 - way valve thermistor A, B error	5 times blink
3 - way valve thermistor A, B error	6 times blink
Compressor thermistor error	7 times blink
Pressure switch error	8 times blink
Indoor unit communication error	9 times blink
Current trip error	10 times blink
CT error	11 times blink
Compressor position detection error	12 times blink
Compressor starting error	13 times blink
Timer error	14 times blink

DISASSEMBLY ILLUSTRATION

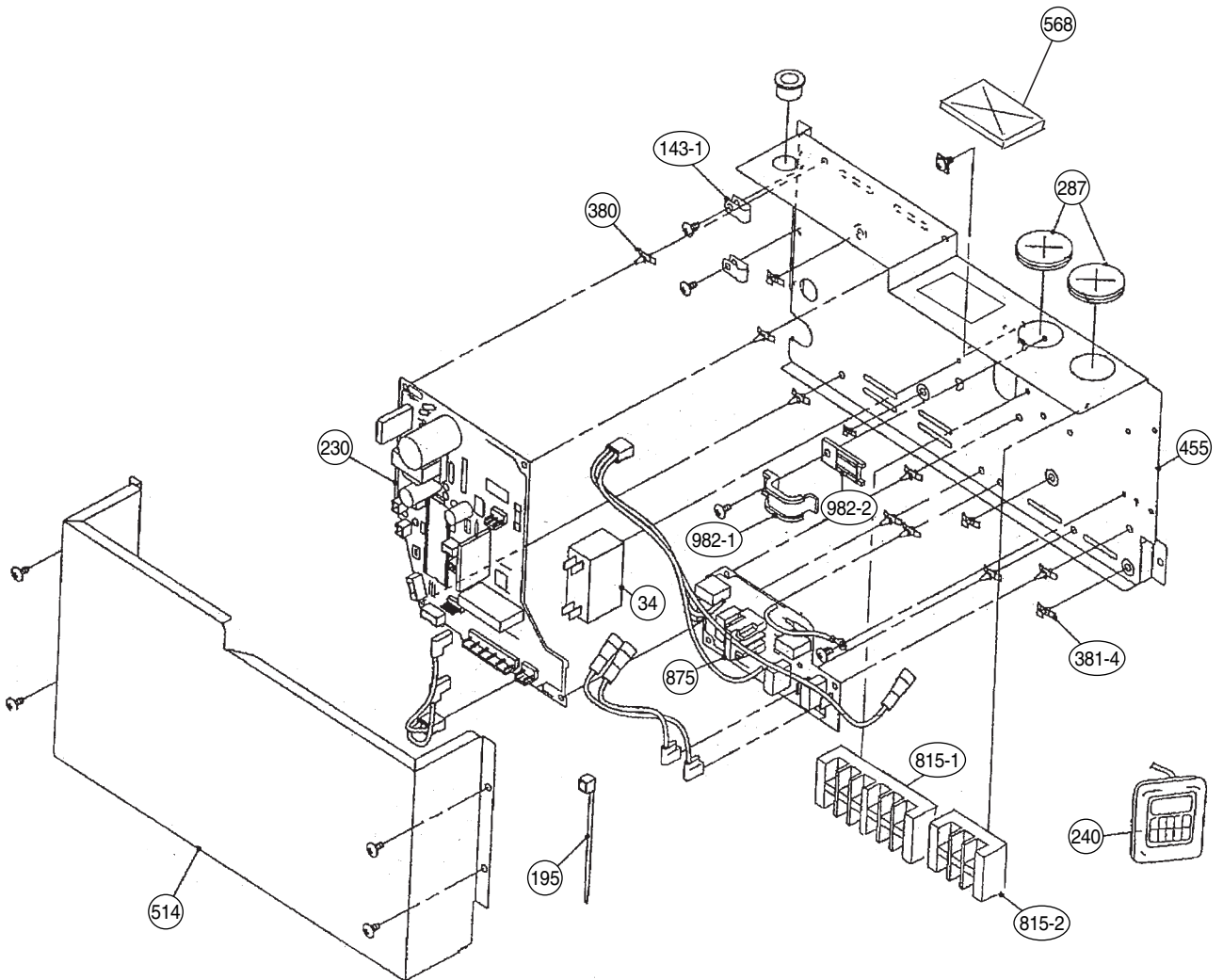
Model : ARH18LUAD



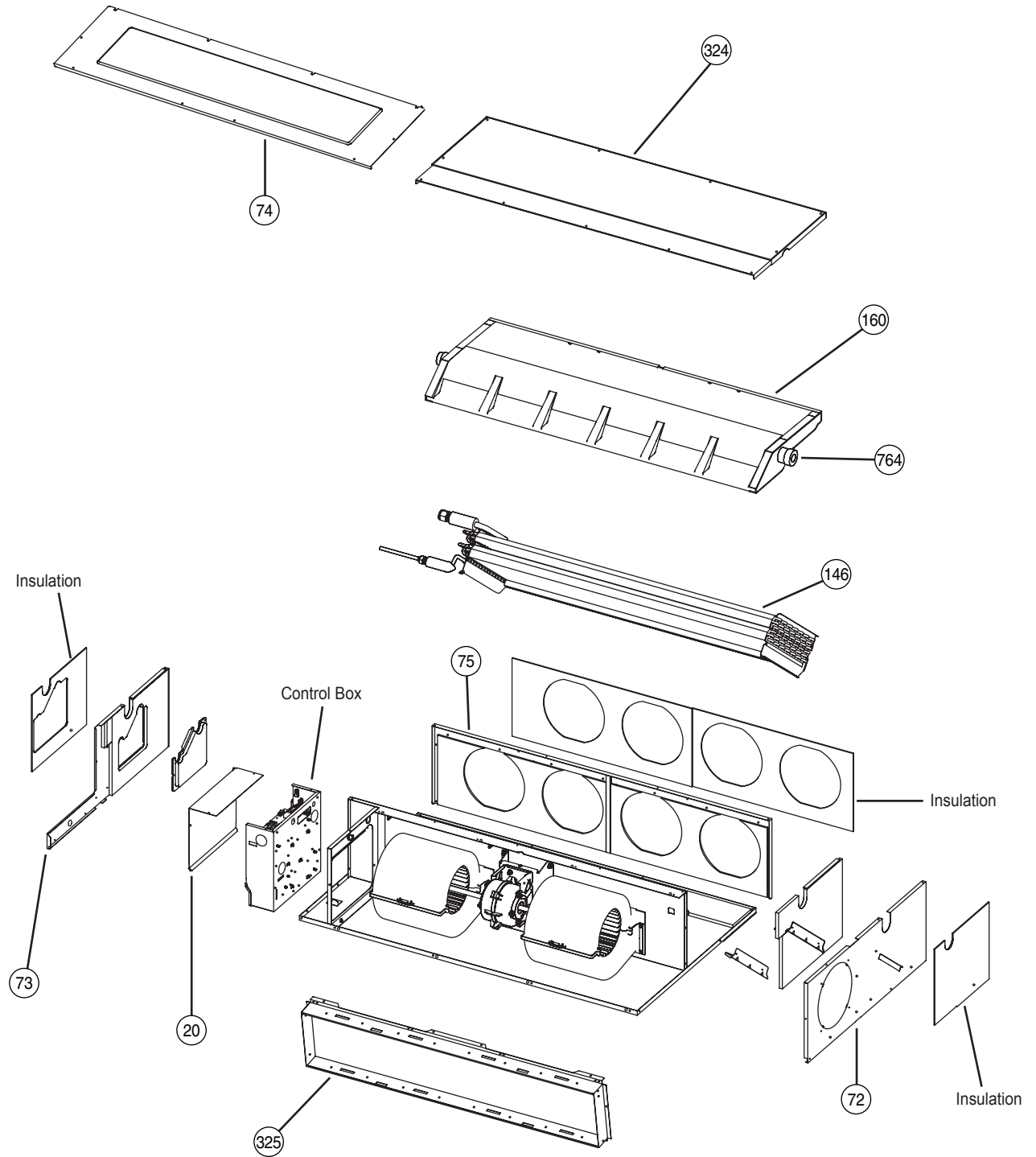
Model : ARH18LUAD



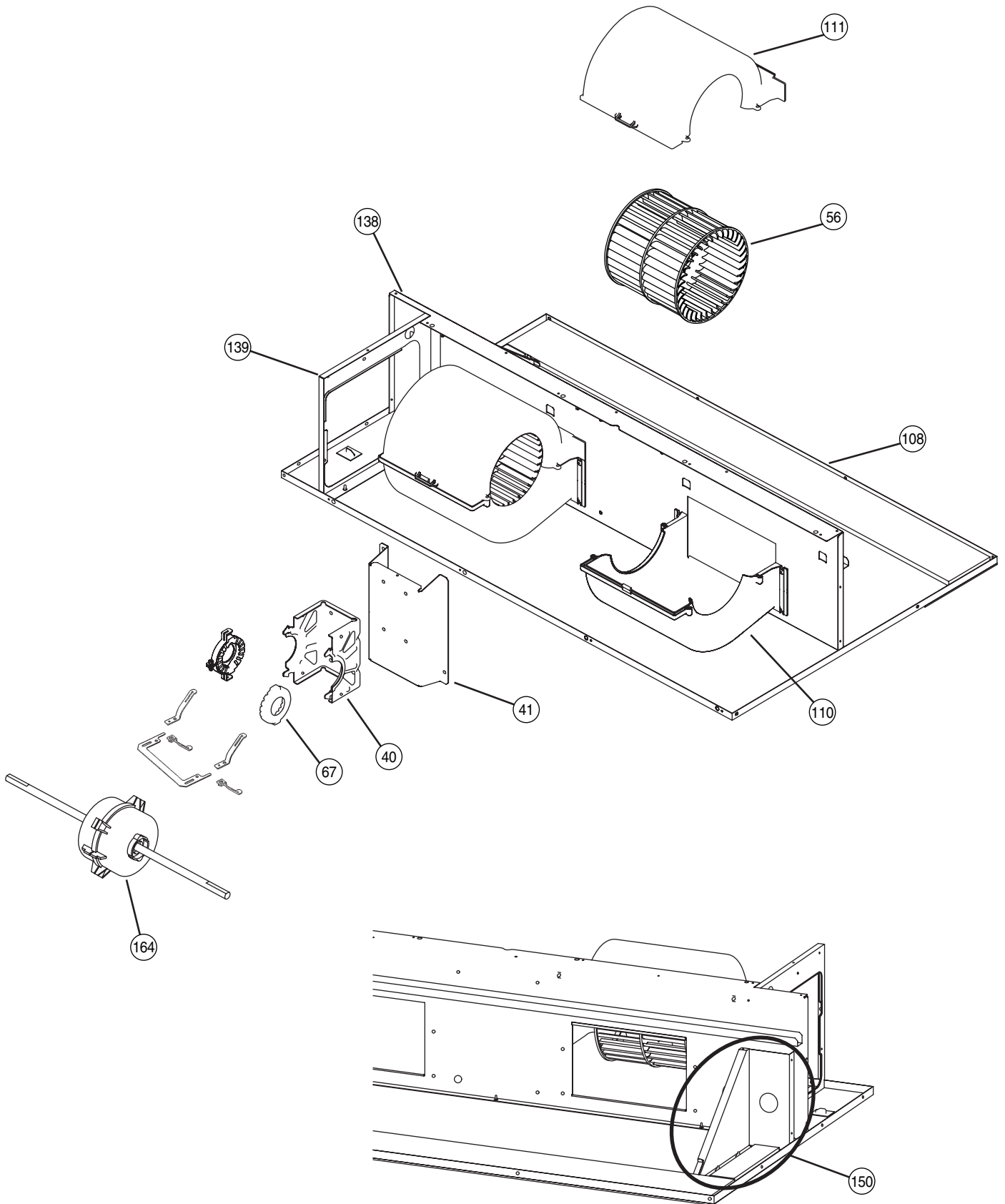
Model : ARH18LUAD



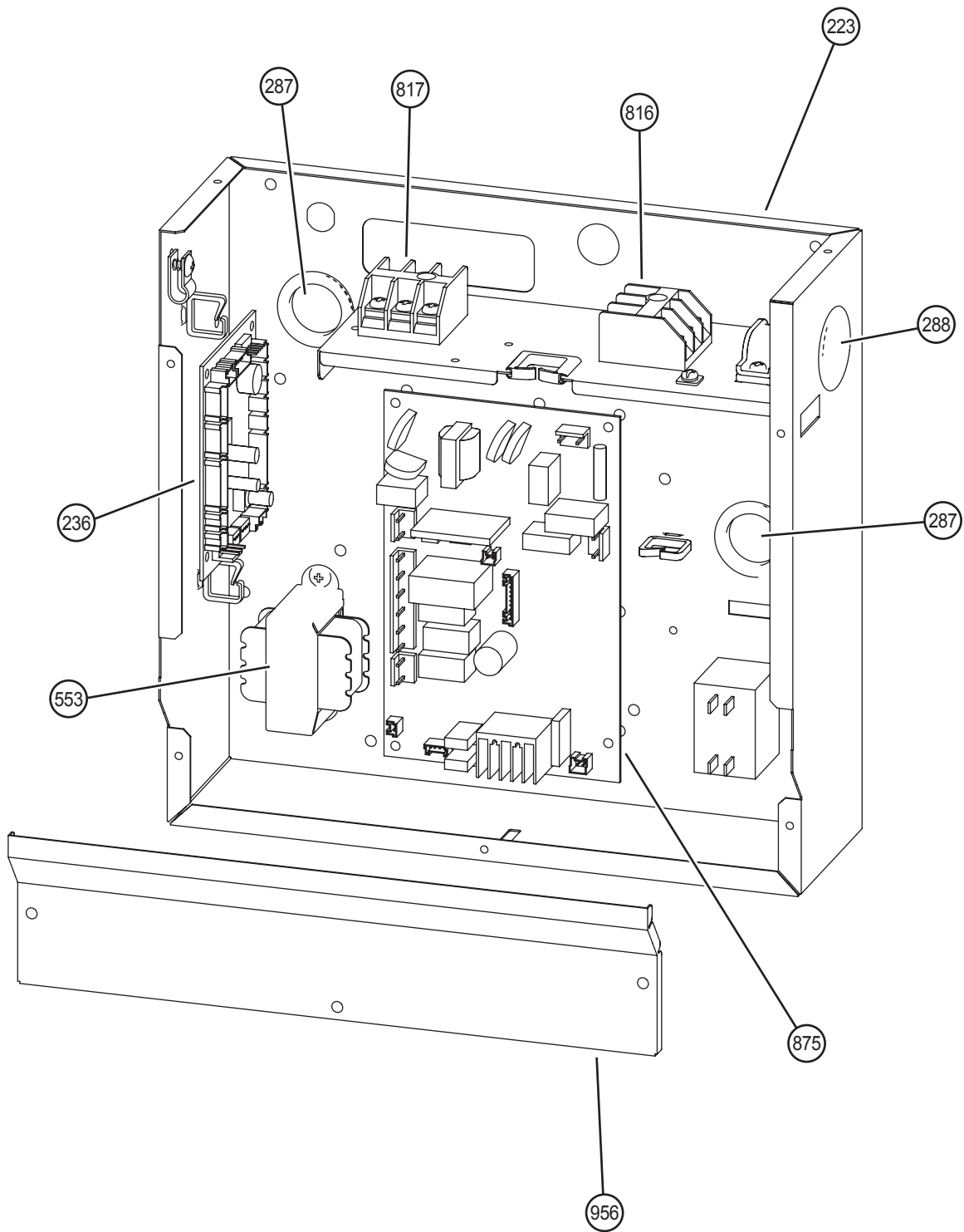
Model : ARH24LUAN



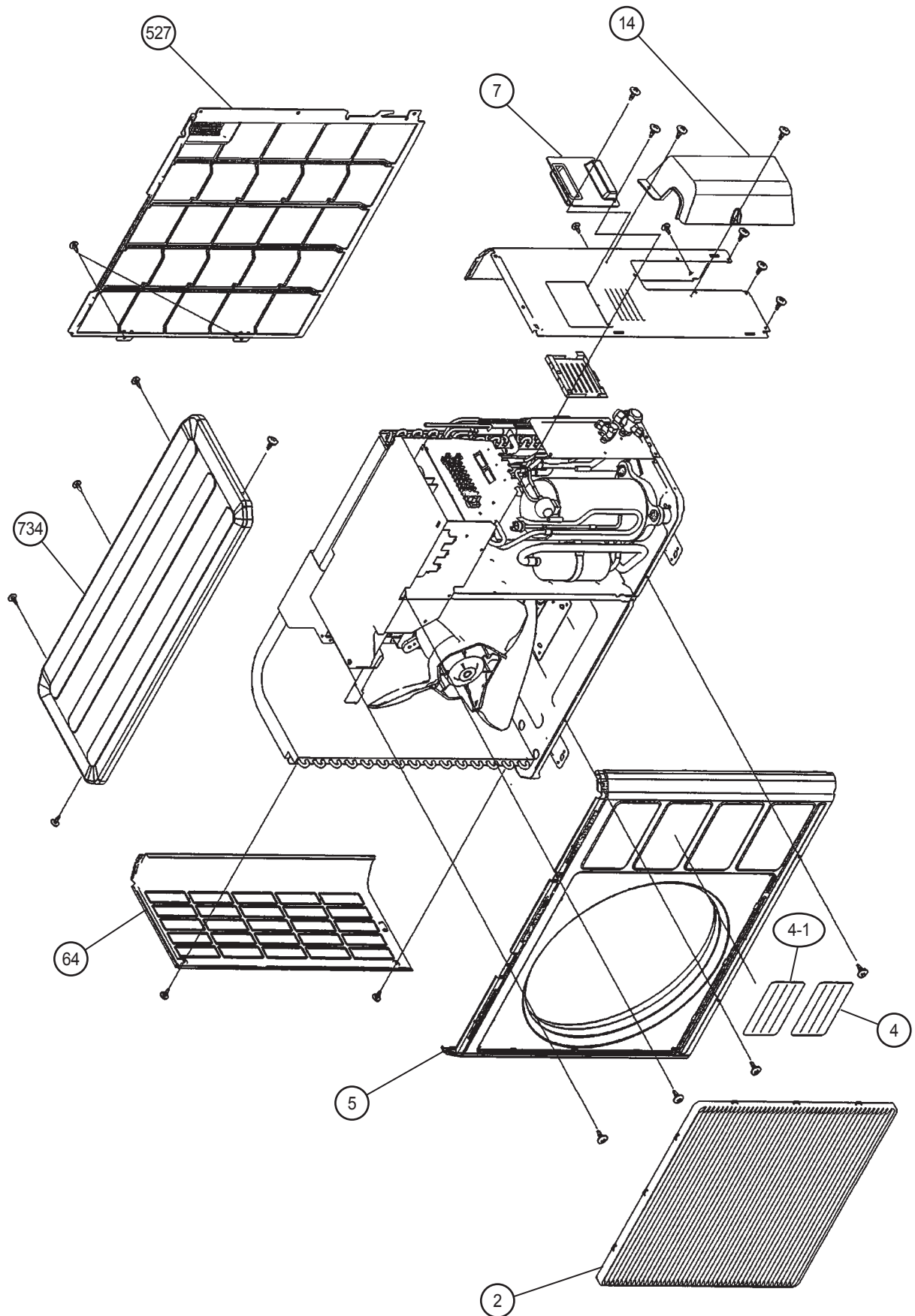
Model : ARH24LUAN



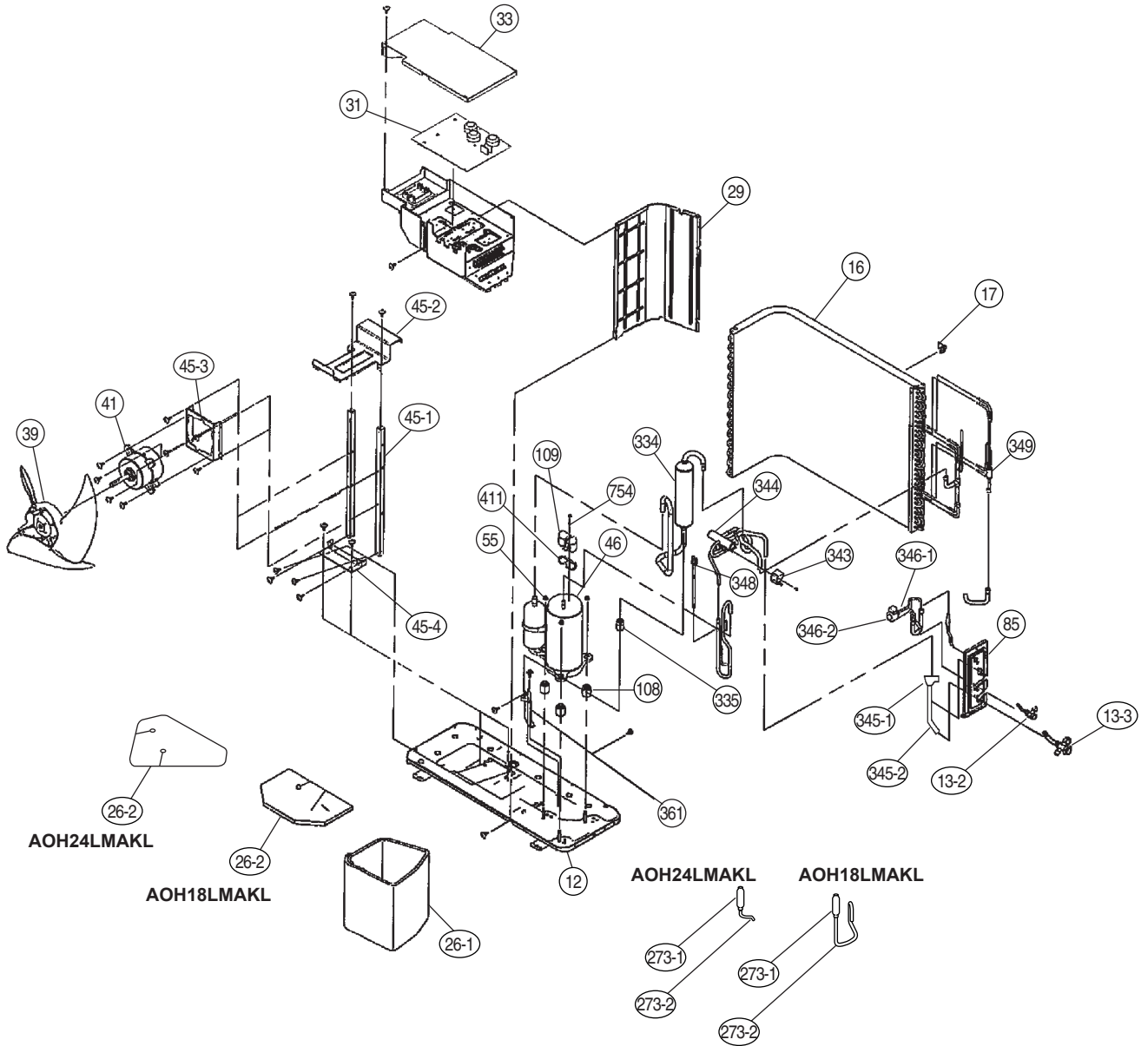
Model : ARH24LUAN



Models : AOH18LMAKL
AOH24LMAKL



**Models : AOH18LMAKL
AOH24LMAKL**



PARTS LIST

INDOOR 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
		ARH18LUAD	
34	Capacitor (Fan Motor)	9703306044	
56	Sirocco Fan Assy	9358621004	
63	Front Panel Assy	9363723007	
67	Rubber (Vibration-proof)	313659068604	
74	Air Filter	9366833017	
109	Casing Assy	9363322002	
126	Motor Fixing Table Assy	9358591000	
138	Panel Assy (Motor)	9363401004	
143-1	Clamp NK-3N	313361274700	
146	Evaporator Assy	9372972014	
147	Distributor	9368859008	
160	Drain Pan Assy	9364502021	
164	Fan Motor Assy	9600778210	
173	Hook Metal	9363195002	
184-1	Thermistor Spring-A	313728262708	
195	Clamp SKB-100	313361275805	
196-2	Clamp SKB-150	313035356905	
234	Room Temperature Thermistor	9703299018	
235	Pipe Temperature Thermistor	9703297090	
236	Controller PCB Assy	9704557957	
240	Remote Control Unit	9372266014	
244	Pipe Cover	9363327007	
287	Power Cap	9352173011	
338	Motor Fixture	9358594001	
380	Locking Spacer	313209391403	
381-4	Spacer	0600118075	
455	Control Box	9366299004	
464	Cover (Cabinet)	9363400007	
514	Control Box Cover	9363201000	
568	Rubber Bushing	9357376004	
587	Support Plate (Evaporator)	9363404005	
588-1	Bracket Evaporator-R	9363199000	
588-2	Bracket Evaporator-L	9363198003	
625	Cord Bushing	9359240006	
653-1	Screw Cap	9385089020	
734	Top Panel	9363504002	
761	Side panel-R Assy	9363507003	
762	Side Panel-L Assy	9363505009	
815-1	Terminal-6P	9900016036	
815-2	Terminal-3P	9703403019	
875	Power Supply PCB Assy	9704560506	
982-1	Cord Clamp	9356857009	
982-2	Cord Clamp-B	9356858006	

Ref. No.	Description	Part No.	Ord. Q'ty
		ARH24LUAN	
20	Control Cover-A Sub Assy	9374516018	
34	Capacitor (Fan Motor)	9900270209	
40	Motor Mount	9374281015	
41	Bracket Motor Assy	9374230013	
56	Sirocco Fan Assy	9356531022	
67	Rubber	313659068604	
72	Cabinet-L Sub Assy	9374509010	
73	Cabinet-R Sub Assy	9374508013	
74	Intake Cover Sub Assy	9374512010	
75	Outlet Panel Sub Assy	9374510016	
108	Base Sub Assy	9374504015	
110	Casing-A	9374233014	
111	Casing-B	9374234011	
138	Separate Wall Assy	9374228010	
139	Panel (Control Box) Sub Assy	9374506019	
146	Evaporator Assy	9374518029	
150	Bracket (Evaporator)-R	9374207015	
160	Drain Pan Sub Assy	9374513017	
164	Fan Motor Assy-IN	9600830086	
223	Control Box-A	9374219018	
236	Controller PCB Assy	9705246126	
287	Power Cap	9352173011	
324	Main Panel Sub Assy	9374511013	
325	Intake Frame Assy	9374216017	
553	Power Transformer	9704129017	
764	Drain Cap	9356541007	
816	Terminal-3P	9703345012	
817	Terminal-3P	9306489045	
875	Power Supply PCB ASSY	9705668065	
956	Control Cover-B	9374222018	

OUTDOOR UNIT










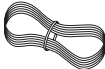


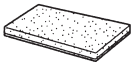
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		AOH18LMAKL	AOH24LMAKL				AOH18LMAKL	AOH24LMAKL	
3	Fan Guard	9371187013	9371187013		64	Side Panel-L, Painted	9371926018	9371926018	
4	Emblem-Rear	9372171011	9372171011		69-3	Hex. Bolt Socket	301210060360	301210060360	
5	Front Panel, Painted	9371924014	9371924014		85	Valve Plate, Painted	9371928036	9371928036	
7	Connector Cover (Cabinet)	9366398004	9366398004		108	Rubber Seat (For Comp.)	9358080009	9358080009	
12	Base Assy, Painted	9371920078	9371920078		109	Terminal Cover (For Comp.)	9373264019	9373264019	
13-2	2-Way Valve	9372204054	9372204023		187	Clip (Cable)	9352715006	9352715006	
13-3	3-Way Valve	9372205051	9372205075		199	BR Sheet	9363708042	9363708042	
14	Valve Cover	9372796016	9372796016		218-3	Relay	9900117016	9900117016	
15	Condenser Sub Assy	9372313183	9372313183		273-1	Strainer Assy	9372524015	9372524015	
16	Condenser Assy	9372181096	9372181096		273-2	Joint Pipe (2-Way)-A	9373729549	9373729495	
17	Thermistor Holder Pipe	313714262805	313714262805		334	Accumulator	9368391003	9368391003	
26-1	Compressor Cover-A	9373730019	9374430055		335	Accumulator Holder Rubber	9354022010	9354022010	
26-2	Compressor Cover-B	9373730026	9374431052		343	Solenoid	9900165079	9900165079	
29	Separate Wall	9372795019	9372795019		344	4-Way Valve	9900163013	9900163013	
31	Controller PCB Assy	9705285033	9705285040		345-1	Muffler	9372369029	9372369029	
----	ACTPM	9703457012	9703457012		345-2	Joint Pipe (3-Way)	9373729556	9373729501	
----	Capacitor, Elec.	9705387010	9705387010		346-1	Expansion Valve Assy	9373729518	9373729518	
33	Control Cover	9372792018	9372792018		346-2	Coil (Expansion Valve)	9900057022	9900057022	
----	Fuse	0600086039	0600086039		348	Pressure Switch Assy	9373729044	9373729044	
----	Fuse Holder	0501454012	0501454012		349	Capillary Assy	9373729433	9373729433	
34	Capacitor, Plastic	9704305077	9704305077		361	Accumulator Support Assy	9372252017	9372252017	
----	Terminal-5P	9900203023	9900203023		411	Gasket	9373266013	9373266013	
----	Terminal-2P	9701971015	9701971015		527	Protective Net	9371934013	9371934013	
39	Propeller Fan Assy	9366378013	9366378013		734	Top Plate	9371925011	9371925011	
41	Fan Motor Assy-IN	9601671046	9601671046		754	Rubber Washer	9358078006	9358078006	
45-1	Motor Bracket	9371929019	9371929019		----	Compressor Presure Switch	9900186012	9900186012	
45-2	Motor Bracket-Top	9371931012	9371931012		----	Compressor Thermal Switch	9373263012	9373263012	
45-3	Motor Bracket-Center	9371930015	9371930015		----	Discharge Temperature Thermistor	9704219039	9704219039	
45-4	Motor Bracket-Bottom	9371932019	9371932019		----	Heart Exchanger Thermistor	9704220059	9704220059	
46	Compressor Assy	9373262015	9373262015		----	Outdoor TemperatureThermistor	9703516047	9703516047	
55	Special Nut M8	9355091008	9355091008		----	Heat Sink Thermistor	9900195014	9900195014	



STANDARD ACCESSORIES

Models : ARH18LUAD / AOH18LMAKL

INDOOR UNIT ACCESSORIES










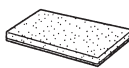
Name and Shape	Q'ty	Application	Part No.
Installation template 	1	For positioning the indoor unit	9364225005
Hanger 	4	For suspending the indoor unit from ceiling	9363195002
Tapping screw (φ 4 x 10) 	8	For installing the hanger	301171164104
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (small flange) 	4		313005446759
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Binder 	(Small) 1	For remote controller and remote controller cord binding	313361275805
	(Large) 4	For fixing the coupler heat insulation	312300787605
Remote controller 	1	Heat & Cooling model	9372266014
Remote controller cord 	1	For connecting the remote controller	9372714010
Tapping screw (φ 4 x 16) 	2	For installing the remote controller	0700181108
Filter 	3	1200 - 22000 BTU/h models	9366833017
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT ACCESSORIES

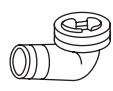

Name and Shape	Q'ty	Application	Part No.
Drain pipe 	1	For outdoor unit drain piping work [Heat & Cool model (Reverse cycle) only]	9303029015
Cap (drain) 	1		313166024302

Models : ARH24LUAN / AOH24LMAKL

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Hanger 	4	For suspending the indoor unit from ceiling	9356563009
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (small flange) 	4		313005446759
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Nylon fastener 	(Small) 1	For fixing the remote controller cord	313361275805
	(Large) 4	For fixing the drain hose	312300787605
Remote controller 	1		9372266014
Remote controller cord 	1		9372714010
Tapping screw 	2	For installing the remote controller unit cord clamp	0700181108
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Drain pipe 	1	For outdoor unit drain piping work [Heat & Cool model (Reverse cycle) only]	9303029015
Cap (drain) 	1		313166024302



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