

SPLIT TYPE
ROOM AIR CONDITIONER
CEILING TYPE (50Hz)

SERVICE MANUAL



Indoor unit	Outdoor unit
ABY54FBAG	AOY54FMAYT
ABY54UBAG	AOY54UMAYT

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SPECIFICATIONS

TYPE	COOLING	COOL & HEAT
INDOOR UNIT	ABY54FBAG	ABY54UBAG
OUTDOOR UNIT	AOY54FMAYT	AOY54UMAYT
COOLING CAPACITY	14.5 kW	14.5 kW
HEATING CAPACITY	—	16.5 kW

ELECTRICAL DATA

POWER SOURCE		400 V	
FREQUENCY		3ø 50Hz	
RUNNING CURRENT	Cooling	9.5 A	9.5 A
	Heating	—	9.5 A
INPUT WATTS	Cooling	5.16 kW	5.16 kW
	Heating	—	5.30 kW
E.E.R.	Cooling	2.81 kW/kW	2.81 kW/kW
	Heating	—	3.11 kW/kW
MOISTURE REMOVAL		6.0 L/hr	
AIR CIRCULATION		2,200 m3/hr	

COMPRESSOR

TYPE	Hermetic type, 2 poles, 3 phase, Induced by condenser, Scroll
DISCRIMINATION	BN65YEAMT

FAN MOTOR

POWER SOURCE		400 V	
INDOOR UNIT	Discrimination	MFA-45DZM	
	High speed	1,250 r.p.m.	
	Med speed	1,150 r.p.m.	
	Low speed	1,000 r.p.m.	
OUTDOOR UNIT	Discrimination	MFB-30PTT x 2	
	High speed	780 r.p.m.	

DIMENSIONS

INDOOR UNIT	H x W x D	240 x 1,660 x 700 mm
OUTDOOR UNIT	H x W x D	1,290 x 900 x 330 mm

WEIGHT

INDOOR UNIT	Gross / Net	62 kg / 49 kg	
OUTDOOR UNIT	Gross / Net	121 kg / 114 kg	125 kg / 118 kg

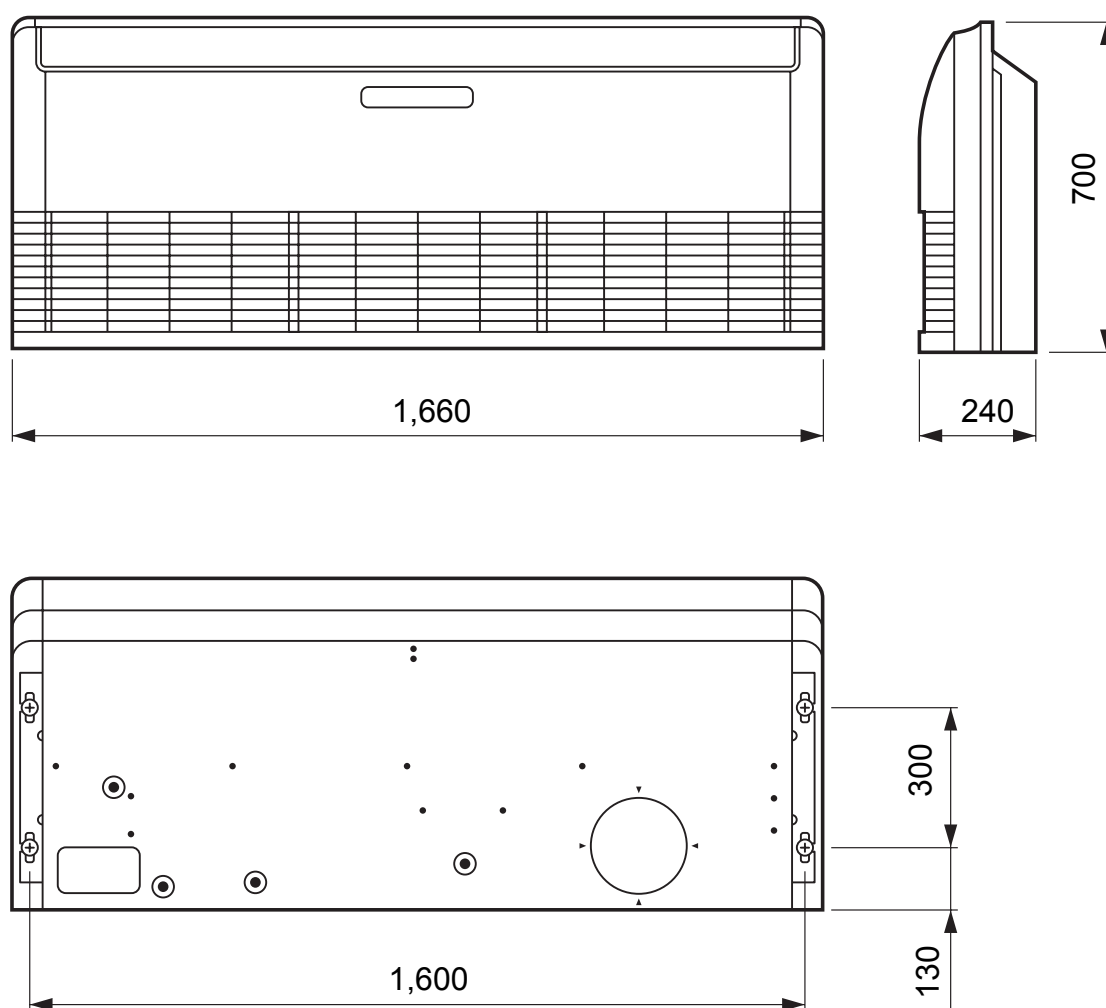
REFRIGERANT AMOUNT (R410A)

FULL CHARGE	Pipe length	20 m	3,300 g	3,500 g
		30 m	3,700 g	3,900 g
		40 m	4,100 g	4,300 g
		50 m	4,500 g	4,700 g
ADDITIONAL CHARGE		40 g/m		

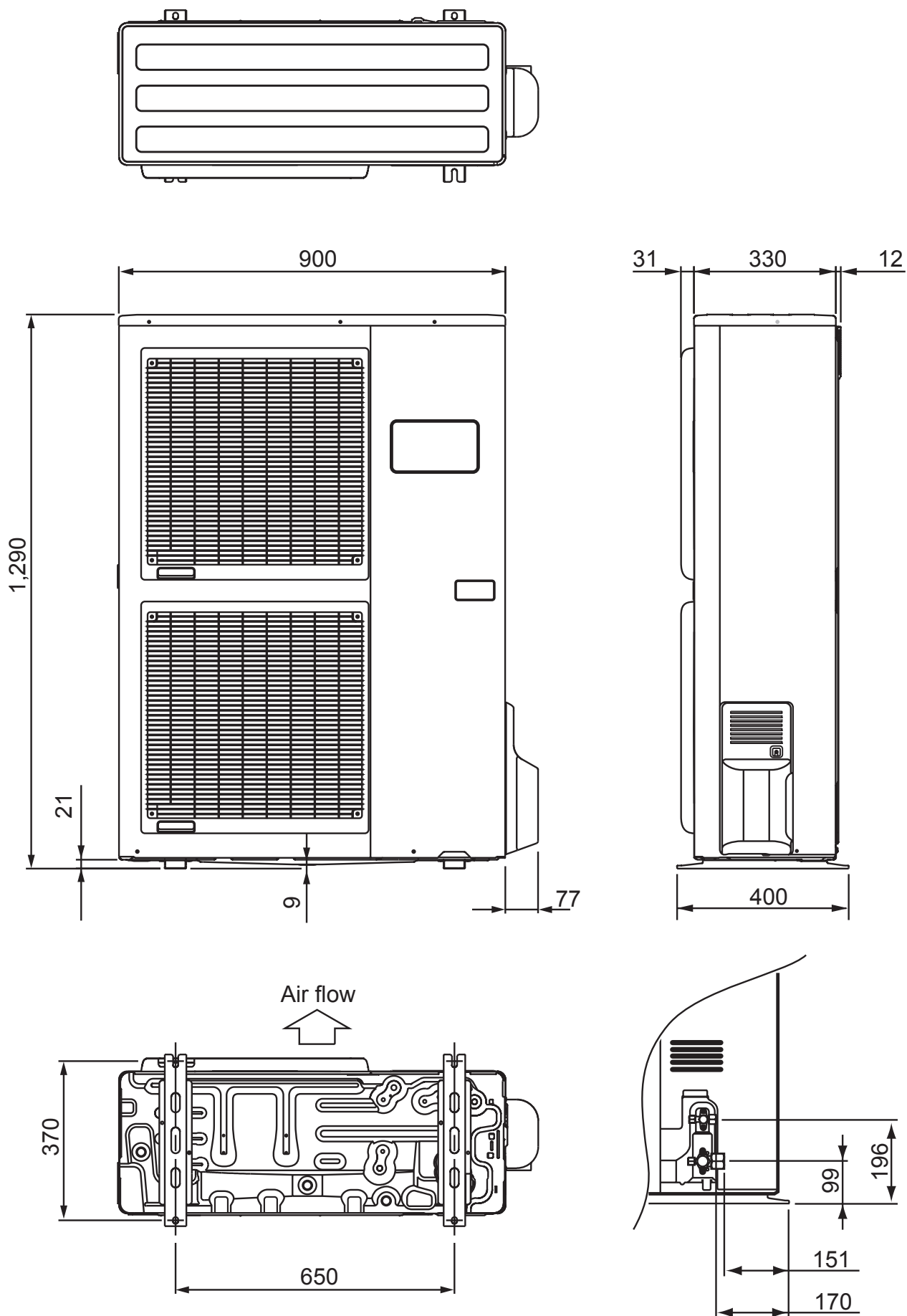
DIMENSIONS

INDOOR UNIT

(Unit : mm)

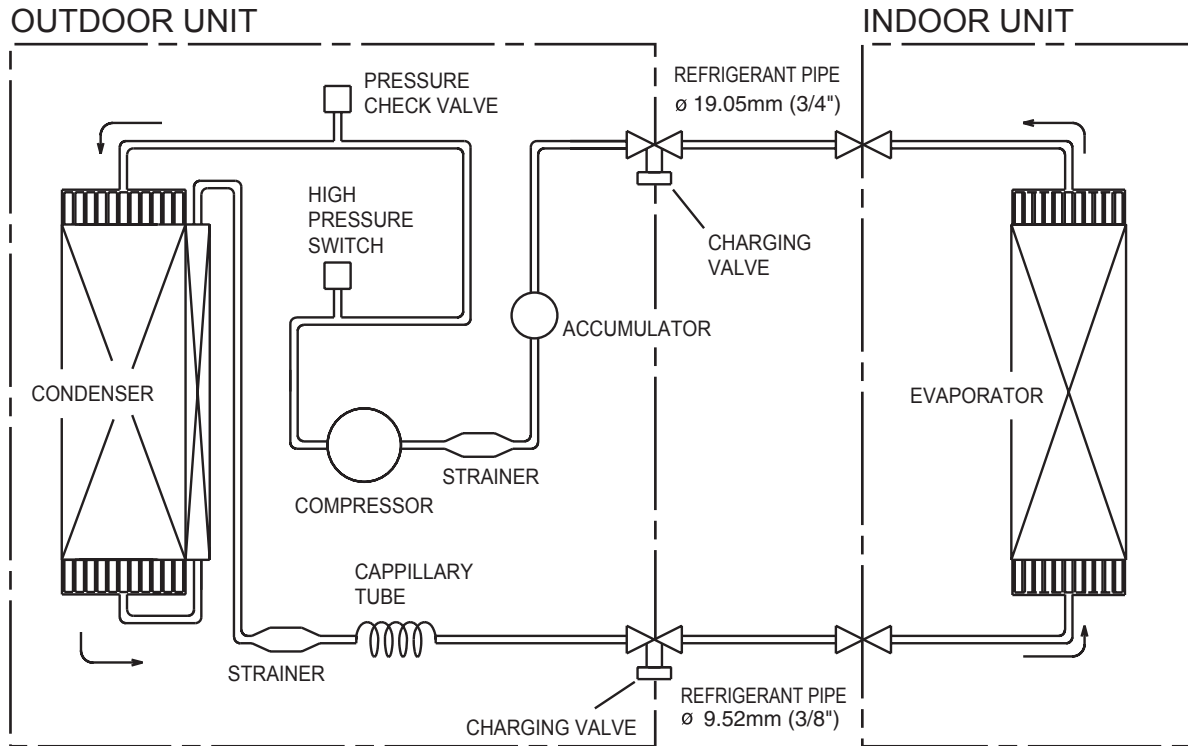


OUTDOOR UNIT

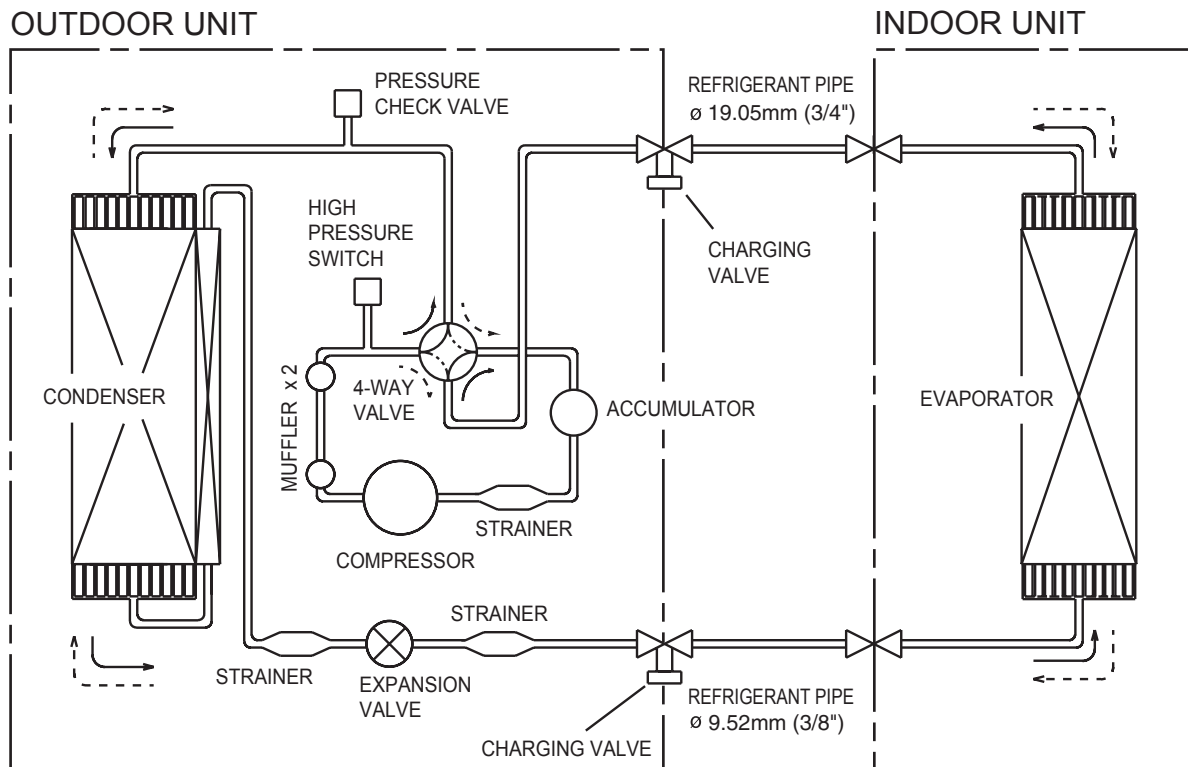


REFRIGERANT SYSTEM DIAGRAM

Models : ABY54FBAG / AOY54FMAYT



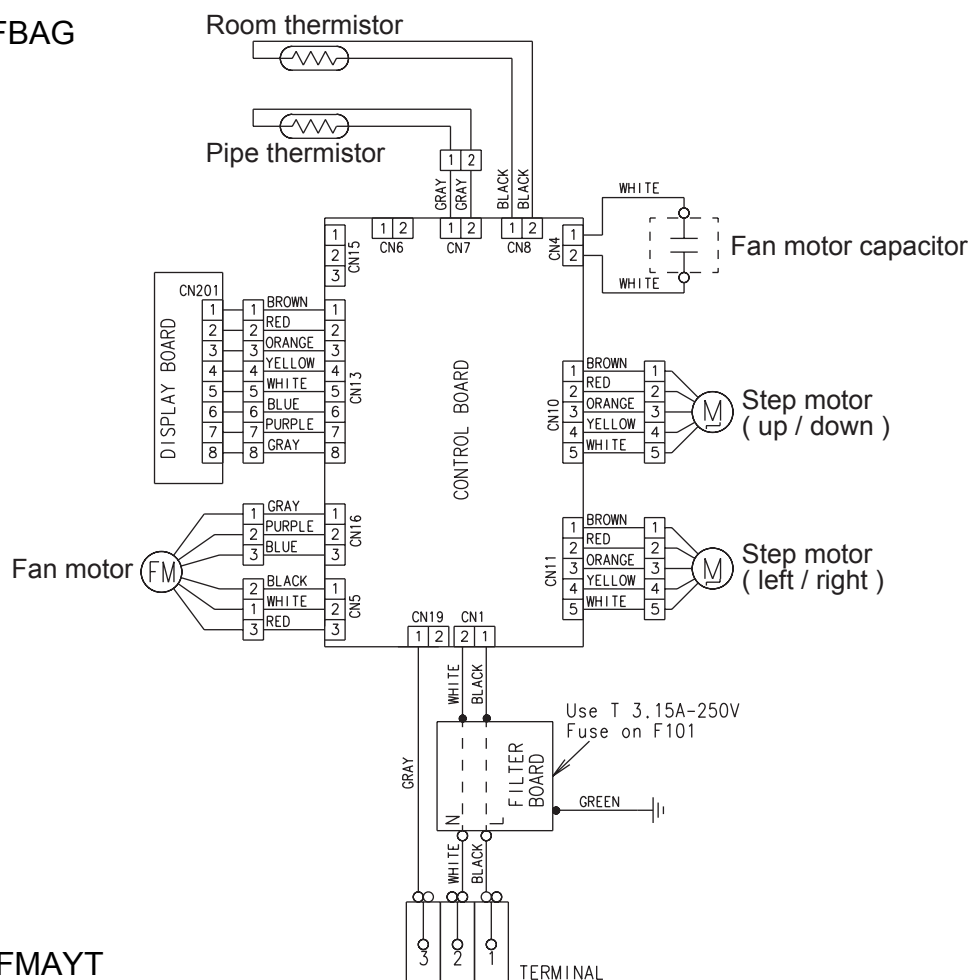
Models : ABY54UBAG / AOY54UMAYT



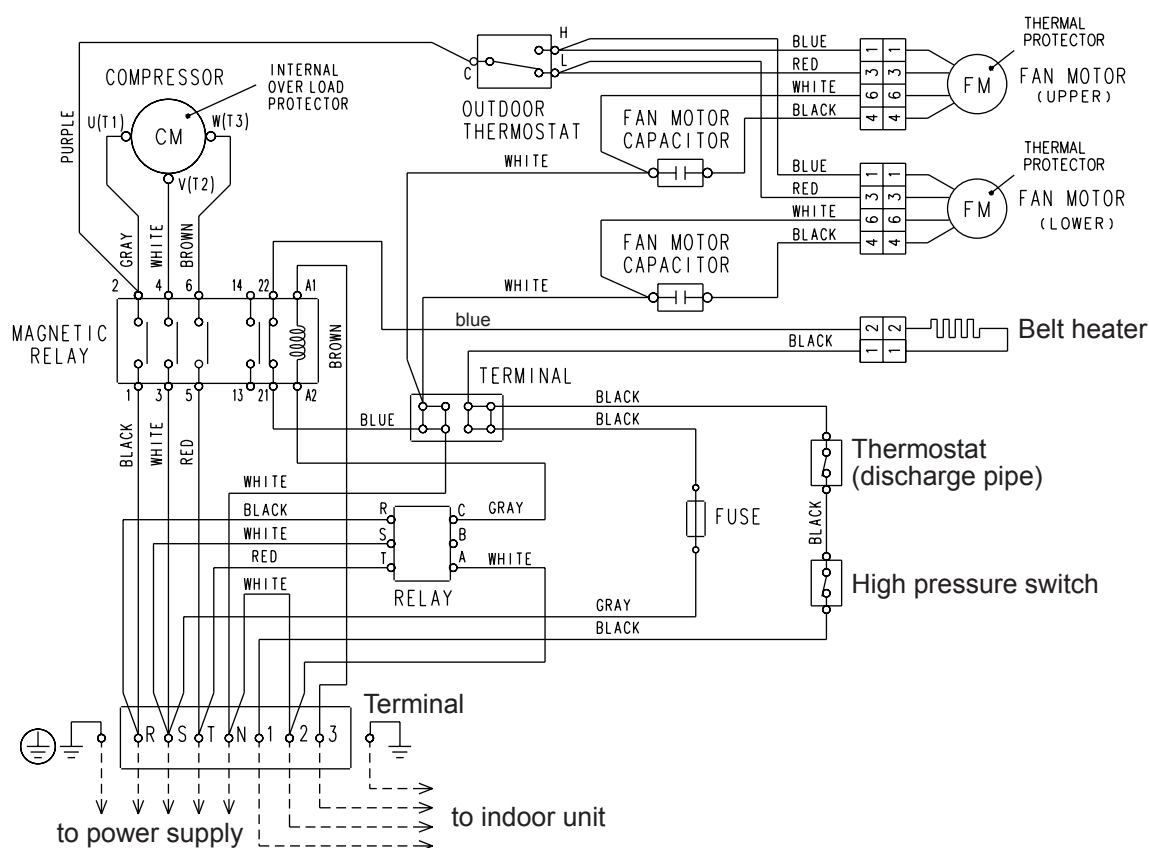
→ Cooling
 Heating

CIRCUIT DIAGRAM

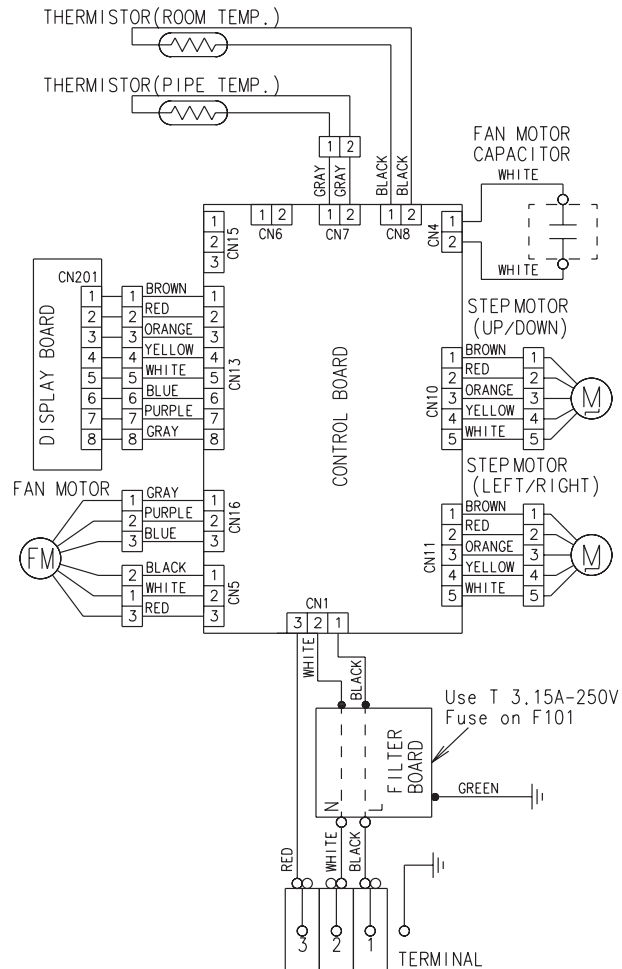
Models : ABY54FBAG



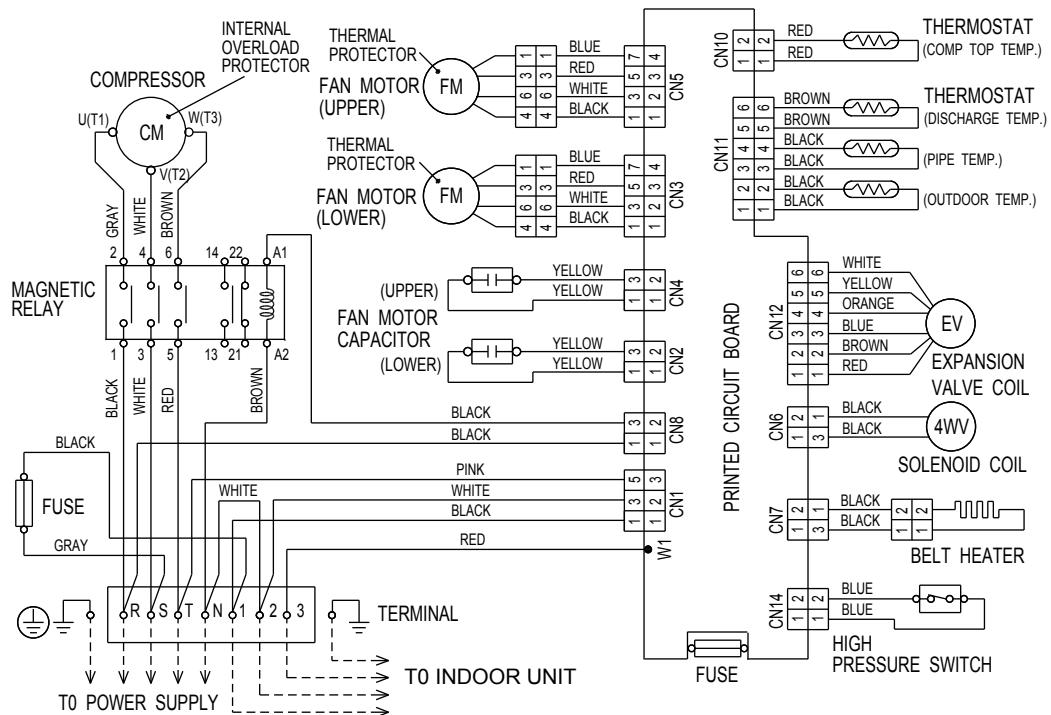
Models :AOY54FMAYT



Models : ABY54UBAG



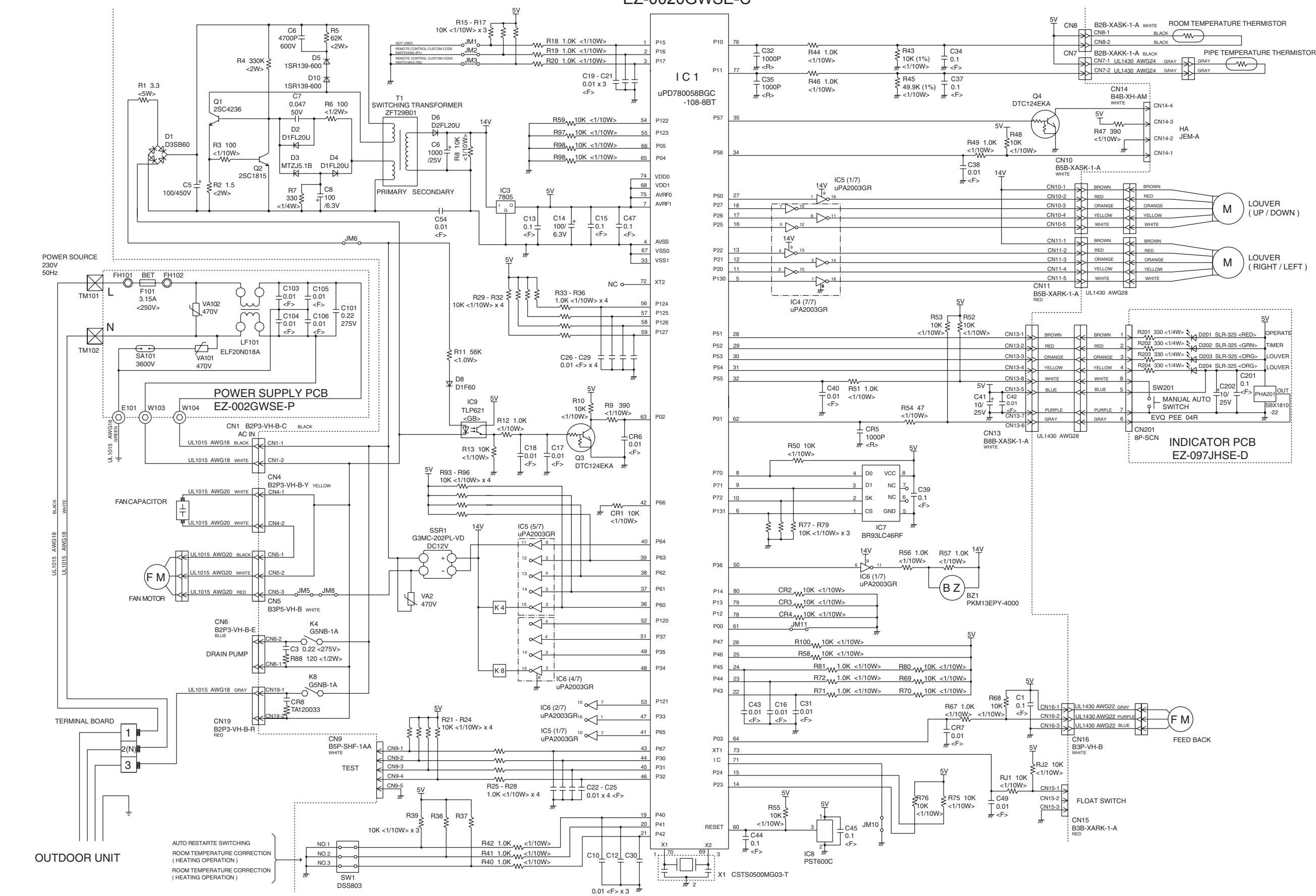
Models : AOY54UMAYT



INDOOR PCB CIRCUIT DIAGRAM

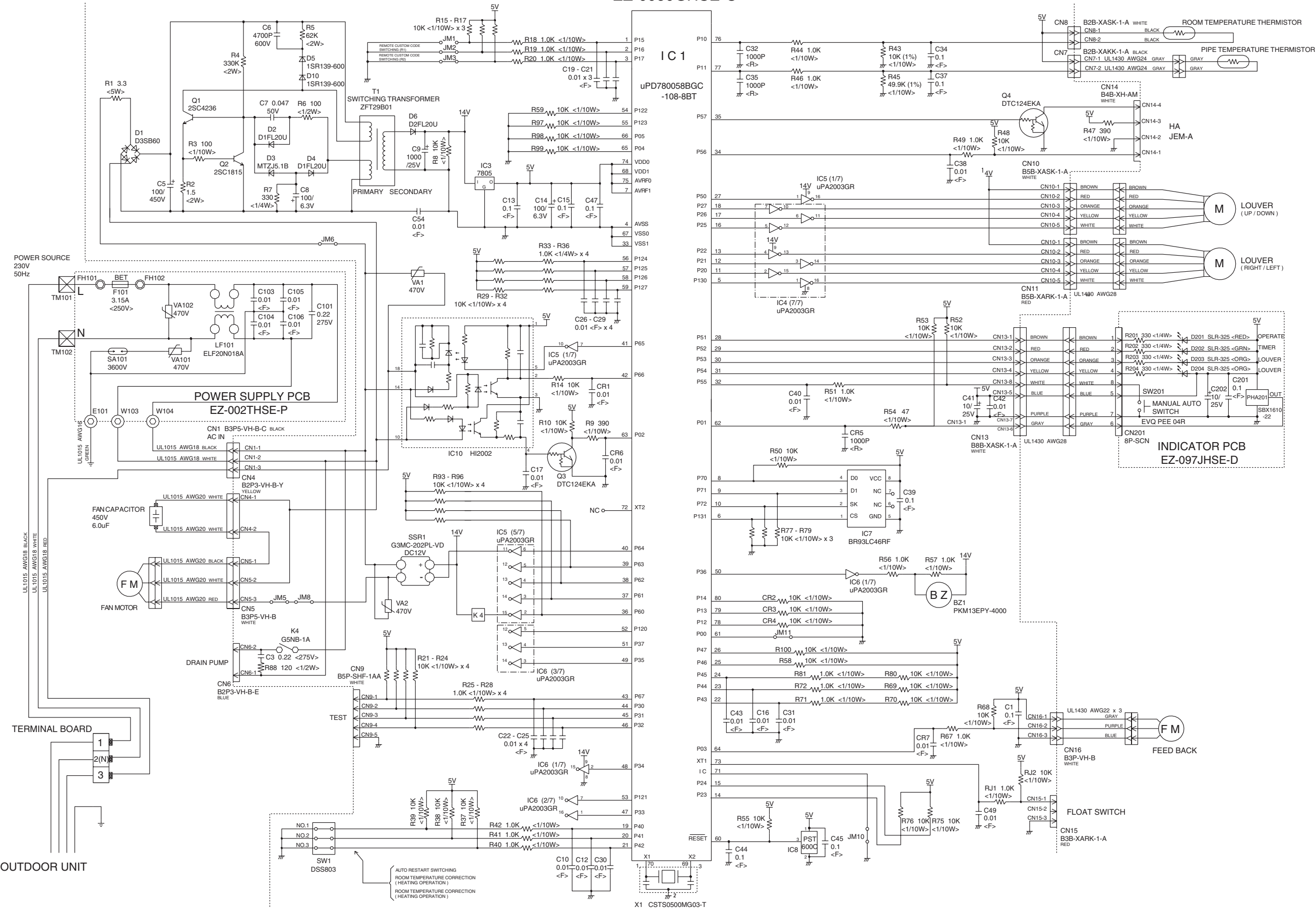
Models : ABY54FBAG

Controller PCB assy (main PCB)
EZ-0020GWSE-C



Models : ABY54UBAG

Controller PCB assy (main PCB)
EZ-0030GHSE-C



Models :AOY54UMAYT

14V

WHITE

CN12-1 UL1430 AWG24 RED

CN12-2 UL1430 AWG24 BROWN

CN12-3 UL1430 AWG24 BLUE

CN12-4 UL1430 AWG24 ORANGE

CN12-5 UL1430 AWG24 YELLOW

CN12-6 UL1430 AWG24 WHITE

E.E.V.

ELECTRIC EXPANSION VALVE

	Function	on	off
SW1-1	Expansion valve first pulse switching for long piping	Long piping mode	Normal mode
SW1-2	Spare	-	-
SW1-3	Spare	-	-

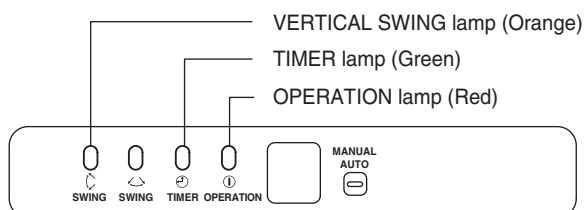


ERROR CONTENTS

INDOOR UNIT

Operation can be checked by lighting and flashing of the display section OPERATION, TIMER, and VERTICAL SWING lamps.

Perform judgment in accordance with the following.



TEST RUNNING

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION, TIMER, and VERTICAL SWING lamps flash slowly at the same time.

ERROR

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

OPERATION lamp (RED)	TIMER lamp (GREEN)	SWING lamp (ORANGE)	Error contents
○	○	×	Indoor EEPROM abnormal
○	○	○	Outdoor EEPROM abnormal
(2 times) ●	○	×	Indoor room temperature sensor open
(2 times) ●	○	○	Indoor room temperature sensor short-circuited
(3 times) ●	○	×	Indoor heat exchanger temperature sensor open
(3 times) ●	○	○	Indoor heat exchanger temperature sensor short-circuited
(4 times) ●	○	×	Float switch operated
(5 times) ●	○	×	Indoor signal abnormal
(5 times) ●	○	○	Outdoor signal abnormal
(6 times) ●	○	×	Indoor fan abnormal
○	(2 times) ●	×	Outdoor power source connection abnormal
○	(3 times) ●	×	Outdoor heat exchanger temperature sensor open
○	(3 times) ●	○	Outdoor heat exchanger temperature sensor short-circuited
○	(4 times) ●	×	Outdoor temperature sensor open
○	(4 times) ●	○	Outdoor temperature sensor short-circuited
○	(5 times) ●	×	Outdoor discharge pipe temperature sensor or compressor temperature sensor open
○	(5 times) ●	○	Outdoor discharge pipe temperature sensor or compressor temperature sensor short-circuited
○	(6 times) ●	×	Outdoor high pressure abnormal
○	(7 times) ●	×	Outdoor discharge pipe temperature or compressor temperature sensor abnormal

○ : 0.1s ON/0.1s OFF (flash) × : OFF

● : 0.5s ON/0.5s OFF (flash)

OUTDOOR UNIT

Heat & Cool model (reverse cycle) only

When a malfunction occurs in the outdoor unit, the LEDs on the circuit board light to indicate the error. Refer to the following table for the description of each error according to the LEDs.

LED layout

LED2 LED1



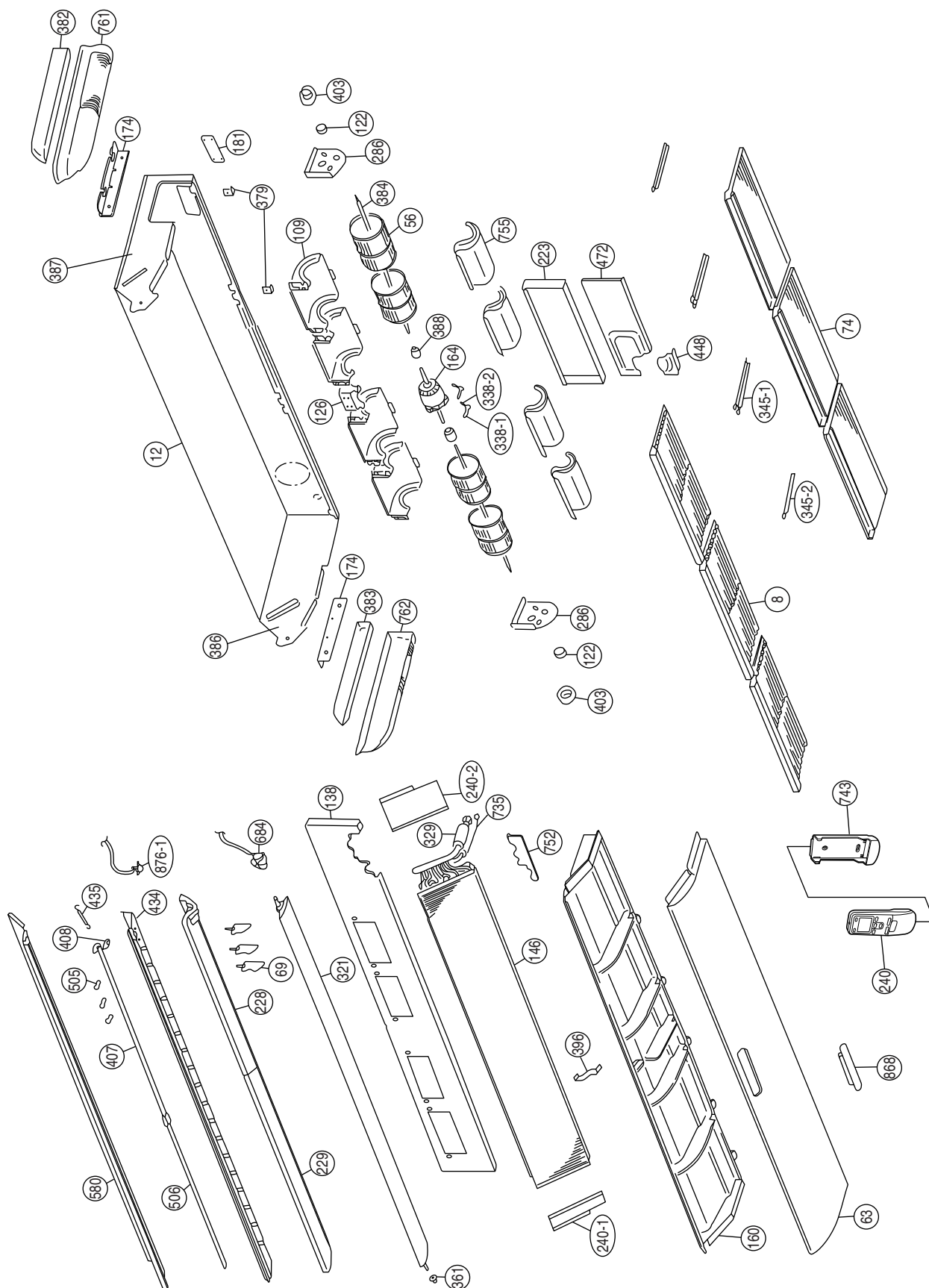
LED1	LED2	Error contents
flash	flash	Model abnormal or EEPROM abnormal
1flash	Lighting	Power source connection error
2 flash	Lighting	Discharge temp. sensor error
3 flash	Lighting	Heat exchanger temp. sensor error
4 flash	Lighting	Outdoor temp. sensor error
5 flash	Lighting	Communication signal error
6 flash	Lighting	Indoor unit error
7 flash	Lighting	Discharge temp. abnormal
8 flash	Lighting	High pressure abnormal
9 flash	Lighting	Compressor temp. abnormal
10 flash	Lighting	Compressor temp. sensor error
Dislighting		No error. Protect operation

When the fault is cleared, the LED lamp goes off.

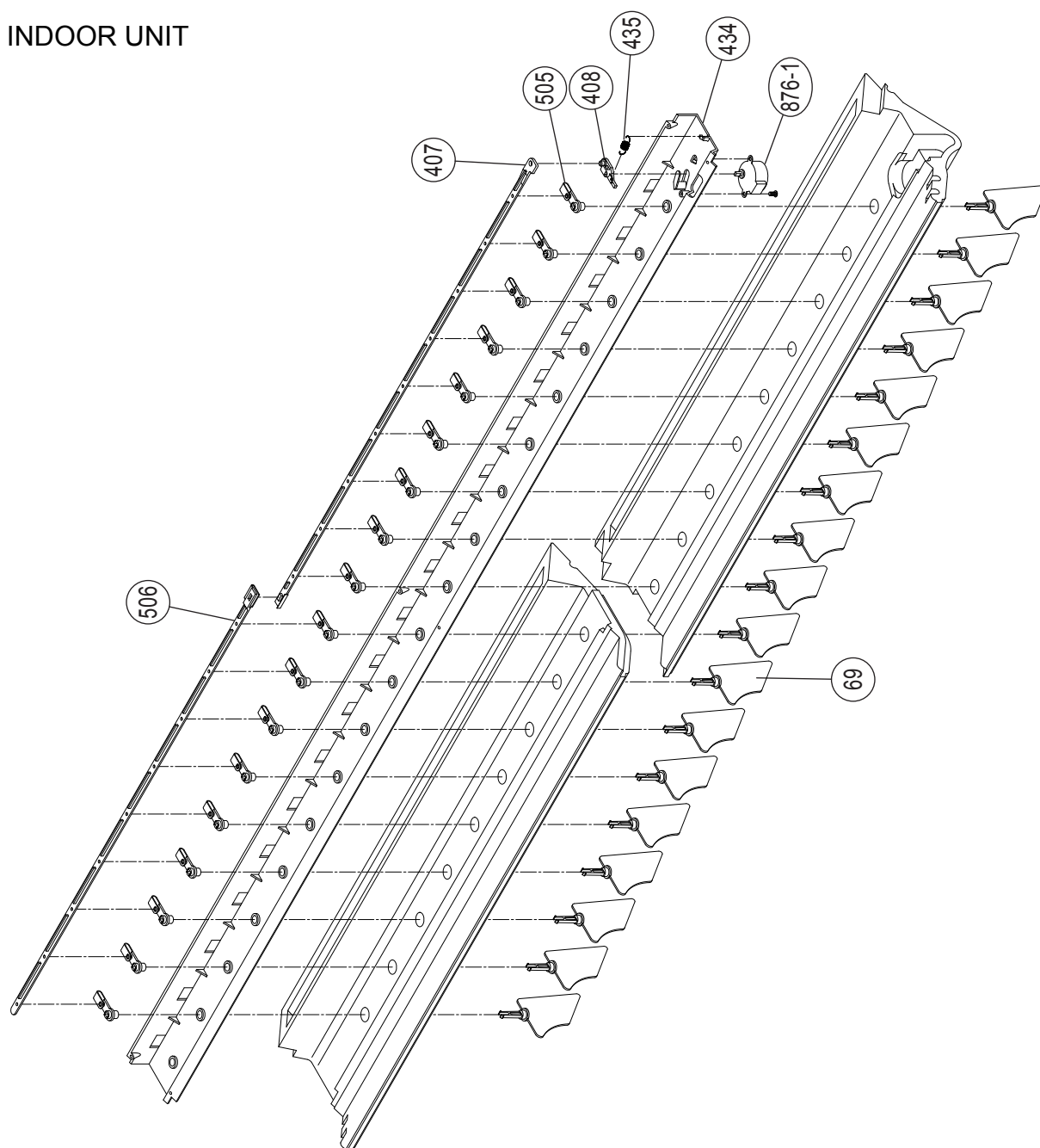
However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

DISASSEMBLY ILLUSTRATION

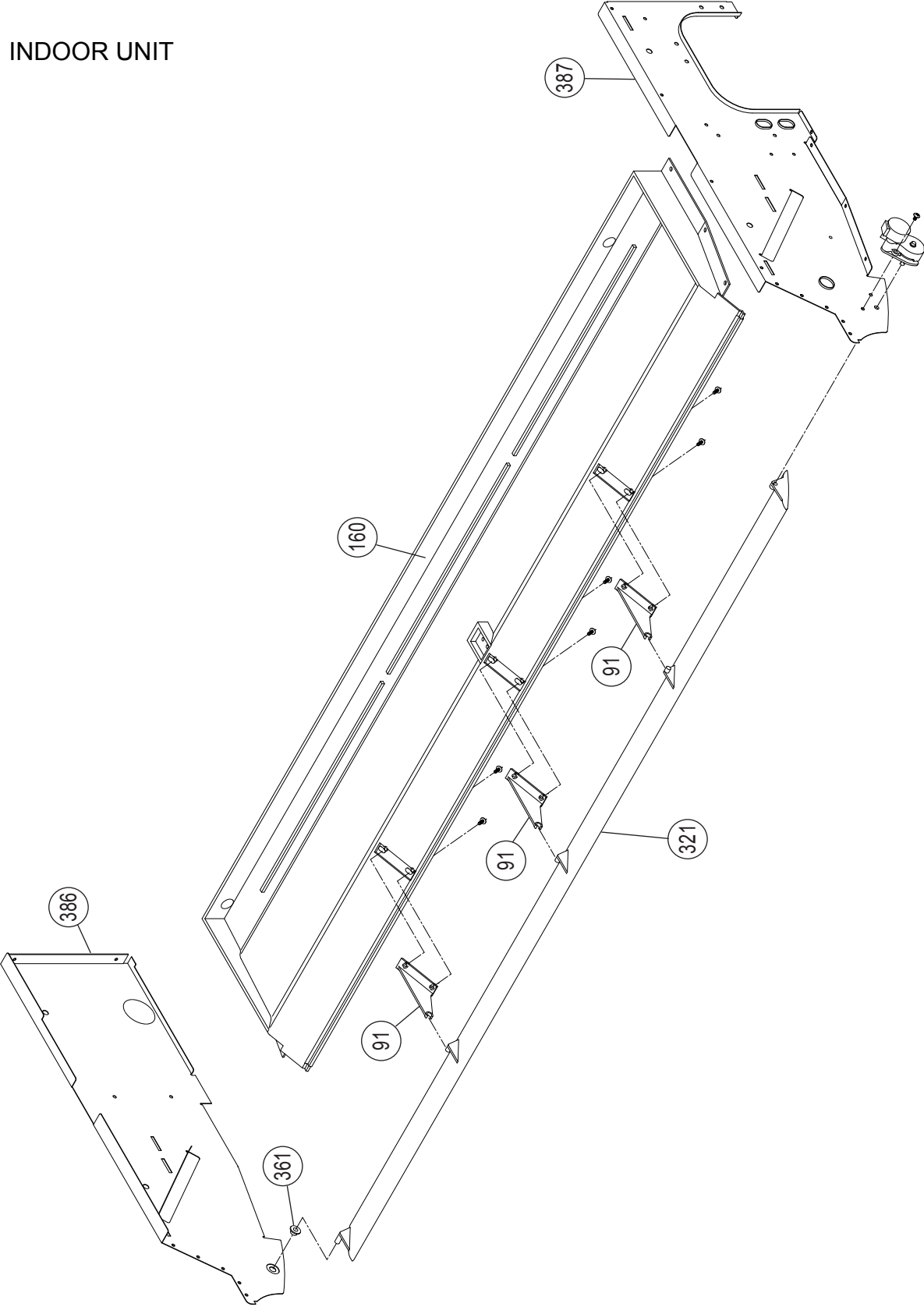
INDOOR UNIT



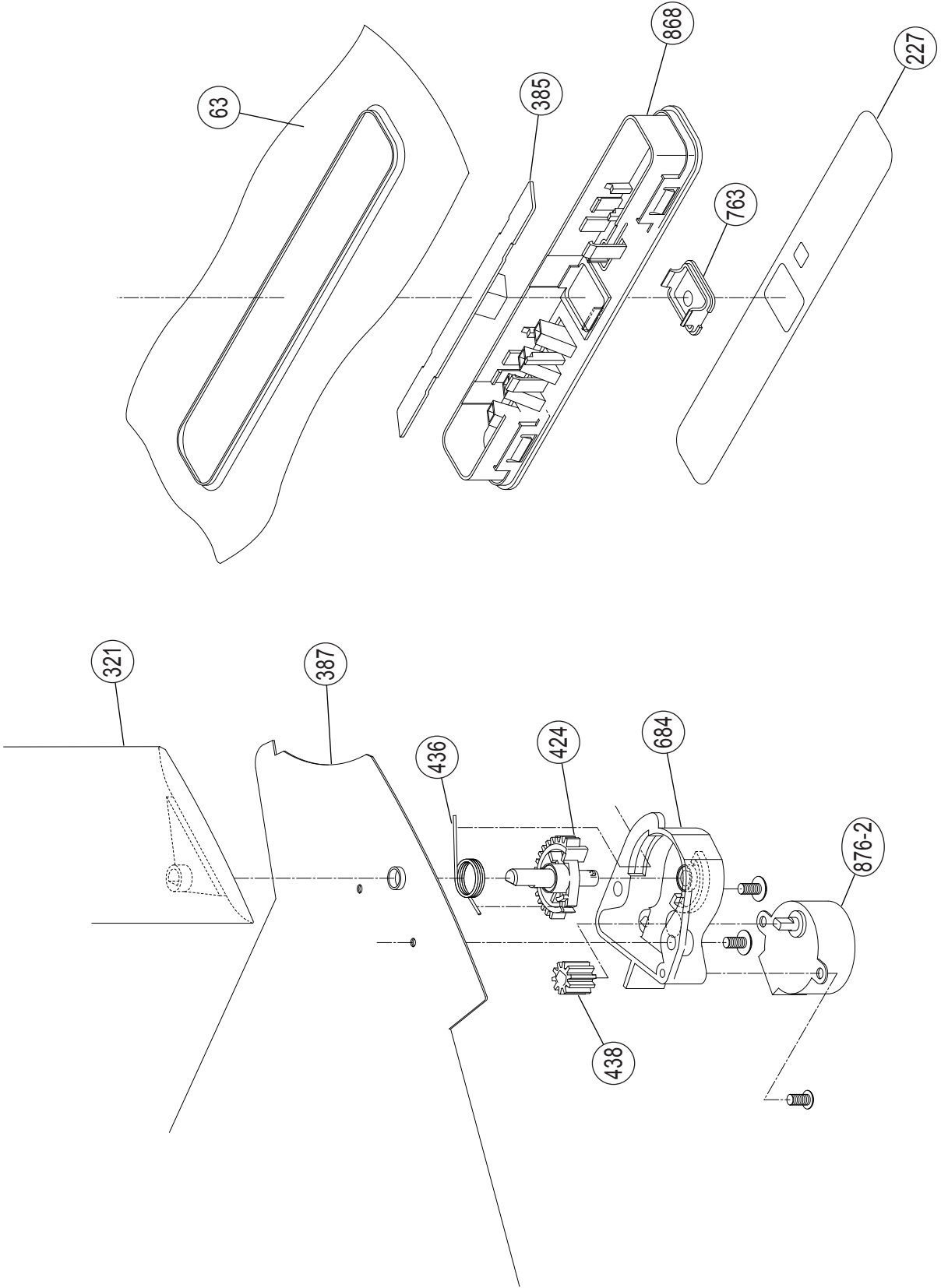
INDOOR UNIT



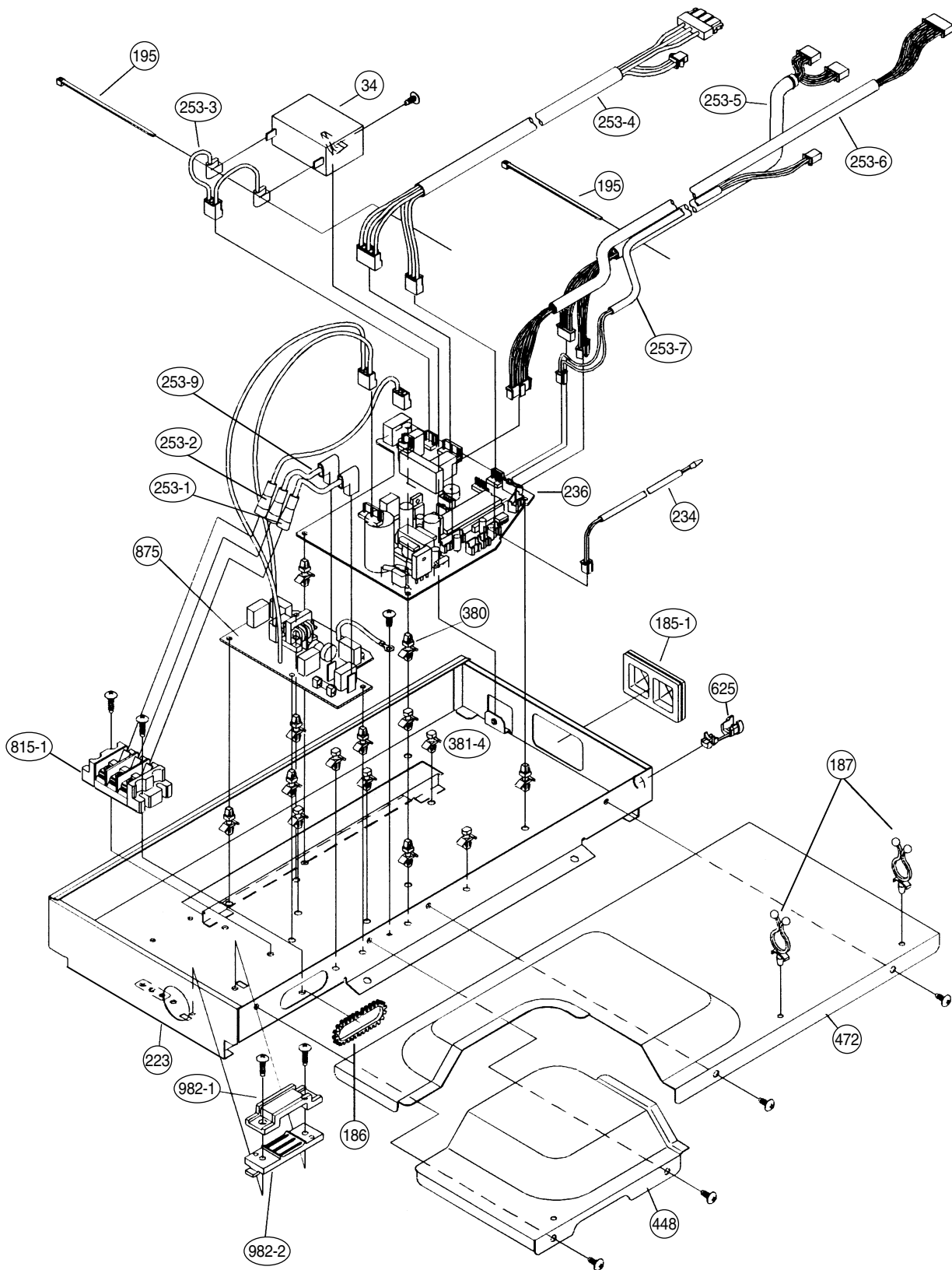
INDOOR UNIT



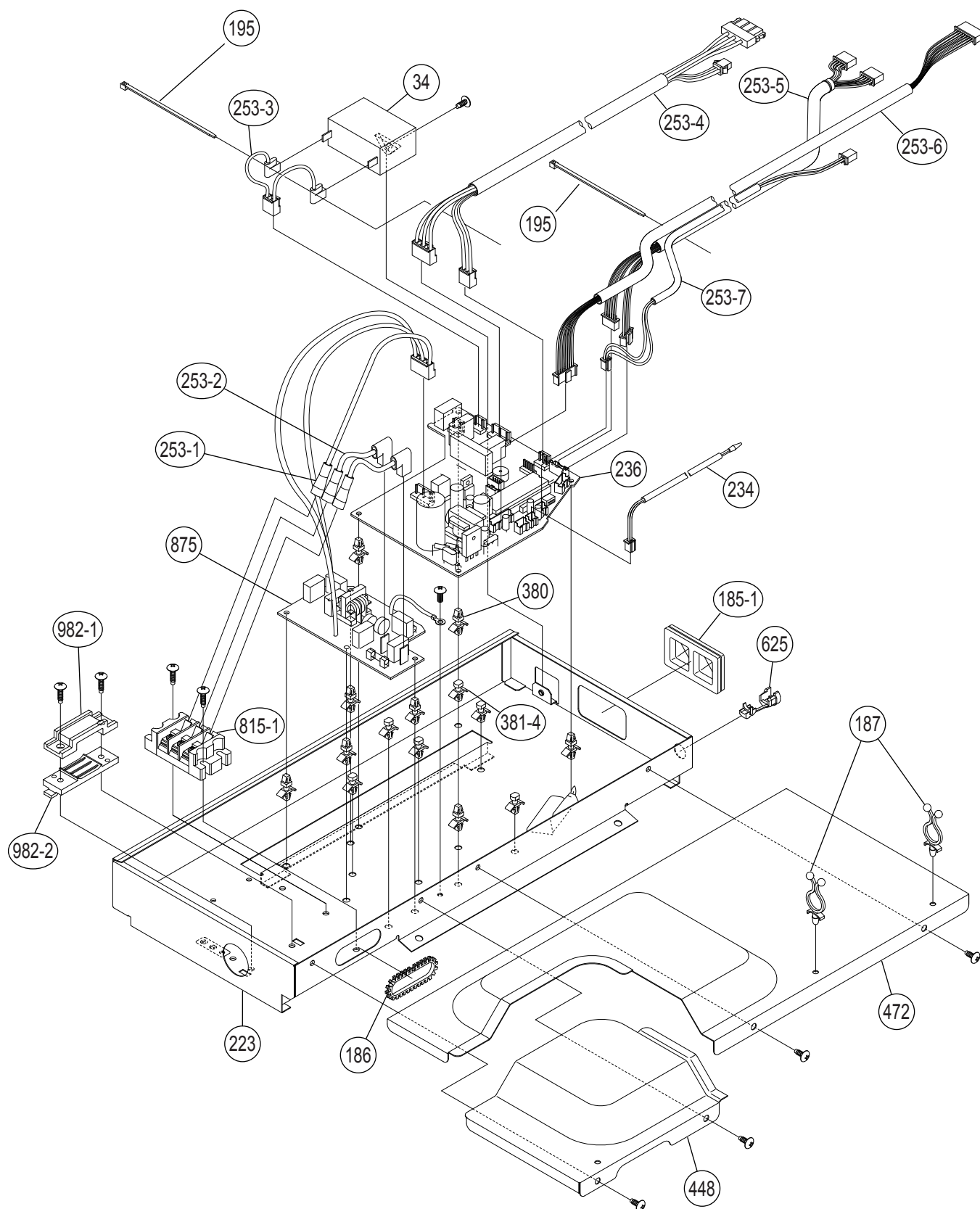
INDOOR UNIT



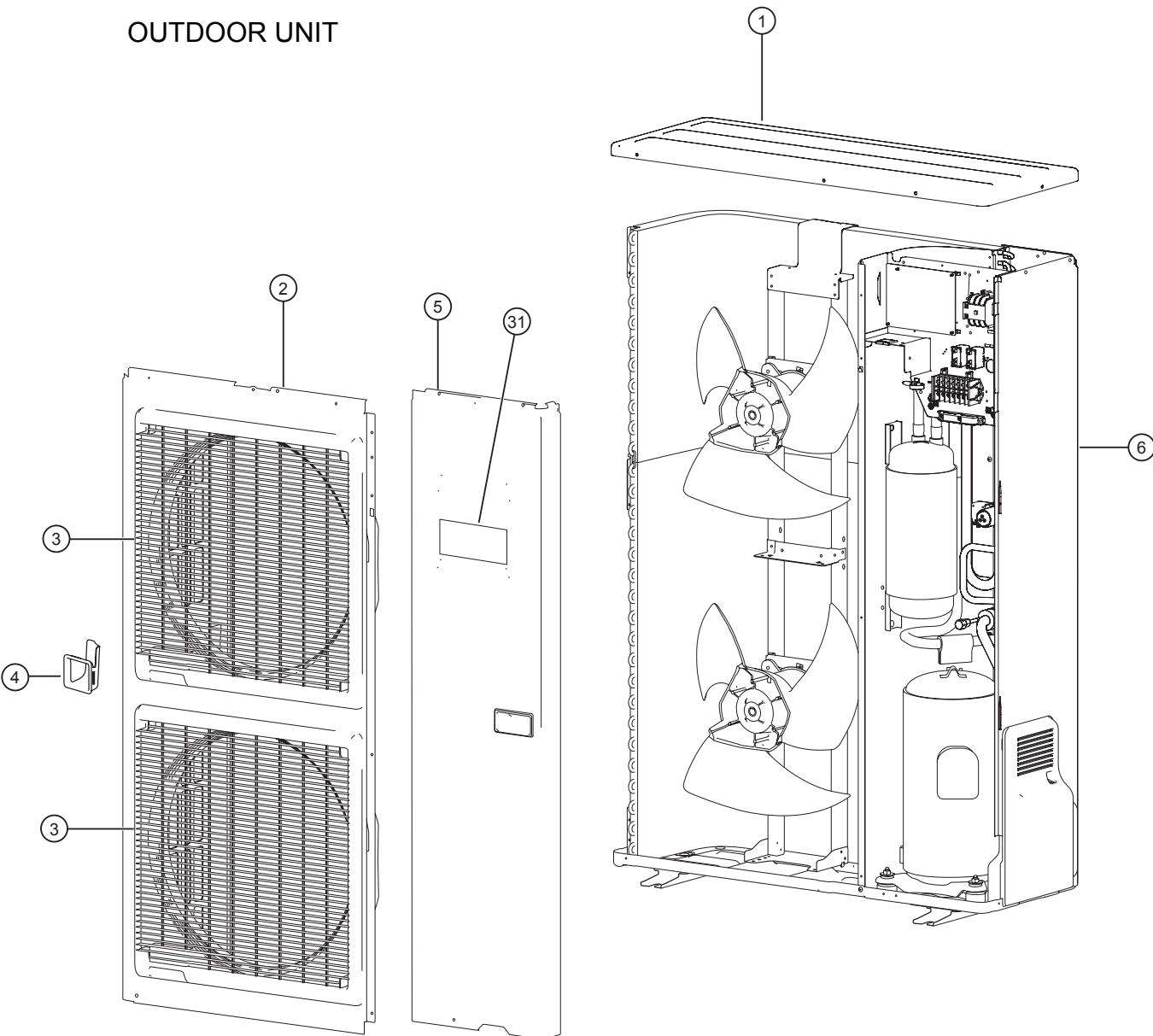
INDOOR UNIT
 ABY54FBAG
 Control unit



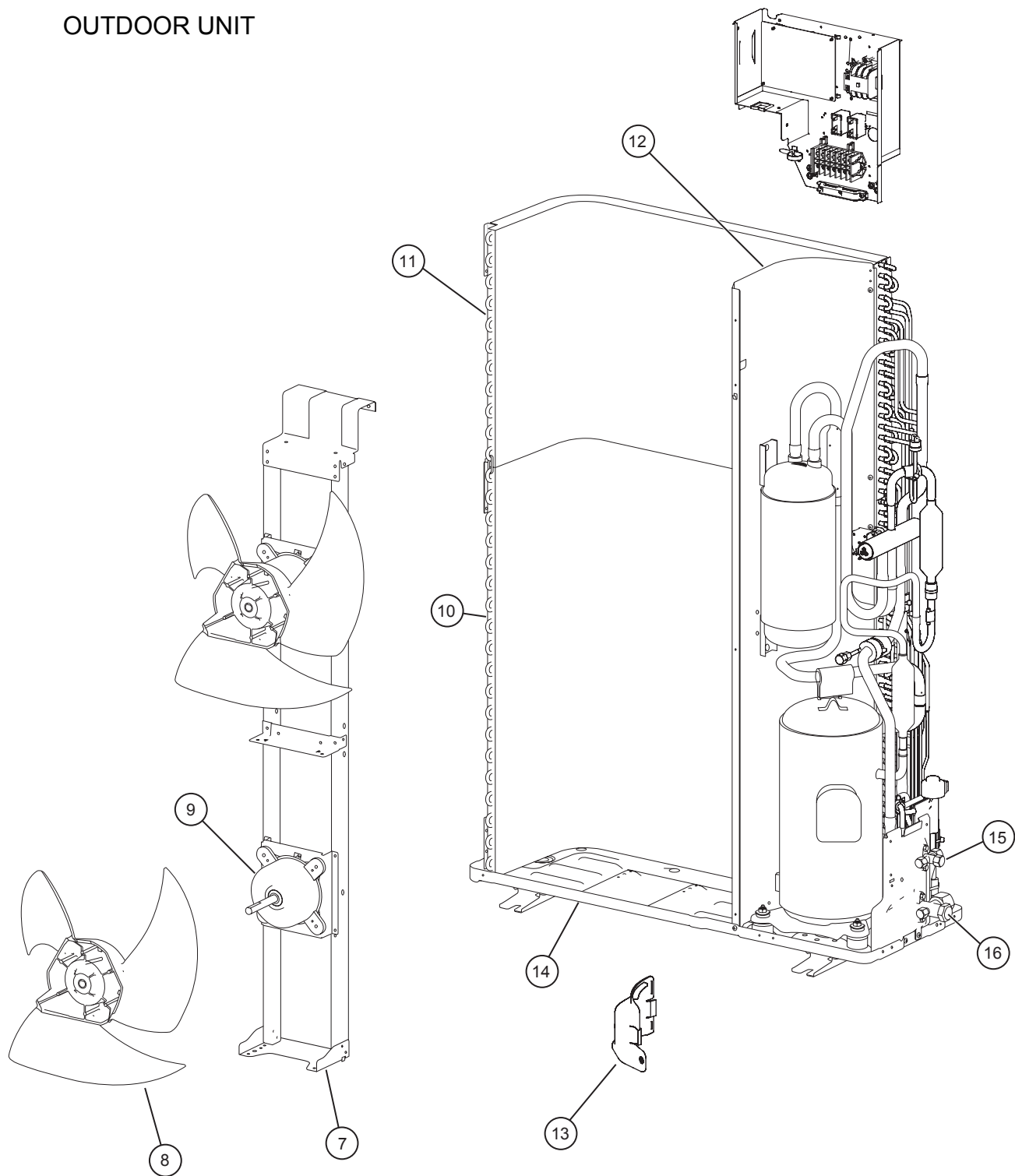
INDOOR UNIT
 ABY54UBAG
 Control unit



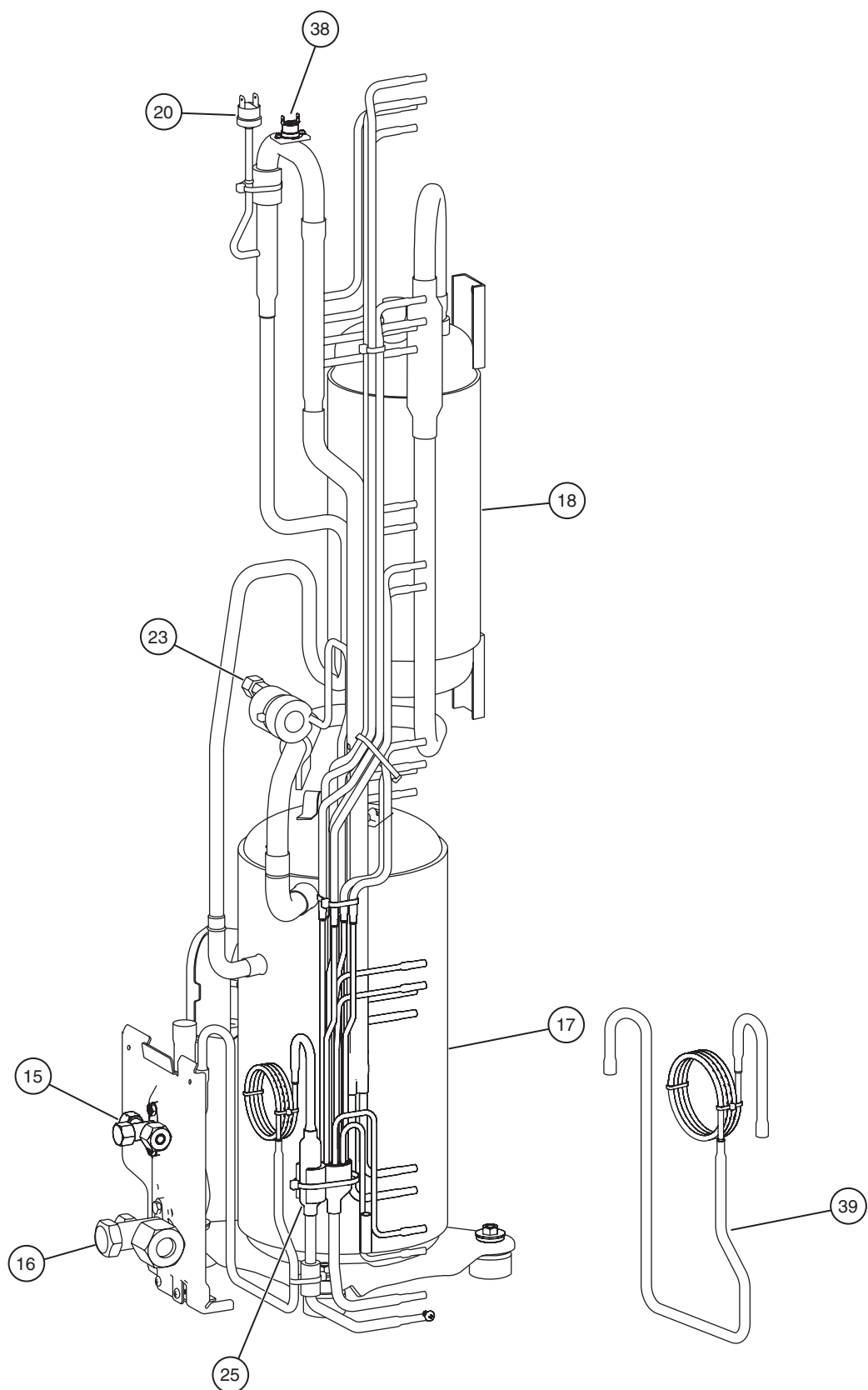
OUTDOOR UNIT



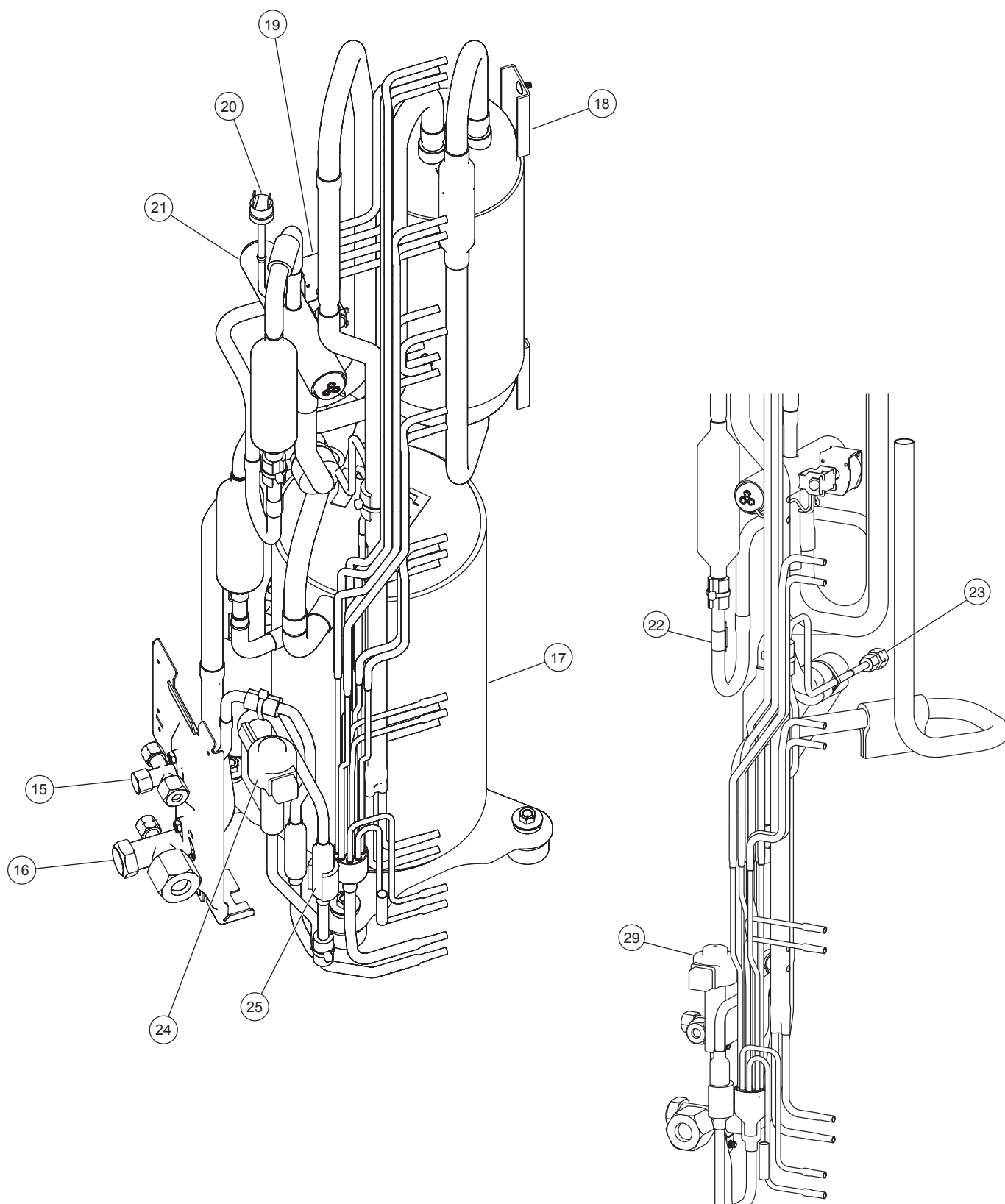
OUTDOOR UNIT



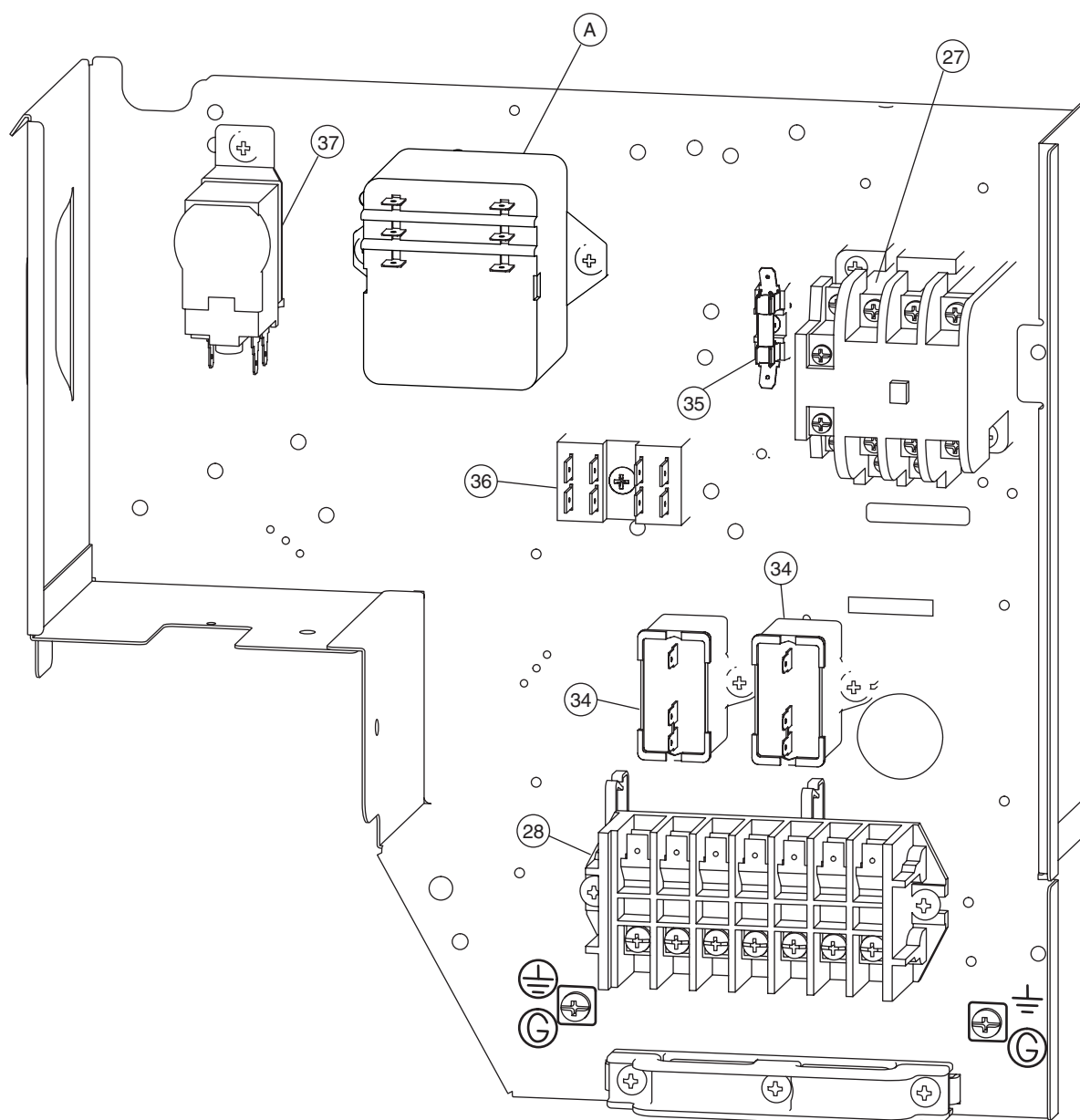
OUTDOOR UNIT
AOY54FMAYT



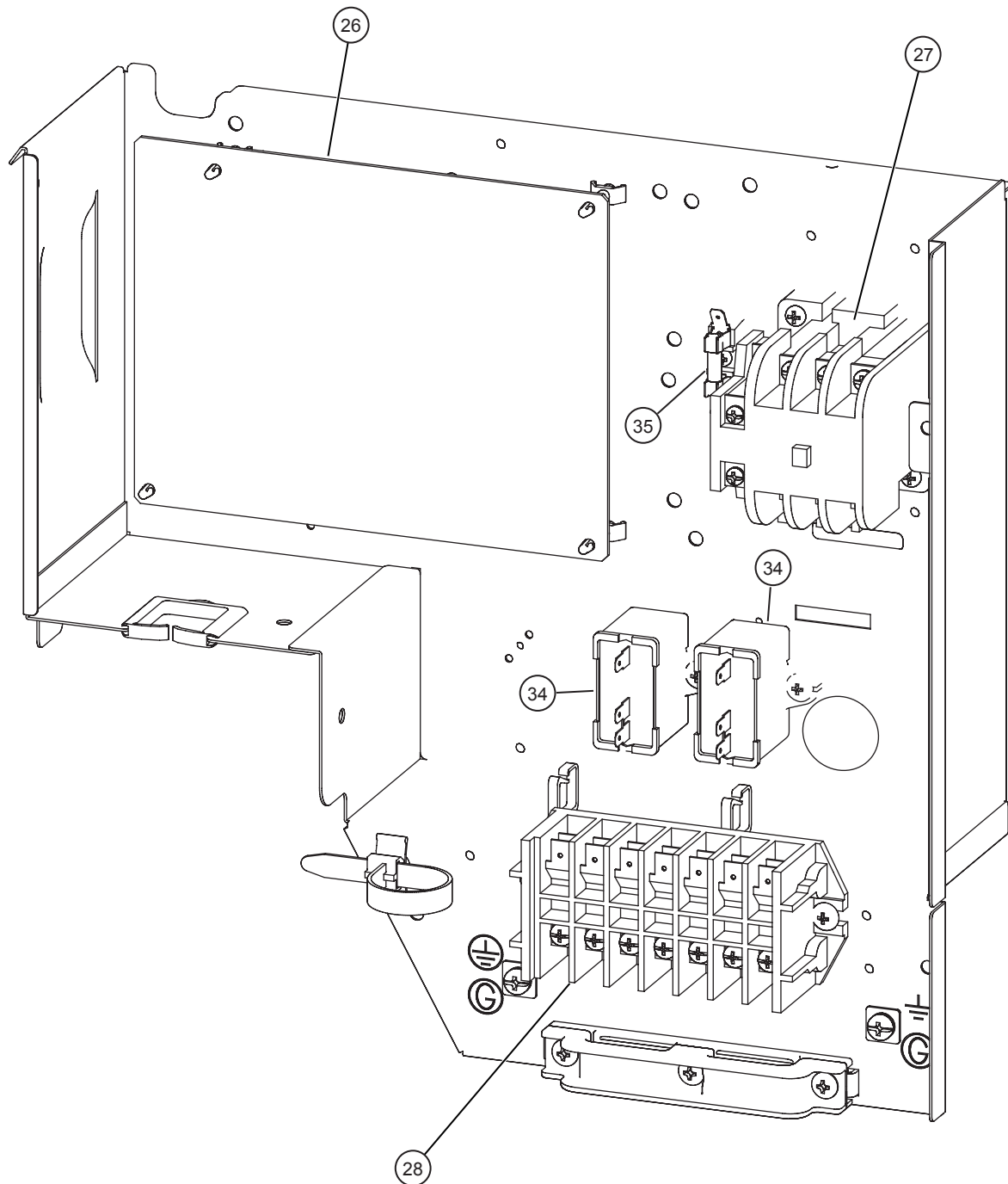
OUTDOOR UNIT
AOY54UMAYT



OUTDOOR UNIT
AOY54FMAYT
Control box



OUTDOOR UNIT
AOY54UMAYT
Control box



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		ABY54FBAG	ABY54UBAG	
8	Air Filter	9359739005	9359739005	
12	Base Assy	9359680000	9359680000	
34	Capacitor (Fan Motor)	9900270216	9900270216	
56	Sirocco Fan Assy	9359701002	9359701002	
63	Panel (Front)	9359734000	9359734000	
69	Louver	9359719007	9359719007	
74	Intake Grille	9359738008	9359738008	
91	Hinge	9359699002	9359699002	
109	Casing	9359704003	9359704003	
122	Shaft Holder-B	9357921006	9357921006	
126	Motor Fixing Table	9359681007	9359681007	
138	Kit (Separate Wall Sub Assy)	9371366012	9371366012	
----	Evaporator Sub Assy	9360428196	9360428196	
146	Evaporator Assy	9371073040	9371073040	
160	Kit (Drain Pan) Sub Assy	9371368016	9371368016	
164	Fan Motor Assy-IN	9360457004	9360457004	
174	Hanger Bracket	9359742005	9359742005	
181	Hole Cover	9359691006	9359691006	
185-1	Louver Bushing	9357376004	9357376004	
186	Edge Cover	9361049017	9361049017	
187	Clamp No. 1219	313361271706	313361271706	
195	Clamp SKB-100	313361275805	313361275805	
223	Control Box Assy	9359708001	9359708001	
227	Badge	9359735014	9359735014	
228	Insulation (Louver)-R	9359721000	9359721000	
229	Insulation (Louver)-L	9359722007	9359722007	
234	Room Temperature Thermistor	9703299025	9703299025	
----	Pipe Temperature Thermistor	9900022020	9900022020	
----	Thermistor Spring-A	313728262708	313728262708	
236	Controller PCB Assy	9704557254	9704557513	
240	Remote Control Unit	9371190020	9371190013	
240-1	Kit (Panel Pipe-L) Sub Assy	9371362014	9371362014	
240-2	Kit (Panel Pipe-R) Sub Assy	9371363011	9371363011	
253-1	Wire Assy (Connector)	9702321017	9702321017	
253-2	Wire Assy (Connector)	9702322014	9702322014	
253-3	Wire Assembly	9702311018	9702311018	
253-4	Wire Assy (Connector)	9702323011	9702323011	
253-5	Wire Assy (Connector)	9702319014	9702319014	
253-6	Wire Assy (Connector)	9702317010	9702317010	
253-7	Wire Assy (Connector)	9702318017	9702318017	
253-9	Wire Assembly	9704847010	-----	
286	Shaft Holder Bracket	9359686002	9359686002	
321	Flap Assy	9359731009	9359731009	
329	Coupling Pipe Assy	9373038184	9373038184	
338-1	Motor Fixture	9359702009	9359702009	
338-2	Motor Fixture-B	9359703006	9359703006	
345-1	Filter Guide-R	9359692003	9359692003	
345-2	Filter Guide-L	9359693000	9359693000	
361	Bushing	9359733003	9359733003	
379	Hinge Plate (Grille)	9359694007	9359694007	

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		ABY54FBAG	ABY54UBAG	
380	Locking Spacer KGLS-6S	313209391403	313209391403	
381-4	Locking Spacer KGPS-6S	0600118075	0600118075	
382	Cover (Decoration)-R	9359744009	9359744009	
383	Cover (Decoration)-L	9359745006	9359745006	
384	Shaft	9359707004	9359707004	
385	Indicator PCB Assy	9702260019	9702260019	
386	Panel-Left Assy	9359685005	9359685005	
387	Panel-Right Assy	9359683001	9359683001	
388	Joint Assy	9359706007	9359706007	
396	Reinforcement Metal	9359697008	9359697008	
403	Shaft Holder Fixture	9359687009	9359687009	
407	Rod (Motor)	9359723004	9359723004	
408	Louver Link	9359726005	9359726005	
424	Sector Gear	9359729006	9359729006	
434	Louver Base	9359718000	9359718000	
435	Louver Spring	9359720003	9359720003	
436	Flap Spring	9359730002	9359730002	
438	Pinion Gear	9359728009	9359728009	
448	Control Box-B	9359713005	9359713005	
472	Control Box-A	9359712008	9359712008	
505	Louver Stopper	9359724001	9359724001	
506	Louver Rod	9359725008	9359725008	
580	Top Cover	9359737001	9359737001	
625	Cord Bushing	9359240006	9359240006	
684	Motor Base	9359727002	9359727002	
735	Distributor Assy	9360455000	9360455000	
743	Remote Control Unit Holder	9305642014	9305642014	
752	Pipe Fixture Metal	9359688006	9359688006	
755	Casing Cover	9359705000	9359705000	
761	Side Cover-R	9359740001	9359740001	
762	Side Cover-L	9359741008	9359741008	
763	Receiver Cover	9359714002	9359714002	
815-1	Terminal-3P	9900203016	9900203016	
868	PCB Holder	9359736004	9359736004	
875	Power Supply PCB Assy	9704561138	9704561060	
876-1	Motor, Step-H	9360479013	9360479013	
876-2	Motor, Step-V	9360307026	9360307026	
982-1	Cord Clamp-A	9359820017	9359820017	
982-2	Cord Clamp-B	9359821014	9359821014	

OUTDOOR UNIT

AOY54FMAYT

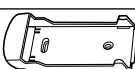
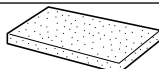
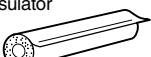
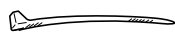
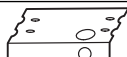
Ref.	Description	Part No.	
1	Top Panel Sub Assy	9374417018	
2	Front Panel-X	9374094028	
3	Fan Guard	9374330010	
4	Side Grip	9374173013	
5	Service Panel Sub Assy	9374415014	
6	Right Panel Sub Assy	9374416011	
7	Motor Bracket Sub Assy	9374418015	
8	Propeller Fan Assy	9366378013	
9	Motor, Induction	9601671060	
10	Condenser-A Assy	9374433025	
11	Condenser-B Assy	9374434022	
12	Separate Wall-X	9374135011	
13	Cap Foot	9374345014	
14	Base Assy	9374166022	
15	3-Way Valve Assy	9372205044	
16	3-Way Valve Assy	9372205099	
17	Compressor Assy	9374250011	
18	Accumulator Assy	9371615011	
20	Pressure Switch	9900276010	
23	Check Valve Assy	9374274017	
25	Strainer Assy	9372524015	
27	Magnetic Relay	9900227012	
28	Terminal-7P	9363276039	
31	Emblem Rear	9351355005	
34	Capacitor (Fan Motor)	9900270049	
35	Fuse	0600222529	
36	Terminal-2P	9701971015	
37	Thermostat (Outdoor)	9900275013	
38	Thermostat (Overheat)	9354061002	
39	Capillary Assy	9372197332	
A	Relay	9900287016	
----	Belt Heater	9361140240	

AOY54UMAYT

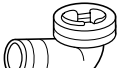
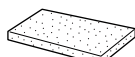
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3	Fan Guard	9374330010	
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6	Right Panel Sub Assy	9374416011	
7	Motor Bracket Sub Assy	9374418015	
8	Propeller Fan Assy	9366378013	
9	Motor, Induction	9601671060	
10	Condenser-A Assy	9374433018	
11	Condenser-B Assy	9374434015	
12	Separate Wall-X	9374135011	
13	Cap Foot	9374345014	
14	Base Assy	9374166022	
15	3-Way Valve Assy	9372205044	
16	3-Way Valve Assy	9372205099	
17	Compressor Assy	9374250011	
18	Accumulator Assy	9371615011	
19	Solenoid	9900165055	
20	Pressure Switch	9900186012	
21	4-Way Valve	9970035012	
22	Compressor Top Temp. Thermistor	9900277017	
23	Check Valve Assy	9374274017	
24	Coil (Expansion Valve)	9900190026	
25	Strainer Assy	9372524015	
26	Controller PCB Assy	9705677012	
27	Magnetic Relay	9900227012	
28	Terminal-7P	9363276039	
29	Expansion Valve	9900170028	
31	Emblem Rear	9351355005	
34	Capacitor (Fan Motor)	9900270049	
35	Fuse	0600222529	
----	Thermistor Assy	9900274016	
----	Drain Cap	313166024302	
----	Drain Pipe	9301102000	
----	Belt Heater	9361140240	

STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.	
			ABY54FBAG	ABY54UBAG
Remote control unit 	1	Use for air conditioner operation	9371190020 (AR-JW2)	9371190013 (AR-JW1)
Battery (pen light) 	2	For remote control unit	0600185534	0600185534
Remote control unit holder 	1	For mounting the remote control unit	9305642014	9305642014
Tapping screw (φ 3 x 12) 	2	For remote control unit holder installation	301141533125	301141533125
Drain hose insulation 	1	Adhesive type 70 x 230	9360464002	9360464002
VT wire 	1	For fixing the drain hose L 280 mm	313806350303	313806350303
Coupler heat insulator (large) 	2	For indoor side pipe joint (large pipe)	9350716029	9350716029
Coupler heat insulator (small) 	1	For indoor side pipe joint (small pipe)	9352766015	9352766015
Nylon fastener 	Large 4	For fixing the coupler heat insulator	9301501001	9301501001
	Small 4		312300787605	312300787605
Special nut A (large flange) 	4	For installing indoor unit	313005446653	313005446653
Special nut B (small flange) 	4	For installing indoor unit	313005446759	313005446759
Installation template 	1	For positioning the indoor unit	9360022004	9360022004
Auxiliary pipe assembly 	1	For connecting the piping	9374714049	9374714049

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Drain pipe 	1	For outdoor unit drain piping work (May not be supplied, depending on the model)	9303029015
Drain cap 	2		313166024302
Installation (seal) 	1	For filling in a gap at the entrance of connection cords	9374756018

