

SPLIT TYPE
ROOM AIR CONDITIONER
WALL MOUNTED TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
ASU9RLF	AOU9RLFW
ASU12RLF	AOU12RLFW
ASU15RLS	AOU15RLS

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cool & heat inverter		
INDOOR UNIT		ASU9RLF	ASU12RLF	ASU15RLS
OUTDOOR UNIT		AOU9RLFW	AOU12RLFW	AOU15RLS
COOLING CAPACITY		9,000 BTU/h (2.637 kW)	12,000 BTU/h (3.516 kW)	14,500 BTU/h (4.249 kW)
HEATING CAPACITY		12,000 BTU/h (3.516 kW)	16,000BTU/h (4.689 kW)	18,000BTU/h (5.275 kW)
POWER SOURCE		208 / 230 V	208 / 230 V	208 / 230 V
FREQUENCY		60 Hz	60 Hz	60 Hz
RUNNING CURRENT	Cooling	3.2 A	4.4 A	5.2 A
	Heating	4.2 A	5.9 A	6.4 A
INPUT WATTS	Cooling	0.65 kW	0.96 kW	1.16 kW
	Heating	0.89 kW	1.28 kW	1.46 kW
E.E.R.	Cooling	13.80 BTU/Wh (4.05 kW/kW)	12.50 BTU/Wh (3.66 kW/kW)	12.50 BTU/Wh (3.66 kW/kW)
COP	Heating	13.47 BTU/Wh (3.95 kW/kW)	12.50 BTU/Wh (3.66 kW/kW)	12.30 BTU/Wh (3.60 kW/kW)
MOISTURE REMOVAL		2.75 Pts/h (1.3 L/h)	3.80 Pts/h (1.8 L/h)	4.44 Pts/h (2.1 L/h)
AIR CIRCULATION HIGH	Cooling	441 cfm (750 m ³ /h)	441 cfm (750 m ³ /h)	489 cfm (830 m ³ /h)
	Heating	441 cfm (750 m ³ /h)	441 cfm (750 m ³ /h)	512 cfm (870 m ³ /h)
MAXIMUM CURRENT	Cooling	6.0 A	6.5 A	9.0 A
	Heating	7.5 A	9.0 A	10.5 A

FAN MOTOR

POWER SOURCE		230 V	230 V	230 V
INDOOR UNIT Cooling	High	1,330 r.p.m.	1,330 r.p.m.	1,440 r.p.m.
	Medium	1,160 r.p.m.	1,160 r.p.m.	1,230 r.p.m.
	Low	930 r.p.m.	930 r.p.m.	1,000 r.p.m.
	Quiet	680 r.p.m.	680 r.p.m.	750 r.p.m.
INDOOR UNIT Heating	High	1,330 r.p.m.	1,330 r.p.m.	1,500 r.p.m.
	Medium	1,160 r.p.m.	1,160 r.p.m.	1,230 r.p.m.
	Low	980 r.p.m.	980 r.p.m.	1,050 r.p.m.
	Quiet	710 r.p.m.	710 r.p.m.	770 r.p.m.
OUTDOOR UNIT Cooling		780 r.p.m.	780 r.p.m.	1,010 r.p.m.
OUTDOOR UNIT Heating		720 r.p.m.	680 r.p.m.	850 r.p.m.

NOISE LEVEL

INDOOR UNIT Cooling	High	43 dB	43 dB	46 dB
	Medium	40 dB	40 dB	40 dB
	Low	32 dB	32 dB	33 dB
	Quiet	23 dB	23 dB	25 dB
INDOOR UNIT Heating	High	43 dB	43 dB	46 dB
	Medium	38 dB	38 dB	40 dB
	Low	33 dB	33 dB	35 dB
	Quiet	24 dB	24 dB	26 dB
OUTDOOR UNIT Cooling		48 dB	49 dB	51 dB
OUTDOOR UNIT Heating		48 dB	49 dB	51 dB

COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE	Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary			
DISCRIMINATION	5SS072XAA	DA89X1C-20FZ2	808-884-80	
WEIGHT (with oil)	13.0 lb (5.9 kg)	20.3 lb (9.2 kg)	20.5 lb (9.3 kg)	
PRECHARGED REFRIGERANT	30.0 oz (850 g)	37.0 oz (1,050 g)	42.3 oz (1,200 g)	
FULL CHARGE	Pipe length 49 ft (15 m)	30.0 oz (850 g)	37.0 oz (1,050 g)	42.3 oz (1,200 g)
	66 ft (20 m)	33.5 oz (950 g)	40.6 oz (1,150 g)	45.9 oz (1,300 g)
ADDITIONAL REFRIGERANT	0.21 oz/ft (20 g/m)			
MAXIMUM PIPING HEIGHT	49 ft (15 m)			
REFRIGERANT TYPE	R410A			

DIMENSIONS

INDOOR UNIT H x W x D	11-1/32 x 31-3/32 x 8 inch (280 x 790 x 203 mm)		
OUTDOOR UNIT H x W x D	21-1/4 x 25-31/32 x 11-13/32 inch (540 x 660 x 290 mm)	21-1/4 x 31-3/32 x 11-13/32 inch (540 x 790 x 290 mm)	24-13/32 x 31-3/32 x 11-13/32 inch (620 x 790 x 290 mm)

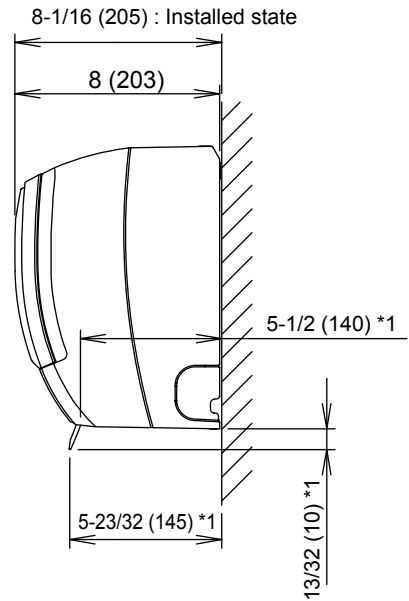
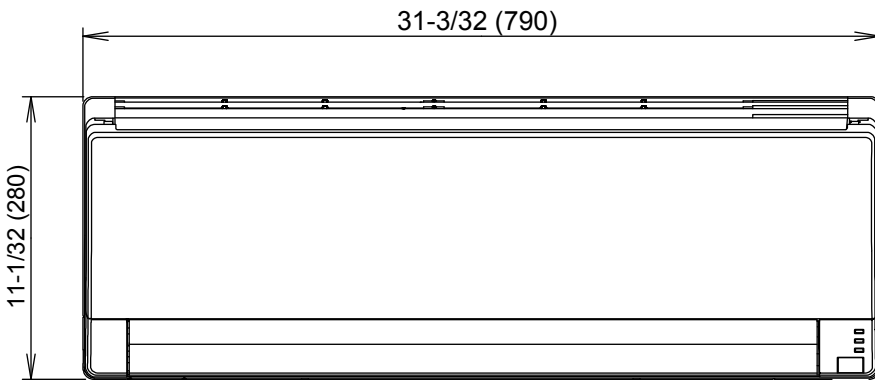
WEIGHT

INDOOR UNIT Shipping / Net	23.2 lb / 17.7 lb (10.5 kg / 8.0 kg)		
OUTDOOR UNIT Shipping / Net	66.2 lb / 59.6 lb (30 kg / 27 kg)	86.1 lb / 79.5 lb (39 kg / 36 kg)	97.1 lb / 88.3 lb (44 kg / 40 kg)

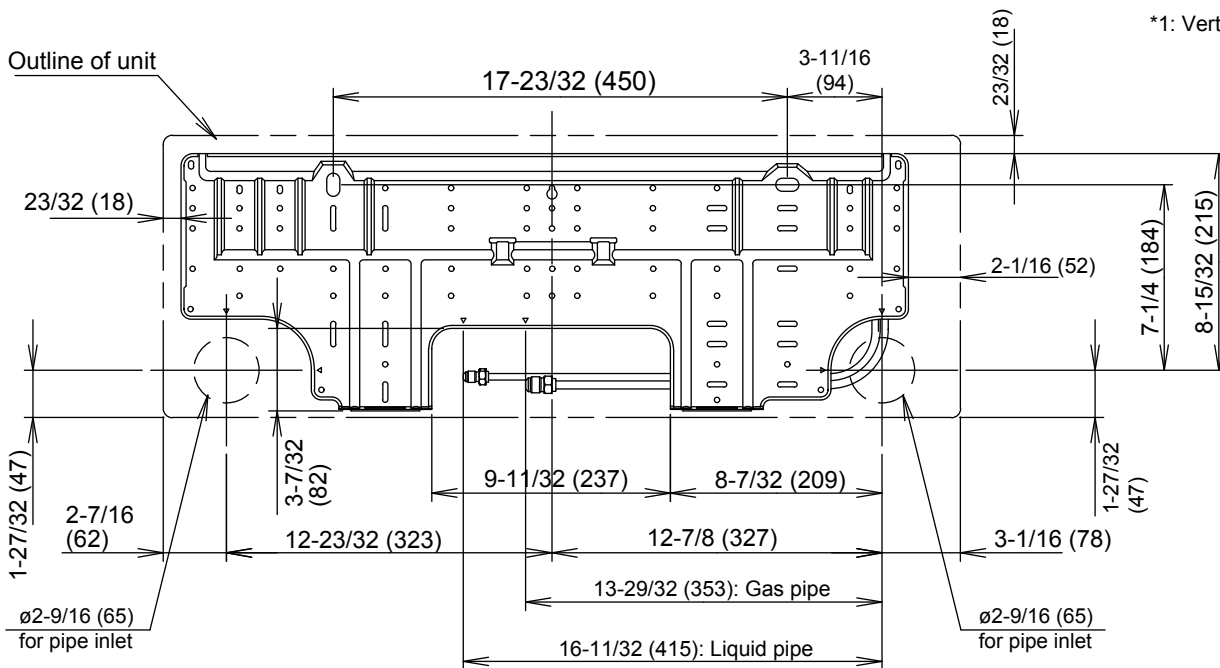
DIMENSIONS

INDOOR UNIT

Unit : inch (mm)

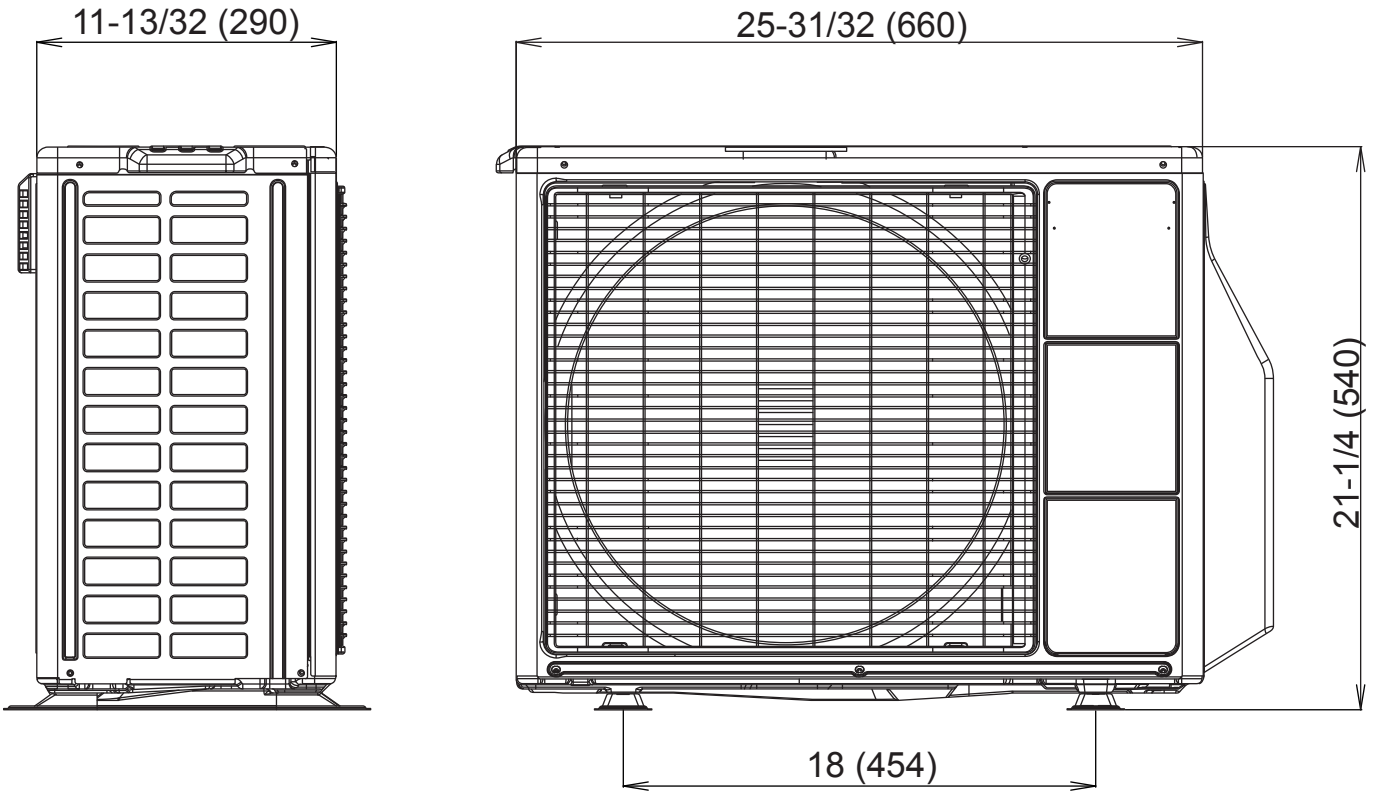


*1: Vertical flap is downward

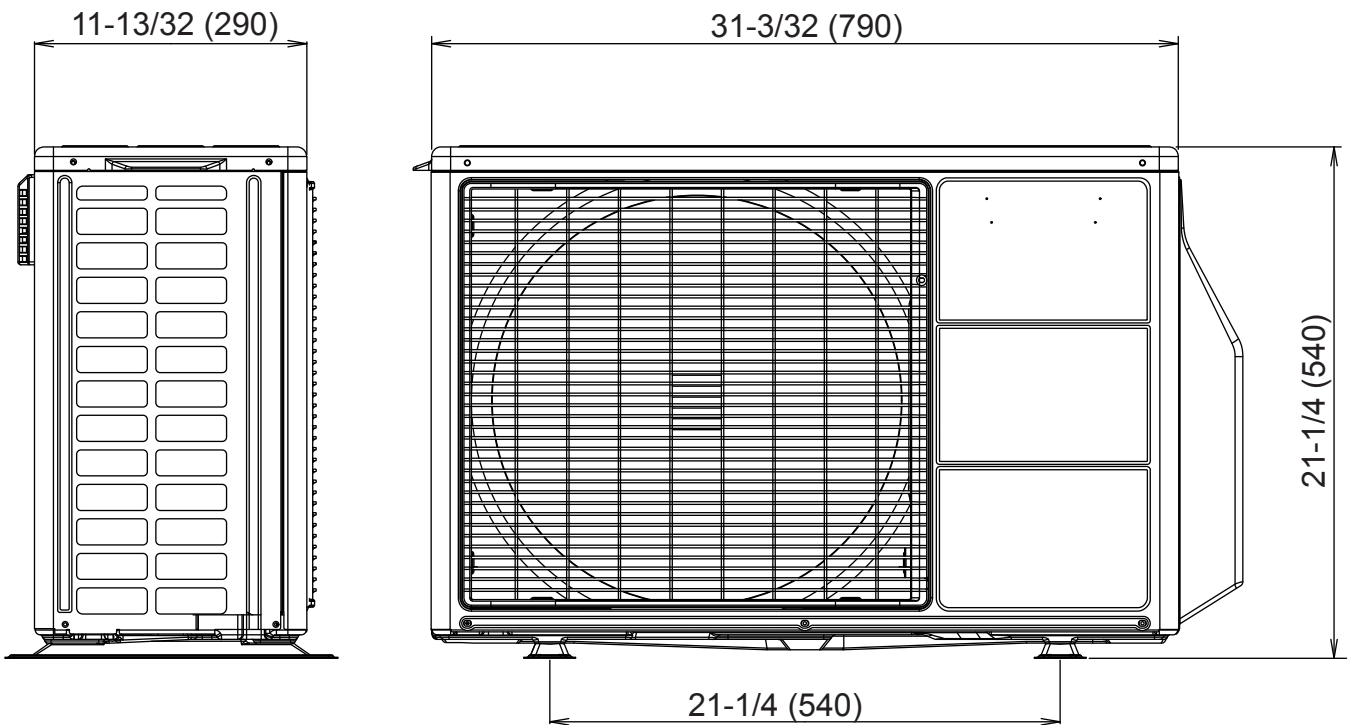


unit : inch (mm)

OUTDOOR UNIT
AOU9RLFW

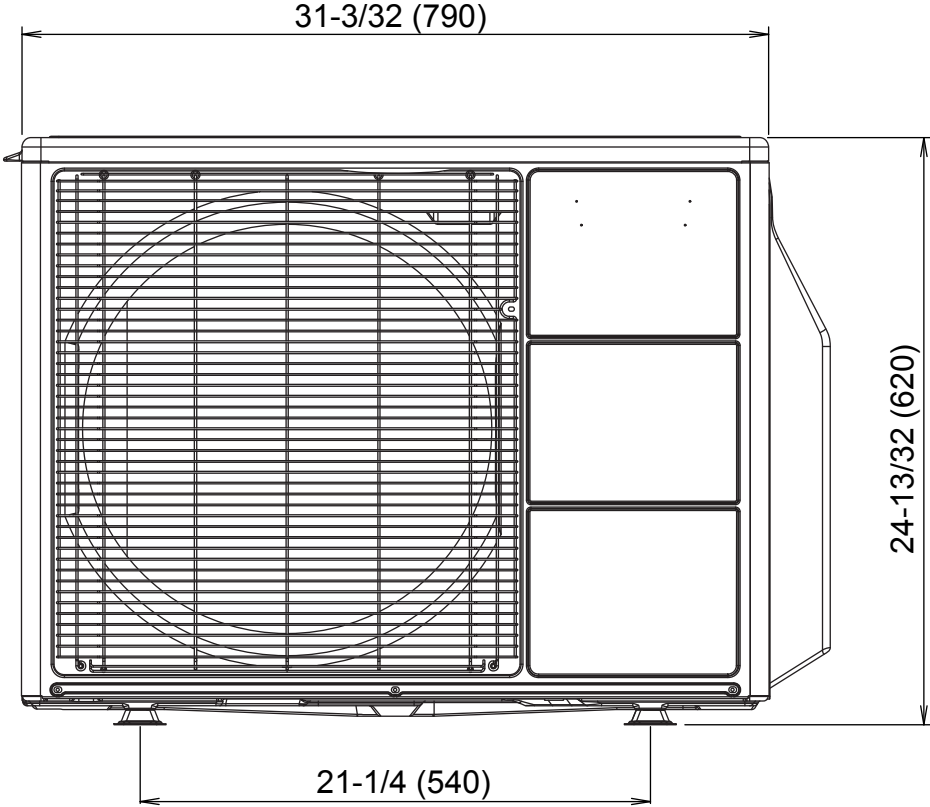
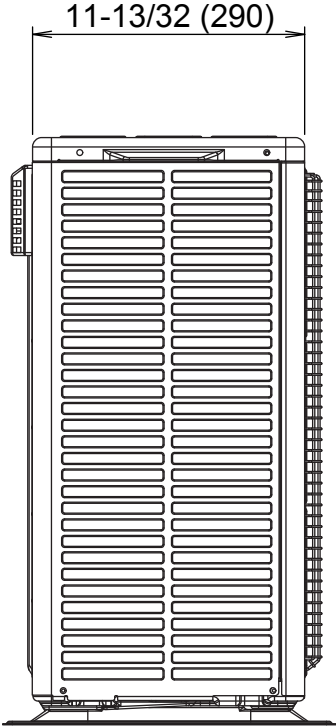


AOU12RLFW





unit : inch (mm)

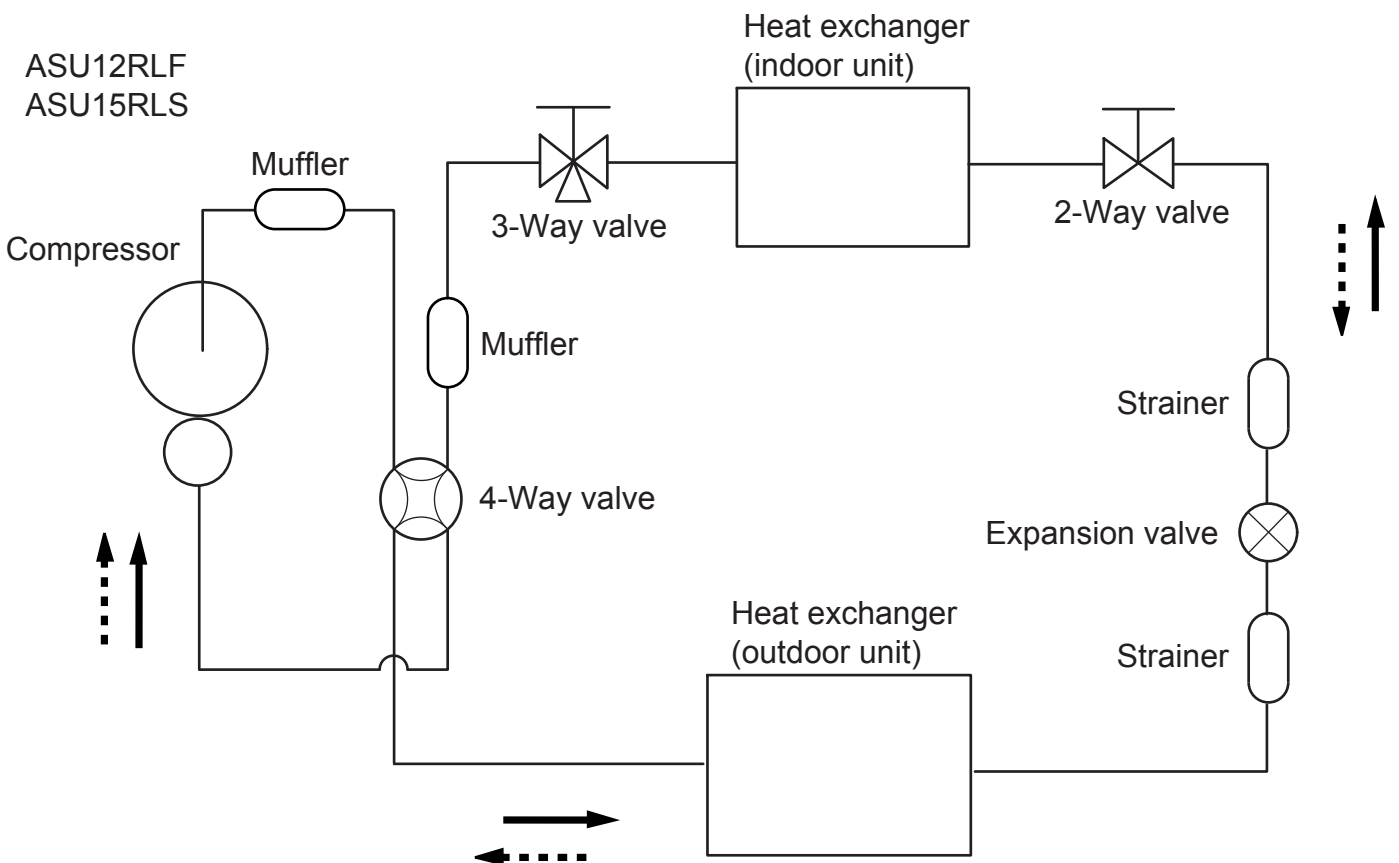
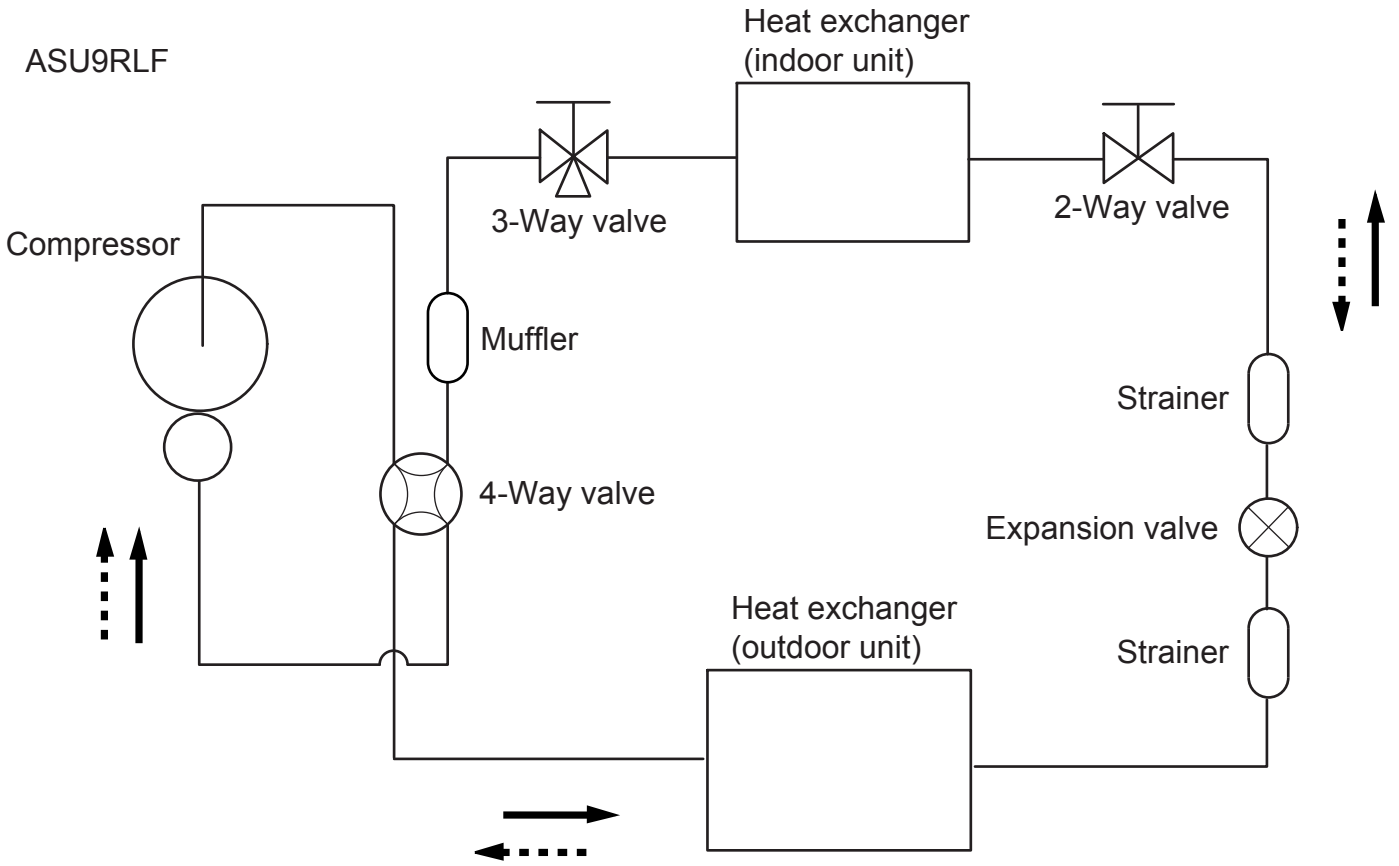
OUTDOOR UNIT
AOU15RLS



REFRIGERANT SYSTEM DIAGRAM

Refrigerant pipe diameter
 Liquid : 1/4" (6.35 mm)
 Gas : 3/8" (9.52 mm)

Refrigerant direction
 Cooling
 Heating

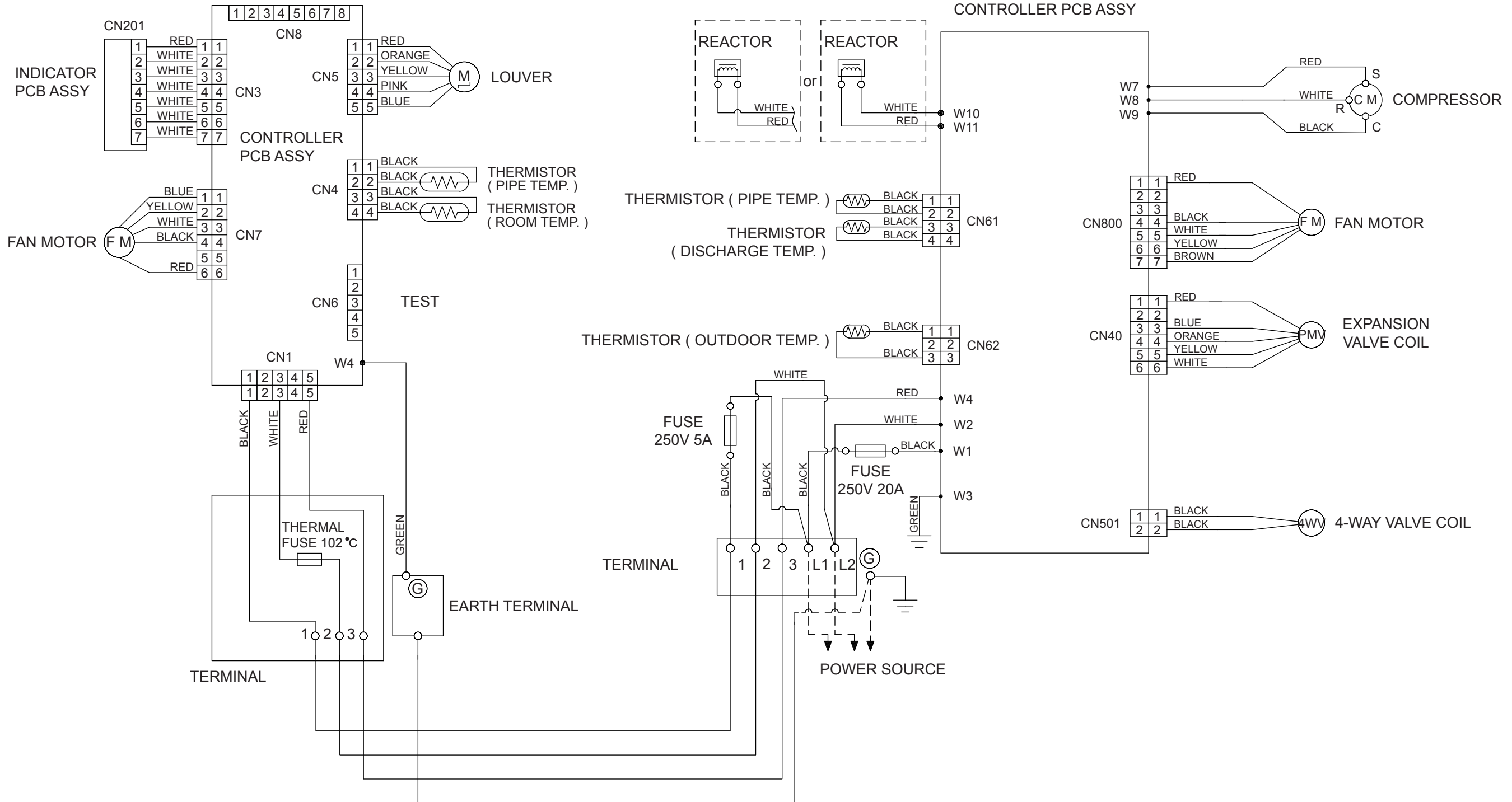


CIRCUIT DIAGRAM

ASU9RLF / AOU9RLF

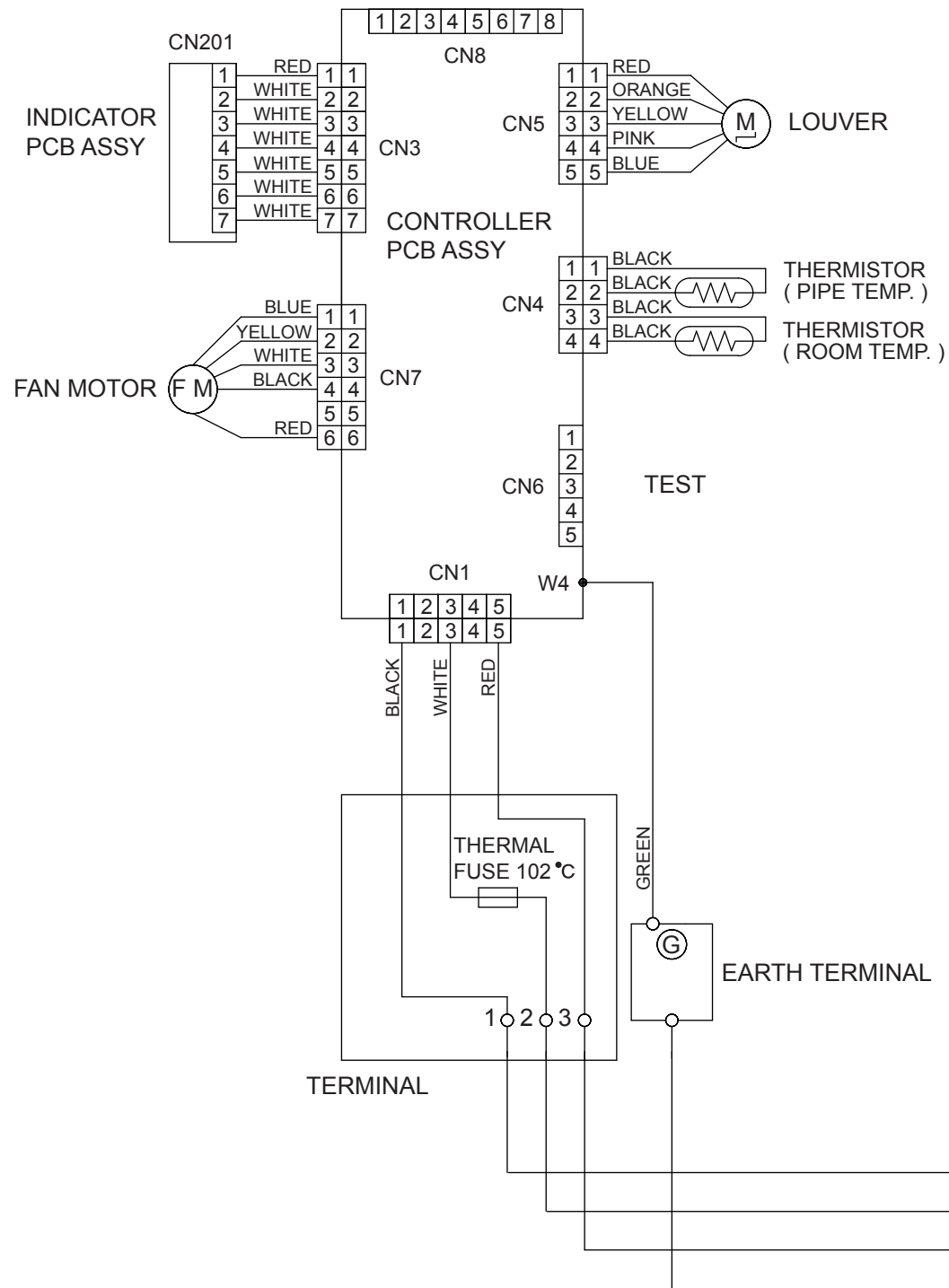
INDOOR UNIT

OUTDOOR UNIT

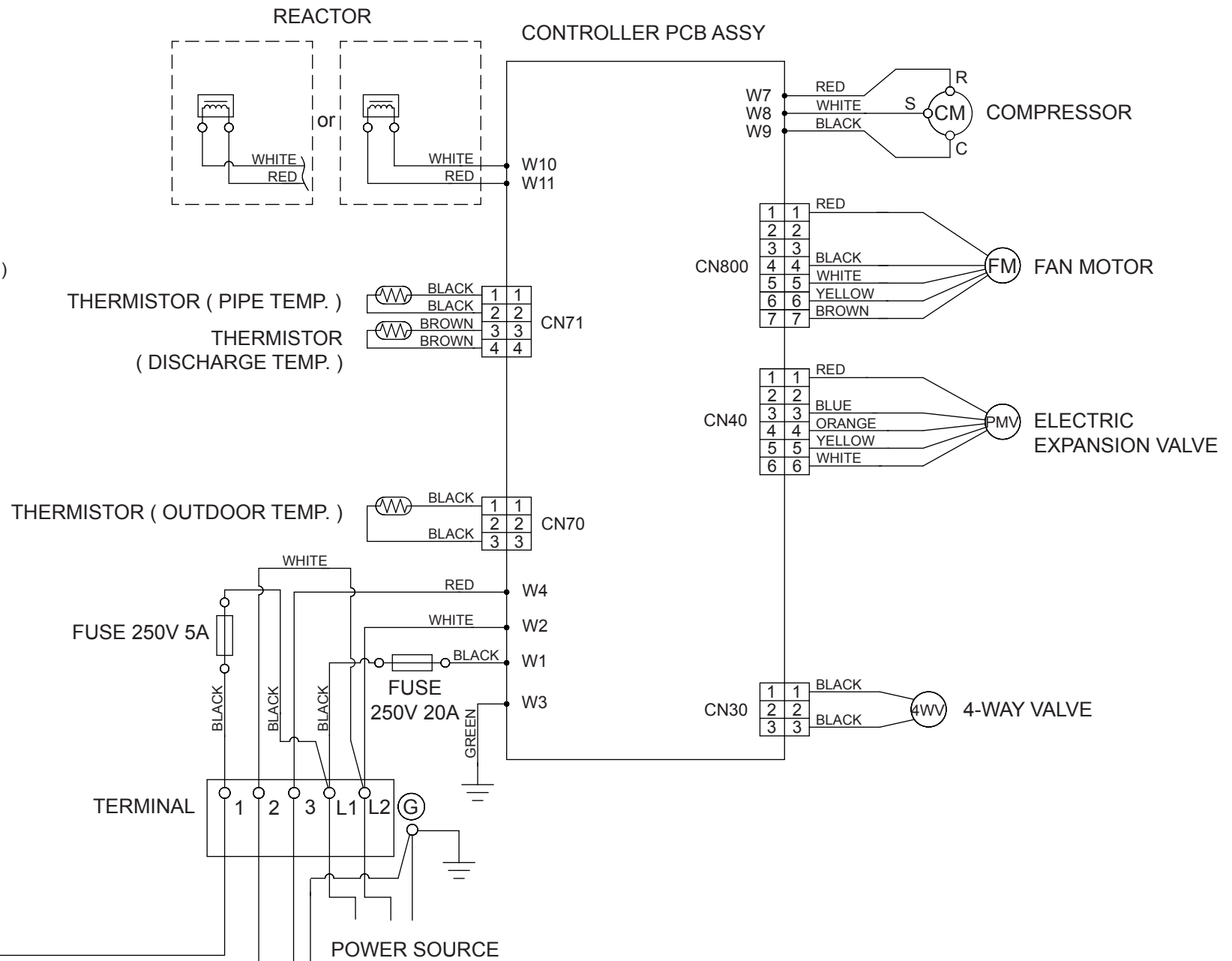


ASU15RLS / AOU15RLS

INDOOR UNIT



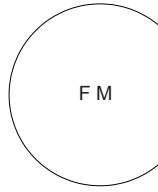
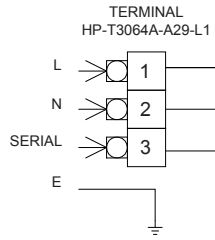
OUTDOOR UNIT



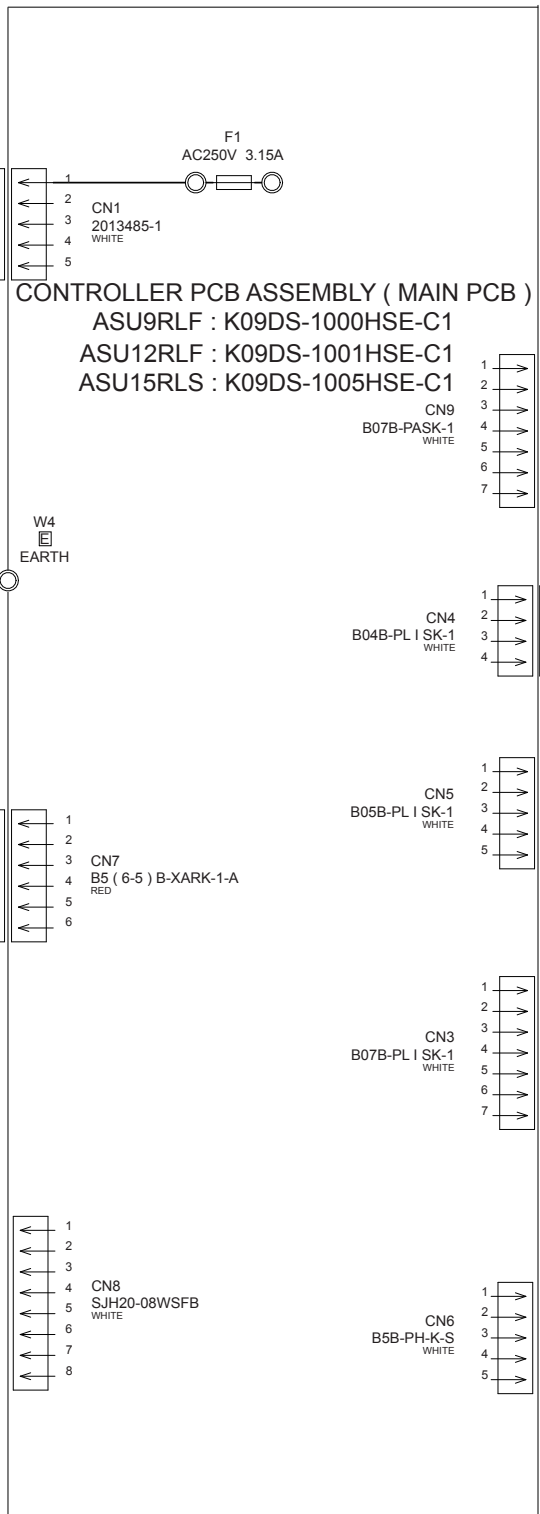
INDOOR PCB CIRCUIT DIAGRAM

CONTROL UNIT
 ASU9RLF : EZ-0102HSE
 ASU12RLF : EZ-0103HSE
 ASU15RLS : EZ-010LHSE

POWER SOURCE
 AC208 - 230V
 60Hz



(COMMUNICATION PCB ASSEMBLY)



CONTROLLER PCB ASSEMBLY (MAIN PCB)
 ASU9RLF : K09DS-1000HSE-C1
 ASU12RLF : K09DS-1001HSE-C1
 ASU15RLS : K09DS-1005HSE-C1

FLASH

THERMISTOR (PIPE TEMPERATURE.)

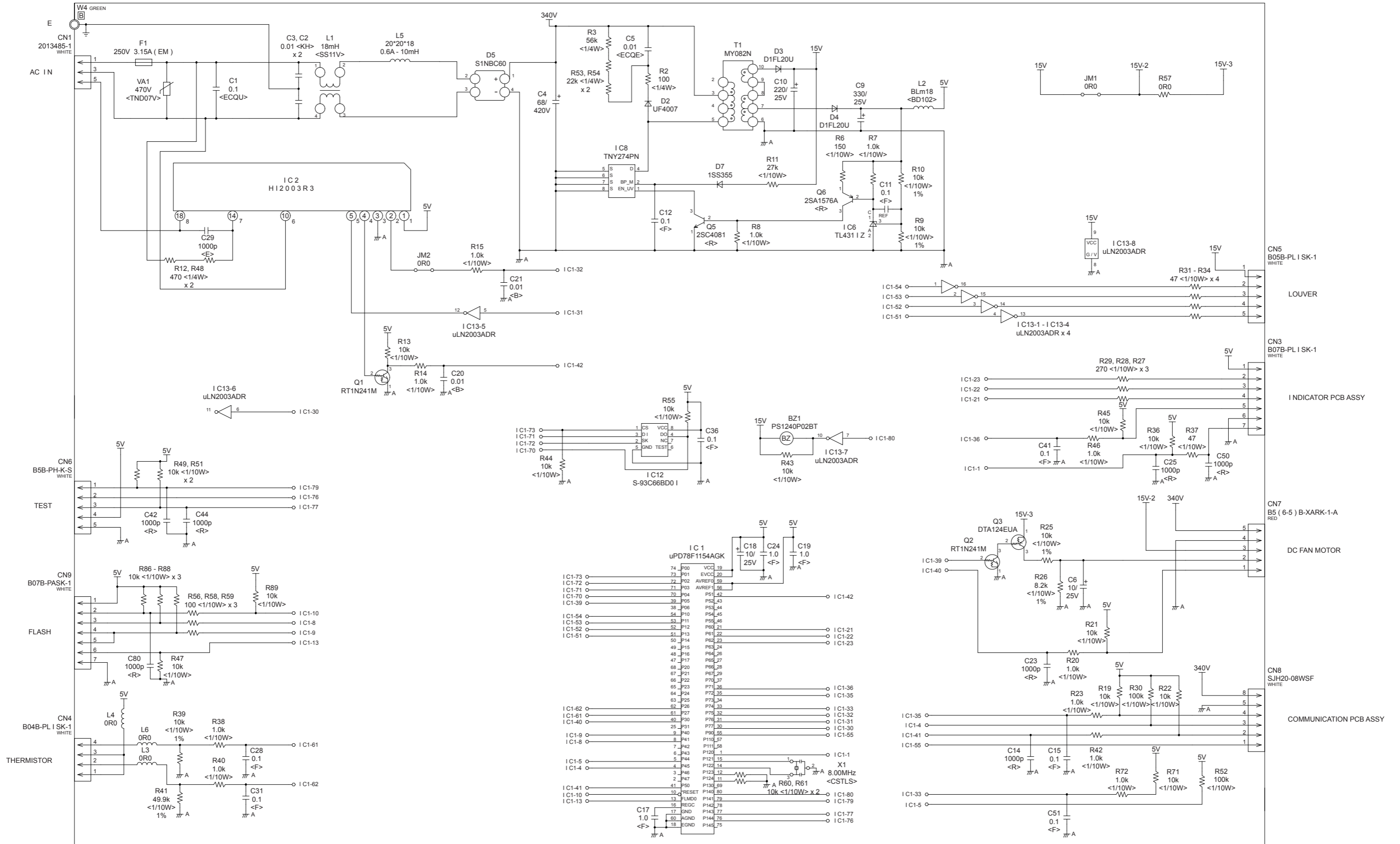
THERMISTOR (ROOM TEMPERATURE)

LOUVER

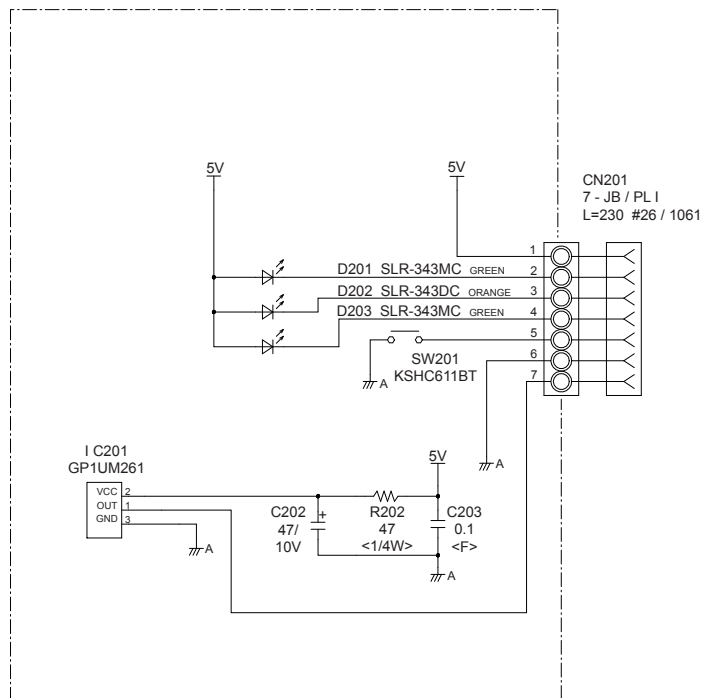
INDICATOR PCB ASSEMBLY
 K07BJ-0900HSD-D0

TEST

INDOOR UNIT
 CONTROLLER PCB ASSEMBLY (MAIN PCB)
 ASU9RLF : K09DS-1000HSE-C1
 ASU12RLF: K09DS-1001HSE-C1
 ASU15RLS: K09DS-1005HSE-C1

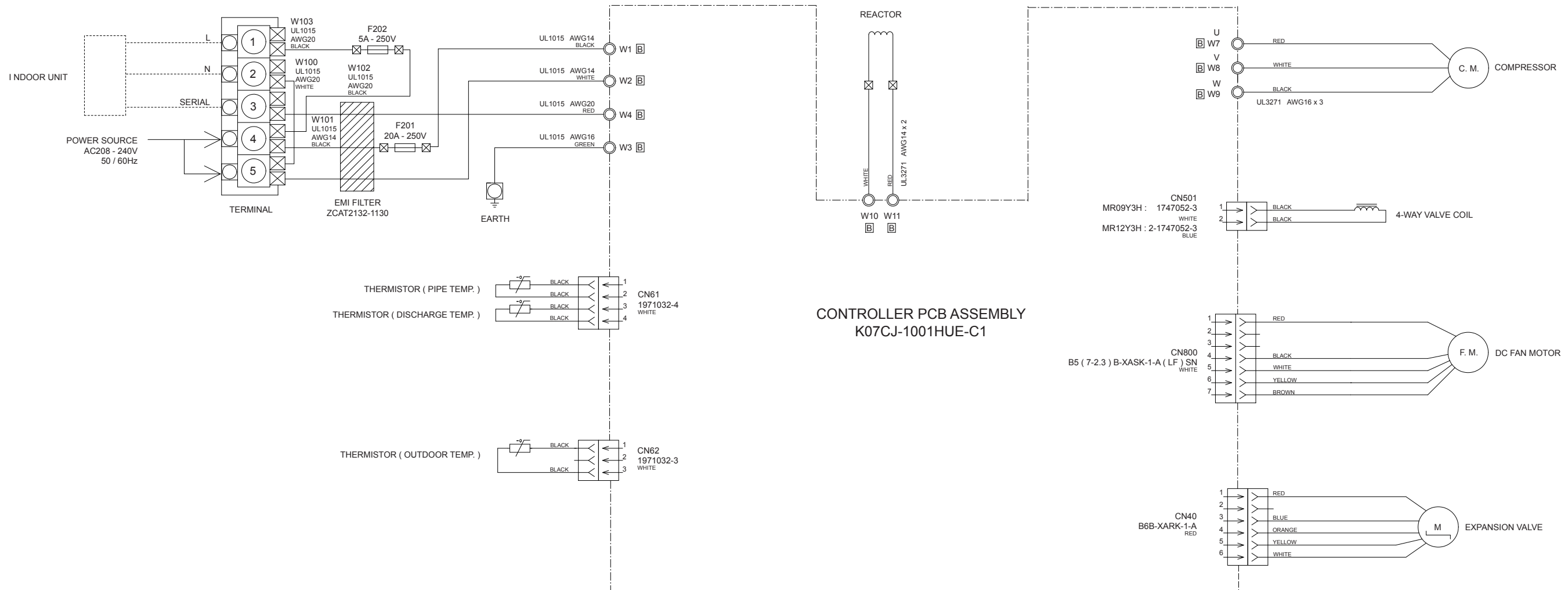


INDOOR UNIT
 INDICATOR PCB ASSEMBLY
 K07BJ-0900HSD-D0

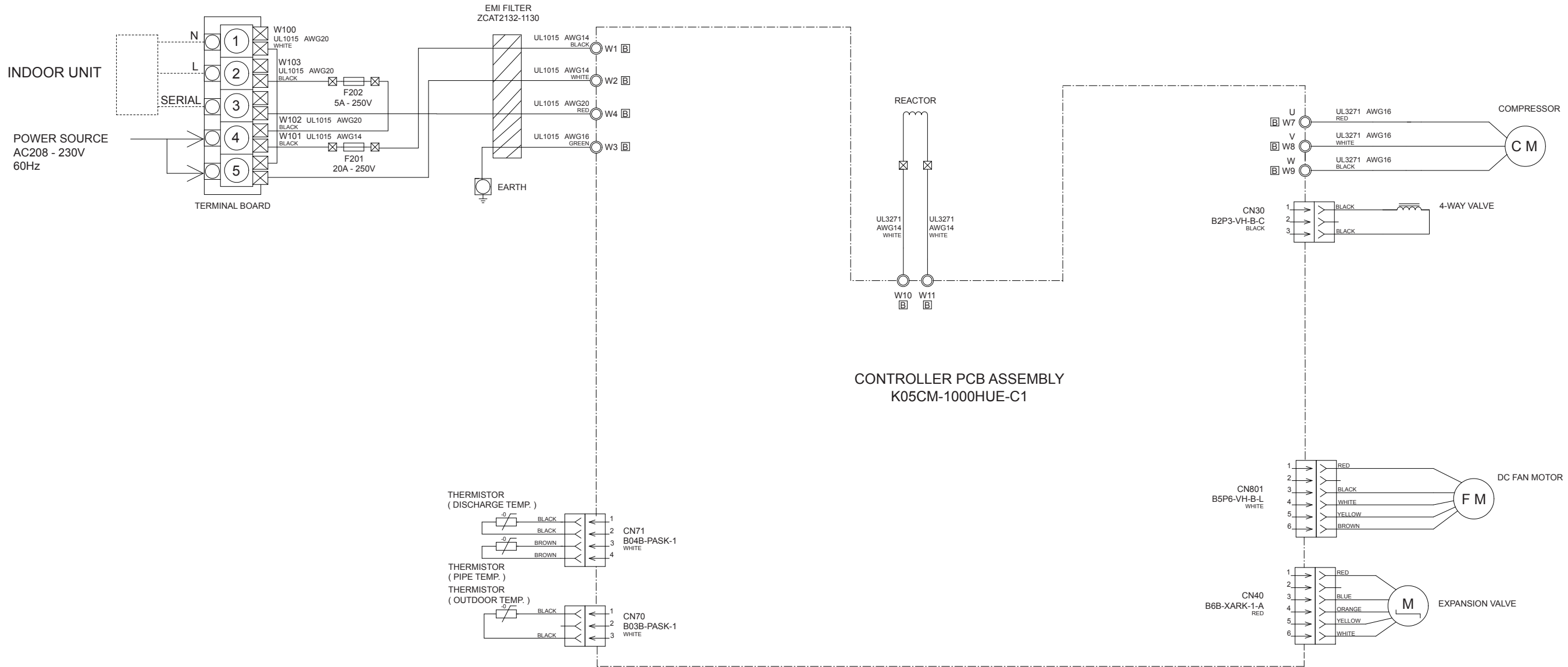


OUTDOOR PCB CIRCUIT DIAGRAM

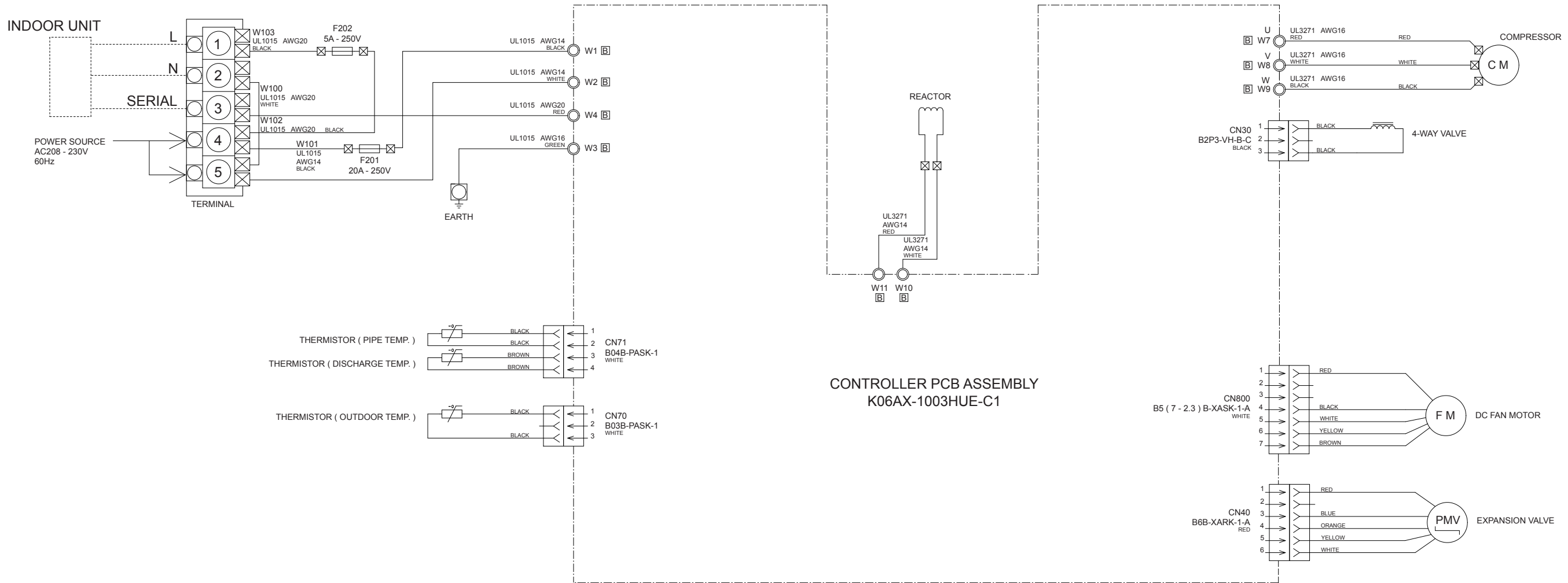
AOU9RLF
INVERTER ASSEMBLY
EZ-010GHUE



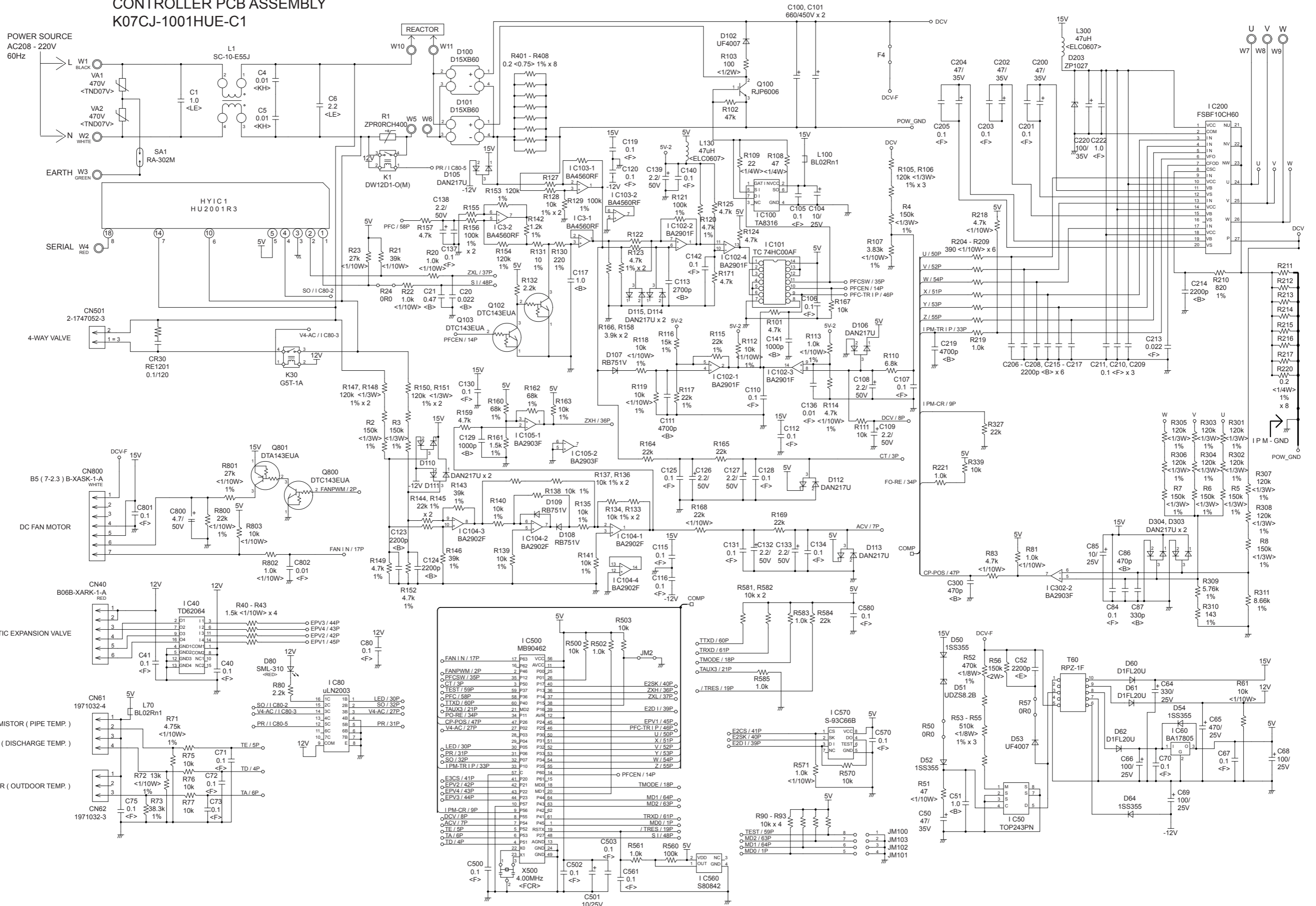
**AOU12RLF
INVERTER ASSEMBLY
EZ-010HHUE**



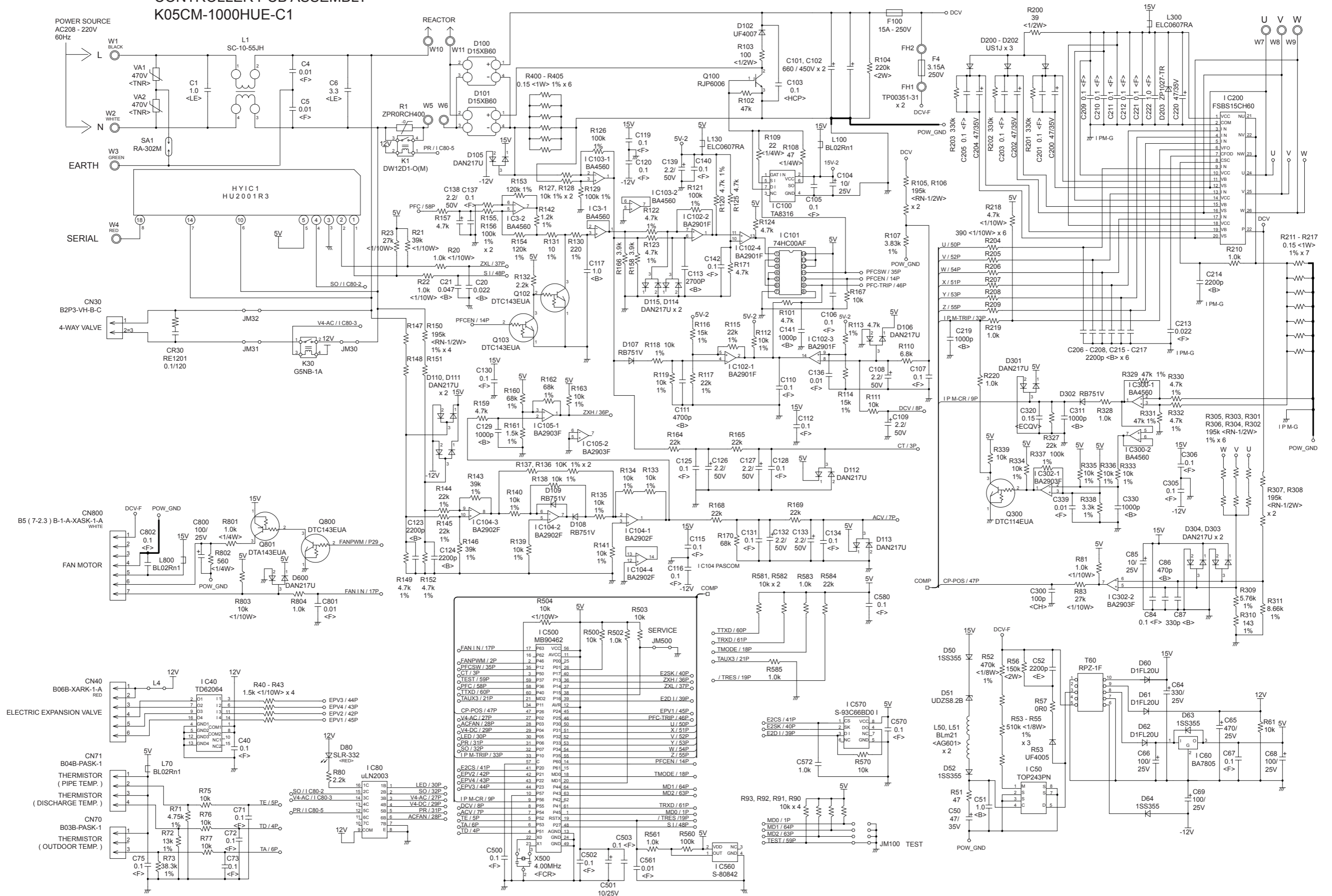
AOU15RLS INVERTER ASSEMBLY EZ-010KHUE



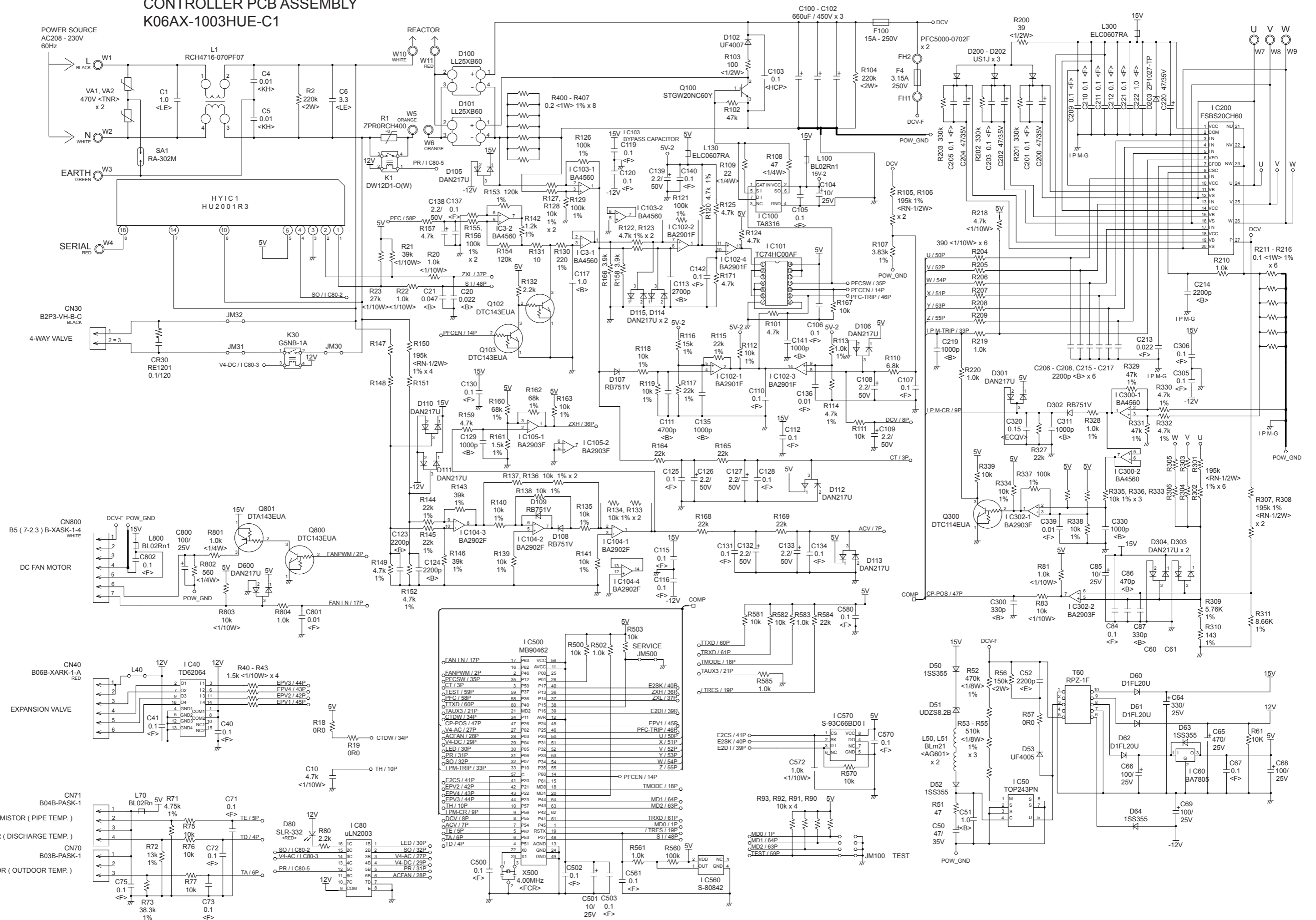
OUTDOOR UNIT
 AOU9RLFV
 CONTROLLER PCB ASSEMBLY
 K07CJ-1001HUE-C1



OUTDOOR UNIT
 AOU12RLFV
 CONTROLLER PCB ASSEMBLY
 K05CM-1000HUE-C1



OUTDOOR UNIT AOU15RLS CONTROLLER PCB ASSEMBLY K06AX-1003HUE-C1



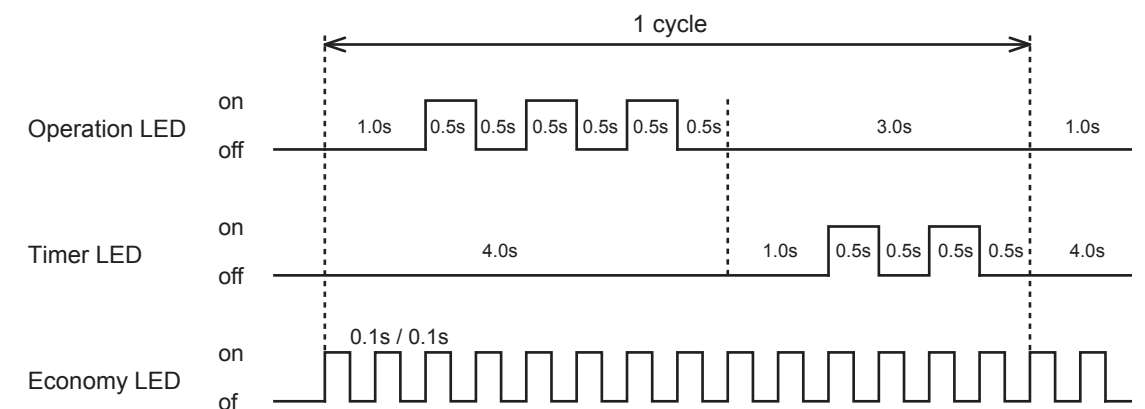
INDOOR UNIT

Error Contents	Operation LED	Timer LED	Economy LED
Serial Communication Error	1 times flash	1 times flash	Continuous flash
Wired Remote Controller Communication Error	1 times flash	2 times flash	Continuous flash
Check Run Unfinished	1 times flash	5 times flash	Continuous flash
Number of Wires and Pipes Error	2 times flash	1 times flash	Continuous flash
Indoor Unit Capacity Error	2 times flash	2 times flash	Continuous flash
Connected Combination Error	2 times flash	3 times flash	Continuous flash
Number of Indoor Units Error Number of Branch boxes Error	2 times flash	4 times flash	Continuous flash
Indoor Unit Model Information Error EEPROM Access Abnormal	3 times flash	2 times flash	Continuous flash
Manual Auto Switch Error	3 times flash	5 times flash	Continuous flash
Indoor Room Thermistor Error	4 times flash	1 times flash	Continuous flash
Indoor Heat Ex. Thermistor Error	4 times flash	2 times flash	Continuous flash
Indoor Unit Fan Motor Error	5 times flash	1 times flash	Continuous flash
Drainage Error	5 times flash	3 times flash	Continuous flash
Outdoor Unit Model Information Error	6 times flash	2 times flash	Continuous flash
Inverter Error	6 times flash	3 times flash	Continuous flash
A. F. Voltage Error	6 times flash	4 times flash	Continuous flash
I.P.M. Error	6 times flash	5 times flash	Continuous flash
Display P.C.B. Communication Error	6 times flash	10 times flash	Continuous flash
Discharge Thermistor Error	7 times flash	1 times flash	Continuous flash
Compressor Thermistor Error	7 times flash	2 times flash	Continuous flash
Heat Ex. Liquid Outlet Thermistor Error	7 times flash	3 times flash	Continuous flash
Outdoor Thermistor Error	7 times flash	4 times flash	Continuous flash
Suction Gas Thermistor Error	7 times flash	5 times flash	Continuous flash
Heat Sink Thermistor Error	7 times flash	7 times flash	Continuous flash

Error Contents	Operation LED	Timer LED	Economy LED
Sub-Cool Heat Ex. Gas Inlet Thermistor Error Sub-Cool Heat Ex. Gas Outlet Thermistor Error	8 times flash	2 times flash	Continuous flash
Liquid Pipe Thermistor Error	8 times flash	3 times flash	Continuous flash
Current Sensor Error	8 times flash	4 times flash	Continuous flash
Discharge Pressure Sensor Error Suction Pressure Sensor Error High Pressure Switch Error	8 times flash	6 times flash	Continuous flash
Over Current Error	9 times flash	4 times flash	Continuous flash
Compressor Control Error	9 times flash	5 times flash	Continuous flash
Outdoor Unit Fan Motor Error	9 times flash	7 times flash	Continuous flash
4 Way Valve Error	9 times flash	9 times flash	Continuous flash
Discharge Temp. Error	10 times flash	1 times flash	Continuous flash
Compressor Temp. Error	10 times flash	3 times flash	Continuous flash
Low Pressure Error	10 times flash	5 times flash	Continuous flash
Branch Boxes Error	13 times flash	2 times flash	Continuous flash

Flashing pattern example

Indoor unit main PCB error
(Operation LED : 3 times, Timer LED : 2 times)

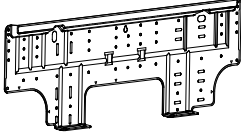
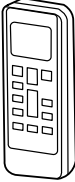
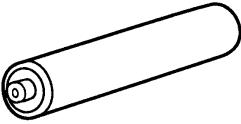


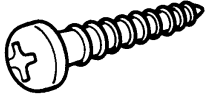

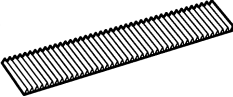


OUTDOOR UNIT

LED	ERROR
on	Discharge temperature abnormal
5.0 second on / 5.0 second off	DC fan abnormal
2.0 second on / 2.0 second off	CT abnormal
1.0 second on / 1.0 second off	Timer contraction
0.5 second on / 0.5 second off	IPM overcurrent protection
0.1 second on / 0.1 second off	Thermistor abnormal
0.1 second on / 2.0 second off	Compressor location abnormal

ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty
Wall hook bracket 	1
Remote control 	1
Battery 	2
Remote control holder 	1
Cloth tape 	1
Tapping screw (big) 	8
Tapping screw (small) 	2
Air cleaning filter 	2

1008G3824