

# SERVICE MANUAL



Outdoor unit	Indoor unit
AOU36RLXFZ	ASU7RLF
	ASU9RLF
	ASU12RLF
	ASU18RLF
	ASU24RLF
	AUU9RLF
	AUU12RLF
	AUU18RLF
	UTG-CCGF
	ARU9RLF
	ARU12RLF
	ARU18RLF
	ARU24RLF

## CONTENTS

SPECIFICATIONS . . . . .	1
DIMENSIONS . . . . .	7
REFRIGERANT SYSTEM DIAGRAM . . .	14
CIRCUIT DIAGRAM . . . . .	15
OUTDOOR PCB CIRCUIT DIAGRAM . .	20
INDOOR PCB CIRCUIT DIAGRAM . . . .	23
ERROR DETECTION . . . . .	37
PARTS (OUTDOOR UNIT) . . . . .	39
PARTS (INDOOR UNIT) . . . . .	44
ACCESSORIES . . . . .	66

# SPECIFICATIONS

## OUTDOOR UNIT

### ELECTRICAL DATA

TYPE		4 room multi inverter
MODEL NAME		AOU36RLXFZ
POWER SUPPLY		208 V / 230 V
FREQUENCY		60 Hz
AIR CIRCULATION	Cooling	2,119 cfm (3,600 m <sup>3</sup> /h)
	Heating	2,237 cfm (3,800 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	53 dB
	Heating	55 dB

### FAN MOTOR

DISCRIMINATION		MFE-45VVT
HIGH SPEED	Cooling	850 r.p.m.
	Heating	900 r.p.m.

### COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, 3 phase, DC motor, Twin Rotary
DISCRIMINATION	TNB220FPBMT
WEIGHT	31 lbs 8-1/2 oz (14.3 kg)
PRECHARGED REFRIGERANT	7 lbs 4-7/16 oz (3,300 g)
REFRIGERANT TYPE	R410A

### MEASUREMENT

DIMENSIONS H x W x D	32-11/16 x 35-7/16 x 13 inch (830 x 900 x 330 mm)
WEIGHT Net / Shipping	149 lbs / 165 lbs (68 kg / 75 kg)

### REFRIGERANT CHARGE

(When 3 or 4 indoor units are connected)

Total pipe length	164 ft (50 m)	(None)
	197 ft (60 m)	8-13/16 oz (250 g)
	230 ft (70 m)	1 lb 1-5/8 oz (500 g)
ADDITIONAL CHARGE		9/32 oz/ft (25 g/m)
MAXIMUM PIPE LENGTH (total)		230 ft (70 m)
MINIMUM PIPE LENGTH (total)		66 ft (20 m)
MAXIMUM PIPE LENGTH (each unit)		82 ft (25 m)
MINIMUM PIPE LENGTH (each unit)		16 ft (5 m)
MAX ELEVATION (between indoor units)		33 ft (10 m)
MAX ELEVATION (between indoor and outdoor units)		49 ft (15 m)

### REFRIGERANT CHARGE

(When 2 indoor units are connected)

Total pipe length	66 ft (20 m)	(None)
	98 ft (30 m)	8-13/16 oz (250 g)
	131 ft (40 m)	1 lb 1-5/8 oz (500 g)
ADDITIONAL CHARGE		9/32 oz/ft (25 g/m)
MAXIMUM PIPE LENGTH (total)		131 ft (40 m)
MINIMUM PIPE LENGTH (total)		49 ft (15 m)
MAXIMUM PIPE LENGTH (each unit)		82 ft (25 m)
MINIMUM PIPE LENGTH (each unit)		25 ft (7.5 m)
MAX ELEVATION (between indoor units)		33 ft (10 m)
MAX ELEVATION (between indoor and outdoor units)		49 ft (15 m)

**INDOOR UNIT  
COMPACT WALL MOUNTED**

**ELECTRICAL DATA**

MODEL NAME	ASU7RLF	ASU9RLF	ASU12RLF
CAPACITY CLASS	7,000 Btu/h	9,000 Btu/h	12,000 Btu/h
POWER CONSUMPTION	15 W	17 W	22 W
RUNNING CURRENT	0.13 A	0.15 A	0.19 A

**FAN MOTOR**

DISCRIMINATION		MFD-12TYAN			
FAN SPEED	Cooling	High	1,050 r.p.m.	1,100 r.p.m.	1,200 r.p.m.
		Medium	950 r.p.m.	980 r.p.m.	1,050 r.p.m.
		Low	850 r.p.m.	850 r.p.m.	880 r.p.m.
		Quiet	710 r.p.m.	710 r.p.m.	710 r.p.m.
	Heating	High	1,050 r.p.m.	1,100 r.p.m.	1,200 r.p.m.
		Medium	950 r.p.m.	980 r.p.m.	1,050 r.p.m.
		Low	850 r.p.m.	850 r.p.m.	910 r.p.m.
		Quiet	720 r.p.m.	720 r.p.m.	720 r.p.m.
AIR FLOW	Cooling	High	330 cfm (560 m <sup>3</sup> /h)	353 cfm (600 m <sup>3</sup> /h)	388 cfm (660 m <sup>3</sup> /h)
		Medium	294 cfm (500 m <sup>3</sup> /h)	306 cfm (520 m <sup>3</sup> /h)	330 cfm (560 m <sup>3</sup> /h)
		Low	253 cfm (430 m <sup>3</sup> /h)	253 cfm (430 m <sup>3</sup> /h)	265 cfm (450 m <sup>3</sup> /h)
		Quiet	200 cfm (340 m <sup>3</sup> /h)	200 cfm (340 m <sup>3</sup> /h)	200 cfm (340 m <sup>3</sup> /h)
	Heating	High	330 cfm (560 m <sup>3</sup> /h)	353 cfm (600 m <sup>3</sup> /h)	388 cfm (660 m <sup>3</sup> /h)
		Medium	294 cfm (500 m <sup>3</sup> /h)	306 cfm (520 m <sup>3</sup> /h)	330 cfm (560 m <sup>3</sup> /h)
		Low	253 cfm (430 m <sup>3</sup> /h)	253 cfm (430 m <sup>3</sup> /h)	277 cfm (470 m <sup>3</sup> /h)
		Quiet	206 cfm (350 m <sup>3</sup> /h)	206 cfm (350 m <sup>3</sup> /h)	206 cfm (350 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	High	36 dB(A)	37 dB(A)	40 dB(A)
		Medium	32 dB(A)	33 dB(A)	36 dB(A)
		Low	29 dB(A)	29 dB(A)	30 dB(A)
		Quiet	25 dB(A)	25 dB(A)	25 dB(A)
	Heating	High	36 dB(A)	37 dB(A)	40 dB(A)
		Medium	32 dB(A)	33 dB(A)	36 dB(A)
		Low	29 dB(A)	29 dB(A)	31 dB(A)
		Quiet	25 dB(A)	25 dB(A)	25 dB(A)

**MEASUREMENTS**

DIMENSIONS	H x W x D	11-1/16 x 31-1/16 x 8 inch (280 x 790 x 203 mm)
WEIGHT	Net / Shipping	18 lb. / 23 lb. (8.0 kg / 10.5 kg)

INDOOR UNIT  
WALL MOUNTED

ELECTRICAL DATA

MODEL NAME	ASU18RLF	ASU24RLF
CAPACITY CLASS	18,000 Btu/h	24,000 Btu/h
POWER CONSUMPTION	41 W	69 W
RUNNING CURRENT	0.32 A	0.53 A

FAN MOTOR

DISCRIMINATION			MFD-50RON	
FAN SPEED	Cooling	High	1,260 r.p.m.	1,480 r.p.m.
		Medium	1,020 r.p.m.	1,220 r.p.m.
		Low	900 r.p.m.	1,020 r.p.m.
		Quiet	770 r.p.m.	900 r.p.m.
	Heating	High	1,260 r.p.m.	1,430 r.p.m.
		Medium	1,020 r.p.m.	1,220 r.p.m.
		Low	900 r.p.m.	1,020 r.p.m.
		Quiet	790 r.p.m.	900 r.p.m.
AIR FLOW	Cooling	High	542 cfm (920 m <sup>3</sup> /h)	659 cfm (1,120 m <sup>3</sup> /h)
		Medium	436 cfm (740 m <sup>3</sup> /h)	530 cfm (900 m <sup>3</sup> /h)
		Low	365 cfm (620 m <sup>3</sup> /h)	436 cfm (740 m <sup>3</sup> /h)
		Quiet	324 cfm (550 m <sup>3</sup> /h)	365 cfm (620 m <sup>3</sup> /h)
	Heating	High	542 cfm (920 m <sup>3</sup> /h)	647 cfm (1100 m <sup>3</sup> /h)
		Medium	436 cfm (740 m <sup>3</sup> /h)	530 cfm (900 m <sup>3</sup> /h)
		Low	365 cfm (620 m <sup>3</sup> /h)	436 cfm (740 m <sup>3</sup> /h)
		Quiet	324 cfm (550 m <sup>3</sup> /h)	365 cfm (620 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	High	43 dB(A)	49 dB(A)
		Medium	37 dB(A)	42 dB(A)
		Low	33 dB(A)	37 dB(A)
		Quiet	31 dB(A)	33 dB(A)
	Heating	High	44 dB(A)	48 dB(A)
		Medium	37 dB(A)	42 dB(A)
		Low	33 dB(A)	37 dB(A)
		Quiet	31 dB(A)	33 dB(A)

MEASUREMENTS

DIMENSIONS	H x W x D	12-5/8 x 39-1/4 x 9 inch (320 x 998 x 228 mm)
WEIGHT	Net / Shipping	31 lb. / 40 lb. (14 kg / 18 kg)

**INDOOR UNIT  
COMPACT CASSETTE**

**ELECTRICAL DATA**

MODEL NAME	AUU9RLF	AUU12RLF	AUU18RLF
CAPACITY CLASS	9,000 Btu/h	12,000 Btu/h	18,000 Btu/h
POWER CONSUMPTION	18 W	23 W	39 W
RUNNING CURRENT	0.15 A	0.19 A	0.30 A

**FAN MOTOR**

DISCRIMINATION		MFF-24VVL			
FAN SPEED	Cooling	High	590 r.p.m.	660 r.p.m.	790 r.p.m.
		Medium	540 r.p.m.	580 r.p.m.	660 r.p.m.
		Low	490 r.p.m.	520 r.p.m.	570 r.p.m.
		Quiet	440 r.p.m.	460 r.p.m.	460 r.p.m.
	Heating	High	590 r.p.m.	650 r.p.m.	840 r.p.m.
		Medium	540 r.p.m.	580 r.p.m.	750 r.p.m.
		Low	490 r.p.m.	520 r.p.m.	650 r.p.m.
		Quiet	440 r.p.m.	460 r.p.m.	500 r.p.m.
AIR FLOW	Cooling	High	318 cfm (540 m <sup>3</sup> /h)	359 cfm (610 m <sup>3</sup> /h)	441 cfm (750 m <sup>3</sup> /h)
		Medium	288 cfm (490 m <sup>3</sup> /h)	312 cfm (530 m <sup>3</sup> /h)	359 cfm (610 m <sup>3</sup> /h)
		Low	259 cfm (440 m <sup>3</sup> /h)	277 cfm (470 m <sup>3</sup> /h)	306 cfm (520 m <sup>3</sup> /h)
		Quiet	230 cfm (390 m <sup>3</sup> /h)	241 cfm (410 m <sup>3</sup> /h)	241 cfm (410 m <sup>3</sup> /h)
	Heating	High	318 cfm (540 m <sup>3</sup> /h)	359 cfm (610 m <sup>3</sup> /h)	471 cfm (800 m <sup>3</sup> /h)
		Medium	288 cfm (490 m <sup>3</sup> /h)	312 cfm (530 m <sup>3</sup> /h)	418 cfm (710 m <sup>3</sup> /h)
		Low	259 cfm (440 m <sup>3</sup> /h)	277 cfm (470 m <sup>3</sup> /h)	353 cfm (600 m <sup>3</sup> /h)
		Quiet	230 cfm (390 m <sup>3</sup> /h)	241 cfm (410 m <sup>3</sup> /h)	265 cfm (450 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	High	33 dB(A)	37 dB(A)	42 dB(A)
		Medium	31 dB(A)	33 dB(A)	37 dB(A)
		Low	29 dB(A)	31 dB(A)	33 dB(A)
		Quiet	27 dB(A)	28 dB(A)	29 dB(A)
	Heating	High	34 dB(A)	37 dB(A)	44 dB(A)
		Medium	32 dB(A)	33 dB(A)	40 dB(A)
		Low	29 dB(A)	31 dB(A)	37 dB(A)
		Quiet	27 dB(A)	28 dB(A)	30 dB(A)

**MEASUREMENTS**

DIMENSIONS	H x W x D	9-21/32 x 22-7/16 x 22-7/16 inch (245 x 570 x 570 mm)
WEIGHT	Net / Shipping	33 lb. / 40 lb. (15 kg / 18 kg)

**PANEL**

**MEASUREMENTS**

MODEL NAME	UTG-CCGF	
DIMENSIONS	H x W x D	1-15/16 x 27-9/16 x 27-9/16 inch (49 x 700 x 700 mm)
WEIGHT	Net / Shipping	5.7 lb. / 10 lb. (2.6 kg / 4.5 kg)

**INDOOR UNIT  
SLIM DUCT**

**ELECTRICAL DATA**

MODEL NAME	ARU9RLF	ARU12RLF
CAPACITY CLASS	9,000 Btu/h	12,000 Btu/h
POWER CONSUMPTION	49 W	58 W
RUNNING CURRENT	0.30 A	0.35 A

**FAN MOTOR**

DISCRIMINATION		MFG-14WV		
FAN SPEED	Cooling	High	1,260 r.p.m.	1,340 r.p.m.
		Medium	1,160 r.p.m.	1,240 r.p.m.
		Low	1,060 r.p.m.	1,140 r.p.m.
		Quiet	960 r.p.m.	1,030 r.p.m.
	Heating	High	1,260 r.p.m.	1,340 r.p.m.
		Medium	1,160 r.p.m.	1,240 r.p.m.
		Low	1,060 r.p.m.	1,140 r.p.m.
		Quiet	960 r.p.m.	1,030 r.p.m.
AIR FLOW	Cooling	High	353 cfm (600 m <sup>3</sup> /h)	383 cfm (650 m <sup>3</sup> /h)
		Medium	324 cfm (550 m <sup>3</sup> /h)	353 cfm (600 m <sup>3</sup> /h)
		Low	294 cfm (500 m <sup>3</sup> /h)	324 cfm (550 m <sup>3</sup> /h)
		Quiet	265 cfm (450 m <sup>3</sup> /h)	283 cfm (480 m <sup>3</sup> /h)
	Heating	High	353 cfm (600 m <sup>3</sup> /h)	383 cfm (650 m <sup>3</sup> /h)
		Medium	324 cfm (550 m <sup>3</sup> /h)	353 cfm (600 m <sup>3</sup> /h)
		Low	294 cfm (500 m <sup>3</sup> /h)	324 cfm (550 m <sup>3</sup> /h)
		Quiet	265 cfm (450 m <sup>3</sup> /h)	283 cfm (480 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	High	28 dB(A)	29 dB(A)
		Medium	27 dB(A)	28 dB(A)
		Low	26 dB(A)	27 dB(A)
		Quiet	25 dB(A)	26 dB(A)
	Heating	High	28 dB(A)	29 dB(A)
		Medium	26 dB(A)	28 dB(A)
		Low	25 dB(A)	27 dB(A)
		Quiet	24 dB(A)	24 dB(A)

**MEASUREMENTS**

DIMENSIONS	H x W x D	7-25/32 x 27-9/16 x 24-13/32 inch (198 x 700 x 620 mm)
WEIGHT	Net / Shipping	41 lb. / 58 lb. (19 kg / 26 kg)

**INDOOR UNIT  
SLIM DUCT**

**ELECTRICAL DATA**

MODEL NAME	ARU18RLF	ARU24RLF
CAPACITY CLASS	18,000 Btu/h	24,000 Btu/h
POWER CONSUMPTION	73 W	111 W
RUNNING CURRENT	0.44 A	0.66 A

**FAN MOTOR**

DISCRIMINATION		MFG-24WV		
FAN SPEED	Cooling	High	1,380 r.p.m.	1,460 r.p.m.
		Medium	1,300 r.p.m.	1,360 r.p.m.
		Low	1,220 r.p.m.	1,260 r.p.m.
		Quiet	1,140 r.p.m.	1,180 r.p.m.
	Heating	High	1,380 r.p.m.	1,460 r.p.m.
		Medium	1,300 r.p.m.	1,360 r.p.m.
		Low	1,220 r.p.m.	1,260 r.p.m.
		Quiet	1,140 r.p.m.	1,180 r.p.m.
AIR FLOW	Cooling	High	554 cfm (940 m <sup>3</sup> /h)	783 cfm (1330 m <sup>3</sup> /h)
		Medium	518 cfm (880 m <sup>3</sup> /h)	730 cfm (1240 m <sup>3</sup> /h)
		Low	483 cfm (820 m <sup>3</sup> /h)	648 cfm (1100 m <sup>3</sup> /h)
		Quiet	442 cfm (750 m <sup>3</sup> /h)	607 cfm (1030 m <sup>3</sup> /h)
	Heating	High	554 cfm (940 m <sup>3</sup> /h)	783 cfm (1330 m <sup>3</sup> /h)
		Medium	518 cfm (880 m <sup>3</sup> /h)	730 cfm (1240 m <sup>3</sup> /h)
		Low	483 cfm (820 m <sup>3</sup> /h)	648 cfm (1100 m <sup>3</sup> /h)
		Quiet	442 cfm (750 m <sup>3</sup> /h)	607 cfm (1030 m <sup>3</sup> /h)
NOISE LEVEL	Cooling	High	32 dB(A)	33 dB(A)
		Medium	31 dB(A)	32 dB(A)
		Low	30 dB(A)	30 dB(A)
		Quiet	29 dB(A)	29 dB(A)
	Heating	High	33 dB(A)	35 dB(A)
		Medium	32 dB(A)	34 dB(A)
		Low	31 dB(A)	32 dB(A)
		Quiet	29 dB(A)	29 dB(A)

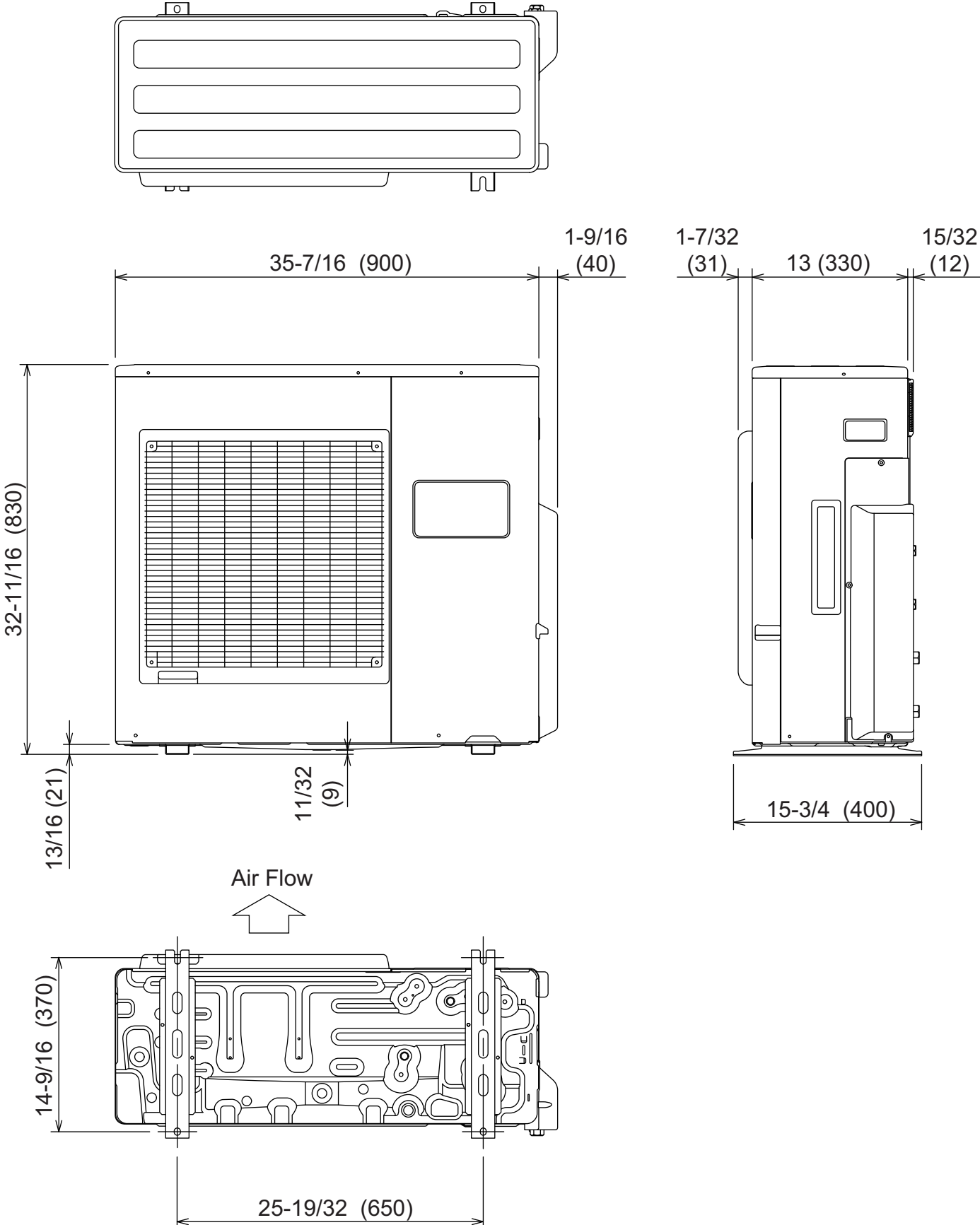
**MEASUREMENTS**

DIMENSIONS	H x W x D	7-25/32 x 35-7/16 x 24-13/32 inch (198 x 900 x 620 mm)	7-25/32 x 43-5/16 x 24-13/32 inch (198 x 1,100 x 620 mm)
WEIGHT	Net / Shipping	50 lb. / 67 lb. (23 kg / 30 kg)	59 lb. / 75 lb. (27 kg / 34 kg)

# DIMENSIONS

## OUTDOOR UNIT

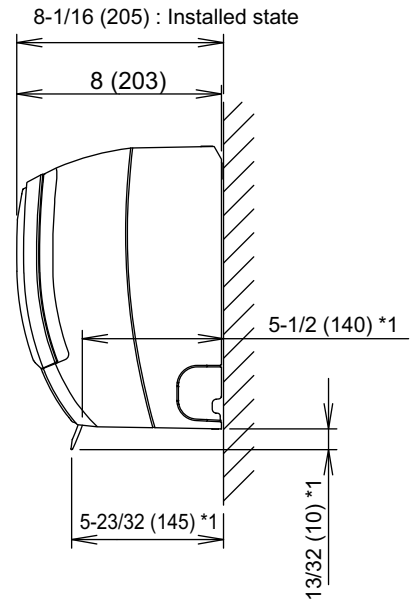
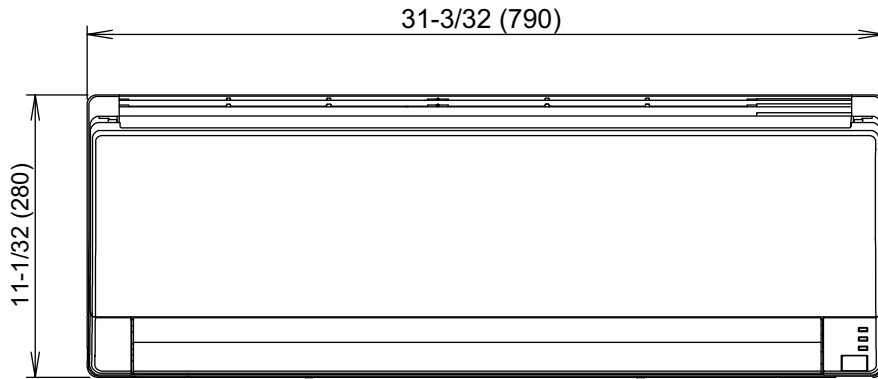
Unit : inch (mm)



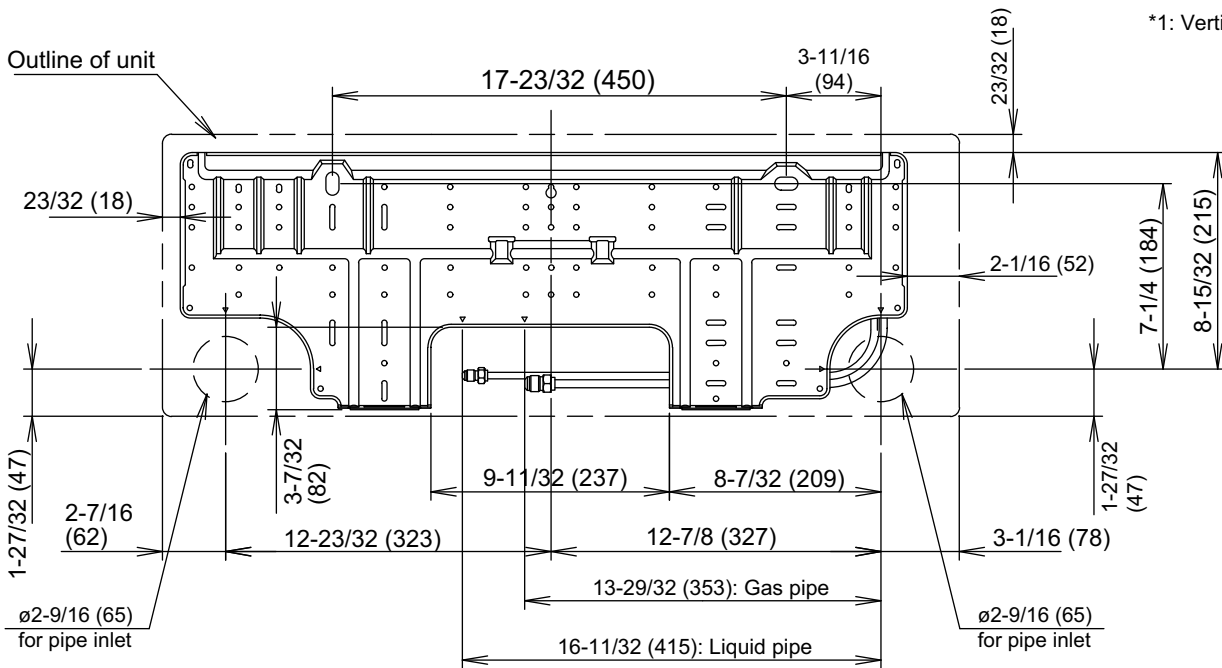


INDOOR UNIT  
 COMPACT WALL MOUNTED  
 ASU7RLF  
 ASU9RLF  
 ASU12RLF

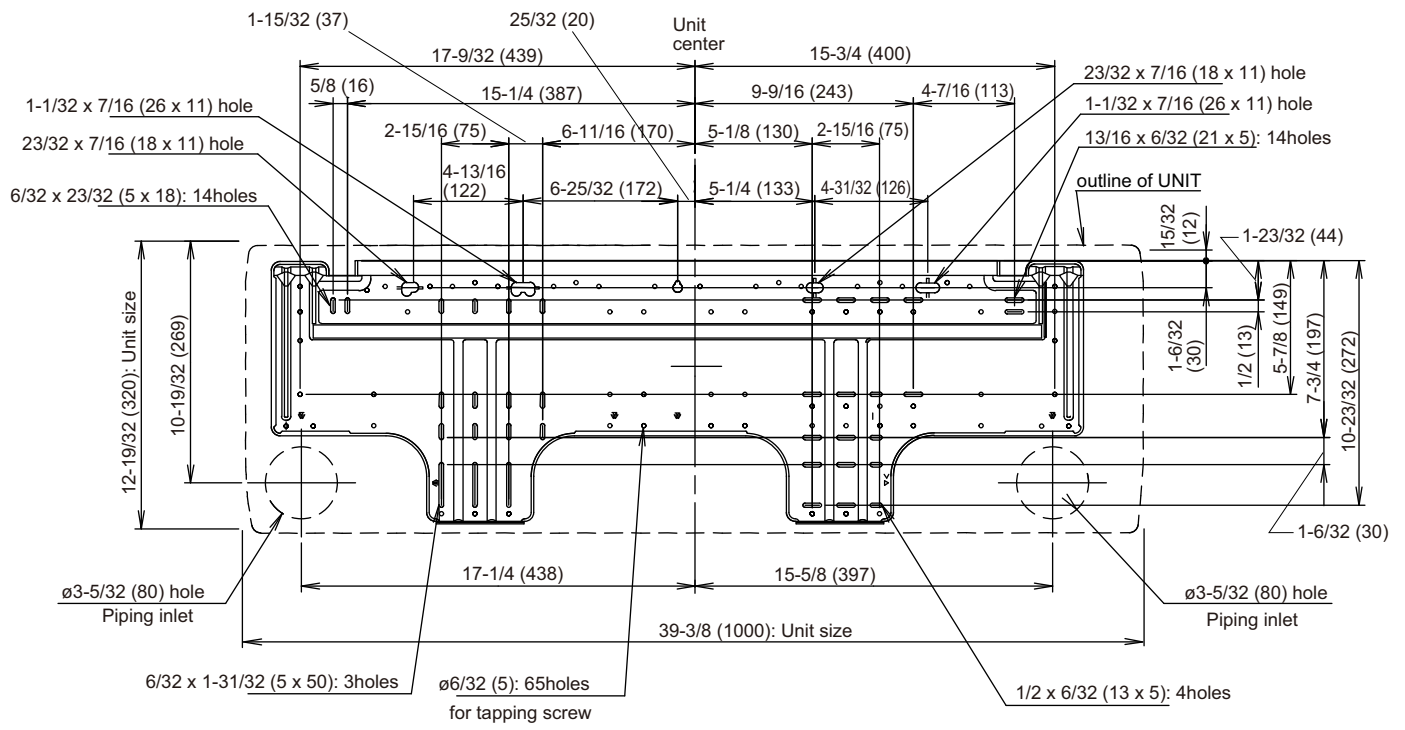
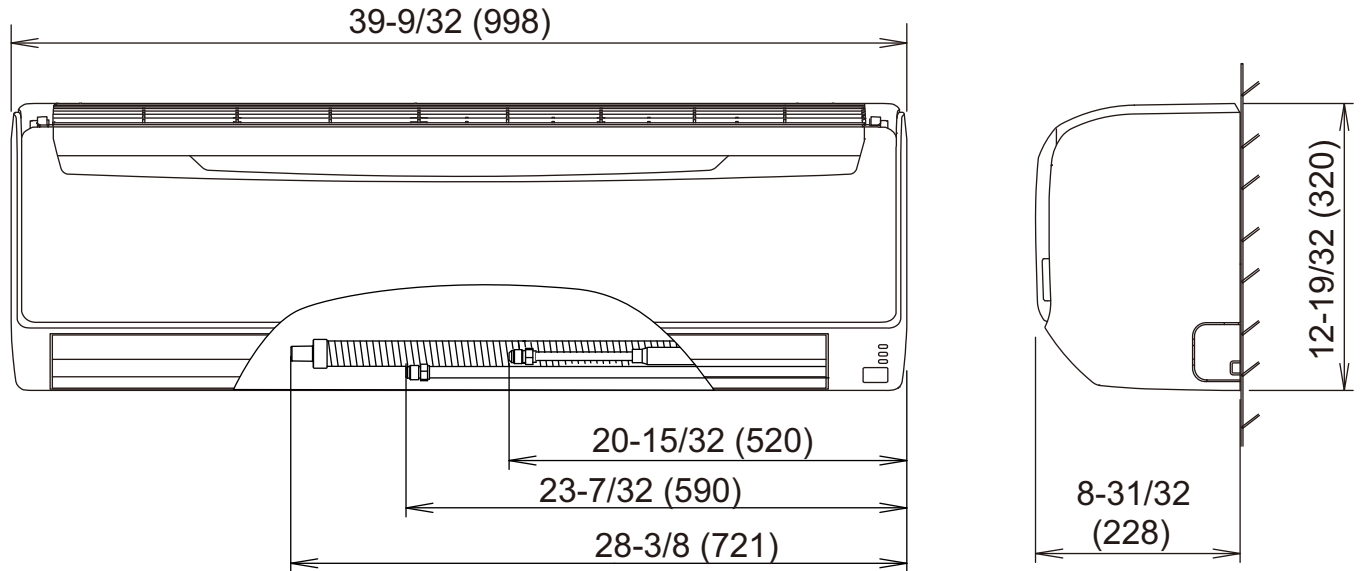
Unit : inch (mm)



\*1: Vertical flap is downward



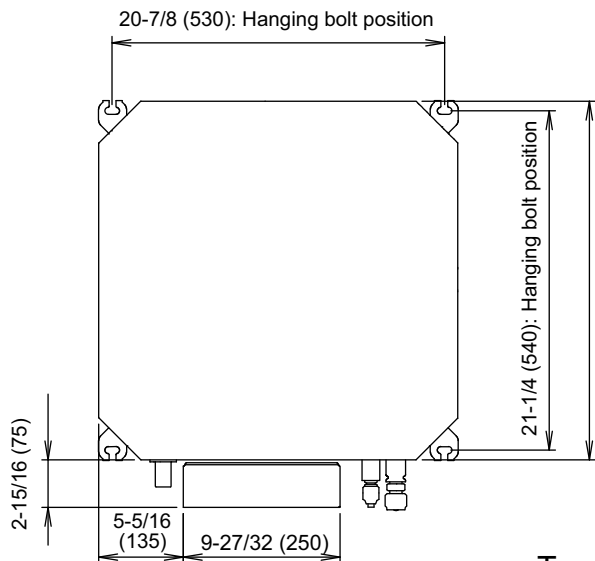
INDOOR UNIT  
 WALL MOUNTED  
 ASU18RLF  
 ASU24RLF  
 Unit : inch (mm)



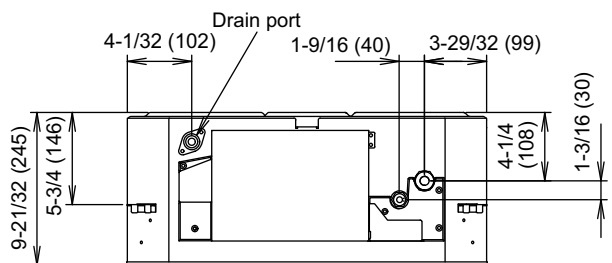
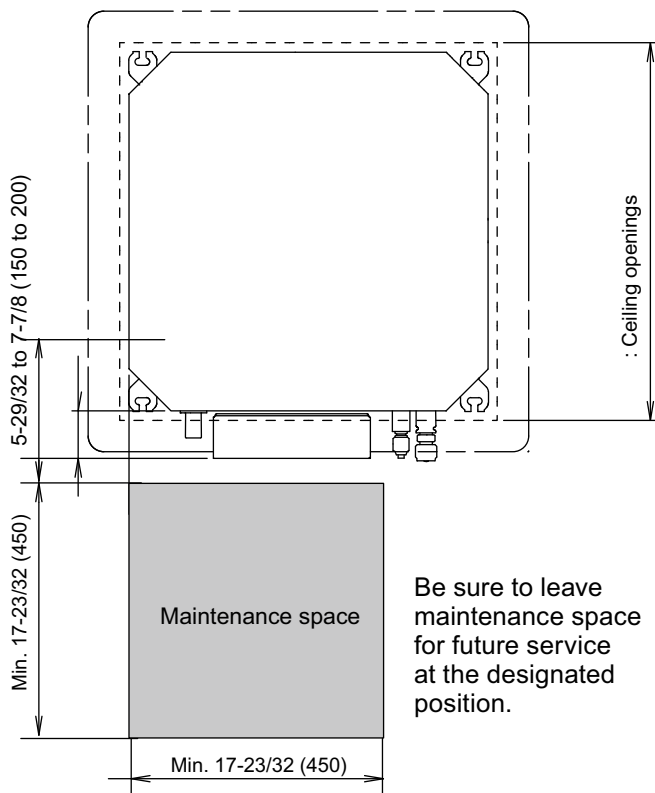
INDOOR UNIT  
 COMPACT CASSETTE  
 AUU9RLF  
 AUU12RLF  
 AUU18RLF

Unit : inch (mm)

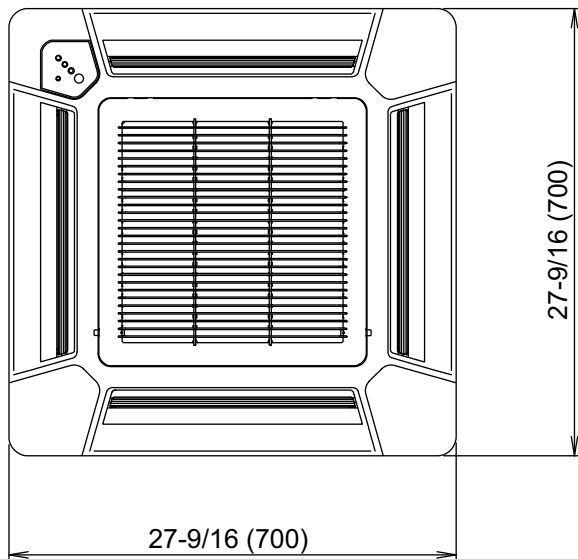
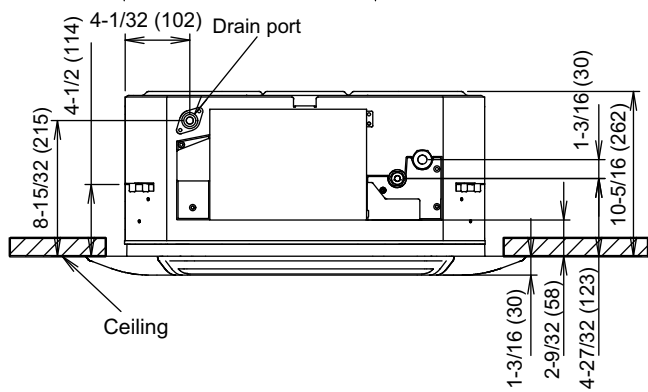
• Decoration panel mounting state



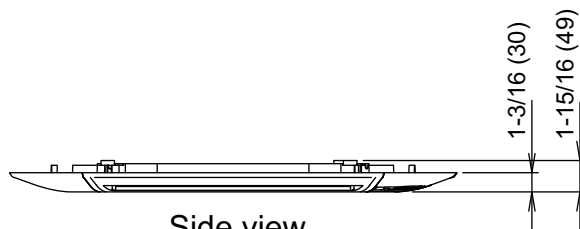
Top view



Side view

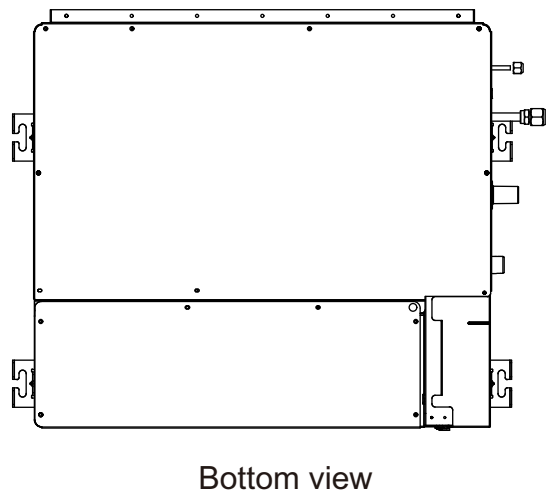
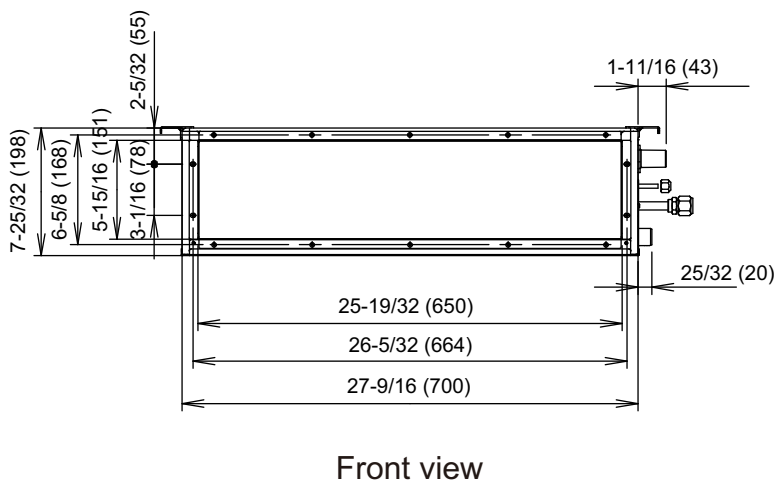
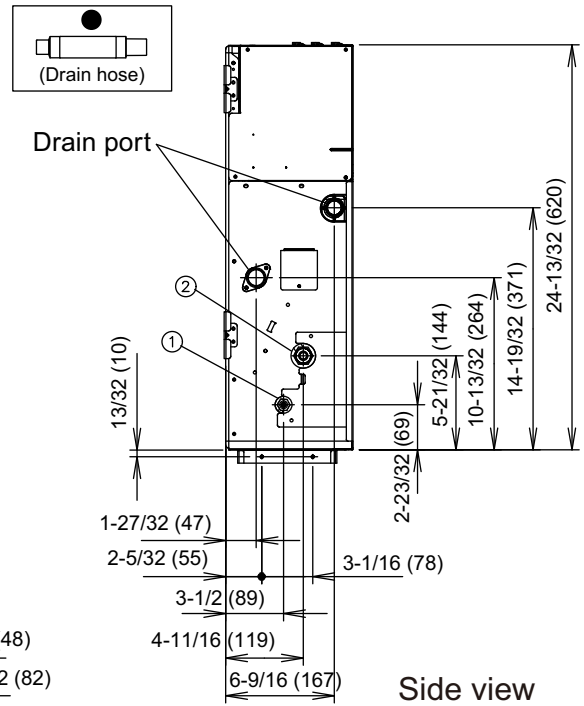
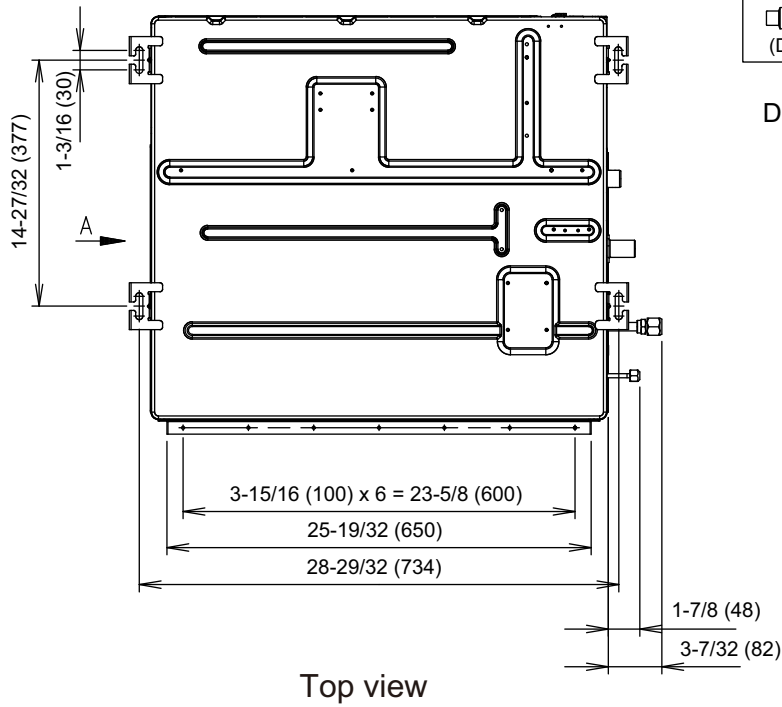
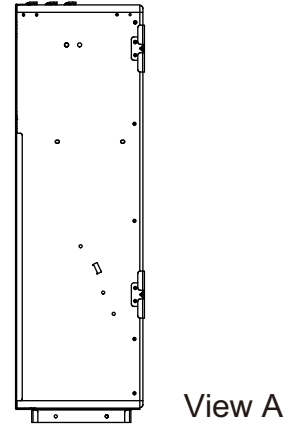
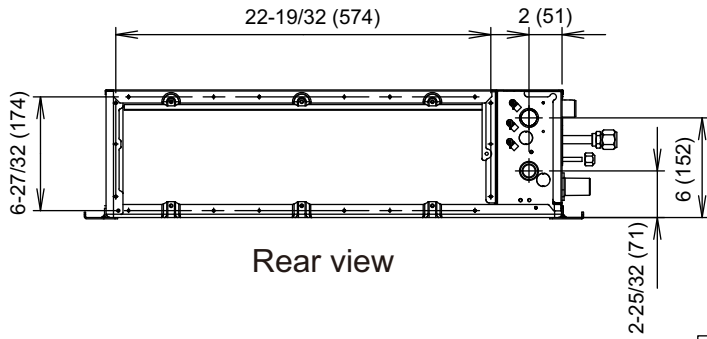


Bottom view



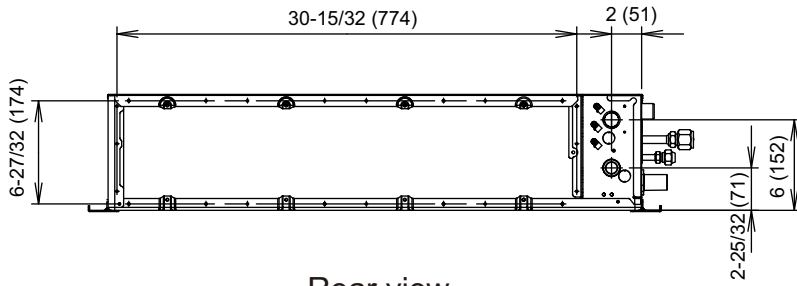
INDOOR UNIT  
SLIM DUCT  
ARU9RLF  
ARU12RLF

Unit : inch (mm)

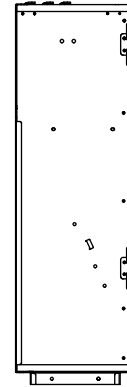


INDOOR UNIT  
SLIM DUCT  
ARU18RLF

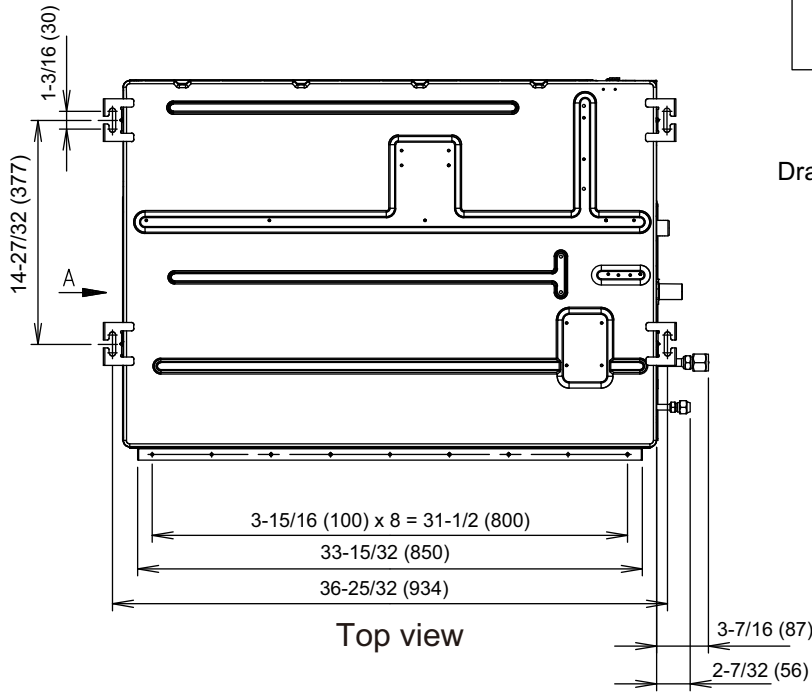
Unit : inch (mm)



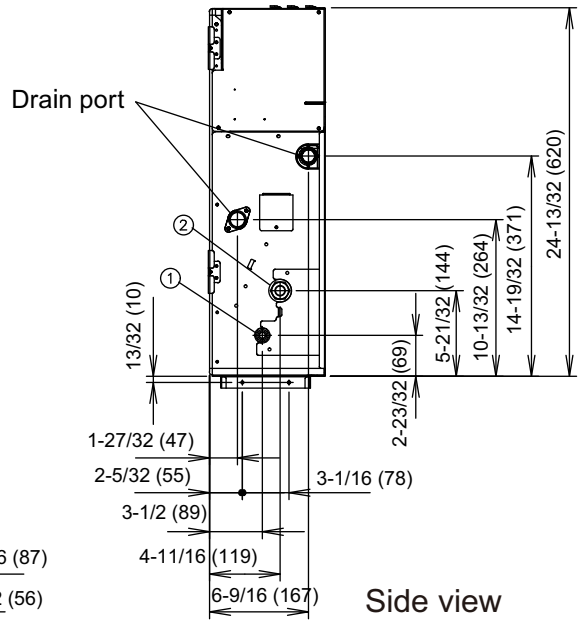
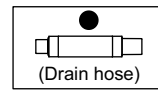
Rear view



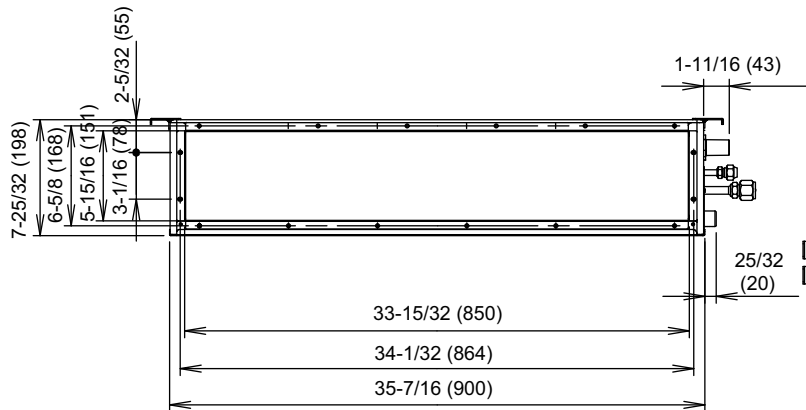
View A



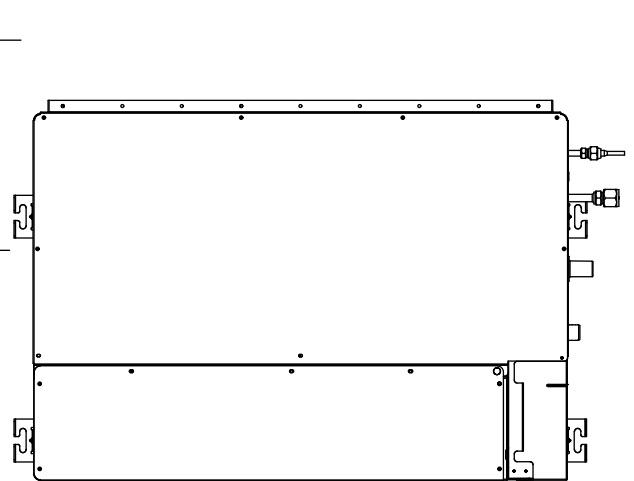
Top view



Side view



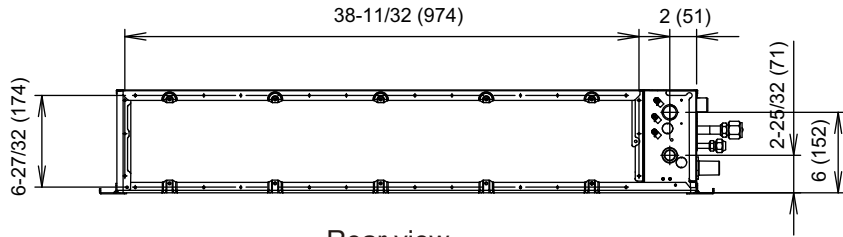
Front view



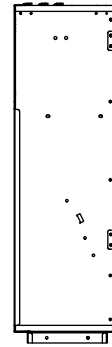
Bottom view

INDOOR UNIT  
SLIM DUCT  
ARU24RLF

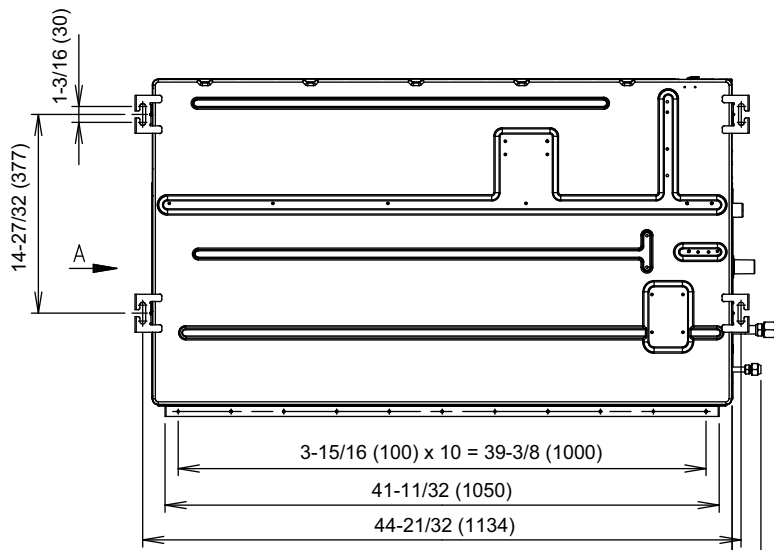
Unit : inch (mm)



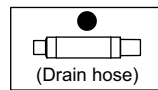
Rear view



View A

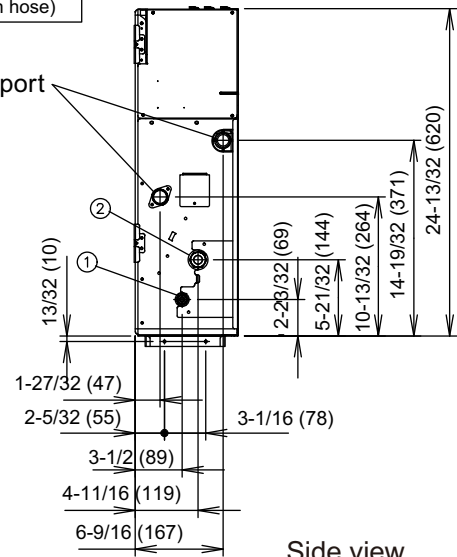


Top view

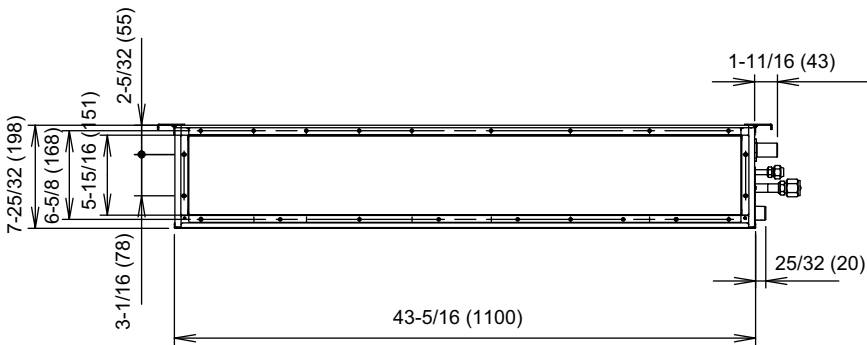


(Drain hose)

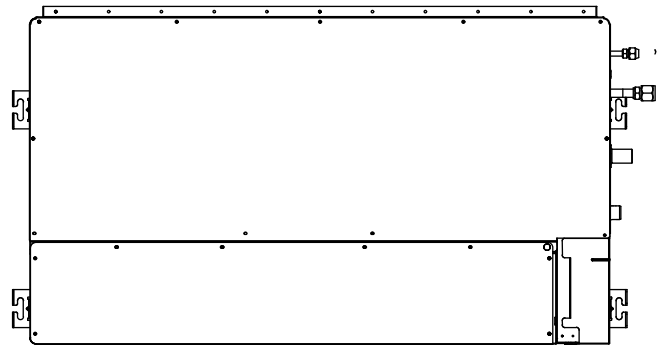
Drain port



Side view



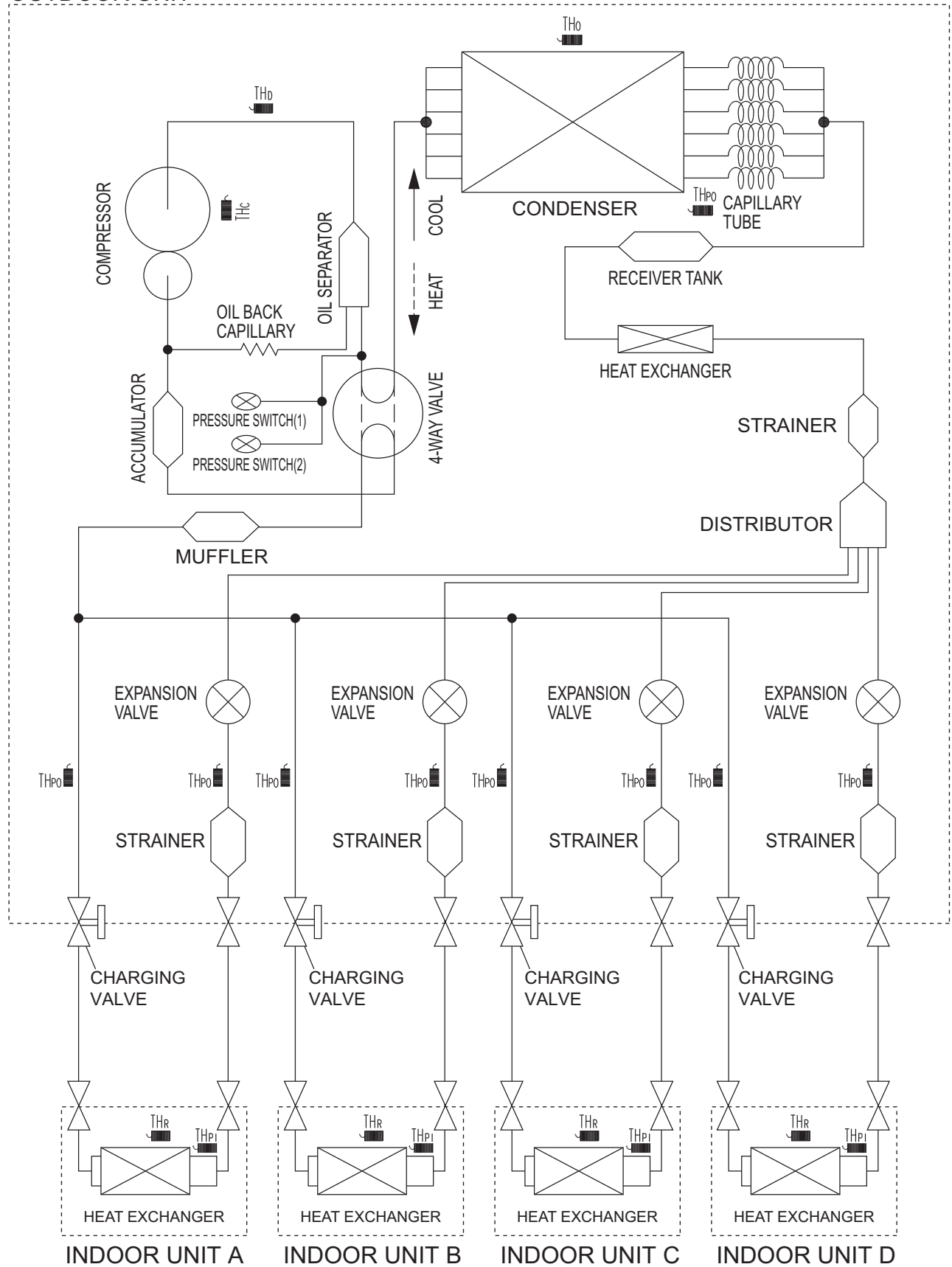
Front view



Bottom view

# REFRIGERANT SYSTEM DIAGRAM

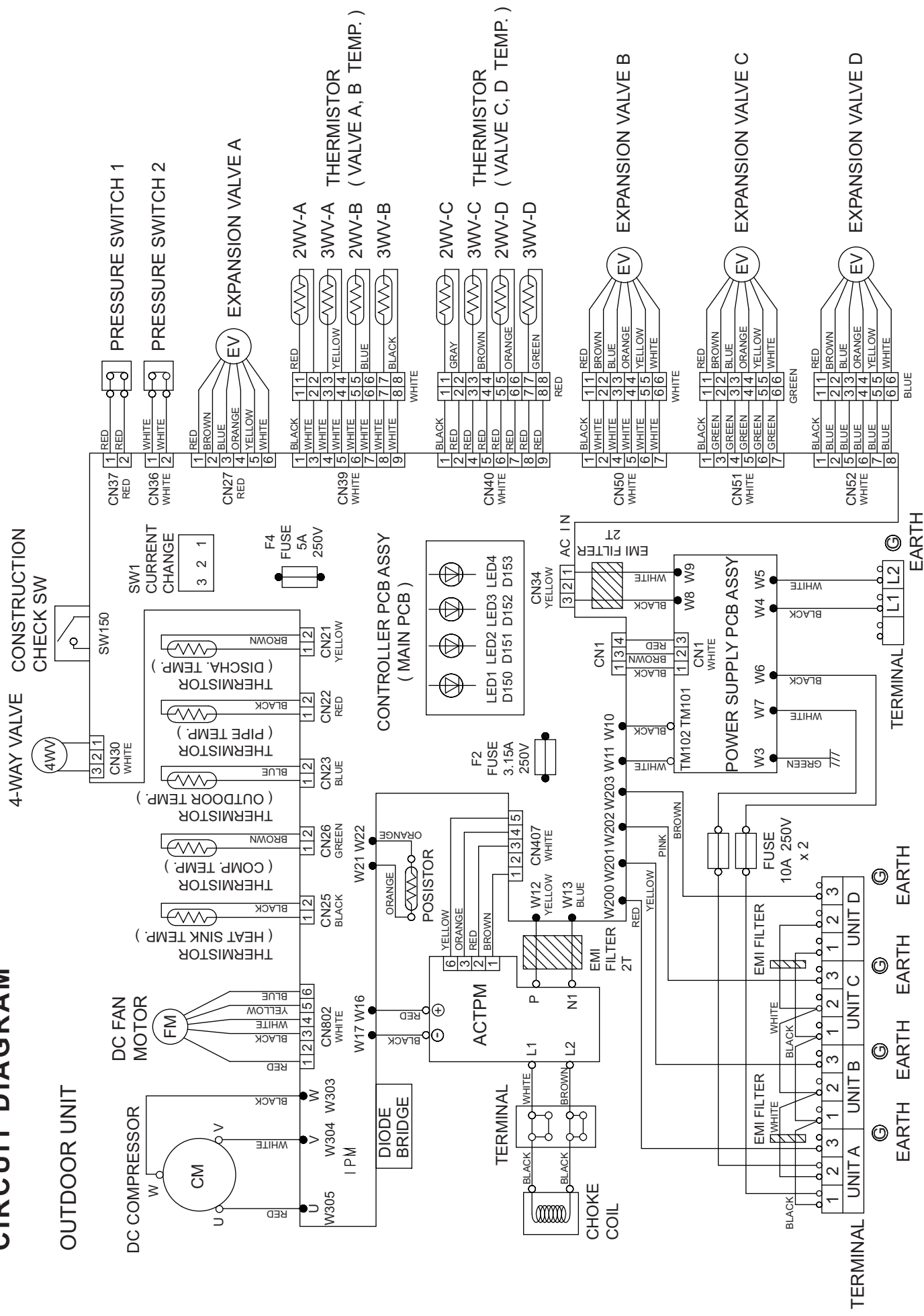
## OUTDOOR UNIT



$TH_o$  : THERMISTOR (DISCHARGE TEMP.)  
 $TH_o$  : THERMISTOR (OUTDOOR TEMP.)  
 $TH_{po}$  : THERMISTOR (PIPE TEMP.)  
 $TH_c$  : THERMISTOR (COMPRESSOR TEMP.)

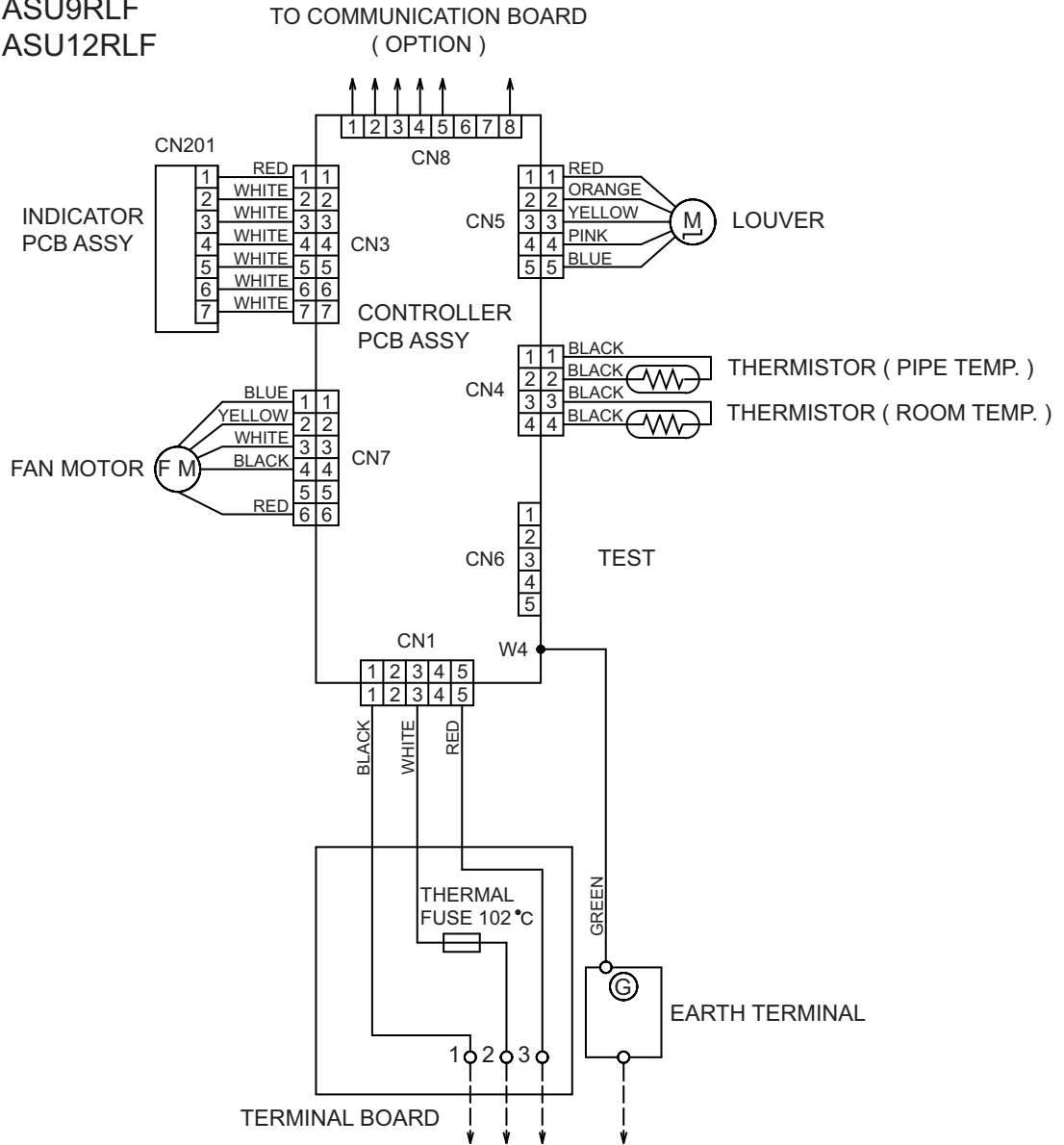
$TH_r$  : THERMISTOR (ROOM TEMP.)  
 $TH_{pi}$  : THERMISTOR (PIPE TEMP.)

# CIRCUIT DIAGRAM

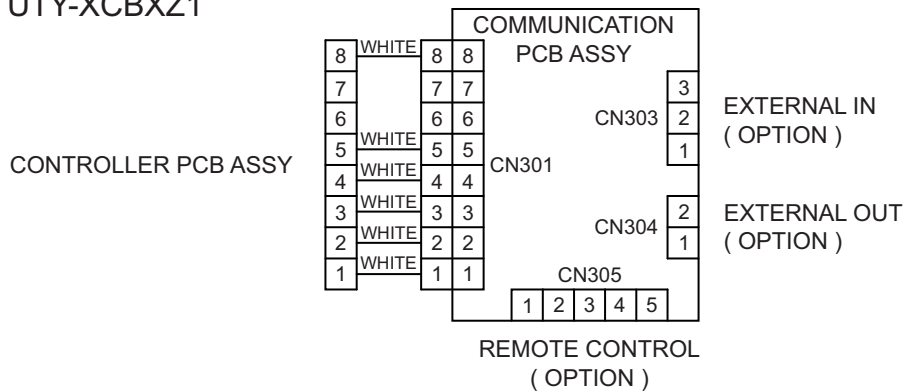




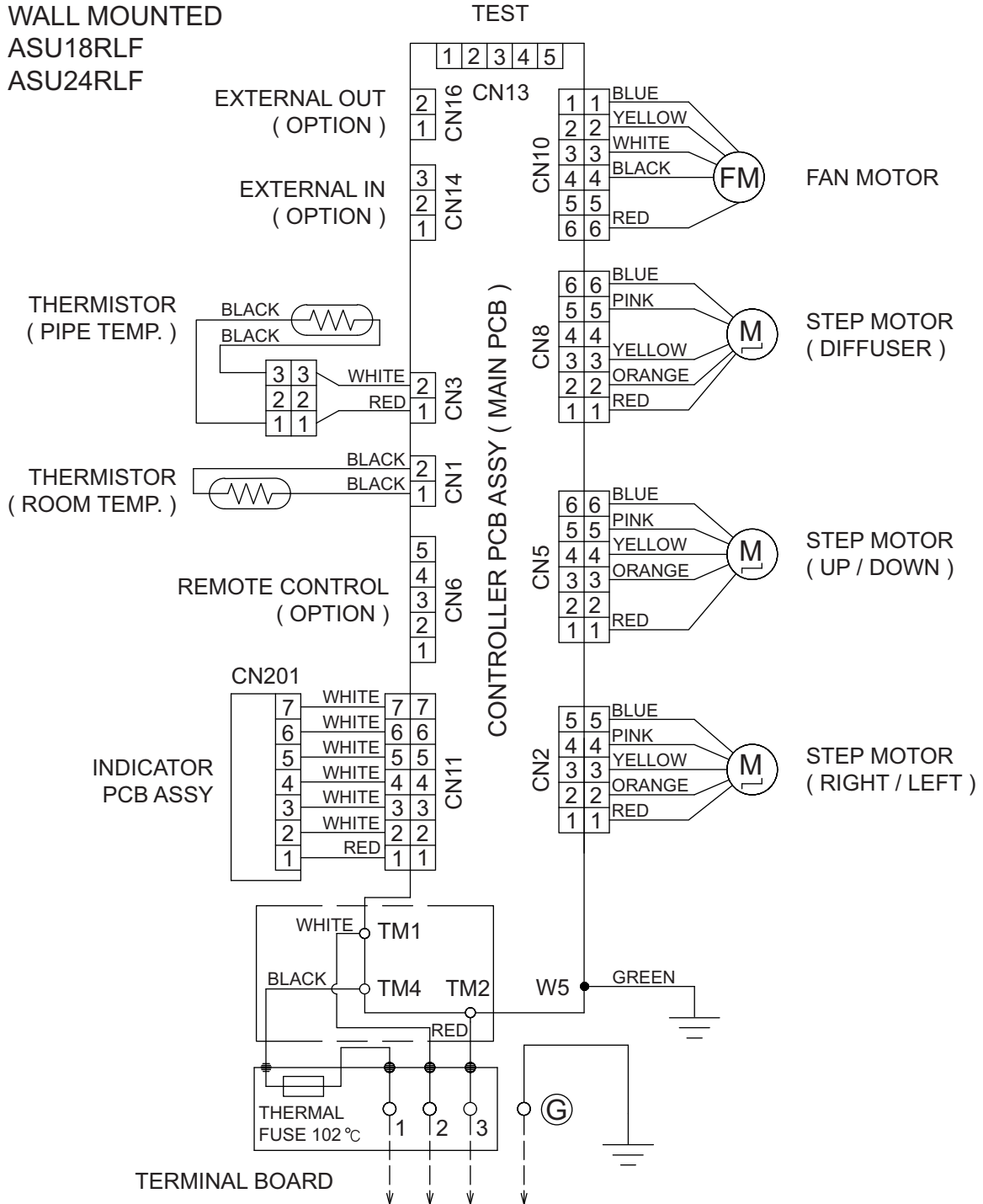
INDOOR UNIT  
 COMPACT WALL MOUNTED  
 ASU7RLF  
 ASU9RLF  
 ASU12RLF



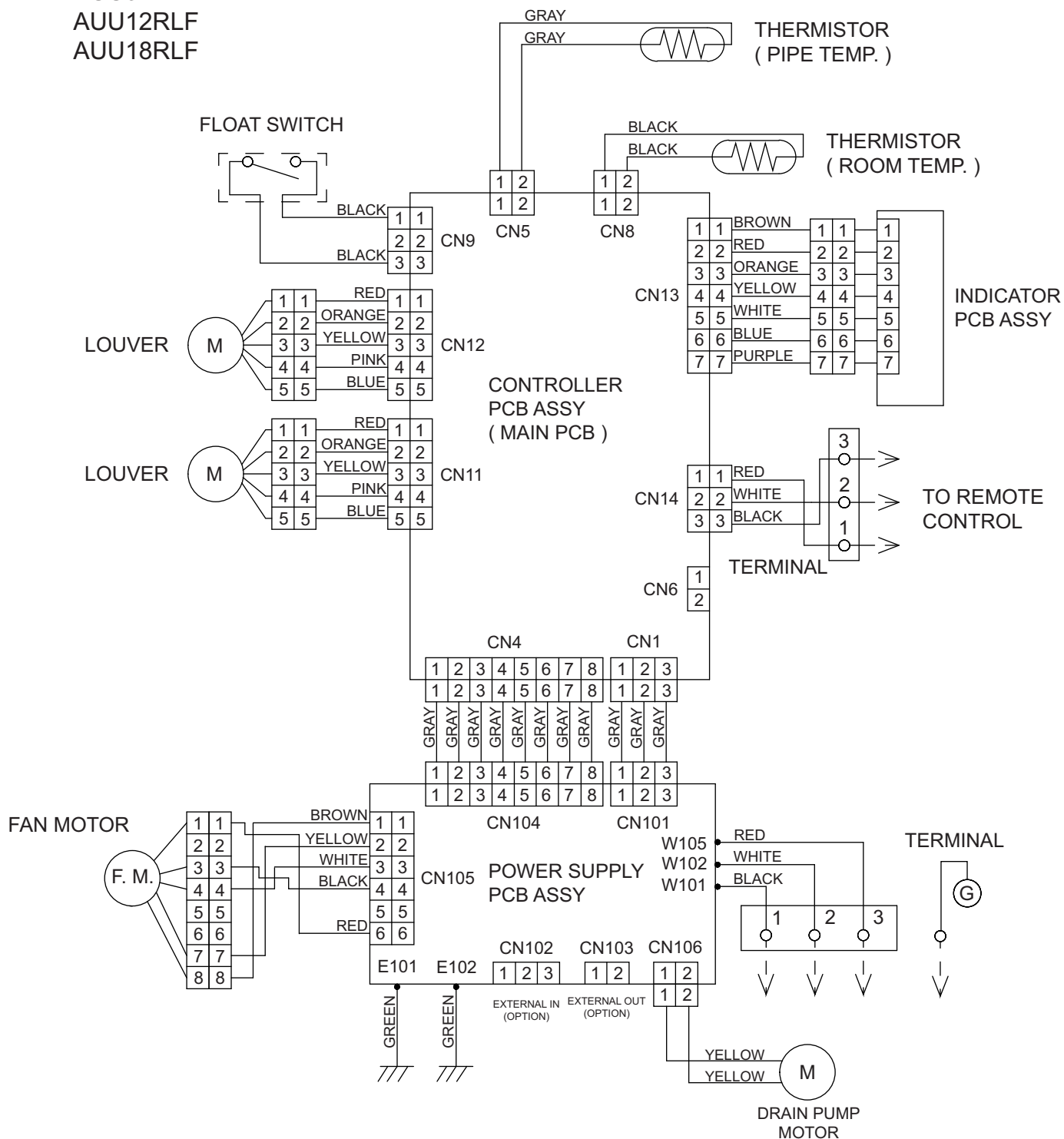
COMMUNICATION KIT  
 UTU-XCBXZ1



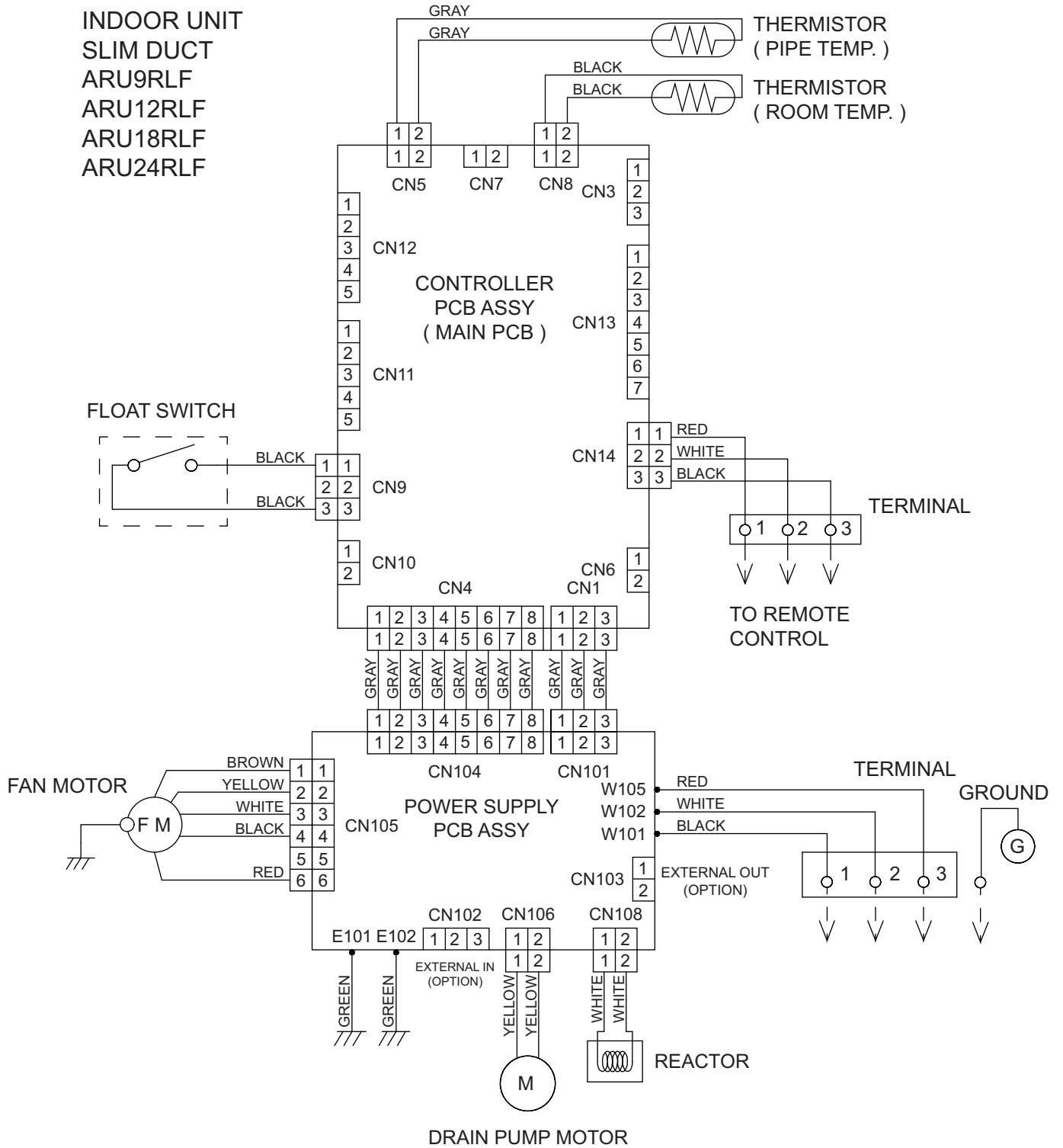
INDOOR UNIT  
WALL MOUNTED  
ASU18RLF  
ASU24RLF

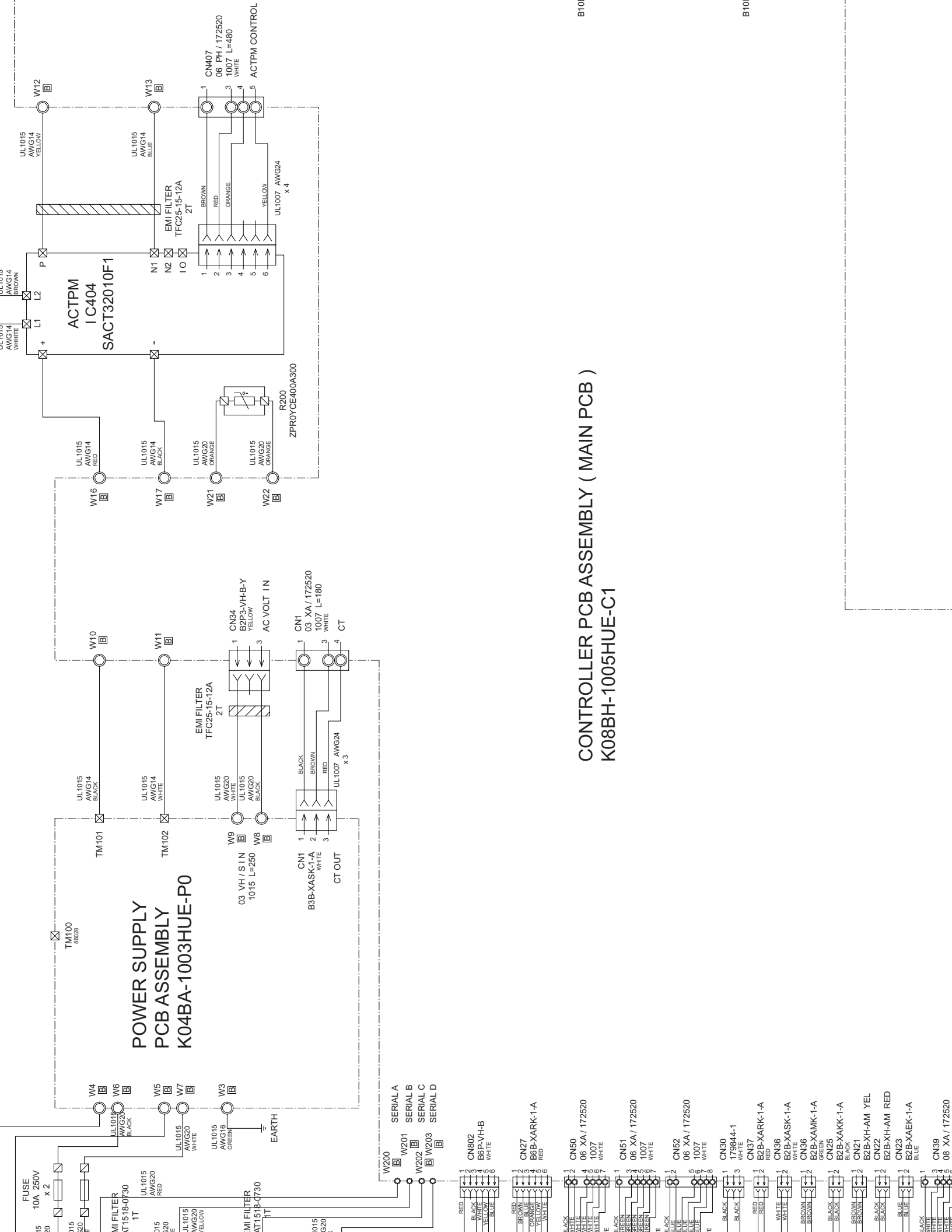


INDOOR UNIT  
 COMPACT CASSETTE  
 AUU9RLF  
 AUU12RLF  
 AUU18RLF



INDOOR UNIT  
SLIM DUCT  
ARU9RLF  
ARU12RLF  
ARU18RLF  
ARU24RLF

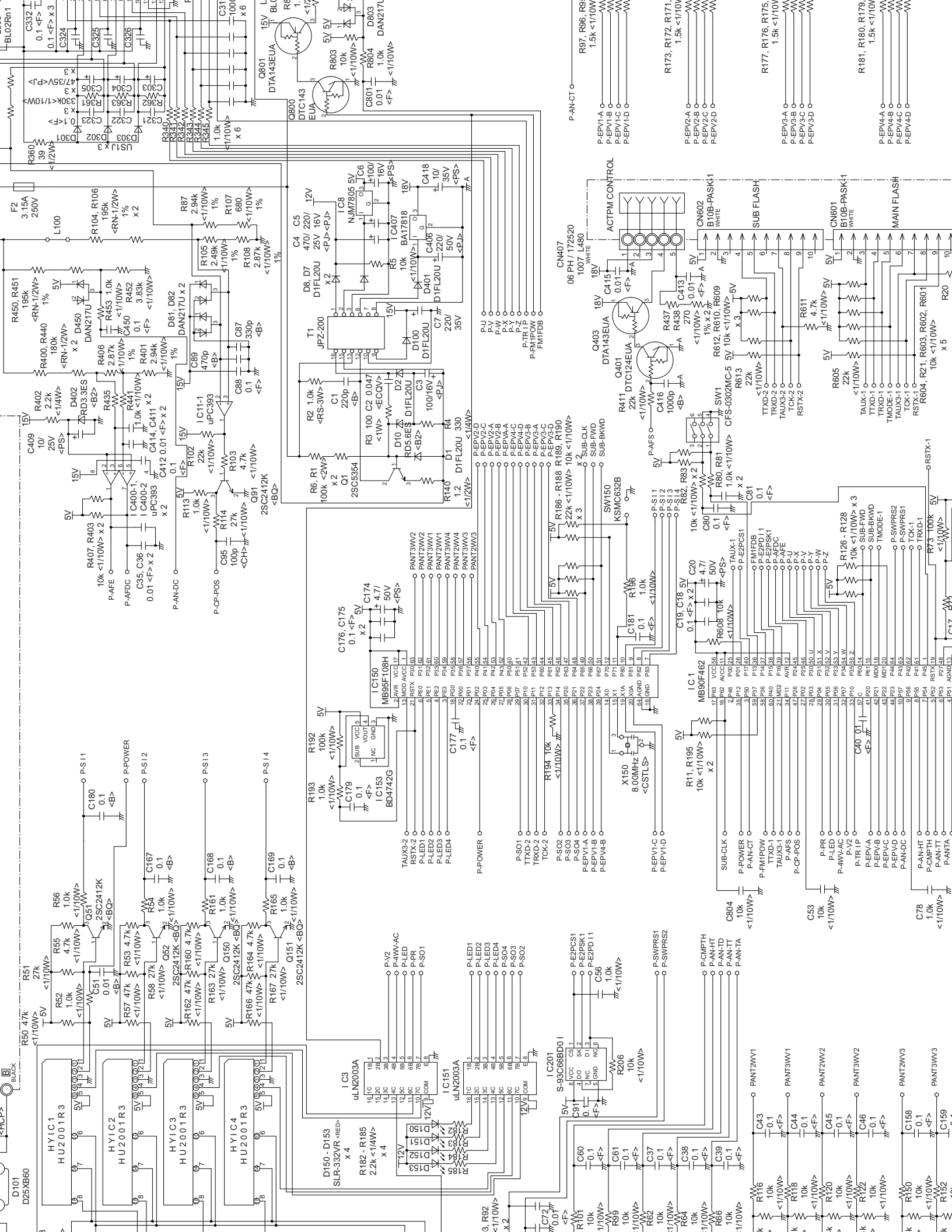




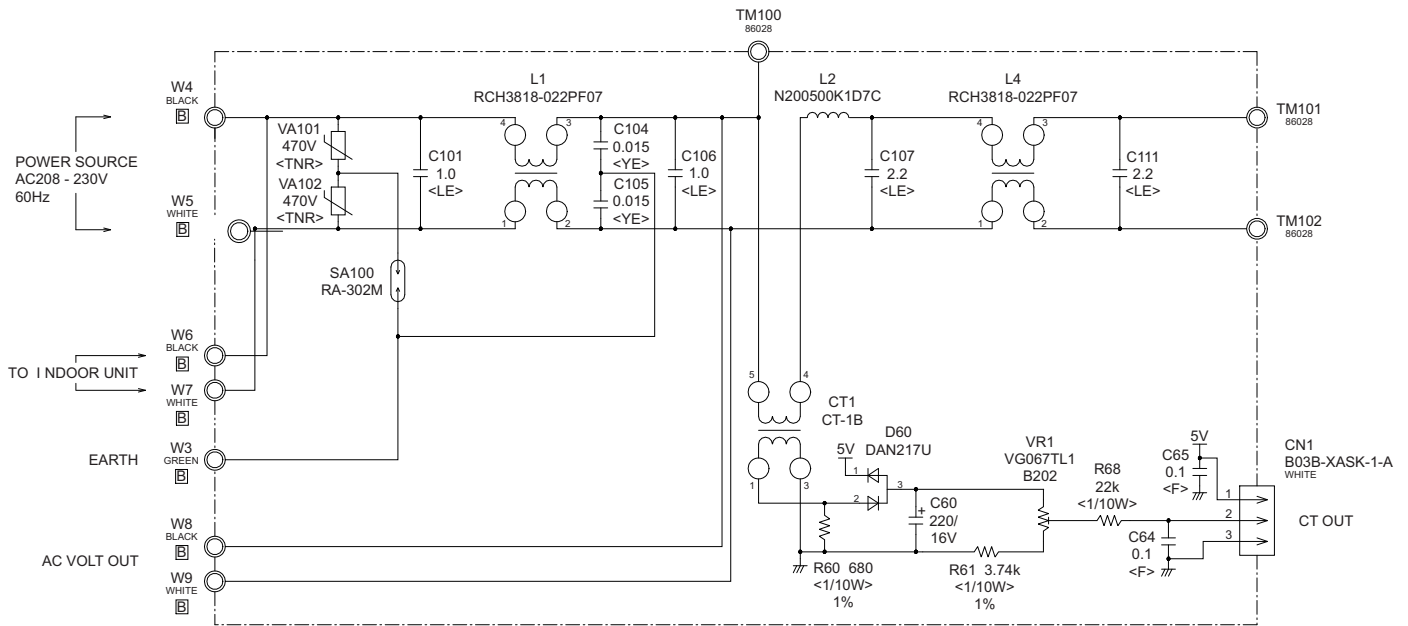
**POWER SUPPLY  
PCB ASSEMBLY  
K04BA-1003HUE-P0**

**CONTROLLER PCB ASSEMBLY ( MAIN PCB )  
K08BH-1005HUE-C1**

RED	1	CN50	06 XA / 172520
BLACK	2	06 XA / 172520	1007 L=180
WHITE	3	06 XA / 172520	1007 L=180
YELLOW	4	06 XA / 172520	1007 L=180
BLUE	5	06 XA / 172520	1007 L=180
GREEN	6	06 XA / 172520	1007 L=180
WHITE	7	06 XA / 172520	1007 L=180
BLACK	8	06 XA / 172520	1007 L=180
WHITE	9	06 XA / 172520	1007 L=180
BLACK	10	06 XA / 172520	1007 L=180
WHITE	11	06 XA / 172520	1007 L=180
BLACK	12	06 XA / 172520	1007 L=180
WHITE	13	06 XA / 172520	1007 L=180
BLACK	14	06 XA / 172520	1007 L=180
WHITE	15	06 XA / 172520	1007 L=180
BLACK	16	06 XA / 172520	1007 L=180
WHITE	17	06 XA / 172520	1007 L=180
BLACK	18	06 XA / 172520	1007 L=180
WHITE	19	06 XA / 172520	1007 L=180
BLACK	20	06 XA / 172520	1007 L=180
WHITE	21	06 XA / 172520	1007 L=180
BLACK	22	06 XA / 172520	1007 L=180
WHITE	23	06 XA / 172520	1007 L=180
BLACK	24	06 XA / 172520	1007 L=180
WHITE	25	06 XA / 172520	1007 L=180
BLACK	26	06 XA / 172520	1007 L=180
WHITE	27	06 XA / 172520	1007 L=180
BLACK	28	06 XA / 172520	1007 L=180
WHITE	29	06 XA / 172520	1007 L=180
BLACK	30	06 XA / 172520	1007 L=180
WHITE	31	06 XA / 172520	1007 L=180
BLACK	32	06 XA / 172520	1007 L=180
WHITE	33	06 XA / 172520	1007 L=180
BLACK	34	06 XA / 172520	1007 L=180
WHITE	35	06 XA / 172520	1007 L=180
BLACK	36	06 XA / 172520	1007 L=180
WHITE	37	06 XA / 172520	1007 L=180
BLACK	38	06 XA / 172520	1007 L=180
WHITE	39	06 XA / 172520	1007 L=180
BLACK	40	06 XA / 172520	1007 L=180
WHITE	41	06 XA / 172520	1007 L=180
BLACK	42	06 XA / 172520	1007 L=180
WHITE	43	06 XA / 172520	1007 L=180
BLACK	44	06 XA / 172520	1007 L=180
WHITE	45	06 XA / 172520	1007 L=180
BLACK	46	06 XA / 172520	1007 L=180
WHITE	47	06 XA / 172520	1007 L=180
BLACK	48	06 XA / 172520	1007 L=180
WHITE	49	06 XA / 172520	1007 L=180
BLACK	50	06 XA / 172520	1007 L=180
WHITE	51	06 XA / 172520	1007 L=180
BLACK	52	06 XA / 172520	1007 L=180
WHITE	53	06 XA / 172520	1007 L=180
BLACK	54	06 XA / 172520	1007 L=180
WHITE	55	06 XA / 172520	1007 L=180
BLACK	56	06 XA / 172520	1007 L=180
WHITE	57	06 XA / 172520	1007 L=180
BLACK	58	06 XA / 172520	1007 L=180
WHITE	59	06 XA / 172520	1007 L=180
BLACK	60	06 XA / 172520	1007 L=180
WHITE	61	06 XA / 172520	1007 L=180
BLACK	62	06 XA / 172520	1007 L=180
WHITE	63	06 XA / 172520	1007 L=180
BLACK	64	06 XA / 172520	1007 L=180
WHITE	65	06 XA / 172520	1007 L=180
BLACK	66	06 XA / 172520	1007 L=180
WHITE	67	06 XA / 172520	1007 L=180
BLACK	68	06 XA / 172520	1007 L=180
WHITE	69	06 XA / 172520	1007 L=180
BLACK	70	06 XA / 172520	1007 L=180
WHITE	71	06 XA / 172520	1007 L=180
BLACK	72	06 XA / 172520	1007 L=180
WHITE	73	06 XA / 172520	1007 L=180
BLACK	74	06 XA / 172520	1007 L=180
WHITE	75	06 XA / 172520	1007 L=180
BLACK	76	06 XA / 172520	1007 L=180
WHITE	77	06 XA / 172520	1007 L=180
BLACK	78	06 XA / 172520	1007 L=180
WHITE	79	06 XA / 172520	1007 L=180
BLACK	80	06 XA / 172520	1007 L=180
WHITE	81	06 XA / 172520	1007 L=180
BLACK	82	06 XA / 172520	1007 L=180
WHITE	83	06 XA / 172520	1007 L=180
BLACK	84	06 XA / 172520	1007 L=180
WHITE	85	06 XA / 172520	1007 L=180
BLACK	86	06 XA / 172520	1007 L=180
WHITE	87	06 XA / 172520	1007 L=180
BLACK	88	06 XA / 172520	1007 L=180
WHITE	89	06 XA / 172520	1007 L=180
BLACK	90	06 XA / 172520	1007 L=180
WHITE	91	06 XA / 172520	1007 L=180
BLACK	92	06 XA / 172520	1007 L=180
WHITE	93	06 XA / 172520	1007 L=180
BLACK	94	06 XA / 172520	1007 L=180
WHITE	95	06 XA / 172520	1007 L=180
BLACK	96	06 XA / 172520	1007 L=180
WHITE	97	06 XA / 172520	1007 L=180
BLACK	98	06 XA / 172520	1007 L=180
WHITE	99	06 XA / 172520	1007 L=180
BLACK	100	06 XA / 172520	1007 L=180

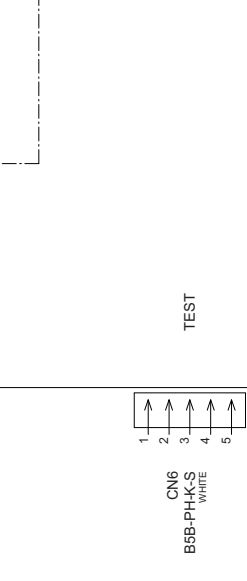
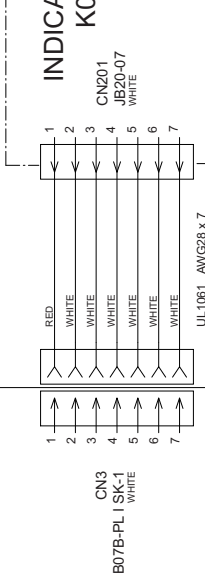
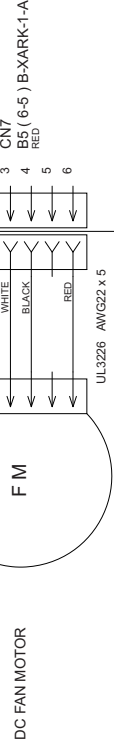
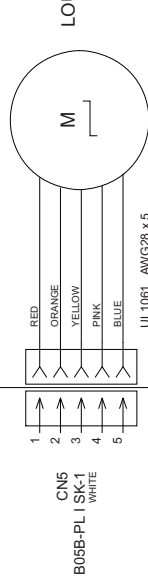
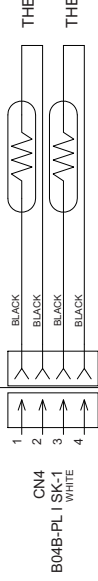
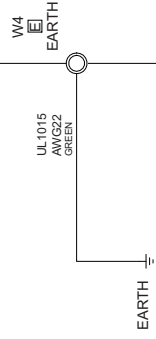
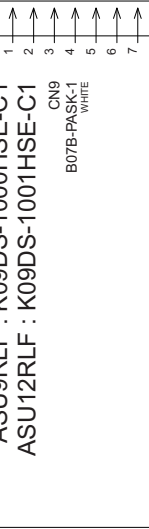
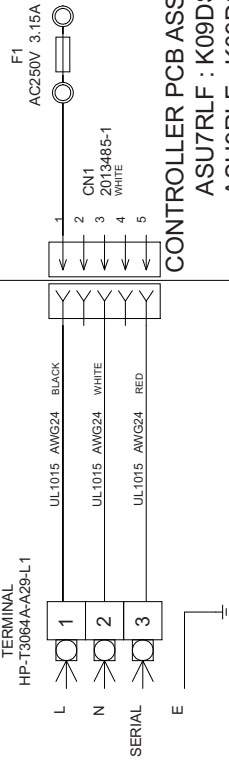


# OUTDOOR UNIT POWER SUPPLY PCB ASSEMBLY K04BA-1003HUE-P0

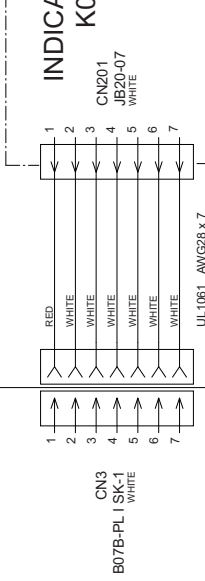
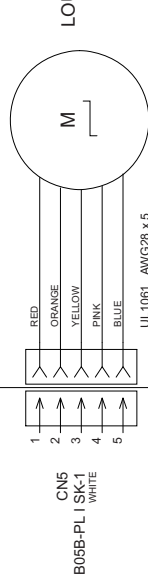
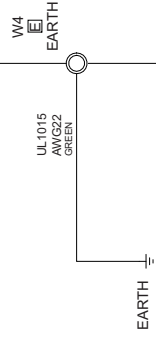
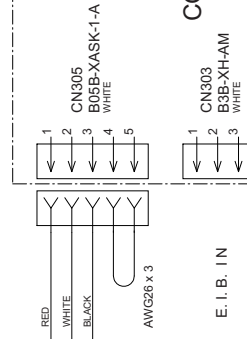


# DOOR PCB CIRCUIT DIAGRAM

FACT WALL MOUNTED  
 CONTROL UNIT  
 RLF : EZ-0090CHSE  
 RLF : EZ-0102HSE  
 RLF : EZ-0103HSE



## OPTION





15V  
15V-2  
JM1  
OR0

IC13-8  
uLN2003ADR  
VCC G/V  
7 8

IC13-1 - IC13-4  
uLN2003ADR x 4

15V  
BLm18 <BD102>  
C9 330V/35V  
D4 D1FL20U  
R6 150 <1/10W>  
R7 1.0k <1/10W>  
R10 10k <1/10W>  
R9 10k <1/10W>  
C11 0.1 <F>  
IC6 TL431 IZ 2  
R8 1.0k <1/10W>  
Q6 2SA1576A <R>  
Q5 2SC4081 <R>  
R11 27k <1/10W>

340V  
R3 56k <1/4W>  
R2 100 <1/4W>  
R53, R54 22k <1/4W> x 2  
D2 UF4007  
C5 0.01 <ECQE>  
T1 MY082N  
D3 D1FL20U  
C10 220V/25V  
C9 330V/35V  
D4 D1FL20U  
R6 150 <1/10W>  
R7 1.0k <1/10W>  
R10 10k <1/10W>  
R9 10k <1/10W>  
C11 0.1 <F>  
IC6 TL431 IZ 2  
R8 1.0k <1/10W>  
Q6 2SA1576A <R>  
Q5 2SC4081 <R>

IC8  
TNY274FN  
5 1 S 0 4  
6 3 S 1 4  
7 1 S BP M 2  
8 1 S EN LV 1

IC1-32  
IC1-31  
IC1-30

D5 S1NBC60  
L5 20\*20\*18 0.6A-10mH  
C3, C2 0.01 <KHF> x 2  
L1 18mH <SS11V>  
C1 0.1 <ECQU>  
R12, R48 470 <1/4W> x 2  
C29 1000p <E>  
R13 10k <1/10W>  
R14 1.0k <1/10W>  
R15 1.0k <1/10W>  
C21 0.01 <B>  
R21 27k <1/10W>  
C12 0.1 <F>  
IC12 S-93C66BD0 I  
IC1-73  
IC1-71  
IC1-70  
IC1-70  
R44 10k <1/10W>  
R55 10k <1/10W>  
C36 <F>  
BZ1 PS1240P02BT  
IC13-7 uLN2003ADR  
IC1-80

IC13-6 uLN2003ADR  
IC13-5 uLN2003ADR  
IC1-51  
IC1-52  
IC1-53  
IC1-54

Q1 RT1N241M  
R49, R51 10k <1/10W> x 2  
C44 1000p <R>  
R47 <1/10W>  
R39 10k <1/10W>  
R38 1.0k <1/10W>  
R33 <1/10W> 1%  
R40 <1/10W>  
R41 <1/10W>  
R42 <1/10W>  
R43 10k <1/10W>  
R45 10k <1/10W>  
R46 1.0k <1/10W>  
R36 10k <1/10W>  
C41 0.1 <F>  
IC1-1  
IC1-36  
IC1-21  
IC1-22  
IC1-23

IC1-73  
IC1-71  
IC1-70  
IC1-70  
R44 10k <1/10W>  
R55 10k <1/10W>  
C36 <F>  
BZ1 PS1240P02BT  
IC13-7 uLN2003ADR  
IC1-80

IC1-73  
IC1-71  
IC1-70  
IC1-70  
R44 10k <1/10W>  
R55 10k <1/10W>  
C36 <F>  
BZ1 PS1240P02BT  
IC13-7 uLN2003ADR  
IC1-80

IC1-1  
uP78F1154AGK  
74 P00 VCC 19  
73 P01 EVCC 20  
72 P02 AVREF 59  
71 P03 AVREF 38  
70 P04 PS 45  
69 P05 PS 44  
68 P06 PS 45  
67 P10 P54-45  
66 P11 P55-46  
65 P12 P60-21  
64 P13 P61-22  
63 P14 P62-23  
62 P15 P63-24  
61 P16 P64-26  
60 P17 P65-27  
59 P20 P66-28  
58 P21 P67-29  
57 P30 P70-37  
56 P31 P71-38  
55 P32 P72-34  
54 P33 P73-34  
53 P34 P74-33  
52 P35 P75-32  
51 P40 P76-31  
50 P41 P77-30  
49 P42 P78-31  
48 P43 P79-30  
47 P44 P80-59  
46 P45 P81-59

IC1-8  
IC1-9  
IC1-10  
IC1-8  
IC1-9  
IC1-13  
R88 <1/10W> x 3  
R89 10k <1/10W>  
R56, R58, R59 100 <1/10W> x 3  
C47 <1/10W>  
R47 <1/10W>  
R39 10k <1/10W>  
R38 1.0k <1/10W>  
R33 <1/10W> 1%

IC1-73  
IC1-71  
IC1-70  
IC1-70  
R44 10k <1/10W>  
R55 10k <1/10W>  
C36 <F>  
BZ1 PS1240P02BT  
IC13-7 uLN2003ADR  
IC1-80

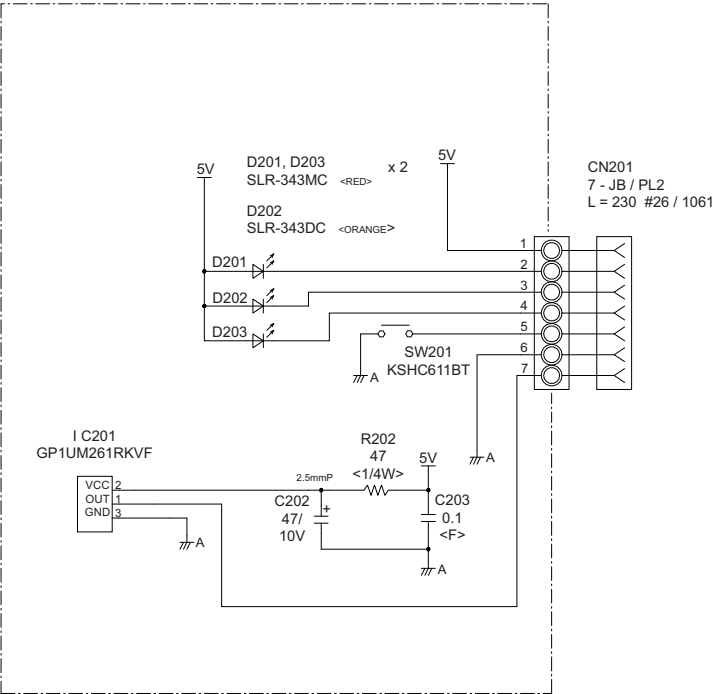
IC1-8  
IC1-9  
IC1-10  
IC1-8  
IC1-9  
IC1-13  
R88 <1/10W> x 3  
R89 10k <1/10W>  
R56, R58, R59 100 <1/10W> x 3  
C47 <1/10W>  
R47 <1/10W>  
R39 10k <1/10W>  
R38 1.0k <1/10W>  
R33 <1/10W> 1%

IC1-73  
IC1-71  
IC1-70  
IC1-70  
R44 10k <1/10W>  
R55 10k <1/10W>  
C36 <F>  
BZ1 PS1240P02BT  
IC13-7 uLN2003ADR  
IC1-80

IC1-8  
IC1-9  
IC1-10  
IC1-8  
IC1-9  
IC1-13  
R88 <1/10W> x 3  
R89 10k <1/10W>  
R56, R58, R59 100 <1/10W> x 3  
C47 <1/10W>  
R47 <1/10W>  
R39 10k <1/10W>  
R38 1.0k <1/10W>  
R33 <1/10W> 1%

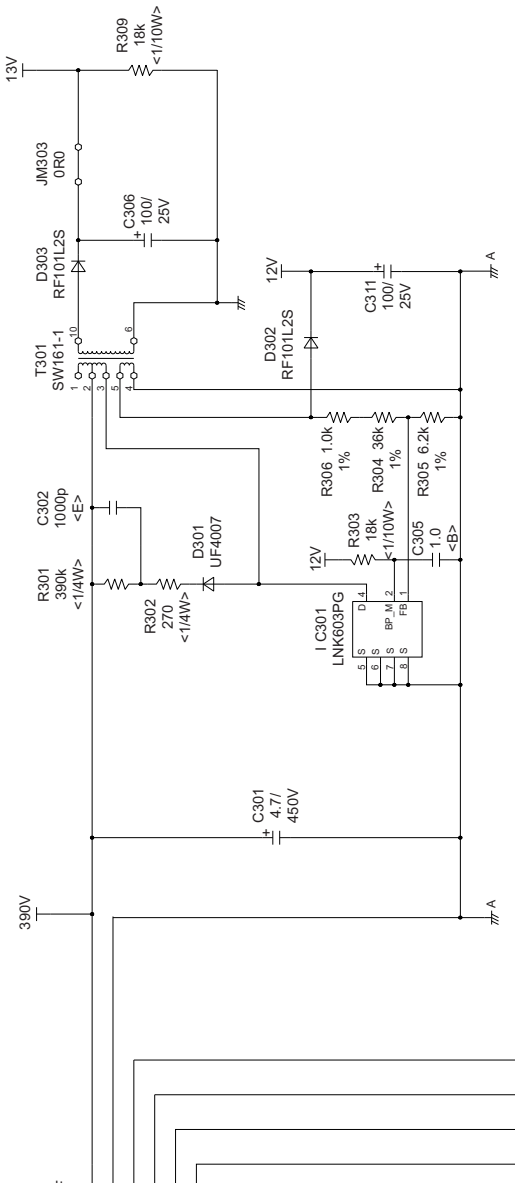


INDOOR UNIT  
 COMPACT WALL MOUNTED  
 ASU7RLF  
 ASU9RLF  
 ASU12RLF  
 INDICATOR PCB ASSEMBLY  
 K07BJ-0900HSD-D0

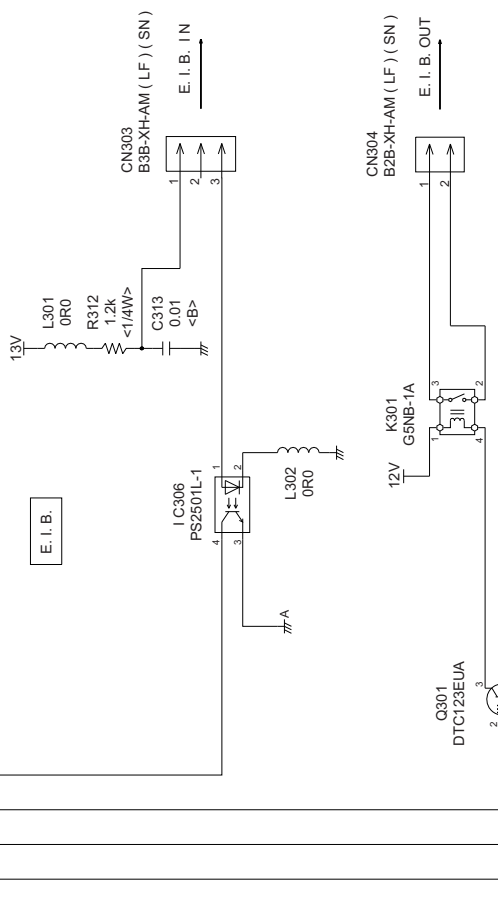


COMMUNICATION PCB ASSEMBLY  
K08DG-0801HSE-CA0

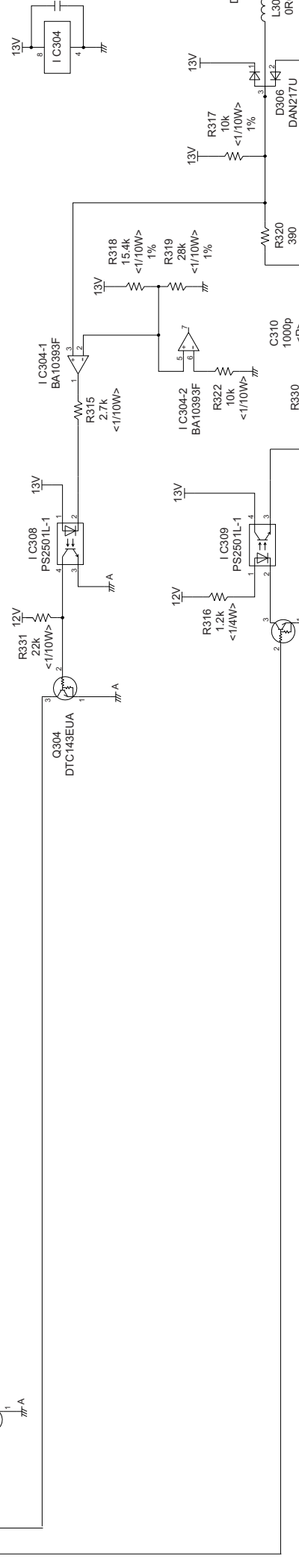
POWER



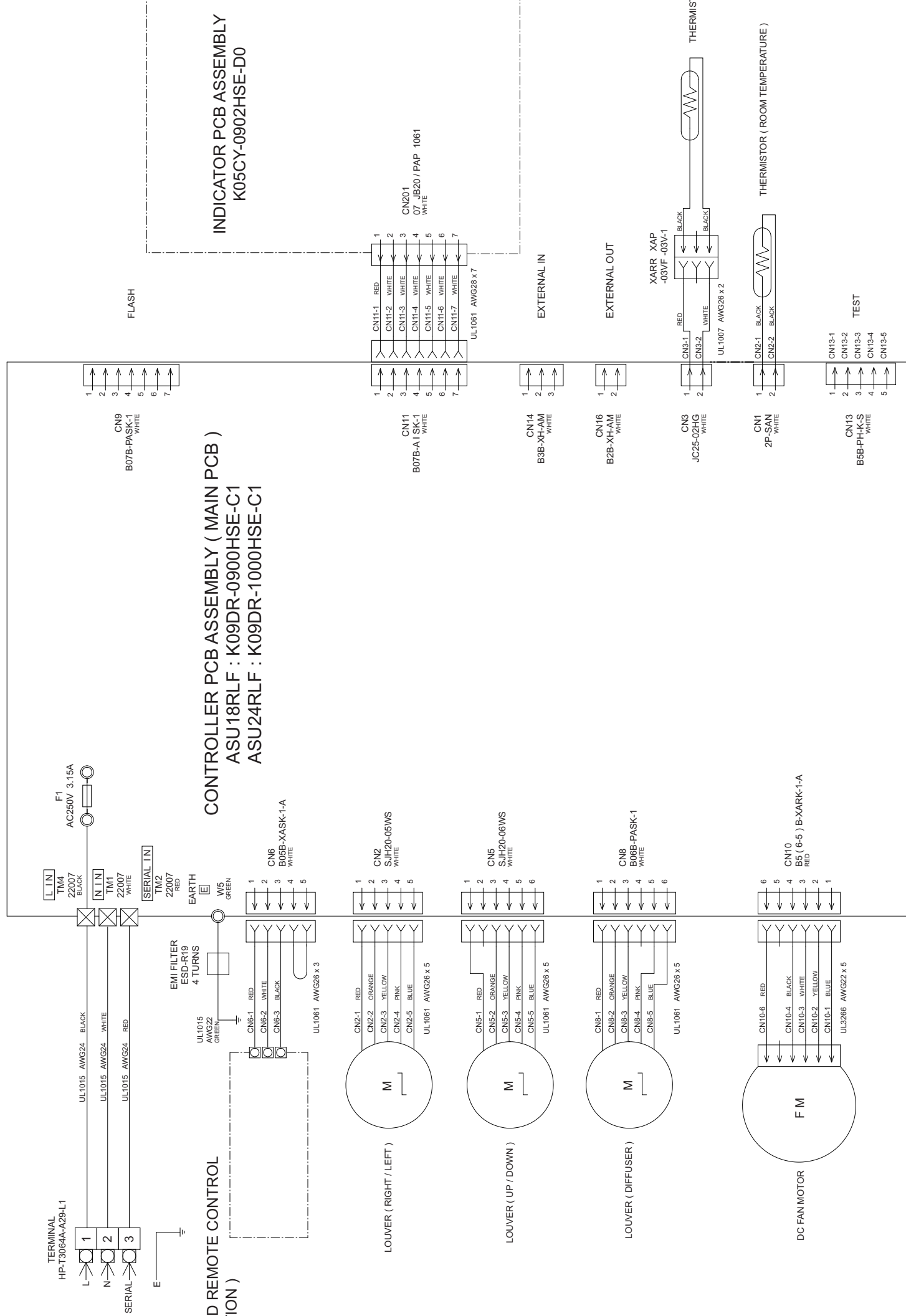
E. I. B.

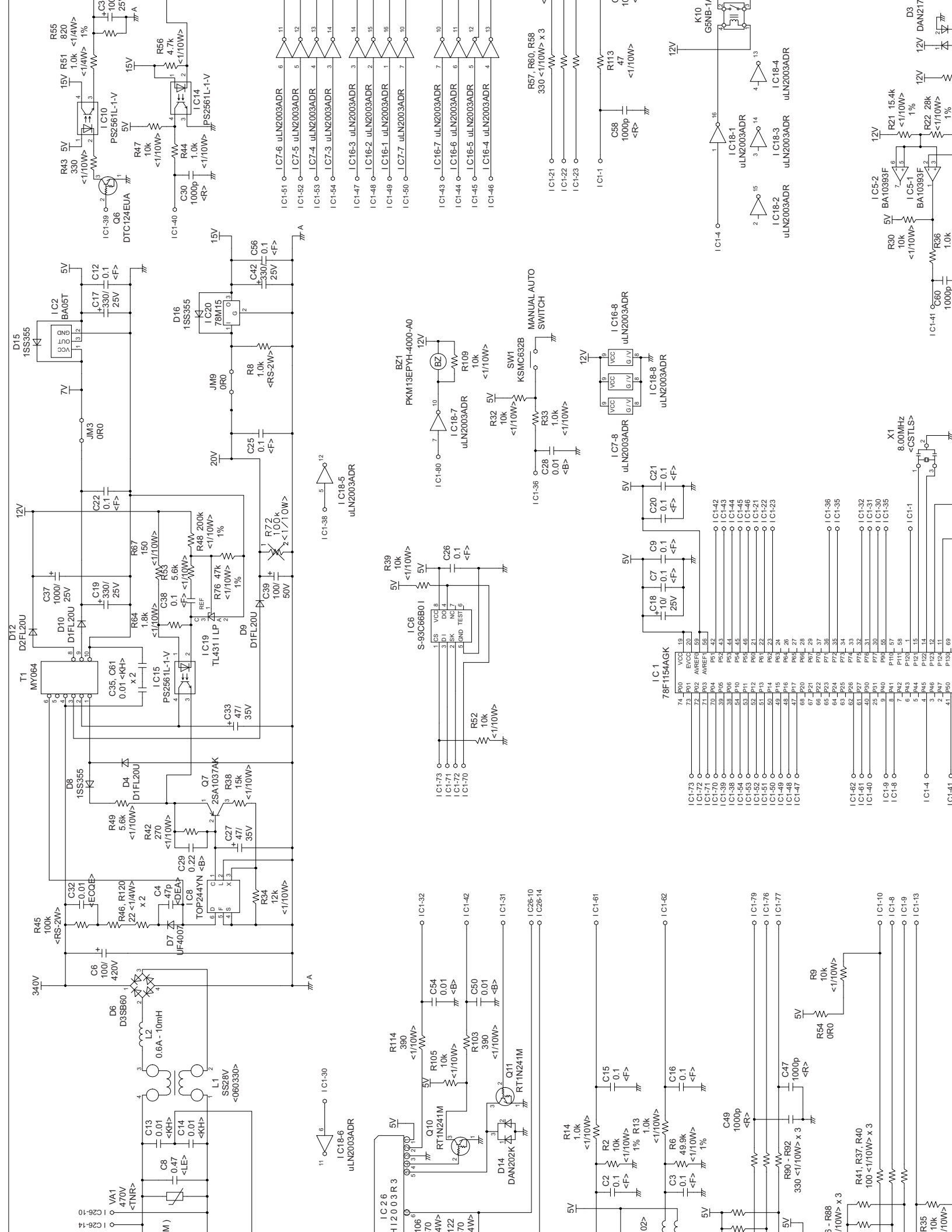


WIRED REMOTE CONTROL UNIT

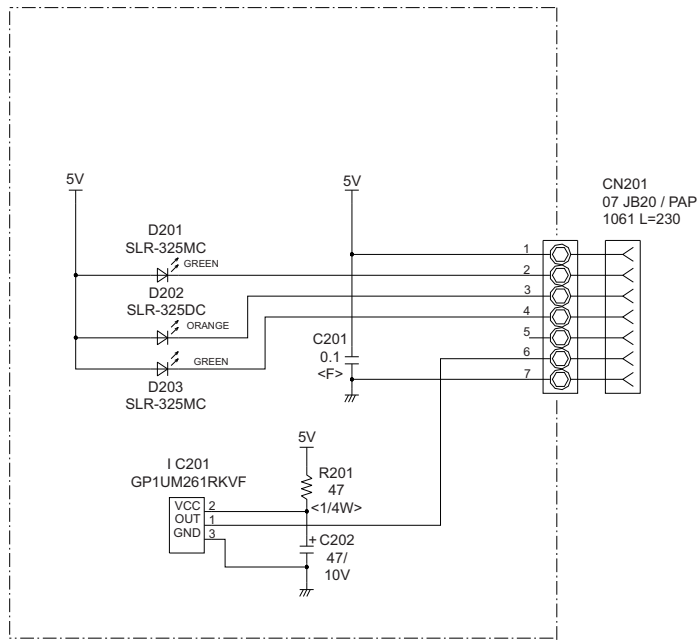


LL MOUNTED  
 CONTROL UNIT  
 J18RLF : EZ-0090DHSE  
 J24RLF : EZ-0104HSE

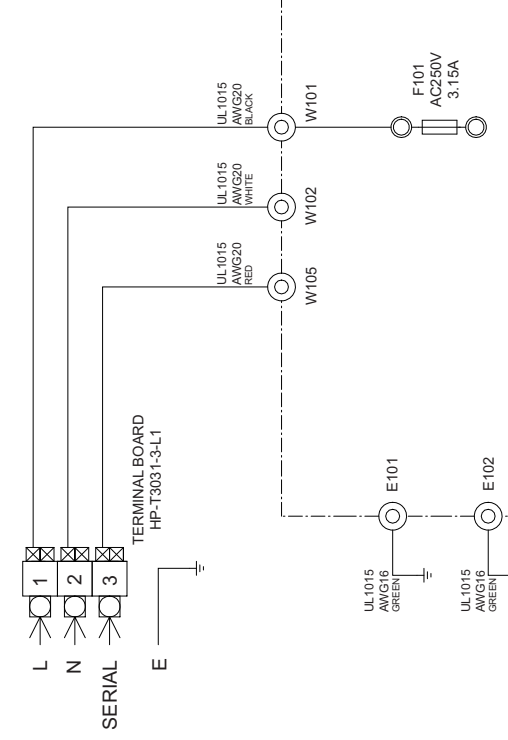




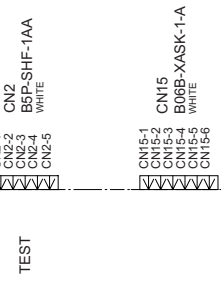
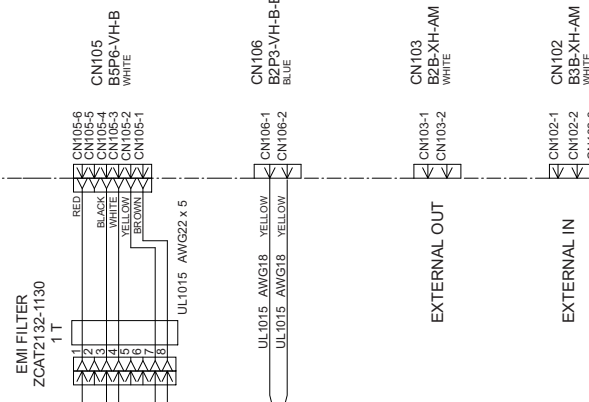
INDOOR UNIT  
WALL MOUNTED  
ASU18RLF  
ASU24RLF  
INDICATOR PCB ASSEMBLY  
K05CY-0902HSE-D0



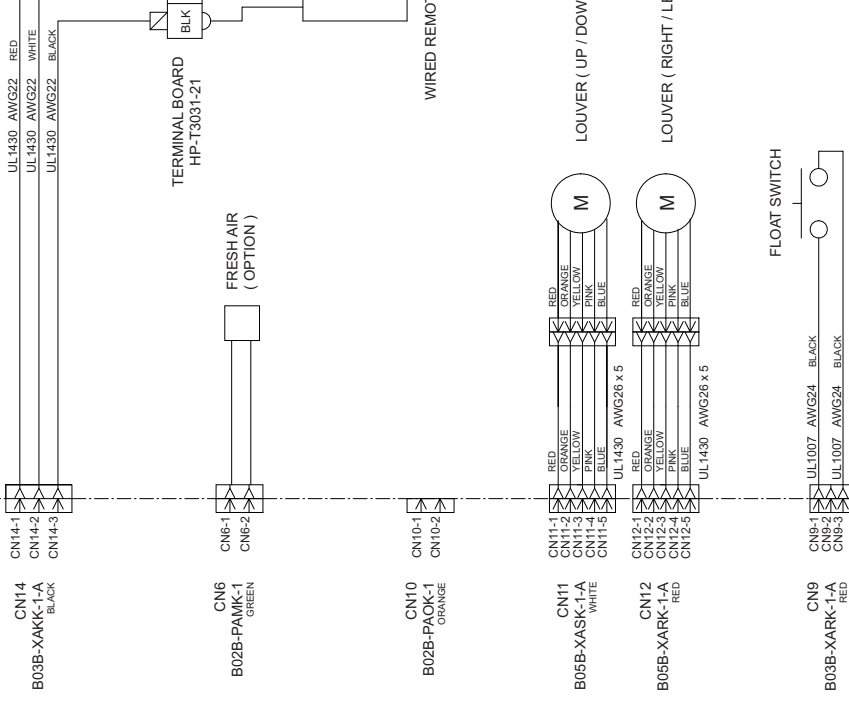
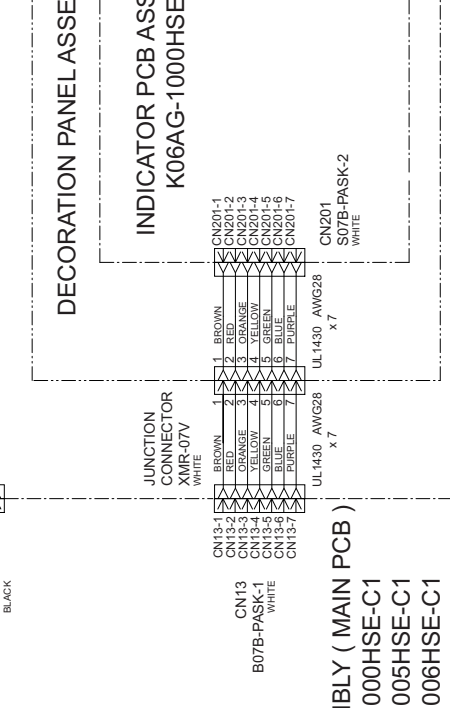
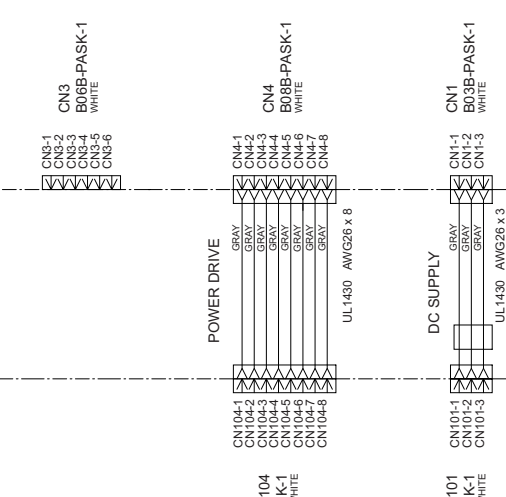
INDOOR UNIT  
 COMPACT CASSETTE  
 CONTROL UNIT  
 AUU9RLF : EZ-0100HSE  
 AUU12RLF : EZ-0105HSE  
 AUU18RLF : EZ-0106HSE



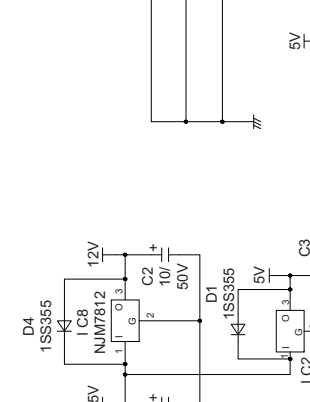
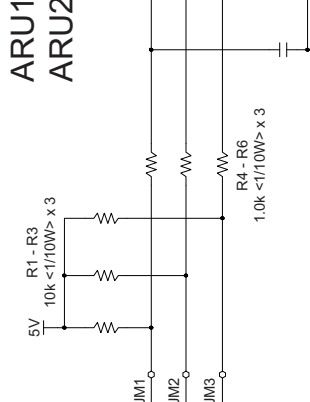
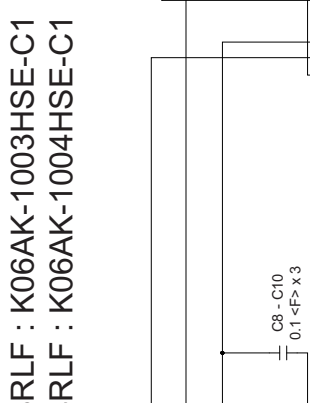
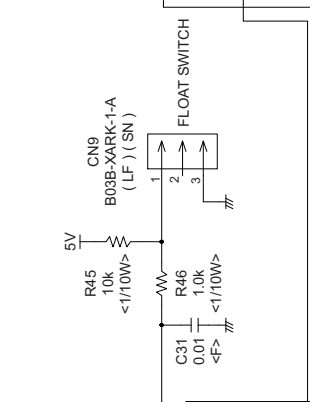
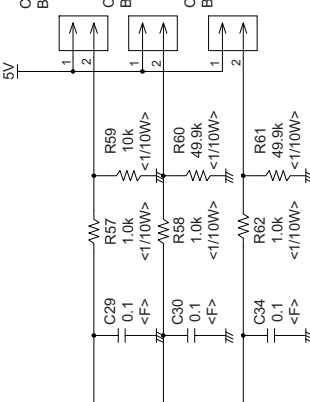
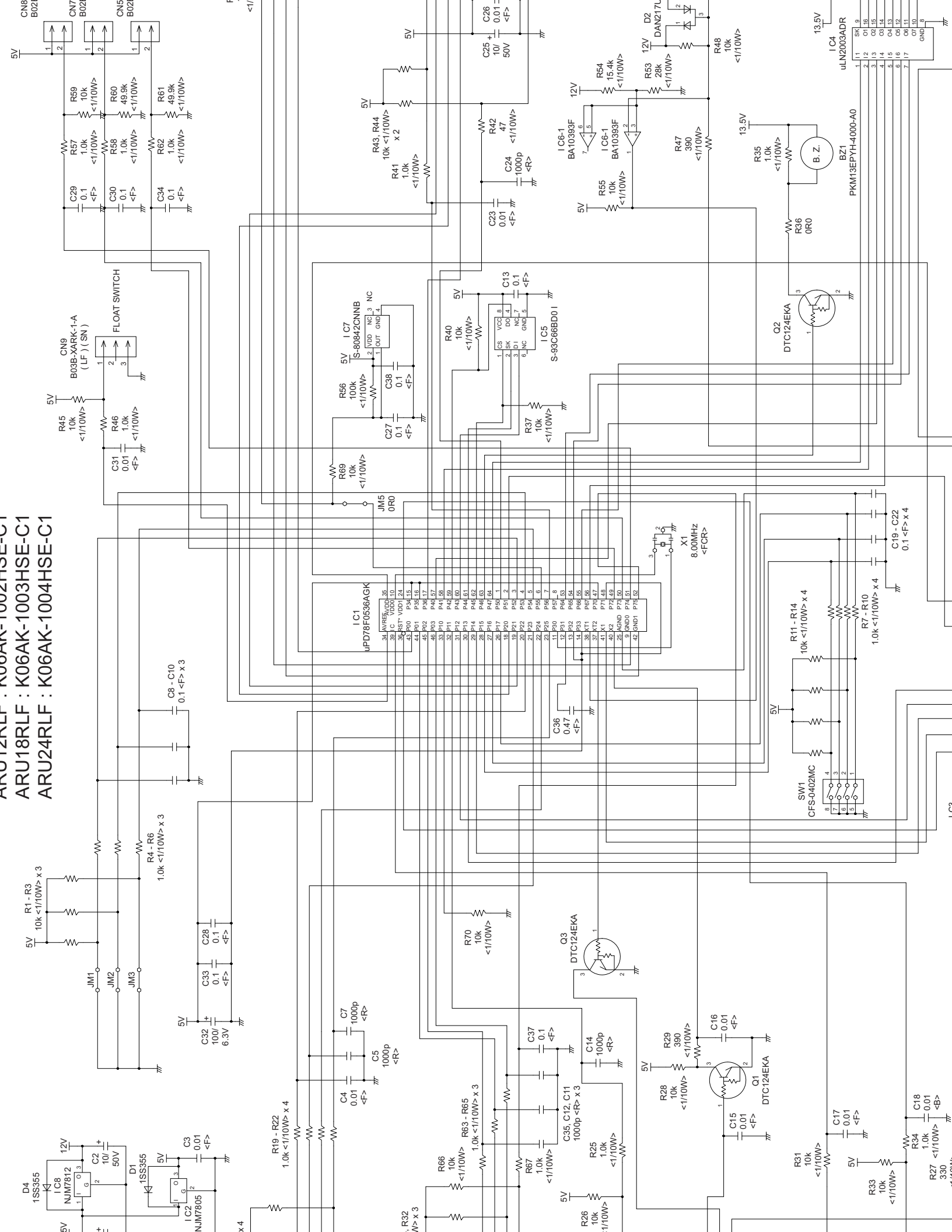
POWER SUPPLY PCB ASSEMBLY  
 K06AL-1005HSE-P0



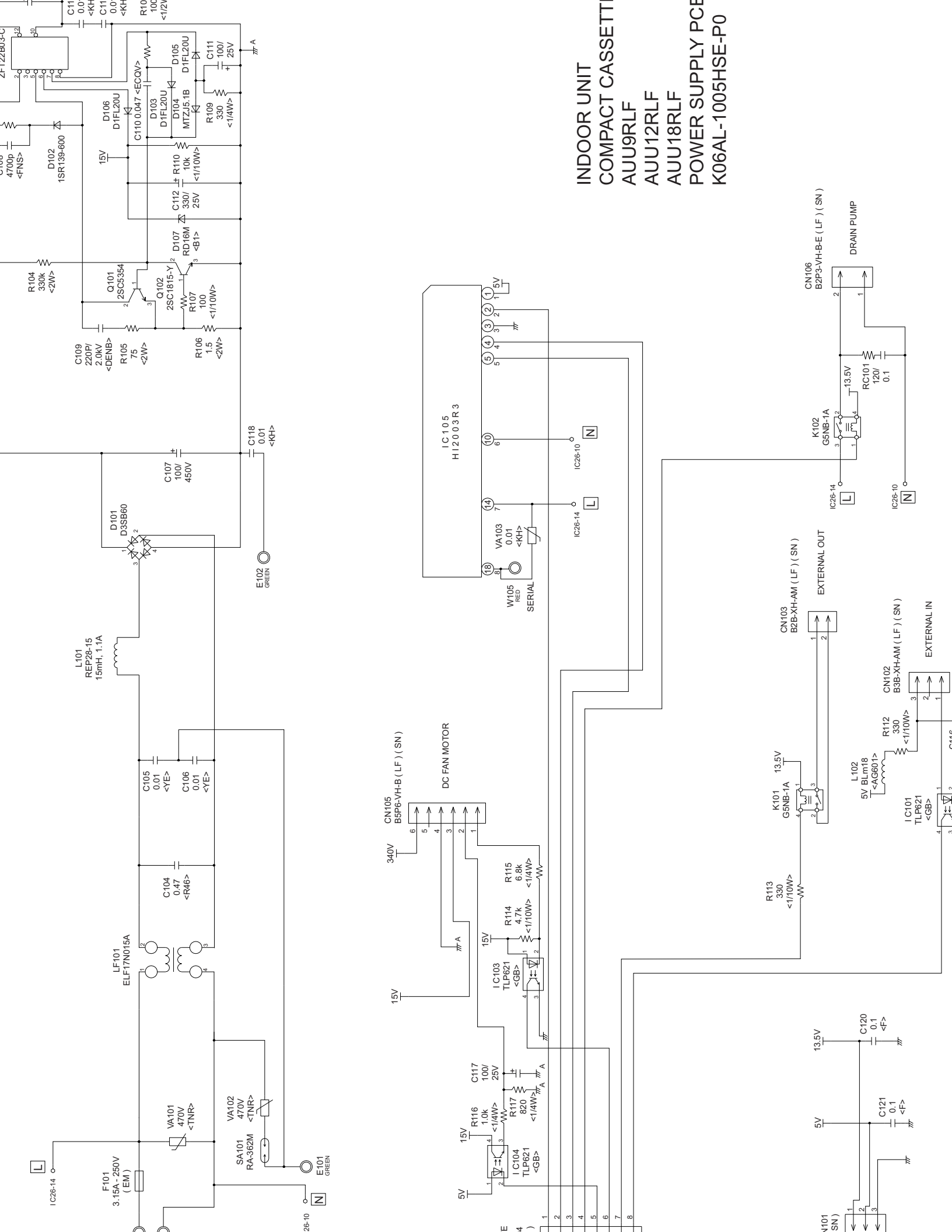
CONTROLLER PCB ASSEMBLY ( MAIN PCB )  
 AUU9RLF : K06AK-1000HSE-C1  
 AUU12RLF : K06AK-1005HSE-C1  
 AUU18RLF : K06AK-1006HSE-C1



ARU12RLF : K06AK-1002HSE-C1  
ARU18RLF : K06AK-1003HSE-C1  
ARU24RLF : K06AK-1004HSE-C1

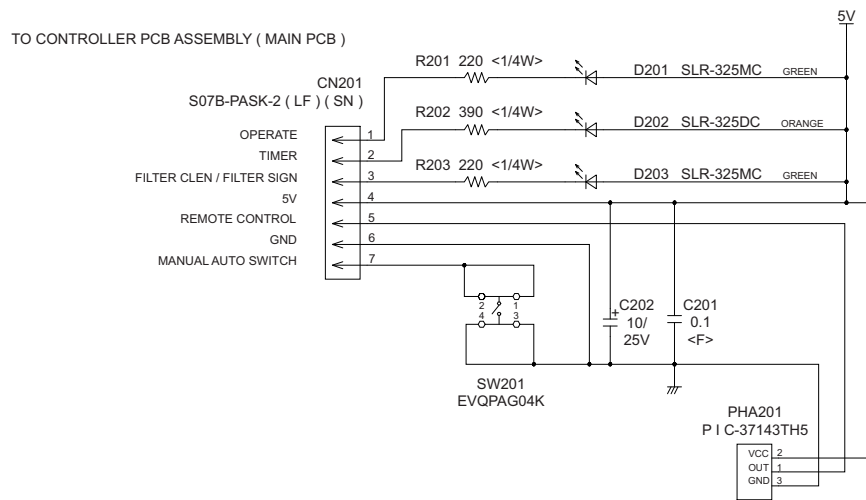






INDOOR UNIT  
 COMPACT CASSETT  
 AUU9RFL  
 AUU12RFL  
 AUU18RFL  
 POWER SUPPLY PCE  
 K06AL-1005HSE-P0

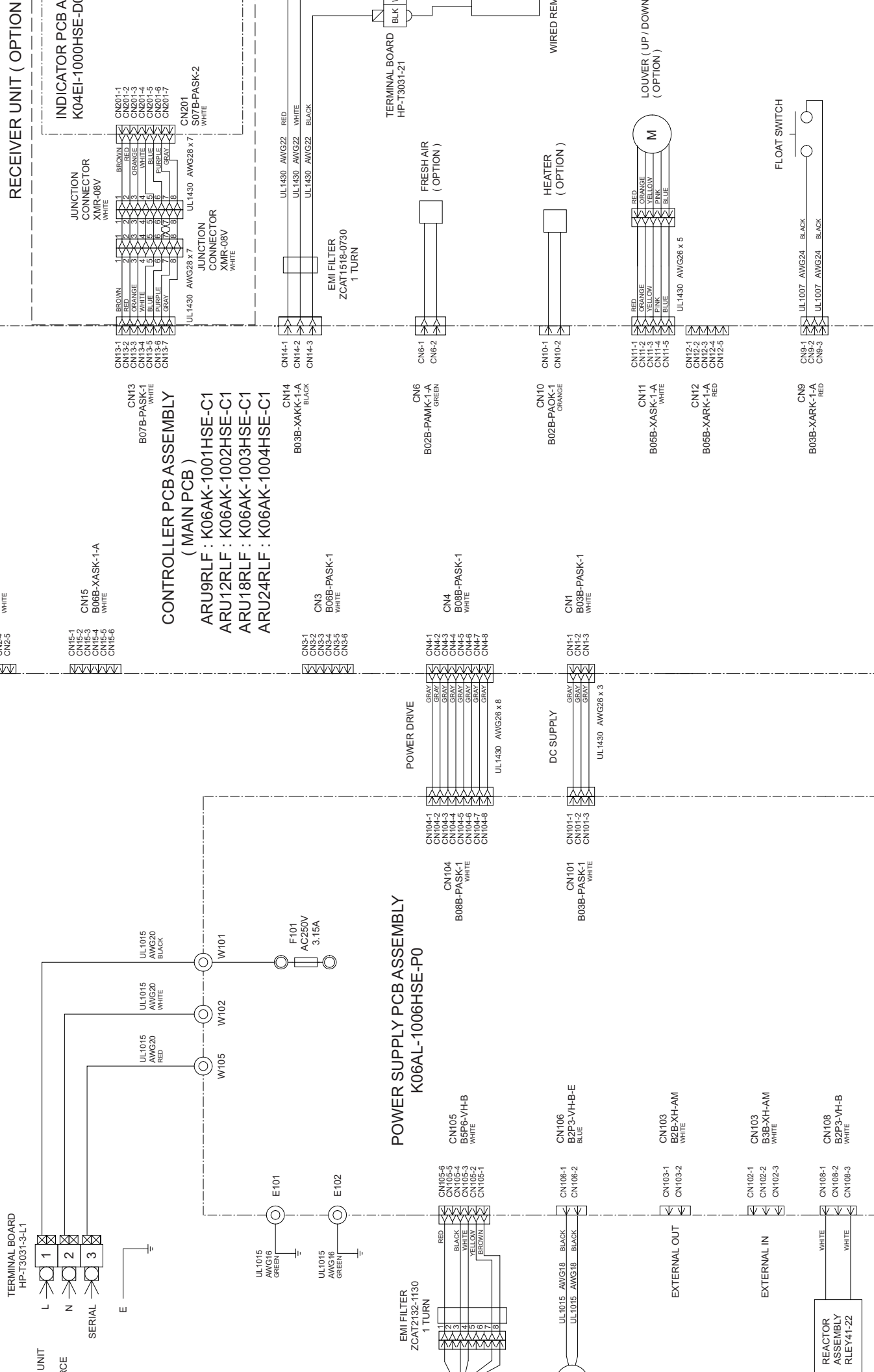
INDOOR UNIT  
 COMPACT CASSETTE  
 AUU9RLF  
 AUU12RLF  
 AUU18RLF  
 INDICATOR PCB ASSEMBLY ( OPTION )  
 K06AG-1000HSE-D0

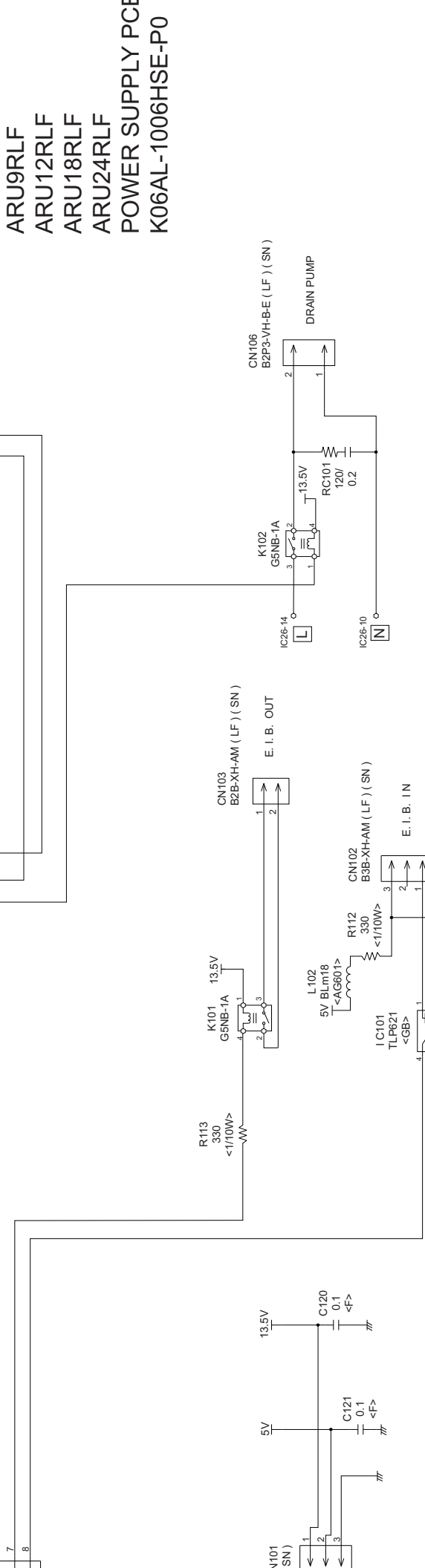
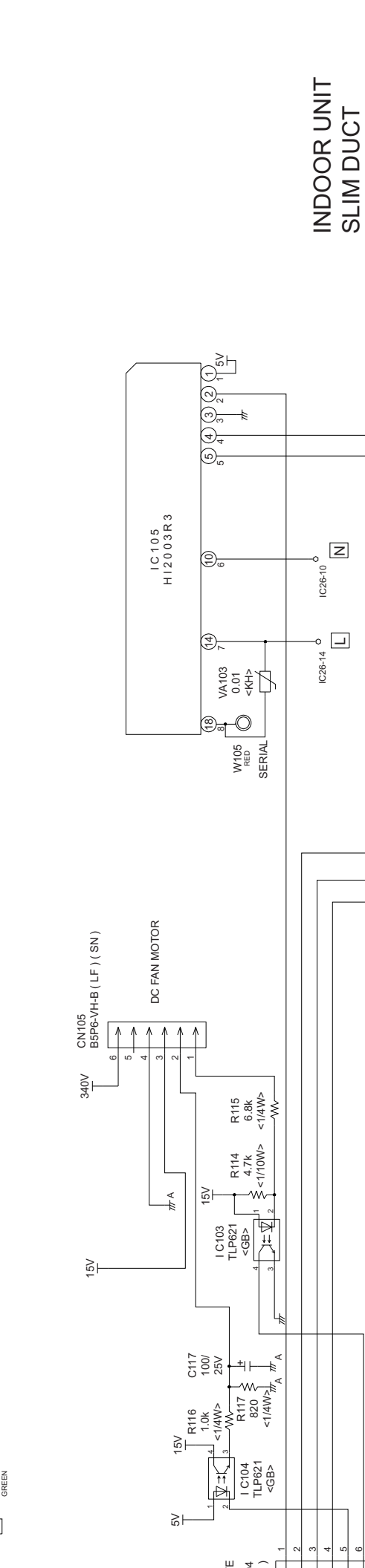
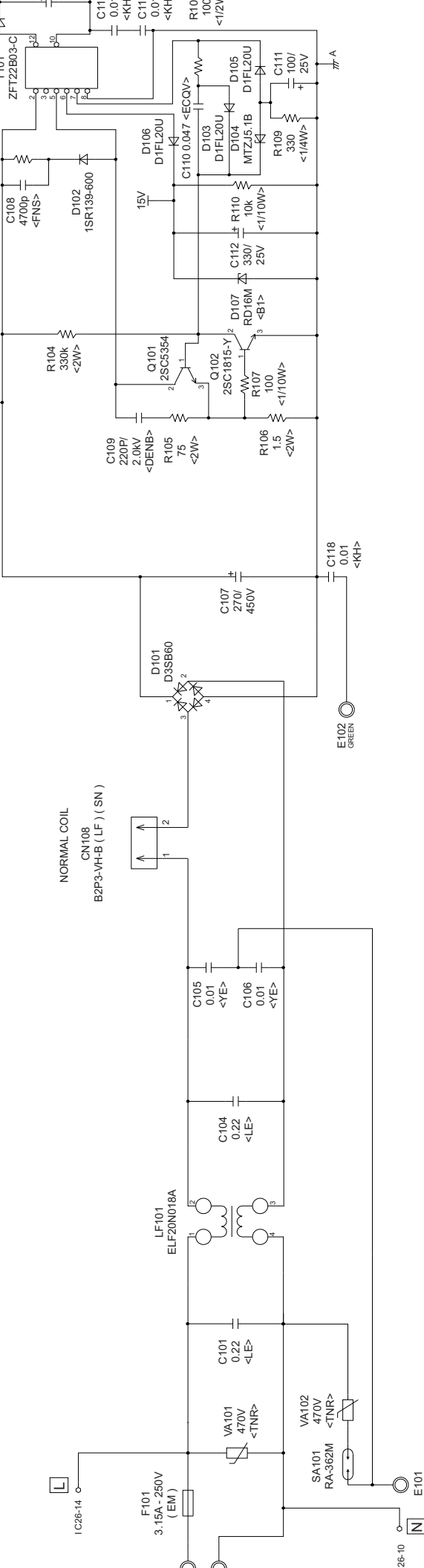


# SLIM DUCT

## CONTROL UNIT

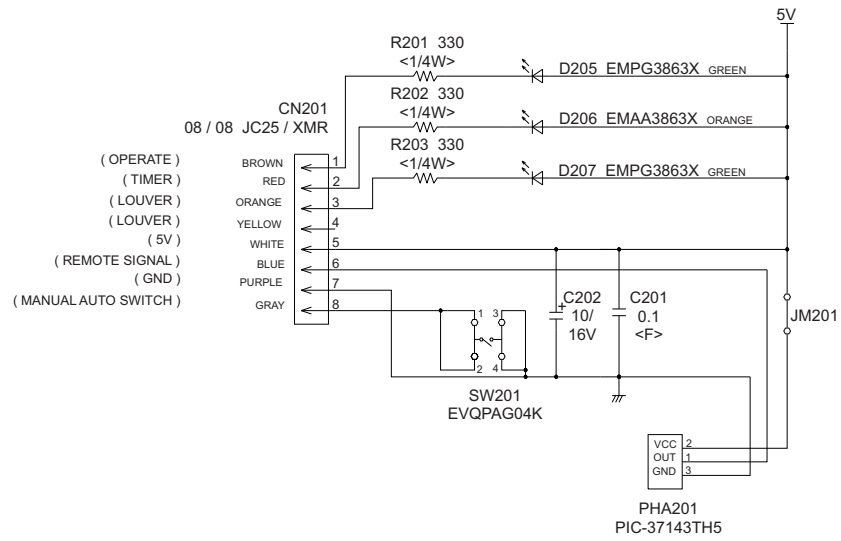
- ARU9RLF : EZ-0101HSE
- ARU12RLF : EZ-0107HSE
- ARU18RLF : EZ-0108HSE
- ARU24RLF : EZ-0109HSE





INDOOR UNIT  
 SLIM DUCT  
 ARU9RLF  
 ARU12RLF  
 ARU18RLF  
 ARU24RLF  
 POWER SUPPLY PCB  
 K06AL-1006HSE-P0

INDOOR UNIT  
 SLIM DUCT  
 ARU9RLF  
 ARU12RLF  
 ARU18RLF  
 ARU24RLF  
 INDICATOR PCB ASSEMBLY ( OPTION )  
 K04EI-1000HSE-D0



# ERROR DETECTION

● : flashing

— : Off

## OUTDOOR UNIT

	LED 1	LED 2	LED 3	LED 4
Serial communication error (outdoor unit to indoor unit A)	● 1 time	—	—	—
Serial communication error (outdoor unit to indoor unit B)	—	● 1 time	—	—
Serial communication error (outdoor unit to indoor unit C)	—	—	● 1 time	—
Serial communication error (outdoor unit to indoor unit D)	—	—	—	● 1 time
Discharge thermistor error	● 2 times	—	—	—
Outdoor unit, heat exchanger (middle) thermistor error	● 3 times	—	—	—
Outdoor thermistor error	● 4 times	—	—	—
2-way valve thermistor error (indoor unit A)	● 5 times	—	—	—
2-way valve thermistor error (indoor unit B)	—	● 5 times	—	—
2-way valve thermistor error (indoor unit C)	—	—	● 5 times	—
2-way valve thermistor error (indoor unit D)	—	—	—	● 5 times
3-way valve thermistor error (indoor unit A)	● 6 times	—	—	—
3-way valve thermistor error (indoor unit B)	—	● 6 times	—	—
3-way valve thermistor error (indoor unit C)	—	—	● 6 times	—
3-way valve thermistor error (indoor unit D)	—	—	—	● 6 times
Compressor thermistor error	● 7 times	—	—	—
Heatsink thermistor error	● 8 times	—	—	—
High pressure switch 1 error	● 9 times	—	—	—
High pressure switch 2 error	● 10 times	—	—	—
Indoor unit capacity error	● 11 times	—	—	—
Trip detection	● 12 times	—	—	—
Compressor roter position detetion error	● 13 times	—	—	—
Trip terminal L error	● 14 times	—	—	—
Outdoor unit fan motor error	● 15 times	—	—	—
Outdoor unit PCB microcomputer communication error	● 17 times	—	—	—
Discharge temperature error	● 18 times	—	—	—
Compressor temperature error	● 19 times	—	—	—
4-way valve error	● 20 times	—	—	—
Outdoor unit PCB model information error	● 21 times	—	—	—
Active filter error, PFC circuit error	● 22 times	—	—	—

( ) : Number of flashing

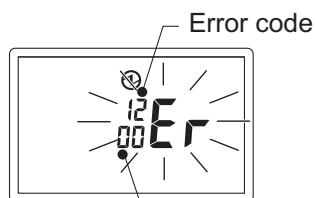
### WIRELESS REMOTE CONTROL

When using a wireless remote control, the lamp photo detector unit will output error codes in the form of blinking patterns.

When using a wired type remote control, error codes will appear on the remote control display. Refer to the lamp blinking patterns and error codes table. An error display is displayed only when the unit is running.

### WIRED REMOTE CONTROL

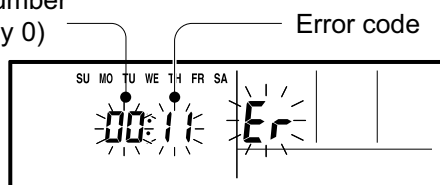
When an error occurs, the following display will be shown. The error code will appear in the set room temperature display. When the error code is displayed, immediately contact authorized service personnel.



Example: (Unit No. / Remote controller address)   
 Ex. Error code display

### WIRED REMOTE CONTROL

When an error occurs, the following display will be shown. The error code will appear in the set room temperature display. When the error code is displayed, immediately contact authorized service personnel.

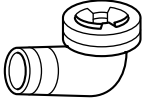
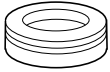
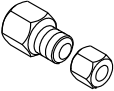
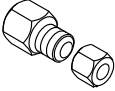


Example: (Unit number / Usually 0)   
 Ex. Error code display

●(1)	●(5)	◇	15	Check run unfinished
●(2)	●(1)	◇	21	Unit number or Refrigerant circuit address setting error [Simultaneous Multi]
●(2)	●(2)	◇	22	Indoor unit capacity error
●(2)	●(3)	◇	23	Combination error
●(2)	●(4)	◇	24	• Connection unit number error (indoor slave unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch) [Flexible Multi]
●(2)	●(7)	◇	27	Master unit, slave unit set-up error [Simultaneous Multi]
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(5)	◇	35	Manual auto switch error
●(4)	●(1)	◇	41	Inlet air temp. sensor error
●(4)	●(2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
●(5)	●(1)	◇	51	Indoor unit fan motor error
●(5)	●(3)	◇	53	Drain pump error
●(5)	●(7)	◇	57	Damper error
●(5)	●(15)	◇	5U	Indoor unit error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error
●(6)	●(3)	◇	63	Inverter error
●(6)	●(4)	◇	64	Active filter error, PFC circuit error
●(6)	●(5)	◇	65	Trip terminal L error
●(6)	●(10)	◇	6A	Display PCB microcomputers communication error
●(7)	●(1)	◇	71	Discharge temp. sensor error
●(7)	●(2)	◇	72	Compressor temp. sensor error
●(7)	●(3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
●(7)	●(4)	◇	74	Outdoor temp. sensor error
●(7)	●(5)	◇	75	Suction Gas temp. sensor error
●(7)	●(6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
●(7)	●(7)	◇	77	Heat sink temp. sensor error
●(8)	●(2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
●(8)	●(3)	◇	83	Liquid pipe temp. sensor error
●(8)	●(4)	◇	84	Current sensor error
●(8)	●(6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
●(9)	●(4)	◇	94	Trip detection
●(9)	●(5)	◇	95	Compressor rotor position detection error (permanent)
●(9)	●(7)	◇	97	Outdoor unit fan motor error
●(9)	●(9)	◇	99	4-way valve error
●(10)	●(1)	◇	A1	Discharge temp. error

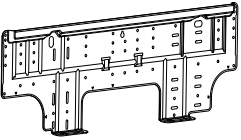
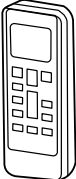



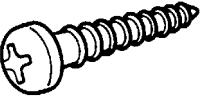

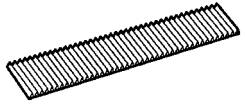
## ACCESSORIES

### OUTDOOR UNIT

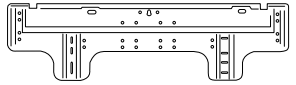
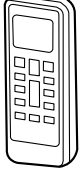

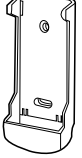


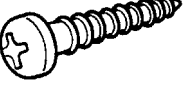
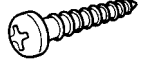
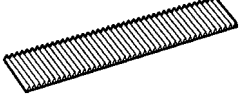
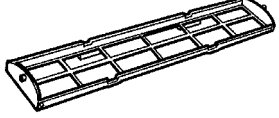
Name and Shape	Q'ty	Use	Part No.
Drain pipe 	1	For outdoor unit drain piping work	9303029015
Drain cap 	5		313166024302
Adapter D 12.7 mm → 9.52 mm (1/2 in.) (3/8 in.) 	1	For use when connecting models 9-12 to outdoor port A	9370244007
Adapter G assy 12.7 mm → 15.88 mm (1/2 in.) (5/8 in.) 	1	For use when connecting models 24 to outdoor port A	9374749034





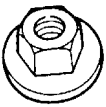

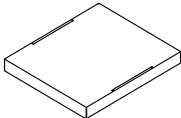
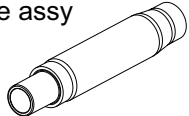


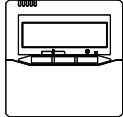
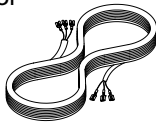

**INDOOR UNIT  
COMPACT WALL MOUNTED  
ASU7RLF, ASU9RLF, ASU12RLF**

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

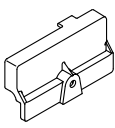



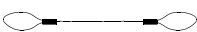


**WALL MOUNTED  
ASU18RLF, ASU24RLF**

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

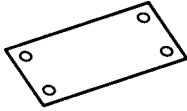

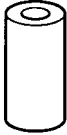


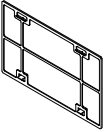
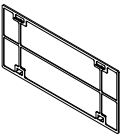
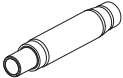





**INDOOR UNIT  
COMPACT CASSETTE  
AUU9RLF, AUU12RLF, AUU18RLF**

Name and Shape	Q'ty	Application
Coupler heat insulation (Small) 	1	For indoor side pipe joint (Liquid pipe)
Coupler heat insulation (Large) 	1	For indoor side pipe joint (Gas pipe)
Special nut A (Large flange) 	4	For installing indoor unit
Special nut B (Small flange) 	4	For installing indoor unit
Template (Carton top) 	1	For ceiling openings cutting Also used as packing
Drain hose assy 	1	For installing drain pipe 19 mm (3/4 in.) [O.D. 27 mm (1-1/16 in.)]
Hose band assy 	1	For installing drain pipe (3/4 in.)
Drain hose insulation 	1	For installing drain hose
Wired remote control 	1	
Remote control cable 	1	For connecting the remote control
Tapping screw (M4 × 16 mm) 	2	For installing the wired remote control

**DECORATION PANEL  
UTG-CCGF**

Name and Shape	Q'ty	Application
Connector cover 	1	For covering connector
Tapping Screw (M5 × 12 mm) 	4	For mounting decoration panel
Tapping Screw (M4 × 12 mm) 	1	For mounting connector cover
L angle 	2	For mounting the Hook Wire to the Decoration panel
Hook wire 	2	For suspending the Decoration panel
Screw [pitch small] (M4 × 10 mm) 	2	For mounting the Hook Wire (for metals)
Screw [pitch large] (M4 × 10 mm) 	4	For mounting the L angle and Hook wire (for resins)

INDOOR UNIT  
 SLIM DUCT  
 ARU9RLF  
 ARU12RLF  
 ARU18RLF  
 ARU24RLF

Name and Shape	Q'ty	Application
Installation template 	1	For positioning the indoor unit
Washer 	8	For installing indoor unit
Coupler heat insulation (Large) 	1	For indoor side pipe joint (Large pipe)
Coupler heat insulation (Small) 	1	For indoor side pipe joint (Small pipe)
Binder 	Medium 3	For power supply and remote control cable binding.
	Large 4	For fixing the coupler heat insulation.
Filter (Small) 	2	(ARU9RLF ARU12RLF ARU24RLF)
Filter (Big) 	2	(ARU18RLF)
	1	(ARU24RLF)
Drain hose 	1	For installing drain pipe 3/4 in. (O.D. 1-1/16 in.)
Hose band 	1	For installing drain hose
Drain hose insulation B 	1	Insulates the drain hose
Wired remote control 	1	
Remote control cable 	1	For connecting the remote control
Tapping screw (M4 × 16 mm) 	2	For installing the remote control

1101G3862