FUJITSU

WALL MOUNTED TYPE AND FLOOR / CEILING UNIVERSAL TYPE AIR CONDITIONER

TECHNICAL MANUAL

FUJITSU GENERAL LIMITED

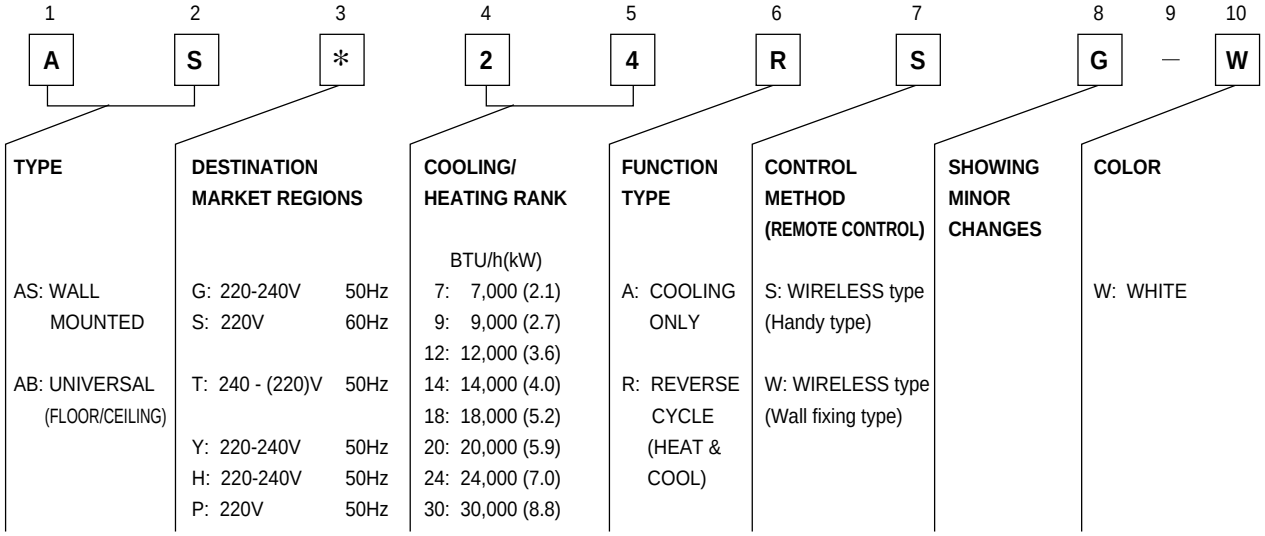
Top Exit

1. FEATURE AND OPERATION

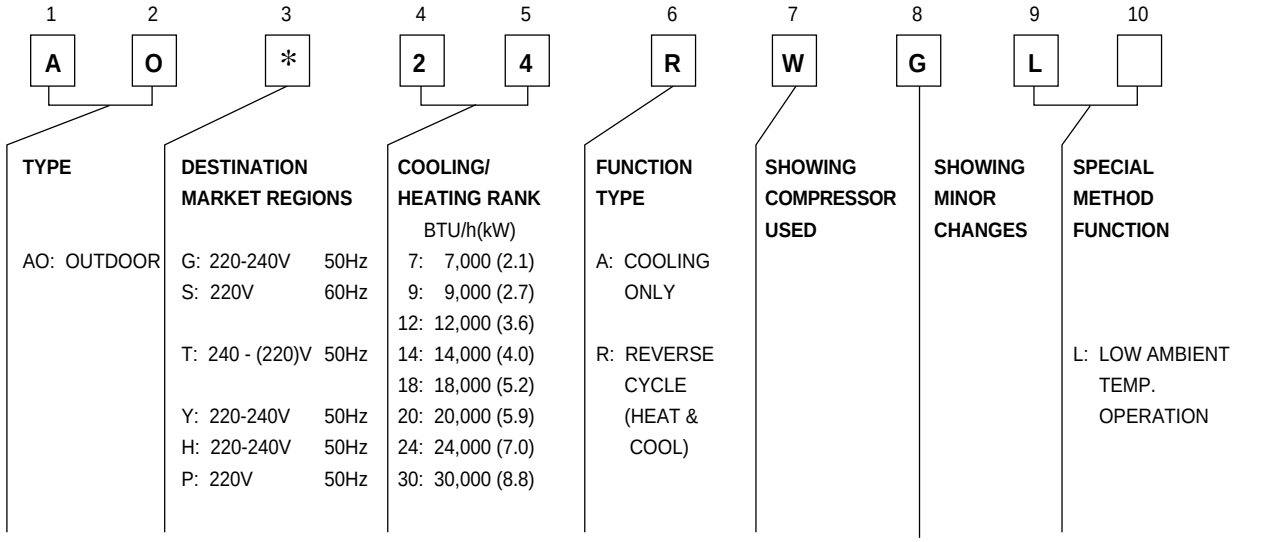
1.1 MODEL IDENTIFICATION

This list applies to new models since June 1997.

Example
INDOOR UNIT



OUTDOOR UNIT



1.2 APPLICATION MODEL

1.2.1 COMPACT SⅡ & MⅡ SERIES FOR 7,000 TO 12,000 BTU/h

Classification		INDOOR UNIT	OUTDOOR UNIT
7,000 BTU/h SⅡ– SERIES	Cooling	AS ✻7ASC-W AS ✻7ASCCW AS ✻7ASD-W	AO ✻7ASC AO ✻7ASCC AO ✻7ASD
	Reverse cycle (Cool & Heat)	AS ✻7RSC-W AS ✻7RSCCW AS ✻7RSD-W	AO ✻7RSC AO ✻7RSCC AO ✻7RSD
9,000 BTU/h MⅡ– SERIES	Cooling	AS ✻9ASE-W AS ✻9ASECW AS ✻9ASF-W (ASP9ASB-W)	AO ✻9ANE AO ✻9ANEC AO ✻9ANF (AOP9ANB)
	Reverse cycle (Cool & Heat)	AS ✻9RSE-W AS ✻9RSECW AS ✻9RSF-W (ASP9RSB-W)	AO ✻9RNE AO ✻9RNEC AO ✻9RNF (AOP9RNB)
12,000 BTU/h MⅡ– SERIES	Cooling	AS ✻12ASE-W AS ✻12ASECW AS ✻12ASF-W (ASP12ASB-W)	AO ✻12ASE AO ✻12ASEC AO ✻12ASF (AOP12ASB)
	Reverse cycle (Cool & Heat)	AS ✻12RSE-W AS ✻12RSECW AS ✻12RSF-W (ASP12RSB-W)	AO ✻12RSE AO ✻12RSEC AO ✻12RSF (AOP12RSB)

1.2.2 WALL MOUNTED LARGE AS-SERIES FOR 20,000 TO 30,000 BTU/h

Classification		INDOOR UNIT		OUTDOOR UNIT
		Wireless (Handy)	Wireless (Wall fixing)	
20,000 BTU/h	Cooling	AS ✻20AS (ACS-7502)	AS ✻20AW	AO ✻20AW (ACO-7502)
	Reverse cycle (Cool & Heat)	AS ✻20RS	AS ✻20RW	AO ✻20RW
24,000 BTU/h	Cooling	AS ✻24AS (ACS-7602)	AS ✻24AW	AO ✻24AW (ACO-7602)
	Revers cycle (Cool & Heat)	AS ✻24RS	AS ✻24RW	AO ✻24RW
30,000 BTU/h	Cooling	AS ✻30AS	AS ✻30AW	AO ✻30AB
	Reverse cycle (Cool & Heat)	AS ✻30RS	AS ✻30RW	AO ✻30RB

1.2.3 FLOOR/CEILING UNIVERSAL TYPE AB-SERIES FOR 14,000 TO 24,000 BTU/h

Classification		INDOOR UNIT		OUTDOOR UNIT
		Wireless (Handy)	Wireless (Wall fixing)	
14,000 BTU/h	Cooling	AB ✻14AS	AB ✻14AW	AO ✻14AN
	Reverse cycle (Cool & Heat)	AB ✻14RS	AB ✻14RW	AO ✻14RN
18,000 BTU/h	Cooling	AB ✻18AS	AB ✻18AW	AO ✻18AW
	Revers cycle (Cool & Heat)	AB ✻18RS	AB ✻18RW	AO ✻18RW
24,000 BTU/h	Cooling	AB ✻24AS	AB ✻24AW	AO ✻24AW
	Reverse cycle (Cool & Heat)	AB ✻24RS	AB ✻24RW	AO ✻25RW

1.3 FEATURES OF EACH MODEL

No.	ITEM	COMPACT SII-type		COMPACT MII-type		Wall mounted AS∗20—30,000 BTU/h -type				FLOOR/CEILING AB∗14—24,000 BTU/h -type			
		Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle
1	Wireless remote control unit • Handy type	○	○	○	○	○	○	—	—	○	○	—	—
	Wireless remote control unit • Wall fixing type	—	—	—	—	—	—	○	○	—	—	○	○
2	Automatic operation	○	○	○	○	○	—	○	—	○	—	○	—
	Auto changeover operation	—	—	—	—∗3	—	○	—	○	—	○	—	○
3	Heating operation (reverse cycle)	—	○	—	○	—	○	—	○	—	○	—	○
4	Cooling operation	○	○	○	○	○	○	○	○	○	○	○	○
5	Dry operation	○	○	○	○	○	○	○	○	○	○	○	○
6	Fan operation	○	○	○	○	○	○	○	○	○	○	○	○
7	Auto fan speed	○	○	○	○	○	○	○	○	○	○	○	○
8	Nice morning timer (ON timer)	○	○	○	○	○	○	○	○	○	○	○	○
9	OFF timer	○	○	○	○	○	○	○	○	○	○	○	○
10	Sleep timer	○	○	○	○	○	○	○	○	○	○	○	○
11	Program timer	○	○	○	○	○	○	○	○	○	○	○	○
12	Energy save operation	—	—	—	—	—	—	○	○	—	—	○	○
13	Vertical air direction adjustment	○	○	○	○	○	○	○	○	○	○	○	○
14	Horizontal air direction adjustment	—	—	—	—	○	○	○	○	○	○	○	○
15	Vertical airflow swing operation	○	○	○	○	○	○	○	○	○	○	○	○
16	Horizontal airflow swing operation	—	—	—	—	○	○	○	○	○	○	○	○
17	Super vane	—	—	—	—	○	○	○	○	○	○	○	○
18	Linked power diffuser	—	—	—	—	○	○	○	○	—	—	—	—
19	Automatic shut flaps	○	○	○	○	○	○	○	○	○	○	○	○
20	Cooling operation even at low outdoor temperature (0˚C)	—	—	—	—	—∗1	○∗2	—∗1	○∗2	—	○∗2	—	○∗2
21	Mold prevention filter	○	○	○	○	○	○	○	○	○	○	○	○
22	Air purifying filter (optional)	(○)	(○)	(○)	(○)	(○)	(○)	(○)	(○)	—	—	—	—
23	Auto-restart	○	○	○	○	○	○	○	○	○	○	○	○
24	Quiet	○	○	○	○	—	—	—	—	—	—	—	—
25	Others												

NOTE:
∗ 1 Models ASG30AS and ASY30AS have a No. 20 function.
∗ 2 Models AB ∗14RS and ASS/ABS models have no No. 20 function.
∗ 3 Models AST9RSG and AST12RSG have a No. 2 function.

1.3.1 WIRELESS REMOTE CONTROL UNIT (Handy type)

[1] **SLEEP button**

[2] **MASTER CONTROL button**

[3] **SET TEMP./SET TIME buttons (+ / –)**

[4] **Signal Transmitter**

[5] **TIMER button**

[6] **FAN CONTROL button**

[7] **START/STOP button**

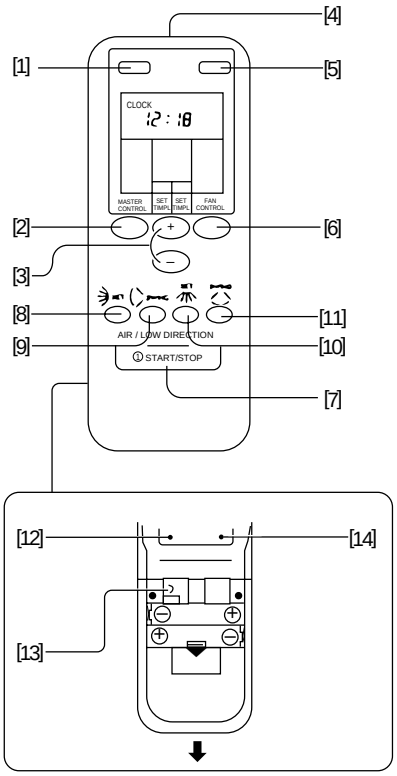
[8] **AIR FLOW DIRECTION**
VERTICAL SET Button

[9] **AIR FLOW DIRECTION**
VERTICAL SWING Button

[10] **AIR FLOW DIRECTION**
HORIZONTAL SET Button

[11] **AIR FLOW DIRECTION**
HORIZONTAL SWING Button

● Wireless type



Rear Side

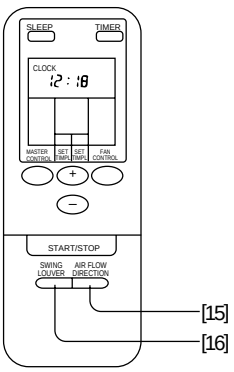
[12] **TIME ADJUST button**

[13] **ACL button**
(located inside battery compartment)

[14] **TEST RUN button**

- This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly.
- If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
- To stop the test operation mode, either press the TEST RUN button once again, or press the START/STOP button to stop the air conditioner.

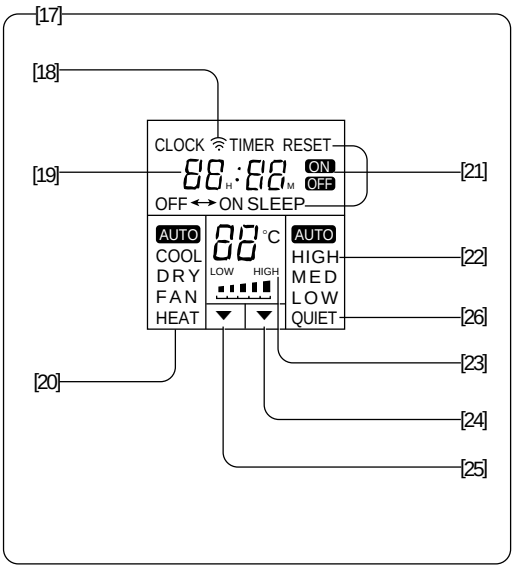
● Compact type SII,MII only



[15] **AIR FLOW DIRECTION**
VERTICAL SET Button

[16] **AIR FLOW DIRECTION**
VERTICAL SWING Button

Remote Control Unit Display



[17] **Remote Control Unit Display**

[18] **Transmit Indicator**

[19] **Clock Display**

[20] **Operating Mode Display**

[21] **Timer Mode Display**

[22] **Fan Speed Display**

[23] **Temperature Set Display**

[24] **Timer Set Indicator**

[25] **Temperature Set Indicator**

[26] **Compact type SII, MII only**

1.3.2 WIRELESS REMOTE CONTROL UNIT (Wall fixing type)

[1] **SLEEP button**

[2] **MASTER CONTROL button**

[3] **SET TIME buttons (▲ / ▼)**

[4] **SET TEMP. buttons (▲ / ▼)**

[5] **Signal Transmitter**

[6] **TIMER button**

[7] **FAN CONTROL button**

[8] **START/STOP button**

[9] **AIR FLOW DIRECTION**
VERTICAL SET Button

[10] **AIR FLOW DIRECTION**
VERTICAL SWING Button

[11] **AIR FLOW DIRECTION**
HORIZONTAL SET Button

[12] **AIR FLOW DIRECTION**
HORIZONTAL SWING Button

[13] **ENERGY SAVE Button**

Inside of battery cover

[14] **TIME ADJUST button**

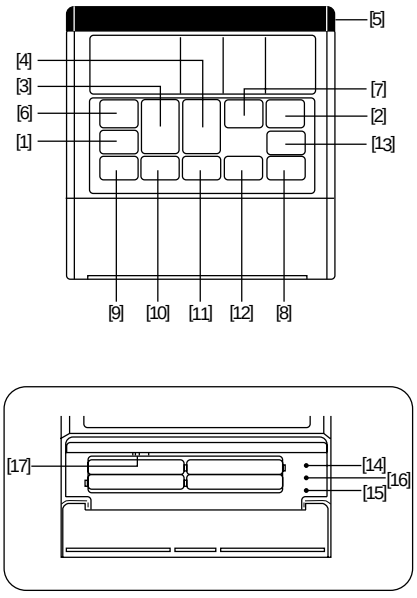
[15] **ACL button**
(located inside battery compartment)

[16] **TEST RUN button**

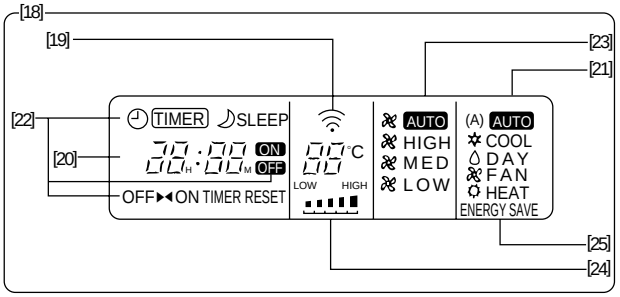
- This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly
- If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
- To stop the test operation mode, either press the TEST RUN button once again, or press the START/STOP button to stop the air conditioner.

[17] **CODE CHANGE Switch**

- Switching the remote controller code.
- Use remote controller code A (on the leftmost side) to operate the unit using the remote controller.
- When it is necessary to switch the remote controller code. contact a service technician since the PCB remote controller code of the indoor unit must also be switched.



Remote Control Unit Display



[18] **Remote Controller Display**

[19] **Transmit Indicator**

[20] **Clock Display**

[21] **Operating Mode Display**

[22] **Timer Mode Display**

[23] **Fan Speed Display**

[24] **Temperature Set Display**

[25] **Energy Save Display**

1.3.3 AUTOMATIC OPERATION

COOLING MODEL This applies to the COMPACT type SⅡ and MⅡ.

- Depending on the room temperature at the time operation begins, the operating mode will be switched automatically as ahown in the accompanying table.
  Also, depending on the operating mode, the room temperature setting will cause the "standard" temperature to be set as shown.
  The operating mode and standrad thermostat settings are selected automatically when operation begins.
- When automatic operation is initiated, the fan will run at very low speed for about one minute while the unit detects and selects the proper operating mode.
- Once the operating mode has been set, the mode will not change even if the room temperature changes.
- If the START/STOP button is pressed to recommence operation within two hours after stopping automatic operation, the unit will begin operating from the same mode as before.

Actual Room Temperature		Operating Mode		Thermostat Setting (standard setting)
30˚C or above	➡	Cooling	➡	27˚C
27˚Cto 30˚C	➡	Cooling	➡	26˚C
25˚Cto 27˚C	➡	Dry	➡	24˚C
23˚Cto 25˚C	➡	Dry	➡	22˚C
Below 23˚C	➡	Dry	➡	20˚C

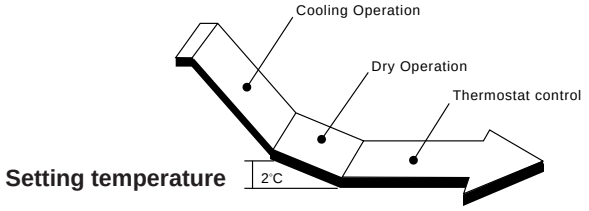
HEAT & COOL MODEL (Reverse cycle)

- Depending on the room temperature at the time operation begins, the operating mode will be switched automatically as shown in the accompanying table.
  Also, depending on the operating mode, the room temperature setting will cause the "standard" temperature to be set as shown.
  The operating mode and standrad thermostat settings are selected automatically when operation begins.
- When automatic operation is initiated, the fan will run at very low speed for about one minute while the unit detects and selects the proper operating mode.
- Once the operating mode has been set, the mode will not change even if the room temperature changes.
  However, during the monitor operation mode, if the room temperature changes to below 22˚C, the mode will automatically switch to Heat, and when it rises above 24˚C the mode will automatically switch to Dry.
- When in the monitor mode, the fan will operate very slowly.
- If the START/STOP button is pressed to recommence operation within two hours after stopping automatic operation, the unit will begin operating from the same mode as before.

Actual Room Temperature		Operating Mode		Thermostat Setting (standard setting)
30˚C or above	➡	Cooling	➡	27˚C
27˚C - 30˚C	➡	Cooling	➡	26˚C
25˚C - 27˚C	➡	Dry	➡	24˚C
22˚C - 24˚C	➡	Monitor		
Below 22˚C	➡	Heating	➡	23˚C

COOLING MODEL This does not apply to the COMPACT type SⅡ, MⅡ.

- When the room temperature is 2˚C higher than the set temperature, the mode will switch between Cooling and Drying.
- During Drying mode operation, FAN setting is switched to LOW gentle cooling effect, and the room fan may stop rotating temporarily.
- If the mode automatically selected by the unit is not what you wish, select one of the mode operation (COOL, DRY, FAN).



1.3.4 AUTO CHANGEOVER OPERATION

HEAT & COOL MODEL (Reverse cycle)

- When AUTO CHANGEOVER operation is selected, the air conditioner selects the appropriate operation mode (Cooling or Heating) in response to your room's temperature.
- When AUTO CHANGEOVER operation first selected, the fan will operate at very low speed for about one minute, during which time the unit detects the room conditions and selects the proper operating mode.
- When the air conditioner has adjusted your room's temperature to near the thermostat setting, it will begin monitor operation. In the monitor operation mode, the fan will operate at low speed. If the room temperature subsequently changes, the air conditioner will once again select the appropriate operation (Heating, Cooling) to adjust the temperature to the value set in the thermostat. (The monitor operation range is ±2˚C relative to the thermostat setting.)
- If the mode automatically selected by the unit is not what you wish, select one of the mode operation (HEAT, COOL, DRY, FAN).

1.3.5 HEATING OPERATION (REVERSE CYCLE)

- Use to warm your room.
- When Heating mode is selected, the air conditioner will operate at very low fan speed for about 3 to 5 minutes, after which it will switch to the selected fan setting. This period of time is provided to allow the indoor unit to warm up before begin full operation.
- When the room temperature is very low, frost may form on the outside unit, and its performance may be reduced. In order to remove such frost, the unit will automatically enter the defrost cycle from time to time. During Automatic Defrosting operation, the OPERATION indicator lamp (red) will flash, and the heat operation will be interrupted.

1.3.6 COOLING OPERATION

- Use to cool your room.

During Heating mode:
Set the thermostat to a temperature setting that is higher than the current room temperature. The Heating mode will not operate if the thermostat is set lower than the actual room temperature.

During Cooling/Dry mode:
Set the thermostat to a temperature setting that is lower than the current room temperature. The Cooling and Dry modes will not operate if the thermostat is set higher than the actual room temperature (in Cooling mode, the fan alone will operate).

During Fan mode:
You can not use the unit to heat and cool your room.

1.3.7 DRY OPERATION

- Use for gently cooling while dehumifdifying your room.
- You cannot heat the room during Dry mode.
- During Dry mode, the unit will operate at low speed; in order to adjust room humidity, the indoor unit's fan may stop from time to time. Also, the fan may operate at very low speed when detecting room humidity.
- Then fan speed cannot be changed manually when Dry mode has been selected.

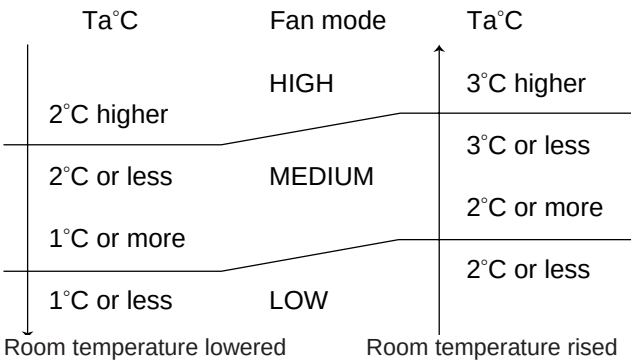
1.3.8 FAN OPERATION

● Use to circulate the air throughout your room.

1.3.9 AUTO FAN SPEED

● When the FAN CONTROL switch is set to the AUTO position, the optimum fan speed will be selected automatically in accordance with room temperature and other conditions.
● During the dry mode, fan speed is set automatically and cannot be changed.
● The breeze is:

Cooling operation



(Room temperature and set temperature difference = Ta˚C)

Heating operation

Tp˚C	Fan mode
47˚C or more	HIGH
41˚C to 47˚C	MEDIUM
41˚C or less	LOW

(Indoor heat exchanger temperature = Tp˚C)

1.3.10 NICE MORNING TIMER (ON TIMER)

When the ON timer is used, the air conditioner not only starts at the set time, but also automatically starts before the set time according to the difference between the room temperature and the set temperature so the room becomes the desired temperature at the set time. The time can be set in 5-minute steps.

	Room temperature and set temperature difference	Operation start time
Cooling	Over 10 ˚C 5 ˚C — 10 ˚C Under 5 ˚C	Started 20 minutes before set time Started 15 minutes before set time Started 10 minutes before set time
Heating	Over 20 ˚C 15 ˚C — 20 ˚C 10 ˚C — 15 ˚C Under 10 ˚C	Started 45 minutes before set time Started 30 minutes before set time Started 15 minutes before set time Started 10 minutes before set time

1.3.11 OFF TIMER

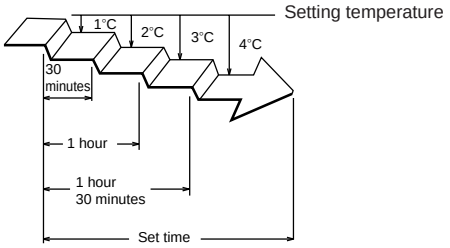
When the timer reaches the set time, the air conditioner will be turned off.

1.3.12 SLEEP TIMER OPERATION

During Heating operation [HEAT & COOL MODEL (Reverse cycle) only] :

When the SLEEP timer is set, the thermostat setting is automatically lowered 1˚C every thirty minutes. When the thermostat has been lowered a total of 4˚C, the thermostat setting at that time is maintained until the set time has elapsed, at which time the air conditioner automatically turns off.

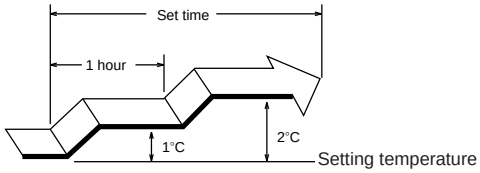
SLEEP timer setting



During Cooling/Dry operation:

When the SLEEP timer is set, the thermostat setting is automatically raised 1˚C every sixty minutes. When the thermostat has been raised a total of 2˚C, the thermostat setting at that time is maintained until the set time has elapsed, at which time the air conditioner automatically turns off.

SLEEP timer setting



1.3.13 PROGRAM TIMER

Combines the OFF timer and the ON timer for one cycle. (OFF ⇨ ON or ON ⇨ CFF)
Starts operation from the OFF timer or the ON timer, Whichever is closer to the current time.

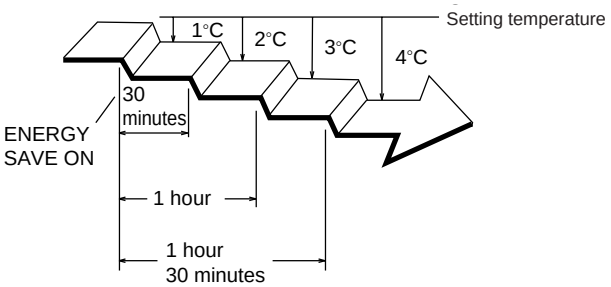
1.3.14 ENERGY SAVE OPERATION

✵ Wireless type (Wall fixing type) only

During Heating operation [HEAT & COOL MODEL (Reverse cycle) only] :

The thermostat temperature setting decreases by 1˚C as soon as the ENERGY SAVE button is pressed, and then decreases by another 1˚C every thirty minutes.
Afterwards, energy consumption is saved by continuing to heat at a thermostat temperature of 4˚C less than that set.

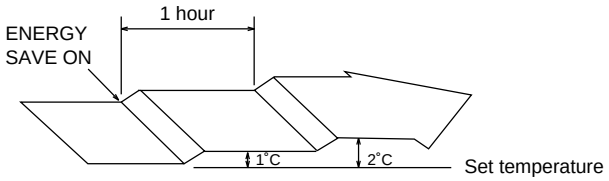
ENERGY SAVE setting



During Cooling/Dry operation:

The thermostat temperature setting increases by 1˚C as soon as the ENERGY SAVE button is pressed, and then increases by another 1˚C after one hour has passed. Afterwards, energy consumption is saved by continuing to cool or dry at a thermostat temperature of 2˚C more than that set.

ENERGY SAVE setting



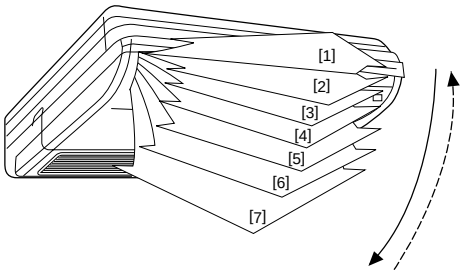
1.3.15 VERTICAL AIR DIRECTION ADJUSTMENT

Each time the button is pressed, the air direction range will change as follows:

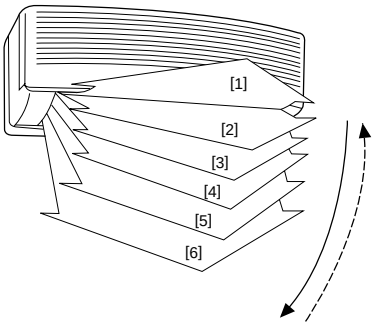
[1] ⟶ [2] ⟶ [3] ⟶ [4] ⟶ [5] ⟶ [6] ⟶ [7]

Types of Air flow Direction Setting:
[1],[2],[3],[4] : During Cooling/Dry Modes
[5],[6],[7] : During Heating mode

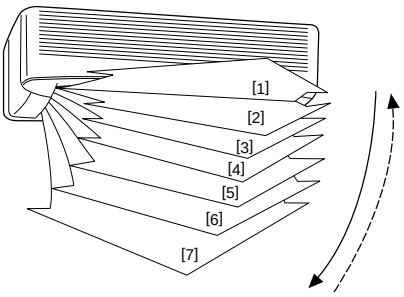
The Remote Control Unit's display does not change.



UNIVERSAL TYPE



COMPACT SII TYPE



WALL MOUNTED TYPE

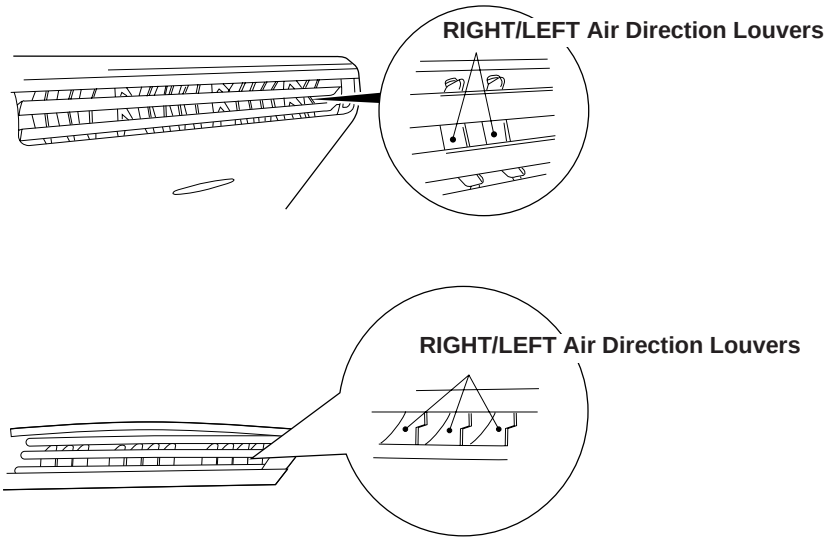
●Use the air direction adjustments within the ranges shown above.
●The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.
During Cooling/Dry mode : Horizontal flow [1]
During Heating mode : Downward flow [7]
●During AUTO mode operation, for the first minute after beginning operation, airflow will be horizontal [1]; the air direction cannot be adjusted during this period.

1.3.16 HORIZONTAL AIR DIRECTION ADJUSTMENT

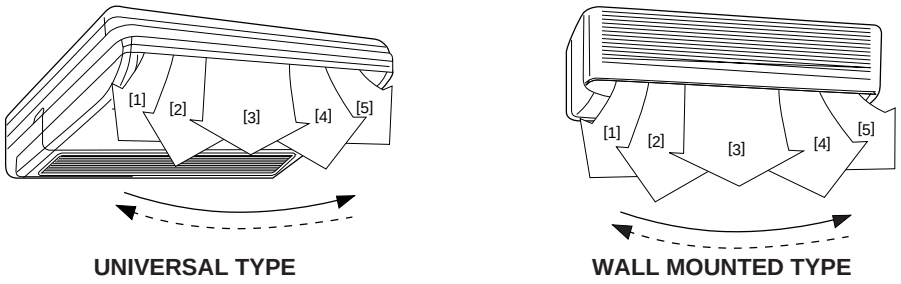
Each time the button is pressed, the air direction range will change as follows:

[1] ⟶ [2] ⟷ [3] ⟷ [4] ⟷ [5]

The Remote Controller's display does not change.



● Use the air direction adjustments within the ranges shown above.



UNIVERSAL TYPE

WALL MOUNTED TYPE

1.3.17 VERTICAL AIRFLOW SWING OPERATION

● The range of swing is relative to the currently set airflow direction.

Air flow direction set	Range of swing		
	SII Series	MII Series	AS&AB Series
[1]	[1] to [2]	[1] to [3]	[1] to [3]
[2]	[1] to [3]	[1] to [4]	[1] to [4]
[3]	[2] to [3]	[2] to [5]	[2] to [5]
[4]	[4] to [5]	[3] to [6]	[3] to [6]
[5]	[4] to [6]	[4] to [7]	[4] to [7]
[6]	[5] to [6]	[5] to [7]	[5] to [7]
[7]	—	[6] to [7]	[1] to [7] (All range)

● If the swing range is not as desired, use the Remote Control Unit's AIR FLOW DIRECTION VERTICAL SET button to change the range of swing.

● The SWING Operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.

● During use of the Cooling and Dry modes, do not set the Air UP/DOWN Direction Flaps, in the Heating range ([5] to [7]) for long periods of time, since water vapor may condense near the outlet louvers and drops of water may drip from the air conditioner.

1.3.18 HORIZONTAL AIRFLOW SWING OPERATION

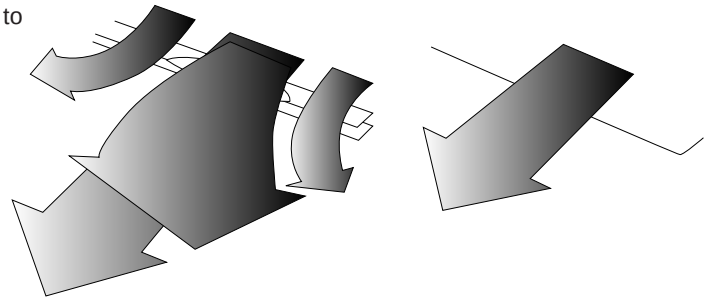
● The range of swing is relative to the currently set airflow direction.

Air flow direction set	Range of swing
[1]	[1] to [5] (All range)
[2]	[1] to [3]
[3]	[2] to [4]
[4]	[3] to [5]
[5]	[1] to [5] (All range)

● If the swing range is not as desired, use the Remote Control Unit's AIR FLOW DIRECTION HORIZONTAL SET button to change the range of swing.
● The SWING Operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.

1.3.19 SUPER VANE

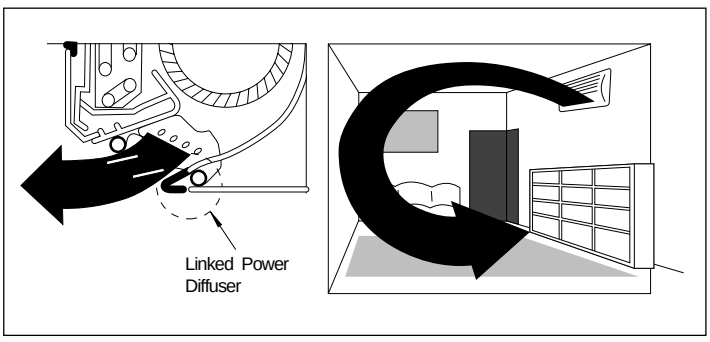
Our newly developed "Super Vane" configuration boosts air flow by sending cool air quickly to every corner of the room.



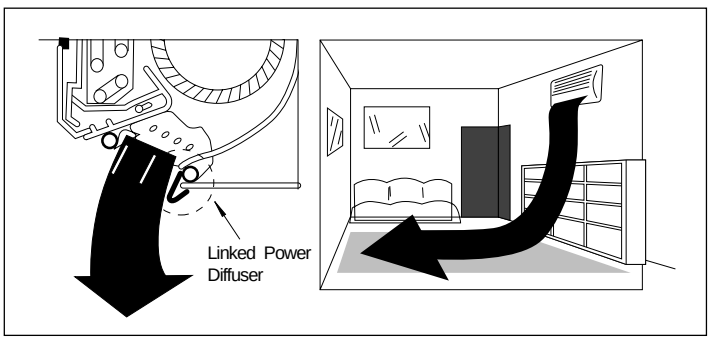
1.3.20 LINKED POWER DIFFUSER

By means of our new design of "Power Diffuser" the floor level heating efficiency is considerably improved. By movement of the up/down direction panels in conjunction with the power diffuser greater comfort can be obtained.

● **Horizontal Cooling Air Flow**



● **Vertical Heating Air Flow**



1.3.21 AUTOMATIC SHUT FLAPS

- The upper and lower flaps shut automatically so that dust or foreign matter does not enter the inside of the unit, while the unit halts.
- The unit looks simple on the outside, as the blow-out section of the air shuts.

1.3.22 COOLING OPERATION EVEN AT A LOW OUTDOOR TEMPERATURE

Cooling operation is possible down to 0˚C.

1.3.23 MOLD PREVENTION FILTER

The air filter are specially treated with a mold inhibiting compound.
This stops mold and mildew from forming inside the indoor unit.

1.3.24 AIR PURIFYING FILTER (OPTIONAL)

The electrostatic filter removes dust and minute particles to purify the air in a room.
This is perfect for smokers and for people with allergies during pollen season.

1.3.25 AUTO RESTART

Auto restart function makes the unit to restart automatically in the same operating mode as before after recovery from stoppage due to a temporary power failure.

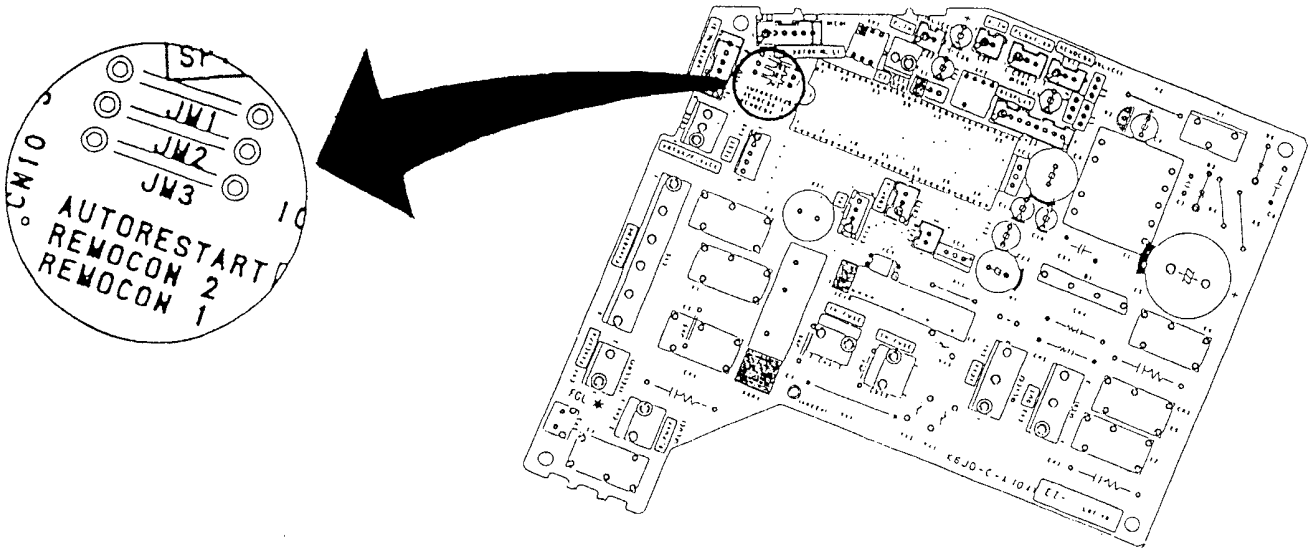
1.3.26 QUIET

The large-diameter cross fan can send a larger volume of air while turning more slowly than before. Through the air suction from the top, smooth air flow and center mount structure, ultimate quietness has been realized while maintaining the ample air volume and speed.

1.4 PRINTED WIRING BOARD SETTINGS

<APPLICATION MODEL>
❋ AS✻20A, 20R, 24A, 24R, 30A, 30R
· AB✻14A, 14R, 18A, 18R, 24A, 24R

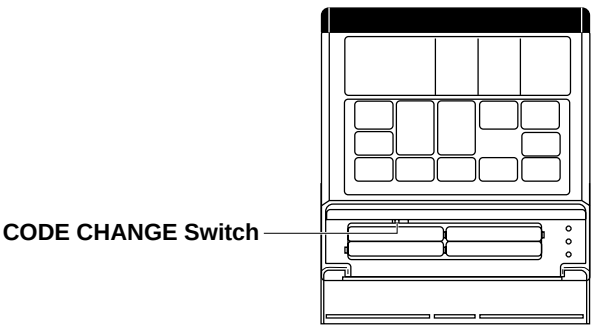
1.4.1 AUTO-RESTART & REMOTE CONTROLLER CODE



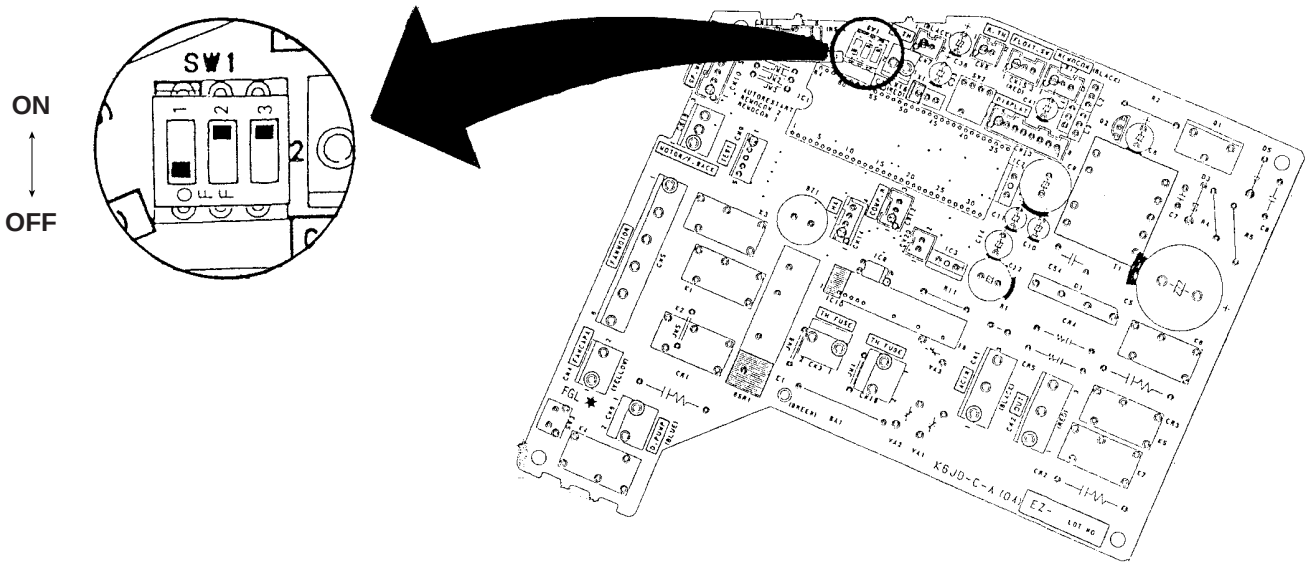
	JM1
Auto - Restart Enable (default)	**Disconnect**
Auto - Restart Disable	**Connect**

☆	JM2	JM3
Remote - Controller Code-A (default)	**Connect**	**Connect**
Remote - Controller Code-B	**Disconnect**	**Connect**
Remote - Controller Code-C	**Connect**	**Disconnect**
Remote - Controller Code-D	**Disconnect**	**Disconnect**

☆ Confirm the remote controller's "CODE CHANGE Switch" selection and printed wiring board setting.
· If these are not confirmed, the remote controller cannot be operated for the air conditioner.



1.4.2 COMPENSATION (HEATING CORRECTION COEFFICIENT)



Compensation	DIP2	DIP3	Application (AB model only)
−2˚C	ON	OFF	
±0˚C	OFF	ON	for floor console
+2˚C	OFF	OFF	
+4˚C(default)	ON	ON	for under ceiling

☆ The function of DIP1 does not work on AS and AB models.
Turn the DIP1 off anytime.

2. SPECIFICATIONS

2.1 COMPACT SII & MII SERIES (AS ✻ 7A, 7R, 9A, 9R, 12A, 12R)

2.1.1 AS ✻ 7A / AO ✻ 7A, AS ✻ 7R / AO ✻ 7R

MODEL				WALL MOUNTED TYPE COMPACT TYPE SII-CHASSIS (7,000 BTU/h)	
			Indoor unit	AS ✻ 7A	AS ✻ 7R
			Outdoor unit	AO ✻ 7A	AO ✻ 7R
Power Supply			[V]	220 - 240	220 - 240
Phase-Cycles			ϕ-[Hz]	1ϕ - 50	1ϕ - 50
Capacity	Cooling		[kW]	1.95 - 1.95	2.05 - 2.05
	Cooling		[BTU/h]	6,700 - 6,700	7,000 - 7,000
	Heating		[kW]	—	2.30 - 2.30
	Heating		[BTU/h]	—	7,900 - 7,900
Electrical Specifications	Current	Cooling	[A]	2.8 - 2.9	3.3 - 3.3
		Heating	[A]	—	3.1 - 3.1
	Input	Cooling	[kW]	0.590 - 0.635	0.70 - 0.73
		Heating	[kW]	—	0.65 - 0.69
	Starting Current		[A]	19	19
EER	Cooling		[kW/kW]	3.31 - 3.07	2.93 - 2.81
	Heating		[kW/kW]	—	3.54 - 3.33
Moisture Removal			[ℓ/hr] (Pints/hr)	0.7 (1.5)	0.8 (1.8)
Air Circulation (Fan)	Indoor	Hi	[m³/h]	340	350
			[C.F.M]	200	205
		Med	[m³/h]	315	320
			[C.F.M]	185	190
		Low	[m³/h]	290	290
			[C.F.M]	170	170
	Outdoor		[m³/h]	1,330 - 1,400	1,330 - 1,400
Operation Sound (Cool/Heat)	Indoor	Hi	[dB]	37.0 / —	37.0 / 39.0
		Med	[dB]	35.0 / —	35.0 / 37.0
		Low	[dB]	33.0 / —	33.0 / 34.0
	Outdoor		[dB]	42 - 43 / —	43 - 44 / 45 - 46
Compressor	Type			Rotary	Rotary
	Capacity		[kW]	1.93	2.29
	Output		[W]	600	700
Dimensions (H X W X D)	Net	Indoor	[mm]	248 X 808 X 163	248 X 808 X 163
		Outdoor	[mm]	535 X 650 X 250	535 X 650 X 250
	Gross	Indoor	[mm]	248 X 852 X 302	248 X 852 X 302
		Outdoor	[mm]	590 X 725 X 330	590 X 725 X 330
Weight	Net	Indoor	[kg]	7.5	7.5
		Outdoor	[kg]	24	25
	Gross	Indoor	[kg]	10.0	10.0
		Outdoor	[kg]	27	28
Pipe Size CD	Liquid	Indoor	[mm]	6.35	6.35
	Gross	Outdoor	[mm]	9.52	9.52
Connection Pipe Set				UTP-5FDG, UTP-7FDG	UTP-5FKG, UTP-7FKG
Connection Method				Flare	
Color				White	

※ Permissible range of outdoor temperature — Cooling : 18°C~43°C
Heating : -5°C~21°C

2.1.2 AS ✻ 9A, 9R, 12A, 12R / AO ✻ 9A, 9R, 12A, 12R

MODEL				WALL MOUNTED TYPE COMPACT TYPE MII-CHASSIS (9,000/12,000 BTU/h)			
Indoor unit				AS ✻9A	AS ✻9R	AS ✻12A	AS ✻12R
Outdoor unit				AO ✻9A	AO ✻9R	AO ✻12A	AO ✻12R
Power Supply			[V]	220 - 240	220 - 240	220 - 240	220 - 240
Phase-Cycles			ϕ-[Hz]	1 ϕ - 50	1 ϕ - 50	1 ϕ - 50	1 ϕ - 50
Capacity	Cooling		[kW]	2.70 - 2.75	2.70 - 2.75	3.45 - 3.50	3.45 - 3.50
	Cooling		[BTU/h]	92,00 - 9,400	9,200 - 9,400	11,800 - 12,000	11,800 - 12,000
	Heating		[kW]	—	3.30 - 3.35	—	4.00 - 4.10
	Heating		[BTU/h]	—	11,300 - 11,400	—	13,600 - 14,000
Electrical Specifications	Current	Cooling	[A]	4.6 - 4.7	4.6 - 4.5	6.0 - 6.0	5.8 - 5.9
		Heating	[A]	—	4.2 - 4.1	—	5.7 - 5.9
	Input	Cooling	[kW]	0.97 - 1.03	0.98 - 1.03	1.255 - 1.315	1.22 - 1.27
		Heating	[kW]	—	0.89 - 0.94	—	1.19 - 1.27
	Starting Current		[A]	21	21	35	35
EER	Cooling		[kW/kW]	2.78 - 2.67	2.76 - 2.67	2.75 - 2.66	2.83 - 2.76
	Heating		[kW/kW]	—	3.71 - 3.56	—	3.36 - 3.23
Moisture Removal			[ℓ/hr] (Pints/hr)	1.3 (2.9)	1.3 (2.9)	1.8 (4.0)	1.8 (4.0)
Air Circulation (Cool/Heat)	Indoor	Hi	[m³/h]	430 - 465	Note : See the list shown below.	475 - 500	Note : See the list shown below.
			[C.F.M]	253 - 274		280 - 294	
		Med	[m³/h]	365 - 415		420 - 460	
			[C.F.M]	215 - 244		247 - 271	
		Low	[m³/h]	320 - 375		370 - 415	
			[C.F.M]	188 - 221		218 - 244	
	Outdoor		[m³/h]	1,520 - 1,630	1,555 - 1,670	1,555 - 1,670	1,365 - 1,475
Operation Sound (Cool/Heat)	Indoor	Hi	[dB]	38 - 39	39 - 39 / 39 - 39	39 - 40	40 - 40 / 39 - 39
		Med	[dB]	36 - 37	37 - 37 / 36 - 36	37 - 38	39 - 39 / 36 - 36
		Low	[dB]	34 - 35	36 - 36 / 31 - 31	35 - 37	37 - 37 / 31 - 31
	Outdoor		[dB]	43 - 44	44 - 45 / 45 - 46	44 - 45	45 - 46 / 46 - 47
Compressor	Type			Rotary	Rotary	Rotary	Rotary
	Capacity		[kW]	3.005 / 3.035	3.045 / 3.070	3.895 / 3.942	3.895 / 3.942
	Output		[W]	850	950	1,100	1,100
Dimensions (H X W X D)	Net	Indoor	[mm]	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168
		Outdoor	[mm]	535 X 695 X 250	535 X 695 X 250	535 X 695 X 250	535 X 665 X 250
	Gross	Indoor	[mm]	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302
		Outdoor	[mm]	600 X 785 X 320	605 X 785 X 320	600 X 785 X 320	600 X 785 X 320
Weight	Net	Indoor	[kg]	8	8	8	8
		Outdoor	[kg]	27	30	30	34
	Gross	Indoor	[kg]	10	10	10	10
		Outdoor	[kg]	30	33	33	37
Pipe Size CD	Liquid	Indoor	[mm]	6.35	6.35	6.35	6.35
	Gross	Outdoor	[mm]	9.52	9.52	12.7	12.7
Connection Pipe Set				UTP-5FDG, UTP-7FDG	UTP-5FKG, UTP-7FKG	UTP-5FEG, UTP-7FEG	UTP-5FLG, UTP-7FLG
Connection Method				Flare			
Color				White			

※ Permissible range of outdoor temperature — Cooling : 18°C~43°C
Heating : -5°C~21°C

Air Circulation (Cool/Heat)	Models			AS ✻9R		AS ✻12R	
	Fan Guard			With	Without	With	Without
	Indoor	Hi	[m³/h]	480 - 480 / 495 - 495	495 - 495 / 495 - 495	495 - 495 / 495 - 495	510 - 510 / 510 - 510
			[C.F.M]	282 - 282 / 291 - 291	291 - 291 / 291 - 291	291 - 291 / 291 - 291	300 - 300 / 300 - 300
		Med	[m³/h]	445 - 445 / 430 - 430	460 - 460 / 440 - 440	465 - 465 / 430 - 430	475 - 475 / 440 - 440
			[C.F.M]	262 - 262 / 253 - 253	271 - 271 / 259 - 259	274 - 274 / 253 - 253	280 - 280 / 259 - 259
		Low	[m³/h]	420 - 420 / 375 - 375	425 - 425 / 380 - 380	435 - 435 / 375 - 375	450 - 450 / 380 - 380
			[C.F.M]	247 - 247 / 221 - 221	250 - 250 / 224 - 224	256 - 256 / 221 - 221	265 - 265 / 224 - 224

2.1.3 ASP9A, 9R, 12A, 12R / AOP9A, 9R, 12A, 12R

MODEL					WALL MOUNTED TYPE COMPACT TYPE MII-CHASSIS			
				Indoor unit	ASP9ASB-W	ASP9RSB-W	ASP12ASB-W	ASP12RAB-W
				Outdoor unit	AOP9ANB	AOP9RSB	AOP12ASB	AOP12RSB
Power Supply				[V]	220	220	220	220
Phase-Cycles				ϕ-[Hz]	1 ϕ - 50	1 ϕ - 50	1 ϕ - 50	1 ϕ - 50
Capacity	Cooling			[kW]	2.70	2.65	3.35	3.30
	Cooling			[BTU/h]	9,200	9,000	11,400	11,300
	Heating			[kW]	—	3.30	—	4.00
	Heating			[BTU/h]	—	11,300	—	13,600
Electrical Specifications	Current	Cooling		[A]	4.9	4.6	6.0	5.8
		Heating		[A]	—	4.2	—	5.8
	Input	Cooling		[kW]	1.03	0.98	1.255	1.21
		Heating		[kW]	—	0.89	—	1.21
	Starting Current			[A]	21	21	35	35
EER	Cooling			[kW/kW]	2.62	2.70	2.67	2.73
	Heating			[kW/kW]	—	3.71	—	3.31
Moisture Removal				[ℓ/hr] (Pints/hr)	1.3(2.9)	1.3(2.9)	1.8(4.0)	1.8(4.0)
Air Circulation (Fan)	Indoor	Hi		[m³/h]	430	480 / 495	475	495 / 495
				[C.F.M]	253	282 / 291	280	291 / 291
		Med		[m³/h]	370	445 / 430	425	465 / 430
				[C.F.M]	218	262 / 253	250	274 / 253
		Low		[m³/h]	320	420 / 375	380	435 / 375
				[C.F.M]	188	247 / 221	224	256 / 221
	Outdoor			[m³/h]	1,520	1,555 / 1,555	1,550	1,365 / 1,365
Operation Sound (Cool)	Indoor	Hi		[dB]	38	39 / 39	39	40 / 39
		Med		[dB]	36	37 / 36	37	39 / 36
		Low		[dB]	34	36 / 31	35	37 / 31
	Outdoor			[dB]	43	44 / 45	44	45 / 46
Compressor	Type				Rotary	Rotary	Rotary	Rotary
	Capacity			[kW]	3.045	3.045	3.895	3.895
	Output			[W]	850	950	1,100	1,100
Dimensions (H X W X D)	Net	Indoor		[mm]	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168
		Outdoor		[mm]	535 X 695 X 250	535 X 695 X 250	535 X 695 X 250	535 X 695 X 250
	Gross	Indoor		[mm]	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302
		Outdoor		[mm]	605 X 785 X 320	605 X 785 X 320	605 X 785 X 320	605 X 785 X 320
Weight	Net	Indoor		[kg]	8	8	8	8
		Outdoor		[kg]	27	30	30	34
	Gross	Indoor		[kg]	10	10	10	10
		Outdoor		[kg]	30	33	33	37
Pipe Size CD	Liquid	Indoor		[mm]	6.35	6.35	6.35	6.35
	Gross	Outdoor		[mm]	9.52	9.52	12.7	12.7
Connection Pipe Set					UTP-5FDG, UTP-7FDG	UTP-5FKG, UTP-7FKG	UTP-5FEG, UTP-7FEG	UTP-5FLG, UTP-7FLG
Connection Method					Flare			
Color					White			

※ Permissible range of outdoor temperature — Cooling : 18°C~43°C
Heating : -5°C~21°C

2.2 WALL MOUNTED LARGE AS-SERIES (AS ✻ 20A, 20R, 24A, 24R, 30A, 30R)

2.2.1 AS ❑ 20A, 20R, 24A, 24R, 30A, 30R

MODEL				WALL MOUNTED TYPE (WIRELSS)					
				AS ☐ 20A	AS ☐ 20R	AS ☐ 24A	AS ☐ 24R	AS ☐ 30A	AS ☐ 30R
Capacity	Cooling	kW		5.55 - 5.70	5.55 - 5.70	6.75 - 6.85	6.70 - 6.80	8.05 - 8.20	7.80 - 8.00
		BTU/h		19,000 - 19,500	19,000 - 19,500	23,000 - 23,400	22,900 - 23,200	27,500 - 28,000	26,600 - 27,300
	Heating	kW		—	5.65 - 5.80	—	7.60 - 7.70	—	8.55- 8.80
		BTU/h		—	19,300 - 19,800	—	26,000 - 26,300	—	29,200 - 30,000
Power supply				1ϕ - 50Hz / 220-240V					
Total input	Cooling	kW		2.10 - 2.20	2.10 - 2.20	2.52 - 2.64	2.57 - 2.67	2.84 - 2.96	2.84 - 2.96
	Heating	kW		—	1.80 - 1.90	—	2.41 - 2.50	—	2.80 - 2.90
Total current	Cooling	A		9.9 - 9.3	9.9 - 9.3	12.0 - 12.4	12.2 - 12.6	14.3 - 14.8	14.3 - 14.8
	Heating	A		—	8.5 - 8.0	—	11.5 - 12.0	—	14.0 - 14.4
EER	Cooling	kW/kW		2.64 - 2.59	2.64 - 2.59	2.68 - 2.59	2.61 - 2.55	2.83 - 2.77	2.75 - 2.70
	Heating	kW/kW		—	3.14 - 3.05	—	3.15 - 3.08	—	3.05 - 3.03
Starting current		A		50	50	61	61	82	82
Indoor unit	Fan speed	Hi	r.p.m.	1,060 - 1,110	1,060 - 1,110	1,220 - 1,290	1,220 - 1,290	1,280 - 1,340	1,280 - 1,340
		Med		890 - 970	890 - 970	1,050 - 1,130	1,050 - 1,130	1,120 - 1,200	1,120 - 1,200
		Low		740 - 810	740 - 810	890 - 970	890 - 970	970 - 1,050	970 - 1,050
	Air circulation	Hi	m³/h	820 - 860	820 - 860	940 - 1,000	940 - 1,000	1,000 - 1,060	1,000 - 1,060
		Med		690 - 740	690 - 740	810 - 870	810 - 870	860 - 930	860 - 930
		Low		570 - 620	570 - 620	690 - 740	690 - 740	730 - 810	730 - 810
	Noise level (Sound pressure)	Hi	dB(A)	41 - 42	41 - 42	45 - 46	45 - 46	47 - 48	47 - 48
		Med		37 - 38	37 - 38	41 - 42	41 - 42	44 - 45	44 - 45
		Low		33 - 34	33 - 34	37 - 38	37 - 38	39 - 40	39 - 40
	Heat exch-anger	Type		Plate fin coil					
		Face area	m²	0.274	0.274	0.274	0.274	0.274	0.274
		Fin	inch	17	17	17	17	17	17
	Fan type x Q'ty			Cross flow fan x 2					
	Fan motor output		W	20	20	27	27	32	32
	Operation control			Remote control					
	Dimensions	H	mm(inch)	320 (12 - 5/8)					
		W	mm(inch)	1,250 (49 - 3/16)					
		D	mm(inch)	195 (7 - 11/16)					
	Weight Net/Gross		kg	18 / 26					
Outdoor unit	Fan speed	Hi	r.p.m.	690 - 735	690 - 735	690 - 735	690 - 735	730 - 790	730 - 790
		Low	r.p.m.	—	250 - 280	—	250 - 280	410 - 450	410 - 450
	Air circulation	Hi	m³/h	2,430 - 2,590	2,430 - 2,590	2,430 - 2,590	2,430 - 2,590	5,500 - 5,900	5,500 - 5,900
	Noise level		dB(A)	55 - 56	55 - 56	55 - 56	55 - 56	57 - 58	57 - 58
	Heat exch-anger	Type		Plate fin coil					
		Face area	m²	0.563	0.549	0.549	0.549	1.112	1.112
		Fin	inch	17	14	14	14	17	17
	Fan type x Q'ty			Propeller x 1				Propeller x 2	
	Fan motor output		W	60	60	60	60	63 x 2	63 x 2
	Compressor type			Hermetic (Recipro)					
		Motor output	W	1,500		2,000		2,700	
		Protection		Internal protector (OCR), High pressure relief valve					
	Dimensions	H	mm(inch)	643 (25 - 5/16)		643 (25 - 5/16)		1,152 (45 - 3/8)	
		W	mm(inch)	840 (33 - 1/16)		840 (33 - 1/16)		940 (37)	
		D	mm(inch)	336 (13 - 1/4)		336 (13 - 1/4)		370 (14 - 9/16)	
	Weight Net/Gross		kg	66 / 74	68 / 76	67 / 75	68 / 76	94 / 108	96 / 110
Refrige-rant circuit	Operation mode			Cooling	Cooling	Heating	Cooling	Cooling	Heating	Cooling	Cooling	Heating
	Disch. pressure		kg/cm²G	19.7 - 19.5	19.9- 19.7	17.0 - 16.9	20.1 - 19.8	20.1- 19.8	20.3 - 20.3	17.9 - 17.8	17.6- 17.5	19.0 - 19.0
	Suct. pressure		kg/cm²G	5.0 - 5.0	5.2 - 5.2	4.2 - 4.2	4.7 - 4.7	4.8 - 4.8	3.8 - 3.8	4.6 - 4.6	4.7 - 4.7	4.3 - 4.3
	Discharge temp.		˚C	87 - 89	95 - 97	82 - 85	91 - 94	98 - 101	90 - 95	86 - 88	90 - 92	89 - 90
	Condensing temp.		˚C	51.5 - 51	51.5 - 51	45 - 51	51.5 - 51	51.5 - 51	50 - 50	47 - 47	46.5 - 46.5	48 - 48
	Suction temp.		˚C	6 — 6	7 — 7	1 — -1	4 — 4	9 — 11	-2 — -2	7 — 8	7 — 8	-2 — -2
	Refr. pipe length		m	5								
	Disch. air temp.		˚C	13.5 - 13.5	13.5 - 13.5	40 - 40	12.5 - 12.5	12.5 - 12.5	43 - 43	12 - 12	12 - 12	44 - 44
Condition	Indoor entering air temp.	Cool	DB/WB	27˚C / 19˚C								
		Heat	DB/WB	20˚C / 15˚C								
	Ourdoor entering air temp.	Cool	DB/WB	35˚C / 24˚C								
		Heat	DB/WB	7˚C / 6˚C								
Piping	Refrigerant charge		kg(oz)	1.24 (43.7)	1.80 (63.5)		1.95 (68.8)	2.07 (73.0)		1.80 (63.5)	1.70 (60.0)	
	Pipe size (O.D.)	Liquid	mm(inch)	9.52 (3/8)								
		Gas	mm(inch)	15.88 (5/8)								
	Connection method			Flare								
	Between	Height	m	8			8			15	15	
		Pipe length	m	20			20			30	25	

Note : In the above square, put the letter T, Y, or G by a destination.

2.2.2 ASS20A, 20R, 24A, 24R, 30A, 30R

MODEL				WALL MOUNTED TYPE (WIRELSS)					
				ASS20A	ASS20R	ASS24A	ASS24R	ASS30A	ASS30R
Capacity	Cooling	W(SSA)		4,500	4,500	5,700	5,700	6,700	6,700
		BTU/h		19,500	19,500	24,000	24,000	30,000	30,000
	Heating	W		—	5,300	—	7,100	—	9,000
		BTU/h		—	19,800	—	24,200	—	30,800
Power supply				1 ϕ - 60Hz / 220V					
Total input	Cooling	W		2,400	2,400	3,030	3,100	3,650	3,650
	Heating	W		—	2,000	—	2,550	—	3,150
Total current	Cooling	A		11.1	11.1	13.9	14.3	17.0	17.0
	Heating	A		—	9.2	—	12.0	—	15.0
EER	Cooling	W/W		1.88	1.88	1.88	1.84	1.84	1.84
	Heating	W/W		—	2.65	—	2.78	—	2.86
Starting current		A		53	53	66	66	67	67
Indoor unit	Fan speed	Hi	r.p.m.	1,095	1,095	1,275	1,275	1,300	1,300
		Med		950	950	1,120	1,120	1,150	1,150
		Low		790	790	945	945	990	990
	Air circulation	Hi	m³/h	860	860	1,000	1,000	1,060	1,060
		Med		740	740	870	870	900	900
		Low		620	620	740	740	780	780
	Noise level (Sound pressure)	Hi	dB(A)	42	42	46	46	48	48
		Med		38	38	42	42	45	45
		Low		34	34	38	38	40	40
	Heat exch-anger	Type		Plate fin coil					
		Face area	m²	0.274					
		Fin	inch	17					
	Fan type x Q'ty			Cross flow fan x 2					
	Fan motor output		W	20	20	27	27	32	32
	Operation control			Remote control					
	Dimensions	H	mm(inch)	320 (12 - 5/8)					
		W	mm(inch)	1,250 (49 - 3/16)					
		D	mm(inch)	195 (7 - 11/16)					
	Weight Net/Gross		kg	18 / 16					
Outdoor unit	Fan speed	Hi	r.p.m.	735	735	735	735	620	620
		Low	r.p.m.	—	—	—	—	—	—
	Air circulation	Hi	m³/h	2,590	2,590	2,590	2,590	5,000	5,000
	Noise level		dB(A)	56	56	56	56	57	58
	Heat exch-anger	Type		Plate fin coil					
		Face area	m²	0.563	0.549	0.549	0.549	1.112	1.112
		Fin	inch	17	14	14	17	17	17
	Fan type x Q'ty			Propeller x 1				Propeller x 2	
	Fan motor output		W	60	60	60	60	63 x 2	63 x 2
	Compressor type			Hermetic (Recipro)					
		Motor output	W	1,500		1,900		3,000	
		Protection		Internal protector (OCR), High pressure relief valve					
	Dimensions	H	mm(inch)	643 (25 - 5/16)				1,152 (45 - 3/8)	
		W	mm(inch)	840 (33 - 1/16)				940 (37)	
		D	mm(inch)	336 (13 - 1/4)				370 (14 - 9/16)	
	Weight Net/Gross		kg	66 / 74	68 / 76	67 / 75	68 / 76	94 / 108	96 / 110
Refrige-rant circuit	Operation mode			Cooling	Cooling	Heating	Cooling	Cooling	Heating	Cooling	Cooling	Heating
	Disch. pressure		kg/cm²G	25.1	24.9	17.4	25.2	25.4	19.6	23.0	23.2	19.8
	Suct. pressure		kg/cm²G	5.3	5.4	4.3	5.3	5.4	3.8	4.9	4.8	3.7
	Discharge temp.		˚C	88	96	78	97	108	81	88	99	90
	Condensing temp.		˚C	61	60.5	45.5	61.5	62.5	49.5	57	58	50
	Suction temp.		˚C	7	7	-2	7	7	-2	5	4	-3
	Refr. pipe length		m	5								
	Disch. air temp.		˚C	14.5	14.5	40	14	14	42	13.5	13.5	44
Condition	Indoor entering air temp.	Cool	DB/WB	29˚C / 19˚C					
		Heat	DB/WB	20˚C / (15)˚C					
	Ourdoor entering air temp.	Cool	DB/WB	46˚C / 24˚C					
		Heat	DB/WB	7˚C / 6˚C					
Piping	Refrigerant charge		kg(oz)	1.29 (45.5)	1.69 (59.6)	1.75 (61.7)	2.07 (73.0)	1.80 (63.5)	1.80 (63.5)
	Pipe size (O.D.)	Liquid	mm(inch)	9.52 (3/8)					
		Gas	mm(inch)	15.88 (5/8)					
	Connection method			Flare					
	Between	Height	m	8		8		15	
		Pipe length	m	20		20		30	

2.2.3 ACS-7502, ACS-7602

MODEL				WALL MOUNTED TYPE (WIRELESS)	
				ACS-7502	ACS-7602
Capacity	Cooling		kcal/h	5,000	6,000
			BTU/h	19,850	23,820
	Heating		kcal/h	—	—
			BTU/h	—	—
Power supply				1 ϕ - 60Hz / 220V	
Total input	Cooling		W	2,280	2,600
	Heating		W	—	—
Total current	Cooling		A	10.6	12.0
	Heating		A	—	—
EER	Cooling		kcal/hW	2.19	2.31
	Heating		kcal/hW	—	—
Starting current			A	55	65
Indoor unit	Fan speed	Hi	r.p.m.	1,095	1,275
		Med		950	1,120
		Low		790	945
	Air circulation	Hi	m³/h	860	1,000
		Med		740	870
		Low		620	740
	Noise level (Sound pressure)	Hi	dB(A)	42	46
		Med		38	42
		Low		34	38
	Heat exch-anger	Type		Plate fin coil	
		Face area	m²	0.274	0.274
		Fin	inch	17	17
	Fan type x Q'ty			Cross flow fan x 2	
	Fan motor output		W	20	
	Operation control			Remote control	
	Dimensions	H	mm(inch)	320(12-5/8)	
		W	mm(inch)	1,250(49-3/16)	
		D	mm(inch)	195(7-11/16)	
	Weight Net/Gross		kg	18/26	
Outdoor unit	Fan speed	Hi	r.p.m.	735	
		Low	r.p.m.	—	
	Air circulation	Hi	m³/h	2,590	
	Noise level		dB(A)	55	56
	Heat exch-anger	Type		Plate fin coil	
		Face area	m²	0.549	
		Fin	inch	14	
	Fan type x Q'ty			Propeller x 1	
	Fan motor output		W	60	
	Compressor type			Hermetic (Rotary)	Hermetic (Recipro)
		Motor output	W	1,500	2,385
		Protection		Internal protector (OCR), High pressure relief valve	
	Dimensions	H	mm(inch)	643(25-5/16)	
		W	mm(inch)	840(33-1/16)	
		D	mm(inch)	336(13-1/14)	
	Weight Net/Gross		kg	66/74	67/75
Refrige-rant circuit	Operation mode			Cooling	
	Disch. pressure		kg/cm²G	18.4	19.8
	Suct. pressure		kg/cm²G	4.9	4.9
	Discharge temp.		˚C	93	90
	Condensing temp.		˚C	48	51
	Suction temp.		˚C	7	
	Refr. pipe length		m	5	
	Disch. air temp.		˚C	12	
Condition	Indoor entering air temp.	Cool	DB/WB	27.0˚C / 19.5˚C	
		Heat	DB/WB	20.0˚C /(15.0)˚C	
	Ourdoor entering air temp.	Cool	DB/WB	35.0˚C / 24.0˚C	
		Heat	DB/WB	7.0˚C / 6.0˚C	
Piping	Refrigerant charger kg(oz)			1.87(66.0)	2.02(71.3)
	Pipe size (O.D.)	Liquid	mm(inch)	9.52(3/8)	
		Gas	mm(inch)	15.88(5/8)	
	Connection method			Flare	
	Between	Height	m	8	
		Pipe length	m	20	

2.3 UNIVERSAL AB-SERIES (AB ✻ 14A, 14R, 18A, 18R, 24A, 24R)

2.3.1 AB ✻ 14A, 14R, 18A, 18R, 24A, 24R

MODEL				FLOOR / CEILING UNIVERSAL TYPE					
				AB ✻ 14A	AB ✻ 14R	AB ✻ 18A	AB ✻ 18R	AB ✻ 24A	AB ✻ 24R
Capacity	Cooling		kW	4.00 - 4.10	3.95 - 4.05	5.30- 5.40	5.20 - 5.30	6.55 - 6.65	6.50 - 6.60
			BTU/h	13,700 - 14,000	13,500 - 13,800	18,100 - 18,400	17,800 - 18,100	22,400 - 22,700	22,200 - 22,500
	Heating		kW	—	4.90 - 5.00	—	5.50 - 5.60	—	7.60 - 7.70
			BTU/h	—	16,700 - 17,100	—	18,800 - 19,100	—	25,900 - 26,300
Power supply				1 ~ 220-240V 50Hz					
Total input	Cooling		kW	1.67 - 1.80	1.62 - 1.76	2.15 - 2.20	2.15 - 2.20	2.58 - 2.68	2.60 - 2.70
	Heating		kW	—	1.61 - 1.73	—	2.00 - 2.10	—	2.49 - 2.59
Total current	Cooling		A	7.9 - 8.3	7.6 - 8.0	9.9 - 9.4	9.9 - 9.4	12.2 - 12.7	12.5 - 13.0
	Heating		A	—	7.6 - 8.0	—	9.2 - 8.9	—	12.0- 12.5
EER	Cooling		kW/kW	2.39 - 2.28	2.44 - 2.30	2.47 - 2.45	2.42 - 2.41	2.54 - 2.48	2.50 - 2.44
	Heating		kW/kW	—	3.04 - 2.89	—	2.75 - 2.67	—	3.05 - 2.97
Starting current			A	33		50		61	
Indoor unit	Fan speed	Hi	r.p.m.	790 - 850		950 - 1,030		1,120 - 1,180	
		Med		700 - 760		820 - 890		980 - 1,040	
		Low		620 - 670		700 - 770		840 - 900	
	Air circulation	Hi	m³/h	580 - 640		720 - 800		830 - 900	
		Med		500 - 560		610 - 680		710 - 780	
		Low		430 - 480		500 - 560		590 - 660	
	Noise level (Sound pressure)	Hi	dB(A)	40.0 - 41.0		46.0 - 47.0		48.0 - 49.0	
		Med		37.0 - 38.0		41.5 - 42.5		44.0 - 45.0	
		Low		34.0 - 35.0		37.0 - 38.0		40.0 - 41.0	
	Heat exchanger			Plate fin coil					
	Fan type x Q'ty			Sirocco fan x 2					
	Fan motor output		kW	0.016		0.030		0.040	
	Operation control			Remote control					
	Dimensions	H	mm	199					
		W	mm	990					
		D	mm	655					
	Weight Net/Gross		kg	28 / 37		28 / 37		30 / 39	
Outdoor unit	Fan speed	Hi	r.p.m.	750		735		735	
		Low	r.p.m.	—		—	280	—	280
	Air circulation		m³/h	1,600		2,590		2,590	
	Noise level	Hi	dB(A)	49.0		56.0		56.0	
	Heat exchanger			Plate fin coil					
	Fan type x Q'ty			Propeller x 1					
	Fan motor output		kW	0.022		0.060		0.060	
	Compressor type			Hermetic (rotary)		Hermetic (recipro)			
	Motor output		kW	1.400		1.500		1.875	
	Protection			Internal protector (OCR)		Internal protector (OCR), High pressure relief valve			
	Dimensions	H	mm	530		643		643	
		W	mm	750		840		840	
		D	mm	250		336		336	
	Weight (Net/Gross)		kg	37 / 39	38 / 40	66 / 74	68 / 76	67 / 75	68 / 76
Refrige-rant circuit	Discharge pressure		kg/cm²	Cooling 19.5	Cooling 19.5	Heating 19.8	Cooling 19.0	Cooling 19.0 / Heating 20.0	Cooling 20.0	Cooling 20.1	Heating 20.7
	Suction pressure		kg/cm²	5.1	5.1	4.3	4.9	4.9	4.2	4.8	4.9	4.0
	Discharge temp.		˚C	92	89	95	92	97	84	91	98	87
	Suction temp.		˚C	10	10	1	7	8	1	4	6	1
	Refr. pipe length		m		5							
	Disch. air temp.		˚C	13	13	45	12	12	42	11	12	45
Condition	Indoor air temp.	Cool	DB/WB	27.0˚C / 19.0˚C								
		Heat	DB/WB	20.0˚C /(15.0)˚C								
	Ourdoor air temp.	Cool	DB/WB	35.0˚C / 24.0˚C								
		Heat	DB/WB	7.0˚C / 6.0˚C								
Piping	Refrigerant charge		kg	1.000	1.050	1.140	1.690	1.950	2.070			
	Pipe size (O.D.)	Liquid	mm	6.35	6.35	9.35	9.53	9.53	9.53			
		Gas	mm	12.7	12.7	15.88	15.88	15.88	15.88			
	Connection method			Flare								
	Height difference		m	5		15		15				
	Pipe length		m	10		20		20				

2.3.2 ABS24A, ABS24R

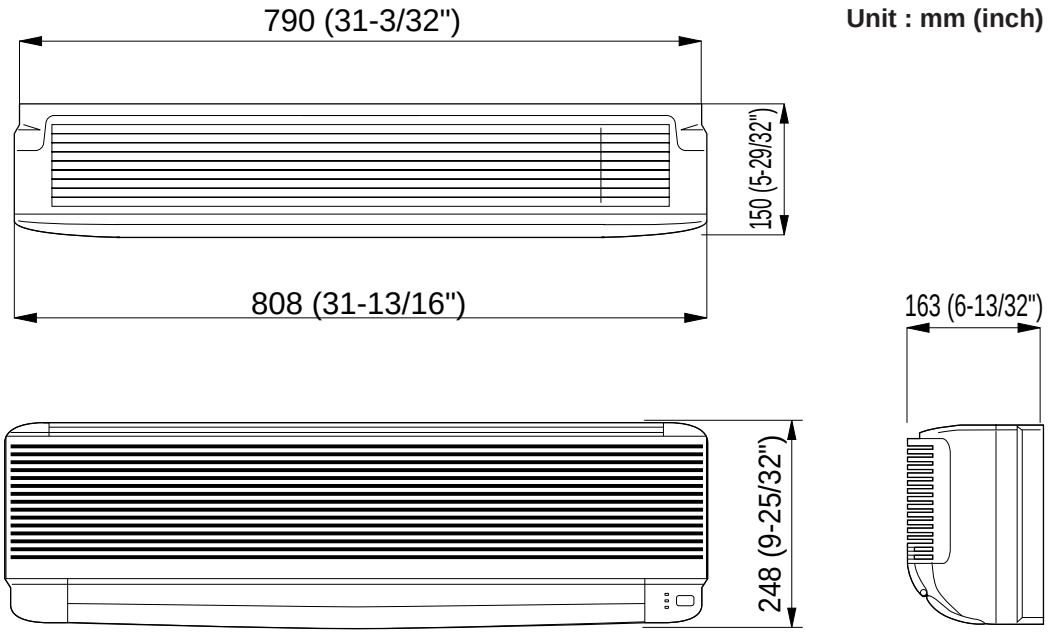
MODEL				FLOOR / CEILING UNIVERSAL TYPE		
				ABS24A	ABS24R	
Capacity	Cooling	W		5,300	5,300	
	Heating	W		—	7,100	
Power supply				1 ~ 220V 60Hz		
Total input	Cooling	W		3,100	3,100	
	Heating	W		—	2,650	
Total Current	Cooling	A		14.6	14.6	
	Heating	A		—	12.5	
EER	Cooling	W/W		1.71	1.71	
	Heating	W/W		—	2.68	
Starting current		A		66		
Indoor unit	Fan speed	Hi	r.p.m.	1,150		
		Med		990		
		Low		870		
	Air circulation	Hi	m^3/h	900		
		Med		780		
		Low		660		
	Noise level (Sound pressure)	Hi	dB(A)	49.0		
		Med		45.0		
		Low		41.0		
	Heat exchanger			Plate fin coil		
	Fan type x Q'ty			Sirocco fan x 2		
	Fan motor output		kW	0.040		
	Operation control			Remote control		
	Dimensions	H	mm	199		
		W	mm	990		
		D	mm	655		
	Weight (Net/Gross)		kg	30 / 39		
Outdoor unit	Fan speed		r.p.m.	735		
	Air circulation		m^3/h	2,590		
	Noise level	Hi	dB(A)	56.0		
	Heat exchanger			Plate fin coil		
	Fan type x Q'ty			Propeller x 1		
	Fan motor output		kW	0.060		
	Compressor type			Hermetic (Recipro)		
		Motor output	kW	1.900		
		Protection		Internal protector (OCR), High pressure relief valve		
	Dimensions	H	mm	643		
		W	mm	840		
		D	mm	336		
	Weight (Net/Gross)		kg	67 / 75	68 / 76	
Refrige-rant circuit	Disch. pressure		kg/cm^2	Cooling: 24.5	Cooling: 24.9	Heating: 19.7
	Suct. pressure		kg/cm^2	4.9	4.9	4.0
	Discharge temp.		˚C	91	102	77
	Suction temp.		˚C	8	7	1
	Refr. pipe length		m	5		
	Disch. air temp.		˚C	13	13	45
Condition	Indoor air temp.	Cool	DB/WB	29.0˚C / 19.0˚C		
		Heat	DB/WB	21.0˚C /(15.5)˚C		
	Ourdoor air temp.	Cool	DB/WB	46.0˚C / 24.0˚C		
		Heat	DB/WB	7.0˚C / 6.0˚C		
Piping	Refrigerant charge		kg	1.750	2.070	
	Pipe size (O.D.)	Liquid	mm	9.53		
		Gas	mm	15.88		
	Connection method			Flare		
	Height difference		m	15		
	Pipe length		m	20		

3. OUTLINE AND DIMENSIONS

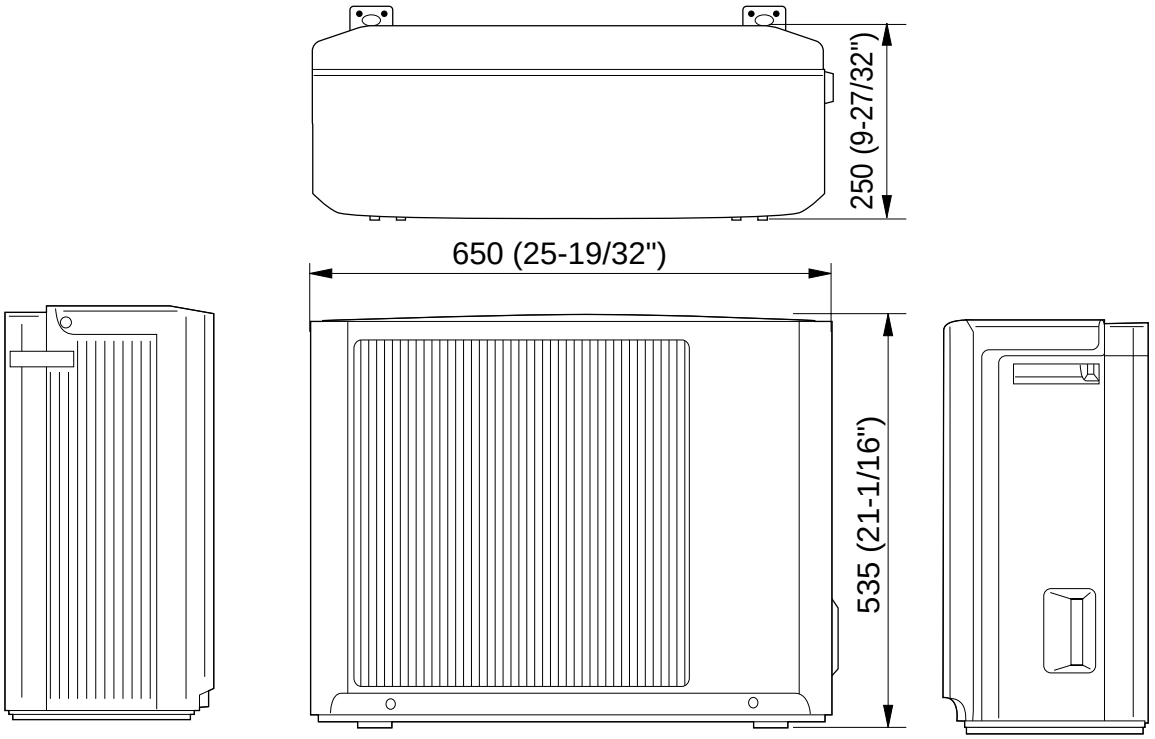
3.1 MODELS : AS ✻ 7A, AS ✻ 7R

3.1.1 INDOOR UNIT

Unit : mm (inch)



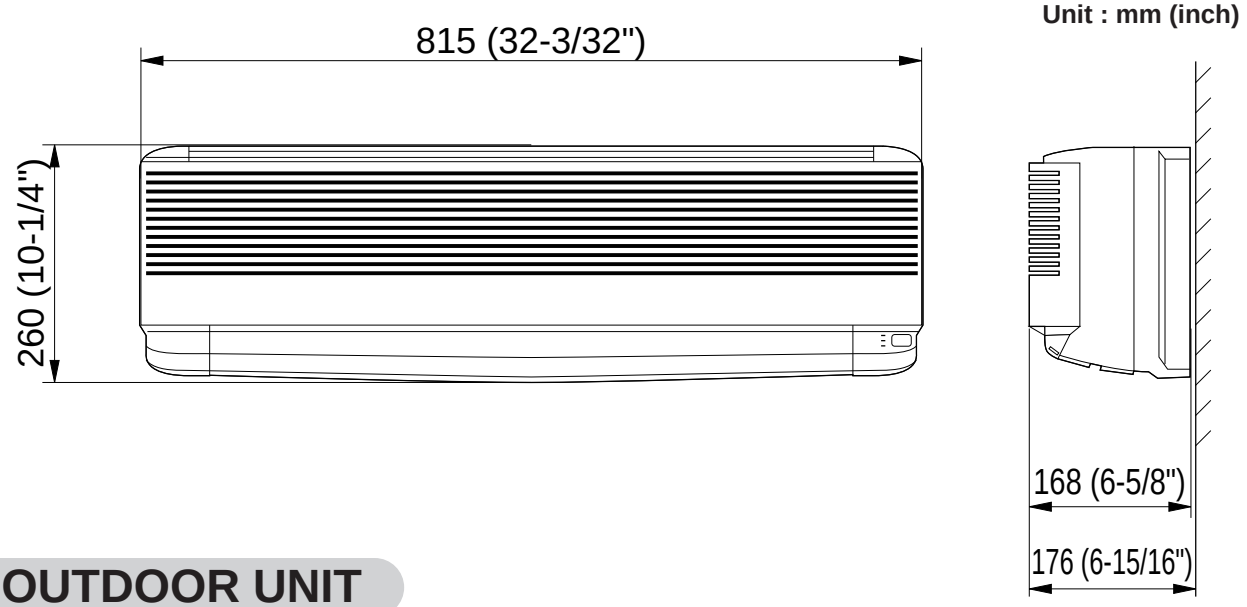
3.1.2 OUTDOOR UNIT



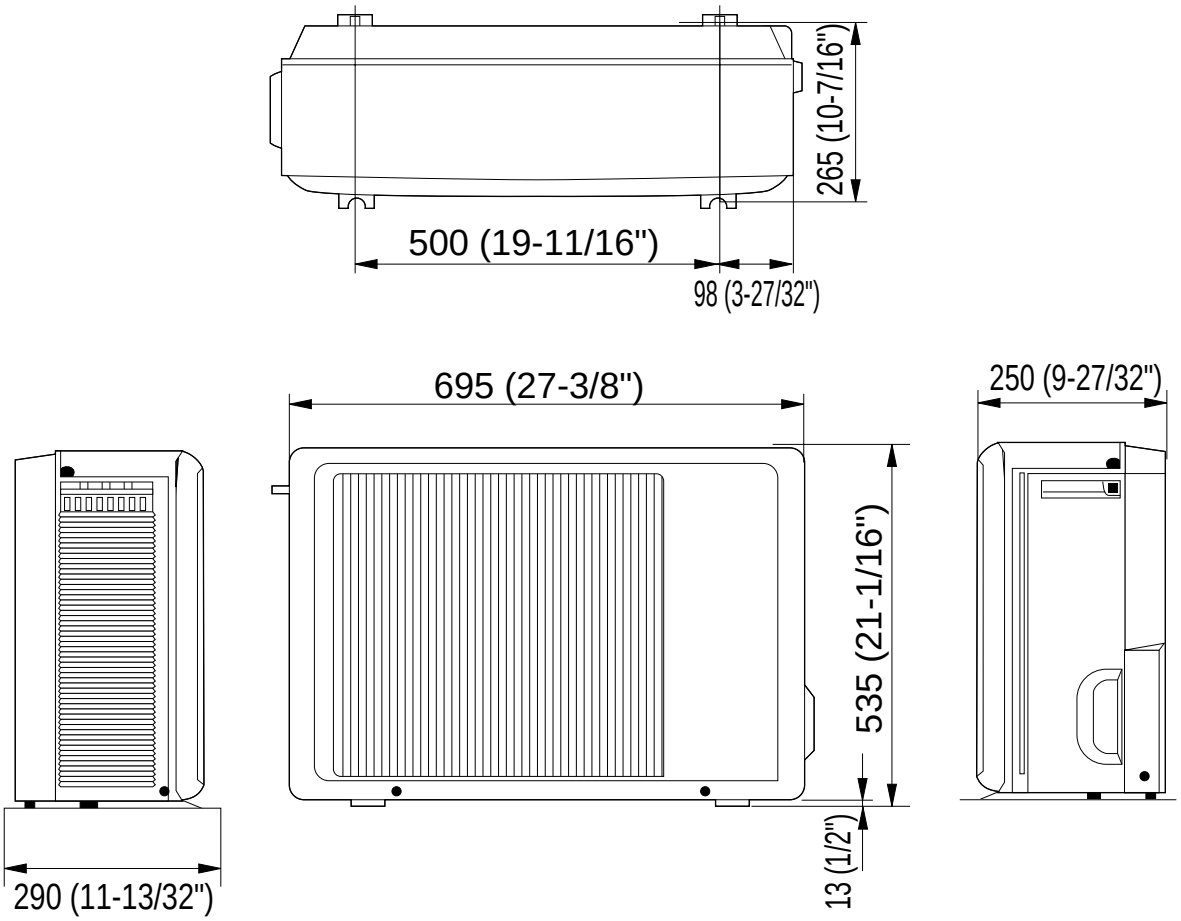
3.2 MODELS : AS ✻ 9A, 9R, 12A, 12R

3.2.1 INDOOR UNIT

Unit : mm (inch)



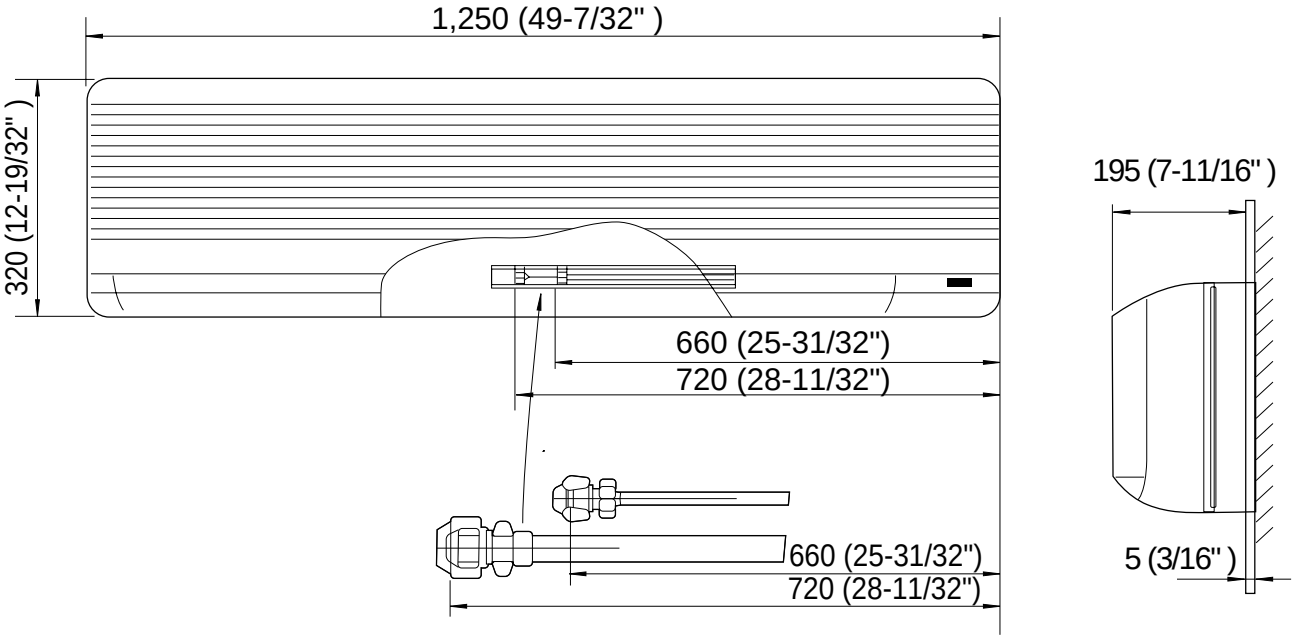
3.2.2 OUTDOOR UNIT



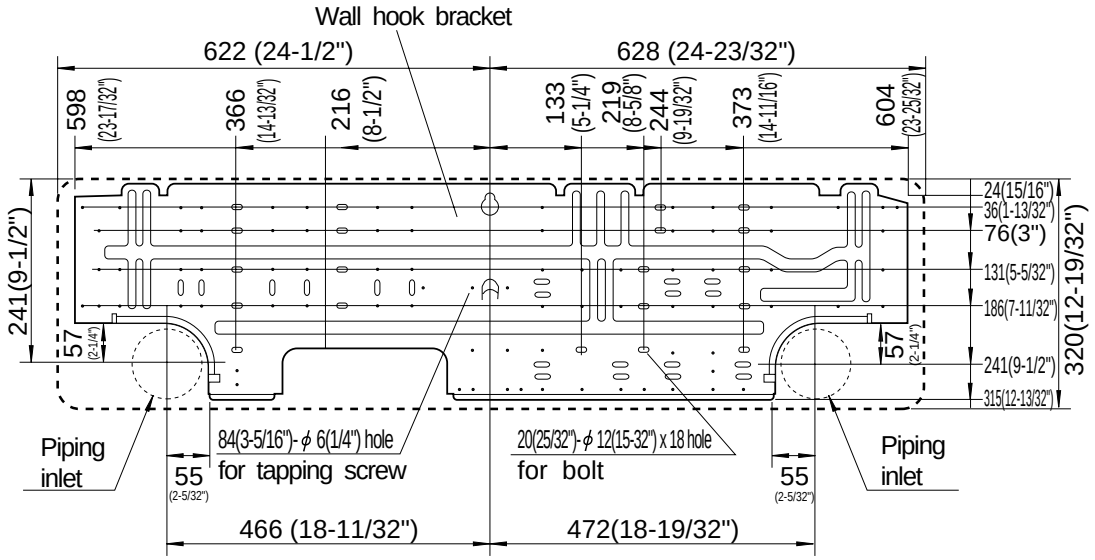
3.3 MODELS : AS ✻ 20A, 20R, 24A, 24R, 30A, 30R, ACS-7502, ACS-7602

3.3.1 INDOOR UNIT

Unit : mm (inch)



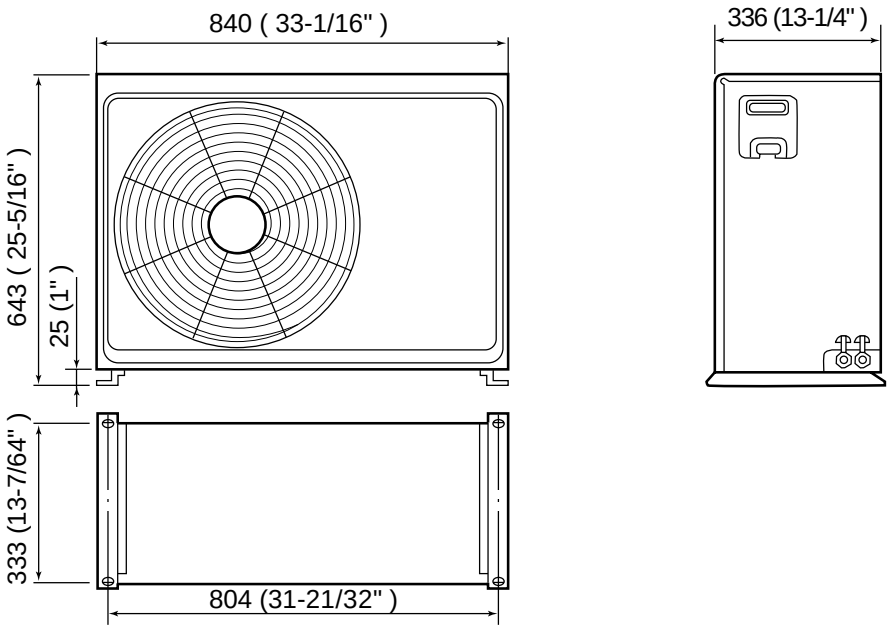
Connecting pipe	Gas	ϕ15.88 (5/8")
	Liquid	ϕ9.52 (3/8")
Drain pipe	ϕ 16 (5/8")	



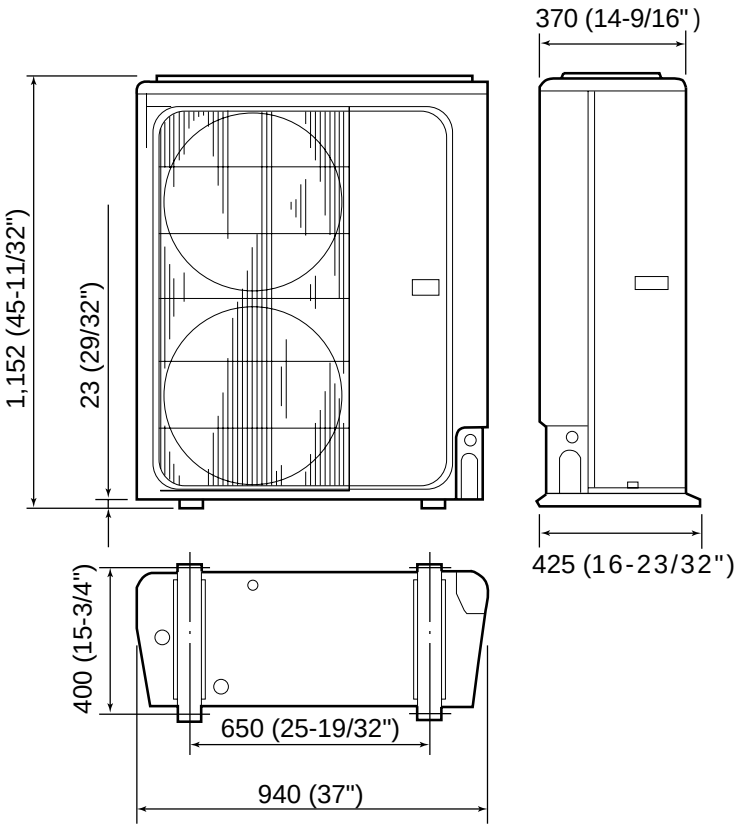
3.3.2 OUTDOOR UNIT

Models : AO ✻ 20A, 20R, 24A, 24R, ACO-7502, ACO-7602

Unit : mm (inch)



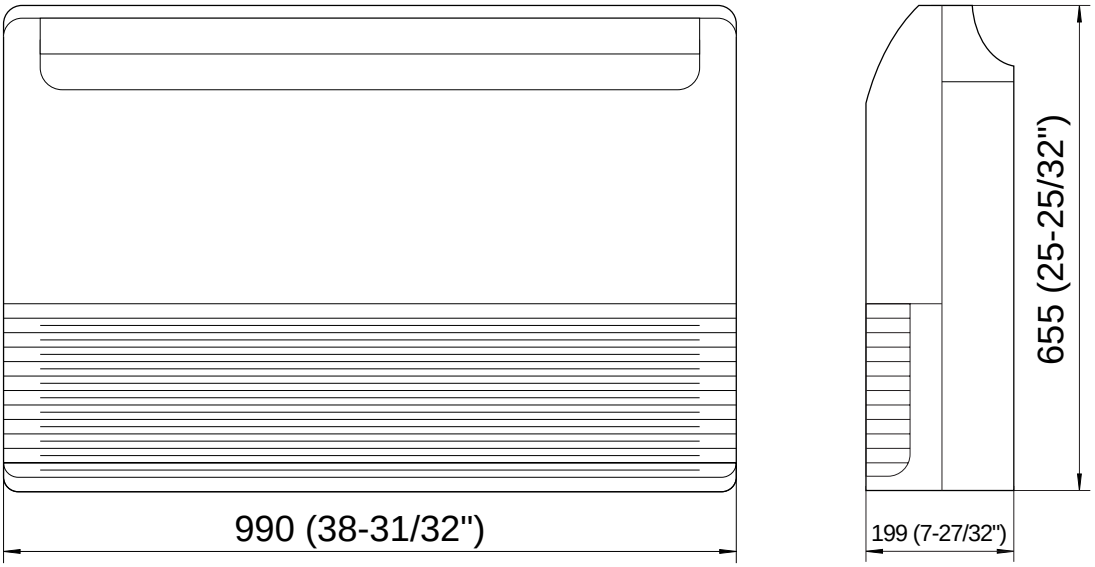
Models : AO ✻ 30A, 30R



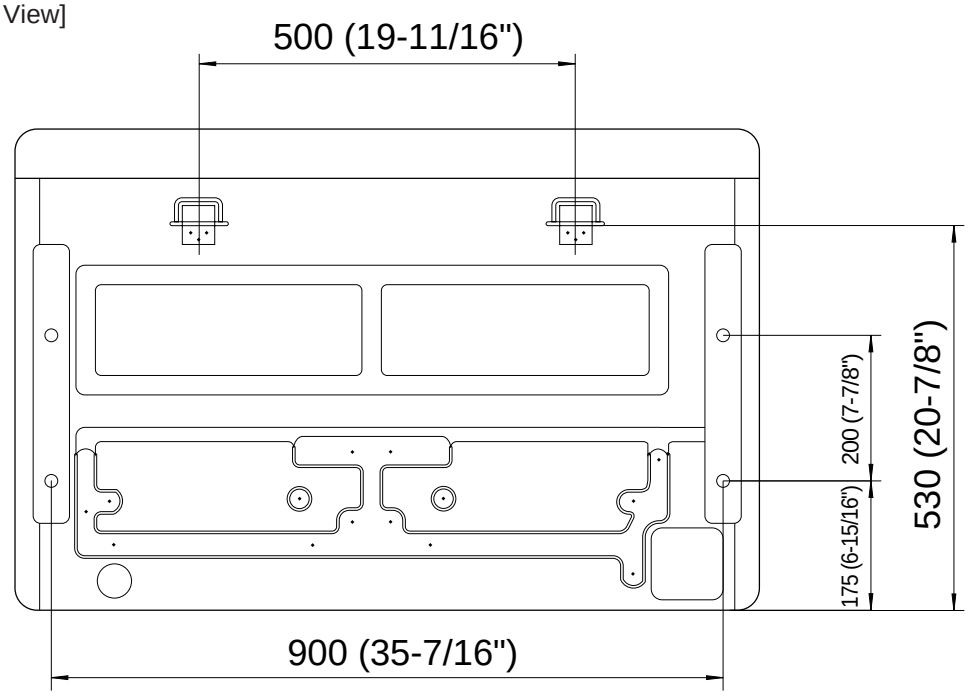
3.4 MODELS : AB ✻ 14A, 14R, 18A, 18R, 24A, 24R

3.4.1 INDOOR UNIT

Unit : mm (inch)



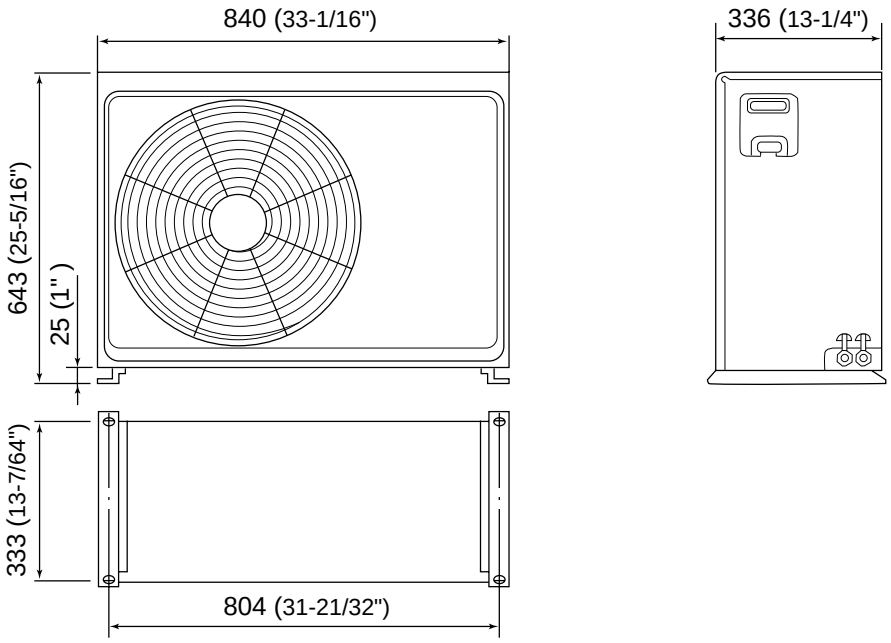
[Rear View]



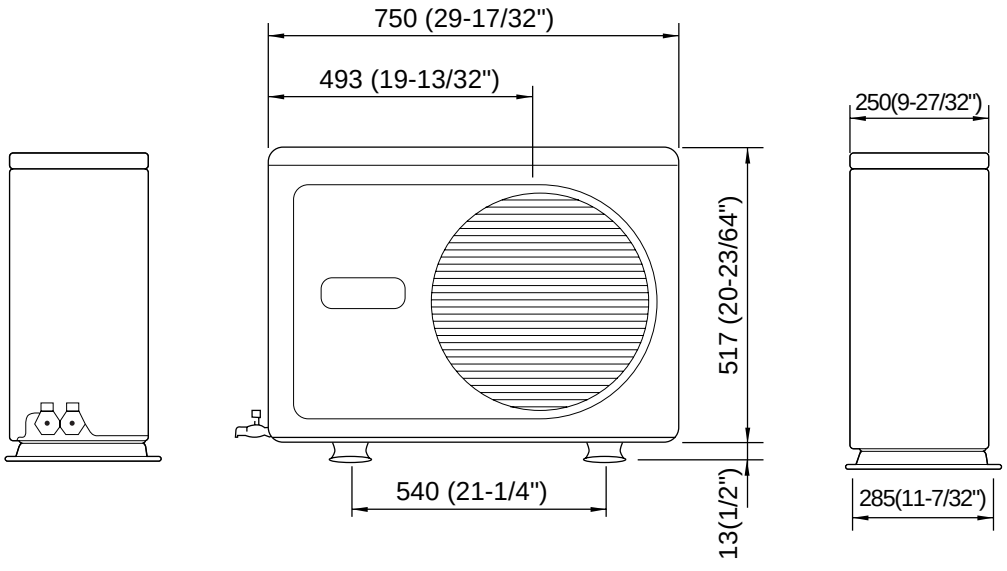
3.4.2 OUTDOOR UNIT

Models : AO ✻ 18A, 18R, 24A, 25R

Unit : mm (inch)



Models : AO ✻ 14A, 14R



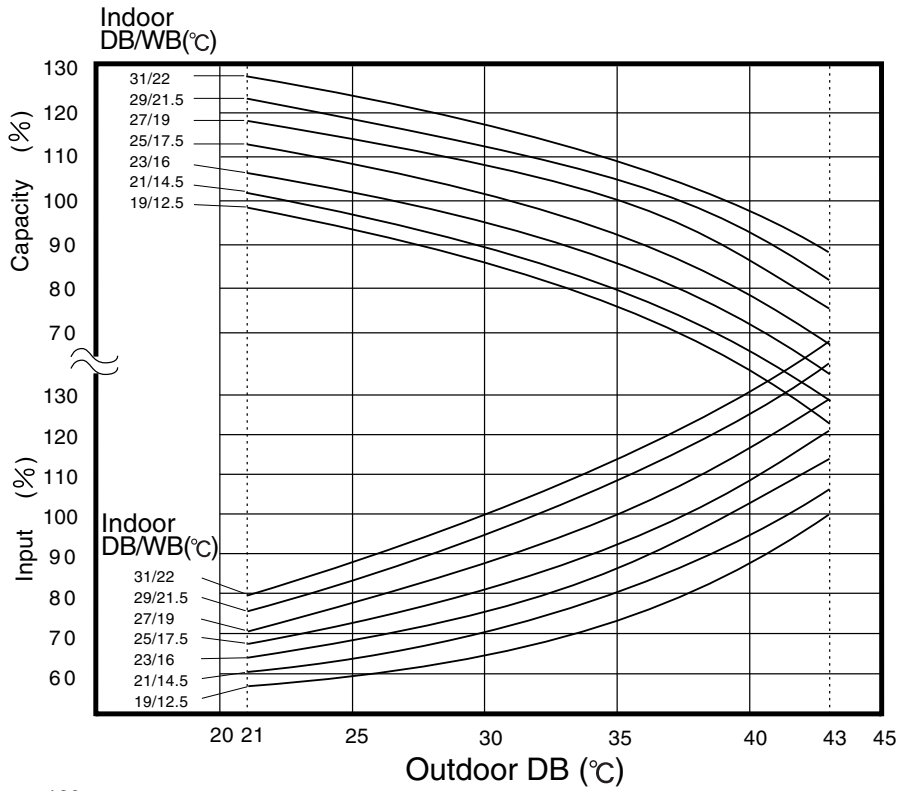
(Mounting bolt pitch)

4. DATA

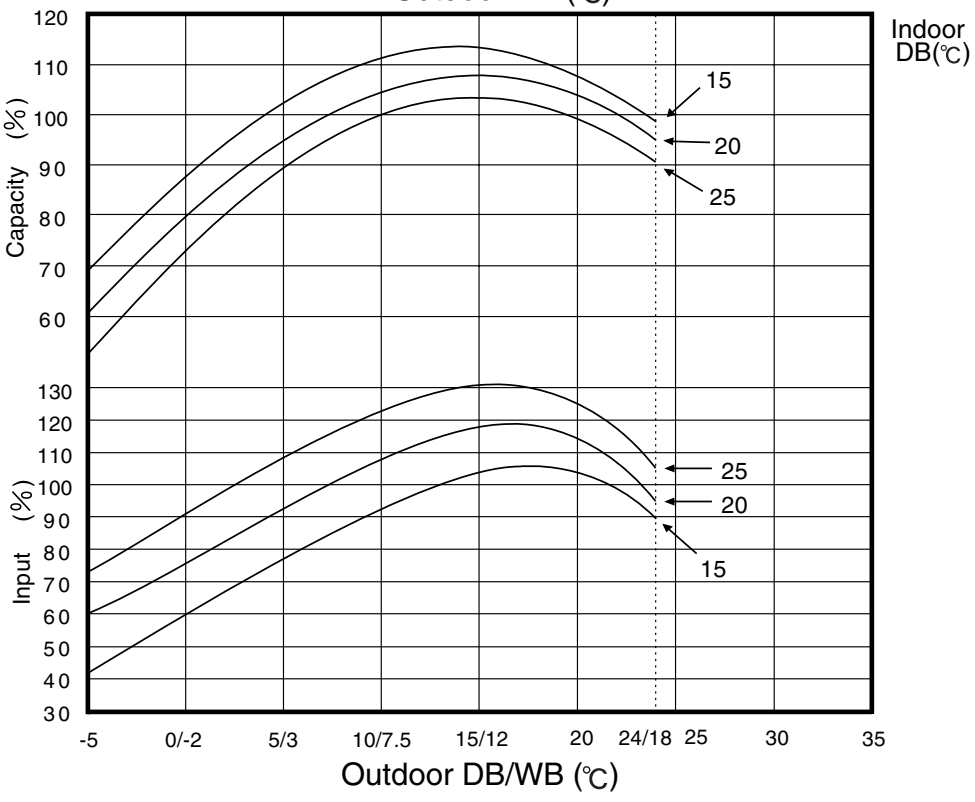
4.1 PERFORMANCE CURVE

4.1.1 MODEL : COMPACT SII & MII SERIES

Cooling

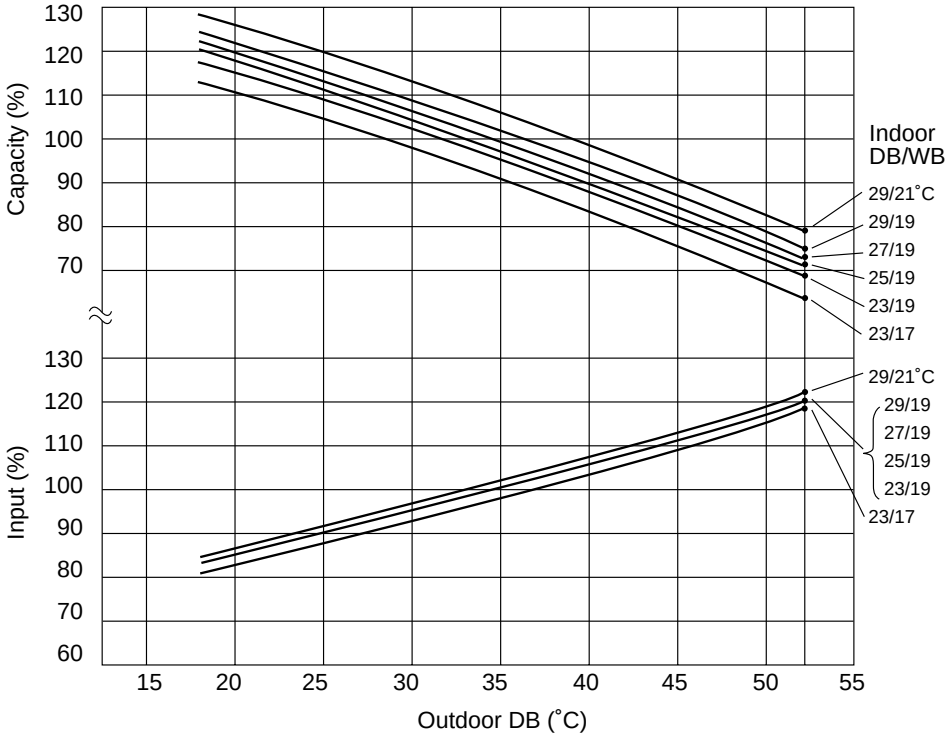


Heating



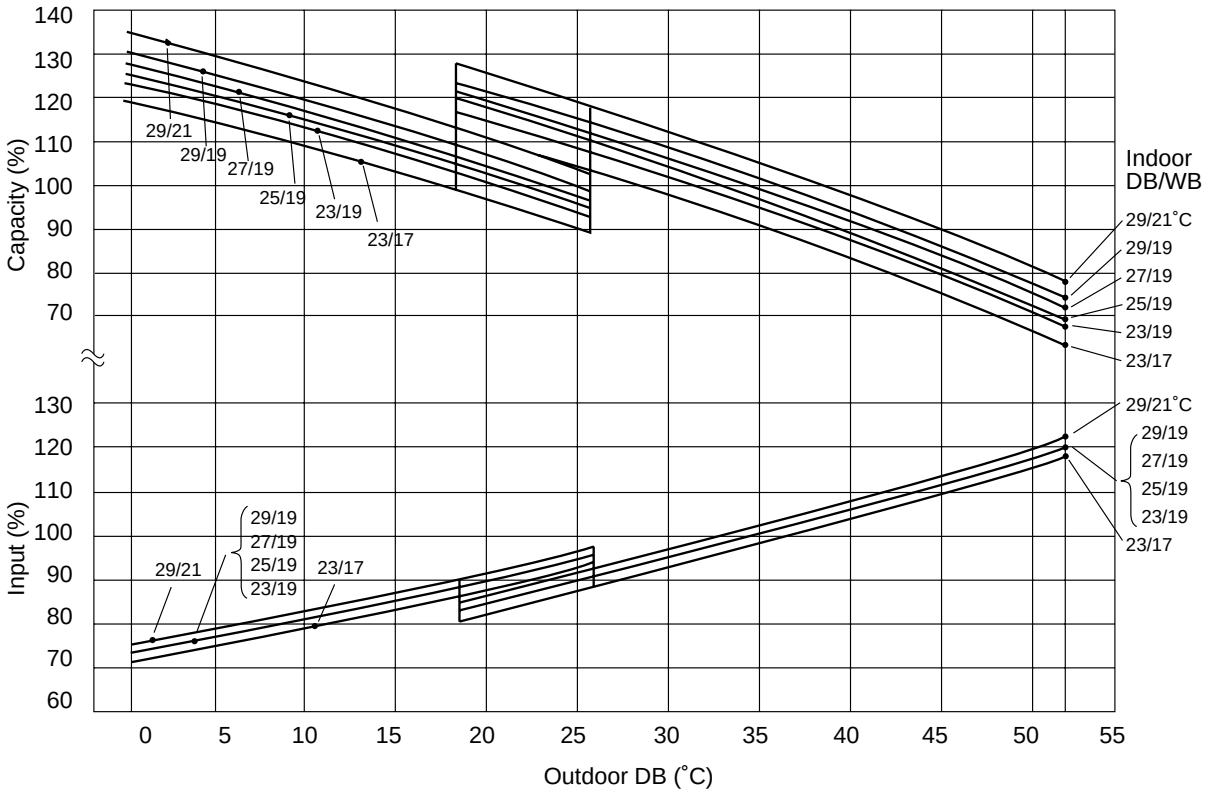
4.1.2 AS ✻ 20A, AS ✻ 24A (50Hz models)

Cooling



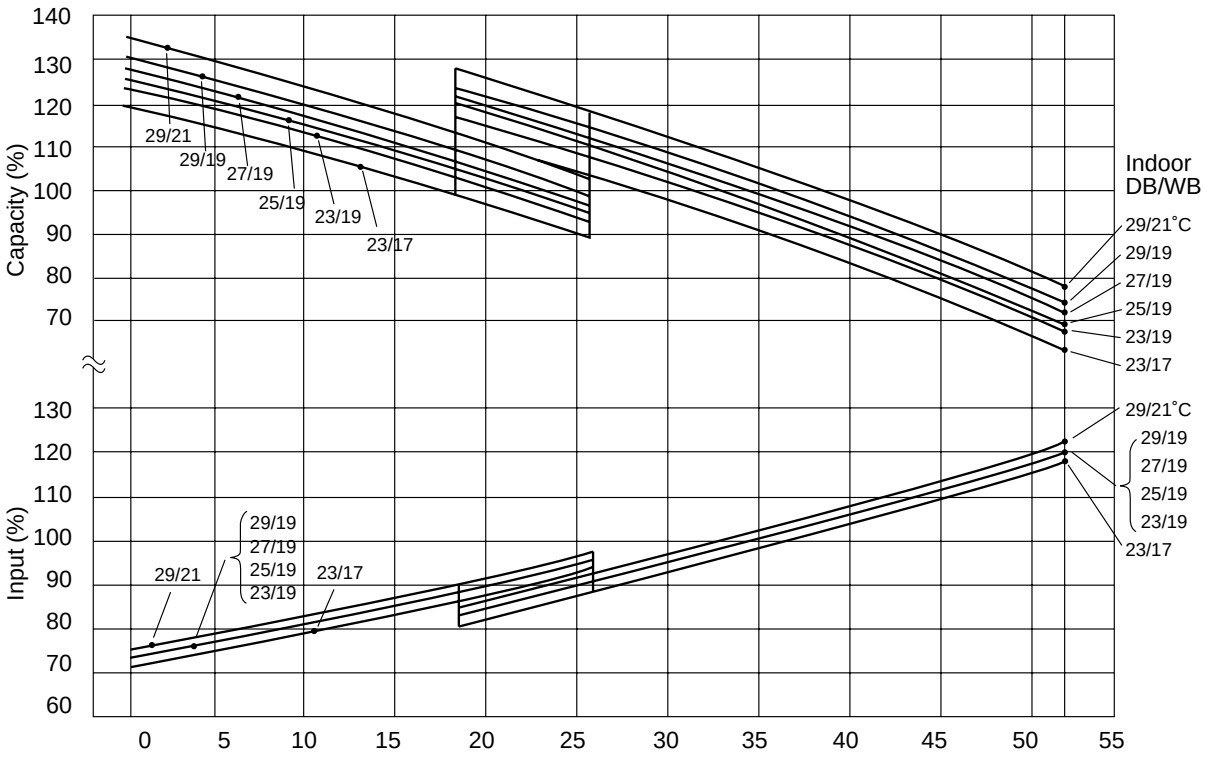
4.1.3 AS ✻ 30A (50Hz models)

Cooling

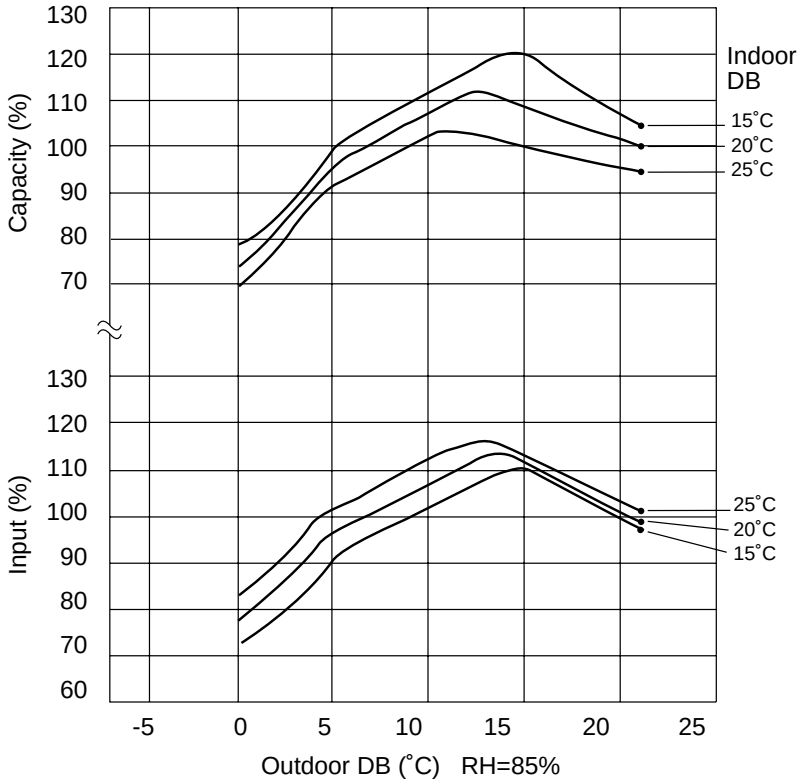


4.1.4 AS ✻ 20R, AS ✻ 24R, AS ✻ 30R (50Hz models)

Cooling

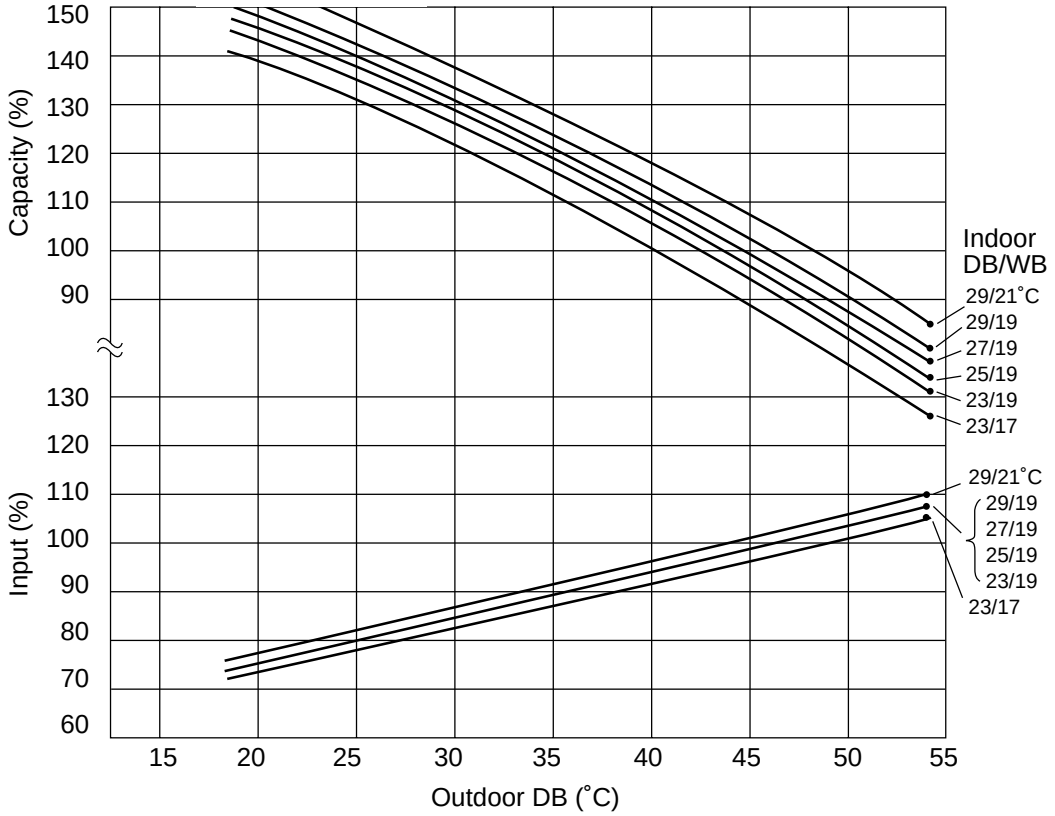


Heating

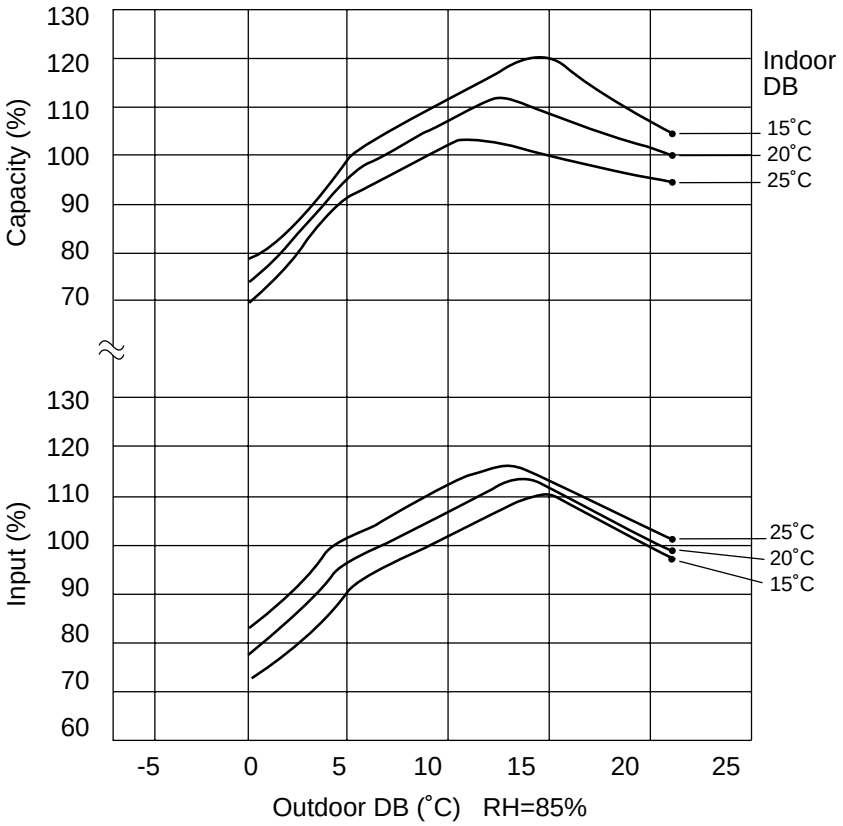


4.1.5 ASS20R, ASS24R, ASS30R (60Hz models)

Cooling

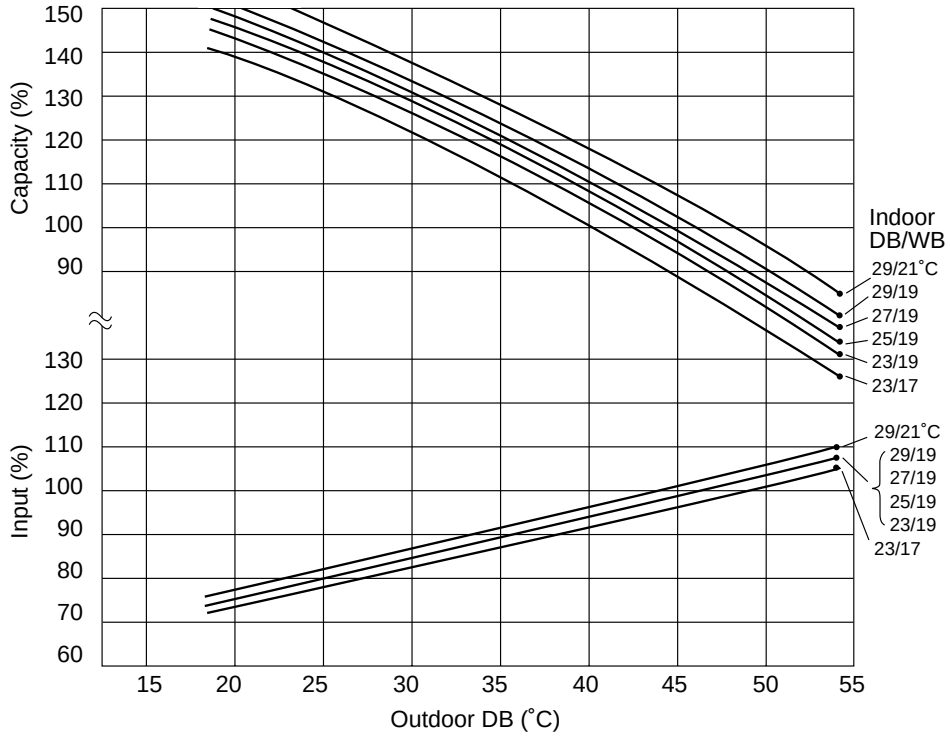


Heating



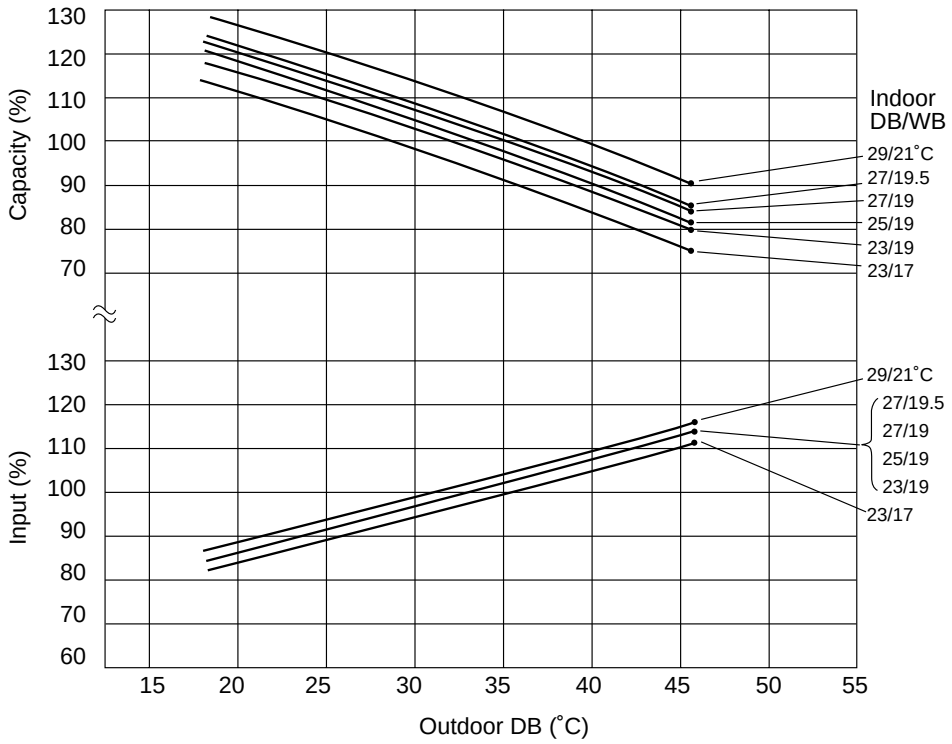
4.1.6 ASS20A, ASS24A, ASS30A (60Hz models)

Cooling



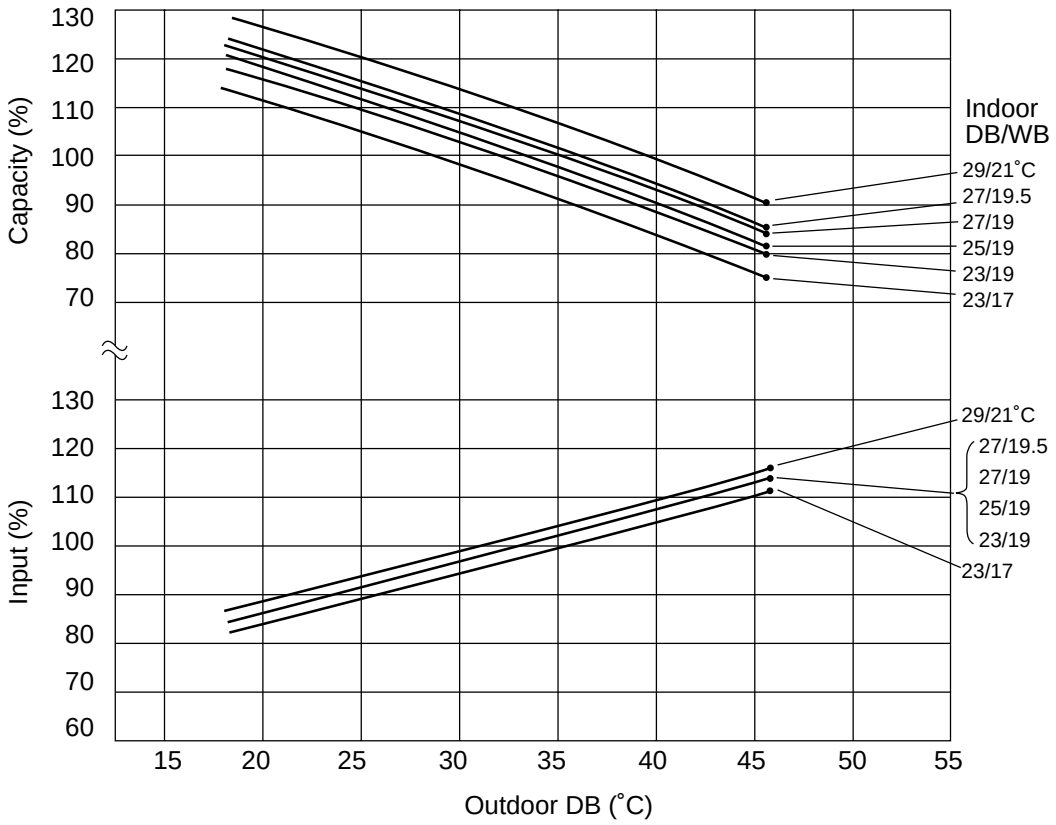
4.1.7 ACS-7502, ACS-7602 (60Hz models)

Cooling

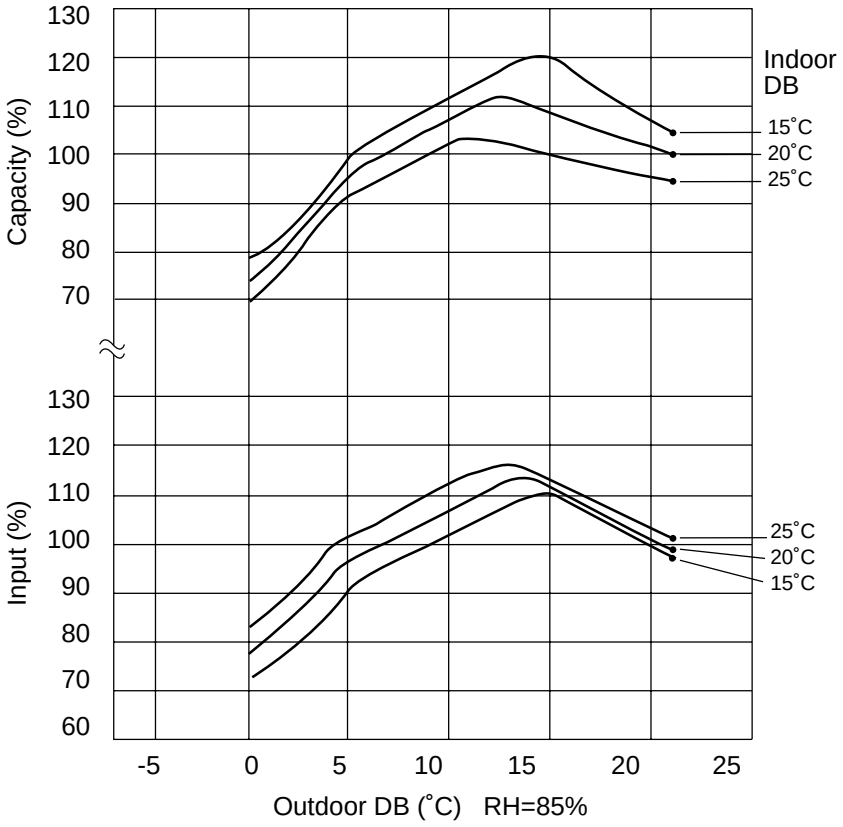


4.1.8 AB ✻ 14R (50Hz models)

Cooling

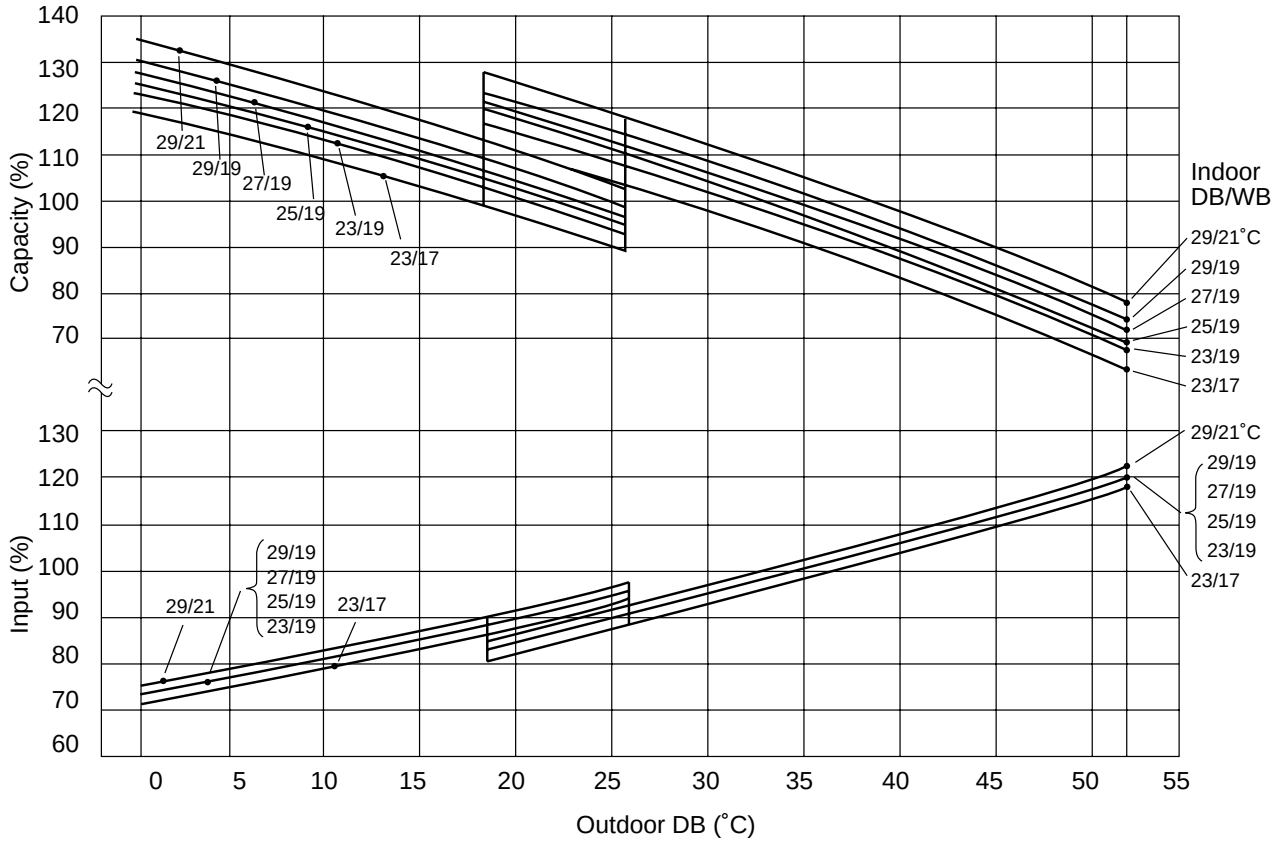


Heating

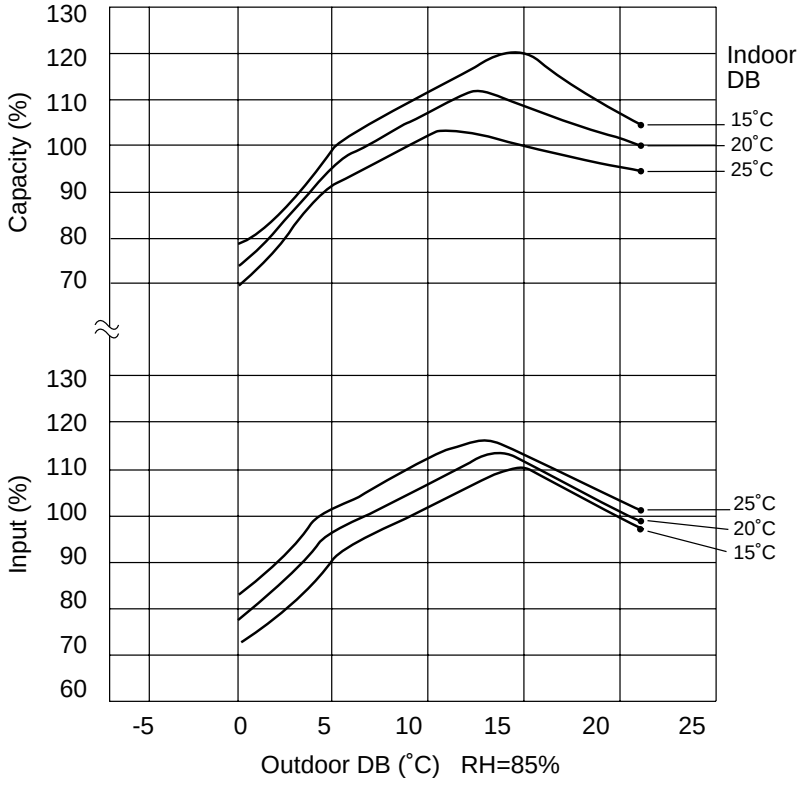


4.1.9 AB ✻ 18R, AB ✻ 24R (50Hz models)

Cooling

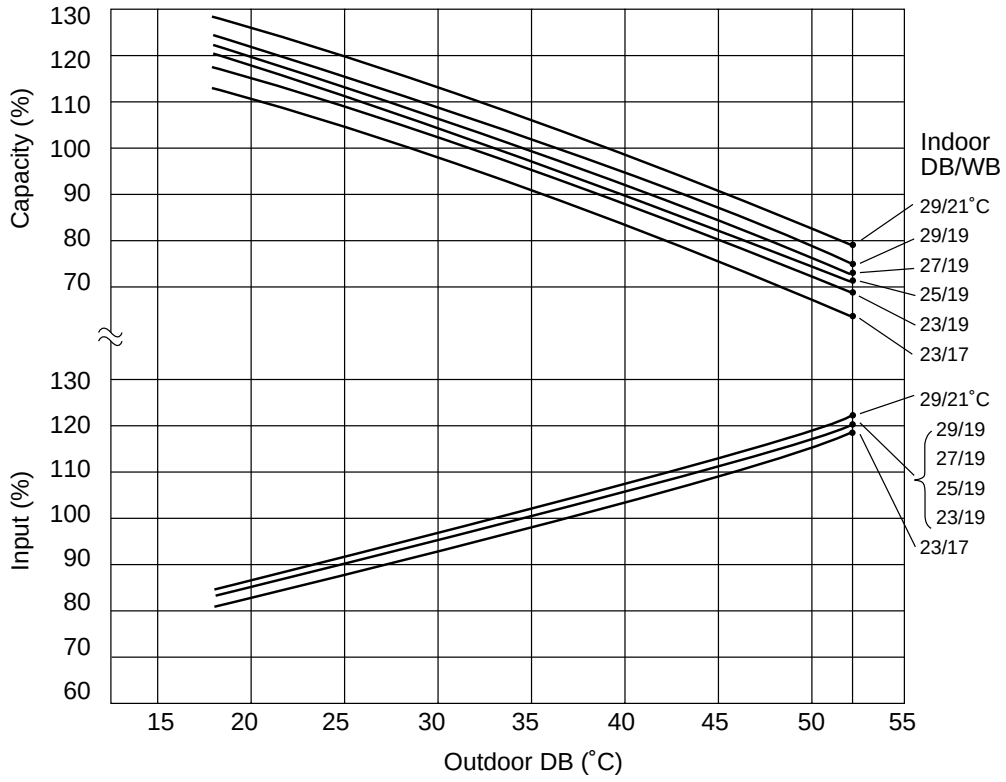


Heating



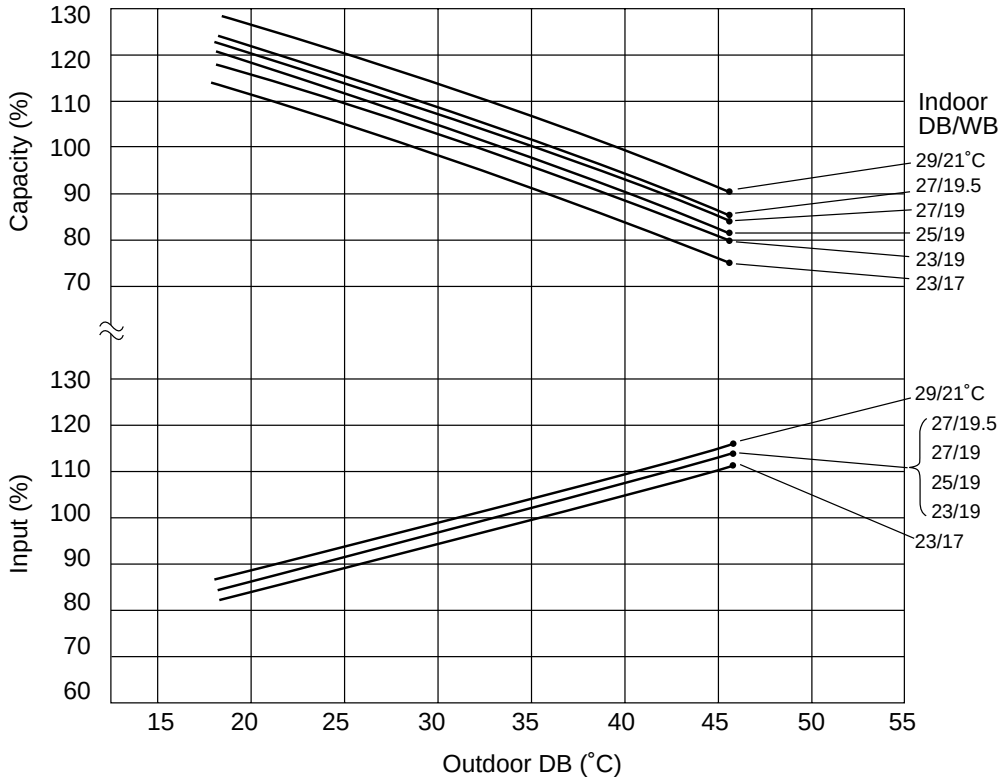
4.1.10 AB ✻ 18A, AB ✻ 24A (50Hz models)

Cooling



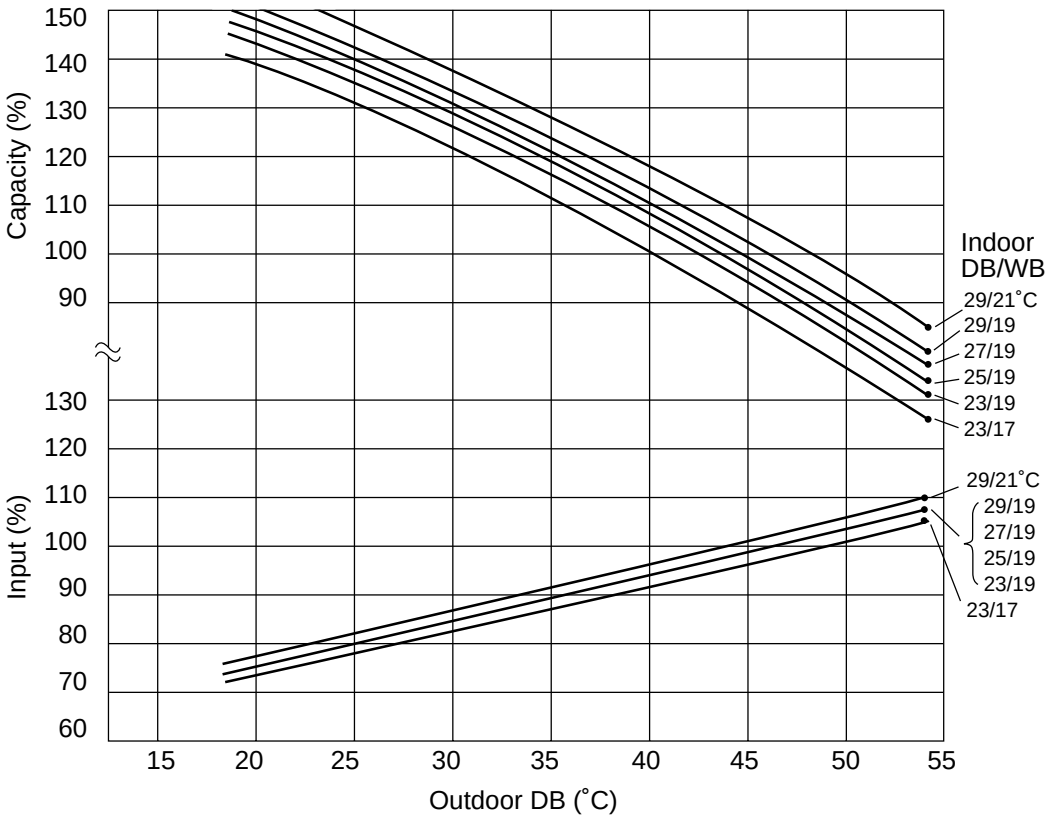
4.1.11 AB ✻ 14A (50Hz models)

Cooling



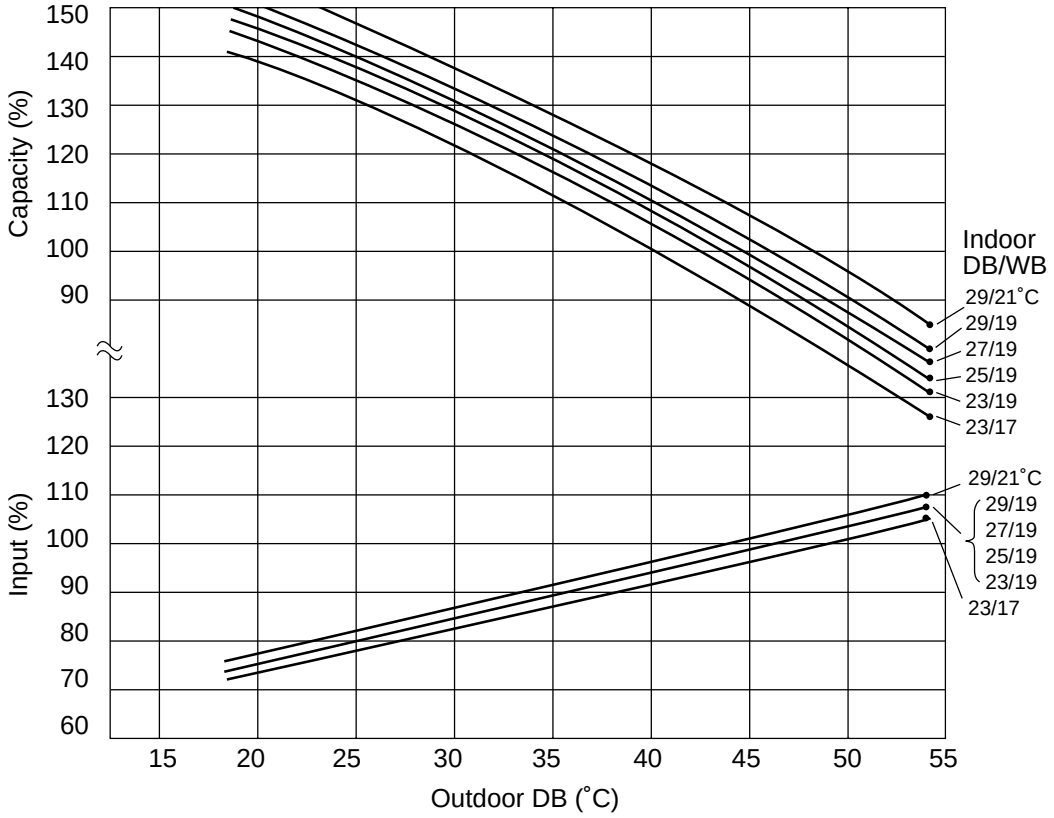
4.1.12 ABS24A (60Hz models)

Cooling

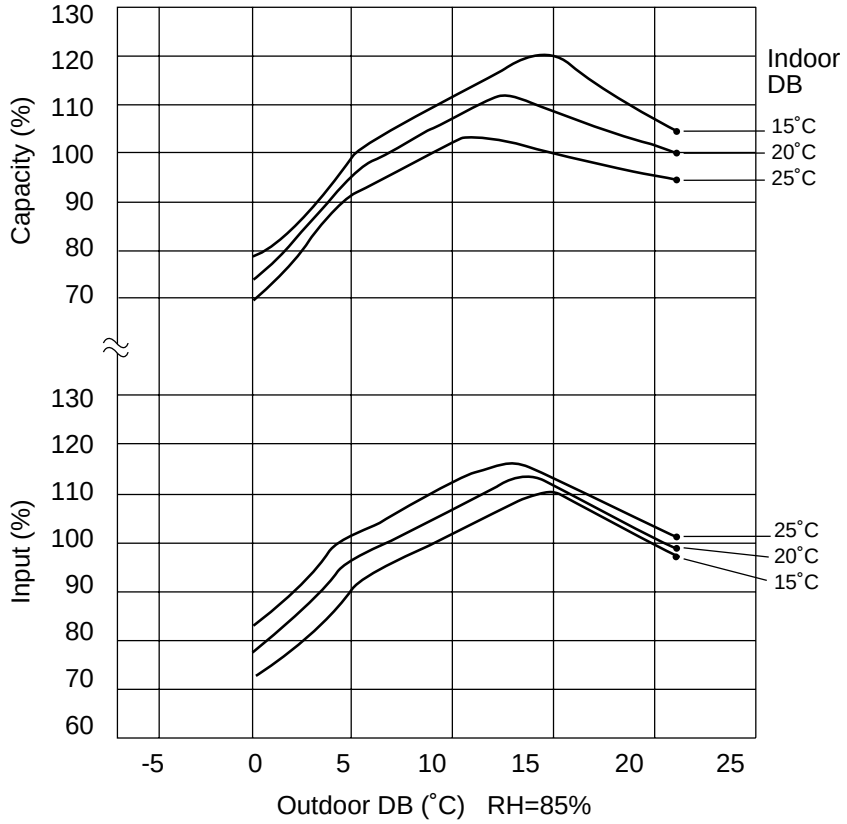


4.1.13 ABS24R (60Hz models)

Cooling



Heating



4.2 TEMPERATURE RANGE

MODEL		TEMPERATURE RANGE	
		INDOOR UNIT	OUTDOOR UNIT
AS*7A AS*9A AS*12A	COOL	Approx. 18˚C to 32˚C	Approx. 18˚C to 43˚C
	DRY		
AS*7R AS*9R AS*12R	COOL	Approx. 18˚C to 32˚C	Approx. 18˚C to 43˚C
	HEAT	Approx. 16˚C to 30˚C	Approx. -5˚C to 21˚C
AS*20A, ASS30A AS*24A (except ACS-7502 and ACS-7602)	COOL	Approx. 18˚C to 32˚C	Approx. 18˚C to 52˚C
	DRY		
ACS-7502 ACS-7602	COOL	Approx. 18˚C to 32˚C	Approx. 18˚C to 43˚C
	DRY		
ASG30A ASY30A	COOL	Approx. 18˚C to 32˚C	Approx. 0˚C to 52˚C
	DRY		
AS*20R AS*24R	COOL	Approx. 18˚C to 32˚C	Approx. 0˚C to 52˚C
	DRY		
	HEAT	Approx. 30˚C or less	Approx. 0˚C to 21˚C
AS*30R	COOL	Approx. 18˚C to 32˚C	Approx. 0˚C to 52˚C
	DRY		
	HEAT	Approx. 30˚C or less	Approx. 0˚C to 21˚C
AB*14A	COOL	Approx. 18˚C to 32˚C	Approx. 21˚C to 43˚C
	DRY		
AB*18A AB*24A	COOL	Approx. 18˚C to 32˚C	Approx. 21˚C to 52˚C
	DRY		
AB*14R	COOL	Approx. 18˚C to 32˚C	Approx. 21˚C to 43˚C
	DRY		
	HEAT	Approx. 16˚C to 30˚C	Approx. 0˚C to 21˚C
AB*18R AB*24R	COOL	Approx. 18˚C to 32˚C	Approx. 0˚C to 52˚C
	DRY		
	HEAT	Approx. 16˚C to 30˚C	Approx. 0˚C to 21˚C

Note: · Outdoor Unit

Standard model ——— 21 to 43˚C (Cooling)
0 to 21˚C (Heating)

Tropicalized model ——— 21 to 52˚C (Cooling)

Tropicalized model with
low ambient cooling operation —— 0 to 52˚C (Cooling)

4.3 REFRIGERANT CHARGING

4.3.1 COMPACT SII & MII SERIES

Models \ Pipe length		16ft (5m)	23ft (7m)	33ft (10m)	Additional refrigerant g/m
ADDITIONAL REFRIGERANT	AS*7A, AS*7R AS*9A, AS*9R AS*12A, AS*12R	None	32g	80g	16 g

Note: When the piping is longer than 5m, additional charging is necessary.

4.3.2 WALL MOUNTED LARGE AS-SERIES

Models \ Pipe length		16ft (5m)	33ft (10m)	49ft (15m)	66ft (20m)	82ft (25m)	98ft (30m)	Additional refrigerant g/m(oz/ft)
FULL CHARGE AMOUNT	AST 20A ASY 20A ASG 20A	1,240g (43.7 oz)	1,300g (45.9 oz)	1,360g (48.0 oz)	1,420g (50.1 oz)			12g (0.42 oz)
	ASS 20A	1,290g (45.5 oz)	1,350g (47.6 oz)	1,410g (49.7 oz)	1,470g (51.9 oz)			12g (0.42 oz)
	ACS-7502	1,870g (66.0 oz)	1,930g (68.1 oz)	1,990g (70.2 oz)	2,050g (72.3 oz)			12g (0.42 oz)
	AST 20R ASY 20R ASG 20R	1,800g (63.5 oz)	2,050g (72.3 oz)	2,300g (81.1 oz)	2,550g (89.9 oz)			50g (1.76 oz)
	ASS 20R	1,690g (59.6 oz)	1,930g (68.1 oz)	2,170g (70.5 oz)	2,410g (85.0 oz)			48g (1.69 oz)
	AST 24A ASY 24A ASG 24A	1,950g (68.8 oz)	2,010g (70.9 oz)	2,070g (73.0 oz)	2,130g (75.1 oz)			12g (0.42 oz)
	ASS 24A	1,750g (61.7 oz)	1,810g (63.8 oz)	1,870g (66.0 oz)	1,930g (68.1 oz)			12g (0.42 oz)
	ACS-7602	2,020g (71.3 oz)	2,080g (73.4 oz)	2,140g (75.5 oz)	2,200g (77.6 oz)			12g (0.42 oz)
	AST 24R ASY 24R ASG 24R	2,070g (73.0 oz)	2,320g (81.8 oz)	2,570g (90.7 oz)	2,820g (99.5 oz)			50g (1.76 oz)
	ASS 24R	2,070g (73.0 oz)	2,240g (79.0 oz)	2,140g (85.0 oz)	2,580g (91.0 oz)			34g (1.20 oz)
	ASY 30A ASG 30A	1,800g (63.5 oz)	1,885g (66.5 oz)	1,970g (69.5 oz)	2,055g (72.5 oz)	2,140g (75.5 oz)	2,225g (78.5 oz)	17g (0.60 oz)
	ASS 30A	1,800g (63.5 oz)	1,885g (66.5 oz)	1,970g (69.5 oz)	2,055g (72.5 oz)	2,140g (75.5 oz)	2,225g (78.5 oz)	17g (0.60 oz)
	ASY 30R ASG 30R	1,700g (60.0 oz)	1,950g (66.5 oz)	2,200g (69.5 oz)	2,450g (72.5 oz)	2,700g (75.5 oz)		50g (1.76 oz)
	ASS 30R	1,800g (63.5 oz)	2,100g (74.1 oz)	2,400g (84.7 oz)	2,700g (95.2 oz)	3,000g (106.0 oz)	3,300g (116.4 oz)	60g (2.12 oz)

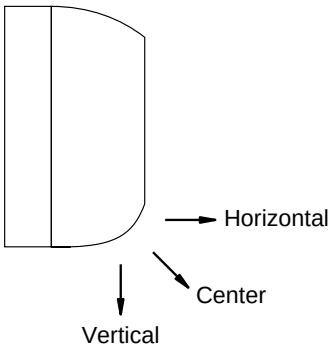
4.3.3 FLOOR / CEILING UNIVERSAL AB-SERIES

Models \ Pipe length		16ft (5m)	33ft (10m)	49ft (15m)	66ft (20m)	Additional refrigerant g/m(oz/ft)
FULL CHARGE AMOUNT	AB*14A	1,000g (35.2 oz)	1,150g (40.5 oz)			30g (1.06 oz)
	AB*14R	1,050g (36.9 oz)	1,200g (42.2 oz)			30g (1.06 oz)
	AB*18A	1,140g (40.1 oz)	1,200g (42.2 oz)	1,260g (44.4 oz)	1,320g (46.5 oz)	12g (0.42 oz)
	AB*18R	1,690g (59.5 oz)	1,940g (68.3 oz)	2,190g (77.1 oz)	2,440g (85.9 oz)	50g (1.76 oz)
	AB*24A (50Hz)	1,950g (68.6 oz)	2,010g (70.8 oz)	2,070g (72.9 oz)	2,130g (75.1 oz)	12g (0.42 oz)
	AB*24R (50Hz)	2,070g (72.9 oz)	2,320g (81.7 oz)	2,570g (90.5 oz)	2,820g (99.3 oz)	50g (1.76 oz)
	AB*24A (60Hz)	1,750g (61.6 oz)	1,810g (63.7 oz)	1,870g (65.8 oz)	1,930g (67.9 oz)	12g (0.42 oz)
	AB*24R (60Hz)	2,070g (72.9 oz)	2,320g (81.7 oz)	2,570g (90.5 oz)	2,820g (99.3 oz)	50g (1.76 oz)

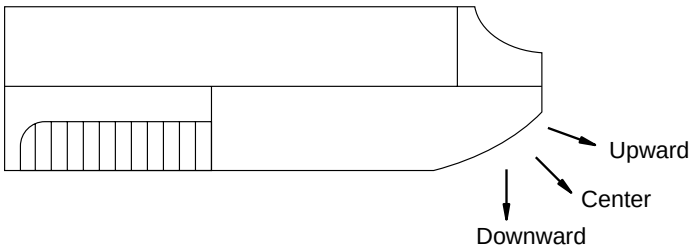
4.4 AIR VELOCITY DISTRIBUTION

4.4.1 AIR DISCHARGE ANGLE

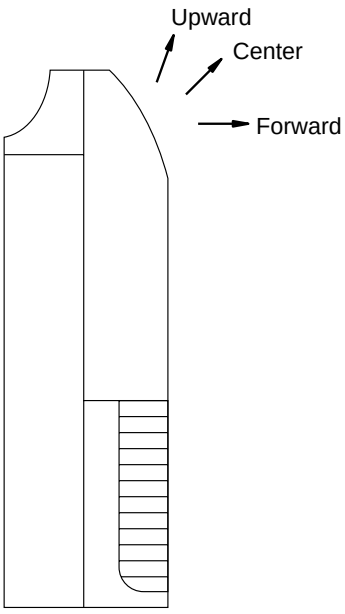
● AS : WALL MOUNTED



● AB : UNDER CEILING



● AB : FLOOR CONSOLE



4.4.2 COMPACT SⅡ SERIES MODELS : AS＊7A, 7R

Note :
Fan speed : Hi
Operation : FAN
Voltage : 240V

Fig. 4.4.2-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

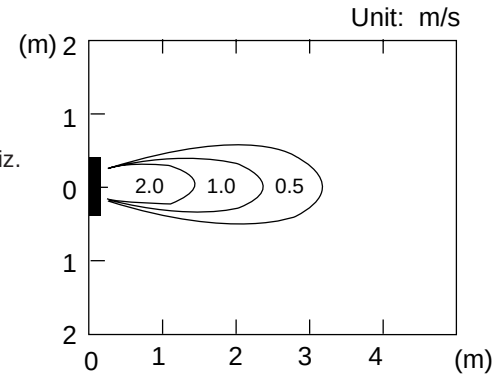


Fig. 4.4.2-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left

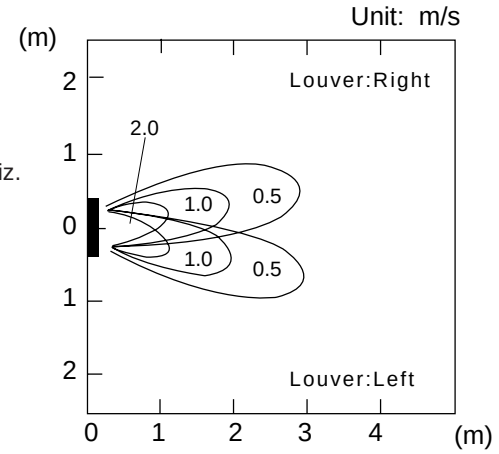


Fig. 4.4.2-3
SIDE VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

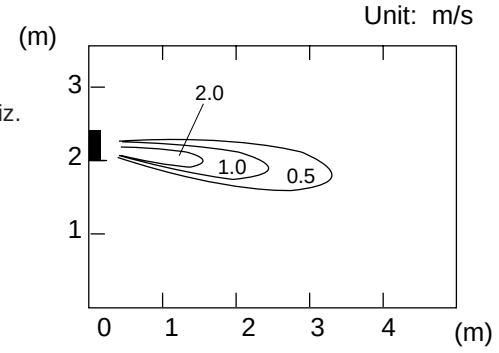
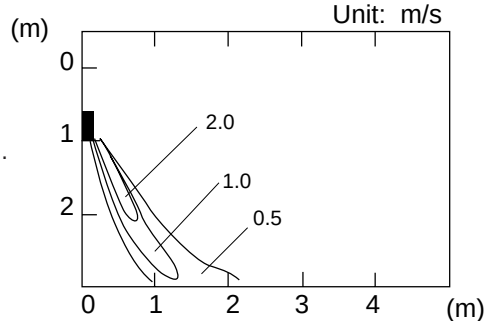


Fig. 4.4.2-4
SIDE VIEW
FLOW CONTROL PANEL : Vert .
LOUVER : Center



4.4.3 COMPACT MII SERIES MODELS : AS＊9A, 9R, 12A, 12R

Note :	
Fan speed	: Hi
Operation	: FAN
Voltage	: 240V

Fig. 4.4.3-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

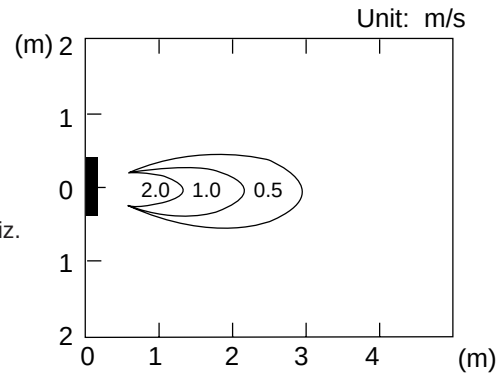


Fig. 4.4.3-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left

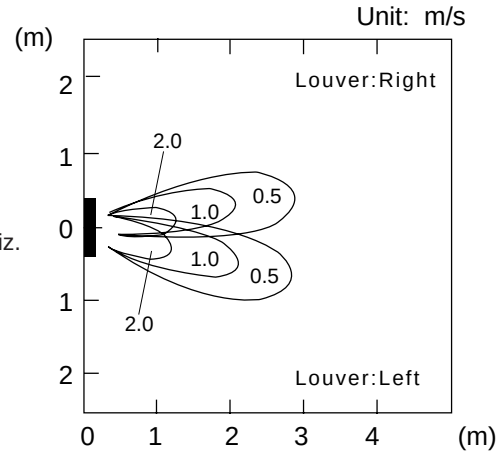


Fig. 4.4.3-3
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

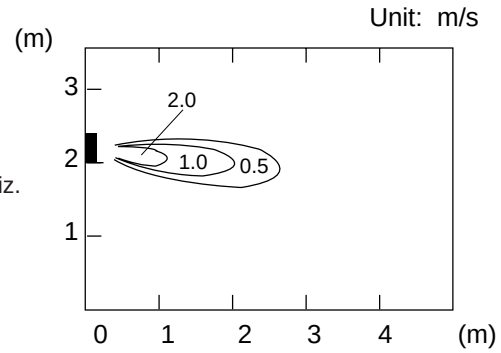
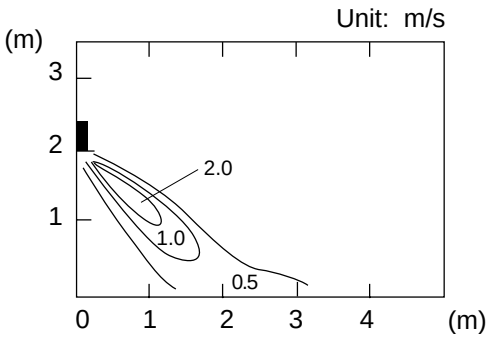


Fig. 4.4.3-4
TOP VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center



4.4.4 AIR VELOCITY DISTRIBUTION
MODELS : AS ✻ 20A, AS ✻ 20R, ACS-7502 (50, 60Hz models)

Fig. 4.4.4-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

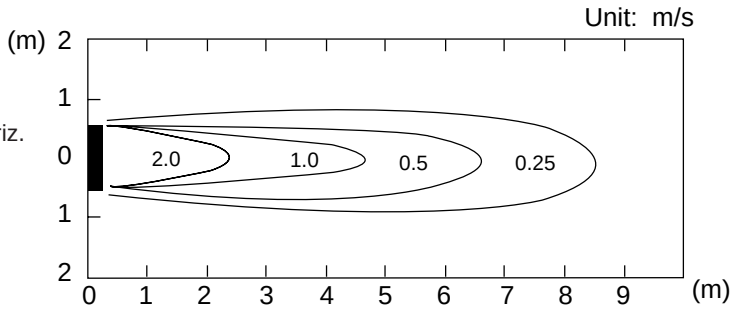
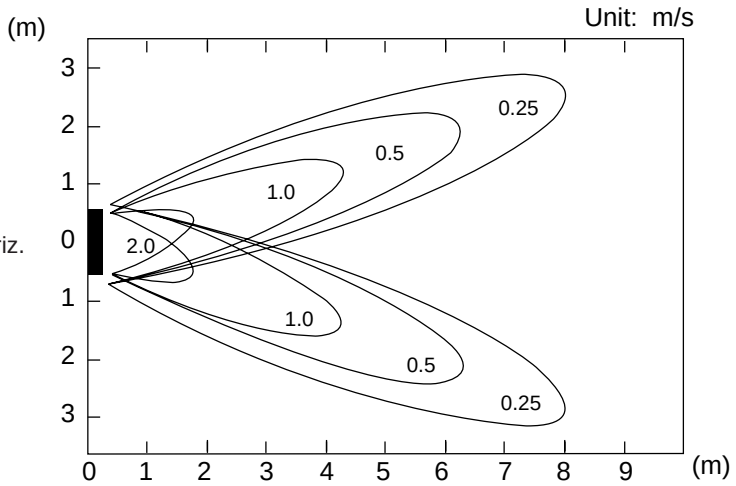


Fig. 4.4.4-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left



Condition	
Fan speed	: High
Operation mode	: Fan
Voltage	: 240V
	220V (60Hz model)

Fig. 4.4.4-3
SIDE VIEW
FLONT CONTROL PANEL : Horiz.
LOUVER : Center

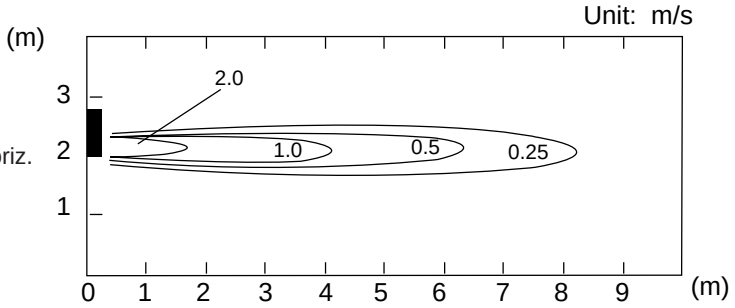
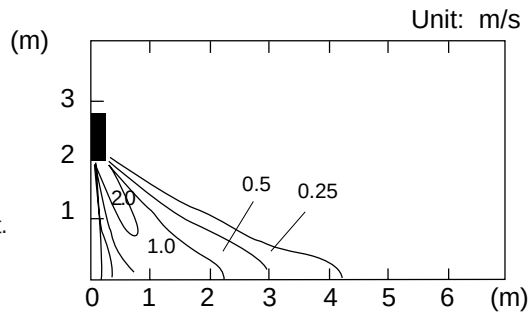


Fig. 4.4.4-4
SIDE VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center



4.4.5 AIR VELOCITY DISTRIBUTION
MODELS : AS ✻ 24A, AS ✻ 24R, ACS-7602 (50, 60Hz models)

Fig. 4.4.5-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

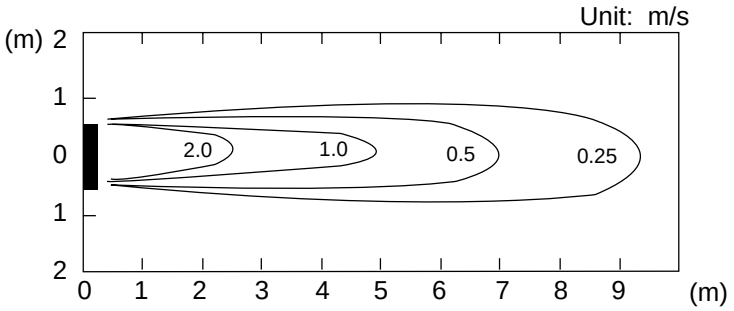
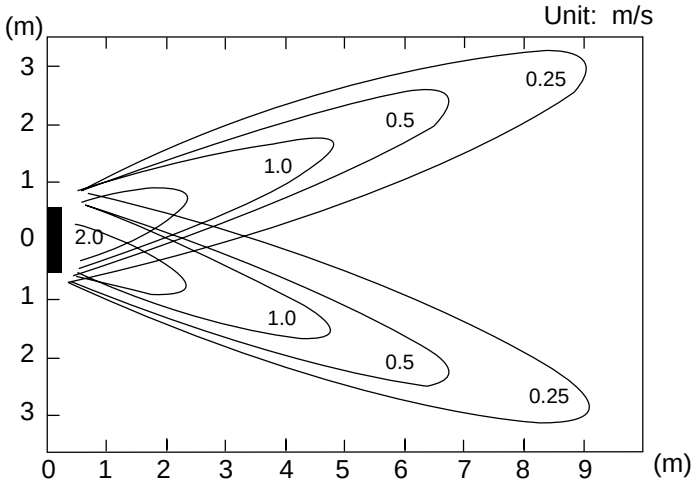


Fig. 4.4.5-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left



Condition	
Fan speed	: High
Operation mode	: Fan
Voltage	: 240V
	220V (60Hz model)

Fig. 4.4.5-3
SIDE VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

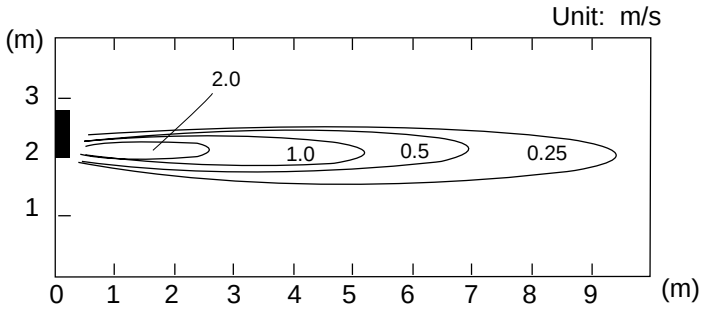
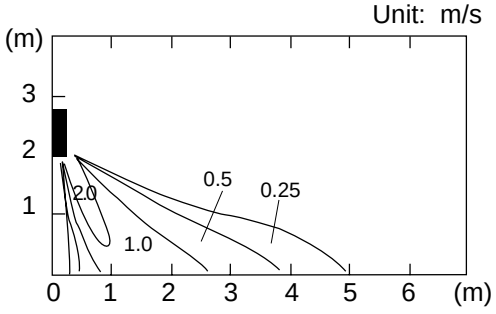


Fig. 4.4.5-4
SIDE VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center



4.4.6 AIR VELOCITY DISTRIBUTION
MODELS : AS ✻ 30A, AS ✻ 30R (50, 60Hz models)

Fig. 4.4.6-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

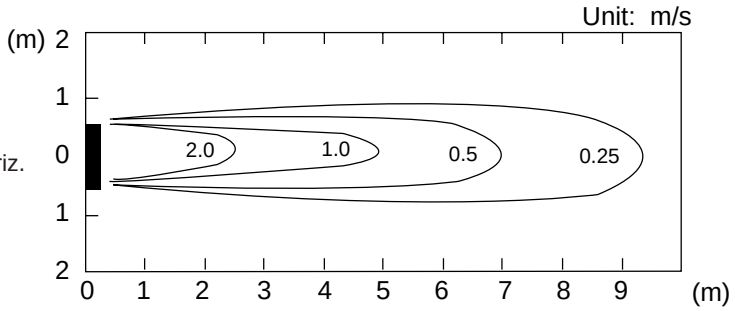
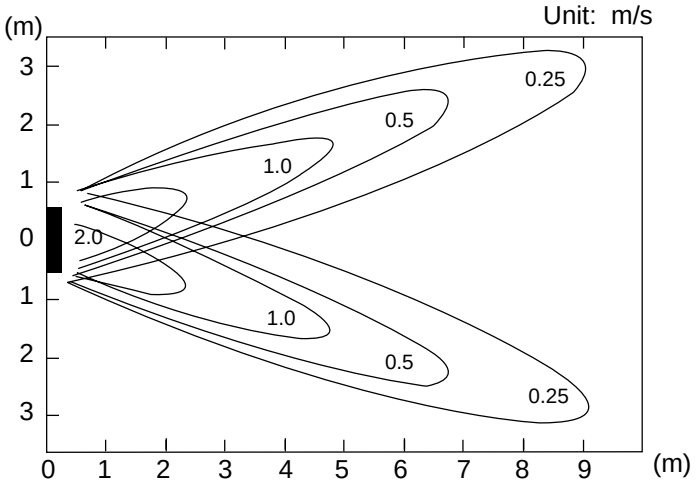


Fig. 4.4.6-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left



Condition	
Fan speed	: High
Operation mode	: Fan
Voltage	: 240V
	220V (60Hz model)

Fig. 4.4.6-3
SIDE VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

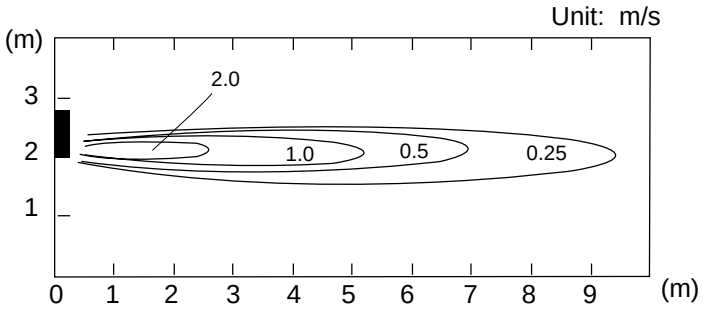
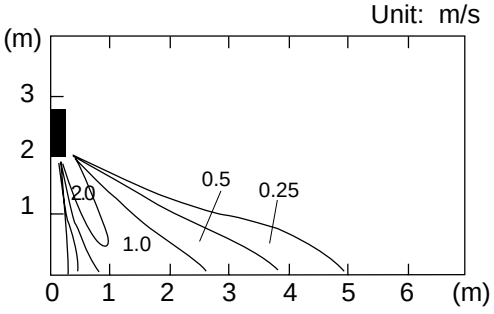


Fig. 4.4.6-4
SIDE VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center



4.4.7 AIR VELOCITY DISTRIBUTION MODELS : AB ✻ 14 (FLOOR CONSOLE)

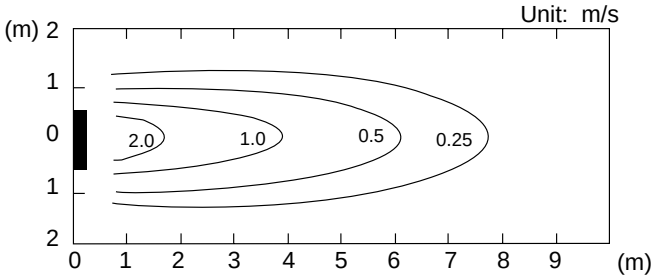


Fig. 4.4.7-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

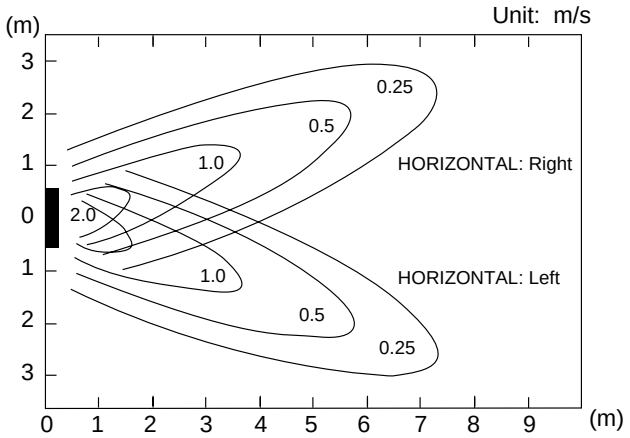


Fig. 4.4.7-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left

Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

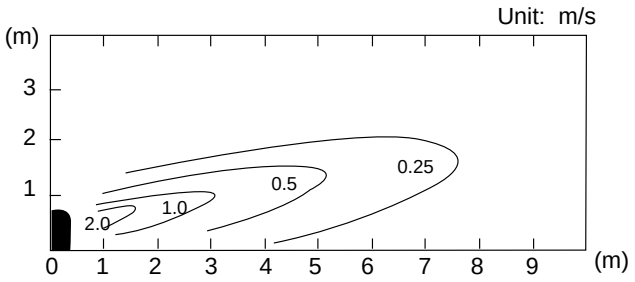


Fig. 4.4.7-3
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

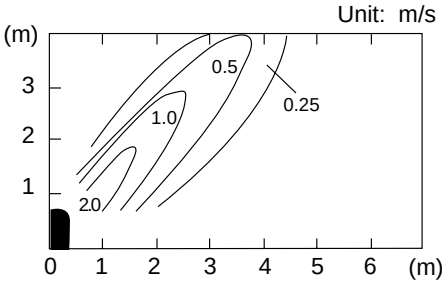


Fig. 4.4.7-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

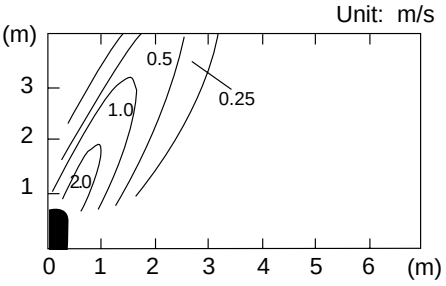


Fig. 4.4.7-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.8 AIR VELOCITY DISTRIBUTION
MODELS : AB ✻ 14 (UNDER CEILING)

Fig. 4.4.8-1
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Center

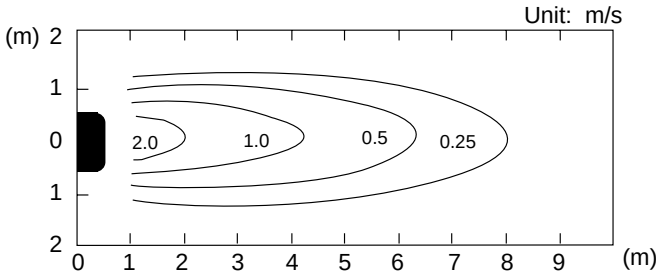
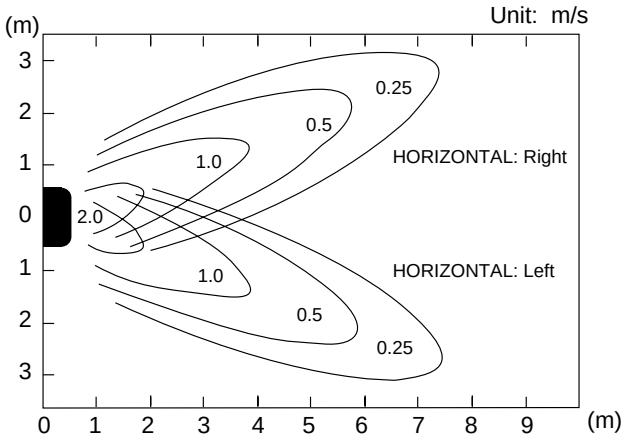


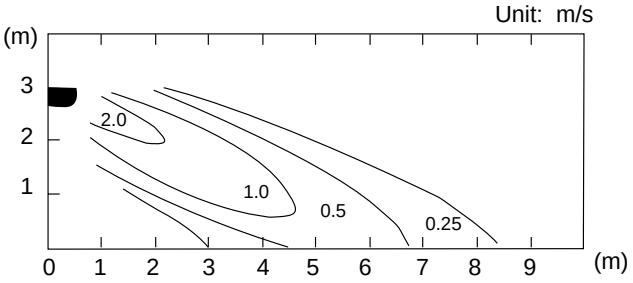
Fig. 4.4.8-2
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Right & Left



Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.8-3
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center



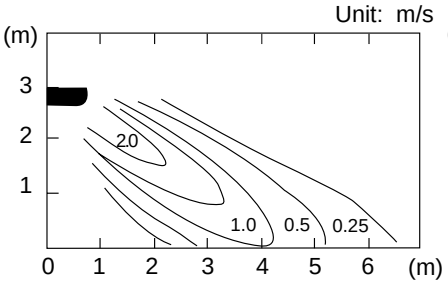


Fig. 4.4.8-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

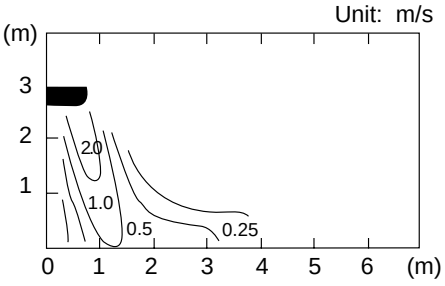


Fig. 4.4.8-5
SIDE VIEW
VERTICAL : Downward
HORIZONTAL : Center

4.4.9 AIR VELOCITY DISTRIBUTION MODELS : AB ✻ 18 (FLOOR CONSOLE)

Fig. 4.4.9-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

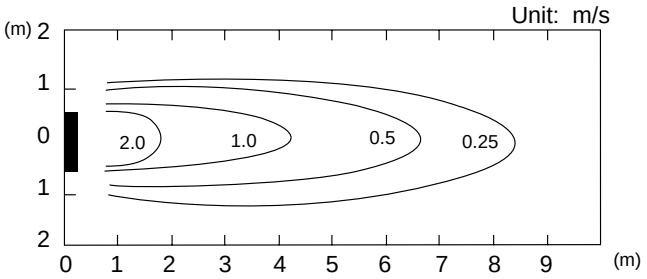
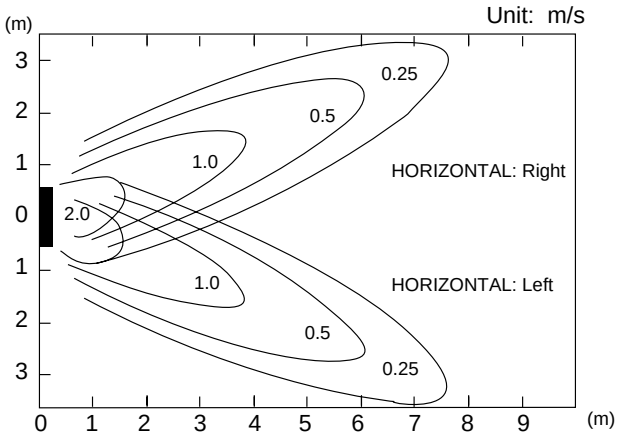


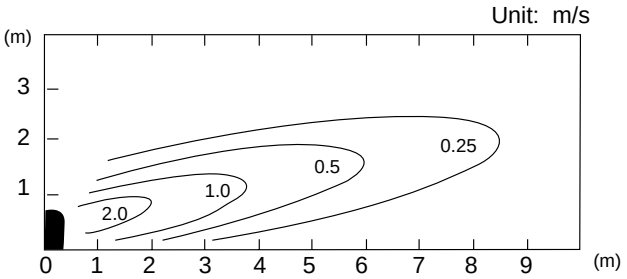
Fig. 4.4.9-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left



Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.9-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center



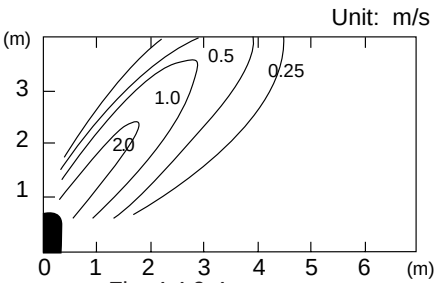


Fig. 4.4.9-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

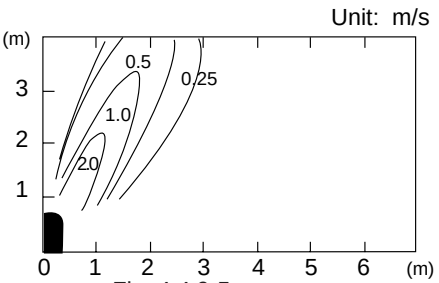


Fig. 4.4.9-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.10 AIR VELOCITY DISTRIBUTION MODELS : AB ✻ 18 (UNDER CEILING)

Fig. 4.4.10-1
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Center

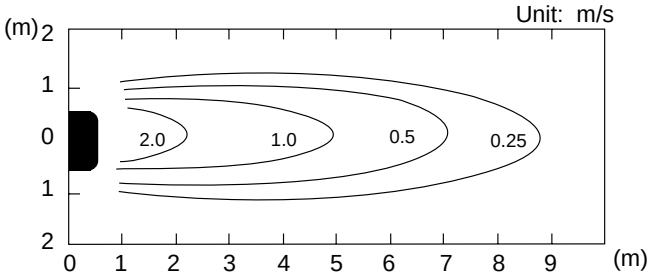
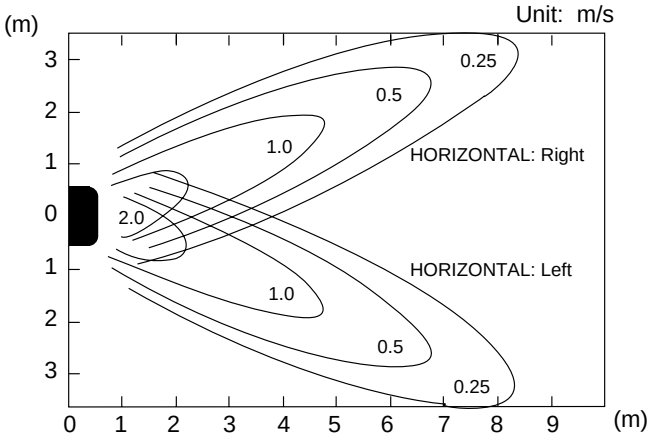


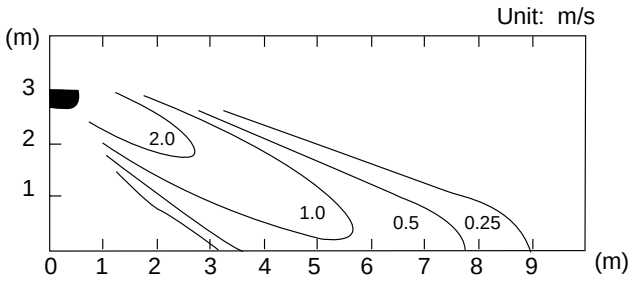
Fig. 4.4.10-2
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Right & Left



Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.10-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center



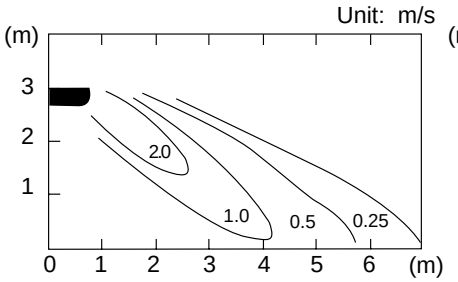


Fig. 4.4.10-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

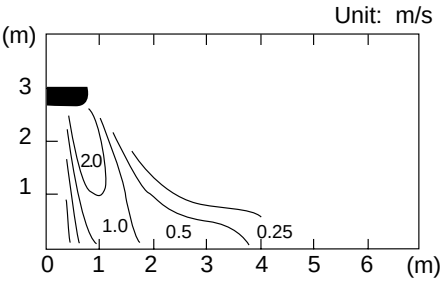


Fig. 4.4.10-5
SIDE VIEW
VERTICAL : Downward
HORIZONTAL : Center

4.4.11 AIR VELOCITY DISTRIBUTION MODELS : AB ✻ 24 (FLOOR CONSOLE)

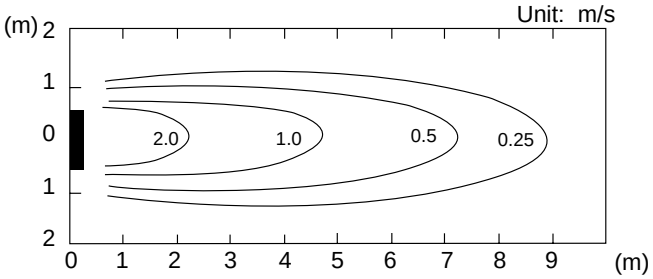


Fig. 4.4.11-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

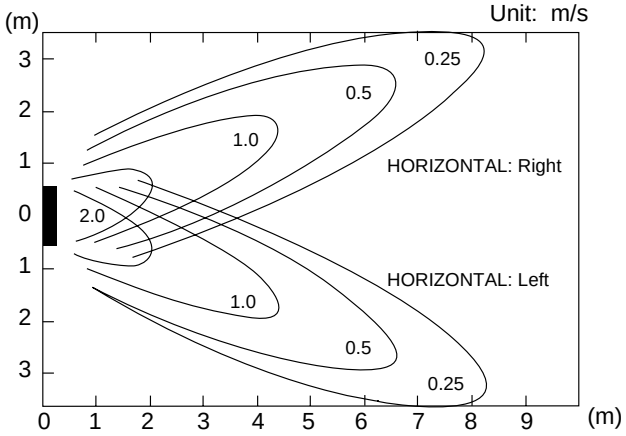


Fig. 4.4.11-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left

Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V (50Hz)
220V (60Hz)

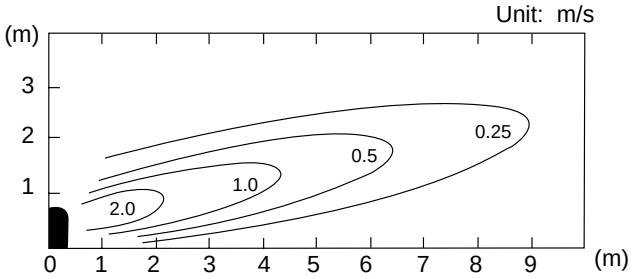


Fig. 4.4.11-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center

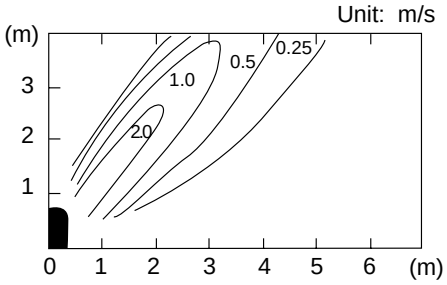


Fig. 4.4.11-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

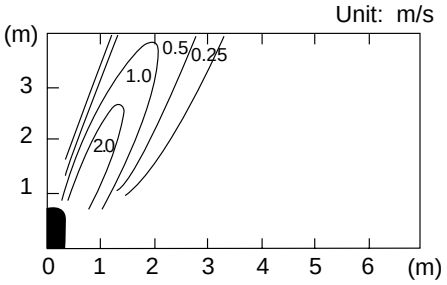


Fig. 4.4.11-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.12 AIR VELOCITY DISTRIBUTION MODELS : AB ✻ 24 (UNDER CEILING)

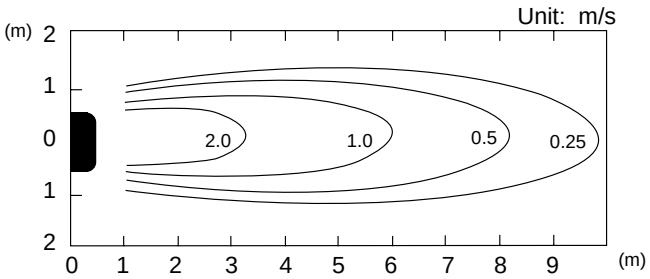


Fig. 4.4.12-1
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Center

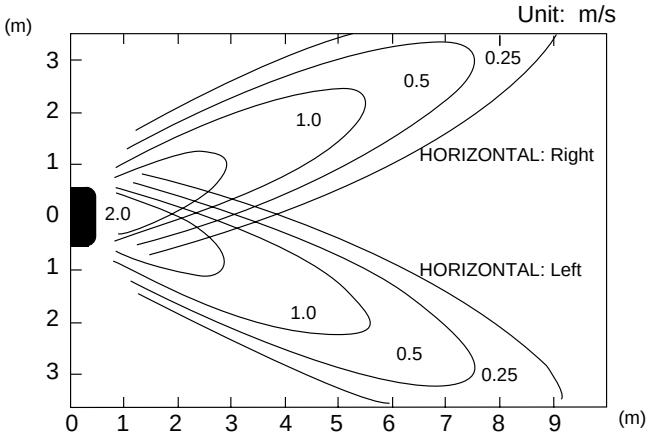


Fig. 4.4.12-2
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Right & Left

Note :
The location of vertical louvers is shown on page 4-14.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V (50Hz)
220V (60Hz)

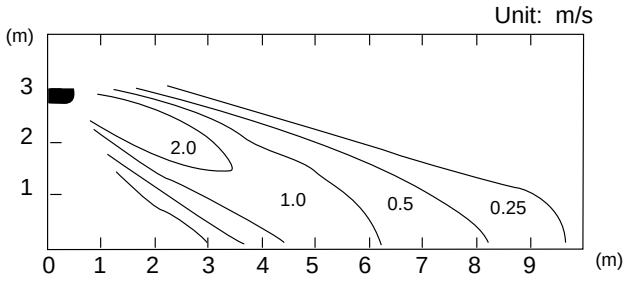


Fig. 4.4.12-3
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

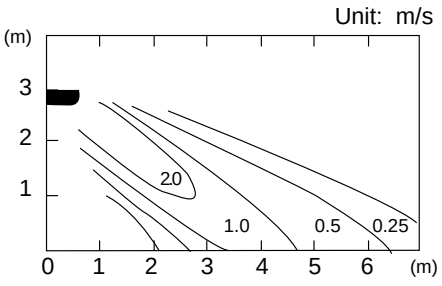


Fig. 4.4.12-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

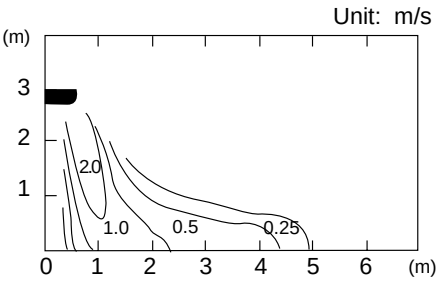


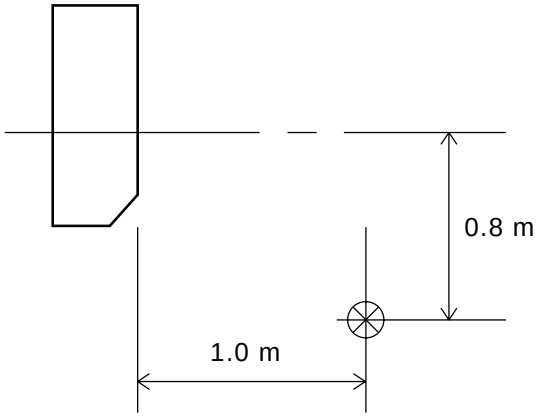
Fig. 4.4.12-5
SIDE VIEW
VERTICAL : Downward
HORIZONTAL : Center

4.5 NOISE LEVEL MEASUREMENT

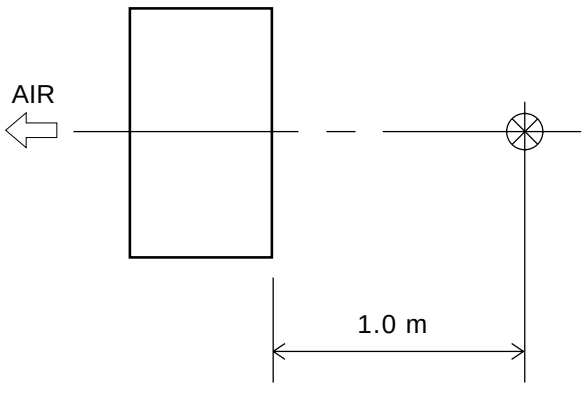
4.5.1 NOISE LEVEL CHECK POINTS

WALL MOUNTED TYPE

(1) INDOOR UNIT



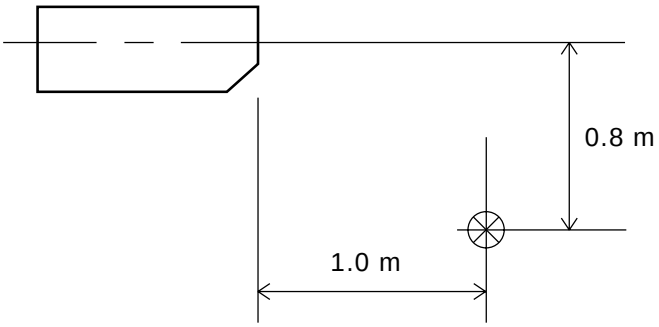
(2) OUTDOOR UNIT



UNIVERSAL TYPE

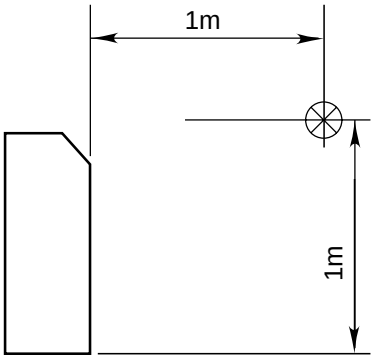
(1) INDOOR UNIT

UNDER CEILING TYPE

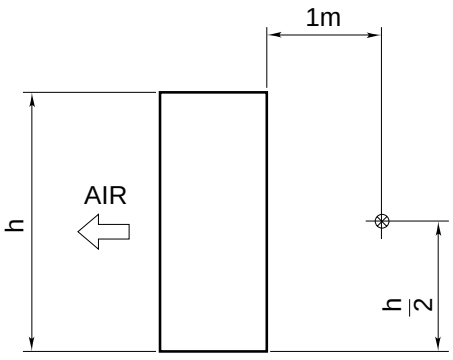


(1) INDOOR UNIT

FLOOR CONSOLE TYPE

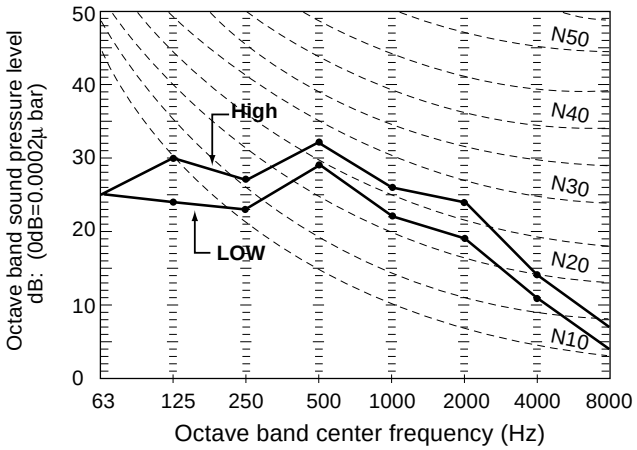


(2) OUTDOOR UNIT

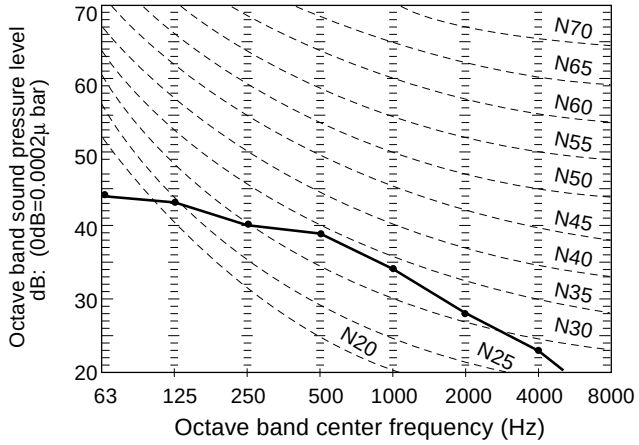


4.5.2 NOISE LEVEL CURVE COMPACT SII SERIES MODELS : AS ✻ 7A, 7R

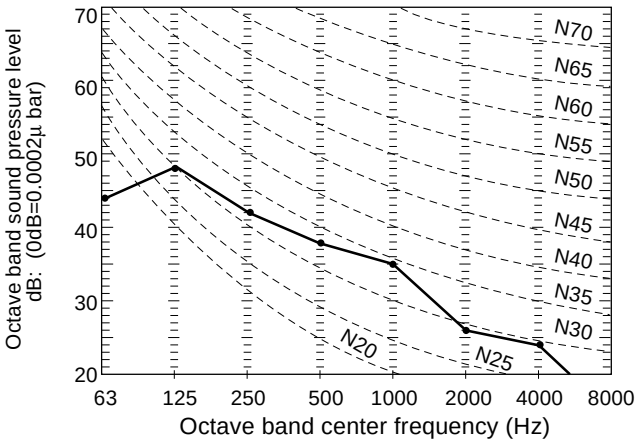
INDOOR UNIT
Mode : Cool
240V / 50Hz



OUTDOOR UNIT
Mode : Cool
240V / 50Hz
Model : AS✻7A

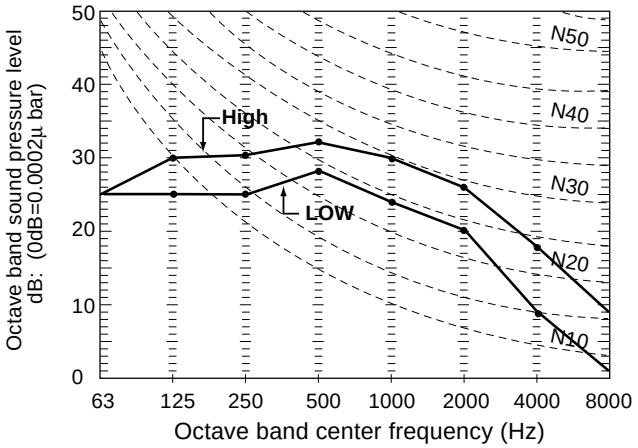


OUTDOOR UNIT
Mode : Cool
240V / 50Hz
Model : AS✻7R

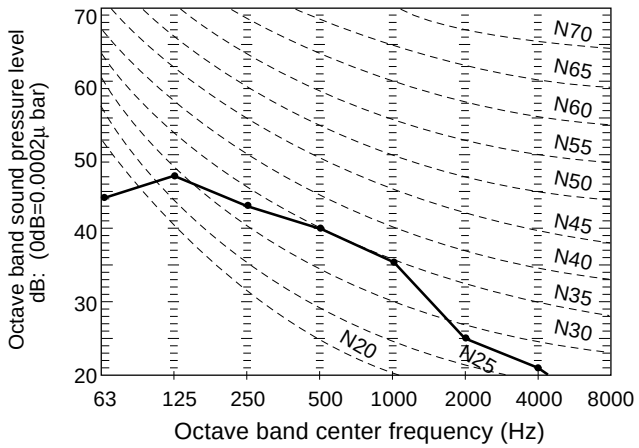


4.5.3 NOISE LEVEL CURVE COMPACT M Ⅱ SERIES MODELS : AS ✻ 9A, 9R, 12A, 12R

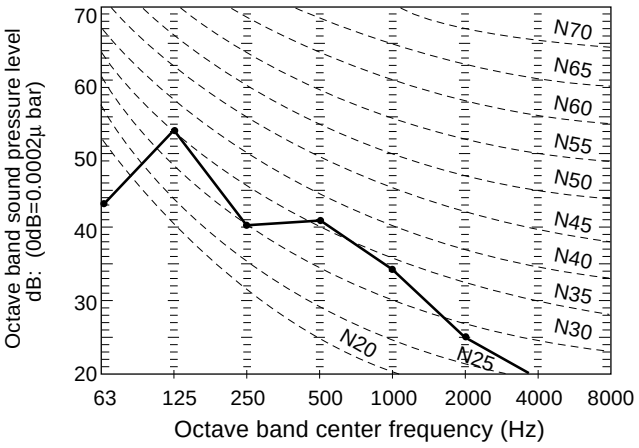
INDOOR UNIT
Mode : Cool
240V / 50Hz



OUTDOOR UNIT
Mode : Cool
240V / 50Hz
Model : AO✻9A
Model : AO✻12A



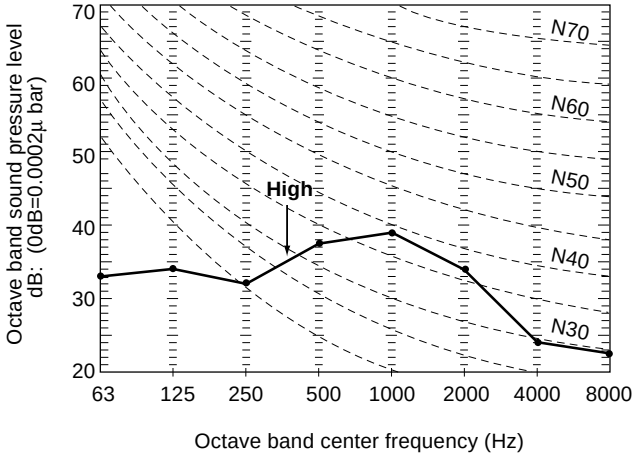
OUTDOOR UNIT
Mode : Cool
240V / 50Hz
Model : AO✻9R
Model : AO✻12R



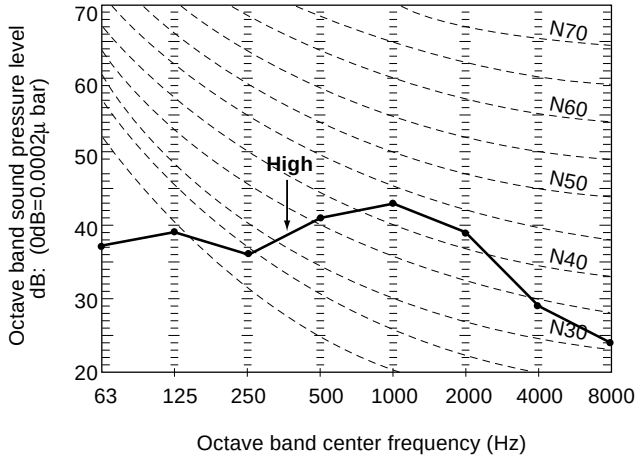
4.5.4 NOISE LEVEL CURVE WALL MOUNTED LARGE TYPE

■ INDOOR UNIT SIDE

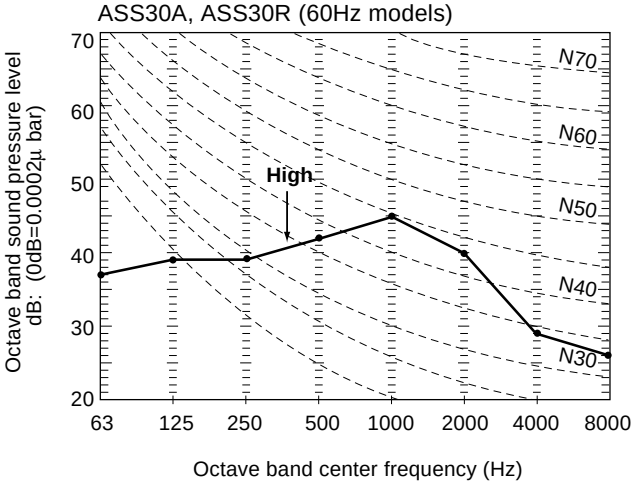
AS✻20A, AS✻20R (50Hz models)
ASS20A, ASS20R, ACS-7502 (60Hz models)



AS✻24A, AS✻24R (50Hz models)
ASS24A, ASS24R, ACS-7602 (60Hz models)

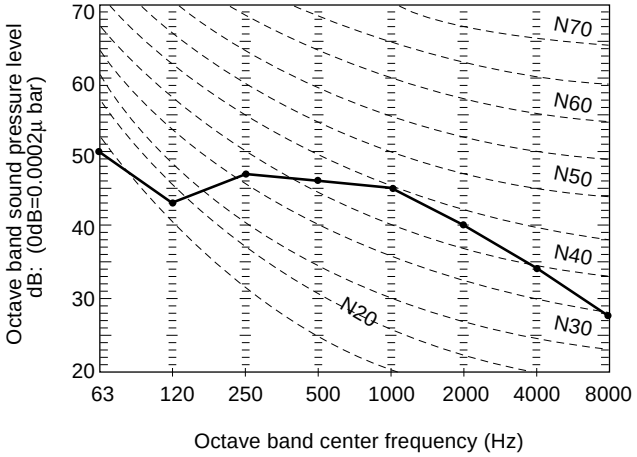


AS✻30A, AS✻30R (50Hz models)
ASS30A, ASS30R (60Hz models)

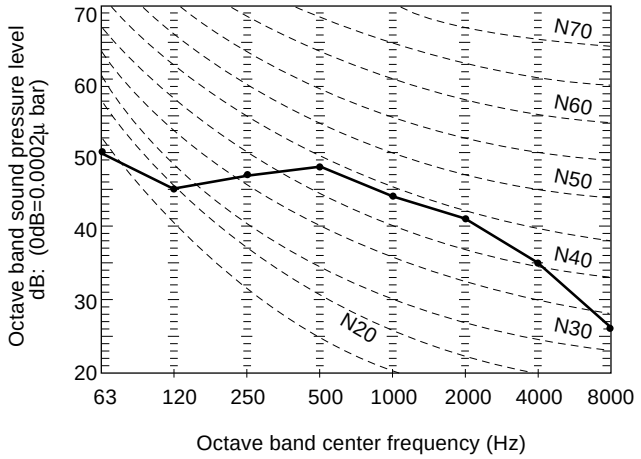


■ OUTDOOR UNIT SIDE

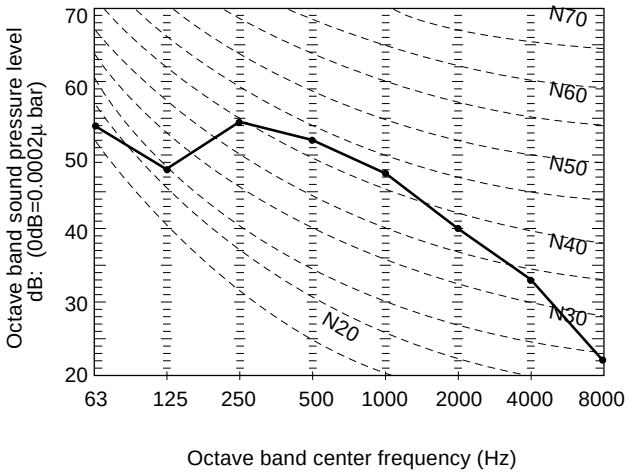
AO✻20A, AO✻20R



AO✻24A, AO✻24R



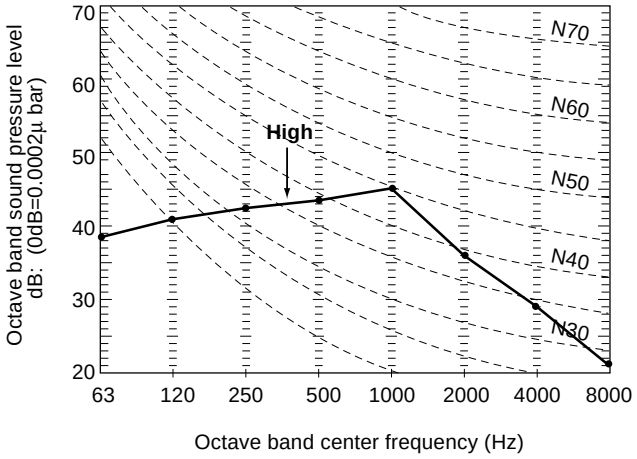
AO✻30A, AO✻30R



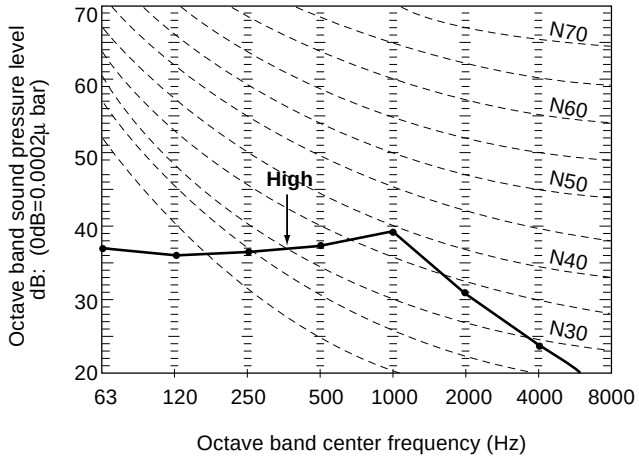
4.5.5 NOISE LEVEL CURVE
FLOOR / CEILING UNIVERSAL TYPE

■ INDOOR UNIT SIDE

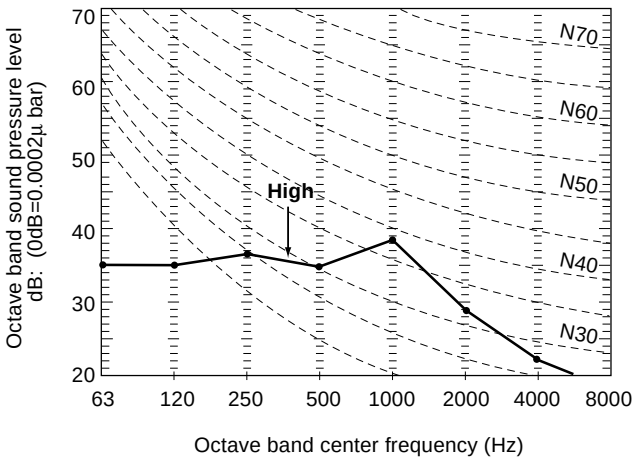
AB∗24A, AB∗24R



AB∗18A, AB∗18R

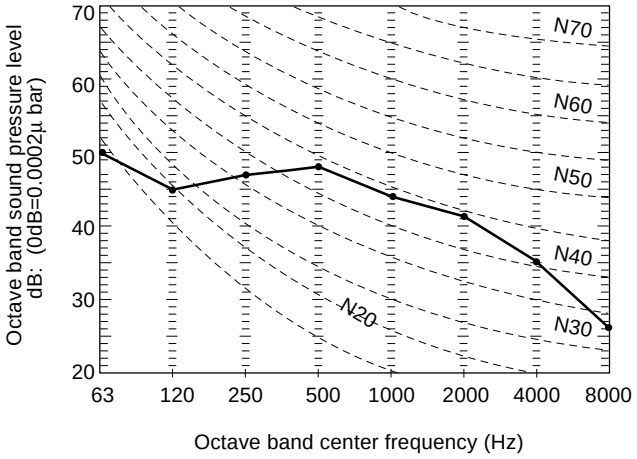


AB∗14A, AB∗14R

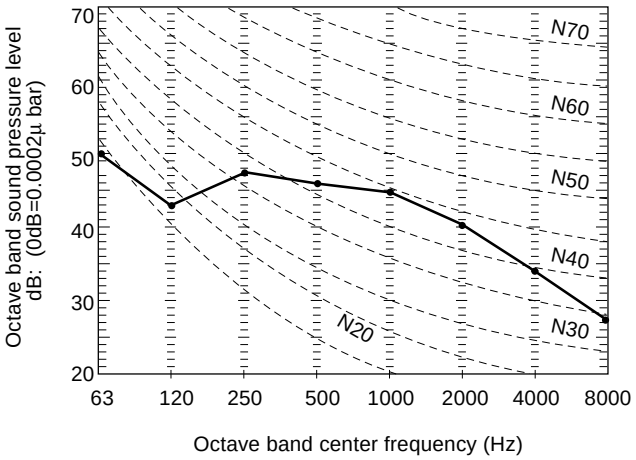


■ OUTDOOR UNIT SIDE

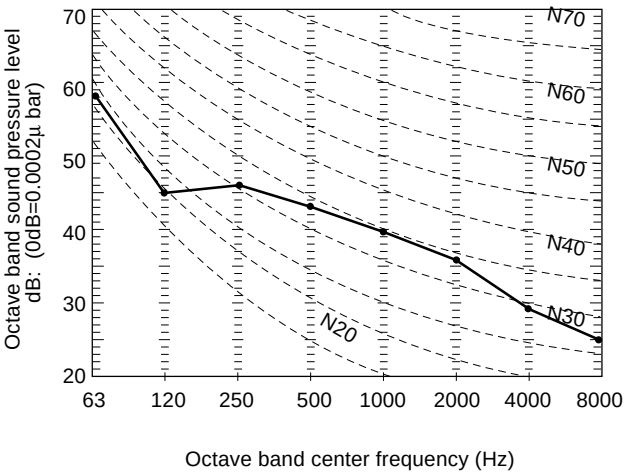
AO∗24A, AO∗24R



AO∗18A, AO∗18R



AO∗14A, AO∗14R

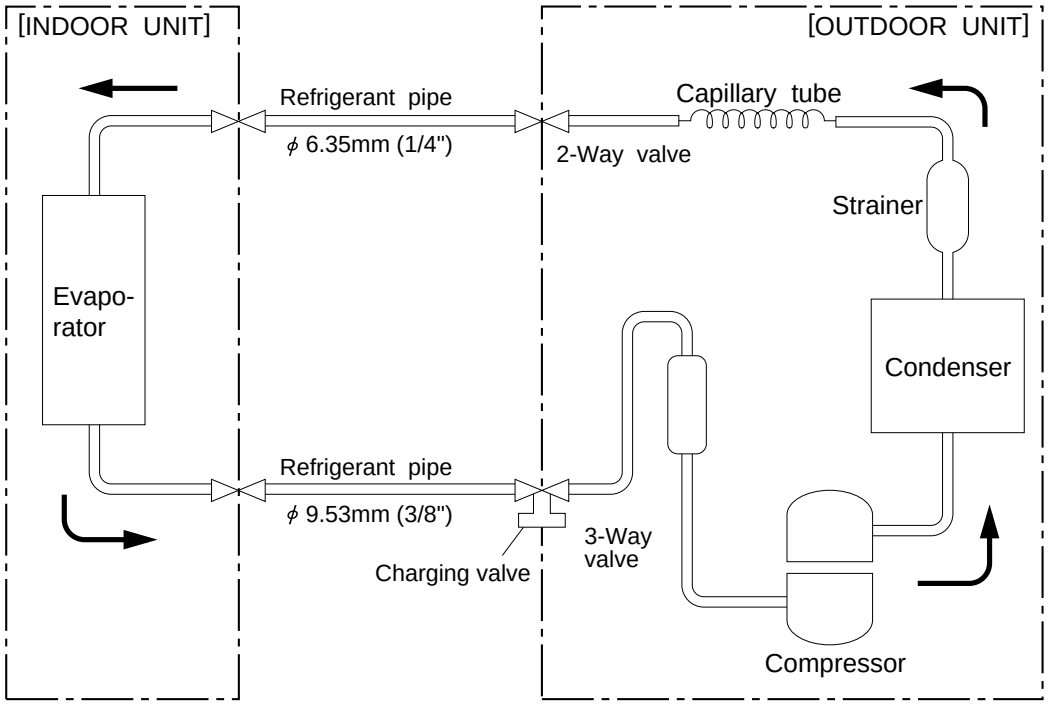


5. DIAGRAMS

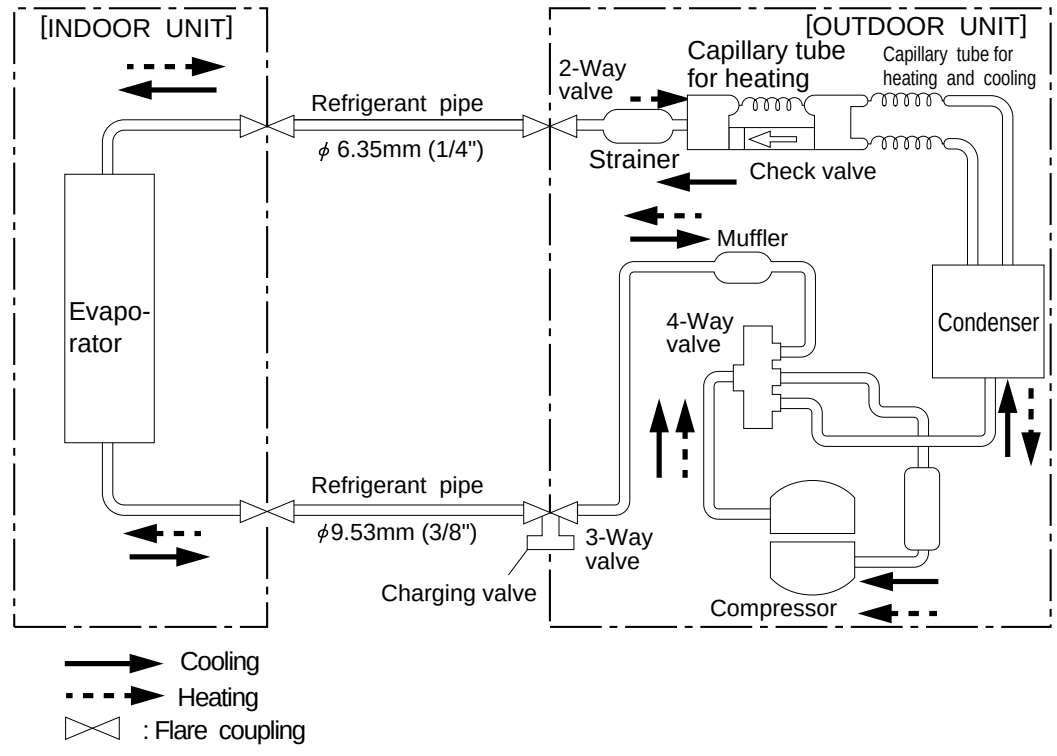
5.1 REFRIGERANT SYSTEM DIAGRAM

5.1.1 COMPACT S Ⅱ SERIES

Models : AS✻7A / AO✻7A

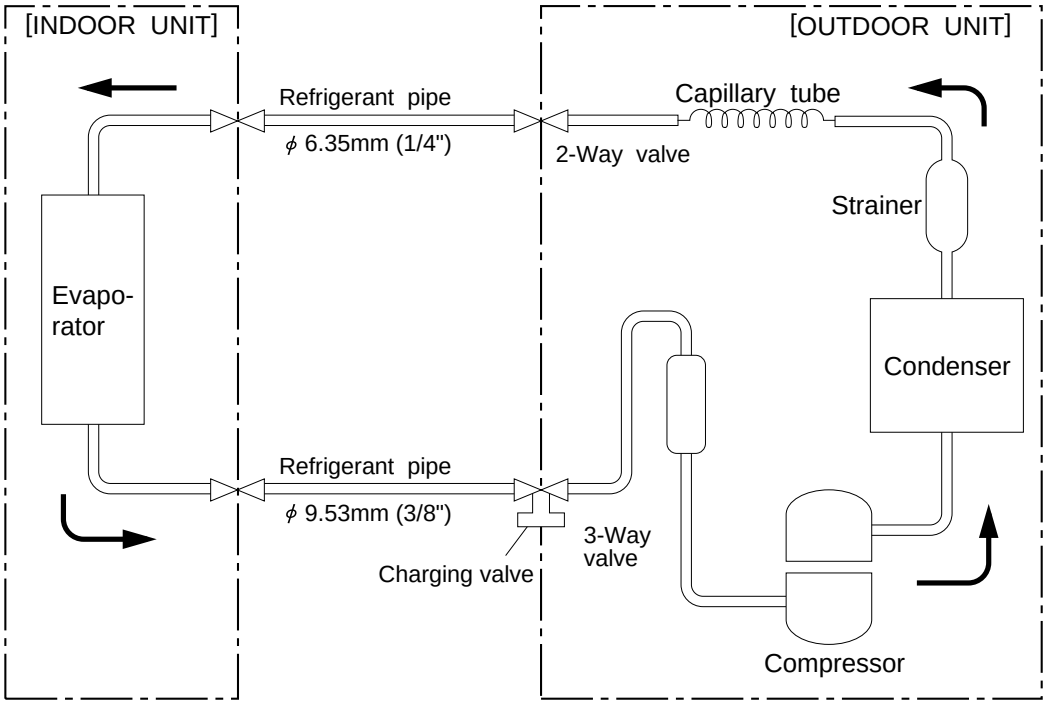


Models : AS✻7R / AO✻7R

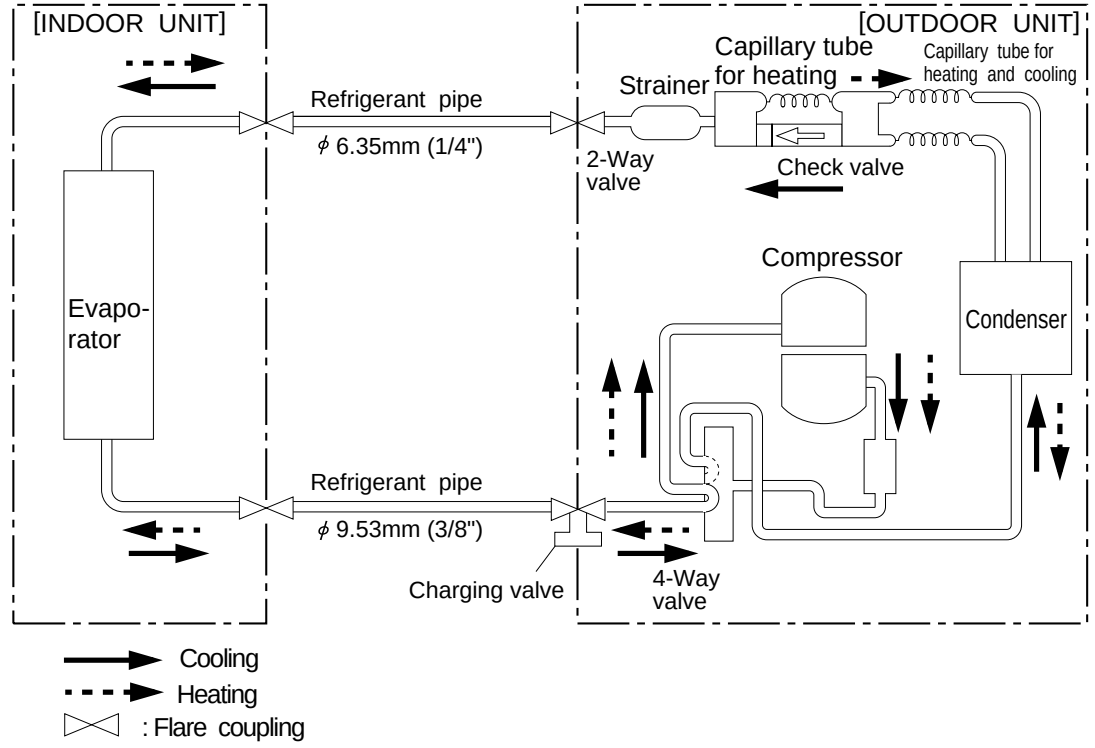


5.1.2 COMPACT M Ⅱ SERIES

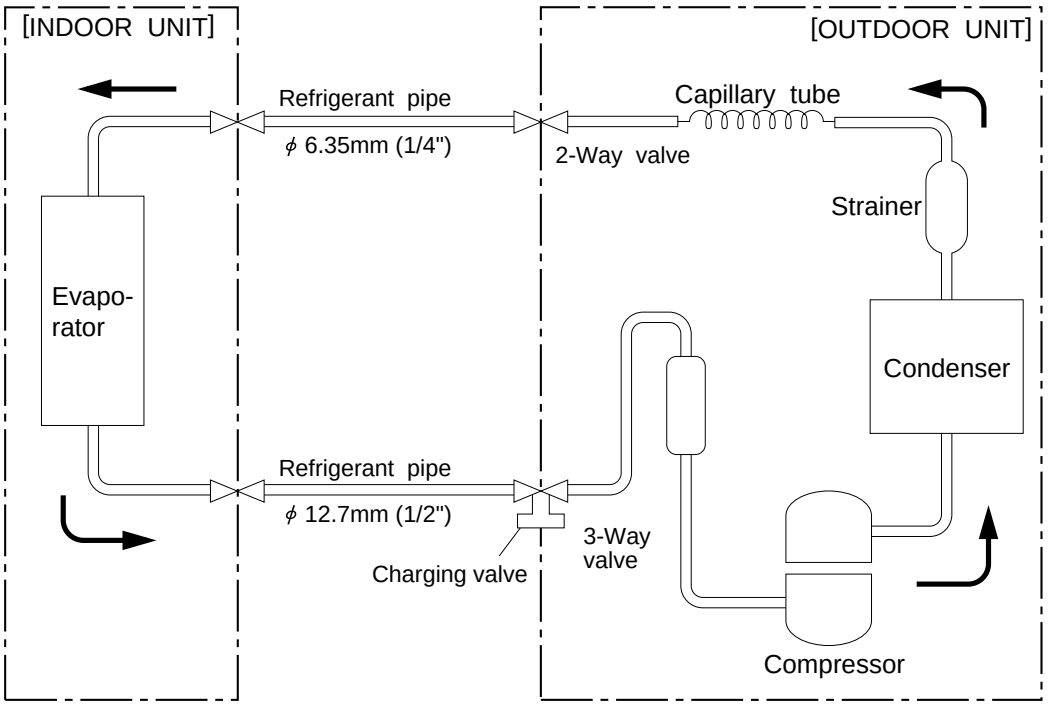
Models : AS✻9A / AO✻9A



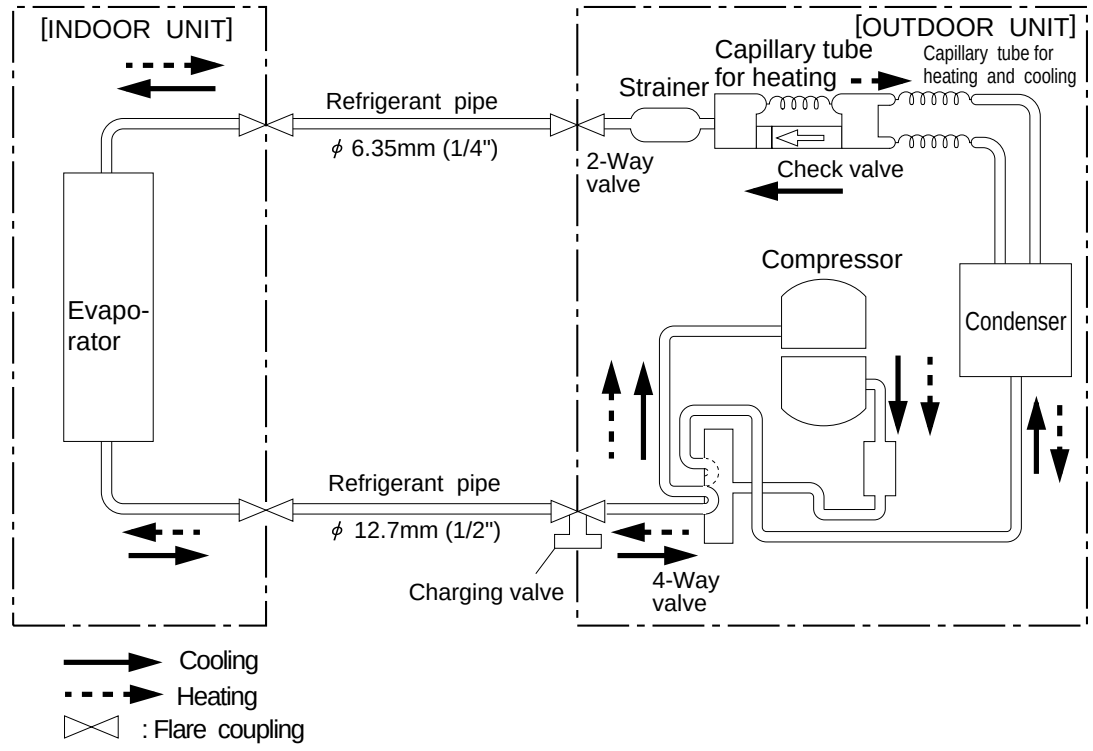
Models : AS✻9R / AO✻9R



Models : AS✻12A / AO✻12A

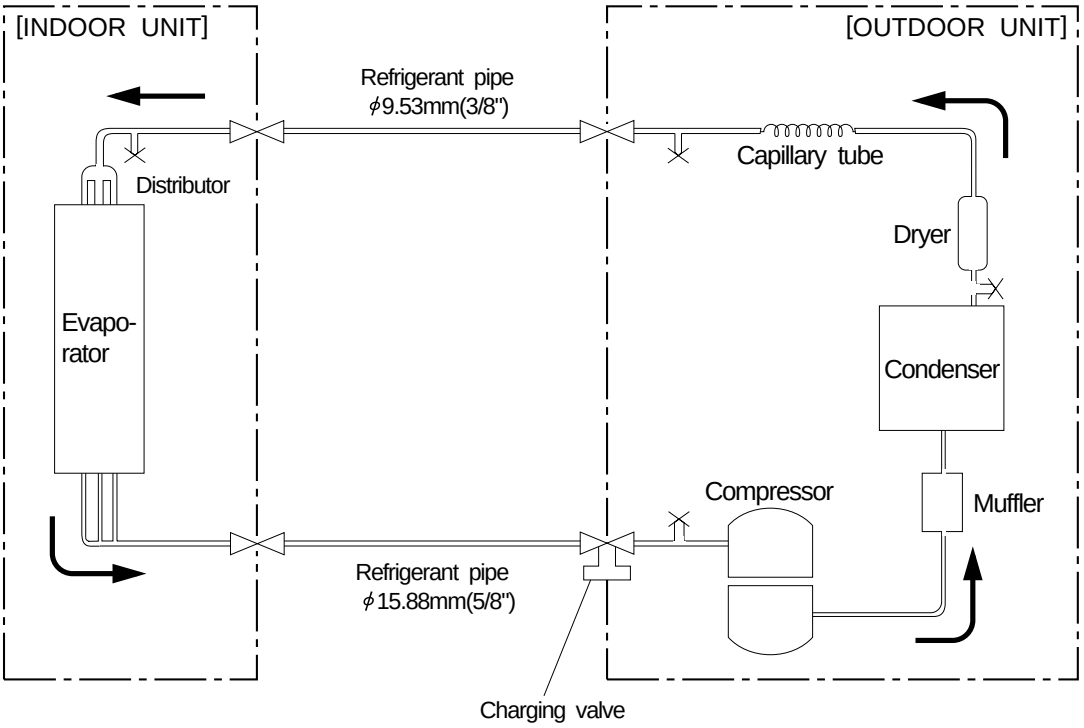


Models : AS✻12R / AO✻12R

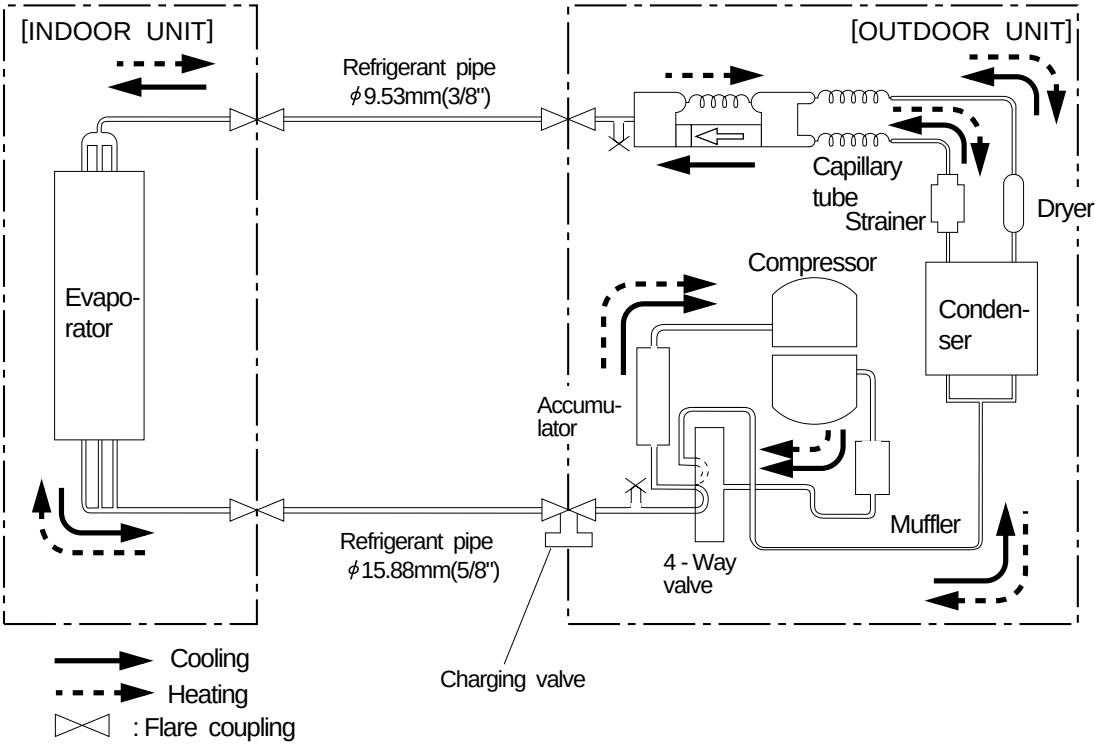


5.1.3 WALL MOUNTED LARGE AS-TYPE

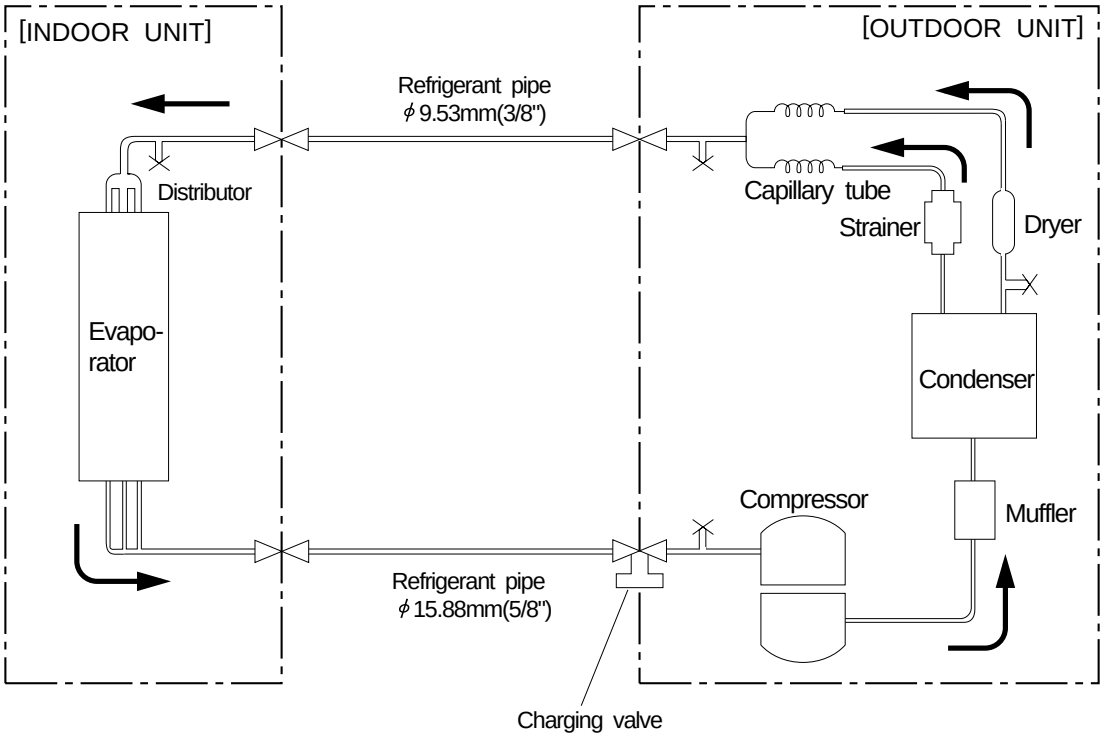
Models : AS✻20A/AO✻20A (except ACS-7502/ACO-7502)



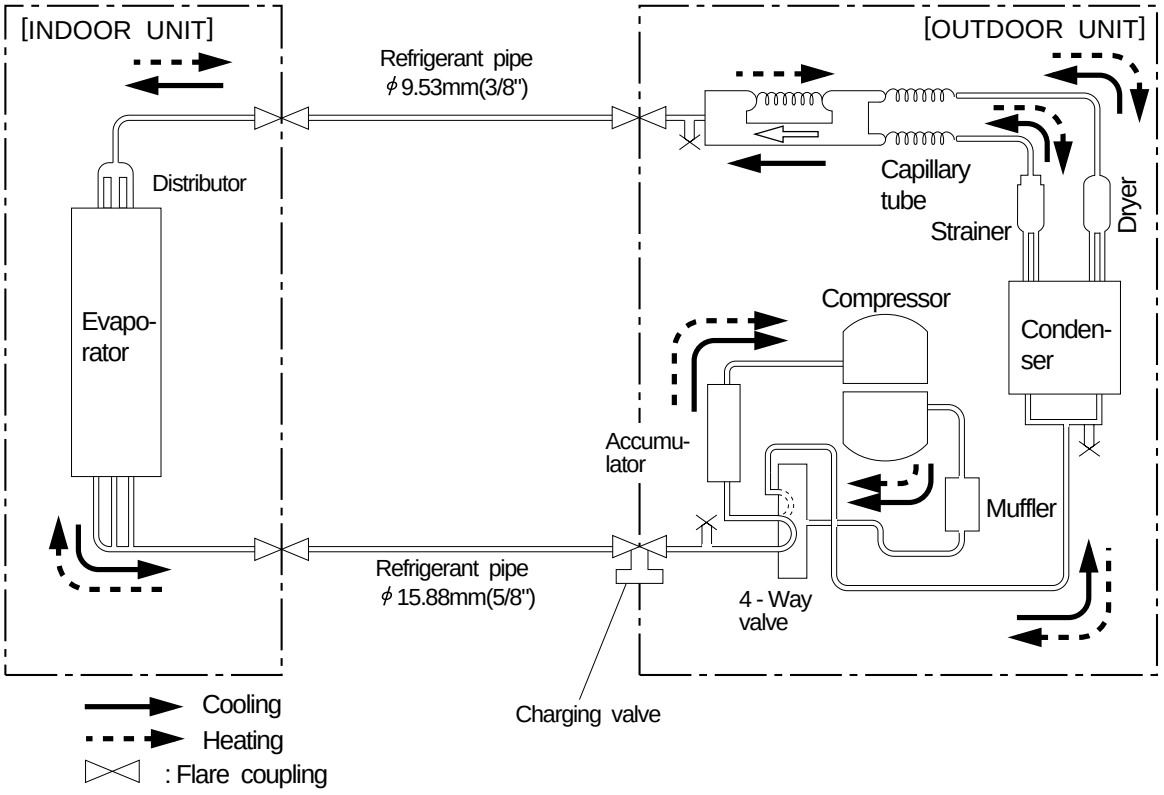
Models : AS✻20R/AO✻20R



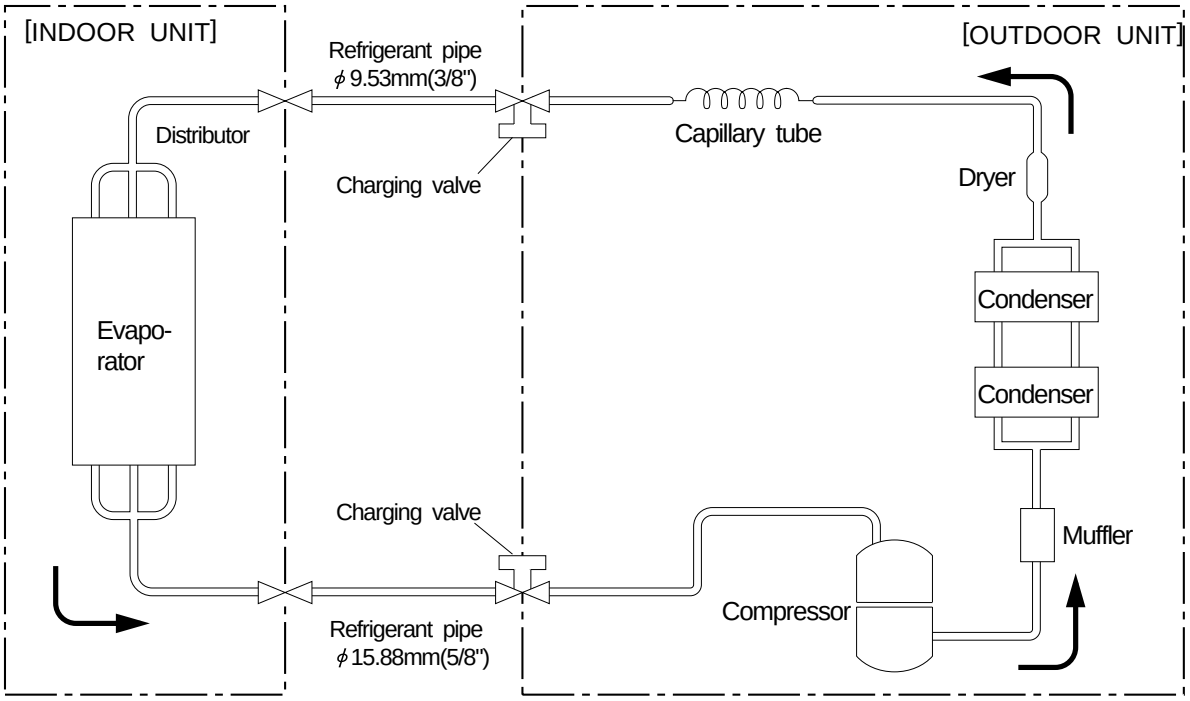
Models : AS✻24A/AO✻24A (except ACS-7602/ACO-7602)



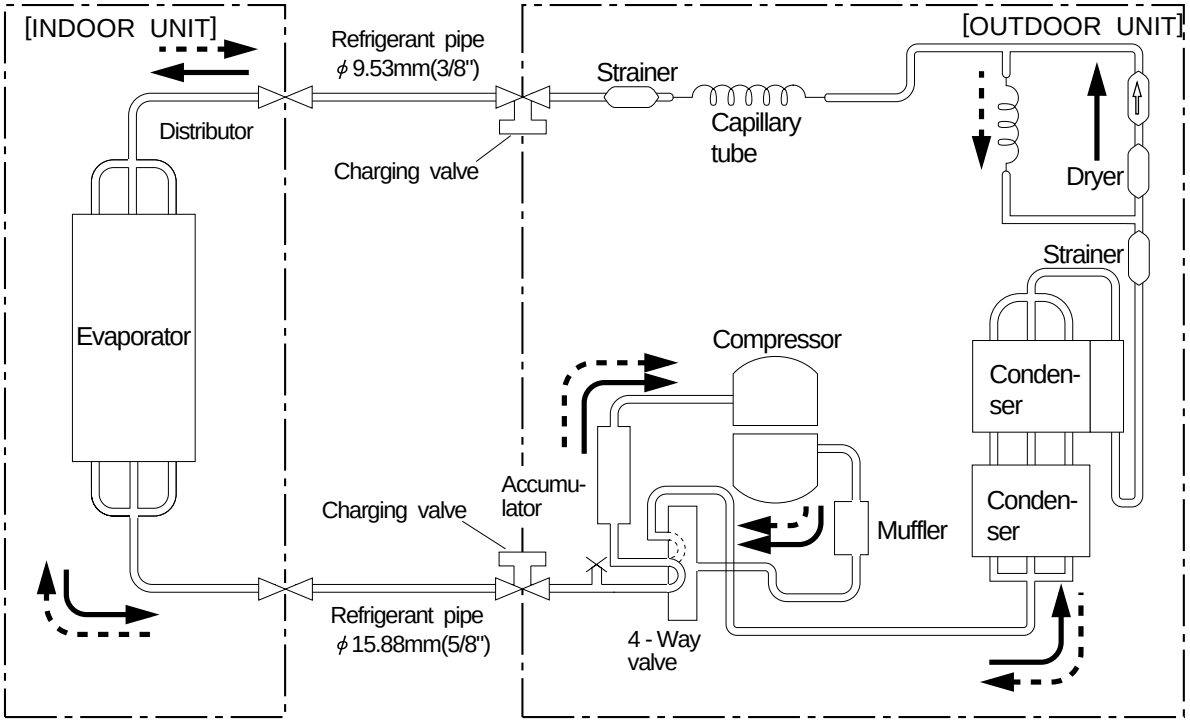
Models : AS✻24R/AO✻24R



Models : AS✻30A/AO✻30A

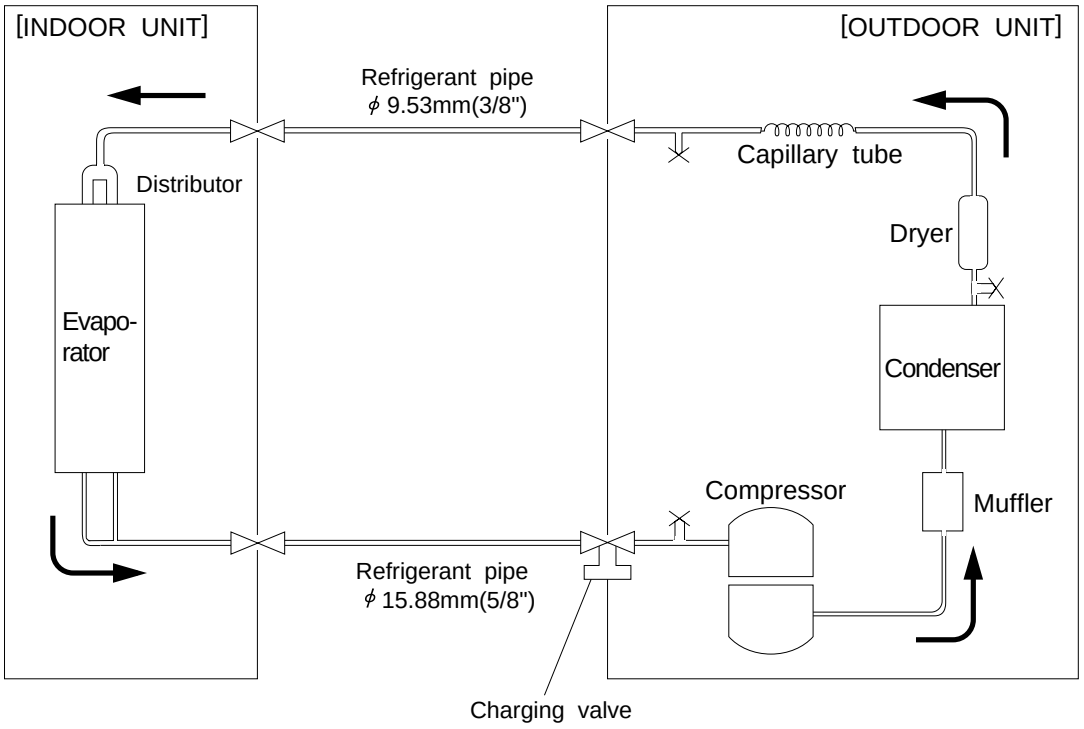


Models : AS✻30R/AO✻30R

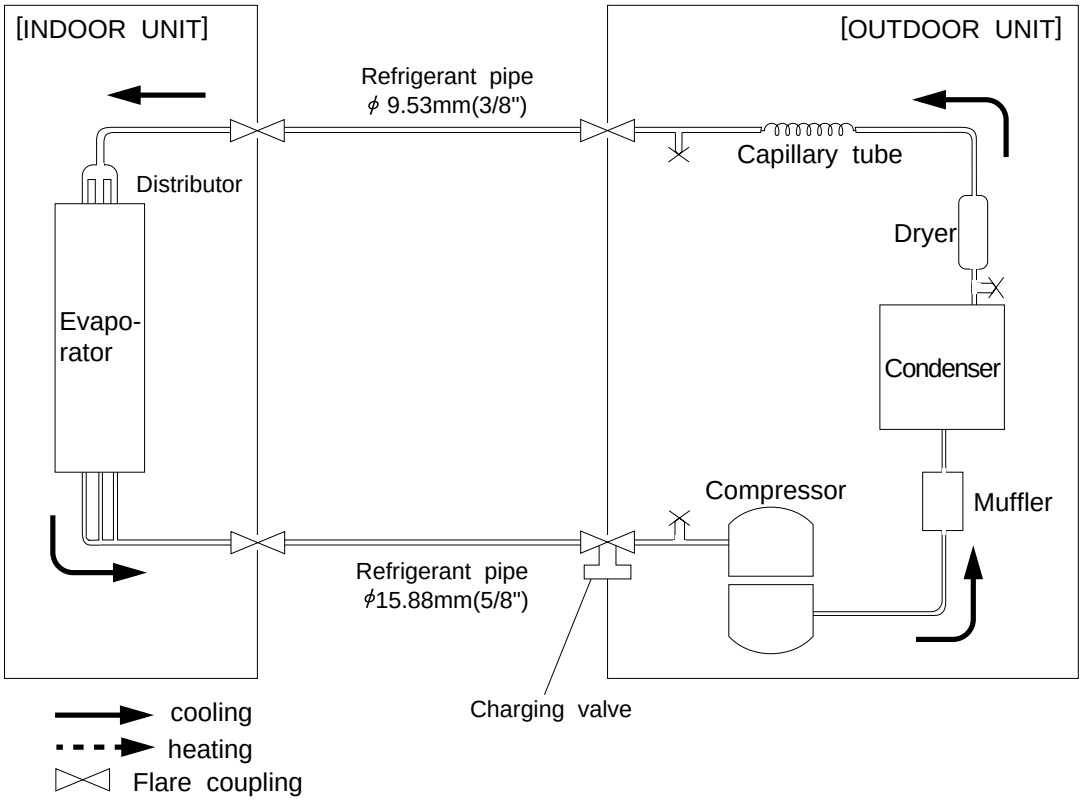


Cooling
Heating
: Flare coupling

Models : ACS-7502 / ACO-7502

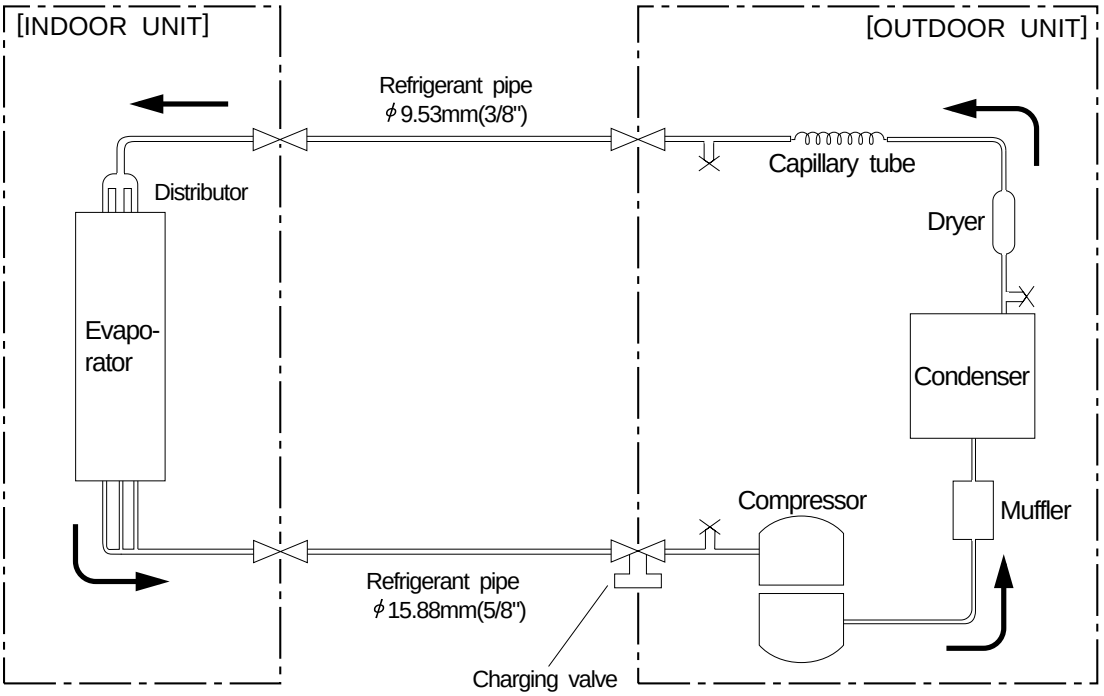


Models : ACS-7602 / ACO-7602

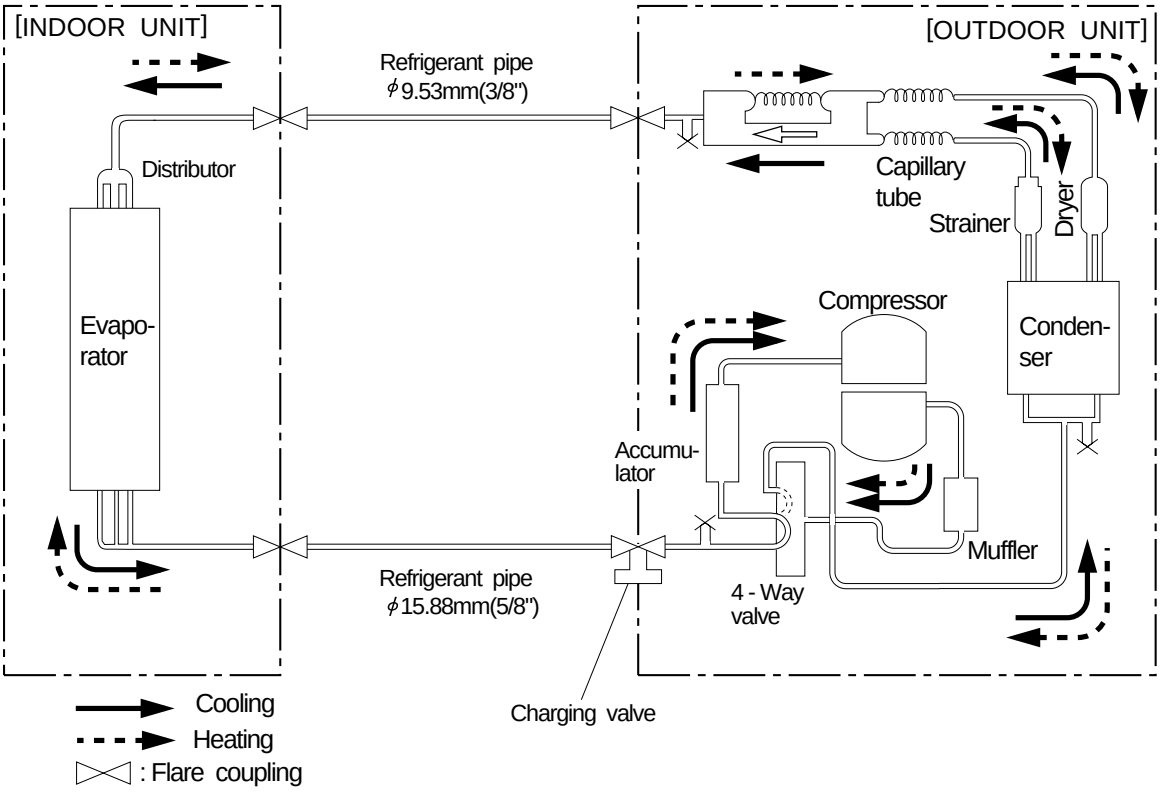


5.1.4 FLOOR / CEILING UNIVERSAL TYPE

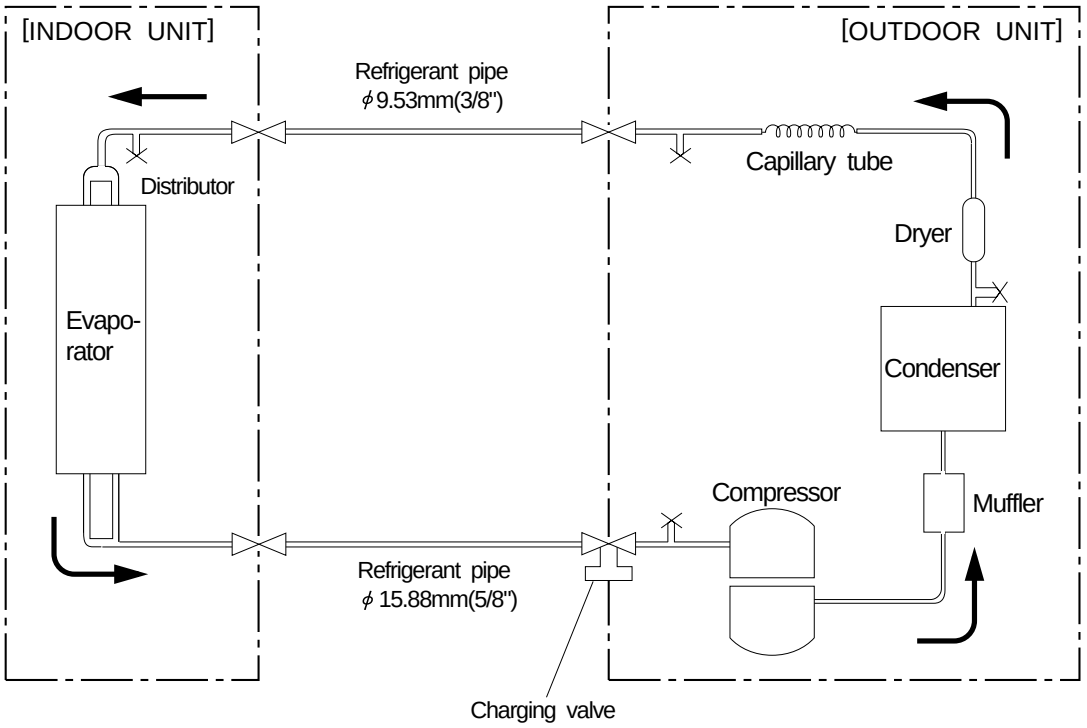
Models : AB✻24A/AO✻24A



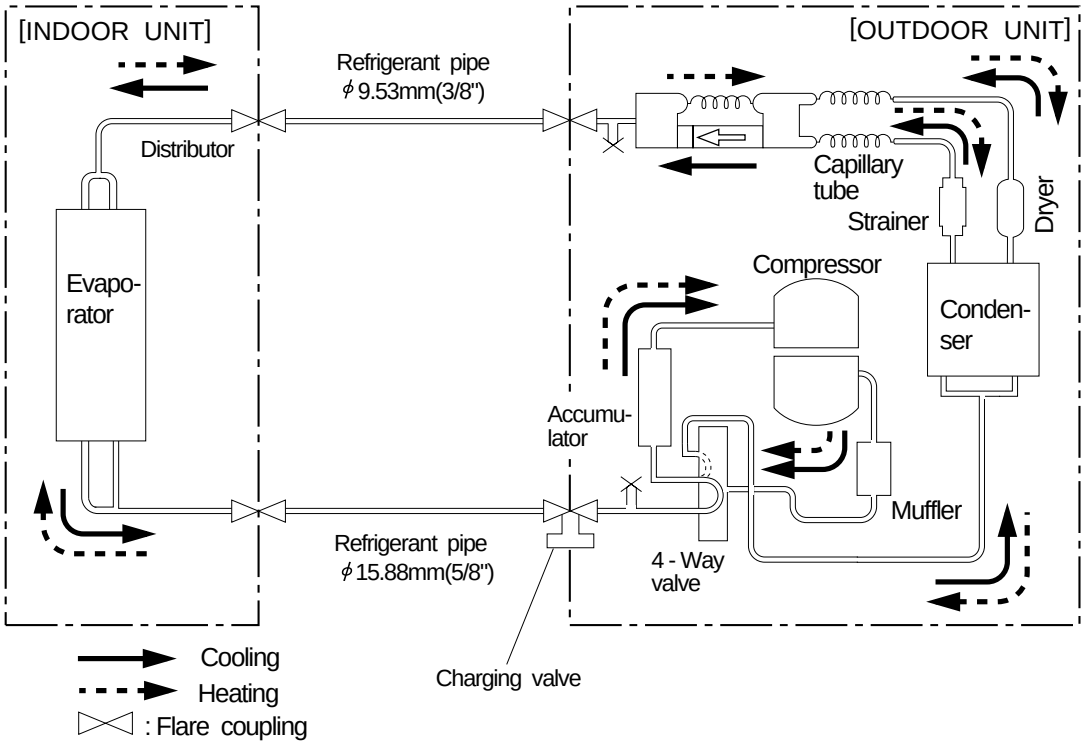
Models : AB✻24R/AO✻25R



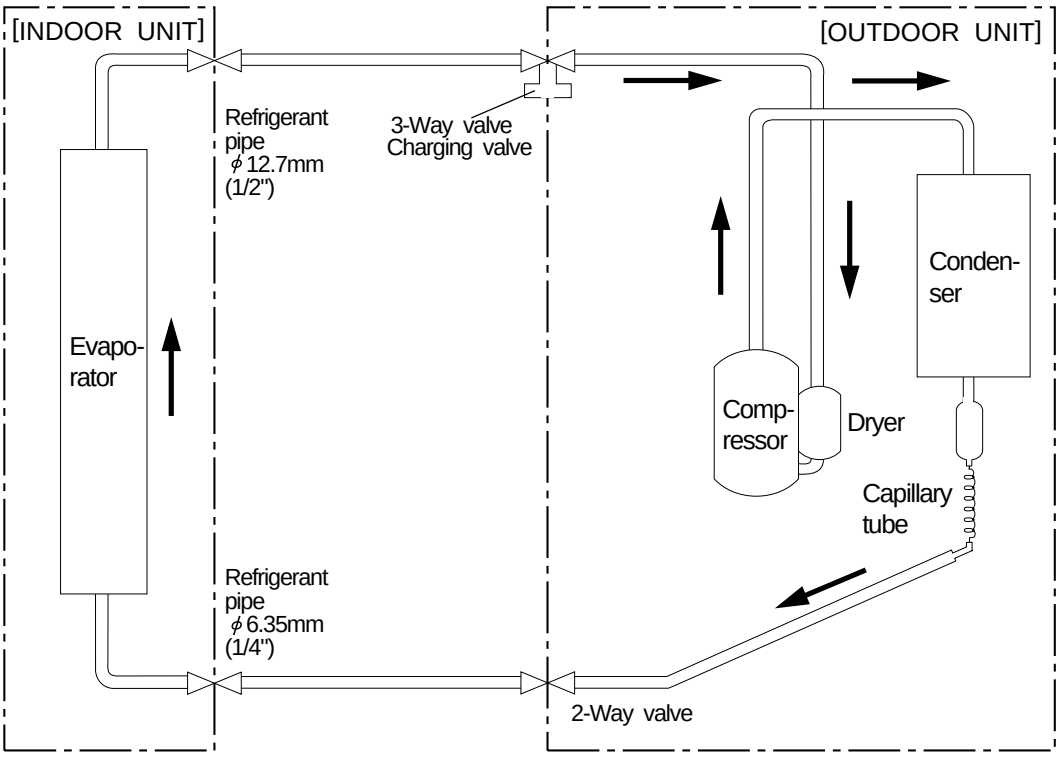
Models : AB*18A/AO*18A



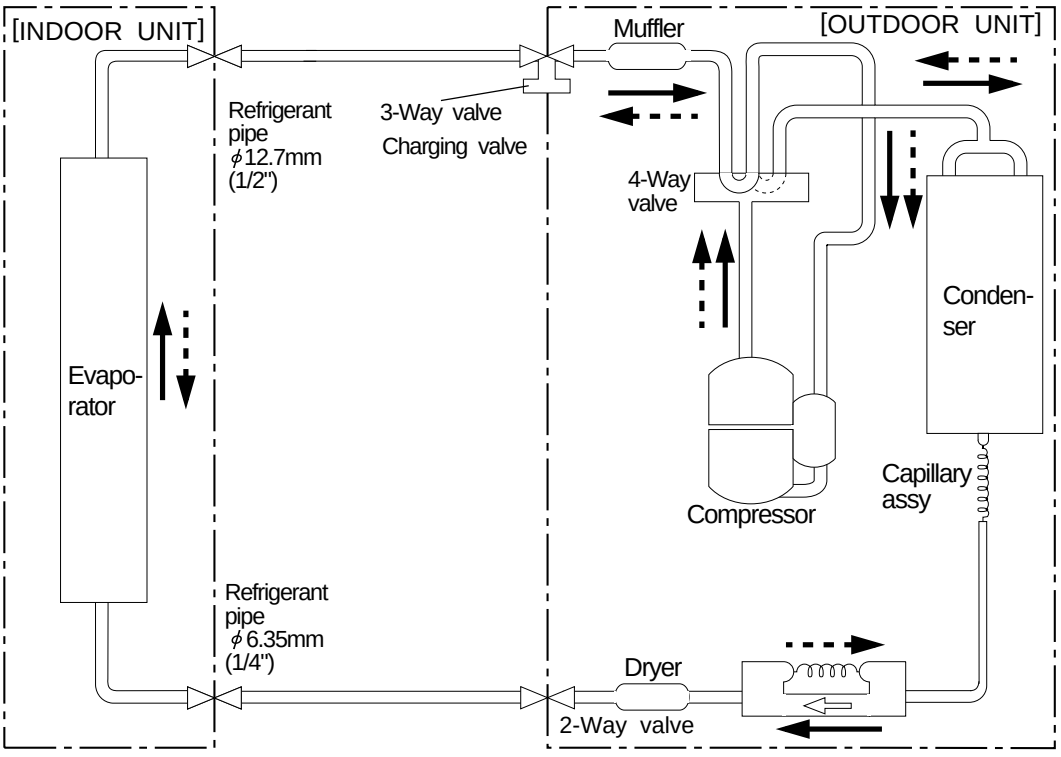
Models : AB*18R/AO*18R



Models : AB✻14A/AO✻14A

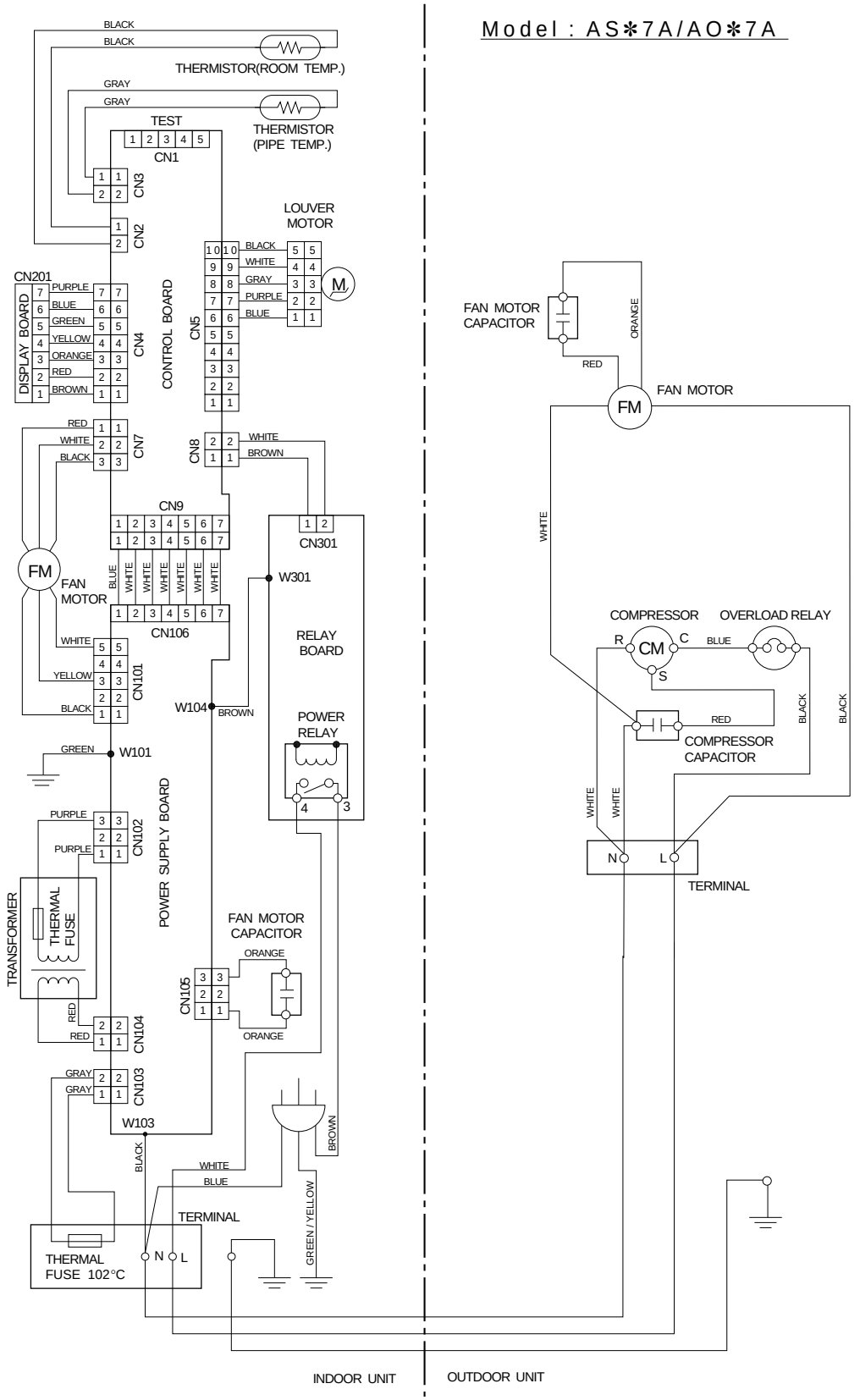


Models : AB✻14R/AO✻14R

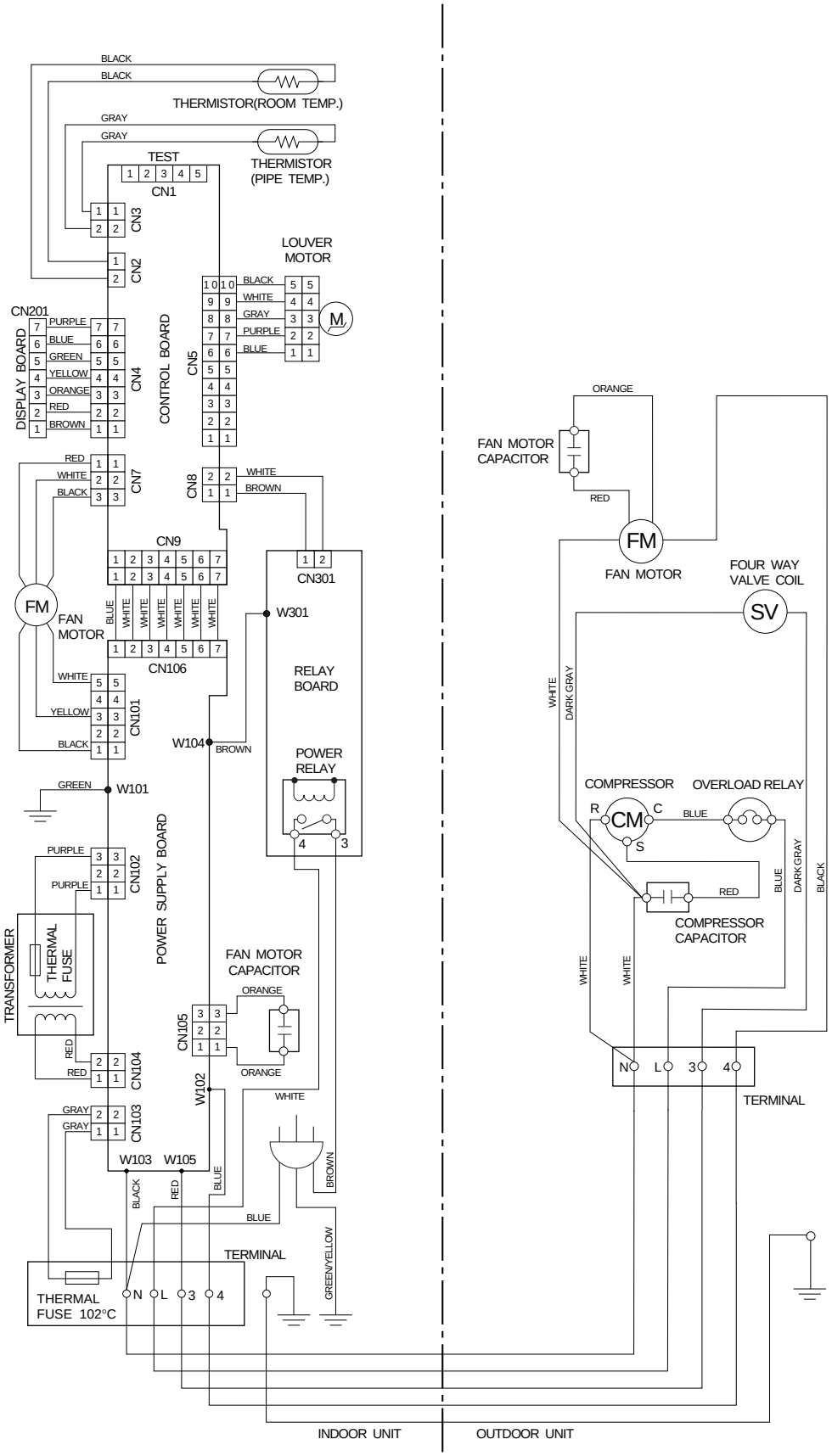


5.2 CIRCUIT DIAGRAM

5.2.1 COMPACT S Ⅱ SERIES

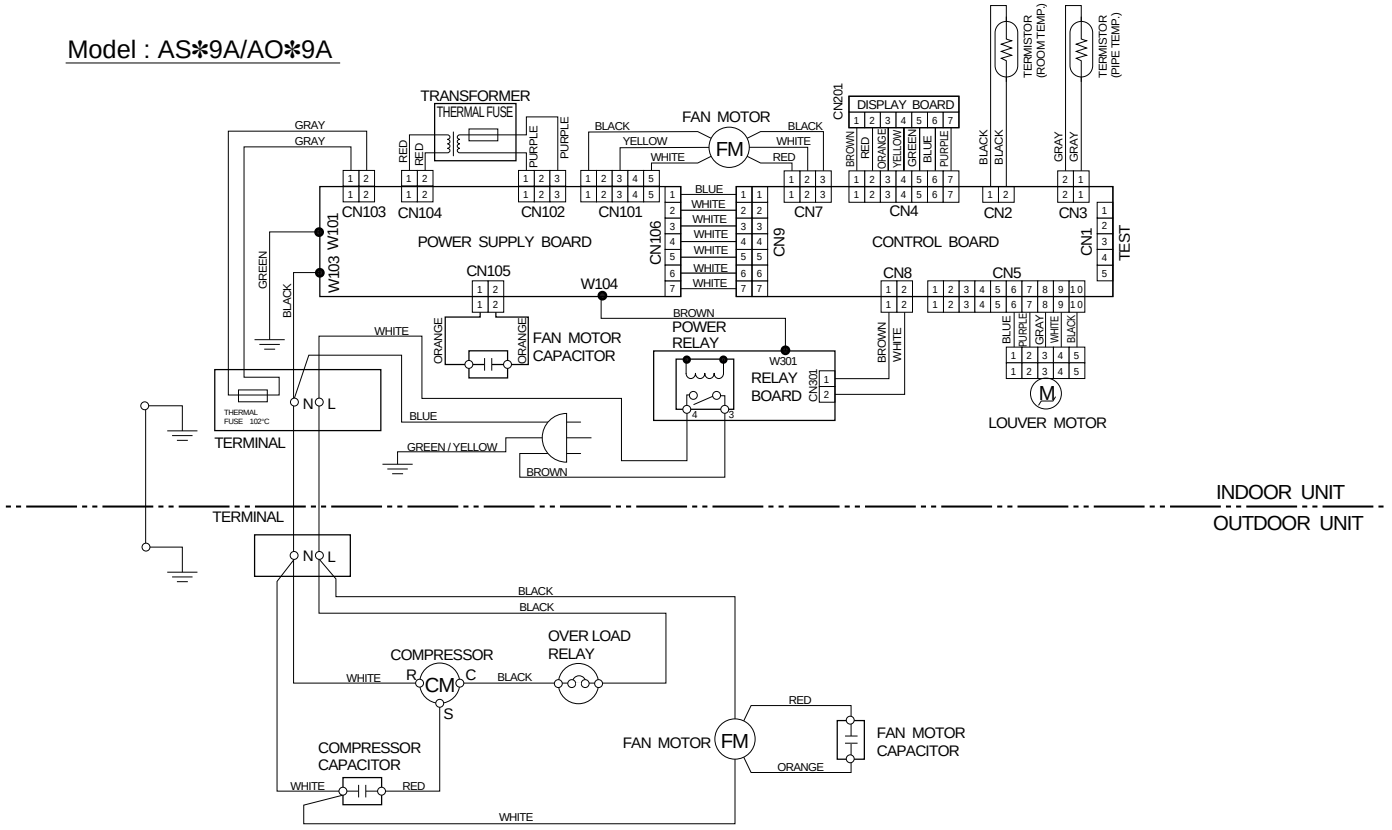


Model : AS✻7R/AO✻7R

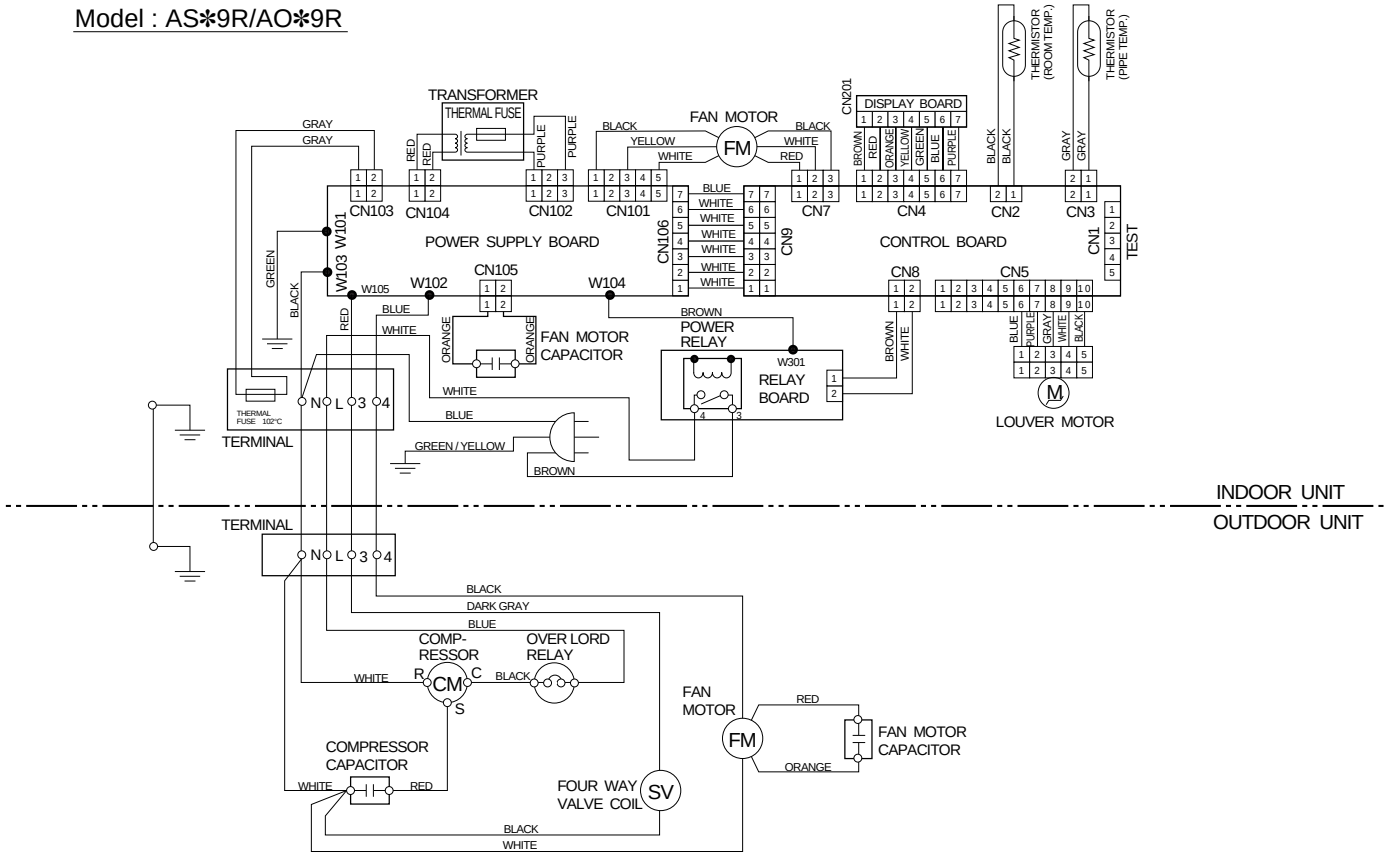


5.2.2 COMPACT M Ⅱ SERIES

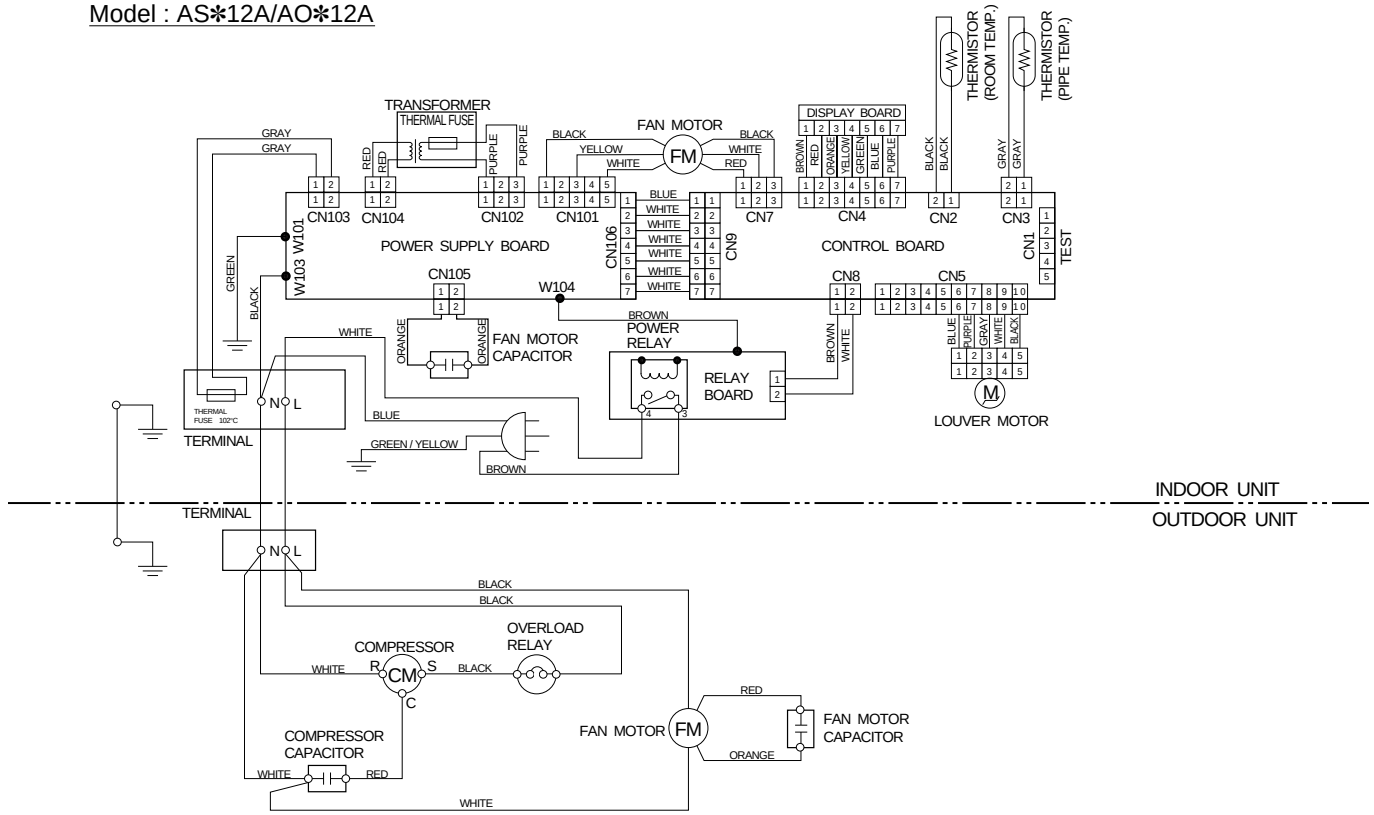
Model : AS✻9A/AO✻9A



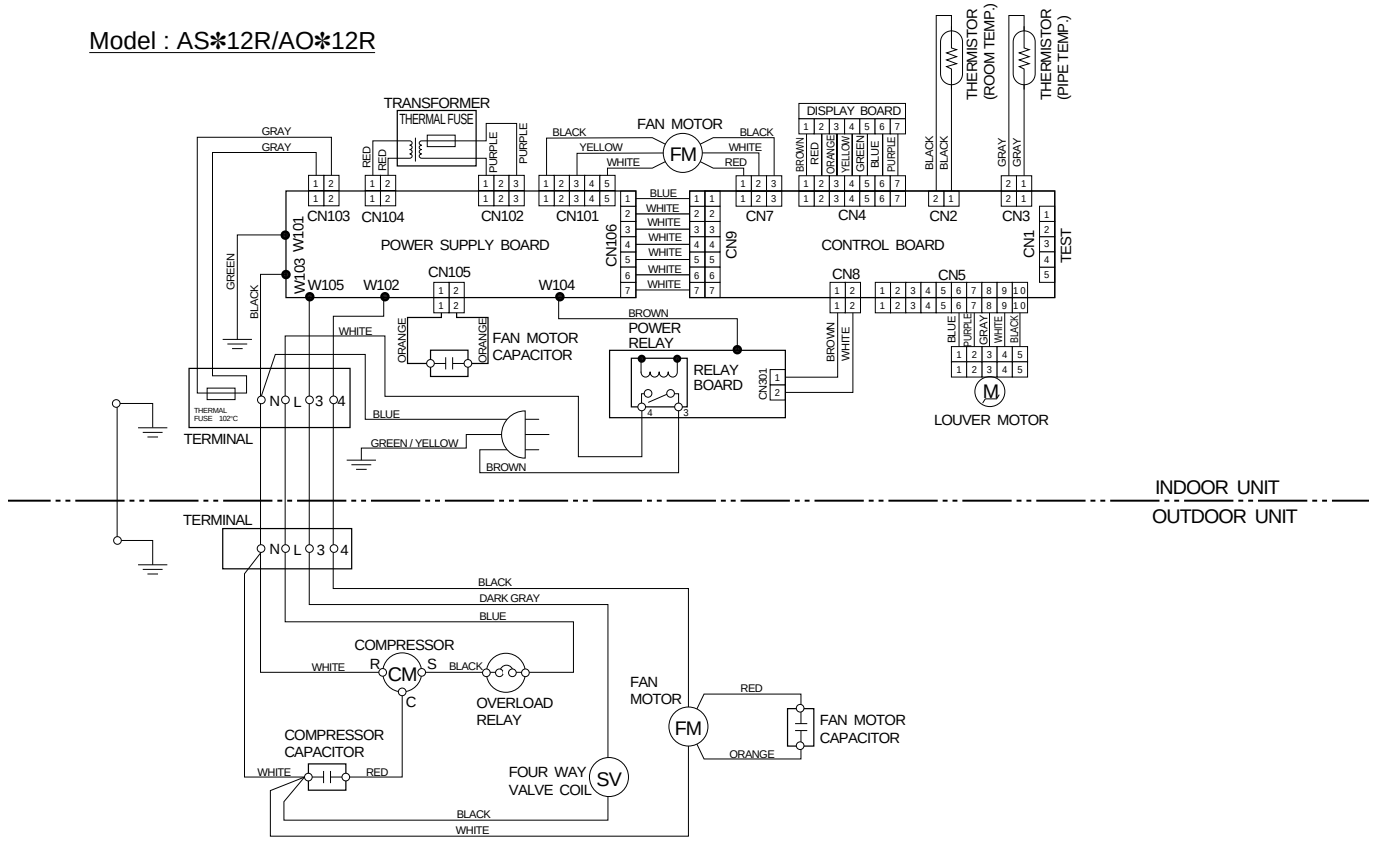
Model : AS✻9R/AO✻9R



Model : AS✻12A/AO✻12A

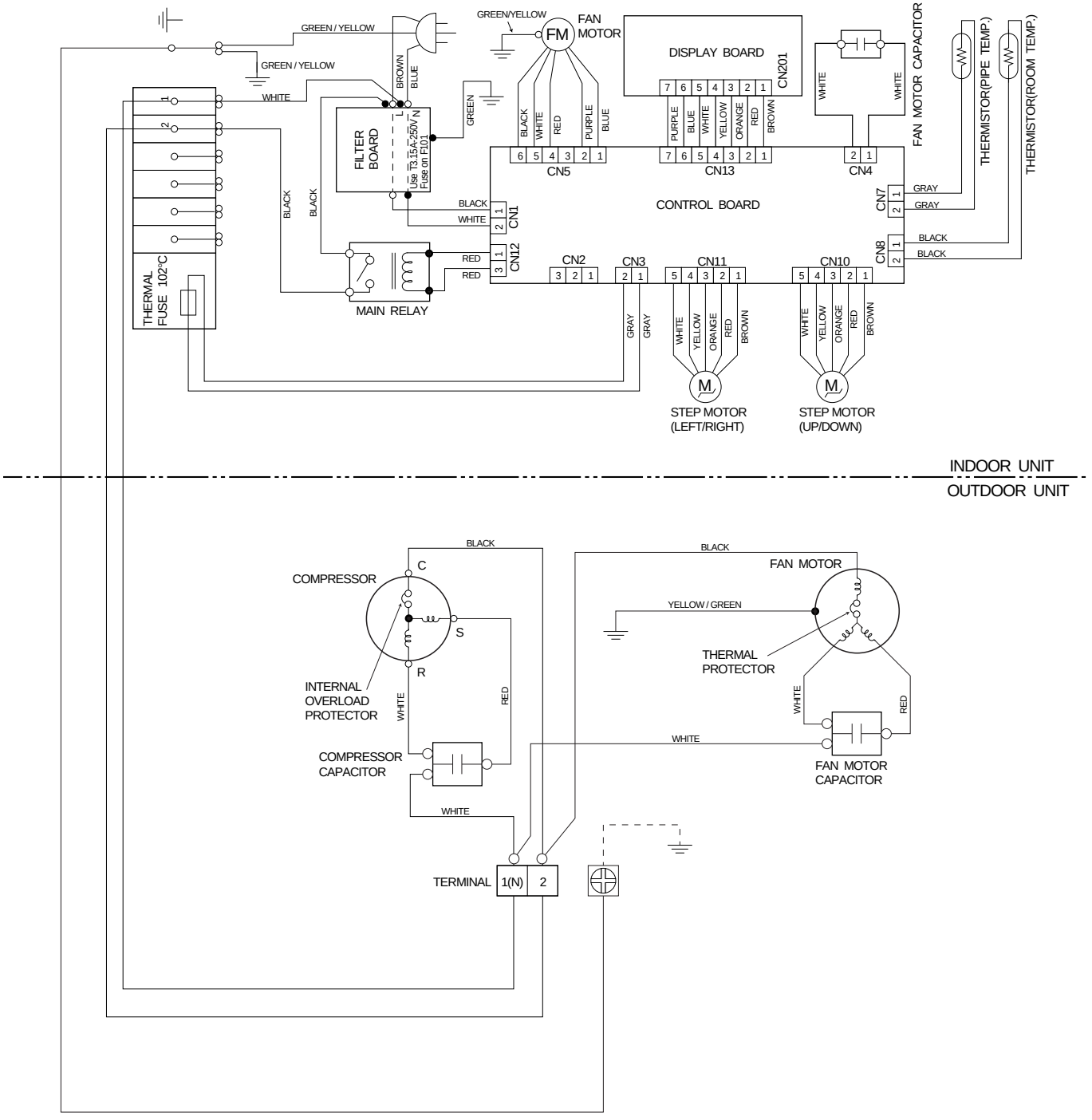


Model : AS✻12R/AO✻12R

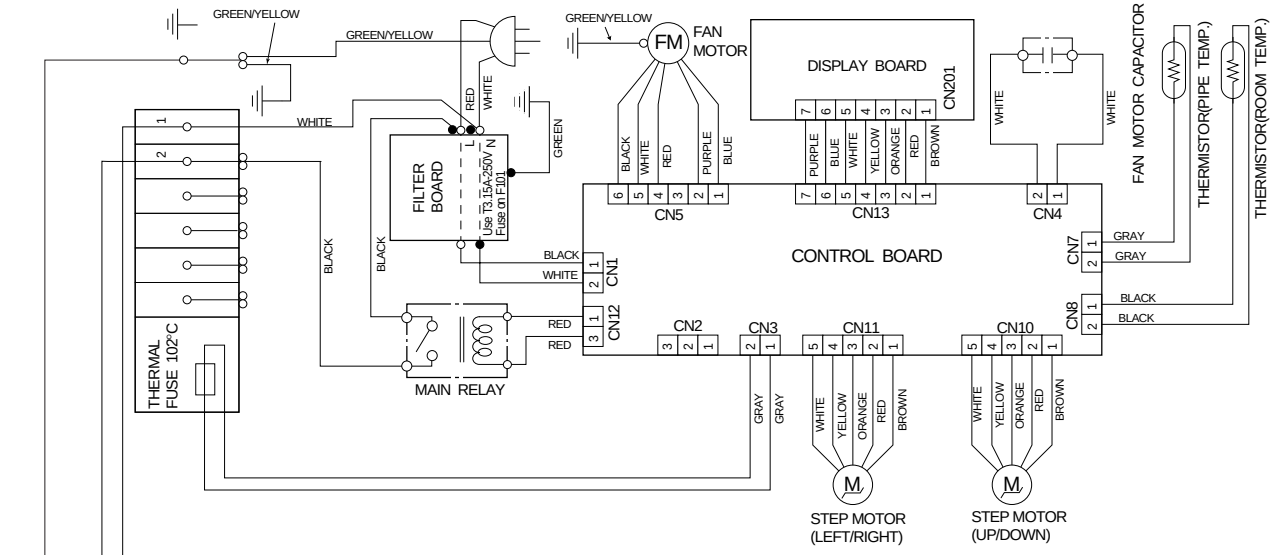


5.2.3 WALL MOUNTED LARGE TYPE

Models : AS✻20A/AO✻20A (except ACS-7502/ACO-7502 and ACS-7602/ACO-7602)
AS✻24A/AO✻24A

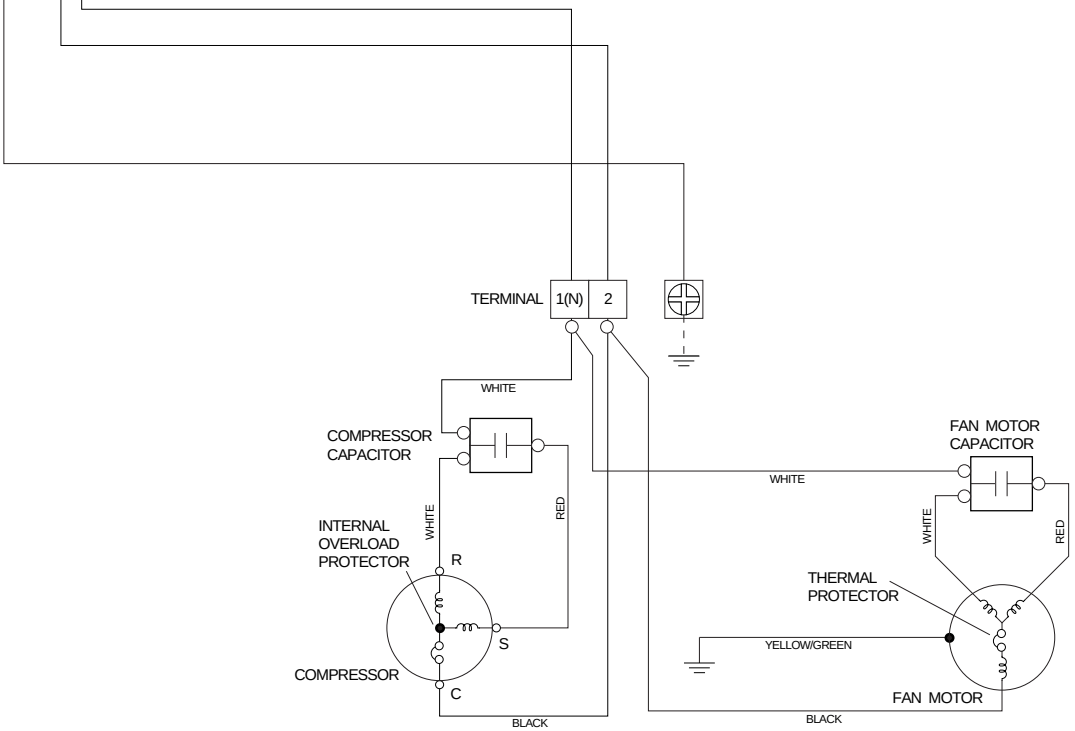


Models : ACS-7502/ACO-7502
ACS-7602/ACO-7602

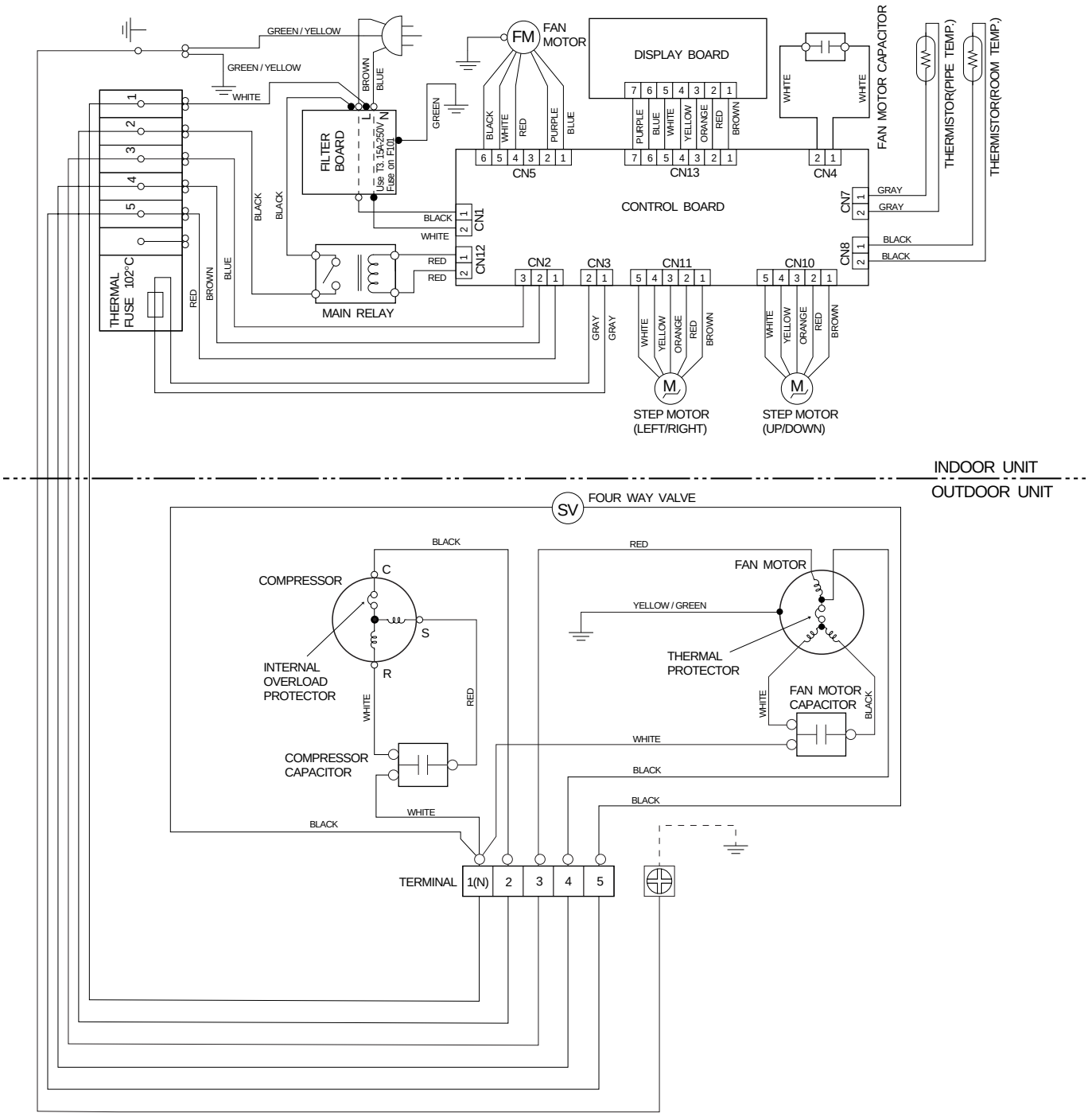


INDOOR UNIT

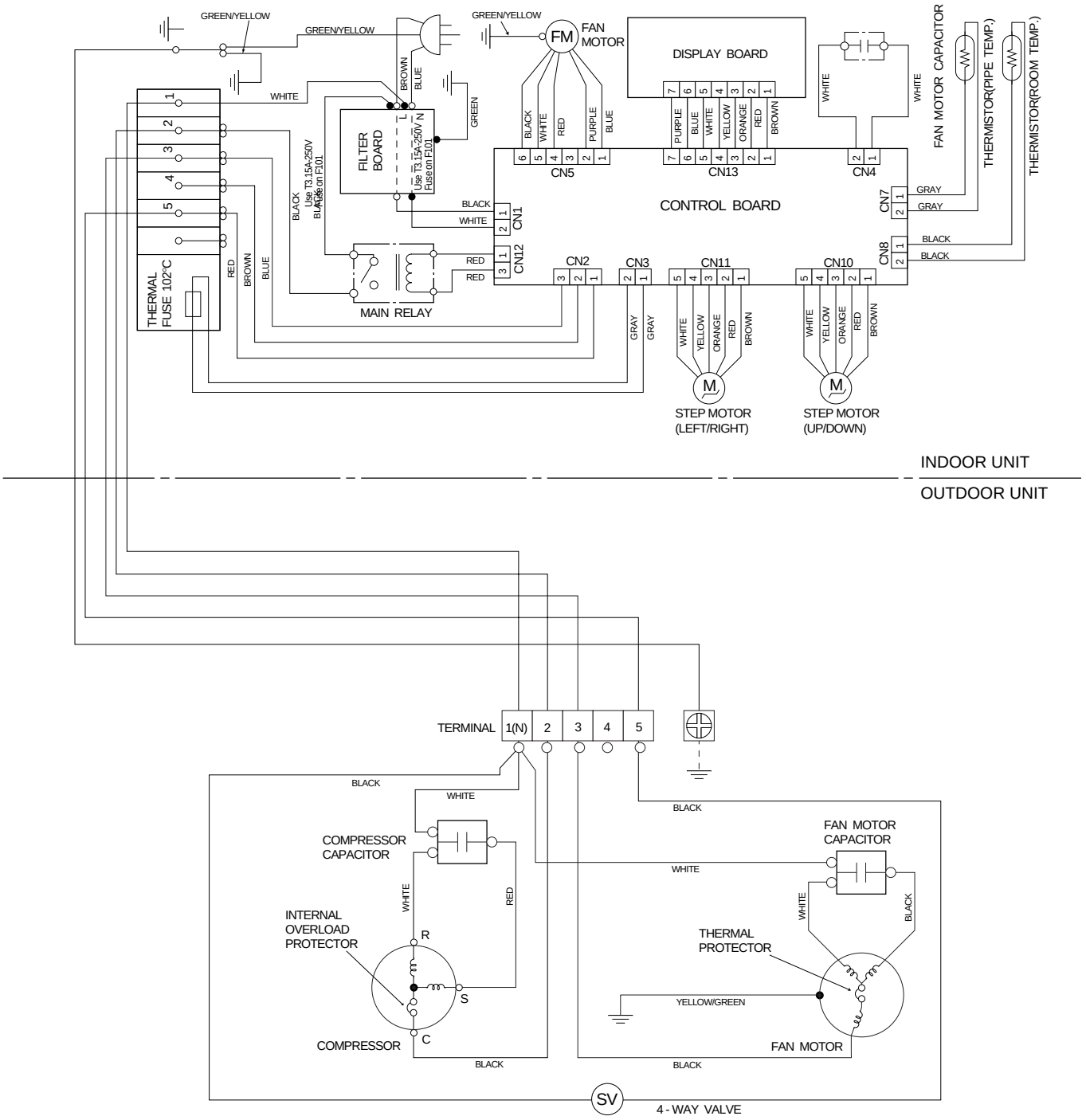
OUTDOOR UNIT



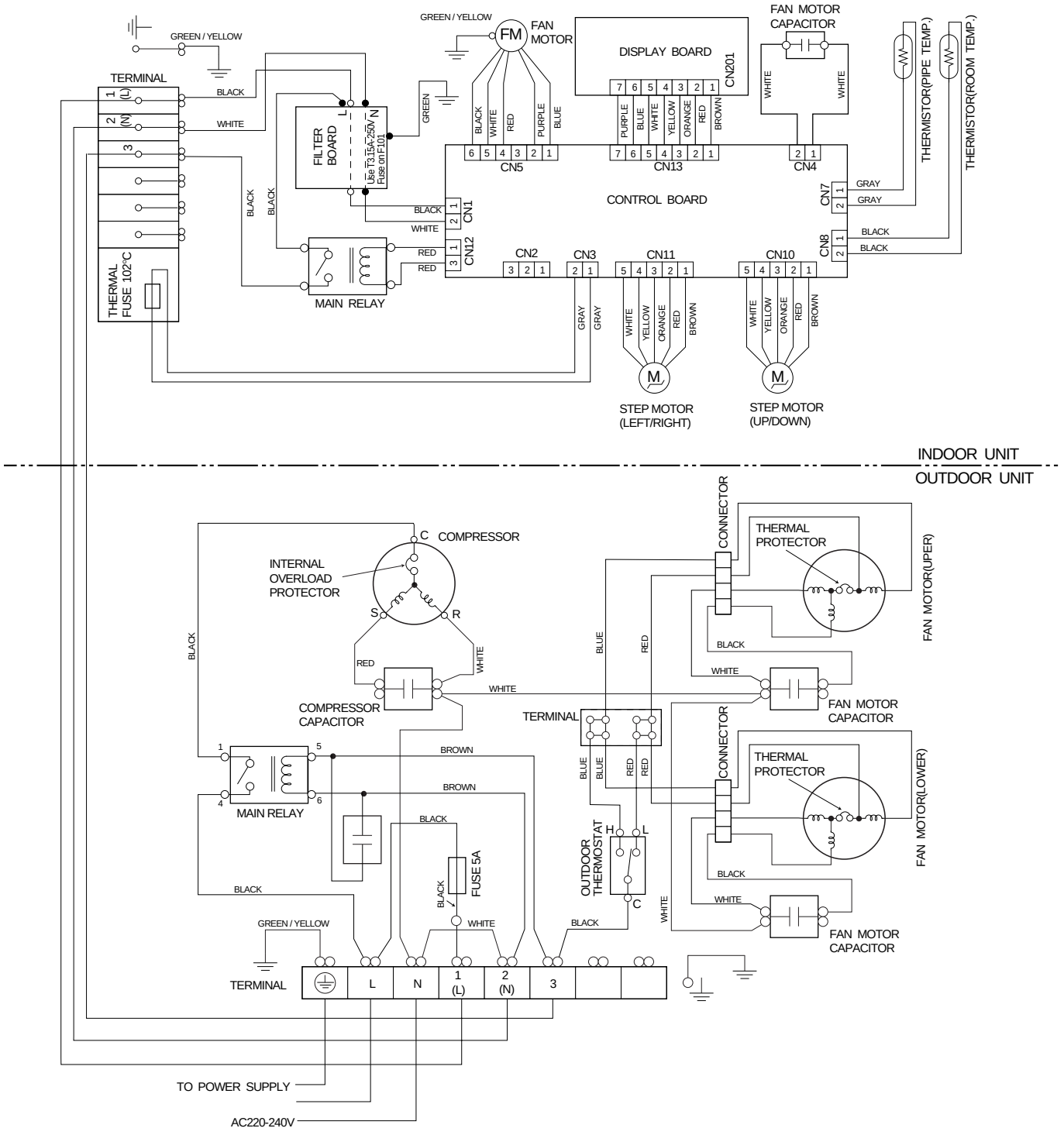
Models : AS✻20R/AO✻20R
AS✻24R/AO✻24R (except "ASS" model)



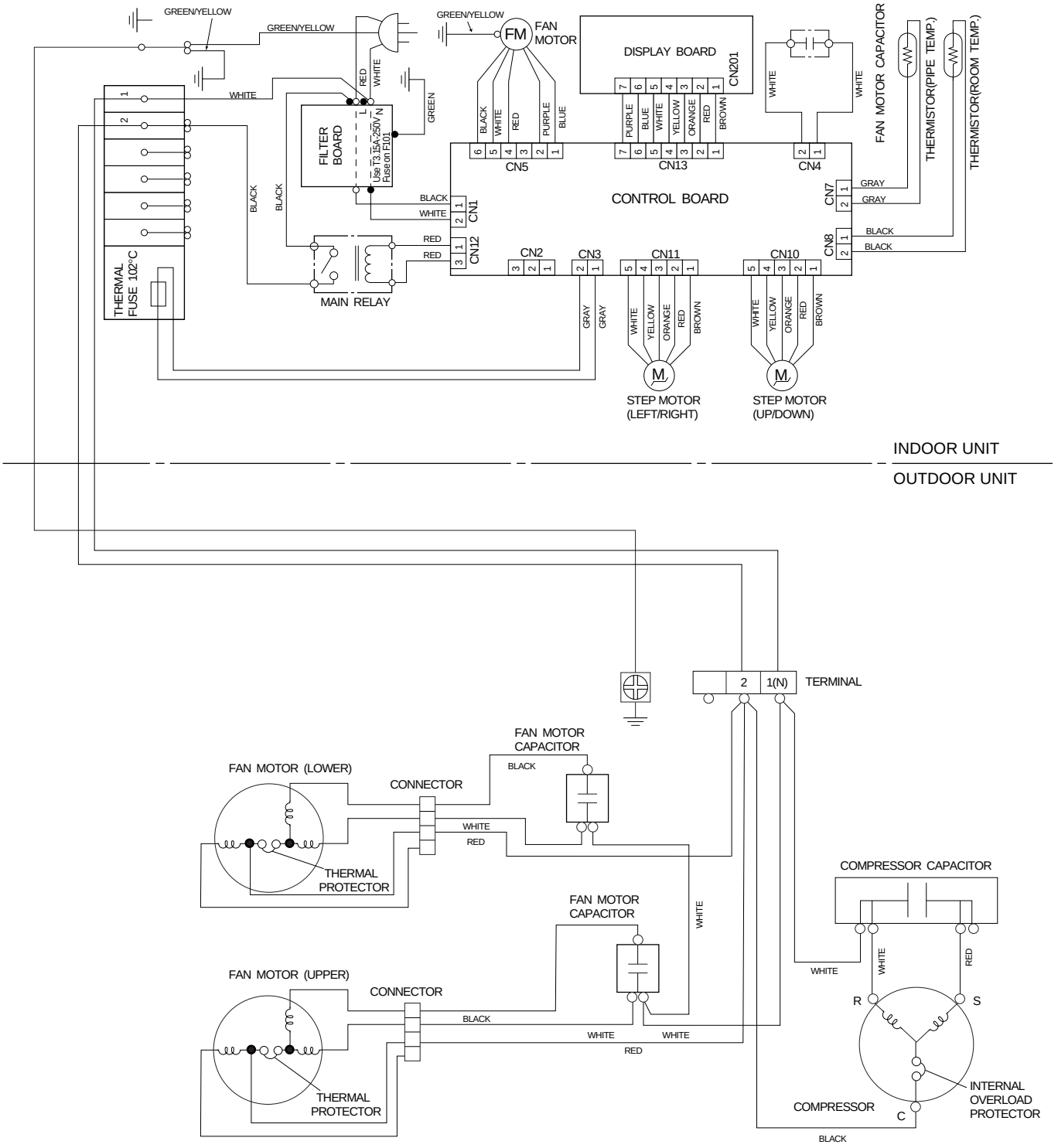
Models : ASS20R/AOS20R
ASS24R/AOS24R



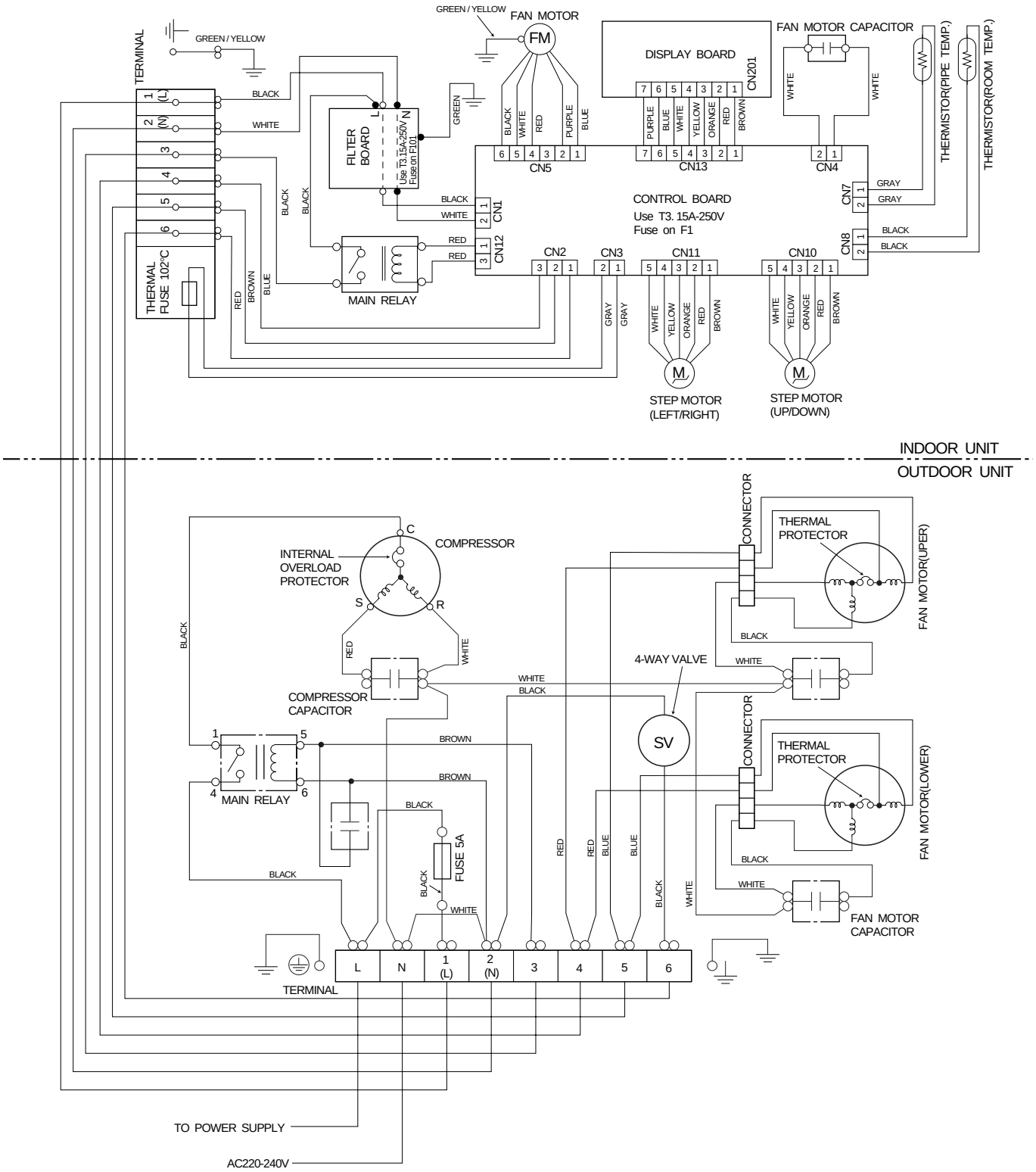
Models : AS✻30A/AO✻30A (except "ASS" model)



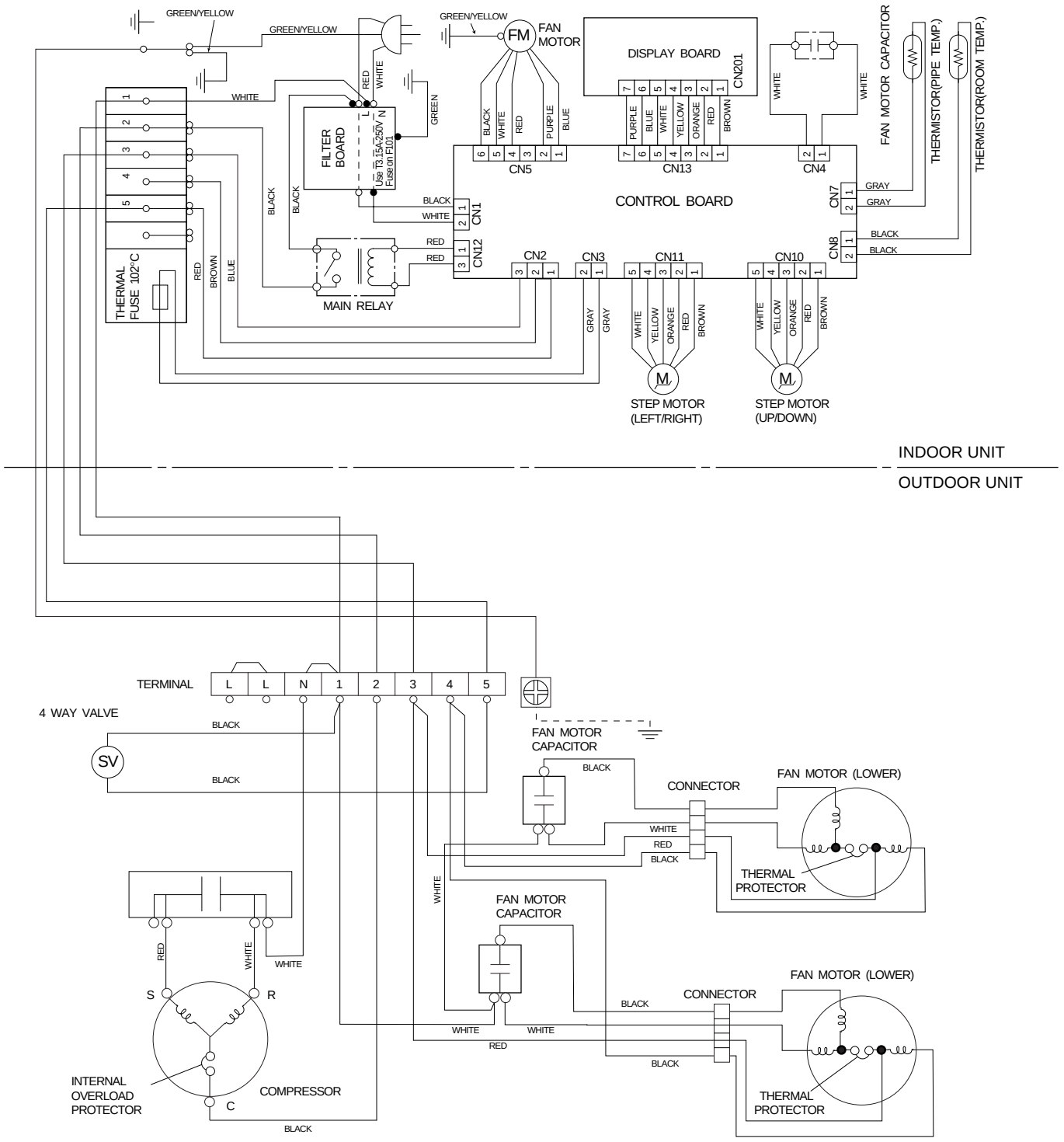
Models : ASS30A/AOS30A



Models : AS✻30R/AO✻30R (except "ASS" model)

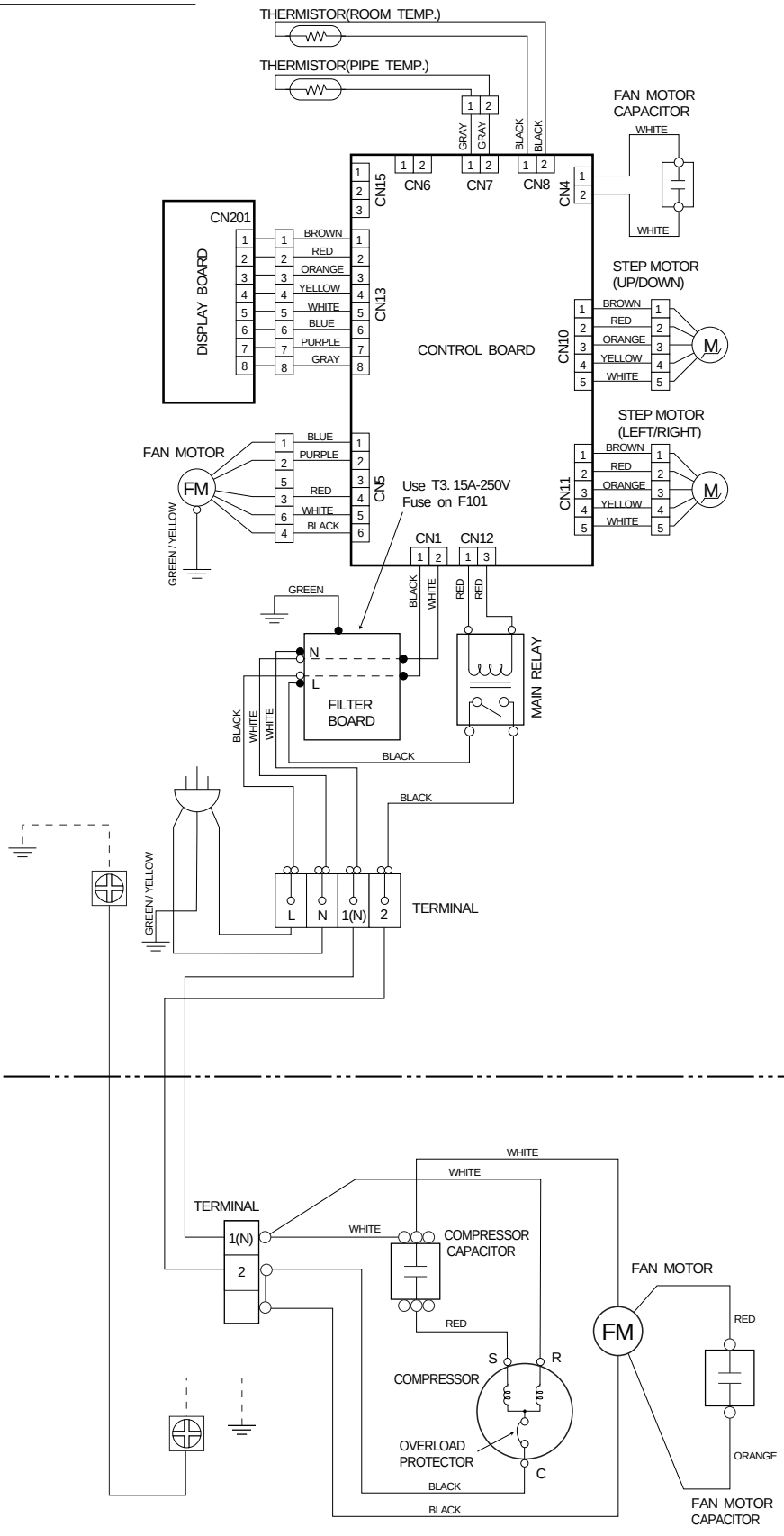


Models : ASS30R/AOS30R

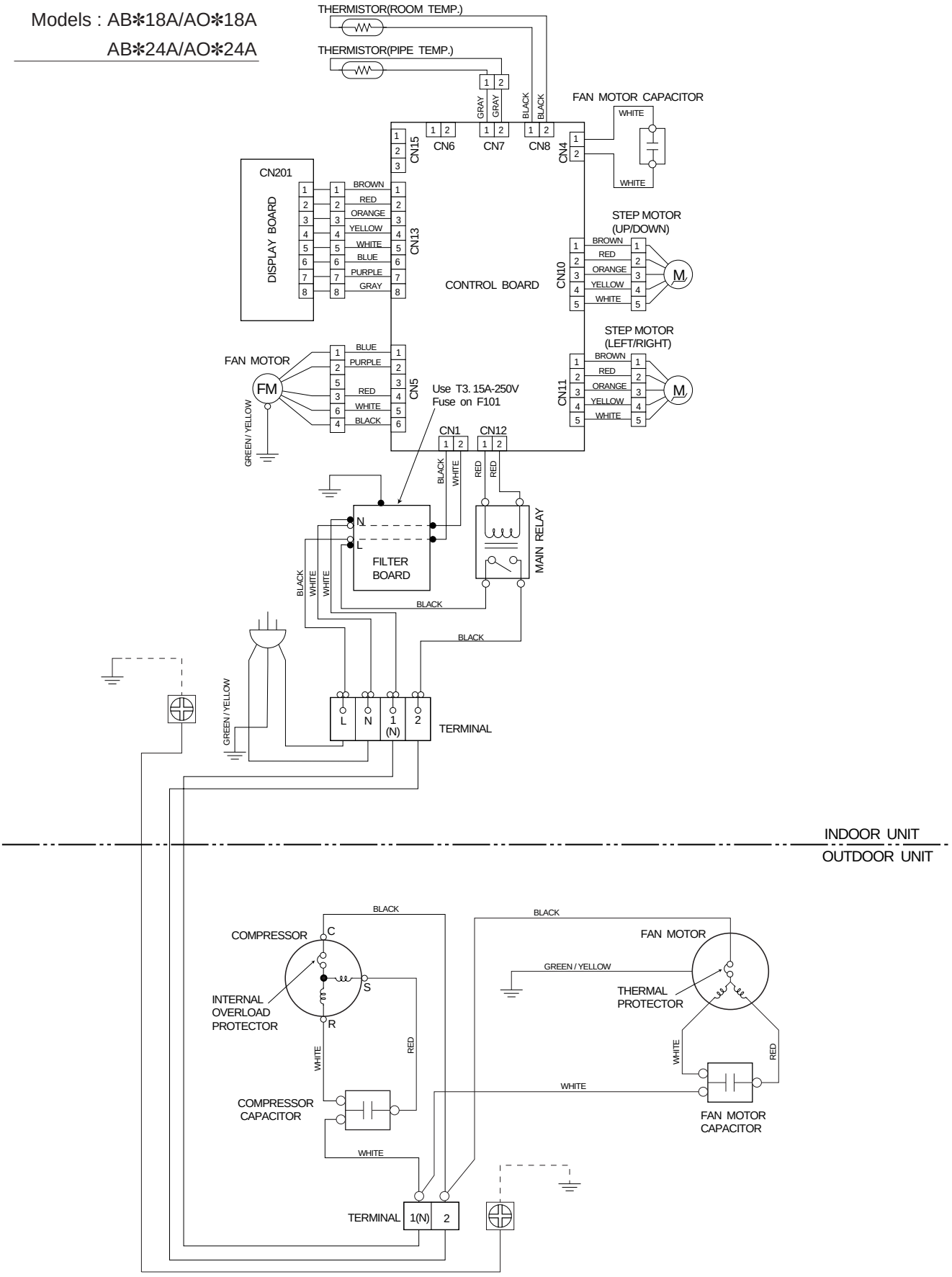


5.2.4 FLOOR / CEILING UNIVERSAL TYPE

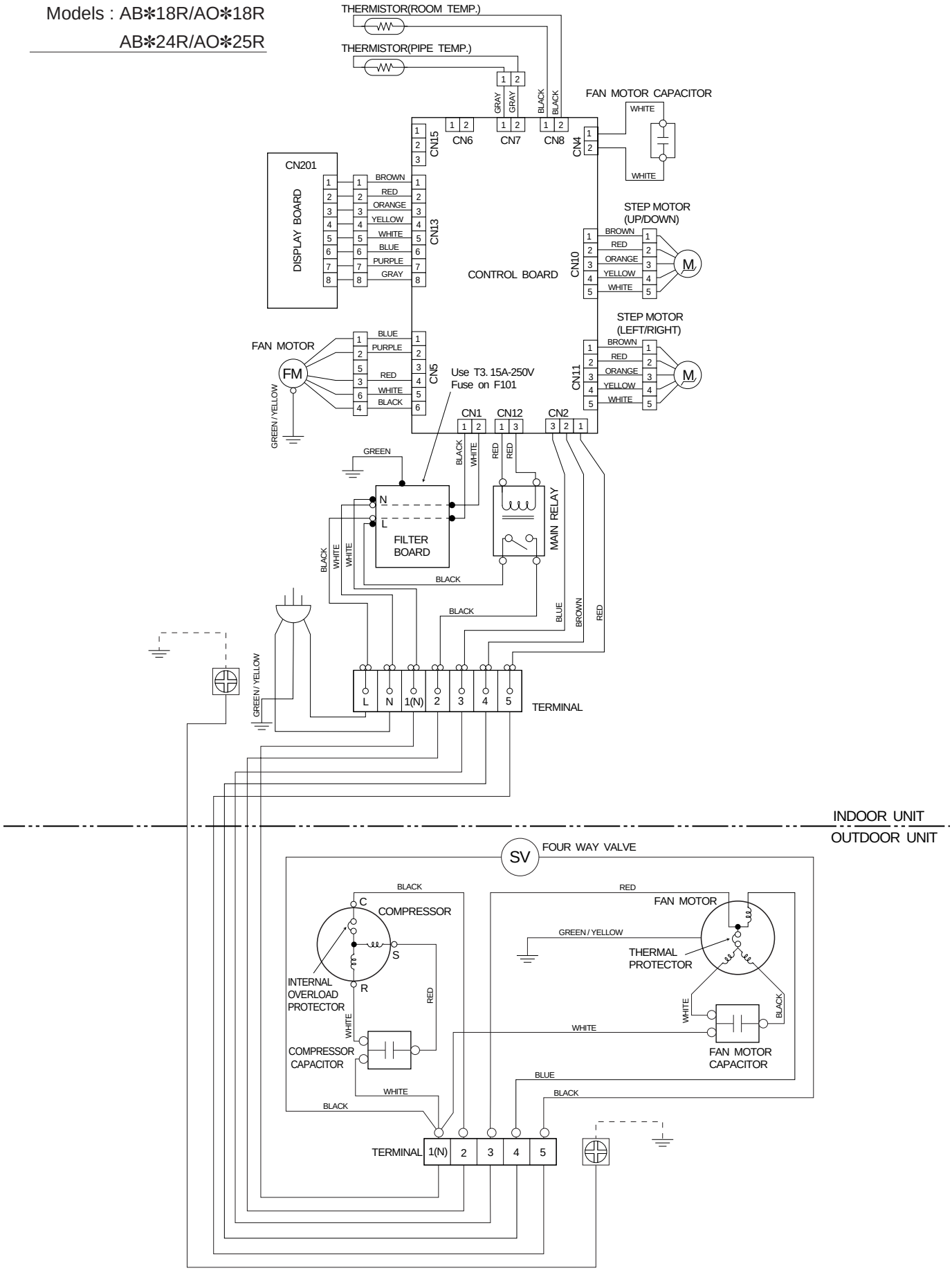
Models : AB✻14A/AO✻14A



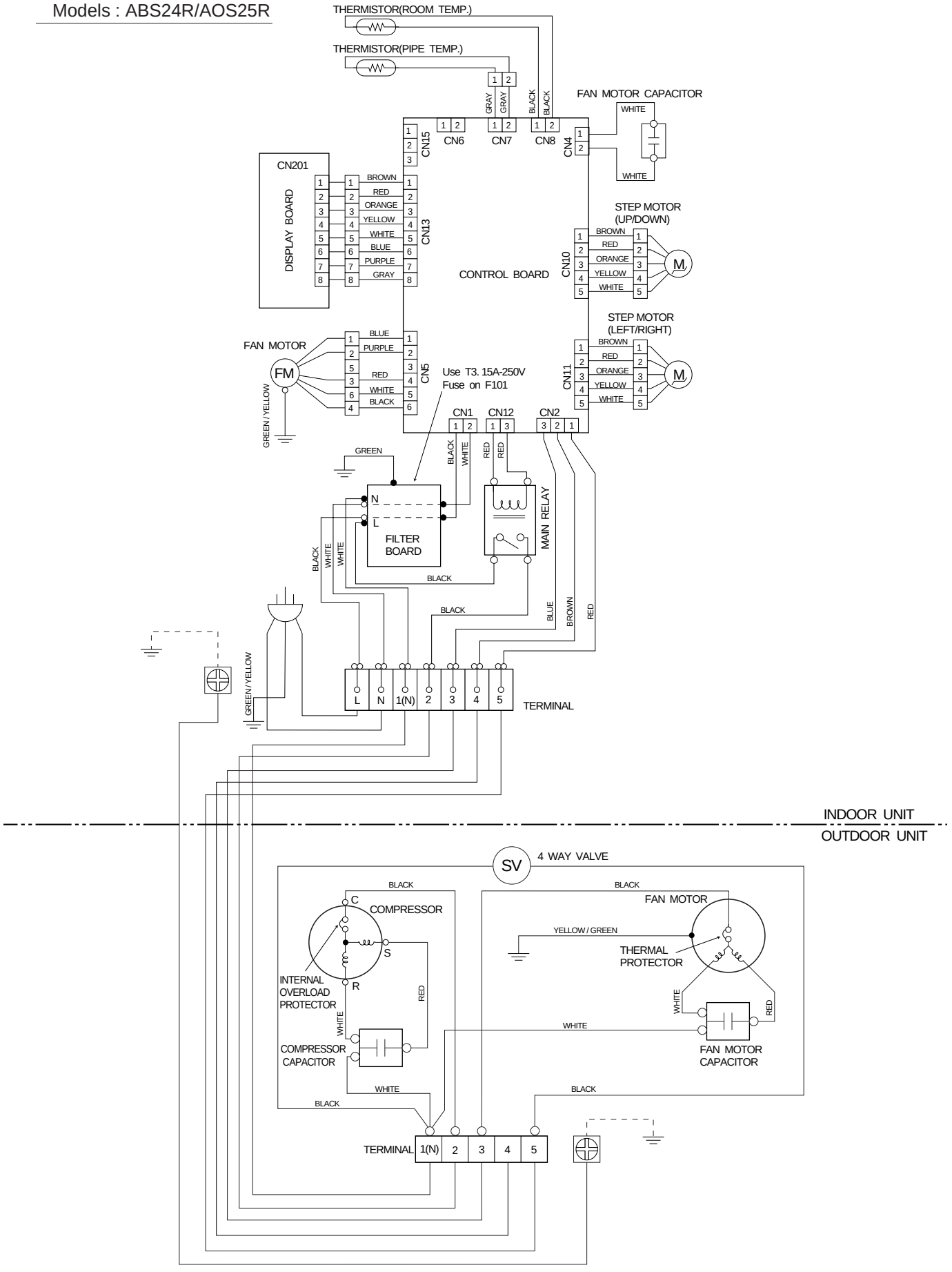
Models : AB✻18A/AO✻18A
AB✻24A/AO✻24A



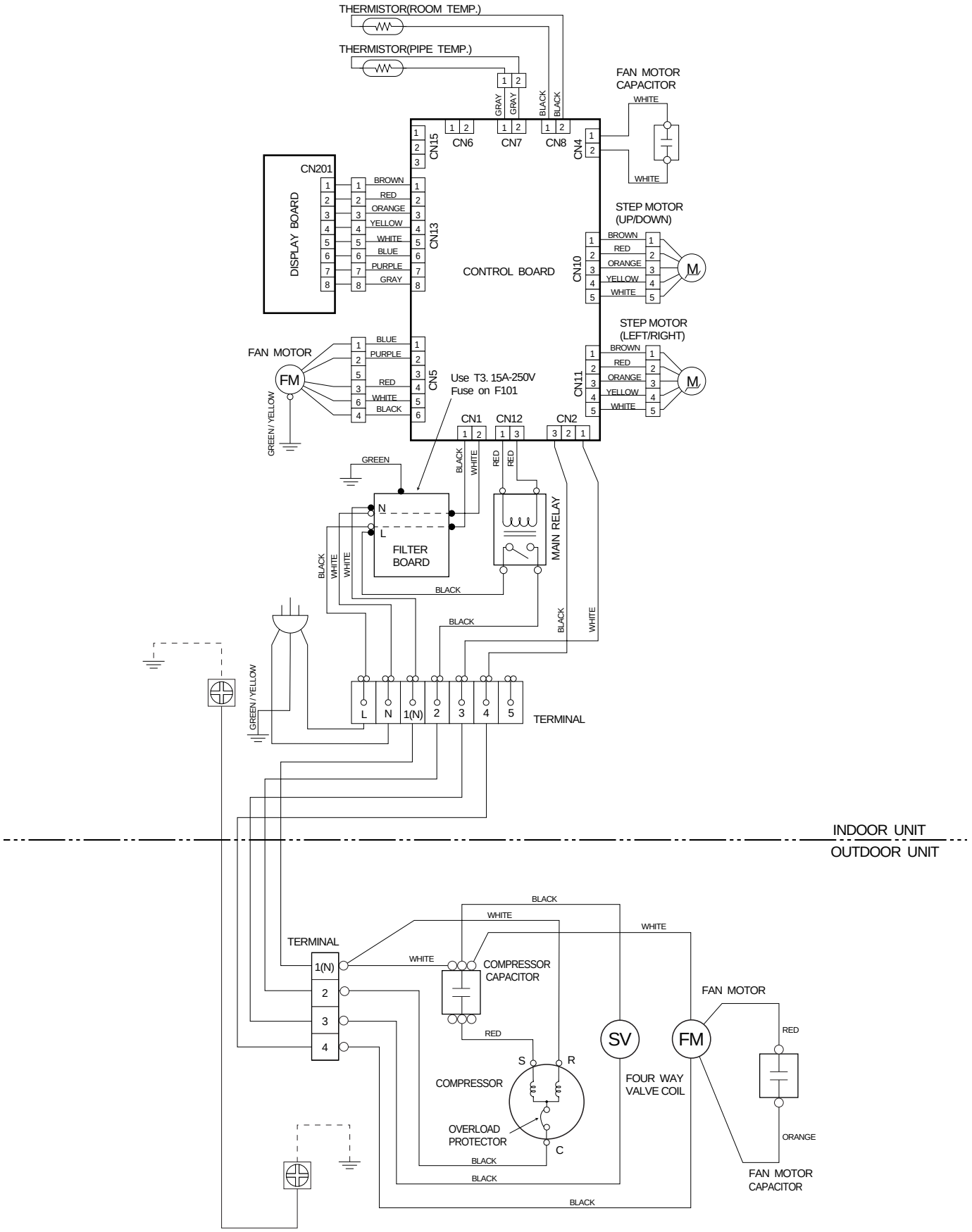
Models : AB✻18R/AO✻18R
AB✻24R/AO✻25R



Models : ABS24R/AOS25R



Models : AB✻14R/AO✻14R



5.3 CONTROLLER CIRCUIT DIAGRAM EZ NUMBER LIST

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.
COMPACT SII TYPE AS □- SERIES		
ASY 7A **ASG/H 7A**	096KWSE 096RWSE	096KWSE-C
ASY 7R **ASG/H 7R**	096JHSE 096KRSE	096JHSE-C

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.
COMPACT MII TYPE AS □- SERIES		
ASY 9A **ASG 9A** **AST 9A** **ASP 9A**	09502WSE 095FWSE 09509WSE 09502WSE or 096NWSE or 0977WSE	095FWSE-C
ASY 12A **ASG 12A** **AST 12A**	09505WSE 09504WSE 09505WSE or 096PWSE or 0978WSE	09504WSE-C
ASY 9R **ASG 9R** **AST 9R** **ASP/H 9A**	0950HHSE 0950GHSE 0950JHSE 0950HHSE or 096MHSE 096MHSE or 0978HSE	095HHSE-C
ASY 12R **ASG 12R** **AST 12R** **ASP 12A**	0950LHSE 0950KHSE 0950MHSE 0950LHSE 096NHSE or 0979HSE	0950LHSE-C

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.	SOFTWARE EZ-No.
AS□-SERIES			
ASY 20/24A **ASG 20/24A** **AST 20/24A** **ASY/G/T 30A** **ASS 20/24A** **ASS 30A** **ACS-7502/ACS-7602**	096JWSE 096GWSE 0968WSE 096HWSE 096LWSE 096SWSE 0974WSE	0968WSE-F	0986WSE-C
ASY 20R **ASG 20R** **AST 20R**	096UHSE 096RHSE 096THSE	096RHSE-F	096RHSE-C
ASY 24R **ASG 24R** **AST 24R** **ASY/G/T 30R**	096FHSE 096HHSE 0961HSE 096EHSE	0961HSE-F	0961HSE-C
ASS 20R	096SHSE	096SHSE-F	096SHSE-C
ASS 24R **ASS 30R**	096LHSE 096PHSE	096PHSE-F	096PHSE-C

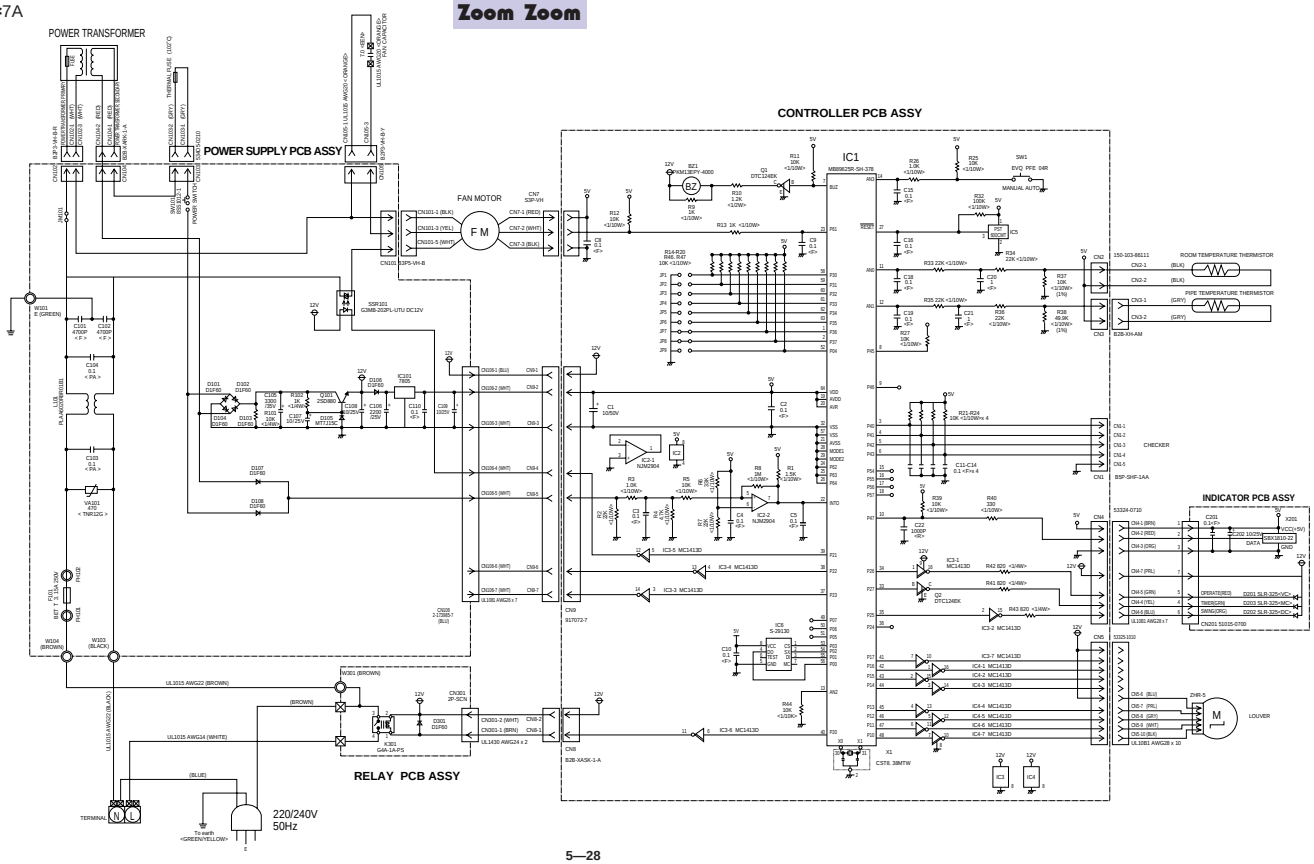
MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.	SOFTWARE EZ-No.
AB□-SERIES			
ABY 14A **ABG 14A**	0975WSE 0976WSE	096VWSE-F	096VWSE-C
ABY 18A **ABG 18A**	0972WSE 096YWSE		
ABY 24A **ABG 24A** **ABT 24A**	0970WSE 096VWSE 0971WSE		
ABS 24A	0973WSE		
ABY 14R **ABG 14R** **ABT 14R**	0975HSE 0976HSE 0977HSE	0975HSE-F	0975HSE-C
ABY 18R **ABG 18R** **ABT 18R**	0972HSE 096WHSE 0973HSE	0964HSE-F	0964HSE-C
ABY 24R **ABG 24R** **ABT 24R**	0970HSE 0964HSE 0971HSE		
ABS 24R	0974HSE	0974HSE-F	0974HSE-C

5.4. CONTROLLER PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

5.4.1 COMPACT SII SERIES

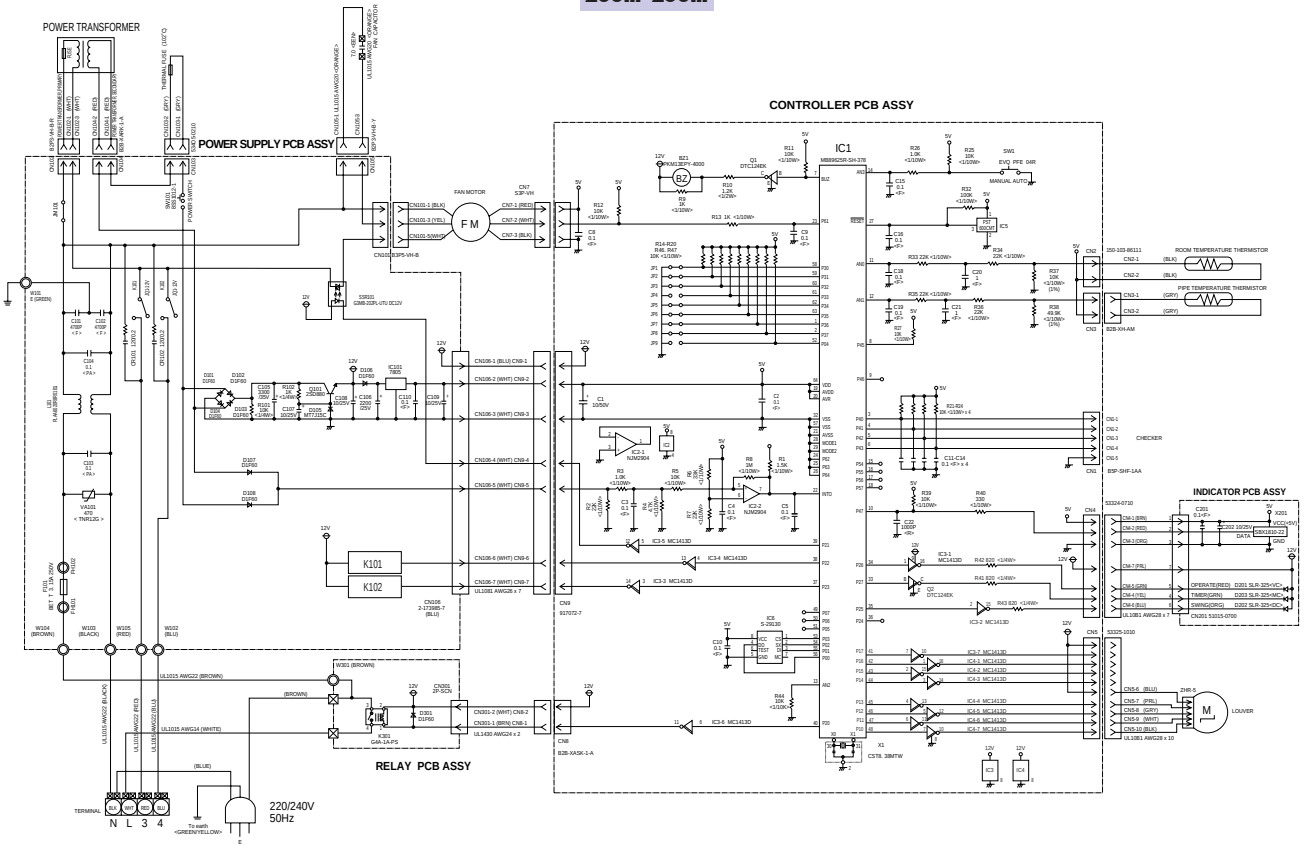
Zoom Zoom
Zoom Zoom

Model : AS*7A



Zoom Zoom
Zoom Zoom

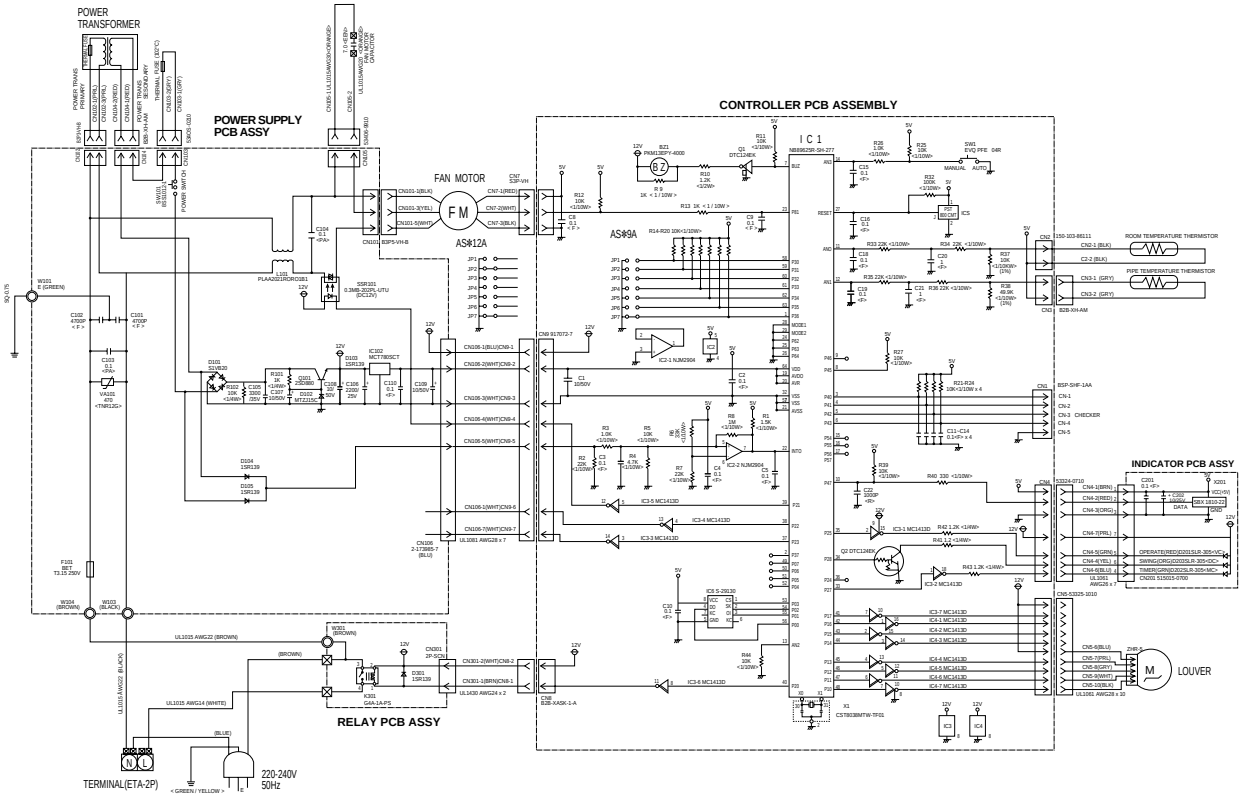
Model : AS*7R



5.4.2 COMPACT MII SERIES

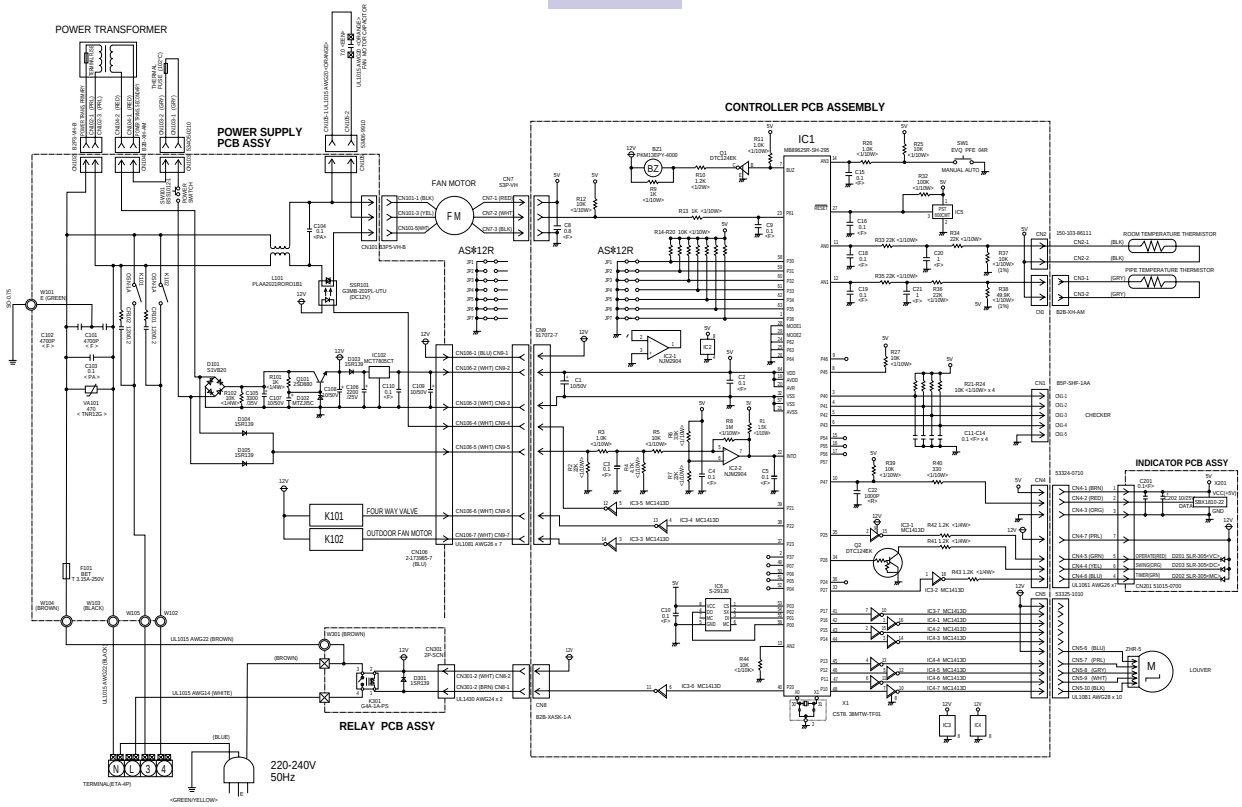
Zoom Zoom
Zoom Zoom

Models : AS✻9A, 12A



Zoom Zoom
Zoom Zoom

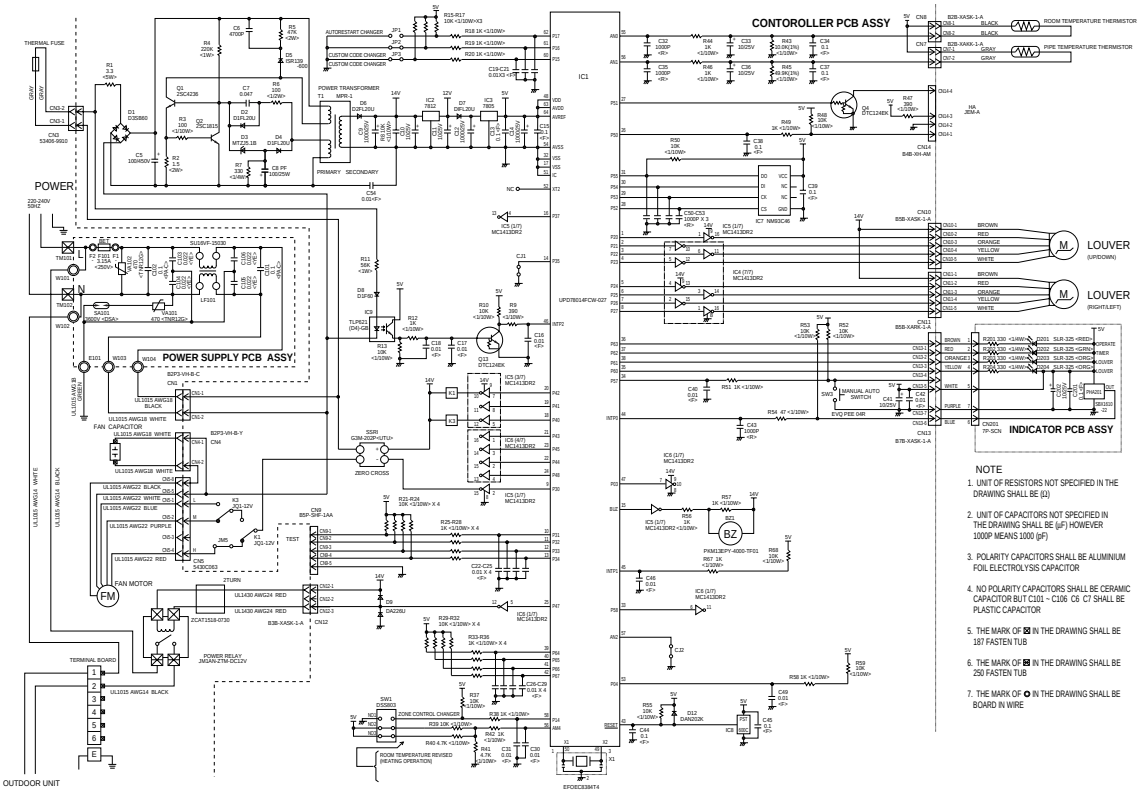
Models : AS✻9R, 12R



5.4.3 WALL MOUNTED LARGE TYPE

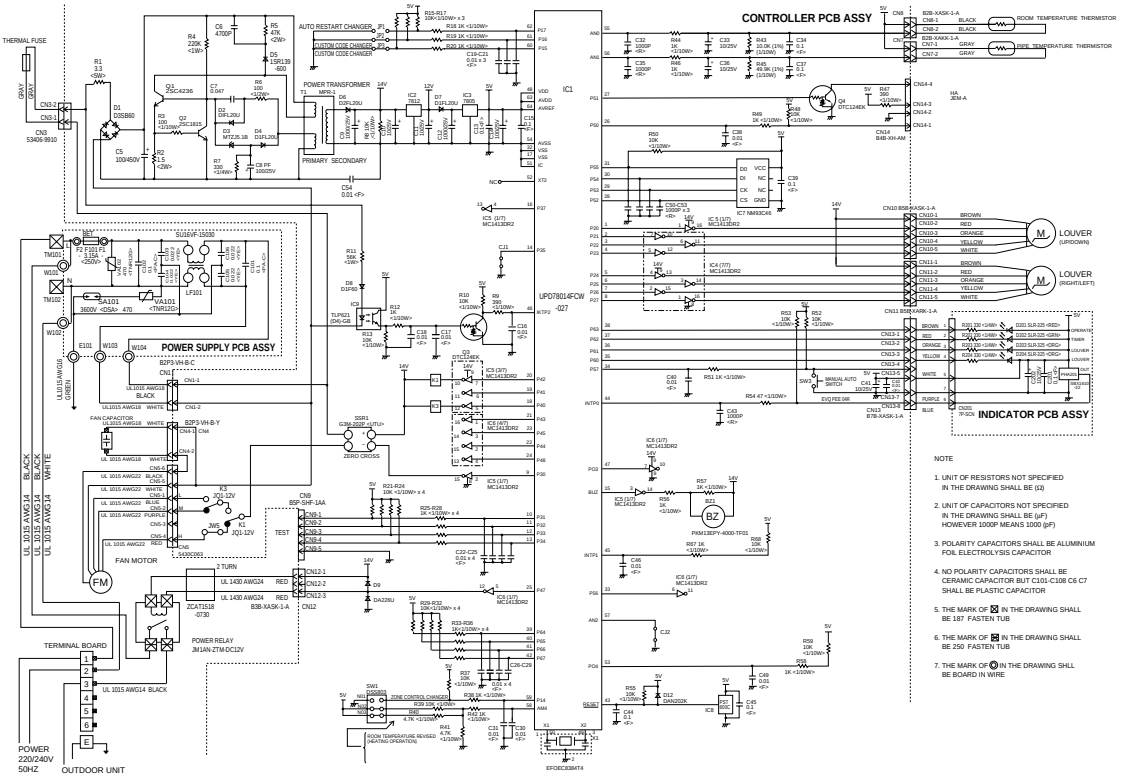
Zoom Zoom
Zoom Zoom

Models : AS✻20A, AS✻24A, ASS30A, ACS-7502, ACS-7602



Zoom Zoom
Zoom Zoom

Model : AS✻30A



Zoom Zoom
Zoom Zoom

Models : AS✻20R, AS✻24R, ASS30R

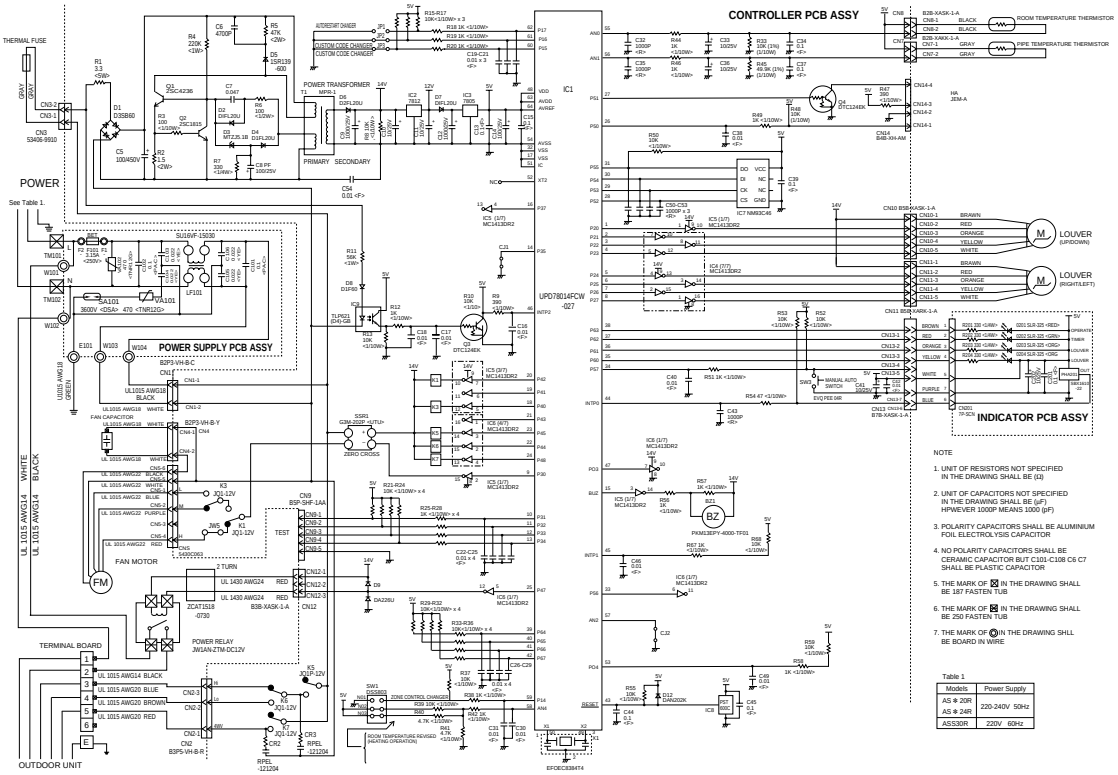
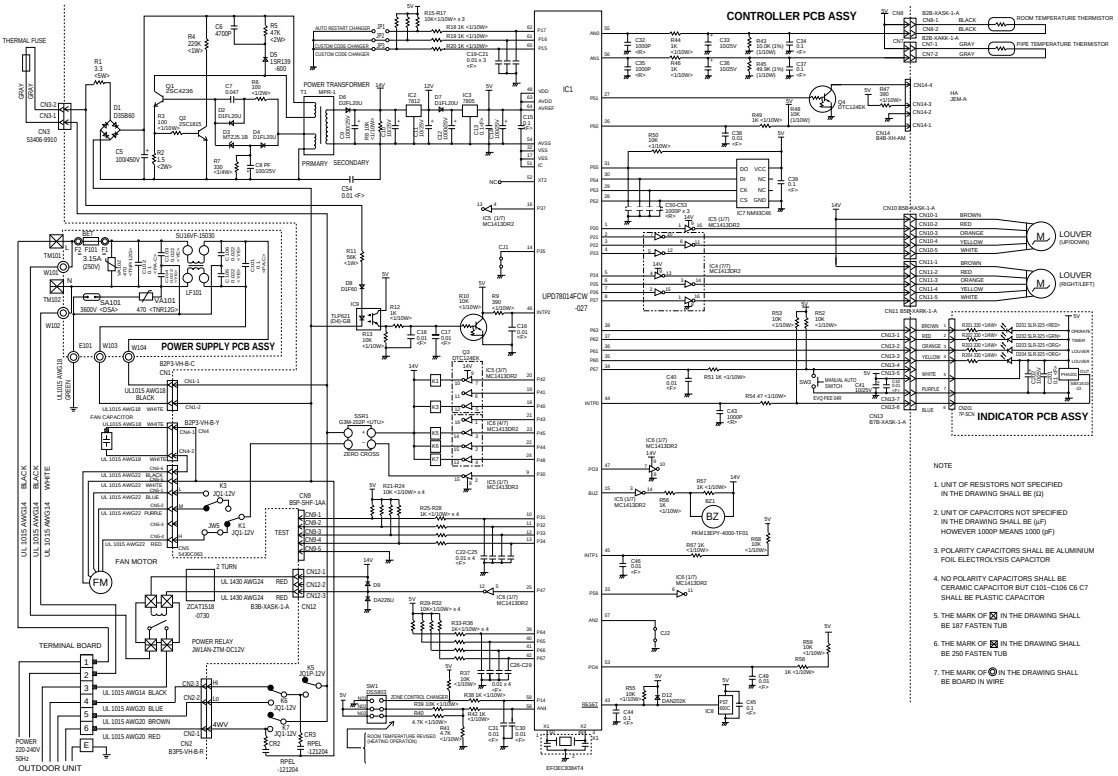


Table 1

Models	Power Supply
AS ✻ 20R	220-240V 50Hz
AS ✻ 24R	
ASS30R	220V 60Hz

Zoom Zoom
Zoom Zoom

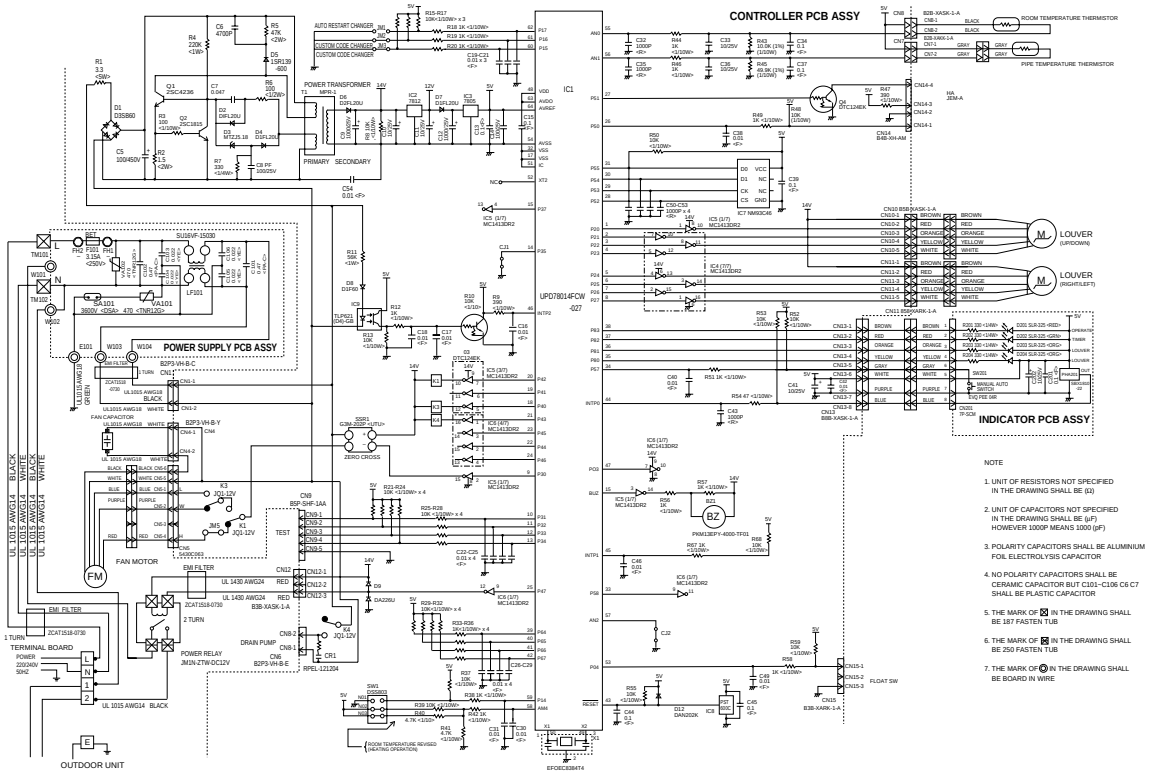
Model : AS✻30R



5.4.4 FLOOR / CEILING UNIVERSAL TYPE

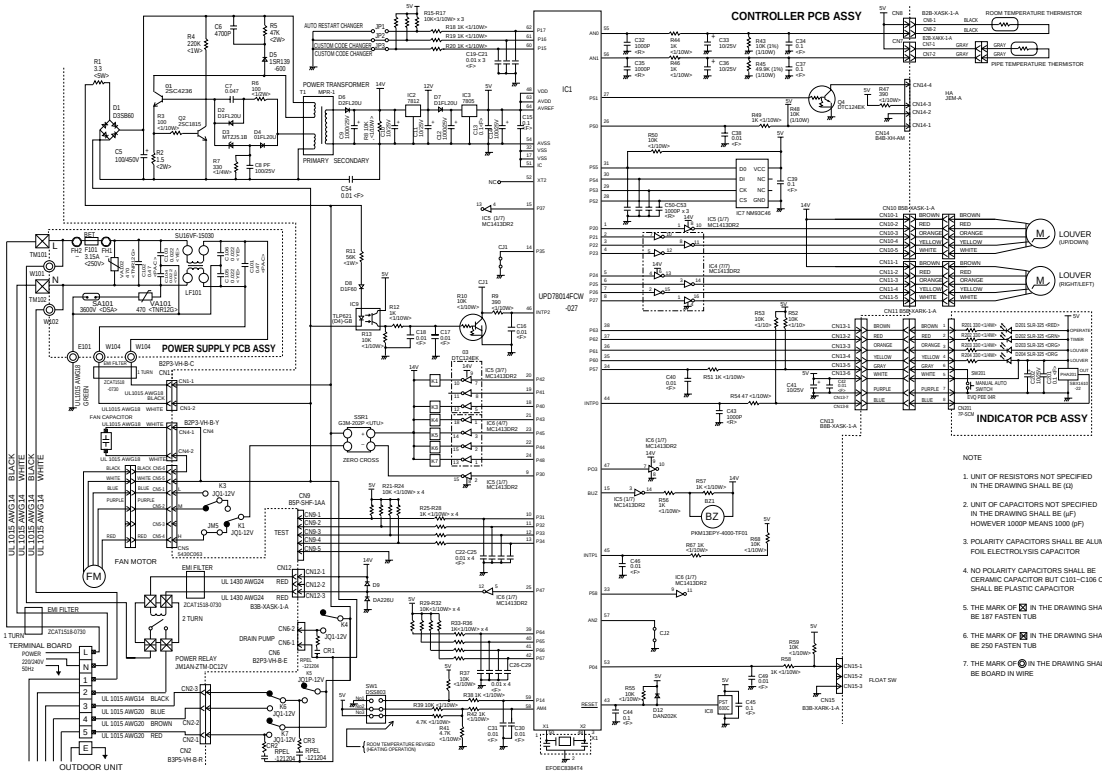
Zoom Zoom
Zoom Zoom

Models : AB✻14A, AB✻18A, AB✻24A



Zoom Zoom
Zoom Zoom

Models : AB✻14R, AB✻18R, AB✻24R



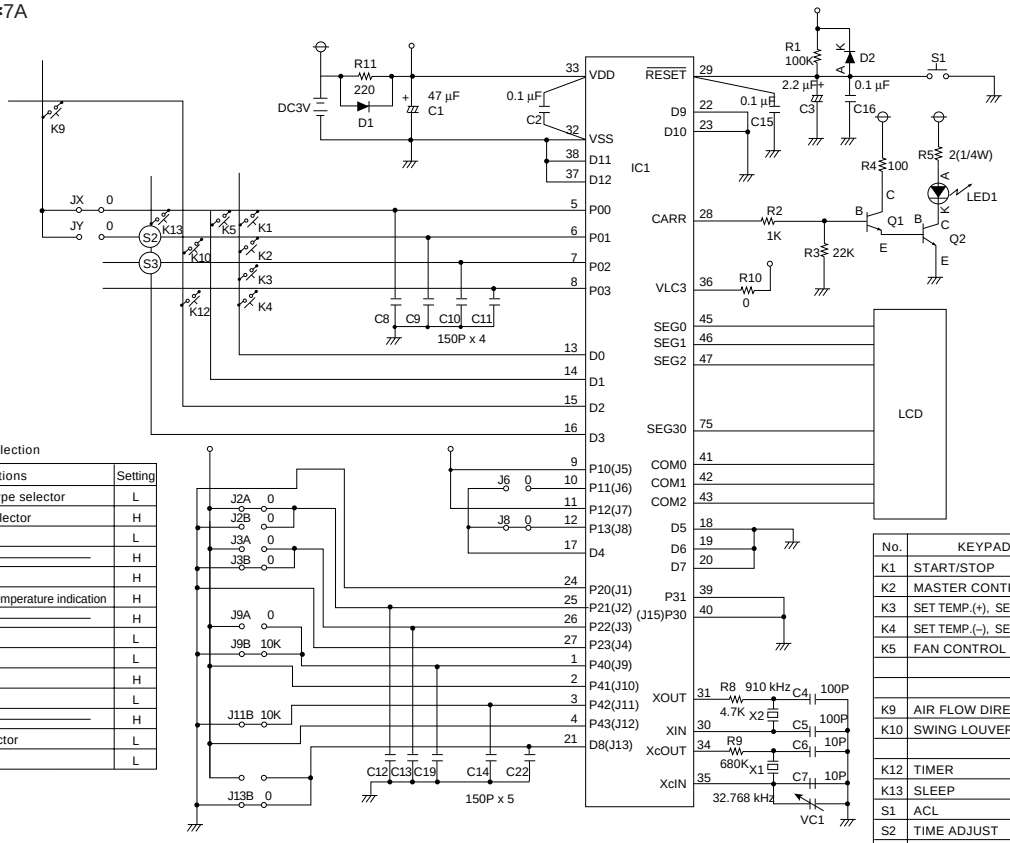
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101~C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF Ⓑ IN THE DRAWING SHALL BE BOARD IN WIRE

5.5 REMOTE CONTROL UNIT CIRCUIT DIAGRAM

5.5.1 COMPACT S Ⅱ SERIES

Models : AS✻7A



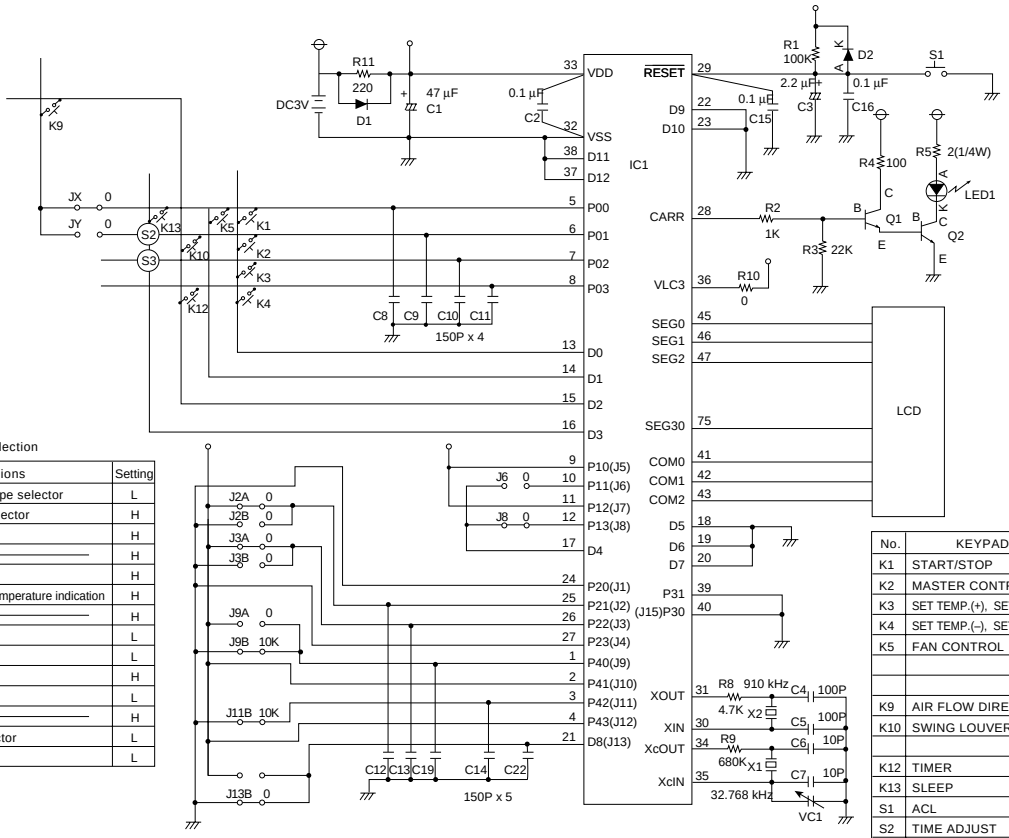
Jumper Wire Function Selection

No.	Functions	Setting
J1	Remote controller type selector	L
J2	Transmitter code selector	H
J3	Heating operation	L
J4	———	H
J5	Dry operation	H
J6	Automatic operation temperature indication	H
J7	———	H
J8	Timer selector	L
J9	Switch selector	L
J10	Fan mode	H
J11	Power choice	L
J12	———	H
J13	Auto operation selector	L
J15	Super quiet	L

L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(–), SET TIME(–)
K5	FAN CONTROL
K9	AIR FLOW DIRECTION
K10	SWING LOUVER
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

Model : AS✻7R



Jumper Wire Function Selection

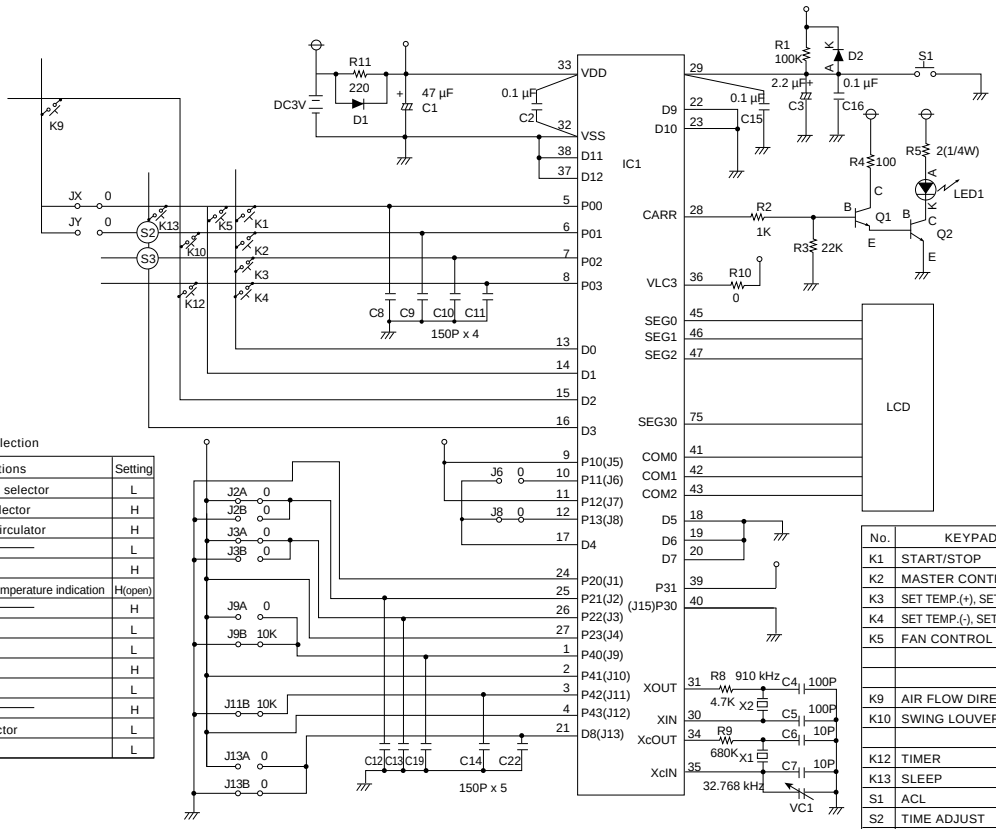
No.	Functions	Setting
J1	Remote controller type selector	L
J2	Transmitter code selector	H
J3	Heating operation	H
J4	———————	H
J5	Dry operation	H
J6	Automatic operation temperature indication	H
J7	———————	H
J8	Timer selector	L
J9	Switch selector	L
J10	Fan mode	H
J11	Power choice	L
J12	———————	H
J13	Auto operation selector	L
J15	Super quiet	L

L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(–), SET TIME(–)
K5	FAN CONTROL
K9	AIR FLOW DIRECTION
K10	SWING LOUVER
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

5.5.2 COMPACT M Ⅱ SERIES

Models : AS✻9A
AS✻12A



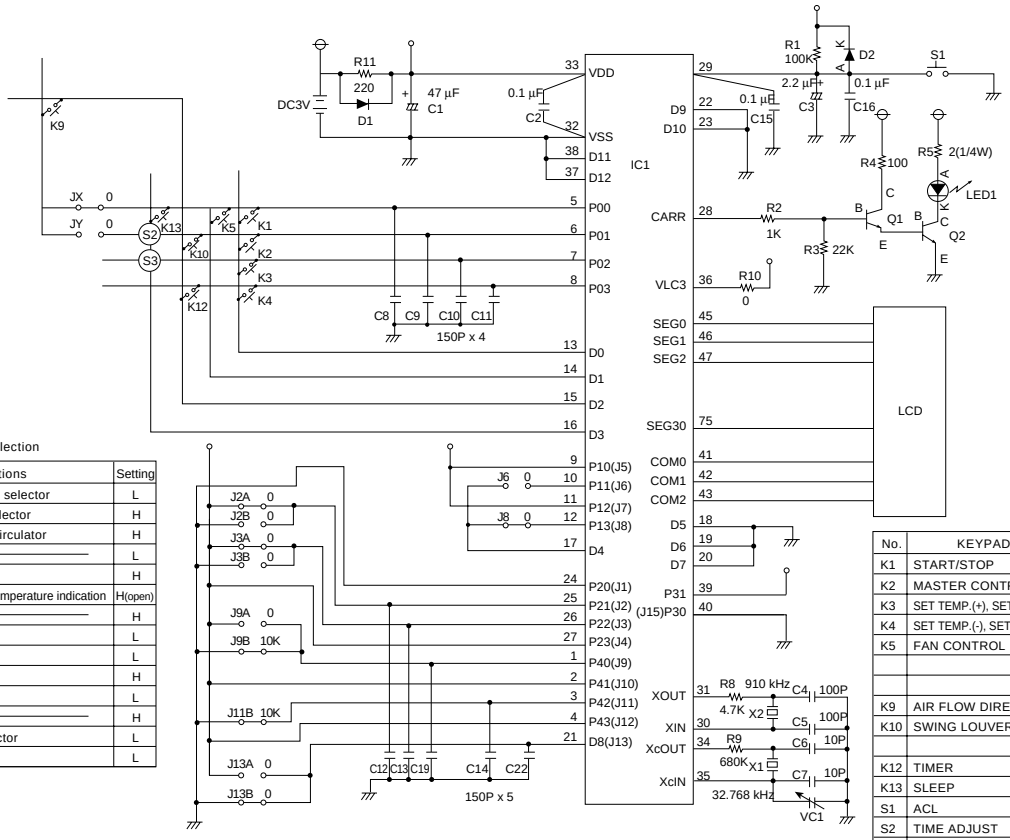
Jumper Wire Function Selection

No.	Functions	Setting
J1	Remote control type selector	L
J2	Transmitter code selector	H
J3	Heating operation/Circulator	H
J4	————	L
J5	Dry operation	H
J6	Automatic operation temperature indication	H(open)
J7	————	H
J8	Timer selector	L
J9	Switch selector	L
J10	Fan mode	H
J11	Power choice	L
J12	————	H
J13	Auto operation selector	L
J15	Super quiet	L

L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(-), SET TIME(-)
K5	FAN CONTROL
K9	AIR FLOW DIRECTION
K10	SWING LOUVER
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

Models : AS✻9R
AS✻12R



Jumper Wire Function Selection

No.	Functions	Setting
J1	Remote control type selector	L
J2	Transmitter code selector	H
J3	Heating operation/Circulator	H
J4	———	L
J5	Dry operation	H
J6	Automatic operation temperature indication	H(open)
J7	———	H
J8	Timer selector	L
J9	Switch selector	L
J10	Fan mode	H
J11	Power choice	L
J12	———	H
J13	Auto operation selector	L
J15	Super quiet	L

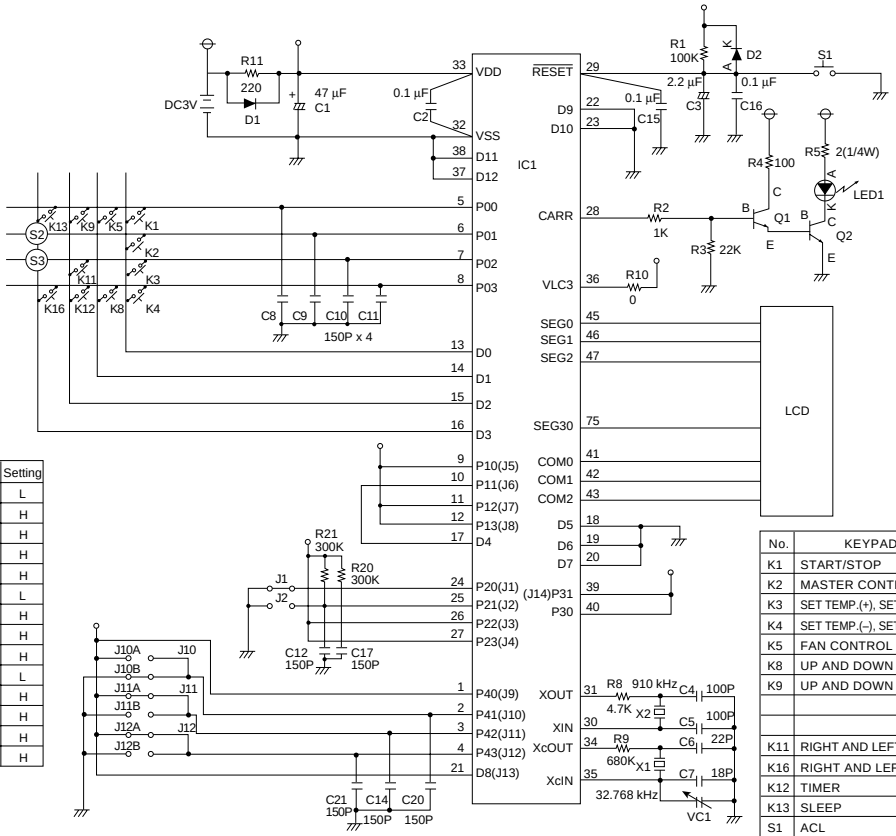
L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(-), SET TIME(-)
K5	FAN CONTROL
K9	AIR FLOW DIRECTION
K10	SWING LOUVER
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

5.5.3 WALL MOUNTED LARGE TYPE AND FLOOR/CEILING UNIVERSAL TYPE

REMOTE CONTROL UNIT CIRCUIT DIAGRAM (HANDY TYPE)

Models : AS✻20A, 24A, 30A
AB✻14A, 18A, 24A



Jumper Wire Function Selection

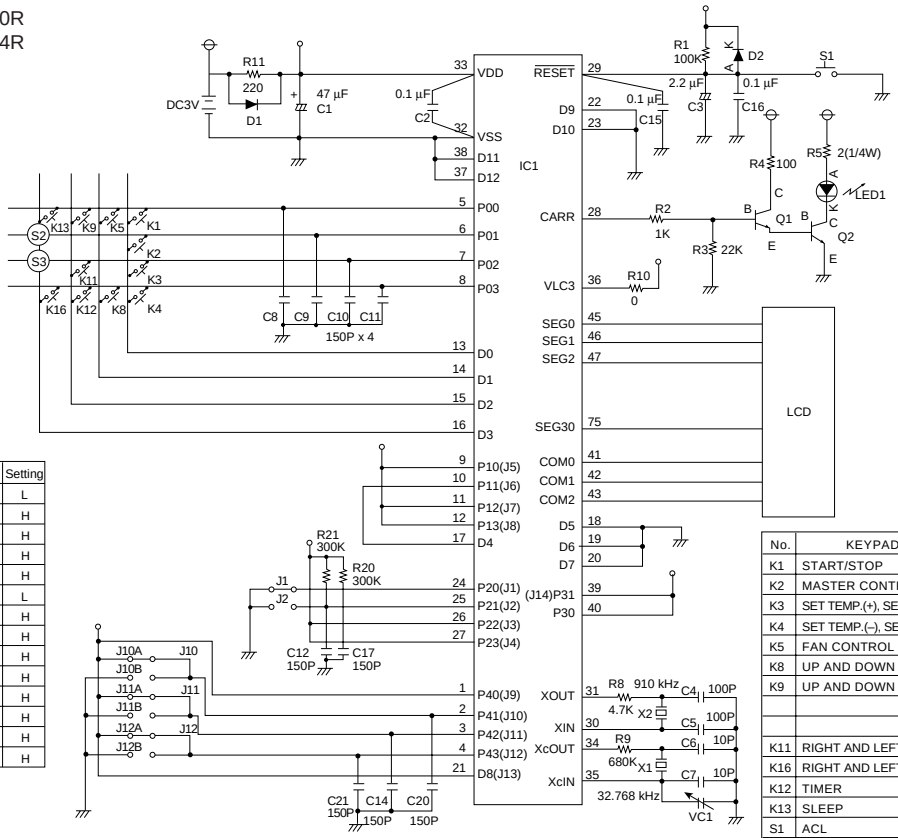
No.	Functions	Setting
J1	Transmitting code change	L
J2	Transmitting code change	H
J3	Transmitting code change	H
J4	Transmitting code change	H
J5	Dry operation	H
J6	Temperature display of automatic operation	L
J7	Change of V-remote control type	H
J8	Temperature unit selector	H
J9	Automatic operation	H
J10	Heating operation	L
J11	24Hour/12Hour	H
J12	Super quiet	H
J13	Auto operation selector	H
J14	Wind operation	H

L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(–), SET TIME(–)
K5	FAN CONTROL
K8	UP AND DOWN SWING
K9	UP AND DOWN WIND
K11	RIGHT AND LEFT SWING
K16	RIGHT AND LEFT WIND
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

REMOTE CONTROL UNIT CIRCUIT DIAGRAM (HANDY TYPE)

Models : AS✻20R, 24R, 30R
AB✻14R, 18R, 24R



Jumper Wire Function Selection

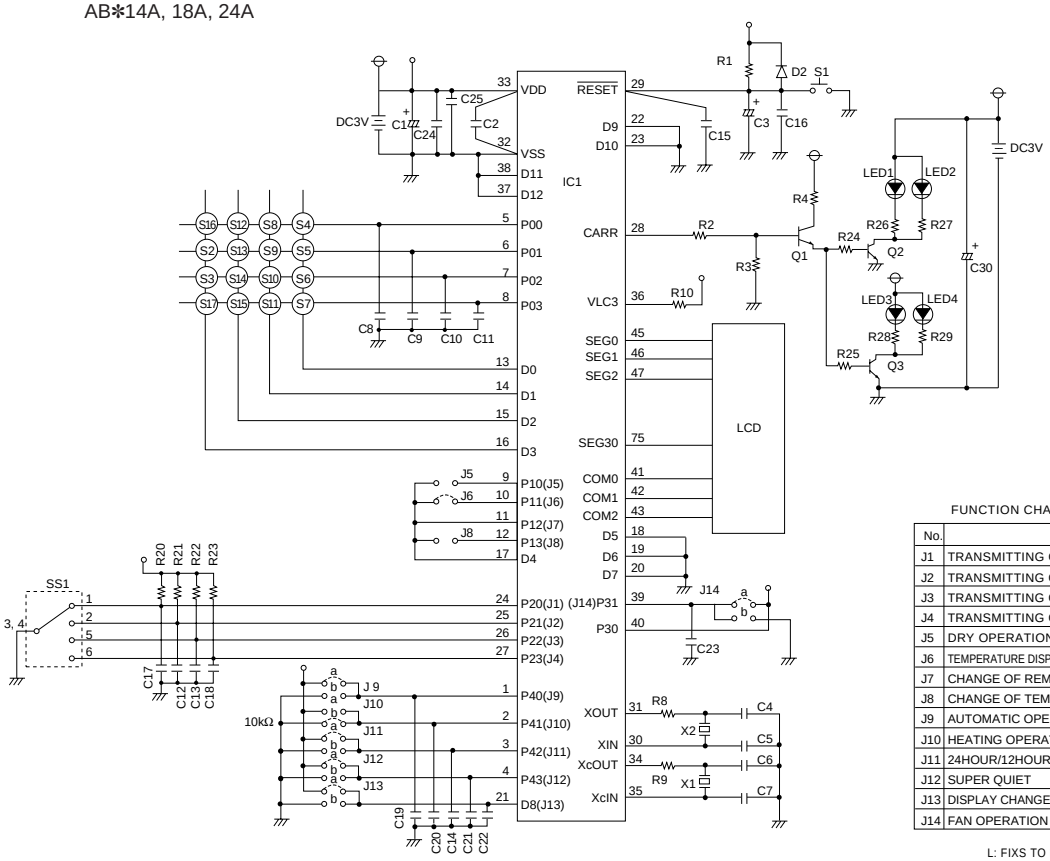
No.	Functions	Setting
J1	Transmitting code change	L
J2	Transmitting code change	H
J3	Transmitting code change	H
J4	Transmitting code change	H
J5	Dry operation	H
J6	Temperature display of automatic operation	L
J7	Change of V-remote control type	H
J8	Temperature unit selector	H
J9	Automatic operation	H
J10	Heating operation	H
J11	24Hour/12Hour	H
J12	Super quiet	H
J13	Auto operation selector	H
J14	Wind operation	H

L: Connected to ⏚
H: Connected to ♀

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(–), SET TIME(–)
K5	FAN CONTROL
K8	UP AND DOWN SWING
K9	UP AND DOWN WIND
K11	RIGHT AND LEFT SWING
K16	RIGHT AND LEFT WIND
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

REMOTE CONTROL UNIT CIRCUIT DIAGRAM (WALL FIXING TYPE)

Models : AS✻20A, 24A, 30A
AB✻14A, 18A, 24A



KEY NO. KEY FUNCTION CORRESPONDENCE TABLE

No.	KEY FUNCTION
S1	ACL
S2	TIMER ADJUST
S3	TEST RUN
S4	START / STOP
S5	MASTER CONTROL
S6	SET TIME(+)
S7	SET TIME(–)
S8	FAN CONTROL
S9	TIME(–)
S10	SET TEMP(–)
S11	UP AND DOWN SWING
S12	UP AND DOWN WIND
S13	ENERGY SAVE
S14	RIGHT AND LEFT SWING
S15	TIMER
S16	SLEEP
S17	RIGHT AND LEFT WIND

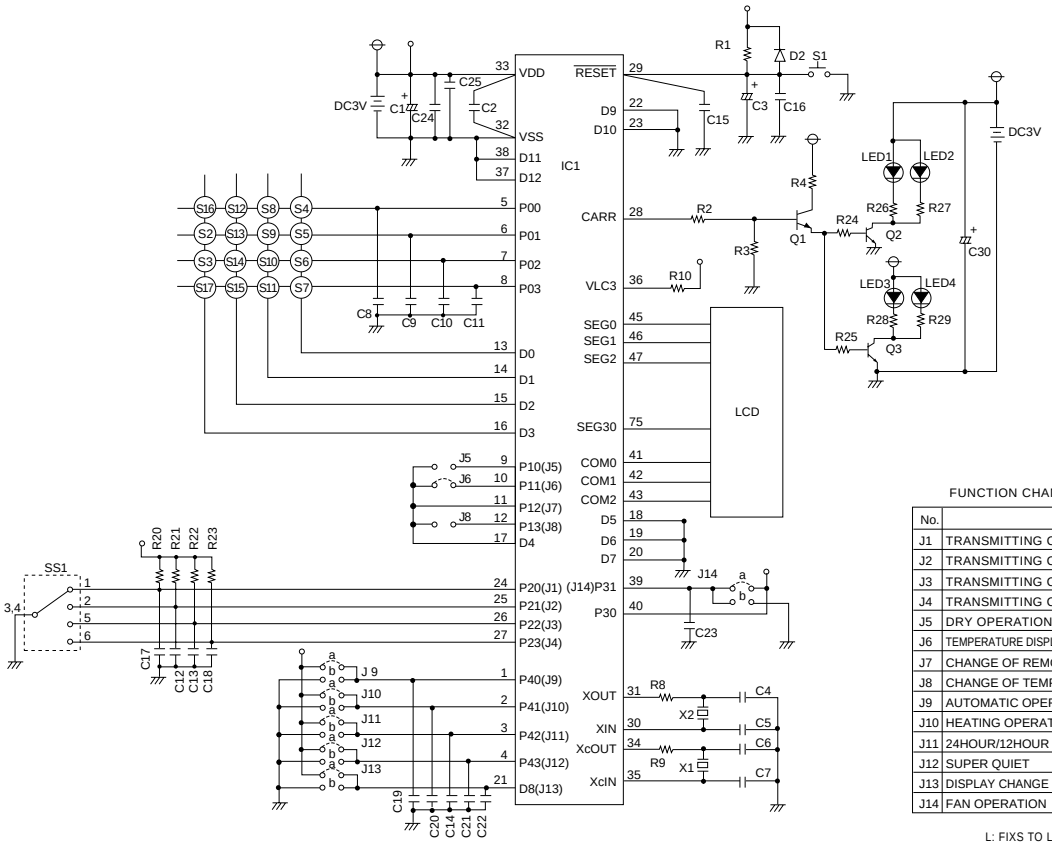
FUNCTION CHANGE BY THE JUMPER LINE

No.	Functions	Setting
J1	TRANSMITTING CODE CHANGE	L
J2	TRANSMITTING CODE CHANGE	H
J3	TRANSMITTING CODE CHANGE	H
J4	TRANSMITTING CODE CHANGE	H
J5	DRY OPERATION	H
J6	TEMPERATURE DISPLAY OF AUTOMATIC OPERATION	L
J7	CHANGE OF REMOTE CONTROL TYPE	L
J8	CHANGE OF TEMPERATURE UNIT	H
J9	AUTOMATIC OPERATION	H
J10	HEATING OPERATION	L
J11	24HOUR/12HOUR	H
J12	SUPER QUIET	H
J13	DISPLAY CHANGE OF AUTOMATIC OPERATION	H
J14	FAN OPERATION	H

L: FIXS TO LOW LEVEL
H: FIXS TO HIGH LEVEL

REMOTE CONTROL UNIT CIRCUIT DIAGRAM (WALL FIXING TYPE)

Models : AS✻20R, 24R, 30R
AB✻14R, 18R, 24R



KEY NO. KEY FUNCTION CORRESPONDENCE TABLE

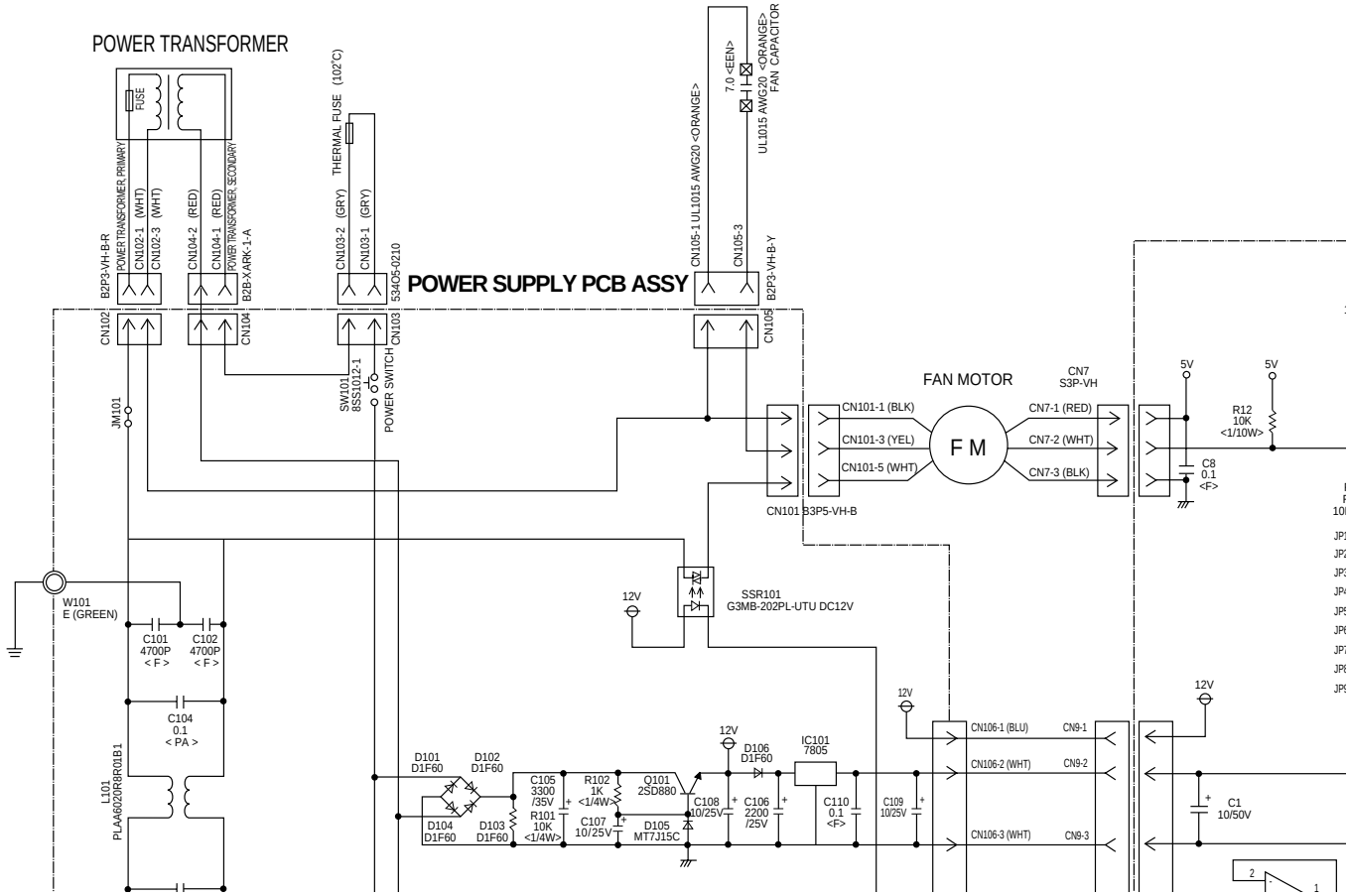
No.	KEY FUNCTION
S1	ACL
S2	TIMER ADJUST
S3	TEST RUN
S4	START / STOP
S5	MASTER CONTROL
S6	SET TEMP(+)
S7	SET TEMP(–)
S8	FAN CONTROL
S9	SET TIME(+)
S10	SET TIME(–)
S11	UP AND DOWN SWING
S12	UP AND DOWN WIND
S13	ENERGY SAVE
S14	RIGHT AND LEFT SWING
S15	TIMER
S16	SLEEP
S17	RIGHT AND LEFT WIND

FUNCTION CHANGE BY THE JUMPER LINE

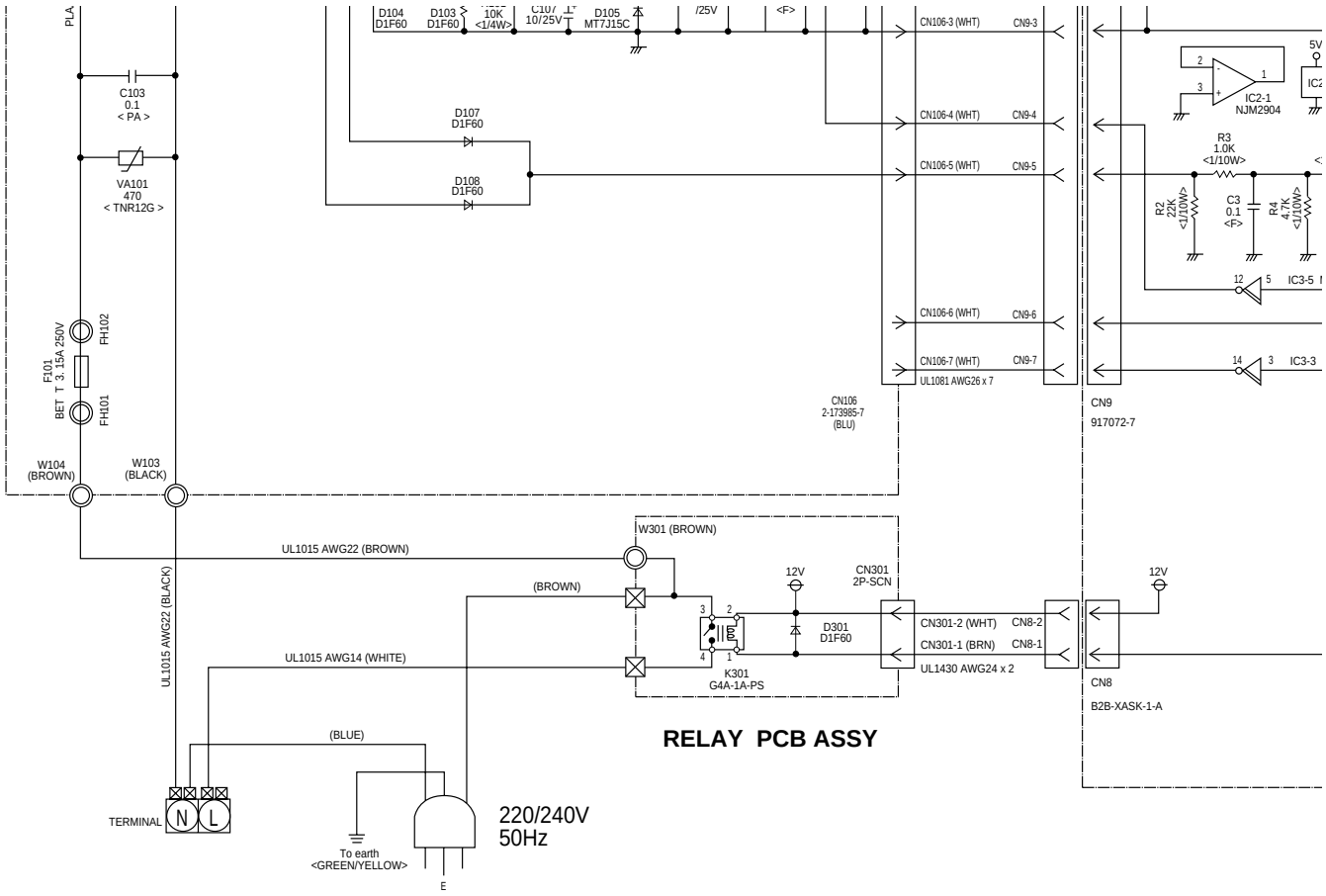
No.	Functions	Setting
J1	TRANSMITTING CODE CHANGE	L
J2	TRANSMITTING CODE CHANGE	H
J3	TRANSMITTING CODE CHANGE	H
J4	TRANSMITTING CODE CHANGE	H
J5	DRY OPERATION	H
J6	TEMPERATURE DISPLAY OF AUTOMATIC OPERATION	L
J7	CHANGE OF REMOTE CONTROL TYPE	L
J8	CHANGE OF TEMPERATURE UNIT	H
J9	AUTOMATIC OPERATION	H
J10	HEATING OPERATION	H
J11	24HOUR/12HOUR	H
J12	SUPER QUIET	H
J13	DISPLAY CHANGE OF AUTOMATIC OPERATION	H
J14	FAN OPERATION	H

L: FIXS TO LOW LEVEL
H: FIXS TO HIGH LEVEL

Model : AS*7A


POWER TRANSFORMER
FUSE
THERMAL FUSE (102°C)
POWER TRANSFORMER, PRIMARY
POWER TRANSFORMER, SECONDARY
B2P3-VH-B-R
B2B-X-ARK-1-A
CN102-1 (WHT)
CN102-3 (WHT)
CN104-2 (RED)
CN104-1 (RED)
CN103-2 (GRY)
CN103-1 (GRY)
534O5-0210
POWER SUPPLY PCB ASSY
CN105-1 UL1015 AWG20 <ORANGE>
CN105-3
7.0 <EEN>
UL1015 AWG20 <ORANGE>
FAN CAPACITOR
B2P3-VH-B-Y
CN102
CN104
CN103
CN105
JM101
SW101
8SS1012-1
POWER SWITCH
FAN MOTOR
CN7
S3P-VH
CN101-1 (BLK)
CN101-3 (YEL)
CN101-5 (WHT)
F M
CN7-1 (RED)
CN7-2 (WHT)
CN7-3 (BLK)
CN101 B3P5-VH-B
5V
R12
10K
<1/10W>
C8
0.1
<F>
W101
E (GREEN)
C101
4700P
< F >
C102
4700P
< F >
C104
0.1
< PA >
L101
PLAA6020R8R101B1
12V
SSR101
G3MB-202PL-UTU DC12V
D101
D1F60
D102
D1F60
D104
D1F60
D103
D1F60
C105
3300
/35V
R101
10K
<1/4W>
R102
1K
<1/4W>
C107
10/25V
Q101
2SD880
D105
MT7J15C
C108
10/25V
D106
D1F60
C106
2200
/25V
IC101
7805
C110
0.1
<F>
C109
10/25V
CN106-1 (BLU)
CN106-2 (WHT)
CN106-3 (WHT)
CN9-1
CN9-2
CN9-3
C1
10/50V

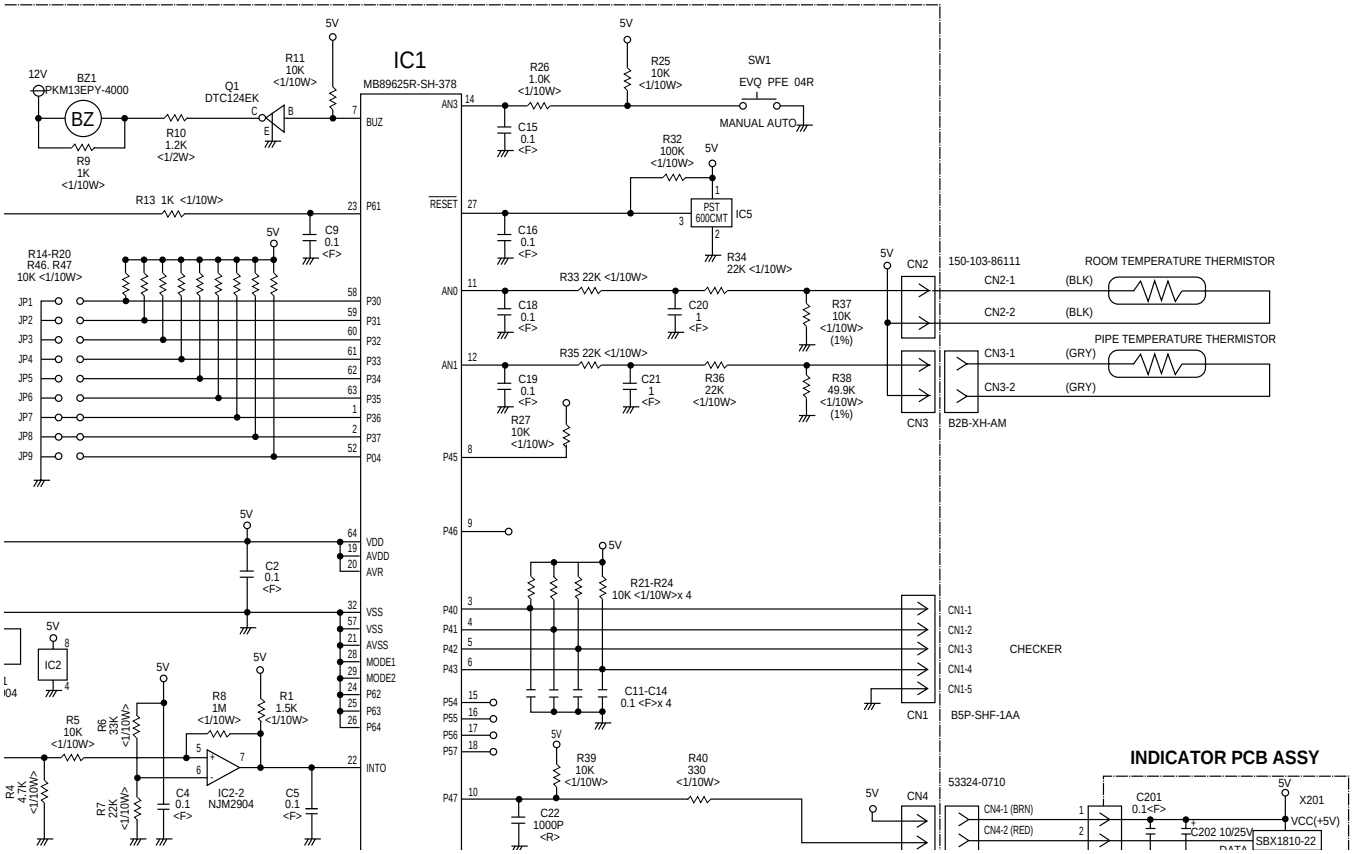
Model : AS✻7A



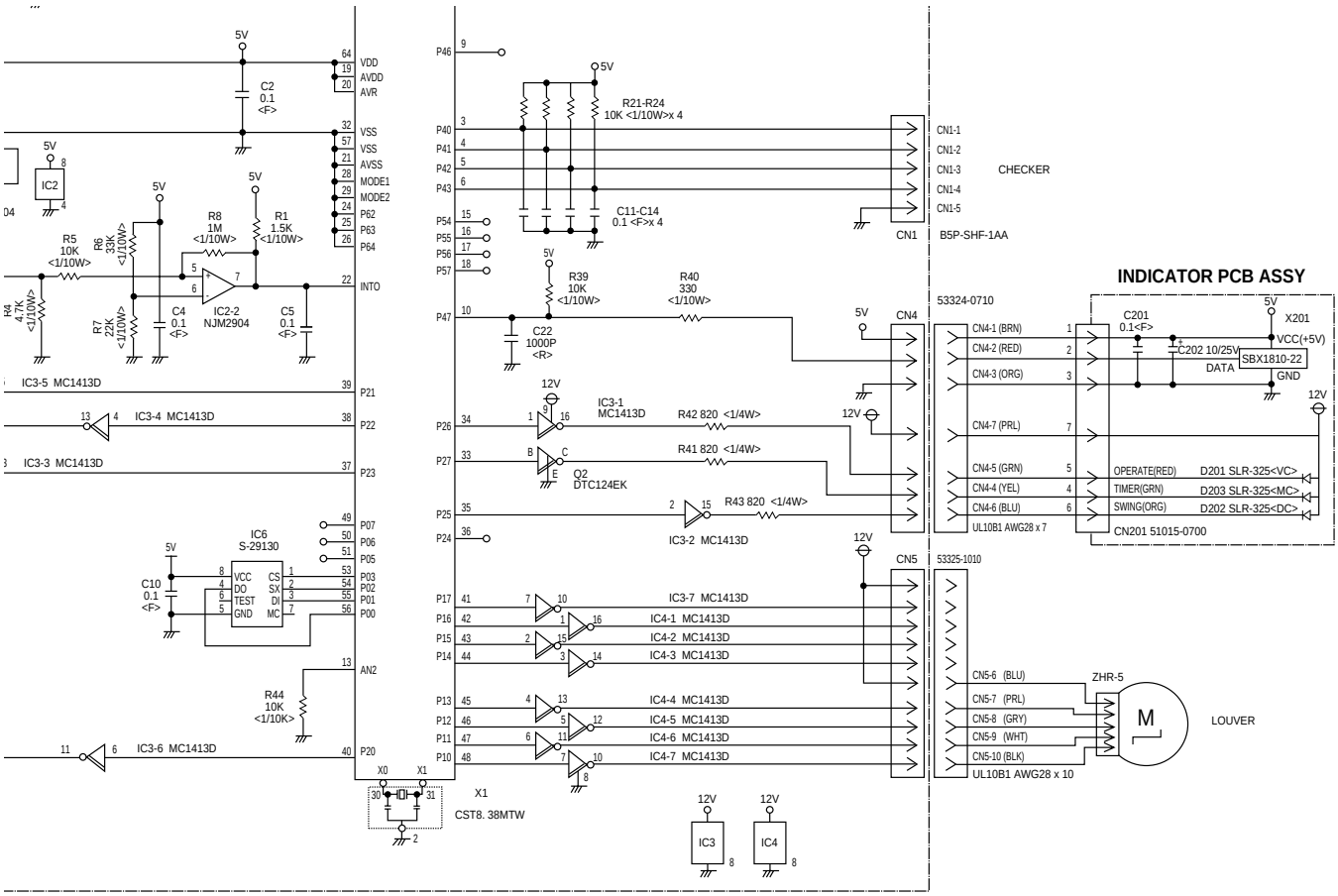
RELAY PCB ASSY

Model : AS✻7A

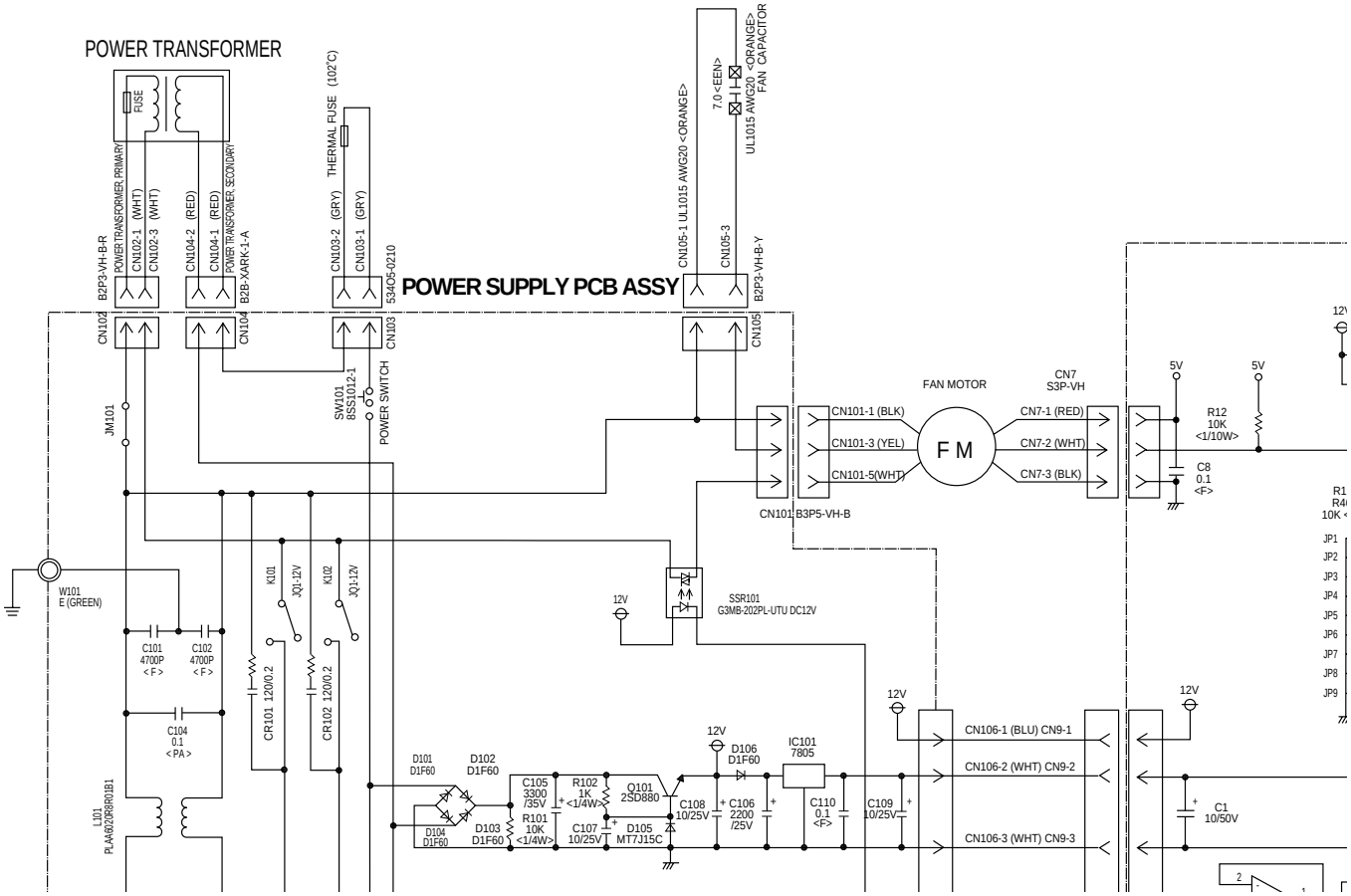
CONTROLLER PCB ASSY



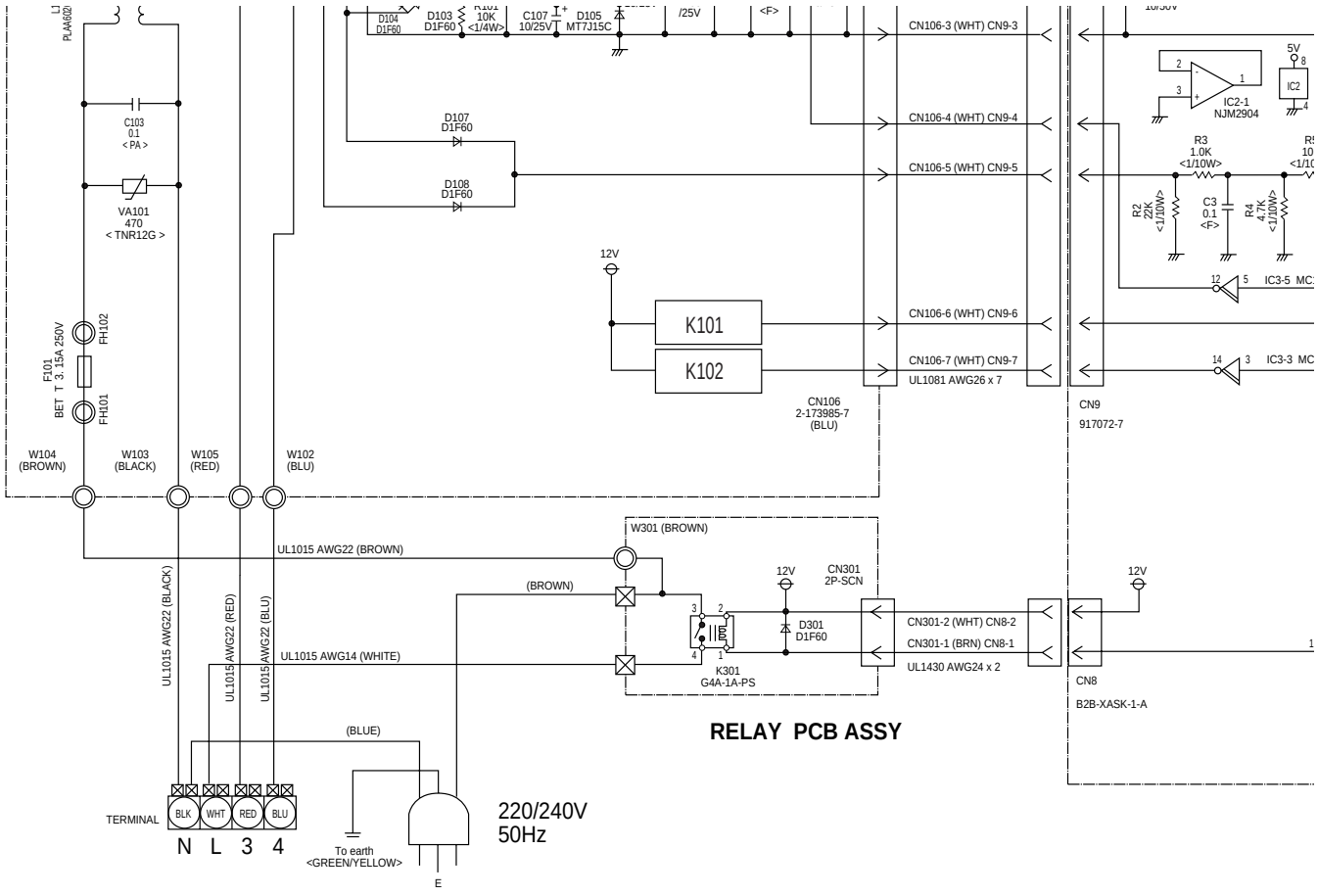
Model : AS*7A


INDICATOR PCB ASSY
CHECKER
B5P-SHF-1AA
CN1
CN4
CN5
53324-0710
53325-1010
UL10B1 AWG28 x 7
UL10B1 AWG28 x 10
CN201 51015-0700
LOUVER
ZHR-5
CST8. 38MTW
IC2-2 NJM2904
IC6 S-29130
IC3-1 MC1413D
IC3-2 MC1413D
IC3-3 MC1413D
IC3-4 MC1413D
IC3-5 MC1413D
IC3-6 MC1413D
IC3-7 MC1413D
IC4-1 MC1413D
IC4-2 MC1413D
IC4-3 MC1413D
IC4-4 MC1413D
IC4-5 MC1413D
IC4-6 MC1413D
IC4-7 MC1413D
Q2 DTC124EK
SBX1810-22
R21-R24 10K <1/10W>x 4
C11-C14 0.1 <F>x 4
C22 1000P <R>
R39 10K <1/10W>
R40 330 <1/10W>
R42 820 <1/4W>
R41 820 <1/4W>
R43 820 <1/4W>
C201 0.1<F>
C202 10/25V
X201
VCC(+5V)
DATA
GND
OPERATE(RED)
TIMER(GRN)
SWING(ORG)
D201 SLR-325<VC>
D203 SLR-325<MC>
D202 SLR-325<DC>
CN1-1
CN1-2
CN1-3
CN1-4
CN1-5
CN4-1 (BRN)
CN4-2 (RED)
CN4-3 (ORG)
CN4-7 (PRL)
CN4-5 (GRN)
CN4-4 (YEL)
CN4-6 (BLU)
CN5-6 (BLU)
CN5-7 (PRL)
CN5-8 (GRY)
CN5-9 (WHT)
CN5-10 (BLK)

Model : AS✻7R

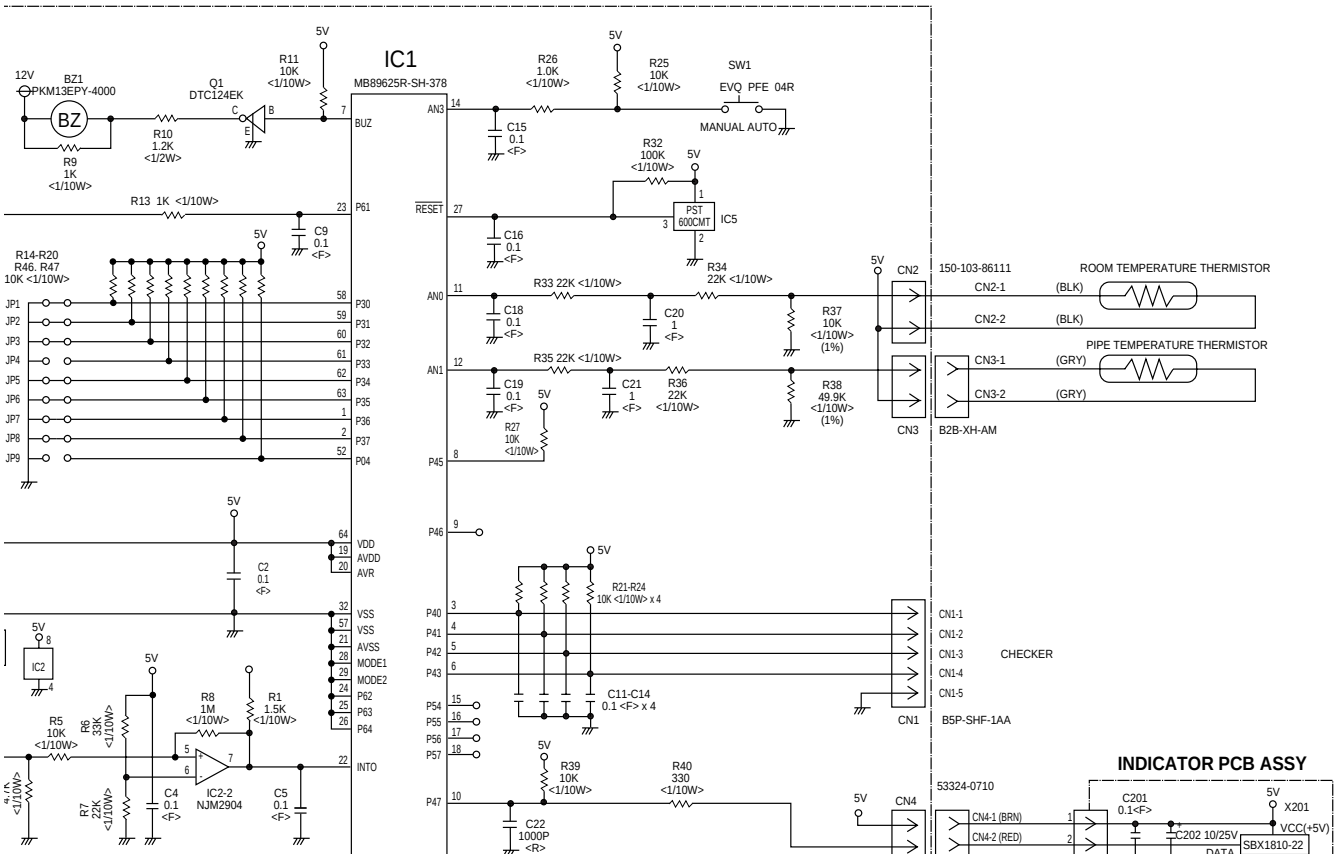

POWER TRANSFORMER
FUSE
POWER TRANSFORMER PRIMARY
CN102-1 (WHT)
CN102-3 (WHT)
CN104-2 (RED)
CN104-1 (RED)
POWER TRANSFORMER SECONDARY
B2P3-VH-B-R
B2B-XARK-1-A
THERMAL FUSE (102°C)
CN103-2 (GRY)
CN103-1 (GRY)
534O5-0210
POWER SUPPLY PCB ASSY
CN105-1 UL1015 AWG20 <ORANGE>
7.0 <EEN>
UL1015 AWG20 <ORANGE>
FAN CAPACITOR
CN105-3
B2P3-VH-B-Y
CN102
CN104
CN103
CN105
JM101
SW101
SSS1012-1
POWER SWITCH
FAN MOTOR
CN7
S3P-VH
CN101-1 (BLK)
CN101-3 (YEL)
CN101-5(WHT)
F M
CN7-1 (RED)
CN7-2 (WHT)
CN7-3 (BLK)
CN101 B3P5-VH-B
5V
5V
R12
10K
<1/10W>
C8
0.1
<F>
W101
E (GREEN)
K101
JQ1-12V
K102
JQ1-12V
C101
4700P
< F >
C102
4700P
< F >
C104
0.1
< PA >
CR101 120/0.2
CR102 120/0.2
L101
PLAA602OR8R01B1
12V
SSR101
G3MB-202PL-UTU DC12V
D101
D1F60
D102
D1F60
D103
D1F60
D104
D1F60
C105
3300
/35V
R102
1K
<1/4W>
Q101
2SD880
R101
10K
<1/4W>
C107
10/25V
D105
MT7J15C
C108
10/25V
D106
D1F60
C106
2200
/25V
IC101
7805
C110
0.1
<F>
C109
10/25V
CN106-1 (BLU) CN9-1
CN106-2 (WHT) CN9-2
CN106-3 (WHT) CN9-3
C1
10/50V
JP1
JP2
JP3
JP4
JP5
JP6
JP7
JP8
JP9

Model : AS✻7R

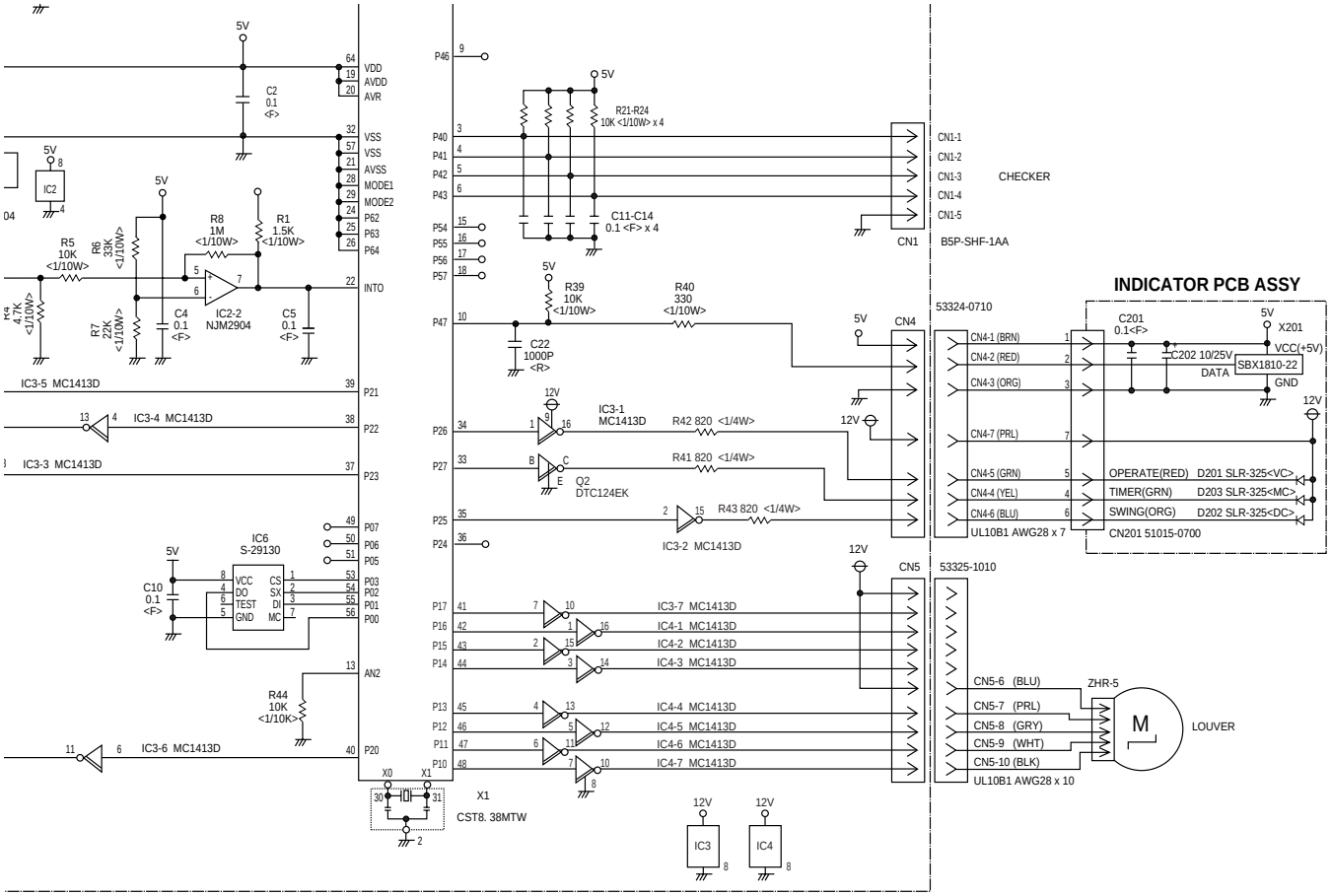

D104 D1F60
D103 D1F60
10K <1/4W>
C107 10/25V
D105 MT7J15C
/25V
<F>
CN106-3 (WHT) CN9-3
CN106-4 (WHT) CN9-4
CN106-5 (WHT) CN9-5
CN106-6 (WHT) CN9-6
CN106-7 (WHT) CN9-7
UL1081 AWG26 x 7
CN106
2-173985-7
(BLU)
CN9
917072-7
D107 D1F60
D108 D1F60
12V
K101
K102
5V
IC2-1
NJM2904
IC2
R3
1.0K
<1/10W>
R2
22K
<1/10W>
C3
0.1
<F>
R4
4.7K
<1/10W>
IC3-5 MC
IC3-3 MC
C103
0.1
< PA >
VA101
470
< TNR12G >
FH102
F101
T 3.15A 250V
FH101
W104
(BROWN)
W103
(BLACK)
W105
(RED)
W102
(BLU)
W301 (BROWN)
UL1015 AWG22 (BROWN)
(BROWN)
UL1015 AWG14 (WHITE)
UL1015 AWG22 (BLACK)
UL1015 AWG22 (RED)
UL1015 AWG22 (BLU)
(BLUE)
CN301
2P-SCN
D301
D1F60
K301
G4A-1A-PS
CN301-2 (WHT) CN8-2
CN301-1 (BRN) CN8-1
UL1430 AWG24 x 2
CN8
B2B-XASK-1-A
RELAY PCB ASSY
TERMINAL
BLK
WHT
RED
BLU
N L 3 4
To earth
<GREEN/YELLOW>
E
220/240V
50Hz

Model : AS✻7R

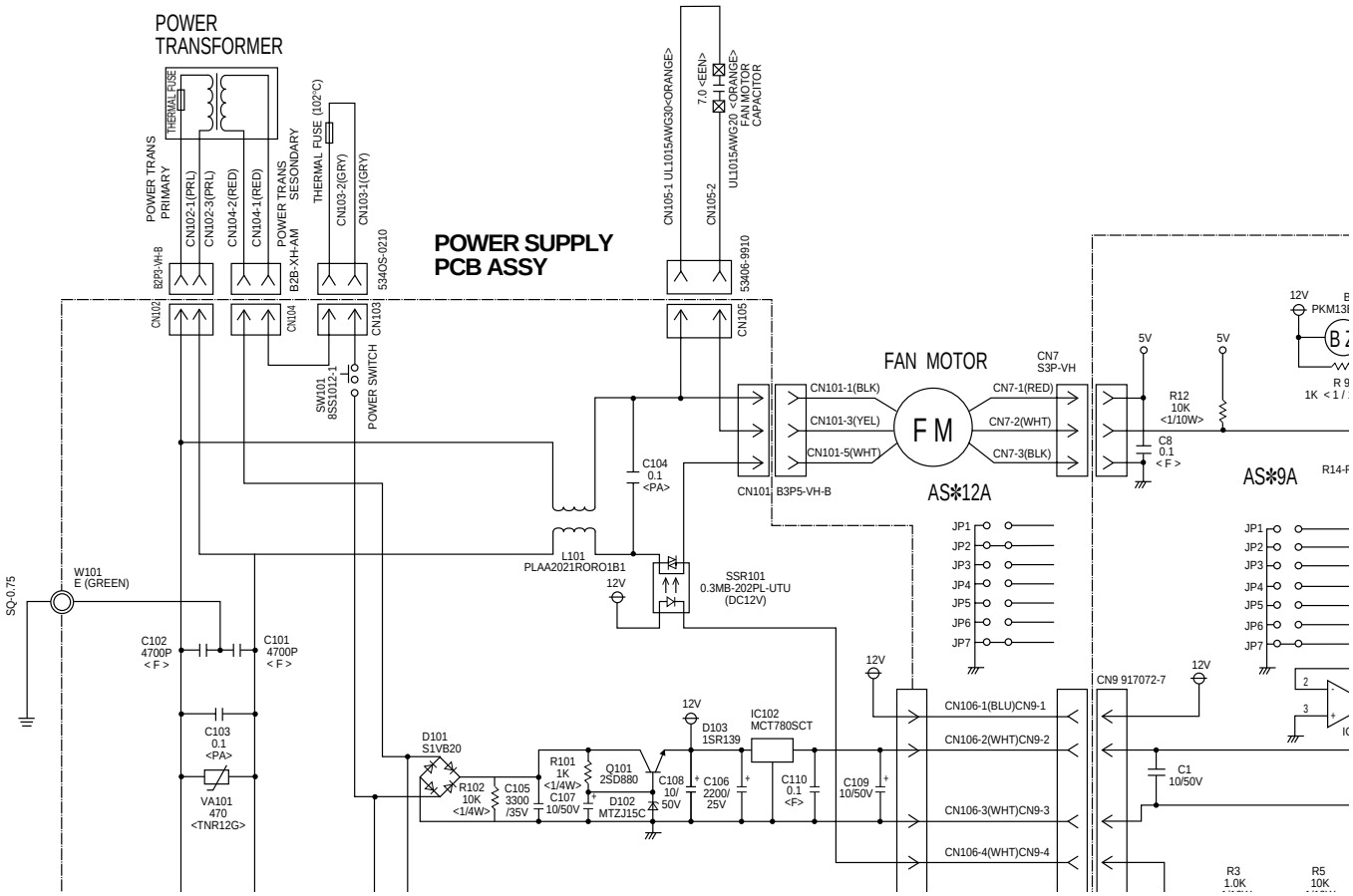
CONTROLLER PCB ASSY



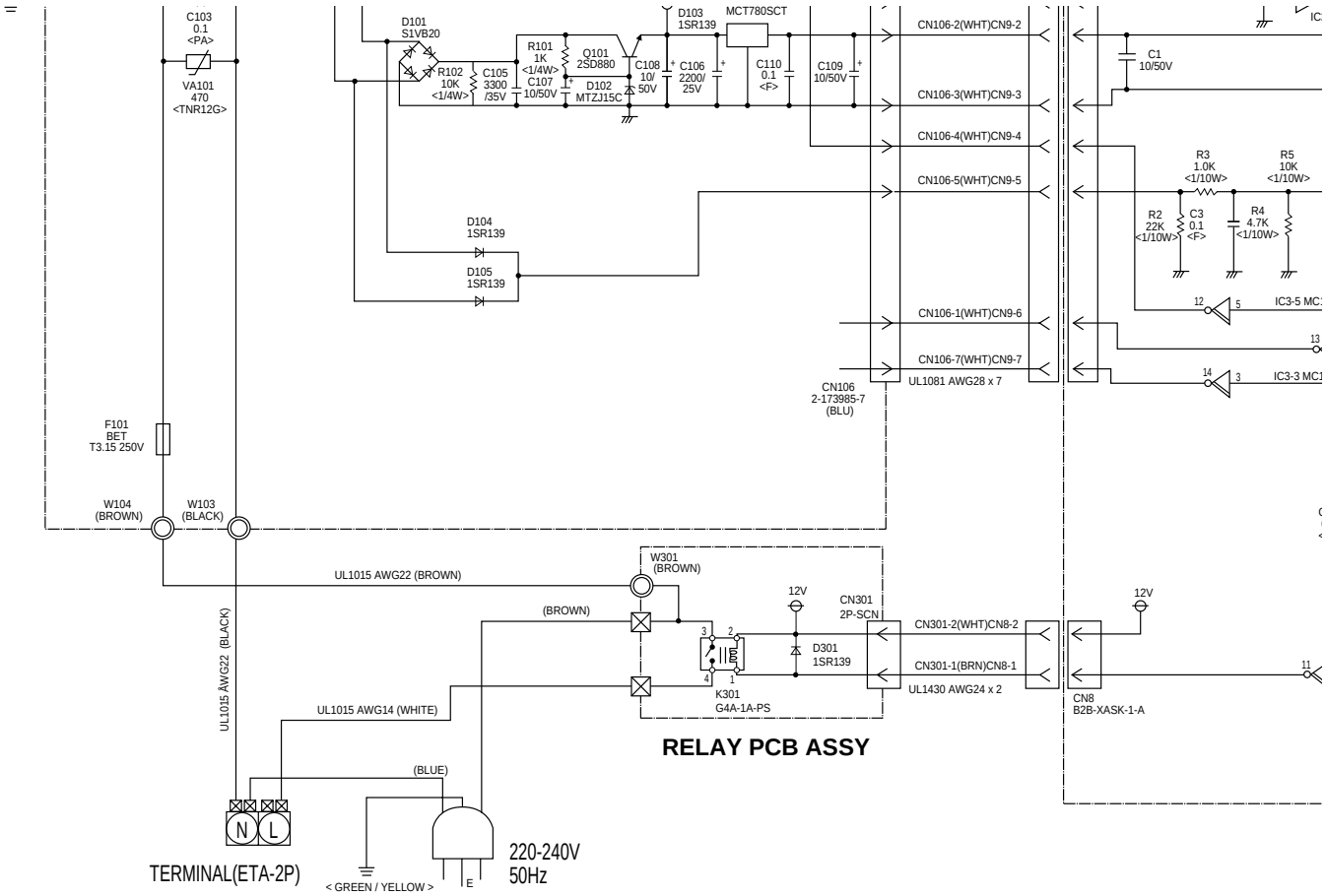
Model : AS✻7R


INDICATOR PCB ASSY
CHECKER
CN1
B5P-SHF-1AA
CN4
53324-0710
CN4-1 (BRN)
CN4-2 (RED)
CN4-3 (ORG)
CN4-7 (PRL)
CN4-5 (GRN)
CN4-4 (YEL)
CN4-6 (BLU)
UL10B1 AWG28 x 7
CN201 51015-0700
OPERATE(RED) D201 SLR-325<VC>
TIMER(GRN) D203 SLR-325<MC>
SWING(ORG) D202 SLR-325<DC>
C201 0.1<F>
C202 10/25V
SBX1810-22
DATA
GND
X201
VCC(+5V)
CN5
53325-1010
CN5-6 (BLU)
CN5-7 (PRL)
CN5-8 (GRY)
CN5-9 (WHT)
CN5-10 (BLK)
UL10B1 AWG28 x 10
ZHR-5
M
LOUVER
R21-R24
10K <1/10W> x 4
C11-C14
0.1 <F> x 4
R39
10K
<1/10W>
R40
330
<1/10W>
C22
1000P
<R>
R42 820 <1/4W>
R41 820 <1/4W>
R43 820 <1/4W>
Q2
DTC124EK
IC3-1
MC1413D
IC3-2 MC1413D
IC3-3 MC1413D
IC3-4 MC1413D
IC3-5 MC1413D
IC3-6 MC1413D
IC3-7 MC1413D
IC4-1 MC1413D
IC4-2 MC1413D
IC4-3 MC1413D
IC4-4 MC1413D
IC4-5 MC1413D
IC4-6 MC1413D
IC4-7 MC1413D
IC6
S-29130
VCC
DO
TEST
GND
CS
SK
DI
MC
R44
10K
<1/10K>
X1
CST8. 38MTW
IC2-2
NJM2904
R1
1.5K
<1/10W>
R5
10K
<1/10W>
R6
33K
<1/10W>
R7
22K
<1/10W>
R8
1M
<1/10W>
C2
0.1
<F>
C4
0.1
<F>
C5
0.1
<F>
C10
0.1
<F>
IC2
IC3
IC4
VDD
AVDD
AVR
VSS
AVSS
MODE1
MODE2
P62
P63
P64
INTO
P21
P22
P23
P07
P06
P05
P03
P02
P01
P00
AN2
P20
P10
P11
P12
P13
P14
P15
P16
P17
P25
P26
P27
P40
P41
P42
P43
P46
P47
P54
P55
P56
P57
5V
12V

Models : AS✻9A, 12A

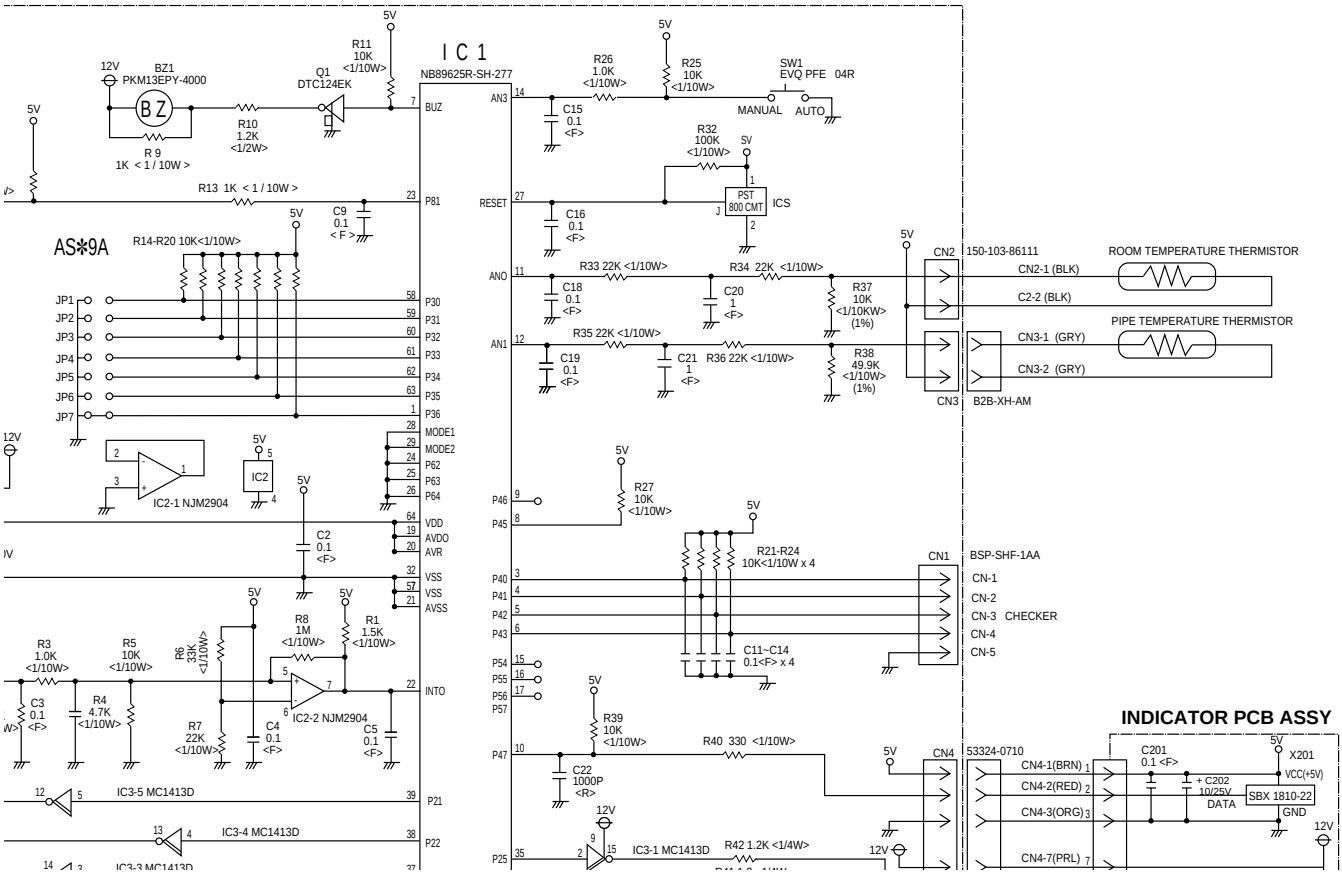


Models : AS✻9A, 12A

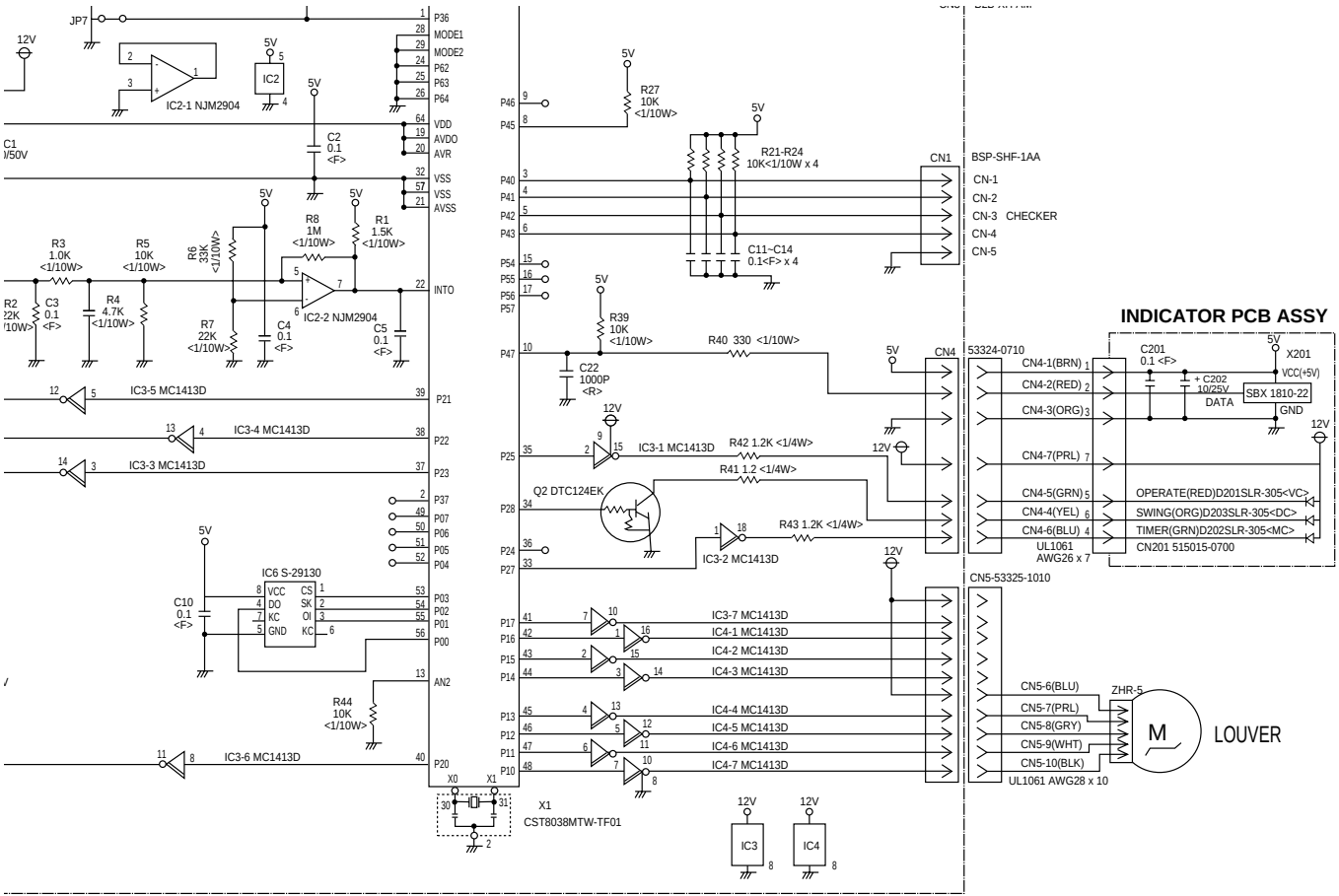


Models : AS✻9A, 12A

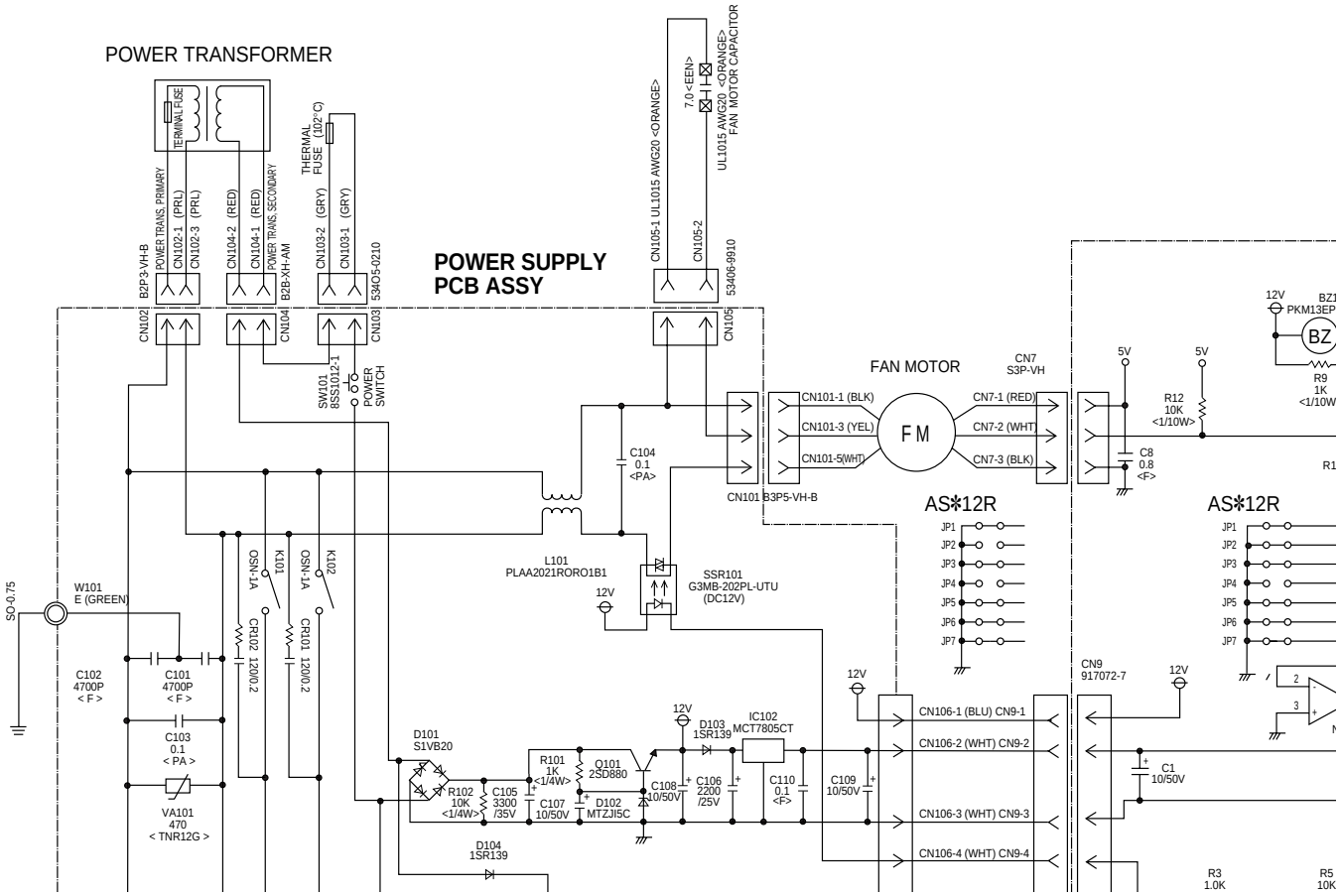
CONTROLLER PCB ASSEMBLY



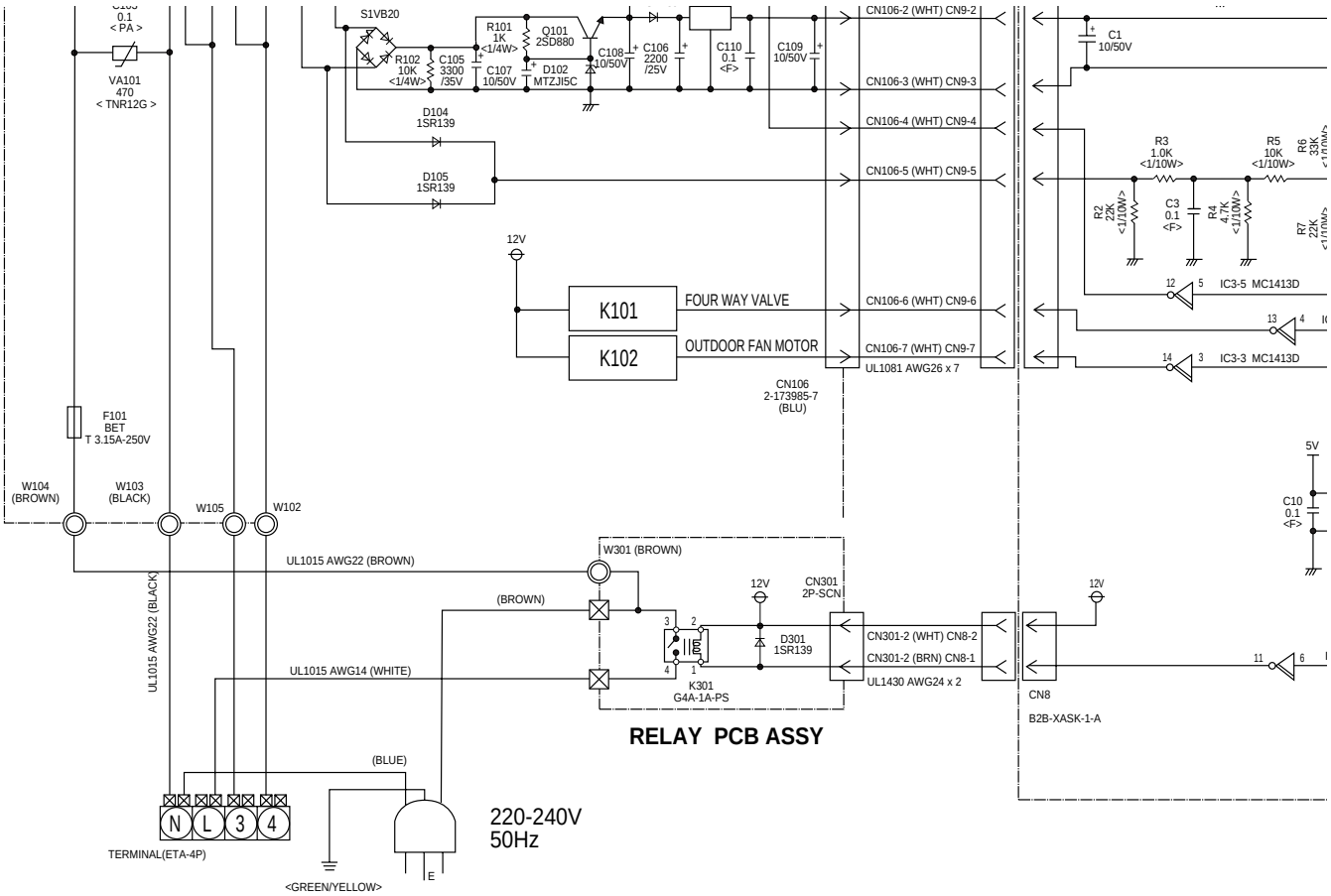
Models : AS✻9A, 12A



Models : AS✻9R, 12R

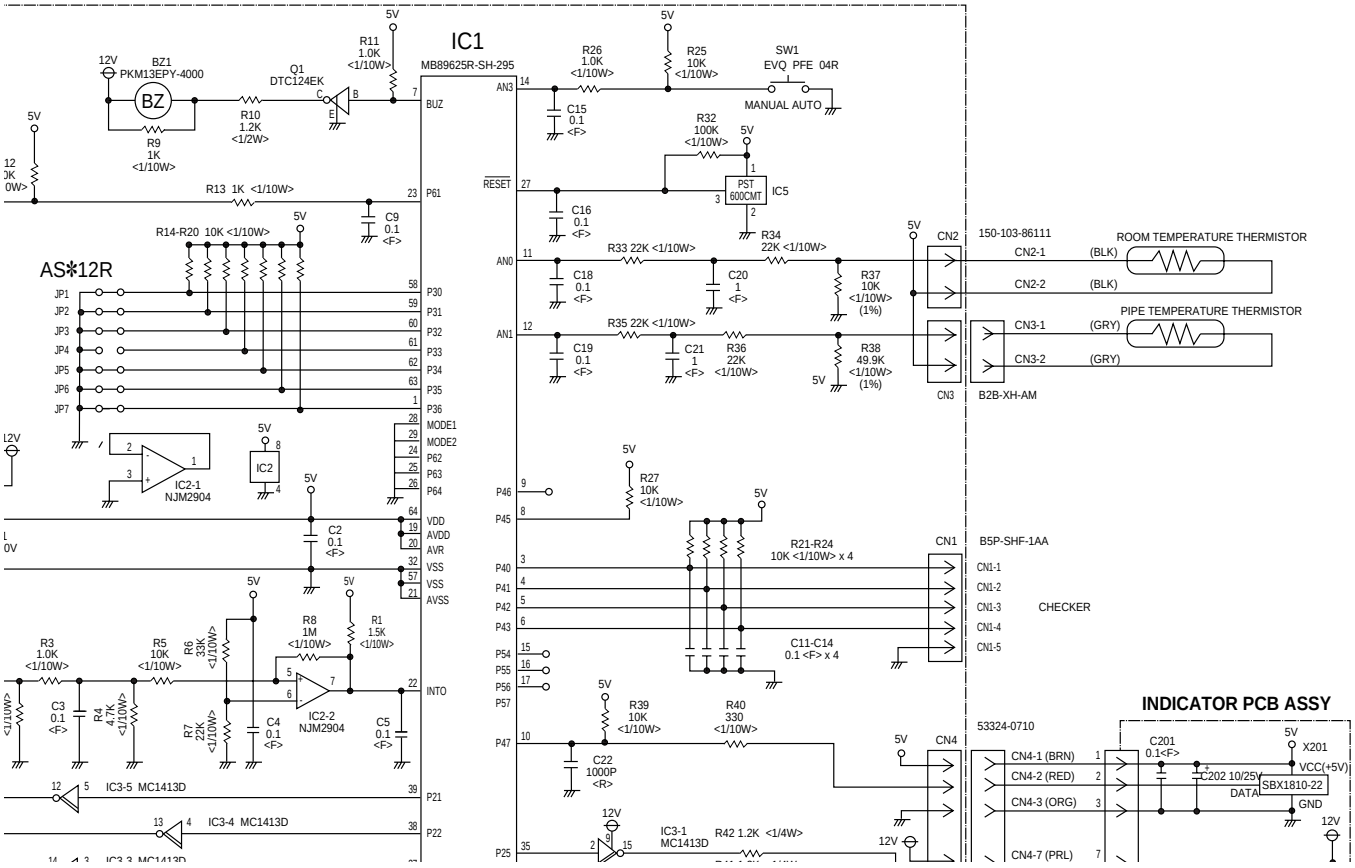


Models : AS✻9R, 12R

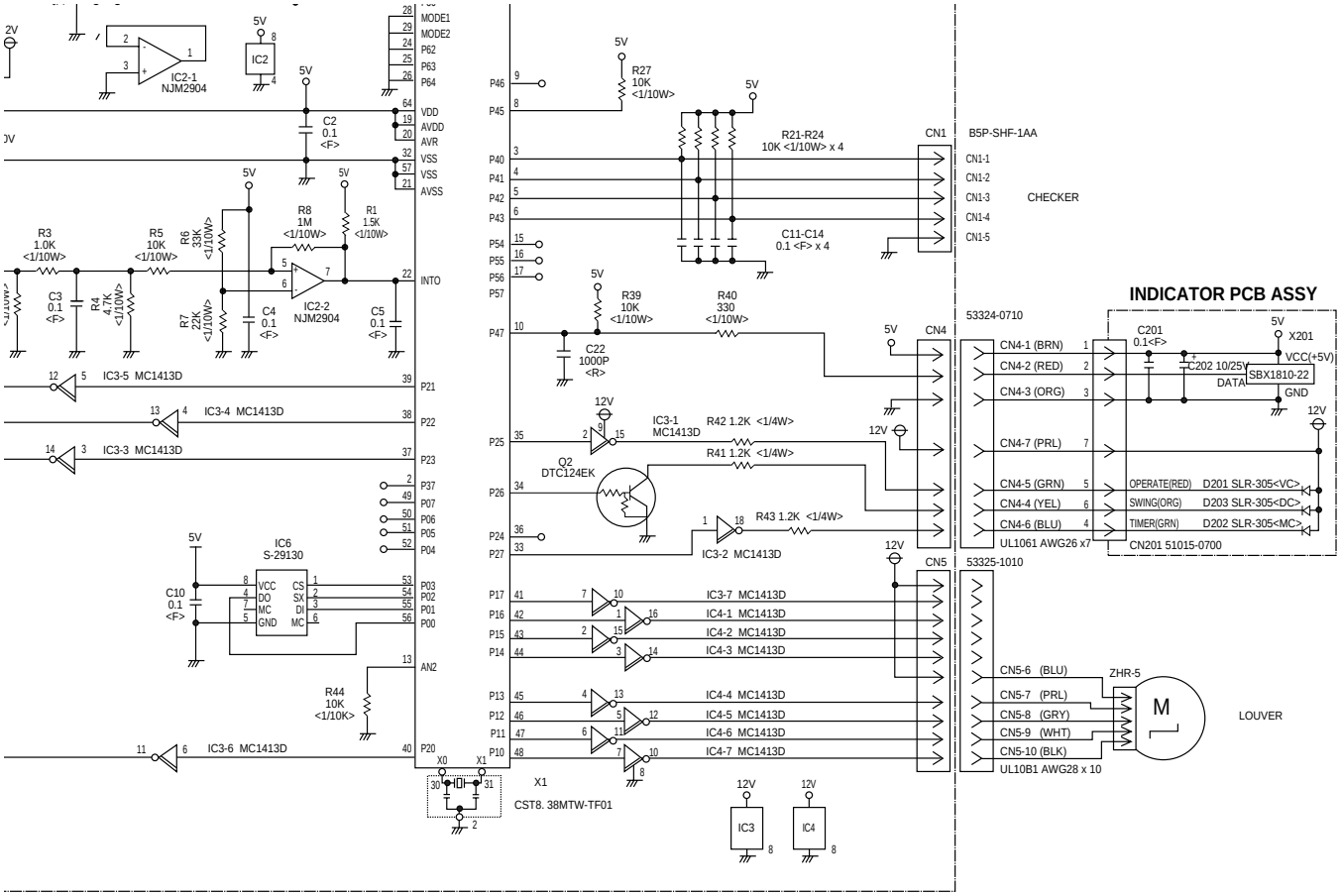


Models : AS✻9R, 12R

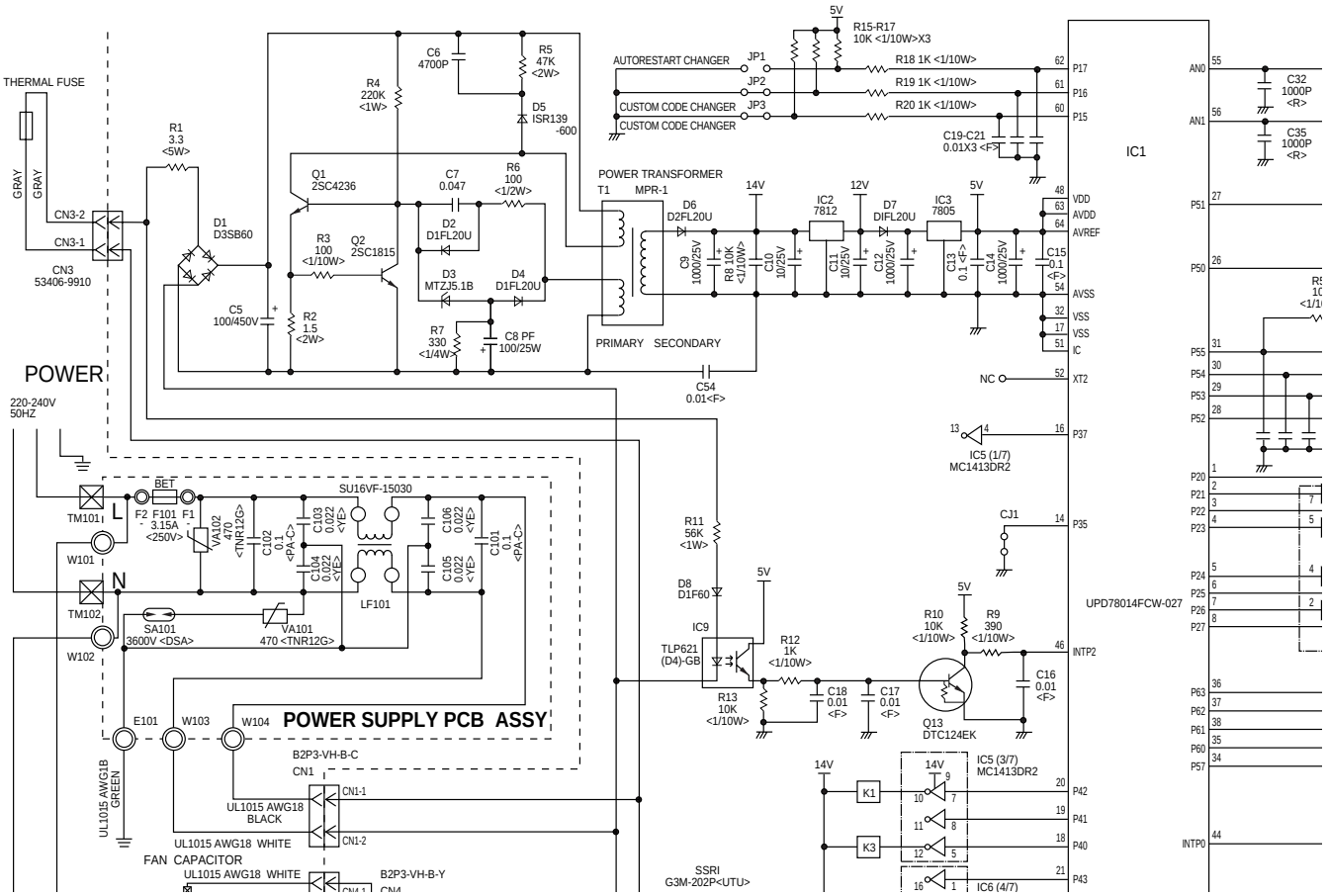
CONTROLLER PCB ASSEMBLY



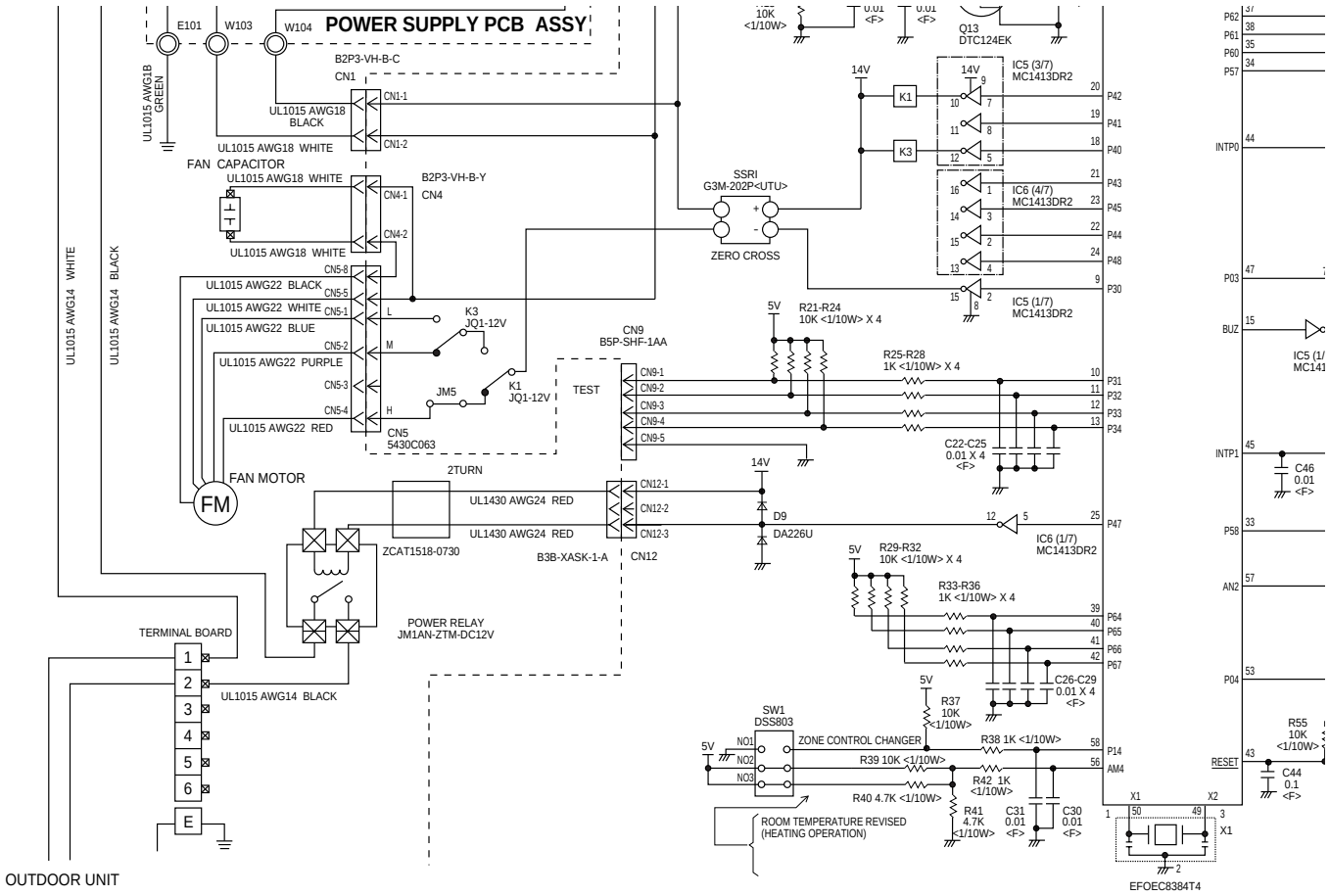
Models : AS✻9R, 12R



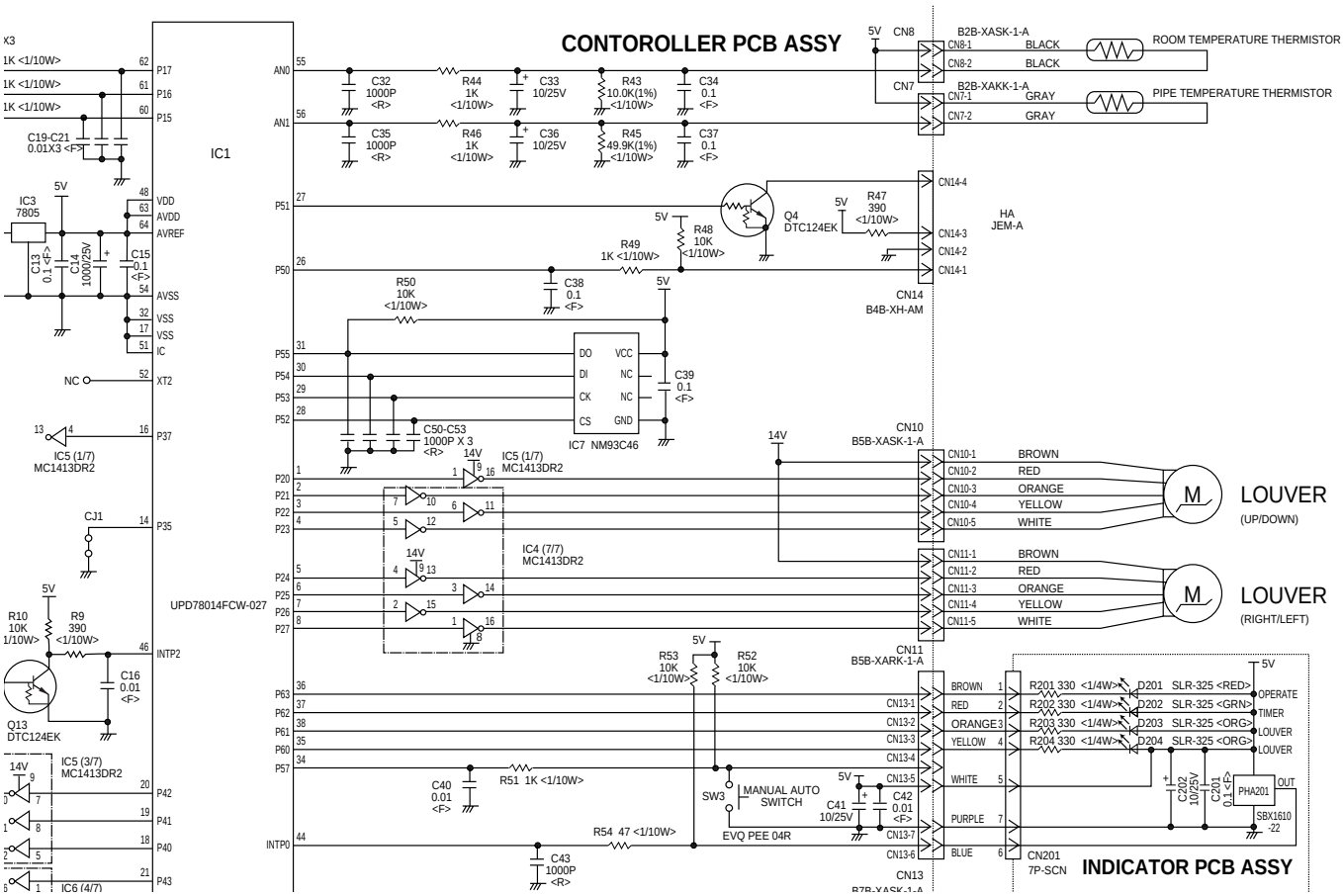
Models : AS✻20A, AS✻24A, ASS30A, ACS-7502, ACS-7602



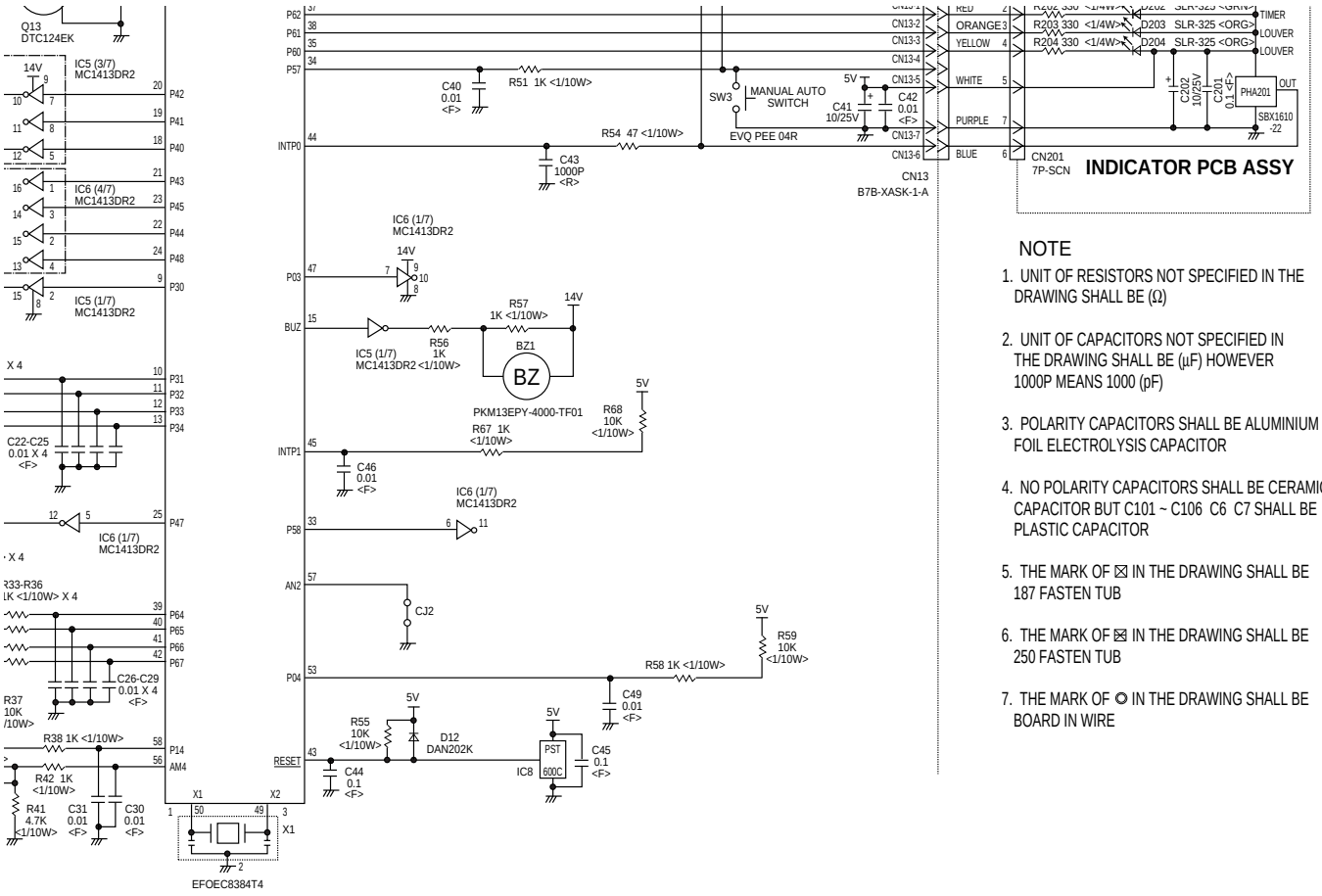
Models : AS✻20A, AS✻24A, ASS30A, ACS-7502, ACS-7602



Models : AS✻20A, AS✻24A, ASS30A, ACS-7502, ACS-7602



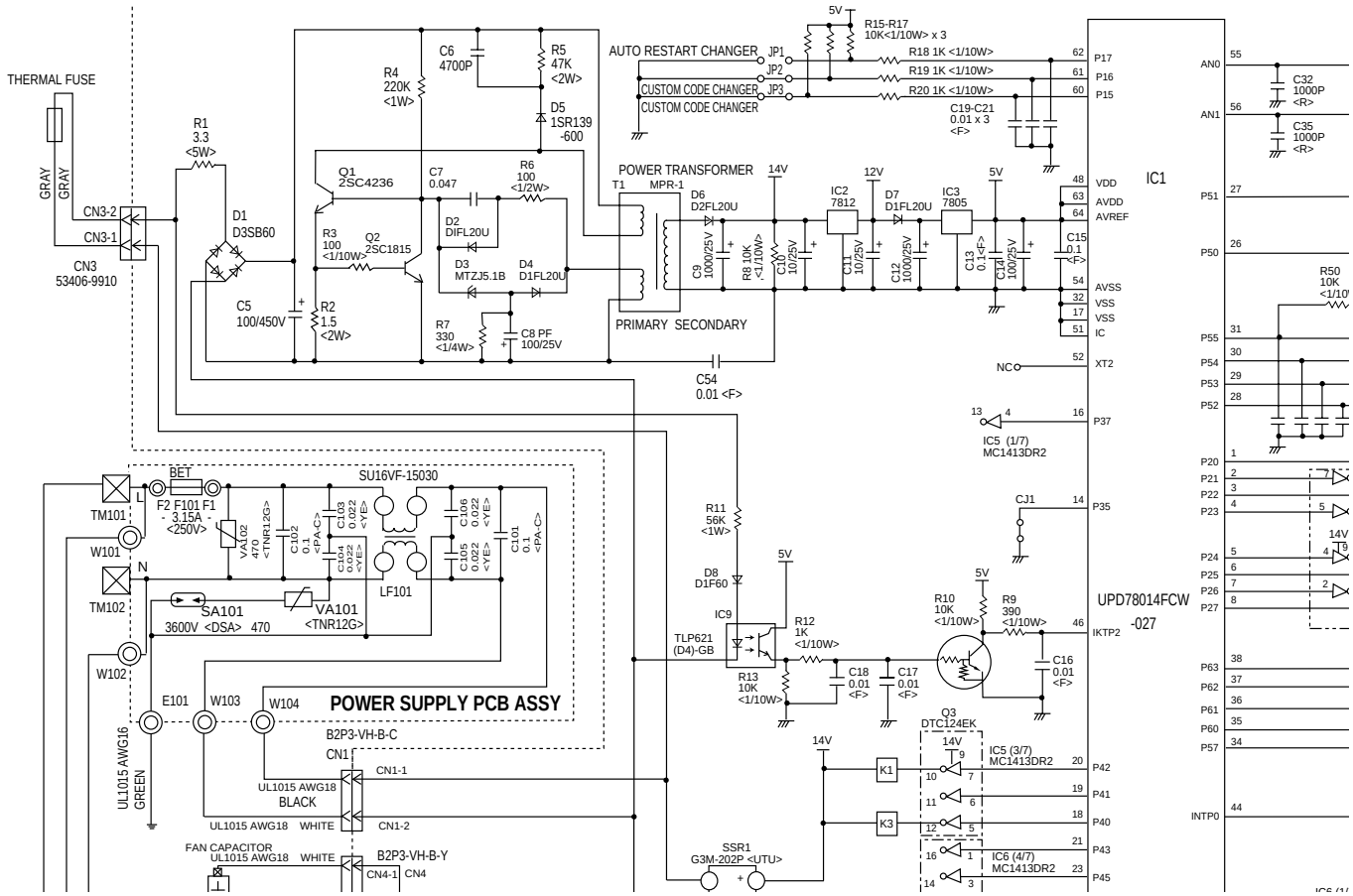
Models : AS✻20A, AS✻24A, ASS30A, ACS-7502, ACS-7602



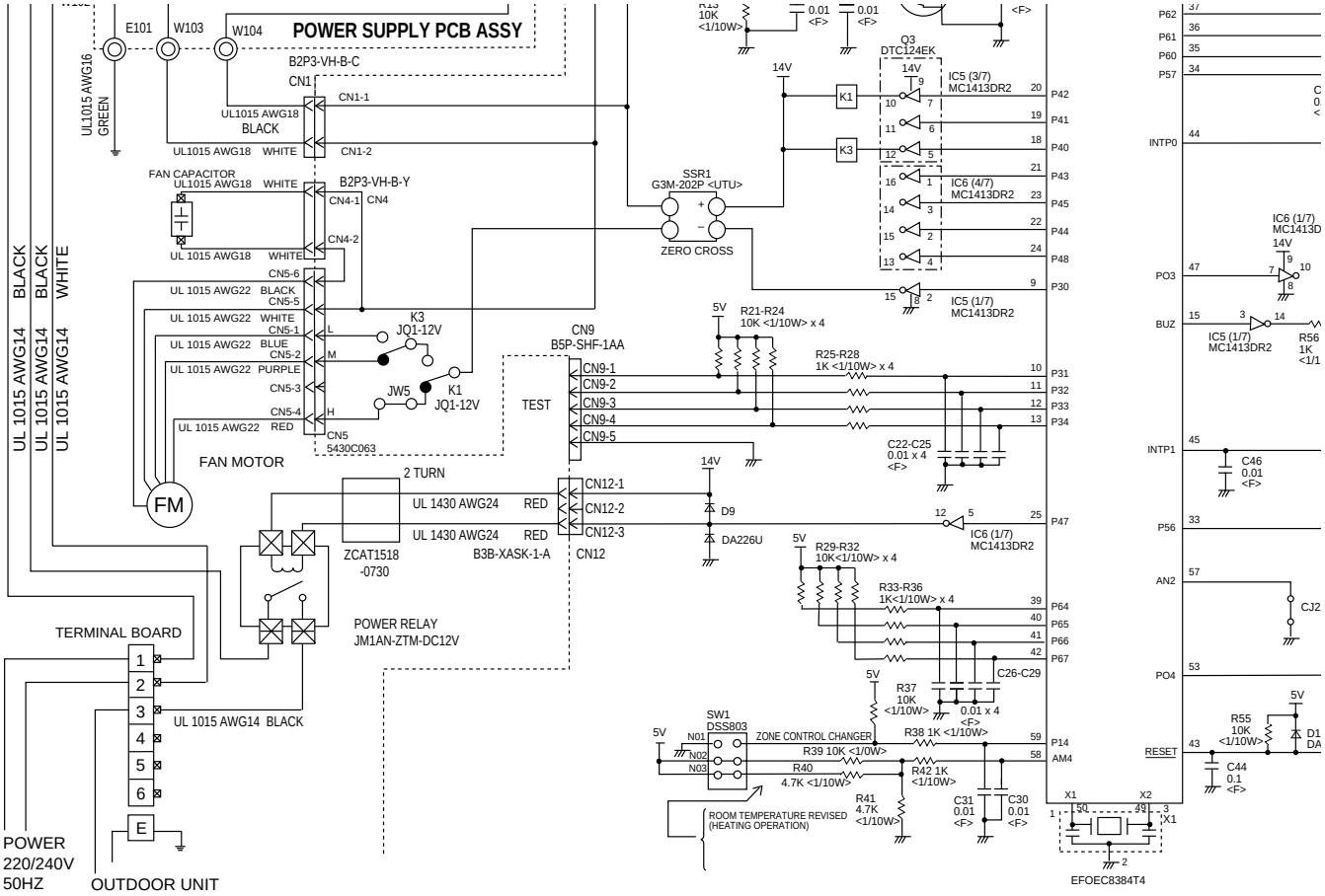
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101 ~ C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHALL BE BOARD IN WIRE

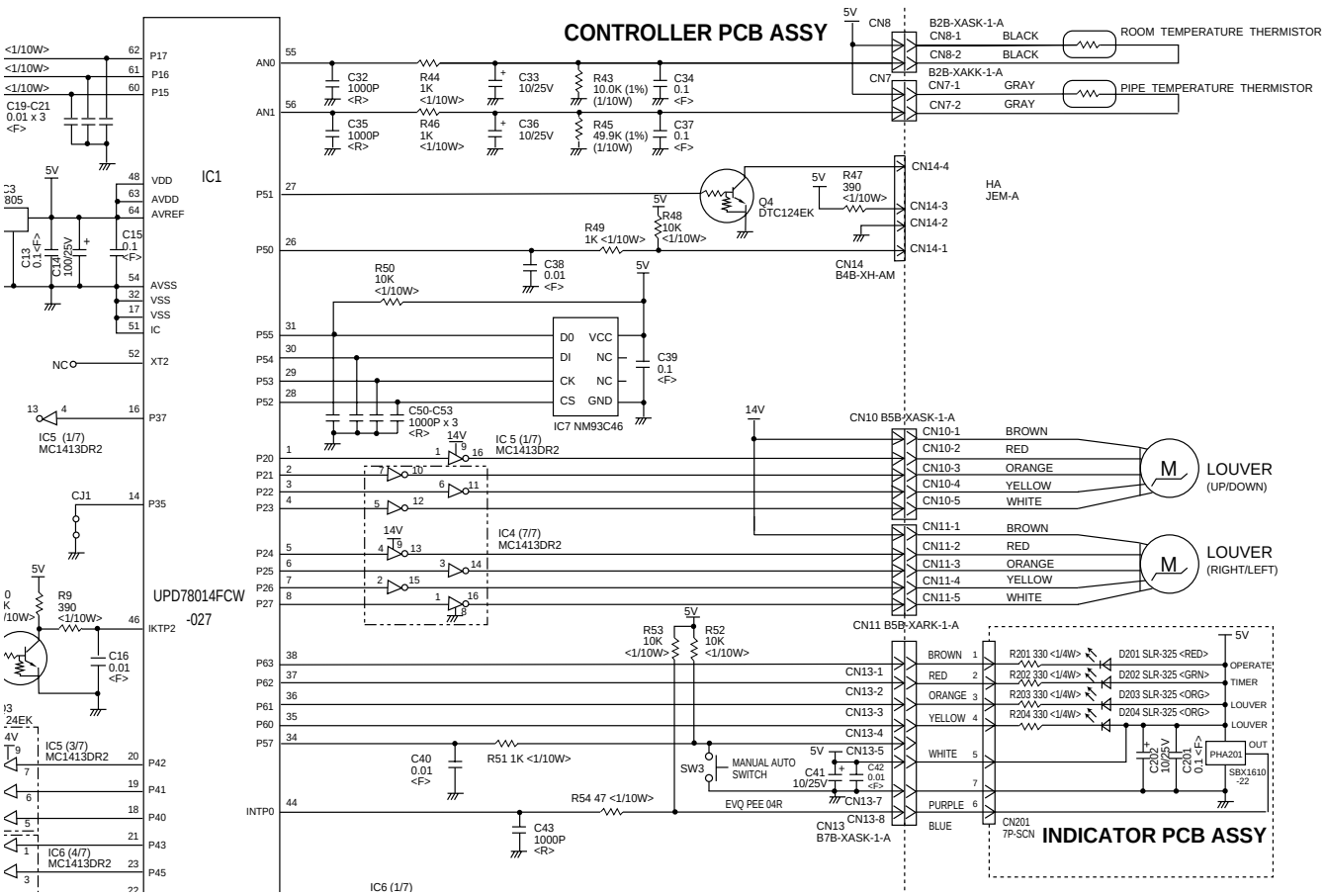
Model : AS*30A


THERMAL FUSE
GRAY
GRAY
CN3-2
CN3-1
CN3
53406-9910
R1
3.3
<5W>
D1
D3SB60
C5
100/450V
R2
1.5
<2W>
R4
220K
<1W>
C6
4700P
R5
47K
<2W>
D5
1SR139
-600
Q1
2SC4236
C7
0.047
R6
100
<1/2W>
R3
100
<1/10W>
Q2
2SC1815
D2
DIFL20U
D3
MTZJ5.1B
D4
D1FL20U
R7
330
<1/4W>
C8 PF
100/25V
POWER TRANSFORMER
T1
MPR-1
PRIMARY
SECONDARY
C54
0.01 <F>
AUTO RESTART CHANGER
CUSTOM CODE CHANGER
CUSTOM CODE CHANGER
JP1
JP2
JP3
5V
R15-R17
10K<1/10W> x 3
R18 1K <1/10W>
R19 1K <1/10W>
R20 1K <1/10W>
C19-C21
0.01 x 3
<F>
D6
D2FL20U
14V
IC2
7812
12V
D7
D1FL20U
IC3
7805
5V
C9
1000/25V
R8 10K
<1/10W>
C10
10/25V
C11
10/25V
C12
1000/25V
C13
0.1<F>
C14
100/25V
C15
0.1
<F>
IC1
VDD
AVDD
AVREF
AVSS
VSS
VSS
IC
XT2
NC
P17
P16
P15
P37
P35
P34
P33
P32
P31
P30
P27
P26
P25
P24
P23
P22
P21
P20
P51
P50
P55
P54
P53
P52
P63
P62
P61
P60
P57
P42
P41
P40
P43
P45
INTP0
AN0
AN1
C32
1000P
<R>
C35
1000P
<R>
R50
10K
<1/10
IC5 (1/7)
MC1413DR2
CJ1
UPD78014FCW
-027
IKTP2
BET
F2 F101 F1
3.15A
<250V>
TM101
TM102
W101
W102
W103
W104
E101
N
L
VA102
470
<TNR12G>
C102
0.1
<PA-C>
C103
0.022
<YE>
C104
0.022
<YE>
C105
0.022
<YE>
C106
0.022
<YE>
C101
0.1
<PA-C>
LF101
SU16VF-15030
SA101
3600V <DSA> 470
VA101
<TNR12G>
POWER SUPPLY PCB ASSY
B2P3-VH-B-C
CN1
CN1-1
CN1-2
UL1015 AWG18
BLACK
UL1015 AWG18 WHITE
UL1015 AWG16
GREEN
FAN CAPACITOR
UL1015 AWG18 WHITE
B2P3-VH-B-Y
CN4-1
CN4
R11
56K
<1W>
D8
D1F60
IC9
TLP621
(D4)-GB
R12
1K
<1/10W>
R13
10K
<1/10W>
C18
0.01
<F>
C17
0.01
<F>
R10
10K
<1/10W>
R9
390
<1/10W>
C16
0.01
<F>
Q3
DTC124EK
14V
IC5 (3/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
K1
K3
SSR1
G3M-202P <UTU>

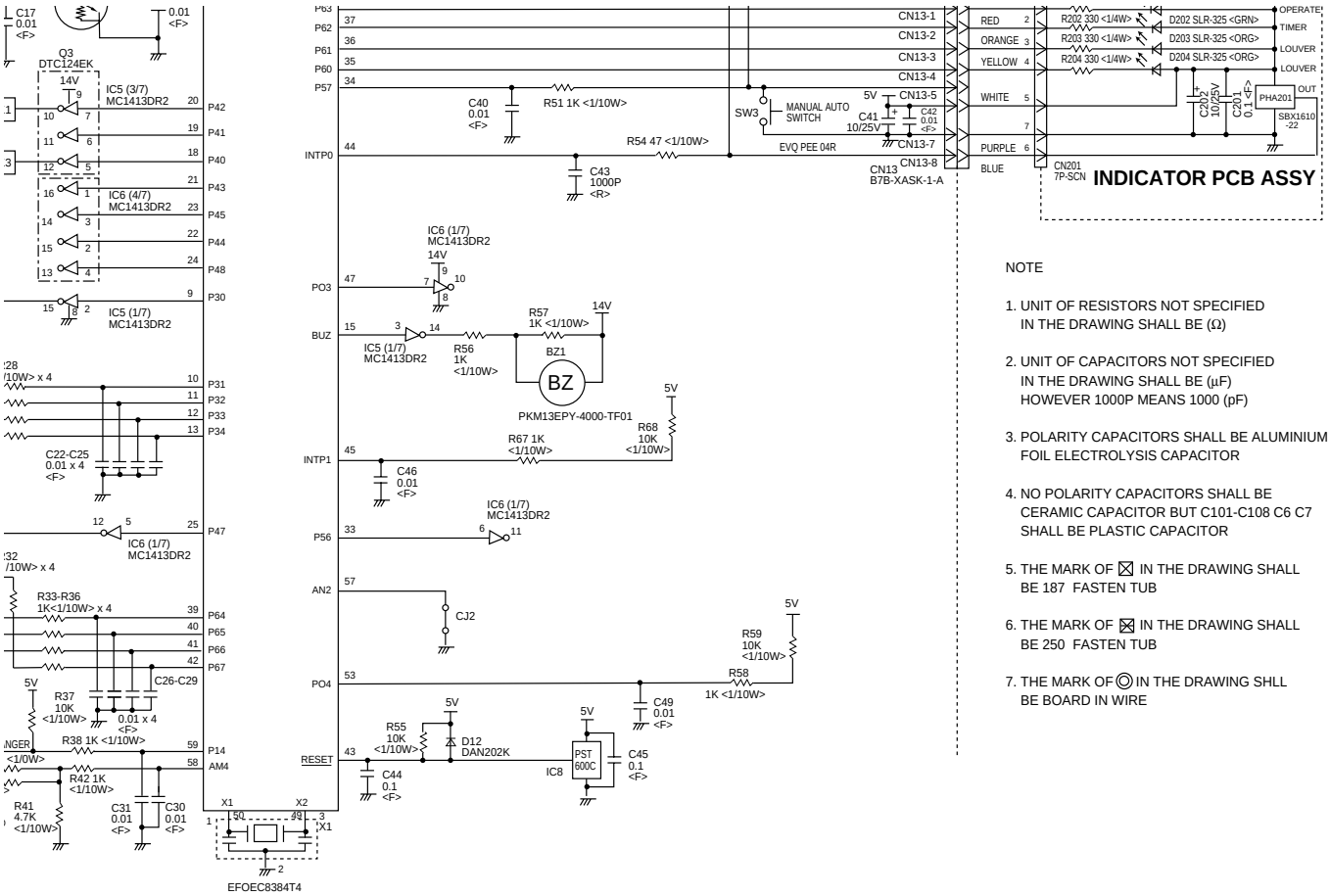
Model : AS✻30A


POWER SUPPLY PCB ASSY
E101
W103
W104
B2P3-VH-B-C
CN1
UL1015 AWG16 GREEN
UL1015 AWG18 BLACK
UL1015 AWG18 WHITE
CN1-1
CN1-2
FAN CAPACITOR
B2P3-VH-B-Y
CN4-1
CN4
CN4-2
CN5-6
CN5-5
CN5-1
CN5-2
CN5-3
CN5-4
CN5
5430C063
UL 1015 AWG22 BLACK
UL 1015 AWG22 WHITE
UL 1015 AWG22 BLUE
UL 1015 AWG22 PURPLE
UL 1015 AWG22 RED
UL 1015 AWG14 BLACK
UL 1015 AWG14 BLACK
UL 1015 AWG14 WHITE
FAN MOTOR
FM
K3
JQ1-12V
JW5
K1
JQ1-12V
TEST
2 TURN
ZCAT1518
-0730
UL 1430 AWG24 RED
UL 1430 AWG24 RED
B3B-XASK-1-A
CN9
B5P-SHF-1AA
CN9-1
CN9-2
CN9-3
CN9-4
CN9-5
CN12-1
CN12-2
CN12-3
CN12
POWER RELAY
JM1AN-ZTM-DC12V
TERMINAL BOARD
UL 1015 AWG14 BLACK
POWER
220/240V
50HZ
OUTDOOR UNIT
SSR1
G3M-202P <UTU>
ZERO CROSS
14V
K1
K3
Q3
DTC124EK
IC5 (3/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
IC5 (1/7)
MC1413DR2
IC6 (1/7)
MC1413DR2
5V
R21-R24
10K <1/10W> x 4
R25-R28
1K <1/10W> x 4
C22-C25
0.01 x 4
<F>
D9
DA226U
R29-R32
10K<1/10W> x 4
R33-R36
1K<1/10W> x 4
C26-C29
R37
10K
<1/10W>
SW1
DSS803
ZONE CONTROL CHANGER
R38 1K <1/10W>
R39 10K <1/0W>
R40
4.7K <1/10W>
R42 1K
<1/10W>
R41
4.7K
<1/10W>
C31
0.01
<F>
C30
0.01
<F>
ROOM TEMPERATURE REVISED
(HEATING OPERATION)
EFOEC8384T4
P42
P41
P40
P43
P45
P44
P48
P30
P31
P32
P33
P34
P47
P64
P65
P66
P67
P14
AM4
INTP0
PO3
BUZ
INTP1
P56
AN2
PO4
RESET
C46
0.01
<F>
CJ2
R55
10K
<1/10W>
C44
0.1
<F>
R56
1K

Model : AS✻30A


CONTROLLER PCB ASSY
INDICATOR PCB ASSY
IC1
UPD78014FCW
-027
IC5 (1/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
IC4 (7/7)
MC1413DR2
IC 5 (1/7)
MC1413DR2
IC6 (1/7)
IC7 NM93C46
CN8
B2B-XASK-1-A
CN8-1 BLACK
CN8-2 BLACK
ROOM TEMPERATURE THERMISTOR
CN7
B2B-XAKK-1-A
CN7-1 GRAY
CN7-2 GRAY
PIPE TEMPERATURE THERMISTOR
CN14
B4B-XH-AM
CN14-4
CN14-3
CN14-2
CN14-1
Q4
DTC124EK
CN10 B5B-XASK-1-A
CN10-1 BROWN
CN10-2 RED
CN10-3 ORANGE
CN10-4 YELLOW
CN10-5 WHITE
LOUVER
(UP/DOWN)
CN11 B5B-XARK-1-A
CN11-1 BROWN
CN11-2 RED
CN11-3 ORANGE
CN11-4 YELLOW
CN11-5 WHITE
LOUVER
(RIGHT/LEFT)
CN13
B7B-XASK-1-A
CN13-1
CN13-2
CN13-3
CN13-4
CN13-5
CN13-7
CN13-8
BROWN
RED
ORANGE
YELLOW
WHITE
PURPLE
BLUE
MANUAL AUTO
SWITCH
EVQ PEE 04R
CN201
7P-SCN
D201 SLR-325 <RED>
D202 SLR-325 <GRN>
D203 SLR-325 <ORG>
D204 SLR-325 <ORG>
OPERATE
TIMER
LOUVER
LOUVER
OUT
PHA201
SBX1610
-22
HA
JEM-A

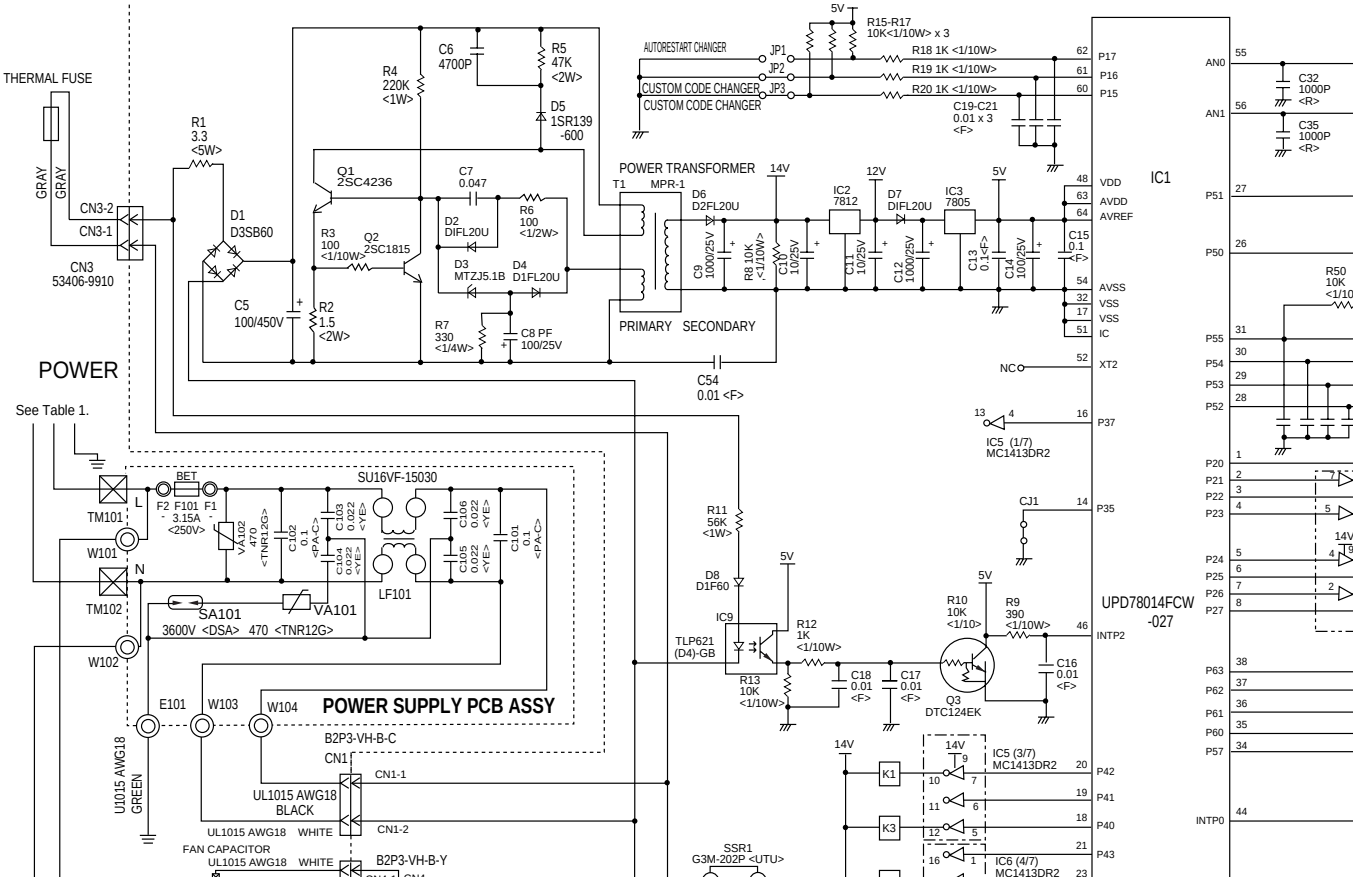
Model : AS✻30A



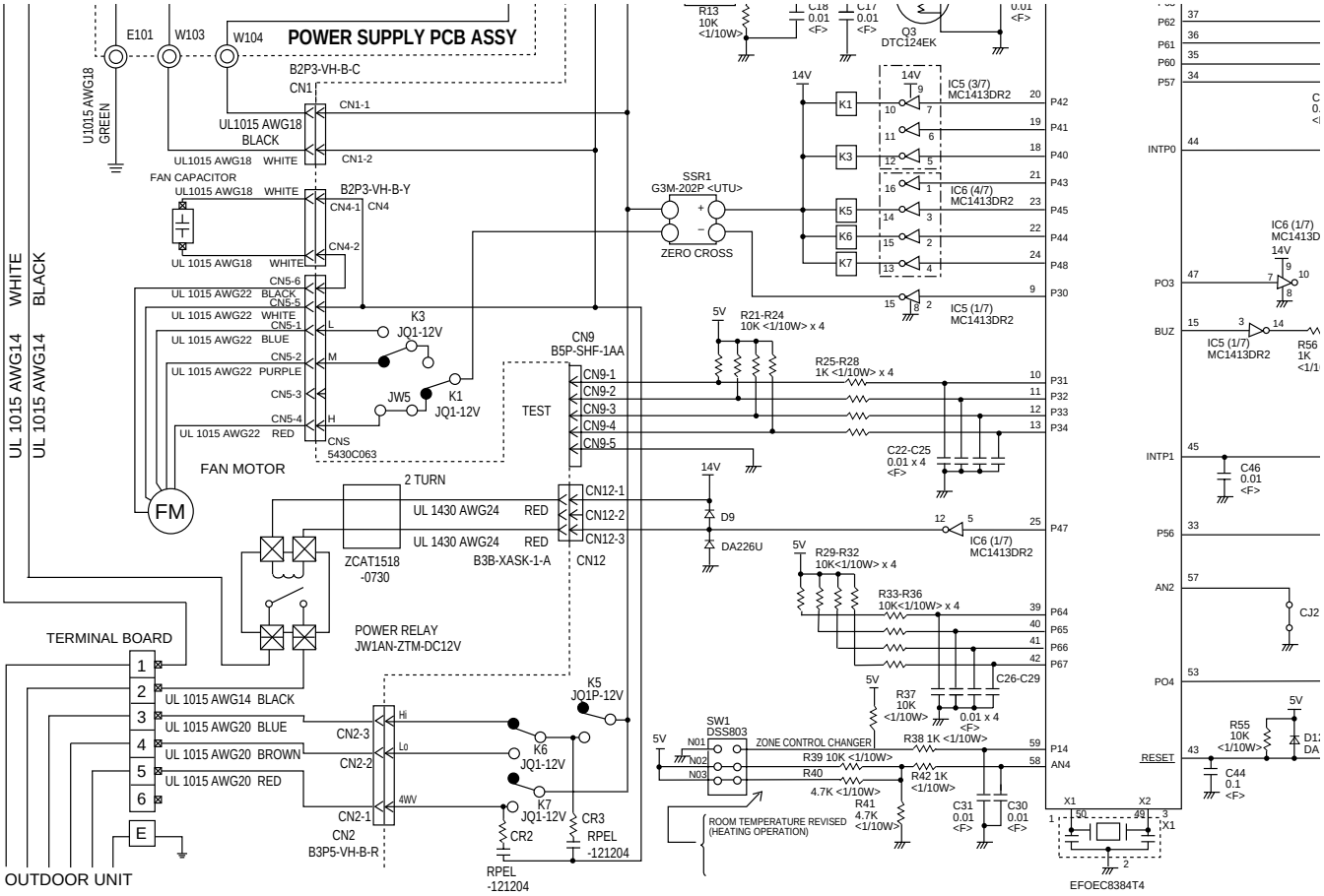
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101-C108 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHLL BE BOARD IN WIRE

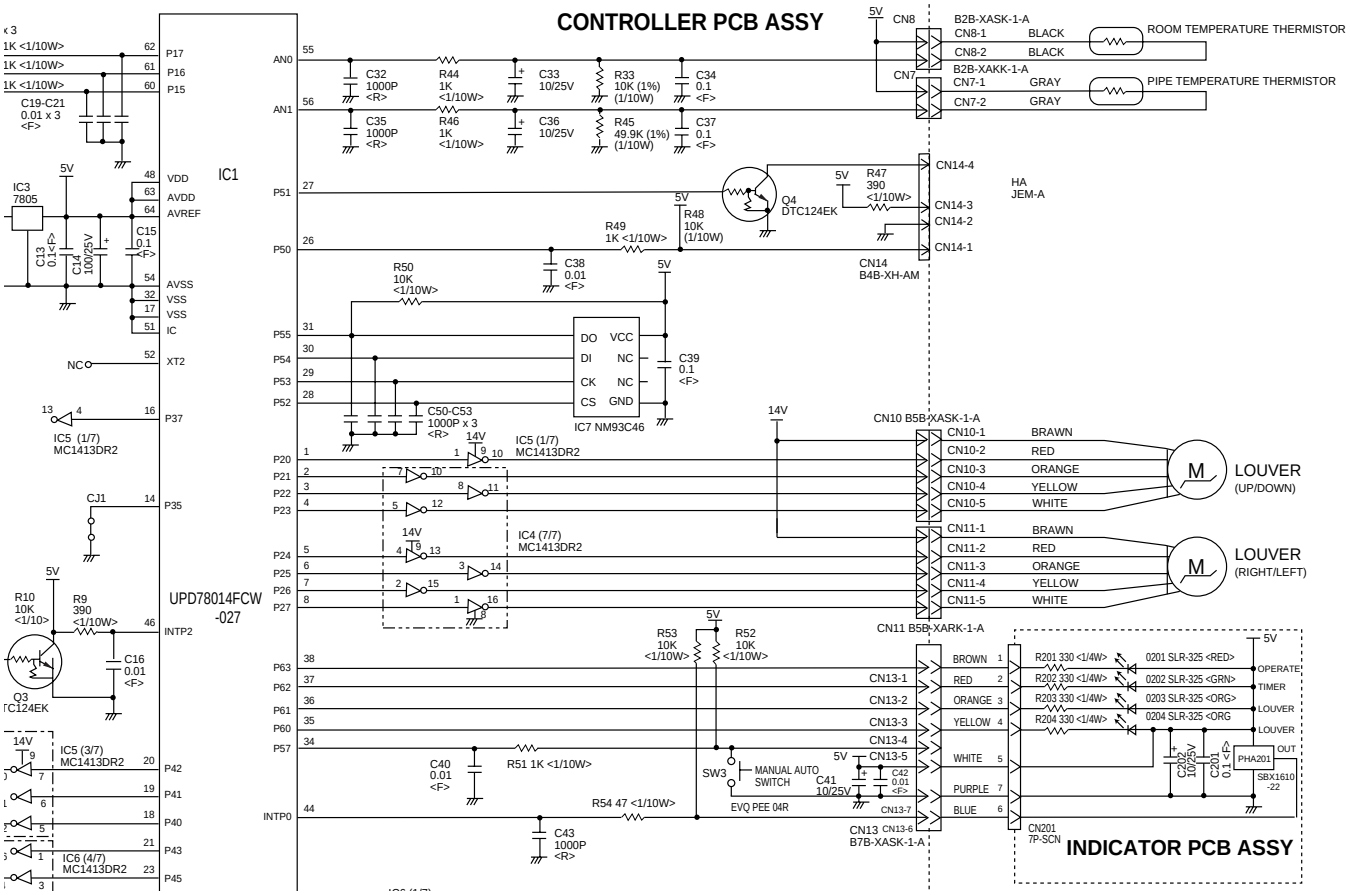
Models : AS✻20R, AS✻24R, ASS30R



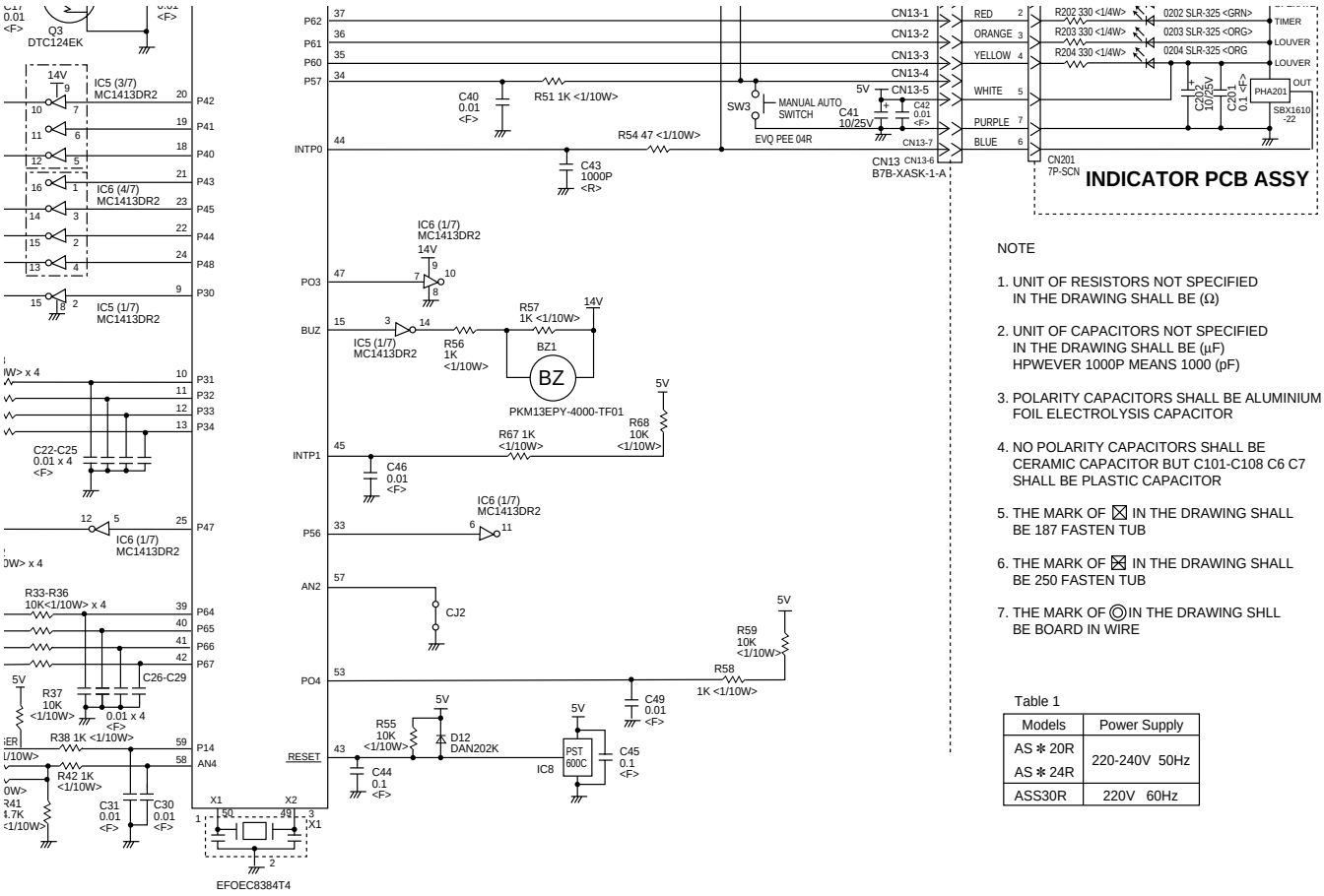
Models : AS✻20R, AS✻24R, ASS30R



Models : AS✻20R, AS✻24R, ASS30R



Models : AS✻20R, AS✻24R, ASS30R



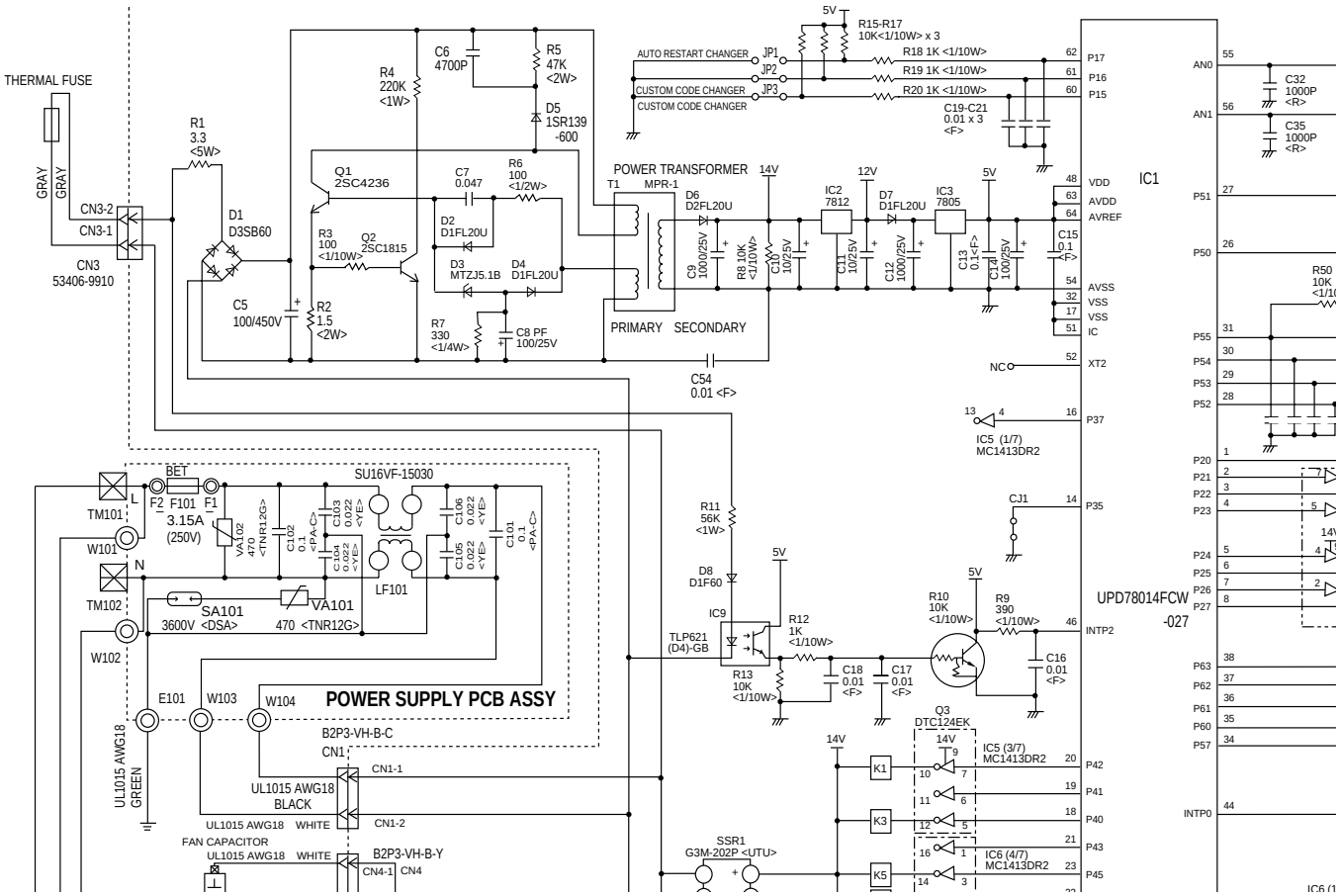
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HPWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101-C108 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHLL BE BOARD IN WIRE

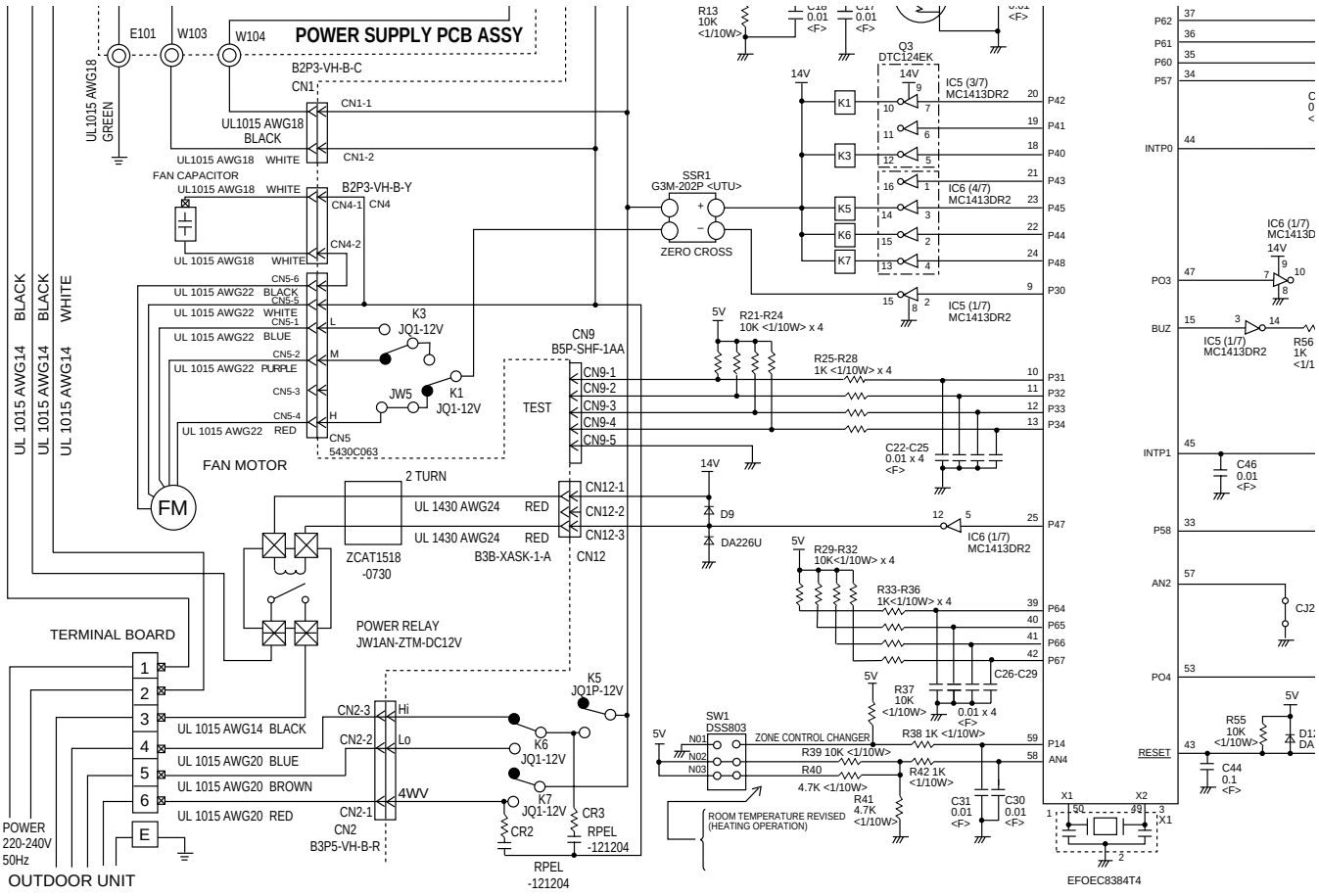
Table 1

Models	Power Supply
AS ✻ 20R AS ✻ 24R	220-240V 50Hz
ASS30R	220V 60Hz

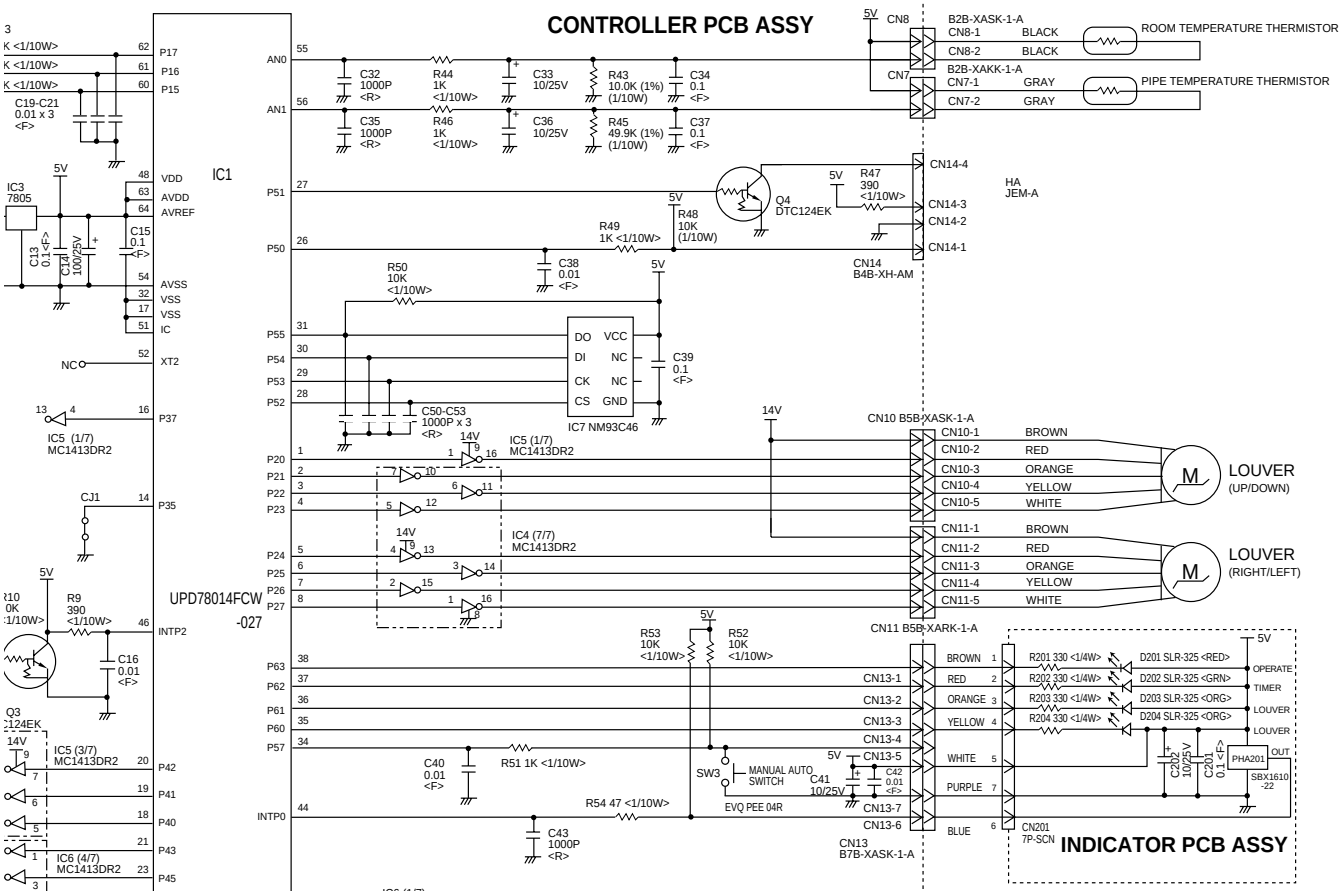
Model : AS✻30R


THERMAL FUSE
GRAY
GRAY
CN3-2
CN3-1
CN3
53406-9910
R1
3.3
<5W>
D1
D3SB60
C5
100/450V
R2
1.5
<2W>
R4
220K
<1W>
C6
4700P
R5
47K
<2W>
D5
1SR139
-600
Q1
2SC4236
R3
100
<1/10W>
Q2
2SC1815
C7
0.047
R6
100
<1/2W>
D2
D1FL20U
D3
MTZJ5.1B
D4
D1FL20U
R7
330
<1/4W>
C8 PF
100/25V
POWER TRANSFORMER
T1
MPR-1
PRIMARY
SECONDARY
C54
0.01 <F>
D6
D2FL20U
IC2
7812
D7
D1FL20U
IC3
7805
C9
100/25V
R8 10K
<1/10W>
C10
10/25V
C11
10/25V
C12
1000/25V
C13
0.1<F>
C14
100/25V
C15
0.1
<F>
5V
12V
14V
AUTO RESTART CHANGER
CUSTOM CODE CHANGER
CUSTOM CODE CHANGER
JP1
JP2
JP3
R15-R17
10K<1/10W> x 3
R18 1K <1/10W>
R19 1K <1/10W>
R20 1K <1/10W>
C19-C21
0.01 x 3
<F>
IC1
UPD78014FCW
-027
VDD
AVDD
AVREF
AVSS
VSS
VSS
IC
XT2
NC
P17
P16
P15
P37
P35
P42
P41
P40
P43
P45
INTP2
INTP0
P51
P50
P55
P54
P53
P52
P20
P21
P22
P23
P24
P25
P26
P27
P63
P62
P61
P60
P57
AN0
AN1
C32
1000P
<R>
C35
1000P
<R>
R50
10K
<1/10
IC5 (1/7)
MC1413DR2
IC5 (3/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
CJ1
R11
56K
<1W>
D8
D1F60
IC9
TLP621
(D4)-GB
R12
1K
<1/10W>
R13
10K
<1/10W>
C18
0.01
<F>
C17
0.01
<F>
R10
10K
<1/10W>
R9
390
<1/10W>
C16
0.01
<F>
Q3
DTC124EK
K1
K3
K5
SSR1
G3M-202P <UTU>
BET
SU16VF-15030
TM101
TM102
W101
W102
W103
W104
E101
F2
F101
3.15A
(250V)
F1
L
N
VA102
470
<TNR12G>
SA101
3600V <DSA>
VA101
470 <TNR12G>
LF101
C102
0.1
<P-A-C>
C103
0.022
<Y5>
C104
0.022
<Y5>
C105
0.022
<Y5>
C106
0.022
<Y5>
C101
0.1
<P-A-C>
POWER SUPPLY PCB ASSY
B2P3-VH-B-C
CN1
CN1-1
CN1-2
UL1015 AWG18
BLACK
UL1015 AWG18
GREEN
UL1015 AWG18
WHITE
FAN CAPACITOR
UL1015 AWG18
WHITE
B2P3-VH-B-Y
CN4-1
CN4

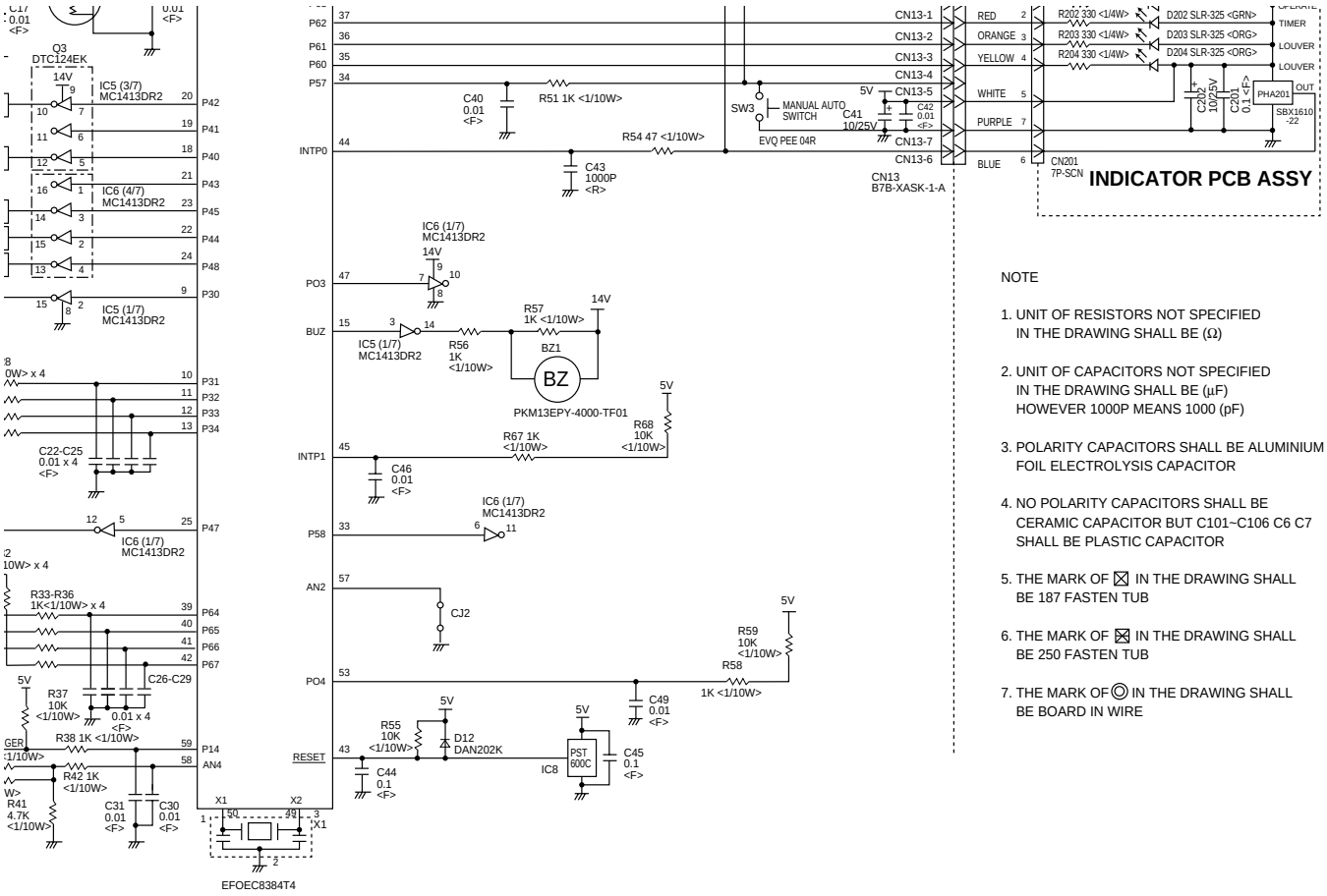
Model : AS✻30R


POWER SUPPLY PCB ASSY
E101
W103
W104
B2P3-VH-B-C
CN1
UL1015 AWG18 GREEN
UL1015 AWG18 BLACK
UL1015 AWG18 WHITE
FAN CAPACITOR
B2P3-VH-B-Y
CN4-1
CN4
CN4-2
UL 1015 AWG14 BLACK
UL 1015 AWG14 BLACK
UL 1015 AWG14 WHITE
CN5-6
CN5-5
CN5-1
CN5-2
CN5-3
CN5-4
CN5
5430C063
UL 1015 AWG22 BLACK
UL 1015 AWG22 WHITE
UL 1015 AWG22 BLUE
UL 1015 AWG22 PURPLE
UL 1015 AWG22 RED
K3
JQ1-12V
JW5
K1
JQ1-12V
FAN MOTOR
FM
2 TURN
ZCAT1518
-0730
UL 1430 AWG24 RED
UL 1430 AWG24 RED
B3B-XASK-1-A
CN12
CN12-1
CN12-2
CN12-3
CN9
B5P-SHF-1AA
CN9-1
CN9-2
CN9-3
CN9-4
CN9-5
TEST
TERMINAL BOARD
POWER RELAY
JW1AN-ZTM-DC12V
K5
JQ1P-12V
K6
JQ1-12V
K7
JQ1-12V
CR2
CR3
RPEL
-121204
CN2-3
CN2-2
CN2-1
CN2
B3P5-VH-B-R
Hi
Lo
4WV
UL 1015 AWG14 BLACK
UL 1015 AWG20 BLUE
UL 1015 AWG20 BROWN
UL 1015 AWG20 RED
POWER
220-240V
50Hz
OUTDOOR UNIT
SSR1
G3M-202P <UTU>
ZERO CROSS
Q3
DTC124EK
IC5 (3/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
IC5 (1/7)
MC1413DR2
IC6 (1/7)
MC1413DR2
R21-R24
10K <1/10W> x 4
R25-R28
1K <1/10W> x 4
C22-C25
0.01 x 4
<F>
D9
DA226U
R29-R32
10K<1/10W> x 4
R33-R36
1K<1/10W> x 4
C26-C29
R37
10K
<1/10W>
0.01 x 4
<F>
SW1
DSS803
ZONE CONTROL CHANGER
R38 1K <1/10W>
R39 10K <1/10W>
R40
4.7K <1/10W>
R42 1K
<1/10W>
R41
4.7K
<1/10W>
C31
0.01
<F>
C30
0.01
<F>
ROOM TEMPERATURE REVISED
(HEATING OPERATION)
EFOEC8384T4
P42
P41
P40
P43
P45
P44
P48
P30
P31
P32
P33
P34
P47
P64
P65
P66
P67
P14
AN4
P62
P61
P60
P57
INTP0
PO3
BUZ
INTP1
P58
AN2
PO4
RESET
C46
0.01
<F>
C44
0.1
<F>
R55
10K
<1/10W>
R56
1K

Model : AS✻30R


CONTROLLER PCB ASSY
INDICATOR PCB ASSY
IC1
UPD78014FCW
-027
IC3
7805
IC5 (1/7)
MC1413DR2
IC5 (3/7)
MC1413DR2
IC6 (4/7)
MC1413DR2
IC4 (7/7)
MC1413DR2
IC7 NM93C46
CN8
B2B-XASK-1-A
CN8-1 BLACK
CN8-2 BLACK
ROOM TEMPERATURE THERMISTOR
CN7
B2B-XAKK-1-A
CN7-1 GRAY
CN7-2 GRAY
PIPE TEMPERATURE THERMISTOR
CN14
B4B-XH-AM
CN14-4
CN14-3
CN14-2
CN14-1
HA
JEM-A
Q4
DTC124EK
CN10 B5B-XASK-1-A
CN10-1 BROWN
CN10-2 RED
CN10-3 ORANGE
CN10-4 YELLOW
CN10-5 WHITE
LOUVER
(UP/DOWN)
CN11-1 BROWN
CN11-2 RED
CN11-3 ORANGE
CN11-4 YELLOW
CN11-5 WHITE
LOUVER
(RIGHT/LEFT)
CN11 B5B-XARK-1-A
CN13
B7B-XASK-1-A
CN13-1
CN13-2
CN13-3
CN13-4
CN13-5
CN13-6
CN13-7
BROWN
RED
ORANGE
YELLOW
WHITE
PURPLE
BLUE
CN201
7P-SCN
D201 SLR-325 <RED>
D202 SLR-325 <GRN>
D203 SLR-325 <ORG>
D204 SLR-325 <ORG>
OPERATE
TIMER
LOUVER
LOUVER
PHA201
SBX1610
-22
SW3
MANUAL AUTO
SWITCH
EVQ PEE 04R
C19-C21
0.01 x 3
<F>
C32 1000P <R>
C33 10/25V
C34 0.1 <F>
C35 1000P <R>
C36 10/25V
C37 0.1 <F>
C38 0.01 <F>
C39 0.1 <F>
C40 0.01 <F>
C41 10/25V
C42 0.01 <F>
C43 1000P <R>
C50-C53 1000P x 3 <R>
C15 0.1 <F>
C16 0.01 <F>
C201 0.1 <F>
C202 10/25V
R44 1K <1/10W>
R43 10.0K (1%) (1/10W)
R46 1K <1/10W>
R45 49.9K (1%) (1/10W)
R47 390 <1/10W>
R48 10K (1/10W)
R49 1K <1/10W>
R50 10K <1/10W>
R51 1K <1/10W>
R52 10K <1/10W>
R53 10K <1/10W>
R54 47 <1/10W>
R9 390 <1/10W>
R201 330 <1/4W>
R202 330 <1/4W>
R203 330 <1/4W>
R204 330 <1/4W>
5V
14V
AN0
AN1
P51
P50
P55
P54
P53
P52
P20
P21
P22
P23
P24
P25
P26
P27
P63
P62
P61
P60
P57
INTP0
INTP2
P17
P16
P15
P37
P35
P42
P41
P40
P43
P45
CJ1
Q3
DTC124EK

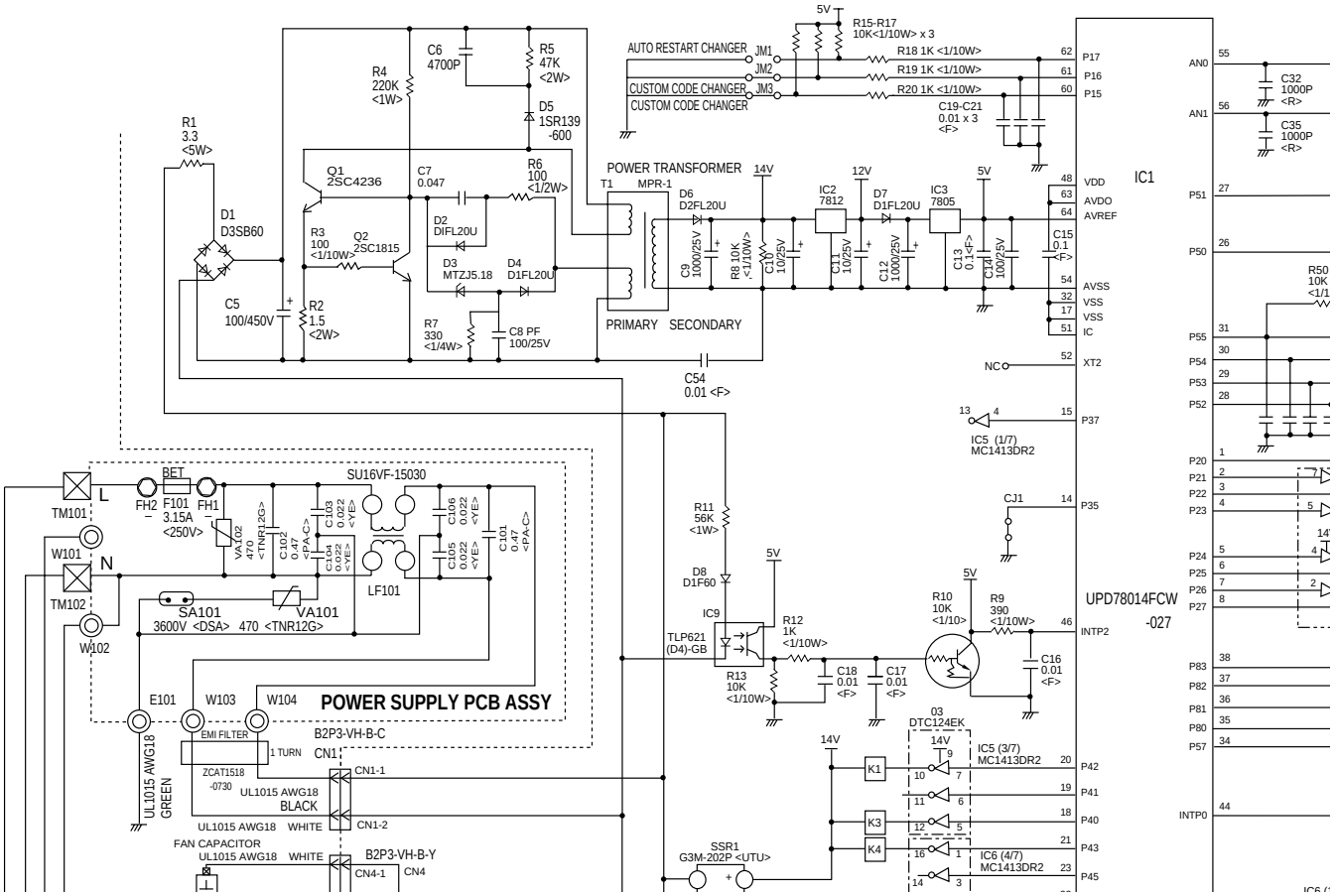
Model : AS✻30R



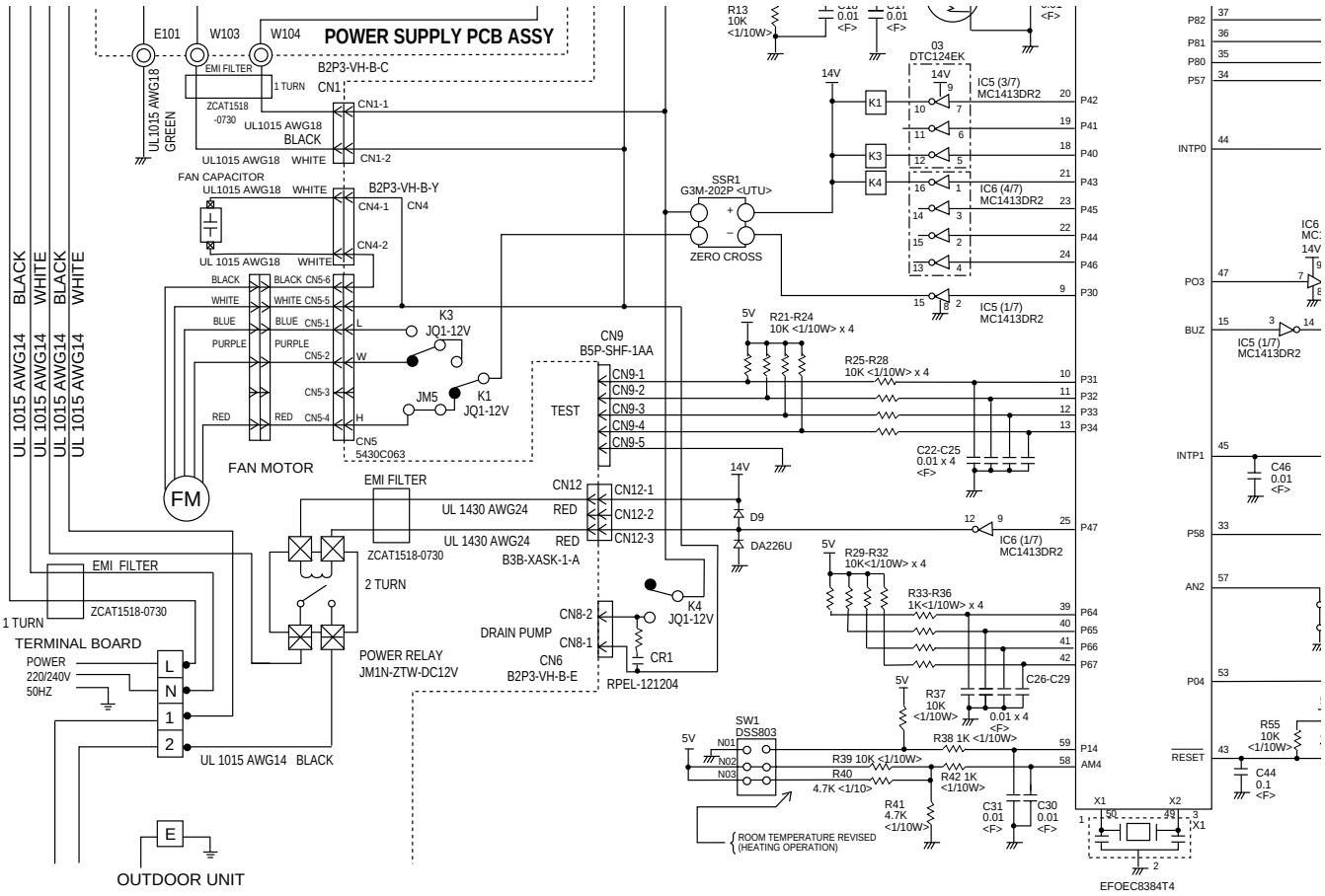
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101~C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHALL BE BOARD IN WIRE

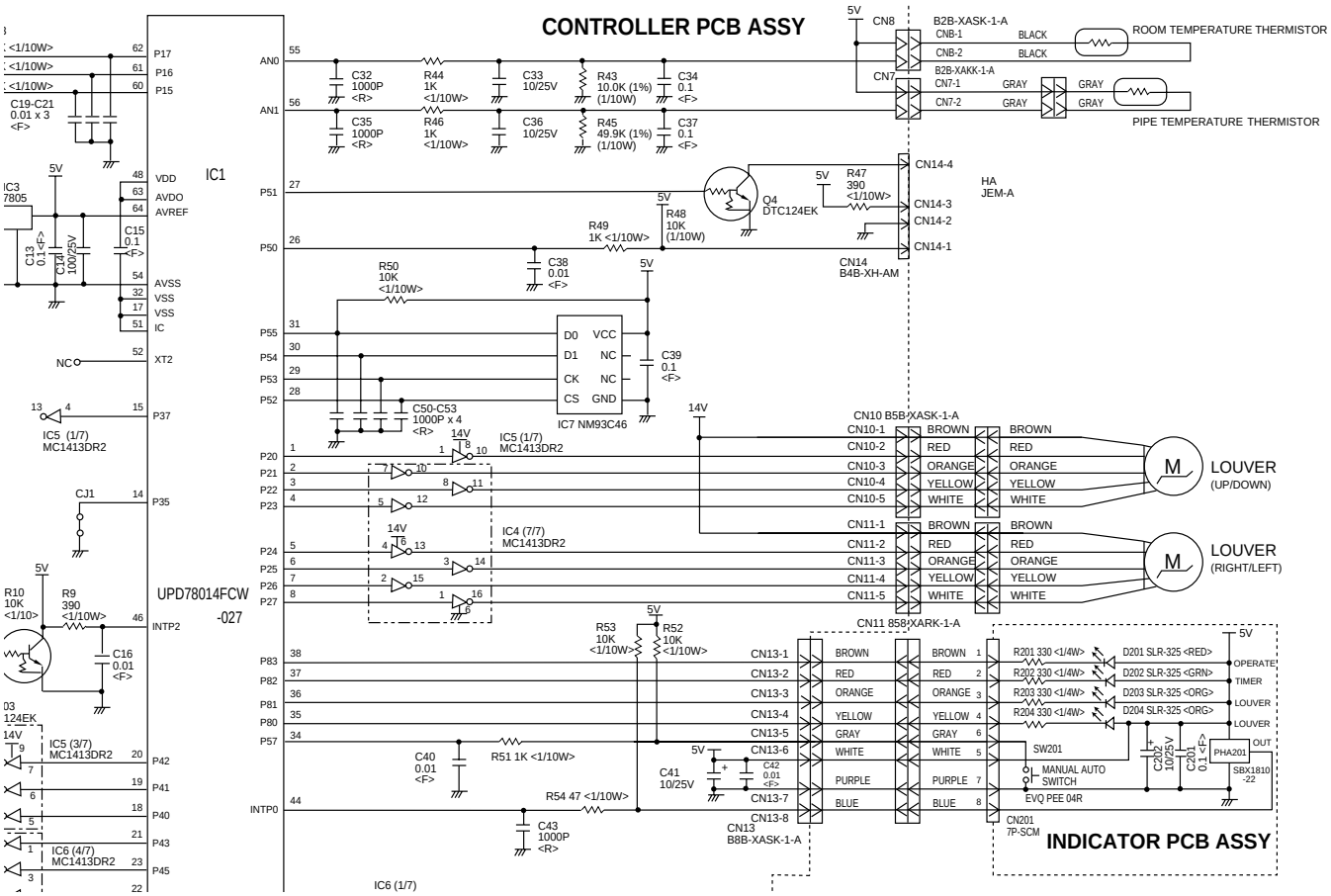
Models : AB✻14A, AB✻18A, AB✻24A



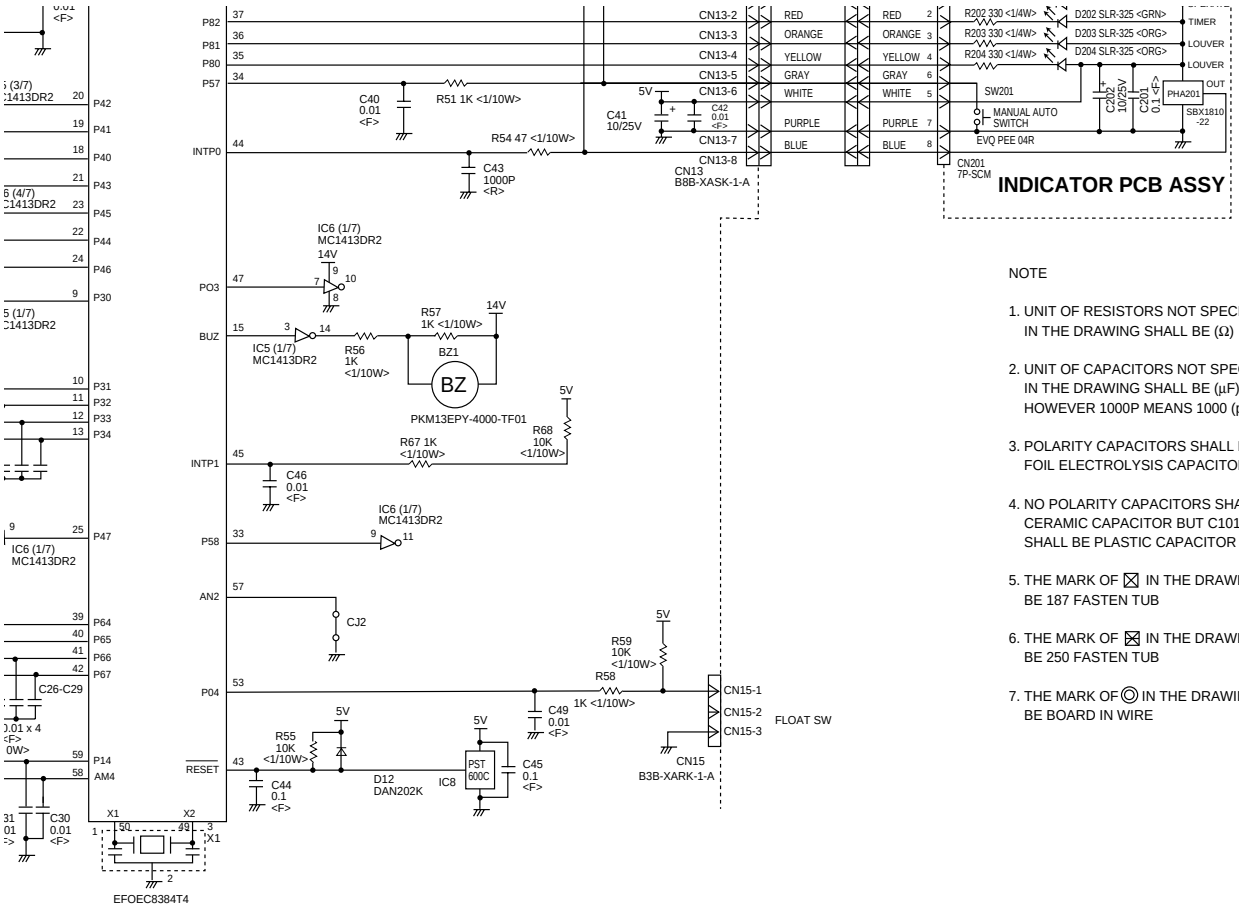
Models : AB✻14A, AB✻18A, AB✻24A



Models : AB✻14A, AB✻18A, AB✻24A



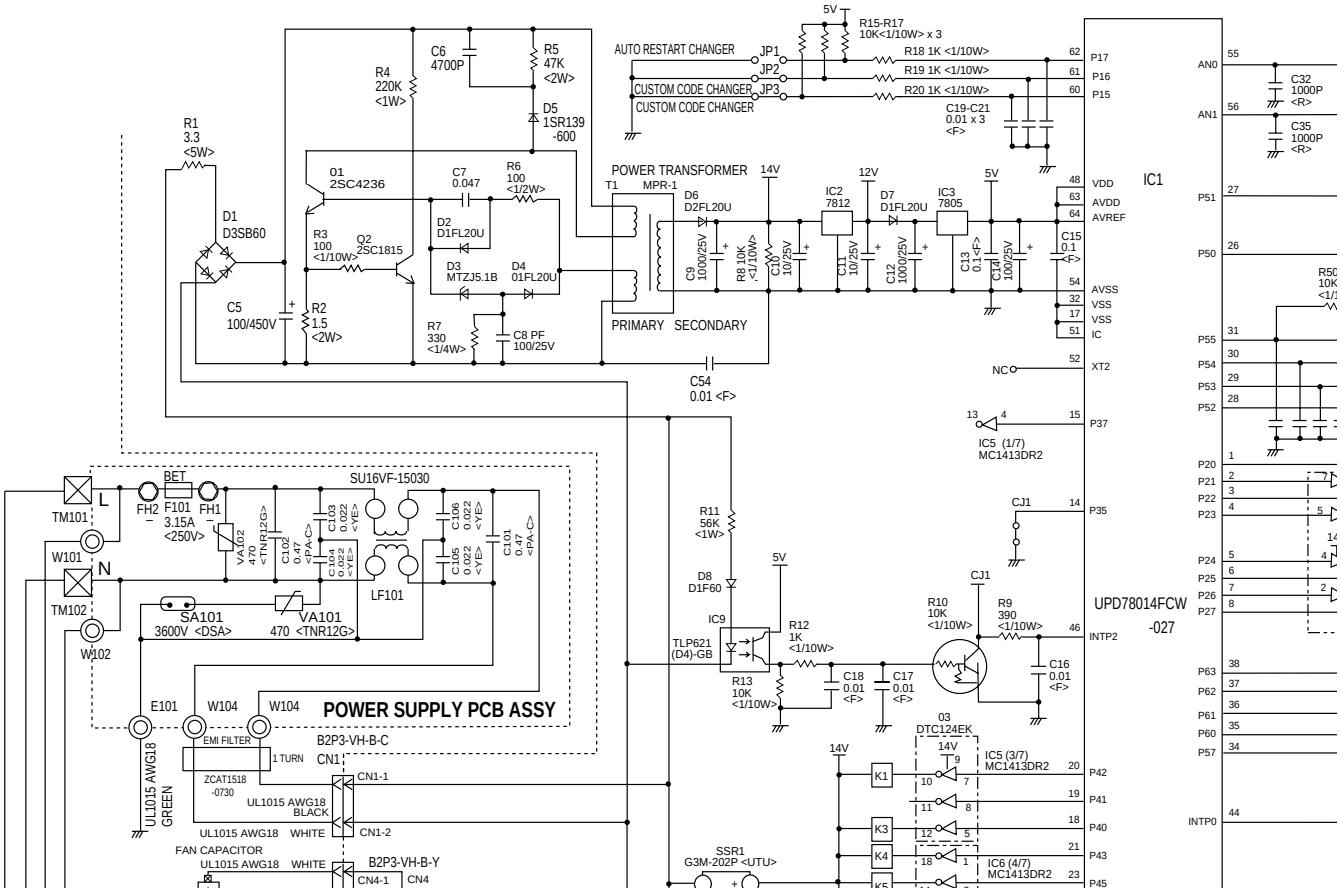
Models : AB✻14A, AB✻18A, AB✻24A



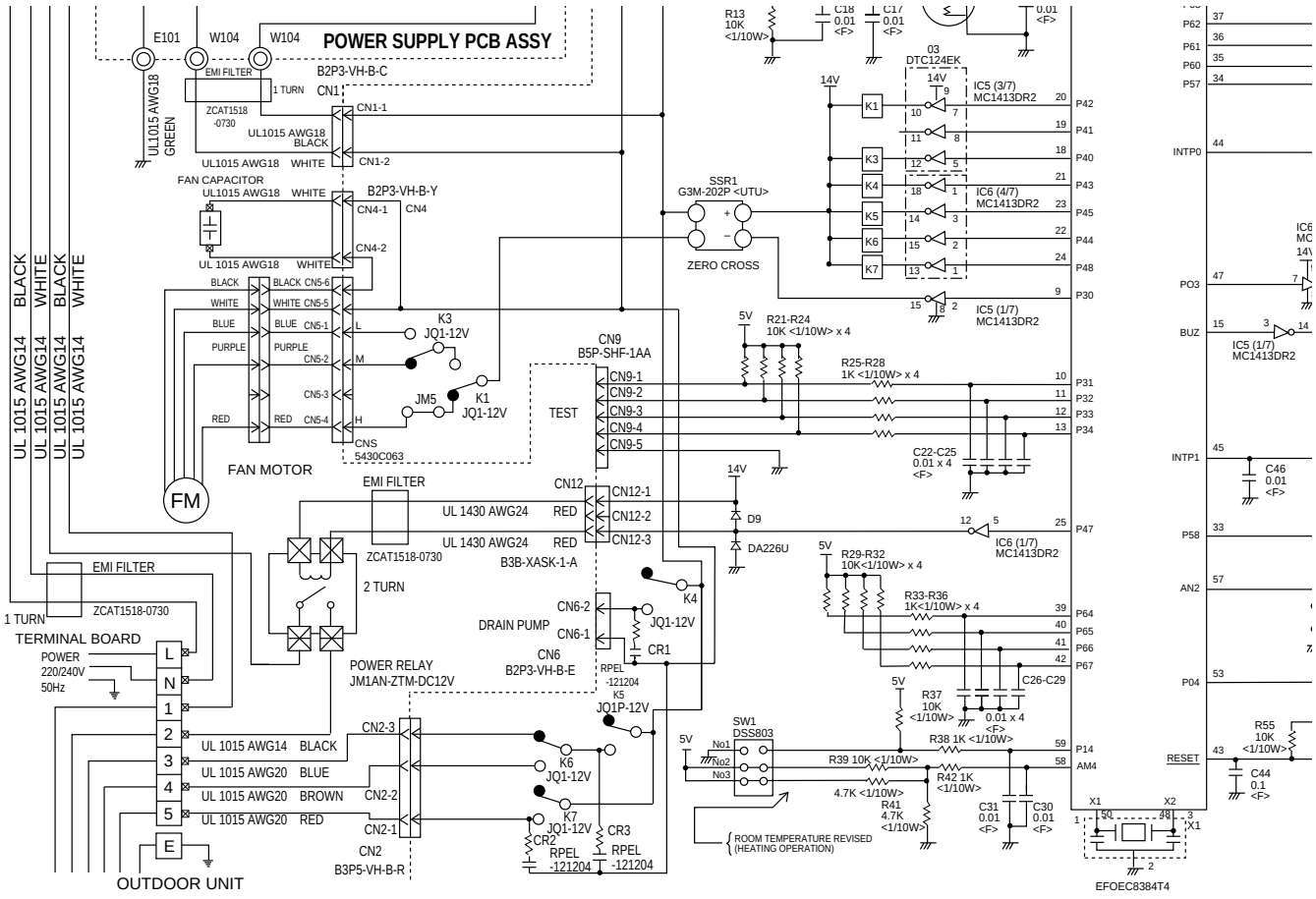
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101~C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHALL BE BOARD IN WIRE

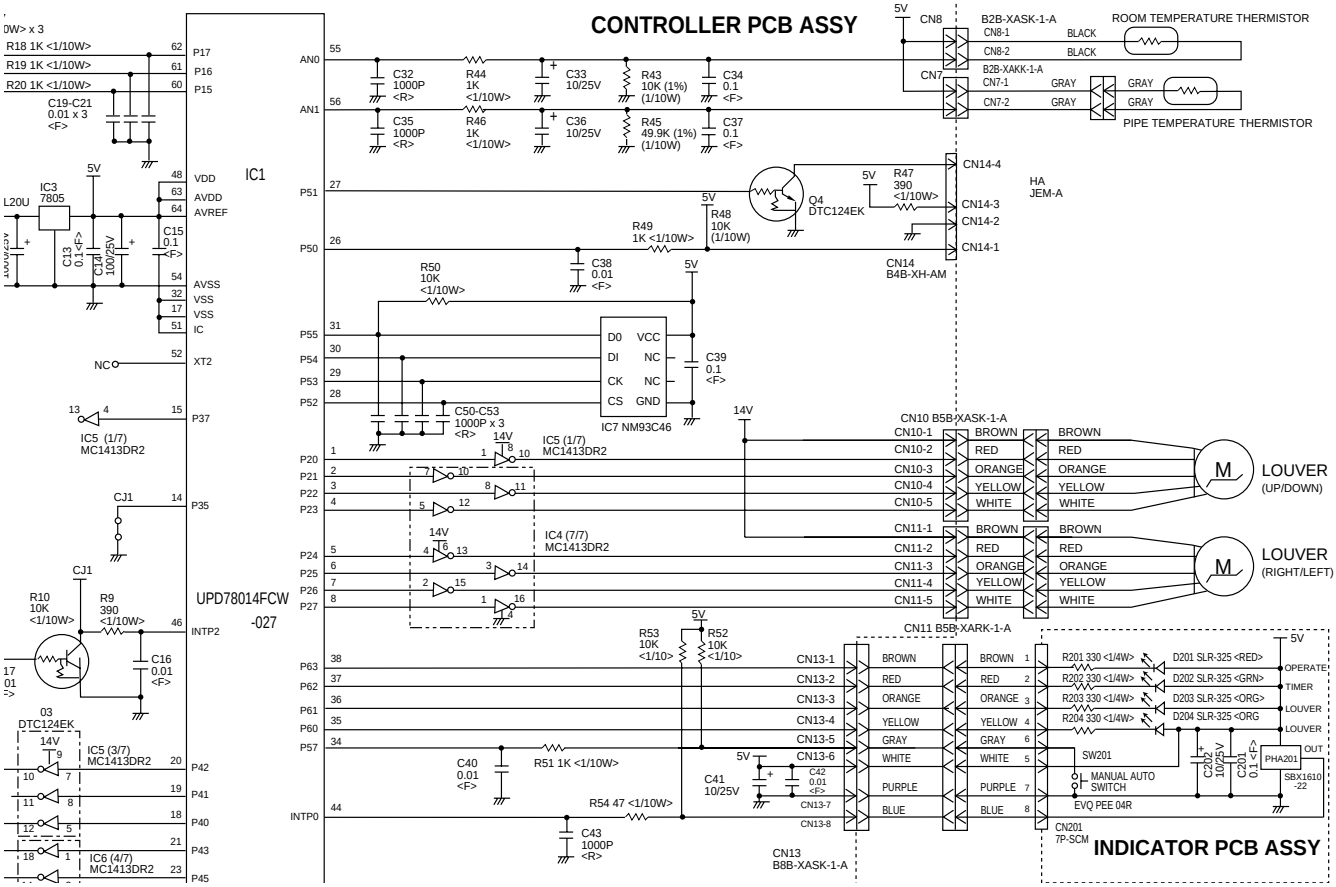
Models : AB✻14R, AB✻18R, AB✻24R



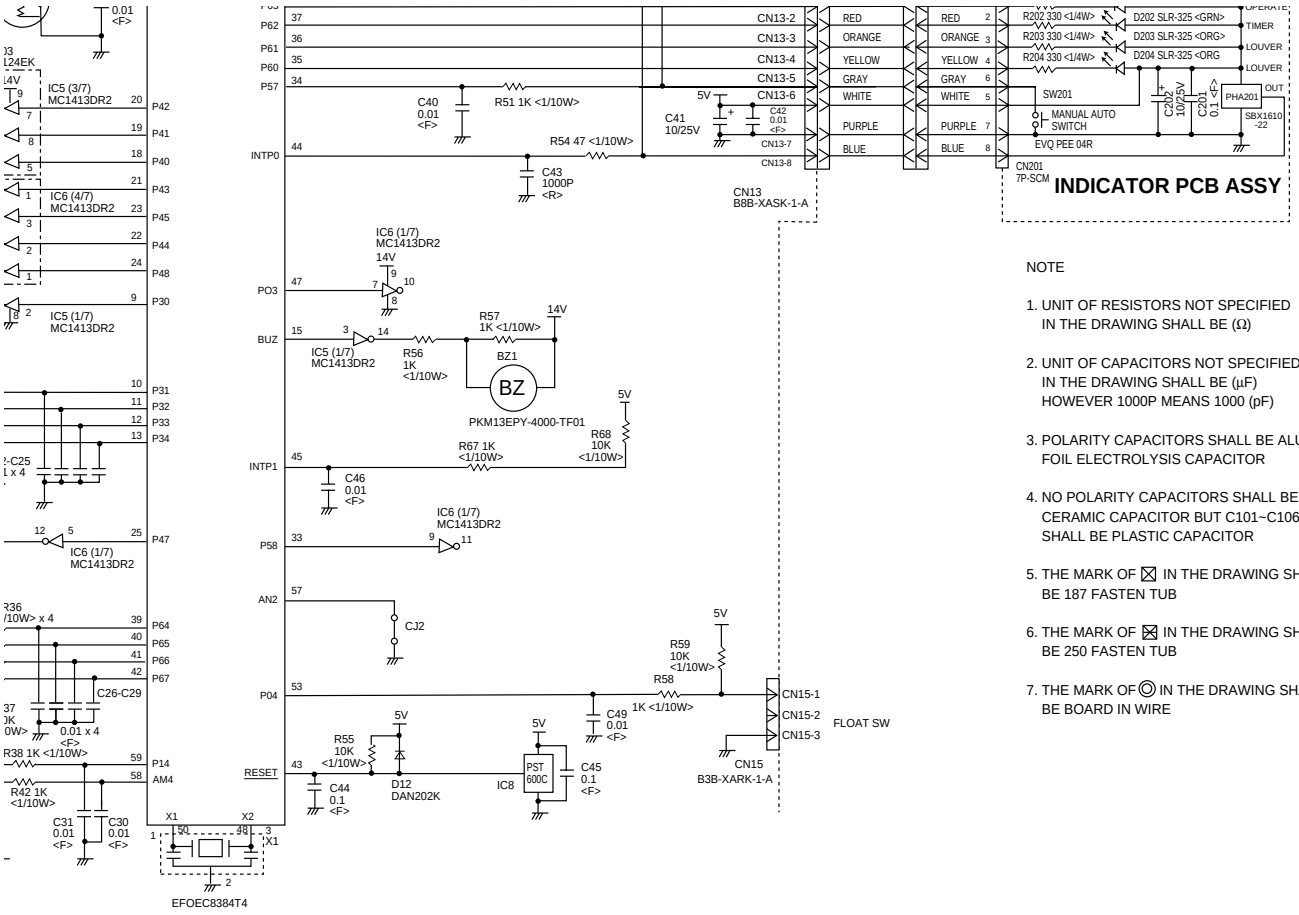
Models : AB✻14R, AB✻18R, AB✻24R



Models : AB✻14R, AB✻18R, AB✻24R



Models : AB✻14R, AB✻18R, AB✻24R



NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101~C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ◎ IN THE DRAWING SHALL BE BOARD IN WIRE