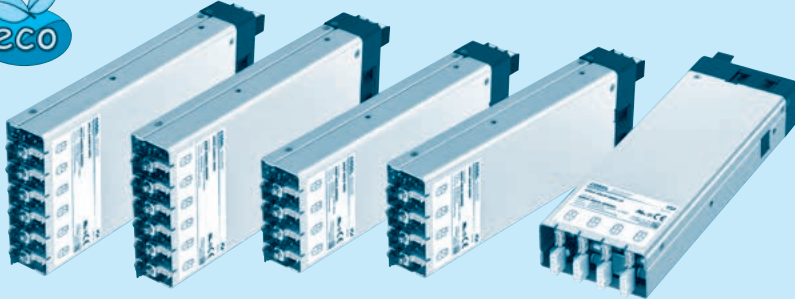


AME series

AM - - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪



Output connector type (option: -J2)

The AME series has Order Name which is used for the ordering aside from Model Name.

Example recommended EMI/EMC filter
 AME400F NAC-06-472
 AME600F NAC-10-472
 AME800F NAC-16-472
 AME1200F NAC-20-472



High voltage pulse noise type : NAP series
 Low leakage current type : NAM series
 * A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Abbreviation for series name of AME series
 - ② Abbreviation for output power of AME series
 04 : AME400F
 06 : AME600F
 08 : AME800F
 12 : AME1200F
 - ③ Slot 6 Output module
 - ④ Slot 5 Output module
 - ⑤ Slot 4 Output module
 - ⑥ Slot 3 Output module
 - ⑦ Slot 2 Output module
 - ⑧ Slot 1 Output module
 - ⑨ Parallel code
 - ⑩ Series code
 - ⑪ Option *6
- A : 12V/0.1A AUX instead of 5V1A
 R : Reversed logic remote on/off
 J2 : Output connector type
 J3 : CN1/CN2/CN3 Molex connectors
 C : with Coating
 F3 : Reverse air exhaust type
 G : Low leakage current
 I3 : with Extended-UART interface
 I : with PMBus interface
 Refer to instruction manual 7.1

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

SPECIFICATIONS

| | MODEL | AME400F | AME600F | AME800F | AME1200F | |
|------------------------------|--|---|---------|--|----------|---------|
| INPUT | VOLTAGE [VAC] | 85-264 1 φ | | | | |
| | CURRENT [A] | ACIN 100V | 3.0typ | 5.0typ | 7.0typ | 12typ |
| | | ACIN 230V | 2.0typ | 3.2typ | 4.0typ | 6.4typ |
| | FREQUENCY [Hz] | 50/60 (45 - 66) | | | | |
| | EFFICIENCY [%] | ACIN 100V | 85typ | 87typ | 87typ | 88typ |
| | | ACIN 230V | 89typ | 91typ | 90typ | 91typ |
| | POWER FACTOR | ACIN 100V | 0.98typ | 0.98typ | 0.98typ | 0.98typ |
| | | ACIN 230V | 0.95typ | 0.95typ | 0.95typ | 0.95typ |
| INRUSH CURRENT [A] | ACIN 100V | 15/50typ (Po = 100%)(Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | |
| | ACIN 230V | 35/50typ (Po = 100%)(Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | |
| LEAKAGE CURRENT [mA] | 0.30max (ACIN 240V 60Hz, Io = 100%, According to IEC60601-1) | | | | | |
| OUTPUT | NUMBER OF SLOT | 4 | | 6 | | |
| | TOTAL OUTPUT [W] | ACIN 90-150V | 250 | 400 | 600 | 1000 |
| | | ACIN 170-264V | 400 | 600 | 800 | 1200 |
| | START-UP TIME [ms] | 800typ (ACIN 100V, Po = 100%) | | | | |
| HOLD-UP TIME [ms] | 20typ (ACIN230V, Po = 80%) / 16typ (ACIN230V, Po = 100%) | | | | | |
| FUNCTION | AUXILIARY POWER (AUX) | 5V1A | | | | |
| | GLOBAL INHIBIT (GI) | Provided | | | | |
| | ALARM (PR) | Provided | | | | |
| ISOLATION | INPUT - OUTPUT | 4,000VAC 1minute, Cutoff current = 10mA, 500VDC 50MΩ min (At Room Temperature) 2MOPP | | | | |
| | INPUT - FG | 2,000VAC 1minute, Cutoff current = 10mA, 500VDC 50MΩ min (At Room Temperature) 1MOPP | | | | |
| | OUTPUT - FG | 500VAC 1minute, Cutoff current = 100mA, 500VDC 50MΩ min (At Room Temperature) | | | | |
| | OUTPUT - RC, LV, AUX, PR, GI | 500VAC 1minute, Cutoff current = 100mA, 500VDC 50MΩ min (At Room Temperature) | | | | |
| ENVIRONMENT | OPERATING TEMP., HUMIDITY, AND ALTITUDE | -20 to +70°C, 20 - 90%RH (Non condensing) | | | | |
| | STORAGE TEMP., HUMIDITY, AND ALTITUDE | -20 to +75°C, 20 - 90%RH (Non condensing) | | | | |
| | VIBRATION | 10 - 55Hz 19.6m/s ² (2G) 3minutes period, 60minutes each along X, Y and Z axis | | | | |
| | IMPACT | 196.1m/s ² (20G) 11ms, once each X, Y and Z axis | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | UL62368-1, C-UL (CAN/CSA-C22.2 No.62368-1), EN62368-1, ANSI/AAMI ES60601-1, C-UL (CAN/CSA-C22.2 No.60601-1), EN60601-1 3rd Complies with IEC60601-1-2 4th Ed. | | | | |
| | CONDUCTED NOISE | Complies with FCC-B, VCCI-B, CISPR11-B, CISPR32-B, EN55011-B, EN55032-B | | | | |
| | HARMONIC ATTENUATOR | Complies with IEC61000-3-2 (classA) | | | | |
| OTHERS | CASE SIZE | 89 X 41 X 257mm (W X H X D) [3.50 X 1.61 X 10.12 inches] | | 127 X 41 X 257mm (W X H X D) [5.00 X 1.61 X 10.12 inches] | | |
| | WEIGHT [kg] | 1.2max | | 1.8max | | |
| | COOLING METHOD | Forced cooling (internal fan) | | | | |

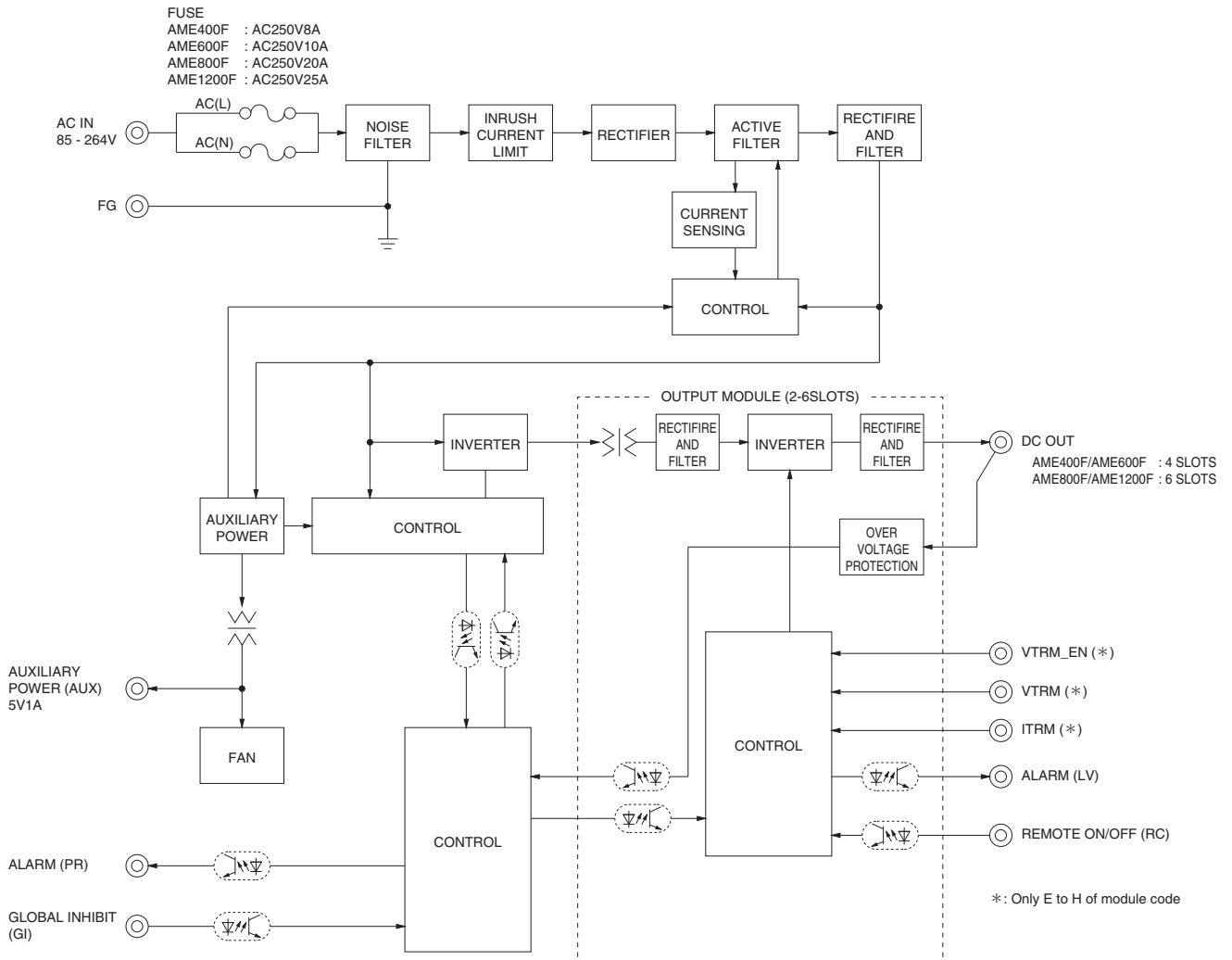
*1 The current of input surge to a built-in EMI/EMS Filter(0.2ms or less) is excluded.
 *2 Refer to "Derating".
 *3 Each output module, RC, LV, AUX, PR, and GI are isolated.
 *4 Case size contains neither the terminal blocks, screw nor other projections.
 *5 Please contact us about other classes.
 *6 Please contact us about safety approvals for the model with option.
 *7 At the total output power.
 The value depends on the combination of output modules or load factor.
 * The audible noise might be emitted from the power supply at the pulse load.

Output module specifications

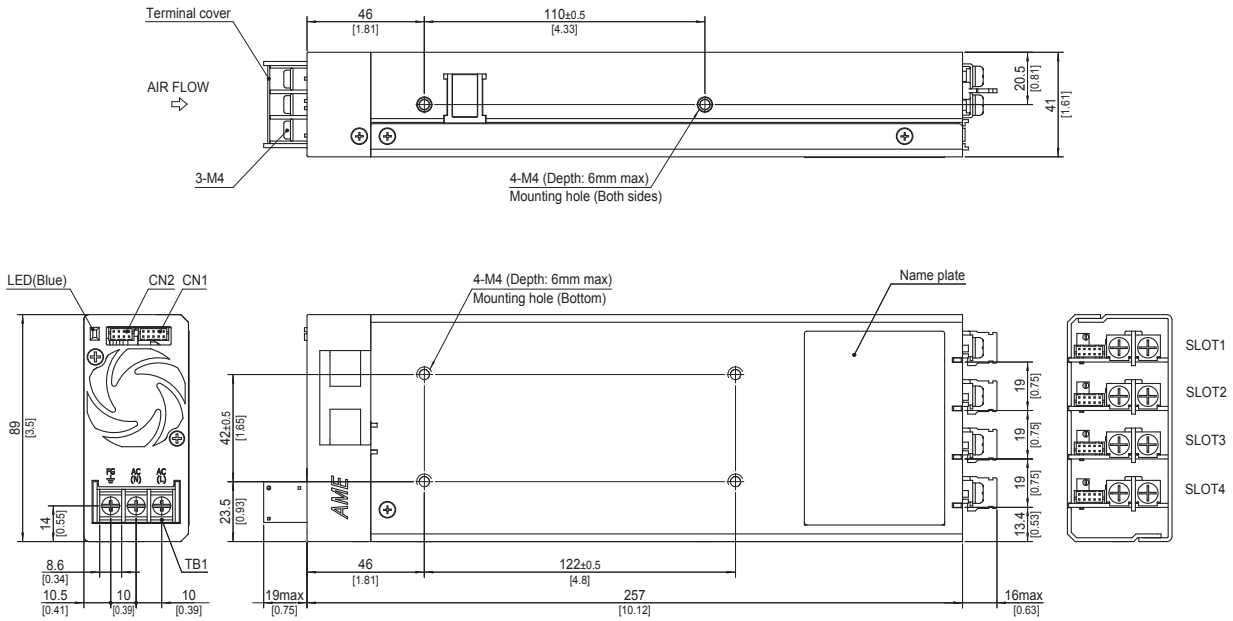
| ITEM | CODE | 120W suitable single output | | | | 240W suitable single output | | | |
|-------------------------------------|---------------|--|----------------|----------------|----------------|--|----------------|----------------|----------------|
| | | A | B | C | D | E | F | G | H |
| Number of slots used | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| VOLTAGE [V] | | +5 | +12 | +24 | +48 | +5 | +12 | +24 | +48 |
| MINIMUM CURRENT [A] | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CURRENT [A] | | 12 | 8.5 | 5 | 2.5 | 32 | 20 | 10 | 5 |
| PEAK CURRENT [A] | *3 | - | - | - | - | - | - | 15 | 7.5 |
| LINE REGULATION [mV] max | | 20 | 48 | 96 | 192 | 20 | 48 | 96 | 192 |
| LOAD REGULATION [mV] max | | 40 | 100 | 150 | 240 | 40 | 100 | 150 | 240 |
| RIPPLE [mVp-p] max | 0 to +50°C *1 | 150 | 150 | 250 | 400 | 150 | 150 | 250 | 400 |
| | -20 to 0°C *1 | 200 | 200 | 300 | 450 | 200 | 200 | 300 | 450 |
| RIPPLE NOISE [mVp-p] max | 0 to +50°C *1 | 200 | 200 | 300 | 450 | 200 | 200 | 300 | 450 |
| | -20 to 0°C *1 | 250 | 250 | 350 | 500 | 250 | 250 | 350 | 500 |
| TEMPERATURE COEFFICIENT [mV] max | 0 to +50°C | 50 | 120 | 240 | 480 | 50 | 120 | 240 | 480 |
| DRIFT [mV] max | *2 | 20 | 48 | 96 | 192 | 20 | 48 | 96 | 192 |
| OUTPUT VOLTAGE SETTING [V] | | 5.00 to 5.15 | 12.00 to 12.48 | 24.00 to 24.96 | 48.00 to 49.92 | 5.00 to 5.15 | 12.00 to 12.48 | 24.00 to 24.96 | 48.00 to 49.92 |
| OUTPUT VOLTAGE ADJUSTMENT RANGE [V] | | 4.0 to 6.0 | 9.6 to 14.4 | 19.2 to 28.8 | 38.4 to 57.6 | 3.0 to 6.0 | 7.2 to 14.4 | 14.4 to 28.8 | 28.8 to 57.6 |
| OVERCURRENT PROTECTION [A] | | Works over 105% min of rated current. Automatic recovery. Hiccup mode. | | | | Works over 105% min of rated current or 101% min of peak current. Automatic recovery. Hiccup mode. | | | |
| OVERVOLTAGE PROTECTION [V] | | 6.5 to 7.8 | 15.0 to 18.6 | 30.0 to 37.2 | 60.0 to 74.4 | Vo+1.0 to 1.5 | Vo+1.2 to 2.4 | Vo+2.4 to 4.8 | Vo+4.8 to 7.2 |
| FUNCTION | | Remote ON/OFF (RC), Alarm (LV) DC_OK (LED: Blue) | | | | Remote ON/OFF (RC), Alarm (LV), Remote sensing (+S/-S), Output voltage adjustment (VTRM), Constant output current adjustment (ITRM), DC_OK (LED: Blue) | | | |

- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKUGIKEN: RM104).
- *2 Drift is the change in DC output for an eight hours period after a half-hour warm-up at 25°C.
- *3 The peak current should be under the following conditions.
Duration: 5s or less
Duty: 35% or less
Average current: Rated current or less

Block diagram



AME400F/AME600F external view



※ Tolerance : ± 1 [± 0.04]

※ Weight : 1.2kg max

※ PCB Material/thickness : FR-4 / 1.6mm [0.06]

※ Chassis material : Aluminum

※ Fan cover Material : PBT

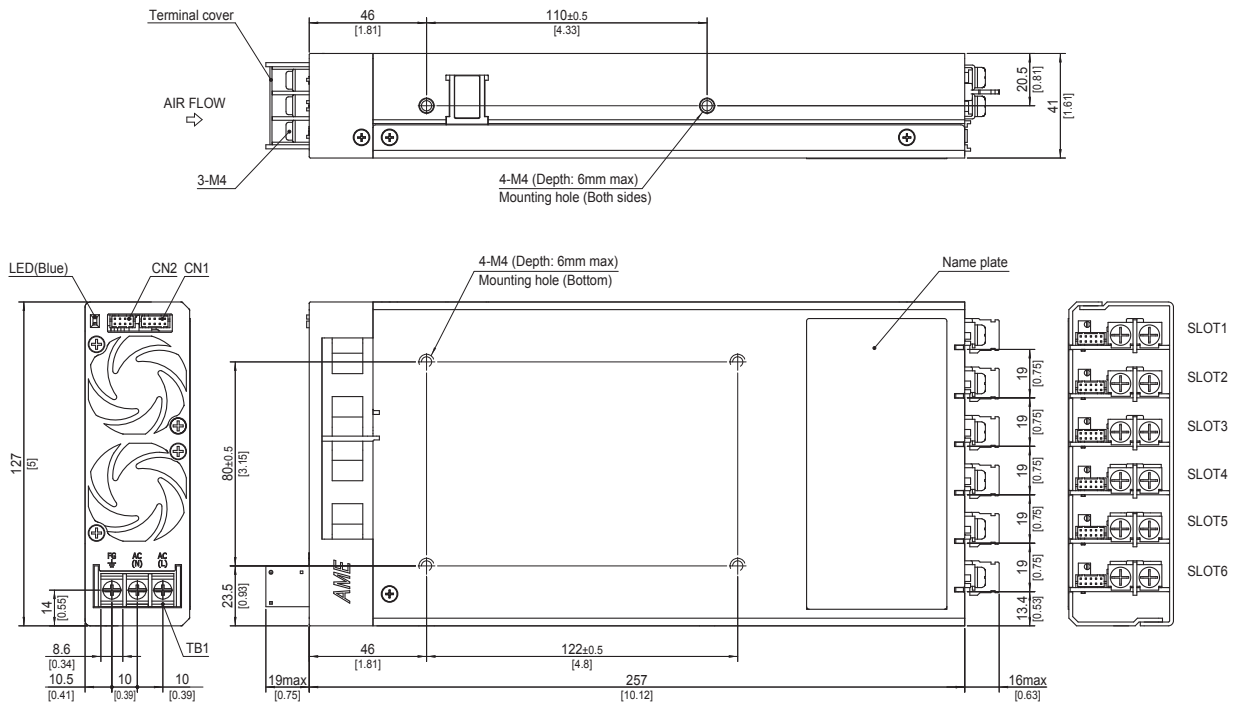
※ Dimensions in mm, [] = inches

※ Mounting torque M4 : 1.2N·m max

※ Input and output terminal screw tightening torque M4 : 1.6N·m max

※ Please connect safety ground to FG terminal on the unit.

AME800F/AME1200F external view



※ Tolerance : ± 1 [± 0.04]

※ Weight : 1.8kg max

※ PCB Material/thickness : FR-4 / 1.6mm [0.06]

※ Chassis material : Aluminum

※ Fan cover Material : PBT

※ Dimensions in mm, [] = inches

※ Mounting torque M4 : 1.2N·m max

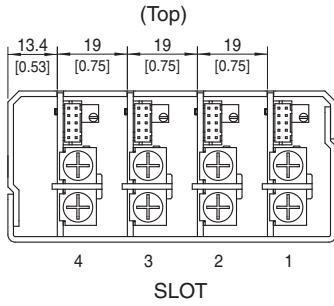
※ Input and output terminal screw tightening torque M4 : 1.6N·m max

※ Please connect safety ground to FG terminal on the unit.

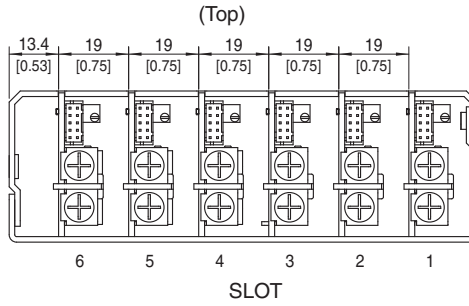
Output module and connector pin assign

1. Output side view

AME400F/AME600F Output side view

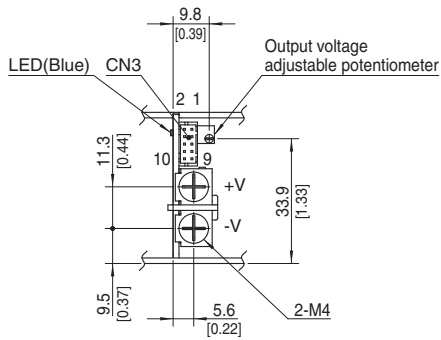


AME800F/AME1200F Output side view



※Tolerance : ± 1 [± 0.04]
 ※Dimensions in mm, []=inches

2. Output module side view

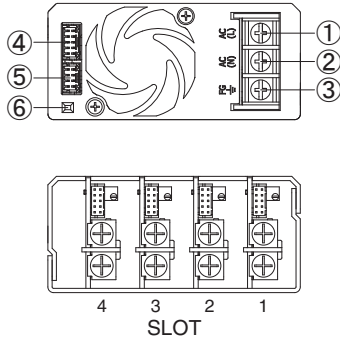


Module : A-H

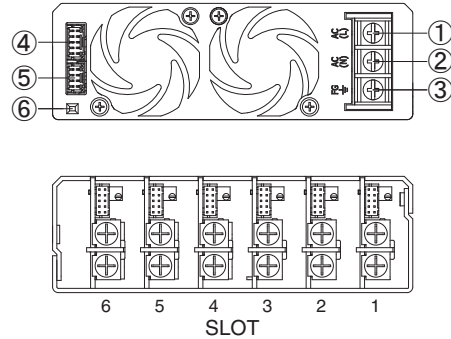
※Tolerance : ± 1 [± 0.04]
 ※Dimensions in mm, []=inches

Terminal Blocks

● AME400F/AME600F

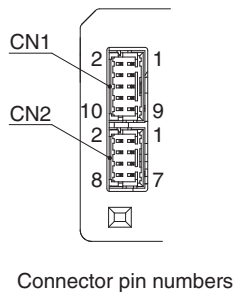


● AME800F/AME1200F



- ① AC (L) } Input Terminals 85 - 264VAC 1 φ 45 - 66Hz
- ② AC (N) } (M4)
- ③ Frame ground (M4)
- ④ CN1 } Connector for functions
- ⑤ CN2 }
- ⑥ LED (PR ALARM)

● Pin Configuration and Functions



Pin configuration and function of CN1

| Pin No. | Function | | Ground level |
|---------|----------|--------------------------|--------------|
| 1 | AUX | : Auxiliary power | AUXG |
| 2 | AUXG | : Auxiliary power ground | AUXG |
| 3 | GI1 | : Global inhibit | AUXG |
| 4 | AUXG | : Auxiliary power ground | AUXG |
| 5 | GI2 | : Global inhibit | GIG |
| 6 | GIG | : Global inhibit ground | GIG |
| 7 | N.C. | : No connection | - |
| 8 | N.C. | : No connection | - |
| 9 | PR | : PR Alarm | PRG |
| 10 | PRG | : PR Alarm ground | PRG |

Pin configuration and function of CN2

| Pin No. | Function | | Ground level |
|---------|----------|-----------------|--------------|
| 1 | N.C. | : No connection | - |
| 2 | N.C. | : No connection | - |
| 3 | N.C. | : No connection | - |
| 4 | N.C. | : No connection | - |
| 5 | N.C. | : No connection | - |
| 6 | N.C. | : No connection | - |
| 7 | N.C. | : No connection | - |
| 8 | N.C. | : No connection | - |

* Do not connect anything to N.C. pins.

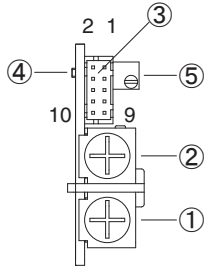
Matching connectors and terminals

| Connector | Housing | Terminal | Mfr. |
|-----------|------------|--|-------|
| CN1 | S10B-PHDSS | PHDR-10VS Reel : SPHD-002T-P0.5 Loose : BPHD-001T-P0.5 *1 BPHD-002T-P0.5 *1 | J.S.T |

*1 The manufacturer can offer only ratchet hand tool.

Terminal Blocks

● Output module



Module : A-H

- ①-Output (M4)
- ②+Output (M4)
- ③CN3 (Connector for functions)
- ④LED (DC_OK)
- ⑤Potentiometer to adjust output voltage

Pin configuration and function of CN3 (Applying module:A-D)

| Pin No. | Function | Ground level |
|---------|----------------------------|--------------|
| 1 | RC : Remote ON/OFF | RCG |
| 2 | RCG : Remote ON/OFF ground | RCG |
| 3 | LV : LV Alarm | LVG |
| 4 | LVG : LV Alarm ground | LVG |
| 5 | N.C. : No connection | - |
| 6 | N.C. : No connection | - |
| 7 | N.C. : No connection | - |
| 8 | N.C. : No connection | - |
| 9 | N.C. : No connection | - |
| 10 | N.C. : No connection | - |

* Do not connect anything to N.C. pins.

Pin configuration and function of CN3 (Applying module: E-H)

| Pin No. | Function | Ground level |
|---------|----------------------------------|--------------|
| 1 | RC : Remote ON/OFF | RCG |
| 2 | RCG : Remote ON/OFF ground | RCG |
| 3 | LV : LV Alarm | LVG |
| 4 | LVG : LV Alarm ground | LVG |
| 5 | +S : + Remote sensing | COM |
| 6 | -S : - Remote sensing | COM |
| 7 | COM : Common ground for signal | COM |
| 8 | ITRM : Output current adjustment | COM |
| 9 | VTRM_EN : Enable VTRM | COM |
| 10 | VTRM : Output voltage adjustment | COM |

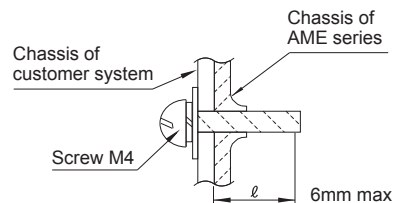
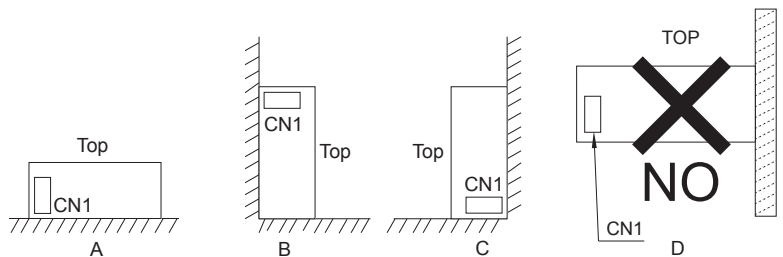
Matching connectors and terminals

| Connector | Housing | Terminal | Mfr. |
|-----------|------------|--|-------|
| CN3 | S10B-PHDSS | PHDR-10VS Reel : SPHD-002T-P0.5 Loose : BPHD-001T-P0.5 *1 BPHD-002T-P0.5 *1 | J.S.T |

*1 The manufacturer prepares only the ratchet hand.

Assembling and Installation Method

- The unit has cooling fans.
Ensure that the inlet and outlet vents are not blocked.
- If the unit is used in dusty environment, please consider installing the air filter so that cooling efficiency will not get worse. In that case, please pay sufficient attention to airflow.
- Figures to the right are the recommended installation method when the unit is mounted by screws. When the unit is installed by any other method, please take into account of its weight and secure it.
- Avoid the D installation method in the figure to the right because it will cause stress on the mounting holes.
- Maximum length from the outside of the unit of the mounting screws is 6mm so that the isolation to internal components is ensured. (Refer to right figure).

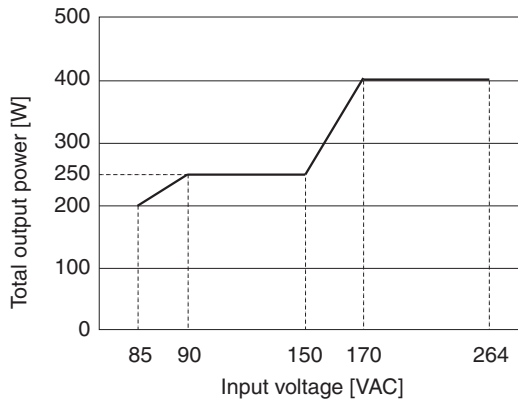


Derating

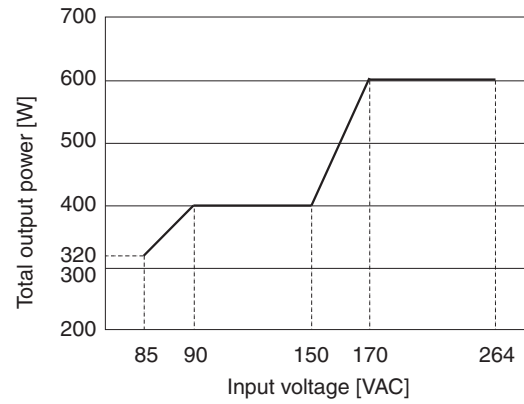
■ The AME series is comprised multiple combination output. Both the maximum output of each module and total maximum output have to be within the specs. Definition of load factor is shown in Instruction Manual 5.

Derating curve for input voltage

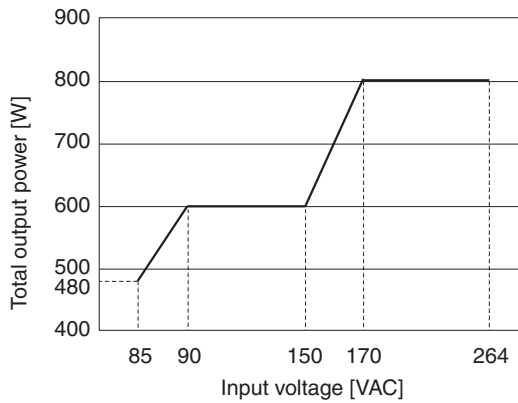
● **AME400F**



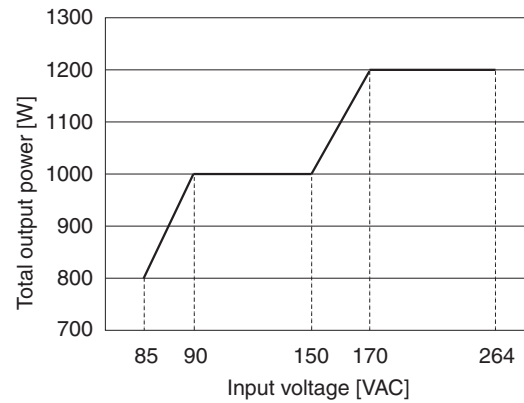
● **AME600F**



● **AME800F**



● **AME1200F**



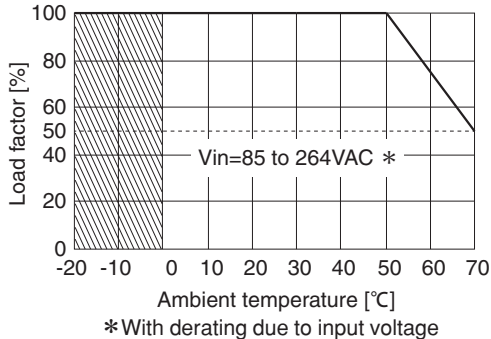
Derating

Derating curve for ambient temperature

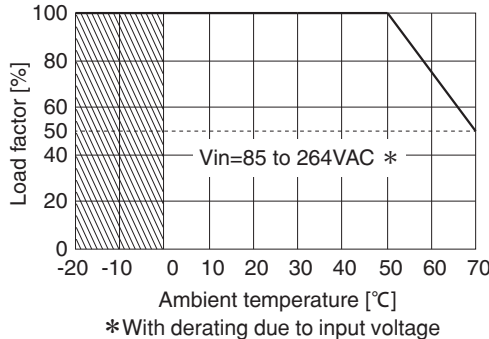
Derating curve for ambient temperature

The derating curve for the ambient temperature (inlet temperature for cooling) is shown in below. The specifications of the ripple and noise in the shaded area below are different.

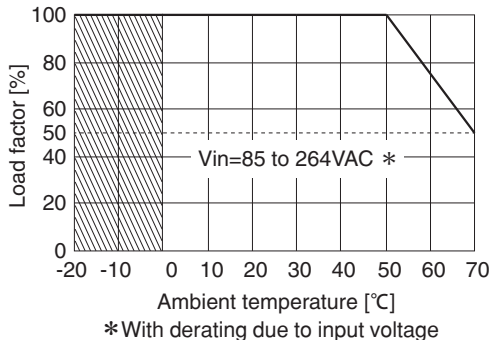
AME400F



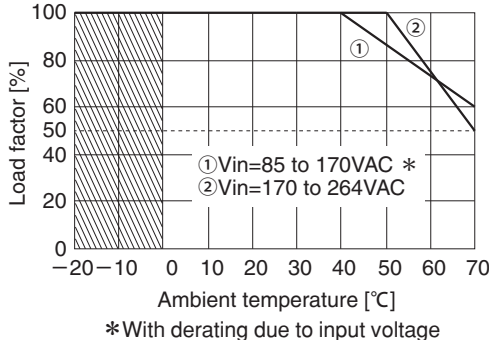
AME600F



AME800F



AME1200F



Instruction Manuals

Please see catalog and instruction manual before you use.

Instruction manuals
Before using our product

<https://en.cosel.co.jp/product/powersupply/AME/>
<https://en.cosel.co.jp/technical/caution/index.html>



Basic Characteristics Data

| Model | Circuit method | Switching frequency [kHz] | Inrush current protection circuit | PCB/Pattern | | | Series/Parallel operation availability | |
|--------------------------|-----------------------|---------------------------|-----------------------------------|-------------|--------------|--------------|--|--------------------|
| | | | | Material | Single sided | Double sided | Series operation | Parallel operation |
| Input module of AME400F | Active filter | 67 | Relay | FR-4 | - | Multilayer | N/A | N/A |
| | Half-bridge converter | 133 | | | | | | |
| Input module of AME600F | Active filter | 67 | Relay | FR-4 | - | Multilayer | N/A | N/A |
| | Half-bridge converter | 133 | | | | | | |
| Input module of AME800F | Active filter | 67 | Relay | FR-4 | - | Multilayer | N/A | N/A |
| | Half-bridge converter | 133 | | | | | | |
| Input module of AME1200F | Active filter | 67 | Relay | FR-4 | - | Multilayer | N/A | N/A |
| | Half-bridge converter | 133 | | | | | | |
| Output module of A-D | Buck converter | 266 | - | FR-4 | - | Multilayer | *1 | N/A |
| Output module of E-H | Buck converter | 266 | - | FR-4 | - | Multilayer | *1 | *1 |

*1 Series or parallel operation is available with identical output modules in a unit.