

## KEY FEATURES

- Switching Power Module for PCB Mountable
- Universal Input: 85-265 VAC
- Single Output
- 5 VDC to 48 VDC Output
- -40°C Starting
- Screw Terminal For Optional
- 4000 VAC Input to Output Isolation
- CE, UL, Approval
- 3-Years Product Warranty



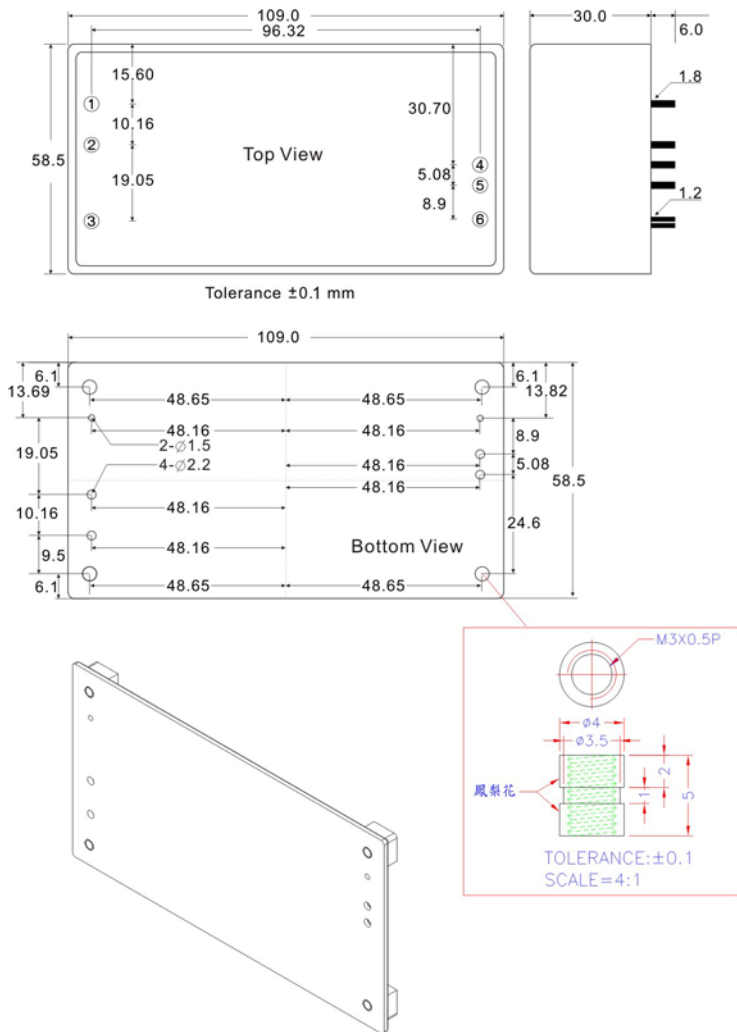
## ELECTRICAL SPECIFICATIONS

| Model No.              | AEC60-5S                            | AEC60-9S   | AEC60-12S | AEC60-15S | AEC60-24S | AEC60-48S |   |
|------------------------|-------------------------------------|--|-----------|-----------|-----------|-----------|---|
| Max Output Wattage (W) | 50W                                 | 60W  | 60W       | 60W       | 60W       | 60W       |   |
| Input                  | Voltage                             |  |           |           |           |           | 85-265 VAC or 100-370 VDC                 |
|                        | Frequency (Hz)                      |  |           |           |           |           | 47-63 Hz                                  |
|                        | Current (Full load)                 |  |           |           |           |           | 2 A max. (115 VAC) / 1 A max. (230 VAC)   |
|                        | Inrush Current (<2ms)               |  |           |           |           |           | 30 A max. (115 VAC) / 50 A max. (230 VAC) |
|                        | Leakage Current                     |  |           |           |           |           | 0.5 mA max.                               |
| Output                 | Voltage (V.DC.)                     | 5V   | 9V        | 12V       | 15V       | 24V       | 48V                                       |
|                        | Voltage Accuracy                    | ±2%  |           |           |           |           |   |
|                        | Current (mA) max                    | 10,000   | 6,660     | 5,000     | 4,000     | 2,500     | 1,250                                     |
|                        | Line Regulation (LL-HL) (typ.)      | ±1%  |           |           |           |           |   |
|                        | Load Regulation (5-100%) (typ.)     | ±1%  |           |           |           |           |   |
|                        | Minimum Load                        | 1%   |           |           |           |           |   |
|                        | Maximum Capacitive Load             | 80000 uF   | 28000 uF  | 14000 uF  | 12000 uF  | 4000 uF   | 950 uF                                    |
|                        | Ripple                              | <0.2% Vout +40mV max (Vp-p)  |           |           |           |           |   |
|                        | Noise                               | <0.5% Vout +50mV max (Vp-p)  |           |           |           |           |   |
|                        | Efficiency (at 230V)                | 82%  | 84%       | 86%       | 86%       | 86%       | 86%                                       |
|                        | Trim                                | ±10%   |           |           |           |           |   |
|                        | Hold-up Time                        | 10 ms min.   |           |           |           |           |   |
| Switching Frequency    | 100 kHz                             |  |           |           |           |           |   |
| Protection             | Over Power Protection               | Auto recovery  |           |           |           |           |   |
|                        | Over Voltage Protection             | Zener diode clamp  |           |           |           |           |   |
|                        | Short Circuit Protection            | Auto recovery  |           |           |           |           |   |
| Isolation              | Input-Output (V.AC)                 | 4000V  |           |           |           |           |   |
|                        | Input-FG (V.AC)                     | 1500V  |           |           |           |           |   |
|                        | Output-FG (V.AC)                    | 500V   |           |           |           |           |   |
| Environment            | Operating Temperature               | -40°C...+70°C (with derating)  |           |           |           |           |   |
|                        | Storage Temperature                 | -50°C...+85°C  |           |           |           |           |   |
|                        | Temperature coefficient             | ±0.02%/°C  |           |           |           |           |   |
|                        | Humidity                            | 95% RH   |           |           |           |           |   |
|                        | MTBF                                | >130,000 h @ 25°C (MIL-HDBK-217F)                                    |           |           |           |           |   |
| Physical               | Dimension (L x W x H)               | 4.3 x 2.3 x 1.18 Inches ( 109.0 x 58.5 x 30.0 mm ) Tolerance ±0.1 mm |           |           |           |           |   |
|                        | Weight                              | 310 g  |           |           |           |           |   |
|                        | Cooling Method                      | Free air convection  |           |           |           |           |   |
| Safety                 | Agency Approvals                    | CE, UL60950  |           |           |           |           |   |
| EMC                    | EMI (Conducted & Radiated Emission) | EN 55022 class B   |           |           |           |           |   |
|                        | EMS (Noise Immunity)                | EN 55024   |           |           |           |           |   |

1.All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

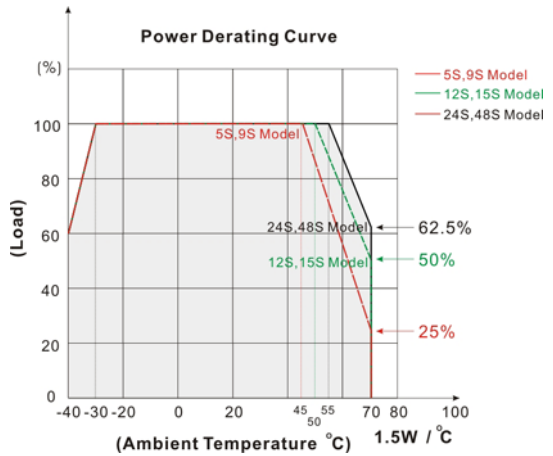
2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

**MECHANICAL DIMENSION ( Top View )**



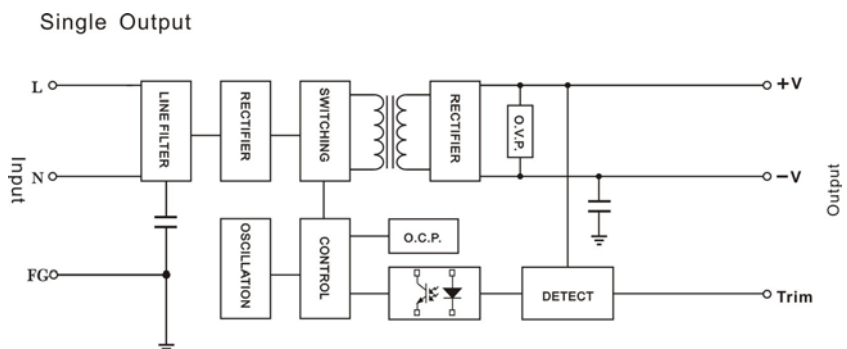
| PIN# | SINGLE    |
|------|-----------|
| 1    | AC IN (N) |
| 2    | AC IN (L) |
| 3    | FG        |
| 4    | +DC OUT   |
| 5    | -DC OUT   |
| 6    | Trim      |

**DERATING**



**BLOCK DIAGRAM**

|           | 5S   |        | 9S   |        | 12S  |        | 15S  |        | 24S  |         | 48S  |         |
|-----------|------|--------|------|--------|------|--------|------|--------|------|---------|------|---------|
| Trim → -V | +10% | 0%     | +10% | 0%     | +10% | 0%     | +10% | 0%     | +10% | 0%      | +10% | 0%      |
|           | 500Ω | ~ 1M   | 6KΩ  | ~ 1M   | 4KΩ  | ~ 1M   | 5KΩ  | ~ 1M   | 12KΩ | ~ 1M    | 12KΩ | ~ 1M    |
| Trim → +V | 0%   | -10%   | 0%   | -10%   | 0%   | -10%   | 0%   | -10%   | 0%   | -10%    | 0%   | -10%    |
|           | 1M   | ~ 500Ω | 1M   | ~ 20KΩ | 1M   | ~ 40KΩ | 1M   | ~ 60KΩ | 1M   | ~ 110KΩ | 10M  | ~ 290KΩ |

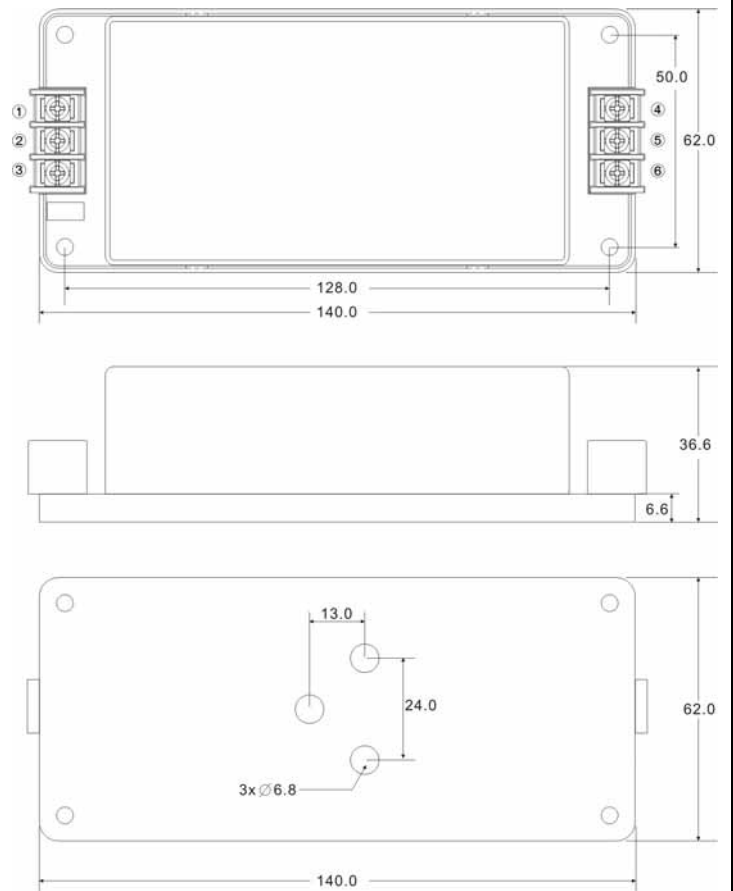
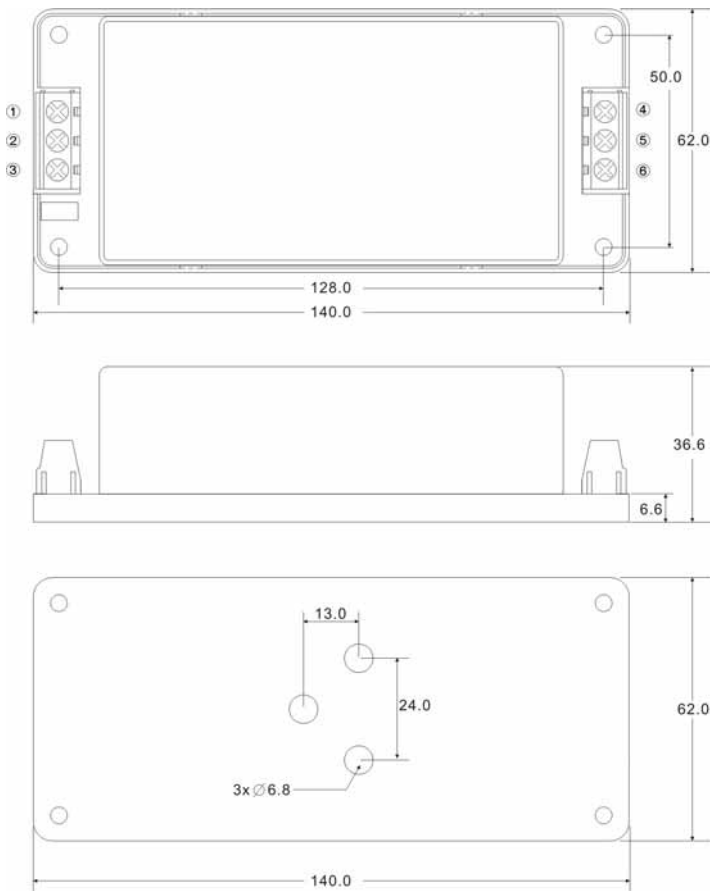


**SCREW TERMINAL**

**AEC60-A2**



**AEC60-A5**



| PIN# | Single    |
|------|-----------|
| 1    | FG        |
| 2    | AC IN (N) |
| 3.   | AC IN (L) |
| 4    | +DC OUT   |
| 5    | -DC OUT   |
| 6    | Trim      |

| PIN# | Single    |
|------|-----------|
| 1    | FG        |
| 2    | AC IN (N) |
| 3.   | AC IN (L) |
| 4    | +DC OUT   |
| 5    | -DC OUT   |
| 6    | Trim      |