

# AEM60 SERIES

AC/DC Single Output: 60 Watts

**AMTEX**  
ELECTRONICS PTY LTD

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"DC Power Solutions...not just components"



## Specification

### Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 1.5 A rms max
Inrush Current	• 80 A max at 240 VAC
Input Protection	• Fitted with a T2 A/250 VAC fuse in live line
No Load Input Power	• <0.5 W for $\geq 12$ V output

### Output

Output Voltage	• See table
Initial Set Accuracy	• See table
Minimum Load	• No minimum load required
Start Up Delay	• 3 s max
Start Up Rise Time	• 3 ms
Hold Up Time	• 8 ms minimum at 115 VAC
Line Regulation	• $\pm 1\%$
Load Regulation	• See table
Transient Response	• 5% max deviation recovering to within 1% within 500 $\mu$ s for 50% load change
Ripple & Noise	• 1% max, 20 MHz bandwidth (see note 2)
Overvoltage Protection	• See table
Overload Protection	• 120-150%, trip & restart (hiccup mode), auto-recovery
Short Circuit Protection	• Continuous
Temperature Coefficient	• $\pm 0.05\%/^{\circ}\text{C}$

## Features

- CEC 2008 & EISA 2007 Compliant  $\approx 12$  V
- Worldwide Medical Approvals
- 4000 VAC Isolation
- Class II Construction
- Single Outputs from 5 V to 48 V
- High Efficiency

## General

Efficiency	• 85%, see note 5
Isolation	• 4000 VAC Input to Output
Switching Frequency	• 100 kHz typical
Power Density	• 4.2 W/Inch <sup>3</sup>
MTBF	• 300 kHrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$ , GB

## Environmental

Operating Temperature	• 0 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$ , derate linearly from 100% load at +40 $^{\circ}\text{C}$ to 50% load at +60 $^{\circ}\text{C}$
Cooling	• Convection-cooled
Operating Humidity	• 15-95% non-condensing
Storage Temperature	• -20 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Operating Altitude	• 3000 m
Vibration	• 5-500 Hz at 3 g for 10 mins on each axis
Shock	• 30 g with 18 ms half sine wave, 3 times on each axis

## EMC & Safety

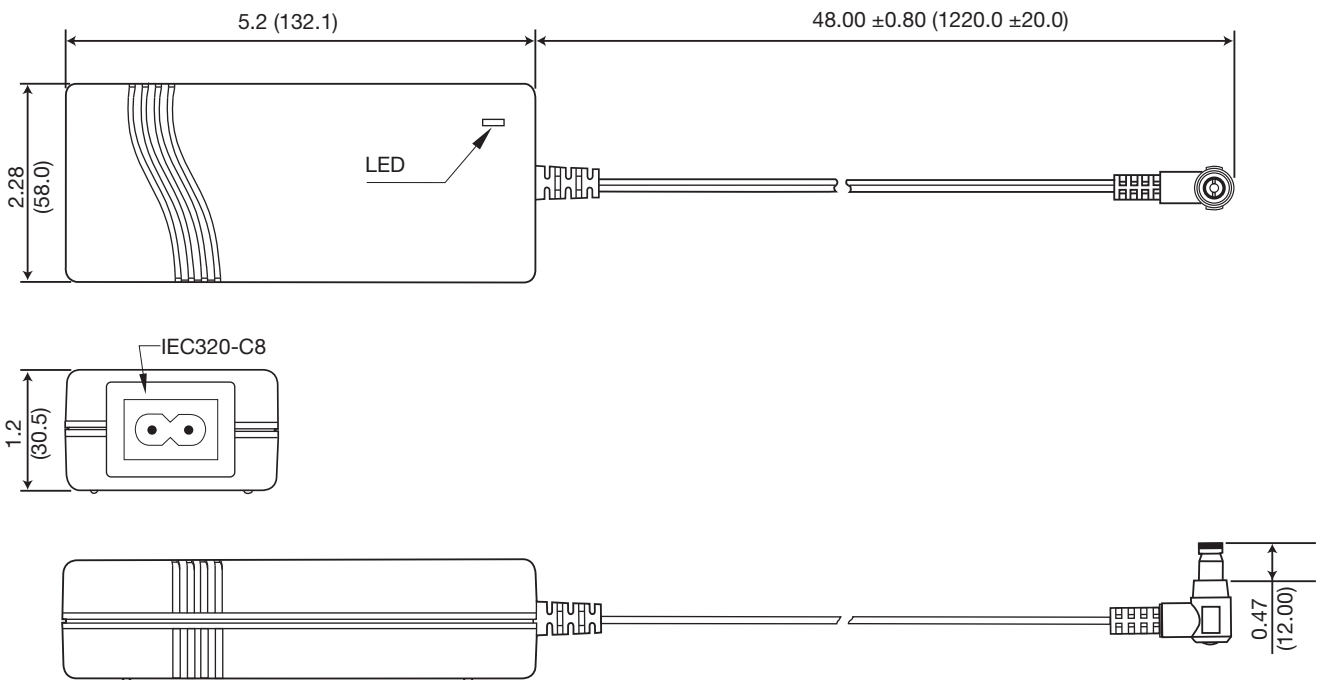
Emissions	• EN55011 Level B conducted & radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2 Level 3, Perf Criteria A
Radiated Immunity	• EN61000-4-3 Level 2, Perf Criteria A
EFT/Burst	• EN61000-4-4, Level 3, Perf Criteria A
Surge	• EN61000-4-5 Level 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6 Level 3, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60601-1, EN60601-1, IEC60601-1, CE Mark

Output Voltage	Output Current	Overvoltage Setpoint	Initial Set Accuracy <sup>(1)</sup>	Regulation		Model Number
				Line <sup>(3)</sup>	Load <sup>(4)</sup>	
5 V	6.00 A	6.45 - 7.14	± 4%	± 1%	± 6%	AEM60US05
12 V	5.00 A	14.3 - 15.8	± 2%	± 1%	± 5%	AEM60US12
15 V	4.00 A	17.1 - 18.9	± 2%	± 1%	± 3%	AEM60US15
18 V	3.33 A	20.9 - 23.1	± 2%	± 1%	± 2%	AEM60US18
19 V	3.15 A	20.9 - 23.1	± 2%	± 1%	± 2%	AEM60US19
24 V	2.50 A	28.5 - 31.5	± 2%	± 1%	± 2%	AEM60US24
36 V	1.66 A	40.9 - 45.2	± 2%	± 1%	± 2%	AEM60US36
48 V	1.25 A	53.2 - 58.8	± 2%	± 1%	± 2%	AEM60US48

**Notes**

1. Initial set accuracy is set at 60% full load.
2. Add a 0.1 μF ceramic capacitor and a 10 μF electrolytic capacitor to output for ripple and noise measuring at 20 MHz bandwidth.
3. Line regulation is measured from 100 VAC to 240 VAC with full load.
4. Load regulation is measured from 20% to 100% full load (60% ±40% full load).
5. Minimum average of efficiencies measured at 25%, 50%, 75% and 100% load.

**Mechanical Details**



Output connector is right angle jack 0.22 x 0.10 x 0.47 (5.5 x 2.5 x 12.0), center positive.  
 Weight: 345 g (0.77 lbs). All dimensions in inches (mm). Tolerance: ±0.02 (±0.51) except where indicated  
 For European mains lead order part EU-MAINS-8  
 For UK mains lead order part: UK-MAINS-8  
 For US mains lead order part US-MAINS-8

**Derating Curves**

