

## AED Series



- Low Profile
- Single Outputs from 5 V to 48 V
- Universal Input
- Optional Floating Output
- High Power Density
- 36, 45, 70 & 100 W Versions
- Class II Insulation on 36 W Version

## Specification

## Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• AED36: 1.00 A max AED45: 1.20 A max AED70: 1.85 A max AED100: 2.00 A max
Inrush Current	• AED36: 50 A max at 230 VAC AED45: 100 A max at 230 VAC AED70: 100 A max at 230 VAC AED100: 100 A max at 230 VAC
Earth Leakage Current	• AED36: Class II AED45: 1.5 mA max AED70: 1.5 mA max AED100: 1.5 mA max
Power Factor	• Compliant with EN61000-3-2

## Output

Output Voltage	• See tables
Initial Set Accuracy	• $\pm 2\%$
Minimum Load	• No minimum load requirement
Hold Up Time	• AED36: 8 ms min at 115 VAC AED45: 8 ms min at 115 VAC AED70: 8 ms min at 115 VAC AED100: 20 ms typical at 115 VAC
Line Regulation	• $\pm 1\%$
Load Regulation	• See tables
Ripple & Noise	• 1% pk-pk max, 20 MHz BW (see note 2)
Overvoltage Protection	• Typical 125% max
Overload Protection	• 120-150% hiccup/trip & restart mode with auto recovery
Short Circuit Protection	• Continuous
Temperature Coefficient	• $\pm 0.04\%/^{\circ}\text{C}$

## General

Efficiency	• 85% typical at 230 VAC & 100% load
Isolation	• 3000 VAC Input to Output, 1500 VAC Input to Ground. Negative output is connected to ground. For optional 500 VAC output to ground isolation add suffix '-F' to model number
Switching Frequency	• 60 kHz $\pm 10$ kHz
MTBF	• 100,000 Hrs to MIL-HDBK-217E

## Environmental

Operating Temperature	• 0 $^{\circ}\text{C}$ to +65 $^{\circ}\text{C}$ AED36, AED45 & AED70 derate linearly from 100% load at +40 $^{\circ}\text{C}$ to 50% load at +55 $^{\circ}\text{C}$ , AED100 derate linearly from 100% load at +40 $^{\circ}\text{C}$ to 0% at +65 $^{\circ}\text{C}$
Storage Temperature	• -20 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$

## EMC &amp; Safety

Emissions	• CISPR22 Level B (EN55022) FCC 20780 Level B
ESD Immunity	• EN61000-4-2, 8 kV air 4 kV contact Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Safety Approvals	• EN60950-1, UL60950-1, CAN/CSA C22.2 No. 60950 cUL

**Models and Ratings**

Output Power Maximum	Output Voltage Nominal	Output Current Maximum	Load Regulation <sup>(1)</sup>	Model Number
20 W	5.0 V	4.00 A	±6%	AED36US05
27 W	9.0 V	3.00 A	±5%	AED36US09
30 W	12.0 V	2.50 A	±5%	AED36US12†
32 W	13.5 V	2.40 A	±5%	AED36US13
36 W	15.0 V	2.40 A	±3%	AED36US15†
36 W	18.0 V	2.00 A	±2%	AED36US18†
36 W	24.0 V	1.50 A	±2%	AED36US24†
36 W	48.0 V	0.75 A	±2%	AED36US48
30 W	5.0 V	6.00 A	±6%	AED45US05
45 W	12.0 V	3.75 A	±5%	AED45US12
45 W	15.0 V	3.00 A	±3%	AED45US15†
45 W	18.5 V	2.50 A	±2%	AED45US18†
45 W	19.0 V	2.37 A	±2%	AED45US19
45 W	24.0 V	1.88 A	±2%	AED45US24†
48 W	48.0 V	1.00 A	±2%	AED45US48
66 W	12.0 V	5.50 A	±5%	AED70US12^
69 W	15.0 V	4.60 A	±3%	AED70US15^
70 W	18.0 V	3.90 A	±2%	AED70US18^
72 W	19.0 V	3.70 A	±2%	AED70US19^
72 W	24.0 V	3.00 A	±2%	AED70US24^
72 W	48.0 V	1.50 A	±2%	AED70US48^
100 W	12.0 V	8.33 A	±4%	AED100US12†^
100 W	15.0 V	6.67 A	±4%	AED100US15†^
100 W	18.0 V	5.56 A	±2%	AED100US18†^
100 W	19.0 V	5.26 A	±2%	AED100US19†^
100 W	24.0 V	4.17 A	±2%	AED100US24†^
100 W	48.0 V	2.08 A	±2%	AED100US48†^

**Notes**

1. Load regulation is measured from 60% to full load and from 60% to 20% load (60% ±40% full load).
2. Measured at the output connector with a 0.1 µF ceramic capacitor and a 10 µF electrolytic capacitor.

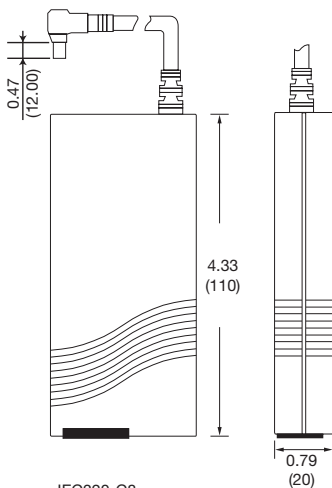
† Available from Farnell. See pages 204-206.

^ Available from Newark. See page 207-208.

**Mechanical Details**

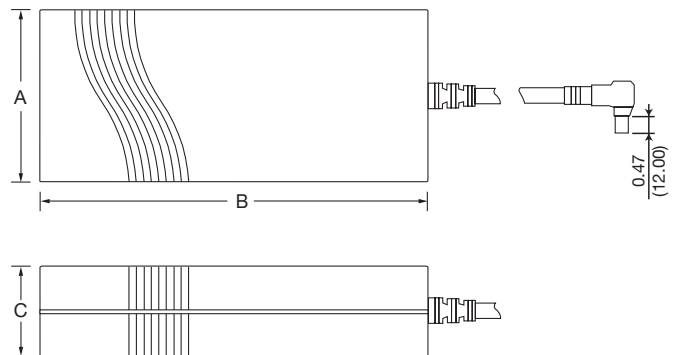
All dimensions shown in inches (mm).

**36 Watt Models**



Weight: 0.37 lbs (170 g) approx.  
**Power Cord Order Part:**  
 UK - UK-MAINS-8  
 European - EU-MAINS-8  
 US - US-MAINS-8

**45-100 Watt Models**



**Power Cord Order Part:**  
 UK - UK-MAINS-IEC  
 European - EU-MAINS-IEC  
 US - US-MAINS-IEC

	DIMENSIONS			WEIGHT lb (g)
	A	B	C	
45 W	2.29 (58.0)	5.20 (132.0)	1.18 (30.0)	0.73 (330)
70 W	2.29 (58.0)	5.20 (132.0)	1.18 (30.0)	0.77 (350)
100 W	2.76 (70.0)	5.91 (150.0)	1.38 (35.0)	1.32 (600)

**Notes**

- Output connector is 5.5mm dia. outer barrel, inner dia. is 2.5mm with a center + and outer shell - polarity.  
 Optional output connectors available.  
 Output cable is 48" (1220mm) approx.