

AEB Series



- CEC2008 & EISA2007 Compliant
- Low Profile
- Single Outputs from 5 V to 48 V
- High Power Density
- Universal Input
- China Compulsory Certification (CCC) Qualified
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• AEB36: 1.00 A max AEB45: 1.20 A max AEB70: 1.50 A max AEB100: 1.85 A max
Inrush Current	• AEB36: 60 A max at 240 VAC AEB45: 70 A max at 240 VAC AEB70: 80 A max at 240 VAC AEB100: 120 A max at 240 VAC
Power Factor	• EN61000-3-2, class A
Earth Leakage Current	• <3.5 mA (AEB45/70/100)
Input Protection	• Fitted with an internal fuse AEB36 T1A/250 VAC, AEB45/70/100 T2A/250 VAC
No Load Input Power	• <0.5 W

Output

Output Voltage	• See tables
Initial Set Accuracy	• $\pm 2\%$, set at 60% load
Minimum Load	• No minimum load required
Start Up Delay	• 3 s max
Start Up Rise Time	• 20 ms
Hold Up Time	• AEB36/45/70: 8 ms at 115 VAC AEB100: 20 ms at 115 VAC
Drift	• $\pm 0.05\%$
Line Regulation	• $\pm 1\%$
Load Regulation	• See tables
Ripple & Noise	• 1% pk-pk max, 20 MHz bandwidth, (see note 2)
Transient Response	• 5% max deviation, recovery to within 1% in 500 μ s for a 25% load change
Overvoltage Protection	• Typical 125% max, latching
Overload Protection	• Trip & restart mode (hiccup mode)
Short Circuit Protection	• Continuous
Temperature Coefficient	• $\pm 0.04\%/^{\circ}\text{C}$

General

Efficiency	• See tables
Energy Efficiency	• AEB70: Level V All other models: Level IV
Isolation	• AEB36: 3000 VAC Input to Output AEB45/70/100: 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	• AEB36: 60 kHz typical, AEB45: 100 kHz typical, AEB70: 65 kHz typical, AEB100: 80 kHz typical PFC converter 45 kHz typical main converter
Power Density	• AEB36: 5.34 W/in ³ , AEB45: 3.81 W/in ³ , AEB70: 4.92 W/in ³ , AEB100: 4.45 W/in ³
MTBF	• AEB36: >360 kHrs, AEB45: >300 kHrs, AEB70: >200 kHrs, AEB100: >150 kHrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$, GB

Environmental

Operating Temperature	• AEB36/45/70: 0 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$ derate linearly from 100% load at +40 $^{\circ}\text{C}$ to 60%, load at +60 $^{\circ}\text{C}$, AEB100: 0 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$ derate linearly from 100% load at +40 $^{\circ}\text{C}$ to 50% load at +60 $^{\circ}\text{C}$
Storage Temperature	• -20 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Operating Humidity	• 93% RH, non-condensing

EMC & Safety

Emissions	• EN55022, Level B conducted & radiated
Harmonic Currents	• EN61000-3-2 Class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2 Level 2 (contact) Perf Criteria A EN61000-4-2 Level 3 (air) Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria B
Conducted Immunity	• EN61000-4-6, Level 2 Perf Criteria A
Magnetic Field	• EN61000-4-8, 3 A/m Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN60950-1:2006+A11, UL/cUL60950-1, China Compulsory Certification (CCC) qualified (AEB36/70 only)

Models and Ratings

AEB36

Output Power	Output Voltage	Output Current	Load Regulation ⁽¹⁾	Efficiency ⁽³⁾	Model Number
20 W	5.0 V	4.00 A	±6%	73%	AEB36US05†^
27 W	9.0 V	3.00 A	±5%	77%	AEB36US09†^
30 W	12.0 V	2.50 A	±5%	78%	AEB36US12†^
32 W	13.5 V	2.40 A	±5%	80%	AEB36US13†^
36 W	15.0 V	2.40 A	±3%	80%	AEB36US15†^
36 W	18.0 V	2.00 A	±2%	81%	AEB36US18†^
36 W	24.0 V	1.50 A	±2%	81%	AEB36US24†^
36 W	48.0 V	0.75 A	±2%	83%	AEB36US48†^

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.
3. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

† Available from Farnell & element14. See pages 284-290.

^ Available from Newark. See pages 291-296.

AEB45

Output Power	Output Voltage	Output Current	Load Regulation ⁽¹⁾	Efficiency ⁽⁴⁾	Model Number ⁽³⁾
45 W	12.0 V	3.75 A	±3%	84%	AEB45US12^
45 W	15.0 V	3.00 A	±3%	85%	AEB45US15^
45 W	18.0 V	2.50 A	±2%	85%	AEB45US18^
45 W	19.0 V	2.37 A	±2%	85%	AEB45US19^
45 W	24.0 V	1.88 A	±2%	86%	AEB45US24^
48 W	48.0 V	1.00 A	±2%	87%	AEB45US48^

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.
3. For optional 500 VAC output to ground isolation add suffix '-F' to model number.
4. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

^ Available from Newark. See pages 291-296.

AEB70

Output Power	Output Voltage	Output Current	Load Regulation ⁽¹⁾	Efficiency ⁽⁵⁾	Model Number ⁽³⁾
66 W	12.0 V	5.50 A	±5%	82%	AEB70US12†^
69 W	15.0 V	4.60 A	±3%	84%	AEB70US15†^
70 W	18.0 V	3.90 A	±2%	84%	AEB70US18†^
72 W	19.0 V	3.70 A	±2%	84%	AEB70US19†^
72 W	24.0 V	3.00 A	±2%	85%	AEB70US24†^
72 W	48.0 V	1.50 A	±2%	87%	AEB70US48†^

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.
3. For optional 500 VAC output to ground isolation add suffix '-F' to model number.
4. Energy efficiency level V.
5. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

† Available from Farnell & element14. See pages 284-290.

^ Available from Newark. See pages 291-296.

AEB100

Output Power	Output Voltage	Output Current	Load Regulation ⁽¹⁾	Efficiency ⁽⁴⁾	Model Number ⁽³⁾
100 W	12.0 V	8.34 A	±4%	85%	AEB100PS12^
100 W	12.5 V	8.00 A	±4%	85%	AEB100PS125^
100 W	15.0 V	6.67 A	±4%	85%	AEB100PS15^
100 W	24.0 V	4.17 A	±2%	85%	AEB100PS24^
100 W	48.0 V	2.08 A	±2%	85%	AEB100PS48^

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.
3. For optional 500 VAC output to ground isolation add suffix '-F' to model number.
4. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

^ Available from Newark. See pages 291-296.

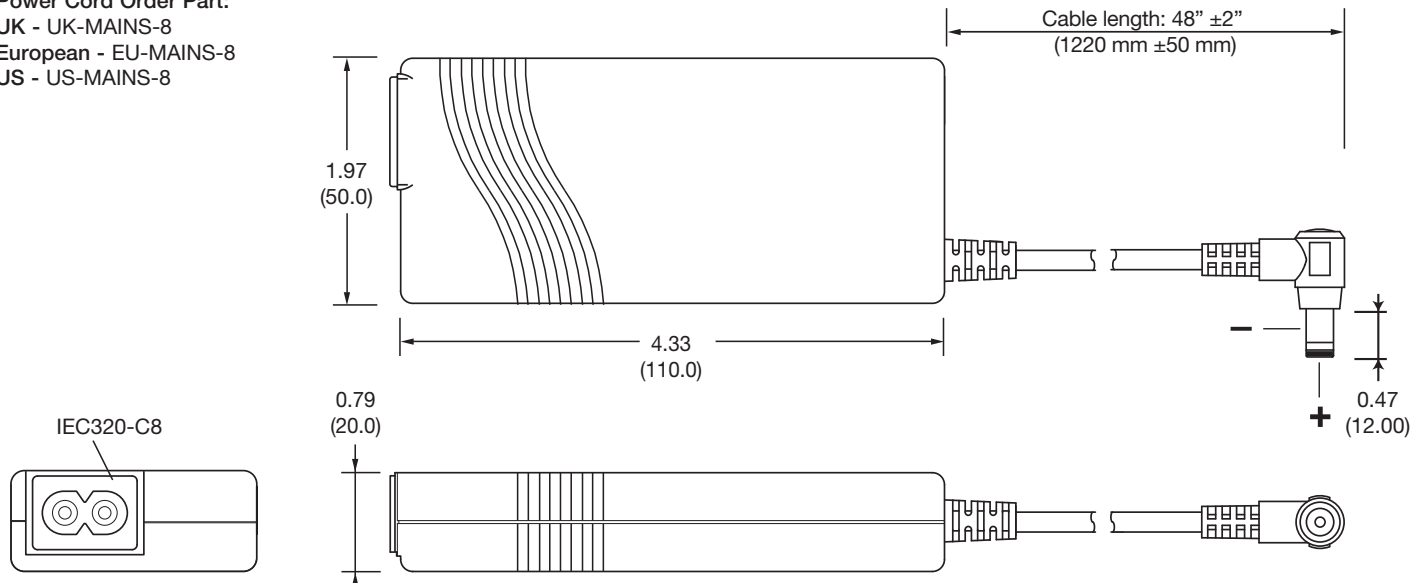


Mechanical Details

AEB36/45 **XP**

AEB36

Power Cord Order Part:
 UK - UK-MAINS-8
 European - EU-MAINS-8
 US - US-MAINS-8

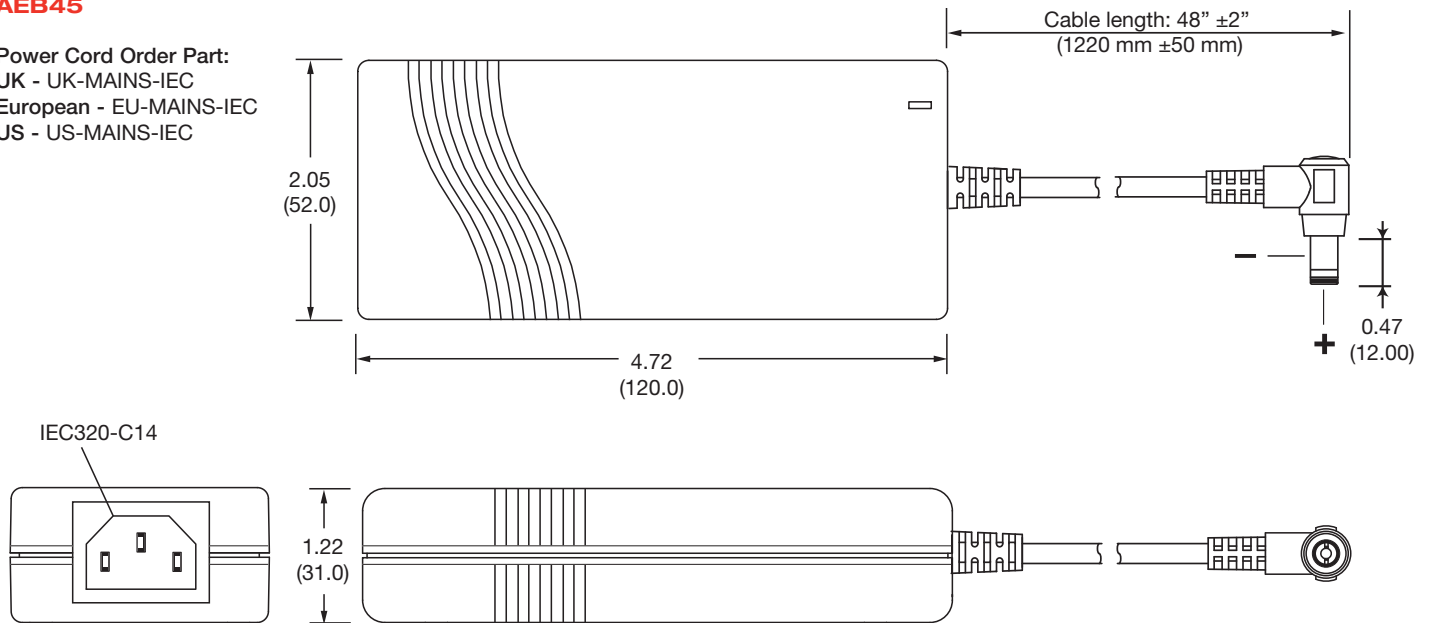


Notes

1. All dimensions shown in inches (mm).
2. Weight: 0.42 lbs (190 g) approx.
3. Tolerance is ± 0.02 (± 0.5) maximum, except output cable length.
4. Output connector is 5.5 mm dia. outer barrel, inner dia. is 2.5 mm with a center + and outer shell - polarity.
5. Optional output connectors available, contact sales for details.
6. Length of mains lead: 76 inches (1930 mm) approx

AEB45

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



Notes

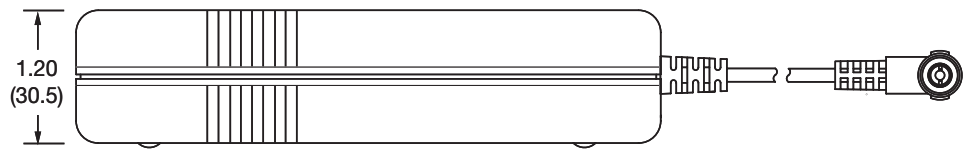
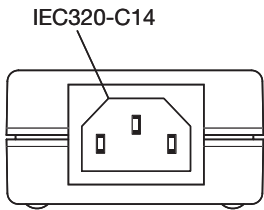
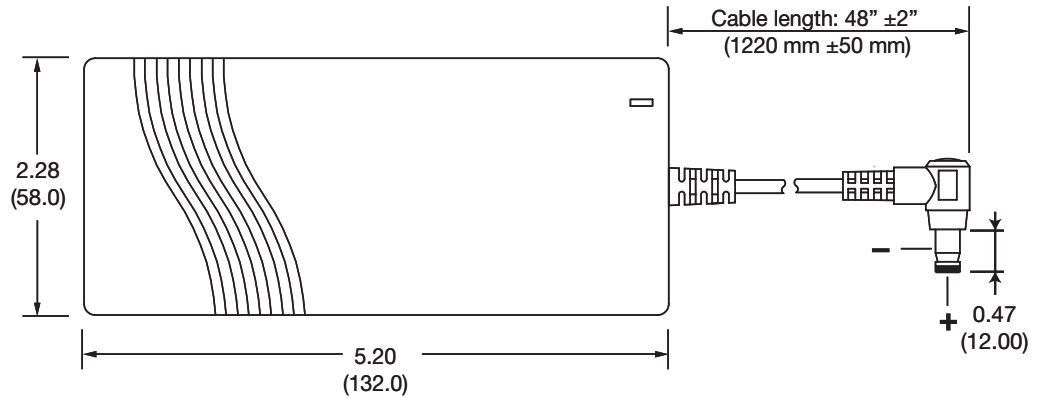
1. All dimensions shown in inches (mm).
2. Weight: 0.62 lbs (280 g) approx.
3. Tolerance is ± 0.02 (± 0.5) maximum, except output cable length.
4. Output connector is 5.5 mm dia. outer barrel, inner dia. is 2.5 mm with a center + and outer shell - polarity.
5. Optional output connectors available, contact sales for details.
6. Length of mains lead: 76 inches (1930 mm) approx

Mechanical Details

AEB70/100 XP

AEB70

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

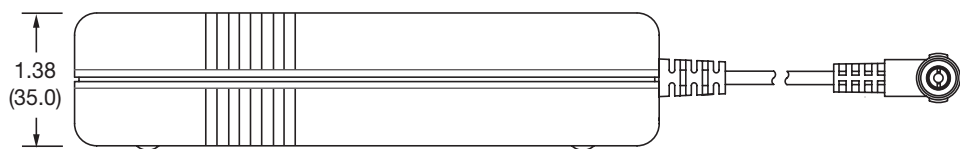
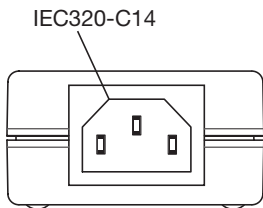
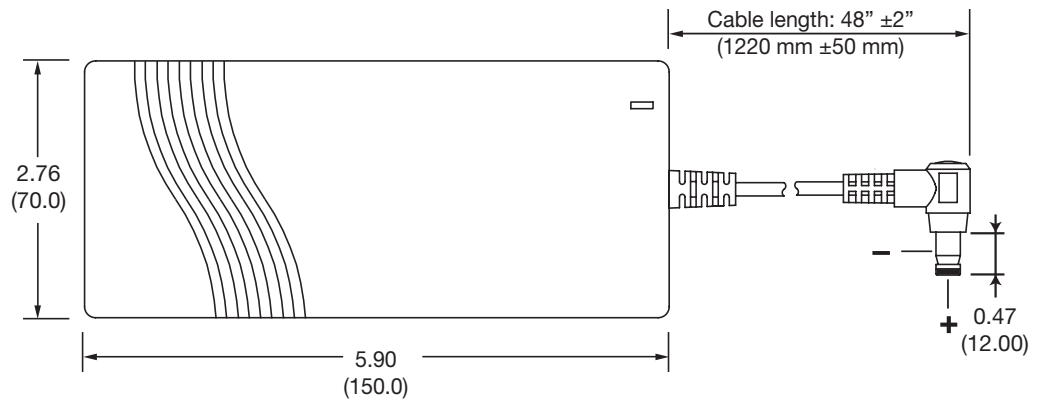


Notes

1. All dimensions shown in inches (mm).
2. Weight: 0.76 lbs (345 g) approx.
3. Tolerance is ± 0.02 (± 0.5) maximum, except output cable length.
4. Output connector is 5.5 mm dia. outer barrel, inner dia. is 2.5 mm with a center + and outer shell - polarity.
5. Optional output connectors available, contact sales for details.
6. Length of mains lead: 76 inches (1930 mm) approx

AEB100

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



Notes

1. All dimensions shown in inches (mm).
2. Weight: 1.36 lbs (600 g) approx.
3. Tolerance is ± 0.02 (± 0.5) maximum, except output cable length.
4. Output connector is 5.5 mm dia. outer barrel, inner dia. is 2.5 mm with a center + and outer shell - polarity.
5. Optional output connectors available, contact sales for details.
6. Length of mains lead: 76 inches (1930 mm) approx