

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.

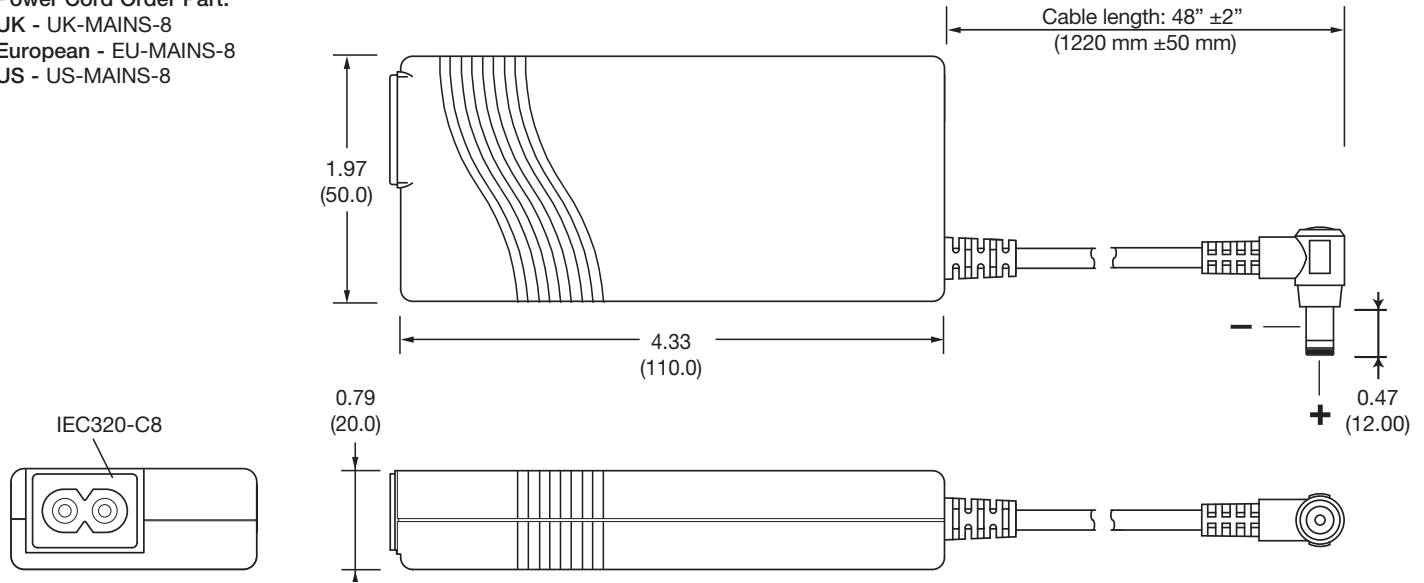
^ Available from Newark. See pages 291-296.



Mechanical Details

AEB36

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

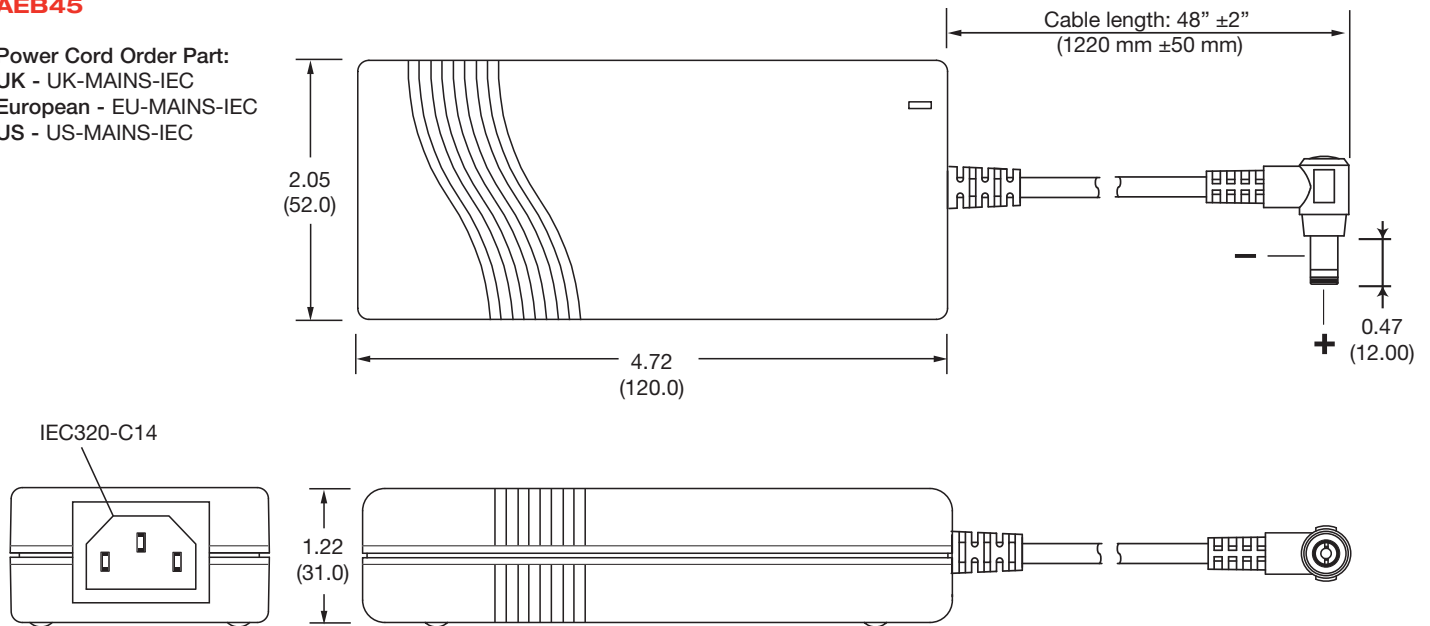


Notes

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

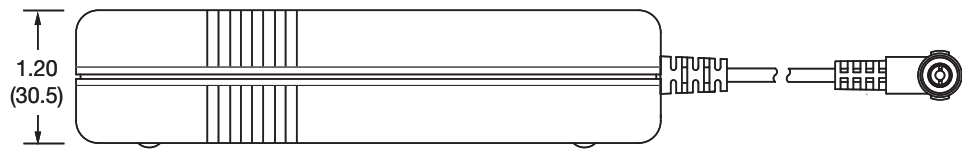
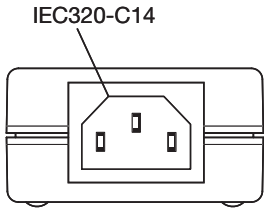
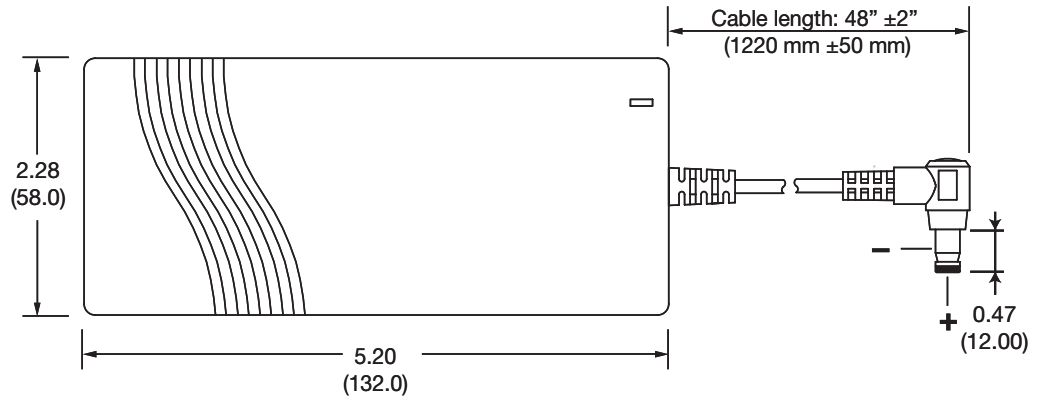
1. All dimensions shown in inches (mm).
2. Weight: 0.62 lbs (280 g) approx.
3. Tolerance is ± 0.02 (± 0.5) maximum, except output cable length.
4. Output connector is 5.5 mm dia. outer barrel, inner dia. is 2.5 mm with a center + and outer shell - polarity.
5. Optional output connectors available, contact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

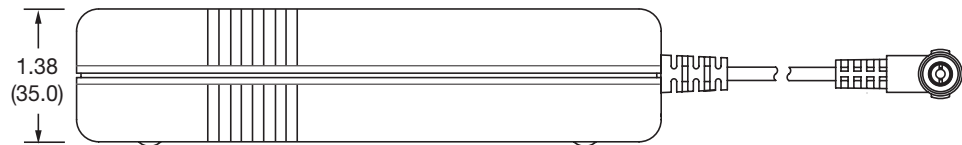
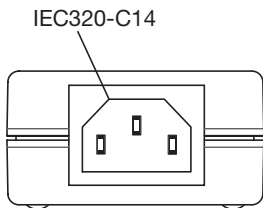
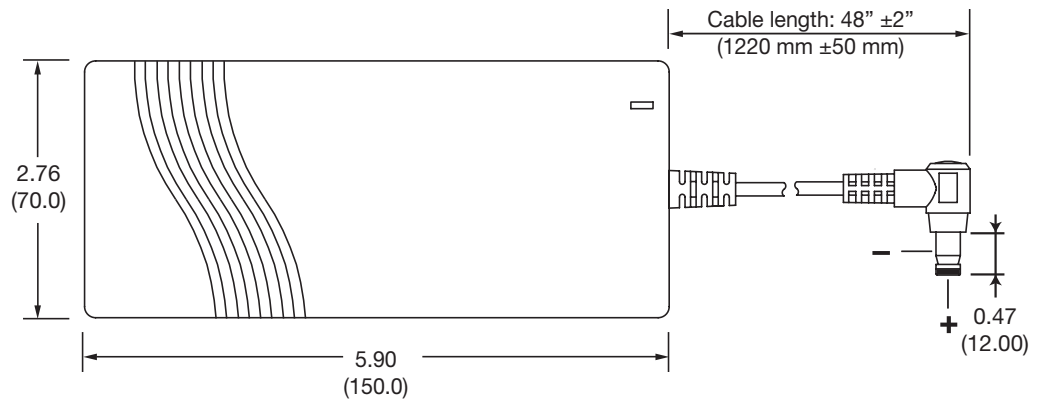


Notes

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