

AEL Series



GREEN-POWER

- Energy Efficiency Level V
- CEC 2008 and EISA 2007 Compliant
- Limited Power Source Approval
- China Compulsory Certification (CCC) Qualified
- +70 °C Operating Temperature
- Compact Dimensions
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• AEL15/20: 0.4 A max at 115 VAC AEL40: 1.0 A max at 115 VAC AEL60: 1.6 A max at 115 VAC AEL80: 1.1 A max at 115 VAC
Inrush Current	• AEL15/20: 15/30 A max for 115/230 VAC, AEL40: 25/50 A max for 115/230 VAC, AEL60: 35/70 A max for 115/230 VAC, AEL80: 45/92 A max for 115/230 VAC, cold start at 25 °C
Earth Leakage Current	• 0.75 mA at 240 VAC
Power Factor	• EN61000-3-2, Class A
Input Protection	• Internal fuse in line, AEL15/20: T1 A, 250 V AEL40: T2 A, 250 V AEL60/80: T3.15 A, 250 V
No Load Input Power	• 0.5 W maximum, model dependent

Output

Output Voltage	• See tables
Minimum Load	• No minimum load required
Hold Up Time	• AEL15: 5 ms min, AEL20/40: 12 ms min, AEL60/80: 16 ms min, at full load 110 VAC
Start Up Delay	• AEL20/40: 0.5 s, AEL15/60/80: 2.0 s max at full load 100 VAC
Transient Response	• 2% max deviation, recovery to within 1% of nominal in 500 µs for 50% load change
Line Regulation	• See tables
Load Regulation	• See tables
Ripple & Noise	• 1% pk-pk, 20 MHz bandwidth
Overvoltage Protection	• 112-132% (AEL40/60/80 only)
Overload Protection	• 110-150% (AEL20/40/60/80 only)
Short Circuit Protection	• Trip & restart (hiccup mode), auto recovery
Temperature Coefficient	• ±0.04%/°C

General

Efficiency	• See tables
Energy Efficiency	• Model dependent, see tables
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground* 500 VDC Output to Ground* *Not C8 version
Switching Frequency	• 63 kHz typical
MTBF	• >100 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -20 °C to +70 °C, derate linearly from 100% power at +40 °C to 50% power at +70 °C
Storage Temperature	• -40 °C to +85 °C
Cooling	• Convection cooled
Operating Humidity	• 5-95% RH, non-condensing
Operating Altitude	• 3000 m
Shock	• 10 g, 10 ms on 3 axes

EMC & Safety

Emissions	• EN55022 level B conducted & radiated
Harmonic Current	• 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, 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 A
Conducted Immunity	• EN61000-4-6, level 2, Perf criteria A
Magnetic Field	• EN61000-4-8, 1 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: UL/cUL60950-1, Approved as Limited Power Source (AEL15-60 only), China Compulsory Certification (CCC) qualified.

Models and Ratings

Output Power	Output Voltage ⁽³⁾	Output Current	Total Regulation ⁽²⁾	Efficiency ⁽⁵⁾	Model Number ⁽¹⁾
8 W	3.3 VDC	2.50 A	7%	68%	AEL15US03 ⁽⁴⁾ †^
12 W	5.0 VDC	2.40 A	7%	78%	AEL15US05†^
15 W	8.0 VDC	1.87 A	5%	79%	AEL15US08†^
	9.0 VDC	1.66 A	5%	79%	AEL15US09†^
	12.0 VDC	1.25 A	5%	80%	AEL15US12†^
	15.0 VDC	1.00 A	5%	81%	AEL15US15†^
	18.0 VDC	0.83 A	5%	82%	AEL15US18†^
	24.0 VDC	0.62 A	5%	78%	AEL15US24 ⁽⁴⁾ †^
	30.0 VDC	0.50 A	5%	77%	AEL15US30 ⁽⁴⁾ †^
	36.0 VDC	0.42 A	3%	75%	AEL15US36 ⁽⁴⁾ †^
	48.0 VDC	0.31 A	3%	81%	AEL15US48†^

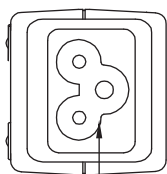
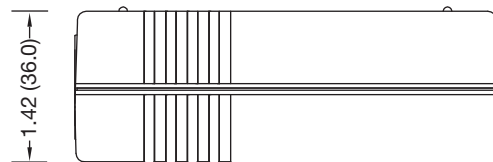
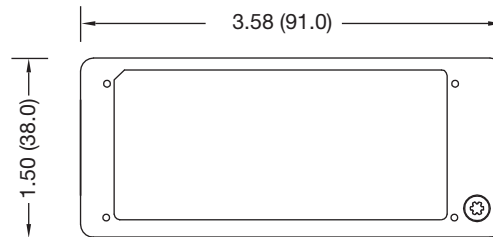
Notes

1. Standard input connector is IEC320-C14 Inlet. For optional IEC320-C6 Inlet, add suffix "C6" to model number e.g. AEL15US12C6.
2. Total regulation includes line regulation and load regulation.
3. Other output voltages available, contact sales for details.
4. Energy Efficiency Level IV.
5. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

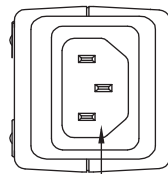
† Available from Farnell & element14. See pages 284-290.

^ Available from Newark. See pages 291-296.

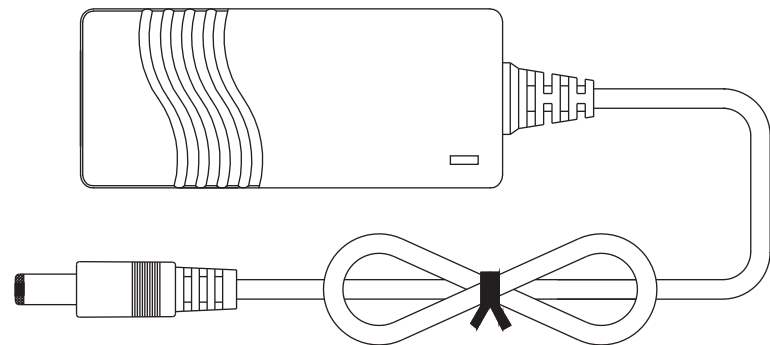
Mechanical Details



AC INPUT
IEC-320-C6 INLET



AC INPUT
IEC-320-C14 INLET



Notes

1. All dimensions are shown in inches (mm). Tolerance ±0.04 (±1.0) max.
2. Output connector: is 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with centre positive (+) and outer shell negative (-). Length is 0.433 (11.0).
3. Output cable length is 48" (1220mm) approx.
4. Weight: 0.36 lbs (165 g)
5. For European mains lead order part: EU-MAINS-IEC or EU-MAINS-5 for C6 version.
6. For UK mains lead order part: UK-MAINS-IEC or UK-MAINS-5 for C6 version.
7. For US mains lead order part: US-MAINS-IEC or US-MAINS-5 for C6 version.
8. Mains lead length is 78" (2000 mm) approx

Models and Ratings

Output Power	Output Voltage ⁽³⁾	Output Current	Total Regulation ⁽²⁾	Efficiency ⁽⁴⁾	Model Number ⁽¹⁾
15 W	5 VDC	3.00 A	5%	79%	AEL20US05 [^]
20 W	12 VDC	1.67 A	4%	86%	AEL20US12 [^]
	15 VDC	1.33 A	4%	85%	AEL20US15 [^]
	24 VDC	0.83 A	3%	87%	AEL20US24 [^]
	30 VDC	0.67 A	3%	86%	AEL20US30 [^]
	48 VDC	0.42 A	3%	87%	AEL20US48 [^]

Notes

1. For optional class II version on AEL20 models only, add suffix 'C2' to model number e.g. AEL20US12C2.

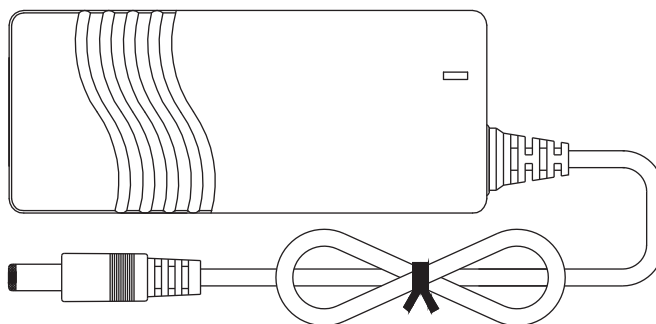
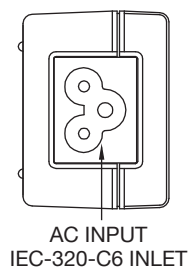
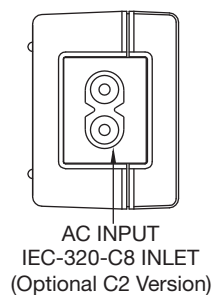
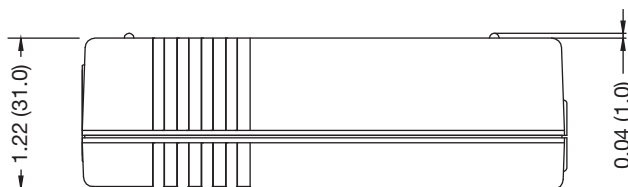
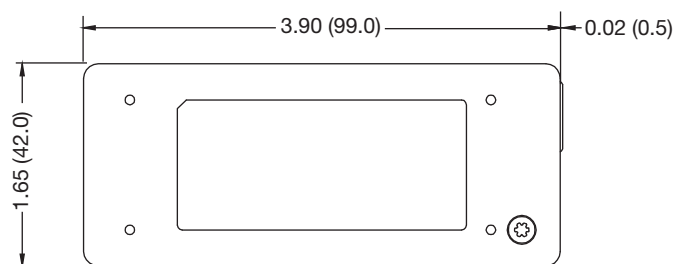
2. Total regulation includes line regulation and load regulation.

3. Other output voltages available, contact sales for details.

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

[^] Available from Newark. See pages 291-296.

Mechanical Details



Notes

1. All dimensions are shown in inches (mm). Tolerance ± 0.04 (± 1.0) max.

2. Output connector: 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with centre positive (+) and outer shell negative (-). Length is 0.433 (11.0).

3. Output cable length is 48" (1220mm) approx.

4. Weight: 0.37 lbs (170 g)

5. For European mains lead order part: EU-MAINS-C5 for AEL20, EU-MAINS-8 for AEL20 Class II.

6. For UK mains lead order part: UK-MAINS-5 for AEL20, UK-MAINS-8 for AEL20 Class II.

7. For US mains lead order part: US-MAINS-5 for AEL20, US-MAINS-8 for AEL20 Class II.

8. Mains lead length is 78" (2000 mm) approx

Models and Ratings

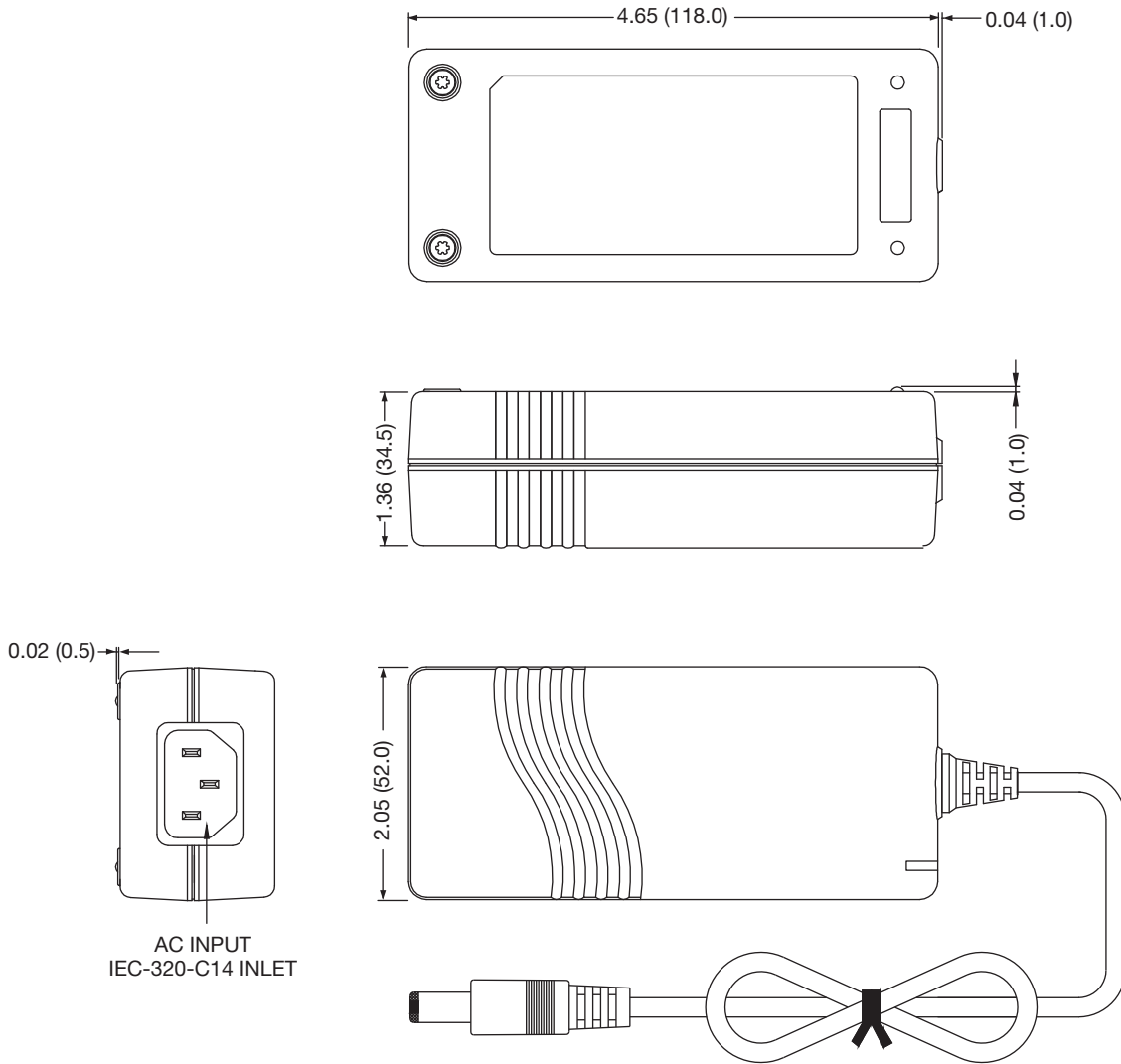
Output Power	Output Voltage ⁽²⁾	Output Current	Total Regulation ⁽¹⁾	Efficiency ⁽⁴⁾	Model Number
25 W	5 VDC	5.00 A	7%	79%	AEL40US05 ⁽³⁾ ^
35 W	8 VDC	4.37 A	5%	82%	AEL40US08 ⁽³⁾
	9 VDC	3.88 A	5%	83%	AEL40US09 ⁽³⁾ ^
40 W	12 VDC	3.33 A	5%	87%	AEL40US12^
	15 VDC	2.67 A	5%	87%	AEL40US15
	18 VDC	2.22 A	5%	86%	AEL40US18^
	24 VDC	1.67 A	3%	86%	AEL40US24^
	36 VDC	1.11 A	3%	89%	AEL40US36^
	48 VDC	0.83 A	3%	91%	AEL40US48^

Notes

1. Total regulation includes line regulation and load regulation.
2. Other output voltages available, contact sales for details.
3. Energy Efficiency Level IV
4. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

^ Available from Newark. See pages 291-296.

Mechanical Details



Notes

1. All dimensions are shown in inches (mm). Tolerance ± 0.04 (± 1.0) max.
2. Output connector: 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with centre positive (+) and outer shell negative (-). Length is 0.433 (11.0).
3. Output cable length is 48" (1220mm) approx.
4. Weight: 0.64 lbs (275 g).
5. For European mains lead order part: EU-MAINS-IEC.
6. For UK mains lead order part: UK-MAINS-IEC.
7. For US mains lead order part: US-MAINS-IEC.
8. Mains lead length is 78" (2000 mm) approx

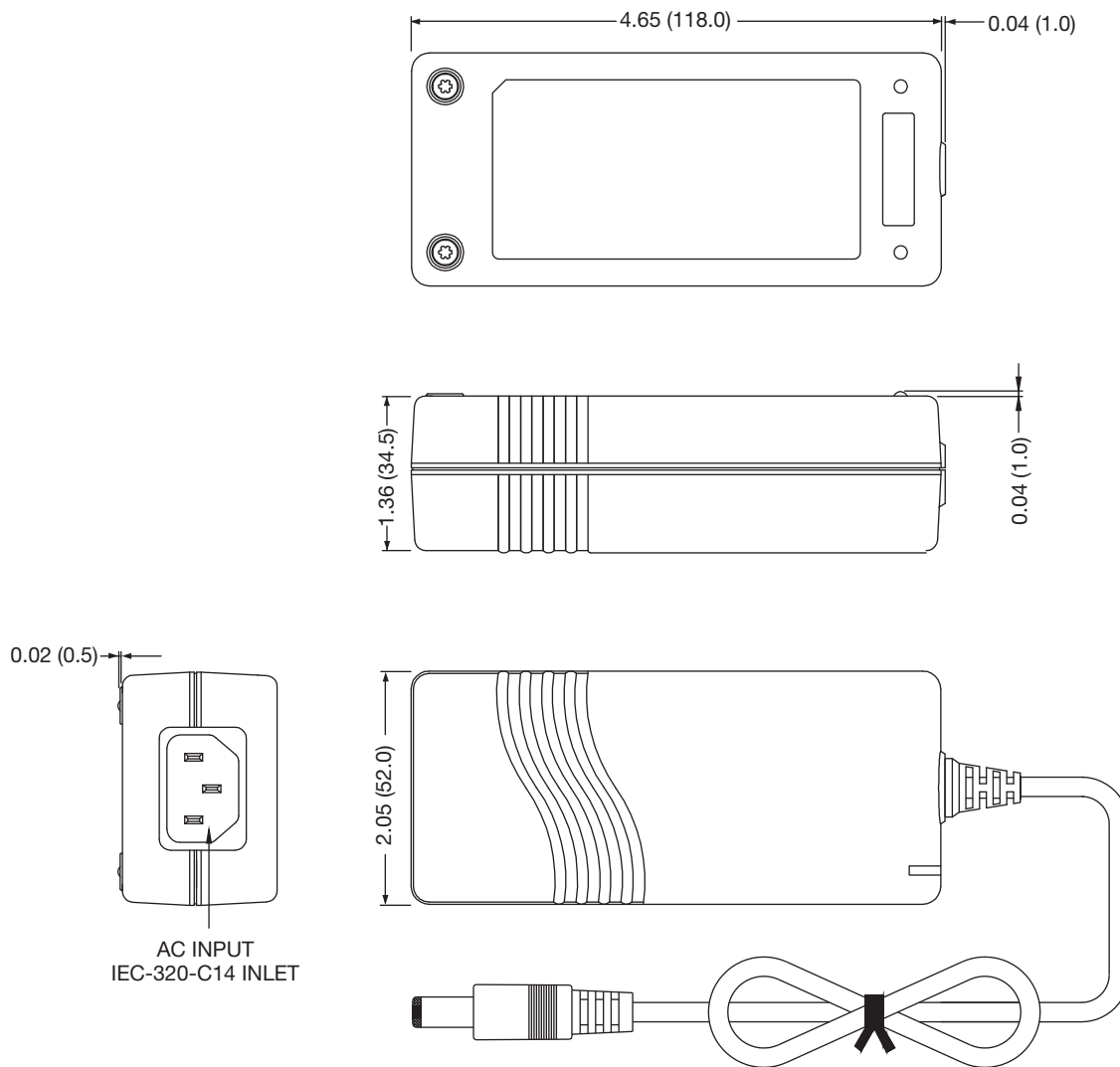
Models and Ratings

Max Output Power	Output Voltage ⁽²⁾	Output Current	Total Regulation ⁽¹⁾	Efficiency ⁽³⁾	Model Number
57 W	12 VDC	4.75 A	5%	87%	AEL60US12
63 W	15 VDC	4.20 A	5%	88%	AEL60US15
	18 VDC	3.50 A	5%	88%	AEL60US18
	24 VDC	2.63 A	5%	88%	AEL60US24
	30 VDC	2.15 A	5%	90%	AEL60US30
	36 VDC	1.75 A	3%	90%	AEL60US36
	48 VDC	1.31 A	3%	90%	AEL60US48

Notes

1. Total regulation includes line regulation and load regulation.
2. Other output voltages available, contact sales for details.
3. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.

Mechanical Details



Notes

1. All dimensions are shown in inches (mm). Tolerance ± 0.04 (± 1.0) max.
2. Output connector: 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with centre positive (+) and outer shell negative (-). Length is 0.433 (11.0).
3. Output cable length is 48" (1220mm) approx.
4. Weight: 0.79 lbs (340 g).
5. For European mains lead order part: EU-MAINS-IEC.
6. For UK mains lead order part: UK-MAINS-IEC.
7. For US mains lead order part: US-MAINS-IEC.
8. Mains lead length is 78" (2000 mm) approx

Models and Ratings

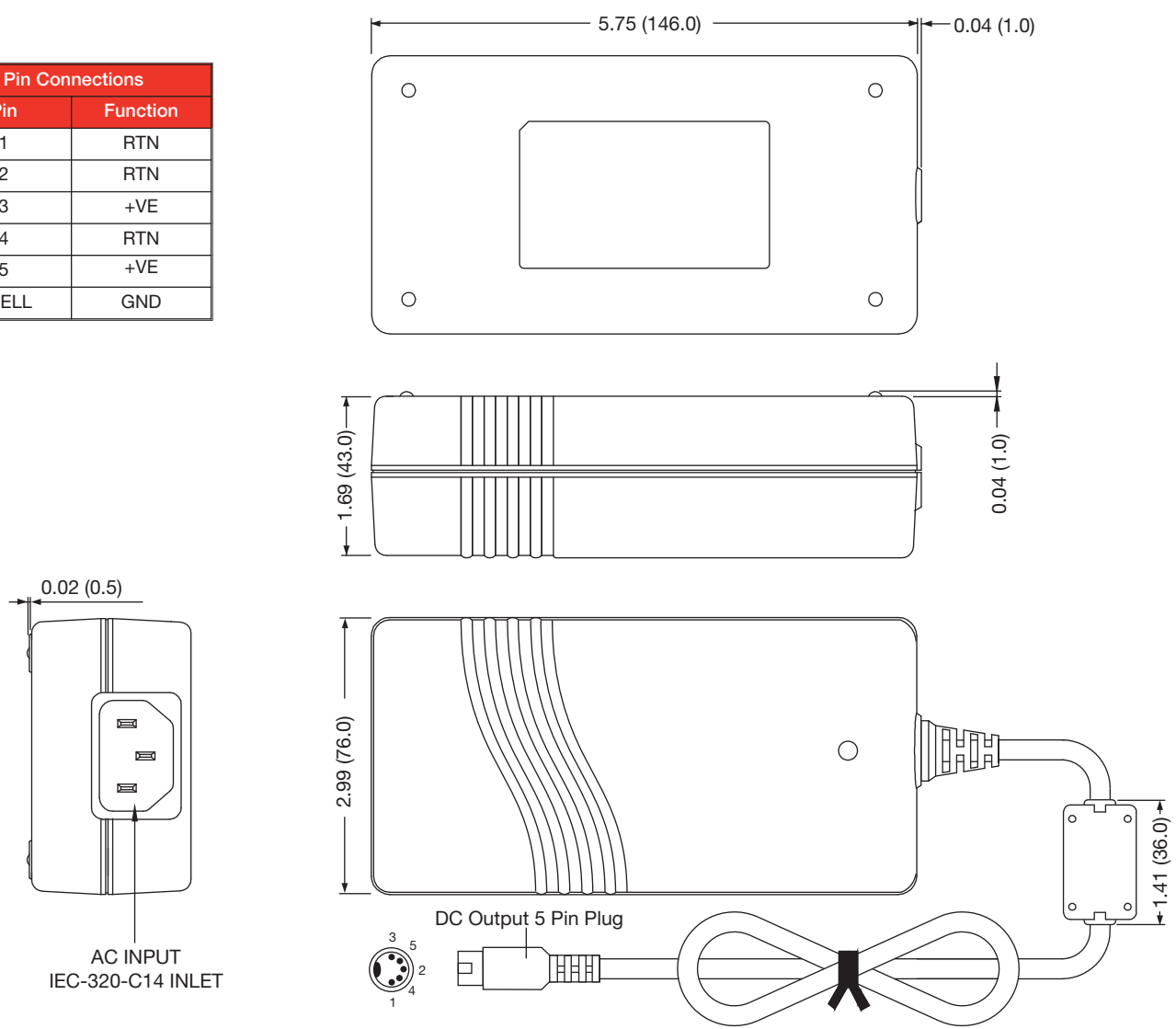
Max Output Power	Output Voltage ⁽²⁾	Output Current	Total Regulation ⁽¹⁾	Efficiency ⁽⁴⁾	Model Number
80 W	12 VDC	6.66 A	5%	85%	AEL80US12 ⁽³⁾ †^
	15 VDC	5.38 A	5%	87%	AEL80US15 ⁽³⁾ †^
	18 VDC	4.44 A	5%	88%	AEL80US18†^
	24 VDC	3.33 A	5%	87%	AEL80US24†^
	30 VDC	2.66 A	5%	87%	AEL80US30†^
	36 VDC	2.22 A	5%	88%	AEL80US36†^
	48 VDC	1.66 A	5%	88%	AEL80US48†^

Notes

1. Total regulation includes line regulation and load regulation.
 2. Other output voltages available, contact sales for details.
 3. Energy Efficiency Level IV.
 4. 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.

Mechanical Details

Pin Connections	
Pin	Function
1	RTN
2	RTN
3	+VE
4	RTN
5	+VE
SHELL	GND



Notes

1. All dimensions are shown in inches (mm). Tolerance ± 0.04 (± 1.0) max.
2. Output connector: 5 pin 180° DIN
3. Output cable length: 48" (1220mm) approx.
4. Weight: 1.5 lbs (700 g)
5. For European mains lead order part: EU-MAINS-IEC.
6. For UK mains lead order part: UK-MAINS-IEC.
7. For US mains lead order part: US-MAINS-IEC.
8. Mains lead length is 78" (2000 mm) approx