

AHM Series



GREEN•POWER

- IT & Medical Approvals
- Energy Efficiency Level V, CEC2008 & EISA 2007
- <0.5 W No Load Input Power
- Class I (and Class II Models 85 W & 100 W)
- Very High Efficiency
- IPX1 Environmental Rating
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC (250 W models - see derating curve)
Input Frequency	• 47-63 Hz
Input Current	• 85 W: 0.8 A at 115 VAC, 0.4 A 100 W: 1.0 A at 115 VAC, 0.5 A 150 W: 1.5 A at 115 VAC, 0.75 A 180 W: 1.7 A at 115 VAC, 0.9 A 250 W: 2.3 A at 115 VAC, 0.9 A at 230 VAC
Inrush Current	• 70 A typical, 120 A max at 230 VAC, cold start at 25 °C
Power Factor	• >0.9 at 115 VAC, 60 Hz at 250 VAC
Earth Leakage Current	• 85 W: 70 µA typical, 180 µA max 100 W: 70 µA typical, 180 µA max 150 W: 80 µA typical, 200 µA max 180 W: 80 µA typical, 200 µA max 250 W: 80 µA typical, 200 µA max at 264 VAC/60 Hz
Input Protection	• 85 W: Internal T2.5 A/250 V 100 W: Internal T2.5 A/250 V 150 W: Internal T4.0 A/250 V 180 W: Internal T4.0 A/250 V 250 W: Internal T6.3 A/250 V fuse in line and neutral
No Load Input Power	• <0.5 W

Output

Output Voltage	• See tables
Output Voltage Trim	• Not user-adjustable
Minimum Load	• No minimum load required
Start Up Delay	• 100-300 ms typical, model dependant ⁽¹⁾
Hold Up Time	• 20 ms typical
Line Regulation	• ±1.5% maximum
Load Regulation	• ±3.0% maximum
Transient Response	• 5% max. deviation, recovery to within 1% in 500 µs for a 25% load change
Ripple & Noise	• Typically less than 1%, 1.5% max pk-pk ⁽²⁾
Overvoltage Protection	• 125% typical, Recycle input to reset
Overtemperature Protection	• Unit shuts down, auto recovery
Overload Protection	• 115-175%, auto recovery
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• 0.05 %/°C

General

Efficiency	• 92% typical
Energy Efficiency	• Level V
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground (Class I only) 500 VAC Output to Ground (Class I only)
Switching Frequency	• 45-200 KHz variable
Power Density	• 4.4-5.7 W/in ³
MTBF	• 153 kHrs typical to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +60 °C, derate linearly from 100% power at +40 °C to 60% power at +60 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 3 x 30 g/11 ms shocks in both +ve & -ve directions along the 3 orthogonal axis, total 18 shocks.
Vibration	• Three axis 5-500 Hz at 2 g x 10 sweeps

EMC & Safety

Emissions	• EN55011/22, class B conducted EN55011/22, class B 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 3, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3, Perf Criteria A
Magnetic Field	• EN61000-4-8, level 3, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, EN60601-1-2
Safety Approvals	• EN60601-1, UL60601-1, CSA22.2 No. 601-1 per cUL, EN60950, UL60950

Notes

1. See longform datasheet for further information.
2. Measured at the end of the output cable with 10 µF electrolytic and 0.1 µF ceramic capacitor.

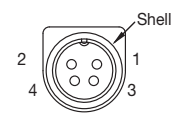
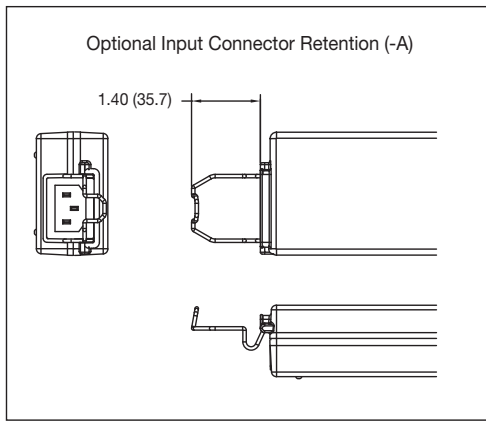
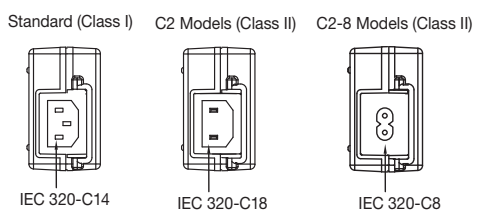
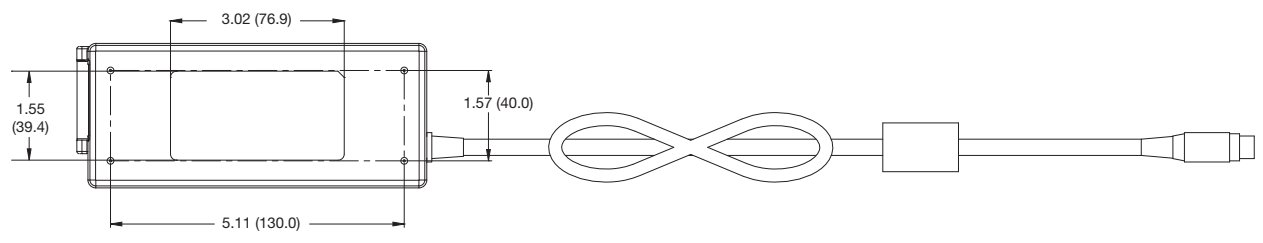
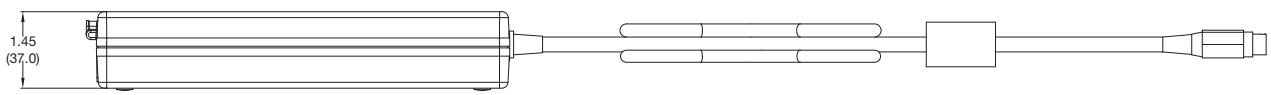
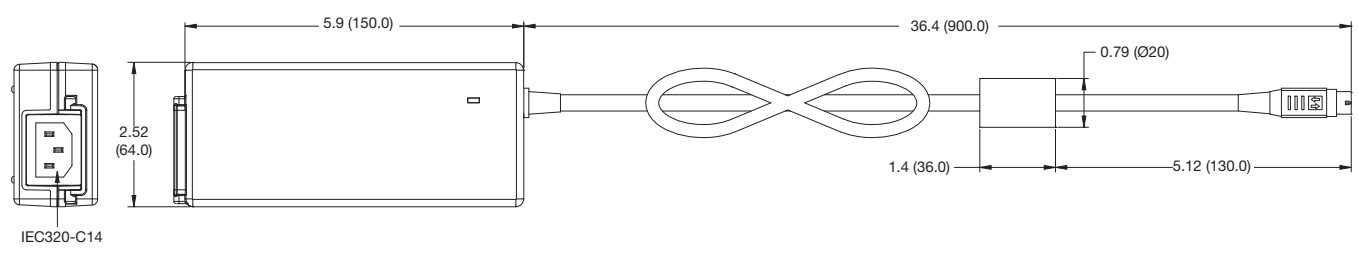
Models and Ratings

Output Power	Output Voltage	Output Current	Model Number ⁽¹⁾
85 W	12.0 VDC	7.08 A	AHM85PS12†^
85 W	15.0 VDC	5.67 A	AHM85PS15†^
85 W	19.0 VDC	4.47 A	AHM85PS19†^
85 W	24.0 VDC	3.54 A	AHM85PS24†^
85 W	12.0 VDC	7.08 A	AHM85PS12C2
85 W	15.0 VDC	5.67 A	AHM85PS15C2
85 W	19.0 VDC	4.47 A	AHM85PS19C2
85 W	24.0 VDC	3.54 A	AHM85PS24C2

Notes

- Models with suffix 'C2' have a Class II equipment protection classification.
 - For IEC320-C8 input connector with Class II models, add suffix '-8' to the model number, e.g. AHM85PS24C2-8.
 - For optional input connector retention clip, add suffix '-A' to the model number e.g. AHM85PS24C2-A.
- † Available from Farnell & element14. See pages 284-290. ^ Available from Newark. See pages 291-296.

Mechanical Details



Output Connector equivalent to KPPX-4P (Non Locking)	
Pin 1	Output +
Pin 2	Output +
Pin 3	Return
Pin 4	Return
Outer Shell	GND
Outer Shell C2 Models	Floating

Notes

- Tolerance is 0.02 (0.5) maximum, except output cable length.
- Weight 0.9 lbs (400 g).
- Dimensions shown in inches (mm).

Models and Ratings

Output Power	Output Voltage	Output Current	Model Number ⁽¹⁾
100 W	12.0 VDC	8.33 A	AHM100PS12†^
100 W	15.0 VDC	6.67 A	AHM100PS15†^
100 W	19.0 VDC	5.26 A	AHM100PS19†^
100 W	24.0 VDC	4.16 A	AHM100PS24†^
100 W	48.0 VDC	2.08 A	AHM100PS48†^
100 W	12.0 VDC	8.33 A	AHM100PS12C2
100 W	15.0 VDC	6.67 A	AHM100PS15C2
100 W	19.0 VDC	5.26 A	AHM100PS19C2
100 W	24.0 VDC	4.16 A	AHM100PS24C2
100 W	48.0 VDC	2.08 A	AHM100PS48C2

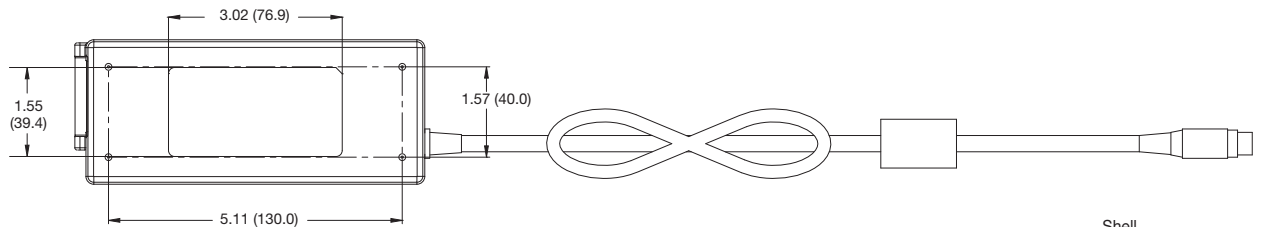
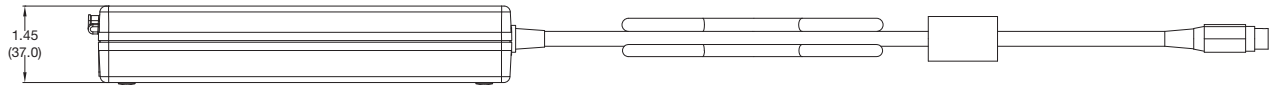
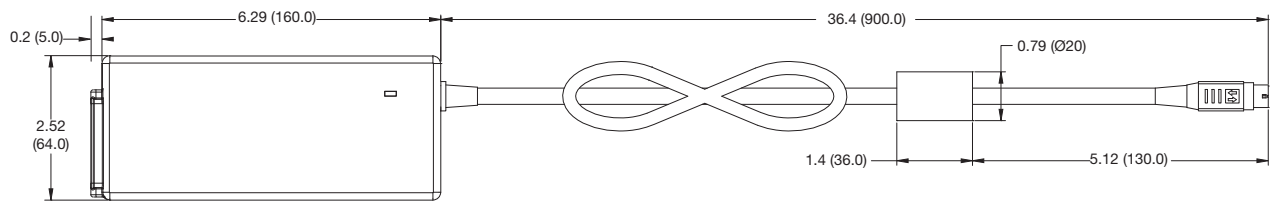
Notes

1. Models with suffix 'C2' have a class II equipment protection classification.
2. For IEC320-C8 input connector with class II models, add suffix '-8' to the model number, e.g. AHM100PS24C2-8.
3. For optional input connector retention clip, add suffix '-A' to the model number e.g. AHM100PS24C2-A.

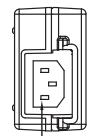
† Available from Farnell & element14. See pages 284-290.

^ Available from Newark. See pages 291-296.

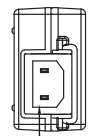
Mechanical Details



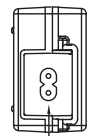
Standard (Class I) C2 Models (Class II) C2-8 Models (Class II)



IEC 320-C14

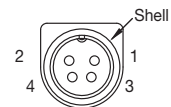
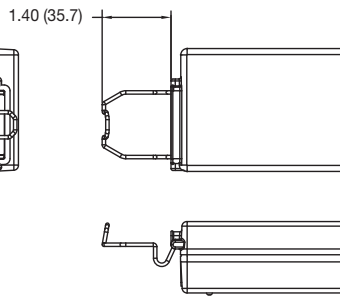


IEC 320-C18



IEC 320-C8

Optional Input Connector Retention (-A)



Output Connector equivalent to KPPX-4P (Non Locking)

Pin 1	Output +
Pin 2	Output +
Pin 3	Return
Pin 4	Return
Outer Shell	GND
Outer Shell C2 Models	Floating

Notes

1. Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight 1.1 lbs (500 g).
3. Dimensions shown in inches (mm).

Models and Ratings

AHM150 XP

Output Power	Output Voltage	Output Current	Model Number ⁽¹⁾
150 W	12.0 VDC	12.50 A	AHM150PS12†^
150 W	15.0 VDC	10.00 A	AHM150PS15†^
150 W	19.0 VDC	7.89 A	AHM150PS19†^
150 W	24.0 VDC	6.25 A	AHM150PS24†^
150 W	48.0 VDC	3.13 A	AHM150PS48†^

Notes

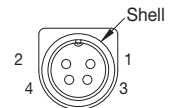
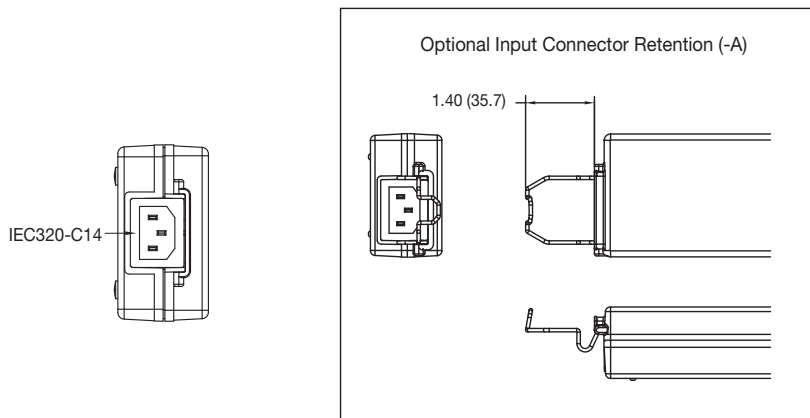
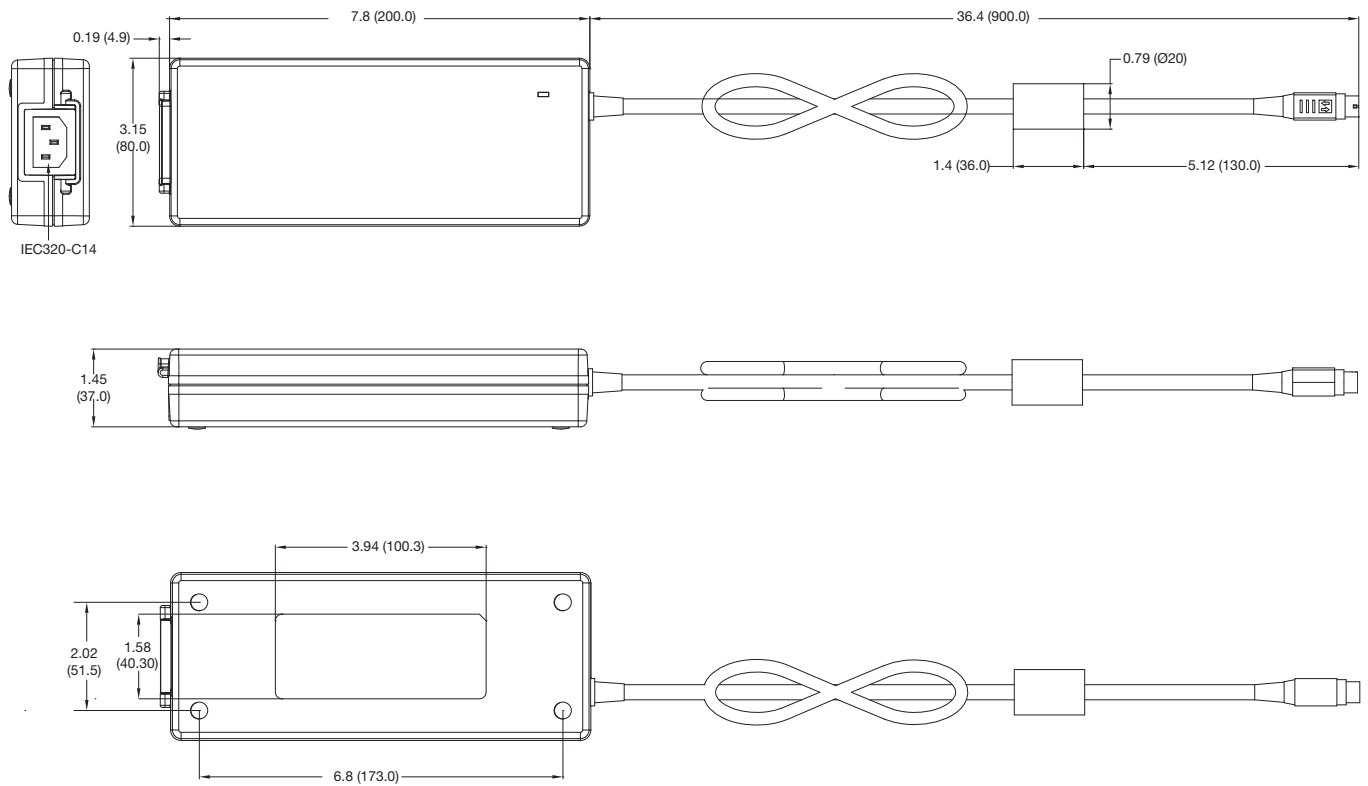
1. For optional input connector retention clip, add suffix '-A' to the model number e.g. AHM150PS24-A.

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

^ Available from Newark. See pages 291-296.

Mechanical Details

Dimensions shown in inches (mm).



Output Connector equivalent to KPPX-4P (Non Locking)	
Pin 1	Output +
Pin 2	Output +
Pin 3	Return
Pin 4	Return
Outer Shell	GND

Notes

1. Tolerance is 0.02 (0.5) maximum, except output cable length.

2. Weight 1.3 lbs (600 g).



Output Power	Output Voltage	Output Current	Model Number
165 W	12.0 VDC	13.50 A	AHM180PS12†^
180 W	15.0 VDC	12.00 A	AHM180PS15†^
180 W	19.0 VDC	9.47 A	AHM180PS19†^
180 W	24.0 VDC	7.50 A	AHM180PS24†^
180 W	48.0 VDC	3.75 A	AHM180PS48†^

Notes

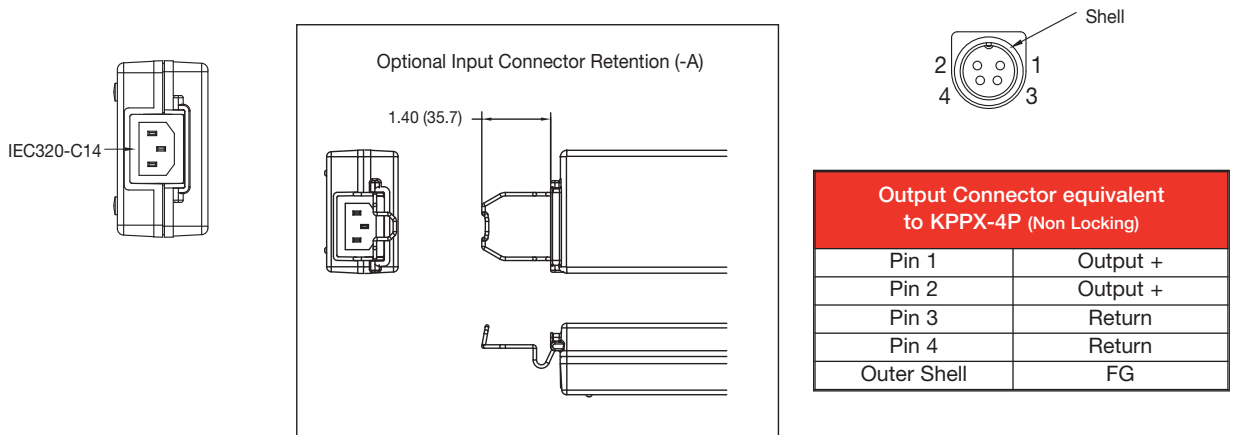
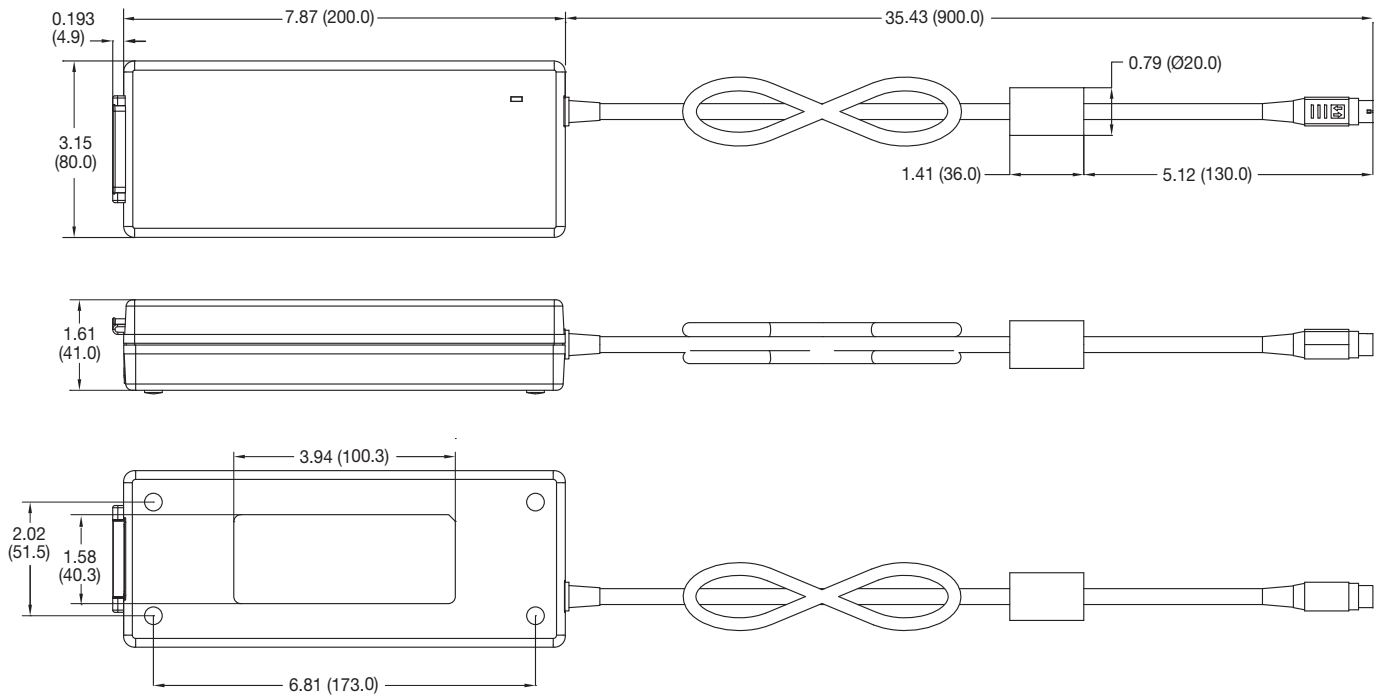
1. For optional input connector retention clip, add suffix '-A' to the model number e.g. AHM180PS24-A.

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

^ Available from Newark. See pages 291-296.

Mechanical Details

Dimensions shown in inches (mm).



Notes

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.

2. Weight 1.4 lbs (620 g)

Models and Ratings

Output Power	Output Voltage	Output Current	Model Number
210 W	12.0 VDC	17.50 A	AHM250PS12†^
220 W	15.0 VDC	14.66 A	AHM250PS15†^
240 W	19.0 VDC	12.63 A	AHM250PS19†^
250 W	24.0 VDC	10.41 A	AHM250PS24†^
250 W	48.0 VDC	5.21 A	AHM250PS48†^

Notes

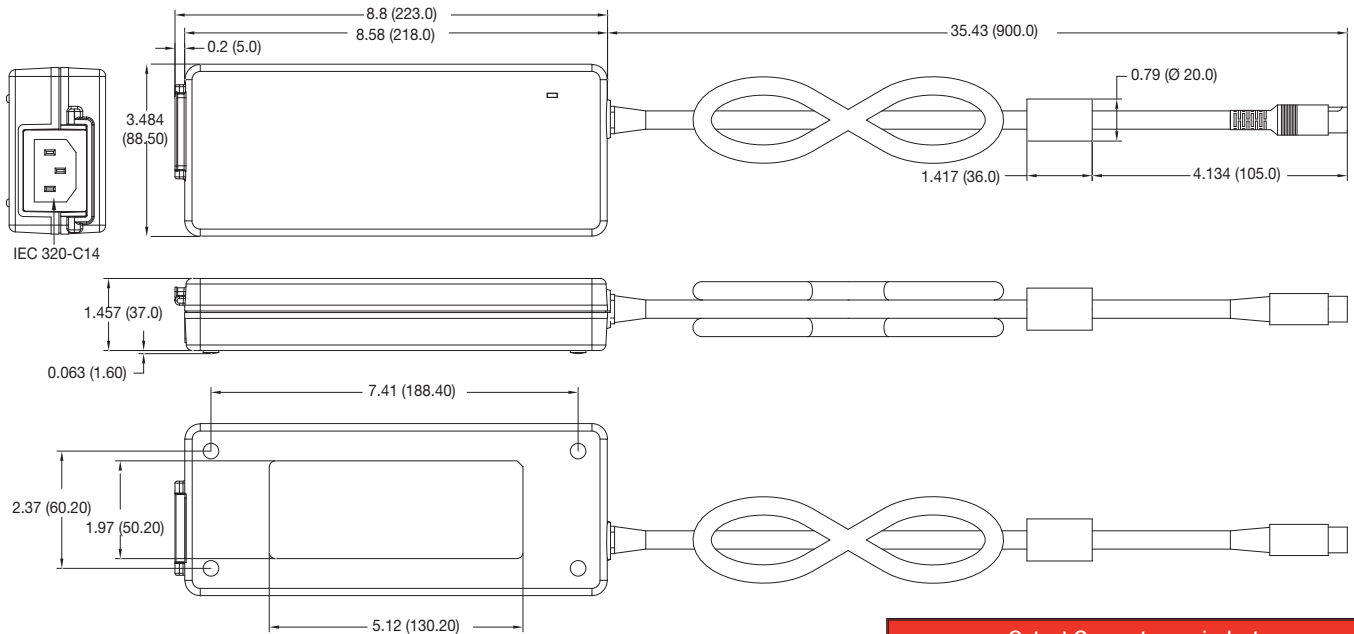
1. For optional input connector retention clip, add suffix '-A' to the model number e.g. AHM250PS24-A.

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

^ Available from Newark. See pages 291-296.

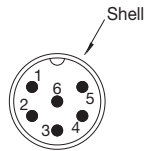
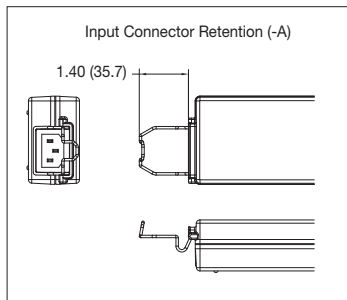
Mechanical Details

Dimensions shown in inches (mm).



IEC 320-C14

IEC 320-C14



Output Connector equivalent to DIN45322 (6 pin at 60 °) Male	
Pin 1	Output +
Pin 2	Return
Pin 3	Return
Pin 4	Return
Pin 5	Output +
Pin 6	Output +
Outer Shell	GND

Notes

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight 2.2 lbs (1000 g).

Derating Curve - AHM250 only

