AHE220 Series

AC-DC Power Supplies

XP Power

220 Watts

- Energy Efficiency Level VI
- <0.21 W Standby Power
- 0 °C to 60 °C Operation
- High Power Density
- Low Earth Leakage Current
- ITE Safety Approvals
- 3 Year Warranty

GREEN XP POWER

Dimensions:

AHE220:
7.76 x 3.46 x 1.73" (197.0 x 88.0 x 44 mm)

Models & Ratings

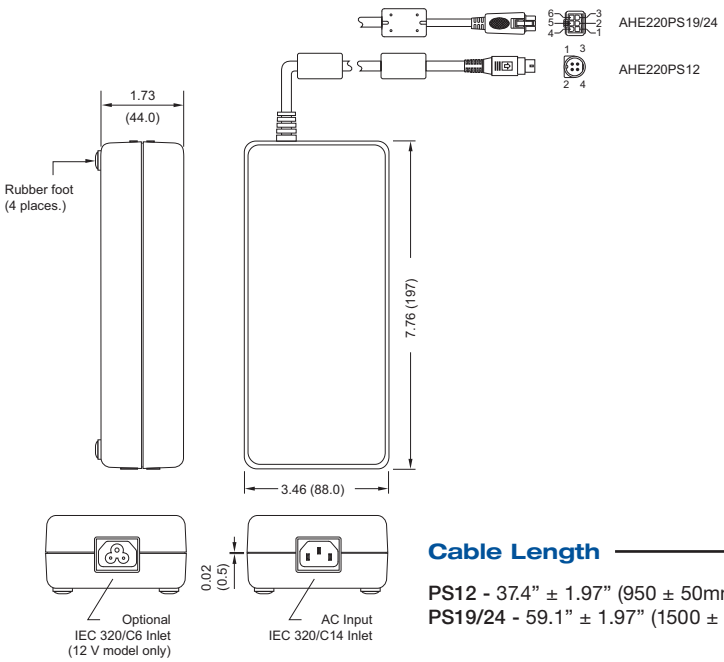
Output Power	Output Voltage	Output Current	Total Regulation	Efficiency[1]	Model Number
180 W	12.0 V	15.0 A	±5%	90%	AHE220PS12[2]
220 W	19.0 V	11.57 A		92%	AHE220PS19
	24.0 V	9.16 A		94%	AHE220PS24

Notes

1. Typical efficiency measured at 100% load and 230 VAC input.

2. For IEC320-C6, add suffix 'C6' to the end of the part number e.g. AHE220PS12C6.

Mechanical Details



Cable Length

PS12 - 37.4" ± 1.97" (950 ± 50mm)
PS19/24 - 59.1" ± 1.97" (1500 ± 50mm)

Mains Leads Order Part:
UK - C14 inlet: UK-MAINS-IEC, C6 inlet: UK-MAINS-5
European - C14 inlet: EU-MAINS-IEC, C6 inlet: EU-MAINS-5
US - C14 inlet: US-MAINS-IEC, C6 inlet: US-MAINS-5

Pin Connector

AHE220PS12

Pin	Function
1	Output +
2	Output +
3	Return/Input Earth
4	Return/Input Earth
Shell	Return/Input Earth

AHE220PS19/24

Pin	Function
1	Return/Input Earth
2	Return/Input Earth
3	Return/Input Earth
4	Output +
5	Output +
6	Output +

Notes

1. Dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Weight: 2.31 lb (1050 g).
3. Optional output connectors available. Consult sales.
4. Output connector for AHE220PS12 is non locking 4 pin DC power plug and mates with Kycon KPJX-4S or equivalent.
   Output connector for AHE220PS19/24 is molex Mini-Fit part number 39-01-2060 with 5556 terminals and mates with molex plug 39-01-2066 and 5558 terminals or equivalent.
5. Mains lead length is 76" (1930 mm) approx

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	90		264	VAC	
Input Frequency	47		63	Hz	
Input Current		2.34/0.98		A	Measured at 100/240 VAC
Inrush Current			80/160	A	115/230 VAC, cold start at 25 °C
Power Factor	0.9				At 230 VAC and full load, EN61000-3-2 Class A
Earth Leakage Current		220	250	µA	264 VAC, 60 Hz
No Load Input Power			0.21	W	
Input Protection	T3.15A/250 VAC internal fuse in line				

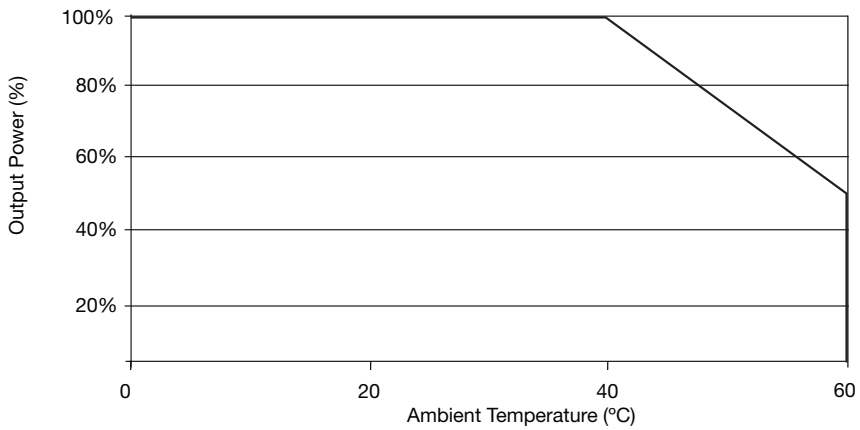
Output

Characteristic	Min.	Typ.	Max.	Units	Notes & Conditions
Output Voltage	12		24	VDC	See Models and Ratings table
Initial Set Accuracy			±2	%	At 50% load
Minimum Load					No minimum load required
Start Up Delay			3	s	
Start Up Rise Time			40	ms	
Hold Up Time	10			ms	Full load and 115 VAC
Line Regulation			±0.5	%	
Total Regulation			±5	%	
Transient Response			4	%	Maximum deviation, recovering to less than 1% within 500 µs for 25% step load
Ripple and Noise			7	%/pk-pk	Measured with 20 MHz Bandwidth and 10 µF electrolytic in parallel with 0.1 µF ceramic capacitor.
Overshoot			5	%	At turn on / turn off
Overload Protection	115		175	%	
Overvoltage Protection	112		160	%	Recycle mains to reset
Short Circuit Protection	Trip and restart (hiccup), auto resetting				
Thermal Protection	Measured internally, recycle AC to reset				
Temperature Coefficient		0.04		%/°C	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	0		+60	°C	Derate from 100% load at 40 °C to 50% load at 60 °C
Cooling	Natural convection				
Operating Humidity	5		90	%RH	Non-condensing
Storage Temperature	-10		+80	°C	
Operating Altitude			5000	m	
Shock	IEC68-2-27, 30 g, 11 ms half sine, 3 times in each of 6 axes				
Vibration	IEC68-2-6, 10-500 Hz, 2 g 10 mins/sweep, 60 mins for each of 3 axes				

Derating Curve

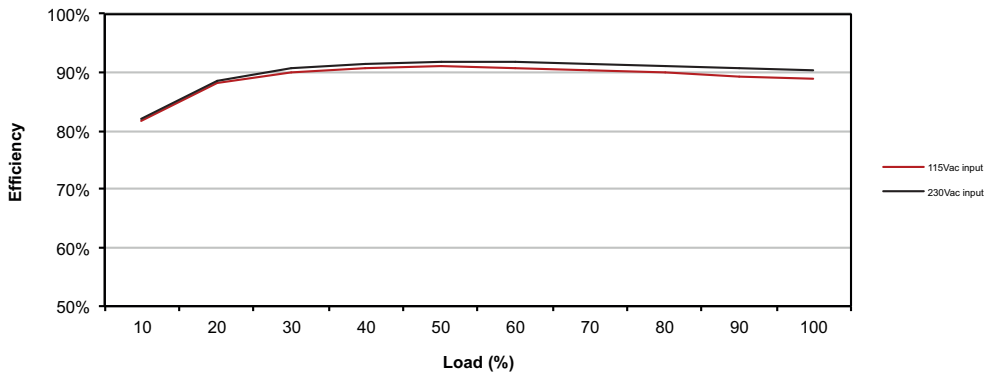


General

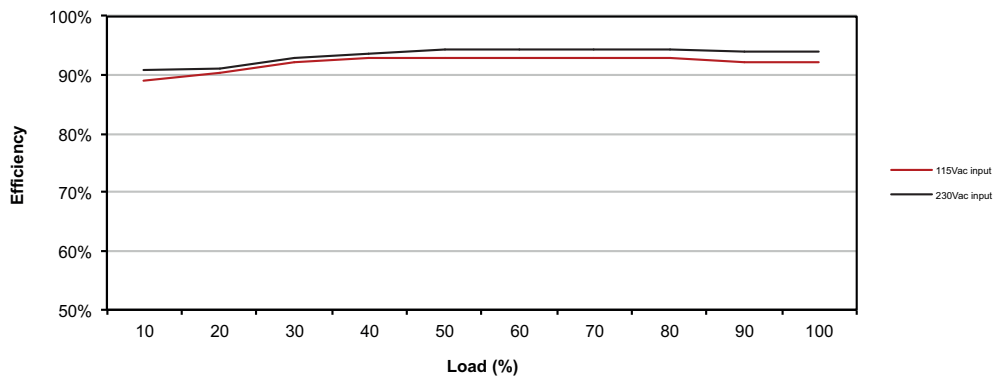
Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		91		%	See Models and Ratings table and curves.
Isolation: Input to Output	3000			VAC	
Input to Ground	1500			VAC	
Output to Ground				VAC	Output return is connected to input earth
Switching Frequency	75		150	kHz	
Power Density		4.55		W/in^3	
Mean Time Between Failure		>500		kHrs	SR332 at 25 °C GB
Weight		2.31 (1050)		lb (g)	

Efficiency Curves

AHE220PS12



AHE220PS24



EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Emissions	EN55032	Level B	Conducted & Radiated
Harmonic Current	EN61000-3-2	Class A	
Voltage Flicker	EN61000-3-3		

EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±15 kV Air, ±8kV contact	A	
Radiated	EN61000-4-3	3 V/m	A	
EFT/Burst	EN61000-4-4	2	A	
Surge	EN61000-4-5	Installation Class 3	A	
Conducted	EN61000-4-6	3 V	A	
Magnetic Fields	EN61000-4-8	3 A/m	A	
Dips and Interruptions	EN61000-4-11	Dip: 30% 500 ms	A	
		Dip: 60% 200 ms	A/B	High Line with 65% load/Low Line
		Int: 100% 5000 ms	B	
		Int: 100% 10 ms	A	

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
UL	cUL60950-1	
TUV	EN60950-1	
CB	IEC60950-1	
CCC	China Compulsory Certification, GB4943	
AU/NZ	AU/NZ 60950.1	

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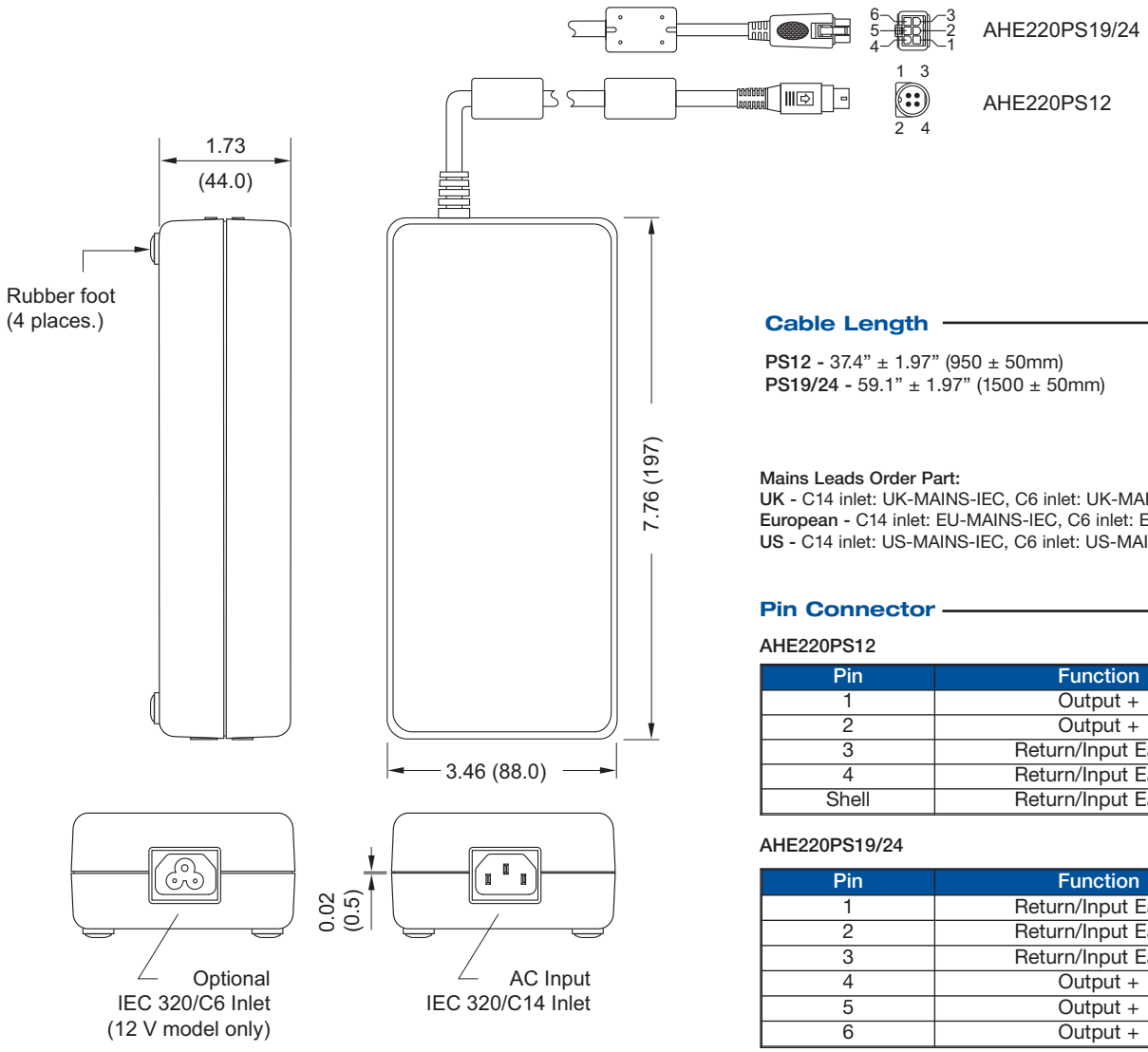

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