AJM90 Series

AC-DC Power Supplies

XP Power

90 Watts

- Energy Efficiency Level VI
- Medical and ITE Safety Approvals
- 4th Edition Medical EMC
- Class I and Class II Versions
- <0.21 W Standby Power
- 0 °C to 60 °C Operation
- Low Earth Leakage Current
- 3 Year Warranty

GREEN XP POWER



Dimensions:

AJM90:
5.51 x 2.8 x 0.87" (140.0 x 71.0 x 22.0 mm)

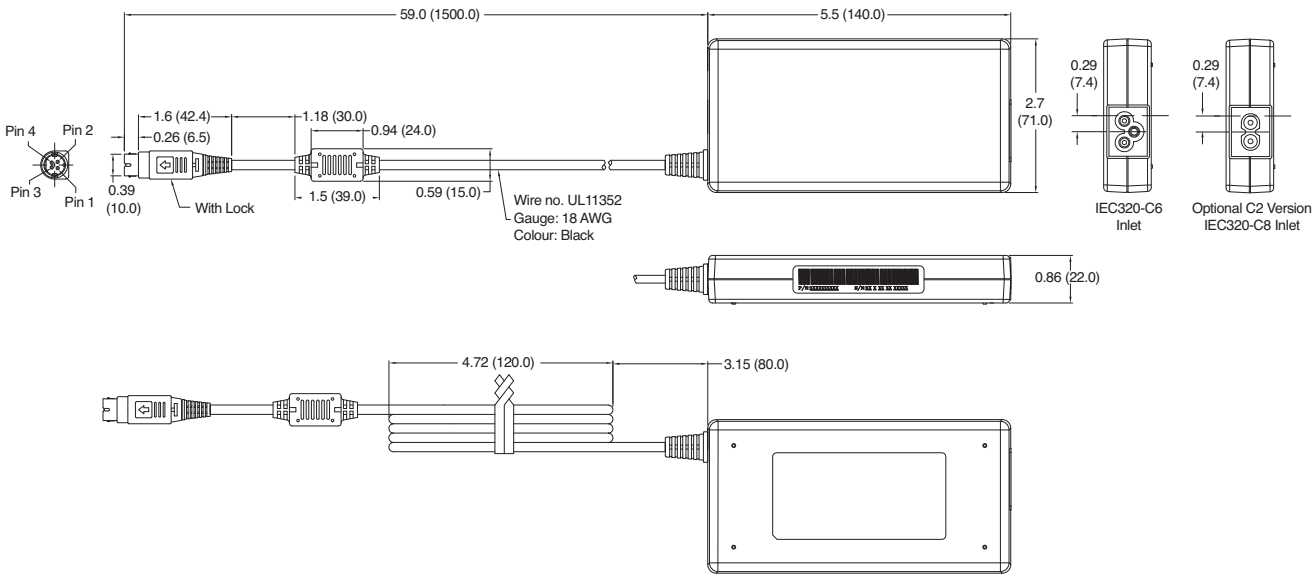
Models & Ratings

Output Power	Output Voltage	Output Current	Total Regulation	Efficiency[1]	Model Number[2]
90 W	12.0 V	7.50 A	±5%	88%	AJM90PS12
	18.0 V	5.00 A		89%	AJM90PS18
	19.0 V	4.74 A		90%	AJM90PS19
	24.0 V	3.75 A		90%	AJM90PS24

Notes

1. Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230 VAC input.
2. For class II versions, add suffix 'C2' to the end of the part number e.g. AJM90US24C2. Class II versions do not have ITE approvals.

Mechanical Details



Notes

1. All dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Output connector: Locking Power Mini DIN, mates with Kycon KPJ-4S or equivalent.
3. Weight: 0.77 lbs (350 g) approx.
4. For European mains lead order part EU-MAINS-5 or EU-MAINS-8 for C2 versions.
5. For UK mains lead order part UK-MAINS-5 or UK-MAINS-8 for C2 versions.
6. For US mains lead order part US-MAINS-5 or US-MAINS-8 for C2 versions.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	80		264	VAC	Derate output power below 90 VAC to 90% at 85 VAC and 85% at 80 VAC
Input Frequency	47		63	Hz	
Input Current		1.5/0.6		A	Measured at 115/230 VAC
Inrush Current			60/100	A	115/230 VAC, cold start at 25 °C
Power Factor		0.9			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 both line				

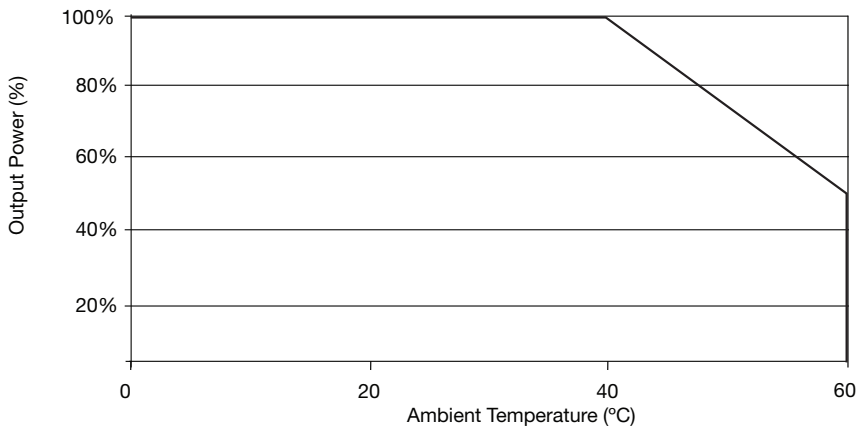
Output

Characteristic	Min.	Typ.	Max.	Units	Notes & Conditions
Output Voltage	12		48	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			50	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			1	% pk-pk	150 mV pk-pk for 12 V model, 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		150	%	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	
Patient Leakage Current			100	µ A	264 VAC, 60 Hz

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	-40		+85	°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

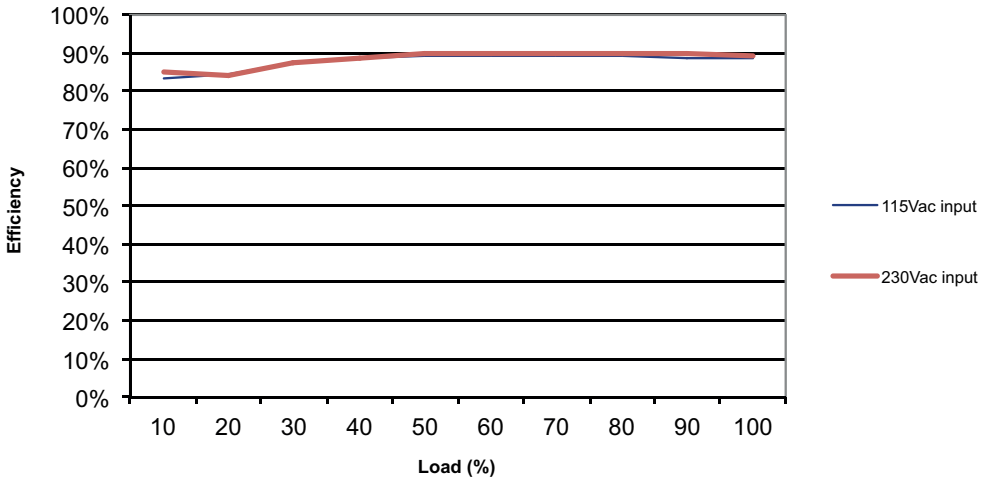


General

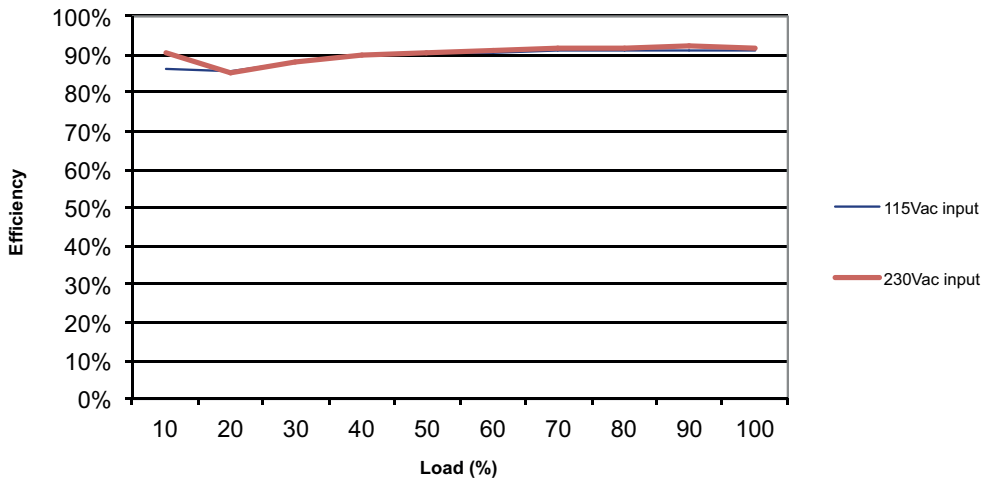
Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		90		%	See Models and Ratings table and curves.
Isolation: Input to Output			4000	VAC	2 x MOPP
Input to Ground			1500	VAC	1 x MOPP (Class I versions only)
Output to Ground			500	VAC	Class I versions only
Switching Frequency		105/100		kHz	PFC/Main Converter
Power Density		4.55		W/in^3	
Mean Time Between Failure		>100		kHrs	MIL-HDBK-217F at 25 °C GB
Weight		0.77 (350)		lb (g)	

Efficiency Curves

AJM90PS12



AJM90PS24



EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Emissions	EN55011	Level B	Conducted & Radiated
Harmonic Current	EN61000-3-2	Class A	
Voltage Flicker	EN61000-3-3		

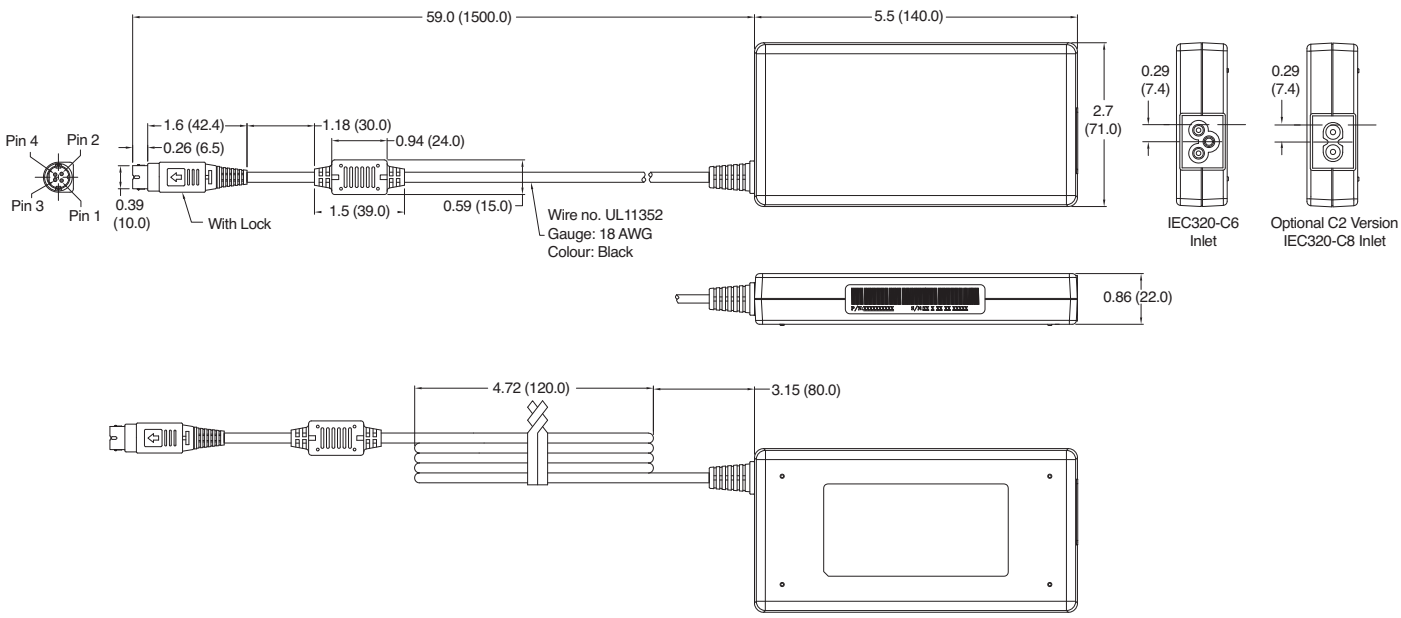
EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±15 kV Air, ±8 kV contact	A	
Radiated	EN61000-4-3	10 V/m	A	Class I is 3 V/m, Class II is 10 V/m 80-2700 MHz. IEC60601-1-2 Ed.4 at other frequencies
EFT/Burst	EN61000-4-4	3	A	
Surge	EN61000-4-5	Installation Class 3	A	
Conducted	EN61000-4-6	6 V	A	
Magnetic Fields	EN61000-4-8	30 A/m	A	
Dips and Interruptions	EN61000-4-11	Dip: 30% 500 ms	A/B	High Line/Low Line
		Dip: 60% 200 ms	A/B	High Line/Low Line
		Int: 100% 5000 ms	B	
		Int: 100% 10 ms	A	
	EN60601-1-2	Dip: 30% 500 ms	A/B	High Line/Low Line
		Dip: 60% 100 ms	A/B	High Line/Low Line
		Int: 100% 5000 ms	B	
		Int: 100% 10 ms	A	

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
UL	ANSI/AAMI ES 60601-1	Medical
CSA	CSA C22.2 No. 60601	
TUV	EN60601-1	
CB	IEC60601-1	
UL	UL60950-1	ITE, on class I version only
TUV	EN60950-1	
CB	IEC60950-1	

Mechanical Details



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