AJM90 series

XP Power

90W External desktop

AC-DC power supplies

The AJM90 has both medical (2 x MOPP) and ITE safety approvals, has class II construction with a smooth wipe clean IP32 sealed case that is ideal for medical applications.

The standard class II version has a IEC320-C8 inlet.



Features

- Regulated single ouputs 12V to 24VDC
- Energy efficiency level VI
- Medical safety approvals
- 4th edition medical EMC
- Class II
- <0.21W standby power
- Low earth leakage current
- 0°C to +60°C operation
- 3 year warranty

Applications

Technology

Home Healthcare

Instrumentation

Dimensions

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

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number	Output voltage	Output current	Total regulation	Efficiency(1)
AJM90PS12C2	12.0VDC	7.50A	±5%	88%
AJM90PS18C2	18.0VDC	5.00A		89%
AJM90PS19C2	19.0VDC	4.74A		90%
AJM90PS24C2	24.0VDC	3.75A		90%

Notes:

1. Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230VAC input.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	80		264	VAC	Derate output power below 90VAC to 90% at 85VAC and 85% at 80VAC
Input frequency	47		63	Hz	
Input current		1.5/0.6		A	Measured at 115/230VAC
Inrush current			60/100	A	115/230VAC, cold start at +25°C
Power factor		0.9			EN61000-3-2 Class A
Earth leakage current		220	250	µA	264VAC, 60Hz
No load input power			0.21	W	
Input protection	T3.15A/250 VAC internal fuse in both line & neutral				

Output

Characteristic	Minimum	Typical	Maximum	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 115/230VAC
Line regulation			±0.5	%	
Total regulation			±5	%	
Transient response			4	%	Maximum deviation, recovering to less than 1% within 500µs for 25% step load
Ripple and noise			1	% pk-pk	150mV pk-pk for 12V model, measured with 20MHz bandwidth and 10µF electrolytic in parallel with 0.1µF 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, auto resetting				
Temperature coefficient		0.04		%/°C	
Patient leakage current			100	µA	264VAC, 60Hz

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		90		%	See models and ratings table and curves.
Isolation			4000	VAC	Input to output
Switching frequency		105/100		kHz	PWM
Power density		0.277 (4.55)		cm^3 (W/in^3)	
Mean time between failure		>300		khrs	MIL-HDBK-217F at 25°C GB
Weight		350 (0.77)		g (lb)	

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, 30g, 11ms half sine, 3 times in each of 6 axes				
Vibration	IEC68-2-6, 10-500Hz, 2g 10 mins/sweep, 60mins for each of 3 axes				

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Emissions	EN55011	Level B	Conducted and radiated
Harmonic currents	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

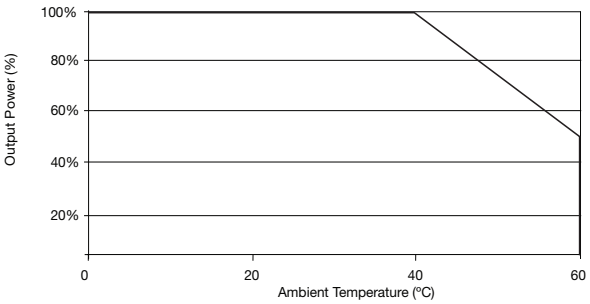
Emissions - immunity

Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	±15kV Air, ±8kV contact	A	
Radiated immunity	EN61000-4-3	10V/m	A	80-2700MHz. 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	6V	A	
Magnetic fields	EN61000-4-8	30A/m	A	
Dips and interruptions	EN61000-4-11	Dip: 30% 500ms	A/B	High Line/Low Line
		Dip: 60% 200ms	A/B	High Line/Low Line
		Int: 100% 5000ms	B	
		Int: 100% 10ms	A	
	EN60601-1-2	Dip: 30% 500ms	A/B	High Line/Low Line
		Dip: 60% 100ms	A/B	High Line/Low Line
		Int: 100% 5000ms	B	
		Int: 100% 10ms	A	

Safety approvals

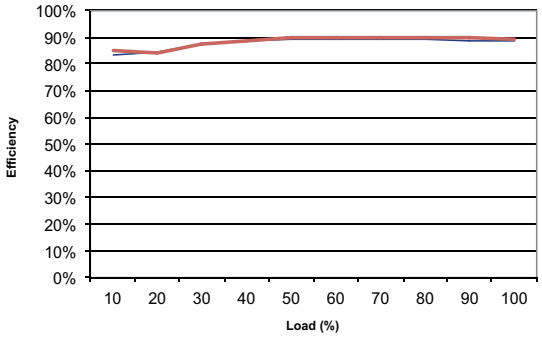
Safety agency	Standard	Notes & conditions
UL	UL62368-1	
EN	EN62368-1, EN60601-1	
CB	IEC62368-1, IEC60950-1, IEC60601-1	
Others	CSA C22.2 No. 60601	
CE	Meets all applicable legislation	
UKCA	Meets all applicable legislation	

Derating curve

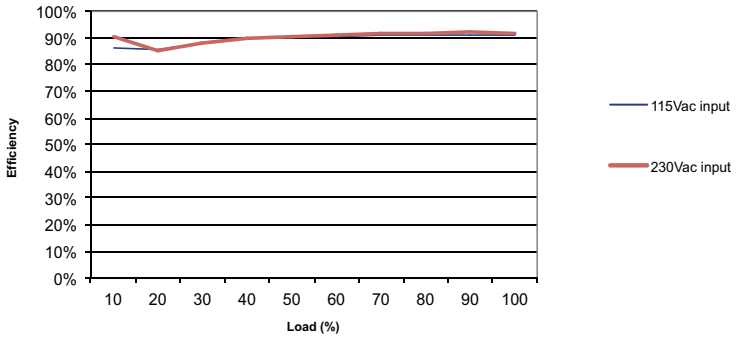


Efficiency curve

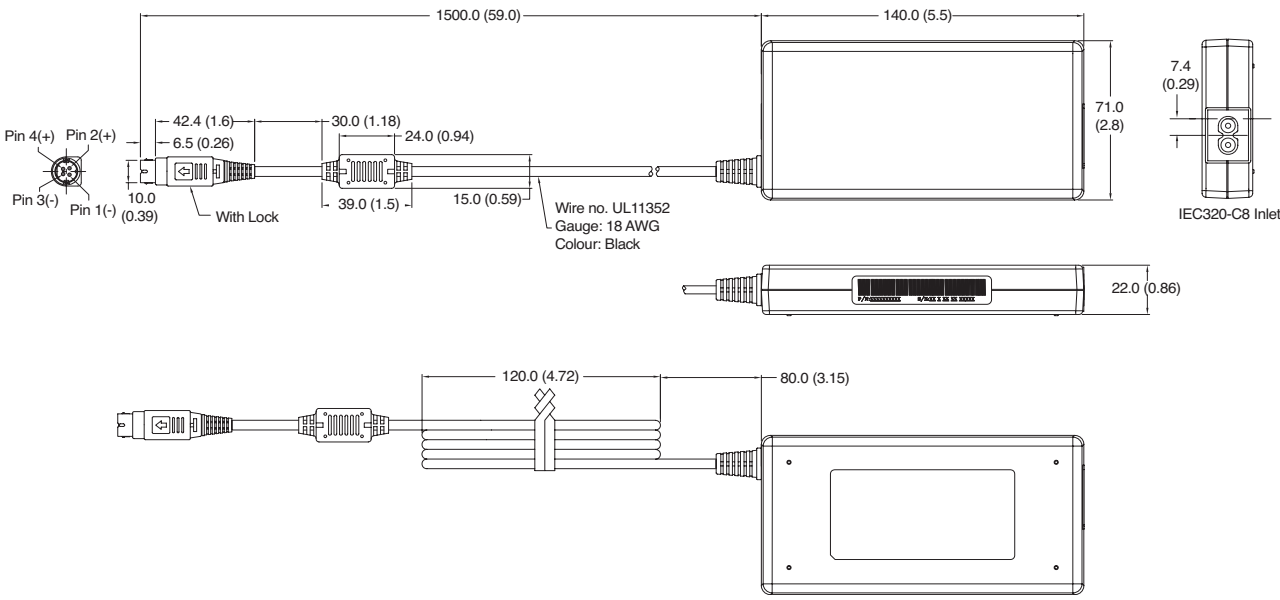
AJM90US12



AJM90US24



Mechanical details



Pin	Connection
1	Return
2	Output +
3	Return
4	Output +
Shell	Return

Notes:

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