AEJ100 series

100W CONVECTION COOLED

AC-DC power supplies

Offering Energy Efficiency Level VI and CoC Tier 2 the 100W AEJ100 desktop AC-DC power supplies are designed for ITE & industrial electronics applications.

The DC lead is fitted with a 5.5/2.5mm right angled barrel connector. With class B conducted & radiated emissions and class I construction they are fitted with an IEC320-C14 inlet and have a voltage input range of 90 to 264VAC.

Features

- Single outputs 12V to 48VDC
- Energy efficiency level VI
- European CoC tier 2
- Universal input
- Active power factor correction
- <0.15W standby power
- -30°C to +65°C operation
- 3 year wwarranty

Applications

Technology

Instrumentation

Dimensions

142.0 x 58.0 x 37.5mm (5.59" x 2.28" x 1.48")

Models & ratings

Model number	Output voltage	Output current	Total regulation	Efficiency(1)
AEJ100PS12	12.0VDC	8.34A	±5%	89%
AEJ100PS15	15.0VDC	6.67A		89%
AEJ100PS19	19.0VDC	5.26A		89%
AEJ100PS24	24.0VDC	4.17A		89%
AEJ100PS28	28.0VDC	3.54A		89%
AEJ100PS36	36.0VDC	2.78A		89%
AEJ100PS48	48.0VDC	2.10A		89%

Notes:

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

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Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	90		264	VAC	
Input frequency	47		63	Hz	
Input current		1.2		A	Measured at 100VAC
Inrush current			120	A	230VAC cold start, +25°C
Power factor		0.95			At 230VAC, full load, EN61000-3-2 Class A
Earth leakage current			550	μA	264VAC, 60Hz
No load input power			0.15	W	
Input protection	T2.0A/250VAC internal fuse in line				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		48	VDC	See models and ratings table
Initial set accuracy			±2	%	At 60% load
Minimum load	No minimum load required				
Start up delay			3	s	
Start up rise time			30	ms	
Hold up time		16		ms	Full load and 115VAC
Line regulation			±1	%	
Total regulation			±4		
Transient response			5	%	Maximum deviation, recovering to less than 1% within 500μs for 25% step load
Ripple and noise			1	% pk-pk	Measured with 20MHz bandwidth and 10μF electrolytic in parallel with 0.1μF ceramic capacitor.
Overshoot		5		%	At turn on / turn off
Overvoltage protection	112		140	%	Auto recovery
Overload protection	115		175	%	
Short circuit protection	Trip and restart (hiccup), auto resetting				
Temperature coefficient		0.04		%/℃	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		89		%	See models and ratings table and curves.
Isolation	3000			VAC	
	1500			VAC	
					Negative output is connected to ground
Switching frequency		65		kHz	Variable
Power density			0.28 (4.6)	cm^3 $(W/in)^3$	
Mean time between failure	255			khrs	24VDC Version MIL-HDBK-217F at +25°C GB, 115VAC
Weight		485 (1.07)		g (lb)	

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Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-20		+65	°C	Derate from 100% load at +40°C to 58% load at +65°C
Storage temperature	-40		+85	°C	
Operating humidity	5		90	%RH	Non-condensing
Operating altitude			5000	m	
Vibration	IEC68-2-6, 10-500Hz, 2g 10 mins/sweep, 60 mins for each of 3 axes				
Cooling	Natural convection				
Shock	IEC68-2-27, 30g, 11ms half sine, 3 times in each of 6 axes				

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Emissions	EN55032	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	±8kV contact, ±15kV air	A	
Radiated immunity	EN61000-4-3	3V/m	A	
EFT/burst	EN61000-4-4	2	A	
Surge	EN61000-4-5	Installation class 3	A	
Conducted	EN61000-4-6	3V	A	
Magnetic fields	EN61000-4-8	3A/m	A	
Dips and interruptions	EN61000-4-11	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	
CB	IEC62368-1	
AU/NZ	AU/NZ 60950.1	
CE	Meets all applicable legislation	
UKCA	Meets all applicable legislation	

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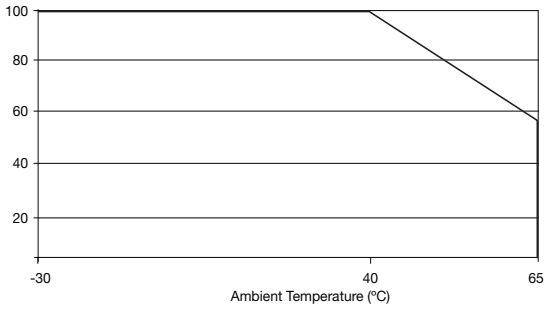
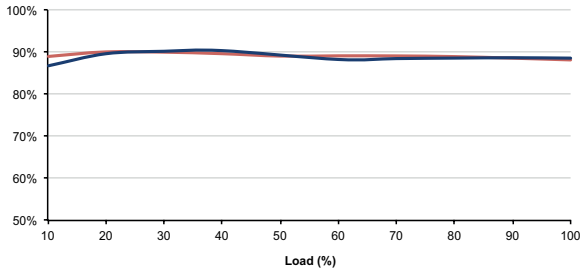
Derating curve

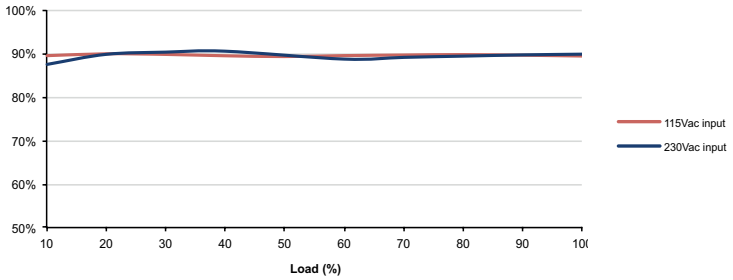


Efficiency curve

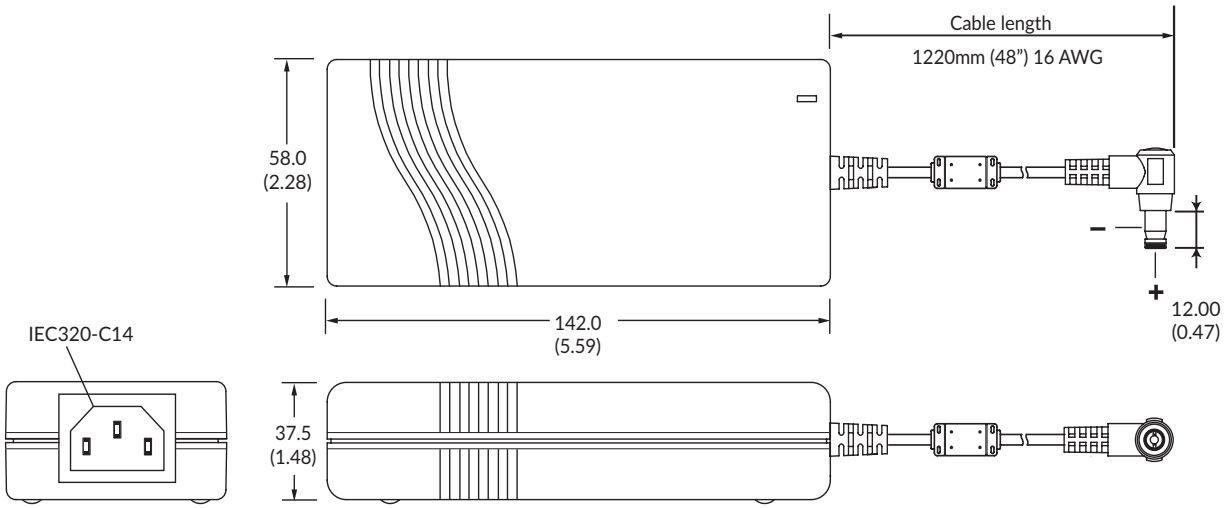
AEJ100PS12



AEJ100PS24



Mechanical details



Notes:

1. All dimensions shown in mm (inches).
2. Weight: 485g (1.07lbs) approx.
3. Tolerance is ±0.5 (±0.02) maximum, except output cable length which is ±50mm (±2")
4. Output connector is 5.5mm dia. outer barrel, inner dia. is 2.5mm with a center + and outer shell - polarity.

Specifications subject to change without notice.