# **POWERMASTER** 60J SMPSU 12V DC 5000mA 11-55-21 C-Pos IEC-C14 <sup>T1250-021</sup>



#### **FEATURES**

- In-line light weight compact Switch Mode Power Supply Units with a wide 96V-264V AC input voltage range to suit travel product applications.
- Standard IEC-C14 inlet allows the correct IEC-C13 power cord to be selected for different countries.
- Electrical Safety Authority Approved.
- Other voltages and choice of output plug can be custom made upon request.





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## INPUT REQUIREMENT

	MINIMUM	NOMINAL	MAXIMUM
AC Input Voltage	90 VAC	100 - 240 VAC	264 VAC
AC Input Frequency	47 Hz	50 / 60Hz	63 Hz
AC Input Current		1.5 A Maximum	
AC Inrush Current – 230V AC, 50Hz	Shall not exceed 80 Peak	A. No damage shall occur and the input inrush current is limited to 80A for a colo	t fuse shall not blow. I start.
Power Consumption at No Load (Maximum)		Input 240V AC 50 Hz - 0.5W max	
Configuration		2-conductors, <active, neutral=""></active,>	

#### **MECHANICAL SPECIFICATIONS**

Dimension	114.5(L) x 51.0(W) x 34.0(H)mm (nominal)
Net Weight	230g ± 10g
240V Mains Inlet	IEC-C6 3-pin 2-conductors, <active, neutral=""></active,>
Output Cord	UL2468, 18AWG, 2 conductor, 1830 +100/-0mm
Output Plug	11(L) x 5.5(D) x 2.1(ID)mm
Impact Test	A sample is to be subjected to a single impact of about 6.78Nm on any surface that may be exposed to a blow during normal use. The impact is produced by dropping a steel 50mm diameter sphere with a mass of 500g $\pm$ 25g from a height of 1.30m. For surfaces other than the top of the enclosure, the steel sphere is to be suspended by a cord and allowed to swing as a pendulum dropping through a vertical distance of 1.30m. After the test has been completed, the sample shall pass an electrical function test and the case shall not be cracked.

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## **OUTPUT REQUIREMENT**

Normal DC Output Voltage	+12.0V (11.4V min; 12.6V max) Measured at the end of the output cable
Minimum Load Current	0.0 A
Nominal Load Current	5.0 A
Ripple and Noise	120mV Voltage measured P-P at 20MHz and output parallel with a low ESR 0.1uF & 47uF ceramic capacitor to ground at rated input and full load condition. A1100 240V AC 50/60Hz
Efficiency	85% Minimum At normal input voltage and full load
Hold Up Time (min)	10ms At 230V AC Input and Maximum Load
Over-Current Protection	Trip Range > 6A and $\leq$ 12.5A The adaptor shall hiccup and the voltage will drop when an over current is applied to the output. The adaptor shall auto recover to its normal state when the over current condition is removed
Output Overshoot / Undershoot	10% When Power is switched on or off with full load condition
Short Circuit Protection	The adaptor's input power shall decrease when the output is short circuited and it shall withstand this condition without damage. It shall self-recover to the normal state when the fault condition is removed
Turn on Delay Time	Turning on from a cold start and with rated input voltage and a full load, the output voltage of the power supply shall reach the steady state vale within 5 seconds
Output Dynamic Response	The power supply shall maintain an output transient response time within 10ms with a load current change from 20% to 80% of maximum current and 0.5A/ $\mu$ s rise up vor drop down tested at the output terminals

## **RELIABILITY**

Dielectric withstanding voltage test (Hi-pot test)	4,242V DC, 10mA, 1 minute for type test (Primary to Secondary) 4,242V DC, 10mA, 3 seconds for production (Primary to Secondary)
Insulation Resistance	$> 10M\Omega$ at 500V DC between input and output
Leakage Current	< 0.25mA at maximum input voltage

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## **ENVIRONMENTAL SPECIFICATIONS**

Cooling	Natural Convection
Operating Temperature	0°C to 40°C
Storage Temperature	-30°C to +70°C
Operating Humidity	10 ~ 90%
Storage Humidity	10 ~ 90%
Operating Altitude	Sea Level to 2,000m
Storage Altitude	Sea Level to 2,000m
Operating Vibration	1.0mm, 10-55Hz, 15 minutes per cycle for each axis (X, Y, Z)
Storage Vibration and Shock	The power supply (packed for shipping) shall withstand normal transportation vibration per MIL-STD-810D, method 514 and procedures X

#### RELIABILITY

Mean Time Between Failure (MTBF)	The power supply is designed to have a MTBF of at least 50,000 operating hours when operated within the limits of this specification at 25°C ambient temperature (MIL-HDBK-217F)
Burn-In Test	After a minimum of 4 hours burn-in at 35-40°C room temperature, normal input voltage and full load the power supply shall operate normally

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#### **COMPLIANCE**

#### SAFETY

Safety Certification Standard: AS/NZS60950 Australian Certificate of Approval (Electrical Safety) GMA-102127-EA-002

#### EMC

EMC Standard: AS/NZS CISPR22

#### EMS

The power supply shall meet the following EMS Standards:

EN61000-4-2 Electrostatic Discharge (ESD) Immunity Severity Level: level 3, Air Discharge: ±8KV Severity Level: level 2, Contact Discharge: ±4KV Performance Criterion: B

EN61000-4-3 RF Field Strength Immunity Radio Frequency Electromagnetic Field Susceptibility Test (RS), 80-1000MHz Severity Level: level 2, 3V/M Performance Criterion: A

EN61000-4-4 Electrical Fast Transient / Burst (EFT) Immunity Severity Level: level 2, line to line: 1.0KV Performance Criterion: B

EN61000-4-5 Surge Immunity Severity Level: level 2, line to line: 1.0KV Performance Criterion: B

#### **ENERGY EFFICIENCY**

International Efficiency Level: IV The power supply complies with the following standard: European ErP Directive 2009/125/EC. The TM of no load power consumption and average efficiency for external power supplies is as Regulation 278/2009(stage 2).

#### **HAZARDOUS SUBSTANCES**

All components and materials used shall be in compliance with: EU Directive 2002/95/EC "RoHS" EU Directive "REACH"

All plastic materials that can be touched by human skin shall be in compliance with: EU Directive 2005/84/EC "PHTs 16P" EU Directive "REACH"

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EN61000-4-6 Conducted Disturbances Immunity Conducted Radio Frequency Disturbances Test (CS), 0.15-80MHz Severity Level: level 2, 3V(rms). Modulation signal 1kHz 80% AM Performance Criterion: A

EN61000-4-8 Magnetic Field Immunity Severity Level: level 1, 1A/M Performance Criterion: A

EN61000-4-11 Voltage Dips and Short Interruption Immunity Voltage Dips and Short Interruption: 30%, 60%, > 95%

#### **RATING PLATE**

Size: 79.6 x 37.8 x 0.3 +0/-0.2mm

Font: Arial. White words on black background.

Material: P.P Synthesised. Complies with 94V-2. Polished.

## POWERMASTER

#### Switch Mode PSU

INPUT: 100-240V AC 50/60Hz 1.5A OUTPUT: 12V DC 5.0A MODEL: 60J120500P-C14



Made in China

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