

## 60J Series T1250-003 In-line Switch Mode Power Supply Unit

### INPUT

	MINIMUM	NORMAL	MAXIMUM
AC Input Voltage	90V AC	100 – 240V AC	264V AC
AC Input Frequency	47 Hz	50 / 60 Hz	63 Hz
AC Input Current – 110-240V AC			1.5A
AC Inrush Current* – 230V AC, 50Hz	Shall not exceed 80A. No damage shall occur and the input fuse shall not blow. Peak inrush current is limited to 80A for a cold start.		
Configuration	2-conductors, <Active, Neutral>		

\* At full-load, 25°C, cold start.

### Power consumption at no load (maximum)

Input 240V AC 50 Hz	0.5W max
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### OUTPUT

Normal DC Output Voltage*	+12.0V (11.4V min; 12.6V max)
Minimum Load Current	0.0A
Maximum Load Current	5.0A
Ripple and Noise **	120mV
Efficiency (min) ***	85%
Over-current Protection Trip Range****	>6A and ≤12.5A
Output overshoot / undershoot*****	10%
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 value within 5 seconds.
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.
Hold Up Time (min)*****	10ms
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/μs rise up or drop down tested at the output terminals.

\* Measured at the end of the output cable.

\*\* 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.

\*\*\* At normal input voltage and full load.

\*\*\*\* 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

\*\*\*\*\* When power is switched on or off with full load condition.

\*\*\*\*\* At 230V AC input and maximum load.

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### MECHANICAL

Dimensions	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>
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 ±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.

### ENVIRONMENTAL

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.

### SAFETY

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	>10MΩ at 500V DC between input and output.
Leakage Current	<0.25mA at maximum input voltage

### 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.

**COMPLIANCE****SAFETY**

Safety Certification Standard: AS/NZS60950  
Australian Certificate of Approval (Electrical Safety) TUV15169EA

**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:  $\pm 8\text{KV}$

Severity Level: level 2, Contact Discharge:  $\pm 4\text{KV}$

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

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%

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### 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:

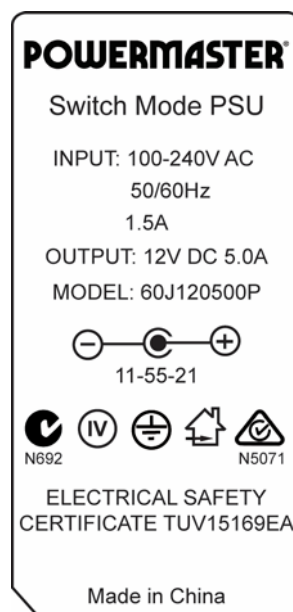
EU Directive 2005/84/EC "PHTs 16P"  
EU Directive "REACH"

### 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.



**PRODUCT OUTLINE DRAWING**

