

## 250W, Rugged AC/DC Conduction Cooled Power Supply for Heavy Duty Applications POL 59 Series



- Extremely rugged field-proven design
- Full encapsulation
- Single output
- Full electronic protection
- High reliability
- Conduction cooling

The POL 59 Series of AC/DC converters employ an advanced design topology to ensure high reliability. This high-density unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound for resistance against shock, vibration, humidity, moisture, dust and insects. These converters are conduction cooled and designed for operation within a wide temperature range without de-rating. The POL 59 features full electronic protection, high efficiency and low output noise. The use of components with many years of established reliability and generous headroom contribute to a the demonstrated MTBF exceeding 180,000 hours at 45°C. The POL 59 is manufactured at our plant under strict quality control. Customized versions are also available.

### SPECIFICATIONS

<p><b>Input Voltage</b> 115 or 230VAC <math>\pm</math> 15% 47-420Hz Auto-ranging available Consult factory for other voltages</p> <p><b>Input Protection</b> Inrush current limiting Varistor Internal safety fuse Lower voltage than the specified minimum input will not damage the unit</p> <p><b>Isolation</b> 2250VDC input to chassis 4300VDC input to output; 8mm spacing 500VDC output to chassis</p> <p><b>Standards</b> Designed to meet EN60950 and related corresponding UL and CSA standards</p> <p><b>EMI</b> EN55022 Class A as a minimum</p> <p><b>Switching Frequency</b> 55 KHz <math>\pm</math> 3KHz</p> <p><b>Hold-Up Time</b> Min. 10ms at full load for 5% drop in output voltage</p>	<p><b>Output Voltage/Current</b> 12V/20A, 24V/10, 48V/5A Consult factory for other voltages</p> <p><b>Redundancy Diode</b> None</p> <p><b>Line/Load Regulation</b> <math>\pm</math> 1% combined from zero load to full load</p> <p><b>Dynamic Response</b> Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p> <p><b>Output Ripple / Noise</b> Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage. (20MHz BW)</p> <p><b>Output Overload Protection</b> Rectangular current limiting with short-circuit protection. Thermal shutdown with automatic resetting</p> <p><b>Output Over-voltage Protection</b> Second regulator loop.</p>	<p><b>Efficiency</b> Min. 83% at full load</p> <p><b>Operating Temperature Range</b> -40 to +70°C cold-plate temperature for full specification</p> <p><b>Temperature Drift</b> 0.03% per °C over operating temperature range.</p> <p><b>Cooling</b> Conduction via base plate to customer heatsink or chassis</p> <p><b>Environmental Protection</b> Full encapsulation</p> <p><b>Shock/Vibration</b> Designed to meet requirements of IEC 61373 Cat 1 A&amp;B and Cat 2 as a minimum</p> <p><b>MTBF</b> 180,000 hours @ 45 °C (calculated) Demonstrated MTBF is significantly higher</p> <p><b>Indicators</b> None</p>	<p><b>Alarm output</b> None on standard version</p> <p><b>Package/Dimensions</b> P 59: 108 x 51 x 191 mm 4.3" x 2.8" x 7.5" including terminal block and flanges Mounting holes are clear</p> <p><b>Weight</b> 2 kg (4.5 lb)</p> <p><b>Connections</b> 7 pole barrier type terminal block, 3/8" spacing</p> <p><b>RoHS Compliance</b> Fully compliant</p> <p><b>Warranty</b> Twelve months subject to application within good engineering practice</p>
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**Enhancements to these general specifications and customizing can be accommodated upon request. Specifications subject to change.**

*Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility.*



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