

## 100W, Encapsulated AC-DC Power Supply for Heavy Duty Applications PWI 100-P99L Series



- Fully encapsulated
- Conduction cooling
- Full electronic protection
- Universal input range
- Rugged, field proven design

This fully encapsulated, rugged, industrial quality AC-DC power supply uses field-proven technology to generate the required output power. It has an excellent track record in numerous heavy-duty applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound to increase resistance to shock, vibration and humidity. Cooling is via base plate by conduction. The unit is designed for continuous operation at 70°C with installation on an appropriate heatsinking surface. Full electronic protection, low component count, large design headroom, and the use of components with established reliability ensure high MTBF. The unit is suitable for transportation, mining, oilrigs, military and other harsh environments. It is manufactured at our plant under strict quality control. Versions that are designed to meet EN 50155 railway specifications are also available.

### SPECIFICATIONS

<p><b>Input Voltage</b> Universal input 95Vac - 264Vac, 47-63Hz DC-input also available Consult factory for other voltages</p>	<p><b>Output Voltage/Current</b> 12Vdc/8A, 24Vdc/4A or 48Vdc/2A Output is floating, either terminal can be grounded Consult factory for other voltages</p>	<p><b>Efficiency</b> Output is voltage dependent. Typically 80% at full load</p>	<p><b>Indicators</b> None</p>																		
<p><b>Input Protection</b> Inrush current limiting Varistor Internal safety fuse Line to GND varistor upon request Lower voltage than the specified minimum input will not damage the unit</p>	<p><b>Redundancy Diode</b> None</p>	<p><b>Operating Temperature Range</b> -40°C to +70°C cold-plate temperature for full specification</p>	<p><b>Control Input</b> None</p>																		
<p><b>Isolation</b> 2250Vdc input to chassis 4300Vdc input to output 8mm spacing 500Vdc output to chassis</p>	<p><b>Line/Load Regulation</b> ±1% combined from zero load to full load</p>	<p><b>Temperature Drift</b> 0.03% per °C over operating temperature range.</p>	<p><b>Alarm output</b> None</p>																		
<p><b>Standards</b> Designed to meet EN 62368-1 and corresponding UL and CSA standards</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>Cooling</b> Conduction via base plate to customer heatsink or chassis</p>	<p><b>Package/Dimensions (W x H x L)</b> P99L: 82 x 58 x 157 mm 3.2" x 2.3" x 6.2" Includes terminal blocks and flanges. Mounting holes are clear.</p>																		
<p><b>EMI</b> EN 55032 Class A with margins</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>Environmental Protection</b> Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating. Meets environmental criteria as requested in MIL-810 C, D</p>	<p><b>Weight</b> 0.8 kg (1.5 lb)</p>																		
<p><b>Switching Frequency</b> 47kHz ±2kHz</p>	<p><b>Output Overload Protection</b> Rectangular current limiting with short-circuit protection (hiccup type)</p>	<p><b>Shock/Vibration</b> IEC 61373 Cat 1 A&amp;B</p>	<p><b>Connections</b> 6 pole barrier type terminal block, 3/8" spacing. Snap-on cover available.</p>																		
<p><b>Hold-Up Time</b> Minimum 5ms at full load for 5% drop of output voltage at 120V AC input.</p>	<p><b>Output Over-voltage Protection</b> Double regulator loop completely stable and independent of main regulator loop</p>	<p><b>MTBF</b> 180,000 hours @ 45 °C Demonstrated MTBF significantly higher</p>	<p><b>RoHS Compliance</b> Compliant</p>																		
			<p><b>Warranty</b> Two years subject to application within good engineering practice</p>																		
			<p><b>Terminal Block Pin-out</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3">DC OUTPUT</th> <th colspan="3">AC INPUT</th> </tr> <tr> <th>-</th> <th>+</th> <th>NOT USED</th> <th>⏏</th> <th>PH</th> <th>N</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> </tbody> </table>	DC OUTPUT			AC INPUT			-	+	NOT USED	⏏	PH	N	1	2	3	4	5	6
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*ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.*



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