

400W, Rugged, Encapsulated DC/DC Converter for Heavy Duty Applications PDC 400 Series

- Designed for very harsh environments
- High resistance to shock and vibration
- High reliability
- Full electronic protection
- Field-proven design
- Fully encapsulated
- Conduction cooling



The PDC 400 Series rugged DC/DC converter uses push-pull technology to generate 400W output power. Designed for operation in very harsh environments, the unit is entirely potted with a thermally conductive MIL-spec silicon rubber compound to ensure resistance against humidity, moisture, shock, vibration, dust and insects. It is conduction cooled via a base plate. The PDC 400 was designed for continuous operation in a -40°C to a +70°C temperature range when installed on an appropriate heatsinking surface. It features full electronic protection, high efficiency and low output noise. The use of components with many years of established reliability and generous headroom contributes to an MTBF exceeding 180,000 hours at 45°C. Versions meeting EN 50155 railway specifications are also available.

SPECIFICATIONS

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| <p>Input Voltage 24Vdc (21V – 30V) 36Vdc (29V – 43V) 48Vdc (42V – 60V) 125Vdc (95V – 140V) Consult factory for other voltages and ranges, including for railway</p> <p>Input Protection Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified input min. will not damage the unit</p> <p>Isolation 1500Vdc input to chassis 2250Vdc input to output, 500VDC output to chassis as a minimum</p> <p>Standards Designed to meet EN60950 and related standards.</p> <p>EMI EN 55022 Class B</p> <p>Switching Frequency 55KHz +/- 3KHz</p> | <p>Output Voltages 12Vdc/33A, 24Vdc/17A, 36Vdc/12A or 48Vdc/9A Consult factory for other voltages</p> <p>Redundancy Diode None</p> <p>Line/Load Regulation +/-1% combined from zero load to full load</p> <p>Dynamic Response Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p> <p>Output Ripple / Noise Better than 0.2% Vrms or 1% Vpp of the output voltage (20MHz BW)</p> <p>Output Overload Protection Rectangular current limiting with short circuit protection. Current limit typically set for 110% of nominal output current Thermal shutdown with automatic reset in case of insufficient cooling</p> <p>Output Overvoltage Protection Double regulator loop Typically set at 120% of nominal output voltage</p> | <p>Efficiency Min. 80% at full load</p> <p>Operating Temperature Range -40 to +70°C cold-plate temperature for full specification</p> <p>Temperature Drift 0.03% per °C over operating temperature range</p> <p>Cooling Conduction cooling via base plate to customer chassis or heat-sink (cold plate)</p> <p>Environmental Protection Fully encapsulated with thermally conductive silicon compound</p> <p>Shock/Vibration Meets requirements of IEC 61373 Cat 1 A&B and Cat 2 as a minimum.</p> <p>MTBF 180,000 hours at 45°C Demonstrated MTBF is significantly higher.</p> | <p>Indicators None</p> <p>Control Input None</p> <p>Alarm Output None</p> <p>Dimensions P400: 131 x 76 x 232 mm 5.2" x 3" x 9.1" including terminal block and flanges Mounting holes are clear</p> <p>Weight 2.2 kg (4.85 lbs)</p> <p>Connections 9-pole barrier type terminal block, 3/8" spacing.</p> <p>RoHS Compliance (Directive 2002/95/EC) Fully compliant</p> <p>Warranty Twelve months subject to application within good engineering practice</p> |
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Enhancements to these general specifications 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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