

750Vdc Input, Rugged 2kW DC/DC Converter for Railway and Similar Applications HVI 2K-750/24



- Rugged construction
- Meets EN 50121-3-2 EMI/EMC
- Single regulated and adjustable output
- Full electronic protection
- Fan-cooling
- Field-proven design
- N+1 redundancy available

The HVI 2K-750/24 DC/DC converter uses field proven design topology to generate 2kW output power at 24Vdc. The unit accepts an input voltage of 750Vdc (525V – 975Vdc range), typical traction voltage required for mass transit vehicles (trams, light rail, metros, mining locomotives etc). An optional built-in redundancy diode would allow for a number of units to be connected in parallel to achieve higher output power or N+1 redundancy. The output separation diode also makes the unit suitable for battery charging applications. To ensure high reliability and long operating life, all critical components on the primary side are designed and tested for corona inception levels which are significantly higher than the operating voltages. The chassis-mount design features low component count and high efficiency. The use of high quality components and rigorous quality control results in a demonstrated MTBF exceeding 85,000 hours at 45°C. Ruggedizing and conformal coating provide higher immunity to shock, vibration, humidity, moisture, dust and insects. Custom versions are available.

SPECIFICATIONS

<p>Input Voltage 750Vdc 525V – 975V range Input current: 5A max.</p> <p>Input Protection Reverse polarity protection Inrush current limiting Internal safety fuses Varistors Lower voltage than the specified minimum input will not damage the unit</p> <p>Isolation Input-chassis 3000Vdc on each unit Input-output 3000Vdc on each unit 5600Vdc type test Output-chassis 500Vdc</p> <p>Standards Designed to meet EN 60950 and EN 50155</p> <p>EMI EN55022 Class B</p> <p>Immunity Meets criteria of EN50155 and EN50121-3-2 including: EN 61000-4-2 (ESD) EN61000-4-3 (RF Immunity) EN61000-4-4 (Fast Transients) EN50155 (Surge) EN61000-4-6 (Conducted Imm.) EN50155 (Voltage Variations)</p>	<p>Switching Frequency 55kHz +/- 3kHz</p> <p>Output Voltage/Current 24Vdc +/- 0.1V/ 83A Output is floating; either terminal can be grounded</p> <p>Redundancy Diode Available as option.</p> <p>Line/Load Regulation +/-1.5% 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 60mVrms and 300mVpp (@ 20MHz BW)</p> <p>Output Overload Protection Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting) Current Limit: 88A +/- 5A</p>	<p>Output Overvoltage Protection Second regulator loop, completely stable and independent of main regulator loop OVP limit: 30V +/- 2V</p> <p>Efficiency Min 80% at full load</p> <p>Operating Temperature Range -25°C to 50°C for full specification Wider range available as option</p> <p>Humidity 5 – 95%, non condensing</p> <p>Temperature Drift 0.03% per °C over operating temperature range</p> <p>Cooling By two built-in fans</p> <p>Environmental Protection Ruggedizing and conformal coating</p> <p>Shock/Vibration Designed to meet IEC 61373 Cat 1 A&B</p> <p>MTBF 85,000 hours @45°C (fans not included)</p>	<p>Indicators Optional</p> <p>Control Input None</p> <p>Alarm Outputs Optional</p> <p>Dimensions (W x H x L) 231 x 140 x 338 mm (9.1" x 5.5" x 13.3") including mounting flanges</p> <p>Weight Approx. 7kg (15 lbs.)</p> <p>Connections Input: Barrier type terminal block with 3/8" spacing Output: Copper bar with ¼ " hole for output</p> <p>RoHS Compliance (Directive 2002/95/EC) According to requirements</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. Designed to meet common approval requirements

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



ABOPULSE ELECTRONICS LTD
110 Walgreen Road
Ottawa, Ontario. K0A 1L0. CANADA
Tel: (613) 836-3511 Fax: (613) 836-7488
E-mail: absopulse@absopulse.com
www.absopulse.com