

50W, Rugged, Compact, Railway Quality DC/DC Converter MIM 50R Series

- Field-proven rugged design
- For train and mobile applications
- Conduction/convection cooled
- Full electronic protection
- Wide input ranges (EN 50155)
- Cost optimized
- Small size



The MIM 50R Series rugged, railway quality DC/DC converter uses field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The standard version operates at full specification over a -25°C to +70°C cold plate temperature range. Cooling is via baseplate to a heatsinking surface and by natural convection. Ruggedizing and conformal coating provide added immunity to shock, vibration and humidity. Low component count, large design headrooms, and the use of components with established reliability result in a high MTBF. The unit meets the requirements of EN 50155 for electronic equipment used on railway rolling stock. It is manufactured at our plant under strict quality control.

SPECIFICATIONS

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| <p>Input Voltage (nominal, range) 24Vdc (14.4 – 34V) 48Vdc (29 – 67V) 72Vdc (43 – 101V) 96Vdc (58 – 135V) 110Vdc (66 – 154V) Other inputs available on request</p> <p>Input Protection Inrush current limiting Surge protection Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit.</p> <p>Isolation 1500Vdc input to chassis 3000Vdc input to output 1500Vdc output to chassis</p> <p>Standards Designed to meet EN60950 and EN50155</p> <p>Immunity Meets criteria of EN 50155 and EN 50121-3-2 including: EN 61000-4-2 (ESD) EN 61000-4-3 (RF Immunity) EN 61000-4-4 (Fast Transients) EN 50155 (Surge) EN 61000-4-6 (Conducted Imm.) EN 50155 (Voltage Variations)</p> | <p>EMI EN55022 Class B</p> <p>Switching Frequency 135kHz +/- 5kHz</p> <hr/> <p>Output Voltage/Current 12Vdc/4A or 24Vdc/2A Output is floating, either terminal can be grounded Other outputs available on request</p> <p>Redundancy Diode None</p> <p>Line/Load Regulation +/- 1% combined from no 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 1% peak to peak or 0.2% RMS of the output voltage (20MHz BW)</p> <p>Output Overload Protection Rectangular current limiting with hiccup-type short-circuit protection</p> <p>Output Overvoltage Protection Transzorb across the output</p> | <p>Efficiency Min. 80% at full load</p> <p>Operating Temperature Range -25 °C 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 via base plate and natural convection</p> <p>Environmental Protection Full ruggedizing Heavy conformal coating</p> <p>Shock/Vibration IEC 61373 Cat 1 A&B</p> <p>Humidity 5 - 95% non-condensing</p> <p>MTBF 150,000 hours @ 45 °C Demonstrated MTBF is significantly higher</p> | <p>Indicators None</p> <p>Control Input None</p> <p>Alarm Output None</p> <p>Package / Dimensions (W x H x L) FM: 66 x 38 x 163 mm (2.6" x 1.5" x 6.4") including terminal block and flanges Mounting holes are clear</p> <p>Weight 400g (0.9 lb)</p> <p>Connections 5-pole terminal block (3/8" spacing)</p> <p>RoHS Compliance Fully compliant</p> <p>Warranty Two years 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 custom and standard switch-mode power supplies, battery chargers, dc/dc converters, sine wave inverters, complete power systems with plug-in modules for 19" and 23" racks and DC-input fluorescent lamp inverters, since 1982. Absopulse is a ABBT-approved facility.



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