

50W, Rugged, Railway Quality DC-DC Converter MIM 50R-FM Series



- Rugged, field-proven design
- For train and mobile applications
- Conduction/convection cooled
- Full electronic protection
- Wide input ranges (EN50155)
- Compact size (66 x 38 x 147.3 mm)

This rugged, railway quality DC-DC power converter utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. Cooling is via base plate to a heat-sinking surface and by natural convection. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness. Additional cooling is achieved by natural convection through the cooling slots. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a high MTBF. The unit meets the requirements of EN50155 for electronic equipment used on railway rolling stock. It is manufactured at our plant under strict quality control.

SPECIFICATIONS

<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 EN62368-1 and EN50155</p> <p>Immunity Meets criteria of EN 50155 and EN50121-3-2 including: EN61000-4-2 (ESD) EN61000-4-3 (RF Immunity) EN61000-4-4 (Fast Transients) EN50155 (Surge) EN61000-4-6 (Conducted Imm.) EN50155 (Voltage Variations)</p>	<p>EMI EN55032 Class A with margins</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 Ruggedizing 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 147.3 mm 2.6" x 1.5" x 5.8" Includes baseplate and screws on sides of unit, excludes terminals 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 Compliant</p> <p>Warranty Two years subject to application within good engineering practice</p>
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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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