

150VA Railway Quality DC-AC Inverters with Sine Wave Output Voltage, Low-profile

RSI 150-F2 Series



- Sinusoidal wave shape
- Field-proven rugged design
- Cooling by conduction and natural convection
- Low profile, compact size
- Full electronic protection

This rugged, railway quality DC-AC inverter series uses field-proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. The units meet the requirements of EN50155 for electronic equipment used on railway rolling stock. The design is based on a mature design topology with a track record in numerous applications. The DC-DC input stage boosts the input voltage to a higher DC voltage, which feeds the DC-AC inverter to generate the required AC output. The use of high frequency conversion enables a compact construction, low weight and high efficiency. The input and output are filtered for low noise. Cooling is by baseplate to a cold plate 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 ensures exceptional mechanical ruggedness. 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. All ABSOPULSE products are manufactured at our plant under strict quality control. Industrial quality versions of this design are also available.

SPECIFICATIONS

<p>Input Voltage 24Vdc (17 – 34V) 36Vdc (25 – 51V) 48Vdc (33 – 67V) 72Vdc (50 – 101V) 96Vdc (67 – 135V) 110Vdc (77 – 154V) Consult factory for other input voltages and ranges</p> <p>Input Protection Inrush current limiting Varistor 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</p> <p>Standards Designed to meet C22.2 No. 107.1 - 01, UL 458, EN60950-1, EN50155 and EN45545-2</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>EMI EN50121-3-2</p>	<p>Output Voltage 115Vac @60Hz or 400Hz/1.3Arms continuous; or 230Vac @ 50Hz/0.65Arms continuous Isolated floating output Consult factory for other output requirements</p> <p>Output Wave Form Sinusoidal</p> <p>Total Harmonic Distortion Less than 5% at full load</p> <p>Line/Load Regulation ± 2% from no load to full load</p> <p>Load Crest Factor 2.0 at 90% load</p> <p>Output Noise High frequency ripple is less than 500mVrms (20MHz BW)</p> <p>Output Overload Protection Current limiting with short circuit protection Thermal shutdown with automatic recovery in case of insufficient cooling</p> <p>Output Overvoltage Protection 140Vac (for 115Vac output) or 280Vac (for 230Vac output) by internal supply voltage limiting</p>	<p>Efficiency Typically 80% at full load Dependent on input/output combination</p> <p>Operating Temperature -25°C to +55°C cold-plate temperature for full specification Extended temperature range available on request</p> <p>Temperature Drift 0.05% per °C over operating temperature range</p> <p>Cooling Conduction to customer heat-sink or chassis 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 at 45 °C Demonstrated MTBF is significantly higher</p>	<p>Indicators None</p> <p>Control Input None</p> <p>Alarm Output None Optional output Fail Alarm (Form C)</p> <p>Dimensions F2: 114 x 58 x 256 mm (4.5" x 2.3" x 10.1"") including terminal block and flanges Mounting holes are clear For extended temperature range and wider input ranges, F3 enclosure may be necessary.</p> <p>Weight Approx. 1.2 kg (2.6 lb)</p> <p>Connections Barrier-type terminal block with 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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Terminal Block Pin-Out

AC OUTPUT			ALARM (OPTION)			DC INPUT		
NOT USED	L1	L2	FAIL OPEN	COM	FAIL CLOSED	GND	+	-
1	2	3	4	5	6	7	8	9

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

OEM of professional quality AC/DC power supplies and battery chargers, DC/DC converters, 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.



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