

150VA Sine Wave Inverter for Railway Applications

RSI 150-FT Series



- Field-proven rugged design
- Conduction/convection cooled - no fan
- Low profile, compact size
- Sinusoidal wave shape
- Full electronic protection

This rugged DC/AC inverter uses field proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. It is a mature design 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 high frequency conversion enables a compact construction, low weight and high efficiency. The unit has full electronic protection. The input and output are filtered for low noise. Cooling is via baseplate to a cold plate surface and by additional natural convection. The use of components with established reliability results in 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. Customized versions are available.

SPECIFICATIONS

Input Voltage

24Vdc (17 \square 34V)
 36Vdc (25 \square 51V)
 48Vdc (33 \square 67V)
 72Vdc (50 \square 101V)
 96Vdc (67 \square 135V)
 110Vdc (77 \square 154V)
 Consult factory for other input voltages and ranges

Input Protection

Inrush current limiting
 Varistor
 Reverse polarity protection
 Internal safety fuse
 Lower voltage than the specified minimum input will not damage the unit

Isolation

1500Vdc input to chassis
 3000Vdc input to output

Standards

Designed to meet
 C22.2 No. 107.1 - 01, UL 458,
 EN60950 and EN50155

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)

EMI

EN55022 Class A or B according to requirements, and EN50121-3-2 conducted and radiated

Output Voltage

115Vac @60Hz or 400Hz/1.3Arms continuous; or
 230Vac @ 50Hz/0.65Arms continuous
 Isolated floating output
 Consult factory for other output requirements

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line Regulation

Maximum 0.5%

Load Regulation

Maximum \pm 2% from no load to full load.

Load Crest Factor

Maximum 3.0 at 90% load

Output Noise

High frequency ripple is less than 500mVrms (20MHz BW)

Output Overload Protection

Current limiting with short circuit protection
 Thermal shutdown with automatic recovery in case of insufficient cooling

Output Overvoltage Protection

140Vac (for 115Vac output) or 280Vac (for 230Vac output) by internal supply voltage limiting

Efficiency

Typically 80% at full load
 Dependent on input/output combination

Operating Temperature

-25 to +50°C cold-plate temperature for full specification

Temperature Drift

0.05% per °C over operating temperature range

Cooling

Conduction to customer heat-sink or chassis and natural convection

Environmental Protection

Ruggedizing
 Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

150,000 hours at 45 °C
 Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None

Alarm Output

None
 Optional output Fail Alarm (Form C)

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

Weight

Approx. 1.2 kg (2.6 lb.)

Connections

Barrier-type terminal block with 3/8" spacing

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

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

Please note that ABSOPULSE inverters are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are 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

