

500VA Sine Wave Inverter for Railway Applications

RSI 500-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

110Vdc (66-154V)
Consult factory for other inputs

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
Output neutral is connected to the chassis internally on standard version

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 B and
EN50121-3-2 conducted
and radiated

Output Voltage

115Vac @ 60Hz or
400Hz/4.4A rms continuous;
or 230Vac @ 50Hz/2.2A rms
continuous.
Output neutral is connected to the chassis internally.
Isolated floating output optional
Consult factory for other output requirements

Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line Regulation

Maximum 0.5%

Load Regulation

Maximum $\pm 6\%$ from no load to full load.
A $\pm 2\%$ load regulation option is available.

Load Crest Factor

Maximum 3.0 at 90% load

Output Noise

High frequency ripple is better 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 +70°C cold-plate temperature

Temperature Drift

0.05% per °C over operating temperature range

Cooling

Conduction to customer heatsink or chassis and natural convection

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

Designed to meet IEC 61373
Cat 1 A&B and Cat 2 as a min.

Humidity

5 - 95% non-condensing

MTBF

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

Indicators

None

Control Input

None
Optional remote shut down

Alarm Output

None on standard version
Optional output Fail Alarm (Form C)

Dimensions

F 21: 254 x 66 x 351mm
(10" x 2.6" x 13.8") including mounting flanges

Weight

4.2kg (9lb)

Connections

Compression-type terminals for input and output

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

Enhancements to these general specifications and customizing can be accommodated upon request. Specifications 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



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