200VA Sine Wave Inverter for Railway Applications
RSI 200-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 sign 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 base plate 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 – 34V)
36Vdc (25 – 51V)
48Vdc (33 – 67V)
72Vdc (50 – 101V)
96Vdc (67 – 135V)
110Vdc (77 – 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

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/1.7A rms continuous;
or 230Vac @ 50Hz/0.86A rms 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 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 +50oC cold-plate temperature range 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 oC
Demonstrated MTBF is significantly higher

Indicators
None

Control Input
None

Alarm Output
None
Optional output Fail Alarm (Form C)

Dimensions
F3: 132 x 64 x 300mm
(5.2" x 2.5" x 11.8") including terminal block and flanges
Mounting holes are clear

Weight
Approx. 1.6 kg (3.5 lb)

Connections
Barrier-type terminal block with 3/8" spacing.

RoHS Compliance
Fully compliant

Warranty
Two years subject to application within good engineering practice

Enhancementsto these generalspecifications and customizing can be accommodated upon request. Specificationssubjectto change.

ANALYTIC SYSTEMS
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