

# IVSrail200 DC/AC Pure-Sinewave Inverter



## Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

## Applications

- Railway / Transportation
- Mining
- Oil Rigs
- Military Applications
- Marine / Automotive / RV
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Industrial Controls
- OEM Applications

## DC/AC Inverters

### IVSrail200 Series Pure-Sinewave

#### Description

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.

#### Features

- Very low input ripple current
- Compact size, light weight
- Sinusoidal wave shape
- 200VA of output power
- Full electronic protection
- Field-proven design topology
- Conduction/convection cooled - no fan

## Specifications ( Specifications Subject to Change Without Notice)

<b>Input Voltage</b>	24Vdc (17 – 34V), 36Vdc (25 – 51V), 48Vdc (33 – 67V) 72Vdc (50 – 101V), 96Vdc (67 – 135V), 110Vdc (77 – 154V) Consult factory for other inputs
<b>Input Protection</b>	Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit
<b>Isolation</b>	1500VDC Input to chassis 3000VDC Input to output
<b>Standards</b>	Designed to meet C22.2 No. 107.1 - 01, UL 458, EN60950 and EN50155
<b>Output Voltage</b>	230Vac @ 50Hz/0.86A rms continuous or 115Vac @60Hz or 400Hz/1.7A rms continuous Isolated floating output Consult factory for other output requirements
<b>Wave Form</b>	Sinusoidal
<b>Total Harmonic Distortion</b>	Less than 5% at full load
<b>Efficiency</b>	Typically 80% at full load Dependent on input/output combination
<b>Line Regulation</b>	Maximum $\pm$ 0.5%
<b>Load Regulation</b>	Maximum $\pm$ 2% from no load to full load
<b>Output Overload Protection</b>	Current limiting with short circuit protection Thermal shutdown with automatic recovery in case of insufficient cooling
<b>Output Overvoltage Protection</b>	280Vac (for 230Vac output) or 140Vac (for 115Vac output) by internal supply voltage limiting
<b>EMI</b>	EN55022 Class B and EN50121-3-2 conducted and radiated
<b>Immunity</b>	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)
<b>Load Crest Factor</b>	Maximum 3.0 at 90% load
<b>Output Ripple Noise</b>	High frequency ripple is less than 500mVrms (20MHz BW)
<b>Operating Temperature Range</b>	-25 to +50°C cold-plate temperature range for full specification
<b>Humidity</b>	5 - 95% non-condensing
<b>Temperature Drift</b>	0.05% per °C over operating temperature range
<b>Cooling</b>	Conduction to customer heat sink or chassis and natural convection
<b>Environmental Protection</b>	Ruggedizing, Conformal coating
<b>Shock/Vibration</b>	IEC 61373 Cat 1 A & B
<b>Dimensions</b>	F3: 132 x 62 x 300 mm (H x W x L) including terminal block and flanges Mounting holes are clear
<b>Connections</b>	Barrier type terminal block with 3/8" spacing
<b>Weight</b>	1.6 Kg
<b>MTBF</b>	150,000 hours at 45°C Demonstrated MTBF is significantly higher
<b>Indicators</b>	None
<b>Control Input</b>	None
<b>Alarm output</b>	None Optional output Fail Alarm (Form C)
<b>RoHS Compliance</b>	Fully compliant
<b>Warranty</b>	2 years

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