RIPEENERGY
The Power Conversion Company

FCrail1000 RAILWAY FREQUENCY CONVERTER

SERIES FCrail1000

This rugged, AC/AC frequency converter system 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 frequency converter is built with internal power modules. The AC/DC input stage boosts the input voltage to a higher DC voltage, which feeds the DC/AC inverter to generate the required AC output.

Long-life built-in fans provide sufficient airflow for operation without de-rating to the specified temperature.

The high frequency conversion enables a compact construction, low weight and high efficiency.

The unit has full electronic protection.

The use of components with established reliability results in high MTBF.

The system is manufactured at our plant under strict quality control.
Customized versions are also available.

Pure Sinewave

HF
High frequency technology

Light weight, compact size

Full electronic protection

Optional Output fail alarm (Form C)

APPLICATIONS

- Railway Applications
- Industrial Controls
- Telecom Power Plants
- Marine & other rugged environments
- Electric Utilities and Substations
- Base Station Power

FEATURES

- 230Vac/16.7Hz input voltage
- Field-proven rugged design
- Cooling by internal fans
- Filtered input and output
- Full electronic protection
- Compact size
- 1000VA of output power

SPECIFICATIONS

Input Voltage	230Vac nominal, 16.7Hz 195-264Vac operating range
Input Protection	Inrush current limiting Varistor Internal safety fuse Lower voltage than the specified minimum input will not damage the unit
Isolation	2250Vdc input to chassis 2250Vdc output to chassis
Output Voltage	230Vac/50Hz/4.4Arms continuous Output neutral is internally connected to chassis
Output Wave Form	Sinusoidal
Total Harmonic Distortion	Less than 5% at full load
Line/Load Regulation	Maximum ± 6% from no load to full load ± 2% load regulation option is available
Load Crest Factor	2.5 at 90% load
Output Ripple Noise	High frequency ripple is less than 500mVrms (20MHz BW)
Efficiency	Typically 78% at full load
Output Overload Protection	Current limiting with short circuit protection. Thermal shutdown with automatic recovery in case of insufficient cooling
Output Overvoltage Protection	280Vac by internal supply voltage limiting

Standards	Designed to meet C22.2 No. 107.1 - 01, UL 458, EN 60950, EN 62368-1 and CE
EMI	EN 55032 Class A as a minimum
Operating Temperature	-25°C to +50°C for full specification without derating Derating linearly 2.5% per °C rise above +50°C to +70°C max.
Humidity	5 - 95% non-condensing
Temperature Drift	0.05% per °C over operating temperature range
Cooling	Built-in fans draw air into the unit
Environmental Protection	Basic ruggedizing and conformal coating Full ruggedizing and conformal coating as option
Shock/Vibration	IEC 61373 Cat 1 A&B
Dimensions	3U4: 244 x 132 x 407 mm (W x H x L) including connectors, excluding flanges
Weight	8 Kg
Connections	Input: Compression-type terminal Output: Compression-type terminal or Standard AC receptacle
MTBF	95,000 hours at 45°C Demonstrated MTBF is significantly higher Fans excluded
Indicators	None
Control Input	None
Alarm output	None Optional output Fail Alarm (Form C)
RoHS Compliance	Fully compliant
Warranty	2 years

RIPENERGY
The Power Conversion Company

RIPEnergy AG
Wägitalstrasse 24
CH-8854 Siebnen
Switzerland

Phone +41 43 818 53 85
www.ripenergy.ch