RIPEENERGY
The Power Conversion Company

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FCSTrail20k-U6154
RAILWAY FREQUENCY CONVERTER

SERIES FCSTrail20k

This rugged, DC/AC frequency converter uses field proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage.

It is constructed with six 3U7 modules and a 6U7 module. Each interconnection between modules is made with cable with connector.
Three of these modules convert the AC input voltage to an internal DC voltage, which feeds the AC output module.
All modules are built with internal power cards. The complete system has twenty four input cards, twelve capacitor banks and nine output cards.

The build-in fans provide sufficient airflow for operation without de-rating. 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.

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

The unit is manufactured at our plant, under strict quality control.

Pure Sinewave

3-Phase output

High frequency technology

Light weight, compact size

Full electronic protection

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

- 3-Phase sine wave output voltage
- 230Vac/16.7Hz input voltage
- Field-proven rugged design
- Cooling by internal fans
- Filtered input and output
- Full electronic protection
- Compact size
- 20kVA of output power

SPECIFICATIONS

Input Voltage	230Vac nominal, 16.7Hz 177-240Vac operating range Input current: 204Arms max. total 34Arms per input module
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 Output neutral is connected to the chassis internally
Output Voltage	400Vac L-L, 3-phase, 50Hz 29Arms per phase 20kW continuous Output neutral is internally connected to chassis
Output Wave Form	Sinusoidal
Total Harmonic Distortion	Less than 5% at full load
Line/Load Regulation	± 6% from no load to full load
Load Crest Factor	2 at 90% load
Output Ripple Noise	High frequency ripple is less than 500mVrms (20MHz BW)
Efficiency	80% 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	450V (L-L) by internal supply voltage limiting

Standards	Designed to meet C22.2 No. 107.1 – 01, UL 458 and EN 62368-1
EMI	EN55032 Class A with margins
Operating Temperature	0 to +50°C for full specification
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
Shock/Vibration	IEC 61373 Cat 1 A&B
Dimensions	Package/Dimensions (WxHxL) Six 3U7 case with each with sizes: 132 x 483 x 432mm and one 6U7 Total 15U x 19" x 16"
Weight	92 Kg
Connections	Input: Terminal block Phoenix 125A on each input module Output: Terminal block Phoenix 60A type Interconnections: Cables with connector
MTBF	70,000 hours at 45°C Demonstrated MTBF is significantly higher Fans excluded
Indicators	None
Control Input	None
Alarm output	Not installed
RoHS Compliance	Fully compliant
Warranty	2 years

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