2000VA Rugged, Encapsulated, Sine Wave AC-AC Frequency Converter
FC 2KP-EW/A Series

- Field-proven, rugged design
- Sinusoidal output voltage
- Able to handle generator voltage
- Fully encapsulated internal modules
- Low profile, compact size
- Full electronic protection

This rugged, modular AC-AC frequency converter system was designed to generate a clean sine wave output from "dirty" generator voltage under harsh field conditions. It uses field proven, microprocessor controlled high frequency PWM technology which has a track record in numerous applications. The AC-DC input stage boosts the input voltage to a higher DC voltage, which feeds the DC-AC inverter. The internal power modules are entirely potted with a thermally conductive MIL-grade silicon rubber compound for immunity to high levels of shock, vibration and humidity, ensuring reliable operation. Cooling is via baseplate to a cold plate surface. The input and output are filtered for low noise. The high frequency conversion enables compact construction, and high efficiency. Full electronic protection and the use of components with established reliability result in high MTBF. The system is manufactured at our plant under strict quality control. Customized versions are also available.

SPECIFICATIONS

Input Voltage
230Vac nominal from diesel generator
180-270Vac operating range
35-70Hz
Input current: 20Arms max.
Consult factory for other input voltages and ranges

Input Protection
Inrush current limiting
Varistors
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation
2250Vdc input to chassis/output
Output neutral is connected to the chassis internally

Standards
Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN60950-1

EMI
EN 55032 Class A with margins

Output Voltage
120Vac/16Arms/60Hz continuous
or
230Vac/8Arms/50Hz continuous
Output neutral is connected to the chassis internally
Consult factory for other outputs

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
2.5 at 70% load

Output Noise
High frequency ripple is less than 500mVrms (20MHz BW)

Output Overload Protection
Current limiting with short circuit protection
At approximately 2400VA, unit enters cycling (hiccup) mode.
Thermal shutdown with automatic recovery in case of insufficient cooling

Output Overvoltage Protection
140Vac (for 115Vac output) by internal supply voltage limiting

Efficiency
Typically 80% at full load
Dependent on input/output combination

Operating Temperature Range
0ºC to +50˚C for full specification without de-rating
Extended temperature ranges available

Temperature Drift
0.05% per ˚C, over the operating temperature range

Cooling
Conduction cooling, unit must be mounted on heat-sinking surface

Environmental Protection
Internal modules are fully encapsulated

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
Min. 95,000 hours at 45ºC
Demonstrated MTBF is significantly higher

Indicators
None

Control Input
None

Alarm Output
Not installed
Available on request

Package/Dimensions (W x H x L)
F31 (for AC-DC sub system) and F21 (for DC-AC inverter sub system) enclosures, requiring an installation area of: 508 x 69 x 914 mm
Chassis mount

Weight
Approx. 20kg (44 lb.)

Connections
Input: Threaded studs
Output: Threaded studs
Interconnection: Threaded studs

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change.

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.

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Made in Canada