1000VA Rugged, Industrial Quality AC-AC Frequency Converter with Sine Wave Output Voltage
FC 1K-3U2 Series

- Sinusoidal output voltage
- Rugged, field proven design
- Filtered input
- Cooling by internal fans
- Full electronic protection

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. 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. The use of high frequency PWM technology enables compact construction, low weight and high efficiency. The input and output are filtered for low noise. A high-quality built-in fan provides sufficient airflow for operation within the specified temperature range without de-rating. The fan draws air into the unit, and exhausts at the terminal side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, low component count, large design headroom, and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
115 or 230Vac, ±15%
47 … 410Hz are standard
Factory set for required input
95 – 264Vac universal input with PFC is also available

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 chassis internally
Floating output as option

Standards
Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN 62368-1

EMI
EN 55032 Class A
as a minimum

Output Voltage
115Vac/8.7Arms/60Hz or
400Hz continuous or
230Vac/4.35Arms/50Hz
continuous.
Output neutral is connected to the chassis internally.
Isolated floating output optional
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
±2% load regulation option is available

Load Crest Factor
2.5 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
Depends on input and output voltage combination.
Typically 78% at full load

Operating Temperature Range
0ºC to +50˚C for full specification
Extended temperature ranges available

Temperature Drift
0.05% per ˚C over operating temperature range

Cooling
Built-in fans draw air into the unit

Environmental Protection
Basic ruggedizing
Conformal coating

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
Min. 90,000 hours at 45ºC
Demonstrated MTBF is significantly higher
Fans excluded

Indicators
None

Control Input
None
Remote shutdown as option

Alarm Output
None
Option: output fail alarm (Form C)

Package/Dimensions (W x H x D)
3U2: 32 x 132 x 381 mm
5.2" x 5.2" x 15"
Excludes terminals
Mounting holes are clear
19" rack-mount version as option

Weight
5 kg (11 lbs.) approx.

Connections
Input: Terminal block
Output: Terminal block

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice
Contamination related failures and shipping cost excluded

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