2000VA Rugged, Industrial Quality AC-AC Frequency Converter with Sine Wave Output
FC 2K-3U5 Series

- Rugged construction
- Sinusoidal output voltage
- Filtered input
- Cooling by high-quality internal fans
- Full electronic protection
- Field-proven design topology

3U5
Chassis mount

3U5/19
19" Rackmount
option available

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 high frequency conversion enables compact construction, low weight, and high efficiency. The input and output are filtered for low noise. High quality built-in fans provide sufficient airflow for operation without de-rating within the specified temperature range. The fans draw air into the unit, and exhaust 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
115V or 230Vac ±15%, 47 … 410Hz
Factory set for required input.
95-264Vac (Universal) 47 … 63Hz input with PFC is also available
Consult factory for other inputs

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
Floating output as option

Standards
Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN62368-1

EMI
EN55032 Class A with margins

Output Voltage
115Vac/17.3Arms/60Hz or 400Hz continuous; or
230Vac/8.6Arms/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 without derating.
Extended temperature ranges available

Temperature Drift
0.05% per ˚C over operating temperature range

Cooling
High-quality 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 (H x W x D)
3U5 chassis mount:
132 x 305 x 382 mm
5.2" x 12" x 15"
Excludes connectors, mounting L-brackets, fans
3U5/19 rack-mount:
132 x 483 x 387 mm
(3U) 5.2" x 19" x 15.3"
Excludes connectors, fans, includes connection plates.

Weight
14 kg (30 lb) approx.

Connections
Input: terminal block
Output: standard AC receptacle
Option: compression type 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