

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



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 $\pm 15\%$, 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

$\pm 6\%$ from no load to full load
 $\pm 2\%$ 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

0° C 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 45°C
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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