

# 500VA Rugged, Industrial Quality Frequency Converter with Sine Wave Output

## FC 500-3U2 Series



- Rugged, field proven design
- Sinusoidal output voltage
- Filtered on input and output
- Cooling by internal fan
- 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. It is a mature design with a track record in numerous applications. 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. A built-in fan provides sufficient airflow for operation without de-rating to the specified temperature. 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.

### SPECIFICATIONS

#### Input Voltage

115 or 230Vac  $\pm 15\%$   
47 ... 410Hz are standard  
Factory set for required input  
95–264Vac universal input with  
PFC is also available on request

#### 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 EN60950-1

#### EMI

EN 55022 Class A with margins

#### Output Voltage

115Vac/4.34Arms continuous,  
60Hz or 400Hz/  
or 230Vac/2.2Arms continuous,  
50Hz  
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

Typically 78% at full load

#### Operating Temperature Range

0°C to +50°C for full specification  
without derating  
Extended temperature ranges  
available on request

#### Temperature Drift

0.05% per °C over operating  
temperature range

#### Cooling

Built-in fan draws air into  
the unit

#### Environmental Protection

Basic ruggedizing  
conformal coating  
Full ruggedizing as option

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 - 95% non-condensing

#### MTBF

Min. 95,000 hours at 45°C  
Demonstrated MTBF is  
significantly higher  
Fan 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)

3U2: 132 x 132 x 407mm  
(5.2"x5.2"x16") including  
connectors, excluding flanges

#### Weight

Approx. 4.5kg (10lbs)

#### Connections

Input: Terminal block  
Output: Terminal block  
Output option: standard AC receptacle

#### RoHS Compliance

Compliant

#### Warranty

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

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

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



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