

# 100VA, Rugged, Industrial Quality AC-AC Frequency Converter with Universal AC Input or High DC Input Voltage FC 100-F2 Series



- Sinusoidal wave shape
- Universal input voltage
- Rugged, field-proven design
- Cooling by conduction and natural convection
- Low profile, compact size
- Full electronic protection

This rugged, industrial quality AC-AC frequency converter series uses field-proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. The design is based on a mature design topology with a track record in numerous applications. The AC-DC input stage boosts the input voltage to a higher DC bus voltage, which feeds the DC-AC inverter to generate the required AC output. The use of high frequency conversion enables a compact construction, low weight and high efficiency. The input and output are filtered for low noise. Cooling is by baseplate to a cold plate surface and by natural convection. 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. All ABSOPULSE products are manufactured at our plant under strict quality control.

## SPECIFICATIONS

### Input Voltage

95-264Vac (Universal) 47... 430Hz or 120Vdc to 350Vdc  
Factory set for required input  
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  
4300Vdc input to output  
2250Vdc output to chassis  
Floating output

### 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 @ 60Hz or 400Hz  
0.8A rms continuous;  
or 230Vac @ 50Hz/.04A rms continuous.  
Output is floating, either terminal can be grounded  
Consult factory for other output voltages

### Output Wave Form

Sinusoidal

### Total Harmonic Distortion

Less than 5% at full load

### Line/Load Regulation

± 3% from zero load to full load

### Load Crest Factor

2 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 80% at full load

### Operating Temperature Range

0°C to +50°C for full specification  
Extended temperature ranges available

### Temperature Drift

0.05% per °C over operating temperature range

### Cooling

Conduction to customer heat-sink or chassis and natural convection

### Environmental Protection

Basic ruggedizing  
Full ruggedizing and conformal coating available as an option

### Shock/Vibration

IEC 61373 Cat 1 A&B

### Humidity

5 - 95% non-condensing

### MTBF

Min. 120,000 hours at 45°C  
Demonstrated MTBF is significantly higher

### Indicators

None

### Control Input

None

### Alarm Output

None  
Option: output fail alarm (Form C)

### Package/Dimensions (W x H x D)

F2: 114 x 58 x 256 mm  
(4.5" x 2.3" x 10.1")  
Includes terminal block and flanges  
Mounting holes are clear

### Weight

Approx. 1.2 kg; 2.6 lb

### Connections

9-pole barrier type terminal block,  
3/8" spacing

### RoHS Compliance

Fully compliant

### Warranty

Two years subject to application within good engineering practice

### Terminal Block Pin-out

| OUTPUT   |    |    |          |          |          | INPUT |   |    |
|----------|----|----|----------|----------|----------|-------|---|----|
| NOT USED | L1 | L2 | NOT USED | NOT USED | NOT USED | GND   | N | PH |
| 1        | 2  | 3  | 4        | 5        | 6        | 7     | 8 | 9  |

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

*OEM of professional 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" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility*



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