

## 1000VA Industrial Quality DC-AC Inverter with Sine Wave Output Voltage, Low-profile CSI 1K-F31 Series

- Sinusoidal wave shape
- Field-proven rugged design
- Cooling by conduction and natural convection
- Low profile, compact size
- Full electronic protection



This rugged, industrial quality DC-AC inverter 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 DC-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 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. Industrial quality versions of this design are also available.

### SPECIFICATIONS

#### Input Voltage

24V, 36V, 48V, 125V, 250Vdc  
± 15% are standard  
Other inputs available on request

#### Input Protection

Inrush current limiting  
Varistors  
Reverse polarity protection  
Internal safety fuse  
Lower voltage than the specified minimum input will not damage the unit

#### Isolation

Corresponding to the voltage requirements  
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

#### EMI

EN 55022 Class A with margins

#### Output Voltage

115Vac/8.7Arms continuous at  
60Hz or 400Hz; or  
230Vac/4.3Arms continuous at  
50Hz

Output neutral is connected to the chassis internally.  
Isolated floating output available on request

#### Output Wave Form

Sinusoidal

#### Total Harmonic Distortion

Less than 5% at full load

#### Line/Load Regulation

Better than ± 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

Input voltage dependent  
Typically 80% at full load

#### Operating Temperature Range

-25°C to +55°C cold-plate  
temperature for full specification

#### Temperature Drift

0.05% per °C over operating  
temperature range

#### Cooling

Conduction to customer heatsink  
or chassis and natural convection

#### Environmental Protection

Ruggedizing  
Conformal coating

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 - 95% non-condensing

#### MTBF

Min. 140,000 hours at 45°C  
Demonstrated MTBF is  
significantly higher

#### Indicators

None

#### Control Input

None  
Remote shutdown as option

#### Alarm Output

None on standard version  
Optional output Fail Alarm (Form C)

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

F31: 483 x 68 x 356 mm  
(19" x 2.7" x 14") including  
terminal blocks and flanges.  
Mounting holes are clear.

#### Weight

7 kg (15 lb)

#### Connections

Input: Compression-type terminals  
or threaded studs  
Output: Compression-type terminals

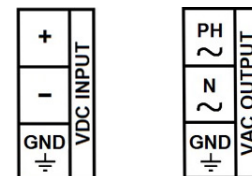
#### RoHS Compliance

Compliant

#### Warranty

Two years subject to application  
within good engineering practice

#### Terminal block Pin-out



**Please note that ABSOPULSE inverters are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are subject to change.**

*Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.*



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