1000VA Industrial Quality DC-AC Sine Wave Inverters with Convection Cooling by Heatsink Assembly Fins
CSI 1K-HSA-F31 Series

- Sinusoidal wave shape
- Field-proven rugged design
- Convection cooling via heatsink assembly
- Full electronic protection

This rugged, industrial quality DC-AC inverter uses field-proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sign 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. Convection cooling is achieved by installing the unit on a heatsink assembly block which is specifically designed for the unit. The heatsink assembly also allows for mounting on uneven and thermally non-conductive surfaces. 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. It is manufactured at our plant under strict quality control. Industrial quality versions of this design are also available.

SPECIFICATIONS

Input Voltage
36V, 48V, 125V, 250Vdc
24Vdc with derating to 750VA
Consult factory for other input voltages and ranges

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

Isolation
1000Vdc input to chassis/output
Output neutral is connected to the chassis internally

Standards
Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN60950-1

EMI
EN 55032 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
± 6% from no load to full load
± 2% load regulation option is available.

Load Crest Factor
2.0 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
-20°C to +50°C ambient temperature range for full specification without derating.
Consult factory for extended temperature range

Temperature Drift
0.05% per °C over operating temperature range

Cooling
Natural air convection

Environmental Protection
Ruggedizing
Conformal coating

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

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

Indicators
None

Control Input
None
Optional remote shut down

Alarm Output
None installed
Optional Output Fail Alarm (Form C)

Dimensions (W x H x L)
F31 enclosure installed on HSA F31 heatsink assembly
Overall dimensions:
572 x 150 x 356 mm
22.5” x 5.9" x 14"
Mounting holes are clear

Weight
9kg (19.8 lbs)

Connections
Input: Suitable terminals for input current
Output: 3-pole terminal block with 13mm spacing

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice

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