

1kVA, IP66-Rated, Rugged Convection Cooled Industrial Quality DC-AC Sine Wave Inverter CSI 1K-24/230-3XD3-HSA (IP66)

- Packaged in three IP66 enclosures
- Internal modules ruggedized and conformal coated
- Built-in heatsink fin assembly
- Conduction/convection cooling
- Rugged, field-proven design
- Filtered input/output
- Full electronic protection



This industrial quality DC-AC inverter utilizes field proven, microprocessor controlled high frequency PWM technology to generate the required output, with pure sine wave output voltage. The inverter is built with three power modules in IP66 D3 size die cast aluminum enclosures. Two CDC 500 modules and one MSI 2300 module are used to generate the required output power. 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 input and output are via sealed circular connectors, cable glands or custom connections. A heatsink assembly is attached to the under-surface of each IP66 module, which is then attached to a baseplate, providing pure convection cooling. Additional cooling is achieved by internal conduction to the walls of each IP66 enclosure, with additional convection via the outside surface. This enables operation within a -25 to +55°C temperature range for full specification without derating. The internal modules are fully ruggedized and conformal coated to provide additional immunity to shock, vibration and humidity. High frequency conversion enables compact construction, low weight and high efficiency. The input and output are filtered for low noise. Full electronic protection, low component count, large design headroom, and the use of components with established reliability contribute to a high MTBF. The units are manufactured at our plant under strict quality control. Customized versions are available. This design is suitable for transportation, mining, marine, oilrig, military and other severe environments.

SPECIFICATIONS

Input Voltage

24Vdc nominal
21-230Vdc operating range
Input Current: 56A max. total
28A per input module
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
2250Vdc input to output
1500Vdc output to chassis
Isolated floating output

Standards

Designed to meet UL 458, EN60950-1 and corresponding international standards

EMI

EN 55032 Class A with margins

Output Voltage

230Vac/4.4Arms /50Hz
1000VA continuous
Isolated floating output
Consult factory for other output requirements

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line/Load Regulation

± 5% from 10% load to full load

Load Crest Factor

2 at 90% load

Output Noise

High frequency ripple is less than 800mVrms (20MHz BW)

Output Overload Protection

Current limiting with short circuit protection
Thermal shutdown with automatic recovery in case of insufficient cooling

Output Overvoltage Protection

280Vac (for 230Vac output) by internal supply voltage limiting

Efficiency

Typically 80% at full load

Operating Temperature

-25 to +50°C temperature for full specification
Extended temperature range available on request.

Temperature Drift

0.05% per °C over operating temperature range

Cooling

Pure convection cooling by integrated chassis with heatsink fins and baseplate cooling
Internal conduction to the walls of each IP66 enclosure

Environmental Protection

IP66 enclosure
Internal module: Ruggedized and conformal coated
Potting of the internal modules also available

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5-100% condensing

MTBF

115,000 hours at 45 °C
Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None

Alarm Output

Not installed
Optional output Fail Alarm

Dimensions (W x H x D)

Three D3 chassis side by side on a baseplate. Dimensions include heatsink fins:
527 x 142 x 406 mm
20.7 x 5.6" x 16"
Mounting holes are clear with heatsink fin assembly

Weight

Approx. 20 kg (44 lbs)

Connections

A possible configuration:
Input: 4 pin, male pins, MS3112E14AAP or MS3470W14-4P
Output: 3 pin, female sockets, MS3112E12-3S

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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