

1kVA, IP66-Rated, Rugged Convection Cooled Industrial Quality DC-AC Sine Wave Inverter

CSI 1K-24/230-3XD3-HSF (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

<p>Input Voltage 24Vdc nominal 21-30Vdc operating range Input Current: 56A max. total 28A per input module Consult factory for other input voltages and ranges</p>	<p>Output Voltage 230Vac/4.4Arms /50Hz 1000VA continuous Isolated floating output Consult factory for other output requirements</p>	<p>Efficiency Typically 80% at full load</p>	<p>Indicators None</p>
<p>Input Protection Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit</p>	<p>Output Wave Form Sinusoidal</p>	<p>Operating Temperature -25 to +50°C temperature for full specification Extended temperature range available on request.</p>	<p>Control Input None</p>
<p>Isolation 1000Vdc input to chassis 2250Vdc input to output 1500Vdc output to chassis Isolated floating output</p>	<p>Total Harmonic Distortion Less than 5% at full load</p>	<p>Temperature Drift 0.05% per °C over operating temperature range</p>	<p>Alarm Output Not installed Optional output Fail Alarm</p>
<p>Standards Designed to meet UL 458, EN60950-1 and corresponding international standards</p>	<p>Line/Load Regulation ± 5% from 10% load to full load</p>	<p>Cooling Pure convection cooling by integrated chassis with heatsink fins and baseplate cooling Internal conduction to the walls of each IP66 enclosure</p>	<p>Dimensions (L x W x H) Three D3 chassis side by side on a baseplate: 406 x 526 x 94mm (16 x 20.7" x 3.7") Baseplate: 16 x 21" Mounting holes are clear with heatsink fin assembly</p>
<p>EMI EN 55032 Class A with margins</p>	<p>Load Crest Factor 2 at 90% load</p>	<p>Environmental Protection IP66 enclosure Internal module: Ruggedized and conformal coated Potting of the internal modules also available</p>	<p>Weight Approx. 20 kg (44 lbs)</p>
	<p>Output Noise High frequency ripple is less than 800mVrms (20MHz BW)</p>	<p>Shock/Vibration IEC 61373 Cat 1 A&B</p>	<p>Connections A possible configuration: Input: 4 pin, male pins, MS3112E14AAP or MS3470W14-4P Output: 3 pin, female sockets, MS3112E12-3S</p>
	<p>Output Overload Protection Current limiting with short circuit protection Thermal shutdown with automatic recovery in case of insufficient cooling</p>	<p>Humidity 5-100% condensing</p>	<p>RoHS Compliance Compliant</p>
	<p>Output Overvoltage Protection 280Vac (for 230Vac output) by internal supply voltage limiting</p>	<p>MTBF 115,000 hours at 45 °C Demonstrated MTBF is significantly higher</p>	<p>Warranty Two years subject to application within good engineering practice</p>

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. Custom or standard.



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