

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

## CSI 1K-125/230-2XD3 (IP66)

- Sinusoidal output voltage
- Packaged in two waterproof IP66-rated enclosures
- Cooling by conduction and natural convection
- Internal modules ruggedized
- 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 power with pure sine wave output voltage. It is packaged in two rugged, waterproof, die cast aluminum IP66 enclosures, mounted on a base plate. The input and output are via sealed circular connectors, cable glands or custom connections. Cooling is by internal conduction to the walls of the IP66 enclosure and via baseplate to an external chassis, cabinet wall, or heatsink. Additional cooling is achieved by convection via the outside surface of the IP66 enclosure. This enables operation within the specified temperature range for full specification. The internal boards are fully ruggedized to provide additional immunity to shock and vibration. The DC-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 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

|                                                                                                                                                                                                  |                                                                                                                                                        |                                                                                                                                     |                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Voltage</b><br>125Vdc nominal<br>105-145Vdc operating range<br>Input Current: 12A max<br>Consult factory for other input voltages and ranges                                            | <b>Output Voltage</b><br>230Vac/4.4Arms /50Hz<br>1000VA continuous<br>Isolated floating output<br>Consult factory for other output requirements        | <b>Efficiency</b><br>Typically 80% at full load                                                                                     | <b>Indicators</b><br>None                                                                                                                                                 |
| <b>Input Protection</b><br>Inrush current limiting<br>Varistor<br>Reverse polarity protection<br>Internal safety fuse<br>Lower voltage than the specified minimum input will not damage the unit | <b>Output Wave Form</b><br>Sinusoidal                                                                                                                  | <b>Operating Temperature</b><br>-25 to +50°C temperature for full specification<br>Extended temperature range available on request. | <b>Control Input</b><br>None                                                                                                                                              |
| <b>Isolation</b><br>1000Vdc input to chassis<br>2250Vdc input to output<br>1500Vdc output to chassis<br>Isolated floating output                                                                 | <b>Total Harmonic Distortion</b><br>Less than 5% at full load                                                                                          | <b>Temperature Drift</b><br>0.05% per °C over operating temperature range                                                           | <b>Alarm Output</b><br>Not installed<br>Optional output Fail Alarm                                                                                                        |
| <b>Standards</b><br>Designed to meet UL 458, EN62368-1 and corresponding international standards                                                                                                 | <b>Line/Load Regulation</b><br>± 5% from 10% load to full load                                                                                         | <b>Cooling</b><br>Conduction to customer heat-sink or chassis and natural convection                                                | <b>Dimensions (L x W x H)</b><br>Two D3 chassis side by side on baseplate:<br>406 x 320 x 94mm<br>(16 x 13.44 x 3.7")<br>Baseplate: 16" x 14"<br>Mounting holes are clear |
| <b>EMI</b><br>EN55032 Class A with margins                                                                                                                                                       | <b>Load Crest Factor</b><br>2 at 90% load                                                                                                              | <b>Environmental Protection</b><br>IP66 enclosure<br>Internal modules ruggedized                                                    | <b>Weight</b><br>10kg (22 lbs)                                                                                                                                            |
|                                                                                                                                                                                                  | <b>Output Noise</b><br>High frequency ripple is less than 500mVrms (20MHz BW)                                                                          | <b>Shock/Vibration</b><br>IEC61373 Cat 1 A&B                                                                                        | <b>Connections</b><br>A possible configuration:<br>Input: 4 pin, male pins, MS3112E14AAP or MS3470W14-4P<br>Output: 3 pin, female sockets, MS3112E12-3S                   |
|                                                                                                                                                                                                  | <b>Output Overload Protection</b><br>Overload and short circuit protection<br>Thermal shutdown with automatic recovery in case of insufficient cooling | <b>Humidity</b><br>5-100% condensing                                                                                                | <b>RoHS Compliance</b><br>Compliant                                                                                                                                       |
|                                                                                                                                                                                                  | <b>Output Overvoltage Protection</b><br>140Vac (for 115Vac output) or 280Vac (for 230Vac output) by internal supply voltage limiting                   | <b>MTBF</b><br>130,000 hours at 45 °C<br>Demonstrated MTBF is significantly higher                                                  | <b>Warranty</b><br>Two years subject to application within good engineering practice                                                                                      |

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.



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