

500VA, IP66-Rated, Rugged, Industrial Quality Sine Wave DC-AC Inverters CSI 500-2XD3 Series (IP66)



- Packaged in two watertight IP66 enclosures
- Internal module ruggedized and conformal coated
- Rugged, field-proven design
- Conduction/convection cooling
- Filtered input/output
- Full electronic protection

The rugged, industrial quality DC-AC inverters utilize field proven, microprocessor controlled high frequency PWM technology to generate the required output power, with pure sine wave output voltage. The units are packaged in two waterproof, rugged, die cast aluminum IP66 enclosures, mounted on a baseplate. The input and output are via sealed cable glands, circular connectors or custom connections. The internal boards are ruggedized and conformal coated for increased immunity to high levels of shock and vibration. Cooling is by internal conduction to the walls of the IP66 enclosure and by baseplate to an external chassis or cabinet wall, with additional convection via the outside surface. 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 high frequency conversion enables a 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, oil rig, military and other severe environments.

SPECIFICATIONS

Input Voltage

24Vdc (21-29V)
48Vdc (42-56V)
110Vdc (90-130V)
125Vdc (106-145V)
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 55022 Class A with margins

Output Voltage

115Vac @60Hz or 400Hz/2.6Arms continuous; or
230Vac @ 50Hz/1.3Arms 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 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

Typically 80% at full load
Dependent on input/output combination

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

Conduction to customer heat-sink or chassis and additional natural convection via the surface of the IP66 enclosure

Environmental Protection

IP66 enclosures
Internal modules: Ruggedized and conformal coated
Potting of the internal modules is also available

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5-100% condensing

MTBF

150,000 hours at 45 °C
Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None

Alarm Output

Not installed
Optional output Fail Alarm

Dimensions (L x W x H)

Two D3 chassis side by side on baseplate:
406 x 320 x 94mm
(16 x 13.44 x 3.7")
Baseplate: 16" x 14"
Mounting holes are clear

Weight

10kg (22 lbs)

Connections

Input: 4 pole, male pins, MS3470W14-4P
Output: 3 pole, female sockets, MS3112E12-3S

RoHS Compliance

Fully compliant

Warranty

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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