

Features

- 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
- Other power levels and specail units made to customer specifications



Description

This industrial quality DC/AC inverter utilizes field proven, microprocessor controlled high frequency PWM technology to generate the required output power, with pure sign wave output voltage. It is packaged in two watertight, rugged diecast aluminum IP66 enclosures with sealed circular connectors mounted on a 16" x 13.44" base plate. Cooling is by conduction via baseplate to a heat-sinking surface and convection via the walls of the IP66 enclosure. The internal inverter unit is fully ruggedized and the boards are conformal coated to provide additional immunity to shock, vibration and humidity. 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, oilrig, military and other severe environments.

General Specifications

Input Voltage (Nominal, range)

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 natural convection

Environmental Protection

IP66 enclosure
Internal modules: full ruggedizing and conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-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")

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