

# **Standard Specifications**

## **DC to AC "Pure Sine Wave" Power Inverter**

### 1 SCOPE

This specification describes the minimum requirements of a DC to AC pure sine wave power inverter capable of operating in a heavy duty, high vibration, truck mounted application.

### 2 GENERAL DESCRIPTION

The inverter shall be industrial grade, UL Listed, capable of inverting DC Voltage to AC Voltage. The inverter shall produce a pure sine waveform consistent with operating any 120 VAC, 60 HZ single phase equipment within the inverter's power rating.

### 3 CONSTRUCTION/DESIGN

3.1 Overall construction to be of corrosion resistant aluminum with a powder coated finish further improving corrosion resistance.

3.2 To ensure adequate clearance, overall dimensions must not exceed 12½" in length, 6" in width, 5" in height, and weigh no more than 14 lbs.

3.3 To ensure the highest reliability:

- The design shall incorporate a 60 Hz steel transformer rather than a high frequency ferrite transformer.
- The chassis design shall incorporate a thermally controlled fan.

3.4 To reduce vibration related failures, components shall be firmly affixed to chassis anchor points. Because of its overall weight, the transformer shall be mounted on a horizontal plane to the chassis and anchored at all four corners.

3.5 Unit shall incorporate the following standard features.

- AC receptacle with GFCI protection
- 16 bit, 16 MHz microprocessor control
- Remote ON/OFF switch hookup
- Automatic low battery shutdown at 10.5 VDC (with in-rush delay)
- Automatic electronic short circuit/overload protection
- Automatic high temperature shutdown
- LED Indication of Inverter Power and Low Battery

### 4 PRODUCT QUALITY

The manufacturer shall be ISO 9001:2008 Registered.

## **Standard Specifications Continued**

### 5 OPERATIONAL SPECIFICATIONS

- Input Current: Up to 40 amps DC
- Input Voltage: 10.5 - 20 VDC
- Output Voltage: 120  $\pm$ 5% VAC
- Output Waveform: Pure sine wave, less than 5% THD typical
- Output Frequency: 60 Hz  $\pm$  0.05%
- Output Power: 400 Watts, Continuous
- Output Current: Up to 3 amps AC
- Peak Output: 7 amps AC
- Efficiency: Up to 88%
- Operating Temp: -20° to 60° C (0° to 140° F)
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### 6 PRODUCT SAFETY

Product shall be UL and CUL Listed for land vehicle use, and comply with OSHA requirements.

### 7 PRODUCT SUPPORT

The manufacturer shall offer for sale, a complete family of support products designed to meet the duty cycle requirements of the application. The manufacturer will supply technical and design support as needed at no additional charge.

### 8 WARRANTY

- 8.1 Standard Warranty: The manufacturer shall offer a standard warranty period of four full years from the in-service date, covering parts and factory labor at no charge.
- 8.2 Advanced Replacement: The manufacturer shall submit a written advanced replacement program of two years. This program will provide ground service shipment of a replacement unit should an inverter failure occur.

### 9 REPAIR

Manufacturer shall guarantee repair of defective out of warranty inverters within one week.

### 10 PRODUCT REFERENCE

The unit shall be a Dimensions™ model DSI-12/400N or approved equal.