Standard Specifications
DC to AC “Quasi-sine Wave” Power Inverter

1 SCOPE

This specification describes the minimum requirements of a DC to AC quasi-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, capable of inverting DC Voltage to AC Voltage. The inverter shall produce a quasi-sine waveform consistent with operating any 120 VAC, 60 HZ single phase equipment within the inverter’s power rating, unless that equipment/tool design requires a pure sine waveform.

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 15¾” in length, 11½” in width, 7¾” in height, and weigh no more than 44 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
   • Solid-state Pulse Width Modulation (PWM) technology
   • Large case TO-247 MOSFET switching technology
   • Enclosed compartment for DC and AC connections with front access
   • 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, Low Battery, Overload, and High Temperature
   • Battery Voltage indicator with Push to Test switch
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4 PRODUCT QUALITY

The manufacturer shall be ISO 9001:2008 Registered.

5 OPERATIONAL SPECIFICATIONS

- Input Current: Up to 200 amps DC
- Input Voltage: 10.5-17 VDC
- Output Voltage: 120 VAC RMS ±5%
- Output Waveform: Quasi-sine with waveform stabilizer circuit
- Output Frequency: 60 Hz ± 0.05%
- Output Power: 2000 Watts, Continuous
- Output Current: Up to 17 amps AC
- Peak Output: 70 amps AC
- Output Rating: ½ hp
- Efficiency: Up to 93%

6 PRODUCT SAFETY

Product shall meet UL and CUL 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-12X20U or approved equal.