



communications

SPD Technologies, Inc.  
Power Systems Group

## Power Systems Group

**PS440****1000 VA, 3 Phase, Sinewave  
Static Inverter**

*This 1000VA inverter is a form, fit and function replacement for rotary motor-generator sets.*

Designed to replace rotary motor-generator sets, Power Systems Group's static inverters provide a no-maintenance, solid-state solution to the conversion of DC power from the aircraft bus to the AC power required to operate motors and solid-state loads. The output of these inverters is a low distortion, regulated, EMI filtered sinewave.

This multipurpose solid-state inverter is designed for application in military and commercial fixed and rotary wing aircraft.

The AC output is isolated from the DC input to accommodate any conceivable grounding scheme. These inverters

weigh significantly less than the equivalent motor-generator set and eliminate brush and bearings maintenance requirements.

The Power Systems Group PS440 is qualified to MS85071/3. It is a form, fit and function replacement for Power Systems Group Model PS277 (MS17406-3) Inverter, but operates at the higher power rating of 1000 VA.

Efficiency is essentially constant over the entire input range by virtue of a proprietary, high-frequency, pulsar circuit design. Power Systems Group has other inverters using this approach available at lower power levels.

**Standard Features:**

- Qualified to MS85071/3
- Low EMI (per MIL-STD-461)
- Output regulated against line/load changes
- Reverse input voltage protection
- Qualified for operation from -55°C to 85°C temp range
- No maintenance required
- Automatic shutdown for input overvoltage protection
- Output surge capability to start motors
- Independent current limiting on each phase
- Output can be configured for either delta or wye operation
- Output power conforms to MIL-STD-704

**Applications:**

- Fixed & rotary wing aircraft
- Weapons systems
- Drive motor loads
- Replace motor-generator sets

# Basic Specifications

## Electrical Characteristics:

**Input**  
 Voltage ..... 28 VDC nominal, 24 to 30 VDC for normal operation  
 Current ..... 50 Amps max. at 28 VDC input, full load

**Output**  
 Voltage/Frequency ..... 115 VAC true RMS nom. 3-ph line to neutral (WYE) or line to line (DELTA). With input voltage varied from 26 to 29 VDC, load from 0 to full load, and temp. varied per Curve 1 of MS33543 up to 85°C, output voltage remains within

112.5 to 117.5 volts and output frequency within 393 to 407 Hz. With above variations, except input varied from 18 to 26 volts, output remains within 100 to 117.5 volts and 380 to 407 Hz

Power ..... 0 to 1000 VA max. 333 VA, per phase max  
 Distortion ..... 5% max. THD  
 Load Power Factor ..... 0.75 to -0.95  
 Efficiency ..... 65% min. at 1000 W  
 Short Circuit Automatic short circuit and overload protection  
 Weight ..... 23 lbs. max.

## Environmental Specifications:

Temperature Range ..... -55°C to 85°C  
 Altitude ..... Sea level to 65,000 ft. per MS33543, Curve 1  
 Cooling ..... Internal fan

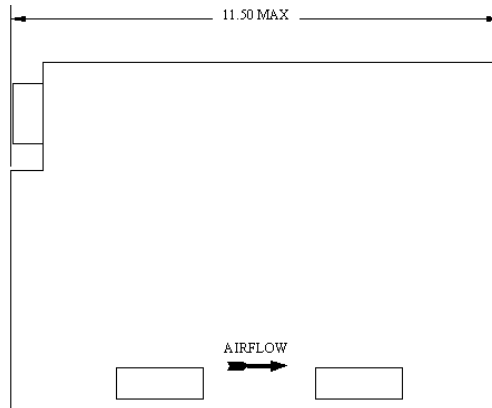
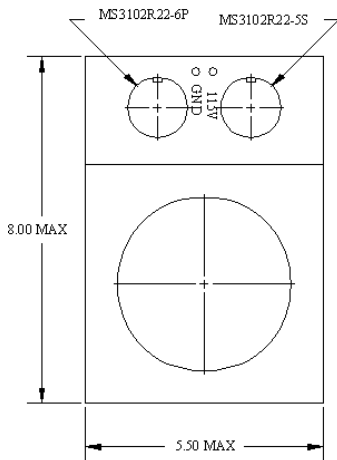
## Qualifications:

- MS85071-3-4
- Exact form, fit & function replacement for MS17406-3 (PS277), 750 VA inverter

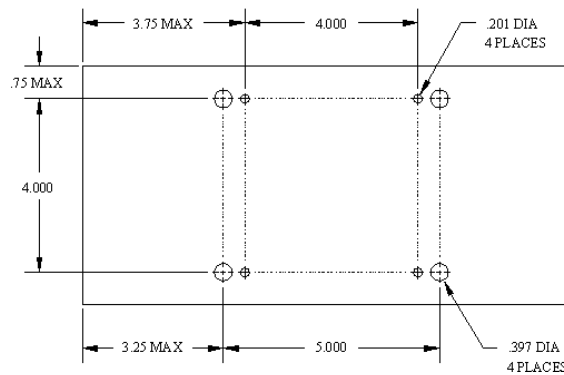
Specifications subject to change without notice.

### Model Diagram

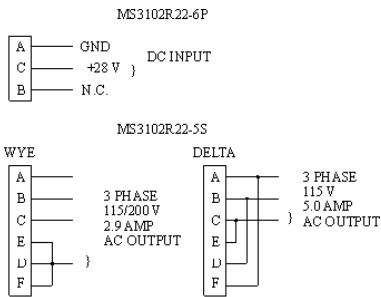
Front View



Side View



Top View



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