

INV1500 Inverter

Part Number 100-1600-01



Modular design and years of experience in solid state inverter design provide the recipe for the efficient, low cost construction of the INV1500. Cost of this evolutionary product is approximately 1/2 that of inverters in use today.

Designed to incorporate the latest state-of-the-art power FET transistors to provide higher reliability, efficiency and lower harmonic distortion than existing inverters utilizing older transistor technology.

This TSO-C73 approved unit also features trimodal cooling and moisture immunity for operation in the harshest environments.

Advantages:

- **Proven design concepts:** Securaplane's® designers have applied over 50 years of solid state inverter experience to the INV-1500. The experience provides for a design that is modular, has a low EMI signature, yet incorporates proven electronics and magnetics technology advances.
- **Reliability:** Use of power FET transistors provide a significantly higher efficiency than earlier transistor devices; the resulting reduction in heat increasing component reliability.
- **Cooling:** Trimodal cooling provides vital cooling three ways:
 - Cold Plate Induction
 - Natural Convection
 - Internal forced air

The fan used in the INV1500 has been proven in over 20 years of operation in thousands of systems including our advanced

technology main ship battery chargers. Typical fan reliability is 63,000 MTBF calculated; 34,000 typical life demonstrated. The high reliability fan is a military specified unit.

Fault Protection:

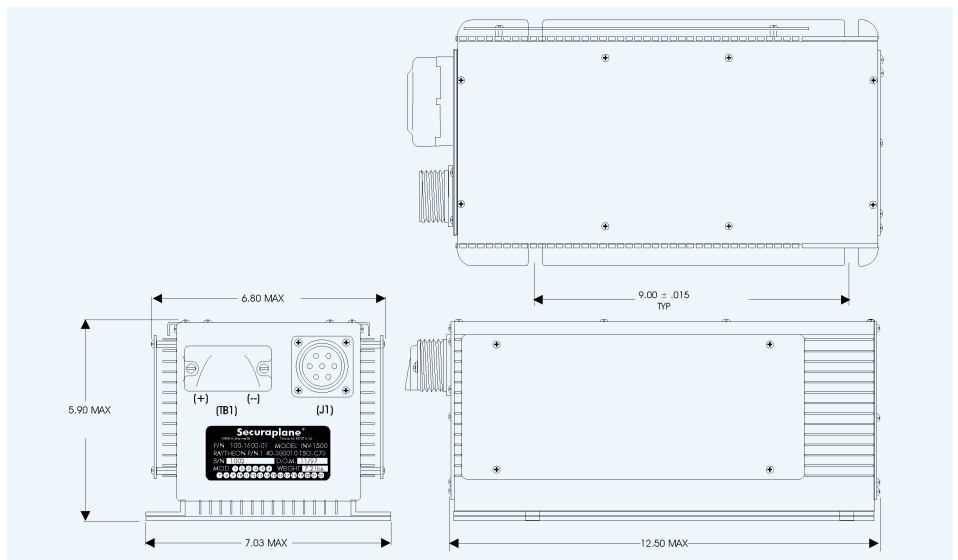
- Over/Under frequency
- Over/Under Output Voltage
- Over/Under Input Voltage
- Input Time Delay/Remote Fault Indication (+28VDC provided when unit is correct.)
- Over temperature

Applications:

- Hawker 800 aircraft or any application where 1500 VA inverter is required, new or retrofit applications.

Physical Characteristics:

- Width: 7.03"
- Height: 5.90"
- Length: 12.50" not including connectors
- Weight: 23 lbs.



Information is subject to change. Please contact Securaplane for current information.

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Electrical Characteristics:

Input:

- Voltage (rated) 26-30 VDC
- Voltage (extended) 20-36VDC
- Typical Current (28V@1500V-A) 67A
(24V@1500V-A) 78A
(20V@1350V-A) 84A
(28V@2250V-A) 100A
(28V@ No Load) 6A

Output:

- Power: (continuous @ rated input)1500V-A
(continuous @ 20VDC input)1350V-A
(2 hours @ rated input) 1650V-A
(5 minutes @ rated input)2250V-A
- Voltage Output 1 (rated)115VAC +5%/-7%*
Output 2 (rated)26VAC +8%/-7%*
- Frequency: 400Hz ± 1%
- Power factor: 0.8 lag to 0.95 lead**
- Distortion: 2.5% typical under all load and line conditions,
including extended input voltage range.
- Current: Rated @ 115VAC 13.0A
Rated @ 26VAC .19.2A (500V-A)

* The 26 VAC output rating is 500VA, which can be provided simultaneously with the 115 VAC output provided the total output power loading does not exceed 1500VA

** Unit will not be damaged by any power factor.

Environmental:

- **Operating Temperature**
-55° to +71°C
- **Storage Temperature**
-55° to +85°C
- **Operating Altitude**
Sea level to 55,000ft
- **Humidity**
DO-160C, Category B
- **Waterproofness**
DO-160C, Category R (20 liters/hr)
- **Fluid Susceptibility**
DO-160C, Category F (jet fuel, hydraulic fluid, de-ice fluid)

Protection:

The unit is protected against several system fault conditions. Any of the specified system faults, if present for more than 5 seconds, will cause the unit to shut down. Re-start is accomplished by recycling input power.

- Input undervoltage lockout threshold 16.5-19.5 VDC
- Input overvoltage lockout threshold 36.0 - 39.0 VDC
- Output overvoltage shutdown threshold 121-126VAC
- Output undervoltage shutdown threshold 89-107VAC

In addition, the unit will shut down if the output frequency rises above 420Hz or falls below 380Hz, is fully overload and short circuit protected on both outputs, and incorporates thermal protection circuitry which will shut the inverter off if the baseplate temperature exceeds 100°C

Pin Outs:

- TB1+ 28VDC
- TB1- 28VDC Return
- J1-A 115 VAC, 400 Hz, 1500 V-A Max
- J1-D 28VDC Time Delay
- J1-E 26VAC, 400Hz, 500 V-A Max
- J1-G AC Return
- J1-F Chassis Ground