



# Non-Linear Inverter(NLI)

Modern aircraft are moving towards 270VDC power, yet legacy loads often require 3-phase input power. The GE Aviation Non-Linear Inverter, converts 270 VDC input power into regulated 115 VAC, 400 Hz, three-phase output and is capable of continuously providing 10,000 VA of output power to non-linear type loads. It can power loads with many different qualities; diode rectification input AC voltage, operation on single phase inputs (unbalanced loads), or highly capacitive or inductive devices.

The 3-phase Inverter provides overload and short circuit protection with automatic recovery. High power density is provided using GE Silicon Carbide (SiC) modules. This enables switching frequencies of 5 to 10 times that of Silicon devices. The NLI increases power availability to the platform, thus eliminating the need to shed critical system loads to bring different systems online.



## Features:

- ◆ GE 200° C qualified SiC Power MOSFETS enables High Efficiency and High Power Density
- ◆ Overload and Short Circuit Protection with auto-recovery
- ◆ Operation at higher switching frequencies resulting in better fidelity of the output voltage
- ◆ Digital control via FPGA controller
- ◆ Capable of reliably providing 10,000 VA loads with to 40kVA output
- ◆ Input to Output (I/O) Isolation
- ◆ MIL-STD-461 compliant
- ◆ Mil-STD-704 Compliant, 270 VDC to 3 Phase 400Hz AC Power Source
- ◆ On-board BIT and diagnostics
- ◆ 90% Efficiency
- ◆ Liquid cooled design – Polyalphaolefin (PAO) or Ethylene Glycol (EGW)

## Physical

Weight: < 16 kg (35 lbs.)

Dimensions: H - 208mm (8.19")  
W - 209mm (8.26")  
L - 329mm (12.97")

## Environmental

Coolant -40° C to +50° C, 1.5 gpm, 25 psid; 150 psig input pressure. Tailorable to system requirements.

Shock MIL-STD-810E

Vibration MIL-STD-810E

Humidity DO-160D

| Part Number | Input Voltage | Output Voltage | Output Current      |
|-------------|---------------|----------------|---------------------|
| 2015000G1   | 180-325VDC    | 115VAC @ 400Hz | 8,000VA or 10,000VA |



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