



Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation



Military Option

Most of the products manufactured by Analytic Systems can be adapted for military use (Commercial Off The Shelf).

We provide four different levels of ruggedization; most often, a product in military use will use the extra-wide temperature range components to allow operation to -40 degrees Celsius.

The printed circuit boards are also protected against condensation and are enhanced with vibration protection that meets or exceeds MIL-STD810F, Method 514-3 and Cat-1 Proc 1. C.O.T.S. products are designed to meet EMC radiated and conducted emissions standard MIL-STD 461E.

All C.O.T.S. products are manufactured in accordance with IPC-A-610.

 Schedule

GSA Contract #GS-07F-5624R

DC/AC Puresine Inverters

IPS2000-MS C.O.T.S. Series Inverter

Description

Computers are moving onto the battlefield at an ever increasing rate as more and more specialty software packages become available. However there is a major problem. Computers require clean, pure AC power to work reliably. If you power one from the same Military Genset that runs your heavy loads, you could damage it from surges and spikes generated by switching those loads.

If you power it from the same Inverter that runs a microwave and other electrical devices, similar problems occur, plus voltage dropouts from excessive loads on the inverter add to the problem. Also, most inverters produce 'Quasi-Sine Wave' AC, which often doesn't run computers very well. Complaints of noisy displays, cursors that move by themselves and more abound.

The IPS-MIL Series of 'Pure Sine Wave' Inverters are designed specifically for running computers and other electronics in rugged mobile and other off-grid locations.

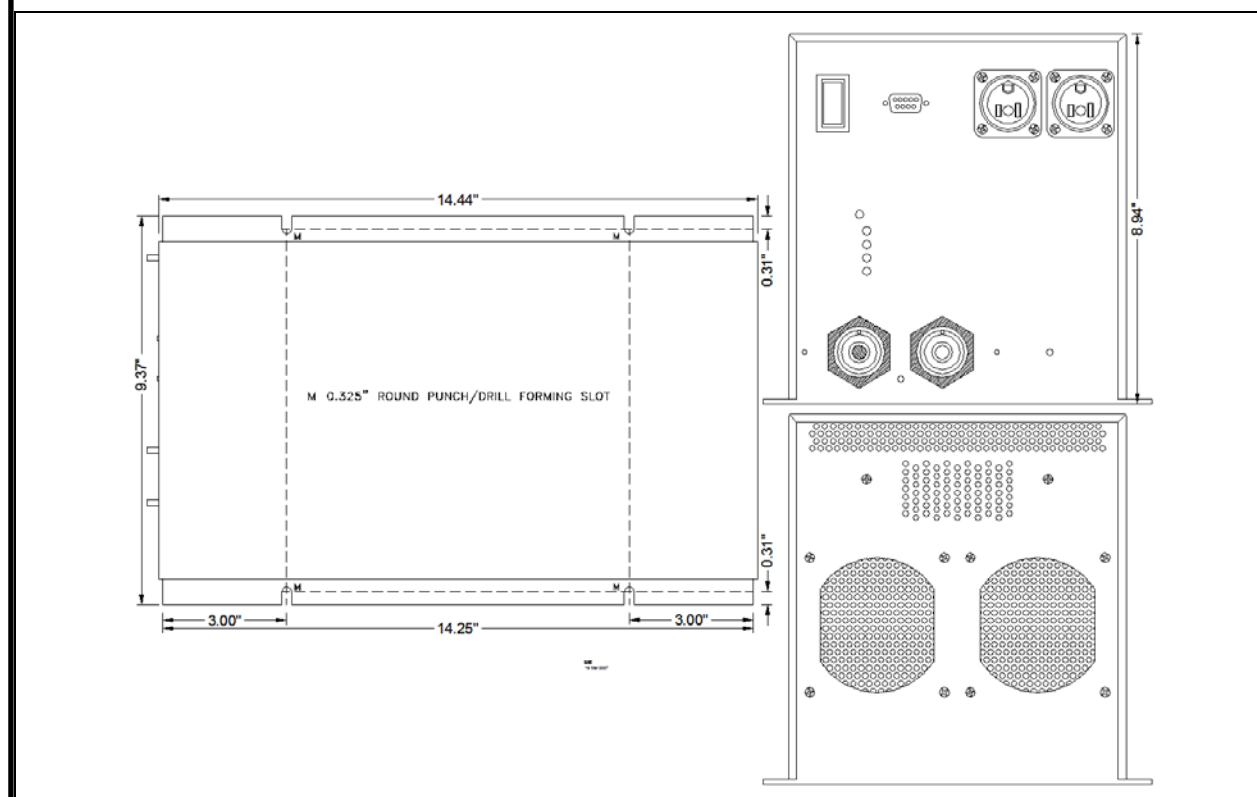
Two standard AC receptacles or a variety of customized MIL-SPEC Connectors provide for easy connection. Versions are available to operate from a 24V, 28V, or 32 volt battery system. The IPS2000 series of inverters carry a standard three-year warranty with an added 2 year extension available.

Features

- Pure Sine Wave - 120 VAC / 60 Hz fully regulated output, exactly the same as household AC
- Ultra-quiet, low EMI design
- Extra heavy input filtering to eliminate interference with other equipment sharing the same batteries
- Crystal controlled for precise frequency (± 0.01 Hz)
- State-of-the-art MosFet technology and unique "Soft-Start" circuitry for reliable operation
- Short Circuit Protection
- Current Limiting
- Overload Protected
- Illuminated ON-OFF switch for positive indication of proper operation
- Built to the Q-Base Quality System Standard
- Over-temperature protected
- Low voltage warning and shutdown circuitry to protect the batteries
- Transformer type output to protect computers and other sensitive equipment from surges and spikes
- Over voltage and over temperature warning and shutdown circuitry to protect the inverter
- Thermostatically controlled fan
- Two AC receptacles for easy connection of mobile devices (Various Mil Connectors Available as options)
- Isolated input for positive or negative ground operation
- Diagnostic LEDs and Audible Alarms

IPS2000-MS Series DC/AC Inverter Charger

Mechanical Diagram



Specification

Electrical (Input)

Nominal (ip)	24
Actual (Vdc)	20 - 40
Input Amps (max)	188
Input Fuse (ATC)	40A x 5

Environmental Specification

Operating Temp. Range	-40° to +50°C @ maximum output Derate Linearly 2.5% per °C from 50°C to 85°C
Humidity	0 - 95°C Relative Humidity (non-condensing) with standard conformal coating
Audible Noise	34.5 dB @ 3 ft
Typical Service Life	> 10 yrs. (87,600 hrs)
Isolation	Input-Output & Output Case 1500VDC Input-Case 500VDC
Vibration	Designed to meet MIL-STD 810F, Method 514-3, Cat-I Proc I

Electrical (Output)

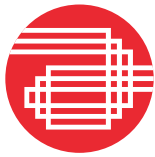
Output Nominal (op)	110
Output Volts (AC)	115 ± 5 rms
Output Amps	17.4 cont. / 26.0 peak
Output Frequency	60.00 ± 0.01 Hz
Output Type	Pure Sine Wave
Output Distortion	< 5% at 2000 Watts into 0.8 power factor load
Regulation (Line & Load)	< +/- 0.5%
Duty Cycle	Peak 20% for 10 min max Continuous 100% for 24 hours per day
Efficiency	> 80% @ Maximum Output

Mechanical Specification

Length	14.3 in / 36.2 cm
Width	9.0 in / 22.9 cm
Height	8.94 in / 22.7 cm
Clearance	1 inch (2.5 cm) all around
Material	Marine Grade Aluminium
Finish	Black Anodize / Powder Epoxy Coat
Fastenings	All 18-8 Stainless Steel
Weight	46.6 lb / 21.1 kg
Connections	Military AC Receptacles
Warranty	3 years (2 yr. extension avail.)

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ANALYTIC SYSTEMS
Power Conversion Solutions

**INTELLIGENT
PURESINE INVERTER**

IPSi2000MW

Low Voltage Warning and Shutdown

Over Voltage and Over Temperature Protection

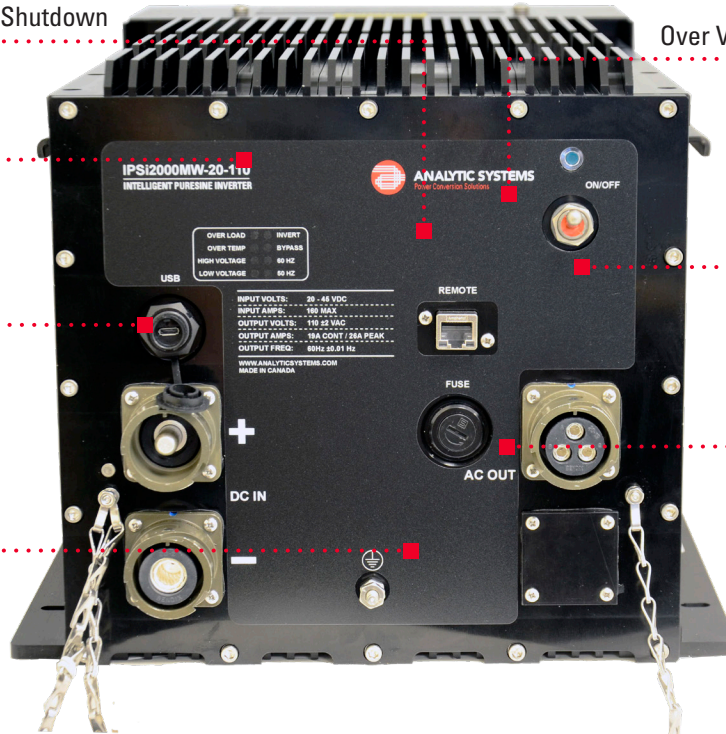
IP68 Rated Cooling Fans

Programmable Frequency

Short Circuit Protection

Programmable Output Voltage

DSP Controlled



IPSi2000MW INTELLIGENT PURE SINE INVERTER

2 YEAR WARRANTY



The IPSi2000MW series of 'Intelligent Pure Sinewave' Inverters are designed specifically for running computers and other sensitive AC loads in rugged, mobile and other off-grid environments.

Standardized high current MIL connectors provide a solid connection to the battery and AC loads and allows for easy interchange between the IPSixxxxM and IPSixxxxMW models between 1000 and 3600 watts without rewiring.

The IPSi2000MW is controlled by a sophisticated Digital Signal Processor for optimal control and operation. The unit's heavy-duty Toroidal Power Transformer steps up the low AC voltage produced by the Power MosFet Transistors from 110 to 220 VAC @ 50Hz. It also filters the AC output to reduce or eliminate noise that could potentially interfere with sensitive communications equipment.

Models are available for both 110 or 220 Output VAC @ 50 or 60 Hz (user selectable) and can operate from 20-45 or 40-80 Input VDC to cover all standard DC battery voltages from 24-64 volts nominal, including 72V Rail.

Using the free to download 'Power Wizard' software, the user can select output frequency, output voltage, and low voltage shutdown parameters from any laptop through the standard USB interface.

Available models

Input

24, 28, 32, or 36 VDC
48 or 72 (Rail) VDC

Output

110 VAC, 50 or 60 Hz
220 VAC, 50 or 60 Hz

Applications



IPSi2000MW | INTELLIGENT PURESINE INVERTER

INPUT VOLTAGES

	-20V	-40V
Nominal (VDC)	24, 28, 32 or 36	48 or 72 (Rail)
Actual (VDC)	20 - 45	40 - 80
Input Amps (max)	160	80
Input Fuse (External, not supplied)	275	100

OUTPUT VOLTAGES

	-110V	-220V
Output Volts (AC)	110 ± 2 VAC	220 ± 4VAC
Output Amps (max)	16.7A (cont.) / 24A (peak)	8.3A (cont.) / 12A (peak)
Output Fuse	40Amp	20Amp
Output Frequency	50.00 or 60.00 Hz ± 0.01 Hz (user selectable)	
Output Distortion	< 2% at 2000 Watts into resistive load	
Regulation (Line & Load)	< +/- 2.0%	
Duty Cycle	Continuous 100% for 24 hours per day	
Efficiency	> 90% @ Maximum Output	

MECHANICAL

Length	17.3in / 43.9cm
Width	11.5in / 29.2cm (including lifting handles)
Height	9.4in / 23.9 cm
Clearance	1.0 in / 2.5 cm (all around)
Weight	70.0 lb / 31.8 kg (estimated)
Material and Finish	Black Anodized Marine Grade Aluminum
Fastenings	18-8 Stainless Steel

ENVIRONMENTAL AND SAFETY

Operating Temperature Range	-40°C to +55°C @ maximum output
Isolation	Input-Output, Output-Case, and Input-Case: 1500 VDC
Connections	Positive In - GTC02R20-2P c/w cover Negative In - GTC02R20-2S-RDS c/w cover AC Output Connection -GTS02R-20-19S c/w cover AC Input Connection -GTS02R-20-19P c/w cover (With Off-line UPS Option)
Warranty	2 Years

OPTIONS

COTS - MIL461F and MIL810G in-house testing and a report for each unit

Stand-alone MIL461F tested with report

Stand-alone MIL810 tested with report

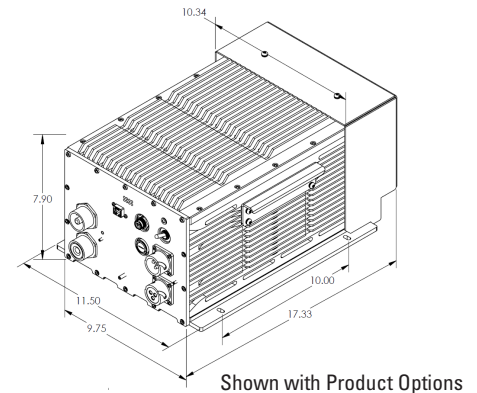
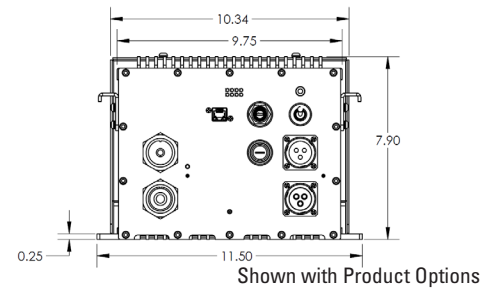
European ROHS compliant

Heavy Duty Ruggedization

IP68 certified and tested waterproofing

Safety Special Inspection (CSA/UL)

DIMENSIONS



ANALYTIC SYSTEMS
Power Conversion Solutions



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