



## IPSi3005M

### INTELLIGENT 3000W PURE SINE INVERTER

The IPSi3005M series intelligent pure sinewave inverters are designed for powering sensitive AC loads in rugged, mobile, off-grid applications. This unit features military-grade ruggedization upgrades, MIL-SPEC connectors, and is built for operation in wet environments.

Internally, the IPSi3005M is controlled by a sophisticated Digital Signal Processor (DSP) for optimal control and efficient operation. Power MOSFET transistors and a heavy-duty toroidal power transformer produce stepped up AC voltage from the input DC. Additional filtering on the AC output reduces EMI noise that can interfere with sensitive communication equipment.

For safety, this unit features a low voltage warning with shutdown circuitry to protect the DC power source. The inverter is also safeguarded by high voltage and over-temperature protection with shutdown circuitry. Ground fault protection can be turned off or on by the user. All alarm conditions can be monitored on the bright LED indicator display, which can also be mirrored on the optional remote control panel.

With the optional InverterWizard software, additional inverter settings can be adjusted using any Windows laptop via the inverter's MicroUSB port. InverterWizard allows for adjustment of output frequency, output voltage, and alarm shutdown parameters, as well as monitoring and logging operating data.



### FEATURES

- Overload protection
- Short-circuit protection
- Overtemperature protection
- Ground fault protection
- MIL-SPEC connectors
- Bright LED indicators
- DSP controlled
- Programmable output voltage and frequency

### AVAILABLE MODELS

#### DC Input

24, 28, 32 or 36VDC  
48 or 72VDC

#### AC Output

120VAC 50/60Hz  
240VAC 50/60Hz  
230VAC 50/60Hz



**ANALYTIC SYSTEMS**  
Power Conversion Solutions



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2 YEAR WARRANTY



TECHNICAL SPECIFICATIONS

DC Input	-28	-40
Nominal Voltage	24, 28, 32 or 36VDC	48 or 72VDC
Actual Voltage	20 to 45VDC	39 to 86VDC
Maximum Current	240A	120A
Recommended Fuse	405A	210A
Low Voltage Input Shutdown Range	21VDC (user selectable: 19 to 36VDC)	40VDC (user selectable: 39 to 70VDC)
Low Voltage Input Startup Range	23VDC (user selectable: 20 to 36VDC)	44VDC (user selectable: 40 to 70VDC)
Low Voltage Input Shutdown Delay	40s (user selectable: 1 to 120s)	40s (user selectable: 1 to 120s)
High Voltage Input Shutdown	49VDC	88VDC

AC Output	-120	-240	-230
Nominal Voltage	120VAC	240VAC	230VAC
Voltage Range	100 to 120VAC	200 to 240VAC	200 to 240VAC
Power Phase	Single	Split	Single
Default Frequency	60Hz ± 0.01Hz	60Hz ± 0.01Hz	50Hz ± 0.01Hz
Frequency Range	user selectable: 50 or 60Hz		
Continuous Current	25A	12.5A	12.5A
Peak Current	32A	18A	18A
Surge Current	50A	25A	25A
Output Breaker	30A	30A	30A
Regulation (Line & Load)	< ± 2.0VAC	< ± 3.0VAC	< ± 3.0VAC
Output Distortion	< 2% at full load (resistive load)		
Duty Cycle	Continuous: 24 hours per day		
Efficiency	> 85% @ maximum output		
Ground Fault Trip Current	4 to 6mA		

AC Input (With Option A)	110VAC (user selectable: 90 to 140VAC)	220VAC (user selectable: 180 to 240VAC)	210VAC (user selectable: 180 to 240VAC)
Voltage Switchover			
Continuous Current	10A		
Switchover Delay	30s (user selectable: 5 to 120s)		
Transfer Time	15ms (inverter to line), 36ms (line to inverter)		

TECHNICAL SPECIFICATIONS

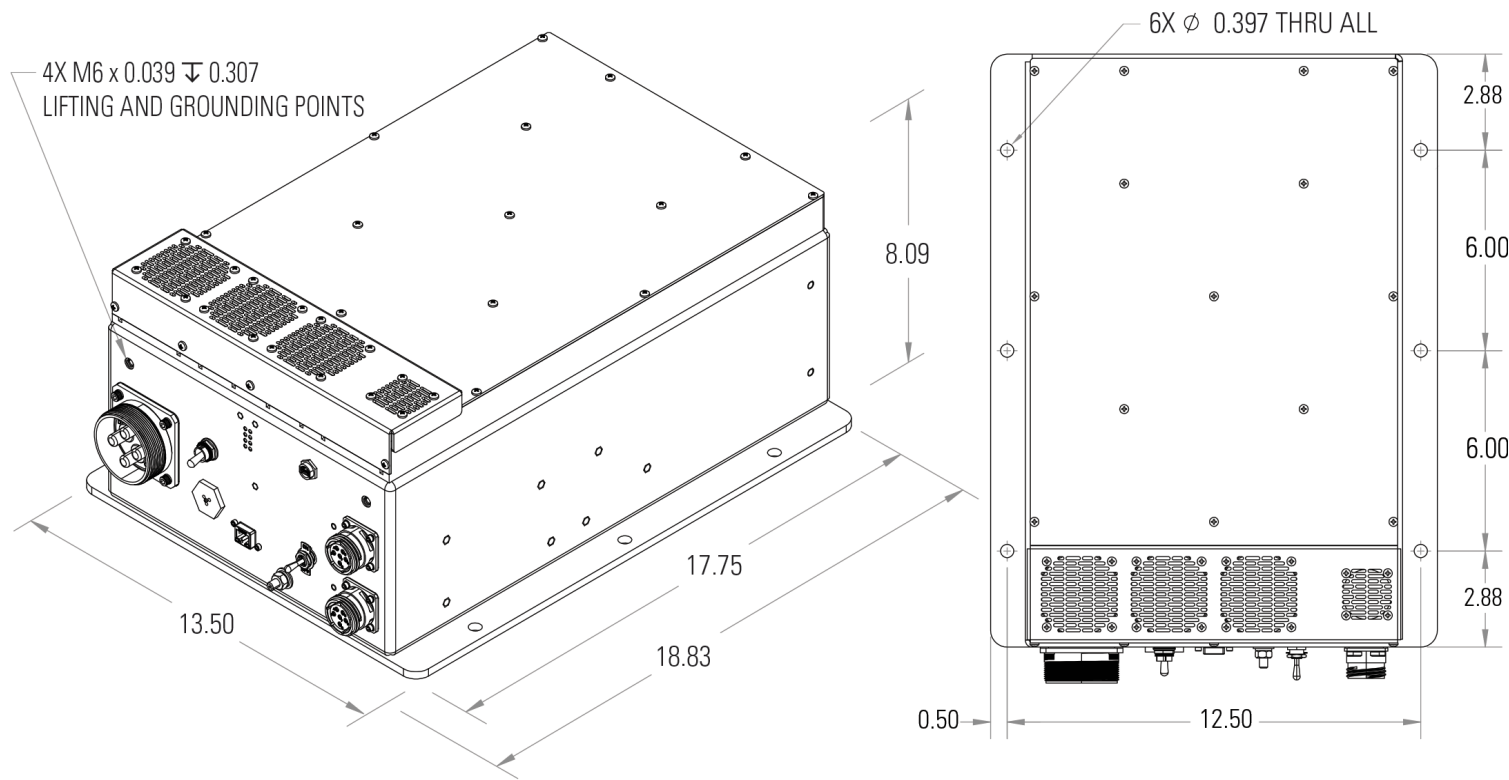


Figure 1. IPSi3005M isometric and top view with dimensions in inches.  
Optional features included. Unit may not be exactly as shown.

STEP model available upon request.

Mechanical

Length	18.83in. / 47.83cm	
Width	13.50in. / 34.29cm	
Height	8.09in. / 20.55cm	
Weight	84.0lb / 38.1kg (estimated)	
Encasement Material and Finish	Aluminum (IAW MIL-DTL-5541 Type II Class 3) CARC Green 383 (IAW MIL-PRF-32348) Heat sink: Black anodized (IAW MIL-A-8625 Type II Class 2)	
Mounting	Vertical or horizontal	
Clearance	1.0in. / 2.5cm (each side and above)	
Lifting and Grounding Points	4x M6 x 1.0mm blind holes 4x lifting bolts, nuts and grommets included with each unit	
DC Input Connections	1x MS3452L36-5P	
AC Output Connections	2x D38999/20ZE6SN	(Option A models only have 1x output connection, with the other replaced by 1x AC input connection. Refer to pinouts for details.)
Other Connections	Communications: MicroUSB port Remote Control: RJ45 connector with proprietary pinout	

TECHNICAL SPECIFICATIONS

Pinouts

J1 - DC Input	
1x MS3452L36-5P	
Pin	Description
A	DC+
B	DC-
C	DC-
D	DC+
Mating Connector	
MS3456L36-5P	

J2, J3 - AC Output	
2x D38999/20ZE6SN	
Pin	Description
A	Neutral
B	Neutral
C	Ground
D	Line
E	Line
F	Ground
Mating Connector	
D38999/26ZE6PN	

(Option A) J3 - AC Input	
1x D38999/20ZE6PN	
Pin	Description
A	Neutral
B	Neutral
C	Ground
D	Line
E	Line
F	Ground
Mating Connector	
D38999/26ZE6SN	

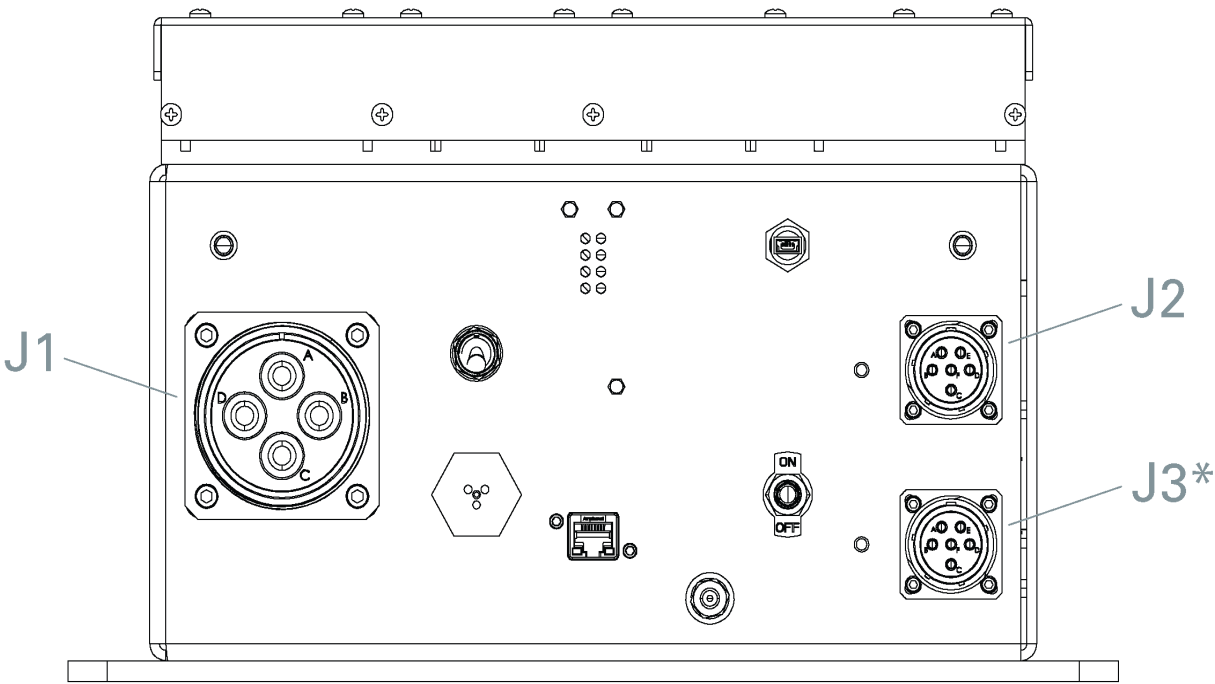


Figure 2. IPSi3005M front view with pinouts.  
Optional features included. Unit may not be exactly as shown.

\*NOTE: With Option A, 1x AC Output (J3) is replaced by 1x AC Input (J3) with a different connector.

Environmental and Safety

Operating Temperature	-40°C to +55°C @ maximum output	
Storage Temperature	-55°C to +80°C	
Humidity	0 to 95% relative humidity (non-condensing)	
Packaging	MW model built to meet IP66	MY model built and tested to IP67
Isolation	DC Input to AC Output > 2000VDC	
Typical Service Life	> 10 Years (MBTF available upon request)	
Warranty	Two years parts and labor	
Emissions	Designed to meet MIL-STD-461	Complies with FCC Class B, Part 15
Environmental	Designed to meet MIL-STD-810	
Safety	Designed to meet UL 458, CSA 22.2 107.1	

ORDERING INFORMATION

INVERTERS

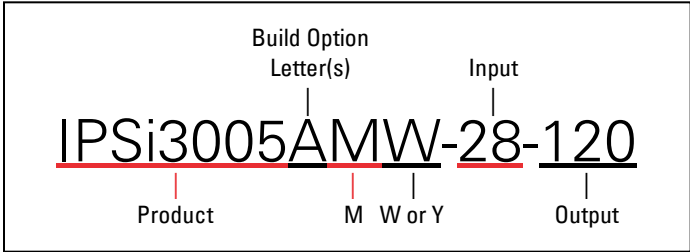


Figure 3. Example model number for an IPSi3005M Intelligent Pure Sine Inverter.

Model Naming

Product	IPSi3005M
Included Build Options	M, and either W or Y
Additional Build Options	A
DC Input Voltage	-28, -40
AC Output Voltage	-120, -240, -230

Build Options

Option A:	Built with AC Input, Line AC Detect & Autoswitch UPS
Option M:	Military ruggedization package
Option W:	Designed and built to meet an IP66 rating
Option Y:	Built and tested to an IP67 rating (replaces Option W)

Line Item Options

Option C:	COTS with MIL-STD-461F in-house test and report
Option I:	MIL-STD-461F compliance testing and report
Option S:	Leaded solder
Option U:	Factory inspected to meet CSA SPE-1000

MATING CABLES

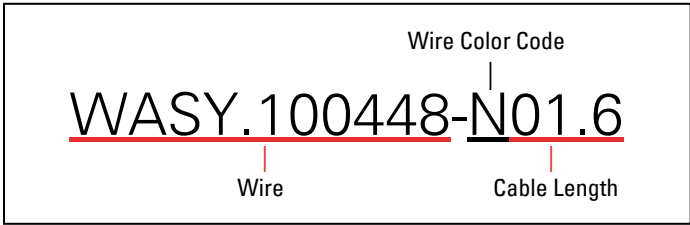


Figure 4. Example model number for an IPSi3005M AC output cable.

Wire Assembly Accessories

Wire	WASY.100446	DC input cable
	WASY.100448	AC output cable
	WASY.100447	AC input cable (for Option A)
Wire Color Code	-N (North America) -W (Worldwide)	
Cable Length	xx.x meters default is 1 meter (01.0)	



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Not all combinations make valid part numbers.  
Please contact Sales for availability.