



## The MS Series Pure Sine Wave Inverter/Charger

For Mobile and Renewable Energy Applications



The MS Series Inverter/Charger is powerful, easy-to-use, and cost effective.

### MODEL NUMBERS

- MS2000
- MS2000-20B
- MS2012
- MS2012-20B
- MS2812
- MS4024

### AVAILABLE FOR

- Renewable Energy Systems  
Off-grid Power  
Back-up Power
- Marine Systems
- RV Systems

### AVAILABLE ACCESSORIES

- AGS
- Battery Monitor Kit
- DC Load Disconnect
- Fuse Blocks
- Remote
- Series Stacking Interface



The Powerful Difference

The MS Series Inverter/Charger from Magnum Energy is a new pure sine wave inverter designed specifically for the most demanding mobile applications. The MS Series is powerful, easy-to-use, and best of all, cost effective.

### Power Factor Corrected (PFC)

**Charger:** Our PFC charger is built into all of our inverter chargers. It uses less energy from a generator than a standard charger – using only 15 amps per 100 amps versus 23 amps used by standard chargers.

**Safe and reliable:** The MS Series is ETL Listed to the stringent requirements of UL/cUL 458 for mobile use and UL 1741 for renewable energy installations.

**Easy-to-install:** Install the MS Series in four easy steps: simply connect the inverter's output to your distribution circuits or electrical panel, connect your shore power cable (AC) to the inverter's easy-to-reach terminal block, connect the batteries, and switch on the power.

### Features

#### You asked and Magnum listened.

The MS Series Inverter/Charger is loaded with features:

**Pure sine wave:** Power your T.V.s, stereos, plasma screens, and other sensitive electronics without worry. The pure sine wave inverter and power factor corrected charger provide clean, reliable inverter power with low total harmonic distortion (THD) of less than 5%.

**Choices:** The MS Series comes in four power models and 12 and 24 volt configurations, allowing you to choose the model that is right for you.

**Versatile mounting:** Mount the MS Series on a shelf, bulkhead, or even upside down.

**Lightweight:** The lightweight aluminum base and cover also provides noise reduction and corrosion resistance.

**Multiple ports:** The MS Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

**Accessible design:** The extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make this inverter more accessible when it needs to be.

**Convenient switches:** The MS Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

**Expanded transfer relay:** 60 Amp transfer service is available on all models.

**Buy with ease:** The MS Series is backed by a three-year (36-month) limited warranty.

### Accessories and Options\*

**Remote control:** For convenient finger-tip operation, including the new one-knob™ programming.

**AGS module:** Automatically starts and stops your generator based on temperature or battery voltage.

\* For more detailed information and specifications on these accessories, please see the accessories data sheet.



## The MS Series Inverter/Charger

Specifications	MS2000	MS2012	MS2812	MS4024
<b>Inverter Specifications</b>				
Input battery voltage range	9 - 17 VDC	9 - 17 VDC	9 - 17 VDC	18 - 34 VDC
Nominal AC output voltage	120 VAC	120 VAC	120 VAC	120 VAC
Output frequency and accuracy	60 Hz ± 0.005%	60 Hz ± 0.005%	60 Hz ± 0.005%	60 Hz ± 0.005%
Total Harmonic Distortion (THD)	< 5%	< 5%	< 5%	< 5%
1 msec surge current (amps AC)	50	50	70	120
100 msec surge current (amps AC)	33	33	40	72
5 sec surge power (real watts)	3300	3300	3900	5800
30 sec surge power (real watts)	3100	3100	3800	5400
5 min surge power (real watts)	2800	2800	3200	4900
30 min surge power (real watts)	2200	2200	3000	4500
Continuous power output at 25° C	2000 VA	2000 VA	2800 VA	4000 VA
Rated input battery current	225 ADC	225 ADC	267 ADC	204 ADC
Inverter efficiency (peak)	89%	89%	88%	87%
Transfer time	16 msec	16 msec	16 msec	16 msec
Search Mode	.3 ADC	.3 ADC	.3 ADC	.3 ADC
No Load (120 VAC output)	2 ADC	2 ADC	2 ADC	.6 ADC
Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave

<b>Charger Specifications</b>				
Continuous output at 25° C	100 ADC	100 ADC	125 ADC	105 ADC
Charger efficiency	85%	85%	85%	85%
Power factor	> .95	> .95	> .95	> .95
Input current at rated output (AC amps)	15	15	18	29

<b>General Features and Capabilities</b>	
Transfer relay capability	MS2000: 30 A single input MS2012, MS2812, MS4024: 2 legs at 30 A for 120 V/30 A or 240 V/60 A service
Five stage charging capability	Bulk, Absorb, Float, Equalize, and Battery Saver™
Battery temperature compensation	With available temp sensor (battery temp 0 – 50° C)
Remote inverter on/off switch	With available pigtail to connect to dry contact
Internal cooling	0 to 120 cfm variable speed drive using dual 92mm brushless DC fans
Overcurrent protection	Yes, with two overlapping circuits
Overtemperature protection	Yes on transformer, MOSFETS, and battery
Conformal coating on PCB's for corrosion protection	Yes
Powder coated chassis & top for corrosion protection	Yes
Stainless steel fasteners for corrosion protection	Yes
Dual AC branch rated output breakers	Optional on the MS2000 and MS2012 - AC breakers in 15 or 20 amp ratings
Listings	ETL Listed to UL/cUL 458, UL 1741, CSA C22.2 #107.1-01, meets KKK-A-1822E standard
Warranty	Three years

<b>Environmental Specifications</b>	
Operating temperature	-20° C to +60° C (-4° F to 140° F)
Nonoperating temperature	-40° C to +70° C (-40° F to 158° F)
Operating humidity	0 to 95% RH non condensing

<b>Physical Specifications</b>				
Dimensions (l x w x h)	13.75" x 12.65" x 8.0" (34.9 cm x 32.1 cm x 20.3 cm)			
Mounting	Shelf (top or bottom up) or bulkhead (vents up)			
Weight	43 lb (19.5 kg)	43 lb (19.5 kg)	53 lb (24.0 kg)	58 lb (26.3 kg)
Max operating altitude	15,000' (4570 m)			

Magnum Energy, Inc.  
1111 80th Street SW, Suite 250  
Everett, Washington 98203 USA

Phone: 425-353-8833  
Fax: 425-353-8390  
Web: [www.magnumenergy.com](http://www.magnumenergy.com)

Testing for specifications at 25° C  
Specifications subject to change without notice.  
March 2007, Rev E Part #64-0200

Authorized Magnum Dealer

The Powerful Difference