

# MS SERIES | INVERTER/CHARGER

PURE SINE WAVE DESIGNED FOR DEMANDING APPLICATIONS

## Introduction

The MS Series inverter/charger is a line of pure sine wave inverters designed for mobile, backup, and off-grid applications. MS Series inverter/chargers are powerful, easy-to-use, and best of all, cost effective.



## Features

- **Pure Sine Wave** – Power your sensitive electronics without worry. The MS Series provides reliable, utility-grade power.
- **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 – 25-30% less AC current than standard chargers.
- **Battery Profile Presets** – Using the ME-RC, ME-ARC, or ME-MR Remote Controls, easily choose from and set standard battery profiles, including Lithium Iron Phosphate (LFP) – only available via the ME-RC and ME-MR, Gel, Flooded, AGM1, and AGM2.
- **Convenient Wiring Access** – An extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make wiring easier.
- **Choices** – The MS Series is available in 12, 24, and 48-volt configurations.
- **Versatile Mounting** – Mount the MS Series inverter/charger on a shelf, bulkhead, or even upside down.
- **Multiple Ports** – The MS Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.
- **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 except MS2000, which is 30 Amp only.

## Model Numbers

- MS2000-GL, MS2000-L-U, MS2000-L-F, MS2000-15BL-U, MS2000-20BL-U, MS2000-20BL-F
- MS2012-GL, MS2012-L-F, MS2012-L-U, MS2012-15BL-U, MS201220BL-F, MS2012-20BL-U
- MS2024-L
- MS2812-GL, MS2812-L-F, MS2812-L-U
- MS4024-GL, MS4024-L-U
- MS4048-L, MS4048-20BL

## Available For

- Backup Systems
- Marine Systems
- Off-Grid Systems
- RV Systems
- Trucks

## Available Accessories

- AGS
- Battery Monitor Kit
- Conduit Box
- DC Load Disconnect
- Remote Switch Adapter
- Fuse Blocks
- MagWeb
- Remote - ME-ARC
- Remote - ME-MR
- Remote - ME-RC
- RV-C Bridge - ME-RVC
- Smart Battery Combiner



Pure Sine Wave



12, 24, 48 Battery Voltage Options



2000-4000 W Continuous Output Options



# SPECIFICATIONS

	<b>MS2000/12 MS2012 (-15/-20B)</b>	<b>MS2812</b>	<b>MS2024</b>	<b>MS4024</b>	<b>MS4048 MS4048-20B</b>
<b>INVERTER SPECIFICATIONS</b>					
<b>Input battery voltage range</b>	9 - 16.8 VDC	9 - 16.8 VDC	18 - 33.6 VDC	18 - 33.6 VDC	36 - 67.6 VDC
<b>AC output voltage accuracy</b>	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
<b>Output frequency and accuracy</b>	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
<b>Total Harmonic Distortion (THD)</b>	< 5%	< 5%	< 5%	< 5%	< 5%
<b>1 msec surge current (amps AC)</b>	50	70	75	120	120
<b>100 msec surge current (amps AC)</b>	33	40	37	82	72
<b>5 sec surge power (real watts)</b>	3300	3900	2850	5800	8500
<b>30 sec surge power (real watts)</b>	3100	3800	2750	5400	5750
<b>5 min surge power (real watts)</b>	2800	3200	2700	4900	5250
<b>30 min surge power (real watts)</b>	2200	3000	2200	4500	4750
<b>Output power (continuous watts)</b>	2000	2800	2000	4000	4000
<b>Maximum continuous input current</b>	267 ADC	373 ADC	133 ADC	267 ADC	133 ADC
<b>Inverter efficiency (peak)</b>	90.6%	90%	86%	93.7%	94%
<b>AC Relay Transfer time (minimum)</b>	16 msec	16 msec	16 msec	16 msec	16 msec
<b>Power Consumption - searching</b>	<8 watts	<8 watts	<8 watts	<8 watts	<8 watts
<b>Power Consumption - inverting (no load)</b>	25 watts	30 watts	25 watts	25 watts	25 watts
<b>Output Waveform</b>	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
<b>CHARGER SPECIFICATIONS</b>					
<b>Continuous output at 25° C</b>	100 ADC	125 ADC	60 ADC	105 ADC	60 ADC
<b>Charger efficiency</b>	85%	85%	85%	85%	85%
<b>Power factor</b>	> .95	> .95	> .95	> .95	> .95
<b>Input current for continuous rated output</b>	15 AAC	18 AAC	7.9 AAC	29 AAC	30 AAC
<b>GENERAL FEATURES AND CAPABILITIES</b>					
<b>Transfer relay capability</b>	30 ACC max. each input (30AC total on MS2000 models, 60ACC total on all other models)*				
<b>Five stage charging capability</b>	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™				
<b>Battery temperature compensation</b>	Standard with available temp sensor connected (battery temp 0-50° C)				
<b>Internal cooling</b>	0 to 120 cfm variable speed drive using dual 92mm brushless DC fans				
<b>Overcurrent protection</b>	Yes, with two overlapping circuits				
<b>Overtemperature protection</b>	Yes on transformer, MOSFETS, and battery				
<b>Corrosion protection</b>	Yes, PCB's conformal coated, powder coated chassis/top, and stainless steel fasteners				
<b>Branch-rated output circuit breakers</b>	Optional on the MS2000 (15 or 20 amp breakers), MS2012 (15 or 20 amp breakers) or MS4048 (20amp breakers)				

<b>Warranty</b>	Three years parts and labor				
<b>PHYSICAL SPECIFICATIONS</b>					
<b>Dimensions (l x w x h)</b>	13.75" x 12.65" x 8.0" (34.9 cm x 32.1 cm x 20.3 cm) [Height on MS2000: 7.0"/17.8 cm]				
<b>Mounting</b>	Shelf or wall (vents not allowed to face downward unless ME-CB or MMP/MP is installed)				
<b>Unit weight</b>	42 lb (19.1 kg)	55 lb (24.9 kg)	41 lb (18.6 kg)	55 lb (24.9 kg)	55 lb (24.9 kg)
<b>Shipping weight</b>	48 lb (21.8 kg)	62 lb (28.1 kg)	49 lb (22.2 kg)	62 lb (28.1 kg)	62 lb (28.1 kg)
<b>Max operating altitude</b>	15,000' (4570 m)	15,000' (4570 m)	15,000' (4570 m)	15,000' (4570 m)	15,000' (4570 m)
<b>Temperature (Operating/Non-operating)</b>	-20° C to +60° C (-4° F to 140° F) to -40° C to +70° C (-40° F to 158° F)				
<b>Operating humidity</b>	0 to 95% RH non-condensing				



## GENERAL NOTES

\*The pass-thru capability on each leg of the -15B and -20B models is limited by the output breaker size on each output. Testing for specifications at 25° C. Specifications subject to change without notice.



## AGENCY APPROVALS & CERTIFICATIONS

- ETL Listed to UL/cUL 458, UL 1741, CSA C22.2 #107.1-01, meets KKK-A-1822E standard\*\*
- The MS2000, MS2012, MS2812, MS4024 and MS4048 are ETL Listed to the stringent requirements of UL/cUL 458 for mobile use.
- The MS2012, MS2812, MS4024 and MS4048 are ETL Listed UL 1741 and CSA C22.2 #107.1-01 for renewable energy installations.
- All models also meet KKK-A-1822E standards for emergency vehicle use.\*\*

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