

# MMSA SERIES | INVERTER/CHARGER

LIGHTWEIGHT, PURE SINE WAVE POWER

## Introduction

The Magnum Energy MMSA Series Inverter/Charger from Sensata Technologies is a pure sine wave inverter providing a cost effective solution for those with smaller power needs in mobile applications. Ideal for Emergency Vehicles, the MMSA is versatile, easy-to-use, lightweight, and provides a reliable base for your energy system. Connect with Ease: The MMSA comes with DC cables with Anderson quick connectors, a GFCI outlet, and an AC input cord. Auxiliary DC Output Port: Add a small load, such as an interior lamp or backup camera, of less than 20 amps. MMSA must be connected to the battery for the AUX output to be available. 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 25-30% less AC current than standard chargers.



## Features

- **Waterproof Panel** – The MMSA boasts a waterproof switch and LED panel for use in the most rugged territory.
- **Safe and Reliable** – The MMSA Series Inverter/Charger is ETL Listed to the stringent requirements of UL/cUL 458 and CSA C22.2 #107.1-01 for mobile use.
- **Attractive Styling** – The modern, hourglass case, paired with the die cast aluminum base combines form with function, creating an attractive unit that uses its base as a heat sink for superior high temperature operation.
- **Versatile Mounting** – Mount the MMSA Series on a shelf, bulkhead (with DC terminals to the right), or even upside down.
- **Low/High Battery Protection** – If your battery voltage reaches below 10 VDC or above 17 VDC, the MMSA Series will automatically shut down.
- **Fan Cooled** – The MMSA Series is fan cooled, enabling the unit to work well in confined spaces. If the inverter does exceed its temperature limits, it will automatically shut down and then restart when it cools down.
- **Current Overload Protection** – The MMSA Inverter/Charger will automatically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.
- **Integrated Programming** – The MMSA Series comes with an on/off front-mounted switch with an easy-to-read LED indicator. And easily toggle through settings with the accessible DIP switch.
- **Battery Temp Sensor** – Automatically adjusts the voltage set-points based on temperature for better charging performance and longer battery life.
- **Buy with Ease** – The MMSA Inverter/Charger is backed by a two-year (24-month) parts and labor warranty.

## Model Numbers

- MMSA1012

## Available For

- Emergency Vehicle Systems
- Marine Systems
- RV Systems
- Trucks

## Available Accessories

- DC Load Disconnect
- Fuse Blocks
- MagWeb
- Remote Monitor - MM-C
- Remote - ME-ARC
- Remote - ME-RC
- Remote - MM-RC



Pure Sine Wave



12

Battery Voltage Options



1500  
VA

Continuous Output Options



## SPECIFICATIONS

<b>MMSA1012</b>	
<b>INVERTER SPECIFICATIONS</b>	
<b>Input battery voltage</b>	9 to 17 VDC
<b>Nominal AC output voltage</b>	120 VAC $\pm$ 5%
<b>Output frequency and accuracy</b>	60 Hz $\pm$ 0.05%
<b>Total Harmonic Distortion (THD)</b>	< 5%
<b>1 msec surge current (amps AC)</b>	38
<b>100 msec surge current (amps AC)</b>	21
<b>5 sec surge power (real watts)</b>	1650
<b>30 sec surge power (real watts)</b>	1600
<b>5 min surge power (real watts)</b>	1250
<b>30 min surge power (real watts)</b>	1200
<b>Continuous power output at 45° C</b>	1000 VA
<b>Maximum continuous input current</b>	133 ADC
<b>Inverter efficiency (peak)</b>	87%
<b>Transfer time (typical)</b>	16 msec
<b>Search mode (typical)</b>	5 watts (with no remote)
<b>No load (120 VAC output, typical)</b>	22 watts (with no remote)
<b>Waveform</b>	Pure Sine Wave
<b>CHARGER SPECIFICATIONS</b>	
<b>Continuous output at 45° C</b>	50 ADC
<b>Charger efficiency (peak)</b>	84%
<b>Power factor</b>	> 0.95
<b>Input current at rated output (AC amps)</b>	7
<b>GENERAL FEATURES AND CAPABILITIES</b>	
<b>Transfer relay capability</b>	20 AAC (input current for charging and pass through)
<b>Battery temperature compensation</b>	Yes, with ME-BTS
<b>Internal cooling</b>	0 to 59 cfm variable speed
<b>Overcurrent protection</b>	Yes, with two overlapping circuits
<b>Overtemperature protection</b>	Yes, on transformer and MOSFETS
<b>On/Off with status indicator</b>	Yes, front mounted and easily accessible
<b>Low battery cutout</b>	10 VDC, adjustable with the ME-RC or ME-ARC remote
<b>AC output</b>	15 amp GFCI outlet
<b>AC input</b>	3 ft AC cord
<b>Output circuit breaker</b>	15 AAC
<b>Input circuit breaker</b>	15 AAC
<b>Listings</b>	ETL Listed to UL/cUL458, CSA C22.2 #107.1-01
<b>Warranty</b>	Two years

ENVIRONMENTAL SPECIFICATIONS	
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
PHYSICAL SPECIFICATIONS	
Dimensions (l x w x h)	16.6" x 8.4" x 6.75" (42 cm x 21 cm x 17 cm)
Mounting	Shelf (top or bottom up) or bulkhead (DC terminals to the right)
Weight	24 lb (10.9 kg)
Shipping weight	25 lb (11.3 kg)
Max operating altitude	15,000' (4570 m)



## GENERAL NOTES

Testing for specifications at 45° C, unless otherwise noted.  
Specifications subject to change without notice.



## AGENCY APPROVALS & CERTIFICATIONS

- ETL Listed to UL/cUL458, CSA C22.2 #107.1-01

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