

MSH-M SERIES | INVERTER / CHARGER

Introduction

The MSH-M Series inverter/charger from Sensata Technologies – a pure sine wave inverter designed with true hybrid technology allowing it to run larger loads from smaller generators. Most inverters only use one source of energy to power loads, either from incoming AC power – shore or AC generator – or from the batteries. The MSH-M Series combines the energy from both sources to power loads. This allows the inverter to recharge the batteries when there is surplus power or deliver more power to the loads if they require more than the AC input can supply by itself.



Features

- Load Support – Load support parallels the inverter output with incoming AC sources allowing it to run larger loads from smaller generators.
- Battery Profile Presets – Using the ME-RC or ME-ARC Remote Controls, easily choose from and set standard battery profiles, including Lithium Iron Phosphate (LFP) – only available via the ME-RC, Gel, Flooded, AGM1, and AGM2.
- Pure Sine Wave – Power your sensitive electronics without worry. The MSH-M Series provides reliable utility-grade power.
- Interchangeable – The MSH-M is interchangeable with the Magnum MS Series and uses the same accessories as the MS Series.
- Multiple Ports – The MSH-M Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.
- Convenient Wiring Access – An extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make wiring easier.
- Convenient Switches – The MSH-M Series comes with an on /off inverter-mounted switch with an easy-to-read LED indicator.
- Buy with Ease – The MSH-M Series is backed by a three-year (36-month) limited warranty.

Model Numbers

- MSH3012M-L
- MSH4024M-L

Available Accessories

- Auto Generator Start - ME-AGS-N
- Battery Monitor Kit
- Conduit Box
- DC Load Disconnect
- Fuse Blocks
- MagWeb
- Remote - ME-ARC
- Remote - ME-RC
- Remote Switch Adapter
- Smart Battery Combiner

Available For

- Marine Systems
- RV Systems

Options

- 12 and 24-volt and 3000 or 4000 watt output configurations available



Pure Sine Wave



12, 24 Battery Voltage Options



3000-4000 VA Continuous Output Options



SPECIFICATIONS

	MSH3012M	MSH4024M
INVERTER SPECIFICATIONS		
Input battery voltage range	9 to 17 VDC	18 to 34 VDC
Nominal AC output voltage	120 VAC $\pm$ 5%	120 VAC $\pm$ 5%
Output frequency and accuracy	60 Hz $\pm$ 0.05 Hz	60 Hz $\pm$ 0.1 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	70	120
100 msec surge current (amps AC)	40	82
5 sec surge power (real watts)	3900	5800
30 sec surge power (real watts)	3800	5400
5 min surge power (real watts)	3200	4900
30 min surge power (real watts)	3000	4500
Continuous power output at 25° C	3000 VA	4000 VA
Maximum continuous input current	400 ADC	267 ADC
Inverter efficiency (peak)	90.0%	93.7%
Transfer time	16 msec	16 msec
Search mode (typical)	< 8 watts	< 8 watts
No load (120 VAC output, typical)	30 watts	25 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	125 ADC	110 ADC
Charger efficiency	87%	87%
Power factor	> .95	> .95
Input current at rated output (AC amps)	18	28
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	60 AAC	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Standard with available temp sensor connected (battery temp 0 - 50 °C)	
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	
Corrosion protection	Yes, PCB's conformal coated, powder coated chassis/top, and stainless steel fasteners	
Dual AC branch rated output breakers	No	
Listings	ETL listed to UL/cUL 458, CSA C22.2 No. 107.1-01	
Warranty	Three years parts and labor	

ENVIRONMENTAL SPECIFICATIONS	
Temperature (Operating/Non-operating)	-20° C to +60° C (-4° F to 140° F) to -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)	13.75" x 12.65" x 8.0" (34.9 cm x 32.1 cm x 20.3 cm)
Shipping dimensions (l x w x h)	19" x 17" x 13" (48.3 cm x 43.2 cm x 33 cm)
Mounting	Shelf or wall (vents not allowed to face downward unless ME-CB or MPX-CB is installed)
Weight	55 lb (24.9 kg)
Shipping weight	63 lb (28.6 kg)
Max operating altitude	15,000' (4570 m)



GENERAL NOTES

Testing for specifications at 25° C.
Specifications subject to change without notice.



AGENCY APPROVALS & CERTIFICATIONS

- ETL listed to UL/cUL 458, CSA C22.2 No. 107.1-01

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com. SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

651-653-7000
800-553-6418
InverterInfo@sensata.com

Power Conversion
www.magnum-dimensions.com



This manual is provided courtesy of **RV Tech Cheat Sheet**



Professional resources for the whole RV industry — free.

We put manuals, wiring diagrams and hard-won tech knowledge in every technician's hands, so repairs get done right the first time, techs work faster, and RV owners everywhere get better service.



rvtechcheatsheet.com/manuals

Find thousands more RV manuals, wiring diagrams and parts lists

RV techs: share fixes, ask questions and learn from each other.

Join our free Facebook group →



Follow proper safety practices. If in doubt, consult a professional RV technician.