




Sensata
Technologies

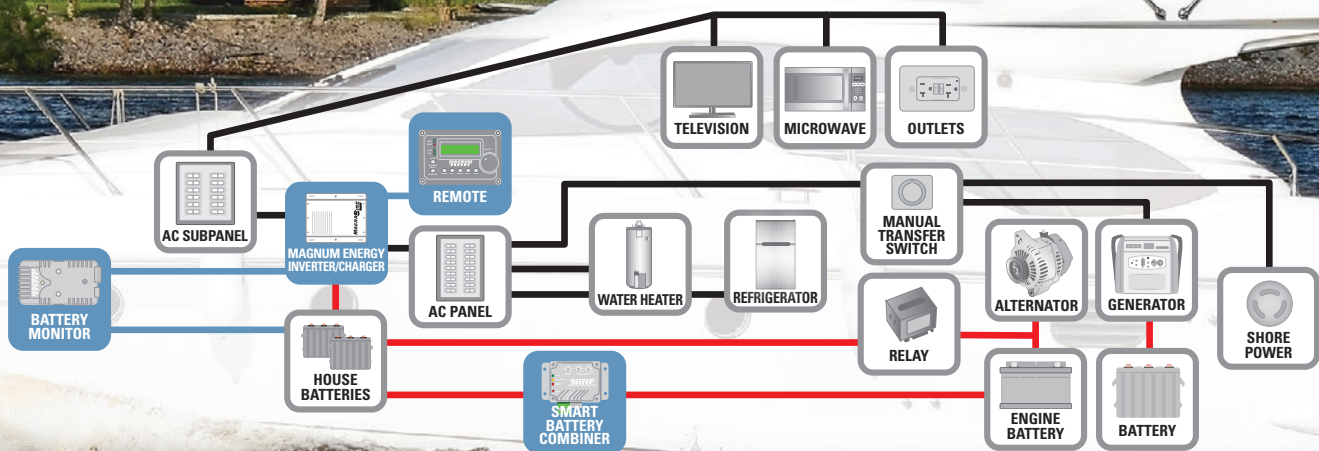
SAFE AND RELIABLE POWER
FOR MARINE APPLICATIONS

POWER FOR LIFE, WHEN OUT ON THE WATER

Don't compromise. Magnum Energy's line of easy-to-install and easy-to-use inverter/chargers are win-wins for both installers and boat owners.

Providing safe, reliable energy systems to your customers whether they're on or offshore is easy to do with Magnum Energy inverter/chargers. Purpose-built with the design and reliability boating applications require, Magnum Energy inverter/chargers make installation and safety easy with grounding built in. And your customers will love the quiet charging and hybrid flexibility.

How Magnum Energy Inverter/Chargers Work



POWER LOADS AND CHARGE BATTERIES WHEN NOT CONNECTED TO SHORE POWER

Invert Mode: Converts DC current from the batteries into utility-grade AC current, which can be used to power electrical appliances while underway.

Charge Mode: Add solar to allow battery charging when not connected to shore power. Charge during the day, run off the batteries at night.

WHEN CONNECTED TO SHORE POWER

Standby Mode: When shore or generator power is connected, the inverter/charger will both charge the batteries for later power use and automatically pass incoming AC power to electrical appliances.

MARINE POWER DESIGN CONSIDERATIONS

Consider Loads to Determine Inverter Sizing

Inverter/Charger Continuous Output	600W	1000W	1500W	2800W
CPAP Machine				
LED Lights				
Cell Phone Charger				
Laptop or Tablet				
TV				
Play Station 4® or Xbox One®				
Halogen Lights				
Toaster				
Keurig® Coffee Maker				
Hair Dryer				
Microwave				

Do You need Pure Sine Wave or Modified Sine Wave Power?



Pure sine wave power is like utility power and will run any device. Modified sine wave power is less expensive, but won't run sensitive digital power electronics. Magnum Energy offers both pure sine wave and modified sine wave options, giving you the freedom to choose what works for your lifestyle.

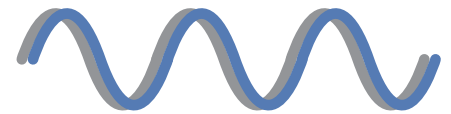
Ensure Better Charging

Choosing a Power Factor Corrected (PFC) charger means that less power is lost during charging. 1 = 100% of produced power is used.

Magnum Energy Inverter/Chargers reach **greater than .95 PFC**. The closer the Power Factor is to 1, the higher the efficiency of charging batteries. This proprietary algorithm allows the charger voltage and current to change independently, and Magnum Energy Inverter/Chargers maximize the power available creating greater charging capabilities with less power wasted.



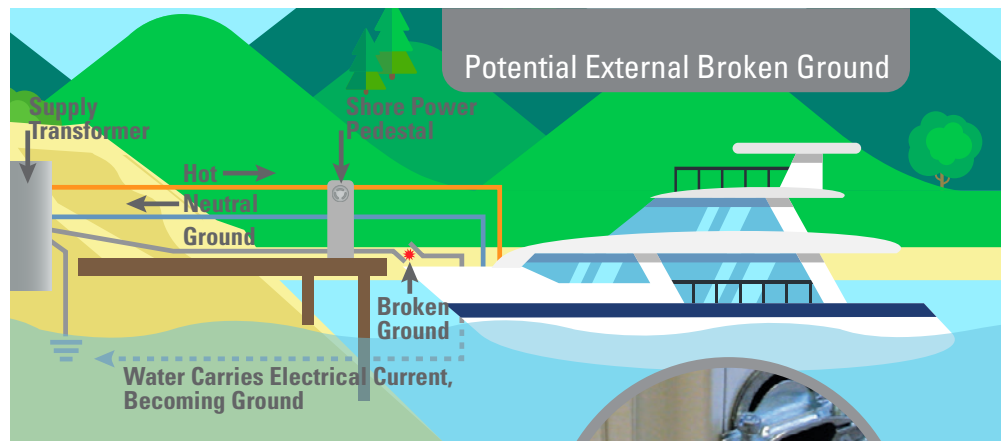
Current & Voltage **without** Power Factor Correction



Current & Voltage **with** Power Factor Correction

Ensure Proper Grounding

By ensuring the marine electrical system has properly isolated grounding, you will prevent more than one bond from being established. When more than one bond is established, currents can circulate between the neutral and ground, causing "ground-loop" currents. Ground-loop currents trip GFCIs and are an electrical shock hazard.



Magnum Energy Inverter/Chargers are designed with safety in mind, with a **Grounding Lug built in** on most models. This saves installation time, is safer, and meets UL458 certification standards.



Hybrid Power Advantages in Marine Applications

Multiple Sources of Energy

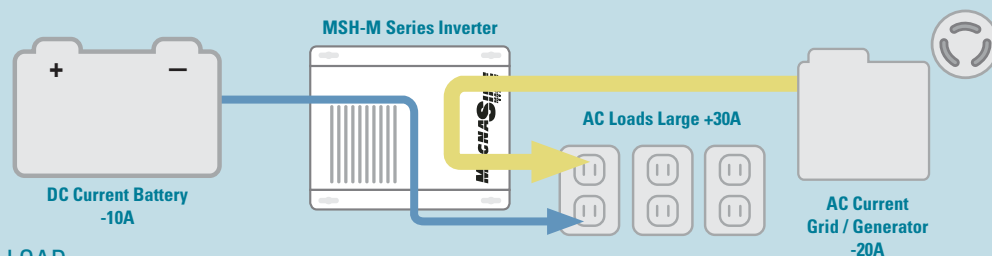
Most inverters use only one source of energy to power loads, either AC power – shore or generator – or from the batteries. The MSH-M Series Inverter/Charger combines the energy from both sources to power loads.

Levels Less Powerful Shore Power

The MSH-M Series recharges batteries when there is surplus power or delivers more power to the loads if more power is needed than the AC input can supply by itself.

Load Support

Load support parallels inverter output with incoming AC sources, allowing it to run larger loads from smaller generators.



LOAD SUPPORT AAC

If AC loads are added that are above the capability of the grid/generator, the MSH-M converts current from the battery and combines it with the current from the grid/generator to power the additional AC loads.



MSH-M SERIES INVERTER/CHARGER

- Hybrid technology combines energy from AC sources and batteries to power loads.
- Load support allows larger loads to be run from smaller generators.
- 12 and 24V options.
- Lightweight and compact.
- UL/cUL 458 listed.
- Easy-to-install with an accessible design and multiple ports.

OVERVIEW

Input Voltage Range	9 - 17 and 18-34 VDC
Output Voltage Range	120 VAC ± 5%
Total Harmonic Distortion	< 5%
5 Sec Surge Output	3900 W and 5800 W
Continuous Power Output	3000 W and 4000 W
Continuous Charger Output	125 and 110 ADC
Power Factor	> .95
Output Frequency	60 Hz ± 0.1 Hz
Weight Dimensions	55 lb 13.75" x 12.65" x 8.0"
Warranty	Three years



MS SERIES INVERTER/CHARGER

- Utility-grade, pure sine wave inverter.
- Five models from 2000 - 4000 W.
- 12, 24, and 48 V options.
- 30 and 60 amp transfer service, depending on model.
- UL/cUL 458 listed.
- Charges multiple battery chemistries, including lithium ion and lead acid.

OVERVIEW

Input Voltage Range	9-16.8 VDC, 18-33.6 VDC, 36-67.6 VDC
Output Voltage & Frequency	120 VAC, 60 Hz
5 Sec Surge Output	3300 W, 3900 W, 2850 W, 5800 W, 8500W
Continuous Power Output	2000 W, 2800 W, 4000 W
Continuous Charger Output	100 ADC, 125 ADC, 60 ADC, 105 ADC
Power Factor	> .95
Waveform	Pure Sine Wave
Weight	42 lb, 55lb, 41 lb
Dimensions	13.75" x 12.65" x 8"
Warranty	Three years

The pure sine wave MS2812 Inverter/Charger is ideal when a microwave will be used.



MMS SERIES INVERTER/CHARGER

- Rugged, pure sine wave inverter/charger designed with marine environments in mind.
- Hardwire and three-foot prewired cord options available on the MMS.
- Low and high battery protection.
- Current overload and circuit breaker protection.
- Lightweight and compact.
- UL/cUL 458 listed.
- Versatile mounting options available.

OVERVIEW	
Input Voltage Range	9-17 VDC
Output Voltage Range	120 VAC \pm 5%
Total Harmonic Distortion	< 5%
5 Sec Surge Output	1750 W
Continuous Power Output	1050 W
Continuous Charger Output	50 ADC
Power Factor	> .95
Output Frequency	60 Hz \pm 0.1 Hz
Weight Dimensions	23 lb 16.6" x 8.4" x 4.7"
Warranty	Two years



CSW SERIES INVERTER

- Pure sine wave inverter designed for smaller spaces.
- Easy-to-read LED status, with an LCD screen for alphanumeric readings.
- USB port to charge USB enabled devices.
- Dual GFCI outlets directly on the inverter.
- The CSW2012-X automatically switches between shore power and inverter/battery power.

OVERVIEW	
Input Voltage Range	10.5 - 15.5 VDC
Output Voltage Range	120 VAC \pm 5%
Total Harmonic Distortion	< 3%
5 Sec Surge Output	800 W, 2000 W and 4000 W
Continuous Power Output	400 W, 1000 W, and 2000 W
Output Frequency	60 Hz \pm 0.5 Hz
Weight	3.8 lb, 6.6 lb, 11.5 lb and 13.0 lb
Dimensions	6.9" x 7.9" x 2.3", 12.63" x 7.0" x 3.5", 16.3" x 9.1" x 4.3", 17" x 9" x 4.5"
Warranty	One year



CMW SERIES INVERTER

- Cost effective modified sine wave inverter for power on the go.
- Easy-to-read LED status, with an LCD screen for alphanumeric readings.
- USB port to charge USB enabled devices.
- Dual GFCI outlets directly on the inverter.
- The CMW3012-H automatically switches between shore power and inverter/battery power.

OVERVIEW	
Input Voltage Range	10.5 - 15.5 VDC
Output Voltage Range	120 VAC \pm 5%
5 Sec Surge Output	800 W, 2000 W, 4000 W, and 6000 W
Continuous Power Output	400 W, 1000 W, 1500 W, and 3000 W
Output Frequency	60 Hz \pm 0.5 Hz
Weight	1.6 lb, 5.3 lb, 6.9 lb and 13.0 lb
Dimensions	7.3" x 4.1" x 2.1", 12.63" x 6.9" x 3.5", 15.0" x 6.9" x 3.5", 19.0" x 9.0" x 4.5"
Warranty	One year



CHARGE CONTROLLERS

- Easy-to-install and use solar charge controllers for smaller power needs..
- Models available from 6 to 40 amps.
- Works with 12 or 24 V systems.
- Some models have a USB port to easily charge USB enabled devices.
- Five-year warranty



ME-BMK BATTERY MONITOR KIT

- Acts as a "fuel gauge" for your batteries.
- Monitors state-of-charge (SOC) readings to avoid unnecessary battery recharging, saving maintenance costs.



ME-AGS AUTOMATIC GENERATOR START

- Automatically starts a generator based on low battery condition or the room temperature.
- Compatible with most major generator brands.
- Network and stand-alone versions are available.



ME-SBC SMART BATTERY COMBINER

- Easy-to-use stand alone battery combiner and isolator.
- Use with 12 and 24 V systems.
- Use a single charging source to charge a second battery bank.
- Prevents over or under-charging, helping to save battery life.

NOTE: All systems require a remote control.
Visit www.SensataPower.com for a full line of inverter/chargers, remote controls, and accessories.

ABOUT SENSATA TECHNOLOGIES

The name Sensata comes from the Latin word **sensata**, meaning “those gifted with sense”. To complement our business and name, our logo is inspired by Braille, the writing system based on touch.

Our highly engineered devices satisfy the world’s growing need for safety, energy efficiency, and a clean environment. These are devices that improve safety, efficiency and comfort for millions of people every day and are used in automotive, appliance, aircraft, industrial, military, heavy vehicle, heating, air conditioning, data, telecommunications, recreational vehicle and marine applications.

Until 2006, we were called Texas Instruments Sensors & Controls. Today we are the world’s leading supplier of sensors and controls across a broad range of markets and applications. From integrated manufacturing to state-of-the-art environmental practices and a full spectrum of technical and analytical services, Sensata Technologies remains committed to helping its customers find leading-edge technology solutions to meet today’s market needs.



SENSATA POWER CONVERSION AND THE MAGNUM ENERGY BRAND

Sensata’s Power Conversion business unit began as two well-known inverter companies, Dimensions Inverters and Magnum Energy. Dimensions Inverters joined Sensata Technologies in 2007 and Magnum Energy in 2014. Under the Magnum Energy and Dimensions Power brands, Sensata Technologies continues to manufacture exceptional inverters, inverter/chargers, and accessories catering to mobile applications, including utilities, corporate fleets, RV, marine, and trucks; renewable energy applications, and the export market.

Shipped worldwide, our products use the highest quality components to respond to the extreme conditions of

variable climates. Our dedicated staff of engineering, manufacturing, and customer service professionals work closely with customers to design and build some of the industry’s most reliable, advanced, and cost effective inverters, inverter/chargers and accessories.

Offering both sine wave and modified sine wave models ranging from 500 to 17,600 watts and the ability to accommodate input ranges from 12 to 48 VDC, the Magnum Energy product line has the inverter or inverter/charger to meet your needs.



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