

## The MSH-RE Series Inverter / Charger



The MSH-RE Series Inverter / Charger from Magnum Energy – a pure sine wave inverter that combines the tried and tested engineering of Magnum’s MS line with hybrid technology to make it an optimal choice for your renewable and backup power needs.

**Hybrid technology:** Most inverters only use one source of energy to power loads, either from incoming AC power – utility or AC generator – or from the batteries. The MSH-RE 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.

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

### 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%.

**Easy-to-install:** Install the MSH-RE Series in four easy steps: simply connect the inverter’s output to your distribution circuits or electrical panel, connect your utility power cable to the inverter’s easy-to-reach terminal block, connect the batteries, and switch on the power.

**Dual AC inputs:** The MSH-RE Series comes with two 60 amp AC inputs – a grid input at 60A and a generator input at 60A.

**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.

### Interchangeable:

The MSH-RE is interchangeable with the Magnum MS Series and uses the same accessories as the MS Series.

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

### Multiple ports:

The MSH-RE Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

### Convenient switches:

The MSH-RE Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

**Buy with ease:** The MSH-RE Series is backed by a three-year (36-month) limited warranty, and a five-year limited warranty when installed on an MMP system.

### MODEL NUMBERS

- MSH4024RE

### AVAILABLE FOR

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

### AVAILABLE ACCESSORIES

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

### NEW WARRANTY!

Three-year warranty standard.  
Five-year warranty if installed  
on an MMP panel.



## MSH-RE Series Specifications

### MSH4024RE

#### Inverter Specifications

Input battery voltage range	18 - 34 VDC
Nominal AC output voltage	120 VAC $\pm$ 3%
Output frequency and accuracy	60 Hz $\pm$ 0.05 Hz
Total Harmonic Distortion (THD)	< 5%
1 msec surge current (amps AC)	120
100 msec surge current (amps AC)	82
5 sec surge power (real watts)	5800
30 sec surge power (real watts)	5400
5 min surge power (real watts)	4900
30 min surge power (real watts)	4500
Continuous power output at 25° C	4000 VA
Maximum continuous input current	267 ADC
Inverter efficiency (peak)	93.7%
Transfer time	< 16 msec
Search mode (typical)	< 7 watts
No load (120 VAC output, typical)	25 watts
Waveform	Pure Sine Wave

#### Charger Specifications

Continuous output at 25° C	110 ADC
Charger efficiency	85%
Power factor	> .95
Input current at rated output (AC amps)	29

#### General Features and Capabilities

Transfer relay capability	60 AAC maximum each input
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
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	No
Listings	ETL listed to UL/cUL 1741, CSA C22.2 No. 107.1-01
Warranty	Three years parts and labor

#### 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)	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 MMP is installed)
Weight	58 lb (26.3 kg)
Shipping weight	60 lb (27.2 kg)
Max operating altitude	15,000' (4570 m)

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

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**The Powerful Difference**