MAGNUM ENERGY

INTERNATIONAL PRODUCT CATALOG

Sensata Technologies

The World Depends on Sensors and Controls

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 BRANDS

Sensata Power Conversion brands 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 brand, 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 international market.

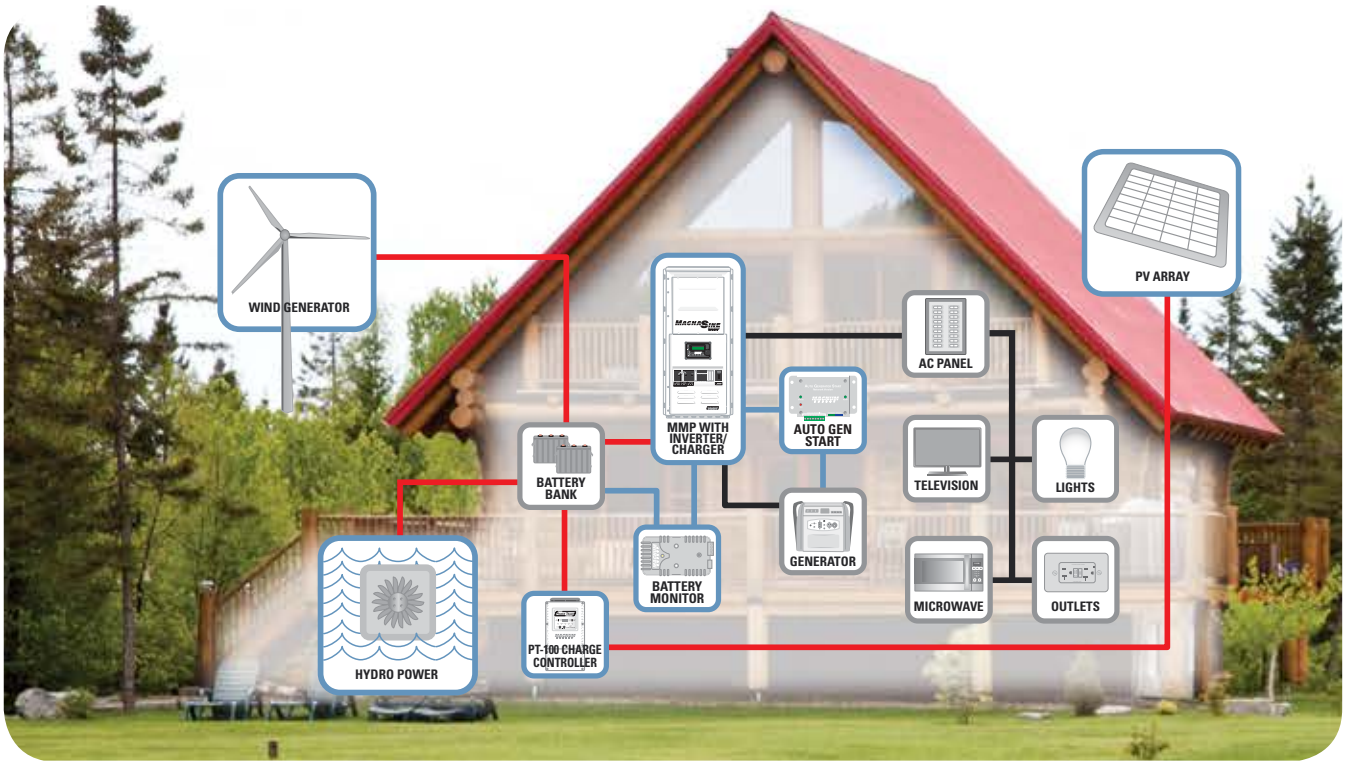
Manufactured in St. Paul, Minnesota and shipped worldwide, our products use the highest quality components to respond to the extreme conditions of variable climates. Our dedicated staff of engineering, manufacturing, and customer service professionals work closely with customers to design and build some 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 300 to 12,000 watts – in single and three-phase topology – and the ability to accommodate input ranges from 12 to 300 VDC, the Magnum Energy brand product line has the inverter or inverter/charger to meet your needs.

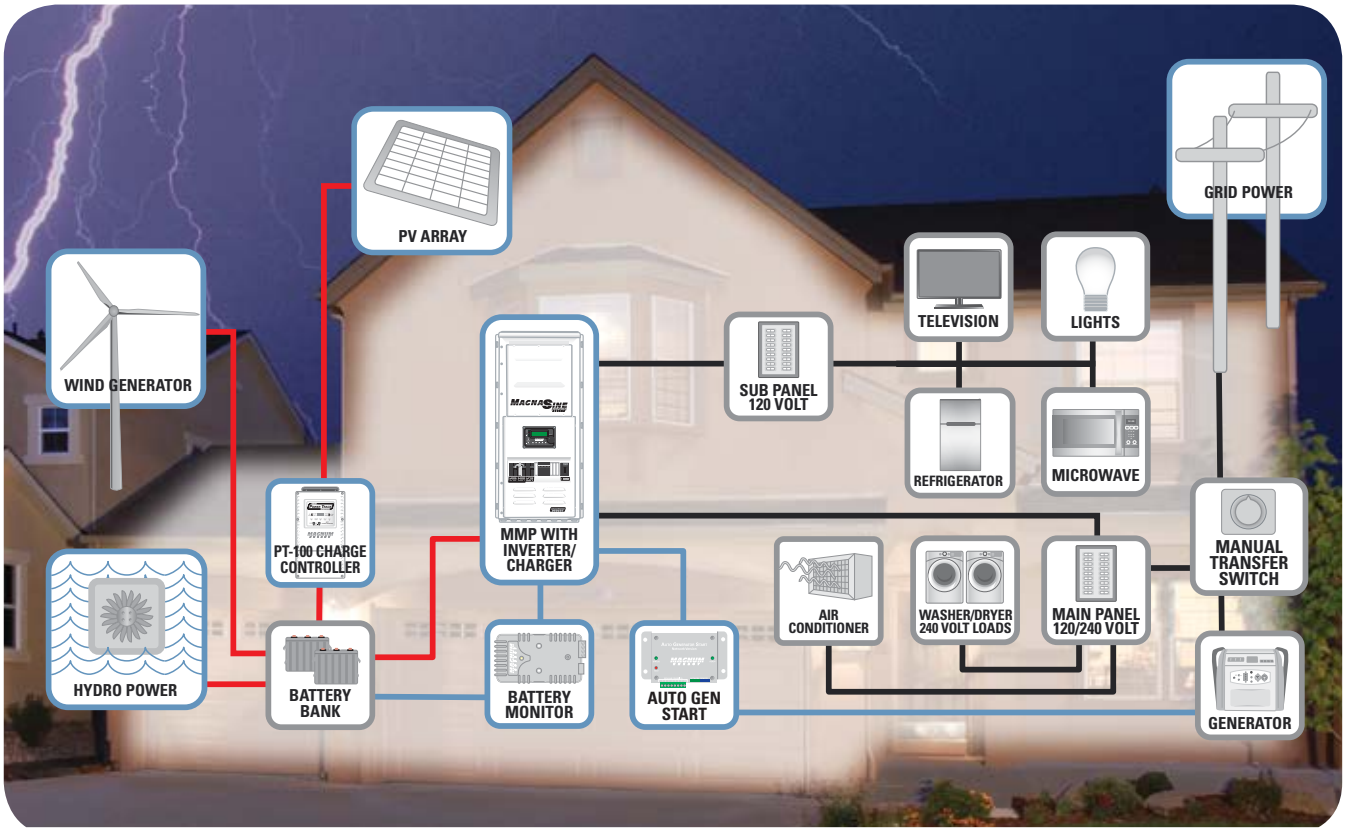
RENEWABLE ENERGY & MAGNUM ENERGY BRAND PRODUCTS

For reliable power regardless of grid connectivity, Magnum Energy brand inverter/chargers, interconnection system equipment, and accessories are a solid base to build a back-up or off-grid power system. With models available in 12, 24, and 48-volt configurations and power output from 900 to 4300 watts, and systems up to 17,200 watts you'll be sure to find the components right for your situation.

OFF-GRID POWER DIAGRAM



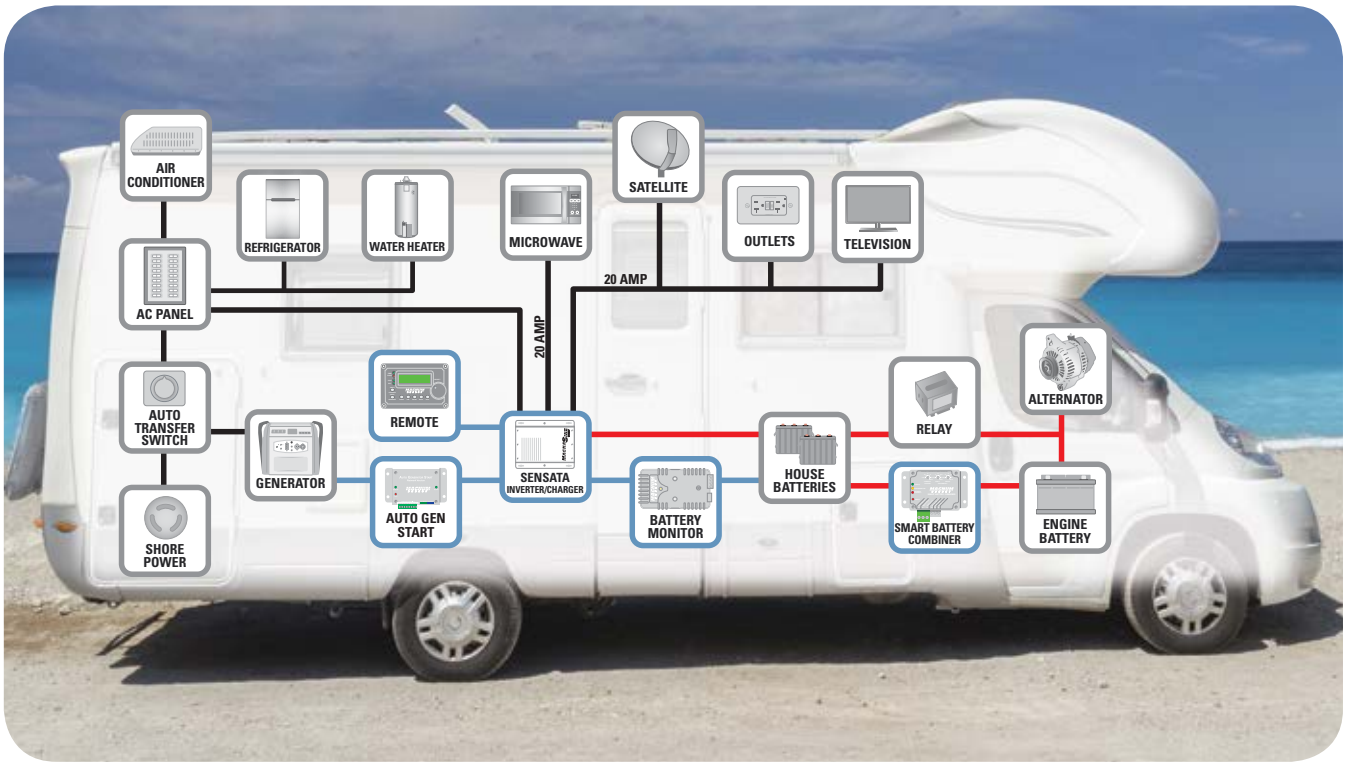
BACK-UP POWER DIAGRAM



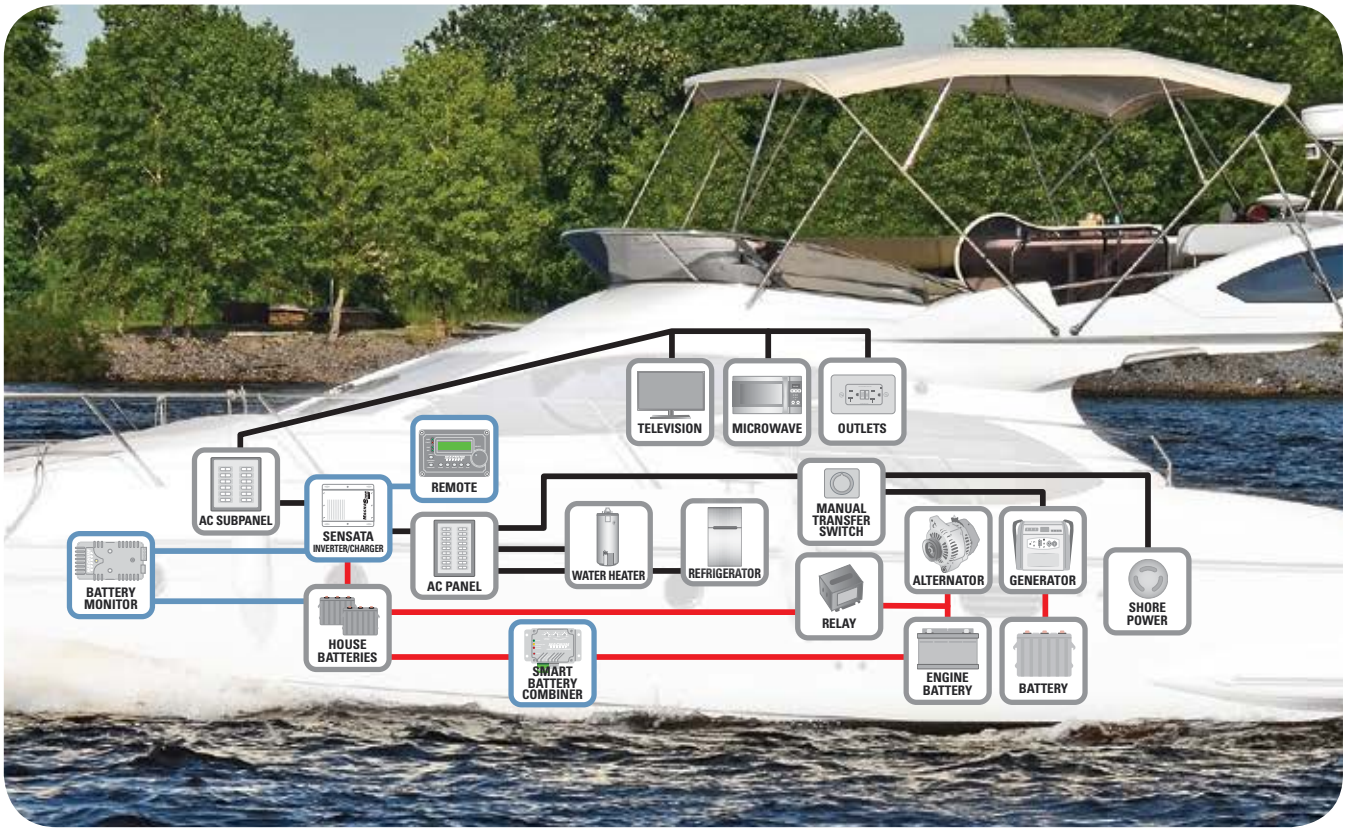
CARAVANS, BOATS, & MAGNUM ENERGY BRAND PRODUCTS

Travel with the comfort of knowing that a Magnum Energy brand inverter/charger from Sensata Technologies is at the center of your caravan power system. With efficient chargers and lightweight structures, Magnum Energy brand inverter/chargers are designed with a caravan system in mind. You'll stay on the road and moving with a Magnum Energy brand inverter/charger.

CARAVAN 30 AMP SYSTEM DIAGRAM



MARINE SYSTEM DIAGRAM



PT-100 CHARGE CONTROLLER

Model Number
PT-100

Available For
- Renewable Energy Systems
- Off-Grid Power
- Back-up Power

Available Configurations
- Works as a stand-alone controller using internal settings
- Works with a Magnum Energy brand Inverter/Charger and Magnum Energy brand Remote. Menu settings for the PT-100 are currently only available via the ME-ARC Remote.

Available Accessories
DC Breakers

The PT-100 is a Maximum Power Point Tracker (MPPT) charge controller designed to harvest the maximum available energy from the PV array and deliver it to the batteries. The PT-100's MPPT algorithm finds the maximum power point of the array and operates at this point while regulating the output current to 100 amps and battery voltage to fully charge the battery.

FEATURES

High Efficiency:
The PT-100 provides typical 99% conversion efficiency and uses less than four watts of power in nighttime mode.

MPPT:
Maximum Power Point Tracking technology for increased PV power output efficiency.

Voltage Options:
Compatible with 12, 24, or 48V battery systems with automatic detection of system voltage. The PT-100 will produce up to 100 amps regardless of battery voltage.

Supports a Large PV Array:
A single controller supports a large PV array up to 6600W. Larger PV arrays may be used because the PT-100 is current limited to 100 amps for maximum harvest.

Optimal Battery Charging:
Automatic battery temperature compensation using an included external temperature sensor for optimum battery charging, even during extreme temperature changes.

Multi-stage Charging:
Maximizes system performance and improves battery life.

GFDI:
Integrated PV Ground-Fault Detection and Interruption/Indication, with pre-fault leakage/diagnostic metering.

LED Indicators and Screen:
Multiple LED indicators and large digital LED screen on front panel for easy-to-read system information.

On-site Updates:
The PT-100's software can be updated on site.

Extensive Electronic Protection:
Over-temperature protection, power derating when temperature is high, PV short circuit and high PV input shutdown, output overcurrent protection and night-time back-feed (reverse current) protection.

AFCI:
An integrated PV Arc-Fault Circuit Interrupter detects, indicates, and extinguishes series arcs.

Convenient Installation:
Run all of the wiring to the unique, remain-in-place wiring box with ease prior to installing the full PT-100 unit.

Easy MP-PE and MMP-E integration:
The PT-100 is designed to work with a Magnum Panel (MP-PE) or Mini-Magnum Panel (MMP-E). It provides room and access to PV and battery disconnect breakers.

EVEN MORE FUNCTIONALITY WITH THE OPTIONAL REMOTE
- Built-in programmable auxiliary relay for device control.
- Internal data logging functionality keeps energy harvest information and battery Ahr/Whr data up to 255 days. Use the optional remote to display this information.

PT-100 CHARGE CONTROLLER SPECIFICATIONS

	PT-100
ELECTRICAL SPECIFICATIONS	
Maximum PV input voltage (any condition)	200 VDC + battery voltage or 240 VDC - whichever is lower
Maximum PV operating voltage	187 VDC
Maximum PV array short circuit current	100 ADC
Nominal battery voltage range	12, 24, or 48 VDC
Battery charger output voltage range	10 to 66 VDC
Continuous charger output current	100 ADC (from -20 °C to +40 °C) with proportional power reduction up to 60 °C ambient
Maximum output power	6600 watts
Efficiency	99% typical
Tare loss / nighttime power consumption	<4 watts (fan off, display/LEDs off)
Charger regulation method	Automatic three-stage (bulk, absorption, float) charge with manual equalization
GENERAL FEATURES AND CAPABILITIES	
Battery temperature compensation	With Battery Temperature Sensor (BTS) connected (battery temperature -20 °C to +55 °C)
Internal cooling	Using dual ball-bearing fans for long life
Overcurrent protection	With two overlapping circuits
Over-temperature protection	On transformer and MOSFETS
Listings	ETL Listed to UL/cUL 1741, CSA C22.2 #107.1-01, CE
Warranty	Five 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	
Enclosure type	Indoor, ventilated, with removable powder-coated conduit box
Unit dimensions (w x h x d)	8.5" x 15.5" x 4.0" (21.6 cm x 39.4 cm x 10.2 cm)
Shipping dimensions (w x h x d)	11.5" x 19.5" x 8.125" (29.2 cm x 49.5 cm x 20.6 cm)
Mounting	Mounted on a vertical surface (wall) or installed on MP or MMP enclosure
Weight	13.6 lb (6.2 kg)
Shipping weight	18 lb (8.2 kg)
Max operating altitude	15,000' (4570 m)

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

MM-E SERIES INVERTER/CHARGER

Model Number
MM1012E • MM1324E

Modified Sine Wave

12, 24 — Battery Voltage Options

1000-1300 — Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

The Magnum Energy brand MM-E Series Inverter/Charger from Sensata Technologies is a modified sine wave inverter for 230 VAC / 50 Hz installations, providing a cost effective solution for those with smaller power needs. Versatile, easy-to-use, and lightweight, the MM-E Series provides a reliable base for your energy system.

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.

Battery temp sensor: The standard battery temp sensor monitors temperatures from 0 - 50° C.

Convenient switches: All models come with an on/off inverter-mounted switch with an easy-to-read LED indicator.

FEATURES

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.

Fan Cooled
The MM-E 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.

Versatile Mounting
Mount the MM-E Series on a shelf, wall, or even upside down.

Battery and Inverter Protection
The MM-E Series protects your batteries and itself with low battery, high battery, current overload, and circuit breaker protection.

MM-E SERIES INVERTER/CHARGER SPECIFICATIONS

	MM1012E	MM1324E
INVERTER SPECIFICATIONS		
Input battery voltage range	9 - 16 VDC	18 - 32 VDC
Nominal AC output voltage	230 VAC ± 5%	230 VAC ± 5%
Output frequency and accuracy	50 Hz ± 0.4 Hz	50 Hz ± 0.4 Hz
1 msec surge current (amps AC)	21	42
100 msec surge current (amps AC)	11	14
5 sec surge power (real watts)	1750	2600
30 sec surge power (real watts)	1600	2100
5 min surge power (real watts)	1350	1850
30 min surge power (real watts)	1180	1650
Continuous power output at 25° C	1000 VA	1300 VA
Maximum continuous input current	133 ADC	87 ADC
Inverter efficiency (peak)	87%	87%
Transfer time	~ 20 ms	~ 20 ms
Search mode (typical)	< 6 watts	< 8 watts
No load (230 VAC output, typical)	16 watts	18 watts
Waveform	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	50 A	40 A
Charger efficiency (peak)	84%	83%
Power factor	> 0.95	> 0.95
Input current at rated output (AC amps)	3.5	5.5
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	20 AAC	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard	
Internal cooling	0 to 59 cfm variable speed	
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	
Output circuit breaker	7 AAC	15 AAC
Input circuit breaker	8 AAC	20 AAC
Listings	None	
Warranty	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 (h x w x d)	38.1 cm x 16.5 cm x 12.7 cm (15.0" x 6.5" x 5.0")	
Mounting	Shelf (top or bottom up) or wall	
Weight	10.4 kg (23 lb)	
Shipping weight	10.9 kg (24 lb)	
Max operating altitude	4570 m (15,000')	
Construction	ABS plastic top and cast aluminum bottom	

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

MMS-E SERIES INVERTER/CHARGER

Model Number
MMS912E

Pure Sine Wave

12 Battery Voltage Options

900 Continuous Output Options in Watts

The MMS-E Series Inverter/Charger is a pure sine wave inverter providing a cost effective solution for those with smaller power needs in mobile applications. Versatile, easy-to-use, and lightweight, the MMS-E Series provides a reliable base for your energy system.

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.

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.

Available For

- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

FEATURES

Standard Transfer Relay
The standard 20 amp transfer relay will pass AC power through the inverter when using shore or generator power.

Low/High Battery Protection
If your battery voltage reaches below 10 VDC or above 17 VDC, the MMS-E Series will automatically shut down.

Versatile Mounting
Mount the MMS-E Series on a shelf, bulkhead, or even upside down.

Fan Cooled
The MMS-E 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 MMS-E Series will automatically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.

Convenient Switches
The MMS-E Series comes with an on/off front-mounted switch with an easy-to-read LED indicator.

Circuit Breaker Protection
This model comes with built in input and output circuit breakers for ease of installation.

Battery Temp Sensor
The standard battery temp sensor monitors temperatures from 0 - 50° C.

Buy with Ease
The MMS-E Series is backed by a two-year (24-month) parts and labor warranty.

MMS-E SERIES INVERTER/CHARGER SPECIFICATIONS

	MMS912E
INVERTER SPECIFICATIONS	
Input battery voltage	10 to 17 VDC
Nominal AC output voltage	230 VAC ± 5%
Output frequency and accuracy	50 Hz ± 0.1 Hz
Total Harmonic Distortion (THD)	< 5%
1 msec surge current (amps AC)	30
100 msec surge current (amps AC)	7.5
5 sec surge power (real watts)	1600
30 sec surge power (real watts)	1250
5 min surge power (real watts)	1200
30 min surge power (real watts)	1100
Continuous power output at 25° C	900 VA
Maximum continuous input current	120 ADC
Inverter efficiency (peak)	87%
Transfer time	~ 20 ms
Search mode (typical)	0.4 ADC at 12.6 V
No load (230 VAC output, typical)	19 watts at 12.6V
Waveform	Pure Sine Wave
CHARGER SPECIFICATIONS	
Continuous output at 25° C	40 ADC
Charger efficiency (peak)	80%
Power factor	> 0.95
Input current at rated output (AC amps)	3
GENERAL FEATURES AND CAPABILITIES	
Transfer relay capability	20 AAC (input current for charging and pass through)
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard
Internal cooling	0 to 59 cfm variable speed
Overcurrent protection	Yes, with two overlapping circuits
Overtemperature protection	Yes, on transformer and MOSFETS
On/Off with status indicator	Yes, front mounted and easily accessible
Low battery cutout	10 VDC, adjustable with the ME-RC remote
AC output	Hardwire
AC input	Hardwire
Output circuit breaker	7 A switchable
Input circuit breaker	8 AAC
Warranty	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)	42 cm x 21 cm x 12 cm (16.6" x 8.4" x 4.7")
Mounting	Shelf (top or bottom up) or bulkhead (vents up)
Weight	10.4 kg (23 lb)
Shipping weight	11.8 kg (26 lb)
Max operating altitude	4570 m (15,000')
Construction	ABS plastic top and cast aluminum bottom

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

MS-E SERIES INVERTER/CHARGER

Model Numbers
MS1512E • MS2712E

Pure Sine Wave

12 Battery Voltage Options

1500-2700 Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

The Magnum Energy brand MS-E Series Inverter/Charger from Sensata Technologies – a pure sine wave inverter designed for 230 VAC/50 Hz installations. The MS-E Series Inverter/Charger is powerful, easy-to-use, and best of all, cost effective.

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.

Safe and reliable: The MS-E Series is listed to the stringent CE requirements, ensuring the inverter/charger is safe and reliable.

Easy-to-install: Install the MS-E 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.

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%.

Versatile Mounting
Mount the MS-E Series on a shelf, bulkhead, or even upside down.

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

Multiple Ports
The MS-E Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

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.

Convenient Switches
The MS-E Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

Buy with Ease
The MS-E Series is backed by a two-year (24-month) limited warranty.

MS-E SERIES INVERTER/CHARGER SPECIFICATIONS

	MS1512E	MS2712E
INVERTER SPECIFICATIONS		
Input battery voltage range	9 - 16 VDC	9 - 17 VDC
Nominal AC output voltage	230 VAC ±5%	230 VAC ±5%
Output frequency and accuracy	50 Hz ± 0.4 Hz	50 Hz ± 0.4 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	40	45
100 msec surge current (amps AC)	15	21
5 sec surge power (real watts)	3100	4100
30 sec surge power (real watts)	2800	3750
5 min surge power (real watts)	2200	3600
30 min surge power (real watts)	1800	3500
Continuous power output at 25° C	1500 VA	2700 VA
Maximum continuous input current	200 ADC	360 ADC
Inverter efficiency (peak)	89%	86%
Transfer time	~ 20 ms	~ 20 ms
Search mode (typical)	8 watts	9 watts
No load (230 VAC output, typical)	20 watts	34 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	75 ADC	125 ADC
Charger efficiency (peak)	86%	83%
Power factor	> .95	> .95
Input current at rated output (AC amps)	4.5	8.5
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	30 amps AC	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard	
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	
Listings	CE	
Warranty	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)	34.9 cm x 32.1 cm x 20.3 cm (13.75" x 12.65" x 8.0")	
Mounting	Shelf (top or bottom up) or wall	
Weight	19.1 kg (42 lb)	25.0 kg (55 lb)
Shipping weight	23.2 kg (51 lb)	28.2 kg (62 lb)
Max operating altitude	4570 m (15,000')	

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

MS-AEJ SERIES INVERTER/CHARGER

Model Number
MS3748AEJ

Pure Sine Wave

48 Battery Voltage Options

3700 Continuous Output Options in Watts

The Magnum Energy brand MS-AEJ Series Inverter/Charger from Sensata Technologies is a pure sine wave inverter designed for 120/240 VAC/50 Hz installations (Jamaica).

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.

Easy-to-install: Install the MS-AEJ 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.

Available For
- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

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%.

Versatile Mounting
Mount the MS-AEJ Series on a shelf, bulkhead, or even upside down.

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

Multiple Ports
The MS-AEJ Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

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.

Convenient Switches
The MS-AEJ Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

Buy with Ease
The MS-AEJ Series is backed by a two-year (24-month) limited warranty.

MS-AEJ SERIES INVERTER/CHARGER SPECIFICATIONS

	MS3748AEJ
INVERTER SPECIFICATIONS	
Input battery voltage range	36 - 67.6 VDC
Nominal AC output voltage	120/240 VAC ±5%
Output frequency and accuracy	50 Hz ± 0.4 Hz
Total Harmonic Distortion (THD)	< 5%
1 msec surge current (amps AC)	70 L-L
100 msec surge current (amps AC)	32 L-L
5 sec surge power (real watts)	6200
30 sec surge power (real watts)	6000
5 min surge power (real watts)	5400
30 min surge power (real watts)	4000
Continuous power output at 25° C	3700 VA
Maximum continuous input current	90 A @ 50.5 V
Inverter efficiency (peak)	91%
Transfer time	~ 20 ms
Search mode (typical)	10 watts
No load (230 VAC output, typical)	22 watts
Waveform	Pure Sine Wave
CHARGER SPECIFICATIONS	
Continuous output at 25° C	60 ADC
Charger efficiency (peak)	91%
Power factor	> .95
Input current at rated output (AC amps)	16 A @ 240 V (8 A per leg)
GENERAL FEATURES AND CAPABILITIES	
Transfer relay capability	30 amps AC per leg
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard
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
Listings	None
Warranty	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)	34.9 cm x 32.1 cm x 20.3 cm (13.75" x 12.65" x 8.0")
Mounting	Shelf (top or bottom up) or wall
Weight	25.0 kg (55 lb)
Shipping weight	28.6 kg (63 lb)
Max operating altitude	4570 m (15,000')

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

MS-PE SERIES INVERTER/CHARGER

Model Numbers
MS4124PE • MS4348PE

Pure Sine Wave

24, 48 — Battery Voltage Options

4100-4300 — Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

The Magnum Energy brand MS-PE 230V Series Inverter/Charger from Sensata Technologies is a pure sine wave inverter designed specifically for the most demanding renewable energy applications. The MS-PE Series is powerful, easy-to-use, and best of all, cost effective.

Parallel stacking: You can parallel up to four inverter/chargers for up to 17.2kw of power at 230V. The ME-RTR Router is required for parallel stacking the MS-PE Series.

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.

Safe and reliable: The MS-PE Series is listed to stringent CE requirements.

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%.

Versatile Mounting
Mount the MS-PE Series on a shelf or wall.

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

Multiple Ports
The MS-PE Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

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.

Convenient Switches
The MS-PE Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

Buy with Ease
The MS-PE Series is backed by a two-year (24-month) limited warranty.

MS-PE SERIES INVERTER/CHARGER SPECIFICATIONS

	MS4124PE	MS4348PE
INVERTER SPECIFICATIONS		
Input battery voltage range	18 - 34 VDC	36 - 64 VDC
Nominal AC output voltage	230 VAC ±5%	230 VAC ±5%
Output frequency and accuracy	50 Hz ± 0.4 Hz	50 Hz ± 0.4 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	65	75
100 msec surge current (amps AC)	30	37
5 sec surge power (real watts)	6300	7500
30 sec surge power (real watts)	5300	7100
5 min surge power (real watts)	4750	6600
30 min surge power (real watts)	4600	5000
Continuous power output at 25° C	4100 VA	4300 VA
Maximum continuous input current	273 ADC	143 ADC
Inverter efficiency (peak)	90%	91%
Transfer time	~ 20 ms	~ 20 ms
Search mode (typical)	9 watts	10 watts
No load (230 VAC output, typical)	30 watts	28 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	105 ADC	55 ADC
Charger efficiency (peak)	88%	91%
Power factor	> .95	> .95
Input current at rated output (AC amps)	14	16
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	30 amps AC	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard	
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	
Listings	CE	
Warranty	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)	34.9 cm x 32.1 cm x 20.3 cm (13.75" x 12.65" x 8.0")	
Mounting	Shelf (top or bottom up) or wall	Shelf (top or bottom up) or wall
Weight	25.0 kg (55 lb)	25.0 kg (55 lb)
Shipping weight	28.6 kg (63 lb)	28.6 kg (63 lb)
Max operating altitude	4570 m (15,000')	4570 m (15,000')

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

RD-E SERIES INVERTER/CHARGER

Model Numbers
RD2624E • RD4024E

Modified Sine Wave

24 Battery Voltage Options

2600-4000 Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  Off-grid Power
  Back-up Power
- Marine Systems
- Caravan Systems
- Truck Systems

Available Accessories

The Magnum Energy brand RD-E Series Inverter/Charger from Sensata Technologies for 230 VAC/50 Hz installations comes with all of the features you've come to expect from a Magnum Energy brand product, including:

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.

Battery temp sensor: The standard battery temp sensor monitors temperatures from 0 - 50° C.

Convenient switches: All RD-E Series models come with an on/off inverter-mounted switch with an easy-to-read LED indicator.

FEATURES

Easy-to-Install
Install the RD-E Series in four easy steps. See your installation manual for specific instructions.

Versatile Mounting
Mount the RD-E Series on a shelf or wall.

Multiple Ports
The RD-E Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

Accessible Design
The extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make this inverter easily accessible.

Buy with Ease
The RD-E Series is backed by a two-year (24-month) limited warranty.

RD-E SERIES INVERTER/CHARGER SPECIFICATIONS

	RD2624E	RD4024E
INVERTER SPECIFICATIONS		
Input battery voltage range	18 - 32 VDC	18 - 32 VDC
Nominal AC output voltage	230 VAC ± 5%	230 VAC ± 5%
Output frequency and accuracy	50 Hz ± 0.4 Hz	50 Hz ± 0.4 Hz
1 msec surge current (amps AC)	85	100
100 msec surge current (amps AC)	22	40
5 sec surge power (real watts)	4700	7500
30 sec surge power (real watts)	4100	6750
5 min surge power (real watts)	3350	6000
30 min surge power (real watts)	2700	5500
Continuous power output at 25° C	2600 VA	4000 VA
Maximum continuous input current	172 ADC	267 ADC
Inverter efficiency (peak)	91%	89%
Transfer time	~ 20 ms	~ 20 ms
Search mode (typical)	< 7 watts	< 8 watts
No load (230 VAC output, typical)	22 watts	32 watts
Waveform	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	75 A	105 A
Charger efficiency (peak)	87%	85%
Power factor	> 0.95	> 0.95
Input current at rated output (AC amps)	11.5	16
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	30 AAC	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Yes, 4.6 m (15') Battery Temp Sensor standard	
Internal cooling	0 to 120 cfm variable speed	
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	
Output circuit breaker	NA	
Input circuit breaker	30 AAC	
Listings	None	
Warranty	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 (h x w x d)	34.9 cm x 32.1 cm x 20.3 cm (13.75" x 12.65" x 8.0")	
Mounting	Shelf (top or bottom up) or wall	
Weight	19 kg (42 lb)	25 kg (55 lb)
Shipping weight	21.3 kg (47 lb)	27.2 kg (60 lb)
Max operating altitude	4570 m (15,000')	

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

MMP***-E - MINI MAGNUM PANEL

The MMP-E shown with inverter (sold separately) and optional remote and backplate.

The Magnum Energy brand MMP-E – Mini Magnum Panel by Sensata Technologies is an inclusive, easy-to-install panel designed to work with one Magnum Energy brand MS-E, MS-PE, RD-E or other non-Sensata inverter/charger.

FEATURES

Small Footprint
Only (h x w x d) 56 cm x 38 cm x 33 cm

Money-saving Design
Not only is the MMP-E less expensive, but it is pre-wired for fast installation, saving labor costs

Easy Access
Front-mounted breakers and remote (optional)

Inclusive
Want to use the MMP-E with a non-Magnum Energy brand inverter/charger? Sensata offers an optional addition to the MMP-E allowing it to work with other inverter/chargers.

Listed
CE listed

DC Load Breakers
Fits either din rail or back-mount DC load breakers.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MMP250-30S-E	55.9 cm x 38.1 cm x 33 cm	14.5 kg (32 lb)
MMP175-30S-E	55.9 cm x 38.1 cm x 33 cm	14.5 kg (32 lb)

The MMP-E, including installed Magnum Energy brand products are covered under a five-year warranty!

INCLUDES

- One DC breaker – 175A or 250A
- One 30A AC bypass breaker
- One 30A AC input breaker
- 500A/50mv DC shunt
- DC buss bars for battery positive and negative
- Din rail or back mount for optional DC mini breakers – will hold up to eight breakers
- Inverter hood

*** can be either 175 or 250, depending on the inverter model.

MPSL-PE - MAGNUM PANEL

The MPSL-PE shown with a single inverter (sold separately) and an optional backplate.

The Magnum Energy brand MPSL-PE – Magnum Panel, Single Enclosure, Low Capacity from Sensata Technologies – is designed to accommodate a maximum of two inverters.

FEATURES

Expandable
Start with the enclosure and just one inverter and in the future expand to two inverters with ease, using the MPX-PE.

Easy Installation
All connections are front-mounted, including AC and DC breakers and the MPX-PE.

Labor Saving
Panel is pre-wired for fast installation, saving labor costs.

DC Load Breakers
Fits either din rail or back-mount DC load breakers.

Convenient Knockouts
Knockouts on the side of the enclosure are compatible with most charge controllers.

The MPSL-PE shown with two inverters (sold separately), an optional MPX-PE extension to accommodate a second inverter, an optional dual backplate, and an optional router.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MPSL175-PE	68.6 cm x 45.7 cm x 38.1 cm	22.7 kg (50 lb)
MPSL250-PE	68.6 cm x 45.7 cm x 38.1 cm	22.7 kg (50 lb)

INCLUDES

- One DC breaker – 175A or 250A
- One 60A AC bypass breaker
- 500A/50mv DC shunt
- Inverter AC input protection
- Inverter hood

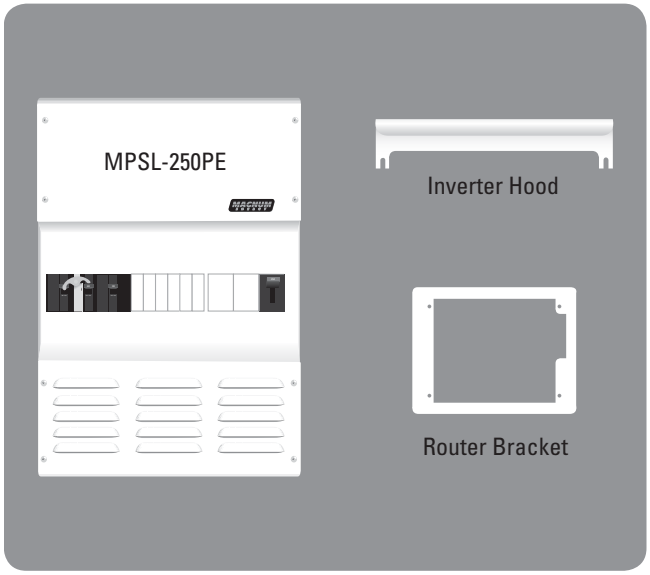
The MPSL-PE, including installed Magnum Energy brand products are covered under a five-year warranty!

MPSL***-PE CONFIGURATIONS

*** can be either 175 or 250, depending on the inverter model.

Only MPSL250-PE configurations shown below for clarity.

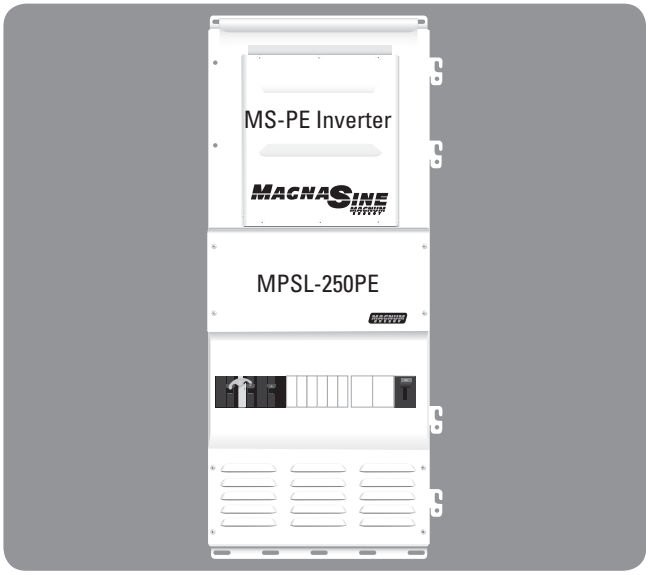
MPSL-250PE (As Shipped)



MPSL-PE includes:

- 60A AC System Bypass
- 30A AC Inverter Input Breaker
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

MPSL-250PE (As Field Installed)



MPSL-PE includes:

- 60A AC System Bypass
- 30A AC Inverter Input
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

Continuous Power Output at 25 °C:

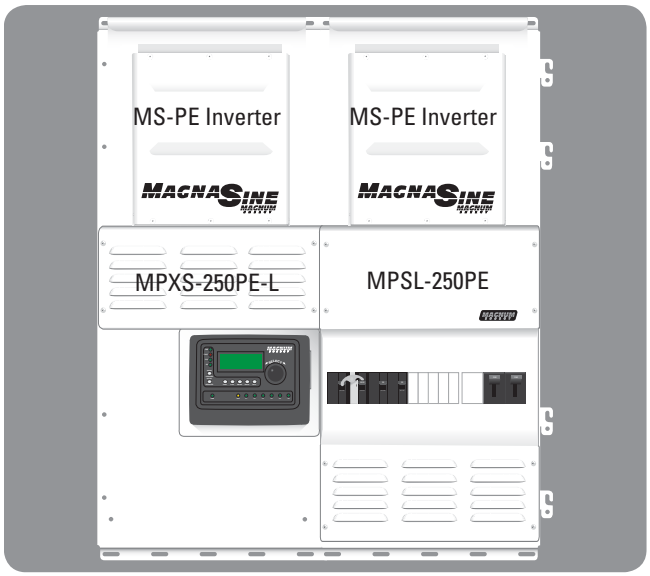
- 4.1kVA with one MS4124PE
- 4.3kVA with one MS4348PE

Options shown, not included:

- MS-PE Parallel-stack inverter used in this one inverter MP-E configuration. See MMP-E Series panels for additional single inverter installations.
- BP-S - mounting backplate - single

MPSL-250PE WITH MPXS-250PE-L

(As Field Installed)



MPSL-PE with MPX-PE includes:

- 60A AC System Bypass
- 30A AC Inverter Inputs (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

Continuous Power Output at 25 °C:

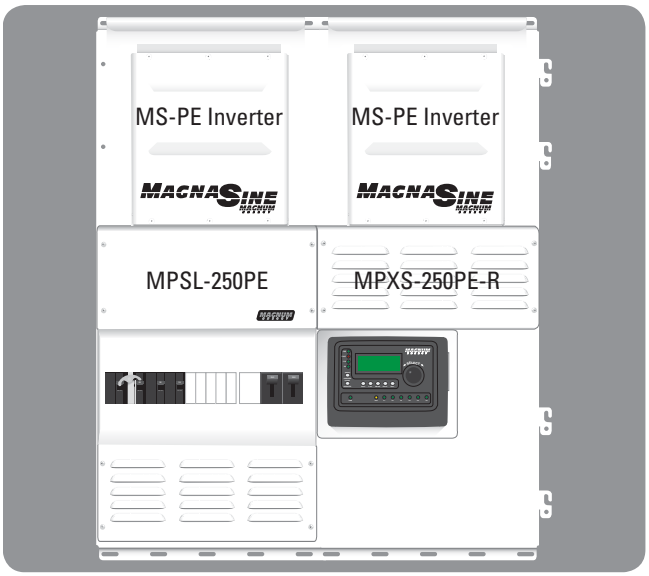
- 8.2kVA with twoMS4124PEs
- 8.6kVA with twoMS4348PEs

Options shown, not included:

- MS-PE Parallel-stack inverter (x2)
- ME-RTR Router
- BP-D mounting backplate - dual

MPSL-250PE WITH MPXS-250PE-R

(As Field Installed)



MPSL-PE with MPX -PE includes:

- 60A AC System Bypass
- 30A AC Inverter Inputs (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

Continuous Power Output at 25 °C:

- 8.2kVA with two MS4124PEs
- 8.6kVA with two MS4348PEs

Options shown, not included:

- MS-PE Parallel-stack inverter (x2)
- ME-RTR Router
- BP-D - mounting backplate - dual

MPDH-PE - MAGNUM PANEL

The MPDH-PE shown with four inverters (sold separately), two optional MPX-PE extensions to accommodate the additional inverters, two optional backplates, and the optional Magnum Energy brand router.

The Magnum Energy brand MPDH-PE – Magnum Panel, Dual Enclosure, High Capacity from Sensata Technologies – is designed to accommodate a maximum of four inverters with two enclosures – one for AC connections and one for DC connections.

FEATURES

More Power Capacity
The 125A bypass breaker and the 1000A DC shunt safely handle the power from larger systems.

Expandable
Start with the enclosures and just two inverters and in the future expand to up to four inverters, using the MPX-PE.

Easy Installation
All connections are front-mounted, including AC and DC breakers and the MPX-PE.

Labor Saving
Panel is pre-wired for fast installation, saving labor costs.

DC Load Breakers
Fits either din rail or back-mount DC load breakers.

Convenient Knockouts
Knockouts on the side of the enclosures are compatible with charge controllers.

Separate AC and DC Enclosures
For installers who prefer separate enclosures, the MPDH-PE provides an easy solution.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MPDH175-PE	MPDH175-PE-AC: 68.6 cm x 45.7 cm x 38.1 cm MPDH175-PE-DC: 68.6 cm x 45.7 cm x 38.1 cm	MPDH175-PE-AC: 20.9 kg (46 lb) MPDH175-PE-DC: 21.8 kg (48 lb)
MPDH250-PE	MPDH250-PE-AC: 68.6 cm x 45.7 cm x 38.1 cm MPDH250-PE-DC: 68.6 cm x 45.7 cm x 38.1 cm	MPDH250-PE-AC: 20.9 kg (46 lb) MPDH250-PE-DC: 21.8 kg (48 lb)

The MPDH-PE, including installed Magnum Energy brand products are covered under a five-year warranty!

INCLUDES

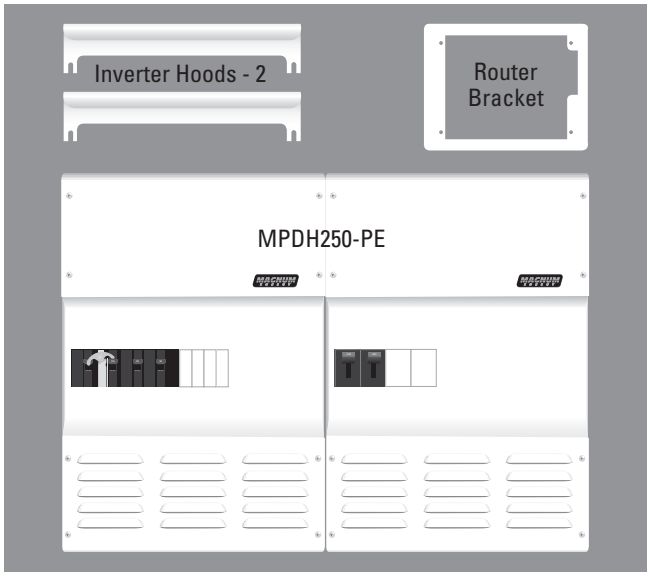
- Two DC breakers – 175A or 250A
- One 125A AC bypass breaker
- 1000A/100mv DC shunt
- Inverter AC input protection
- Two inverter hoods

MPDH***-PE CONFIGURATIONS

*** can be either 175 or 250, depending on the inverter model.

Only MPDH250-PE configurations shown below for clarity.

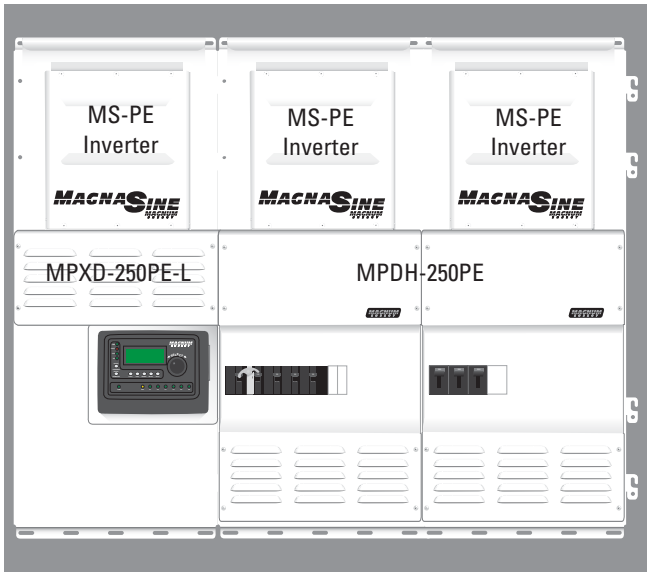
MPDH250-PE
(As Shipped)



MPDH-PE includes:

- D125A AC System Bypass
- 30A AC Inverter Input Breaker (x2)
- 250A DC Battery Disconnect (x2)
- 1000A/100mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

MPDH250-PE WITH MPXD-250PE-L
(As Field Installed)



MPDH-PE with MPX-PE includes:

- D125A AC System Bypass
- 30A AC Inverter Input Breaker (x3)
- 250A DC Battery Disconnect (x3)
- 1000A/100mV DC Shunt
- Inverter Hood (x3)
- Router Bracket

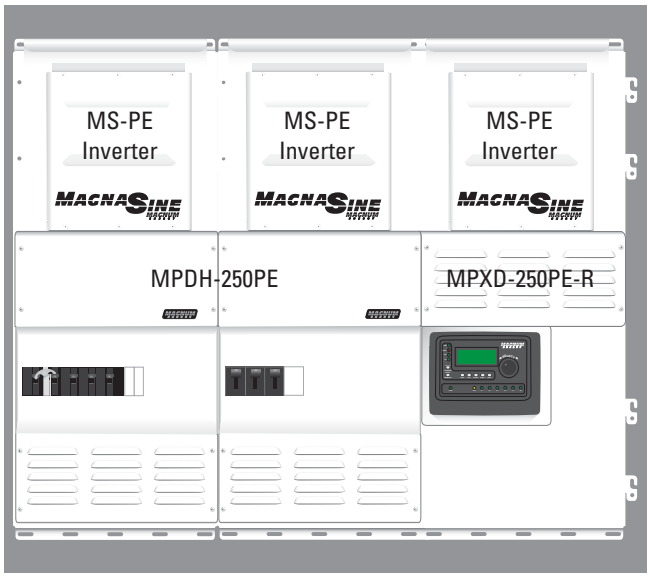
Continuous Power Output at 25 °C:

- 12.3kVA with three MS4124PEs
- 12.9kVA with three MS4348PEs

Options shown, not included:

- MS-PE Parallel-stack inverters (x3)
- ME-RTR Router
- BP-S - mounting backplate - single
- BP-D - mounting backplate - dual

MPDH250-PE WITH MPXD-250PE-R
(As Field Installed)



MPDH-PE with MPX-PE includes:

- D125A AC System Bypass
- 30A AC Inverter Input Breaker (x3)
- 250A DC Battery Disconnect (x3)
- 1000A/100mV DC Shunt
- Inverter Hood (x3)
- Router Bracket

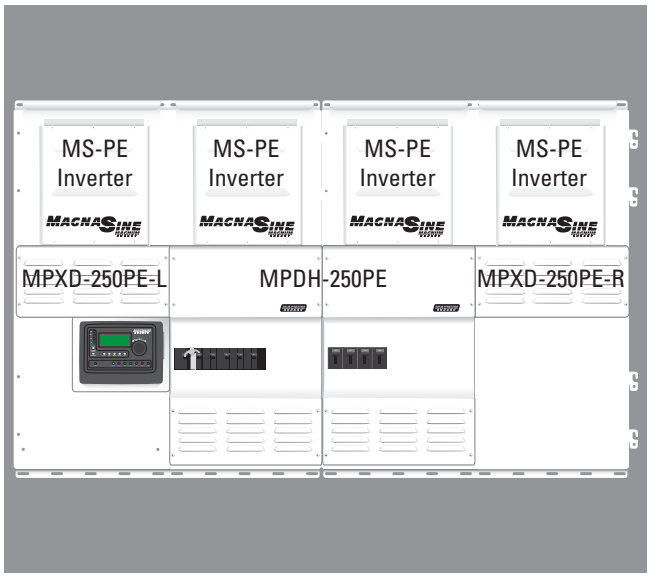
Continuous Power Output at 25 °C:

- 12.3kVA with three MS4124PEs
- 12.9kVA with three MS4348PEs

Options shown, not included:

- MS-PE Parallel-stack inverters (x3)
- ME-RTR Router
- BP-S - mounting backplate - single
- BP-D - mounting backplate - dual

MPDH250-PE WITH MPXD-250PE-L AND MPXD-250PE-R (As Field Installed)



MPDH-PE with MPX-PE includes:

- D125A AC System Bypass
- 30A AC Inverter Input Breaker (x4)
- 250A DC Battery Disconnect (x4)
- 1000A/100mV DC Shunt
- Inverter Hood (x4)
- Router Bracket

Continuous Power Output at 25 °C:

- 16.4kVA with four MS4124PEs
- 17.2kVA with four MS4348PEs

Options shown, not included:

- MS-PE Parallel-stack inverters (x4)
- ME-RTR Router
- BP-D - mounting backplate - dual (x2)

Backplates

BACKPLATE FOR MMP-E (BP-MMP)

Model Numbers
- BP-MMP

Works With

	PAGE
MMP-E Panel	18

Backplate for the MMP-E.
Fits one MMP-E only.

Shipping Dimensions (h x w x d)
96.5 cm x 43.2 cm x 5.1 cm

Shipping Weight
5.0 kg (11 lb)

BACKPLATE SINGLE (BP-S)

Model Numbers
- BP-S

Works With

	PAGE
MPSL-PE	19
MPXS-PE	25
MPXD-PE	25

Single backplate for the Magnum Panels.
Fits one enclosure – MPSL-PE, MPXS-PE, or MPXD-PE.

Shipping Dimensions (h x w x d)
106.7 cm x 88.9 cm x 5.1 cm

Shipping Weight
8.2 kg (18 lb)

BACKPLATE DUAL (BP-D)

Model Numbers
- BP-D

Works With

	PAGE
MPSL-PE	19
MPDH-PE	21
MPXS-PE	25
MPXD-PE	25

Dual backplate for the Magnum Panels.
Fits two enclosures – MPSL-PE with MPXS-PE, with MPXS-PE, two MPX-PE's, or MPDH-PE.

Shipping Dimensions (h x w x d)
106.7 cm x 88.9 cm x 5.1 cm

Shipping Weight
15.5 kg (34 lb)

Breakers

BREAKER - DC, BACK MOUNT

Model Numbers

- BR-DC75-BM
- BR-DC100-BM

Back mount DC breaker for the MMP-E and MP-PE Series.

Works With

BREAKER - DC, HIGH CAPACITY

Model Numbers

- BR-DC175
- BR-DC250

Front mount DC breaker for the MMP-E and MP-PE Series.

Works With

MPX-PE Extension Kits

MPX-PE SERIES

Dimensions (h x w x d)
27.9 cm x 50.8 cm x 30.5 cm

Shipping Weight
9.5 kg (21 lb)

Extension box for use with the MP-PE system. Each MPX-PE fits one MS-PE.

MODEL NUMBERS	INCLUDES	WORKS WITH	PAGE
MPXS-175PE-L	DC/AC breaker and wires, MP-Hood	MPSL175-PE	20
MPXS-250PE-L	DC/AC breaker and wires, MP-Hood	MPSL250-PE	20
MPXS-175PE-R	DC/AC breaker and wires, MP-Hood	MPSL175-PE	20
MPXS-250PE-R	DC/AC breaker and wires, MP-Hood	MPSL250-PE	20
MPXD-175PE-L	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH175-PE	22
MPXD-250PE-L	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH250-PE	22
MPXD-175PE-R	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH175-PE	22
MPXD-250PE-R	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH250-PE	22

ACLD-40
4kW AC Load Diversion Controller

Model Numbers
ACLD-40

Available For
- Renewable Energy Systems
  - Back-up Power

Works With

	PAGE
MS-PE Series	14
MMP-E Panel System	18
MPSL-PE Panel	19
MPDH-PE Panel	21

Warranty
- Three-year warranty standard. Five-year warranty if purchased with and installed on an MP-PE or MMP-E panel.

Note: The ACLD-40 must be connected to a MS-PE Series inverter *and* an external diversion load.

INTRODUCING THE MOST SOPHISTICATED WAY TO ADD THREE-STAGE CHARGING TO YOUR AC COUPLED SYSTEM

What is an ACLD – AC Load Diversion Controller?

The ACLD monitors the battery voltage of a backup battery bank, and if the voltage rises to a predetermined level, the ACLD connects a diversion load of sufficient size, to the battery or energy source to prevent the battery voltage from increasing any further. The controller will continue to engage and disengage the load as often as necessary to prevent battery overcharge.

An AC Load Diversion controller is used to divert excess energy to an AC load in an effort to keep the battery bank that is connected to a back-up inverter from being overcharged, when used in an AC Coupled application.

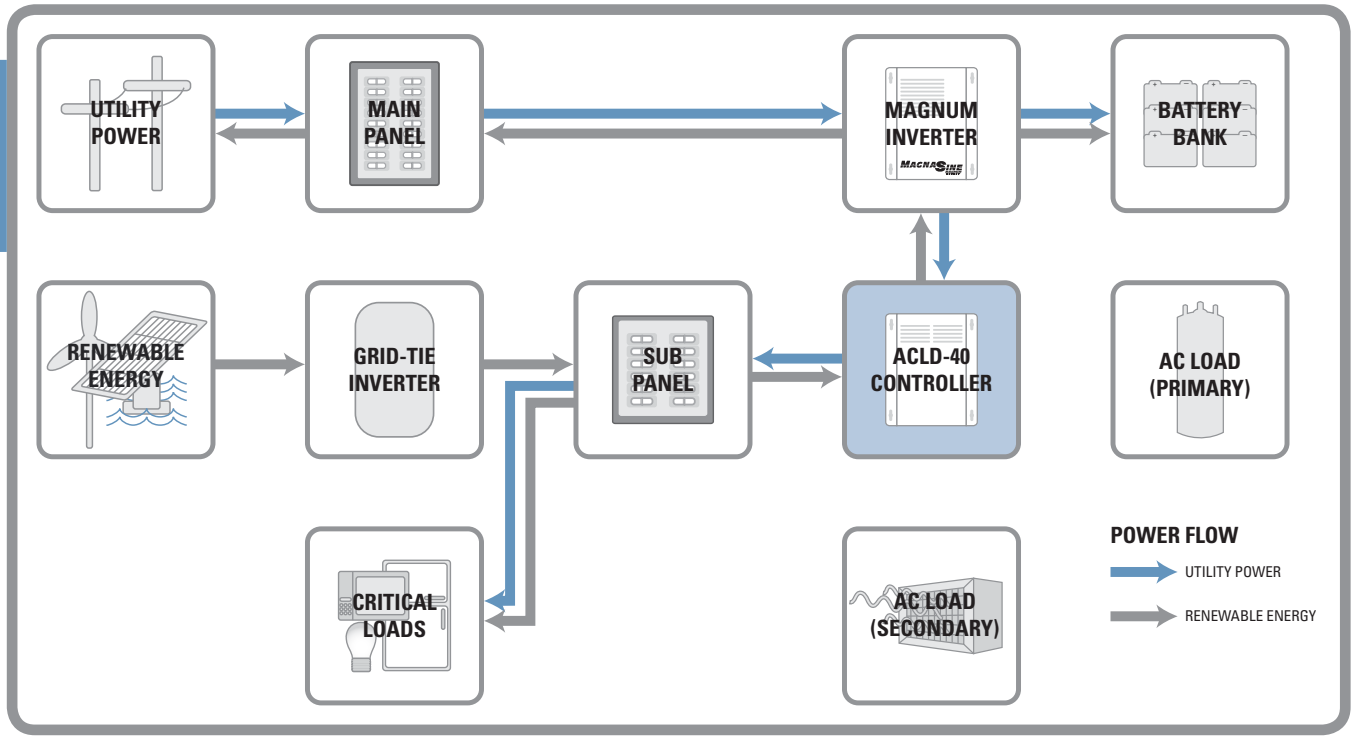
ACLD-40 Features
- Controls up to 4000 watts of excess power to prevent battery over-charge.
- Works with 24 or 48 volt systems.
- Allows the use of common, resistive AC household loads instead of hard-to-find DC loads to divert excessive current.
- Easy access Inverter and Network ports.
- Standard RS485 MagNet protocol to communicate with Magnum inverters and remotes.
- Can utilize power generated from wind, solar, or hydro systems.
- Provides PWM (Pulse Width Modulation) voltage when powering diversion load to run load without flicker.

ACLD-40 SPECIFICATIONS

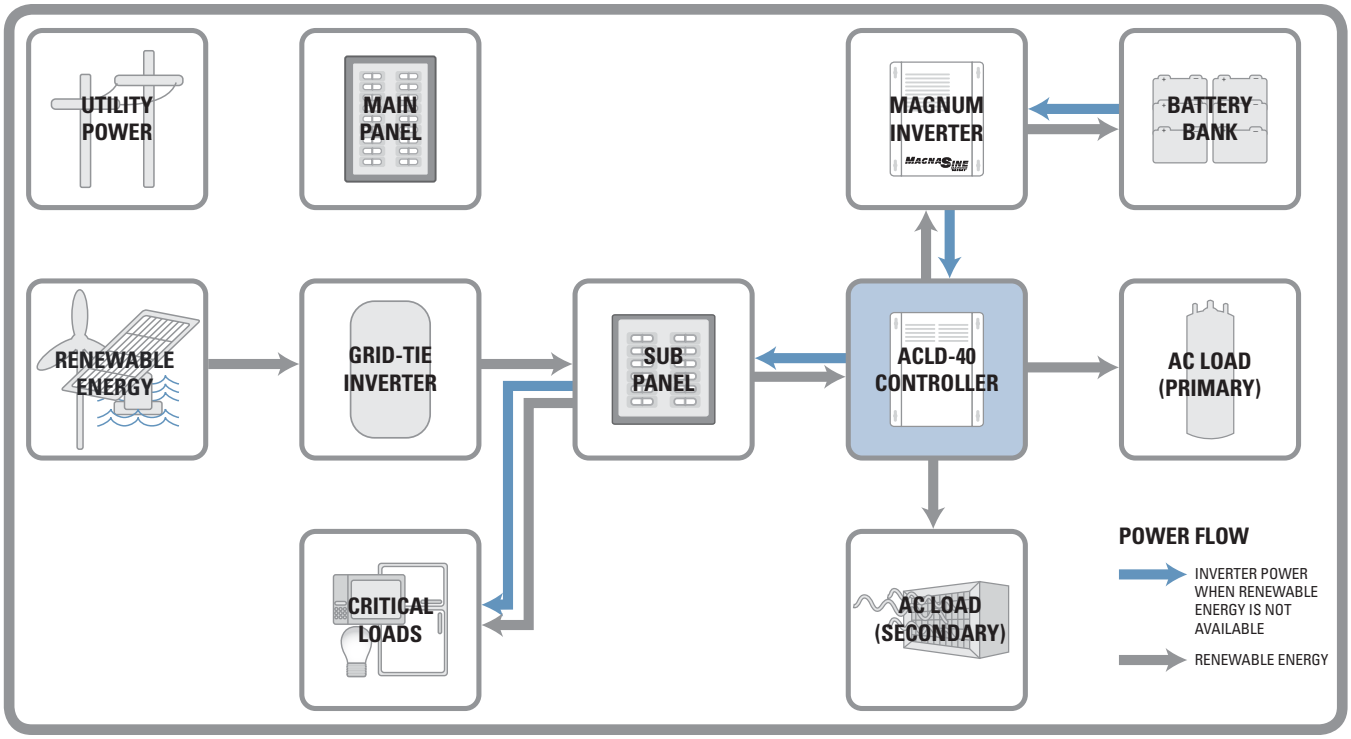
	ACLD-40
ELECTRICAL SPECIFICATIONS	
Frequency	50/60 Hz
Input voltage	240 VAC ± 10%
Output voltage	0 - 240 VDC
Continuous power	4000 VA
GENERAL FEATURES AND CAPABILITIES	
Listings	ETL Listed to UL 1741 - second edition and CSA C22.2 #107.1-01
Warranty	Three years (Five years when purchased with and installed on an MP/MMP system)
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	
Unit dimensions (w x h x d)	11.5" x 13.75" x 7" (29.2 cm x 34.9 cm x 17.8 cm)
Shipping dimensions (w x h x d)	13.6" x 15.8" x 9.3" (34.6 cm x 40.3 cm x 23.7 cm)
Mounting	Shelf (top or bottom up) or Wall (vents up)
Weight	20 lb (9.1 kg)
Shipping weight	23 lb (10.5 kg)
Max operating altitude	15,000' (4570 m)

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

ACLD SYSTEM DIAGRAM WHEN UTILITY POWER IS AVAILABLE



ACLD SYSTEM DIAGRAM WHEN UTILITY POWER IS **NOT** AVAILABLE



AUTOMATIC GENERATOR START MODULE (AGS)

Model Numbers
ME-AGS-S • ME-AGS-N

Works With

The ME-AGS-S does not require an inverter/charger.

Imagine being able to enjoy a day away all-the-while knowing your living space will stay cool and comfortable and your batteries will stay charged and ready for all of the activities that make up daily life. There's nothing better than returning to a nice, cool, comfortable home with charged batteries after a day away. The Magnum Energy brand Auto Gen Start (AGS) from Sensata Technologies can make this happen.

The Magnum Energy brand AGS is compatible with most major generators, including Onan, Powertech, Generac, Westerbeke, Kohler, EPS, Northern Lights, and most portable generators with electric start. Please check with your Sensata Technologies dealer for specific model compatibility.

Automatically start your generator:
The AGS is designed to automatically start your generator based on low battery condition or the inside room temperature.

Adjust the AGS to meet your needs:
With the ME-AGS-N you can set multiple parameters for starting and stopping the generator. Using the ME-RC, the ME-AGS-N has basic adjustments starting on battery voltage or temperature. When using the ME-ARC, the ME-AGS-N has advanced start and stop features, including battery voltage, time of day, AC amps, exercise time, and SOC.

Manual start and stop:
Auto Gen Start settings do not interfere with the manual start / stop operation of the generator. Just use any existing start / stop switch for your generator.

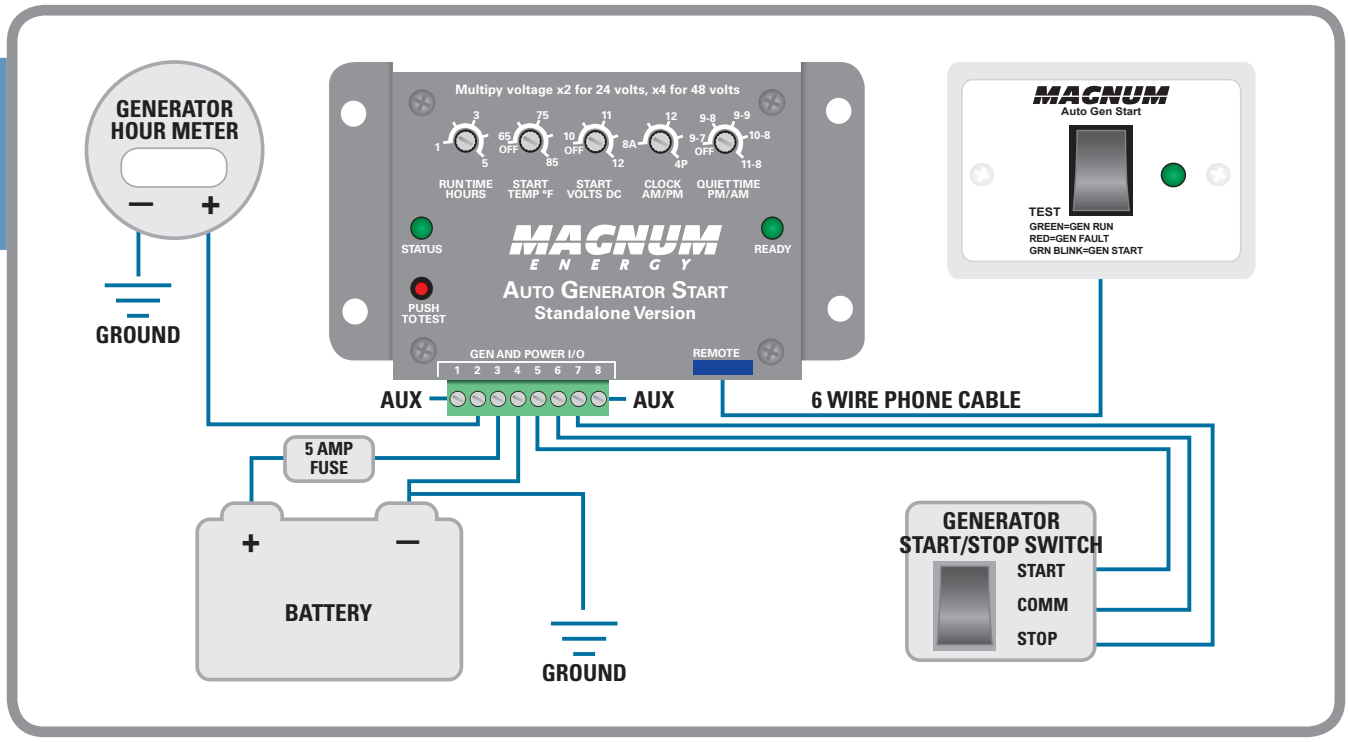
Two models are available:
The stand alone version of the AGS (ME-AGS-S) works well for installation and operation without an inverter. The network version of the AGS (ME-AGS-N) allows operation of the AGS via the ME-RC or ME-ARC remote panels.

- **ME-AGS-N kit includes:** AGS module (3 relay), 10' network cable, and a 60' remote temperature sensor cable.
- **ME-AGS-S kit includes:** AGS module (3 relay), Remote on/off/test switch, switch bezel, a 25' 6-wire cable, and has basic adjustments starting on battery voltage or temperature.

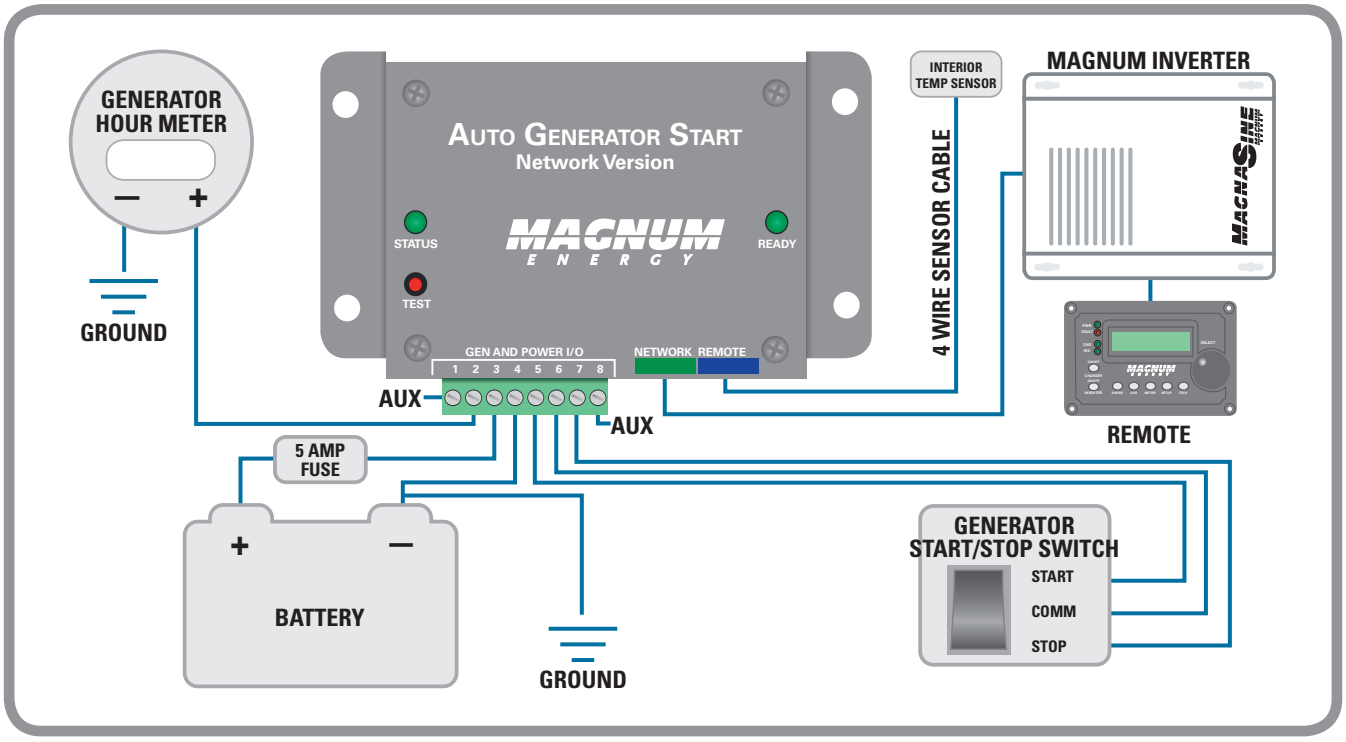
ME-AGS-N FEATURES*

- All settings are adjustable from the ME-RC and ME-ARC remotes.
- Auto start is locked out when utility power is present.
- Portable generator mode.

AGS WIRING DIAGRAM FOR STAND ALONE SYSTEMS (ME-AGS-S)



AGS WIRING DIAGRAM FOR NETWORKED SYSTEMS (ME-AGS-N)



* AGS-N features require Remote rev 1.6 and AGS rev 5.0 or higher.

BATTERY MONITOR KIT (ME-BMK)

Model Numbers

ME-BMK • ME-BMK-NS (no shunt)

Works With

Monitoring your battery bank is easy with the Battery Monitor Kit (ME-BMK)* from Sensata Technologies. Acting as a "fuel gauge" for your batteries, the ME-BMK monitors their state of charge (SOC) and then provides this information in an easy-to-understand display via the ME-RC or ME-ARC remotes. With accurate SOC readings, you can avoid unnecessary battery recharging, saving on fuel and long-term maintenance costs.

If you already have a Magnum Energy brand Inverter/Charger and Magnum Energy brand Remote*, the ME-BMK is an easy retrofit. Simply install the kit according to the installation manual and begin monitoring your battery bank via the "Meter" button on your ME-RC or ME-ARC.

Available readings from the ME-BMK / ME-BMK-NS

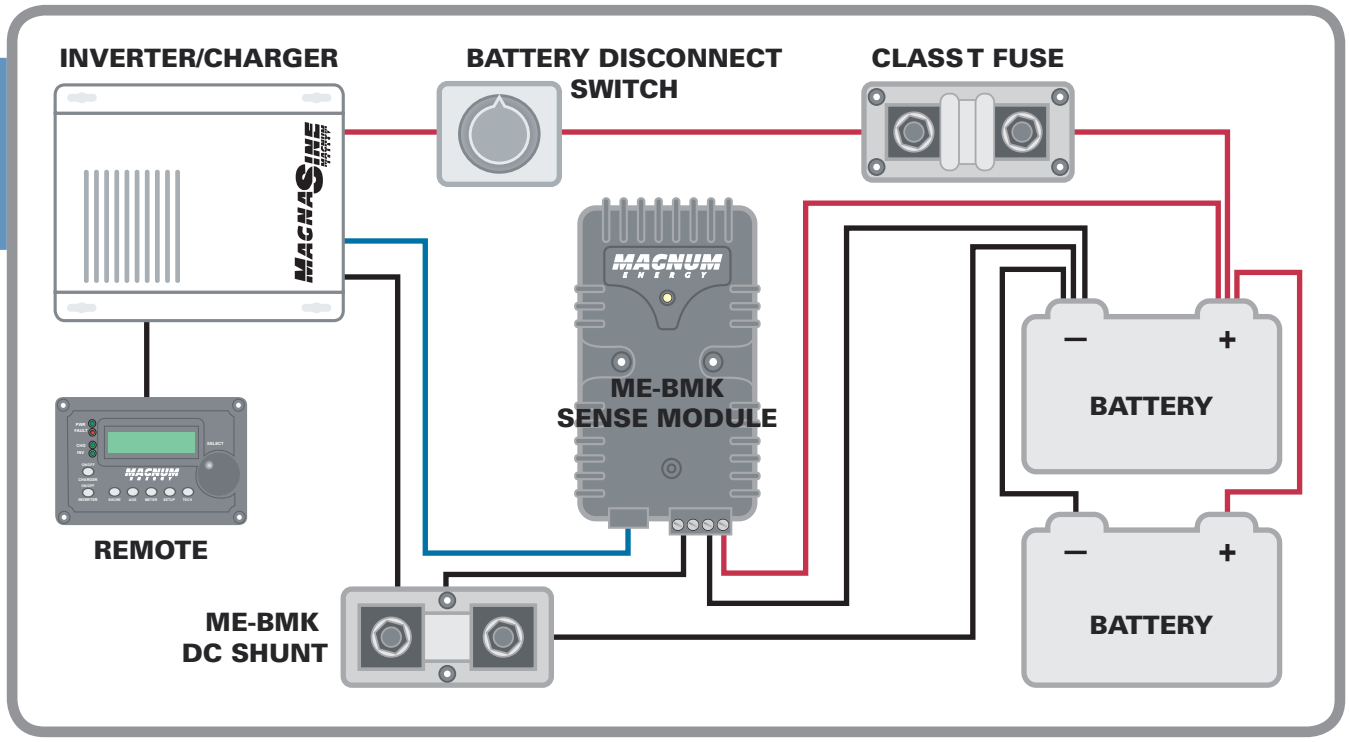
- State of Charge (SOC) 0 - 100%
- DC volts
- DC amps
- Amp hours in/out
- Resettable amp hours out
- Total amp hours out
- Minimum volts DC
- Maximum volts DC
- Temperature compensated
- Auto detects input voltage

Kit includes

- Sense module
- DC shunt 50mv/500 amp shunt (not included in the ME-BMK-NS kit)
- Twisted pair wire 5' length, 18 AWG wire
- Communication cable 10' length, 4-conductor, telephone standard

* Requires ME-RC remote revision 2.0 or higher.

ME-BMK BASIC CONFIGURATION DIAGRAM



ME-BMK SPECIFICATIONS

	ME-BMK
DC volts	7 to 70 (±0.5%) auto voltage detection
DC amps	±0.1 to 999 (±1.0%)
Battery SOC %	0 to 100% (1% increments)
Power draw	< .6 watts
Amp hours in/out	±32,768 amp hours (1 AH increments)
rAH out (resettable amp hours removed)	0 to 65,353 amp hours, resettable (0.1 AH increments)
tAH out (total amp hours removed)	0 to 65,535,000 amp hours (0.1 k or 100 AH increments)
Minimum/maximim DC	7 to 70 VDC, resettable
Shipping weight	2 lb (.9 kg)
Kit includes	Manual, sense module, DC shunt, twisted pair wire, and communication cable
Sense wire	Twisted pair –blue & orange, 5' length, 18 AWG wire
Communication cable	4-conductor, 10' twisted pair, telephone standard
Remote requirements	Use with an ME-RC with firmware revision of 2.0 or higher or an ME-ARC (all revisions)
	DC SHUNT (NOT INCLUDED WITH THE ME-BMK-NS KIT)
Resistance	0.1 milliohm (500A at 50mV)
Continuous current	410 amperes maximum
Overload current	Overloads to 500 amps for less than 5 minutes if normally operated at less than 300 amps

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

THE MAGWEB:
WEB MONITORING KIT

Model Numbers
ME-MW-W (wireless) • ME-MW-E (ethernet)

Works With

Web-Based Monitoring

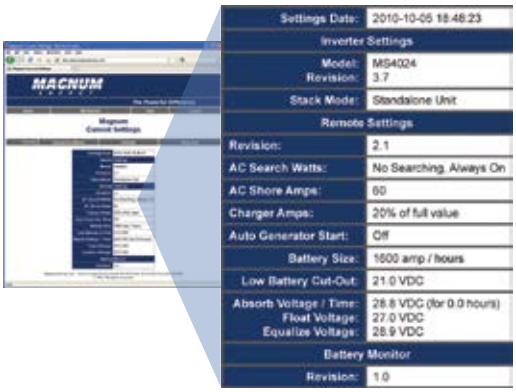
- Inverter/Charger
  - Status
  - Program Settings
  - Faults
  - DC volts, DC amps
  - Invert, Charge LEDs
  - Tech menus
- Battery Monitor status
- Auto Gen Start (AGS) status

The Magnum Energy brand MagWeb Series from Sensata Technologies is a powerful and cost effective tool for remotely monitoring Magnum Energy brand Series Inverters and Accessories. The MagWeb provides live Internet monitoring of the inverter, battery monitor, and automatic generator start module.

DATA SAMPLES

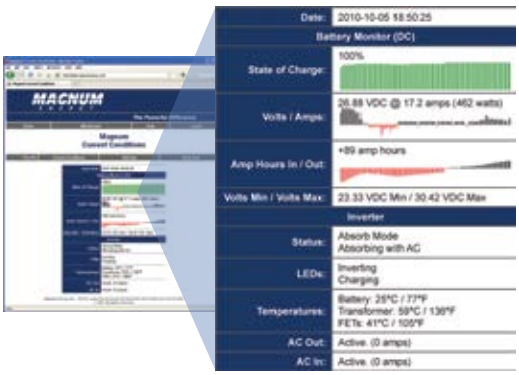
The MagWeb constantly streams data to your personal web pages, providing details on Current Conditions, Current Settings, and Daily Summaries for historical records. The samples below provide snapshots of the standard web pages.

Current Settings



Daily System Summary

Current Conditions



Low cost ethernet version available!

MAGWEB SPECIFICATIONS

SAMPLE RATE	
Fixed 30 second sample interval	
2,800 measurements per day	
COMMUNICATION – 802.15.4 XBEE WIRELESS	
US version	2.4 GHz, 63 mW (+18 dBm) 300' indoor range, up to one mile line of sight outdoor range
International version	2.4 GHz, 10 mW (+10 dBm) 200' indoor range, up to 2,500' line of sight outdoor range; special order only
Low power version	2.4 GHz, 1 mW (+0 dBm) 100' indoor range, up to 300' line of sight outdoor range; special order only
Direct Sequence Spread Spectrum (DSSS)	
RP-SMA connector and included rubber duck antenna	
Requires 802.15.4 XBee to Ethernet wireless gateay	
Wireless agency approvals	United States (FCC Part 15.247) Industry Canada (IC) Europe Japan Australia
POWER DRAW	
MagWeb	< 0.1 watts average from Magnum bus
Wireless Gateway	< 4 watts average from 120 VAC
MATERIALS	
MagWeb case	ABS plastic, flame retardant, UL94V-0
Wireless Gateway case	Anodized aluminum
All parts are RoHS compliant, no lead used in manufacture	
PHYSICAL SPECIFICATIONS	
Shipping weight	3 lb (1.36 kg)
KIT INCLUDES	
MagWeb 802.15.4	Manual Communications cable (2-conductor, 10' twisted pair, telephone standard) Mounting screws Antenna
Wireless 802.15.4 Gateway	Antenna Ethernet cable, 10' AC adapter (Energy Star, North American plug)
REMOTE REQUIREMENTS	
ME-RC or ME-ARC required when monitoring device(s) other than inverter	

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

REMOTE - ME-ARC

Model Numbers

- ME-ARC50
  Includes ME-RC-BZ bezel

Works With

This advanced feature remote offers the same simple push button operation of the ME-RC with advanced features and setup menus. The ME-ARC features a ***Favs*** button for storing up to five of your favorite setup menus, a ***Control*** button for fast easy control of the inverter, charger, and generator, meter button with AC and DC meters, advanced setup menus, and advanced tech menus.

Easy-to-read: The large LCD screen and at-a-glance LEDs display the inverter/charger status in a straight-forward way. Soft keys give simple access to menus and a rotary encoder knob makes it easy to quickly scroll through menus and select settings.

Non-volatile memory: Critical settings are saved even if the power is disconnected.

No cross platform confusion:
The ME-ARC remote is the same remote used on all Magnum Energy brand Inverter/Charger models in the ME-E, MS-E, MS-PE, RD-E, MM-E, and MMS-E lines.

A standard 50’ 4-wire, twisted pair cable allows for plenty of room to display the Remote with ease.

REMOTE - ME-RC

Model Numbers

- ME-RC50

Works With

Accessories

The ME-RC is designed to be simple to use while offering multiple functions in one place.

Easy-to-read: The large LCD screen and at-a-glance LEDs display the inverter/charger status in a straight-forward way. Soft keys give simple access to menus and a rotary encoder knob makes it easy to quickly scroll through menus and select settings.

Non-volatile memory:
Critical settings are saved even if the power is disconnected.

No cross platform confusion:
The ME-RC remote is the same remote used on all Magnum Energy brand Series Inverter/Charger models in the ME-E, MS-E, MS-PE, RD-E, MM-E, and MMS-E lines.

Multiple functional settings:
The ME-RC offers multiple functions in one place, including: inverter on/off, charger on/off, shore power breaker settings, AGS control, meter button, simple setup, and technical menus.

A standard 50’ 4-wire, twisted pair cable allows for plenty of room to display the Remote with ease.

REMOTE - MM-RC

Model Number
- MM-RC25

Works With

PAGE

MM-E Series Inverter/Charger 6

MMS-E Series Inverter/Charger 8

The low-cost, easy-to-read MM-RC designed to work with the Magnum Series MM-E and MMS-E Inverter/Chargers.

MM-RC Inverter/Charger models

FEATURES	
LEDs	Three LEDs: Invert, AC In, and Fault Modes Six LEDs: Invert, AC In, Fault Modes, Bulk, Absorb, and Float On/Off: Turns inverter or charger on or off and defeats "search" mode
Mounting	Includes bezel for suface mount or flush mount
Included with the Remote	25' phone cable

REMOTE BEZEL - ME-RC-BZ

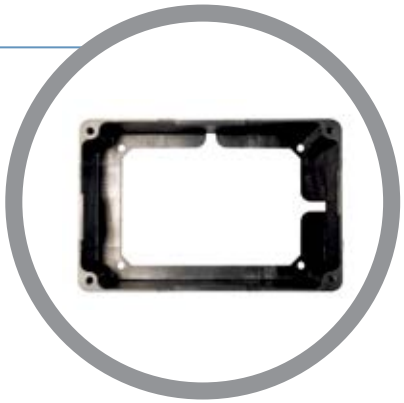
Model Numbers
- ME-RC-BZ

Works With

PAGE

ME-RC 34

Mounting bezel for the ME-RC remote, allowing the ME-RC to be surface mounted.



ROUTER - ME-RTR

Model Numbers
- ME-RTR

Works With

PAGE

MS-PE 14

The Magnum Energy brand Router from Sensata Technologies is a combination of the ME-ARC advanced feature remote and a communication hub for MS-PE parallel units all in one easy-to-install and operate unit. The ME-RTR features full inverter/charger setup and control, four-line LCD display, four parallel stacking ports for the MS-PE Series inverter/charger, communication ports for ME-AGS-N or ME-BMK accessories, and a two wire voltage controlled auxiliary relay.

SMART BATTERY COMBINER (ME-SBC)

Model Number
ME-SBC

Works With

The ME-SBC also works as a stand-alone unit.

The Magnum Energy brand by Sensata Technologies Series Smart Battery Combiner (ME-SBC) is an easy-to-use stand alone battery combiner and isolator for 12 and 24 VDC systems. Apply a single charging source to the main battery bank and the ME-SBC charges a second battery bank using a portion of the current. With adjustable voltage ranges, including automatic on/off setpoints, the ME-SBC prevents under- or over-charging.

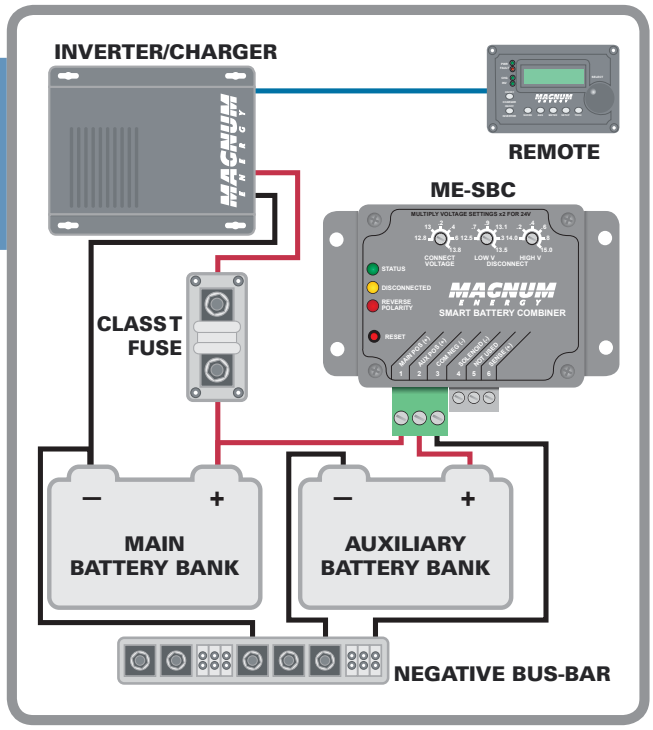
FRONT PANEL INCLUDES

- LED indicators showing status and operation
- Three adjustable voltage dials to set the “Connect Voltage”, “Low V Disconnect”, and “High V Disconnect”
- An oversized power terminal block allowing for easy wire connections even if the wires are large
- An accessories terminal block to add a solenoid or a separate voltage sense line
- A reset switch

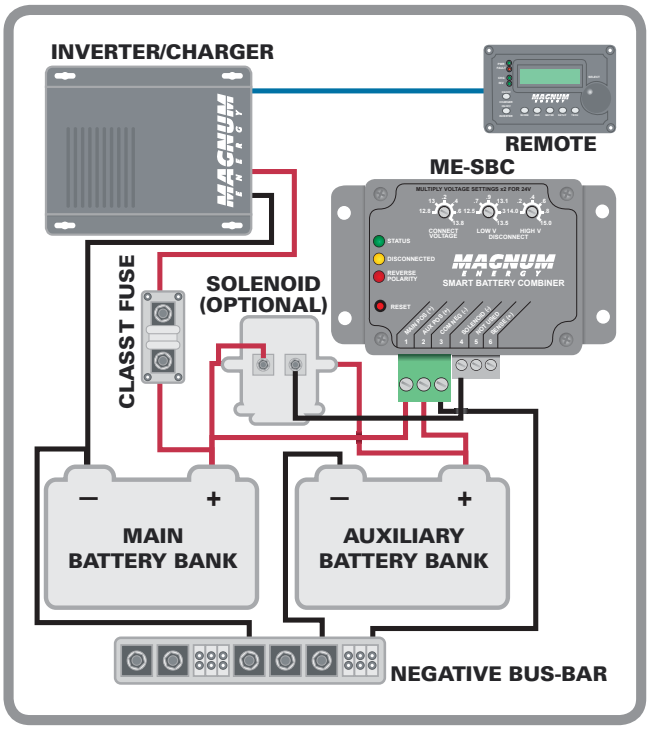
FEATURES

- Voltage auto-detect feature recognizing 12 or 24 VDC
- Transfers up to 25 amps
- Solenoid drive for requirements greater than 25 amps
- Over-temperature and over-current shutdown
- Adjustable voltage settings with a wide range allows for charging flexibility
- Bi-directional charging
- Reverse polarity protection
- Sense lead for long-run applications

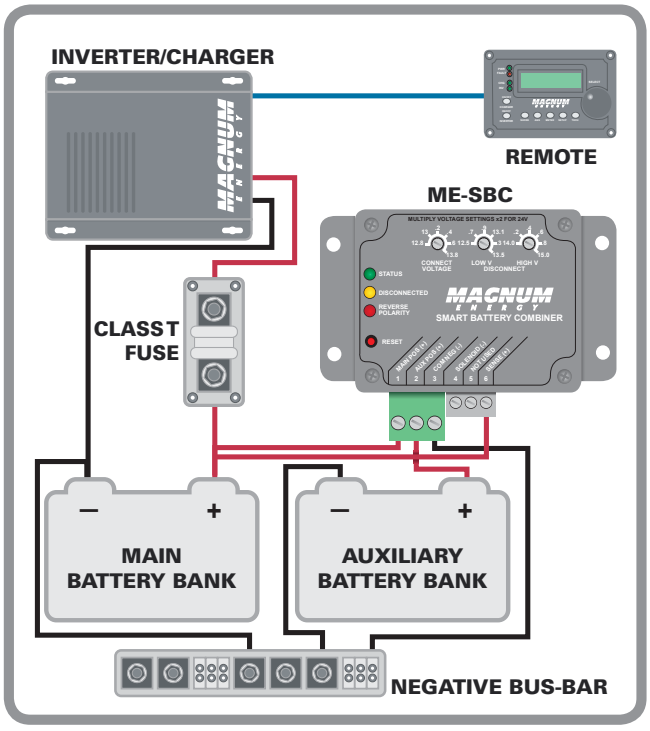
ME-SBC BASIC CONFIGURATION DIAGRAMS



25 amp Combiner Mode



Solenoid Drive



Remote Voltage Sense

ME-SBC SPECIFICATIONS

	ME-SBC
DC volts	12 or 24 VDC nominal
DC amps	25 amps continuous
Maximum VDC	40 volts peak
Average operating tare loss	~150 mW
Maximum operating tare loss	< 220 mW
Non-operating tare loss	< 50 mW
Operating range	0 - 32 VDC
Shipping weight	2 lbs (0.9 kg)
Shipping dimensions (l x w x h)	6" x 9" x 2.5" (15.2 x 22.9 x 6.4 cm)
Unit dimensions (l x w x h)	4.2" x 5.4" x 1.4" (10.7 x 13.7 x 3.6 cm)
Maximum operating temperature	-40° F to +185° F (-40° C to + 85° C)
Maximum storage temperature	-40° F to +194° F (-40° C to + 90° C)

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

MAGNUM ENERGY

MAGNUM ENERGY MOBILE PRODUCTS & PARTS CATALOG

Sensata Technologies

The World Depends on Sensors and Controls

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 BRANDS

Sensata Power Conversion brands began as two well-known inverter companies, Dimensions Inverters and Magnum Energy. Dimensions Inverters joined SensataTechnologies 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.

Manufactured in Everett, Washington, and St. Paul, Minnesota, and 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 300 to 12,000 watts – in single and three-phase topology – and the ability to accommodate input ranges from 12 to 300 VDC, the Magnum Energy product line has the inverter or inverter/charger to meet your needs.

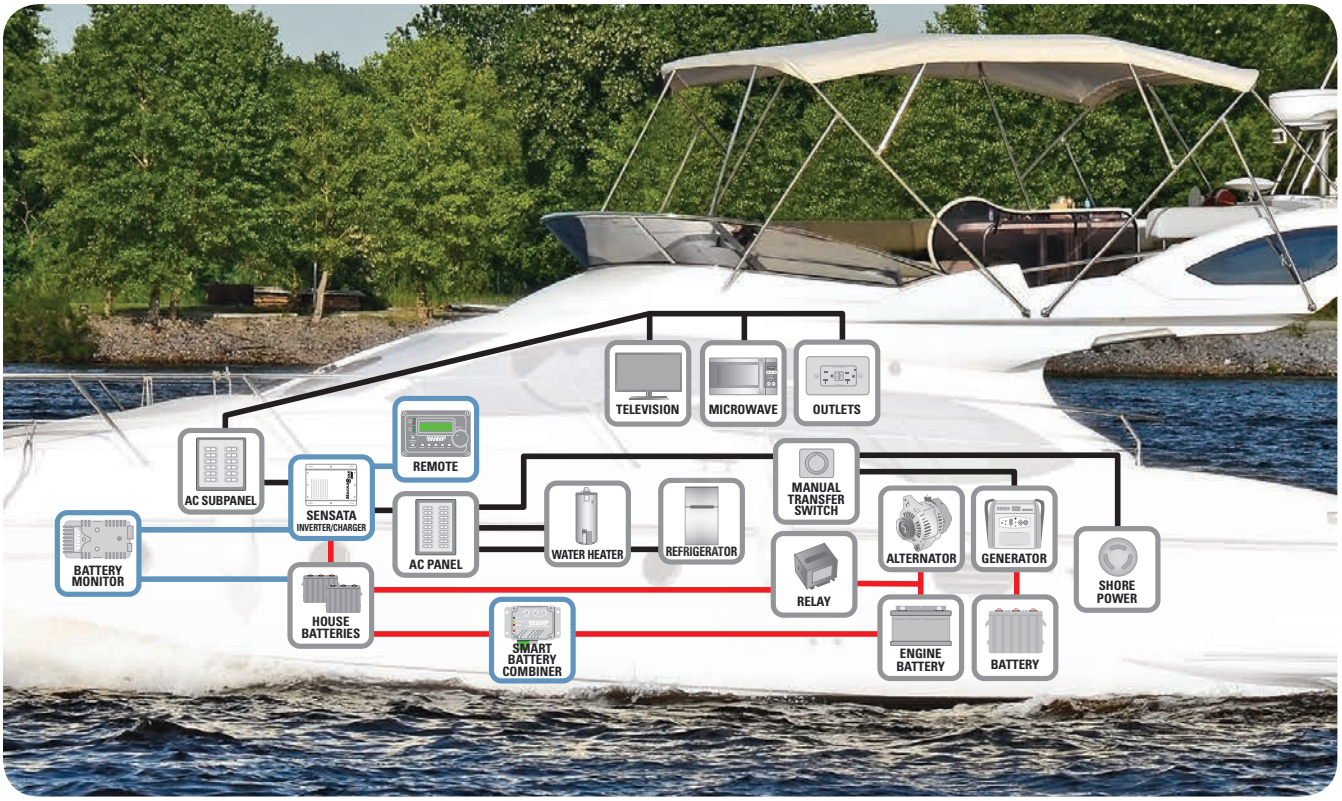
MARINE APPLICATIONS AND MAGNUM PRODUCTS

When out on the water, your system just needs to work. With a Magnum Energy brand inverter / charger, not only can you rest easy knowing everything will function as specified, but our inverter / chargers are extremely easy to install.

We offer both sine wave and modified sine wave models to choose from, so that you can choose what's right for you and not have to spend money on features you don't need.

From the MS Series that will power your plasma TV to the MM Series that provides a cost effective solution to smaller energy needs, Magnum Energy brand has you covered.

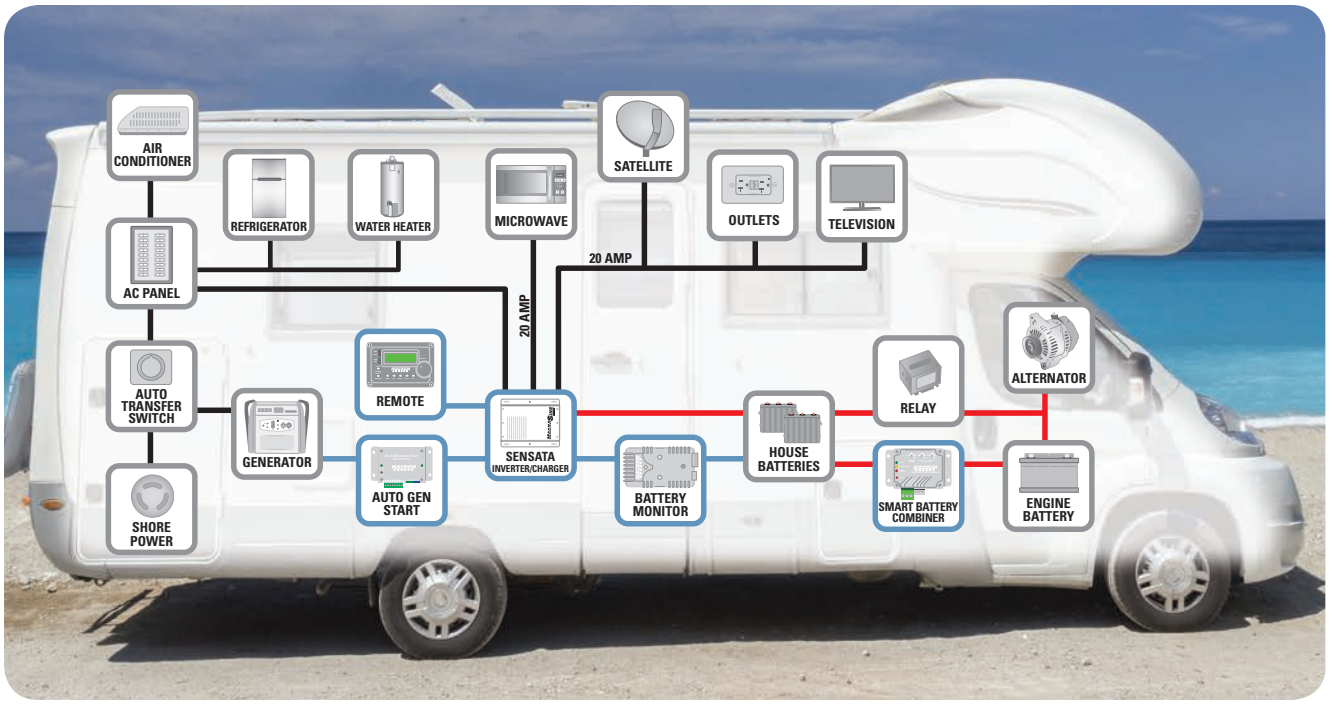
MARINE SYSTEM DIAGRAM



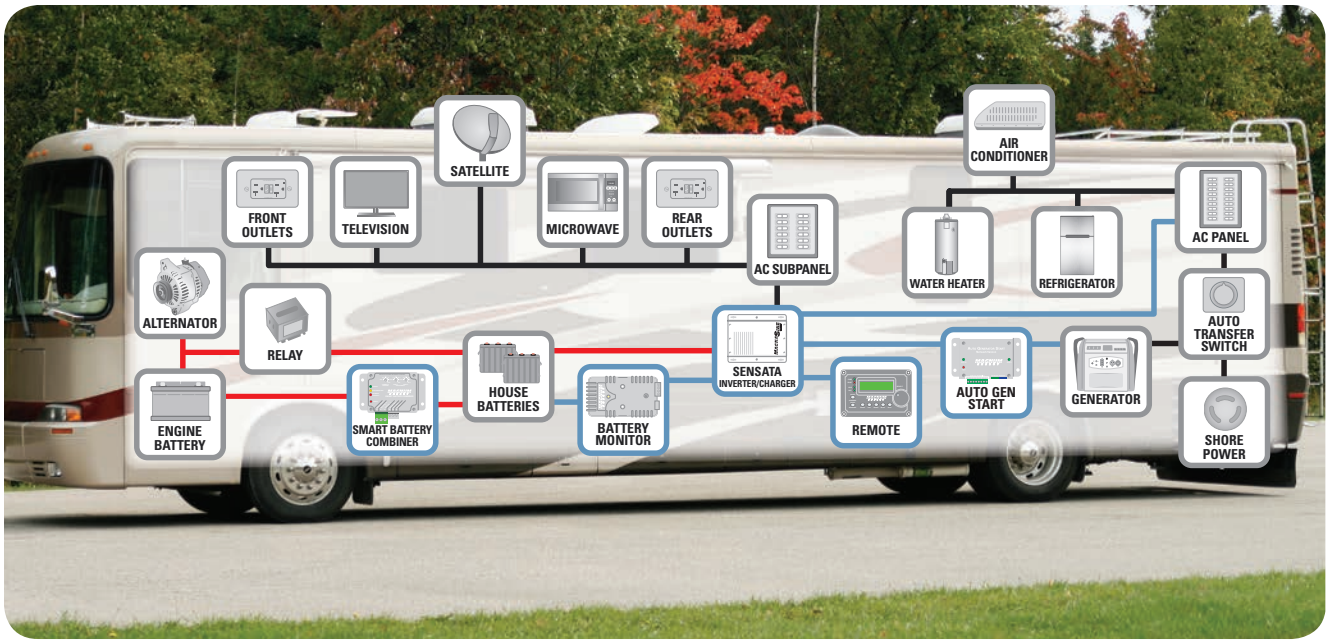
RECREATIONAL VEHICLES AND MAGNUM PRODUCTS

Travel with the comfort of knowing that a Magnum Energy brand inverter / charger is at the center of your RV power system. With efficient chargers and lightweight structures, Magnum Energy brand inverter / chargers are designed with an RV system in mind. You'll stay on the road and moving with a Magnum Energy brand inverter / charger.

RV 30 AMP SYSTEM DIAGRAM



RV 50 AMP SYSTEM DIAGRAM



MAGNUM ENERGY BRAND INVERTER AND INVERTER/CHARGER FEATURES

SAFE AND RELIABLE

Our inverter/chargers are listed to stringent UL safety requirements.

MODIFIED SINE WAVE OR PURE SINE WAVE

Most Magnum Energy brand series inverters provide pure sine wave power. Run your TVs, stereos, tool battery chargers, computers, and other sensitive electronics without worry. Our pure sine wave inverter chargers provide clean, reliable power with low total harmonic distortion (THD) of less than 5%.

For an even more cost effective choice, Magnum Energy brand also provides modified sine wave inverters. These units will provide power that will efficiently run 90% of the electronics on the market.

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.

CHOICES

Magnum Energy brand inverters come in multiple power models and 12, 24, and 48 volt configurations, allowing you to choose the model that is right for you. And we provide inverters in multiple chassis configurations to fit in various space allotments.

LIGHTWEIGHT

Most Magnum Energy brand inverter/chargers are 20% lighter than comparable models. The lightweight aluminum base and cover provides noise reduction and corrosion resistance. These lighter weight models are also designed to be overnight shippable if necessary.

ACCESSIBLE DESIGN

Extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make inverters more accessible when needed.

DUAL INPUTS

With 60 Amp transfer service available on most models, our inverters allow you to take advantage of the more balanced power of a 120/240 volt generator.

BUY WITH EASE

Sensata Technologies inverters and inverter/chargers are backed by a one, two, or three-year warranty, giving you peace of mind.

ACCESSORIES TO CUSTOMIZE SYSTEMS

Available accessories include remote controls, AGS modules, a battery monitor kit, DC fuses, series stacking cable kits, and the Smart Battery Combiner (SBC). And our accessories line utilizes a more consistent design from one product to another. Our easy-to-use remote for your boat, truck, or RV is compatible with most Magnum Energy brand inverter/charger models.

FIELD REPAIRABLE

You probably won't have any problems with a Magnum Energy brand product. Our units can be field repaired, saving you time and money if your unit ever needs service.

INVERTER / CHARGER FEATURE COMPARISON

KEY ✓ - Standard on all models O - Available on some models M - Maybe, ask your dealer

FEATURE COMPARISON	COMPARABLE INVERTER / CHARGERS	MAGNUM'S INVERTER / CHARGERS
Power Factor Corrected (PFC) Charger		✓
Dead Battery Charging	M	✓
AGS Option with Temperature and Volts	M	✓
Network Compatible	O	✓
60 Amp Transfer Relay (Dual 30 Amp input/outputs)		O
Lighter Weight (Up to 20% lighter)		✓
Line Sync Transfer (Faster transfer)		✓
Dual In / Dual Out		O
Branch Rated Output Breakers (Opt)	O	✓
Standard Platform (2k – 4.4k)	O	✓
H Bridge Technology	M	✓
Service Friendly Modular Design		✓
Die Cast Aluminum Base (Better cooling)		✓
Bulkhead Mount	M	✓
Shelf and Under Shelf Mount		✓
Five Stage Charger (Bulk, Absorb, Float, EQ, Battery Saver™)	Three stage	✓
Battery Temperature Sensor Included	M	✓
PERFORMANCE AND MECHANICAL COMPARISON		
Automatic Reset from Low Battery Fault	✓	✓
Output Voltage Regulation at Rated Load 12 VDC		120 ± 6 VAC
Input Amps AC at Rated Charge Rate (100 Amp charger)	23 AAC	15 AAC
Dedicated Diagnostic Tools	✓ (LED indicators only)	✓ (LCD display)
Temperature Sensor Mounting Method Provided	✓ (Ring terminal)	✓ (Ring Terminal)
Charger Temperature Rating to Full Charge Rate	25 °C	40 °C (ME Series)
Inverter Temperature Rating to Full Power	25 °C	45 °C (ME Series)
Chassis Construction	.060 Steel	Diecast / Sheet Aluminum
Chassis Coating (Powder coated)	M	✓
Clean Internal Construction (Minimum hardware)	M	✓
Clean Point-to-Point Wiring	M	✓
Modular Design for Easy Service	M	✓
Gold-plated Low Voltage Connectors for Low Corrosion	M	✓
Internal / External Hardware Used (Stainless steel)	O	✓
Battery Connection Hardware (Stainless steel)	O	✓
AC Wiring Connections (Most models)	Flying Leads	Terminals Block
AC Wiring Compartment Access	Good	Excellent
FEATURES OF THE OPTIONAL ME-RC OR ME-ARC REMOTE	**COMPARABLE REMOTES**	**MAGNUM BRAND REMOTES**
Two-line LCD Display	O	✓
"One Spin"™ User Friendly Remote		✓
Adjustable Charge Rate	O	✓
Adjustable Low Battery Cut Out	O	✓
Dedicated Inverter and Charger On/Off Buttons	M	✓
Lead Acid, AGM, AGM2, Gel, and Custom Battery Type	M	✓

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

MSH-M SERIES INVERTER/CHARGER

Model Numbers
MSH3012M • MSH4024M

Pure Sine Wave

12, 24 Battery Voltage Options

3000-4000 Continuous Output Options in Watts

Available For
- Marine Systems
- RV Systems

Available Accessories

* New status displays require ME-RC v2.7 or ME-ARC v3.0 or higher.

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.

Hybrid technology: 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.

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-M Series in four easy steps: simply connect the inverter's output to your distribution circuits or electrical panel, connect your shore power cable to the inverter's easy-to-reach terminal block, connect the batteries, and switch on the power.

Choices
The MSH-M Series comes in 12 and 24 volt configurations, allowing you to choose the model that is right for you.

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

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.

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.

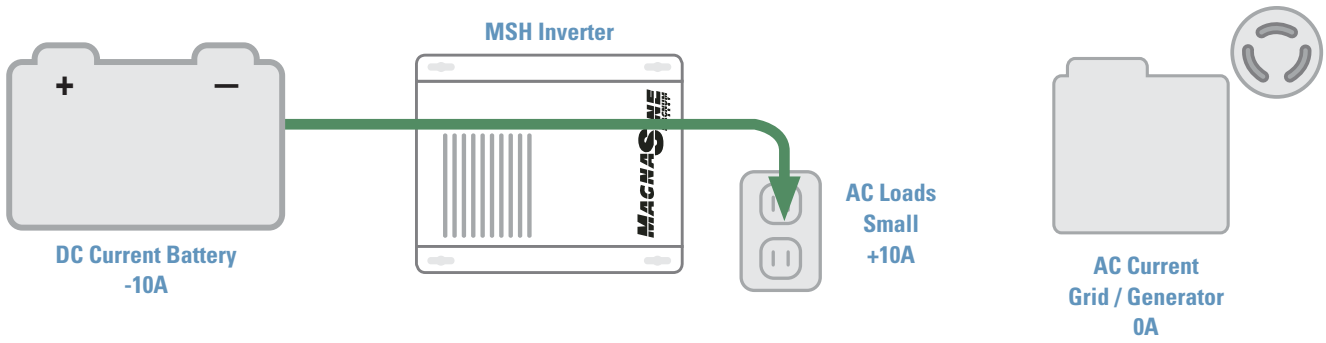
MSH-M SERIES SPECIFICATIONS

	MSH3012M	MSH4024M
INVERTER SPECIFICATIONS		
Input battery voltage range	9 to 17 VDC	18 to 34 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.05 Hz	60 Hz ± 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 msecs	16 msecs
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)	

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

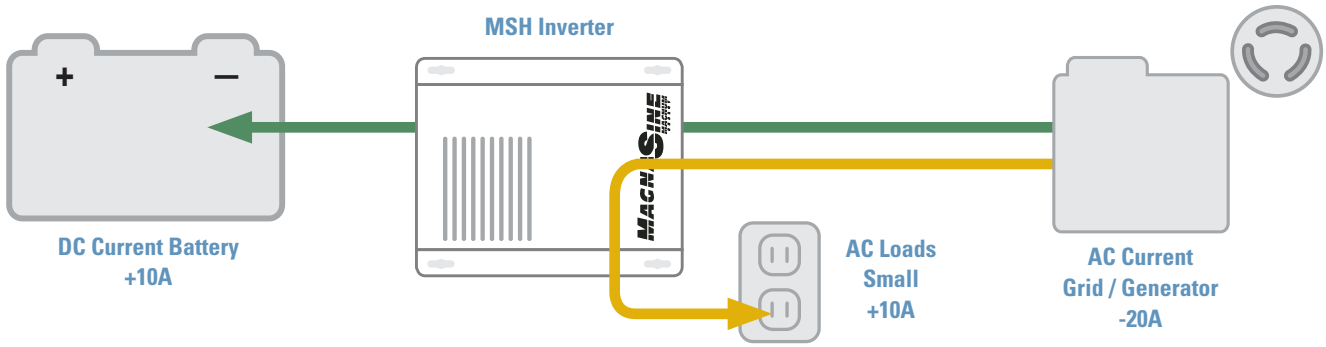
MSH-M SERIES INVERTER/CHARGER

MSH-M SERIES HYBRID TECHNOLOGY STEP-BY-STEP



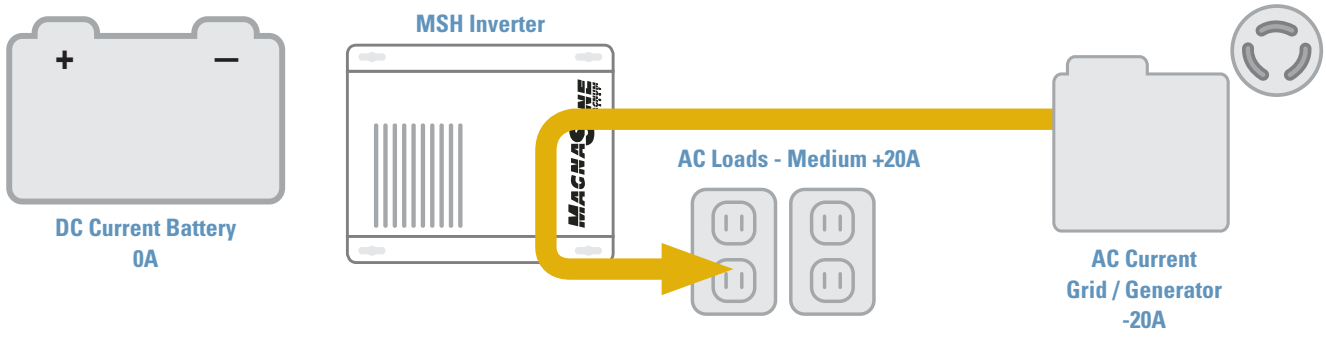
INVERTING

The MSH-M inverter converts the current from the battery to power the AC loads.



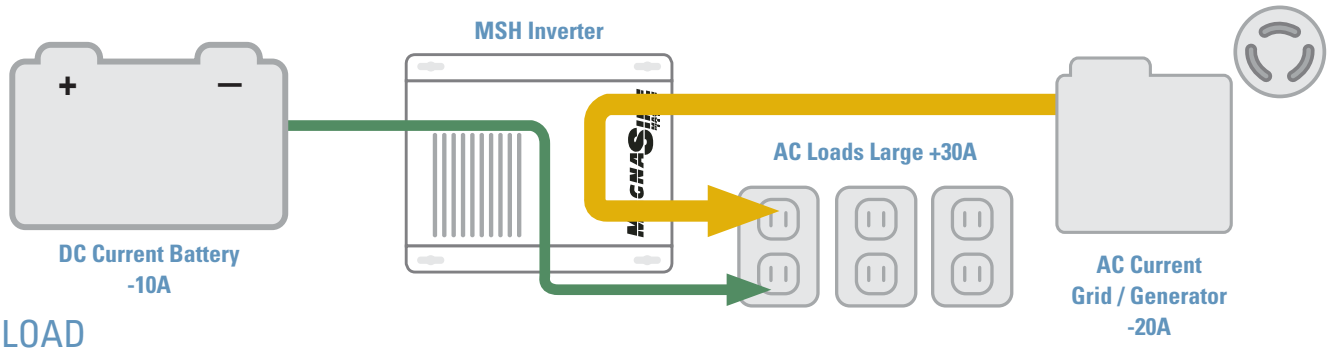
CHARGING AND AC PASS-THROUGH

The MSH-M inverter uses current from the grid/generator to power the AC loads and also converts this current to charge the battery.



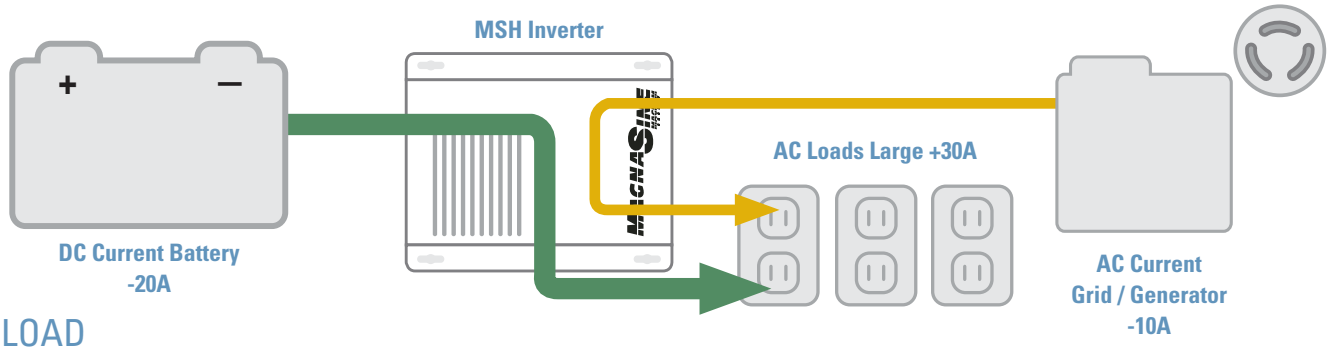
CHARGER BACK-OFF

When the AC loads increase, the MSH-M inverter reduces or stops the battery charge current to allow the grid/generator to continue powering the AC loads.



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.



LOAD SUPPORT VDC

If the battery is being charged externally (i.e. solar, wind, or hydro), the MSH-M converts any excess current from the battery to power the AC loads and reduce the current from the grid/generator.

MS SERIES INVERTER/CHARGER

Model Numbers

MS2000 • MS2000-15B • MS2000-20B • MS2012 • MS2012-15B MS2012-20B • MS2024 • MS2812 • MS4024* • MS4048* • MS4048-20B (*SERIES STACKABLE)

Pure Sine Wave

12, 24, 48 — Battery Voltage Options

2000-4000 — Continuous Output Options in Watts

Available For

- Marine Systems
- RV Systems
- Trucks

Available Accessories

New features available using the ME-ARC (with v5.4 or higher firmware).

The Magnum Energy brand MS Series Inverter/Charger from Sensata Technologies – a pure sine wave inverter designed specifically for the most demanding mobile, backup, and off-grid applications. The MS Series Inverter/Charger is powerful, easy-to-use, and best of all, cost effective.

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.

Safe and reliable: The MS2000, MS2012, MS2812, MS4024, and MS4048 are ETL Listed to the stringent requirements of UL/cUL 458 and CSA C22.2 #107.1-01 for mobile use. All models also meet KKK-A-1822E standards for emergency vehicle use.

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

FEATURES

Pure Sine Wave

Power your TVs, 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%.

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.

Choices

The MS Series comes in 12 and 24 volt configurations, allowing you to choose the model that is right for you.

Versatile Mounting

Mount the MS Inverter/Charger on a shelf, bulkhead, or even upside down.

Lightweight

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

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.

Buy with Ease

The MS Inverter/Charger is backed by a three-year (36-month) limited warranty.

MS SERIES INVERTER/CHARGER SPECIFICATIONS

	MS2000/12 (-15/-20B) MS2012 (-15/-20B)	MS2812	MS2024	MS4024	MS4048 MS4048-20B
INVERTER SPECIFICATIONS					
Input battery voltage range	9 - 16.8 VDC	9 - 16.8 VDC	18 - 33.6 VDC	9 - 33.6 VDC	36 - 67.6 VDC
AC output voltage accuracy	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	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
Total Harmonic Distortion (THD)	< 5%	< 5%	< 5%	< 5%	< 5%
1 msec surge current (amps AC)	50	70	75	120	120
100 msec surge current (amps AC)	33	40	37	82	72
5 sec surge power (real watts)	3300	3900	2850	5800	8500
30 sec surge power (real watts)	3100	3800	2750	5400	5750
5 min surge power (real watts)	2800	3200	2700	4900	5250
30 min surge power (real watts)	2200	3000	2200	4500	47500
Maximum continuous input current	267 ADC	373 ADC	133 ADC	267 ADC	133 ADC
Inverter efficiency (peak)	90.6%	90%	86%	93.7%	94%
AC Relay Transfer time (minimum)	16 msecs	16 msecs	16 msecs	16 msecs	16 msecs
Power Consumption - searching	<8 watts	<8 watts	<8 watts	<8 watts	<8 watts
Power Consumption - inverting (no load)	25 watts	30 watts	25 watts	25 watts	25 watts
Output Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS					
Continuous output at 25° C	100 ADC	125 ADC	60 ADC	105 ADC	60 ADC
Charger efficiency	85%	85%	85%	85%	85%
Power factor	> .95	> .95	> .95	> .95	> .95
Input current for continuous rated output	15 AAC	18 AAC	7.9 AAC	29 AAC	30 AAC
GENERAL FEATURES AND CAPABILITIES					
Transfer relay capability	30 ACC max. each input (30AC total on MS2000 models, 60ACC total on all other models)*				
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				
Branch-rated output circuit breakers	Optional on the MS2000 (15 or 20 amp breakers) or MS2012 (15 or 20 amp breakers)				
Safety listings	ETL Listed to UL/cUL 458, CSA C22.2 #107.1-01, meets KKK-A-1822E standard				
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) [Height on MS2000: 7.0"/17.8 cm]				
Mounting	Shelf or wall (vents not allowed to face downward unless ME-CB or MPX-CB is installed.)				
Unit weight	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)
Shipping weight	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)
Max operating altitude	15,000' (4570 m)				

*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.

MMS SERIES INVERTER/CHARGER

Model Numbers
MMS1012 • MMS1012-G

Pure Sine Wave

12 Battery Voltage Options

1000 Continuous Output Options in Watts

Available For
- Emergency Vehicles
- Marine Systems
- RV Systems

Available Accessories

The MMS Series Inverter / Charger is a pure sine wave inverter providing a cost effective solution for those with smaller power needs in mobile applications. Versatile, easy-to-use, and lightweight, the MMS Series provides a reliable base for your energy system.

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.

Safe and reliable: The MMS Series 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.

FEATURES

Standard Transfer Relay
The standard 20 amp transfer relay will pass AC power through the inverter when using shore or generator power.

Low/High Battery Protection
If your battery voltage reaches below 10 VDC or above 17 VDC, the MMS Series will automatically shut down.

Versatile Mounting
Mount the MMS Series on a shelf, bulkhead, or even upside down.

Fan Cooled
The MMS 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 MMS Series will auto-matically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.

Convenient Switches
The MMS Series comes with an on/off front-mounted switch with an easy-to-read LED indicator.

Circuit Breaker Protection
This model comes with built in input and output circuit breakers for ease of installation.

Battery Temp Sensor
The standard battery temp sensor monitors temperatures from 0 - 50° C.

Buy with Ease
The MMS Series is backed by a two-year (24-month) parts and labor warranty.

MMS SERIES SPECIFICATIONS

	MMS1012	MMS1012-G
INVERTER SPECIFICATIONS		
Input battery voltage range	9 to 17 VDC	9 to 17 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	38	38
100 msec surge current (amps AC)	21	21
5 sec surge power (real watts)	1750	1750
30 sec surge power (real watts)	1600	1600
5 min surge power (real watts)	1200	1200
30 min surge power (real watts)	1050	1050
Maximum continuous input current	133 ADC	133 ADC
Inverter efficiency (peak)	87%	87%
Transfer time	16 msecs	16 msecs
Search mode (typical)	5 watts	5 watts
No load (120 VAC output, typical)	19 watts	19 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	50 ADC	50 ADC
Charger efficiency	84%	84%
Power factor	> .95	> .95
Input current at rated output (AC amps)	7	7
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	20 AAC (input current for charging and pass through)	
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard	
Internal cooling	0 to 59 cfm variable speed	
Overcurrent protection	Yes, with two overlapping circuits	
Overtemperature protection	Yes, on transformer and MOSFETS	
On/Off with status indicator	Yes, front mounted and easily accessible	
Low battery cutout	10 VDC, adjustable with the ME-RC remote	
AC output/AC input	Hardwire/Hardwire	GFCI Outlet/3 ft cord
Output circuit breaker/Input circuit breaker	15A/20AAC	15A/20AAC
Listings	ETL Listed to UL/cUL458, CSA C22.2 #107.1-01, meets KKK-A-1822E standard	
Warranty	Two years	
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)	16.6" x 8.4" x 4.7" (42 cm x 21 cm x 12 cm)	
Mounting	Shelf (top or bottom up) or bulkhead (vents up)	
Weight	23 lb (10.4 kg)	
Shipping weight	25 lb (11.3 kg)	
Max operating altitude	15,000' (4570 m)	
Construction	ABS plastic top and cast aluminum bottom	

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

ME SERIES INVERTER/CHARGER

Model Numbers

ME2012 • ME2012-20B • ME2512 • ME3112

Modified Sine Wave

12 Battery Voltage Options

2000-3100 Continuous Output Options in Watts

The ME Series Inverter / Charger from Sensata Technologies is a modified sine wave inverter designed specifically for rugged mobile applications. The ME Series is powerful, easy-to-use, and best of all, cost effective.

Safe and reliable: The ME Series is ETL Listed to the stringent requirements of UL/cUL 458 and CSA C22.2 #107.1-01, ensuring that the inverter is safe and reliable.

Easy-to-install: Install the ME Series in four easy steps: simply connect the inverter's output to your distribution circuits or electrical panel, connect your shore power cable (AC) to the inverter's easy-to-reach terminal block, connect the batteries, and switch on the power.

Available for

- Marine Systems
- RV Systems

Available Accessories

New features available using the ME-ARC (with v5.4 or higher firmware).

FEATURES

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.

Choices

The ME Series comes in three power models and optional built-in branch rated AC output breakers, allowing you to choose the model that is right for you.

Versatile Mounting

Mount the ME Series on a shelf, bulkhead, or even upside down.

Lightweight

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

Multiple Ports

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

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.

Convenient Switches

The ME 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, and can be wired in three ways, including single in / single out, single in / dual out, or dual in / dual out.

Buy with Ease

The ME Series is backed by a three-year (36-month) limited warranty.

ME SERIES SPECIFICATIONS

	ME2012/ME2012-20B	ME2512	ME3112
INVERTER SPECIFICATIONS			
Input battery voltage range	9 - 16 VDC	9 - 16 VDC	9 - 16 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
1 msec surge current (amps AC)	60	100	120
100 msec surge current (amps AC)	37	45	50
5 sec surge power (real watts)	3700	5000	6000
30 sec surge power (real watts)	3450	4500	4800
5 min surge power (real watts)	3100	3500	3950
30 min surge power (real watts)	2400	2900	3500
Continuous power output at 45° C	2000 VA	2500 VA	3100 VA
Maximum continuous input current	266 ADC	333 ADC	413 ADC
Inverter efficiency (peak)	95%	91%	90%
Transfer time	16 msecs	16 msecs	16 msecs
Search mode (typical)	5 watts	5 watts	5 watts
No load (120 VAC output, typical)	20 watts	23 watts	25 watts
Waveform	Modified Sine Wave	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS			
Continuous output at 45° C	100 ADC	120 ADC	160 ADC
Charger efficiency	85%	85%	85%
Power factor	> .95	> .95	> .95
Input current at rated output (AC amps)	15	18	22
GENERAL FEATURES AND CAPABILITIES			
Transfer relay capability	2 legs at 30 A for 120 V/30 A or 240 V/60 A service		
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™		
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard		
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	Optional on the ME2012 - AC breakers in 20 amp ratings		
Listings	ETL Listed to UL/cUL 458, CSA C22.2 #107.1-01		
Warranty	Three years		
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)		
Mounting	Shelf or wall (vents not allowed to face downward unless ME-CB or MPX-CB is installed.)		
Weight	37 lb (16.8 kg)	41 lb (18.6 kg)	46 lb (20.9 kg)
Shipping weight	46 lb (20.9 kg)	49 lb (22.2 kg)	56 lb (25.5 kg)
Max operating altitude	15,000' (4570 m)		

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

MM SERIES INVERTER/CHARGER

Model Numbers
MM612 (INVERTER ONLY) • MM1212

Modified Sine Wave

12 Battery Voltage Options

600-1200 Continuous Output Options in Watts

Available For
- Marine Systems
- RV Systems

Available Accessories

The MM Series Inverter / Charger is a modified sine wave inverter providing a cost effective solution for those with smaller power needs in mobile applications. Versatile, easy-to-use, and lightweight, the MM Series provides a reliable base for your energy system.

Safe and reliable: The MM Series 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.

FEATURES

Standard Transfer Relay
The standard 20 amp transfer relay will pass AC power through the inverter when using shore or generator power.

Versatile Mounting
Mount the MM Series on a shelf, wall, or even upside down.

Fan Cooled
The MM 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.

Low Battery Protection
If your battery voltage goes below the cut-out setting the MM Series will automatically shut down, saving your batteries.

High Battery Protection
If your battery voltage reaches over the cut-out setting the MM Series will shut down.

Current Overload Protection
The MM Series will automatically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.

Convenient Switches
The MM Series comes with an on/off front-mounted switch with an easy-to-read LED indicator.

Circuit Breaker Protection
Every model comes with built in input and output circuit breakers for ease of installation.

Battery Temp Sensor
The standard battery temp sensor monitors temperatures from 0 - 50° C.

Buy with Ease
The MM Series is backed by a two-year (24-month) parts and labor warranty.

MM SERIES SPECIFICATIONS

	MM612 (INVERTER ONLY)	MM1212
INVERTER SPECIFICATIONS		
Input battery voltage range	9 to 16 VDC	9 to 16 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
1 msec surge current (amps AC)	27	42
100 msec surge current (amps AC)	11	23
5 sec surge power (real watts)	1100	2100
10 sec surge power (real watts)	1050	1900
30 sec surge power (real watts)	1000	1750
5 min surge power (real watts)	950	1450
30 min surge power (real watts)	675	1375
Continuous power output at 25° C (with 1.0 PF)	600 VA	1200 VA
Continuous current output	5 AAC	10 AAC
Maximum continuous input current	80 ADC	160 ADC
Inverter efficiency (peak)	95%	95%
Transfer time	16 msecs	16 msecs
Search mode (typical)	3 watts	5 watts
No load (120 VAC output, typical)	10 watts	18 watts
Waveform	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	NA	70 ADC
Charger efficiency	NA	88%
Power factor	NA	> .95
Input current at rated output (AC amps)	NA	9
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	20 AAC (input current for charging and pass through)	
Battery temperature compensation	Yes, on models with chargers: 15 ft Battery Temp Sensor standard	
Internal cooling	0 to 59 cfm variable speed	
Overcurrent protection	Yes, with two overlapping circuits	
Overtemperature protection	Yes, on transformer and MOSFETS	
On/Off with status indicator	Yes, front mounted and easily accessible	
Low battery cutout	10 VDC, adjustable on most models with the ME-RC remote	
AC output/AC input	Hardwire	Hardwire
Output circuit breaker/Input circuit breaker	7A/8AAC	15A/20AAC
Listings	ETL Listed to UL/cUL458, CSA C22.2 #107.1-01	
Warranty	Two years	
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)	16.6" x 8.4" x 4.7" (42 cm x 21 cm x 12 cm)	
Mounting	Shelf (top or bottom up) or bulkhead (vents up)	
Weight	14 lb (6.4 kg)	20 lb (9 kg)
Shipping weight	18 lb (8.2 kg)	23 lb (10.5 kg)
Max operating altitude	15,000' (4570 m)	
Construction	ABS plastic top and cast aluminum bottom	

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

CSW SERIES INVERTER

Model Numbers
CSW412 • CSW1012 • CSW2012 • CSW2012-X

Pure Sine Wave

12 Battery Voltage Options

400-2000 Continuous Output Options in Watts

Available for
- Emergency Medical Services
- Marine Systems
- RV Systems
- Trucks
- Utility Vehicles

Available Accessories

The Sensata CSW Series Inverter is a pure sine wave inverter designed to be powerful, yet simple to operate. The CSW will provide you with reliable AC power for troublefree use.

FEATURES

Compact and Lightweight
The CSW provides pure sine wave power from a small footprint designed to fit in tight vehicle and marine spaces. And it is lightweight, so won't weigh you down.

At-a-Glance Status
The inverter's status can be determined at a glance with the easy to read LED light.

Digital Display
The alphanumeric display shows the inverter's battery voltage, total AC output power, along with additional operation codes.

USB Port
Power and charge your USB-enabled device with the available USB port.

GFCI AC Outlet
Plug in two pieces of equipment directly to the CSW and know that the GFCI outlet will quickly stop the flow of electricity should a ground fault occur. The outlet also comes with an LED indicator and test/reset capability.

Automatic Transfer Switch Option
The CSW2012-X automatically switches between shore power and inverter/battery power.

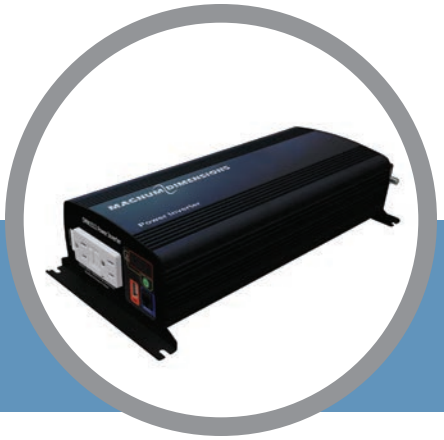
CSW SERIES SPECIFICATIONS

	CSW412	CSW1012 CSW1012-H	CSW2012	CSW2012-X CSW2012-HX
INVERTER SPECIFICATIONS - OUTPUT				
Continuous power at nominal DC voltage	400 watts	1000 watts	2000 watts	2000 watts
Peak surge power	800 watts	2000 watts	4000 watts	4000 watts
10 sec surge power	400 - 550 watts	1000 - 1500 watts	2000-3000 watts	2000-3000 watts
1 sec surge power	550-800 watts	1500 - 2000 watts	3000-4000 watts	3000-4000 watts
200 msec surge power	> 800 watts	> 2000 watts	> 4000 watts	> 4000 watts
AC output voltage at 12.5 VDC	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
AC ouput current	3.3 AAC	8.3 AAC	16.6 AAC	16.6 AAC
AC output voltage range	104 - 127 VAC	104 - 127 VAC	104 - 127 VAC	104 - 127 VAC
AC output frequency	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz
AC output waveform	Pure sine wave	Pure sine wave	Pure sine wave	Pure sine wave
Total harmonic distortion (THD)	< 3%	< 3%	< 3%	< 3%
Transfer Time	NA	NA	NA	< 30 ms
USB	5 V, 750 mA	5 V, 750 mA	5V, 2.1 A	5V, 2.1 A
INVERTER SPECIFICATIONS - INPUT				
Nominal DC input voltage	12.5 VDC	12.5 VDC	12.5 VDC	12.5 VDC
DC input voltage range	10.5 - 15.5 VDC	10.5 - 15.5 VDC	10.5 - 15.5 VDC	10.5 - 15.5 VDC
Input current	38 DCA	94 DCA	193 DCA	193 DCA
No load draw	< 0.8 ADC	< 1.2 ADC	< 1.2 ADC	< 1.5 ADC
Optimum efficiency	> 90%	> 90%	> 90%	> 90%
High voltage shutdown	15.5 VDC	15.5 VDC	15.5 VDC	15.5 VDC
Low voltage alarm	11.2 VDC, audible	11.2 VDC, audible	11.2 VDC, audible	11.2 VDC, audible
Low voltage shutdown	10.5 VDC	10.5 VDC, Recover at 11.8 VDC	10.5 VDC	10.5 VDC
GENERAL FEATURES AND CAPABILITIES				
Transfer relay capability	NA	NA	NA	30 AAC
Display status indictator	LED: Power, Fault	Green, amber, red	LED: Status	LED: Status, Display
Digital display	None	Input voltage/current, output power	Input voltage, output power, warning, and error code	Input voltage, output power, warning, and error code
AC receptacles	NEMA 5-15	NEMA 5-15 (GFCI)	NEMA 5-20 (GFCI)	NEMA 5-20 (GFCI)
Listings	Conforms to UL458, Certified to CSA C22.2 No. 107.1, meets FCC Class B			
Warranty	One year	One year	One year	One year
ENVIRONMENTAL SPECIFICATIONS				
Operating temperature	-0° C to +40° C (32° F to 104° F)			
Nonoperating temperature	-20° C to +60° C (-4° F to 140° F)			
Operating humidity	0 to 90% RH non condensing			
Max operating altitude	9843' (3000 m) above sea level			
PHYSICAL SPECIFICATIONS				
Dimensions (l x w x h)	6.9" x 7.9" x 2.3" (17.5 cm x 20.1 cm x 5.8 cm)	12.63" x 7.0" x 3.5" (32.1 cm x 17.8 cm x 8.9 cm)	16.3" x 9.1" x 4.3" (41.4 cm x 23.1 cm x 10.9 cm)	17" x 9" x 4.5" (43.2 cm x 22.9 cm x 11.4 cm)
Shipping dimensions (l x w x h)	7.9" x 6.9" x 3.5" (20.1 cm x 17.5 cm x 8.9 cm)	15.5" x 8.75" x 5.63" (39.2 cm x 22.3 cm x 14.3 cm)	19" x 11.3" x 6.7" (48.3 cm x 28.7 cm x 17 cm)	19" x 11.3" x 6.7" (48.3 cm x 28.7 cm x 17 cm)
Mounting	Shelf (top or bottom up) or bulkhead (DC terminals MUST be facing up)			
Weight	3.8 lb (1.7 kg)	6.6 lb (3.0 kg)	11.5 lb (5.2 kg)	13.0 lb (5.9 kg)
Shipping weight	4 lb (1.8 kg)	7.5 lb (3.4 kg)	13 lb (5.9 kg)	14.1 lb (31 kg)

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

CMW SERIES INVERTER

Model Numbers
CMW412 • CMW1012 • CMW1512 • CMW3012H (HARDWIRE)



Modified Sine Wave

12 Battery Voltage Options

400-3000 Continuous Output Options in Watts

Available for
- Marine Systems
- RV Systems

Available Accessories

The Sensata CMW Series Inverter is a cost effective modified sine wave inverter designed for clean, compact power on the go. The CMW will safely run many small appliances and provide reliable AC power.

FEATURES

Compact and Lightweight
The CMW provides pure sine wave power from a small footprint designed to fit in tight vehicle and marine spaces. And it is lightweight, so won't weigh you down.

At-a-Glance Status
The inverter's status can be determined at a glance with the easy to read LED light.

Digital Display
The alphanumeric display shows the inverter's battery voltage, total AC output power, along with additional operation codes.

USB Port
Power and charge your USB-enabled device with the available USB port.

GFCI AC Outlet
Plug in two pieces of equipment directly to the CMW and know that the GFCI outlet will quickly stop the flow of electricity should a ground fault occur. The outlet also comes with an LED indicator and test/reset capability.

AC Wiring Access Cover
The CMW3012H provides access to the AC wiring terminals to allow for hardwiring the AC output.

CMW SERIES SPECIFICATIONS

	CMW412	CMW1012	CSM1512	CMW3012H
INVERTER SPECIFICATIONS				
Continuous power at nominal DC voltage	400 watts	1000 watts	1500 watts	3000 watts
Peak surge power	800 watts	2000 watts	3000 watts	6000 watts
AC output voltage	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
AC ouput current	3.3 AAC	8.3 AAC	12.5 AAC	25.0 AAC
Peak AC output current	6.7 AAC	16.7 AAC	25.0 AAC	50 AAC
AC output frequency	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz	60 Hz ± 0.5 Hz
AC output waveform	Modified sine wave	Modified sine wave	Modified sine wave	Modified sine wave
Nominal DC input voltage	12.5 VDC	12.5 VDC	12.5 VDC	12.5 VDC
Optimum efficiency	90%	90%	90%	90%
Phase	Single	Single	Single	Single
Topology	High Frequency	High Frequency	High Frequency	High Frequency
ENVIRONMENTAL SPECIFICATIONS				
Operating temperature	-0° C to +40° C (32° F to 104° F)			
PHYSICAL SPECIFICATIONS				
Dimensions (l x w x h)	7.3" x 4.1" x 2.1" (18.5 cm x 10.4 cm x 5.3 cm)	12.63" x 6.9" x 3.5" (32.1 cm x 17.5 cm x 8.9 cm)	15.0" x 6.9" x 3.5" (38.1 cm x 17.5 cm x 8.9 cm)	19.0 " x 9.0" x 4.5" (48.3 cm x 23.0 cm x 11.5 cm)
Weight	1.6 lb (.7 kg)	5.3 lb (2.4 kg)	6.9 lb (3.1 kg)	13.0 lb (5.9 kg)
GENERAL FEATURES AND CAPABILITIES				
Warranty	One year			
Listings	ETL Listed to UL458, Certified to CSA STD C22.2 No. 107.1			

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

MAGNACHARGER™

Model Number
MC-40

Available For

- Marine Systems
- RV Systems
- Trucks

Easy-to-Read LCD Display

Front panel display and multiple LED indicators provides charger and fault status information and allow important system configuration.

DESIGNED AND MADE IN THE USA

AVAILABLE SOON!

True, Three-bank Battery Charger

The new MagnaCharger from Sensata Technologies provides reliable, trouble-free charging to the battery banks inside your boat or vehicle.

FEATURES

True, Three-bank Charger

Can charge three different battery banks and each can be independently programmed with its own specific battery type, charge rate, and charge voltage.

Multiple Battery Profiles

Select battery type profiles for flooded, AGM, and GEL batteries with an adjustable Constant Current/ Constant Voltage (CC/CV) profile for Lithium batteries and a custom battery type setting with full adjustability.

Universal AC Input

The MagnaCharger is designed to automatically recognize and operate from 100-240 VAC and at 60 or 50Hz, allowing charging around the world.

40 Amp Charger

Charge one, two, or three battery banks with a full 40 amps available to charge any bank.

Auto Battery Detection

No more programming. The Magna-Charger automatically detects one, two, or three battery banks and how to charge each bank – from maintaining a fully charged battery to detecting and efficiently charging a dead battery.

Certified

Listed to UL1236 Marine and UL1564 (US) and certified to CSA 22.2 107.2 (Canada); meets ABYC A-31 requirements and CEC Title 20 Section 1605.3(w)(2) compliant.

SPECIFICATIONS	MC-40
Charger current (at 25° C)	40 amps at 14.7 volts
Regulated charge voltage range	9 volts - 16.6 volts
Minimum chargeable battery voltage	>1 volt
Typical power factor	95% or better
Operating temperature	-4° F to 158° F (-20° C to +70° C)
AC input voltage	85 Vac - 270 Vac
Voltage accuracy	± 0.1 volt
DC current accuracy	± 5%
Input frequency	30 Hz - 80Hz
Peak efficiency	89%
Battery temperature compensation	Yes, with the included ME-BTS
Dimensions (L x W x D)	16.9" x 6.8" x 3.5" (42.9 cm x 17.3 cm x 8.9 cm)
Weight	7 lbs (3.2 kg)
Warranty	Three years – parts and labor

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

BATTERY MONITOR KIT (ME-BMK)

Model Numbers

ME-BMK • ME-BMK-NS (NO SHUNT)

Works With

Monitoring your battery bank is easy with the Battery Monitor Kit (ME-BMK)* from Sensata Technologies. Acting as a "fuel gauge" for your batteries, the ME-BMK monitors their state of charge (SOC) and then provides this information in an easy-to-understand display via the ME-ARC or ME-RC remotes. With accurate SOC readings, you can avoid unnecessary battery recharging, saving on fuel and long-term maintenance costs.

If you already have a Magnum Energy brand Inverter/Charger and Magnum brand Remote*, the ME-BMK is an easy retrofit. Simply install the kit according to the installation manual and begin monitoring your battery bank via the "Meter" button on your ME-RC.

AVAILABLE READINGS FROM THE ME-BMK / ME-BMK-NS

- State of Charge (SOC) 0 - 100%
- DC volts
- DC amps
- Amp hours in/out
- Resettable amp hours out
- Total amp hours out
- Minimum volts DC
- Maximum volts DC
- Temperature compensated
- Auto detects input voltage

KIT INCLUDES

- Sense module
- DC shunt 50mv/500 amp shunt (not included in the ME-BNK-NS kit)
- Twisted pair wire 5' length, 18 AWG wire
- Communication cable 10' length, 4-conductor, telephone standard

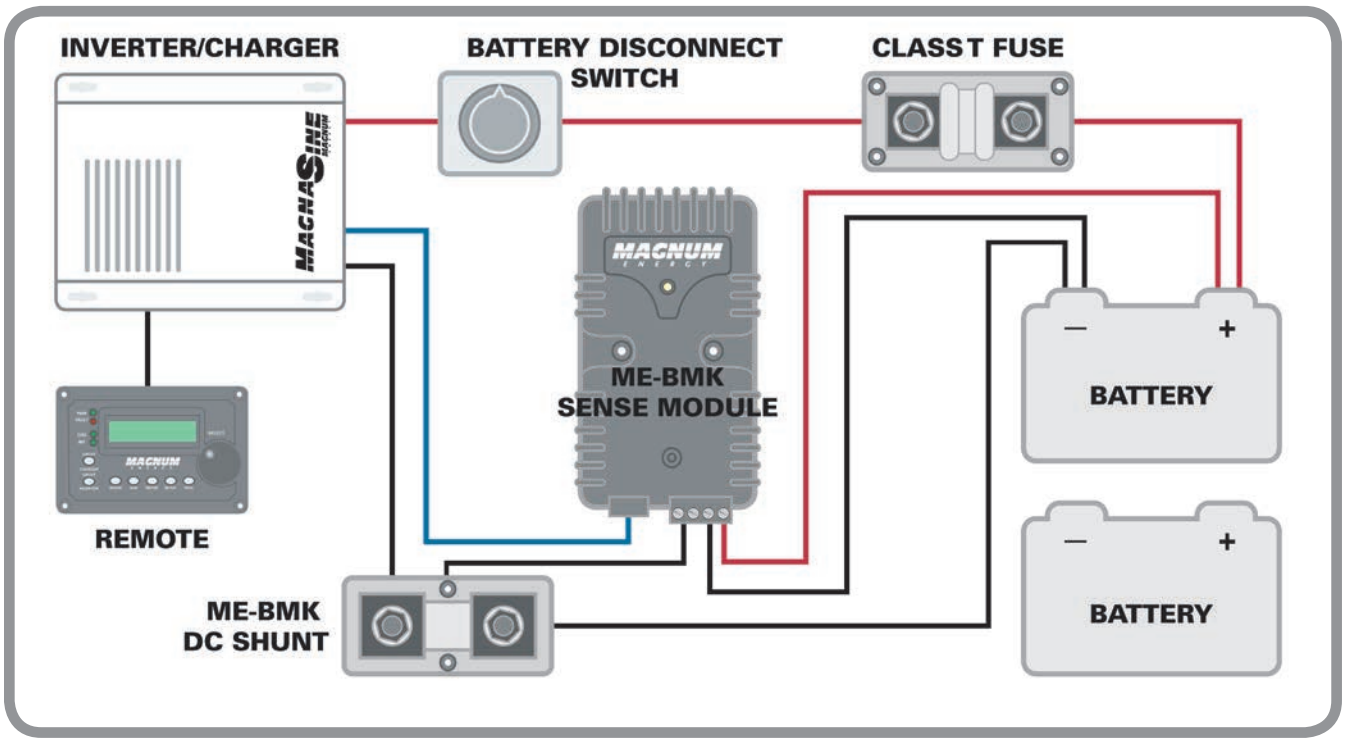
* Requires remote revision 2.0 or higher.

ME-BMK SPECIFICATIONS

DC volts	7 to 70 (±0.5%) auto voltage detection
DC amps	±0.1 to 999 (±1.0%)
Battery SOC %	0 to 100% (1% increments)
Power draw	< .6 watts
Amp hours in/out	±32,768 amp hours (1 AH increments)
rAH out (resettable amp hours removed)	0 to 65,535 amp hours, resettable (0.1 AH increments)
tAH out (total amp hours removed)	0 to 65,535,000 amp hours (0.1 k or 100 AH increments)
Minimum/maximim DC	7 to 70 VDC, resettable
Shipping weight	2 lb (.9 kg)
Kit includes	Manual, sense module, DC shunt, twisted pair wire, and communication cable
Sense wire	Twisted pair –blue & orange, 5' length, 18 AWG wire
Communication cable	4-conductor, 10' twisted pair, telephone standard
Remote requirements	Use with an ME-RC with firmware revision of 2.0 or higher or an ME-ARC (all revisions)
DC SHUNT (NOT INCLUDED WITH THE ME-BMK-NS KIT)	
Resistance	0.1 milliohm (500A at 50mV)
Continuous current	410 amperes maximum
Overload current	Overloads to 500 amps for less than 5 minutes if normally operated at less than 300 amps

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

ME-BMK BASIC CONFIGURATION DIAGRAM



AUTOMATIC GENERATOR START MODULE (AGS)

Model Numbers
ME-AGS-S • ME-AGS-N

Works With

The ME-AGS-S does not require an inverter/charger.

Available Accessories

- ME-PT1
- ME-PT2

Please call and ask about our PT-1 and PT-2 pigtails for starting on demand applications.

Imagine being able to enjoy a day away all-the-while knowing your living space will stay cool and comfortable and your batteries will stay charged and ready for all of the activities that make up daily life. There's nothing better than returning to a nice, cool, comfortable home with charged batteries after a day away. The Magnum Energy brand Auto Gen Start (AGS) from Sensata Technologies can make this happen.

The Magnum Energy brand AGS is compatible with most major generators, including Onan, Powertech, Generac, Westerbeke, Kohler, EPS, Northern Lights, and most portable generators with electric start. Please check with your Sensata Technologies dealer for specific model compatibility.

Automatically start your generator:
The AGS is designed to automatically start your generator based on low battery condition or the inside room temperature.

Adjust the AGS to meet your needs:
With the ME-AGS-N you can set multiple parameters for starting and stopping the generator. Using the ME-RC, the ME-AGS-N has basic adjustments starting on battery voltage or temperature. When using the ME-ARC, the ME-AGS-N has advanced start and stop features, including battery voltage, time of day, AC amps, exercise time, and SOC.

Manual start and stop:
Auto Gen Start settings do not interfere with the manual start/stop operation of the generator. Just use any existing start/stop switch for your generator.

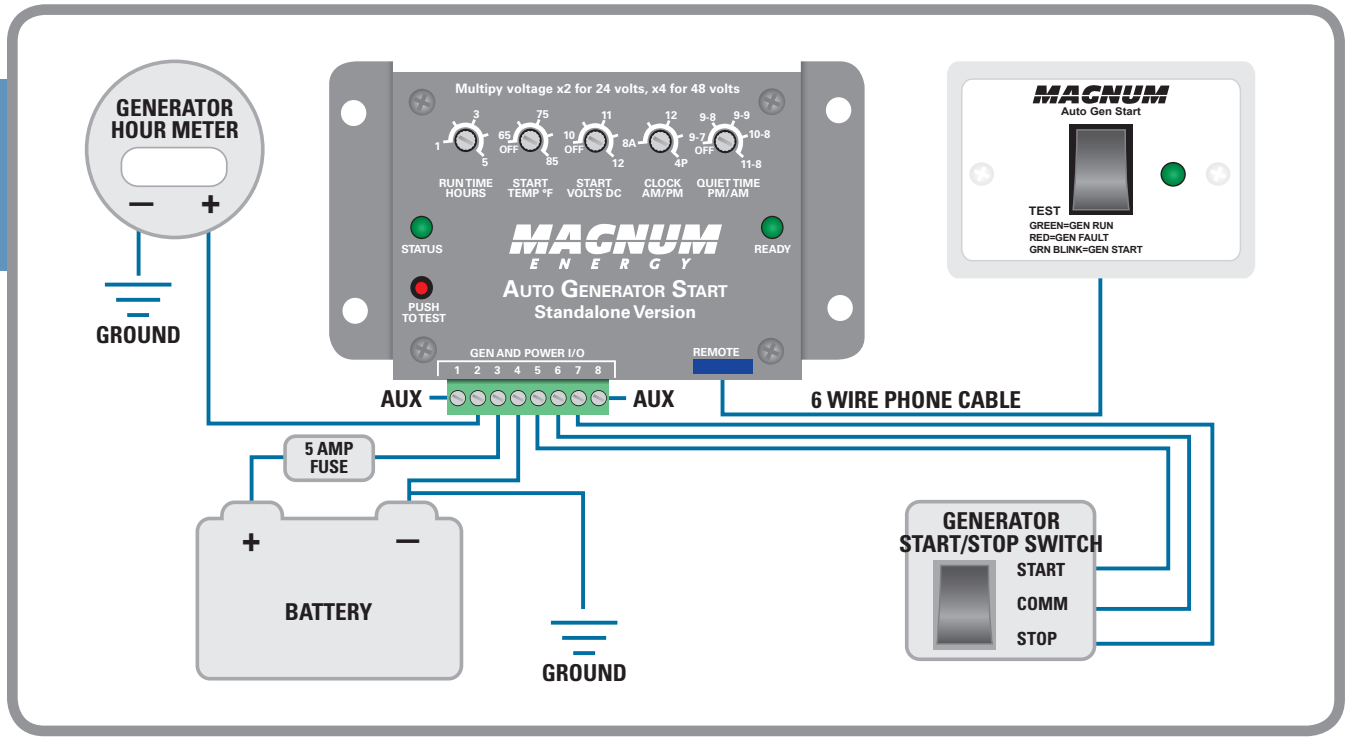
Two models are available:
The stand alone version of the AGS (ME-AGS-S) works well for installation and operation without an inverter. The network version of the AGS (ME-AGS-N) allows operation of the AGS via the ME-RC50 remote panel.

- **ME-AGS-N kit includes:**
  AGS module (3 relay), 10' network cable, and a 60' remote temperature sensor cable.
- **ME-AGS-S kit includes:**
  AGS module (3 relay), Remote on/off/test switch, switch bezel, a 25' 6-wire cable, and has basic adjustments starting on battery voltage or temperature.

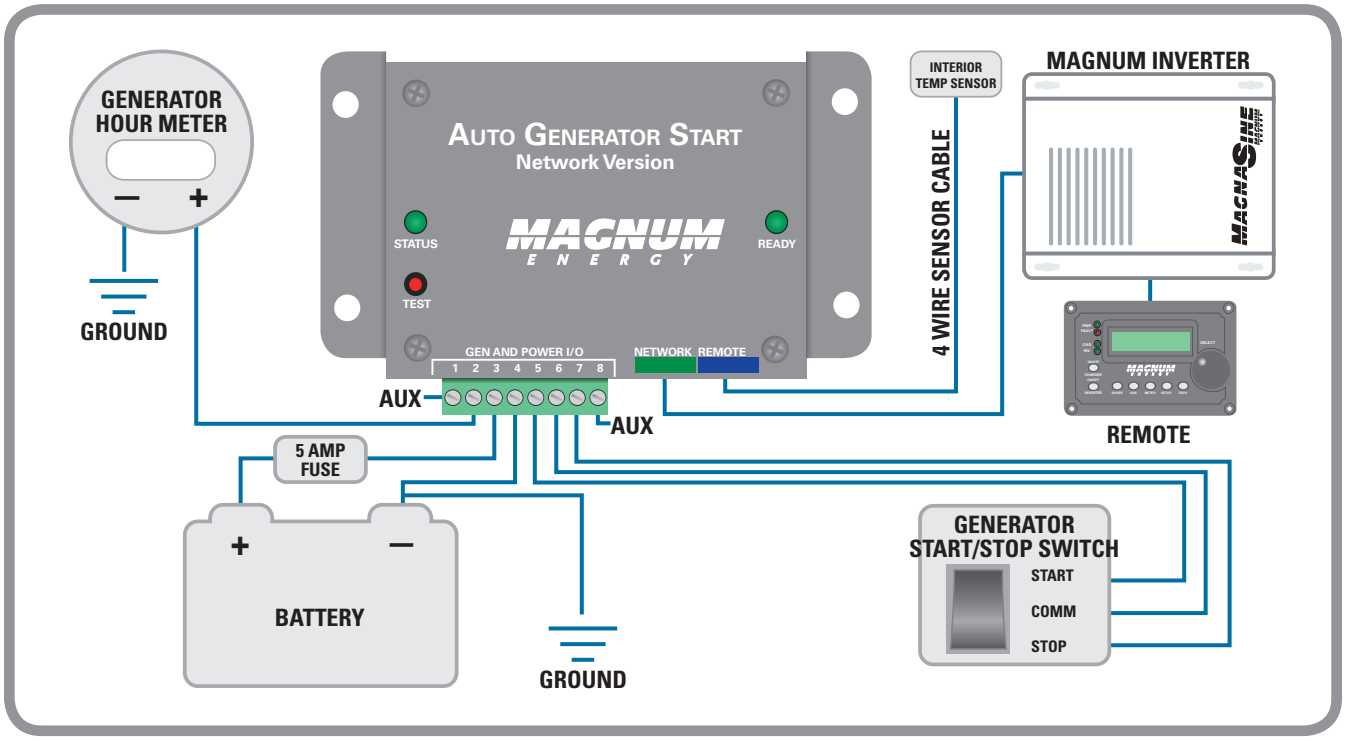
ME-AGS-N FEATURES*

- All settings are adjustable from the ME-RC and ME-ARC remotes.
- Auto start is locked out when utility power is present.
- Portable generator mode.

AGS WIRING DIAGRAM FOR STAND ALONE SYSTEMS (ME-AGS-S)



AGS WIRING DIAGRAM FOR NETWORKED SYSTEMS (ME-AGS-N)



* AGS-N features require Remote rev 1.6 and AGS rev 5.0 or higher.

CONDUIT BOX

Model Numbers
- ME-CB

Works With

PAGE

ME Series 14

MS Series 10

MSH-M Series 6

The ME-CB conduit box is designed to work with Magnum ME, MS, MS-AE, MS-PAE, and RD Series Inverter / chargers. It provides an enclosure for AC and/or DC wiring and has knockouts for ½", ¾", 1", and 2" trade-size conduit. The ME-CB adds just over 5" (13 cm) to the length of the inverter.

DC LOAD DISCONNECT

Model Numbers
- ME-DCLD
- MM-DCLD

Works With

PAGE

ME-DCLD

ME Series 14

MS Series 10

MSH-M Series 6

MM-DCLD

MM Series 16

MMS Series 12

The DC Load Disconnect is a pigtail adapter designed to automatically turn off the inverter via a 12 volt DC disconnect switch.

REMOTE SWITCH ADAPTER

Model Numbers
- ME-RSA (use SPST switch)
- ME-RSA-M (use momentary switch)

Works With

PAGE

ME Series 14

MS Series 10

MSH-M Series 6

The Remote Switch Adapter is a pigtail adapter designed to provide a simple on/off remote switch.

FUSE BLOCKS

Model Numbers

- ME-125F
- ME-200F
- ME-300F
- ME-400F

Works With

PAGE

ME-125F and ME-200F only

MM Series 16

MMS Series 12

ME-300F and ME-400F only

ME Series 14

MS Series 10

MSH-M Series 6

Protection against costly damage: The ME-125F, ME-200F, ME-300F, and ME-400F protect the battery bank, inverter, and cables from damage caused by short circuits and overloads.

Complete kit in one package: Magnum Energy brand fuses include a Slow-Blow high current fuse, a mounting block, and protective cover.

Fuse Selection

CONDUCTOR GAUGE	CURRENT CAPACITY	RECOMMENDED FUSE RATING
4 AWG	125	125
1/0 AWG	200	200
2/0 AWG	290	300
3/0 AWG	310	300
4/0 AWG	360	400

IGNITION SWITCH LOCKOUT

Model Numbers

- ME-ISW
- ME-ISA - Ignition Switch Adapter allows the inverter to be turned on/off with a 12 volt signal
- ME-ISW

Works With

PAGE

ME-ISW | ME-ISA

ME Series 14

MS Series 10

MSH-M Series 6

MM-ISA

MM Series 16

MMS Series 12

The Ignition Switch Lockout is a pigtail adapter designed to automatically turn off the inverter via a vehicle ignition switch.

THE MAGWEB: WEB MONITORING KIT

Model Numbers

ME-MW-W (WIRELESS) • ME-MW-E (ETHERNET)

Works With

Web-Based Monitoring

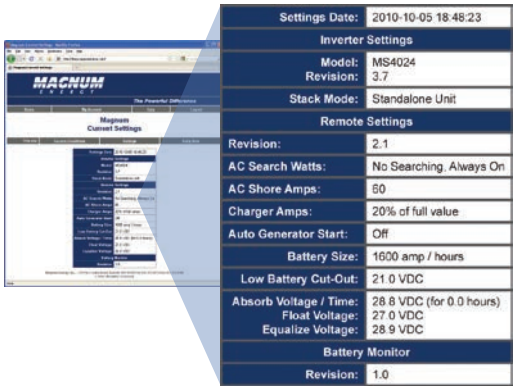
- Inverter/Charger
  - Status
  - Program Settings
  - Faults
  - DC volts, DC amps
  - Invert, Charge LEDs
- Tech menus
- Battery Monitor status
- Auto Gen Start (AGS) status

The MagWeb is a powerful and cost effective tool for remotely monitoring Sensata Technologies inverters and accessories. Installed on the Magnum network, the MagWeb provides live Internet monitoring of the inverter, battery monitor, and automatic generator start module.

DATA SAMPLES

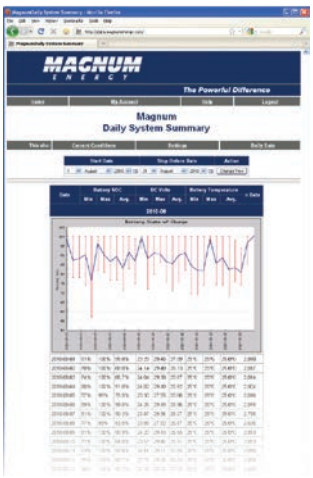
The MagWeb constantly streams data to your personal web pages, providing details on Current Conditions, Current Settings, and Daily Summaries for historical records. The samples below provide snapshots of the standard web pages.

Current Settings

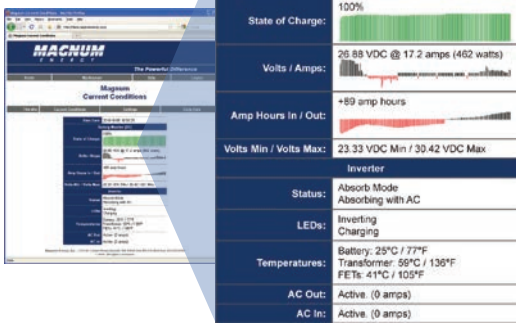


Settings Date:	2010-10-05 18:48:23
Inverter Settings	
Model:	MS4024
Revision:	3.7
Stack Mode:	Standalone Unit
Remote Settings	
Revision:	2.1
AC Search Watts:	No Searching, Always On
AC Shore Amps:	60
Charger Amps:	20% of full value
Auto Generator Start:	Off
Battery Size:	1600 amp / hours
Low Battery Cut-Out:	21.0 VDC
Absorb Voltage / Time:	28.8 VDC (for 0.0 hours)
Float Voltage:	27.0 VDC
Equalize Voltage:	28.9 VDC
Battery Monitor	
Revision:	1.0

Daily System Summary



Current Conditions



Date:	2010-10-05 18:50:25
Battery Monitor (DC)	
State of Charge:	100%
Volts / Amps:	26.88 VDC @ 17.2 amps (462 watts)
Amp Hours In / Out:	+89 amp hours
Volts Min / Volts Max:	23.33 VDC Min / 30.42 VDC Max
Inverter	
Status:	Absorb Mode Absorbing with AC
LEDs:	Inverting Charging
Temperatures:	Battery: 25°C / 77°F Transformer: 56°C / 136°F FETs: 41°C / 105°F
AC Out:	Active. (0 amps)
AC In:	Active. (0 amps)

MAGWEB SPECIFICATIONS

ME-MW-W / ME-MW-E	
SAMPLE RATE	
Fixed 30 second sample interval	
2,800 measurements per day	
COMMUNICATION – 802.15.4 XBEE WIRELESS	
US version	2.4 GHz, 63 mW (+18 dBm) 300' indoor range, up to one mile line of sight outdoor range
International version	2.4 GHz, 10 mW (+10 dBm) 200' indoor range, up to 2,500' line of sight outdoor range; special order only
Low power version	2.4 GHz, 1 mW (+0 dBm) 100' indoor range, up to 300' line of sight outdoor range; special order only
Direct Sequence Spread Spectrum (DSSS)	
RP-SMA connector and included rubber duck antenna	
Requires 802.15.4 XBee to Ethernet wireless gateay	
Wireless agency approvals	United States (FCC Part 15.247) Industry Canada (IC) Europe Japan Australia
POWER DRAW	
MagWeb	< 0.1 watts average from Magnum bus
Wireless Gateway	< 4 watts average from 120 VAC
MATERIALS	
MagWeb case	ABS plastic, flame retardant, UL94V-0
Wireless Gateway case	Anodized aluminum
All parts are RoHS compliant, no lead used in manufacture	
Physical Specifications	
Shipping weight	3 lb (1.36 kg)
KIT INCLUDES	
MagWeb 802.15.4	Manual Communications cable (2-conductor, 10' twisted pair, telephone standard) Mounting screws Antenna
Wireless 802.15.4 Gateway	Antenna Ethernet cable, 10' AC adapter (Energy Star, North American plug)
REMOTE REQUIREMENTS	
ME-RC or ME-ARC required when monitoring device(s) other than inverter	

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

REMOTE - ME-ARC

Model Numbers

- ME-ARC50
  Includes ME-RC-BZ bezel

Works With

	PAGE
ME Series	14
MS Series	10
MSH-M Series	6

This advanced feature remote offers the same simple push button operation of the ME-RC with advanced features and setup menus. The ME-ARC features a **Favs** button for storing up to five of your favorite setup menus, a **Control** button for fast easy control of the inverter, charger, and generator, meter button with AC and DC meters, advanced setup menus, and advanced tech menus.

Easy-to-read: The large LCD screen and at-a-glance LEDs display the inverter/charger status in a straight-forward way. Soft keys give simple access to menus and a rotary encoder knob makes it easy to quickly scroll through menus and select settings.

Non-volatile memory: Critical settings are saved even if the power is disconnected.

No cross platform confusion: The ME-ARC remote is the same remote used on all Magnum Energy brand Inverter/Charger models in the ME, MS, MS-PAE, RD, MM, and MMS lines.

A standard 50’ 4-wire, twisted pair cable allows for plenty of room to display the Remote with ease.

REMOTE - ME-RC

Model Numbers

- ME-RC50

Works With

	PAGE
ME Series	14
MS Series	10
MSH-M Series	6

Available Accessories

	PAGE
Remote Bezel	30

The ME-RC is designed to be simple to use while offering multiple functions in one place.

Comes with a standard 50’ 4-wire, twisted pair cable.

REMOTE BEZEL - ME-RC-BZ

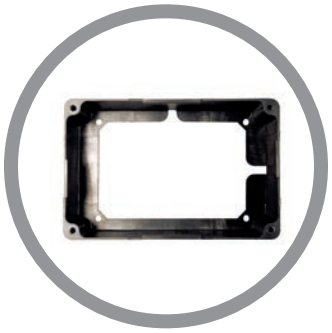
Model Numbers

- ME-RC-BZ

Works With

	PAGE
ME-RC	30

Mounting bezel for the ME-RC remote, allowing the ME-RC to be surface mounted.



REMOTES - MM-R & MM-RC

Model Numbers

- MM-R25
- MM-RC25

The low-cost, easy-to-read MM-R and MM-RC Remotes are designed to work with the MM and MMS Series Inverters and Inverter/Chargers.

Works With

PAGE

ME Series 14

MM Series 16

MMS Series 12

FEATURES	
LEDs	Three LEDs: Invert, AC In, and Fault Modes Six LEDs: Invert, AC In, Fault Modes, Bulk, Absorb, and Float On/Off: Turns inverter or charger on or off and defeats "search" mode
Mounting	Includes bezel for suface mount or flush mount
Included with the Remote	25' phone cable

REMOTE SWITCH - CSW-RS

Model Numbers

- CSW-RS

Use the CSW-RS remote switch for even easier on/off access away from the ME-CSW inverter. The CSW-RS comes with a 20' cable.

Works With

PAGE

CSW Series 18

CMW Series 20

TRANSFER SWITCH

Model Numbers

- CSW-TS15

Use the optional 15 amp CSW-TS15 transfer switch to automatically switch AC load connections between utility/generator power and the AC output of the ME-CSW Inverter.

Works With

PAGE

CSW Series 18

CMW Series 20

SMART BATTERY COMBINER (ME-SBC)

Model Number
ME-SBC

Works With
The ME-SBC is a stand-alone unit and works with all Magnum inverter/chargers.

The Magnum Energy Smart Battery Combiner (ME-SBC) from Sensata Technologies is an easy-to-use stand alone battery combiner and isolator for 12 and 24 VDC systems. Apply a single charging source to the main battery bank and the ME-SBC charges a second battery bank using a portion of the current. With adjustable voltage ranges, including automatic on/off setpoints, the ME-SBC prevents under- or over-charging.

THE FRONT PANEL INCLUDES

- LED indicators showing status and operation.
- Three adjustable voltage dials to set the “Connect Voltage”, “Low V Disconnect”, and “High V Disconnect.”
- An oversized power terminal block allowing for easy wire connections even if the wires are large.
- An accessories terminal block to add a solenoid or a separate voltage sense line.
- A reset switch.

FEATURES

- Voltage auto-detect feature recognizing 12 or 24 VDC.
- Transfers up to 25 amps.
- Solenoid drive for requirements greater than 25 amps.
- Over-temperature and over-current shutdown.
- Adjustable voltage settings with a wide range allows for charging flexibility.
- Bi-directional charging.
- Reverse polarity protection.
- Sense lead for long-run applications.

ME-SBC SPECIFICATIONS

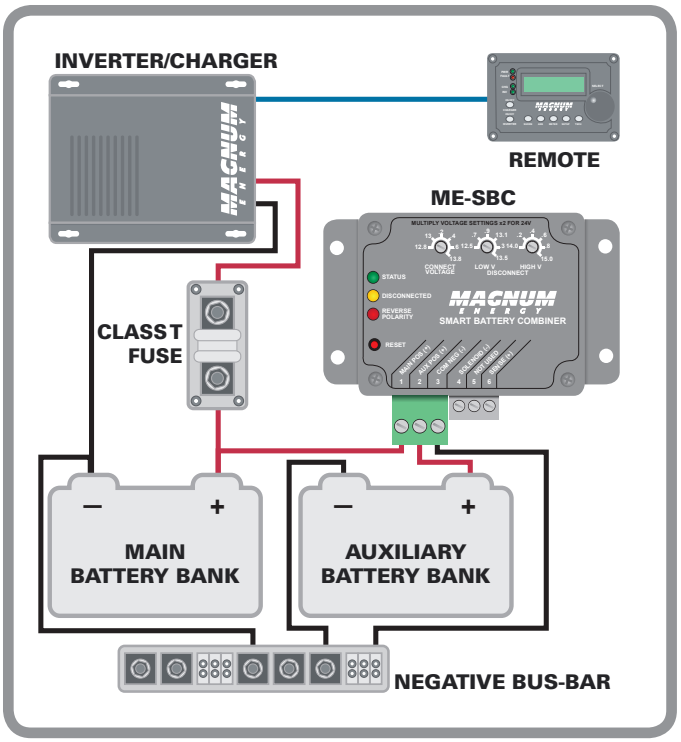
	ME-SBC
DC volts	12 or 24 VDC nominal
DC amps	25 amps continuous
Maximum VDC	40 volts peak
Average operating tare loss	~150 mW
Maximum operating tare loss	< 220 mW
Non-operating tare loss	< 50 mW
Operating range	0 - 32 VDC
Shipping weight	2 lbs (0.9 kg)
Shipping dimensions (l x w x h)	6" x 9" x 2.5" (15.2 x 22.9 x 6.4 cm)
Unit dimensions (l x w x h)	4.2" x 5.4" x 1.4" (10.7 x 13.7 x 3.6 cm)
Maximum operating temperature	-40° F to +185° F (-40° C to + 85° C)
Maximum storage temperature	-40° F to +194° F (-40° C to + 90° C)

Testing for specifications at 25° C

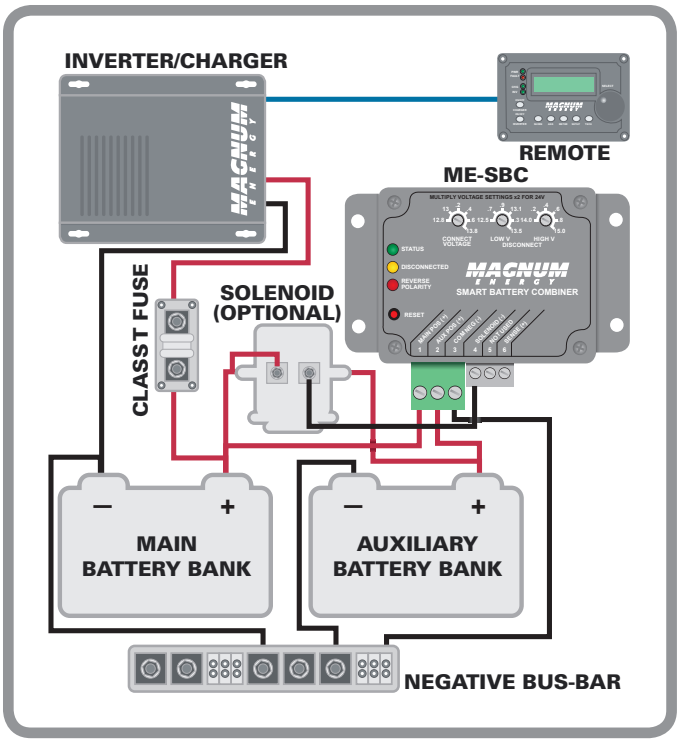
Specifications subject to change without notice.

ME-SBC BASIC CONFIGURATION DIAGRAMS

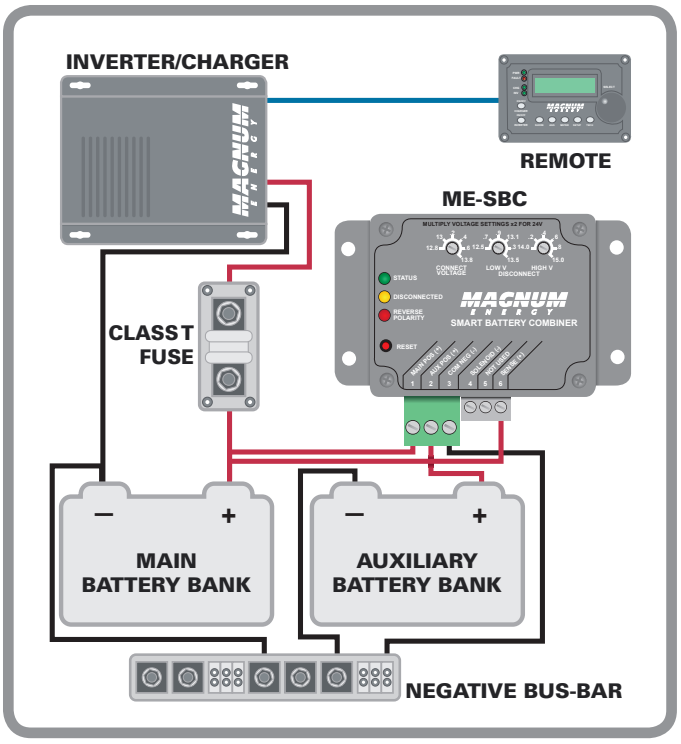
25 AMP COMBINER MODE



SOLENOID DRIVE



REMOTE VOLTAGE SENSE



ACCESSORIES

MAGNUM ENERGY

RENEWABLE ENERGY PRODUCT & PARTS CATALOG

Sensata Technologies

The World Depends on Sensors and Controls

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

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.

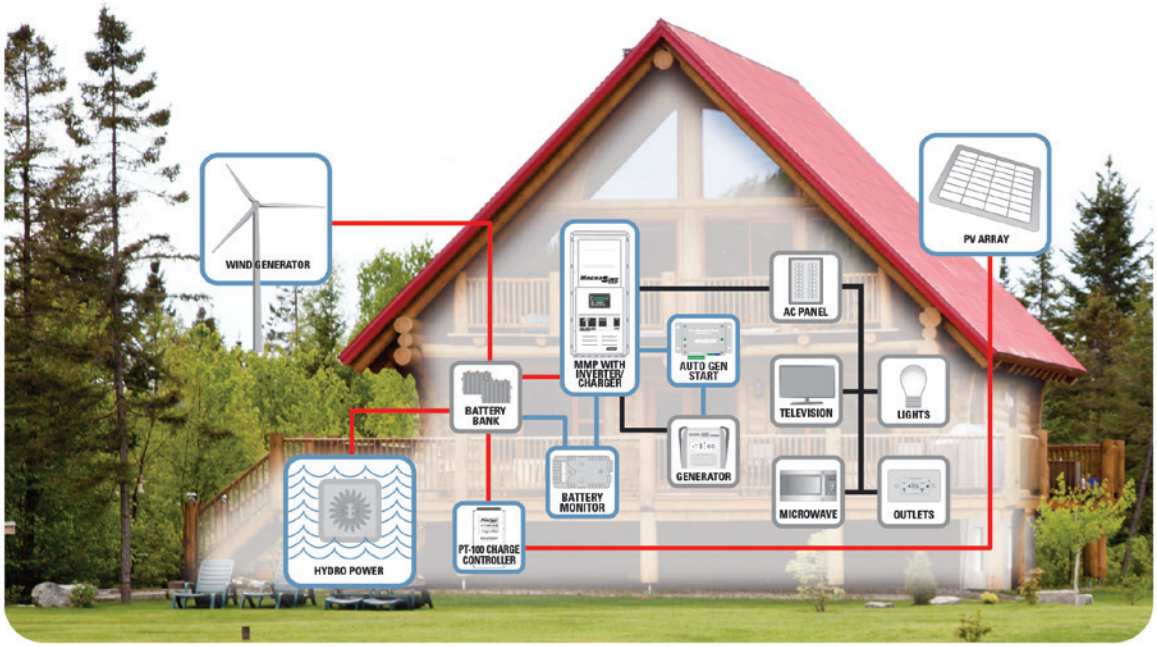
Manufactured in Everett, Washington, and St. Paul, Minnesota, and shipped worldwide, our products use the highest quality components to respond to the extreme conditions of variable climates. Our dedicated staff of engineering, manufacturing, and customer service professionals work closely with customers 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.

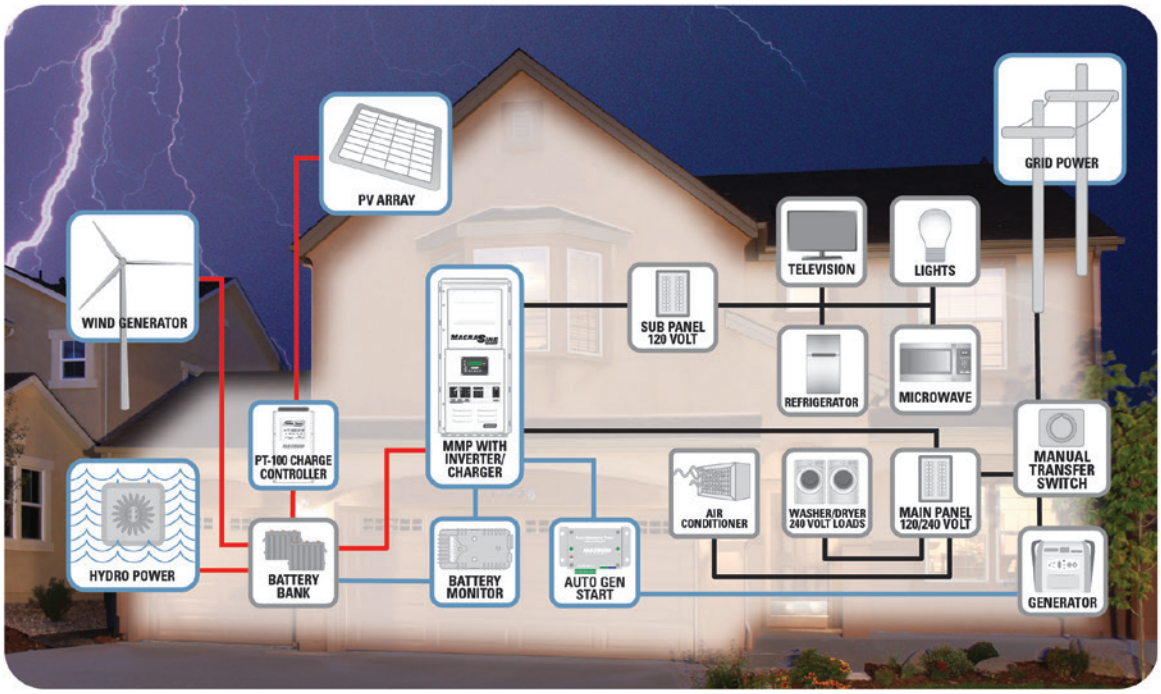
RENEWABLE ENERGY & MAGNUM ENERGY BRAND PRODUCTS

For reliable power regardless of grid connectivity, Magnum Energy brand inverter/chargers, interconnection system equipment, and accessories are a solid base to build a back-up or off-grid power system. With models available in 12, 24, and 48-volt configurations and power output from 600 W to 4400 W, and systems up to 17.6 kW you'll be sure to find the components right for your situation.

OFF-GRID POWER DIAGRAM



BACK-UP POWER DIAGRAM



MAGNUM ENERGY BRAND INVERTER AND INVERTER/CHARGER FEATURES

SAFE AND RELIABLE

Our inverter/chargers are listed to the stringent requirements of UL and CSA.

MODIFIED SINE WAVE OR PURE SINE WAVE

Most Magnum Energy brand series inverters provide pure sine wave power. Run your TVs, stereos, tool battery chargers, computers, and other sensitive electronics without worry. Our pure sine wave inverter chargers provide clean, reliable power with low total harmonic distortion (THD) of less than 5%.

For an even more cost effective choice, Magnum Energy brand also provides modified sine wave inverters. These units will provide power that will efficiently run 90% of the electronics on the market.

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.

CHOICES

Magnum Energy brand inverters come in multiple power models and 12, 24, and 48 volt configurations, allowing you to choose the model that is right for you. And we provide inverters in multiple chassis configurations to fit in various space allotments.

LIGHTWEIGHT

Most Magnum Energy brand inverter/chargers are 20% lighter than comparable models. The lightweight aluminum base and cover provides noise reduction and corrosion resistance. These lighter weight models are also designed to be overnight shippable if necessary.

ACCESSIBLE DESIGN

Extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make inverters more accessible when needed.

DUAL INPUTS

Some of our models allow 60 amp service from a single source to take advantage of the balanced power of a 120/240 volt generator. Other models accept two separate 120 VAC sources.

BUY WITH EASE

All inverter/chargers are backed by a three-year (36-month) or two-year (24-month) limited warranty. Purchase and install Magnum Energy inverters with a Magnum Panel enclosure and the warranty extends to five years on all parts.

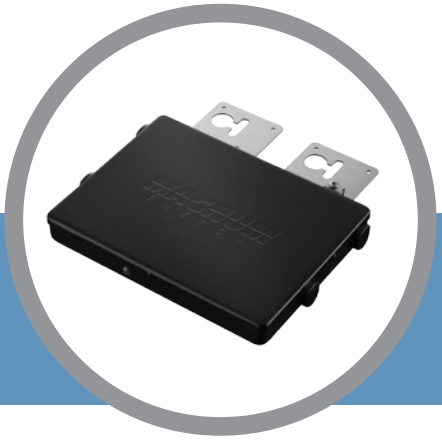
ACCESSORIES TO CUSTOMIZE SYSTEMS

Available accessories include remote controls, AGS modules, a battery monitor kit, DC fuses, series stacking cable kits, and the Smart Battery Combiner (SBC). And our accessories line utilizes a more consistent design from one product to another. Our easy-to-use remote for your boat, truck, or RV is compatible with all Magnum Energy brand inverter/charger models.

FIELD REPAIRABLE

You probably won't have any problems with a Magnum Energy brand product. Our units can be field repaired, saving you time and money if your unit ever needs service.

MICROGT 500 INVERTER



Grid-Tie Microinverter Ideal for use with Battery Backup Systems
AVAILABLE SOON

Sensata Technologies is excited to introduce the Magnum Energy brand **MicroGT 500 Inverter.** Optimized to communicate with a Magnum battery-based system, allowing the addition of battery storage, the MicroGT 500 offers a lot in a little box.

FEATURES

- Supports two modules per inverter, reducing installation labor time.
- Handles up to 310W modules with negligible clipping, delivering 250W AC per module.
- Individual MPPT for each module.
- Module-level electronics mitigates shading issues and increases system output and reliability.
- Using seven MicroGT 500 inverters, string up to 14 solar modules with a 20A breaker.
- Ready for install in your area: UL1741 and NEC690.12 compliant.
- Storage-ready: Optimized to regulate AC coupled Magnum battery-based inverters, increasing battery life.

AVAILABLE ACCESSORIES

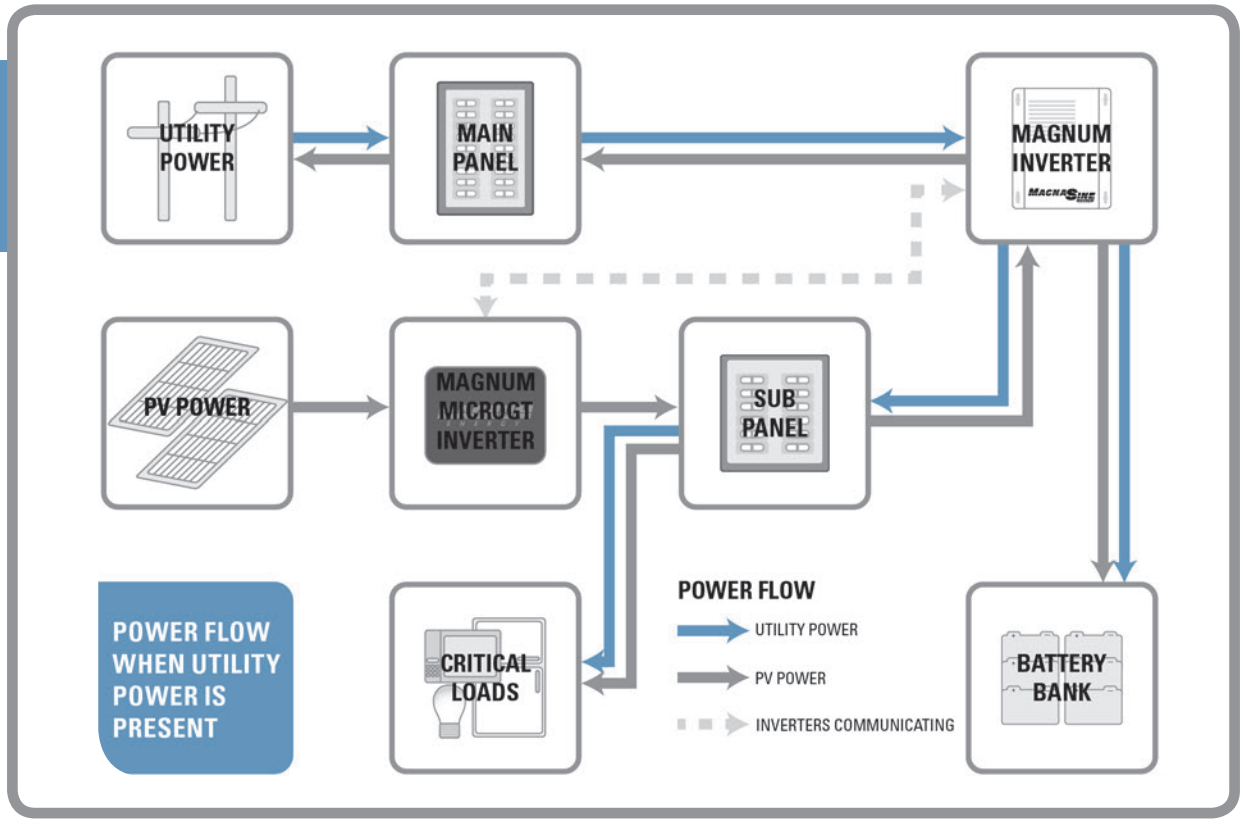
- **MagWeb GT:** Integrated dash board shows real-time output of the MicroGT output and MS-PAE Inverter/Charger output, ME-BMK, and Magnum remote output of the battery state-of-charge
- AC termination cable
- AC extension connection cable
- Interconnection cable between inverter and MagWeb GT

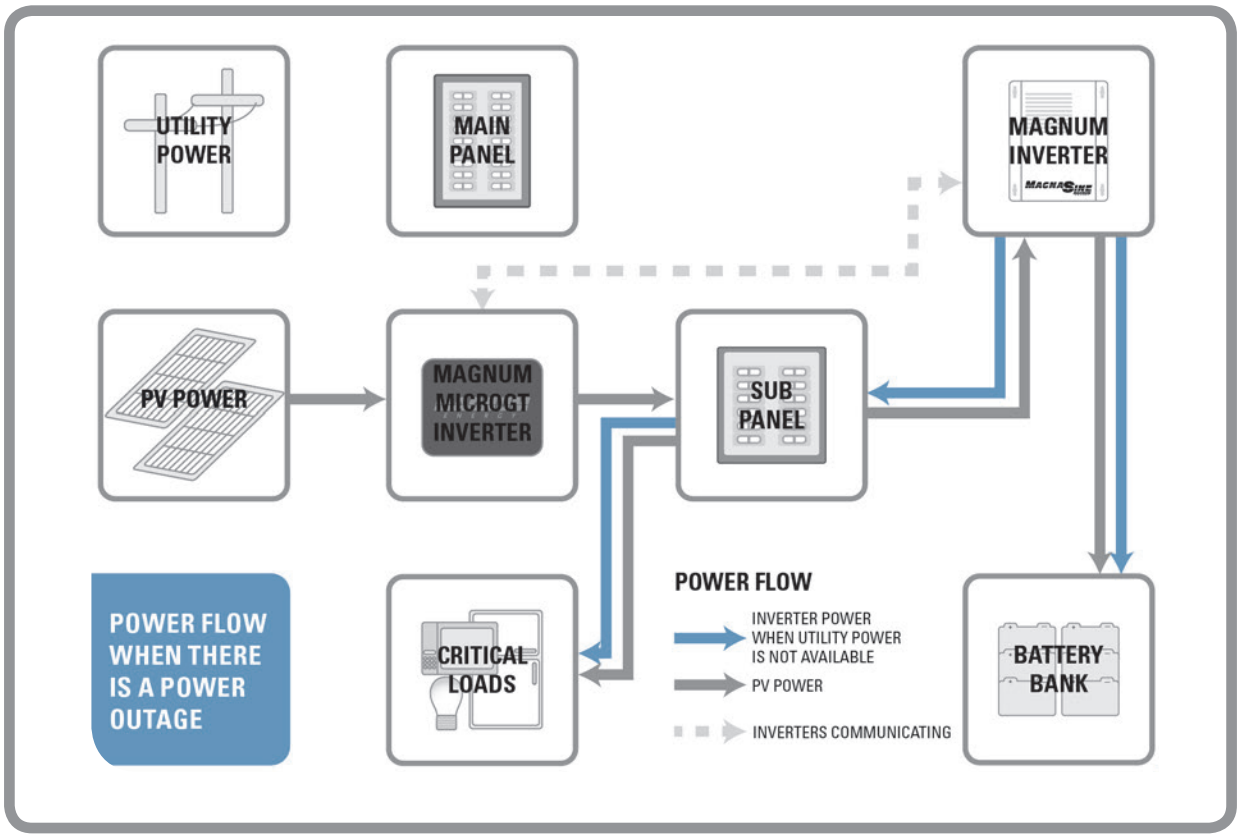
MICROGT 500 INVERTER SPECIFICATIONS

INPUT	
Recommended PV Module Power RangePower	180-310W
MPPT Voltage Range	22-45V
Maximum Input Voltage	55V
Maximum Input Current	12A X 2
OUTPUT DATA	
Rated Output Power	500W
Maximum Output Current	2.08A @ 240V
Nominal Output Voltage/Range - 240V	240V/211V-264V
Nominal Output Frequency/Range	60Hz/ 59.3-60.5Hz (Programmable per customer and utility requirements.)
Power Factor	>0.99
Total Harmonic Distortion	<3%
Maximum Units Per Branch	7 per 20A @ 240V
GENERAL SPECIFICATIONS	
Peak Efficiency	95.5%
Listings & Compliance	Emissions & Immunity (EMC) Compliance FCC PART 15, ANSI C63.4 2003, ICES-003 Safety Class Compliance Grid Connection Compliance IEEE 1547 UL 1741 , CSA C22.2, No. 107.1-01, NEC2014 690.12
Warranty	10 years standard, extendable to 25 years
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature / Storage temperature	-40°F to +149°F (-40°C to +65°C) / -40°F to +185°F (-40°C to +85°C)
Enclosure rating	NEMA 6
PHYSICAL SPECIFICATIONS	
Unit dimensions (w x h x d)	8.75" x 6.5" x 1.1" (221mm x 167mm x 29mm)
Weight	5.5 lbs (2.5kg)

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

GRID-TIE WITH BATTERY BACKUP USING THE MICROGT 500 INVERTER





MS-PAE 120/240V SERIES INVERTER / CHARGER

Model Numbers
MS4024PAE • MS4448PAE

Pure Sine Wave

24, 48 Battery Voltage Options

4000-4400 Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  Off-Grid Power
  Backup Power

Available Accessories

The MS-PAE and new MicroGT inverter are designed to work together to provide a seamless grid-tie with battery backup system.

Extended Warranty
- Three-year warranty standard.
- Five-year warranty if purchased with and installed on an MP or MMP panel.

The MS-PAE 120/240V Series Inverter / Charger from Sensata Technologies is a pure sine wave inverter designed specifically for the most demanding renewable energy applications. The MS-PAE Series is powerful, easy-to-use, and best of all, cost effective.

No series stacking required: The unique design of the MS-PAE Series can provide 120 and 240 volts output in one unit, eliminating the need to stack two units together to get 240 volts.

Parallel stacking: You can parallel up to four inverter / chargers for up to 17.6kw of power at 120/240V. The MP panels and router (ME-RTR) are required for parallel stacking the MS-PAE Series.

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.

Safe and reliable: The MS-PAE Series is ETL Listed to the stringent requirements of UL 1741, 2nd edition, and CSA C22.2 #107.1-01 for renewable energy installations.

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%.

Choices:
The MS-PAE Series comes in 24 and 48 volt configurations, allowing you to choose the model that is right for you.

Versatile mounting:
Mount the MS-PAE Series on a shelf or wall.

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

Multiple ports:
The MS-PAE Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

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.

Convenient switches:
The MS-PAE Series comes with an on/off inverter-mounted switch with an easy-to-read LED indicator.

Buy with ease:
The MS-PAE Series is backed by a three-year (36-month) limited warranty, and a five-year limited warranty when purchased with and installed on an MMP or MP system.

MS-PAE 120/240V SERIES SPECIFICATIONS

	MS4024PAE	MS4448PAE
INVERTER SPECIFICATIONS		
Input battery voltage range	18 - 34 VDC	36 - 64 VDC
Nominal AC output voltage	120/240 VAC split phase (± 5%)	120/240 VAC split phase (± 5%)
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	Line-Neutral: 120, Line-Line: 70	Line-Neutral: 120, Line-Line: 70
100 msec surge current (amps AC)	Line-Neutral: 72, Line-Line: 40	Line-Neutral: 75, Line-Line: 40
5 sec surge power (real watts)	5800	8500
30 sec surge power (real watts)	5200	6000
5 min surge power (real watts)	4800	5400
30 min surge power (real watts)	4500	4800
Continuous power output at 25° C	4000 VA (L-L)	4400 VA (L-L)
Maximum continuous input current	267 A	147 ADC
Inverter efficiency (peak)	93%	94%
Transfer time	16 msecs	16 msecs
Search mode (typical)	< 6 watts	< 6 watts
No load (120 VAC output, typical)	27 watts	25 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	105 ADC	60 ADC
Charger efficiency	85%	85%
Power factor	> .95	> .95
Input current at rated output (AC amps)	15 AAC per leg at 120/240 VAC split phase	17.5 AAC per leg at 120/240 VAC split phase
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	2 legs at 30A per leg transfer standard on all models	
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™	
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard	
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	
Listings	ETL Listed to ANSI / UL1741, 2nd edition, and CSA STD C22.2 No.107.1-01	
Warranty	Three years parts and labor (five years when installed on MMP or MP system)	
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)	
Mounting	Shelf, wall (no vents on bottom), MP or MMP panels	
Weight	55 lb (24.9 kg)	55 lb (24.9 kg)
Shipping weight	62 lb (28.2 kg)	63 lb (29.6 kg)
Max operating altitude	15,000' (4570 m)	

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

ACLD-40

Model Number
ACLD-40

What is an ACLD – AC Load Diversion Controller?

The ACLD monitors the battery voltage of a backup battery bank, and if the voltage rises to a predetermined level, the ACLD connects a diversion load of sufficient size, to the battery or energy source to prevent the battery voltage from increasing any further. The controller will continue to engage and disengage the load as often as necessary to prevent battery overcharge.

An AC Load Diversion controller is used to divert excess energy to an AC load in an effort to keep the battery bank that is connected to a back-up inverter from being overcharged, when used in an AC Coupled application.

Available For

- Renewable Energy Systems
  Backup Power

Works With

Warranty

- Three-year warranty standard. Five-year warranty if purchased with and installed on an MP or MMP panel.

ACLD-40 Features

- Controls up to 4000 watts of excess power to prevent battery over-charge.
- Works with 24 or 48 volt systems.
- Allows the use of common, resistive AC household loads instead of hard-to-find DC loads to divert excessive current.
- Easy access Inverter and Network ports.
- Standard RS485 MagNet protocol to communicate with Magnum inverters and remotes.
- Can utilize power generated from wind, solar, or hydro systems.
- Provides PWM (Pulse Width Modulation) voltage when powering diversion load to run oad without flicker.

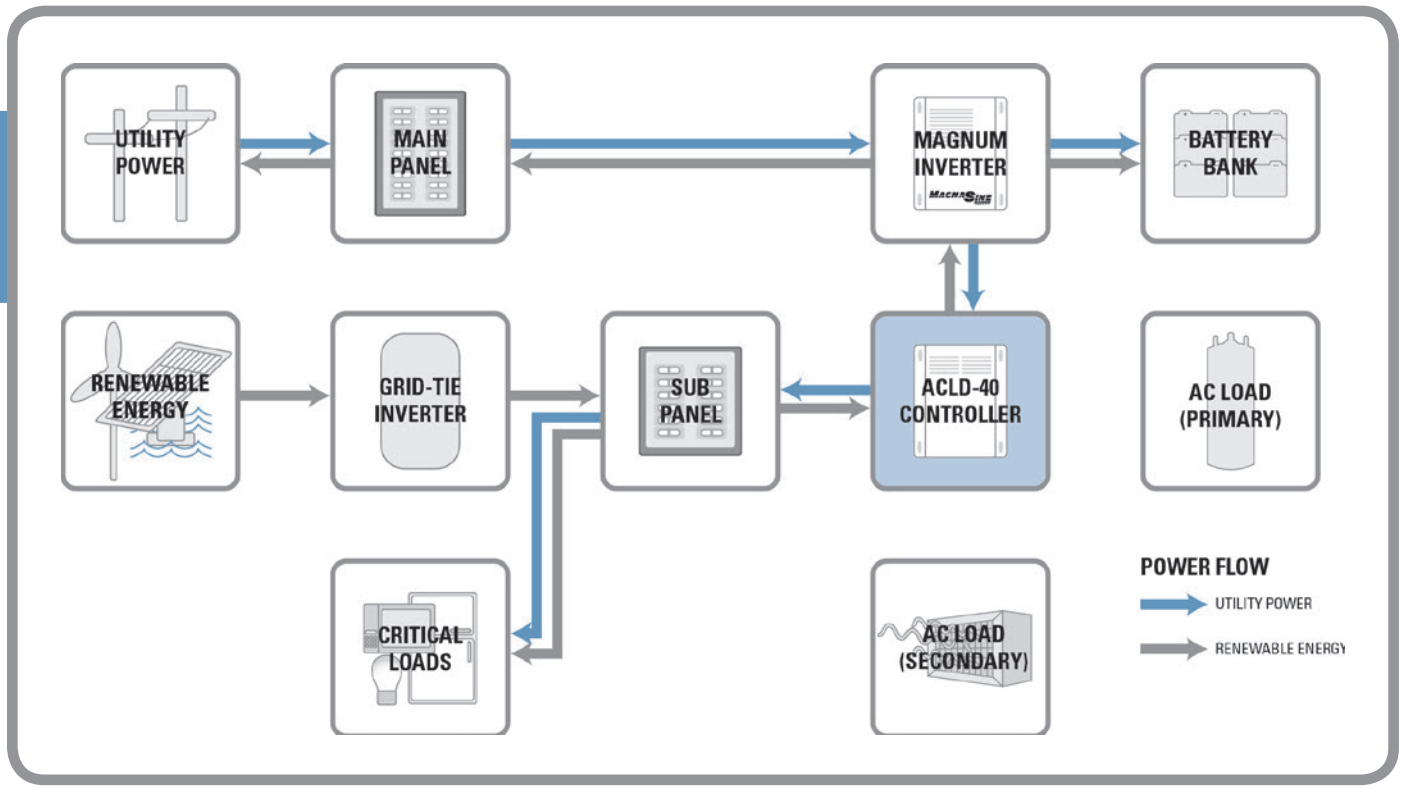
Note: The ACLD-40 must be connected to a MS-PAE Series inverter *and* an external diversion load.

ACLD-40 SPECIFICATIONS

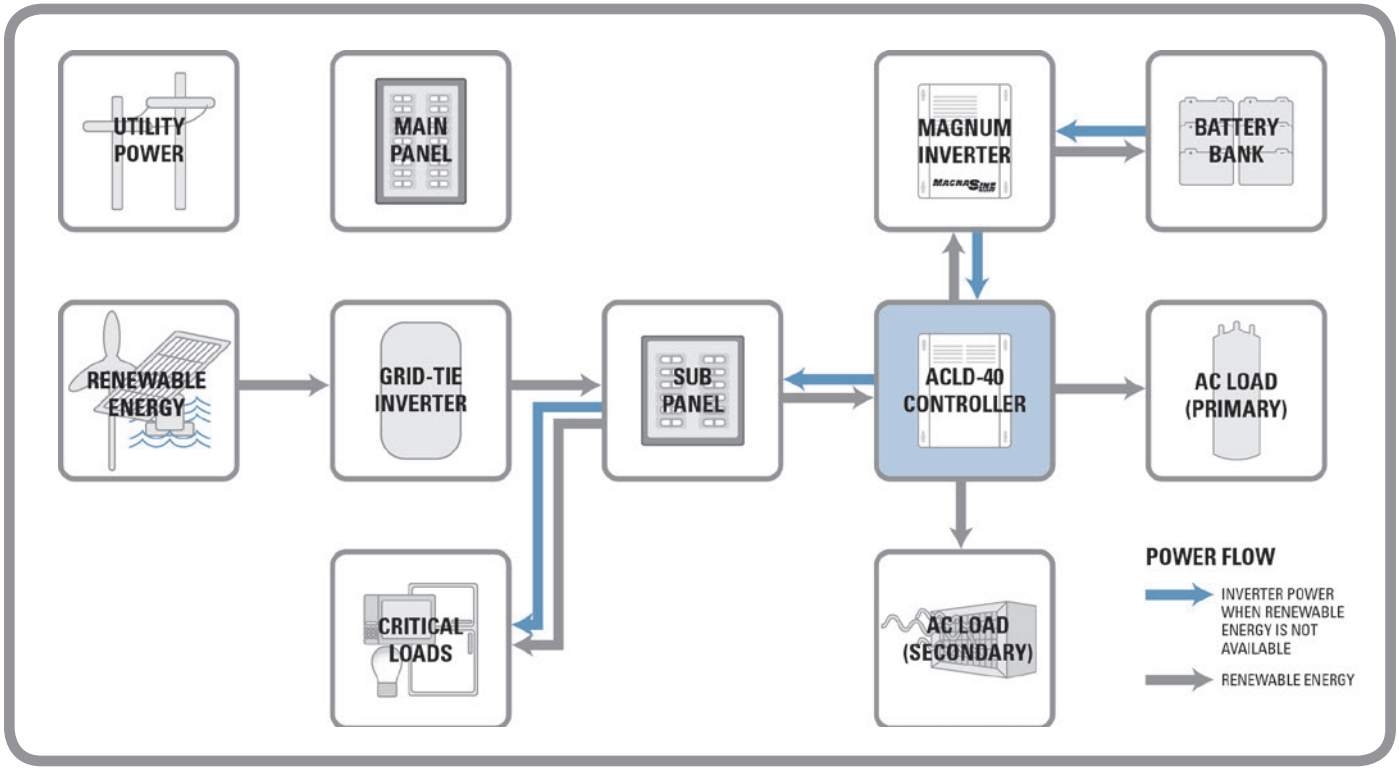
	ACLD-40
ELECTRICAL SPECIFICATIONS	
Frequency	50/60 Hz
Input voltage	240 VAC ± 10%
Output voltage	0 - 240 VDC
Continuous power	4000 VA
GENERAL FEATURES AND CAPABILITIES	
Listings	ETL Listed to UL 1741 - second edition and CSA C22.2 #107.1-01
Warranty	Three years (Five years when purchased with and installed on an MP/MMP system)
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	
Unit dimensions (w x h x d)	11.5" x 13.75" x 7" (29.2 cm x 34.9 cm x 17.8 cm)
Shipping dimensions (w x h x d)	17" x 17" x 10" (43.2 cm x 43.2 cm x 25.4 cm)
Mounting	Shelf (top or bottom up) or Wall (vents up)
Weight	20 lb (9.1 kg)
Shipping weight	25 lb (11.3 kg)
Max operating altitude	15,000' (4570 m)

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

ACLD SYSTEM DIAGRAM WHEN UTILITY POWER IS AVAILABLE



ACLD SYSTEM DIAGRAM WHEN UTILITY POWER IS **NOT** AVAILABLE



Priority of renewable power use:

- Critical loads
- Charging batteries
- Primary AC load diversion
- Secondary AC load diversion

PT-100 CHARGE CONTROLLER

Model Number
PT-100

Available For
- Renewable Energy Systems
  - Off-grid Power
  - Backup Power

Works With

Available Configurations
- Works as a stand-alone controller using internal settings
- Works with a Magnum Energy brand Inverter/Charger and Magnum Energy brand Remote. Menu settings for the PT-100 are currently only available via the ME-ARC Remote.

Available Accessories

The PT-100 is a Maximum Power Point Tracker (MPPT) charge controller designed to harvest the maximum available energy from the PV array and deliver it to the batteries. The PT-100's MPPT algorithm finds the maximum power point of the array and operates at this point while regulating the output current to 100 amps and battery voltage to fully charge the battery.

Features
- **High Efficiency:** The PT-100 provides typical 99% conversion efficiency and uses less than four watts of power in nighttime mode.
- **MPPT:** Maximum Power Point Tracking technology for increased PV power output efficiency.
- **Voltage Options:** Compatible with 12, 24, or 48V battery systems with automatic detection of system voltage. The PT-100 will produce up to 100 amps regardless of battery voltage.
- **Supports a Large PV Array:** A single controller supports a large PV array up to 6600W. Larger PV arrays may be used because the PT-100 is current limited to 100 amps for maximum harvest.
- **Optimal Battery Charging:** Automatic battery temperature compensation using an included external temperature sensor for optimum battery charging, even during extreme temperature changes.
- **Multi-stage Charging:** Maximizes system performance and improves battery life.
- **GFDI:** Integrated PV Ground-Fault Detection and Interruption/Indication, with pre-fault leakage/diagnostic metering.
- **LED Indicators and Screen:** Multiple LED indicators and large digital LED screen on front panel for easy-to-read system information.
- **On-site Updates:** The PT-100's software can be updated on site.
- **Extensive Electronic Protection:** Over-temperature protection, power derating when temperature is high, PV short circuit and high PV input shutdown, output overcurrent protection and night-time back-feed (reverse current) protection.
- **AFCI:** An integrated PV Arc-Fault Circuit Interrupter detects, indicates, and extinguishes series arcs.
- **Convenient Installation:** Run all of the wiring to the unique, remain-in-place wiring box with ease prior to installing the full PT-100 unit.
- **Easy MP and MMP integration:** The PT-100 is designed to work with a Magnum Panel (MP) or Mini-Magnum Panel (MMP). It provides room and access to PV and battery disconnect breakers.

Even More Functionality with the Optional Remote
- Built-in programmable auxiliary relay for device control.
- Internal data logging functionality keeps energy harvest information and battery Ahr/Whr data up to 255 days. Use the optional remote to display this information.

PT-100 CHARGE CONTROLLER SPECIFICATIONS

	PT-100
ELECTRICAL SPECIFICATIONS	
Maximum PV input voltage (any condition)	200 VDC + battery voltage or 240 VDC - whichever is lower
Maximum PV operating voltage	187 VDC
Maximum PV array short circuit current	100 ADC
Nominal battery voltage range	12, 24, or 48 VDC
Battery charger output voltage range	10 to 66 VDC
Continuous charger output current	100 ADC (from -20 °C to +40 °C) with proportional power reduction up to 60 °C ambient
Maximum output power	6600 watts
Efficiency	99% typical
Tare loss / nighttime power consumption	<4 watts (fan off, display/LEDs off)
Charger regulation method	Automatic three-stage (bulk, absorption, float) charge with manual equalization
GENERAL FEATURES AND CAPABILITIES	
Battery temperature compensation	With Battery Temperature Sensor (BTS) connected (battery temperature -20 °C to +55 °C)
Internal cooling	Using dual ball-bearing fans for long life
Overcurrent protection	With two overlapping circuits
Over-temperature protection	On transformer and MOSFETS
Listings	ETL Listed to UL/cUL 1741, CSA C22.2 #107.1-01, CE
Warranty	Five 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	
Enclosure type	Indoor, ventilated, with removable powder-coated conduit box
Unit dimensions (w x h x d)	8.5" x 15.5" x 4.0" (21.6 cm x 39.4 cm x 10.2 cm)
Shipping dimensions (w x h x d)	11.5" x 19.5" x 8.125" (29.2 cm x 49.5 cm x 20.6 cm)
Mounting	Mounted on a vertical surface (wall) or installed on MP or MMP enclosure
Weight	13.6 lb (6.2 kg)
Shipping weight	18 lb (8.2 kg)
Max operating altitude	15,000' (4570 m)

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

MMP – MINI MAGNUM PANEL

The MMP shown with inverter (sold separately) and optional remote and backplate.

The MMP – Mini Magnum Panel is an inclusive, easy-to-install panel designed to work with one Magnum MS-PAE, MS, RD Series Inverter/Charger. The Panel can be configured to work with any 24 or 48 volt battery-based inverter/charger.

FEATURES

Small footprint:
Only 12.5” wide x 18” tall x 8” deep.

Money-saving design:
Not only is the MMP less expensive, but it is pre-wired for fast installation, saving labor costs.

Easy access:
Front-mounted breakers and remote (optional).

Choices:
Can be wired for 120 VAC or 120/240 VAC output.

Inclusive:
Works with non-Magnum inverter / chargers (stand-alone parts included).

Listed:
ETL listed to UL1741 and CSA C22.2 107-01.

DC load breakers:
Fits either din rail or back-mount DC load breakers.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MMP250-30D	22” x 15” x 13” (55.9 cm x 38.1 cm x 33 cm)	32 lb (14.5 kg)
MMP250-60S	22” x 15” x 13” (55.9 cm x 38.1 cm x 33 cm)	31 lb (14.1 kg)
MMP175-30D	22” x 15” x 13” (55.9 cm x 38.1 cm x 33 cm)	32 lb (14.5 kg)
MMP175-30D	22” x 15” x 13” (55.9 cm x 38.1 cm x 33 cm)	31 lb (14.1 kg)

INCLUDES

- One DC breaker – 175A or 250A
- One AC system bypass – 30A dual pole or 60A single pole
- One AC input breaker – 30A dual pole or 60A single pole
- 500A/50mv DC shunt
- DC buss bars for battery positive and negative
- Din rail or back mount for optional DC mini breakers – will hold up to eight breakers
- Inverter hood

The MMP, including Magnum Energy brand products are covered under a five-year warranty when installed and purchased together!

MPSL - MAGNUM PANEL

The MPSL – Magnum Panel, Single Enclosure, Low Power – is designed to accommodate a maximum of two inverters.

The MPSL shown with a single inverter (sold separately) and an optional backplate.

FEATURES

Expandable:
Start with the enclosure and just one inverter and in the future expand to two inverters with ease, using the MPX.

Easy Installation:
All connections are front-mounted, including AC and DC breakers and the MPX extension kit.

Labor Saving:
Panel is pre-wired for fast installation, saving labor costs.

DC Load Breakers:
Fits either din rail or back-mount DC load breakers.

Convenient Knockouts:
Knockouts on the side of the enclosure are compatible with most charge controllers.

The MPSL shown with two inverters (sold separately), an optional MPX extension to accommodate a second inverter, an optional dual backplate, and an optional router.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MPSL175-30D	27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	50 lb (22.7 kg)
MPSL250-30D	27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	50 lb (22.7 kg)
MPSL250-60S	27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	50 lb (22.7 kg)

INCLUDES

- One DC breaker – 175A or 250A
- One 60A AC system bypass
- 500A/50mv DC shunt
- One inverter AC input breaker
- Inverter hood

The MPSL, including Magnum Energy brand products are covered under a five-year warranty when installed and purchased together!

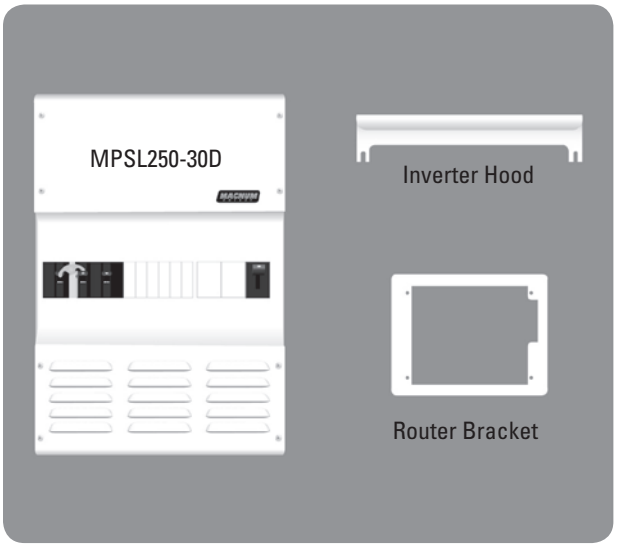
See pages 14-15 for available configurations

MPSL***-30D CONFIGURATIONS

Only MPSL250-30D configurations shown below for clarity.

*** can be either 175 or 250, depending on the inverter model.
See page 20 for information on reading Magnum Panel part numbers.

MPSL250-30D (As Shipped)



MPSL includes:

- 60A AC System Bypass
- 30A AC Inverter Input Breaker
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

MPSL250-30D (As Field Installed)

MPSL includes:

- D60A AC System Bypass
- D30A AC Inverter Input
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

Continuous Power Output at 25 °C:

- 4kVA with one MS4024PAE
- 4.4kVA with one MS4448PAE

Options shown, not included:

- MS-PAE Parallel-stack inverter preferred, but any Magnum MS/RD Series inverter – using 30 amp pass thru – can be used in this one inverter MP configuration. See MMP Series panels for additional single inverter installations.
- BP-S - mounting backplate - single

MPSL250-30D WITH MPXS250-30D-L

(As Field Installed)

MPSL with MPX includes:

- D60A AC System Bypass
- D30A AC Inverter Inputs (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

Options shown, not included:

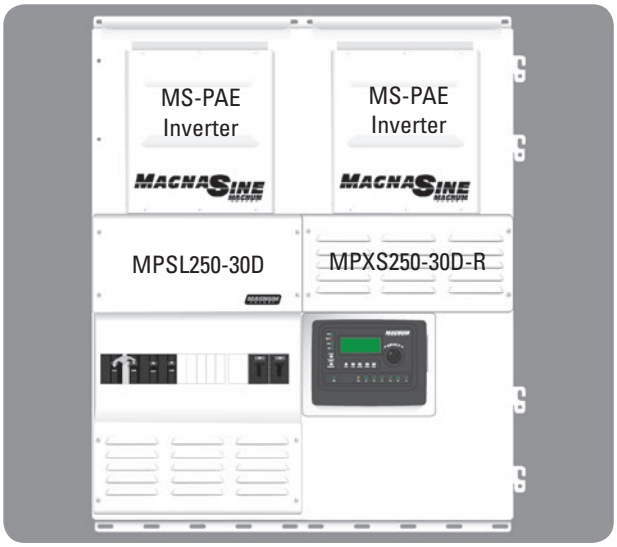
- MS-PAE Parallel-stack inverter (x2)
- ME-RTR Router
- BP-D - mounting backplate - dual

Continuous Power Output at 25 °C:

- 8kVA with two MS4024PAEs
- 8.8kVA with two MS4448PAEs

MPSL250-30D WITH MPXS250-30D-R

(As Field Installed)



MPSL with MPX includes:

- D60A AC System Bypass
- D30A AC Inverter Inputs (x2)
- 175 or 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

Options shown, not included:

- MS-PAE Parallel-stack inverter (x2)
- ME-RTR Router
- BP-D - mounting backplate - dual

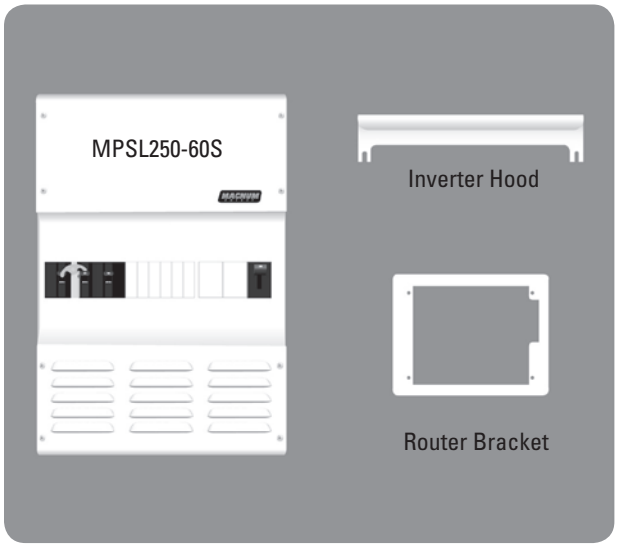
Continuous Power Output at 25 °C:

- 8kVA with two MS4024PAEs
- 8.8kVA with two MS4448PAEs

MPSL250-60S CONFIGURATIONS

The MPSL250-60S is designed for use with the MS4024 with series stacking, or with an MS/RD Series using a 60 amp pass through.

MPSL250-60S (As Shipped)



MPSL includes:

- D60A AC System Bypass
- S60A AC Inverter Input Breaker
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

MPSL250-60S (As Field Installed)

MPSL includes:

- D60A AC System Bypass
- S60A AC Inverter Input
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

Continuous Power Output at 25 °C:

- 4kVA with one MS4024

Options shown, not included:

- MS4024 Series-stack inverter preferred, but any Magnum MS/RD Series inverter – using 60 amp pass thru – can be used in this one inverter MP configuration. See MMP Series panels for additional single inverter installations.
- BP-S - mounting backplate - single

MPSL250-60S WITH MPXS250-60S-L

(As Field Installed)

MPSL with MPX includes:

- D60A AC System Bypass
- S60A AC Inverter Inputs (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket
- Series Stacking Cable

Options shown, not included:

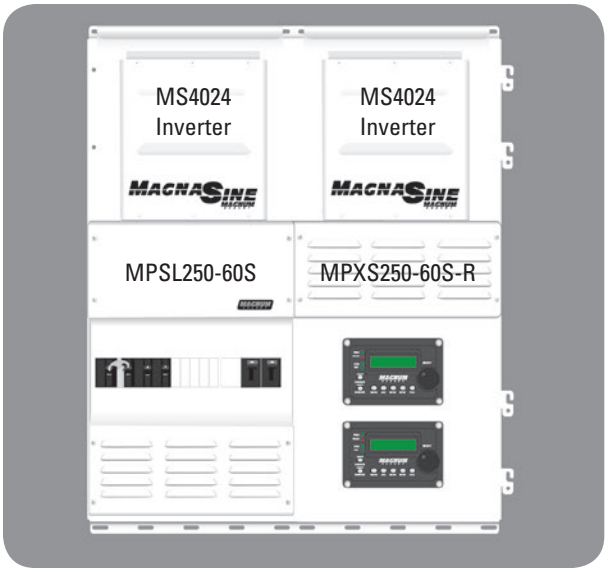
- MS4024 Series-stack inverter (x2)
- ME-ARC Advanced Remotes (x2)
- BP-D - mounting backplate - dual

Continuous Power Output at 25 °C:

- 8kVA with two MS4024s

MPSL250-60S WITH MPXS250-60S-R

(As Field Installed)



MPSL with MPX includes:

- D60A AC System Bypass
- S60A AC Inverter Inputs (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket
- Series Stacking Cable

Options shown, not included:

- MS4024 Series-stack inverter (x2)
- ME-ARC Advanced Remotes (x2)
- BP-D - mounting backplate - dual

Continuous Power Output at 25 °C:

- 8kVA with two MS4024s

MPSH – MAGNUM PANEL

The MPSH shown with three inverters (sold separately), two optional MPX extensions to accommodate the additional inverters, two optional backplates, and an optional router.

The MPSH – Magnum Panel, Single Enclosure, High Power – is designed to accommodate a maximum of three inverters.

FEATURES

More power capacity:
The 125A bypass breaker and the 1000A DC shunt safely handle the power from larger systems.

Expandable:
Start with the enclosure and just one inverter and in the future expand to up to three inverters with ease, using the MPX.

Labor saving:
Panel is pre-wired for fast installation, saving labor costs.

Easy installation:
All connections are front-mounted, including AC and DC breakers and the MPX.

Convenient knockouts:
Knockouts on the side of the enclosure are compatible with charge controllers.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MPSH175-30D	27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	53 lb (24.1 kg)
MPSH250-30D	27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	53 lb (24.1 kg)

INCLUDES

- One DC breaker – 175A or 250A
- One 125A AC system bypass
- 1000A/100mv DC shunt
- One inverter AC input breaker
- Inverter hood

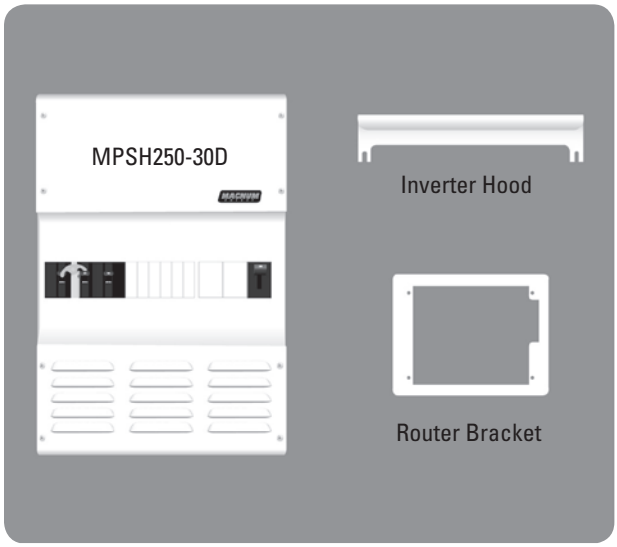
The MP, including Magnum Energy brand products are covered undera five-year warranty when installed and purchased together!

MPSH***-30D CONFIGURATIONS

*** can be either 175 or 250, depending on the inverter model. See page 20 for information on reading Magnum Panel part numbers.

Only MPSH250-30D configurations shown below for clarity.

MPSH250-30D (As Shipped)

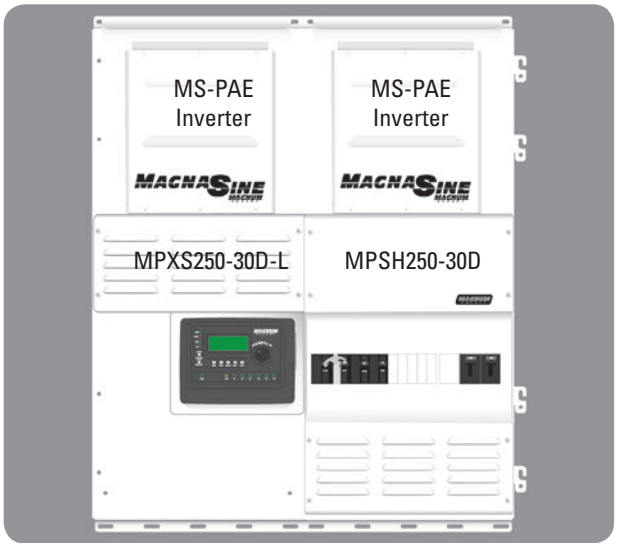


MPSH includes:

- D125A AC System Bypass
- D30A AC Inverter Input Breaker
- 250A DC Battery Disconnect
- 500A/50mV DC Shunt
- Inverter Hood
- Router Bracket

MPSH250-30D WITH MPXS250-30D-L

(As Field Installed)



MPSH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

Continuous Power Output at 25 °C:

- 8kVA with two MS4024PAEs
- 8.8kVA with two MS4448PAEs

Options shown, not included:

- MS-PAE Parallel-stack inverters (x2)
- ME-RTR Router
- BP-D - mounting backplate - dual

MPSH250-30D WITH MPXS250-30D-R

(As Field Installed)

MPSH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

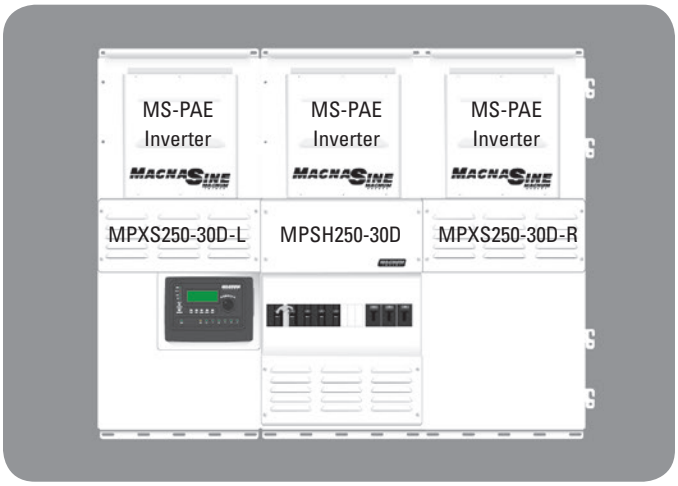
Continuous Power Output at 25 °C:

- 8kVA with two MS4024PAEs
- 8.8kVA with two MS4448PAEs

Options shown, not included:

- MS-PAE Parallel-stack inverters (x2)
- ME-RTR Router
- BP-D - mounting backplate - dual

MPSH250-30D WITH MPXS250-30D-L AND MPXS250-30D-R (As Field Installed)



MPSH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input (x3)
- 250A DC Battery Disconnect (x3)
- 500A/50mV DC Shunt
- Inverter Hood (x3)
- Router Bracket

Continuous Power Output at 25 °C:

- 12kVA with three MS4024PAEs
- 13.2kVA with three MS4448PAEs

Options shown, not included:

- MS-PAE Parallel-stack inverters (x3)
- ME-RTR Router
- BP-S - mounting backplate - single
- BP-D - mounting backplate - dual

MPDH – MAGNUM PANEL

The MPDH shown with four inverters (sold separately), two optional MPX extensions to accommodate the additional inverters, two optional backplates, and the optional Magnum router.

The MPDH – Magnum Panel, Dual Enclosure, High Power – is designed to accommodate a maximum of four inverters with two enclosures – one for AC connections and one for DC connections.

FEATURES

More power capacity:
The 125A bypass breaker and the 1000A DC shunt safely handle the power from larger systems.

Expandable:
Start with the enclosures and just two inverters and in the future expand to up to four inverters, using the MPX.

Easy installation:
All connections are front-mounted, including AC and DC breakers and the MPX.

Labor saving:
Panel is pre-wired for fast installation, saving labor costs.

DC load breakers:
Fits either din rail or back-mount DC load breakers.

Convenient knockouts:
Knockouts on the side of the enclosures are compatible with charge controllers.

Separate AC and DC enclosures:
For installers who prefer separate enclosures, the MPDH provides an easy solution.

PART NUMBERS	DIMENSIONS (H X W X D)	SHIPPING WEIGHT
MPDH175-30D	MPDH175-30D-AC: 27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm) MPDH175-30D-DC: 27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	MPDH175-30D-AC: 46 lb (20.9 kg) MPDH175-30D-DC: 48 lb (21.8 kg)
MPDH250-30D	MPDH250-30D-AC: 27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm) MPDH250-30D-DC: 27" x 18" x 15" (68.6 cm x 45.7 cm x 38.1 cm)	MPDH250-30D-AC: 46 lb (20.9 kg) MPDH250-30D-DC: 48 lb (21.8 kg)

INCLUDES

- Two DC breakers – 175A or 250A
- One 125A AC system bypass
- 1000A/100mv DC shunt
- Two inverter AC input breakers
- Two inverter hoods

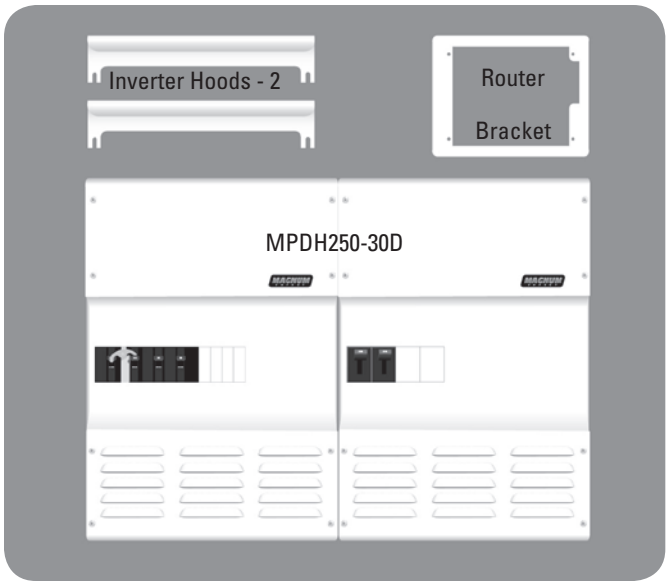
The MP, including Magnum Energy brand products are covered under a five-year warranty when installed and purchased together!

MPDH***-30D CONFIGURATIONS

*** can be either 175 or 250, depending on the inverter model. See page 20 for information on reading Magnum Panel part numbers.

Only MPSH250-30D configurations shown below for clarity.

MPDH250-30D (As Shipped)

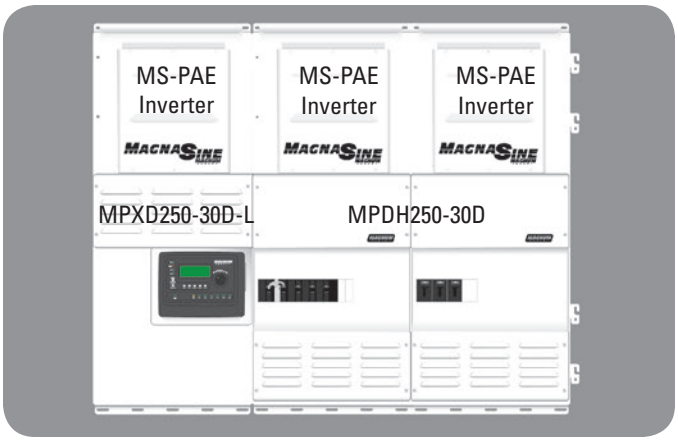


MPDH includes:

- D125A AC System Bypass
- D30A AC Inverter Input Breaker (x2)
- 250A DC Battery Disconnect (x2)
- 500A/50mV DC Shunt
- Inverter Hood (x2)
- Router Bracket

MPDH250-30D WITH MPXD250-30D-L

(As Field Installed)



MPDH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input Breaker (x3)
- 250A DC Battery Disconnect (x3)
- 1000A/100mV DC Shunt
- Inverter Hood (x3)
- Router Bracket

Options shown, not included:

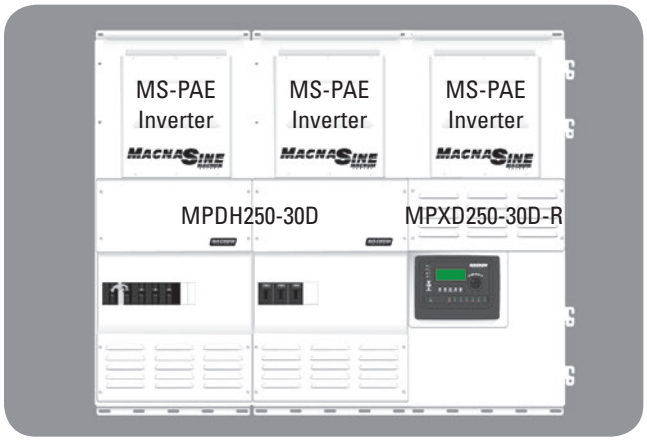
- MS-PAE Parallel-stack inverters (x3)
- ME-RTR Router
- BP-S - mounting backplate - single
- BP-D - mounting backplate - dual

Continuous Power Output at 25 °C:

- 12kVA with three MS4024PAEs
- 13.2kVA with three MS4448PAEs

MPDH250-30D WITH MPXD250-30D-R

(As Field Installed)



MPDH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input Breaker (x3)
- 250A DC Battery Disconnect (x3)
- 1000A/100mV DC Shunt
- Inverter Hood (x3)
- Router Bracket

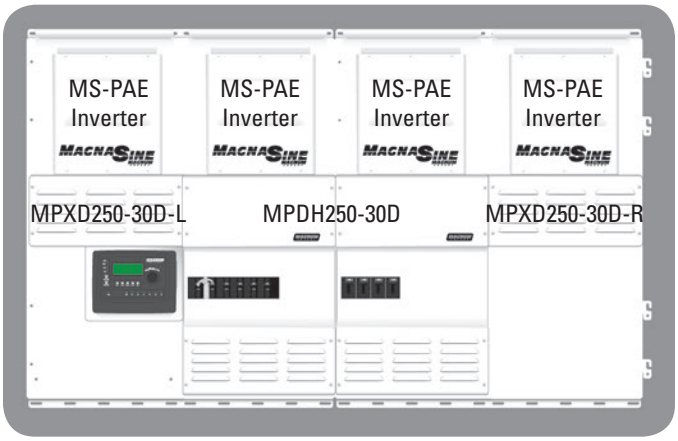
Options shown, not included:

- MS-PAE Parallel-stack inverters (x3)
- ME-RTR Router
- BP-S - mounting backplate - single
- BP-D - mounting backplate - dual

Continuous Power Output at 25 °C:

- 12kVA with three MS4024PAEs
- 13.2kVA with three MS4448PAEs

MPDH250-30D WITH MPXD250-30D-L AND MPXD250-30D-R (As Field Installed)



MPDH with MPX includes:

- D125A AC System Bypass
- D30A AC Inverter Input Breaker (x4)
- 250A DC Battery Disconnect (x4)
- 1000A/100mV DC Shunt
- Inverter Hood (x4)
- Router Bracket

Options shown, not included:

- MS-PAE Parallel-stack inverters (x4)
- ME-RTR Router
- BP-D - mounting backplate - dual (x2)

Continuous Power Output at 25 °C:

- 16kVA with four MS4024PAEs
- 17.6kVA with four MS4448PAEs

MAGNUM PANEL SELECTION GUIDE

STEP 1	STEP 2	STEP 3			STEP 4		STEP 5
Continuous Power Output at 25° C	**Nominal DC Input Voltage**	**Inverter Model**	**Qty**	**AC Wiring Configuration** SISO = Single in, Single out – 120 VAC DIDO = Dual in, Dual out – 120/240 VAC	**Required Panels** MMP: max. 1 inverter capability MPSL: max. 2 inverter capability MPSH: max. 3 inverter capability MPDH: max. 4 inverter capability MPXS or MPXD: Expansion box, 1 unit capability		**Options that allow future expansion of additional PAE inverters**
2.0 kVA	12 VDC	MS2012	1	SISO-60	MMP250-60S	See page 12	NA
2.0 kVA	12 VDC	MS2012	1	DIDO	MMP250-30D	See page 12	NA
2.8 kVA	12 VDC	MS2812	1	SISO-60	MMP250-60S	See page 12	NA
2.8 kVA	12 VDC	MS2812	1	DIDO	MMP250-30D	See page 12	NA
4.0 kVA	24 VDC	MS4024	1	SISO-60	MMP250-60S	See page 12	NA
4.0 kVA	24 VDC	MS4024	1	DIDO	MMP250-30D	See page 12	NA
8.0 kVA	24 VDC	MS4024	2	SISO-60 (series stacked)	MPSL250-60S + MPXS250-60S (L/R)	See page 15	NA
4.0 kVA	24 VDC	MS4024PAE	1	DIDO	MMP250-30D	See page 12	NA
8.0 kVA	24 VDC	MS4024PAE	2	DIDO x 2	MPSL250-30D + MPXS250-30D (L/R)	See page 13	MPSH250-30D + MPXS250-30D (L/R) or MPDH250-30D
12.0 kVA	24 VDC	MS4024PAE	3	DIDO x 3	MPSH250-30D + MPXS250-30D-L + MPXS250-30D-R	See page 16	MPDH250-30D + MPXD250-30D (L/R)
16.0 kVA	24 VDC	MS4024PAE	4	DIDO x 4	MPDH250-30D + MPXD250-30D-L + MPXD250-30D-R	See page 18	NA
4.4 kVA	48 VDC	MS4448PAE	1	DIDO	MMP175-30D	See page 12	NA
8.8 kVA	48 VDC	MS4448PAE	2	DIDO x 2	MPSL175-30D + MPXS175-30D (L/R)	See page 13	MPSH175-30D + MPX175-30D (L/R) or MPDH175-30D
13.2 kVA	48 VDC	MS4448PAE	3	DIDO x 3	MPSH175-30D + MPXS175-30D-L + MPXS175-30D-R	See page 16	MPDH175-30D + MPXD175-30D (L/R)
17.6 kVA	48 VDC	MS4448PAE	4	DIDO x 4	MPDH175-30D + MPXD175-30D-L + MPXD175-30D-R	See page 18	NA

HOW TO SELECT YOUR SYSTEM COMPONENTS USING THIS CHART

STEP 1. Select the MINIMUM required continous ouput power

STEP 2. Select DC voltage required

STEP 3. Determine the model and number of units required

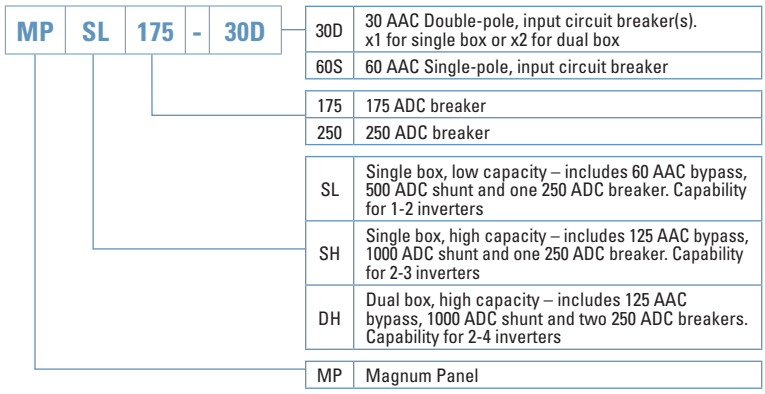
STEP 4. Select required MP part numbers and options

STEP 5. Select required MP part numbers if you wish to allow future expansion of the system

STEP 6. Check to confirm AC voltage and breaker sizes are appropriate

READING MAGNUM PANEL PART NUMBERS

MAGNUM PANEL



MAGNUM PANEL SELECTION GUIDE

STEP 6					OPTIONAL FEATURES
AC Input Voltage & Frequency	**Inverter AC Output Voltage & Frequency**	**Battery Charger Maximum Output at 25° C**	**AC Input / Pass-through Capacity Breaker Rating at 25° C**	**AC Input / Bypass with Interlock**	**Maximum DC Load Breakers** (13mm width / back mount)
120 VAC @ 60 Hz	120 VAC @ 60 Hz	100 amps DC	S60 amps AC	S60 amps AC	8 / 4
120 / 240 VAC @ 60 Hz	120 VAC @ 60 Hz	100 amps DC	D30 amps AC	D30 amps AC	8 / 4
120 VAC @ 60 Hz	120 VAC @ 60 Hz	125 amps DC	S60 amps AC	S60 amps AC	8 / 4
120 / 240 VAC @ 60 Hz	120 VAC @ 60 Hz	125 amps DC	D30 amps AC	D30 amps AC	8 / 4
120 VAC @ 60 Hz	120 VAC @ 60 Hz	105 amps DC	S60 amps AC	S60 amps AC	8 / 4
120 / 240 VAC @ 60 Hz	120 VAC @ 60 Hz	105 amps DC	D30 amps AC	D30 amps AC	8 / 4
120 / 240 VAC @ 60 Hz	120 / 240 VAC @ 60 Hz	105 amps DC x 2	D60 amps AC	D60 amps AC	10 / 5
120 / 240 VAC @ 60 Hz	120 / 240 VAC @ 60 Hz	105 amps DC	D30 amps AC	D60 amps AC	8 / 4
120 / 240 VAC @ 60 Hz x 2	120 / 240 VAC @ 60 Hz x 2	105 amps DC x 2	D30 amps AC x 2	D60 or D 125 amps AC	10 / 5
120 / 240 VAC @ 60 Hz x 3	120 / 240 VAC @ 60 Hz x 3	105 amps DC x 3	D30 amps AC x 3	D125 amps AC	NA
120 / 240 VAC @ 60 Hz x 4	120 / 240 VAC @ 60 Hz x 4	105 amps DC x 4	D30 amps AC x 4	D125 amps AC	15 / 7
120 / 240 VAC @ 60 Hz	120 / 240 VAC @ 60 Hz	60 amps DC	D30 amps AC	D60 amps AC	8 / 4
120 / 240 VAC @ 60 Hz x 2	120 / 240 VAC @ 60 Hz x 2	60 amps DC x 2	D30 amps AC x 2	D60 or D 125 amps AC	10 / 5
120 / 240 VAC @ 60 Hz x 3	120 / 240 VAC @ 60 Hz x 3	60 amps DC x 3	D30 amps AC x 3	D125 amps AC	NA
120 / 240 VAC @ 60 Hz x 4	120 / 240 VAC @ 60 Hz x 4	60 amps DC x 4	D30 amps AC x 4	D125 amps AC	15 / 7

MAGNUM PANEL EXTENSION

MPXS | 250 - 30D - L

L	For installation on left side
R	For installation on right side
30D	Ships with one 30 AAC Double-pole, input circuit breaker, one 250 ADC breaker, and all AC and DC inverter wiring
60S	Ships with one 60 AAC Single-pole, input circuit breaker, one 250 ADC breaker, and all AC and DC inverter wiring
175	175 ADC breaker
250	250 ADC breaker
MPXS	MP Extension Box for use with MPSL and MPSH
MPXD	MP Extension Box for use with MPDH

MINI MAGNUM PANEL

MMP | 175 - 30D

30D	30 AAC Double-pole, input circuit breaker(s) x1 for single box or x2 for dual box
60S	60 AAC Single-pole, input circuit breaker
175	175 ADC breaker
250	250 ADC breaker
MMP	Mini Magnum Panel

INTERCONNECTION SYSTEM EQUIPMENT ACCESSORIES

BACKPLATE FOR MMP (BP-MMP)

Model Numbers
- BP-MMP

Works With

	PAGE
MMP Panel	12

Backplate for the MMP.
Fits one MMP only.

Shipping Dimensions (h x w x d)
38” x 17” x 2” (96.5 cm x 43.2 cm x 5.1 cm)

Shipping Weight
11 lb. (5.0 kg)

BACKPLATE SINGLE (BP-S)

Model Numbers
- BP-S

Works With

	PAGE
MPSL	13
MPSH	16
MPXS	17
MPXD	19

Single backplate for the Magnum Panels. Fits one enclosure – MPSL, MPSH, MPXS, or MPXD.

Shipping Dimensions (h x w x d)
42” x 19” x 2” (106.7 cm x 88.9 cm x 5.1 cm)

Shipping Weight
18 lb (8.2 kg)

BACKPLATE DUAL (BP-D)

Model Numbers
- BP-D

Works With

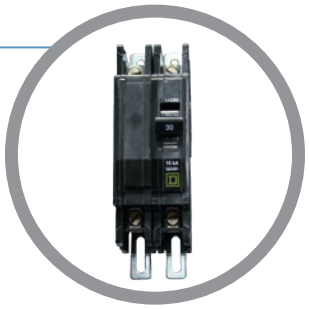
	PAGE
MPSL	13
MPSH	16
MPDH	18
MPXS	17
MPXD	19

Dual backplate for the Magnum Panels. Fits two enclosures – MPSL with MPX, MPSH with MPX, two MPX’s, or MPDH.

Shipping Dimensions (h x w x d)
42” x 35” x 2” (106.7 cm x 88.9 cm x 5.1 cm)

Shipping Weight
34 lb (15.5 kg)

BREAKER - AC



Model Numbers
- BR-AC30D (30A, Dual pole)
- BR-AC60S (60A, Single pole)

Works With

	PAGE
BR-AC30D	
MPSL-30D	13
MPSH-30D	16
MPDH-30D	18
BR-AC60S	
MPSL-60S	13

AC Breakers for the MP.

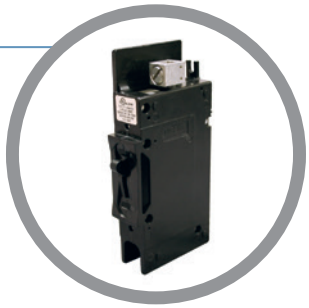
BREAKER - DC, BACK MOUNT

Model Numbers

- BR-DC75-BM
- BR-DC100-BM

Works With

Back mount DC breaker for the MMP and MP Series.



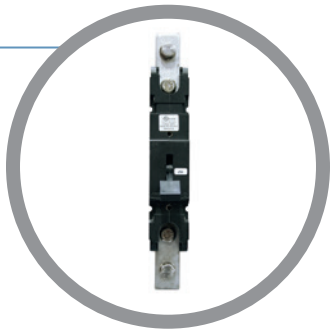
BREAKER - DC, HIGH CAPACITY

Model Numbers

- BR-DC175
- BR-DC250

Works With

DC disconnect breaker for the MMP and MP Series.



Looking for DC Breakers to use with the PT100 Charge Controller? Check page 40 for a product description.

MPX SERIES

MODEL NUMBERS	INCLUDES	WORKS WITH	PAGE
MPXS175-30D-L	DC/AC breaker and wires, MP-Hood	MPSL175-30D MPSH175-30D	13 16
MPXS250-30D-L	DC/AC breaker and wires, MP-Hood	MPSL250-30D MPSH250-30D	13 16
MPXS175-30D-R	DC/AC breaker and wires, MP-Hood	MPSL175-30D MPSH175-30D	13 16
MPXS250-30D-R	DC/AC breaker and wires, MP-Hood	MPSL250-30D MPSH250-30D	13 16
MPXS250-60S-R	DC/AC breaker and wires, MP-Hood, series cables	MPSL250-60S	13
MPXS250-60S-R	DC/AC breaker and wires, MP-Hood, series cables	MPSL250-60S	13
MPXD175-30D-L	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH175-30D	18
MPXD250-30D-L	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH250-30D	18
MPXD175-30D-R	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH175-30D	18
MPXD-250-30D-R	DC/AC breaker and wires, MP-Hood, parallel cables	MPDH250-30D	18

Extension box for use with the MP system. Each MPX fits one MS-PAE.

Dimensions (h x w x d)

27.9 cm x 50.8 cm x 30.5 cm

Shipping Weight

9.5 kg (21 lb)

ROUTER FRONT COVER - MP-RFC

Model Numbers

- MP-RFC

Note: The MP-RFC is only available for those versions of the MP enclosure that have the middle eight truss head screws.

The Router Front Cover (MP-RFC) replaces the factory-installed top front cover of an MP enclosure, allowing the ME-RTR (router) to attach to the front of an MP enclosure.

MM-AE SERIES INVERTER/CHARGER

Model Numbers
MM612AE • MM1512AE • MM1524AE

Modified Sine Wave

12, 24 Battery Voltage Options

600-1500 Continuous Output Options in Watts

The MM-AE Series Inverter / Charger is a modified sine wave inverter providing a cost effective solution for those with smaller power needs. Versatile, easy-to-use, and lightweight, the MM-AE Series provides a reliable base for your energy system.

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.

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.

Available For
- Renewable Energy Systems
  Off-grid Power
  Backup Power

Available Accessories

FEATURES

Standard transfer relay:
The standard 20 amp transfer relay will pass AC power through the inverter when using grid or generator power.

Versatile mounting:
Mount the MM-AE Series on a shelf, wall, or even upside down.

Fan cooled:
The MM-AE 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.

Low battery protection:
If your battery voltage goes below the cut-out setting, the MM-AE Series will automatically shut down, saving your batteries.

High battery protection:
If your battery voltage reaches over the cut-out setting, the MM-AE Series will shut down.

Current overload protection:
The MM-AE Series will automatically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.

Convenient switches:
The MM-AE Series comes with an on/off front-mounted switch and an easy-to-read LED indicator.

Circuit breaker protection:
Every model comes with built in input and output circuit breakers for ease of installation.

Battery temp sensor:
The standard battery temp sensor monitors temperatures from 0 - 50° C.

Buy with ease:
The MM-AE Series is backed by a two-year (24-month) parts and labor warranty.

MM-AE SERIES INVERTER/CHARGER SPECIFICATIONS

	MM612AE	MM1512AE	MM1524AE
INVERTER SPECIFICATIONS			
Input battery voltage range	9 to 16 VDC	9 to 16 VDC	18 to 32 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
1 msec surge current (amps AC)	27	42	45
100 msec surge current (amps AC)	11	23	24
5 sec surge power (real watts)	1100	2100	2650
30 sec surge power (real watts)	1000	1750	2500
5 min surge power (real watts)	950	1550	2350
30 min surge power (real watts)	675	1525	1900
Continuous power output at 25° C (with 1.0 PF)	600 VA	1500 VA	1500VA
Continuous current output	5 ACC	10 ACC	13 ACC
Maximum input battery current	80 ADC	200 ADC	100 ADC
Inverter efficiency (peak)	95%	95%	91%
Transfer time	16 msecs	16 msecs	16 msecs
Search mode (typical)	3 watts	6 watts	4 watts
No load (120 VAC output, typical)	10 watts	18 watts	9 watts
Waveform	Modified Sine Wave	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS			
Continuous output at 25° C	30 ADC	70 ADC	35 ADC
Charger efficiency	85%	88%	88%
Power factor	> 0.95	> 0.95	> 0.95
Input current at rated output (AC amps)	4	9	9
GENERAL FEATURES AND CAPABILITIES			
Transfer relay capability	20 AAC (input current for charging and pass through)		
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard		
Internal cooling	0 to 59 cfm variable speed		
Overcurrent protection	Yes, with two overlapping circuits		
Overtemperature protection	Yes, on transformer and MOSFETS		
On/Off with status indicator	Yes, front mounted and easily accessible		
Low battery cutout	10 or 20 VDC, adjustable on most models with the ME-RC remote		
AC output/AC input	Hardwire	Hardwire	Hardwire
Output circuit breaker/Input circuit breaker	7A / 8AAC	15A / 20AAC	15A / 20AAC
Listings	NA		
Warranty	Two years		
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)	16.6" x 8.4" x 4.7" (42 cm x 21 cm x 12 cm)		
Mounting	Shelf (top or bottom up) or wall (vents up)		
Weight	16 lb (7.3 kg)	22 lb (10 kg)	22 lb (10 kg)
Shipping weight	18 lb (8.2 kg)	24 lb (10.9 kg)	24 lb (10.9 kg)
Max operating altitude	15,000' (4570 m)		
Construction	ABS plastic top and cast aluminum bottom		

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

MMS SERIES INVERTER/CHARGER

Model Numbers
MMS1012 • MMS1012-G

Pure Sine Wave

12 Battery Voltage Options

1000 Continuous Output Options in Watts

The MMS Series Inverter / Charger is a pure sine wave inverter providing a cost effective solution for those with smaller power needs in mobile applications. Versatile, easy-to-use, and lightweight, the MMS Series provides a reliable base for your energy system.

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.

Safe and reliable: The MMS Series has met the stringent requirements and is listed to UL1741 for home/office use, as well as 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.

Available For
- Backup power
- Emergency Vehicles
- Marine Systems
- RV Systems

Available Accessories

FEATURES

Standard transfer relay:
The standard 20 amp transfer relay will pass AC power through the inverter when using shore or generator power.

Low/high battery protection:
If your battery voltage reaches below 10 VDC or above 17 VDC, the MMS Series will automatically shut down.

Versatile mounting:
Mount the MMS Series on a shelf, bulkhead, or even upside down.

Fan cooled:
The MMS 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 MMS Series will auto-matically shut down if its output wattage is exceeded or it detects a short in the wiring, saving the unit from costly damage.

Convenient switches:
The MMS Series comes with an on/off front-mounted switch with an easy-to-read LED indicator.

Circuit breaker protection:
This model comes with built in input and output circuit breakers for ease of installation.

Battery temp sensor:
The standard battery temp sensor monitors temperatures from 0 - 50° C.

Buy with ease:
The MMS Series is backed by a two-year (24-month) parts and labor warranty.

MMS SERIES SPECIFICATIONS

	MMS1012	MMS1012-G
INVERTER SPECIFICATIONS		
Input battery voltage range	9 to 17 VDC	9 to 17 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
Total Harmonic Distortion (THD)	< 5%	< 5%
1 msec surge current (amps AC)	38	38
100 msec surge current (amps AC)	21	21
5 sec surge power (real watts)	1750	1750
30 sec surge power (real watts)	1600	1600
5 min surge power (real watts)	1200	1200
30 min surge power (real watts)	1050	1050
Maximum continuous input current	133 ADC	133 ADC
Inverter efficiency (peak)	87%	87%
Transfer time	16 msecs	16 msecs
Search mode (typical)	5 watts	5 watts
No load (120 VAC output, typical)	19 watts	19 watts
Waveform	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS		
Continuous output at 25° C	50 ADC	50 ADC
Charger efficiency	84%	84%
Power factor	> .95	> .95
Input current at rated output (AC amps)	7	7
GENERAL FEATURES AND CAPABILITIES		
Transfer relay capability	20 AAC (input current for charging and pass through)	
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard	
Internal cooling	0 to 59 cfm variable speed	
Overcurrent protection	Yes, with two overlapping circuits	
Overtemperature protection	Yes, on transformer and MOSFETS	
On/Off with status indicator	Yes, front mounted and easily accessible	
Low battery cutout	10 VDC, adjustable with the ME-RC remote	
AC output/AC input	Hardwire/Hardwire	Hardwire/3 ft cord
Output circuit breaker/Input circuit breaker	15A/20AAC	NA/20AAC
Listings	ETL Listed to UL/cUL458, CSA C22.2 #107.1-01, meets KKK-A-1822E standard Listed to UL 1741 for home/office use	
Warranty	Two years	
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)	16.6" x 8.4" x 4.7" (42 cm x 21 cm x 12 cm)	
Mounting	Shelf (top or bottom up) or bulkhead (vents up)	
Weight	23 lb (10.4 kg)	
Shipping weight	25 lb (11.3 kg)	
Max operating altitude	15,000' (4570 m)	
Construction	ABS plastic top and cast aluminum bottom	

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

MS SERIES INVERTER/CHARGER

Model Numbers

MS2012 • MS2024 • MS2812 • MS4024 and MS4048 (series stackable)

Pure Sine Wave

12, 24, 48 Battery Voltage Options

2000-4000 Continuous Output Options in Watts

Available For

- Renewable Energy Systems
  Off-Grid Power
  Backup Power

Available Accessories

New features available using the ME-ARC (with v5.4 or higher firmware).

The Magnum Energy brand MS Series Inverter/Charger from Sensata Technolgies – a pure sine wave inverter designed specifically for the most demanding mobile, backup, and off-grid applications. The MS Series Inverter/Charger is powerful, easy-to-use, and best of all, cost effective.

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.

Safe and reliable: The MS2012, MS2812, MS4024 and MS4048 are ETL Listed to the stringent requirements of UL 1741 and CSA C22.2 #107.1-01 for renewable energy installations.

Easy-to-install: Install the MS 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.

FEATURES

Pure Sine Wave:
Power your TVs, 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%.

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.

Choices:
The MS Series comes in 12, 24 and 48 volt configurations, allowing you to choose the model that is right for you.

Versatile Mounting:
Mount the MS Inverter/Charger on a shelf, wall, or even upside down.

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

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.

Buy with Ease:
The MS Inverter/Charger is backed by a three-year (36-month) limited warranty.

MS SERIES INVERTER/CHARGER SPECIFICATIONS

	MS2012	MS2812	MS2024	MS4024	MS4048 MS4048-20B
INVERTER SPECIFICATIONS					
Input battery voltage range	9 - 16.8 VDC	9 - 16.8 VDC	18 - 33.6 VDC	9 - 33.6 VDC	36 - 67.6 VDC
AC output voltage accuracy	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	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
Total Harmonic Distortion (THD)	< 5%	< 5%	< 5%	< 5%	< 5%
1 msec surge current (amps AC)	50	70	75	120	120
100 msec surge current (amps AC)	33	40	37	82	72
5 sec surge power (real watts)	3300	3900	2850	5800	8500
30 sec surge power (real watts)	3100	3800	2750	5400	5750
5 min surge power (real watts)	2800	3200	2700	4900	5250
30 min surge power (real watts)	2200	3000	2200	4500	47500
Maximum continuous input current	267 ADC	373 ADC	133 ADC	267 ADC	133 ADC
Inverter efficiency (peak)	90.6%	90%	86%	93.7%	94%
AC Relay Transfer time (minimum)	16 msecs	16 msecs	16 msecs	16 msecs	16 msecs
Power Consumption - searching	<8 watts	<8 watts	<8 watts	<8 watts	<8 watts
Power Consumption - inverting (no load)	25 watts	30 watts	25 watts	25 watts	25 watts
Output Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
CHARGER SPECIFICATIONS					
Continuous output at 25° C	100 ADC	125 ADC	60 ADC	105 ADC	60 ADC
Charger efficiency	85%	85%	85%	85%	85%
Power factor	> .95	> .95	> .95	> .95	> .95
Input current for continuous rated output	15 AAC	18 AAC	7.9 AAC	29 AAC	30 AAC
GENERAL FEATURES AND CAPABILITIES					
Transfer relay capability	30 ACC max. each input (30AC total on MS2000 models, 60ACC total on all other models)*				
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				
Safety listings	ETL Listed to UL 1741, CSA C22.2 #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) [Height on MS2000: 7.0"/17.8 cm]				
Mounting	Shelf or wall (vents not allowed to face downward unless ME-CB or MMP/MP is installed				
Unit weight	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)
Shipping weight	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)
Max operating altitude	15,000' (4570 m)				

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

MSH-RE SERIES INVERTER / CHARGER

Model Number
MSH4024RE

Pure Sine Wave

24 Battery Voltage Options

4000 Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  - Off-grid Power
  - Backup Power

Available Accessories

New Warranty
- Three-year warranty standard. Five-year warranty if purchased with and installed on an MMP panel.

*New status displays require ME-RC v2.7 or ME-ARC v3.0 or higher.

The MSH-RE Series Inverter / Charger from Sensata Technologies – a pure sine wave inverter that combines the tried and tested engineering of Sensata'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.

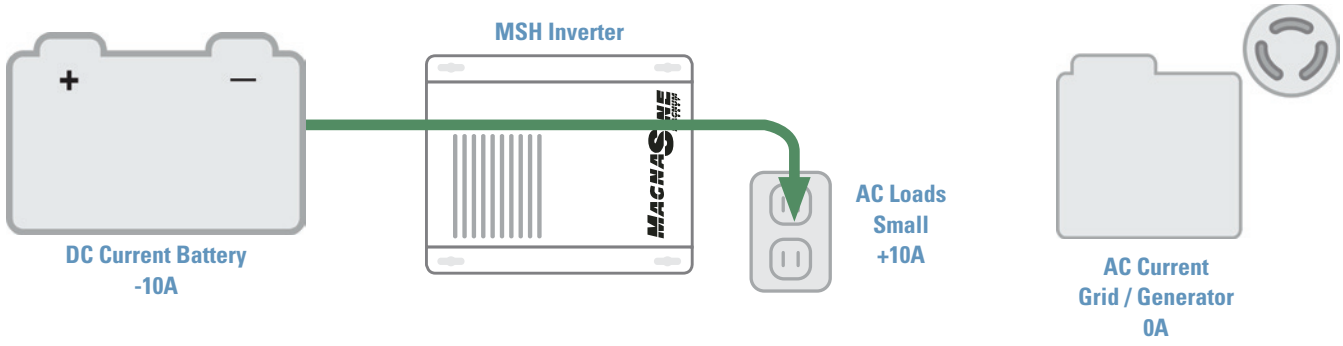
MSH-RE SERIES SPECIFICATIONS

	MSH4024RE
INVERTER SPECIFICATIONS	
Input battery voltage range	18 - 34 VDC
Nominal AC output voltage	120 VAC ± 3%
Output frequency and accuracy	60 Hz ± 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 msecs
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
Corrostion 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 1741, 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 MMP is installed)
Weight	58 lb (26.3 kg)
Shipping weight	60 lb (27.2 kg)
Max operating altitude	15,000' (4570 m)

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

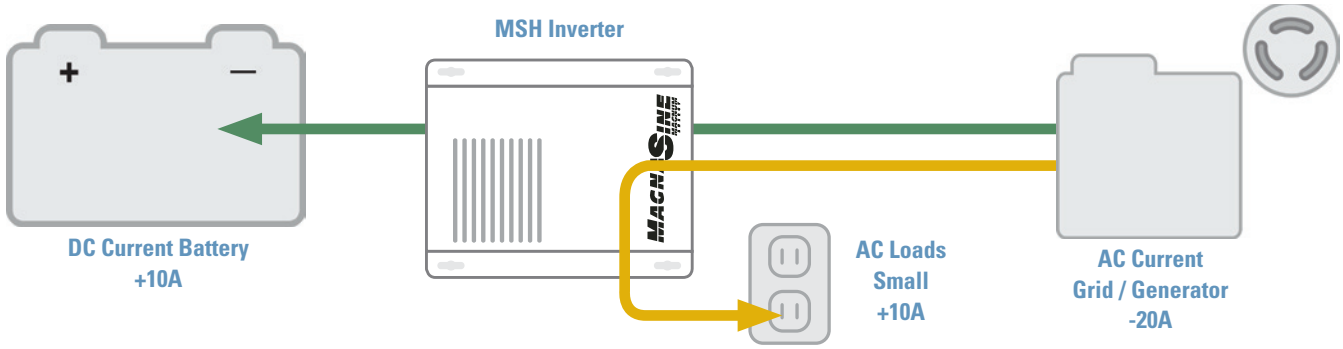
MSH-RE SERIES INVERTER / CHARGER

MSH-RE SERIES HYBRID TECHNOLOGY STEP-BY-STEP



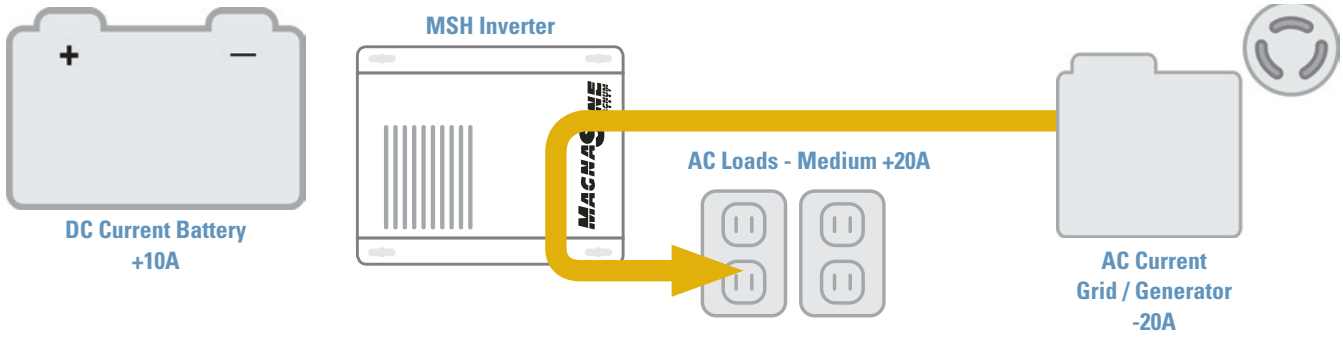
INVERTING

The MSH-RE inverter converts the current from the battery to power the AC loads.



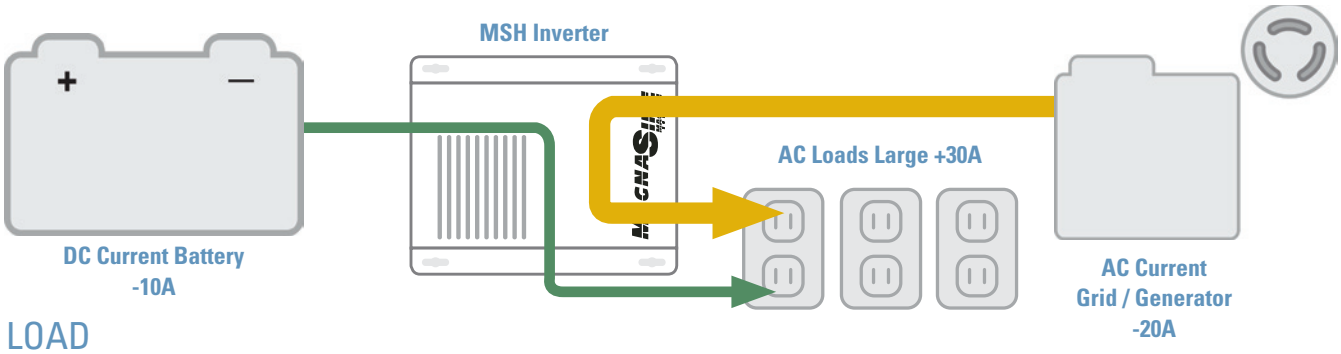
CHARGING AND AC PASS-THROUGH

The MSH-RE inverter uses current from the grid/generator to power the AC loads and also converts this current to charge the battery.



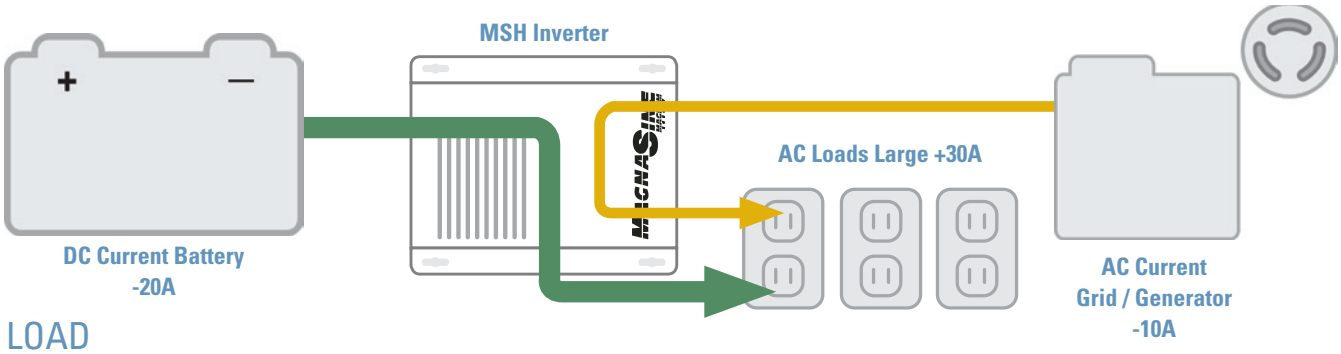
CHARGER BACK-OFF

When the AC loads increase, the MSH-RE inverter reduces or stops the battery charge current to allow the grid/generator to continue powering the AC loads.



LOAD SUPPORT AAC

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



LOAD SUPPORT VDC

If the battery is being charged externally (i.e. solar, wind, or hydro), the MSH-RE converts any excess current from the battery to power the AC loads and reduce the current from the grid/generator.

RD SERIES INVERTER / CHARGER

Model Number
RD2212 • RD1824 • RD2824 • RD3924

Modified Sine Wave

12, 24 Battery Voltage Options

1800-3900 Continuous Output Options in Watts

Available For
- Renewable Energy Systems
  - Off-grid Power
  - Backup Power

Available Accessories

The RD Series Inverter / Charger is a new generation modified sine wave inverter designed specifically for renewable energy use. The RD Series is powerful, easy-to-use, and best of all, cost effective.

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.

Safe and reliable: The RD Series is ETL Listed to the stringent requirements of UL 1741 (USA only), ensuring that the inverter is safe and reliable.

Easy-to-install: Install the RD Series in four easy steps: simply connect the inverter's output to your distribution circuits or electrical panel, connect your power cable (AC) to the inverter's easy-to-reach terminal block, connect the batteries, and switch on the power.

FEATURES

Choices:
The RD Series comes in four power models and 12 and 24 volt models, allowing you to choose the model that is right for you.

Versatile mounting:
Mount the RD Series on a shelf or wall.

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

Multiple ports:
The RD Series provides multiple ports, including an RS485 communication port for network expansion, and a remote port.

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.

Convenient switches:
The RD 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.

Buy with ease:
The RD Series is backed by a two-year (24-month) limited warranty.

RD SERIES SPECIFICATIONS

	RD2212	RD1824	RD2824	RD3924
INVERTER SPECIFICATIONS				
Input battery voltage range	9 - 16 VDC	18 - 32 VDC	18 - 32 VDC	18 - 32 VDC
Nominal AC output voltage	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Output frequency and accuracy	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz	60 Hz ± 0.1 Hz
1 msec surge current (amps AC)	60	70	100	150
100 msec surge current (amps AC)	37	40	60	90
5 sec surge power (real watts)	3700	4000	6000	8000
30 sec surge power (real watts)	3450	3300	4800	6400
5 min surge power (real watts)	3100	2850	3950	5800
30 min surge power (real watts)	2400	2400	3500	4750
Continuous power output at 25° C	2200 VA	1800 VA	2800 VA	3900 VA
Maximum continuous input current	293 ADC	120 ADC	186 ADC	260 ADC
Inverter efficiency (peak)	95%	94%	93%	93%
Transfer time	16 msecs	16 msecs	16 msecs	16 msecs
Search mode (typical)	5 watts	5 watts	5 watts	5 watts
No load (120 VAC output, typical)	20 watts	12 watts	19 watts	25 wattts
Waveform	Modified Sine Wave	Modified Sine Wave	Modified Sine Wave	Modified Sine Wave
CHARGER SPECIFICATIONS				
Continuous output at 25° C	110 ADC	50 ADC	80 ADC	105 ADC
Charger efficiency	85%	85%	85%	92%
Power factor	> 0.95	> 0.95	> 0.95	> 0.95
Input current at rated output (AC amps)	15	15	21	29
GENERAL FEATURES AND CAPABILITIES				
Transfer relay capability	2 legs at 30 A for 120 V/30 A or 240 V/60 A service			
Five stage charging capability	Bulk, Absorb, Float, Equalize (requires remote), and Battery Saver™			
Battery temperature compensation	Yes, 15 ft Battery Temp Sensor standard			
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			
Listings	ETL listed to UL1741 (USA only)			
Warranty	Two years			
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 (h x w x d)	13.75" x 12.65" x 8.0" (34.9 cm x 32.1 cm x 20.3 cm)			
Mounting	Shelf or wall (vents up)			
Weight	37 lb (16.9 kg)	35 lb (15.9 kg)	42 lb (19 kg)	53 lb (24 kg)
Shipping weight	46 lb (20.9 kg)	44 lb (20.0 kg)	51 lb (23.2 kg)	62 lb (28.1 kg)
Max operating altitude	15,000' (4570 m)			

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

AUTOMATIC GENERATOR START MODULE (AGS)

Model Numbers

ME-AGS-S • ME-AGS-N

Works With

The ME-AGS-S does not require an inverter/charger.

Available Accessories

- ME-PT1
- ME-PT2

Please call and ask about our PT-1 and PT-2 pigtails for starting on demand applications.

ME-AGS-N FEATURES*

- All settings are adjustable from the ME-RC and ME-ARC remotes.
- Auto start is locked out when utility power is present.
- Portable generator mode.

Imagine being able to enjoy a day away all-the-while knowing your living space will stay cool and comfortable and your batteries will stay charged and ready for all of the activities that make up daily life. There's nothing better than returning to a nice, cool, comfortable home with charged batteries after a day away. The Magnum Energy brand Auto Gen Start (AGS) from Sensata Technologies can make this happen.

The Magnum Energy brand AGS is compatible with most major generators, including Onan, Powertech, Generac, Westerbeke, Kohler, EPS, Northern Lights, and most portable generators with electric start. Please check with your Sensata Technologies dealer for specific model compatibility.

Automatically start your generator:

The AGS is designed to automatically start your generator based on low battery condition or the inside room temperature.

Adjust the AGS to meet your needs:

With the ME-AGS-N you can set multiple parameters for starting and stopping the generator. Using the ME-RC, the ME-AGS-N has basic adjustments starting on battery voltage or temperature. When using the ME-ARC, the ME-AGS-N has advanced start and stop features, including battery voltage, time of day, AC amps, exercise time, and SOC.

Manual start and stop:

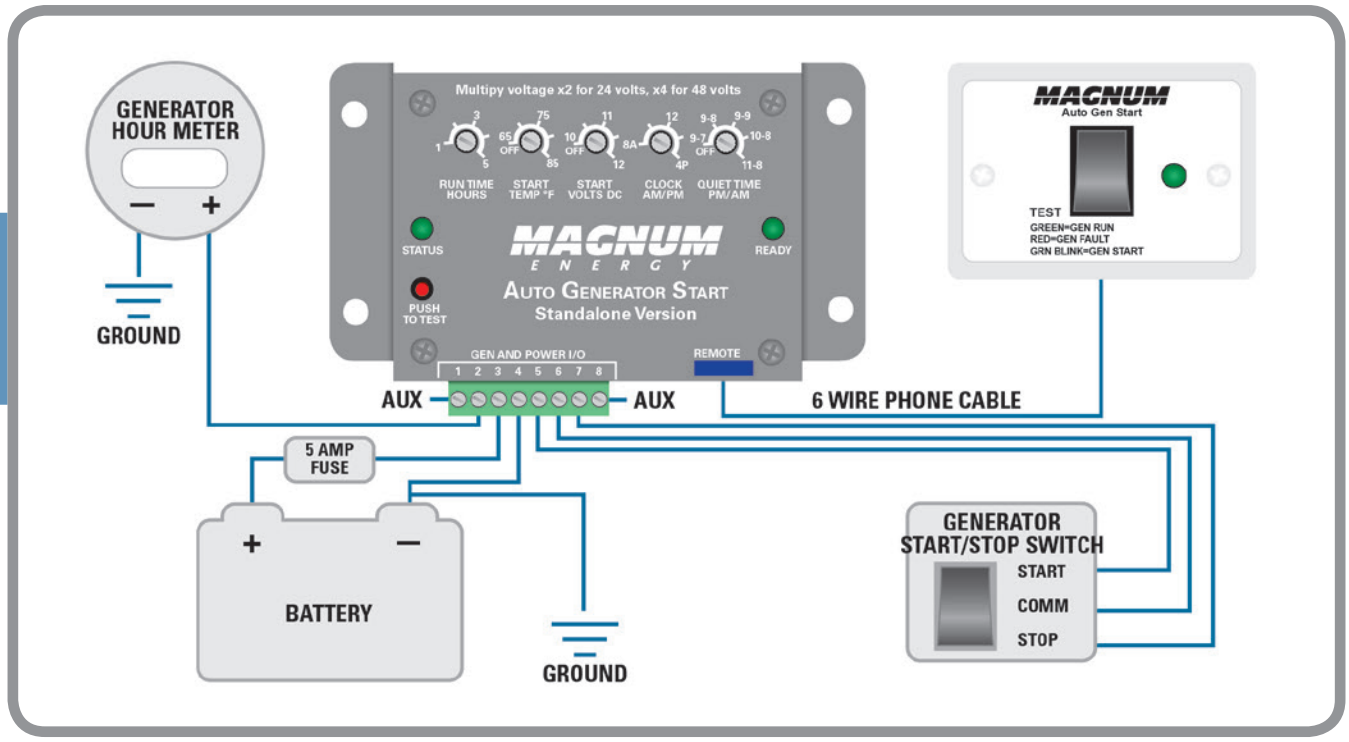
Auto Gen Start settings do not interfere with the manual start/stop operation of the generator. Just use any existing start/stop switch for your generator.

Two models are available:

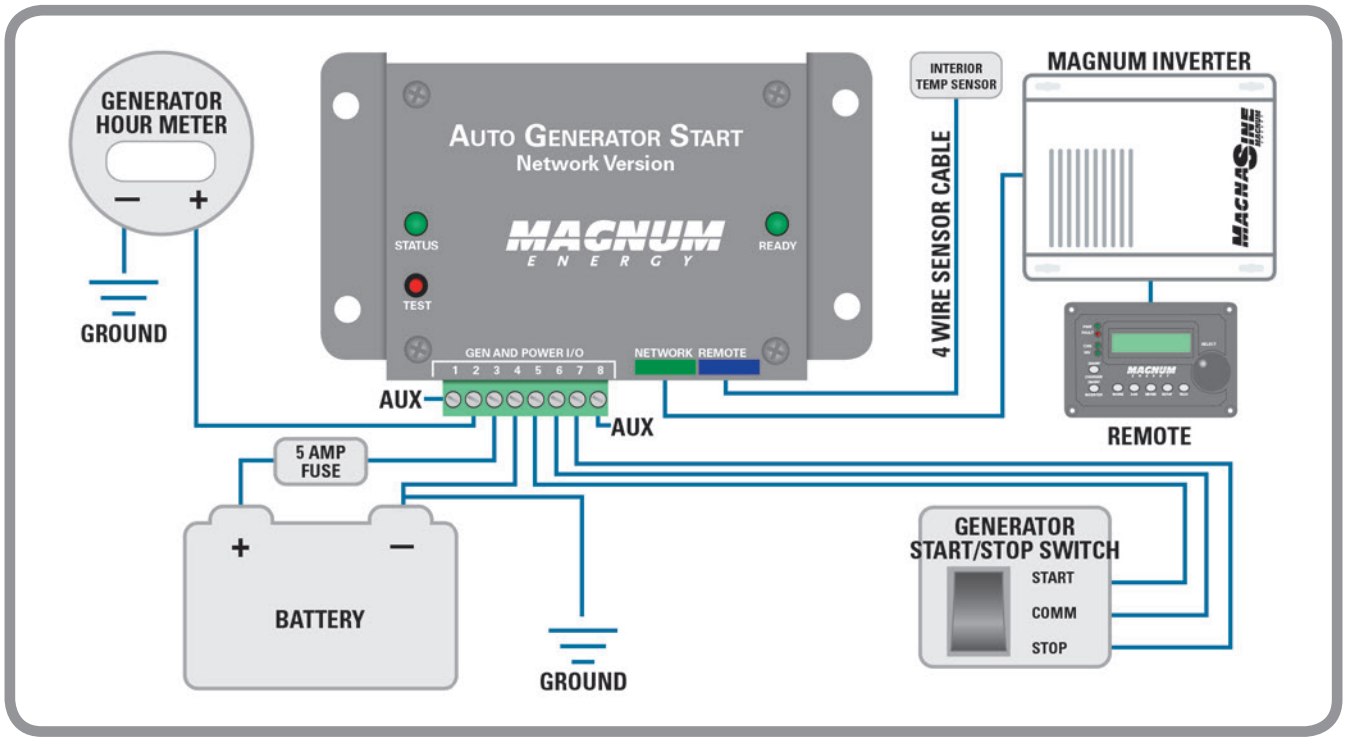
The stand alone version of the AGS (ME-AGS-S) works well for installation and operation without an inverter. The network version of the AGS (ME-AGS-N) allows operation of the AGS via the ME-RC50 or ME-ARC remote panel.

- **ME-AGS-N kit includes:** AGS module (3 relay), 10' network cable, and a 60' remote temperature sensor cable.
- **ME-AGS-S kit includes:** AGS module (3 relay), Remote on/off/test switch, switch bezel, a 25' 6-wire cable, and has basic adjustments starting on battery voltage or temperature.

AGS WIRING DIAGRAM FOR STAND ALONE SYSTEMS (ME-AGS-S)



AGS WIRING DIAGRAM FOR NETWORKED SYSTEMS (ME-AGS-N)



* AGS-N features require Remote rev 1.6 and AGS rev 5.0 or higher.

BATTERY MONITOR KIT (ME-BMK)

Model Numbers

ME-BMK • ME-BMK-NS (no shunt)

Works With

The ME-BMK requires an inverter and remote or router to see readings.

Monitoring your battery bank is easy with the Battery Monitor Kit (ME-BMK)* from Sensata Technologies. Acting as a "fuel gauge" for your batteries, the ME-BMK monitors their state of charge (SOC) and then provides this information in an easy-to-understand display via the ME-ARC or ME-RC remotes. With accurate SOC readings, you can avoid unnecessary battery recharging, saving on fuel and long-term maintenance costs.

If you already have a Magnum Energy brand Inverter/Charger and Magnum brand Remote*, the ME-BMK is an easy retrofit. Simply install the kit according to the installation manual and begin monitoring your battery bank via the "Meter" button on your ME-RC.

Available Readings from the ME-BMK / ME-BMK-NS

- State of Charge (SOC) 0 - 100%
- DC volts
- DC amps
- Amp hours in/out
- Resettable amp hours out
- Total amp hours out
- Minimum volts DC
- Maximum volts DC
- Temperature compensated
- Auto detects input voltage

Kit Includes

- Sense module
- DC shunt 50mv/500 amp shunt (not included in the ME-BNK-NS kit)
- Twisted pair wire 5' length, 18 AWG wire
- Communication cable 10' length, 4-conductor, telephone standard

Features Available with Magnum Energy products

- PT-100 Charge Controller: wire loss compensation
- ME-AGS Auto Gen Start: start and stop on state-of-charge

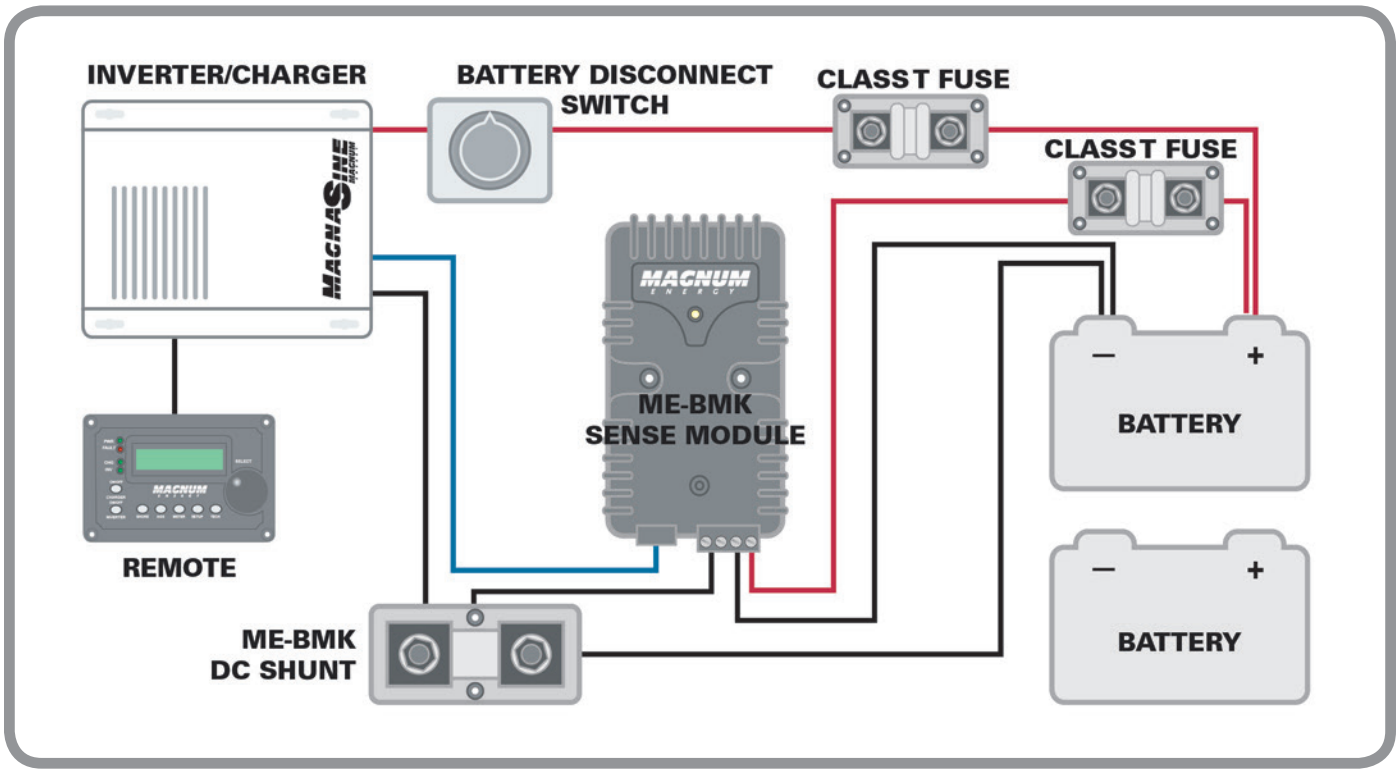
* Requires remote revision 2.0 or higher.

ME-BMK SPECIFICATIONS

DC volts	7 to 70 (±0.5%) auto voltage detection
DC amps	±0.1 to 999 (±1.0%)
Battery SOC %	0 to 100% (1% increments)
Power draw	< .6 watts
Amp hours in/out	±32,768 amp hours (1 AH increments)
rAH out (resettable amp hours removed)	0 to 65,535 amp hours, resettable (0.1 AH increments)
tAH out (total amp hours removed)	0 to 65,535,000 amp hours (0.1 k or 100 AH increments)
Minimum/maximim DC	7 to 70 VDC, resettable
Shipping weight	2 lb (.9 kg)
Kit includes	Manual, sense module, DC shunt, twisted pair wire, and communication cable
Sense wire	Twisted pair –blue & orange, 5' length, 18 AWG wire
Communication cable	4-conductor, 10' twisted pair, telephone standard
Remote requirements	Use with an ME-RC with firmware revision of 2.0 or higher or an ME-ARC (all revisions)
DC SHUNT (NOT INCLUDED WITH THE ME-BMK-NS KIT)	
Resistance	0.1 milliohm (500A at 50mV)
Continuous current	410 amperes maximum
Overload current	Overloads to 500 amps for less than 5 minutes if normally operated at less than 300 amps

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

ME-BMK BASIC CONFIGURATION DIAGRAM



CONDUIT BOX

Model Numbers

- ME-CB

Works With

	PAGE
MS Series	28
MS-PAE Series	6
MSH-RE Series	32
RD Series	34

The ME-CB conduit box is designed to work with Magnum ME, MS, MS-PAE, and RD Series Inverter / chargers. It provides an enclosure for AC and/or DC wiring and has knockouts for ½", ¾", 1", and 2" trade-size conduit. The ME-CB adds just over 5" (13 cm) to the length of the inverter.

MAGNUM PANEL EXTENSION CONDUIT BOX

Model Numbers

- MPX-CB

Works With

	PAGE
MS Series	28
MS-PAE Series	6
MSH-RE Series	32
RD Series	34

The Magnum Panel Extension Conduit Box – MPX-CB – is the same conduit box that comes in our MPX kits, but does not include AC/DC breakers or wiring.

DC BREAKERS FOR THE PT100 CHARGE CONTROLLER

Works With

	PAGE
PT-100 Charge Controller	10

DIN rail mounted breakers to make installing the PT-100 Charge Controller even easier.

MODEL NUMBER	DESCRIPTION
BR-DC100-DIN	100A/125VDC, breaker for battery side of PT-100
BR-PV10-DIN	10A/250VDC, breaker for PV side of PT-100
BR-PV15-DIN	15A/250VDC, breaker for PV side of PT-100
BR-PV20-DIN	20A/250VDC, breaker for PV side of PT-100
BR-PV30-DIN	30A/250VDC, breaker for PV side of PT-100
BR-PV40-DIN	40A/250VDC, breaker for PV side of PT-100
BR-PV50-DIN	50A/250VDC, breaker for PV side of PT-100

DC LOAD DISCONNECT

Model Number
- ME-DCLD

Works With

PAGE

MS Series 28

MSH-RE Series 32

RD Series 34

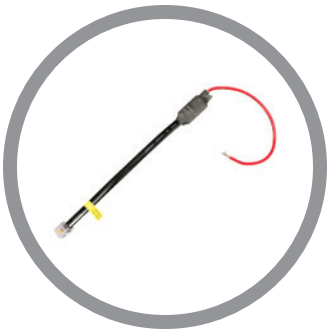
Model Number
- MM-DCLD

Works With

PAGE

MS-AE Series 24

The DC Load Disconnect is a pigtail adapter designed to automatically turn off the inverter via a 12 volt DC disconnect switch.



FUSE BLOCKS

Model Numbers
- ME-125F
- ME-200F
- ME-300F
- ME-400F

Works With

PAGE

ME-125F and ME-200 only

MM-AE Series 24

ME-300F and ME-400F only

MS Series 28

MS-PAE Series 6

MSH-RE Series 32

RD Series 34

Protection against costly damage: The ME-125F, ME-200F, ME-300F, and ME-400F protect the battery bank, inverter, and cables from damage caused by short circuits and overloads.

Complete kit in one package: Magnum Energy brand fuses include a Slow-Blow high current fuse, a mounting block, and protective cover.

FUSE SELECTION

CONDUCTOR GAUGE	CURRENT CAPACITY	RECOMMENDED FUSE RATING
4 AWG	125	125
1/0 AWG	200	200
2/0 AWG	290	300
3/0 AWG	310	300
4/0 AWG	360	400

THE MAGWEB: WEB MONITORING KIT

Model Numbers

ME-MW-W (wireless) • ME-MW-E (ethernet)

Works With

The MagWeb is a powerful and cost effective tool for remotely monitoring Sensata Technologies inverters and accessories. Installed on the Magnum network, the MagWeb provides live Internet monitoring of the inverter, battery monitor, and automatic generator start module.

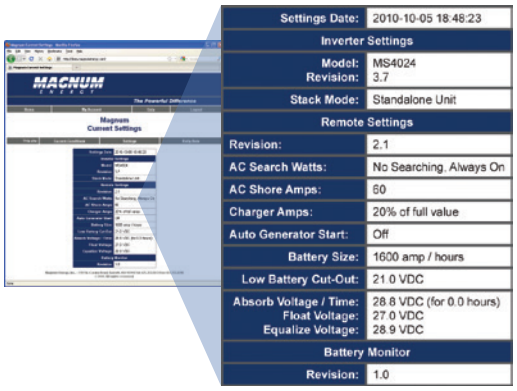
DATA SAMPLES

The MagWeb constantly streams data to your personal web pages, providing details on Current Conditions, Current Settings, and Daily Summaries for historical records. The samples below provide snapshots of the standard web pages.

WEB-BASED MONITORING

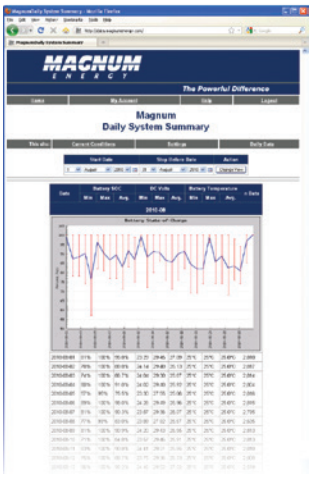
- Inverter/Charger
  - Status
  - Program Settings
  - Faults
  - DC volts, DC amps
  - Invert, Charge LEDs
- Tech menus
- Battery Monitor status
- Auto Gen Start (AGS) status

Current Settings

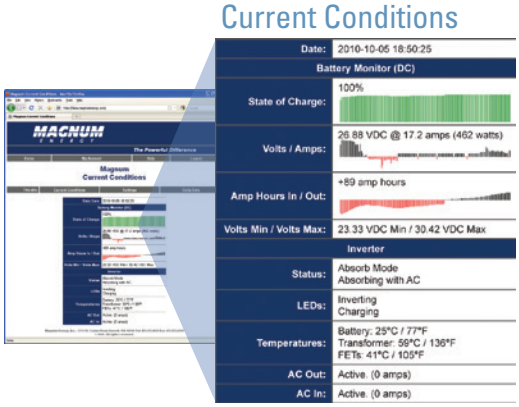


Settings Date:	2010-10-05 18:48:23
Inverter Settings	
Model:	MS4024
Revision:	3.7
Stack Mode:	Standalone Unit
Remote Settings	
Revision:	2.1
AC Search Watts:	No Searching, Always On
AC Shore Amps:	60
Charger Amps:	20% of full value
Auto Generator Start:	Off
Battery Size:	1600 amp / hours
Low Battery Cut-Out:	21.0 VDC
Absorb Voltage / Time:	28.8 VDC (for 0.0 hours)
Float Voltage:	27.0 VDC
Equalize Voltage:	28.9 VDC
Battery Monitor	
Revision:	1.0

Daily System Summary



Current Conditions



Date:	2010-10-05 18:50:25
Battery Monitor (DC)	
State of Charge:	100%
Volts / Amps:	26.88 VDC @ 17.2 amps (462 watts)
Amp Hours In / Out:	+89 amp hours
Volts Min / Volts Max:	23.33 VDC Min / 30.42 VDC Max
Inverter	
Status:	Absorb Mode Absorbing with AC
LEDs:	Inverting Charging
Temperatures:	Battery: 25°C / 77°F Transformer: 59°C / 136°F FETs: 41°C / 105°F
AC Out:	Active. (0 amps)
AC In:	Active. (0 amps)

MAGWEB PRO

AVAILABLE SOON

The MagWeb Pro will save and display data locally. Don't have an always on internet connection? Connect via a thumb drive, Ethernet cable, or WiFi. The MagWeb Pro will upload your data to the Magnum Server when internet access does become available.

MAGWEB SPECIFICATIONS

ME-MW-W / ME-MW-E	
SAMPLE RATE	
Fixed 30 second sample interval	
2,800 measurements per day	
COMMUNICATION – 802.15.4 XBEE WIRELESS	
US version	2.4 GHz, 63 mW (+18 dBm) 300' indoor range, up to one mile line of sight outdoor range
International version	2.4 GHz, 10 mW (+10 dBm) 200' indoor range, up to 2,500' line of sight outdoor range; special order only
Low power version	2.4 GHz, 1 mW (+0 dBm) 100' indoor range, up to 300' line of sight outdoor range; special order only
Direct Sequence Spread Spectrum (DSSS)	
RP-SMA connector and included rubber duck antenna	
Requires 802.15.4 XBee to Ethernet wireless gateay	
Wireless agency approvals	United States (FCC Part 15.247) Industry Canada (IC) Europe Japan Australia
POWER DRAW	
MagWeb	< 0.1 watts average from Magnum bus
Wireless Gateway	< 4 watts average from 120 VAC
MATERIALS	
MagWeb case	ABS plastic, flame retardant, UL94V-0
Wireless Gateway case	Anodized aluminum
All parts are RoHS compliant, no lead used in manufacture	
PHYSICAL SPECIFICATIONS	
Shipping weight	3 lb (1.36 kg)
KIT INCLUDES	
MagWeb 802.15.4	Manual Communications cable (2-conductor, 10' twisted pair, telephone standard) Mounting screws Antenna
Wireless 802.15.4 Gateway	Antenna Ethernet cable, 10' AC adapter (Energy Star, North American plug)
REMOTE REQUIREMENTS	
ME-RC or ME-ARC required when monitoring device(s) other than inverter	

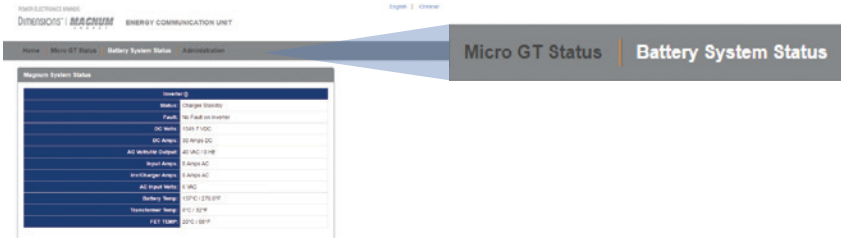
Testing for specifications at 25° C. Specifications subject to change without notice.

THE MAGWEB GT

Model Numbers
ME-MGT-MW
AVAILABLE SOON

Works With

The Magnum Energy MagWebGT is a state-of-the-art communication device to remotely monitor your MicroGT inverters and accompanying battery-based MS-PAE Inverter/Charger, all from one dashboard. Communicating in real time, the MagWebGT will transfer data from each microinverter and MS-PAE to the Sensata webserver, allowing you to access invaluable data on the performance of your system.



FEATURES

- Collects statistics from both MicroGTs and MS-PAEs installed on the system
- Easy-to-read analytics via any web browser
- Easy network integration PLC or ZigBee communication
- Access live and historical data

COMMUNICATION INTERFACE	
Communication	Powerline (PLC) or Zigbee
Ethernet	10/100M
USB Interface	Standard
POWER REQUIREMENTS	
AC outlet	110-240 VAC, 50-60 Hz
Power consumption	2.5W
GENERAL FEATURES	
Warranty	Three years
Listings	ANSI/UL 60950-1, CAN/CSA C22.2 No.60950-1,UL50E, FCC part 15,ICES-003
ENVIRONMENTAL SPECIFICATIONS	
Ambient temperature	Natural Convection
Enclosure environmental rating	Indoor-NEMA 1 (IP30)
PHYSICAL SPECIFICATIONS	
Dimension (WxHxD)	7.1" x 4.4" x 1.6" (18.0 cm x 11.2 cm x 4.1 cm)
Weight	0.83lbs (.38 kg)

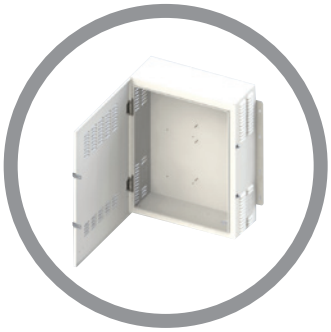
Testing for specifications at 25° C. Specifications subject to change without notice.

OUTDOOR ENCLOSURE – NEMA 3R-RATED – MP-ODE

Model Numbers

- MP-ODE

The NEMA 3R-rated MP-ODE weather-resistant, protective outdoor enclosure is designed to install your Magnum Energy system, including inverter/charger, PT-100 controller, MMP, and remote control. The MP-ODE has gasket-lined openings protecting against falling rain, sleet, snow and external ice formation. It also has screened ventilation slots to prevent debris or pests from entering and to ensure adequate airflow, multiple knockouts to facilitate conduit installation for wire runs, and pre-drilled holes for securing it to a vertical surface.



REMOTE - ME-ARC

Model Numbers

- ME-ARC50
  Includes ME-RC-BZ bezel

Works With

	PAGE
MM-AE Series	24
MS Series	28
MS-PAE Series	6
MSH-RE Series	32
RD Series	34

This advanced feature remote offers the same simple push button operation of the ME-RC with advanced features and setup menus. The ME-ARC features a **Favs** button for storing up to five of your favorite setup menus, a **Control** button for fast easy control of the inverter, charger, and generator, meter button with AC and DC meters, advanced setup menus, and advanced tech menus.

Easy-to-read: The large LCD screen and at-a-glance LEDs display the inverter/charger status in a straight-forward way. Soft keys give simple access to menus and a rotary encoder knob makes it easy to quickly scroll through menus and select settings.

Non-volatile memory: Critical settings are saved even if the power is disconnected.

No cross platform confusion:
The ME-ARC remote is the same remote used on all Magnum Energy brand Inverter/Charger models in the ME, MS, MS-PAE, RD, MM, and MMS lines.

A standard 50’ 4-wire, twisted pair cable allows for plenty of room to display the Remote with ease.

REMOTE - ME-RC

Model Numbers
- ME-RC50

Works With

	PAGE
MM-AE Series	24
MS Series	28
MS-PAE Series	6
MSH-RE Series	32
RD Series	34

The ME-RC is designed to be simple to use while offering multiple functions in one place.

Comes with a standard 50' 4-wire, twisted pair cable.

REMOTES -MM-RC

Model Numbers
- MM-RC25

Works With

	PAGE
MMS Series	26

The low-cost, easy-to-read MM-R and MM-RC Remotes are designed to work with the MM and MMS Series Inverters and Inverter/Chargers.

FEATURES	
LEDs	Three LEDs: Invert, AC In, and Fault Modes Six LEDs: Invert, AC In, Fault Modes, Bulk, Absorb, and Float On/Off: Turns inverter or charger on or off and defeats "search" mode
Mounting	Includes bezel for suface mount or flush mount
Included with the Remote	25' phone cable

ROUTER - ME-RTR

Model Numbers
- ME-RTR

Works With

	PAGE
MS-PAE	6

The Magnum Energy brand Router from Sensata Technologies is a combination of the ME-ARC advanced feature remote and a communication hub for MS-PAE parallel units all in one easy-to-install and operate unit. The ME-RTR features full inverter/charger setup and control, four-line LCD display, four parallel stacking ports for the MS-PAE Series inverter/charger, communication ports for ME-AGS-N or ME-BMK accessories, and a two wire voltage controlled auxiliary relay.

REMOTE BEZEL - ME-RC-BZ

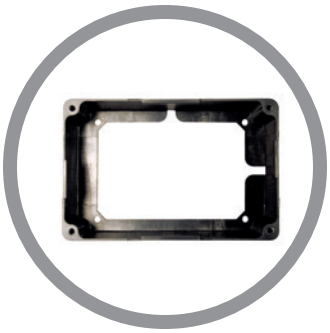
Model Numbers

- ME-RC-BZ

Works With

	PAGE
ME-RC	46

Mounting bezel for the ME-RC remote, allowing the ME-RC to be surface mounted.



REMOTE SWITCH ADAPTER

Model Numbers

- ME-RSA (use SPST switch)
- ME-RSA-M (use momentary switch)

Works With

	PAGE
MS Series	28
MSH-RE Series	32
RD Series	36

The Remote Switch Adapter is a pigtail adapter designed to provide a simple on/off remote switch.

SERIES STACKING CABLE KIT

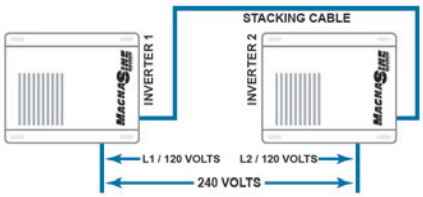
Model Numbers

- ME-SSI

Works With

	PAGE
MS4024	28
MS4048	28

The Series Stacking Cable Kit allows two inverters to be stacked together to achieve 120/240 VAC output. Series stacking is commonly used for well pumps, tools, motors, and other 240 VAC appliances. The kit includes communication cable, two 2/0 battery cables, and battery lug covers.



ACCESSORY AND INVERTER CROSS-REFERENCE

Chart provided for reference only.
Please see product and accessory descriptions for full compatibility.

SERIES NAME	MicroGT 500 Inverter	MS-PAE Series Inverter/ Charger	MM-AE Series Inverter/ Charger	MMS Series Inverter/ Charger	MS Series Inverter/ Charger	MSH-RE Series Inverter/ Charger	RD Series Inverter/ Charger
OUTPUT POWER RANGE	500W	4000-4400W	600-1500W	1000W	2000-4000W	4000W	1800-3900W
ACCESSORY NAME							
AC Load Diversion Controller (ACLD-40)		●					
Automatic Generator Start (ME-AGS)		●			●	●	●
Battery Monitor Kit (ME-BMK)		●	●		●	●	●
Conduit Box (ME-CB & MPX-CB)		●			●	●	●
DC Load Disconnect (ME-DCLD)				●	●	●	●
Fuse Blocks		●	●	●	●	●	●
MagWeb		●	●	●	●	●	●
MagWeb GT	●	●					
MMP Panels		●			●	●	●
MP Panels		●			●		
Charge Controller (PT-100)		●			●	●	
Remote - Advanced (ME-ARC)		●	●	●	●	●	●
Remote (ME-RC)		●	●	●	●	●	●
Remote (MM-RC)				●			
Remote Switch Adapter (ME-RSA)					●	●	●
Router (ME-RTR)		●					
Series Stacking Interface (ME-SSI)					●		

MAGNUM ENERGY

Magnum Inverter/Charger Features Comparison

You asked and Magnum listened.
Our Inverter/Chargers are powerful, easy-to-use, and best of all, cost effective.

Safe and reliable: Our inverter/chargers are ETL Listed to the stringent requirements of UL/cUL 458 for mobile use and/or UL 1741 for off grid installations.

Modified sine wave or pure sine wave: Most Magnum inverters provide pure sine wave power. Run your T.V.s, stereos, plasma screens, and other sensitive electronics without worry. The cost effective pure sine wave inverter chargers provide clean, reliable power with low total harmonic distortion (THD) of less than 5%.

For an even more cost effective choice, Magnum also provides modified sine wave inverters. These units will provide power that will efficiently run 90% of the electronics on the market.

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 only 15 amps per 100 amps versus 23 amps used by standard chargers.

Choices: Magnum inverters come in multiple power models and 12, 24, and 48 volt configurations, allowing you to choose the model that is right for you.

Lightweight: 20% lighter than comparable models, Magnum inverters use an aluminum base and cover that provide noise reduction and corrosion resistance. These lighter weight models are also designed to be overnight shippable if necessary.

Accessible design: Extra large AC access cover with terminal screw block and 360° DC connection terminals with covers make inverters more accessible when needed.

Dual inputs: With 60 Amp transfer service available on most models, our inverters allow you to take advantage of the more balanced power of a 240 volt generator.

Buy with ease: All inverter/chargers are backed by a three-year (36-month) or two-year (24-month) limited warranty.

Accessories to customize systems: Available accessories include remote controls, AGS modules, fuses, and series stacking cable kits. And our accessories line utilizes a more consistent design from one product to another. Learn our easy-to-use remote for your home, boat, and RV.

Field repairable: You probably won't have any problems with a Magnum product, but if you do, our units are field repairable, saving you time and money if your unit ever needs service.

MAGNUM ENERGY

Inverter/Charger Feature Comparison

Key ✓ Standard on all models O Available on some models M Maybe, ask your dealer

Feature Comparison	Comparable Inverter/Chargers	Magnum's Inverter/Chargers
Power Factor Corrected (PFC) Charger		✓
Dead Battery Charging	M	✓
AGS Option with Temperature and Volts	M	✓
Network Compatible	O	✓
60 Amp Transfer Relay (Dual 30 Amp input/outputs)		O
Lighter Weight (Up to 20% lighter)		✓
Line Sync Transfer (Faster transfer)		✓
Dual In / Dual Out		O
Branch Rated Output Breakers (Opt)	O	✓
Standard Platform (2k – 4.4k)	O	✓
H Bridge Technology	M	✓
Service Friendly Modular Design		✓
Die Cast Aluminum Base (Better cooling)		✓
Bulkhead Mount	M	✓
Shelf and Under Shelf Mount		✓
Five Stage Charger (Bulk, Absorb, Float, EQ, Battery Saver™)	Three stage	✓
Battery Temperature Sensor Included	M	✓

Performance and Mechanical Comparison		
Automatic Reset from Low Battery Fault	✓	✓
Output Voltage Regulation at Rated Load 12 VDC		120 ± 6 VAC
Input Amps AC at Rated Charge Rate (100 Amp charger)	23 AAC	15 AAC
Dedicated Diagnostic Tools	✓ (LED indicators only)	✓ (LCD display)
Temperature Sensor Mounting Method Provided	✓ (Ring terminal)	✓ (Ring Terminal)
Charger Temperature Rating to Full Charge Rate	25 °C	40 °C (ME Series)
Inverter Temperature Rating to Full Power	25 °C	45 °C (ME Series)
Chassis Construction	.060 Steel	Diecast / Sheet Aluminum
Chassis Coating (Powder coated)	M	✓
Clean Internal Construction (Minimum hardware)	M	✓
Clean Point-to-Point Wiring	M	✓
Modular Design for Easy Service	M	✓
Gold-plated Low Voltage Connectors for Low Corrosion	M	✓
Internal / External Hardware Used (Stainless steel)	O	✓
Battery Connection Hardware (Stainless steel)	O	✓
AC Wiring Connections (Most models)	Flying Leads	Terminals Block
AC Wiring Compartment Access	Good	Excellent

Features of the Optional ME-RC Remote	Comparable Remotes	Magnum's Remotes
Two-line LCD Display	O	✓
"One Spin"™ User Friendly Remote		✓
Adjustable Charge Rate	O	✓
Adjustable Low Battery Cut Out	O	✓
Dedicated Inverter and Charger On/Off Buttons	M	✓
Lead Acid, AGM, AGM2, Gel, and Custom Battery Type	M	✓

Sensata Technologies

Lithium Battery Settings
QUICK REFERENCE GUIDE

Using the Magnum Energy ME-RC or ME-MR Remote Controls, set Magnum Energy inverter/chargers to charge lithium iron phosphate (LFP) batteries.

Access LFP battery settings via built-in RV control panels using the ME-RVC bridge.

STANDARD LFP SETTINGS AVAILABLE FOR THE FOLLOWING MAGNUM ENERGY INVERTER/CHARGER MODELS

- MS2000
- MS2012
- MS2812
- MS2024
- MS4024
- MS4048
- MSH3012M
- MSH3012RV
- MSH4024M
- MMS1012
- MMSA1012

ME-RC Remote Control

From the ME-RC Remote Control version 2.9 or higher, program your Magnum Energy inverter/charger to charge lithium batteries.

STEP ONE: Set the Low Battery Cutout to battery manufacturer's specifications.

Press Setup

Rotate to Low Battery Cutout

```
Status...
02 LowBattCutOut
```

Press Rotary Knob to select

Rotate to battery manufacturer's specs, or 11.0 VDC if not specified.

```
Status...
LowBattCutOut = 11.0
```

Press Rotary Knob to save

STEP TWO: Set the Absorb Time setting to battery manufacturer's specifications. The setting is determined by the 20-hour amp-hour capacity of your battery bank.

Press Setup

Rotate to Absorb Time

```
Status...
03 Absorb Time
```

Press Rotary Knob to select

Rotate to 1 hour

```
Status...
Absorb Hrs = 1.0
```

Press Rotary Knob to save

STEP THREE: Set the Battery Type setting to LFP.

Press Setup

Rotate to Battery Type

```
Status...
04 Battery Type
```

Press Rotary Knob to select

Rotate to LFP

```
Status...
BatType = LFP
```

Press Rotary Knob to save

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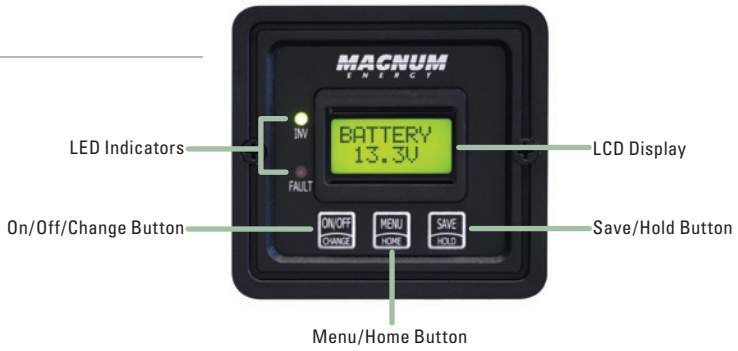
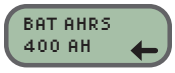
ME-MR Remote Control

From the ME-MR Remote Control version 1.3 or higher, program your Magnum Energy inverter/charger to charge lithium batteries.



STEP ONE: Set the Battery Amp Hours to 200 AH = 1 hour.

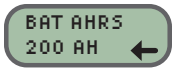
Press Menu/Home button until the display shows BAT AHRS



The current "saved" setting is indicated by an arrow in the bottom right-hand corner of the display

Press On/Off/Change button until 200 AH is shown

Press Save/Hold button to save the 200 AH setting



STEP TWO: Set the Battery Type setting to LFP.

Press Menu/Home button until the display shows BAT TYPE

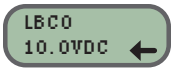
The current "saved" setting is indicated by an arrow in the bottom right-hand corner of the display

Press On/Off/Change button until LFP is shown

Press Save/Hold button to save the LFP setting

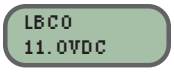
STEP THREE: Set the Low Battery Cutout to battery manufacturer's specifications.

Press Menu/Home button until the display shows LBCO

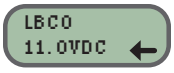


The current "saved" setting is indicated by an arrow in the bottom right-hand corner of the display

Press On/Off/Change button until correct Low Battery VDC setting is shown for your battery specs, or 11.0VDC if not specified.



Press Save/Hold button to save the LBCO setting



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Router and Remote Comparison

MAGNUM ENERGY

							
	ME-ARTR	**ME-RTR**	**ME-ARC50**	**ME-RC50**	**ME-MR25**	**MM-RC25**	**MM-R25**
	Advanced router provides system-level connectivity and programming for large Magnum Energy installations. 8.94" x 6.63" x 1.94" (22.7 x 16.8 x 4 cm)	Note: the ME-RTR is no longer available. It has been replaced by the ME-ARTR. 8.94" x 6.63" x 1.94" (22.7 x 16.8 x 4 cm)	Advanced remote control for easy control via a rotary knob of a Magnum inverter/ charger, ME-AGS-N, and ME-BMK. 3.63" x 5.63" x 1.00" (9.2 x 14.3 x 2.5 cm)	Remote control designed for easy use with a rotary knob. Works with Magnum inverter/chargers, ME-AGS-N, and ME-BMK. 3.63" x 5.63" x 1.00" (9.2 x 14.3 x 2.5 cm)	Remote control designed to control a Magnum Energy inverter/charger. 3.00" x 2.88" x 1.25" (7.6 x 7.3 x 3.2 cm)	Simple on/off control for Magnum MM Series inverter/ chargers. 2.88" x 1.75" x 1.25" (7.3 x 4.4 x 3.2 cm)	Simple on/off control for Magnum MM Series inverters. 2.88" x 1.75" x 1.25" (7.3 x 4.4 x 3.2 cm)
System-wide visibility and programming	●						
Inverter control and display	●	●	●	●	●	●	●
Independent control	●	●	●	●	●	●	
Menu-driven set-up and troubleshooting	●	●	●	●	●		
LCD | rotary knob	●	●	●	●			
Non-volatile memory	●	●	●	●	●	●	●
Independent display of inverter and charger	●	●	●	●			
Advanced inverter, BMK, AGS-N set-up menus (system control)	●	●	●				
Multiple battery bank monitoring	●	●					
Parallel stacking: inverters	●	●					
Stacking up to seven PT-100 charge controllers	●						
Field upgradeable with microSD card	●						

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