



**SOLID POWER. YOUR POWER.**

Demanding boat builders and operators alike know that a vessel's electrical system is the lifeline of the boat, and insist on Charles Marine AC and DC power solutions to provide safe, reliable power whether cruising or in port. **SOLID POWER** is more than a marketing slogan at Charles Industries, it's a corporate philosophy. **SOLID POWER** is embodied in our strict adherence to manufacturing standards of excellence; our dedication to supplying your electronics with safe, reliable power; our passion for innovation; and our commitment to the industry's best customer service both before and after the sale.

**SOLID  
POWER**

## MARINE AC SYSTEMS



### ISOLATION TRANSFORMERS

Fully isolates the boat from potential shore-side hazards. Protects onboard electrical equipment and electronics. Eliminates the need for galvanic isolators and corrects reverse polarity deleting the need for alarms. Meets all ABYC and USCG standards. Models from 3.6 kVA to 24 kVA.



### AC MASTER CONTROLS

Maximizes AC input capabilities. Automatically transfers AC Power from multiple inlets and generators (maximum of 4 inputs) on 50 and 100 Amp, 240 VAC electrical systems. 50 Amp and 100 Amp units.



### ISO-BOOSTS WITH SOFTSTART

Units combine all the functions of an isolation transformer with RMS voltage sensing and seamless switching circuit, providing the ability to automatically boost low shore power voltage by increasing voltage up to 15%. Remote monitoring panel with diagnostic LEDs available. 12 kVA and 24 kVA models.



### A/B SELECTOR SWITCHES

Automatically senses location of 2 power sources: port/starboard, or fore/aft. Selects AC connection and locks out a second power source. Eliminates the danger of live unused inlets, crossed connection potential and the need for manual switch gear. Available for 120V 30/50 Amp, 240V 50 Amp and 240V 100 Amp applications.



### SMARTBOOST UNIVERSAL AC VOLTAGE BOOSTER

Fully automatic and designed to increase incoming AC shore power voltage when dockside power drops below 208 VAC, provides 13% AC voltage boost to any existing transformer up to 50 Amps. May be connected to any manufacturer's 12 kVA or 15 kVA (50 Amp) isolation transformer.



### SHOREBOOST PORTABLE AC POWER BOOSTER

"Portable" dockside boosting module monitors fluctuating shore power. Detects drops to or below 208 VAC, reliably provides 13% voltage boost to the AC system. Used in tandem with a 240V 50 Amp transformer.



### PM<sup>3</sup> AC POWER MANAGEMENT SYSTEM

Designed for vessels 50' and above, harnesses 100 Amp onboard power from two 50A 240 VAC dockside shore power sources. Unique 3-piece modular design allows boat builders to disperse the size and weight of the product as required onboard

## SALES SUPPORT

(Monday - Friday, 8:00 AM - 5:00 PM CST)

Phone: (847) 806-6300  
Fax: (847) 806-6653  
Email: [mktserv@charlesindustries.com](mailto:mktserv@charlesindustries.com)  
Web: [www.charlesindustries.com](http://www.charlesindustries.com)

## TECHNICAL SUPPORT

(Monday - Friday, 8:00 AM - 5:00 PM CST)

Phone: (800) 830-6523 or (217) 932-2317  
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Email: [marine.industrial@charlesindustries.com](mailto:marine.industrial@charlesindustries.com)  
Web: [www.charlesindustries.com](http://www.charlesindustries.com)  
(includes Owner's Manual archive)



Charles Marine & Industrial Group  
[www.charlesindustries.com](http://www.charlesindustries.com)

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# MARINE DC SYSTEMS



## HQ SERIES BATTERY CHARGERS

Rugged battery charger and power supply all in one. ABS Type Approved, meets USCG (10B) and ABYC (A-31) construction standards for 150 gross ton vessels and/or vessels over 90 meters. 120/240 VAC input and 12 or 24 VDC output.



## 5000 SP SERIES BATTERY CHARGERS

Marine UL Listed and meets ABYC (A-31), 3-stage charging with temperature compensation (30 Amp and greater models) delivers the greatest charge when the battery is most able to accept it, prevents overcharging, and extends battery life. Battery type selector switch accommodates Lead Acid, Gel or AGM batteries. Thermal, over current, ignition and reverse polarity protection. 12V Models: 10-100 Amps, 24V Models: 10-60 Amps.



## 2000 SP SERIES BATTERY CHARGERS

Meets ABYC (A-31), 3-stage charging with temperature compensation (30 Amp and greater models) delivers the greatest charge when the battery is most able to accept it, prevents overcharging, and extends battery life. Battery type selector switch for Lead Acid, Gel or AGM batteries. Thermal, over current, ignition and reverse polarity protection. 12V Models: 10-50 Amps.



## 9000 SERIES BATTERY CHARGERS

Marine UL listed and Meets ABYC (A-31), chargers use self-regulating ferroresonant transformers to charge up to three battery banks simultaneously. Rugged stainless steel enclosures. Accurately charge lead-acid batteries only. 12, 24 or 32 VDC models.



## POWER SUPPLIES

Used in place of batteries to power onboard DC equipment. Provide constant 14.4 VDC and accept variances in frequency (45 - 65 Hz) and variances in AC input (120V models: 90-135 VAC, 220V models: 180-270 VAC).



Please visit [www.charlesindustries.com](http://www.charlesindustries.com) for product specifications, warranties and ordering information.



## 10 REASONS TO BUY A CHARLES C-CHARGER® BATTERY CHARGER

### 1. Fully automatic recharging

Batteries must optimally perform in the marine environment, yet they are susceptible to a vast number of ills, including misuse. If used incorrectly, they will begin to degenerate and battery cells may be lost. Charles C-Chargers automatically recharge batteries to 100% with accurate current and voltage regulation. In larger units, (30 amp - 100 amp models) automatic temperature compensation guarantees fast, safe and efficient charging.

### 2. Ability to simultaneously recharge and act as a power supply

C-Chargers function as both a battery charger and a power supply that automatically boosts the 12/24V circuit to full capacity when input voltage is low. Thus, DC loads can run off of the battery charger if necessary.

### 3. Designed for safety

C-Chargers feature thermal, over-current, reverse polarity and ignition protection. Units 30 Amps and above have built-in temperature compensation. These safety features safeguard your power systems and prevent expensive damage to onboard equipment.

### 4. Built to withstand harsh marine environments

All Charles C-Chargers feature UL recognized, corrosion-resistant components and housings. All PC boards are conformal coated to stabilize hydrolytes and withstand the marine environment.

### 5. One charger for any battery type

Charles' new 5000 SP and 2000 SP Battery Chargers feature a battery type selector switch. This feature allows the boater to set the charger for either lead-acid, gel or AGM batteries. With Charles C-Chargers, you will not need to continuously replace batteries. C-Chargers are designed to accurately charge the batteries, neither under-charging nor over-charging, thus prolonging battery life.

### 6. Marine UL Listed

Charles 5000 SP Series High-Frequency and 9000 Series Ferroresonant Battery Chargers are Marine UL Listed. These chargers have passed Underwriters Laboratories' stringent tests including shock, vibration, temperature and corrosion. This continuous testing and inspection ensures that you are receiving the best quality product.

### 7. Low emissions

All models are designed for low emissions to prevent electrical interference. Thus, the chargers will not significantly interfere with onboard equipment.

### 8. Made in the USA

Charles is a vertically integrated company, manufacturing components and finished goods with pride in the midwestern United States.

### 9. Industry's best warranties

Charles' 5000 SP series and 9000 series battery chargers feature a 5-year warranty that sets the standard for marine battery chargers.

### 10. Designed to improve battery longevity and save you money

C-Chargers are designed to accurately charge batteries, neither over nor under charging them, to keep battery cells healthy. All electronic chargers feature isolated outputs, eliminating the need for a battery isolator and protecting one battery from discharging into another.