

### Extends life of batteries

The P12 Battery Charger integrates 5 critical features which enable batteries to charge according to manufacturers' recommendations

1. User Defined Charge Profiles for setting voltages to match the battery manufacturer's recommendations
2. User Defined Absorption Stage Values determine when the charger should exit Absorption Stage in order to prevent overcharging
3. Charge Coordination™ integrates with Blue Sea Systems' Automatic Charging Relays to separate battery banks while the P12 is charging
4. PreFloat™ Stage helps prevent over charging by individually moving batteries out of Absorption Stage
5. Battery Temperature Compensation adjusts charging voltage up (for colder batteries) or down (for warmer batteries) as recommended by battery manufacturers for proper battery performance



### Related Products



P12 Battery Charger LED Remote



SI-ACR



ML-Series Automatic Charging Relays



m-ACR

PN	Description	Volts
7521	25A Battery Charger	12V DC
7522	40A Battery Charger	12V DC

# P12 BATTERY CHARGERS



## Specifications

PN	7521	7522
Total Output Current	25A	40A
Input AC Current	4.5A @ 100V AC 2.25A @ 200V AC	7.5A @ 100V AC 3.75A @ 200V AC
Recommended	160Ah Minimum	220Ah Minimum
Nominal Output Voltage	12V DC	12V DC
Output Connections	3 positive, 1 negative	3 positive, 1 negative
Universal AC Input Voltage	90V-265V AC	90V-265V AC
Input Frequency Range	50/60 Hz	50/60 Hz
Typical Float Voltage	13.5V DC	13.5V DC
Maximum Available Voltage	16.0V DC	16.0V DC
Output Voltage Accuracy	0.05V DC	0.05V DC
Minimum Operating Temperature	-20°C (-4°F)	-20°C (-4°F)
Maximum Operating Temperature	70°C (158°F)	70°C (158°F)
Minimum Storage Temperature	-30°C (-22°F)	-30°C (-22°F)
Maximum Storage Temperature	80°C (176°F)	80°C (176°F)
Warranty	5 Year	5 Year
Battery Types*	FLA (Flooded Lead Acid), Gel, AGM, TPPL (Thin Plate Pure Lead)	FLA (Flooded Lead Acid), Gel, AGM, TPPL (Thin Plate Pure Lead)
Recommended for Battery Bank Sizes for maximum efficiency**	60Ah Minimum, Example: 2 x Group 27 330Ah Maximum, Example: 3 x Group 31	60Ah Minimum, Example: 2 x Group 31 440Ah Maximum, Example: 4 x Group 31

\* Consult battery manufacturer specifications for other battery types to avoid damage.  
**Do not mix battery types.**

\*\* Battery bank sizes are recommended for optimal charging efficiency-see [blueseas.com/P12](http://blueseas.com/P12) for details. Larger and smaller size banks could charge well, but consume slightly more power over the charging cycle.

## Regulatory

Designed and constructed for compliance to UL-1236 Marine, CSA 22.2 No. 107.2, and ABYC A-31 standards. Ignition Protection per ISO 8846, and SAE J1171. Meets FCC Part 15, Class B requirements. Designed and tested to comply with California Energy Commission (CEC) efficiency requirements. Ingress Protection Rated: IP32  
To view all regulatory specifications visit [www.blueseas.com/P12](http://www.blueseas.com/P12).

## Patent Pending

## BATTERY CHARGER SELECTION GUIDE

Estimated hours required to bring a 50% discharged battery to full charge

BATTERY SIZE	AMP-HOUR RATING	25A	40A
Group 27	90	3 hours	2 hours
Group 31	105	4 hours	3 hours
4 D	160	6 hours	4 hours
8 D	220	8 hours	5 hours
Dual 6V Golf Cart	225	9 hours	5 hours
Triple Group 27	270	10 hours	6 hours
Dual 8 D	440	17 hours	11 hours

Charge time is calculated based on no DC load present during charge cycle.

Consult Battery Manufacturer Specifications for maximum charge rate acceptance for your battery type.

The values in this chart are only approximations intended to present relative charge time for comparing one charger capacity to another.

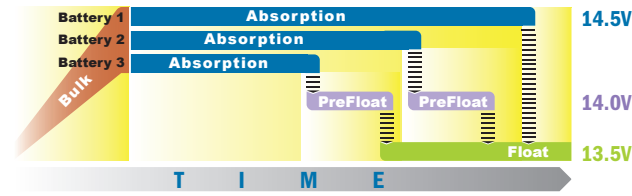
## 4 Stage Battery Charging with PreFloat

**Bulk Stage** charges batteries to 75-80% of full charge.

**Absorption Stage** slowly completes remaining charge to 100%.

**PreFloat Stage** moves each battery individually from Absorption to PreFloat, based on the need of each battery. This prevents overcharging and damage to the batteries. Up to 0.5V difference between Absorption and PreFloat voltages can be achieved.

**Float Stage** maintains battery charge.



Example of Flooded Lead Acid Battery

**Battery Equalization Mode:** User selected battery equalizing provides advanced battery conditioning, revitalizing FLA batteries.

## Conventional 3 Stage Battery Charging

Conventional battery chargers move all batteries from Absorption to the Float stage simultaneously with no ability to adjust for individual battery requirements.



Example of Flooded Lead Acid Battery

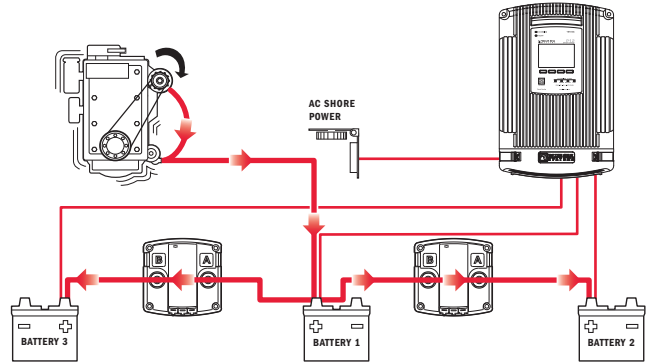
**Forced Absorption:** A period when batteries are potentially over charged.

## Charge Coordination Explained

**Charge Coordination** integrates with Blue Sea Systems Automatic Charging Relays to separate the battery banks while the P12 is operational. A boat's batteries typically spend less than 2% of their time being charged by the alternator. For the remaining 98% of the time they are being maintained by the AC battery charger. During this time, it is important that the proper charging stage of Bulk, Absorption, PreFloat, or Float be applied to each battery.

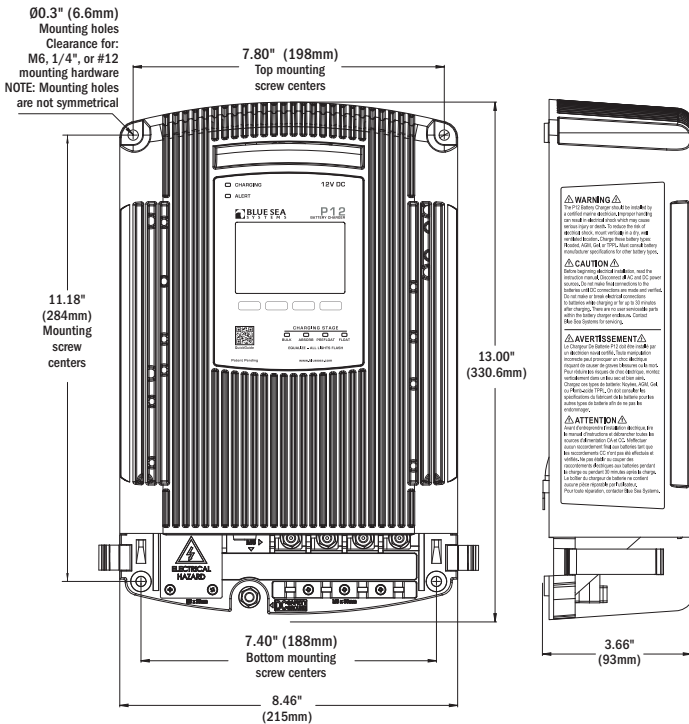
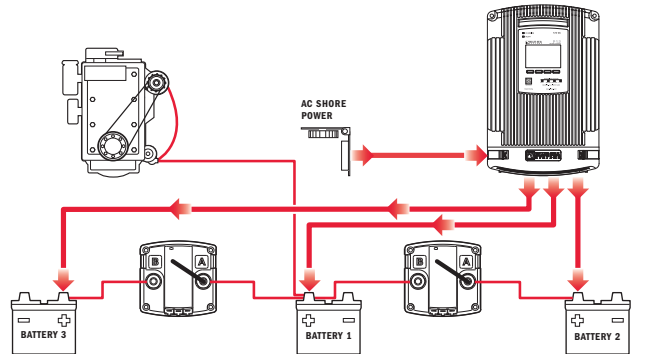
### UNDERWAY

When engine is running and alternator is charging batteries, ACRs combine batteries, providing charge to each battery from the engine.



### PLUGGED INTO SHORE POWER

When P12 Battery Charger is operating, communication with ACRs isolates batteries so the proper charge is applied to each battery.



Scan for additional product information

# Battery Charger Comparison Chart



	Blue Sea Systems	Xantrex	ProMariner	Charles	Victron Energy	Mastervolt
Series	P12	TRUECHARGE™2	ProNautic 1240P	5000 SP	Phoenix	ChargeMaster 12/35-3
Part Number	7522	804-1240-02	63140	93-12405SP-A	12/50	44010350
Amperage	40A	40A	40A	40A	50A	35A
Output Voltage - nominal	12V DC	12V DC	12V DC	12V DC	12V DC	12V DC
AC Input Voltage	90-265V AC, 45-65 Hz	90-265V AC, 47-63 Hz	100-250V AC, 50-60 Hz	95-140V AC, 50-60 Hz	90-265V AC, 45-65 Hz	90-265VAC, 50-60 Hz
Warranty	5 Years	2 Years	5 Years	5 Years	2 Years	2 Years
Case Construction	Cast Aluminum	Plastic	Plastic	Anodized Aluminum	Anodized Aluminum	Plastic
Made in the USA	✓	No	No	✓	No	No
PreFloat Stage	✓	No	No	No	No	No
User Selectable Battery Types:						
Flooded	✓		✓	✓	✓	✓
AGM	✓		✓	✓	✓	✓
Gel	✓		✓	✓	✓	✓
TPPL	✓	No	No	No	No	No
Custom	✓	No	✓	No	No	No
Multi-Language Display	✓	No	No	No	No	No
Optional Remote Display	✓	✓	✓	No	✓	✓
Temperature Sensor Included	✓	No	✓	✓	✓	✓
Charge Coordination with Blue Sea Systems ACR	✓	No	No	No	No	No
Adjustable Absorption Parameters	✓	No	No	No	No	No

Data collected 9/16/2014

## P12 Battery Charger LED Remote

Indicates battery charger stage, communicates alerts, and controls basic battery charger functions. Works with 25A and 40A P12 Battery Chargers.

### LED Indicators

- **Charging:** Quick check for green light confirms charging
- **Charge Stage:** Displays charging stage including PreFloat for each battery
- **Equalize:** Indicates when the charger is in equalization mode
- **Fan Mode:** Indicates charger's internal fan mode
- **Charge Output:** Displays the percentage of output current for each battery. Indicates maximum output setting when maximum output is adjusted to accommodate for AC source limitations
- **Alert:** Provides warning and alert status for quick diagnostics

### Four Control Buttons

- **Fan:** User adjustable settings, (OFF, LOW, or HIGH)
- **Dim / Alarm:** Provides adjustment to the brightness of LEDs on display as well as Silence function for alarms
- **Output:** User adjustable charger output when AC source limitations exist that require lowering the AC current draw
- **Standby:** Places P12 Battery Charger into standby mode

7520



Scan for additional product information



425 Sequoia Drive  
 Bellingham, WA 98226 USA  
 p 360.738.8230  
 p 800.222.7617 USA and Canada  
 f 360.734.4195  
 conductor@blueseas.com  
 www.blueseas.com

PN	Description	Voltage
7520	P12 Battery Charger LED Remote	12V DC
1521	360 Panel P12 Battery Charger LED Remote	12V DC



Scan for additional product information