



NEW

SALES BROCHURE

P12 BATTERY CHARGERS

**DESIGNED, ASSEMBLED,
AND TESTED BY
BLUE SEA SYSTEMS
IN BELLINGHAM, WASHINGTON**

Reliability

- **Rugged finned aluminum case** dissipates heat to help keep the battery charger electronics cool
- **Universal line voltage 90–265V AC, 45–65 Hz** for use anywhere, and is compatible with low voltage power sources
- **AC over and under voltage shut down and automatic restart**

Ease of use

- **Large bright full graphic control screen** with user interface
- **Plain-language text** in English, French, Italian, German and Spanish
- **Charge Coordination** integrates with Blue Sea Systems Automatic Charging Relays to separate the battery banks while the P12 is operational

Support

- **Intuitive diagnostic screens** provide a broad range of easily understood fault communications and operating history
- **Industry leading technical support team** of engineers
- **5 year warranty**



PN	Description	Volts
7521	25A Battery Charger	12V DC
7522	40A Battery Charger	12V DC
7520	P12 Battery Charger LED Remote	12V DC
1521	360 Panel P12 Battery Charger LED Remote	12V DC



Scan for additional product information



P12 BATTERY CHARGERS

ELECTRICAL PERFORMANCE

- **Universal line voltage 90–265V AC, 45–65 Hz** for use anywhere, and is compatible with low voltage power sources
- **AC input range** will continue to produce reduced DC output to as low as 75V AC
- **Power factor corrected** for efficient charging

ADVANCED MULTI-STAGE CHARGING

- Output for three 12 Volt battery banks
- Charge profiles for Flooded, Gel, Thin Plate Pure Lead (TPPL), and Absorbed Glass Mat (AGM)
- A user configurable charge profile is available for other battery types
- **PreFloat stage** prevents over charging by individually moving each battery out of the Absorption charging stage, so batteries near full charge do not receive the high constant voltages necessary for other batteries still in the Absorption stage

BUILT IN SAFETY FEATURES

- Ignition protected (test results pending)
- Over and under temperature protection for batteries
- Overheat protection
- DC over voltage protection
- DC reverse polarity protection
- Surge and short circuit protection



Specifications

PN	7521	7522
Total Output Current (Limited)	25A	40A
Nominal Output Voltage	12V DC	12V DC
Output Connections	3 positive 1 negative	3 positive 1 negative
Universal AC Input Voltage	90–265V AC	90–265V AC
AC Input Frequency	45–65 Hz	45–65 Hz
Maximum Output 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)
Maximum Parasitic Current	2mA	2mA
Warranty	5 Year	5 Year
Battery Types*	Flooded Lead Acid Gel AGM TPPL Thin Plate Pure Lead	Flooded Lead Acid Gel AGM TPPL Thin Plate Pure Lead

* Supports other battery types with a user adjustable charge profile

Regulatory

Design and construction compliance to UL-1236 marine-including ignition protection, and CSA 22.2 No. 107.2-0 standards (UL listing and CE pending). Meets all elements of ABYC A-31 and certain NMEA requirements. To view the most current regulatory certifications, visit www.blueseas.com/P12.

BATTERY CHARGER SELECTION GUIDE

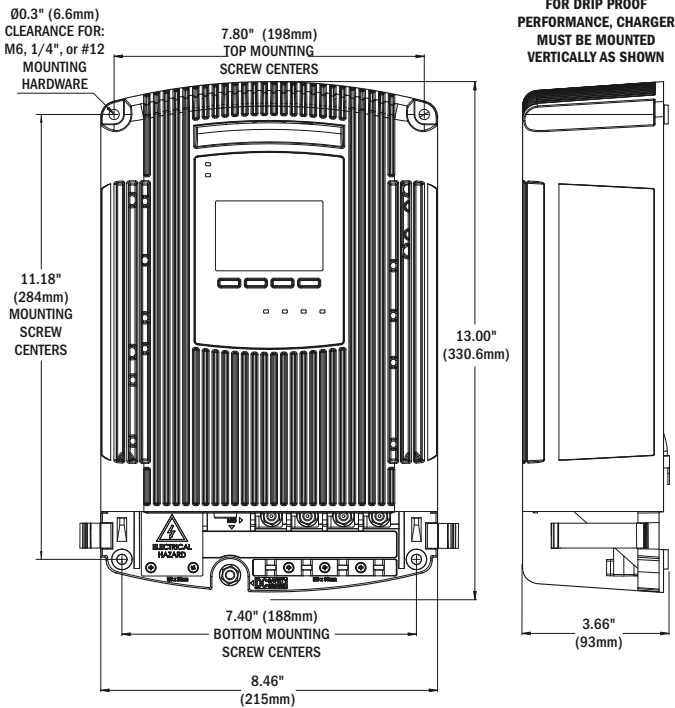
Estimated hours required to bring a 50% discharged battery to full charge

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.



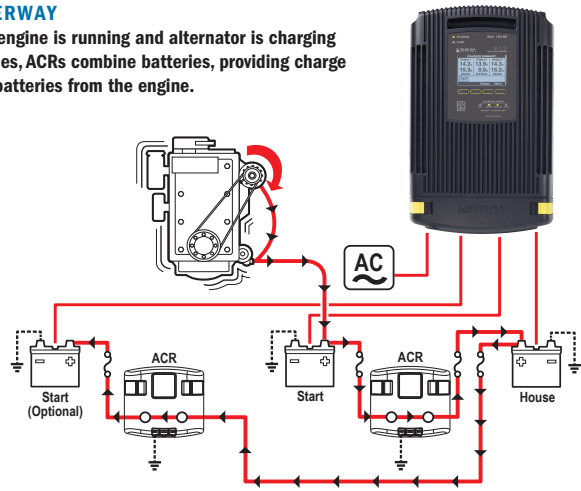
Connections
Easily accessed, robust connection section designed for maximum safety

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.

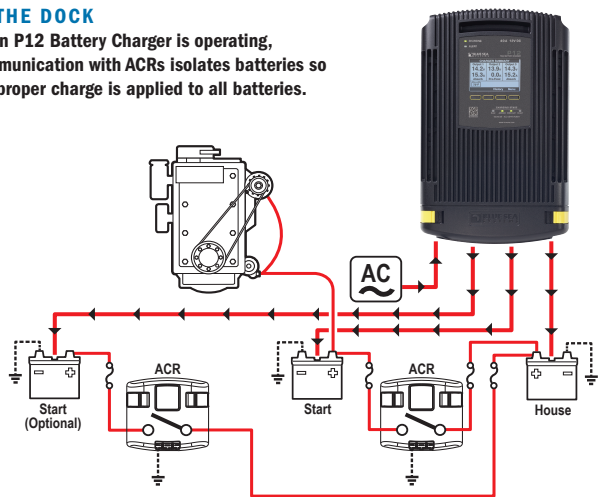
UNDERWAY

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



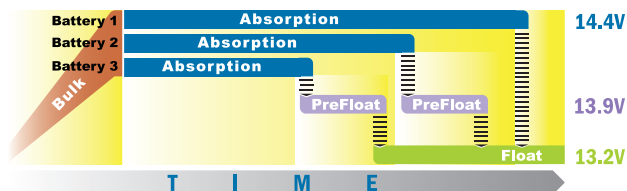
AT THE DOCK

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



4 Stage Battery Charging with PreFloat

- Bulk** charges batteries to 75-80% of full charge.
- Absorption** slowly completes remaining charge to 100%.
- PreFloat** 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** maintains battery charge.

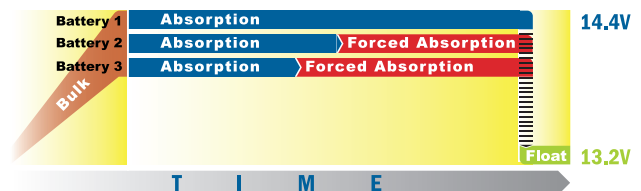


Example of Flooded Lead Acid Battery

Battery Equalization Mode: User selected battery equalizing provides advanced battery conditioning, revitalizing wet acid 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.

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	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

Data collected 9/4/2013

P12 Battery Charger LED Remote

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

LED Indicators

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

Four Control Buttons

- **Fan**- User adjustable settings
- **Dim/Alarm**- Provides adjustment to brightness of LEDs on display as well as Silence function for alarm.
- **Output**- User adjustable charger output when AC source limitations exist that require lowering the AC current draw.
- **Power**- Places P12 Battery Charger into standby mode



7520

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



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