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Press Release

Chad Beauregard Joins the Blue Sea Systems Engineering Team

With his strong background in embedded systems, Chad's strengths complement those of others on staff.

Read the [press release](#).



[printable version](#)

DID YOU KNOW...

Starting July 31, 2010, boatbuilders must begin installing Equipment Leakage Circuit Interrupters (ELCI) on boats with shore power systems.

Read the [technical brief](#).

EVENTS

IBEX Show

Sept. 28-30, 2010
Kentucky Exposition Center, Louisville, KY
Booth #935



METS Show

November 16-18, 2010
Amsterdam RAI
Amsterdam, Netherlands



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Press Release

Blue Sea Systems Achieves ISO 9001:2008 Certification

An independent company has affirmed Blue Sea Systems' Quality Management System.

Read the [press release](#).

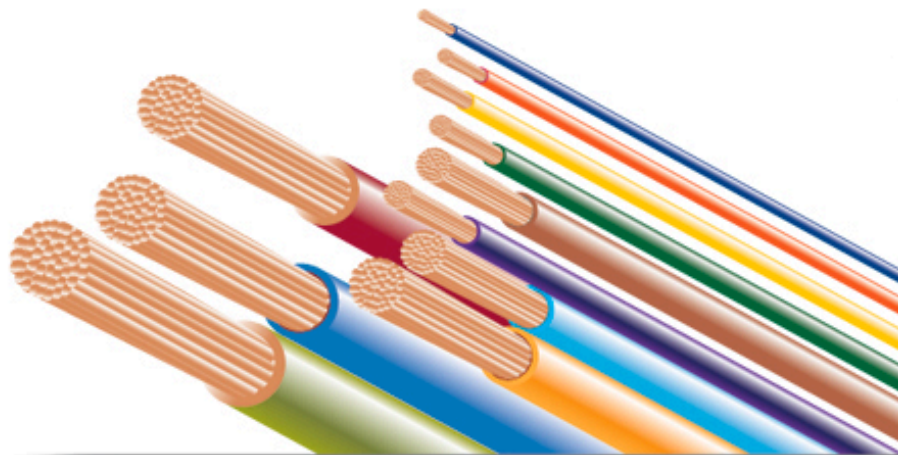
Technical Brief

- Non-product-specific technical information for improving safety, reliability, and usefulness of marine electrical systems

Wire Sizing Chart Simplifies Choosing Wire For Your Boat

Blue Sea Systems now has two convenient ways to choose wire and circuit protection based on ABYC standards. The popular Circuit Wizard, an interactive online tool, is available at circuitwizard.blueseasystems.com. For those times when a computer is not available, we have developed a simple version of a wire sizing chart, presented in this technical brief. The chart is printable, and will soon be available in stores and in the Blue Sea Systems 2011 catalog. Read this technical brief to see how easy it is to choose the correct wire size for your electrical project, and watch future newsletters for additional charts to help you choose circuit protection.

Read the [technical brief](#).



Previous issue of



are available [here](#).

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Blue Sea Systems would like to hear from you regarding any questions you may have, or any suggestions for publication in future editions of the Circuit Solutions™ Newsletter. Please send us your suggestions to: listmaster@blueseasystems.com.

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FOR IMMEDIATE RELEASE

BLUE SEA SYSTEMS HIRES NEW PRODUCT DEVELOPMENT ENGINEER

Chad Beauregard brings embedded systems engineering experience

BELLINGHAM, WA – (May 19, 2010) Blue Sea Systems, a Bellingham-based manufacturer of marine electrical products, announces the addition of Chad Beauregard to its Engineering team. Chad's primary role will be as an embedded systems engineer responsible for product development and supporting existing products.

Chad comes to Blue Sea Systems from American Micro Fuel Devices, which he founded. Previously, Chad worked for eight years at Dynojet Research, where he held the titles of Electrical Engineer and Electrical Engineering Manager.

"Chad brings a strong background in electrical engineering and embedded software programming," said Scott Renne, President of Blue Sea Systems. "His experience in developing innovative solutions for mobile electrical systems made him an excellent fit in our organization."

In addition to his interest in boating, Chad enjoys fishing, skiing, and modifying high-performance motorcycles.

About Blue Sea Systems

Blue Sea Systems was founded in 1992 based on a commitment to create innovative high quality marine electrical products to improve the safety, simplicity, and reliability of boating. Blue Sea Systems employees are active boaters who apply their passion to designing, developing, and building products that enhance the experience of boaters. For specific product information and to learn more about Blue Sea Systems, visit www.blueseasystems.com.

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FOR IMMEDIATE RELEASE

BLUE SEA SYSTEMS ACHIEVES ISO 9001:2008 CERTIFICATION

Certification demonstrates company's commitment to a quality management system

BELLINGHAM, WA – (May 19, 2010) Blue Sea Systems, a Bellingham-based manufacturer of marine electrical products, has achieved certification to the ISO 9001:2008 quality standard. Previous certification, to the ISO 9001:2000 standard, was held for three years.

ISO (International Organization for Standardization) is the largest developer and publisher of International Standards in the world. The ISO 9001:2008 standard contains a set of requirements for management to implement a quality management system, and provide the operations of the company with the resources required to make quality products

“We are dedicated to following steps to ensure quality through the entire development of a product, from its initial design concept through product release,” said Scott Renne, President of Blue Sea Systems. “We apply a quality policy and program so that we can assign quantitative measurements to our processes. These processes are in place so that our customers are assured of the quality of the product through its lifetime.”

For Blue Sea Systems to be certified to the ISO 9001:2008 standard, a third party organization conducted an extensive audit of quality systems and operations. As an ISO 9001:2008 certified company, Blue Sea Systems demonstrates a commitment to conformity to International Standards and to a quality management system.

About Blue Sea Systems

Blue Sea Systems was founded in 1992 based on a commitment to create innovative high quality marine electrical products to improve the safety, simplicity, and reliability of boating. Blue Sea Systems employees are active boaters who apply their passion to designing, developing, and building products that enhance the experience of boaters. For specific product information and to learn more about Blue Sea Systems, visit www.blueseasystems.com.

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CIRCUIT PROTECTION

Part 1: Choosing the correct wire size for a DC circuit

This is the first in a 3-part series about choosing wire and circuit protection for DC electrical projects.

Choosing the right wire size for your DC electrical project is important, since a wire that is too small can overheat and possibly start a fire. The American Boat and Yacht Council (ABYC) publishes charts with valuable detail to help experienced boatbuilders and installers determine what wire size they need. Although these charts are an excellent resource, they are a bit intimidating. This technical brief distills the information on these charts to a more manageable size for installers and boatowners alike.

Quality marine wire, as specified by ABYC standards, will always be stranded rather than solid, and always tin-plated copper. In addition, the DC Wire Selection Chart shown on page 2 assumes a wire insulation rating of 105°C. A lower rating will decrease the current-carrying capacity of the wire.

To use the chart included with this technical brief, follow the instructions below.

Choosing the correct wire:

A Locate the CURRENT IN AMPS of your appliance across the top of the chart. Most electrical products include a rating label, or you can find the amperage rating in the documentation that came with the product.

B Find circuit LENGTH IN FEET along the left side of the chart. Note that the total length of the circuit is the roundtrip distance from power source (usually the battery) to the product and back.

C Select the CIRCUIT TYPE. Allowable voltage drop is based on whether a circuit is critical or non-critical.

Critical circuits, with 3% allowable voltage drop, include

- Panel main feeders
- Bilge blowers
- Electronics
- Navigation lights

Non-critical circuits, with 10% allowable voltage drop, include

- General lighting
- Windlasses
- Bait pumps
- General appliances

Follow down the column until you find your circuit's **LENGTH IN FEET**.

D Intersect CURRENT IN AMPS with LENGTH IN FEET to identify the wire size.

Example: A windlass rated 80A is 25' from the battery. Circuit length is 50', circuit type is 'non-critical', and correct wire size is 4 AWG.

The Circuit Wizard, at circuitwizard.bluesea.com, is a resource for a more detailed treatment of wire size selection for DC circuits. It allows you to input detailed information including wire insulation temperature rating and other derating factors. The Circuit Wizard is easy to use, and is accessible from any computer with an Internet connection.



DC WIRE SELECTION CHART

CIRCUIT TYPE	CURRENT IN AMPS																		
	5A	10A	15A	20A	25A	30A	40A	50A	60A	70A	80A	90A	100A	120A	150A	200A			
10% Non-Critical VOLTAGE DROP Circuit	0'-20'	16 AWG	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	30'	16 AWG	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	50'	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	65'	14 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	80'	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	100'	12 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	130'	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	165'	10 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	200'	10 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		
	200'	10 AWG	6 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG	0 AWG		

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Although this process uses information from ABYC E-11 to recommend wire size and circuit protection, it may not cover all of the unique characteristics that may exist on a boat. If you have specific questions about your installation please consult an ABYC certified installer.