

Trying to build a more
efficient fleet?

Partner with a leader
in shipboard energy
optimization.



Make the most of
your energySM

Schneider
Electric

Empowering solutions for naval vessels

For more than 90 years, Schneider Electric has delivered energy, power, automation and security solutions to ensure the safe, reliable and efficient performance of naval vessels around the world.

Our dedicated expertise makes us a partner you can trust to help you execute the projects necessary to sustain current readiness and build the fleet of the future.

Schneider Electric works with a network of marine focused partners to provide a comprehensive suite of equipment, service and logistic support solutions. This allows us to successfully support each ship throughout its lifespan, meeting your exact requirements and emerging mission needs.

Advanced solutions that help you...

- > **extend** the life of today's fleet with reduced costs and manpower requirements
- > **build** tomorrow's fleet with reduced development and operational costs
- > **design** more flexible and efficient ships that can manage multiple mission profiles

Certified for Marine Applications

Schneider Electric provides a broad range of products that are Marine type approved. We then work with our partners to ensure compliance with US Military standards. Schneider Electric is a leader in the certification of electrical systems and components to American Bureau of Shipping–Navel Vessel Rules (ABS-NVR). This evolving standard was implemented to use Commercial Off the Shelf (COTS) products. As a result, suppliers can provide systems that are lighter, smaller and more cost effective than conventional military standards.

Lowering construction, maintenance and operating costs

We meet your toughest challenges head-on – from tightening design and construction schedules to simplifying maintenance needs to reducing manpower requirements. Our customers trust us to deliver lighter, faster, more cost-effective ships that support their missions with simplified, more reliable operation. We design and develop products and solutions that provide tangible gains in performance with lower overall cost of ownership.

Utilizing products like the Altivar® variable frequency drives and Masterpact® circuit breakers we can improve energy efficiency while reducing electrical system maintenance for existing and new Naval vessels. This translates to lighter ships that require less manpower to operate and maintain.



Altivar Variable Frequency Drives

Schneider Electric's Altivar variable frequency drives (VFD) provide energy cost savings of up to 40%, while delivering greater operational efficiency by adjusting motor speeds to match required demand. Variable motor speeds minimize the mechanical stress on equipment, reducing both maintenance requirements and required manpower needed for system support. Altivar drives offer the widest horsepower range in the industry – from 1 to 900 hp – with a common user interface and multiple I/O and communication options for simple installation and system integration.

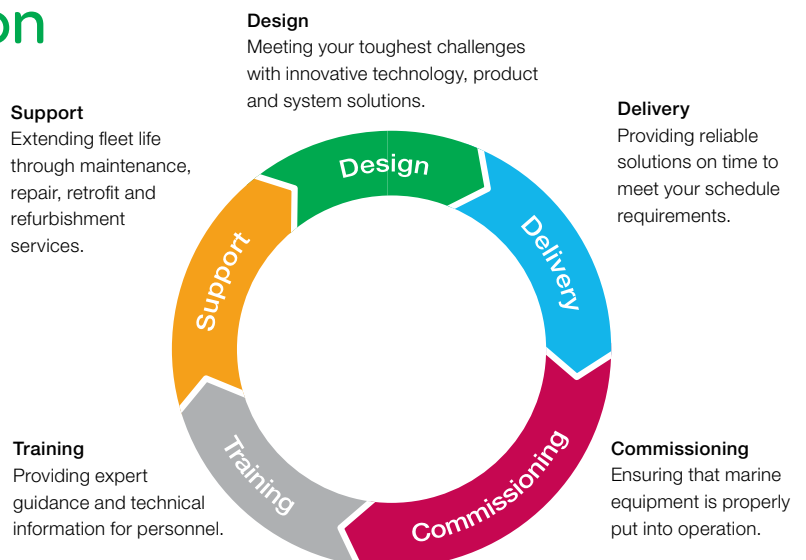


Masterpact Circuit Breakers

The Square D® Masterpact NT and NW breakers are tested and certified to ABS-NVR standards. Compact, lightweight and featuring both anti-shock and anti-vibration systems, these circuit breakers can be easily installed and integrated into shipboard electrical systems and are ideally suited for both new and retrofit applications. In addition, Masterpact NT/NW circuit breakers require no maintenance or lubrication.

A total life cycle solution

Your challenges begin with the initial concept and continue throughout the life of each vessel. At Schneider Electric, we're with you throughout your ship's life cycle.



Expertise you can count on

Side by side with you and our network of marine-focused partners, we build energy, power, automation and security solutions that are tailored to the requirements, specifications and missions of each ship. Each of our solutions is designed with the entire ship in mind to ensure unsurpassed performance and reliability.

> Engineering Services

We're involved from the earliest stage of your project to provide a variety of innovative solutions that allow you to quickly and easily optimize your development processes to reduce costs, manage construction and streamline system installation. Some of these solutions include:

- Preliminary studies and electrical network studies
- General and detailed single-line electrical diagrams
- Protection plans
- Dependability studies
- Cabling studies
- Automation software and network architecture studies
- Functional analysis
- Detailed studies: shock, vibration, thermal
- Dependability studies
- Definition of replacement part sourcing

> Equipment Solutions

Over 90 years of experience has proven our range of electrical system solutions for maritime applications. As a member of the Marine Machinery Association (MMA), we have partnered with the US Navy and shipbuilders worldwide to produce systems and equipment that are easy to use, simple to integrate, and deliver high reliability at lower costs.

Energy Management

- Lighting & lighting control
- Energy Management Systems
- SCADA
- Environmental control

Power

- Open-type circuit breakers
- Molded case circuit breakers
- Air circuit breakers
- LV uninterruptible power supply
- Electronic trip control units
- Motor circuit protectors
- Control power transformers
- Miniature circuit breakers
- Low and medium voltage equipment and switchboards

Automation and Control

- Programmable logic controllers
- Pressure switches
- Push buttons
- Signal lamps
- Intelligent remote terminal blocks
- HMI
- Self-protected starters
- Variable frequency drives (VFDs)
- Soft starters
- Contactors

Security

- Access control
- Intrusion detection
- Digital video management



> Logistic Support, Maintenance and Training

Schneider Electric provides complete logistic support and worldwide repair solutions to keep your ships at peak operational performance.

- Complete technical documentation
- Crew training
- Maintenance personnel training
- Worldwide and home port preventive maintenance and troubleshooting service
- Configuration management

> Electrical System Retrofits

We can maintain and enhance the performance of your ship's electrical distribution, automation, control and monitoring systems through a system analysis and retrofit. Our solutions are designed to increase safety, lower life cycle cost and maximize power system reliability. Whether the solution is refurbishment, replacement, or recommendations to optimize existing equipment, our qualified Schneider Electric services experts provide a complete package to meet your needs.

- Equipment substitution
- Tests and qualification
- Implementation and installation
- Commissioning
- Warranty maintenance
- Obsolescence management

Design solutions that make a difference

"In the marine vessel construction field, we are seeing an increasing demand on the vessel's electrical system, due to complex integration and power requirements with other systems. This increased demand presents new design challenges that emphasize 'design flexibility' and quick turnaround times, from concept to production. We now need product lines that have extensive versatility with components that focus on leading edge designs; I have found both needs met with Schneider Electric. The Prisma Plus and Multi 9™ System, in particular, are an excellent fit. These product lines allow us to design compact and highly flexible power and control systems. This, coupled with the outstanding support we receive from the Schneider Electric group, has prompted me to designate these products as our standard for the Shipyards."

– **John Thompson**, Senior Electrical Engineer, Derecktor Shipyards

Littoral Combat Ship (LCS):

Setting the standards for ABS-NVR compliance

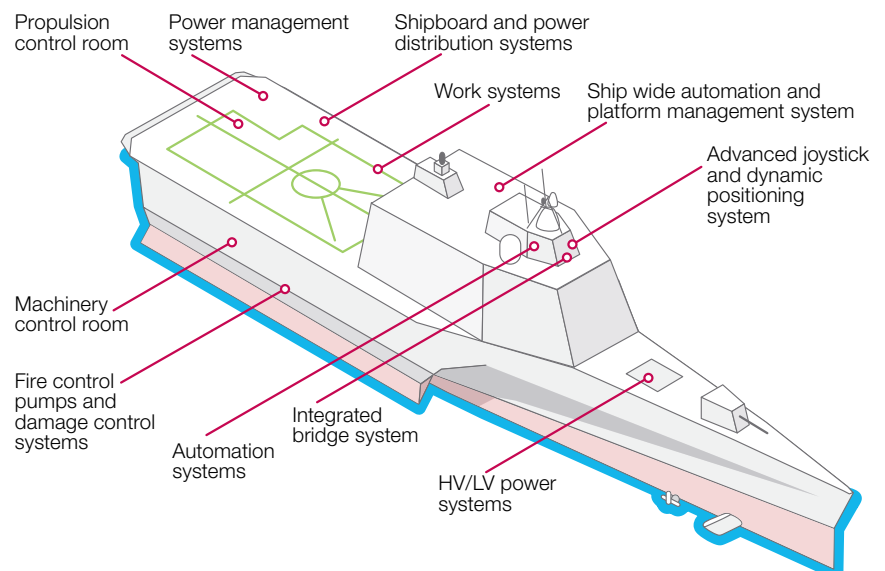
Developed to deliver **mission adaptability**, **speed** and **flexibility** to operate in littoral waters, the General Dynamics Littoral Combat Ship (LCS) is an advanced ship incorporating several new design and operational technologies to enhance combat effectiveness. As the first US Naval ship to utilize ABS-NVR standards to lower costs, Schneider Electric was contacted by Austal, a General Dynamics joint venture partner, early in the design process for technical assistance to adapt our products to an ABS-NVR environment.

Working with the Navy Systems Engineering Authority (NAVSEA), we helped pioneer a set of new testing procedures to certify products to the ABS-NVR standard. Schneider Electric's product groups developed processes to meet the Naval performance and testing requirements and provide design and technical expertise. In partnership with Carolina Power Systems, we were the first vendor in US Navy history to shock test and qualify a commercial breaker to meet these new military standards. As a result, the LCS is the first US Navy Combat ship sourced to one electrical supplier and the first vessel platform standardized on Schneider Electric components.

In Focus:

LCS Electrical Systems

By applying our industry-leading technologies and integration expertise, Schneider Electric delivers higher efficiency, improved performance, and lower operational costs across multiple LCS shipboard systems.





Safety & Security. Reliability & Productivity. Efficiency & Sustainability.

Whatever your need, Schneider Electric has the solution.

Schneider Electric delivers the industry experience, technical knowledge, application expertise, and market-focused products and services to meet the needs of US Navy ships. From design and construction to support and retrofit, we can optimize the reliability, safety, and efficiency in the distribution and management of your energy throughout the lifecycle of your vessel.



The world's leading manufacturer of electrical distribution, power and control solutions, with operations in 130 countries worldwide.

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Find out how Schneider Electric can make a difference. To learn more, visit www.us.schneider-electric.com/federalgovernment or talk to one of our experts at 1-888-SquareD (1-888-778-2733).

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