

PROVIDING TURNKEY ELECTRICAL SOLUTIONS FOR SHIP



Marine Electricals is a leading company in the global maritime market, operating as a full-service provider and system integrator of tailor-made, innovative and sustainable electrical and electronic solutions.

Marine Electricals with more than 3 decades of accumulated knowledge and experience has a history that extends right back to 1978. Today, this rich tradition translates into innovative power, and the integrated technological solutions that the company offers.

Operating from headquarters in Mumbai, India and supported by a network of subsidiaries, associate companies and representatives, Marine Electricals provide innovative state-of-the-art system solutions and reliable maintenance services to meet the most exacting requirements for ships of all types and sizes. These range from coastal and inland shipping vessels, ocean-going container carriers and passenger vessels to specialist offshore, environmental and research ships as well as naval vessels.

Marine Electricals specializes in power generation and distribution, propulsion systems, automation (platform and engine room), navigation, communication and connectivity solutions and information technology. Marine Electricals has delivered and commissioned these systems in accordance with the rules of all major classification societies who have certified that our workmanship and

equipment have the high standards which are necessary to ensure that our customers can operate their ships safely.

The standards for high quality are steadily rising. The market requires cost efficient, effective, safe and sustainable solutions. Built on strong roots Marine Electricals through its dedicated team of over 600 trained technicians and engineers provide a guarantee of added value to our customers.

Achieving maximum performance from today's system is not all that is required of a company like Marine Electricals nor its clients. The task of charting a course for the future demands the ability to anticipate new requirements and possibilities years in advance. To this end, Marine Electricals is committed to remaining on the crest of the new wave of technology.



Corporate Office and Manufacturing Units



Design and Development



Fabrication Facilities



Powder Coating Plant



Final Assembly Workshops



The strength of Marine Electricals lies in its ability to develop sophisticated tailor made solutions that fulfill the specific requirements of any naval or marine programme.

Marine Electricals has the ability to handle all aspects from project development through complete installation and sea trials.

Marine Electricals has the competence and facilities to provide complete electrical and electronic systems that includes valuable start up assistance involving the drafting of the project definition in which customers specific requirements are studied in order to present alternative based on emerging technologies.

Computer aided design and engineering expertise using the latest hardware and software tools allows the flexibility to arrive at a optimal solution to demanding requirements and complex design problems.

After these critical functions of engineering and design are completed, the task of manufacturing falls to the special craftsmen of the in house work- shop facilities.

All the necessary state of art automated CNC punching and bending machines, machining tools and pre treatment and conveyorised painting facilities for

fashioning complex tailor-made equipment within the demanding tolerances required on board naval systems are available. The complete construction of all panels from metal work to finishing and wiring takes place in house in our state of art workshop under stringent quality checks.

All Marine Electricals equipment undergo rigorous testing including the testing of each subsystem for functioning before integration, and followed by testing of the entire system when assembled to ensure that system performance meet specifications.

It is this combination of engineering and manufacturing capabilities which allow Marine Electricals to meet a wide variety of customers' naval system requirements by tailoring a system right from conception of project requirements, through designs, manufacture, installation and commissioning.

Solutions

Marine Electricals is a system integrator and offers tailor-made, innovative technology solutions covering the whole ship with the ability to select the best equipment to suit your project.

Marine Electricals provide the following whole ship solutions :

- Engineering
- Project management
- Navigation systems
- Communication systems
- Power management
- Power generation and distribution
- Integrated automation and control systems
- Entertainment and information technology solutions
- Turnkey electrical installation

Power Generation and Distribution

Electric power generation, management and distribution is becoming increasingly important on modern day vessels.

With decades of experience and world class integrated production facilities Marine Electricals is capable of delivering reliable and cost effective power generation, management and distribution systems tailored to meet exact requirements of the vessel and complying to the rules of all major classification societies.

Marine Electricals can offer the entire power systems starting from the generators right up the lighting distribution panels and sockets thus offering a complete system responsibility, using the latest engineering tools Marine Electricals is able to ensure that individual components forming part of the complete system comply with the requirements (short circuit levels, discrimination, cascading, harmonic distortion, failure mode effect analysis, vibration etc.).

Marine Electricals has delivered solutions to a variety of vessels like bulk carriers, container vessels, passenger vessels, luxury yachts, offshore vessels, diving support vessels, dredgers, frigates, corvettes, missile boats, aircraft carriers, survey vessels, fast attack crafts, offshore patrol vessels etc.

Marine Electrical offers the following range of equipment :

- Main switchboards and Emergency switchboards
- Generator protection and control panels
- Automated Power management systems
- Power and Motor control centers
- Starter panels
- Rectifier units and battery chargers
- Uninterrupted power supply

Main Switchboard for P-17A Frigates



Integrated Platform Management SystemS (IPMS)

The Marine Electricals Integrated Platform Management System MEACOS 3000 is a redundant, high speed, sophisticated and highly automated monitoring and control system. The IPMS is a customized automation system tailored to customer and class requirements. It controls and monitors virtually every mechanical system on a ship. All operator tasks are performed on configurable multi functional Integrated Workstations, which are placed in the Engine Control Room, on the Bridge or at any other station required.

The IPMS communicates on an redundant Fiber Optic / Ethernet backbone. On the platform side, the system consists of Local Processing Units (LPUs) to which the ship's systems are connected. Decentralised automation units facilitate graceful degradation, whilst maintaining optimum functionality. To ensure a high level of reliability gateways, central networks and client stations are connected redundantly.



Navigation and Communication

Marine Electricals offers a choice of sophisticated navigation and communication solutions to meet demands of enhanced efficiency required by the shipping industry today.

We are able to provide customized products and solutions using our principals Northrop Grumman Sperry Marine and Sam Electronics. This can be based on a modular bridge concept or a fully integrated bridge system specifically tailored to your requirements.

We work with the shipyards and ship owners at an early stage in the project to supply to provide the appropriate electronics equipping the vessels to meet its customized requirements and maritime regulations.



Electrical Propulsion

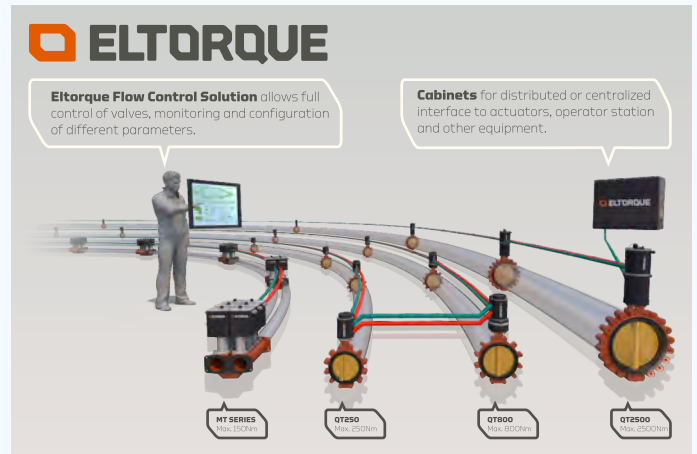
Electrical propelled vessels provide a large number of advantages making it the preferred choice of propulsion solution in the future. Electric ships require a single source of power for all ships functions including propulsion, this provides a great deal of flexibility in designing the ships layout.

Marine Electricals has partnered with Siemens Germany leaders in electrical Propulsion and Drive systems to provide individual solutions matching the ships specifications and applicable classification and regulations.



Information Technology

Information networks have become indispensable and also more complex, on any ship. Marine Electricals has gathered the expertise for designing a stable and efficient IT backbone for proper data management and data sharing, a network infrastructure which saves on cabling and is ready for running multiple services over the same network such as IPTV, CCTV and telephony. We advise on the network topology and services and will provide you with the design and installation of the best and most efficient IT solution network and integrate it with all the systems that need to be connected to this network.



Main Switchboard for ASW - SWC Ships



Main Switchboard for Diving Support Vessels





Services

As on board technology becomes more complex, crews get smaller and less specialised.

Marine Electricals recognizes the need for a quick response and turn around in crisis situations. We have a dedicated services organization that offers a complete spectrum of the highest quality services including repairs, corrective and preventive maintenance, upgrades, life extensions and parts on Electrical Power Generation, Power Distribution, Automation and Power Management Systems, navigation and communication systems and many other Electrical and Electronic Systems, both Marine Electricals and many third party supplied.

With decades of experience we are able to support our customers throughout the world with our team of dedicated service engineers and service partners. Also our smart solutions and a reliable connectivity infrastructure enable remote maintenance and remote monitoring.

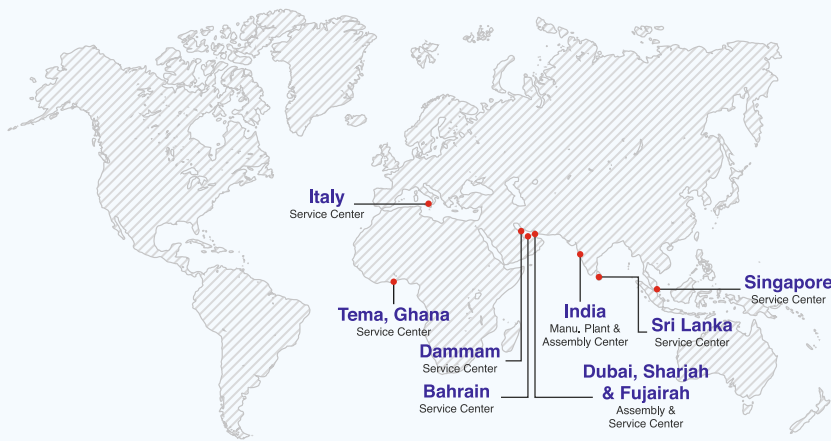
You can reach us 24 hours per day, 7 days per week, 365 days per year through our service desk via the following central contact details:

Marine Electricals Service Desk

Email: services@marineelectricals.com

Tel: +91 22 4033 4300 | Fax: +91 22 2836 4045

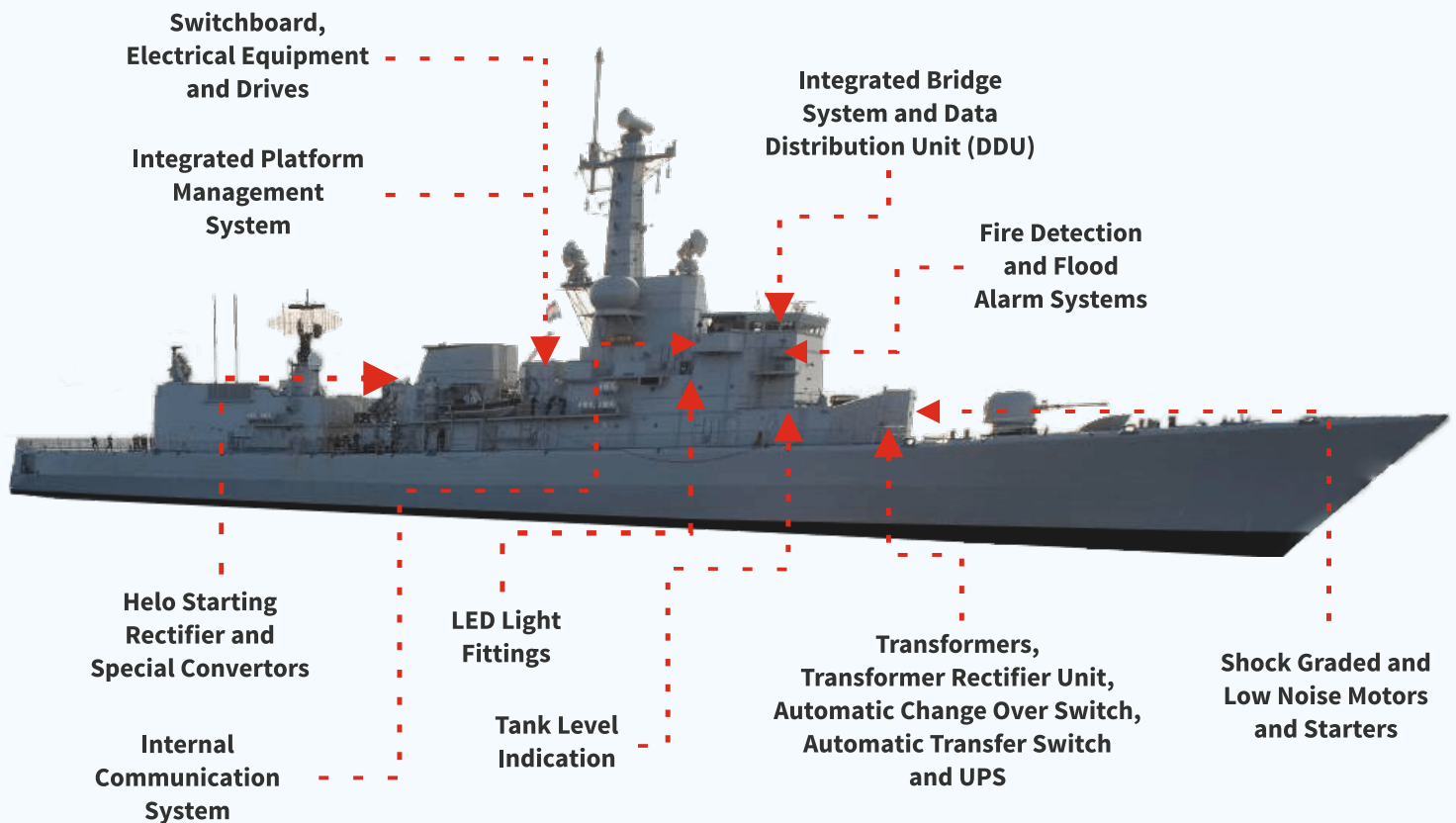
OUR GLOBAL PRESENCE



PRESENCE ACROSS INDIA

- Mumbai
- Delhi
- Cochin
- Mangalore
- Kolkata
- Visakhapatnam
- Port Blair
- Goa
- Chennai
- Bangalore
- Ahmedabad
- Vadodara

OUR SOLUTIONS



HEAD OFFICE :

B - 1, Udyog Sadan - 3, MIDC, Marol Industrial Area,
Andheri (East), Mumbai - 400 093. INDIA.

Tel. : 91-22-4033 4300/28349132/2834 6076

Fax : 91-22-2836 4045

E-mail : info@marineelectricals.com

Website : www.marineelectricals.com

GOA OFFICES :

Plot S17/18, Verna Electronic City, Verna, Goa - 403 722. INDIA.

Contact Nos. : 91-0832-6625600/6625601

N-51,52,59 & 60, Phase IV, Verna Industrial Estate,
Verna, Salcete, Goa - 403 722. INDIA

Contact Nos.: 91-832-6625700/6625701

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