



# Marine Switchboards

Advanced tailor-made marine switchboards for challenging conditions. Extensive project track records for cruise ships, ferries, barges, rigs and the offshore maritime fleet. With more than 30 years of industrial knowledge, our reputation is built on decades of industry experience, problem solving skills, reliability and on-time delivery.

Elpro switchboards are engineered, designed and manufactured in-house by our experienced engineers and installers. To ensure the highest standard of quality and flexibility, our enclosures of the switchboards are cut, bended, powder coated and constructed at our Agdenes factory. The bus bar copper is also bended in-house, to ensure high quality and flexibility at a competitive price and delivery time.

## WE PROVIDE

- Tailor-made solutions
- Customer involvement
- Experience based engineering
- In-house steel and copper processing
- In close cooperation with sub-suppliers
- Fast and reliable delivery time
- Single point of contact



Photo: Geir Mogen / Design: Colours.no

## TECHNICAL DATA

Type	MSB, ESB, ROV, DIVING, DE-ICE
Voltage	230V, 380V, 400V, 440V, 690V
Power	Up to 22.000 kVA
Short circuit	100 kA / 220 kA peak
IP degree	21, 22, 23, 44
Cabinet type	Elpro QD
Material	Customer specific

## FEATURES

- Closed ring system that satisfies the highest DP requirements.
- Directional protection and zone selectivity, which allows minimum loss of bus bar sections even for a worst case single fault on a vessel with ERN 4x99, running with closed bus ties.
- Power Management System (PMS) can be included in the switchboard (which saves yard for a lot of cabling and potential fault finding in the future).
- Load Sharing (LS) can be included in the switchboard without taking any extra space on each generator cubicle (symmetric, fixed power, asymmetric).
- AVR's can be mounted in each generator cubicle for easier fault finding and commissioning.
- Ultra Rapid breaker (UR breaker) can be mounted into our switchboard to allow higher installed power running in parallel @690V, and to limit the short circuit level to 100kA/220kA peak.
- Calculations, production and commissioning.

## SERVICES

- Specification in close cooperation with client and systems integrator.
- Project management from A to Z. Single point of contact for clients.
- Engineering and design for marine purposes in accordance with the requirements of the classification societies .
- Construction and manufacturing: Produced in 2mm cold-rolled steel and in accordance with IEC 61439-2. Flexible solutions are possible due to in-house construction of all steel parts.
- Surface treatment: All parts are treated and powder coated at our paint department with a selection of RAL colours.
- Documentation is produced with state of the art design software, and customer prior to production approves the plot plan. Short circuit calculations are in accordance with IEC EN 61439.

## ABOUT ELPRO

The Elpro Group consists of three well-integrated business units; Solutions, Electro and Installation. Elpro has over 30 years of experience within the electro technical and electro mechanical sector. A wide spread of clients across our project portfolio has accumulated a lot of problem solving skills and industry knowledge. Talk to an experienced partner for your next project. Talk to Elpro!