

## MARINE & OFFSHORE

TMC Transformers SpA is a leading transformers manufacturer. Its Engineering and Manufacturing Team has more than 30 year experience accrued in leading Companies in Switzerland and Italy. Marine & Offshore transformers are special, we always design them for the Customer needs, using technical specifications and applicable standards.



# MARINE & OFFSHORE APPLICATION

**Marine electrical propulsion systems** have been utilised for many years providing cost efficient power with reduced environmental pollution. They provide main propulsion, power for manoeuvrability and supply to the ship service loads.

**Naval vessels, cruise liners, container vessels, offshore oil & gas vessels down to smaller research vessels.** All benefit from an electrical propulsion system.

TMC Transformers can supply marine converter transformers, distribution transformers and reactors for all of the above applications and all custom

designed to match specific project requirements. Typical network voltages can be 6.6kV or 11kV with more specialist vessels utilising voltages as high as 36kV. **TMC Transformers can supply transformers to meet your exact project requirements** in both cast resin and vacuum impregnated (VPI) construction.

Protection from the harsh marine environmental can be provided by a closed circuit cooling system using **non ventilated enclosures with protection classes of IP44-IP56 together with air to water heat exchangers (AFWF)** to dissipate the losses.

## PROPULSION TRANSFORMER

The electrical propulsion systems have many advantages compared to the conventional engine driven propulsion system. This technology is naturally increasing the demand for electrical propulsion for different vessels, like cruise ships, container ships and navy ships. With advancement in technology and research, the electrical propulsion system is not limited to small boats and small vessels anymore.

### PROPULSION TRANSFORMER

- > Power 7,5MVA
- > Primary Voltage 11kV 60Hz
- > Secondary Voltage 2 x 1,8kV
- > Protection IP44
- > Cooling AFWF
- > Weight 9.500kg
- > 2 x 2 units for about 24 pulse

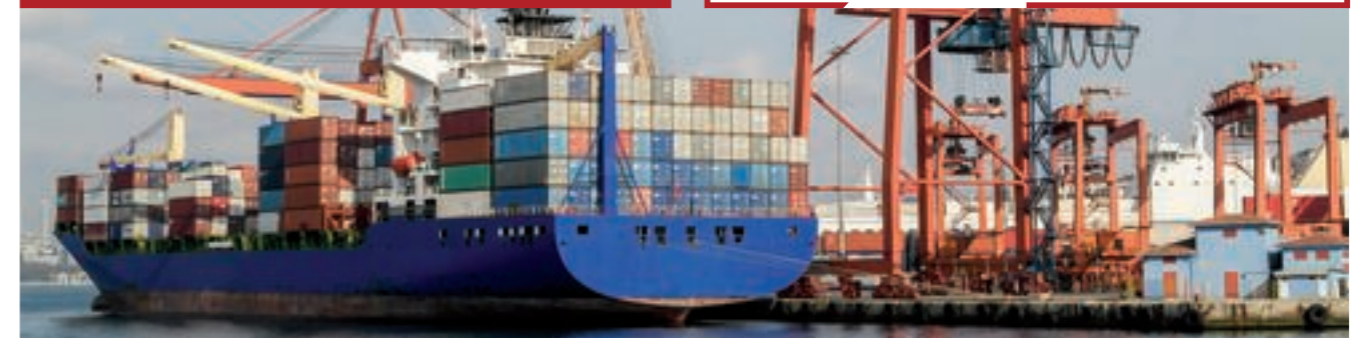


## MARINE MV APPLICATION

On board of vessels there are a lot of electric engines. Usually a VSD and a customized converter transformer feed these motors. Drilling, thrusters, compressors, pumps, etc. are typically configured as described.

### FPSO COMPRESSOR TRANSFORMER

- > Power 3,5MVA
- > Primary Voltage 6,6kV 60Hz
- > Secondary Voltage 2 x 0,715kV
- > Protection IP44
- > Cooling AFWF
- > Weight 6.700kg



## ENGINE ROOM TRANSFORMER

MV transformers are almost always present on board of vessels, in particular on cruise ships.

### ENGINE ROOM TRANSFORMER

- > Power 4000 kVA
- > Primary Voltage 0,6kV 50/60Hz
- > Secondary Voltage 0,690kV
- > Protection IP44
- > Cooling AN
- > Wight 8000kg

