

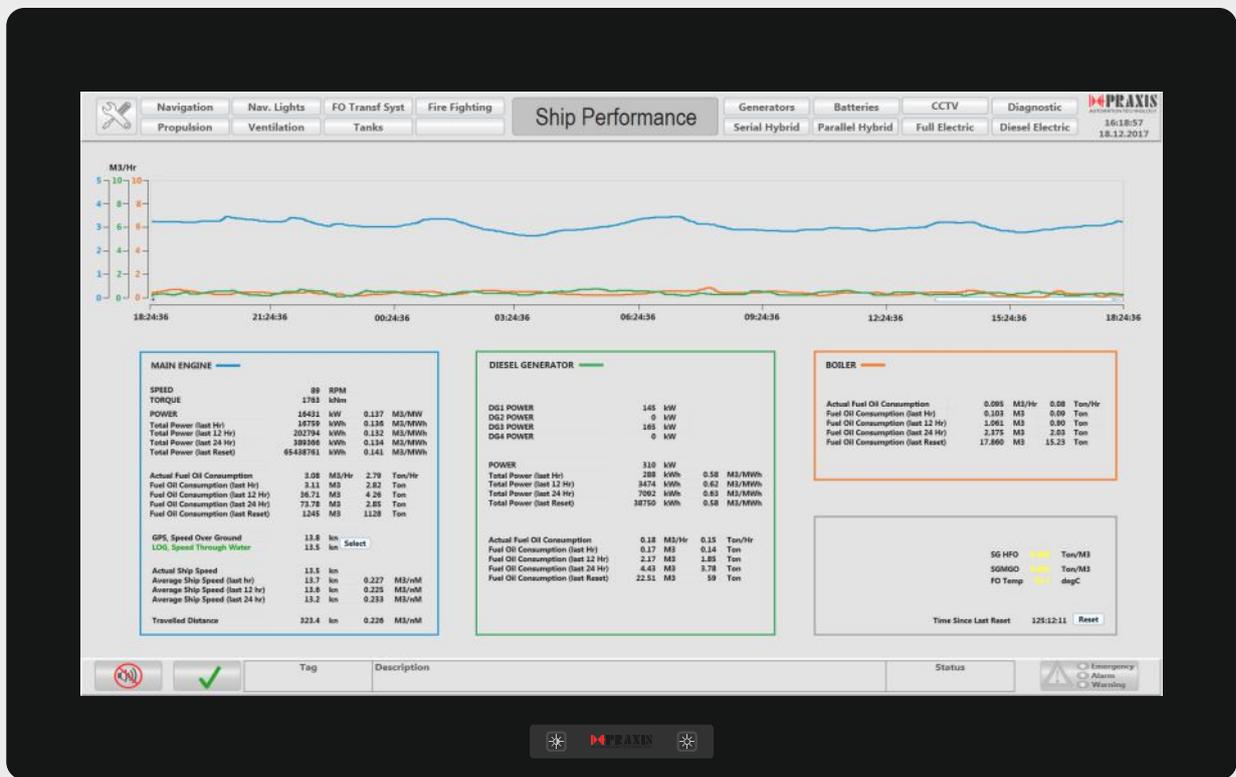


Ship Performance Monitor



Ship Performance Monitor

Operator Workstation



Ship Performance Monitor

Features

The Mega-Guard Ship Performance Monitor (SPM) measures and displays fuel consumption, power, speed and distance travelled on an Operator Workstation. In addition, Mega-Guard SPM calculates and displays time and trip based performance data in order to provide a detailed overview to the operator. The ship operator is able to make a judgement with Mega-Guard SPM regarding increase of hull resistance over time in order to plan hull maintenance intervals by comparing data of a recent trip to data of previous trips. In addition, the Ship Performance Monitor helps the operator to realize IMO legislation SEEMP (Ship Energy Efficiency Management Plan). The Mega-Guard SPM can be supplied as an integrated part of the Mega-Guard Vessel Management System or as a stand-alone system.

The Ship Performance Monitor has the following features for main engines, diesel generators and/or boilers:

- ▶ Continuous and time based fuel consumption, torque, power, speed and distance measurement
- ▶ Calculation of absolute and normalized fuel consumption
- ▶ Averaging fuel consumption e.g. of the last 24 hours
- ▶ Fuel consumption per NM and per trip
- ▶ Remaining days fuel
- ▶ History data recording and display capability
- ▶ History data retrieval via USB- or Ethernet file transfer

Measurement values

The Ship Performance Monitor makes the calculation, display and storage of data based upon data as measured by sensors.

- ▶ Fuel consumption : measured by a fuel flow meter and compensated for temperature
- ▶ Main engine power : measured by shaft torque and power meter
- ▶ Generator power : measured by the supplied electrical power for each generator
- ▶ Speed : measured by GPS (speed over ground) and/or by speed log (speed through water)
- ▶ Distance : measured by GPS

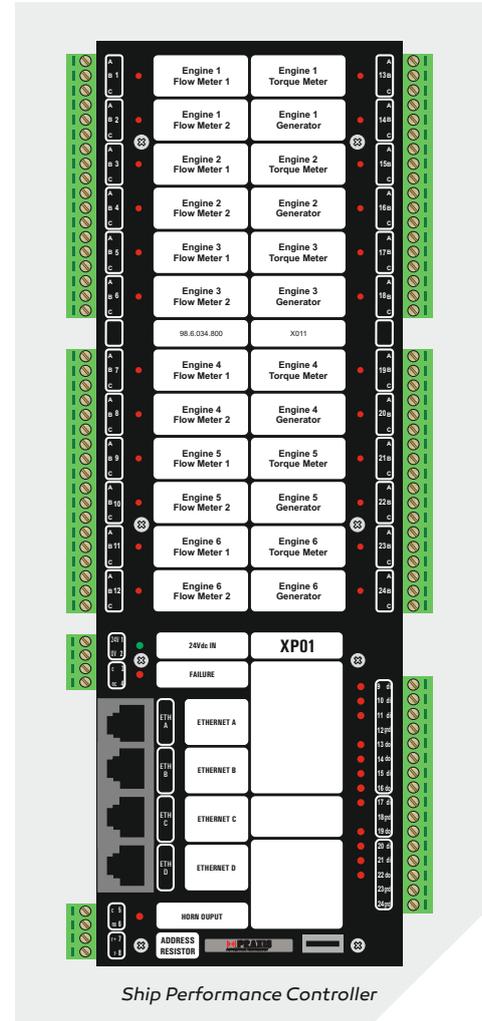
The Mega-Guard Ship Performance Monitor interfaces these sensors via a Ship Performance Controller or through the Mega-Guard Vessel Management System. The Ship Performance Controller is available with hard wired inputs, serial communication lines (NMEA-0183 or MODBUS) and Ethernet interfaces.

Scope of supply

A typical stand-alone Mega-Guard SPM consist of:

- ▶ Operator Workstation with TFT size ranging from 10" to 86"
- ▶ Ship Performance Controller
- ▶ Main engine shaft torque meter
- ▶ Fuel oil flow meters
- ▶ Interface to GPS and speed log

The Operator Workstation and the Ship Performance Controller can be omitted in case the Mega-Guard SPM is integrated in Mega-Guard VMS.



Vessel Management System



Power Management System



Fire Alarm System



CCTV Video Distribution



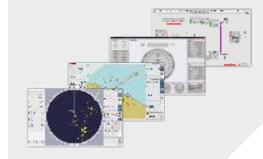
Ship Performance Monitor



Fleet Management System



Integrated Navigation System



Heading Control System



Propulsion Control System



Dynamic Positioning System



BNWAS Watch Alarm System



Navigation Light Control



Wiper Control System



Energy Management System



Electric Propulsion Motor



Electric Steerable POD



High Power Inverter



DC bus Generator



Electric Energy Storage



Electric Fin Stabilizer



*Ship automation,
navigation and
electric propulsion*