



Your partner in
SHIP PERFORMANCE MONITORING

KYMA DELFINI

- Shaft Power/RPM/Torque/Thrust Measurements
- Fuel Consumption Monitoring
- Emission Calculations
- Noon-noon & Voyage Reports
- KPI Monitoring
- Automatic Transfer to Office

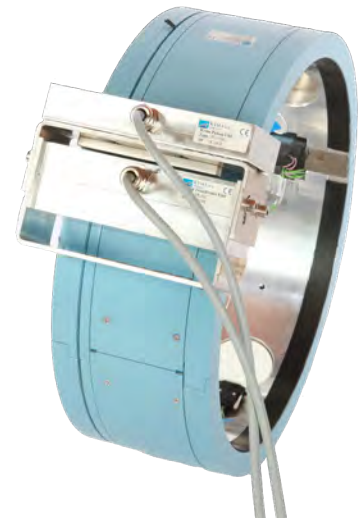


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INTRODUCTION

The Maritime industry has a strong focus on fuel efficiency and on keeping emissions to a minimum in order to allow sustainable sea freight. For this purpose, we introduce Kyma Delfini, with continuous and accurate monitoring of ship performance parameters that is a powerful aid to ship owners and operators.

Kyma Delfini collects data onboard the vessel, process the data, and presents the data in a way that is easy to interpret and understand.



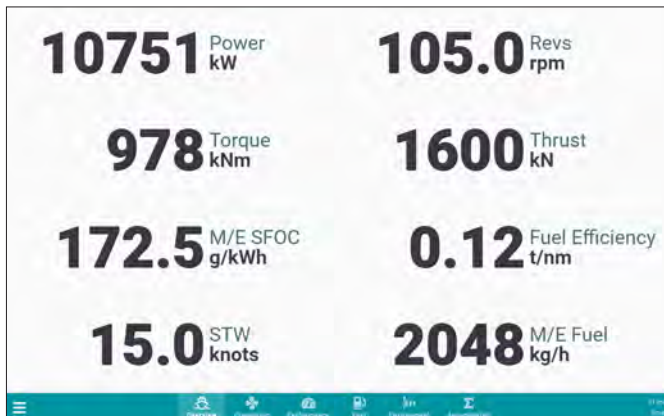
Kyma Ship Performance Systems

	Kyma Shaft Power Meter	Kyma Delfini	Kyma Ship Performance
Shaft Power/Torque/RPM	✓	✓	✓
Option Thrust Measurement	✓	✓	✓
Optional Analogue / Digital Signal Output	✓	✓	✓
Reference Curves	Power vs RPM	Power vs RPM	✓
Number of Real Time Input	4	40	500
Real Time Data Presentation	Numerical	Numerical/Graphical	Numerical/Graphical
Reports	-	Daily/Voyage	Daily/Voyage/Trial
Historical Data Presentation	-	✓	✓
Data Storage	-	✓	✓
Other KPIs (SFOC, +++)	-	✓	✓
Data Export	-	✓	✓
Kyma Online/API (subscription)	-	✓	✓
EEOI Calculations	-	-	✓
Long Trend Diagnostics	-	-	✓
Analysis and Advisory info	-	-	✓

TECHNICAL DESCRIPTION

Kyma Delfini is a system for the continuous monitoring of vessel performance data. The system can be adapted to all types of vessels and machinery configurations and is flexible regarding the type and number of signal inputs.

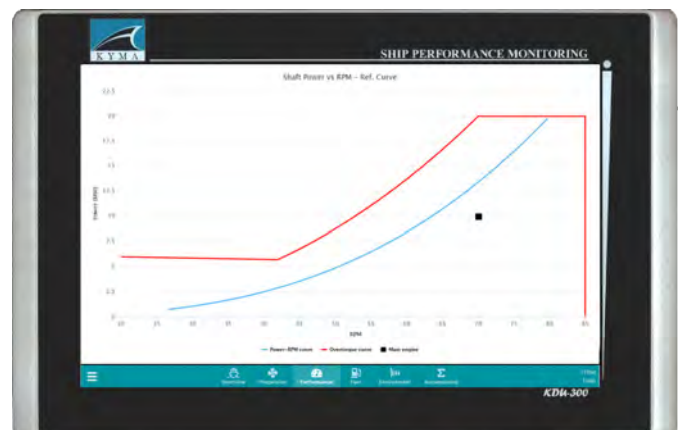
Kyma Delfini receives inputs from torque meter(s), fuel oil flowmeter(s), speed log, alarm monitoring systems, bridge instrument(s), etc., and combines these with additional inputs entered by the user. Based on the inputs, Kyma Delfini calculates additional parameters.



Kyma Delfini interfaces with a range of signals such as analogue, digital, pulse signals and serial inputs (NMEA0183, Modbus RTU, Modbus TCP, etc). The variables are continuously logged and updated. The stored values can be transferred to the owner's office as an ASCII file. Kyma Delfini also provides a graphical presentation of the propeller reference curve, including over-torque limits.

Generate reports

Kyma Delfini also provides the capacity to generate noon-noon and voyage summary reports. These reports can be exported in Excel format. It is also possible for the shore office to receive the reports automatically if the Kyma Delfini is connected to the LAN network onboard.



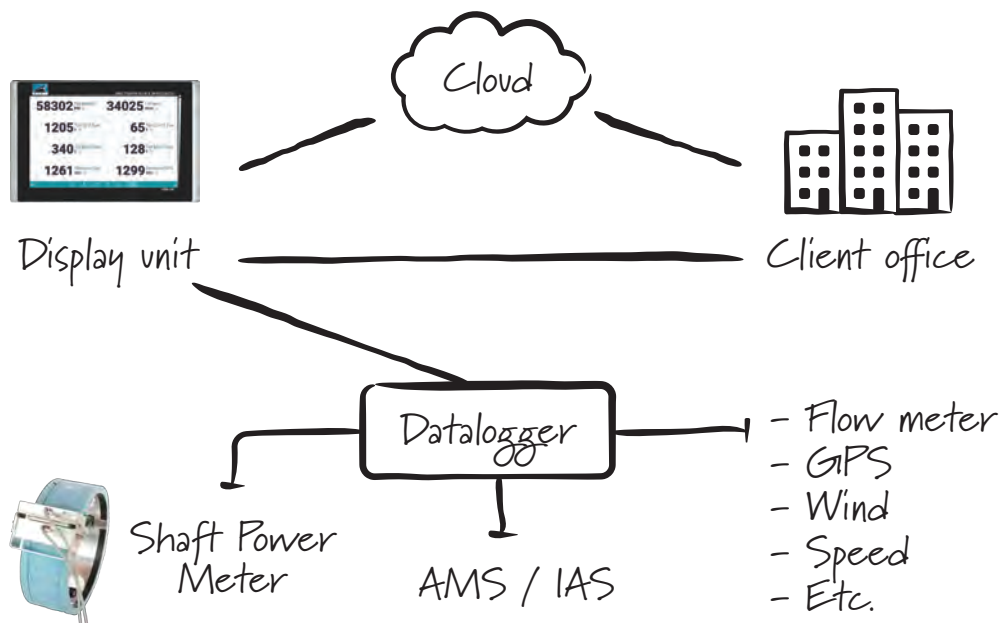


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TYPICAL OUTPUTS IN KYMA DELFINI

- Shaft Power/RPM/Torque/Thrust (instant and accumulated)
- Fuel consumption by fuel type for each consumer (instant and accumulated)
- Total Ship fuel consumption (instant and accumulated)
- SOG/ STW
- Main Engine(s) SFOC
- Main Engine(s) % MCR
- Propulsion Efficiency
- Fuel Efficiency
- CO2 and SOx emissions
- Trim
- Propeller Slip

KYMA DELFINI LAYOUT



HIGH QUALITY PERFORMANCE MONITORING

Kyma is a well-known and preferred supplier of torque meters and ship performance monitoring systems. The company dates back to 1965 and was originally formed to provide specialist assistance in the tuning of ship machinery and control systems. The extensive experience gained through the early years made it possible to introduce expert systems for steam turbine plants and motorships. Since then several products have been introduced within the field of marine performance monitoring. Kyma has supplied over 7000 monitoring systems to vessels working within the diversified maritime industry.