



MQK

Marine Quality Kit (MQK)

Monitoring of strain, fatigue and motion behaviour of floating objects

The Marine Quality Kit (MQK) is a portable tool to monitor real time strain, fatigue and accelerations. In contrast to HMC's Hull Monitoring System, which also measures strain and fatigue, the MQK is a mobile system. This allows the system to be easily transported and installed on any given structure, in or outdoors.

The MQK measures accelerations and strain. In combination with FAMON fatigue measuring and monitoring software it also provides a crew, owner or contractor with fatigue data. An accelerometer is added to combine real-time strain and fatigue data with sea state conditions and allow the crew to adjust speed and heading to lower stress on the structure.

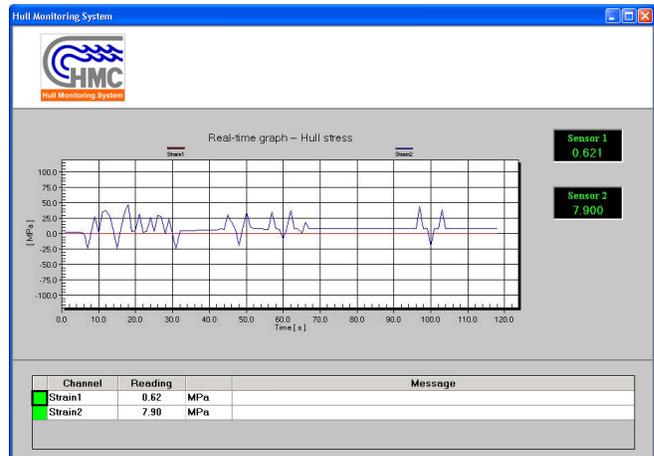
The MQK can be installed on objects in rugged environments outdoors and indoors. Except for a 230 V power supply it is fully self supportive (i.e. cooling).

The system can be used either as a measuring device for post-hoc readout and analysis, or as a real-time monitoring device. In this last set-up information is sent to the bridge via a wireless connection.

Data

The system saves all strain, fatigue and motion data in corresponding directories. It is also possible to log all real measured data by turning LOG ON. The system will show all measured data real-time on screen.

Raw data will be processed and analysed by HMC and delivered as per measuring report.



Applications

The MQK can be used for:

1. Post-hoc analyses of strain
2. Post-hoc analyses of motions
3. Comparison to maximum strain
4. Real-time monitoring of strain
5. Real-time monitoring of motions
6. Tool for making real time adjustments to heading and speed to reduce fatigue damage
7. (Fatigue) damage report of transported object

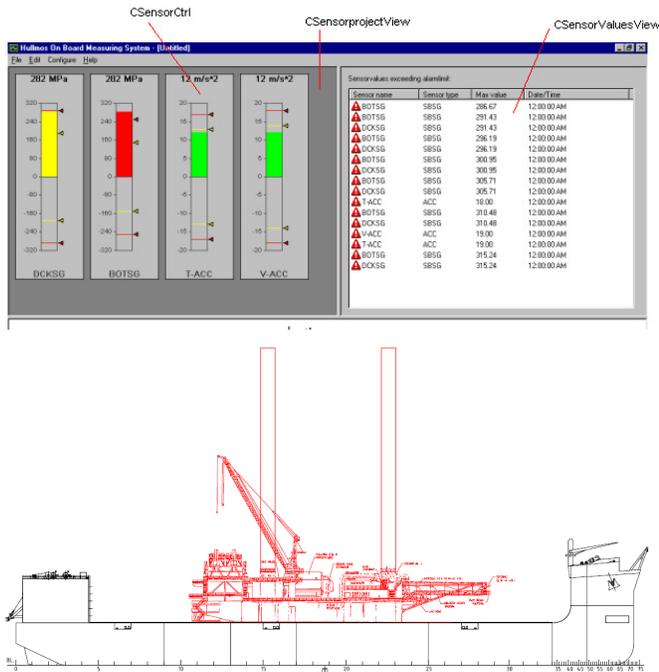
The MQK is a useful tool for shipowners, marine surveyors, insurance industry, contractors and their respective clients.

Specifications

Strain sensors: (on request)

Motion sensors:

- Three directional (x,y,z)
- Acceleration range: +/- 2g
- Sensitivity: 1000 mV / g
- Resolution 540 µg



MQK hardware consist of:

One accelerometer with three rate gyros form the core of the measurement box. This way all accelerations can be measured. Besides the sensors, the measurement box contains a data acquisition board and a micro pc to store the data. Five channels are used to record five strain values measured at critical points. Data are transferred to the computer via an usb data link. After this, data will be transferred via WiFi to a PC located at the bridge, to be able to view the data real-time.

Pictures show the new (2014) version of the MQK hardware and software.

For more information or a demonstration, please contact HMC via info@hmc.nl.