



MQK

Marine Quality Kit (MQK)

The Portable strain and fatigue measuring kit

The MQK is designed to measure strain and calculate fatigue life of structures like seafastening or project cargo, to give insight in the fatigue damage over a given period of time.





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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.

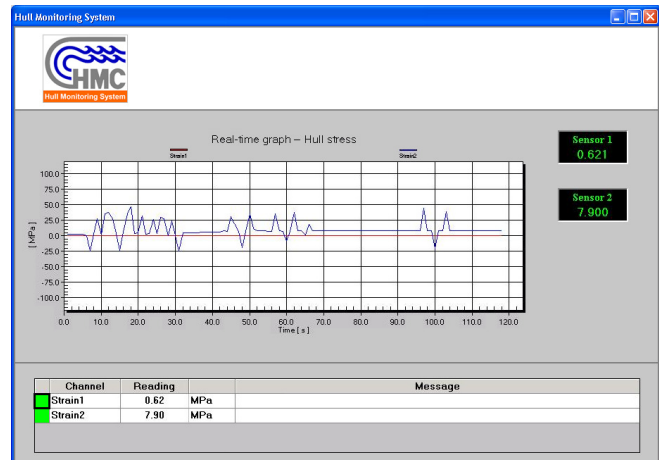
The MQK can be installed on objects in rugged environments outdoors and indoors. Except for a 230 V power supply it is fully self supportive (i.e. cooling).

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

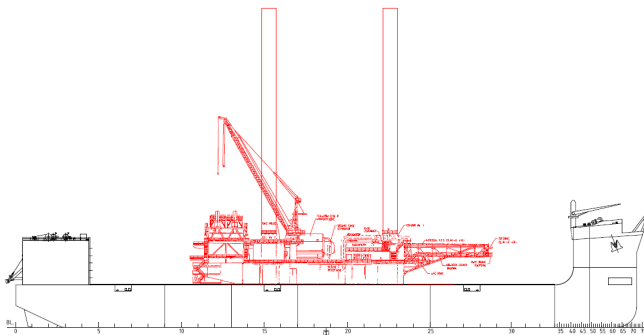
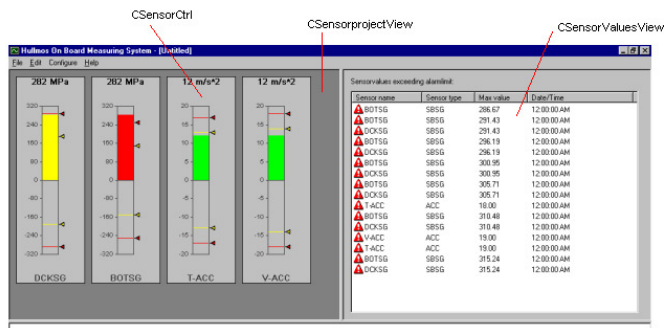
Strain sensors: (on request)

Motion sensors:

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



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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.

HMC BV
Operetteweg 4
1323 VA Almere, The Netherlands
Tel.: +31 (0) 36 5464775
E-mail info@hmc.nl, website www.hmc.nl





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3. REMUNERATION AND PAYMENT:

3.1 Tariffs

Dayrate for the MQK € 192.==.

The dayrate for the installation engineer is € 1000.==.

Cabling and strain sensor installation is excluded from the dayrate and will be estimated per project

3.2 Commencement and finalization of contract

Contract commences on day that mobilization for Client starts and MQK leaves HMC premises.

Contract ends on last day of de-mobilization and MQK arrives at HMC premises.

3.3 Hourly rates for additional work

The hourly rate for additional work is € 90.==

Depending on nature of the works a price indication will be given by HMC.

3.4 Included

Scope of work as mentioned under 2.

Communication costs within The Netherlands

3.5 Excluded

Scope of work not mentioned under 2.

Travel, boarding and lodging.

Mobilization and de-mobilization of MQK.

Purchases if any.

Duties, taxes and/or surcharges if any.

Insurance premium MQK (pro-rata).

Communication costs outside The Netherlands.

Training.





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