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portable data systems

The Marine Operations Survey Systems (MOSS) is a product line of TARKA-SYSTEMS. The systems are designed and manufactured to provide portable measurement solutions for the maritime survey.

The Freeboard/Inclination system is one of the products within the MOSS product line and combines an ultrasonic distance gauge and an inclinometer within a single system. Each of which can be operated independently or simultaneously.

Measurement can be undertaken at numerous different locations and positions. The readings of the sensor(s) are recorded internally, related to the position, and their mean values are displayed on screen over a selected recording period.

After the measurement the internal stored data can be transferred to a computer for further post-processing.

The system was developed with Marine Surveyors and Naval Architects in mind, in such a manner that its applications are relatively un-restricted. Some examples of the application of MOSS are as follows:

Salvage:

In the field of salvage MOSS can be used to determine freeboards around a grounded vessel using the ultrasonic distance gauge, from which the as grounded draughts can be determined. The ultrasonic distance gauge in conjunction with the inclinometer can also assist in the determination of the vessels structural deflections and distortions.

The on screen mean value display allows a "first" estimation to be made and the data logging system allows great detailed analysis.

Inclining Experiments:

The MOSS can also be used on inclining experiments. The ultrasonic distance gauge can be used to determine the as inclined draughts at numerous points along the vessels length thus allowing the effects of hogging/sagging to be accounted for. Using the built-in mean value functionality freeboards and thus draughts can be measured in less than perfect conditions.

The inclinometer can then be used to determine the vessels inclination with each weight shift, the mean value of inclination can either being determined by the system over the pre-set measurement period and logged internally for later download or directly monitored and logged, real time, via a laptop.

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Additionally the ultrasonic distance gauge can be used simultaneously to determine and verify the inclination with each weight shift.

With the precision available, inclining experiments can be undertaken in less than perfect conditions.

Other possible applications for which the system can be applied:

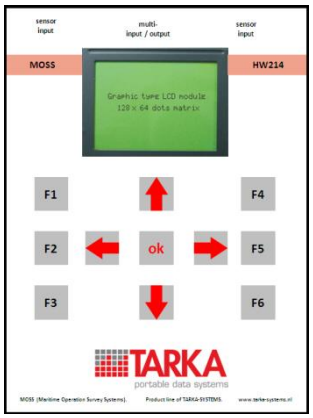
- Salvage monitoring and survey
- Marine survey of damaged vessels
- Deadweight survey
- Inclining experiments
- Floating dock monitoring
- Semi-submersible monitoring
- Float-on/off monitoring
- Heavy lift
- Load out

The Freeboard/Inclination system is part of a series of ongoing developments of Marine related tools for Marine Surveyors and Naval Architects produced and designed by TARKA-SYSTEMS.

The most basic unit consist of an ultra sonic sensor, an inclination sensor and a handheld unit. More details of each item are given below.

Ultrasonic sensor

A number of different sensor options are available dependent upon the desired application. Specific application may require different measurement range and or sampling rate. The most basic unit uses a sensor having a range of 0.45 to 15.0 meter with a sample rate of 1 Hz. A higher sample rate and a lesser range may well be more appropriate for many applications.



Inclination sensor

The basic unit has one external inclination sensor with a range of 360 degrees with a 0.01 degree resolution. Smaller ranges with higher resolution are possible on request.
The basic serial type output of such sensors allows the possibility to connect more sensors in line for simultaneously measurement of multiple positions.

The handheld unit

The handheld unit is of an aluminium construction weighing approximately 1.5 kg.
The unit consists of the following integrated components:

- A smart Lithium Ion battery pack having a 10 hour operational capability and 100% rechargeable within 2 hours.
- Electronics for data gathering and storage.
- Front panel with touch buttons and display.
- IP67 connectors for sensors connection(s).
- IP67 connector for battery charge and output functionality.

[Alterations to above specifications on request]

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For other products of TARKA-SYSTEMS
see also www.subview.nl