

# **SENSORS — MOTION AND INCLINATION**

### Motion sensors — general:

- Motion sensors are normally based on angular or acceleration measurements. They are used for measuring a large number of parameters, such as Pitch, Roll, Heave, Surge, Sway, Yaw, Acceleration, Helideck Heave, Helideck Inclination, Heave Rate, Trim, List and others. Some of these parameters are measured directly by the sensors, others are calculated within the sensor or by accompanying software products.

Special care must be taken in selecting a sensor with suitable measurement range and frequency range for the application as well as correct sensor location.

Please contact us for advice.



#### Inclination sensors—Pitch and Roll sensors

- Inclination of a vessel commonly known as Pitch and Roll, has traditionally been measured by the good old "bubble-on-thewall" method, which still functions perfectly well to give a rough indication. For more accurate measurements we can supply a range of electronic angular sensors or inclinometers together with display systems or display software. Such systems can achieve accuracies down to fractions of a degree as well as displaying graphical and history presentations.

## Motion sensors—Motion Reference Units (MRU)

- Motion Reference Units or MRUs can be delivered with different specifications depending upon the application. These sensors normally measure Pitch, Roll and Heave as a minimum, but can include all motion parameters either directly or as calculated parameters from dedicated software.

Sensors can be delivered to measure the general motion of the vessel, or measure the dedicated motion of the Helideck. Special care must be taken in locating the sensor correctly.





#### **Special considerations**

Selecting the right location and installing motion sensors requires personnel with experience and knowledge. Also developing software products for motion calculations requires highly qualified engineers. A+D and partners have long experience in installing and using such sensors as well as top qualified software engineers. Please contact us for more details.

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