



NEWSFLASH

Successful MOTUS Wave Sensor integration on larger buoy platform

Installations in harsh environments increase the need for information on Metocean parameters. Operators in these environments want to benefit from fewer installed sensor platforms.

A major manufacturer of larger sensor platforms in Europe has chosen the Aanderaa MOTUS Wave Sensor combined with the Aanderaa Doppler Current Profiler to monitor Ocean Waves and Ocean Currents. In partnership with LiDAR and other sensors, we provide the end-users with a complete solution for Metocean monitoring with high-quality data

MOTUS Wave Sensor

Stig B. Øen, Product Manager for the MOTUS Wave Direction Sensor, explains more about the MOTUS Sensor's latest news:

– Our continued effort in listening to the users of **MOTUS Sensors** and **MOTUS Buoys** have resulted in an upgrade of the sensor to provide some additional wave parameters based on the vertical time series displacement in addition to an NMEA AIS mode. The new parameters in the MOTUS sensor are Wave Mean Period T1/3, Significant Wave Height H1/10, Wave Mean Period T1/10, Wave Height H1/1, Wave Mean Period T1/1 and the earth referred East and North Horizontal time series that is configurable for sampling at 2Hz or 4 Hz. Parameters provided by MOTUS Wave Sensor can be found in the [datasheet](#).

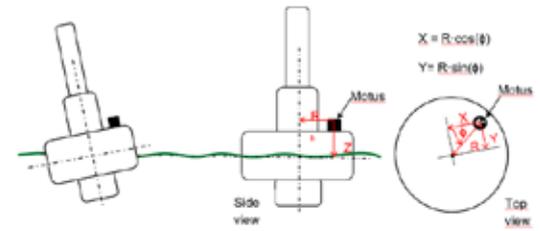
MOTUS sensor New parameters

- Wave Mean Period T1/3,
- Significant Wave Height H1/10,
- Wave Mean Period T1/10,
- Wave Height H1/1,
- Wave Mean Period T1/1
- East and North Horizontal time series, configurable for sampling at 2Hz or 4 Hz.



MOTUS for different sizes of buoys

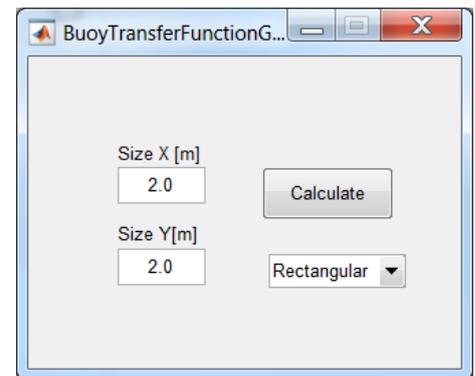
To measure ocean wave characteristics, the sensor platform should ideally follow the water surface motion perfectly. If no compensation is applied, the MOTUS Sensor calculates the wave height based on the installation location's vertical platform displacement. The wave direction is based on the direction of the horizontal buoy displacement. To be competitive on different buoy types, the MOTUS Sensor can use compensations.



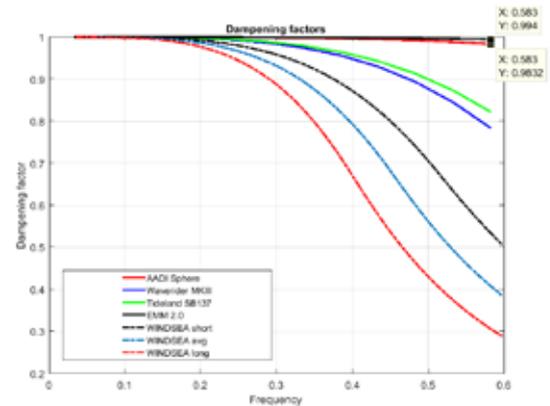
Buoy off-center

Off-center compensation; It is often challenging to install it at the buoy's rotation origin on larger buoys of different shapes. By providing the sensor with information of its installation position relative to the rotational origin and activating the sensor off-center compensation function, the error will be compensated for.

Buoy response/transfer function; In case the buoy does not fulfill the assumption that it follows the surface ideally at all frequencies, it is possible to compensate for the limitations by activating and modifying the buoy transfer function.



Aanderaa has developed a simple tool that gives an idea on what dampening factors to expect on buoys of different sizes and shape.



Magnetism; If the sensor is exposed to magnetic interference, it is possible to connect an external compass to the MOTUS sensor directly.

MOTUS for Offshore Wind / Offshore installations

The Ocean Waves and Ocean Currents sensors provided by Aanderaa combined with other sensors such as environmental sensors and Lidar give a complete platform for doing pre-studies and a fully operational field for offshore wind. The MOTUS Sensor provides a full-wave spectrum for both winds and swells with all the processing of the wave parameters done internally in the sensor for frequency and time-based parameters with real-time/near real-time output. For operations in an offshore wind farm, monitoring the waves in the area will help determine whether to send vessels or technical personnel to the site and reduce downtime and keep a high focus on health, safety, and the environment.



Example of an external compass

Aanderaa Data Instruments AS
Sanddalsringen 5b
5843 Bergen, Norway

+47 55 60 48 00
aanderaa.info@xylem.com
Aanderaa.com



MOTUS is a trademark of Xylem or one of its subsidiaries.
© 2021 Xylem, Inc. XA NF2021-N3 0321

AANDERAA

a xylem brand