



SPOS Seakeeping Integrated Solutions for Ship Response Optimization

The Seakeeping Ship Motions module is an addition to SPOS Onboard. The module is a full integration in SPOS to help the crew plan their voyage while taking the vessels responses and resonances into consideration. SPOS Seakeeping is designed to enable captain and crew to optimize route calculations according to the forecasted weather, the ship's specific characteristics and motion limits.

SPOS Seakeeping is developed in a partnership between DTN and ABB. SPOS Seakeeping can be connected to the ABB Ability™ Marine Advisory System – OCTOPUS. OCTOPUS-Onboard combines wave measurements, weather forecasts, and navigation data with ship characteristics, loading conditions, and motion sensor measurements. Together these systems are the best solution for both voyage optimization and real-time motion control.

Why choose SPOS Seakeeping?

With the SPOS Seakeeping module the routing advice is tailored to the individual vessel. SPOS Seakeeping is the only mature software available that offers a voyage performance optimization system with a comprehensive, fully integrated ship seakeep optimization. It forecasts ship responses and resonances along any route and gives the crew the tools to evaluate escape options in both direction and speed for occurring motions. With its user-friendly setup and interface fully integrated in the known SPOS system, any skilled captain will benefit from the added value.

What does SPOS Seakeeping offer?

With SPOS Seakeeping the user can define vessel loading conditions and motion threshold values. The module includes all translations and rotations and can be defined and combined for any given spot on the vessel, completed with the IMO resonances. In the SPOS Seakeeping charts, forecasted motion values can be visualized. Both the chart and polar diagram can display where motions are expected to exceed the threshold values. In route optimization, the motions are also calculated and the optimized route will avoid areas where maximum motions would be exceeded. Once connected to a GPS, the software can be used for real-time motion predictions and give the user insight in possible speeds and directions to escape certain motion risks. The module provides an easy setup with predefined responses and gives the user most probable values for complicated matters, such as roll damping measurements. The only input needed are known ship characteristics like type, dimensions, draft and loading conditions.

What are the key benefits?

- Situational awareness with the combined motion and weather forecast mapping.
- Vessel-tailored route optimization, with input of specific vessel characteristics.
- An integrated solution. No hassle with one system for route calculations and a separate system or manual calculations for ship motions.
- Easy to set-up and use, with multiple options to define specific responses, motions, velocity or acceleration at any given spot on the vessel or its loadings.
- GPS connection to predict motions based on current position, speed and course over ground.
- Quickly calculates different routes with different motion maximums.
- Choose between warn and avoid for certain motions, to evaluate the impact of the parameters on voyage plan.
- Can connect with Octopus Onboard.

Together these systems are the best solution for both voyage optimization and real-time motion control.