

PHINS – An All-In-One Sensor for DP Applications

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Abstract

DP positioning sensors are mainly GPS receivers and acoustics sensors such as USBL or LBL. GPS receivers when used in differential mode are very accurate and very reliable. However, there are cases when they may provide either corrupted measurements or no measurements at all. Acoustic positioning systems usually take a great deal of time to install and to calibrate. The purpose of the present paper is to present some alternative sensors that would resolve some of the difficulties with conventional sensors. They are not intended to replace those sensors but more as supplemental to them to add availability, safety and redundancy to conventional DP system sensors. IXSea manufactures two sensors that may be used for DP applications:

- PHINS, an inertial navigation system capable of data fusion between inertial sensor measurements and GPS data and/or Long Base Line (LBL) acoustic positioning systems and/or Ultra Short Base line (USBL) acoustic positioning systems.
- GAPS, a portable, calibration-free USBL-based positioning system, incorporating a high-performance inertial navigation system.

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