

New Line of Miniature Inertial Sensors



SBG Systems, France, has announced the release of the Ellipse Series, a new product range of miniature inertial systems replacing the IG-500 Series. According to the company, customers benefit from higher accuracy, advanced filtering and features inspired from high-end inertial navigation systems. Interesting for the marine industry, Ellipse is a full-featured inertial sensor to additionally provide heave, automatically adjusted to the wave frequency.

After many years and thousands of sensors in the field, the IG-500 Series is being replaced by a brand-new generation: the Ellipse Series. This new series of miniature inertial systems benefits from a new design, new sensors, new capabilities, and new algorithms. SBG Systems has selected MEMS sensors with very low noise gyroscopes

that greatly enhance Ellipse performance. The company integrated cutting-edge GNSS receiver while keeping a small size, declared Alexis Guinamard, CTO of SBG Systems.

With the Ellipse Series, SBG Systems intends to set up a new standard for miniature inertial systems. Guinamard commented that being the only one on the market to design both high-end and entry-level sensors, SBG is able to upgrade miniature sensors capabilities by injecting some advanced and proven filtering and features inspired from high-end inertial navigation systems. Additionally to higher accuracy, they added for the same budget an improved FIR and rejection filtering, robust IP68 enclosure, high output rate, RTK corrections, automatic alignment, etc.

Dual Antenna Model

Weighing from 45 grams, Ellipse sensors are flexible. The Ellipse-A model provides 3D orientation and heave. For navigation, users can connect their own GPS with the Ellipse-E, or use the internal one by choosing the Ellipse-N model. The Ellipse-D completes this miniature sensor family. This model is a little larger than the rest of the series because it integrates a Survey-grade L1/L2 GNSS receiver with two antennas for heading and position accuracy.

Surveying Applications

With its very low noise gyroscopes and its high output rate, Ellipse sensors are especially effective when mounted on a UAV for data georeferencing, scientific instrument orientation or stabilisation. On the ground, Ellipse sensor connect to odometer while receiving RTK correction for an accurate trajectory even during GPS outages.

SBG Systems will present the Ellipse Series on stand no. C1.059 during Intergeo.

More information about the new Ellipse Series, is available on the [SBG Systems Ellipse series webpage](#).

