SENTIO

QUANTUM MAGNETOMETER

The SENTIO is a compact, high performance scalar magnetometer with extreme sensitivity and very low heading error. It passively detects extremely small changes in magnetic field strength and is ideally suited to deployment on moving platforms and static arrays in complex environments.

As a quantum sensor it is also calibration-free and drift-free – allowing fusing of multiple sensors into an array that delivers reliable and high value magnetic sensing, while simultaneously rejecting unwanted background noise that is much larger than the target signals themselves.

Image for indicative purposes only

KEY FEATURES AND BENEFITS

Exceptional sensitivity and accuracy

The SENTIO is a quantum sensor that uses the fundamental state of atoms to sense magnetic field strength, giving it exception accuracy and sensitivity below 1 pT/√Hz.

Low heading error and high bandwidth

An advanced atomic interrogation technique allows near zero heading error and high bandwidth to minimise systemics errors and maximise common mode rejection to reveal magnetic signatures beneath the noise.

Compact all optical design

The SENTIO magnetometer uses only light to read the magnetic field strength, giving very low size, weight and power compared to conventional electronic magnetometers. It has a miniature, zero metal sensor head that can connected by long optical fibres into a multi-magnetometer sensing array.

Smart signal processing

An on-board neural network specifically designed for magnetic sensing dynamically rejects background fluctuations while only tracking physical real signals to maximise sensing ranges and detection probabilities.

SENTIO APPLICATIONS

Anti-submarine warfare

Allowing the detection of submarines at greater depths by networked autonomous systems or sea-bed arrays.

Geospatial intelligence

Providing precise measurements of Earth's magnetic field, enabling the detection of underground resources, geological structures, and man-made objects, thereby improving the accuracy of mapping and surveillance efforts.

Underground surveillance

A critical tool for intelligence and reconnaissance missions to detect underground movement of materiel, buried weapons caches, mines and unexploded ordinance.

Mineral exploration

Offering highly sensitive, high bandwidth detection of subtle magnetic anomalies, leading to more accurate identification and mapping of mineral deposits deep within the Earth's crust.

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