

Inertial Sensing for Unmanned Air Vehicles

MicroStrain Applications Note: Precision Miniature Sensors

The Challenge

Unmanned aerial vehicles (UAVs) often operate in demanding environments that require precise and reliable sensory feedback, yet UAVs are also especially sensitive to incremental changes in weight and volume. As a result operators may compromise overall platform performance or forgo valuable sensing capabilities altogether.



The Solution

MicroStrain® inertial sensors provide high performance in a very small and lightweight package. MEMS technologies combined with GNSS/GPS and sophisticated estimation filtering offer accurate and reliable data quantities to provide precise control, stabilization, and pointing at the best value.



Benefits

- Small, light, & easy-to-integrate on new and existing platforms
- Best-in-class high-end industrial and tactical inertial systems
- Rugged systems qualified for flight/flight testing
- Reduced development cost and rapid deployment
- Cost-effective, miniature, and high-performance inertial



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MicroStrain Application note: UAV

Ease of Integration: MicroStrain provides tactical and high-end industrial grade miniature inertial sensors to the UAV market. Our user implementation procedure is streamlined to support rapid evaluation and integration with little development overhead, and low barriers to incorporate the latest sensor models and capabilities.

GNSS-Aided Inertial Navigation Systems (GNSS/INS), Attitude Heading Reference Systems (AHRS), and Inertial Measurement Units (IMU) are backed by comprehensive development kits. Combined with SensorConnect communication protocol, unmanned air vehicle operators have the flexibility of moving up or down the product line with little or no rewriting of code. Calibrating each sensor to the same strict standard ensures identical performance between same model devices. As a result, UAV developers can be confident that integrating MicroStrain sensors into their systems is a repeatable, cost-effective process.

Benefits:

- Small, light, easy to integrate on new and existing platforms
- Best in class industrial and tactical grade inertial systems.
- Rugged, flight qualified systems
- Reduced development cost and rapid deployment
- Cost-effective, high-performance miniature inertial navigation systems.
- Forward compatible software communications across models.
- Configure your sensors
- Export data for real-time navigation
- Build custom dashboards
- analyze data for after-action reporting



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