



SINAV® MEMS INS/GPS INTEGRATED NAVIGATION SYSTEM

PROVEN HIGH PERFORMANCE

A robust INS/GPS integrated navigation solution

The Collins SiNAV® micro electro-mechanical system (MEMS) INS/GPS integrated navigation system combines a miniature, high performance, MEMS IMU with state-of-the-art military GPS receiver technology, navigation processing and power conditioning electronics – all in a single integrated unit.

The ultra-tightly coupled architecture of SiNAV and the specially developed MINK™ modular Kalman filter combine to provide tactical free inertial performance and navigation accuracy for ground or flight operations.

The modular design of SiNAV means it can be configured to customer specific requirements for interfacing power supplies, mission computer hosting, gun launch survivability, transfer alignment and other aiding sources, as well as integration with high grade GPS, anti-jam hardware. SiNAV has been designed for use in next-generation tactical missiles, guided munitions and unmanned aerial vehicles.

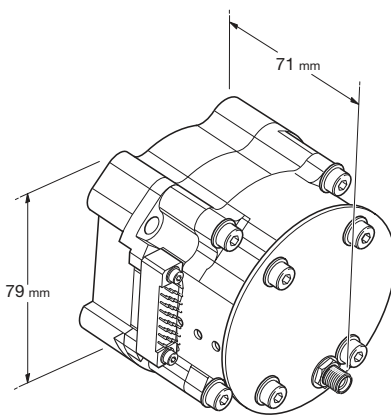
Collins Aerospace has a long and respected heritage in the design and development of inertial sensors. Today, we specialize in MEMS products.

PEDIGREE

- First MEMS IMU in military service
- Our products have been selected by over 60 customers worldwide – over 130,000 MEMS products delivered
- Used in platform stabilization, and missile and weapon navigation
- Rigorous performance and simulated aging ensures conformance to specification throughout the life cycle



SiNAV



PRODUCT FEATURES

- Ultra-tightly coupled navigation solution
- Fast acquisition GPS receiver
- 20,000g gun launch capability
- Ability to host customer autopilot and guidance software

KEY CHARACTERISTICS

Free Inertial

Typical performance	Angular	Linear
Measurement range	Up to $\pm 18,000^\circ/\text{s}$	Up to $\pm 100\text{g}$

Navigation

Steady-state, assuming	Availability of GPS	GPS outage for 30 seconds*
Attitude	$<0.1^\circ$ rms	$<0.25^\circ$ rms
Heading	$<0.15^\circ$ rms	$<0.30^\circ$ rms
Velocity	$<0.1\text{m/s}$ rms	$<1\text{m/s}$
Position	$<10\text{m}$	$<30\text{m}$

Physical and electrical

Mass	<500 grams
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Electrical

Supply voltage	+5 VDC
Power consumption	$\leq 8\text{W}$
Interface	RS422 and discretes

*After suitable maneuvers

Specifications subject to change without notice.