



CompassINAV

Support for wide range of IMU's

- MEMS (internal)
- Tactical (external)
- Navigation (external)



High Performance Inertial Navigation System

CompassINAV is a fully-integrated gps-aided inertial navigation system supporting a wide range of IMU grades and providing a high performance, trusted positioning and navigation capability

CompassINAV is offered in several configurations designed to meet a wide range of requirements, and is available for both commercial and military applications:

- CompassINAV Commercial: Designed for civilian navigation applications (no ITAR restrictions)
- CompassINAV SAASM: Designed for applications that have a military SAASM GPS requirement

KEY FEATURES

- Centimeter-level position accuracy (dual-frequency RTK configuration)
- GPS Processing with Precise Instantaneous Network positioning based on AEVEX's Epoch - by - Epoch® technology
- In-motion dynamic alignment
- Support for low, medium and high dynamic platforms
- Post-processing support with RTD-Post
- Mil-Spec ruggedization

APPLICATIONS



UAV, USV, and
UGV navigation
and control



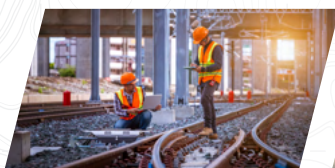
Military and
defense security



Robotic and
ROV control



Oil and gas
exploration



Transportation
safety and
maintenance



Mobile mapping
systems and photo-
grammetry



Construction and
structural
management



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Inertial Navigation System



GPS Options	Processing Options	Typical Position, Velocity, Acceleration, Attitude Accuracy (RMS) ¹		
		Position (Horizontal/Vertical)	Velocity, Acceleration	Roll, Pitch / Heading (Tactical MEMS, Advanced IMU)
Commercial	Standalone Mode	1.5 m / 2.5 m	0.1 m/s, 0.15 m/s ²	±0.1° / ±0.3° , ±0.05° / ±0.1°
	L1/L2 RTK Mode	0.05 m / 0.1 m	0.02 m/s, 0.1 m/s ²	±0.5° / ±0.1° , ±0.01° / ±0.05°
SAASM	Standalone Mode	1.0 m / 2.0 m	0.1 m/s, 0.15 m/s ²	±0.1° / ±0.3° , ±0.05° / ±0.1°
	L1/L2 RTK Mode	0.05 m / 0.1 m	0.02 m/s, 0.1 m/s ²	±0.5° / ±0.1° , ±0.01° / ±0.05°

¹Accuracy is dependent on GPS satellite system performance, ionospheric conditions, GPS blockage, environmental conditions, data link and other factors.

IMU Specifications

Parameter	MEMS*	Fiber Optic Gyro	Ring Laser Gyro (ITAR)
Gyroscope Dynamic Range	±450°/sec	±490°/sec.	±1074°/sec.
Gyroscope Bias In-Run Stability (1σ)	0.8°/hr.	1°/hr.	1°/hr.
Gyroscope Angle Random Walk (1σ)	0.06°/√hr.	0.012°/√hr.	0.125°/√hr.
Accelerometer Dynamic Range	±10g	±10g	±37g
Accelerometer Bias In-Run Stability (1σ)	4mg	7.5mg	1mg
Accelerometer Velocity Random Walk (1σ)	0.07(m/sec)/√hr.	0.07(m/sec)/√hr.	0.001(m/sec)/√hr.

*: For more MEMS, FOG, or RLG IMU options please contact us

Technical Specifications

Parameter	Commercial Configurations	M-Code / SAASM Configurations
Interfaces	- External power connector - TNC GPS antenna connector 1 Ethernet data port 3 RS-232 serial ports, 1PPS output 4 status LED	- External power connector - TNC GPS antenna connector 1 Ethernet data port and 3 RS-232 serial ports 1PPS output 4 status LEDs - M-Code & SAASM Keyload Connector - M-Code & SAASM Zeroize button
GPS Frequency Tracking	L1/L2	L1 & L2 (P/Y Code), M-Code
Key Loading	N/A	DS-101
Size / Weight / Power	33.8 in ³ (4.73x3.95x1.81) / 20 oz. / 10 – 30 VDC @ 2 Amps min. (not including external IMU's)	
Temperature Range	Specified: -20°C to +65°C Operating: -40°C to +70°C	
Real-Time Data Output	Navigation solutions at 125/200 Hz (MEMS), 100-400 Hz. (FOG, RLG). available via Ethernet, RS-232	
Data Recording/Logging	Navigation solutions, raw GPS & IMU data (for post-processing with RTD-Post)	

CompassINAV Accuracy¹