GEODETICS
INCORPORATED

Precision in Motion.

Geodetics is an Advanced Sensing and Navigation Company Based in the U.S.A.
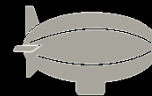
Commercial GPS

SAASM GPS

Geo-iNAV® 1000 Inertial Navigation System

GEO-INAV 1000 IS A LOW-COST RUGGED GPS-AIDED INERTIAL NAVIGATION SYSTEM OFFERING A REAL-TIME HIGH-PERFORMANCE SOLUTION FOR BOTH COMMERCIAL AND MILITARY APPLICATIONS

The Geo-iNAV® 1000 is based on Geodetics' popular Geo-iNAV product. The Geo-iNAV 1000 tightly couples a single-frequency GPS sensor or dual-frequency SAASM sensor with a high-stability Quartz MEMS IMU to provide a high-performance navigation solution.

Key Features

- Commercial or SAASM GPS
- Internal Quartz MEMS IMU
- Low latency
- Tight-coupling with Geodetics' Extended Kalman Filter
- In-motion dynamic alignment
- Wander Azimuth frame
- RS-232, RS-422 and Ethernet (TCP/UDP) interfaces
- ITAR Free (non-SAASM version)
- Includes GPS antenna and cables

Applications

- Intelligence, Surveillance and Reconnaissance (ISR)
- UAV & UGV navigation
- Robotic & ROV control
- Oil & gas exploration
- Transportation safety & maintenance
- Construction & structural management
- Military appliations

HYPER-TECH Systems

רח' אודם 14, ת.ד. 7042 פ"ת ▪ טל: 03-9243352 ▪ פקס: 03-9243358
www.hypertech.co.il ▪ sales@hypertech.co.il

**2649 Ariane Drive
San Diego, CA 92117**

(858) 729-0872

info@geodetics.com

www.geodetics.com

Geo-iNAV®1000 Inertial Navigation System

Typical Position, Velocity, Acceleration, Attitude Accuracy (RMS)*

	Horizontal Pos.	Velocity	Roll, Pitch
	Vertical Pos.	Acceleration	Heading
Commercial L1	1.5 m	0.1 m/s	0.2°
	2.5m	0.15 m/s^2	0.5°
SAASM L1/L2	1.0 m	0.1 m/s	0.2°
	2.0 m	0.15 m/s^2	0.5°

Accuracy is dependent on GPS satellite system performance, ionospheric conditions, satellite visibility, data-link and other factors

2.06"

3.95"

3.05"

Maximum Drift of the Navigation Solution (Position, Velocity, Attitude) after GPS Outages

Outage Time	Position (Horizontal, Vertical)	Velocity (Horizontal, Vertical)	Attitude (Roll, Pitch / Heading)
30 Seconds	2.0 m , 1.5 m	0.2 m/s , 0.1 m/s	0.02° / 0.05 °
60 Seconds	8.0 m , 5.5 m	0.4 m/s , 0.5 m/s	0.05° / 0.1°

Technical Specification

Parameter	Commercial Configurations
Size / Weight / Power	24.8 in^3 (3.95 x 3.05 x 2.06) / 14.4 oz. / 10 – 30 VDC @ 2 Amps min.
Temperature Range	Specified: –20°C to +65°C	Operating: –40°C to +70°C
Interfaces	External power connector, SMA GPS antenna connector, 1 Ethernet data port, 1 RS-232 serial port, 1 RS-422 serial port, 1PPS output, 1 status LED
Real-Time Data Output	Navigation solutions up-to 125 Hz. available via Ethernet, RS-232 or RS-422
GPS Tracking	L1 Geo-iNAV 1000 Commercial, L1/L2 Geo-iNAV 1000 SAASM

Internal IMU Specification

Parameter	
Gyroscope Dynamic Range	±150°/sec.
Gyroscope Bias In-Run Stability (1σ)	3°/hr.
Gyroscope Angle Random Walk (1σ)	0.1°/√hr.
Accelerometer Dynamic Range	±3g
Accelerometer Bias In-Run Stability (1σ)	‹0.1mg
Accelerometer Velocity Random Walk (1σ)	0.04(m/sec)/√hr.

HYPER-TECH Systems

GEODETICS INCORPORATED | Precision in Motion.