

GPS Modules

GPS Based Northfinding & Navigation Solutions

Description

Instro's GNAV is a GPS based north finding, position and attitude determination module designed for use in ferro-magnetic environments such as heavy vehicles and ships where electronic compass-based solutions are not viable and where inertial systems are too costly.

Due to GNAV's unique design concept, accurate direction can be determined while stationary, along with position and attitude. GNAV modules are packaged in a heavy duty, thick wall aluminium housing providing a high degree of mechanical protection. The GNAV IMU features an integrated 3 axis Inertial Measurement Unit (IMU) which provides azimuth data continuity during short periods of GPS reception interruption as well as an increased data output rate.

Available as an OEM sensor the GNAV module can be integrated with both new and existing systems easily via an RS422/RS232 serial data link. The design and ease of installation and use of the GNAV module makes it ideally suited to retrofit applications.

Applications

- Armoured vehicles
- Radars & surveillance platforms
- Missile launchers
- Artillery platforms
- Mobile mounted weapons platforms
- Ships and maritime applications



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Outline Specification

Overall Size L x W x H	780mm x 140mm x 90mm approx
Weight (Approx)	12kg (26.4lbs)
Mechanical interface	Series of mounting holes for captive bolts plus locating dowels
Power requirements	Input Voltage: 18 to 32 VDC. Power Consumption: 25W typical
Azimuth Accuracy:	0.5° - 1 σ - pitch and roll to within $\pm 15^\circ$ or 2° - RMS - pitch and roll to within $\pm 15^\circ$ with GPS reception degraded - IMU only
Pitch Accuracy:	0.5° - 1 σ - Pitch to within $\pm 15^\circ$
Roll Accuracy:	0.5° - 1 σ - Roll to within $\pm 15^\circ$
Position Accuracy:	5m CEP (GPS) 1.5m CEP (DGPS)
Inertial measurement Unit (IMU)	Yes
Acquisition Time	Time to First Fix (TTFF) < 150 sec hot start
Environmental sealing	Sealed for immersion to 1.5 m
Communication interface	RS-232; RS-422
Operating temperature	-35° C to +55° C

Optional extras

- Starter kit , including software and cables
- Mounting brackets



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