



ANELLO GNSS INS/ATAK KIT

Real Time Navigation in GPS-Denied Environments

The ANELLO GNSS INS ATAK Kit utilizes advanced optical gyroscope technology to deliver real time high-accuracy positioning in environments where GPS is unavailable. The kit is available now and can quickly be installed into any vehicle in under 20 minutes.

The ANELLO GNSS INS/Android Tactical Awareness Kit (ATAK) system was designed for real time navigation in Contested Environments without GPS displaying route information on the ATAK. The GPS-Denied INS utilizes ANELLO's unique low drift Optical Gyroscope technology embedded inside the compact GNSS INS product. The ANELLO GNSS INS/ATAK supports long-term GPS-Denied Dead Reckoning without external aiding. This provides warfighters simple, cost-effective immunity to GPS jamming and spoofing threats displaying in real time the position and navigation route, using the current ATAK systems.

The ANELLO system provides real time navigation in contested environments for over 60 minutes. The quick install design of the system allows the ANELLO GNSS INS/ATAK to be installed into any vehicle in under 20 minutes and without the need for any odometry input.

The ANELLO GNSS INS contains dual antenna commercial GPS receivers, on board sensor fusion and an AI algorithm integrated into the ANELLO INS. When GPS is available, the unit uses the available GPS signal. If the GPS is degraded or lost, the ANELLO AI algorithm detects this and the system seamlessly switches to the optical gyroscope navigation, without any user intervention. Moreover, the ANELLO system detects GPS spoofing attempts, automatically disregards compromised signals and switches to optical gyroscope navigation.

This innovative solution integrates ANELLO's unique, low-drift optical gyroscope technology within a compact GNSS INS unit, enabling extended GPS-denied dead reckoning without external assistance. By seamlessly displaying real time route information on the ATAK, the ANELLO GNSS INS/ATAK Kit ensures continuous situational awareness and navigation support for military personnel operating in GPS-denied environments.

FEATURES

ATAK Interface for Real Time Navigation

Internal Optical Gyroscope and 6-Axis Inertial Measurement Unit

60 minutes of Navigation in Degraded and GPS-Denied Conditions

Reference-grade 200 Hz Position, Velocity and Attitude

Cost Effective Real Time Navigation System without GPS

Standard Civilian GPS and Optional M-Code GPS Support

Installation into any vehicle in under 20 minutes

IP68 - Waterproof, Resistant to Dust, Salt Spray and Chemicals

GPS Denied Dead-Reckoning to ~0.5% of Distance Travelled

Hardware PTP Time Sync, ASIL-D CPU and OS

LONG TERM GPS-DENIED NAVIGATION (EXAMPLE)

- Drive distance 78.43km
- Average Speed ~74 mph
- BLUE: Calibration period 2100s (35 min)
- YELLOW: 900s (15min) GAP without GPS
- CYAN: 1800s (30min) GAP without GPS
- RED: 2700s (45min) GAP without GPS
- PINK: 3600s (60min) GAP without GPS
- GREEN: GPS reference solution

GAP (S)	ERROR (M)	DISTANCE (KM)	RELATIVE ERROR (%)
900	36.962	29.79	0.12
1800	98.64	54.16	0.18
2700	113.4	64.63	0.18
3600	179.88	78.43	0.23

ERROR: 0.23% DISTANCE TRAVELED



ANELLO RESILIENCE TO GPS SPOOFING

