

ANS-530

ASELSAN LAND INERTIAL NAVIGATION SYSTEM
(FOR HIGH-SHOCK ARTILLERY GUN SYSTEMS)



1 MIL
POINTING ACCURACY

MIL-PRF-71185
PERFORMANCE SPECIFICATION

EMBEDDED GPS RECEIVER
12 Channel



ANS-530

ASELSAN LAND INERTIAL NAVIGATION SYSTEM (For High-Shock Artillery Gun Systems)

ANS-530K is an integrated position and attitude determination system for land vehicles specifically for high-shock artillery gun systems. ANS-530K supplies linear acceleration, linear and angular velocity, position, attitude to the host vehicle systems continuously.

ANS-530K has an open architecture and hardware/software flexible unit which can be adapted to various land platforms.

ANS-530K consists of strap down inertial measurement unit, system processor unit, power supply unit, Embedded GPS Receiver (EGR) and chassis. It is capable of using 12 channel P(Y) coded SAASM GPS receiver as embedded GPS receiver. ANS-530K is also capable of using external GPS receiver.

The tightly coupled, embedded INS/GPS and integrated odometer capability of ANS-530K provides improved performance for land platforms.

ANS-530K provides both a hybrid (inertial + GPS + Odometer) navigation solution and also inertial only navigation solution or a GPS only navigation solution simultaneously. It has the capability of providing high performance position and attitude with odometer update in case of lack of GPS signal.

Long mean time between failure (MTBF) and internal built in test capability reduces the maintenance requirement to a minimum level.

General Specifications

- Embedded Military GPS
- Hybrid, Free Inertial, GPS Only Navigation Solution
- Odometer Update
- UTM or Geographical Position Calculation
- True, Grid or Magnetic Heading Calculation
- Position Update
- Start-Up BIT, Periodic BIT, Initiated BIT
- Field Programmable Software
- No periodic maintenance

System Interfaces

- MIL-STD-1275D Electrical Power Interface
- High speed RS422 Asynchronous Serial Test Interface
- RS422 Asynchronous Serial User Interface
- Spare RS422 Asynchronous Serial Interfaces
- External GPS Interface (ICD-GPS-153)
- Have Quick and 1PPS Interface (ICD-GPS-060)
- KYK-13 Interface
- Active and Passive RF Antenna Interface
- Discrete Interfaces

System Operational Modes

- Initialization
- Alignment
 - Gyro Compass (GC) Alignment
 - In Motion Alignment with Internal/External GPS Navigation
- Navigation
 - Hybrid Navigation (HNAV)
 - Inertial Navigation (INAV)
- Initiated Built In Test (BIT)

Navigation Performance (in compliance with MIL-PRF-71185)

	Horizontal Position (CEP)	Vertical Position (PE)
Inertial + ODO + GPS (PPS)	10 m	10 m
Inertial + Odometer (with ZUPT every 60 minutes)	0.0025 x Distance travelled (Distance travelled > 4 km)	0.00067 x Distance travelled (Distance travelled > 10 km)
	10 m (Distance travelled < 4 km)	6.7 m (Distance travelled < 10 km)
Free Inertial (with ZUPT every 4 minutes)	18 m	10 m
Azimuth	1 mils RMS [<0.2 mils RMS, with internal GPS]	
Roll, Pitch	0.5 mils RMS [<0.2 mils RMS, with internal GPS]	

Alignment Durations

Ground (Gyro Compass) Alignment Mode	GPS In-Motion Alignment Mode	Stored Heading Mode
15 min	10 min	30 sec

Size and Weight

- Dimensions: 332 mm (H) x 304 mm (D) x 198 mm (W) (including connector)
- 12.5 kg with GPS receiver installed

Environmental Conditions

- MIL-STD-810

Electromagnetic Environmental Effects

- MIL-STD-461

Specifications are subject to change without any notice. | All tolerances are within ±10%.

