

# ANS | 310-L

TACTICAL LAND INERTIAL NAVIGATION  
SYSTEM

#Navigation



IN MOTION ALIGNMENT WITH GPS OR GNSS  
WAYPOINT ALIGNMENT WITHOUT GPS OR GNSS  
EMBEDDED RECEIVER GPS OR GNSS



**aselsan**

# ANS | 310-L

## TACTICAL LAND INERTIAL NAVIGATION SYSTEM

ANS 310-L is an integrated position and attitude determination system for land vehicles. ANS 310-L provides linear acceleration, linear and angular velocity, position, attitude to the host vehicle systems continuously.

ANS 310-L consists of strapdown inertial measurement unit, system processor unit, power supply unit, embedded GPS (SPS)/GNSS receiver (EGR) and chassis. ANS 310-L is capable of using GPS (SPS)/GNSS receiver as embedded receiver. ANS 310-L is also capable of using external GPS (SPS) receiver.

The tightly coupled, embedded INS/GPS (SPS) or GNSS and integrated odometer mechanization of ANS 310-L provides improved performance for land platforms.

ANS 310-L provides hybrid (inertial+GPS (SPS)/GNSS+Odometer) navigation solution and GPS/GNSS only navigation solution simultaneously. ANS 310-L has the capability of providing high performance position and attitude with odometer update in case of lack of GPS/GNSS signals.

ANS 310-L is a cost effective solution for all types of ground-based vehicles requiring position and pointing during their mission.

ANS 310-L is an open architecture and hardware/software flexible unit which can be adapted to various land platforms.

### General Specifications

- Embedded GPS (SPS)/GNSS Receiver
- Hybrid, GPS (SPS)/GNSS Only Navigation Solution
- Odometer Update
- Zero Velocity Update
- UTM or Geographical Position Calculation
- True, Grid or Magnetic Heading Calculation
- Position Update
- Start-Up BIT, Periodic BIT
- Field Programmable Software
- No Periodic Maintenance

### System Operational Modes

- Leveling
- Alignment
  - Gyro Compass (GC) Alignment
  - In Motion Alignment with Internal/External GPS (SPS)
  - Waypoint Alignment
  - Stored Heading Alignment
- Hybrid Navigation (HNAV)
- Initiated Built In Test (BIT)

### 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)
- Active and Passive RF Antenna Interface
- Discrete Interfaces

### Navigation Performance

Parameter	Navigation Performance
Heading (RMS) (With GPS (SPS) / GNSS aided or Waypoint Alignment)	7 mils (1 sigma)
Attitude (Roll and Pitch) (RMS)	4 mils (1 sigma)
Horizontal Position (CEP)	
Inertial + Odometer	1.0 % x distance travelled
Inertial+Odometer+GPS/GNSS	10 m
Vertical Position (PE)	
Inertial + Odometer	0.4 % x distance travelled
Inertial+Odometer+ GPS/GNSS	15 m

### Alignment Modes and Durations

Gyrocompass Alignment Mode (Coarse Alignment)	GPS In-Motion Alignment Mode (Full Alignment)	Stored Heading Alignment
180 sec	300 sec	30 sec

### Environmental Conditions

- MIL-STD-810

### Electromagnetic Environmental Effects

- MIL-STD-461 / DO-160E

### Dimensions and Weight

- ~ 24cm x 18cm x 12.5 cm (including connectors)
- < 4.3 kg with GPS receiver installed

