

# Atlans

A FOG-based high grade INS coupled with the latest GNSS technology offering a fully-integrated solution for innovative navigation and geo-referencing applications.



Atlans is a high performance all-in-one Inertial Navigation System (INS) for both land and airborne applications. Atlans benefits from smart coupling technique between iXblue Fiber-Optic Gyroscope (FOG) and data from the integrated latest generation Septentrio Global Navigation Satellite System (GNSS) receiver. In the most challenging applications, Atlans is specially designed to provide continuous and accurate 3D position, speed and orientation information.

## FEATURES & BENEFITS

- Simplified Integration with its all-in-one housing and single GNSS antenna setup.
- Continuous 200Hz output of orientation and position information even in GNSS-denied environments.
- INS/GNSS SIGIL<sup>1</sup> coupling
- Permanent quality data thanks to the associated iXblue post processing software APPS.
- 24/7 worldwide technical assistance
- 5 years warranty
- Free ITAR Component

## APPLICATIONS

- Asset management
- Land mobile mapping
- Airborne mobile mapping
- Image capture
- LIDAR mapping
- GIS data collection
- Pavement condition survey
- Tunnel mapping
- Railroad and road survey
- Underground survey
- Vehicle control and guidance
- Autonomous vehicles
- Ground Truth

## TECHNICAL SPECIFICATIONS

### PERFORMANCE | IMU<sup>(2)</sup>

Drift (deg/hr)	0.1
Noise (deg/sqrt(hr))	0.005

(1) SIGIL: Septentrio iXblue GNSS Inertial link  
(2) Typical RMS performance

## PERFORMANCE | LAND APPLICATIONS

### With GNSS<sup>(3)</sup>

Correction type	SPS Natural	SBAS	DGNSS	PPP**	RTK***	PPK****
Position Horizontal (X,Y) (m)	1.200	0.600	0.030	0.060	0.006+ 0.500 ppm	0.006+ 0.500 ppm
Position Vertical (Z) (m)	1.900	0.800	0.050	0.090	0.01 + 1ppm	0.01 + 1ppm
Heading <sup>(4)</sup> (deg)	0.080	0.050	0.030	0.025	0.020	0.015
Roll & Pitch (deg)	0.020	0.015	0.010	0.008	0.008	0.005

### During GNSS outage<sup>(3)</sup>

Outage duration	SBAS/PPP 1000sec	RTK*** 60sec	PPK**** 60sec
Horizontal (X,Y) (m)	0.3% TD <sup>(5)</sup>	0.350	0.150
Vertical (Z) (m)	0.2% TD <sup>(5)</sup>	0.300	0.100
Heading <sup>(4)</sup> (deg)	0.080	0.025	0.020
Roll & Pitch (deg)	0.020	0.010	0.008

## PERFORMANCE | AIR APPLICATIONS

### With GNSS<sup>(3)</sup>

Outage duration	SPS/Natural	SBAS	DGNSS	PPK****
Position Horizontal (X,Y) (m)	1.2	0.600	0.300	0.020
Position Vertical (Z) (m)	1.9	0.800	0.500	0.050
Heading <sup>(4)</sup> (deg)	0.080	0.050	0.030	0.015
Roll & Pitch (deg)	0.020	0.015	0.010	0.005

## Characteristics

Weight	2.6 kg
Material	Aluminium
Size	160 mm x 160 mm x 113 mm
Power	< 22 W, 12 to 33 VDC
Operating temperature	-20°C to 55°C
Storage temperature	-40°C to 80°C
Logging capacity	48 hours (INS and GNSS data)
MTBF	Environmental 100,000 hours
Standard	IP 66
GNSS supported signals	GPS (L1, L2, L3, L5), GLONASS (L1, L2, L3), GALILEO* (E1, E5a, E5b, AltBOC, E6), BEIDOU* (B1, B2, B3), SBAS (EGNOS, WAAS, GAGAN, MSAS, SDGM) (L1, L5), IRNSS (L5)*, QZSS (L1, L2, L3, L5, L6)
PPP Support	TerraStar and VERIPOS services <sup>(6)</sup>
RTCM Support	RTCM v2.2, 2.3, 3.0, 3.1

\*Optional features

(3) Typical RMS Performance

(4) Secant latitude = 1 / cosine latitude

(5) TD = Travelled Distance (CEP50), with DMI

(6) Requires service subscription

\*\* PPP: Precise Point positioning

\*\*\* RTK: Real-Time Kinematic, up to 40km from base stations

\*\*\*\* PPK: Post processing Kinematic using Advanced Post-Processing Software (smart coupling of INS with GNSS in forward/backward)/

## INTERFACES

Output refreshing rate	0.1 Hz to 200 Hz
Latency	< 3ms
Time tagging	PPS output
Ethernet	UDP / TCP Client / TCP server
Serial RS232 or RS422	2 inputs / 2 outputs + 2 dedicated
Input / Output formats	Industry standards: NMEA0183, ASCII, BINARY
Pulses	3 in/2 out
Options & accessories	DMI (odometer) APPS (post processing software)
GNSS interface embedded	
Serial or Ethernet link to the embedded GNSS	