Atlans A7

Navigation grade INS for land and air georeferencing applications

Atlans A7 is a high performance all-in-one position & orientation system for both land and air applications. It benefits from smart coupling techniques between iXblue INS based on FOG (Fiber-Optic Gyroscope) and Septentrio GNSS receiver embedded. Atlans A7 is a robust and cost-effective north-finding inertial navigation solution that will provide continuous data even in the most challenging applications.

FEATURES & BENEFITS

- Simplified integration with its all-in-one housing and single GNSS antenna setup
- Predefined vehicle modes: air, land, rail
- North-finding even in GNSS denied environment
- Dynamic alignment with GNSS
- INS/GNSS smart coupling
- Compatible with iXblue post processing software Apps
- ROS driver available
- 24/7 worldwide technical assistance
- Free of ITAR Component

APPLICATIONS

- Asset management
- Land mobile mapping
- Airborne mobile mapping
- Pavement condition survey
- Tunnel mapping
- Railway survey
- Vehicle control and guidance
- Autonomous vehicles
- Ground Truth
- Automotive
- Precision pointing
**TECHNICAL SPECIFICATIONS**

**PERFORMANCE (1) | LAND APPLICATIONS (WITH DMI)**

## With GNSS

<table>
<thead>
<tr>
<th>Correction type</th>
<th>SPS / Natural</th>
<th>SBAS</th>
<th>RTK*</th>
<th>PPK**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Horizontal (X,Y) (m)</td>
<td>1.200</td>
<td>0.600</td>
<td>0.006 + 0.5 ppm</td>
<td>0.006 + 0.5 ppm</td>
</tr>
<tr>
<td>Position Vertical (Z) (m)</td>
<td>1.900</td>
<td>0.800</td>
<td>0.010 + 1 ppm</td>
<td>0.010 + 1 ppm</td>
</tr>
<tr>
<td>Heading (deg)</td>
<td>0.050</td>
<td>0.030</td>
<td>0.015</td>
<td>0.012</td>
</tr>
<tr>
<td>Roll &amp; Pitch (deg)</td>
<td>0.020</td>
<td>0.015</td>
<td>0.008</td>
<td>0.005</td>
</tr>
</tbody>
</table>

### During GNSS outage (1 min / 2 min)

<table>
<thead>
<tr>
<th>Correction type</th>
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<th>RTK*</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Horizontal position drift (m)</td>
<td>0.70 / 1.40</td>
<td>0.70 / 1.40</td>
<td>0.40 / 0.80</td>
<td>0.08 / 0.20</td>
</tr>
<tr>
<td>Vertical position drift (m)</td>
<td>0.50 / 1.00</td>
<td>0.50 / 1.00</td>
<td>0.40 / 0.80</td>
<td>0.06 / 0.15</td>
</tr>
</tbody>
</table>

## AIR APPLICATIONS

### With GNSS

<table>
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<tr>
<td>Position Horizontal (X,Y) (m)</td>
<td>1.200</td>
<td>0.600</td>
<td>0.006 + 0.5 ppm</td>
<td>0.006 + 0.5 ppm</td>
</tr>
<tr>
<td>Position Vertical (Z) (m)</td>
<td>1.900</td>
<td>0.800</td>
<td>0.010 + 1 ppm</td>
<td>0.010 + 1 ppm</td>
</tr>
<tr>
<td>Heading (deg)</td>
<td>0.050</td>
<td>0.030</td>
<td>0.015</td>
<td>0.012</td>
</tr>
<tr>
<td>Roll &amp; Pitch (deg)</td>
<td>0.020</td>
<td>0.015</td>
<td>0.008</td>
<td>0.005</td>
</tr>
<tr>
<td>Heading drift 10min straight line (deg)</td>
<td>0.008</td>
<td>0.008</td>
<td>0.008</td>
<td>0.008</td>
</tr>
</tbody>
</table>

### During GNSS outage (1 min / 2 min)

<table>
<thead>
<tr>
<th>Correction type</th>
<th>SPS / Natural</th>
<th>SBAS</th>
<th>RTK*</th>
<th>PPK**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal position drift (m)</td>
<td>1.80 / 3.60</td>
<td>1.80 / 3.60</td>
<td>1.10 / 2.20</td>
<td>0.15 / 0.50</td>
</tr>
<tr>
<td>Vertical position drift (m)</td>
<td>1.00 / 2.00</td>
<td>1.00 / 2.00</td>
<td>0.60 / 1.20</td>
<td>0.10 / 0.30</td>
</tr>
</tbody>
</table>

### CHARACTERISTICS

- **Weight**: 2.9 kg
- **Material**: Aluminium
- **Dimensions (L x W x H)**: 160 mm x 160 mm x 113 mm
- **Power supply / consumption**: 24VDC (12 - 33V) / <22W
- **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, SDCM) (L1, L5), IRNSS (L1, L2, L3, L5, L6)
- **RTCM Support**: RTCM v2.2, 2.3, 3.0, 3.1 - NTRIP

### INTERFACES

- **Data output rate**: 0.1 Hz to 200 Hz
- **Latency**: < 3ms
- **Serial**: RS422 or RS232
- **Ethernet**: UDP / TCP Client / TCP server
- **Inputs / outputs**: Configurable 2i / 2o – predefined 2o – configuration port
- **Pulses**: 3i + PPS in*** / 2o + PPS out
- **Options & accessories**: DMI (odometer) Apps (post processing software)
- **GNSS interface embedded**: Serial or Ethernet link to the embedded GNSS

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(1) Typical RMS performance

* 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)
*** PPS input for <100µs time synchronisation

All specifications subject to change without notice