The Applanix POS AVX 210 is a GNSS-Inertial solution designed to reduce the cost and improve the efficiency of mapping with small and medium format cameras. The single rugged enclosure contains a precision GNSS receiver and inertial sensor components, logging capability, interface for mapping sensors and TrackAir Flight Management System.

The POS AVX 210 is fully supported by POSPac MMS, powerful GNSS/Inertial processing software featuring the advanced Applanix SmartBase™ and Applanix In-Fusion™ technology for increased productivity.

**COST EFFECTIVE AND HIGH PERFORMANCE**

The POSAVX 210 offers a Direct Georeferencing solution for improved efficiency and high accuracy of mapping with small and medium format digital cameras and low altitude LiDAR sensors.

- Reduce/eliminate GCPs
- Reduce Sidelap

**Key Features**

- Compact and rugged enclosure with survey-grade multi-frequency GNSS receiver and MEMS inertial components
- Applanix In-Fusion™ GNSS-Inertial and SmartCal™ compensation technology for superior position and orientation performance
- Compatible with TrackAir Flight Management System (NanoTrack)
- Supported by POSPac MMS industry leading software for Direct Georeferencing of airborne mapping sensors
- RTK position combined with high accuracy orientation
TECHNICAL SPECIFICATIONS

- Advanced Applanix IN-Fusion\textsuperscript{TM} GNSS-inertial integration technology
- Solid-state MEMS inertial sensors with Applanix SmartCal\textsuperscript{TM} compensation technology
- Advanced Trimble GNSS survey technology
- 336 Channels
  - GPS: L1 C/A, L2C, L2E, L5
  - GLONASS: L1 C/A, L2 C/A, L3 CDMA
  - BeiDou: B1, B2
  - Galileo: E1, E5A, E5B, E5EO, E5B, E5DC
  - QZSS: L1 C/A, L1 SAIF, L1C, L5
  - SBAS: L1 C/A, L5
- High precision multiple correlator for GNSS pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Proven Trimble low elevation tracking technology
- 100 Hz real-time position and orientation output
- IMU data rate 200 Hz
- Navigation output format: ASCII (NMEA-0183), Binary (Trimble GSOF)
- Supported Reference Input: CMR, CMR+, sCMRx, RTCM 2.1, 2.2, 2.3, 3.0, 3.1
- Support for POSPac MMS post-processing software (sold separately)
- No export permit required

LAN INPUT/OUTPUT

All Ethernet functions are supported through dedicated IP address (Static or DNS) simultaneously

TCP/IP and UDP
ASCII and Binary data streaming (Time tag, PPS sync, status, position, attitude, velocity, track and speed, dynamics, performance metrics, GNSS data)

HTTP
Web based Control software (GUI) for easy system configuration and low rate display. Support for all common browsers (IE, Safari, Mozilla, Google Chrome, Firefox)

LOGGING:
Internal Logging
6 GByte Flash memory
External Logging
USB 2.0 Device port

SERIAL INPUT/OUTPUT
2 x RS232 ports

Parameters
ASCII and Binary data streaming (Time tag, PPS sync, status, position, attitude, velocity, track and speed, dynamics, performance metrics, GNSS data), reference input (CMR, CMR+, sCMRx, RTCM), configuration messages

Other I/O
PPS(pulse-per-second) Time Sync Pulse output
Event Input (2) Two time mark of external event

PERFORMANCE SPECIFICATIONS\textsuperscript{2} (RMS ERROR)

Airborne

<table>
<thead>
<tr>
<th>SPS</th>
<th>RTX\textsuperscript{a}</th>
<th>RTX Post-Processed\textsuperscript{2}</th>
<th>SmartBase Post-Processed\textsuperscript{2}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position (m)</td>
<td>1.5 H</td>
<td>&lt;0.1 H</td>
<td>0.03 H</td>
</tr>
<tr>
<td>Velocity (m/s)</td>
<td>3.0 V</td>
<td>&lt;0.2 V</td>
<td>0.06 V</td>
</tr>
<tr>
<td>Roll &amp; Pitch (deg)</td>
<td>0.04</td>
<td>0.03</td>
<td>0.025</td>
</tr>
<tr>
<td>True Heading\textsuperscript{a} (deg)</td>
<td>0.30</td>
<td>0.18</td>
<td>0.08</td>
</tr>
</tbody>
</table>

PHYSICAL CHARACTERISTICS

Board Set
Size: 149 L x 93 W x 43 H mm (nominal) Weight: 0.66 kg

Power: Wide range input 8-28 V DC, typical power consumption of 3.5W at room temperature

Connectors: I/O: DA26, Antenna: TNC (female) GNSS/ANTenna LNA Power Input: AV39 included

ENVIRONMENTAL CHARACTERISTICS

Temperature: -40 deg C to +75 deg C (Operational) -55 deg C to +85 deg C (Storage)

Measurement Range: +/- 6g, +/- 300 dps

Mechanical Shock: +/- 75g Survival

Operating Humidity: 5% to 95% R.H., non-condensing at +60 deg C

Maximum Operating Limits: 515 m/sec, 18,000 m

IP rating: IP67

\textsuperscript{2}developed under a license of the European Union and the European Space Agency

\textsuperscript{3}Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects

\textsuperscript{4}Typical survey mission profile, max RMS error. Heading error will increase for low speed rotor applications and when hovering

\textsuperscript{5}Trimble RTX service typical airborne results subject to regional coverage. Subscription sold separately.

\textsuperscript{6}Post-Processed with POSPac MMS

\textsuperscript{7}Sensor bandwidth (-3 dB amplitude) – 50 Hz

\textsuperscript{8}Post processed CenterPoint\textsuperscript{TM} RTX\textsuperscript{TM}, typical mission performance, subscription sold separately

Specifications subject to change without notice.