POS AVX 210

GNSS-INERTIAL SOLUTIONS FOR EFFICIENT, HIGH-ACCURACY MAPPING

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

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POS AVX 210

TECHNICAL SPECIFICATIONS

- Advanced Applanix IN-Fusion™ GNSS-Inertial integration technology
- Solid-state MEMS inertial sensors with Applanix SmartCal™ 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[1]: E1, E5A, E5B, E5AltBOC
  - QZSS: L1 C/A, L1 SAIF, L2C, 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 separatey)
- 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
Parameters	Time tag, status, position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data (200Hz), raw GNSS data (5Hz)

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[2] (RMS ERROR)

Airborne

	SPS	DGPS	RTK[4]	Post-Processed[5]
Position (m)	1.5 - 3.0	0.5 - 2.0	0.02 - 0.05	0.02 - 0.05
Velocity (m/s)	0.05	0.05	0.02	0.015
Roll & Pitch (deg)	0.04	0.03	0.03	0.025
True Heading[3] (deg)	0.30	0.28	0.18	0.080

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)
GNSSAntenna 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[6], +/- 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

[1] Developed under a License of the European Union and the European Space Agency
[2] Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects
[3] Typical survey mission profile, max RMS error. Heading error will increase for low speed rotor applications and when hovering
[4] Requires base station and radio link, sold separately
[5] Post-Processed with POSPac MMS
[6] Sensor bandwidth (-3 dB amplitude) ~ 50 Hz

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Specifications subject to change without notice.

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