DATASHEET

Applanix 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 Applanix 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 POS AVX 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
- IN-Fusion GNSS-Inertial and Applanix 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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PERFORMANCE SPECIFICATIONS[1] (RMS ERROR)

AIRBORNE				
	SPS	TRIMBLE RTX[3]	RTX POST-PROCESSED[4]	SMARTBASE POST-PROCESSED[4]
Position (m)	1.5 H	<0.1 H	0.03 H	0.02 H
	3.0 V	<0.2 V	0.06 V	0.05 V
Velocity (m/s)	0.05	0.03	0.015	0.015
Roll & Pitch (deg)	0.04	0.03	0.025	0.025
True Heading[2] (deg)	0.30	0.18	0.08	0.08

PHYSICAL CHARACTERISTICS

Board Set

Size ..... 149 L × 93 W × 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 °C to +75 °C (Operational)
-55 °C to +85 °C (Storage)
Measurement Range..... +/- 6g[5], +/- 300 dps
Mechanical Shock ..... +/- 75g Survival
Operating Humidity ..... 5% to 95% R.H. non-condensing at +60 °C
Maximum Operating Limits..... 515 m/sec, 18,000 m
IP rating ..... IP6[6]

1 Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects
2 Typical survey mission profile, max RMS error. Heading error will increase for low speed rotor applications and when hovering
3 Trimble® RTX® correction service typical airborne results subject to regional coverage. Subscription sold separately
4 Post-Processed with Applanix POSPac MMS
5 Sensor bandwidth (-3 dB amplitude) ~ 50 Hz
6 Post-processed Trimble CenterPoint® RTX, typical mission performance, subscription sold separately

Specifications subject to change without notice.

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: 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 Applanix 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
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

APPLANIX

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