

Applanix POS MV

Elite

Maximize your ROI with Applanix® POS MV Elite. Elite is a user-friendly, turnkey system designed and built to provide accurate attitude, heading, heave, position, and velocity data of your marine vessel and onboard sensors.

Applanix POS MV is proven in all conditions, and is the georeferencing and motion compensation solution of choice for the hydrographic professional.

POS MV blends GNSS data with angular rate and acceleration data from an IMU and heading from the GNSS Azimuth Measurement System (GAMS) to produce a robust and accurate full six degrees-of-freedom position and orientation solution.

Key Features

- For the highest level of performance available to the industry
- IN-Fusion™ 2.0 ensures optimal GNSS aiding for any given conditions
- TrueHeave™ - no requirement to tune filter for specific conditions, no settling time so no run in time
- High accuracy inertial measurement units featuring SmartCal™
- Data time tagged to microsecond accuracy



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PERFORMANCE SUMMARY (APPLANIX POS MV ELITE ACCURACY ¹)							
	DGNSS	FUGRO MARINESTAR®	IARTK	POSPac™ MMS PPP	POSPac MMS IAPPK	ACCURACY FOLLOWING 60 s GNSS OUTAGE	CENTERPOINT® RTX MARINE ⁷
Position	0.5 - 2 m ²	Horizontal: 10 cm 95% Vertical: 15 cm 95%	Horizontal: +/- (8 mm + 1 ppm x baseline length) ³ Vertical: +/- (15 mm + 1 ppm x baseline length) ³	Horizontal: < 0.1 m Vertical: < 0.2 m	Horizontal: +/- (8 mm + 1 ppm x baseline length) ³ Vertical: +/- (15 mm + 1 ppm x baseline length) ³	~ 1.5 m (DGPS) ~ 0.5 m (RTK) ~ 0.6 m (PPDGNSS) ~ 0.1 m (IAPPK)	Horizontal: 3 cm Vertical: 6 cm
Roll & Pitch ⁴	0.005°	0.003°	0.003°	< 0.003°	0.002°	0.04°	0.003°
Heading ⁴	0.008° with 4 m baseline 0.015° with 2 m baseline 0.025° single antenna, typical survey trajectories					0.03° (typical survey trajectories)	0.008° with 4 m baseline 0.015° with 2 m baseline 0.025° single antenna, typical survey trajectories
Heave TrueHeave	5 cm or 5% ⁵ 2 cm or 2% ⁶	5 cm or 5% ⁵ 2 cm or 2% ⁶	5 cm or 5% ⁵ 2 cm or 2% ⁶	-	-	5 cm or 5% ⁵ 2 cm or 2% ⁶	5 cm or 5% ⁵ 2 cm or 2% ⁶
PCS OPTIONS							
COMPONENT	DIMENSIONS		WEIGHT	TEMPERATURE	HUMIDITY	POWER	
Rack Mount PCS	L = 442 mm, W = 356 mm, H = 46 mm		3.9 kg	-20 °C to +70 °C	10 - 80% RH	AC 120/230 V, 50/60 Hz, auto-switching 40 W	
INERTIAL MEASUREMENT UNIT (IMU)							
ENCLOSURE	DIMENSIONS			WEIGHT	TEMPERATURE		IP RATING
Between Decks	L = 229 mm, W = 315 mm, H = 196 mm			4.5 kg	-55°C to +85°C		IP65
GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)							
COMPONENT	DIMENSIONS			WEIGHT	TEMPERATURE		HUMIDITY
GNSS antenna (540AP)	Ø178 mm, W = 73 mm			0.45 kg	-50 °C to +70 °C		0-100% RH
GNSS Antenna (GA830)	Ø149 mm, W = 99 mm			0.82 kg	-40 °C to +70 °C		0-100% RH

ETHERNET INPUT/OUTPUT

Ethernet (10/100 base-T)

Parameters Time tag, status, position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data
raw GNSS data

Display Port Low rate (1 Hz) UDP protocol output

Control Port TCP/IP input for system commands

Primary Port Real-time (up to 200 Hz) TCP/IP protocol output

Secondary Port Buffered TCP/IP protocol output for data logging to external device

SERIAL RS232 INPUT OUTPUT

5 COM Ports User assignable to: NMEA output (0-5), Binary output (0-5), Auxiliary GNSS input (0-2), Base GNSS correction input (0-2)

NMEA ASCII OUTPUT

Parameters NMEA Standard ASCII messages: Position (\$INGGA), Heading (\$INHDT), Track and Speed (\$INVTG), Statistics (\$INGST) Attitude (\$PASHR, \$PRDID), Time and Date (\$INZDA, \$UTC)

Rate Up to 50 Hz (user selectable)

Configuration Output selections and rate individually configurable on each assigned com port

HIGH RATE ATTITUDE OUTPUT

Parameter User selectable binary messages: attitude, heading, speed

Rate Up to 200 Hz (user selectable)

Configuration Output selections and rate individually configurable on each assigned com port

AUXILIARY GNSS INPUTS

Parameter NMEA Standard ASCII messages: \$GPGGA, \$GPGST, \$GPGSA, \$GPGSV
Uses Aux input with best quality

Rate 1 Hz

BASE GNSS CORRECTION INPUTS

Parameter RTCM V2.x, RTCM V3.x, CMR, CMR+, and CMRx input formats accepted. Combined with raw GNSS observables in navigation solution

Rate 1 Hz

DIGITAL I/O

1PPS 1 pulse-per-second Time Sync output, normally high, active low pulse

USER SUPPLIED EQUIPMENT

- PC for POSView™ Software (Required for configuration): Pentium 90 processor (minimum), 256 MB RAM, 2 GB free disk space, Ethernet adapter (10/100 Base-T Ethernet; IEEE 802.3 standard), Windows 7 SP1, Windows 7 Embedded, Windows 8, and Windows 10
- PC for POSpac MMS Post-processing Software: Intel Pentium series 1Ghz or or faster 64-bit processor (minimum), 2GB RAM, 2.6 GB free disk space, USB Port (For Security Key), Windows 7 SP1, Windows 8.1, Windows 10

1 One sigma unless otherwise stated

2 Depending on quality of differential corrections

3 Assumes 1 m IMU-GNSS antenna offset

4 No range limit

5 Whichever is greater, for periods of 20 seconds or less

6 Whichever is greater, for periods of 35 seconds or less

7 Real time Trimble Centerpoint® RTX Correction Service. Typical results, subject to regional coverage.

Specifications subject to change without notice.

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