POS LV 125

MOBILE GEOSPATIAL DATA ACQUISITION: DESIGNED FOR INTEGRATION, BUILT FOR PERFORMANCE

The Applanix POS LV 125 (Position and Orientation Solution for Land Vehicles) is a compact, fully integrated, turnkey position and orientation system, utilizing integrated inertial technology to generate stable, reliable and repeatable positioning solutions for landbased vehicle applications.

POS LV 125 is designed for precise positioning and use in autonomy and field robotics applications as well as entry level mobile mapping.



Key Features

- Proven GNSS-Aided Inertial technology from Trimble Applanix
- Centimeter level mobile positioning accuracy
- Industry leading continuous positioning performance in GNSS denied environments
- Full position and orientation solution for direct georeferencing of remote sensing systems
- High-performance GNSS two antenna heading aiding from single receiver
- Solid-state, purpose-built ruggedized MEMS IMU featuring Applanix SmartCal™ compensation technology
- Single IP67 enclosure

POS LV 125

PERFORMANCE

No GNSS otages, standard road vehicle dynamics

	SPS	VBS	IARTK	Post-Processed
Position (m)	1.50 - 3.00	0.10 - 0.50	0.02 - 0.05	0.02 - 0.05
Velocity (m/s)	0.05	0.05	0.015	0.015
Roll & Pitch (deg)	0.04	0.03	0.03	0.025
True Heading (deg)	0.25	0.20	0.15	0.08
True Heading w/ GAMS (deg)	0.12	0.09	0.09	0.06

1 km or 1 minute GNSS outage, standard road vehicle dynamics

	SPS	VBS	IARTK	Post-Processed
Position (m)	2 - 5	2 - 3	1 - 3	0.2 - 0.8
Velocity (m/s)	2 - 3	1 - 2	1 - 2	0.2 - 0.8
Roll & Pitch (deg)	0.09	0.09	0.09	0.05
True Heading (deg)	0.35	0.35	0.30	0.20
True Heading w/ GAMS (deg)	0.35	0.35	0.30	0.20

All results RMS per axis, absolute. Accuracy may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Results dependent on typical road vehicle dynamics as well as DMI and GAMS availability (GAMS where GPS is avaialble). RTK and POSPac results require adequate base station coverage. DGPS results may vary based on service provider and depend on SBAS system performance. POSPac results require Applanix POSPac MMS v6.1 or greater software for post-processing.

SYSTEM SPECIFICATIONS

Component	Dimensions L x W x H (mm)	Weight (kg)	Power	Temperature (°C)	Humidity	Cables
PCS	164 x 160 x 66	1 .3	10-32 Volts DC, 22 Watts	-20 to +55	-5 to 95%RH[1]	-
DMI (Applanix)	115 x 254 x 908	2.4	Powered by PCS	-40 to +105	-	8 m (standard)
GNSS Antenna	177 dia x 73	0.45	Powered by PCS	-40 to +70	-	10 m (standard)

1 Non-Condensing
2 Developed under a license of the European Union and the European Space Agency

Be sure to ask about our 3 year warranty plan that includes one system upgrade at anytime throughout the warranty period. System upgrade includes system unit including on-board IMU and standard cables. Contact support@applanix.com to find out more.

Specifications subject to change without notice.

TECHNICAL SPECIFICATIONS

- Advanced Applanix IN-Fusion™ GNSS-Inertial integration technology
- Solid-state MEMS IMU with Applanix SmartCal™ compensation technology
- Advanced Trimble Maxwell Custom GNSS survey technology (two chipsets)
- 220 Channels (per chipset):
  - GPS: L1 C/A, L2C, L2E (Trimble method for tracking unencrypted L2P), L5
  - BeiDou: B1, B2
  - GLONASS: L1 C/A, L1 P, L2 C/A L2 P code
  - Galileo[2]:L1 CBOC, E5A, E5B & E5AltBOC
  - QZSS: L1 C/A, L1 SAIF, L2C, L5
  - SBAS: L1 C/A (EGNOS/MSAS), L1 C/A and L5 (WAAS)
  - L-Band: OmniSTAR VBS, HP, XP and G2, Trimble CenterPoint® RTX
- 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
- Two antenna heading aiding (GNSS Azimuth Measurement System, GAMS™)
- Support for optional Distance Measurement Indicator (DMI) input
- Support for optional POSPac Mobile Mapping Suite post-processing software
- No export permit required

ETHERNET INPUT/OUTPUT

Function:	Operate POS LV and record data
Data:	Position, attitude, heading, velocity, track and speed, acceleration, status and performance, raw data. All data has time/distance tags.
UDP Port:	Display port - low rate (1 Hz data)
TCP/IP Ports:	Real-Time Data Port - high rate (1-200 Hz data) Logging Data (buffered for data logging) Control Port - used by LV-POSView™ (controller software)

RS232 NMEA OUTPUT

Parameters:	Position ($INGGA), Heading ($INHDT), Track and Speed ($INVTG), Statistics ($INGST), Attitude ($PASHR), Time and Date ($INZDA), Events ($EVT1, $EVT2)
Rate:	1 - 50 Hz (user selectable)

RS232 HIGH RATE DIGITAL OUTPUT

Parameters:	Roll, pitch, true heading, latitude, longitude and altitude
Rate:	1 - 200 Hz (user selectable, IMU dependent)

RS232 BASE 1 AND BASE 2 INPUT

Formats:	RTCM v2.x, RTCM v3.x, CMR and CMR+

OTHER I/O

PPS:	One pulse-per-second time sync output. Normally low, active high pulse where the rising edge is the reference.
Event Input:	Four input discretes used to mark external events. Discretes are TTL pulses > 1 msec width where rising or falling edge is time tagged and logged. (Max rate 300 Hz.)

USER SUPPLIED EQUIPMENT

- PC or laptop computer for LV-POSView™ (controller): Pentium 90 processo(minimum), 16 MB RAM, 1 MB free disc space, Ethernet adapter (10/100 base-T, RJ45), Windows 95/98/Me/NT/2000/XP/7
- PC for POSPac MMS™ (post-processing): Pentium 4 (32 Bit) at 2 GHz processor, 1GB RAM, 400 MB free disc space 4+ GB for navigation data, USB port, Windows XP/7
- 10-34 VDC power supply, capable of supplying 60 W (peak) power from the host vehicle's electrical system.

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