

POS LV 120 SPECIFICATIONS

Mobile Geospatial Data Acquisition: Designed for Integration, Built for Performance

When data continuity with position and orientation accuracy is a steadfast requisite for a mobile data application, engineers and geospatial specialists turn to POS LV solutions. For organizations looking to upgrade current GNSS-Only positioning performance or those demanding a proven fully-integrated turnkey position and orientation system, POS LV 120 solutions generate and deliver the robust, reliable, and repeatable results needed to make mobile land-based data acquisition systems profitable and highly productive.

Compact and simple to install or transfer between vehicles, POS LV 120 is quick to learn and has been designed for easy installation with rapid calibration. By conducting operations at normal highway traffic speeds, POS LV 120 accelerates productivity while reducing data collection costs and potential roadside risk to personnel. POS LV 120 may be used with DGPS and RTK corrections, and survey-grade GNSS technology and Distance Measurement Instrument (DMI) integration are standard on all models to ensure superior accuracy performance. POSpac post-processing software is available for further refinement of collected results, lending itself to the production of a far more enhanced and representative data set.

Used by transportation departments, engineering companies, GIS consultants, and mobile mapping system integrators around the world, POS LV provides uninterrupted and precise position and orientation measurements under seemingly impossible GNSS conditions. The POS LV reputation is earned by the continuous high rate (up to 200 Hz) and high accuracy results absolutely necessary for sound mobile survey operations, even despite GNSS signals being blocked or effected (multipath effects) common in urban canyons. Whether used for pavement analysis, asset/infrastructure management, GIS data capture, vehicle dynamics, corridor measurement and visualization, or route monitoring, POS LV 120 helps meet the requirements of any mobile surveying service specialty.

PERFORMANCE

Outage	Mode	X,Y (m)	Z (m)	Roll, Pitch (*)	Heading (*)
0 s	SPS	3.00	5.00	0.20	0.25
	DGPS	0.3 - 2.0	0.5 - 2.0	0.20	0.25
	RTK	0.035	0.05	0.20	0.25
	POSPac	0.02	0.05	0.08	0.10
10 s	SPS	4.00	5.20	0.21	0.40
	DGPS	3.00	0.75	0.21	0.40
	RTK	1.00	0.20	0.21	0.40
	POSPac	0.10	0.20	0.10	0.20
30 s	SPS	6.00	5.50	0.22	0.60
	DGPS	4.00	1.00	0.22	0.60
	RTK	2.00	0.50	0.22	0.60
	POSPac	1.00	0.50	0.12	0.40
60 s	SPS	9.00	6.00	0.25	0.80
	DGPS	6.00	1.50	0.25	0.80
	RTK	5.00	1.00	0.25	0.80
	POSPac	2.00	0.80	0.20	0.65

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 available)

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 6.1 software for post-processing

SYSTEM SPECIFICATIONS

Component	Dimensions (L x W x H) mm	Weight	Power	Temperature	Humidity	Cables
PCS	170 mm x 200 mm x 49 mm	1.5 kg	9-32 VDC, 2A max power supply	-20 °C to +60 °C 10 to 30 optimal accuracy	-5 to 95% RH*	-
DMI (Applanix)	115 mm x 254 mm x 908 mm	2.4 kg	Powered by PCS	-40 °C to +105 °C	-	8 m (standard)
GNSS Antenna	146 mm x 146 mm x 62 mm	0.4 kg	Powered by PCS	-40 °C to +70 °C	-	10 m (standard)

General-Sensors

IMU: Reliable high performance sensors.
 GPS: L1 C/A, L2C, L2, L5, GLONASS: L1 / L2 C/A, L-Band
 DMI: Rugged construction able to withstand harsh vibration and shock environment, as well as temperature and humidity extremes.

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

RS232 BASE 1 AND BASE 2 INPUT

Formats: CMR, CMR+, RTCM 2.3

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. (Maximum rate 300 Hz.)

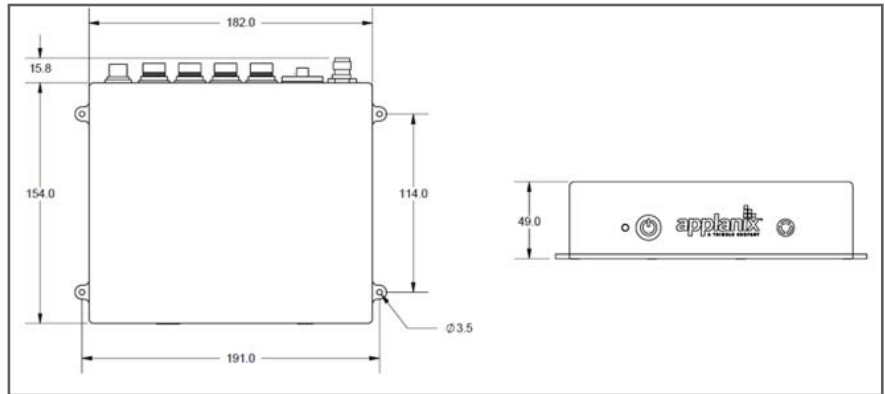
USER SUPPLIED EQUIPMENT

PC for POS Controller and Operator Client Software

- PC or laptop computer for LV-POSView™ (controller): Pentium 90 processor (minimum), 16 MB RAM, 1 MB free disc space, Ethernet adapter (10/100 base-T, RJ45), Windows 95/98/Me/NT/2000/Windows 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
- 9-32 VDC power supply, capable of supplying 15 W (peak) power from the host vehicle's electrical system.

IO

1x Ethernet	10/100 Base-T
2 x IO Cables	RS-232/422 2x TTL Event In PPS Out
1 x COMS Cables	2 x RS232 with CTS/RTS PPS In
DMI	Type 1 and 2 supported
2 x Antenna	TNC
Internal Data Logging	4 GB



For more information on POS AV simply scan the QR code with your mobile device to access our site.

* Non-Condensing

Specifications subject to change without notice.

Be sure to ask about our 3 year warranty plan that includes one system upgrade at anytime throughout the warranty period. System upgrade includes PCS (latest version available at time of upgrade request), IMU tophat (as applicable to current system), and standard cables. Contact support@applanix to find out more.

