

Quanta Plus

GNSS aided Inertial Navigation System

0.01° ROLL/PITCH
 0.03° YAW




Optimized size for direct georeferencing in the Harshest GNSS environments



Best SWaP-C under Harsh GNSS

Quanta Plus combines a tactical MEMS IMU with a high performance GNSS receiver to get reliable position and attitude even in the toughest GNSS environments.

Its miniature OEM form factor, and stellar performances makes it the perfect tool for mapping applications where size and weight are a concern but also demand accurate and reliable measurement, such as UAV surveying near buildings, or backpack based mobile mapping.

 An optional secondary antenna maintains highly accurate heading in the lowest dynamic conditions!

KEY FEATURES

- » High resilience to harsh GNSS environments including ionosphere perturbations, jamming and multipath.
- » Built-in Motion profiles that optimize the INS for each application.
- » Ethernet and PTP (or PPS) for easy integration with external sensors such as LiDAR or camera.
- » Complete suite of integration tools for OEM (configuration API, compatibility with binary and ASCII protocols...).

Further enhance Quanta Plus' stellar performances with Qinertia PPK software

Qinertia's powerful CLI and REST API allow swift integration into all Cloud solutions

1-sigma errors over full temperature range [-40 to 85°C]

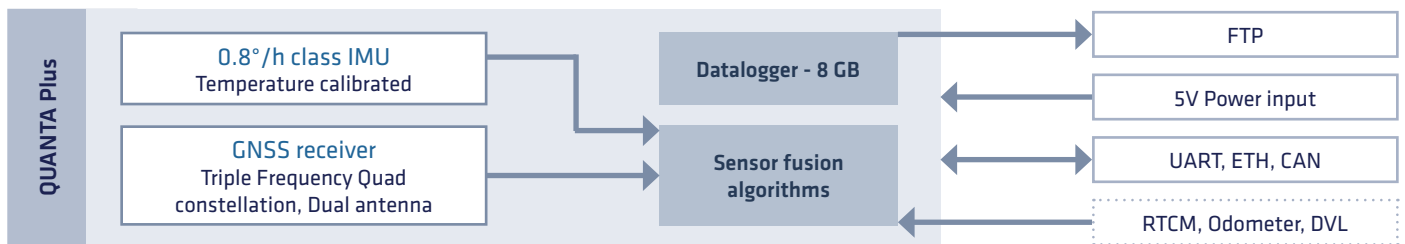
INTERFACES

Aiding sensors	GNSS, RTCM, NTRIP, Odometer, DVL
Protocols	NMEA, ASCII, sbgECom (binary), REST API
Ethernet	Full duplex (10/100 base-T) PTP / NTP, NTRIP, Web interface, FTP
Datalogger	8 GB or 48 h @ 200 Hz
Serial ports	5x TTL UART, full duplex
CAN	1x CAN 2.0 A/B bus, up to 1 Mbps
Output rate	200Hz (IMU, INS)
I/O	5x Inputs: PPS, Events in up to 1 kHz 2x Outputs: SYNC out, PPS, Virtual odo LEDs drivers for status display
Connectors	44 pin contacts, 1.27 mm pitch, SMD 2x u.FL for antennas

MECHANICAL & ENVIRONMENTAL

Dimensions	51.5 x 78.75 x 20 mm
Weight	76 g
Temperature range	-40 to 85°C
Operating vibrations	8 g RMS (MIL-STD-810G)
IMU Sensor range	490°/s 40g
Operational limits	500 m/s 18 km altitude
MTBF (computed)	150,000 h

BLOCK DIAGRAM



Development Kit

Jump start your integration with the development kit allowing you to fully test Quanta Plus with USB, RJ45, DB9 connectors (Serial & CAN) and DIL connectors, allowing you to start the Software integration before your own system is available.



Qinertia post processing Software is a needed companion to get the maximum performances from Quanta Plus:

- » Forward + Backward processing
- » Tight coupling Inertial + GNSS
- » Remove uncertainty of RTK availability
- » Kinematic VBS, and much more...

SYSTEM PERFORMANCE *Performances during typical land mission*

Parameter	RTK	PPK	GNSS Outage 60s (PPK)
Roll/Pitch	0.015°	0.01°	0.04°
Heading	0.04°	0.03°	0.05°
Position	0.01 m + 0.5 ppm	0.01 m + 0.5 ppm	0.4 m

GNSS

Features	SBAS, RTK, PPK	RTK, PPK, Marinestar™ with integrated L-band modem
Advanced anti jamming/spoofing enabled		
Signals	GPS: L1 C/A, L2, L2C, L5 GLONASS: L1 C/A, L2 C/A, L2P, L3 GALILEO: E1, E5a, E5b BEIDOU: B1I, B1C, B2a, B2I, B3I QZSS: L1 C/A, L2C, L5 SBAS	
Update rate	PVT: 5 Hz, RAW 1 Hz	
Time to first fix	< 45 s (cold start)	

ELECTRICAL

Power supply range	5.0V DC +/- 5%
Power consumption	< 3.5 W
Antenna Ports	5V DC - max 150 mA per antenna Gain: 17 - 50 dB

TIMING SPECIFICATIONS

Timestamp accuracy	< 200 ns
PTP accuracy	< 1 µs
PPS accuracy	< 10 µs (jitter < 10 µs)
Drift in dead reckoning	1 ppm

Free Technical Support

Unlimited Firmware Updates

2-year Warranty