Because we want integrators to reach the optimal productivity, we have designed the QUANTA SERIES, small, low-power, and highly accurate inertial navigation systems which provide orientation and navigation data, in real-time and post-processing.

Direct Georeferencing Solution INS + GNSS

SBG SYSTEMS
Quanta is a powerful and flexible INS+GNSS designed to be tightly integrated in mobile mapping solutions whether they are aerial or land. Quanta combines excellent orientation and navigation data in real-time with a powerful and easy-to-use post-processing software.

The Right Combination for a Smooth Direct Georeferencing

### Performance Specifications

<table>
<thead>
<tr>
<th></th>
<th>Quanta</th>
<th>Quanta Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roll/Pitch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time RTK</td>
<td>0.03°</td>
<td>0.008°</td>
</tr>
<tr>
<td>Post-processing</td>
<td>0.025°</td>
<td>0.005°</td>
</tr>
<tr>
<td>Heading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time RTK</td>
<td>Air: 0.5° Single Ant.</td>
<td>Air: 0.1° Single Ant.</td>
</tr>
<tr>
<td></td>
<td>0.2° Dual Antenna</td>
<td>0.06° Dual Antenna</td>
</tr>
<tr>
<td>Land: 0.15° Single Antenna</td>
<td>Land: 0.04° Single Antenna</td>
<td></td>
</tr>
<tr>
<td>Post-processing</td>
<td>0.08°</td>
<td>0.025°</td>
</tr>
<tr>
<td>Position Horizontal</td>
<td>1cm + 1ppm</td>
<td>1cm + 1ppm</td>
</tr>
</tbody>
</table>

**FLEXIBLE**: use Quanta in both land and air applications

Use the same INS/GNSS either your mobile mapping solution is land or air based.

**Best-in-Class Inertial Navigation Systems**

- Small Form Factor, Lightweight
- Precise and Robust Roll/Pitch
- Single or Dual Antenna Heading
- GPS-GLONASS-GALILEO-BEIDOU
- Robust Real-Time RTK
- The Easiest PPK Software
If a single antenna solution tends to be more practical, the dual antenna mode allows a more precise heading, an ideal set up for low dynamics flights such as pipes or electrical lines surveys.

Single or Dual Antenna

If a single antenna solution tends to be more practical, the dual antenna mode allows a more precise heading, an ideal set up for low dynamics flights such as pipes or electrical lines surveys.

**Photogrammetry**

Quanta reduces the need of GCPs and overlapping thanks to precise orientation and position data. You can extend your survey mission.

**LiDAR**

Quanta directly geotags your point cloud in real-time and with more accuracy in post-processing.

**Odometer Aiding**

Quanta benefits from specific vehicle motion constraints to obtain the best performance and accepts both vehicle or external odometer data to compute a highly robust trajectory during GPS outages.

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**Qinertia Post-processing Software**

Qinertia uses inertial data and raw GNSS observables to provide astonishing attitude, heading and position performance, thanks to a forward, backward and merge processing.

**Centimetric position after your mission**

Obtain the centimetric position without the constraint of an RTK radio link. Just drag and drop your base station, Qinertia PPP function will automatically determinate your base station coordinates.

**Extensive Quality Indicators**

» Interactive quality indicators assessment
» Display of separation, standard deviation, bias, scale factor, lever arm
» Statistics report generation (RMS, min/max)

**FREE: one-year subscription to Qinertia UAV**

*UAV only. Processing trajectory within a 3km radius limit.

**Tightly Coupled INS/GNSS Fusion**

**Modern & Intuitive User Interface**

+ 7,000 Base Stations always up-to-date
Specifications

All parameters apply from -40° to 85°C temperature range, unless otherwise stated. Full specifications can be found in the Quanta Hardware Manual available upon request.

INTERFACE

<table>
<thead>
<tr>
<th>Aiding (input)</th>
<th>GNSS, RTCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocols</td>
<td>NMEA, ASCII, Binary</td>
</tr>
<tr>
<td>Output rate</td>
<td>0.1 to 200 Hz</td>
</tr>
<tr>
<td>Logging Capacity</td>
<td>8 GB or 48 h @ 200 Hz</td>
</tr>
<tr>
<td>Ethernet</td>
<td>Full Duplex (10/100 base-T)</td>
</tr>
<tr>
<td>Serial</td>
<td>5x TTL UART ports</td>
</tr>
<tr>
<td>CAN</td>
<td>1 CAN 2.0 A/B bus up to 1 Mbit/s</td>
</tr>
</tbody>
</table>

Pulses

- Inputs: PPS, Event marker up to 1 kHz
- Outputs: SyncOut, Trigger, PPS
- 5 inputs / 2 outputs

Connectors

- 44 pin contacts, 1.27 mm pitch, SMD

PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Model</th>
<th>Quanta</th>
<th>Quanta Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>76 g</td>
<td>345 g</td>
</tr>
<tr>
<td>Dimensions</td>
<td>51.5 x 78.75 x 20 mm</td>
<td>GNS5+Processing: 51.5 x 78.75 x 20 mm</td>
</tr>
<tr>
<td>Operating vibrations</td>
<td>8 g RMS (20 Hz to 2 kHz per MIL-STD-810G)</td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>&lt; 3.5 W</td>
<td>&lt; 6.0 W</td>
</tr>
<tr>
<td>Supply</td>
<td>5.0 VDC ± 5%</td>
<td>5.0 VDC ± 5%</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL

- Temperature: -40 to 85 °C / -40 to 185 °F
- MTBF (computed): 50,000 hours
- Humidity: 95% non condensing

RMS values for typical survey trajectories. Performance may be affected by atmospheric conditions, signal multipath, and satellite geometry. All specifications subject to change without notice.

We Simplify your Integration

Evaluation Kit

The evaluation kit consists of the evaluation board, antennas, cable, and accessories.

Intuitive Web Interface

Connect your sensor and configure it throughout the intuitive web interface.

3D View

The 3D View helps you to check your mechanical installation, especially your sensor position, your alignments, and levers arms.

Free Technical Support | Unlimited Firmware Updates | 2-year Warranty