106G Series Submersible GPS

Key Features

- L1 + L2 band antenna
- Submersible GPS receiver with integrated antenna
- 2000m rated.
- Begins positioning <30s after surfacing.
- Easytrak Nexus compatible
- Receives wide area corrections or accepts external corrections
- Internal batteries assist in the case of temporary power failure.

Applications

- Transition zone operations, trenching and construction. Sandbank UXO crawlers
- Surface positioning for vehicle recovery operations
- Navigation and positioning of seismic sources; tail and head buoys

The 106G is an additional GPS receiver designed to survive immersion that complements the operation of a nearby standard subsea positioning beacon.

This arrangement is suited to coastal construction tasks where submersible vehicles may periodically break the surface.

Whilst submerged, positioning data is provided by a standard positioning beacon but once the vehicle breaks the surface the 106G takes over to provide the information required, typically cabled to the vessel based positioning system via the vehicle umbilical system.

Technical Specification

MODEL TYPES – PHYSICAL SPECIFICATION

Housing material: Hard anodised aluminium, with durable clear protection sleeve and glass hemisphere.

<table>
<thead>
<tr>
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<th>Survival Depth</th>
<th>Diameter</th>
<th>Length</th>
<th>Weight air/water</th>
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<tbody>
<tr>
<td>106G</td>
<td>2000m</td>
<td>150mm/203mm</td>
<td>295mm</td>
<td>7.9kg/5.2kg</td>
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ELECTRICAL SPECIFICATION

Battery

- Battery type: Rechargeable. NiMH.
- Battery life: 4 hours

Configuration

- Receiver type: GNSS Multi-frequency L1 & L2, RTK with carrier phase.
- GNSS compatibility: GPS, GLONASS & GALILEO.
- Channels: 372
- SBAS tracking: 3 channel parallel tracking.

Horizontal Accuracy (RMS 67%)

Dependent on corrections:
- RTK: 10mm + 2ppm
- SBAS (WAAS): 0.3m
- Unaided: 1.2m
- Atlas H10: 0.04m
- Atlas H30: 0.15m
- Atlas H100: 0.50m

Accuracies dependent on multi-path environment, number of satellites in view, geometry and ionospheric conditions

Warm up time (typical)

- From cold: <60s (No almanac or real time clock).
- Warm start: <30s (Almanac & RTC, no position.)
- Hot start: <10s

Connectivity

- Connector: 16 pin MCBH connector (male)
- Power: 24V 350mA nominal.
- Communication: RS232 (4 x bi-directional ports) RS485 (2 x bi-directional ports)
- Position Protocol: NMEA 0183 protocols supported
- Correction I/O Protocol: Hemisphere GNSS proprietary, ROX Format, RTCM v2.3, RTCM v3.2, CMR, CMR+
- Refresh rate: 1Hz standard, 10Hz, 20Hz optional
- IPPS: 5V, 1ms pulse width, 20mA
- Input Protocol: Differential only port
- Diagnostics: Status LED’s; power, lock & differential lock.

Safety and management:

- Spring return PRV valve
- External on/off switch

Options:

- Extended depth rating
- Remote antenna
- RF Modem