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101G MiniPod, Submersible GNSS

Key features

- Robust GNSS receiver with integrated antenna
- Dual band L1 + L2 receiver
- Multi constellation GNSS receiver
- Submersible, 50 m rated
- Wide area corrections or external RTCM
- Internal and external shock mounts
- Worldwide RF remote wireless data options
- Atlas correction option
- External battery option
- Internal AHRS option

Applications

- Seismic streamer head and tail positioning
- Seismic source positioning
- Ideal for subsea excavation vehicles (jetting & trenching), and surface positioning of towed sensors such as magnetometers, operating in shallow waters

101G MiniPod Overview

The Applied Acoustics 101G MiniPod is a lightweight, ruggedised GNSS receiver, designed to survive 50 m immersion, that transmits data back to a vessel or the shoreline.

The shock mounted robust dual L1 + L2 band GNSS receiver has both wired and wireless applications, including providing streamer head and tail positioning and source positioning for 3D UHR seismic operations.

The interconnect flexibility of the 101G MiniPod allows for RS232, RS485, 1pps and wireless options to be configured by the user. It is externally powered by default with an external battery option. The 101G MiniPod can be fitted with an internal compass to provide accurate heading, pitch and roll of equipment.

Technical Specification

MODEL VARIANTS

Housing material	White Acetyl
Bracket	A4 Stainless steel
Dimensions	170 mm x Ø115 mm
Depth rating	50 m
Weight	1.95 kg

Model Part Number	GNSS Receiver	AHRS	External RF Antenna	RF Range
BCN-101G	Yes	No	No	600 m
BCN-101GA	Yes	Yes	No	600 m
BCN-101A	No	Yes	No	600 m
BCN-101G-EXT	Yes	No	Yes	800 m - 2000 m
BCN-101GA-EXT	Yes	Yes	Yes	800 m - 2000 m

Configuration

Receiver type	GNSS Multi-frequency L1 & L2, RTK with carrier phase
GNSS compatibility	GPS, GLONASS, BeiDou, QZSS & GALILEO
Channels	372
SBAS tracking	3 channel parallel tracking
Differential options	SBAS, Autonomous, External RTCM (V3.2) or CMR, RTK, L-Band (Atlas) DGPS

Accuracy (Dependent on corrections)

RMS 67%	Horizontal	Vertical
RTK	8 mm + 1 ppm	8 mm + 1 ppm
SBAS (WAAS)	0.3 m	0.6 m
Unaided	1.2 m	2.4 m
Atlas H10	0.04 m	
Atlas H30	0.15 m	
Atlas H100	0.50 m	

Accuracies dependent on multipath environment, number of satellites in view, geometry and ionospheric conditions

Warm Up Time (Typical)

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

Connectivity

Connector	8 pin MCBH connector (male)
Power	18-36 V DC 24 V 160 mA nominal
Communication	RS232 (2 bi-directional ports) RS485 (2 wire bi-directional) RS485 (4-wire)
Position protocol	NMEA 0183 protocols supported, (GPGGA, GPRMC & GPGLL standard)
Refresh rate	10 Hz standard, 20 Hz optional
Correction I/O protocol	Hemisphere GNSS proprietary, ROX Format, RTCM v2.3 (wired only), RTCM v3.2, CMR, CMR+
1pps	3.3 V, 1 ms pulse width, 20 mA optional

Accessories/Options

- Wireless modem data receiver (for up to 4 x 101G MiniPods): Part number RFR-101G
- RTK Base and Rover activation for GNSS receiver. Allows full RTK fixed position quality.
  RTK float can be achieved as standard without additional option
- Integrated AHRS for MiniPod BCN-101GA, BCN-101A or BCN-101GA-EXT;
  Bearing resolution: 0.1° displayed. Internally calculated to 0.01°
  Heading sensor accuracy: 0.5° RMS standard; ±0.1° resolution/repeatability
  Pitch/Roll sensor accuracy: ±0.10° RMS ±0.1° resolution/repeatability
- External battery: Part number BPK-101G, 10 day operational life, non-rechargeable
  Part number BPK-101G-R, rechargeable
  With interconnect lead, part number, BPK-101G-4000, 3 m standard

Due to continual product improvement specification information may be subject to change without notice.
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