

101G MiniPod, Submersible GNSS



Key features

- Robust GNSS receiver with integrated antenna
- Dual band L1 + L2 receiver
- Multi constellation GNSS receiver
- Submersible, 50m 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 50m 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, Ipps 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 Acetal
Bracket	A4 Stainless steel
Dimensions	170mm x Ø115mm
Depth rating	50m
Weight	1.95kg

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

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	8mm + 1 ppm	8mm + 1 ppm
SBAS (WAAS)	0.3m	0.6m
Unaided	1.2m	2.4m
Atlas H10	0.04m	
Atlas H30	0.15m	
Atlas H100	0.50m	

Accuracies dependent on multipath 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	8 pin MCBH connector (male)
Power	18-36VDC 24v 160mA 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	10Hz standard, 20Hz optional
Correction I/O protocol	Hemisphere GNSS proprietary, ROX Format, RTCM v2.3 (wired only), RTCM v3.2, CMR, CMR+
Ipps	3.3V, 1ms pulse width, 20mA 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, 3m standard