

G1-m2 HIGH PRECISION GNSS SYSTEM

Complete hardware and software mobile survey solution for applications requiring **cm-level accuracy**

KEY FEATURES

- A flick of a switch to operate
- A few minutes to completely master *Photo actual size*
- Small, light-weight, and low-cost
- Automatic data acquisition on removable secure digital storage; no configuration to fiddle with
- Expandable through multiple communication peripherals
- Simple post-mission processing software with lifetime upgrade²
- Uses widely available mobile-phone and camera accessories
- Replaces bulky, expensive, and complex GNSS equipment

APPLICATIONS

- Precision surveying and mapping
- Guidance, navigation, and tracking
- Precision geo-referencing
- Geodetic surveys and monitoring

The world's most affordable high precision surveying and mapping GNSS solution

- ◇ also available in OEM version (for application developers and integrators)
- overall weight ~ 50 g (overall size ~ 3.0"x2.0"x0.5")
 - connector cable and pin-out diagram

* optional upgrade

2 upgrade through Geomatics.US website

3 one sigma error (67% probability)

4 requires radio and adapter cable (optional upgrade)

5 2.5 mm event marker (clicker) available

6 6-pin mini DIN to DB9 adapter cable available

7 RS232 for the enclosed version and TTL for the OEM version

8 1/4"-20 to/from 5/8"-11 adapters available

9 15.5 Wh ÷ 1.9 W ~ 8 hours of continuous operation per full charge

10 HoRuS v1.0: free of charge with lifetime upgrade

11 No previous knowledge of GNSS processing required

Specifications subject to change without notice

SPECIFICATIONS

GNSS SENSOR

Mechanical

- Dimensions: 3"x2.1"x1.2" (98x59x32 mm)
- Weight: 125g / 50g (enclosed/OEM)

Power

- Consumption: < 1.9 W (GPS/GLO)
- Input Voltage: 5 VDC (USB PDA Battery)
- Antenna LNA Out: 5 VDC

Signal and Data

- 270 channels: GPS + SBAS + GLONASS*
- L1+L2 code + carrier phase
- Time to First Fix: 10/60 s (hot/cold start)
- Update Rate: 1 Hz (10 Hz*)
- I/O Protocol: binary, NMEA 0183*

Accuracy³

- 1PPS/EVT: 20 ns / 10 µs
- SBAS (WAAS): 0.3 m
- PPK/RTK⁴: 0.01m + 1 ppm
- Velocity: < 0.05 m/s

Communication

- 1x PPS TTL out-port: 0.65mm M receptacle
- 1x EVT⁵ TTL in-port: 2.5mm F receptacle
- 1x 6-pin mini-DIN⁶ aux-port: full duplex⁷
- 1x micro SD card drive (up to 16 GB)
- 1x 5-pin mini-USB data/power port
- 3x virtual COM ports
- 1x GNSS RF connector: SMA F jack
- 6x status LEDs

Environmental

- Temperature: -40°C to +85°C
- Humidity: 95% non-condensing

ACCESSORIES

G1-mnt Clip Mount

- 1" steel spring receiver/battery holder

G1-bas Base Adapter

- 1/4"-20⁸ spring-loaded adapter

G1-rod Rod

- 12" 1/4"-20 base rod or extension

G1-pole Pole

- 67" 1/4"-20 rover pole

G1-uSD Data Handling

- 2 GB micro Secure Digital (uSD) card
- uSD to USB card adapter

G1-EVT Marker

- 2.5 mm M jack TTL

G1-m2batt Battery

- Chemistry: Li-Po rechargeable
- Power Supply: 15.5 Wh⁹
- I/O: 5 VDC mini-USB-B/USB-A

G1-SMA & G1-USB Cables

- RF: 6" SMA M plug to SMA M Plug
- Power: 6" USB-A to mini-USB-B

SOFTWARE¹⁰

- Windows one-stop post-mission package
- Single point and baseline solutions
- Static and Kinematic survey modes
- External events supported
- Simple and intuitive GUI¹¹
- Analysis and visualization tools
- Google Earth/Maps embedded
- CORS data download supported
- NGS calibrated antennae supported

