M900 GNSS Receiver

Size: 183mm x 171mm x 56mm
Weight: 1Kg

Features

- Dual-antenna Design for Positioning and Heading
- Dual-Propose Receiver for Both Base Station and Rover
- Support INS+GNSS Integrated Navigation
- GPS L1/L2, BeiDou B1/B3, BeiDou Global B1C/B2b, GLONASS L1/L2, Galileo E1/E5b, QZSS, IRNSS, SBAS
- Flexible Bluetooth®/UHF/WIFI/4G Communications
- Advanced QUANTUM™ Technology
- 8GB Large Memory for Loop Recording
- LAN and WIFI Support Web Server Configuration
- User-friendly OLED Display and Indicating LEDs

Reliable GNSS Inside

Integrated with SinoGNSS® high-performance GNSS OEM module inside, M900 GNSS receiver can provide centimeter-level positioning and high accuracy heading. With robust dual-antenna design, it is a cost-effective choice for challenging guidance and positioning applications, including fleet management, marine, UGV and related unmanned control systems.

Advanced INS + GNSS Navigation

With the advanced built-in IMU module, M900 supports integrated navigation of INS (Inertial Navigation System) and GNSS, providing continuous and reliable positioning and heading, especially in obstructed environments. No fear of passing signal-denied area, which is propitious for all unmanned system applications.

Flexible Interfaces

Designed with two 7-pin lemo connectors which support 2 RS-232, 1 USB and 1 CAN function, an Ethernet port for data transmission and webpage configuration. Furthermore, with alternative 4G/UHF/WIFI/Bluetooth® communications, M900 allows users to get multiple data flow for various demands.
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**Signal Tracking**
- **Channels**: 1226
- **GPS**: L1 C/A, L2C, L2P
- **GLONASS**: L1 C/A, L1P, L2 C/A, L2P
- **BeiDou**: B1, B3
- **BeiDou Global Signal**: B1C, B2b
- **Galileo**: E1, E5b
- **QZSS**: L1, L2
- **IRNSS**: L5
- **SBAS**: WAAS, EGNOS, MSAS, GAGAN, SDCM
- **L-Band**:

**Performance Specifications**
- **Cold Start**: <50s
- **Warm Start**: <45s
- **Hot Start**: <15s
- **Signal Reacquisition**: <1.5s
- **RTK Initialization time**: <10s
- **Velocity accuracy**: 0.03m/s
- **Time accuracy**: 20 ns

**Positioning Specifications**
- **Post Processing**: 2.5 mm + 1 ppm Horizontal, 5 mm + 1 ppm Vertical
- **RTK**: 8 mm + 1 ppm Horizontal, 15 mm + 1 ppm Vertical
- **DGPS**: <0.4m
- **SBAS**: 1m 3D RMS
- **Standalone**: 1.5m 3D RMS
- **PPP**: 10cm Horizontal, 20cm Vertical
- **Heading Accuracy**: (0.2/(R°))
- **Pitch and Roll**: (0.4/(R°))

**Electrical**
- **Power supply**: 5V~27V
- **Power consumption**: 3W

**Physical**
- **Size**: 185mm x 171mm x 56mm (With connectors)
- **Weight**: About 1Kg

**Antenna (Optional)**
- **Helix Antenna AT190**: Size: Φ27.5x59mm
- **Geodetic Antenna AT340**: Size: Φ152x62.2mm

**Communications**
- **Bluetooth® 4.0**: BT4.0, Compatible with Android™ and Windows™ mobile OS
- **4G modules**: Support Ntrip protocol
- **UHF modem**: 410MHz - 470MHz, 802.11 a/b/g/n/ac
- **3 TNC connectors**: - 1 UHF connector - 2 external GNSS antenna connectors
- **2.7-pin lemo ports**: Standard RS232, CAN, USB2.0 protocol - 1 CAN BUS/COM3/power - 1 USB/COM1/power
- **1 SMA connector**: 4G antenna connector
- **1 RJ45 connector**: Ethernet interface
- **1 OLED display**: Status monitoring
- **4 LEDs**: Indicating power, satellite tracking, differential data and GPR5 status

**Data Format**
- **Correction data I/O**: RTCM2.X, 3.X, CMR/CMR+(GPS Only)
- **Position data output**: - NMEA 0183 GSV, RMC, HDT, GGA, GSA, ZDA, VGT, GST; PTNL, PJK; PTNL, AVR, PTNL, GGK
  - ComNav Binary
  - B/NEX Data: 0x00, 0x01-01, 0x01-02, 0x01-05, 0x7d-00, 0x7e-00, 0x7f-05
- **Position data output rate up to 20Hz**

**Environmental**
- **Working temperature**: -40 °C to +75 °C
- **Storage temperature**: -55 °C to +85 °C
- **Humidity**: 95% no condensation
- **Shock**: Designed to survive a 1m drop onto concrete
- **Waterproof and Dustproof**: IP68

**Remarks**
1. B2b is reserved for future upgrade.
2. QZSS is reserved for future upgrade.
3. IRNSS is reserved for future upgrade.
4. L-Band is optional.
5. R(meter) is the length of two GNSS antennas.