



# M900 GNSS Receiver

## 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.

**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

## 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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M Series GNSS Receiver

Ver.2023.8.22

## 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 <sup>1</sup>
Galileo	E1, E5b
QZSS	L1, L2 <sup>2</sup>
IRNSS	L5 <sup>3</sup>
SBAS	WAAS, EGNOS, MSAS, GAGAN, SDCM
L-Band <sup>4</sup>	

## 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 <sup>5</sup> )°
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

## Communications:

Bluetooth® 4.0	BT4.0, Compatible with Android™ and Windows™ mobile OS
4G modules	Support Ntrip protocol
UHF modem	410MHz - 470MHz
WIFI	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 GPRS status

## Data Format

Correction data I/O	RTCM2.X, 3.X, CMR/CMR+(GPS Only) -NMEA 0183 GSV, RMC, HDT, GGA, GSA, ZDA, VTG, GST; PTNL,PJK; PTNL, AVR; PTNL, GGK
Position data output	-ComNav Binary -BINEX 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.

## Antenna (Optional)



Helix Antenna AT160 Size:  $\Phi$ 27.5x59mm



Geodetic Antenna AT360 Size:  $\Phi$ 147x67.7 mm