# M300 Pro 2023 GNSS Receiver

M Series GNSS Receiver

Ver.2023.03.20

**Size:** 202 mm × 163 mm × 75 mm
**Weight:** 2.4Kg

## Features

- Updated to K8 Platform, Support GPS, GLONASS, Beidou, Galileo, QZSS and SBAS
- Compact Housing with Flexible Interfaces for External Devices
- User-friendly Front Panel Display and Configuration
- Full Remote Control with Powerful Built-in Web Server
- Large Capacity Internal Memory and Expandable Memory
- Integrated Battery Serves as Primary Power or an UPS Backup
- Ethernet Data Transmission

# M300 Pro 2023
## GNSS Receiver

## ALL GNSS CONSTELLATIONS TRACKED

The M300 Pro 2023 is equipped with SinoGNSS K8 platform. It tracks 1590 channels of existing and planned GNSS constellations, including GPS, GLONASS, Beidou, Galileo and QZSS. There is no doubt that the M300 Pro 2023 is always keeping pace with GNSS development, which provides a robust and future-proof GNSS solution for CORS.

## PROVEN DESIGNED

The M300 Pro 2023 is designed as a multi-purpose GNSS receiver for a wide range of high-accuracy positioning applications. The user-friendly front panel makes it easier to configure and check receiver's status. Customers also benefit from its flexible interfaces that support Ethernet, serial and USB connections, allowing users to combine with external sensors to meet the unique application demand.

## IDEAL FOR REFERENCE STATION

The integrated lithium-ion battery works as a primary power or an Uninterrupted Power Supply (UPS) backup, combined with raw data loop recording function, M300 Pro 2023 can achieve continuous long-term recording. These proven designs make M300 Pro 2023 an optimal choice for the reference station, deformation monitoring, harbor construction and any applications where positioning accuracy and reliability matter the most.

## POWERFUL REMOTE CONTROL

The powerful built-in WebServer provides a full remote control of receiver configuration, status checking, firmware update, data download and user management. The M300 Pro 2023 supports five independent data transfer through TCP protocol in RTCM, ComNav binary, NMEA, and BINEX data formats, combined with Email Alert and FTP push, which truly improves the effectivity and profitability of your business.

SinoGNSS®
By ComNav Technology Ltd.

©2023, ComNav Technology Ltd. All rights reserved. SinoGNSS® is the official trade mark of ComNav Technology Ltd., registered in People's Republic of China, EU, USA and Canada. All other trademarks are the property of their respective owners. (March, 2023).

# M300 Pro 2023 GNSS Receiver

M Series GNSS Receiver | Ver.2023.03.20

## Signal Tracking

| | |
|---|---|
| Channel | 1590 |
| GPS | L1C/A, L1C, L2P, L2C, L5 |
| BDS | B1I, B2I, B3I, B1C, B2a, B2b |
| GLONASS | G1, G2, G3 |
| Galileo | E1, E5a, E5b, E6c, E5 AltBOC |
| QZSS | L1 C/A, L2C, L5, L1C |
| IRNSS | L5 |
| SBAS | L1C/A |

Advanced multipath mitigation technology

Low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth

High precision multiple correlators for GNSS pseudorange measurements

Signal Noise Ratios reported in dB-Hz

## Time Precision

GPS+Glonass+Beidou 20 ns

## Positioning Specifications

| | |
|---|---|
| Post Processing | 2 mm + 0.5 ppm Horizontal<br>4 mm + 0.5 ppm Vertical |
| Single Baseline RTK | 8 mm + 1 ppm Horizontal<br>15 mm + 1 ppm Vertical |
| Network RTK | 8 mm + 0.5 ppm Horizontal<br>15 mm + 0.5 ppm Vertical |
| DGPS | <0.4m RMS |
| Standalone | 1m 3D RMS |
| SBAS | 0.5 RMS Horizontal<br>0.8 RMS Vertical |

## Communications

| | |
|---|---|
| 3 Lemo Ports | One 2-pin Lemo port for power supply and battery charging<br>One 7-pin Lemo port (USB UART port) for system debugging and static data downloading<br>One 7-pin Lemo port (RS485 Protocol) for meteorological sensor /barograph /inclinometer connection |
| 1 DB9 male port | Standard RS232 protocol |
| 1 Standard USB port | Connect with external storage card |
| 1 RJ45 LAN Ethernet port (10/100M Bit) | Supports protocols HTTP, TCP/IP, FTP, NTRIP |
| 5 SMA male connectors | - 1 PPS output<br>- 1 Event input<br>- 1 Reserved for WLAN and Bluetooth<br>- 1 Frequency-marker oscillator input connector<br>- 1 GPRS antenna connector |
| 1 TNC connector | GNSS Antenna connector |

## Physical

| | |
|---|---|
| Size(L × W × H) | 225 mm × 176 mm × 67 mm |
| Weight | 2.4 kg |
| Housing | Rugged aluminum housing |

## Data Format

| | |
|---|---|
| Correction data I/O | RTCM 2.X, 3.X, RTCM3.2, CMR (GPS only), CMR+(GPS only) |
| Position data output | ASCII: NMEA-0183: GSV, RMC, HDT, VHD, GGA, GSA, ZDA, VTG, GST, PJK, PTNL<br>Extended NMEA-0183: BDGGA, GPNTR, GPCDT, GPHPR |
| Observations | ComNav binary, BINEX, RTCM, RINEX, compatible with major<br>CORS software (VRS, FKP and iMax) |

## Data logging

Loop recording function supports long-term recording

Support five simultaneously raw data recording

Maximum 20 Hz data logging rate

| | |
|---|---|
| Storage capacity | 32 GB internal memory<br>Maximum 1TB external memory |
| File format | 5/10/15/20/30 min and 1/2/4/24 hour |
| Data retrieval and transfer | FTP and USB |

## Environmental

| | |
|---|---|
| Operating temperature | -40 °C to + 80 °C |
| Storage temperature | -45 °C to + 85 °C |
| Humidity | 100% no condensation |
| Waterproof and dustproof | IP67, survives the temporary immersion to a 1 m depth |
| Shock | Rugged aluminum case with rubber ring seal, designed to survive a 1m drop onto concrete |

## Electrical

| | |
|---|---|
| Power consumption | 3.5 W |
| External power input | 9.5-28 VDC, with over-voltage protection |

ntegrated internal battery 7.4 V, 8800 mAh, Li-ion; 16-hour continuously working

## Recommend Antenna

AT340 GNSS Geodetic Antenna

AT600 GNSS Choke Ring Antenna

AT500 GNSS Choke Ring Antenna

## User Interface

| | |
|---|---|
| Front Panel Display | 4 arrow keys and data entry<br>Power button, Reset button and Esc button<br>LCD display showing receiver's status |

ComNav M300 Pro 2023 Web Server

CRU software

SinoGNSS®
By ComNav Technology Ltd.

**ComNav Technology Ltd.**
**Building 2, No. 618 Chengliu Middle Road, 201801 Shanghai, China**

**Web：www.comnavtech.com**
**Email: sales@comnavtech.com**
**Tel： +86 21 64056796 Fax: +86 21 54309582**