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
- Built-in 4G/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®
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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 4 mm + 0.5 ppm Vertical
Single Baseline RTK	8 mm + 1 ppm Horizontal 15 mm + 1 ppm Vertical
Network RTK	8 mm + 0.5 ppm Horizontal 15 mm + 0.5 ppm Vertical
DGPS	<0.4m RMS
Standalone	1m 3D RMS
SBAS	0.5 RMS Horizontal 0.8 RMS Vertical

Communications

3 Lemo Ports	One 2-pin Lemo port for power supply and battery charging One 7-pin Lemo port (USB UART port) for system debugging and static data downloading 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 - 1 Event input - 1 Reserved for WLAN and Bluetooth - 1 Frequency-marker oscillator input connector - 1 GPRS antenna connector
1 TNC connector	GNSS Antenna connector
4G modem	- LTE-FDD: B1/B3/B5/B8 - LTE-TDD: B34/B38/B39/B40/B41 - WCDMA: B1/B8 - GSM: B3/B8

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 Extended NMEA-0183: BDGGA, GPNTR, GPCDT, GPHPR
Observations	ComNav binary, BINEX, RTCM, RINEX, compatible with major 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 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 Power button, Reset button and Esc button LCD display showing receiver's status

ComNav M300 Pro 2023 Web Server

CRU software

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