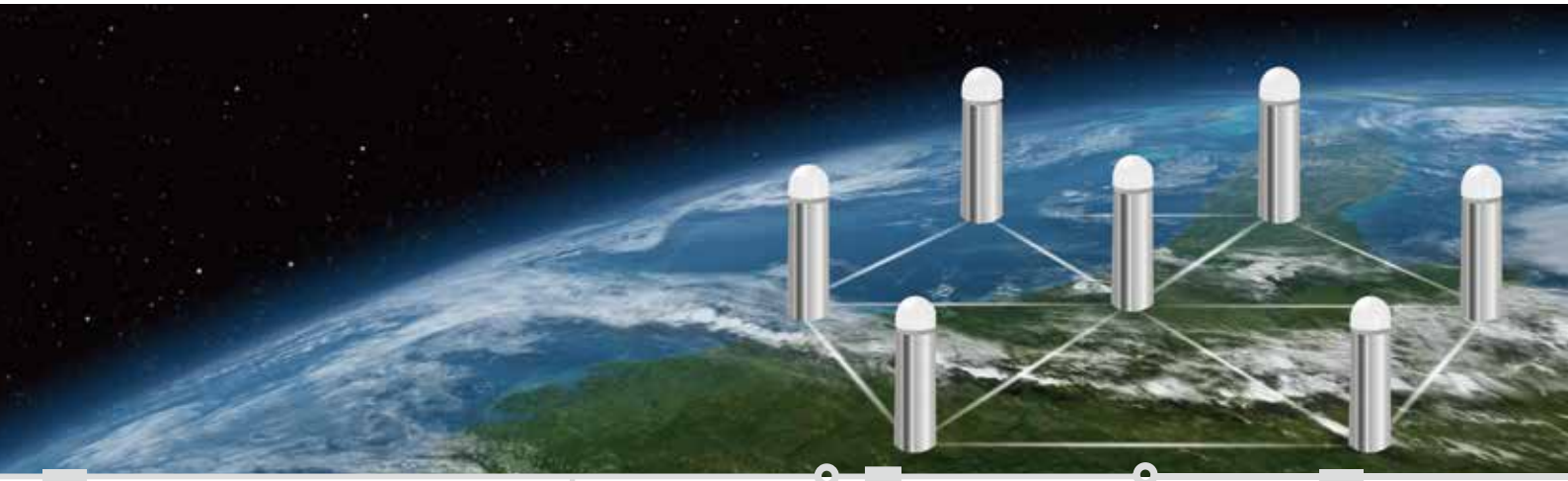
SinoGNSS®
By ComNav Technology Ltd.

M300 Pro GNSS Receiver



Features

- *496 channels for unmatched GPS/Beidou/GLONASS/GALILEO multi-constellation tracking performance, upgradable to track QZSS*
- *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 expendable memory*
- *Integrated battery serves as a primary power or an Uninterrupted Power Supply (UPS) backup*

ALL GNSS CONSTELLATIONS ON TRACK

The M300 Pro is able to track all existing and future GNSS constellations including GPS, GLONASS, Beidou (B1, B2, B3), Galileo and QZSS. There is no doubt that the M300 Pro is always keeping pace with GNSS development, which provides a robust and future-proof GNSS solution for CORS.

PROVEN DESIGNED

The M300 Pro 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 recoding function, M300 Pro can achieve continuous long-term recording. These proven designs make M300 Pro 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 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.

Technical Specifications M300 Pro

Signal Tracking
- 496 channels with simultaneously tracked satellite signals
  - GPS: L1 C/A, L1P, L2C, L2P, L5
  - BeiDou: B1, B2, B3
  - GLONASS: L1 C/A, L1P, L2 C/A, L2P
  - Galileo: E1,E5
  - QZSS[1]
  - SBAS: WAAS, EGNOS, MSAS, GAGAN
- Advanced multipath mitigation technology
- Low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- High precision multiple correlators for GNSS pseudo range measurements
- Signal Noise Ratios reported in dB-Hz

Time Precision
- GPS+Glonass+Beidou 20ns

Positioning Specifications
- Post Processing Static (Long Observation)
  - Horizontal: 3 mm + 0.1 ppm RMS
  - Vertical: 3.5 mm + 0.4 ppm RMS
- Single Baseline RTK (<30KM)
  - Horizontal: 8 mm + 1 ppm RMS
  - Vertical: 15 mm + 1 ppm RMS
- Network RTK
  - Horizontal: 8 mm +0.5 ppm RMS
  - Vertical: 15 mm + 0.5 ppm RMS
- E-RTK[2]
  - Horizontal: 0.2 m +1 ppm RMS
  - Vertical: 0.4 m + 1 ppm RMS
- DGPS : 0.4 m 3D RMS
- SBAS : 1 m 3D RMS
- Standalone : 1.5 m 3D RMS

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
- 3 SMA male connectors
  - 1 PPS output
  - Event input
  - Reserve for WLAN and Bluetooth
- 2 TNC connectors
  - GNSS Antenna connector
  - Frequency-marker oscillator input connector

Data Format
- Correction data I/O:
  - RTCM 2.X, 3.X, RTCM3.2 MSM4,CMR (GPS only), CMR+(GPS only)
- Positioning data outputs:
  - 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, RTCM3.X, compatible with major CORS software (VRS, FKP and iMax)

Data logging
- Loop recording function supporting long-term recording
- Support five simultaneously raw data recording
- Maximum 50Hz data logging rate
- Storage capacity
  - 8 GB internal memory[3]
  - Maximum 1TB external memory
- File format
  - RINEX 3.X, 2.X or ComNav binary format
- File log session
  - 5\10\15\20\30min or 1\2\4\24hour
- Data retrieval and transfer
  - FTP and USB

Physical
- Size (L x W x H): 202mm x 163mm x 75mm
- Weight: 2.4 kg
- Housing: Rugged aluminum housing

Environmental
- Operating temperature: -40 °C to +80 °C
- Storage temperature: -45 °C to +85 °C
- Humidity: 100% no condensation
- Water proof and dust proof: IP67
- Vibration: MIL‐STD‐810G
- 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
- Integrated internal battery 7.4 V, 8800mAh, Li-ion; 16-hour continuously working

Recommend Antenna
- AT300 GNSS Geodetic 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 Web Server
- CRU software

1 QZSS are reserved for future upgrade.

2. E-RTK: BeiDou B3 signal is used in RTK calculate engine. Currently, this mode only works in Asia Pacific (APAC) region.

3. 8GB is the default internal memory and optional 32GB is available to order. Please clarify when placing the order.

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