

SIGNAL TRACKING

- 965 channels with simultaneously tracked satellite signals
 - GPS: L1 C/A, L1P, L2C, L2P, L5
 - BeiDou: B1, B2, B3
 - BeiDou Global Signal: B1C, B2a
 - GLONASS: L1 C/A, L1P, L2 C/A, L2P, L3
 - Galileo: E1, E5a, E5b, E6, E5 AltBOC
 - QZSS: L1C, L2, L5
 - SBAS: WAAS, EGNOS, MSAS, GAGAN
 - Navic: L5
- 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 20 ns

POSITIONING SPECIFICATIONS

- Post Processing Static
 - Horizontal: 2 mm + 0.5 ppm RMS
 - Vertical: 4 mm + 0.5 ppm RMS
- Single Baseline RTK (<30 KM)
 - 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
- 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
- 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

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, PTNL, PJK
- 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 20Hz data logging rate
- Storage capacity
 - 32 GB internal memory
 - Maximum 1TB external memory
- File format
 - RINEX 3.X, 2.X or ComNav binary format
- File log session
 - 5/10/15/20/30 min or 1/2/4/24hour
- Data retrieval and transfer
 - FTP and USB

PHYSICAL

- Size (L x W x H): 202 mm x 163 mm x 75 mm
- 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
- Waterproof and dustproof: IP67
- 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 overvoltage protection
- Integrated internal battery 7.4 V, 8800mAh, Li-ion; more than 16-hour continuously working

RECOMMEND ANTENNA

- AT340 Geodetic GNSS Antenna
- AT600 Choke Ring GNSS Antenna
- AT500 Choke Ring GNSS 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

Specifications subject to change without notice.

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M300 Pro GNSS RECEIVER

Professional CORS Solutions
for GNSS Networks



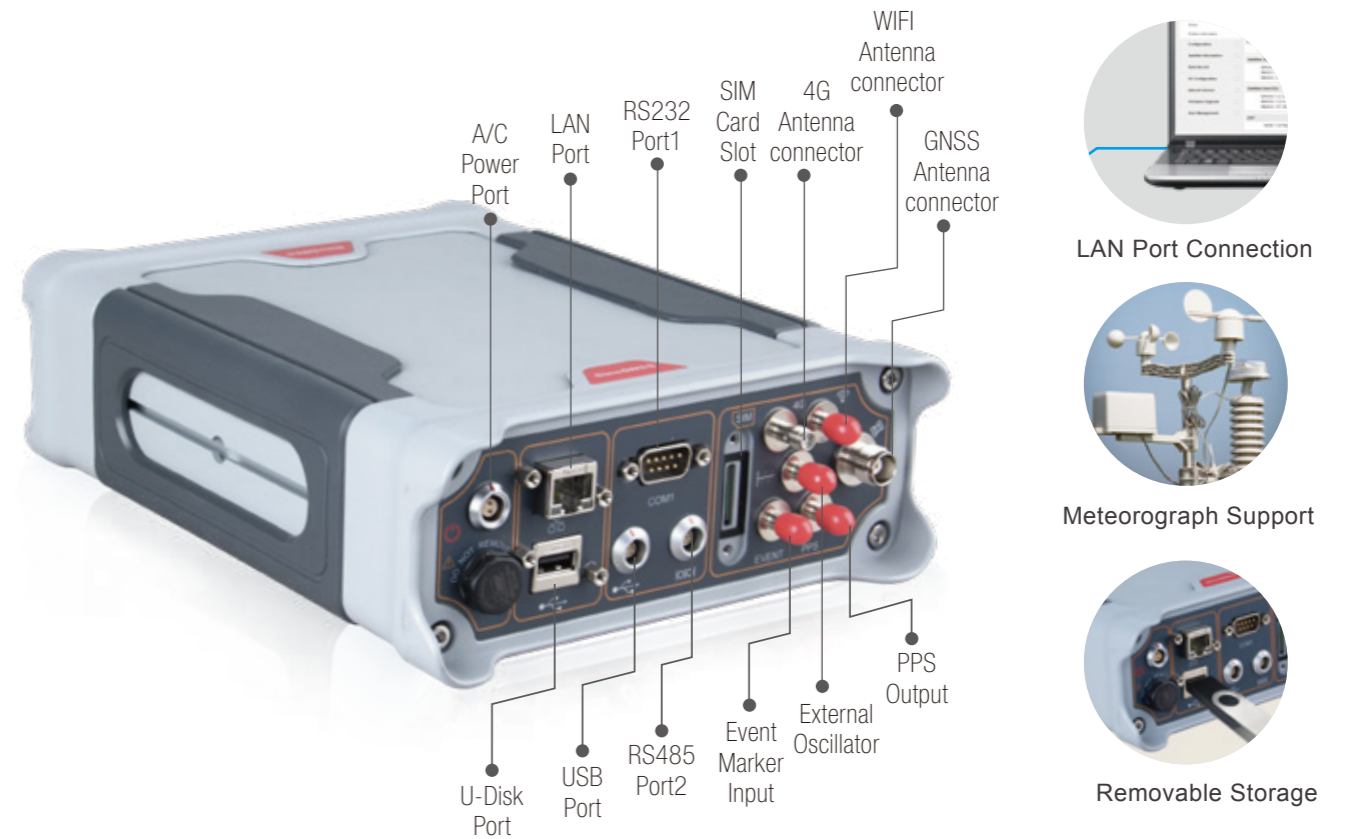
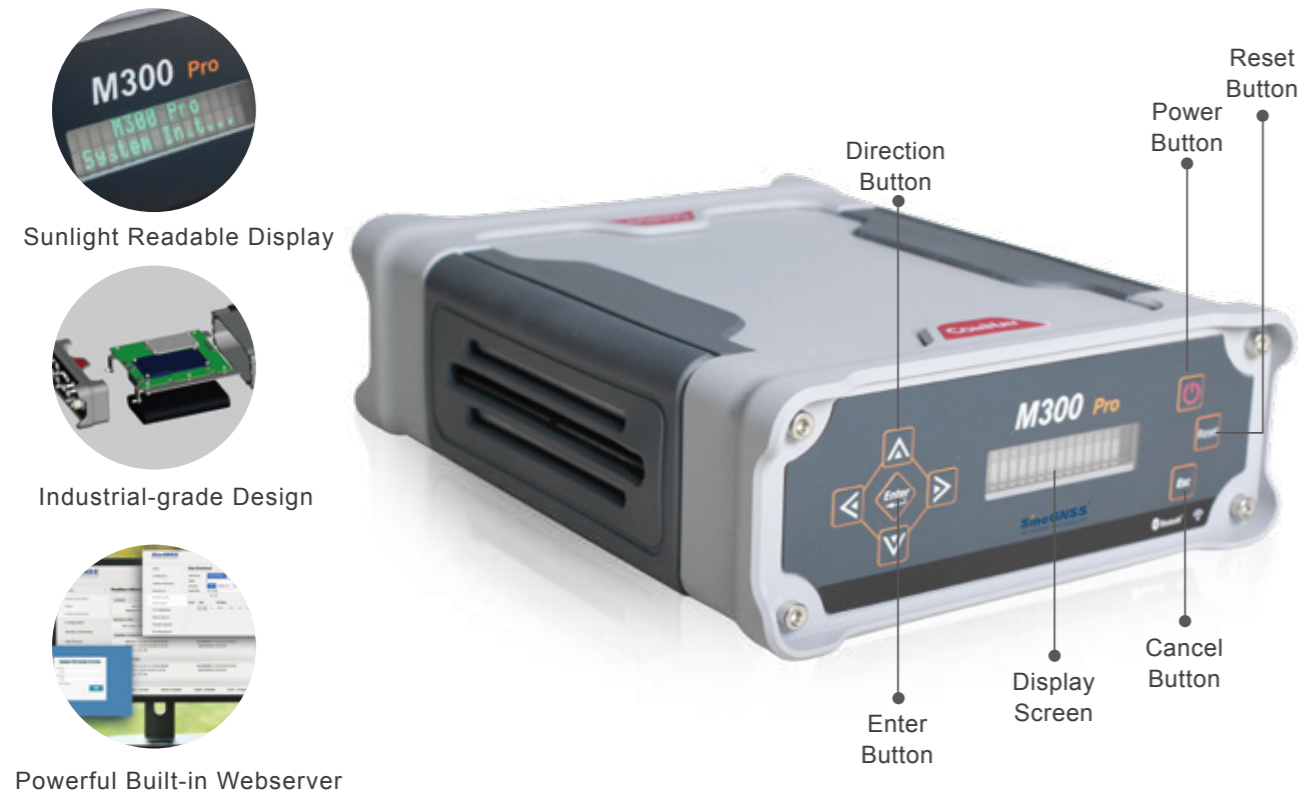
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SINOGNSS M300 Pro GNSS REFERENCE STATION

With SinoGNSS QUANTUM™ Technology and full-constellation tracking capability, the M300 Pro GNSS reference station is one of the most robust and future-proof GNSS solution for CORS.

The integrated lithium-ion battery as a primary power or an UPS backup, powerful built-in Webserver, flexible interfaces of external devices, serial ports and USB connections make the M300 Pro suitable for numerous permanent and semi-permanent GNSS networking and monitoring projects.



FULL GNSS CONSTELLATION TRACKING
496 channels tracking all current constellations and firmware upgradable to track satellite signals of upcoming constellations.

LINUX OS
Built-in Linux OS ensures the M300Pro long-term stable operation, which is customizable for your special requirements.

FLEXIBLE DATA MANAGEMENT
The M300Pro supports five independent static data recording, combined with large storage capacity, loop recording function and FTP push, which truly improves the effectiveness and profitability of your work.

24/7 CONTINUOUS OPERATION
The integrated lithium-ion battery works as a primary power or an Uninterrupted Power Supply (UPS) backup, the M300Pro can achieve 24/7 continuously monitoring tasks.

POWERFUL BUILT-IN WEBSERVER
The powerful built-in webserver provides a full remote control of receiver configuration, status checking, firmware update, data download and user management.

RUGGED DESIGN
Designed with IP67 Dust & Water proof protection and survive from 1m drop onto the concrete. Its working temperature ranges from -40 C to +80 C.

DDNS
Dynamic Domain Name Server allows you to remote control the M300Pro through dynamic domain name without a static IP, which is more cost-effective for your applications.

STANDARD COMMUNICATION PROTOCOLS
Ensure easy configuration through HTTP protocol, or TCP/IP, support five independent data transfer through TCP protocol in RTCM, ComNav binary, NMEA, BINEX data formats, and NTRIP protocol, especially NtripCaster as a single base.

EARLY WARNING
Early warning, such as battery low, external power break, FTP Push Failed, Code expired, helps you to deal with problems in advance.

USER FRIENDLY INTERFACE
The user-friendly front panel with function buttons makes it easier to configure and check receiver's status.

USER MANAGEMENT
It supports different-level user permission access, which helps you ease of user management.

LARGE CAPACITY MEMORY
Default 32GB internal memory meets your data logging requirement in a wide range of industrial applications. It also supports up to 1TB removable storage.

ANTENNA

SinoGNSS AT-series Antennas are high performance choke ring antennas that can track all working constellations, achieving sub-millimeter phase center repeatability. Those are all specially designed for deformation monitoring, CORS, and related GNSS infrastructure networks.



AT360 GEODETIC ANTENNA

AT360 is a super performance GNSS Antenna that can track GPS, GLONASS, BDS, Galileo, L-Band and SBAS. With the AT360, SinoGNSS M300 Pro is easy to be applied for machine control, precision agriculture and applications where cost-effective reference station matters.

FEATURES

- Stable phase center and multipath rejection capability
- Water & dust-proof enable it work in harsh environment
- Good signal tracking performance when satellites at low elevation angle



AT600 CHOCK RING ANTENNA

The AT600 is a high-performance choke ring antenna that can track GPS, GLONASS, BeiDou, BeiDou Global, Galileo, QZSS, IRNSS, SBAS and L-Band. Designed for land surveying, precision agriculture, deformation monitoring, CORS and related GNSS applications.

FEATURES

- High gain and low noise amplifier
- 3D chock ring structure design with excellent multipath rejection capability
- Sub-millimeter level phase center error
- Superior IP68 waterproof and dustproof level



AT500 CHOKE RING ANTENNA

The AT500 is a high performance choke ring antenna that can track GPS L1, L2, L5, GLONASS L1, L2, BeiDou B1, B2, B3, Galileo and SBAS. It is specially designed for deformation monitoring, CORS, and related GNSS infrastructure networks.

FEATURES

- Low Noise Amplifier and high gain
- Superior water and dust-proof design
- Strong capability of tracking satellites at low elevation angle
- Sub-millimeter level phase center error with outstanding stability and repeatability

SOFTWARE

ComNav Data Center (CDC.Net) GNSS Network software provides high-precision Network RTK services, which not only helps CORS administrator effectively manage all connected reference stations, but also provides the optimized spatial corrections from single Base, RTD and RTK to rover users.

- Powerful Processing Engine
- Various GNSS hardware support
- RTCM3.2, RTCM 3.X, DGNSS RTCM2.X Support
- Flexible Stations and User Accounts Management
- Distributed deployment between software engine and base station data access
- Fully support GPS, GLONASS, BeiDou, BeiDou Global, Galileo and QZSS



YOUR BENEFITS



CORRECTION DATA DISTRIBUTION

Distribute Network RTK corrections generated through its powerful Virtual Reference Station calculating engine, and allocate correction data to rover users from its nearest station for SRTK.



INTEGRITY MONITORING

Provide real-time network monitoring and quality check includes ionosphere, troposphere, multipath, data use rate, network element and baselines processing results



FLEXIBLE DATA STORAGE

Support GPS, GLONASS, BeiDou and Galileo Observations saving to the local server for each reference station or the virtual reference site. It also can push observation data of each reference station to FTP.



SMART USER MANAGEMENT

Allow the administrator to allocate different-level user accounts based on specific demands. Detailed users information, including its coordinates, positioning status, online time, will be displayed when logging in CDC.NET server.



REFERENCE STATION REMOTE CONTROL

Remote reboot all connected reference stations, and monitor satellite tracking, receiver temperature and power supply status in real time.



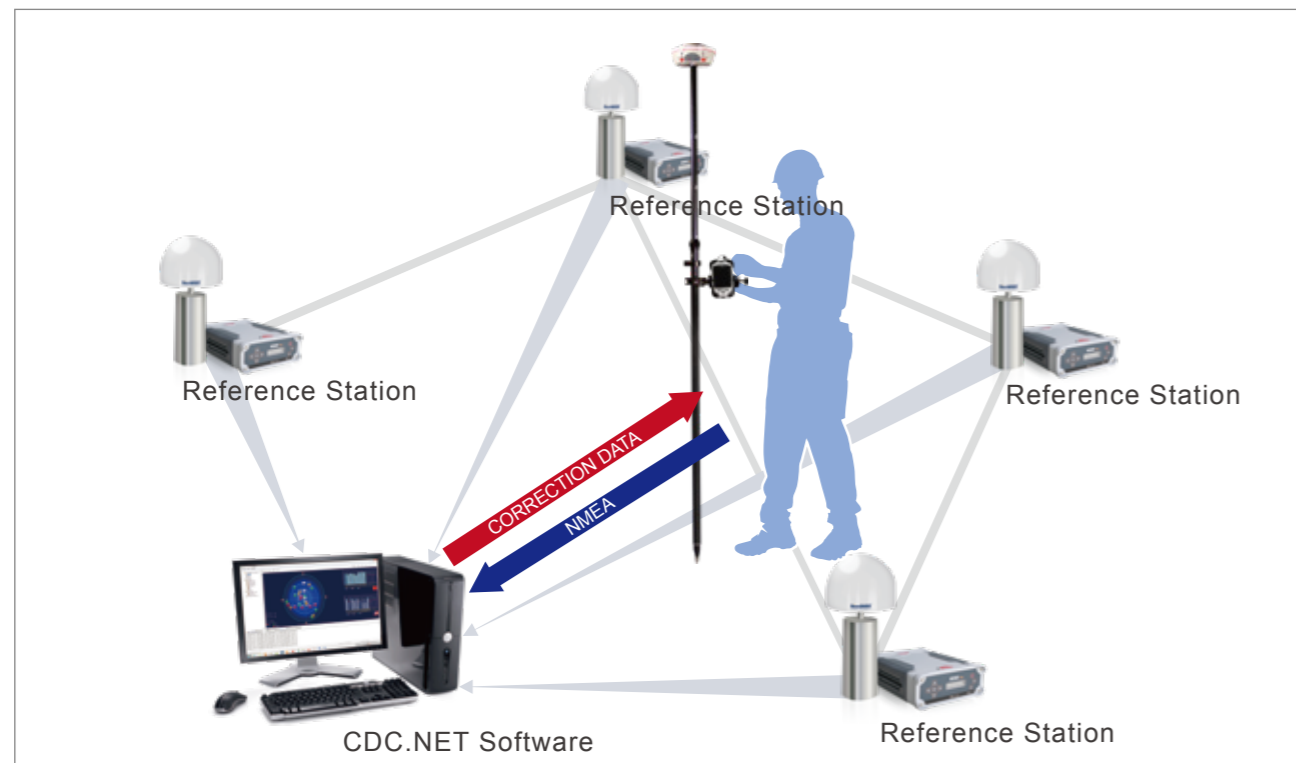
EMAIL ALARM

It will automatically send email alarm to administrator in emergency situation.

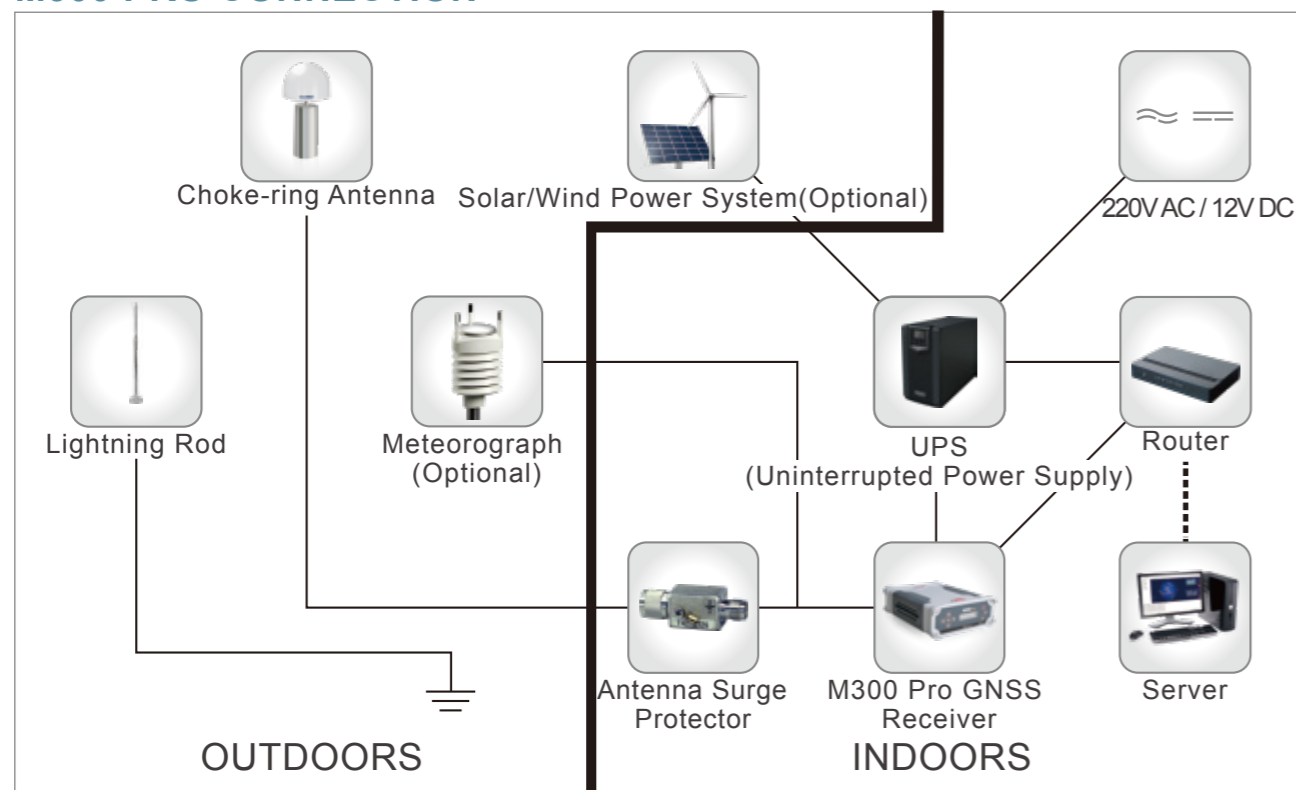
DEVICE CONNECTION

Using CDC.NET for continuous network processing offers high-accuracy RTK services over the whole network region. With a powerful processing engine, it thus helps to enlarge covering areas with a minimum number of reference stations.

CORS CONNECTION



M300 PRO CONNECTION



APPLICATIONS

With SinoGNSS M300 Pro GNSS CORS Solution you can achieve business growth in a wide range of industries like regional and national positioning infrastructures, monitoring, surveying and GIS, precision agriculture, machine guidance, driverless engines, forestry management, UAV precise navigation, Geodetic GNSS Campaign survey and many others. It largely improves the system operational and maintenance efficiency while reducing your budget.



YOUR BENEFITS FROM CORS SOLUTION

FOR THE SYSTEM ADMINISTRATOR:

- o Stable Continuous Service
- o Integrity Monitoring at Real Time
- o Up to 5000 User Account Distribution
- o System Reliability with Powerful Processing Engine

FOR THE ROVER USERS:

- o Less rover initialization time
- o Higher productivity
- o Increased coverage and availability
- o Consistent high-accuracy RTK service