Software

Survey Master

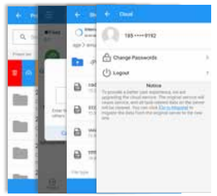
Optional

- Microsurvey FieldGenius Android
- Microsurvey FieldGenius Windows

Compatible with most of Android devices
Easier survey workflow via Wizard function
Support up to 60° IMU tilt compensation
Support all survey modes, including Static, PPK and RTK
Support Surface Stake, Mapping Survey and etc. to serve various survey tasks
Support CAD import and directly use for stake out operations
Support Convert function from ComNavBinary raw file to RINEX

IMU Tilt Survey

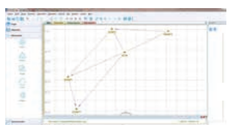
CAD Basemap and Stake

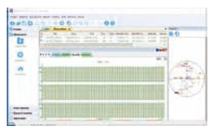

Cloud Service

Post-processing Software

SinoGNSS Compass solution software

Provide the complete GPS/GLONASS/BeiDou/GALILEO post-processing solution
Support GNSS observation data in RINEX and ComNav Raw Binary Data format
Support different post-processing in static and kinematic modes
Output analysis reports in various formats (web format, DXF, TXT, KML)
Supports DJI's P4R data format. Processing results can be imported into photogrammetry and 3D modeling software directly





Mars Laser RTK

GNSS Surveying System
Ver.2026.08.06

Signal Tracking

Channel: 1590
GPS: L1, L2, L5(L1C/A,L1C,L2P,L2C)
BDS: B1,B2(B1I, B2I, B3I, B1C, B2a, B2b)
GLONASS: L1,L2,L3(G1, G2, G3)
Galileo: E1, E5a, E5b, E6, E5 AltBOC
QZSS: L1C/A, L2C, L5, L1C
IRNSS: L5
SBAS: L1C/A

Performance Specification

Signal Re-acquisition: ≤1s
Cold Start: ≤45s
Hot Start: ≤15s
RTK Initialization Time: <10s(Baseline≤10km)
Initialization reliability: ≥99.9%
Data Update Rate: 1Hz, 2Hz, 5Hz, 10Hz, 20Hz

Mode	Accuracy
Static and Fast Static	Horizontal 2.5 mm + 0.5 ppm RMS Vertical 5 mm + 0.5 ppm RMS
Long Observations Static	Horizontal 3.0 mm + 0.1 ppm RMS Vertical 3.5 mm + 0.4 ppm RMS
Signal Baseline RTK	Horizontal 8mm + 1ppm RMS Vertical 15mm + 1ppm RMS
DGPS	<0.4m RMS
SBAS	Horizontal 0.5m RMS Vertical 0.8m RMS
Standalone	1.5m 3D RMS
Laser Tilt Measurement	≤5.5cm(5m range, ≤60°Tilt in laser mode)

Data Format

Correction Data I/O: RTCM2.X, 3.X,CMR(GPSonly),CMR+(GPSonly)
Position Data Output: - ASCII: NMEA-0183 GSV, RMC, HDT, GGA, GSA, ZDA, VTG, GST; PTNL, PJK; PTNL, GGK
- ComNav Binary update to 20 Hz

Electrical and Battery

Voltage: 7-28VDC
Power Consumption: 1.7W[4]
Li-ion battery capacity: 2 x 3400 mAh
Working Time: ≥20h
Memory: 8GB

1. UHF modem is default configuration and it can be removed according to your specific needs.
2. Integrated UHF ranges from 410 to 470 MHz.
3. Working distance of internal UHF varies in different environments, the maximum distance is 15 Km in ideal situation.
4. Power consumption will increase if transmitting corrections via internal UHF.

Communication

1 Serial Port (7 pin Lemo)
- Baud rates up to 921,600 bps
Enhanced UHF modem[1]
- Tx/Rx with full frequency range from 410-470MHz[2]
- Transmit power: 0.5W, 1W, 2W adjustable
- Air Baud Rate: 9600/ 19200/ 11000 adjustable
- Range: 15 km[3]
- Protocol type: support Transparent/TT450S/South/Mac/SNLonglink, compatible with all the ComNavTech GNSS Receivers
WIFI: 802.11 a/b/g/n, 2.4Ghz
4G Modem:
- LTE-FDD:
B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
- LTE-TDD: B38/B39/B40/B41
- WCDMA: B1/B2/B4/B5/B6/B8/B19
- GSM: B2/B3/B5/B8
Position Data Output Rates: 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
5 LEDs (indicating Satellites Tracking, RTK Corrections data, GPRS Status and Power)
2 Function Buttons for Power and Static Data Record
Bluetooth ® : V 4.0 protocol, compatible with Windows OS and Android OS
Calibration-free IMU integrated for Tilt Survey
Up to 60°tilt with 2.5 cm accuracy

Environmental Specification

Working Temperature: -40℃~+65℃
Storage Temperature: -40℃~+85℃
Humidity: 100% non-condensing
Water- & Dustproof: IP67
Shock: Survive a 2m drop onto the concrete
Vibration: MIL-STD-810G Method 514.6 procedure I

Physical Specification

Dimension: Φ15.5cm x 7.3cm
Weight: 1.2kg with two batteries

Laser Specification

Range: 15m
Accuracy(room temperature): (3-5)mm + 1ppm
Measuring Frequency: Classic Value: 3Hz
Maximum Value: 5Hz
Laser Injection Power: 0.9mW~1.5mW
Working Temperature: -20℃~+50℃
Storage Temperature: -30℃~+60℃

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Mars Laser RTK

Universe Series GNSS Receiver

LASER RTK - INNOVATION MAKES THE DIFFERENCE

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Features

DISCOVER A NEW ERA OF SURVEY WITH MARS LASER RTK RECEIVER

With cutting-edge laser technology, Mars Laser RTK revolutionizes your measurements, enabling you to tackle diverse surveying scenarios with ease. Explore new horizons, simplify your workflow, and embrace innovation with Mars Laser RTK.

SATELLITE TRACKING		SATELLITE TRACKING	
GPS	L1, L2, L5(L1C/A,L1C,L2P,L2C)	QZSS	L1C/A, L2C, L5,L1C
BDS	B1,B2(B1I, B2I, B3I, B1C, B2a, B2b)	IRNSS	L5
GLONASS	L1,L2,L3(G1, G2, G3)	SBAS	L1C/A
Galileo	E1, E5a, E5b, E6, E5 AltBOC		

Laser Technology

The combination of the conventional GNSS receiver and the laser module reduces the difficulty of working in special cases, and fit the usage habits of surveyors.

Longer Working Range

The built-in transceiver datalink module has a super long working distance of up to 15KM. Mars can be switched as a rover or base at will.

15 KM

Full-Constellation Multi-Frequency

With 1590 channels and 60+ satellite tracking capabilities, Mars also supports PPP service. Getting fixed in seconds boosts your productivity.

Third Generation IMU Improves 30% Efficiency

Mars features a 3rd generation IMU, which significantly enhances initialization speed and simplifies surveying operations in the field. It can still support 60° compensation in the laser mode.

60°

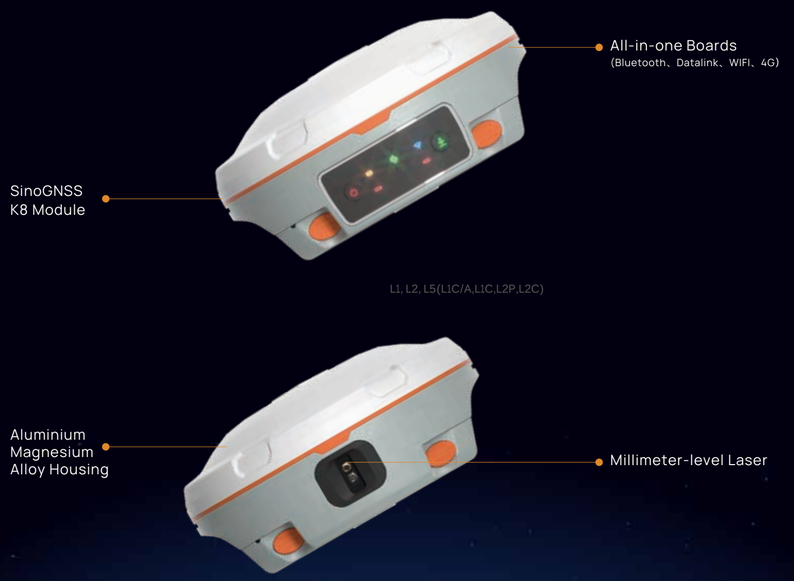
Robust Design

IP67

A shock-resistant, dustproof, and waterproof aluminium magnesium alloy body ensures uninterrupted performance wherever you are.

Mars Laser RTK

The Mars Laser RTK is an innovative GNSS receiver that integrates the latest GNSS, IMU, and laser technologies, resulting in a stunning experience. In previously hard-to-reach, signal-obstructed, and dangerous fields, the millimeter-level laser distance meter on Mars's back makes surveying and stakeout easier and more stable. Mars is equipped with the latest K8 platform, and tracks 1590 channels for all running and existing satellite constellations. The built-in IMU sensor supports up to 60° tilt compensation, ensuring high-precision results.



LASER TECHNOLOGY · K8 MODULE · FULL-CONSTELLATION MULTI-FREQUENCY · IMU Up to 60° Tilt · PPP PPP · IP67 IP67 · 15KM LONGER WORKING RANGE

R50 Data Collector

QC Quick Charging · Large Capacity · 5.5" Display · Android 12 · Ultra-long Range Connectivity · NFC · Qualcomm · IP67