Software

Survey Master

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
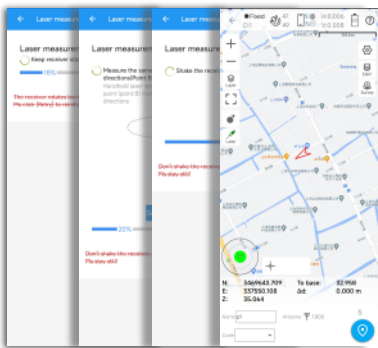
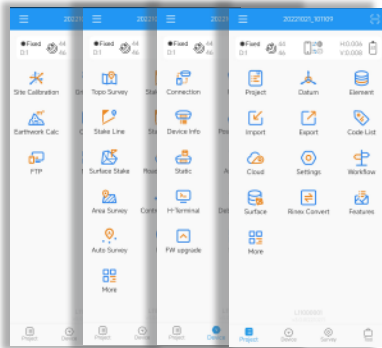**Optional**

Microsurvey FieldGenius `Android`
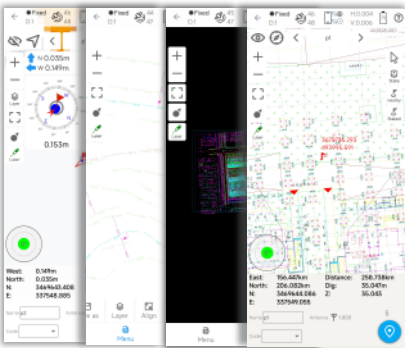
Microsurvey FieldGenius `Windows`

IMU Tilt Survey   New Interface   CAD Basemap and Stake

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
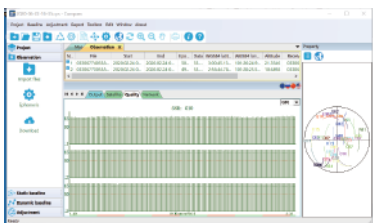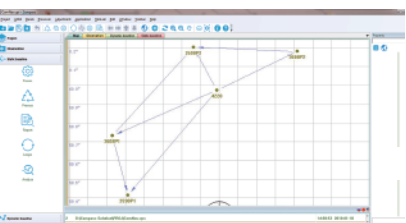
Mars GNSS Receiver

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: 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,
AVR; 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

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 410-470 MHz[2]

- Transmit power: 0.5-2 W adjustable

- Range: 15 km[3]

WIFI/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: Φ 15.5cm x 7.3cm

Weight: 1.2kg with two batteries

Laser Specification

Range: 10m

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℃

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.

SinoGNSS
By ComNav Technology Ltd.

Mars Laser RTK
Universe Series GNSS Receiver

LASER RTK - INNOVATION MAKES THE DIFFERENCE

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	L1C/A, L1C, L2P, L2C, L5	QZSS	L1C/A, L2C, L5,L1C
BDS	B1I, B2I, B3I, B1C, B2a, B2b	IRNSS	L5
GLONASS	G1, G2, G3	SBAS	L1C/A
Galileo	E1, E5a, E5b, E6c, 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.
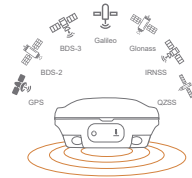
Longer Working Range

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.
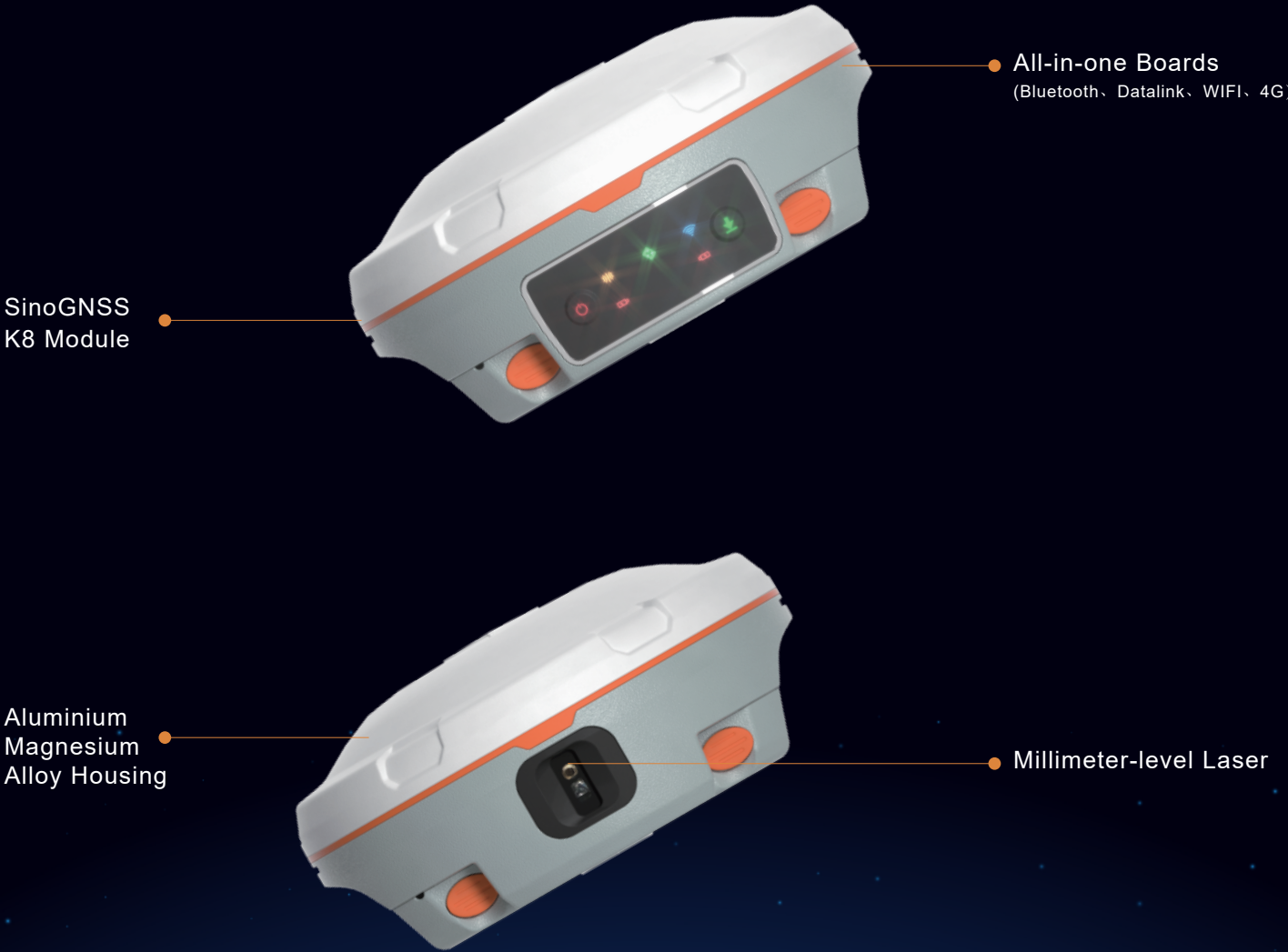
60°
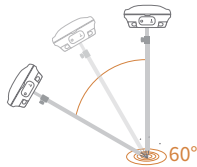
Robust Design

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

IP67

Mars GNSS Receiver

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.

All-in-one Boards
（Bluetooth、Datalink、WIFI、4G）

SinoGNSS
K8 Module

Aluminium
Magnesium
Alloy Housing

Millimeter-level Laser

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

R60 Data Collector

5.5 inch sunlight readable screen **1080P** HD display

Patent for design, **ergonomic operation**

With advanced **NFC**, tedious matching is a thing of the past

9000mAh Li-Polymer Battery for continuously working **30+** hours
QC3.0, 0.5h charging enables all-day use

Survive a 1.6m drop onto the concrete
Anti-static design, excellent heat dissipation

Physic **full QWERTY** keyboard speeds up working efficiency

5.0 Dual-mode Bluetooth, ultra long range Bluetooth connection

Qualcomm 8-core processor **Android 12** operation system with GMS certificate

4+64GB Memory
Open CAD drawing in seconds

Qualcomm	1080P Resolution	5.5" Display	Full QWERTY	Android 12	LARGE CAPACITY	IP67