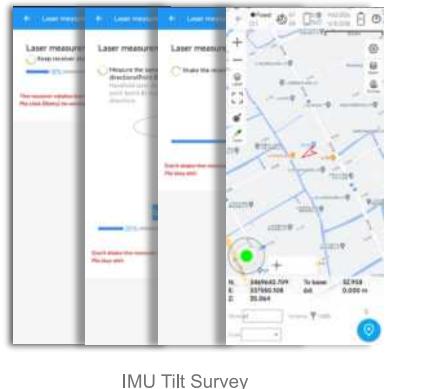


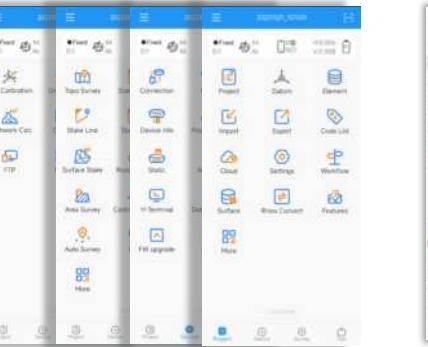
## Software

### Survey Master

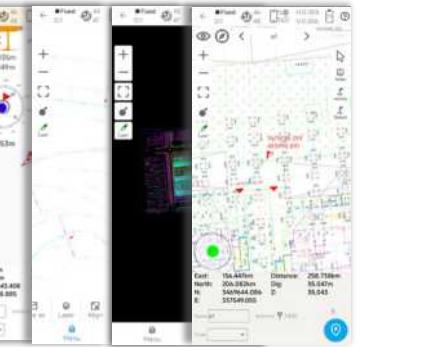
Compatible with most of Android devices  
Easier survey workflow via Wizard function  
Support up to 60° IMU tilt compensation  
Support all survey modes, including Static, PPK and RTK  
Support Surface Stake, Mapping Survey and etc. to serve various survey tasks  
Support CAD import and directly use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



IMU Tilt Survey



New Interface

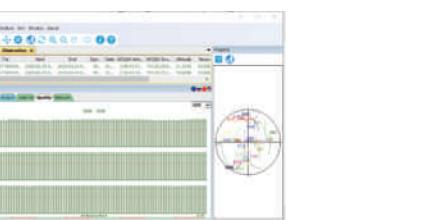
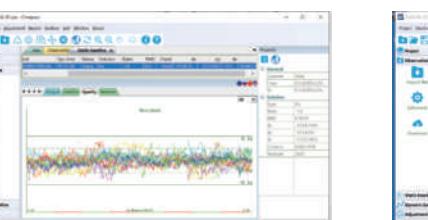
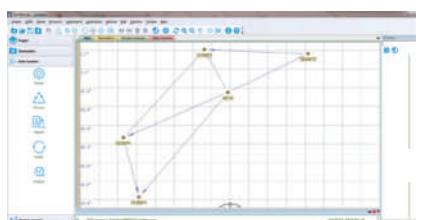


CAD Basemap and Stake

### 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



## Venus Laser RTK

GNSS Surveying System  
Ver.2022.11.20

#### 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: ≤15 s  
RTK Initialization Time: <10s(Baselines≤10km)  
Initialization reliability: ≥99%  
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
Signal Baseline RTK	Horizontal 8mm + 1ppm RMS Vertical 15mm + 1ppm RMS
DGPS	<0.4m RMS
SBAS	Horizontal 0.5 RMS Vertical 0.8 RMS
Standalone	1.5m 3D RMS
Laser Tilt Measurement	≤5.5cm (2m range, ≤60°Tilt in handheld 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: 5/9V  
Power Consumption: 1.45W  
Over Current Protection Voltage: 30V, VBUS 9.99V  
Charging Time: <4h(QC2.0)  
Working time: ≥20h

#### Communication

Bluetooth: 5.0 Dual-Mode Bluetooth  
NFC: NFC Fast Connection  
Interface: USB TYPE-C

#### Environmental Specification

Working Temperature: -20°C ~+60°C  
Storage Temperature: -30°C ~+70°C  
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

Housing Material: Plastic  
Dimension: 80±1mm(L), 70±1mm(W), 150±1mm(H)  
Weight: 380g  
Range Pole Interface: M8 thread

#### 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°C ~+50°C  
Storage Temperature: -30°C ~+60°C

Specifications subject to change without notice.

**SinoGNSS**  
By ComNav Technology Ltd.



## Venus Laser RTK Universe Series GNSS Receiver

LASER RTK - INNOVATION MAKES THE DIFFERENCE

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## Features

### LASER DISTANCE METER ENABLES RODLESS SURVEY

Innovatively equipped with a laser distance meter, Venus makes rod-free stakeout and measurement possible, greatly expanding the working scope.

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 fusion of GNSS, IMU and laser technologies pushes working efficiency to the limits and ensures accuracy.



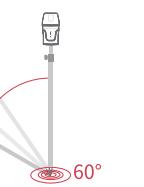
### Full-Constellation Multi-Frequency

With 1590 channels and 50+ satellite tracking capabilities, Venus also supports SBAS PPP service. Getting fixed in seconds boosts your productivity.



### Third Generation IMU Improves 30% Efficiency

The 3rd generation IMU supports 60° tilt compensation, allows 10-second initialization. No bubble check needed, survey as you will.



### Handheld Design, Easy to Carry

Venus is ergonomically designed for easy carrying. The 380g GNSS receiver with sophisticated structure minimizes user fatigue.



### Robust Design

Built to IP67 standards, Venus is waterproof and dustproof, completely workable even in harsh environments.



### NFC Connection

Venus Laser RTK can be connected automatically with a single touch.



## Venus Laser RTK

Venus is the world's first GNSS receiver combined with laser and IMU. Laser distance meter makes rodless survey possible, enabling GNSS surveying beyond usual constraints. IMU achieves 60° tilt compensation in both traditional and laser modes, supports free calibration and 10-second initialization.

Integrated the SinoGNSS K8 platform, Venus features full-constellation with 1590 channels, providing high-precision measurement results even in harsh environments.



LASER TECHNOLOGY      K8 MODULE      FULL-CONSTELLATION MULTI-FREQUENCY      QUICK CHARGE      PPP      NFC      IP67      HANDHELD DESIGN

## R60 Data Collector



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