Specifications

GNSS characteristics
- **336 GNSS channels (672 channels optional)**
  - GPS: L1C/A, L1C, L2C, L2E, L5
  - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
  - BeiDou: B1, B2, B3, B1C, B2A
  - Galileo: E1, E5A, E5B, E5AltBOC, E6
  - IRNSS: L5   - SBAS: L1C/A, L5
    (QZSS, WASS, MSAS, GAGAN, EGNOS)
  - Global Correction Service (MSS L-Band)
- **Initialization:**
  time <10s, reliability >99.99%
- **Supported data formats:**
  RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2, CMR CMR+
- **Output data formats:**
  NMEA 0183, PJK plane coordinates, Binary code, Trimble GSOF

L-band Correction Service
- Star-fill: 5 minutes, down to 2 cm accuracy
- Star-Link: down to 2 cm accuracy (need subscription)

Inertial Measurement
- Tilt Angle: up to 60 degrees
- Accuracy: down to 2cm

Positioning Accuracy
Code differential GNSS positioning
- Horizontal: ±0.25m+1ppm
- Vertical: ±0.50m+1ppm
- SBAS: 0.5m (H) 0.85m (V)

High precision Static
- Horizontal: ±3mm+0.1ppm
- Vertical: ±3.5mm+0.4ppm

Static and Fast Static
- Horizontal: ±2.5mm+0.5ppm
- Vertical: ±5mm+0.5ppm

Real-time kinematic (RTK)
- Horizontal: ±8mm+1ppm
- Vertical: ±15mm+1ppm

Network RTK (VRS, FKP, MAC)
- Horizontal: ±8mm+0.5ppm
- Vertical: ±15mm+0.5ppm

RTK initialization time
- 2~8s

Physical characteristics
Size
- 16.3 x 16.3 x 9.6 cm

Weight
- 1.34 kg (with built-in battery)
- 1.055 kg (without built-in battery)

User interface
- Five Indicator lights, Two buttons
- OLED color screen, 1 inch, 128x64 res.
- Linux System

I/O interface
- 5PIN LEMO external power port+RS232
- 7PIN external USB(OTG)+Ethernet
- Bluetooth 2.1+EDR standard
- Bluetooth 4.0 standard, support android, ios connection

Memory
- 8GB SSD internal storage
- Support external USB storage (up to 32 GB)
- Automatic cycle storage
- Changeable record interval
- Up to 50Hz raw data collection

Operation
- RTK rover & base
- RTK network rover: VRS, FKP, MAC
- NTRIP, Direct IP
- Post-processing

Environmental characteristics
- Operating temperature: -45° to +75°C
- Storage temperature: -55° to +85°C
- Humidity: 100% condensing
- IP68 waterproof, sealed against sand and dust
- Drop: 2m pole drop on concrete

Power characteristics
- Two Li-Ion batteries, 7.4 V, 10,000 mAh
- Battery life: >14h (static mode)
          >7h (internal UHF base mode)
          >8 to 14h (rover mode)
- External DC power: 9-28 V

UHF Radio characteristics
- Built-in radio, 120 channels
- Frequency Range 410-470MHz
- Protocol: TrimTalk450s, TrimMark3, SOUTH (KOLIDA), Hi-target, CHC, Satel
- 1W/2W/3W switchable

- typically working range 7-8km
- "Barrier-Free" Measurement Technology: Repeater/ Router

Cellular module characteristics
- WCDMA/ CDMA2000/ TDD-LTE/ FDD-LTE 4G
- Compatible with 3G GPRS/ EDGE

WebUI
- Configure and monitor receiver by web server via Wi-Fi or USB cable

NFC
- Close range (shorter than 10cm) automatic pair between receiver and controller (need NFC chip in controller)

Wifi
- 802.11 b/g standard
- Hotspot: allow device to access in
- data link: broadcast differential data

Voice Guide
- intelligent voice technology provides status indication and operation guide
- Chinese, English, Korean, Russian, Portuguese, Spanish, Turkish and user define

Standard system components
- K1 PRO Receiver & built-in battery
- Charger and adapter
- All-direction antenna
- Tape measure
- 30 cm pole extension (with base only)
- 7-pin to OTG cable
- Engineering Star (Windows)
- 1 year warranty

Optional system components
- External Radio (410-470 MHz, 5-35W)
- Battery Case SA-6003
- Data collectors
  - H3 plus (Android), H5 (Android)
  - T17N (Windows mobile)
  - S50 (Android)
- Field software
  - Field Genius (Windows)
  - SurvX (Android)
  - Engineering Star 5.0 (Android)
- 1-2 year warranty extension

KOLIDA
Professional's Choice

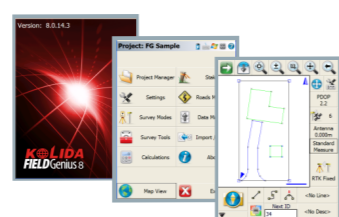# K1 PRO
Let's challenge the top

YouTube K1 PRO

- 336 GNSS channels, World-leading GNSS Engine, All Constellations Supported (672 channels optional)
- Star-Fill Technology Now Available, to Overcome "Non-signal" Spots
- Star-link none-base positioning service (optional)
- Inertial Measurement + GNSS Positioning, Faster & Reliable
- OLED Color Screen, User Friendly Operation
- 10,000 mAh battery, A Whole-day Working With only One Recharge

Field Software

Engineering Star

Field Genius

Surv X

K1 PRO

Let's challenge the top

Improved Reliability Under Challenging Environment

with 336 GNSS channels (672 channels optional) solution, the usability of Glonass & Galileo satellites is greatly improved, so in harsh environment K1 PRO is able to track more satellite than other receivers and provide more reliable positioning result.

Moreover, the newly enhanced anti-interference capability allows it to operate even in harsh environments with electromagnetic interference.

Star-Fill,
Save the signal-loss

This new function will let you continue working a few minutes when radio or mobile signal is becoming very poor or even lose in blind area, the accuracy is down to 2cm.

Work Faster,
Wait Less

The Maxwell 7 GNSS engine inside K1 PRO provides an ultra-fast positioning speed, typically it starts tracking satellite signal within 5 seconds after turning on, coordinate can be acquired within 10 seconds.

Star-Link Correction
Infinite Freedom

2cm Accuracy Star-Link correction service is available now! After subscribing to it, surveyors can work almost anywhere in the world without a base station or VRS network.

Inertial Measurement,
Fast and Flexible

The newly developed inertial tilt survey is no more affected by the earth's magnetic field and requires no correction. The maximum tilt angle has been improved to 60 °, measurement speed is increased by over 30%.

Other Features

- 10,000 mAh battery
- IP68 / IP 68 Proof
- Barrier-free measurement
- 4G Network
- Android OS
- wifi
- SMS Control
- WebUI
- NFC
- Voice Guide
- Mobile APP
- E-bubble
- OTG Download
- SSD Storage 8G SSD
- Temp. Control

How can Inertial Measurement transform the way we work?

Bring More Safety to Your Work   Conveniently Measure Inaccessible Points   Measure Non-signaled Points

Increase Your Efficiency with 10 Innovative Designs!

Make your workflow simpler and Smoother

- Quickly switch working mode & data link, without handheld controller and mobile phone.
- Quickly check system information on receiver screen, no need of other device.
- Quickly launch PPK measurement program, without handheld controller.
- Precisely display self-check status on receiver screen, save time, never miss information.
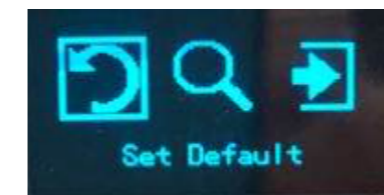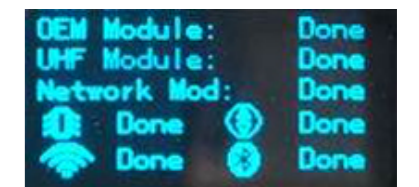
Make you work easier and comfortable

- Re-designed self-check program, only one press to activate it.
- Two steps to restore factory default setting, operation in WebUI is not needed.
- Menu display and voice guide in 8 languages, no problem to work in foreign countries.

Make you working result more reliable

- Newly designed GNSS /Network / wifi / BT all-in-one antenna, enhances signal strength and stability.
- Static data recording status, data size, time can be viewed on screen in real time, to prevent data loss and rework.
- PPK data recording status can be viewed on screen, to prevent data loss and rework.

Post-processing SW. Free of Charge
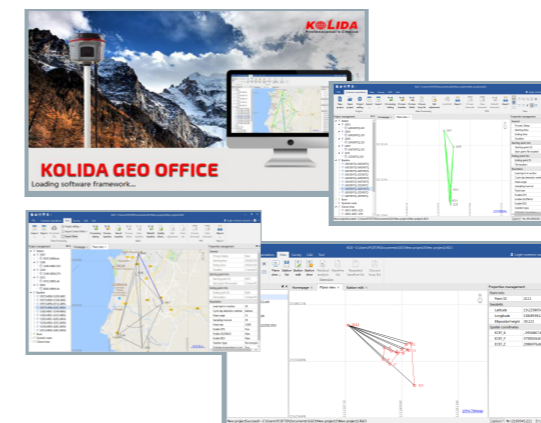
KOLIDA GEO Office

Integrates static data processing and kinematic data adjustment

Intelligent
- Antenna manager with popular receiver types.
- Fast processing and clear display
- Manually edit and filter satellite data for best result
- Update online.

Versatile
- Compatible with numerous data format.
- Export abundant types of report.
- Transformable to RINEX format