PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously [1]

Channels..1760
GPS...L1C/A, L2C, L2P, L5
BDS...B1I, B1C, B2a, B2b, B2I, B3I
GLONASS..L1CA, L2CA, L2P, L3
Galileo......................................E1, E5a, E5b, E5 AltBoc
QZSS..L1C/A, L1S, L2C, L5
NavIC...L5
SBAS*...L1, L2, L5
PPP...B2b-PPP

POSITIONING PERFORMANCE [2]

High-Precision Static

Horizontal...2.5 mm + 0.1 ppm RMS
Vertical..3.5 mm + 0.4 ppm RMS

Static and Fast Static:

Horizontal...2.5 mm + 0.5 ppm RMS
Vertical...5 mm + 0.5 ppm RMS

Post Processing Kinematic (PPK / Stop & Go)

Horizontal...3mm+1ppm RMS
Vertical... 5mm+1ppm RMS

Initialization time........Typically 10 min for base and 5 min for rover

Initialization reliability...Typically > 99.9%

Code Differential GNSS Positioning

Horizontal...25cm+1ppm RMS
Vertical..50cm+1ppm RMS
SBAS..H: 0.5m V: 0.85m

Precise Point Positioning (PPP)

B2b-PPP..10cm(H), 20cm(V)

Real Time Kinematic (RTK)
Single Baseline

Horizontal...8mm+1ppm RMS
Vertical..15mm+1ppm RMS
Initialization time ....Typically < 10s
Initialization reliability...Typically > 99.99%
Positioning rate...1 Hz, 5 Hz and 10 Hz

Hi-Fix [3]

Horizontal... RTK+10mm / minute RMS
Vertical.. RTK+20mm / minute RMS

Time to first Fix

Cold start...< 45 s
Hot start..< 30 s
Signal re-acquisition...< 2 s

Image Accuracy

Stakeout ....Typically 1cm
Image Measurement ....2cm~4cm(range 2~15 m)

Tilt Survey Performance[4]

Additional horizontal pole-tilt uncertainty typically less than
8mm+0.7mm/°tilt(0~60°)

HARDWARE
Physical

Dimensions (W x H)... 130mm×79mm
Weight...lighter than 0.97kg (2.14lb) within internal battery
Operation temperature... -40℃~+75℃（-40℉~+167℉）
Storage temperature... -55℃~+85℃（-67℉~+185℉）
Storage temperature..... Auto-adjust the working power to maintain the temperature
Humidity...100%, non-condensing
Water/dustproof.................. IP68 dustproof, protected from temporary immersion to
depth of 1.0m (3.28ft)
Shock and vibration.. MIL-STD-810G, 514.6
Anti-salt spray.. MIL-STD-810G, 509.4, 96h
Free fall.. MIL-STD-810G, 516.6, designed to survive
a 2m(6.56ft) natural fall onto concrete

Charging

Charging:using standard smartphone chargers or external power banks
(Support 5V 2.8A Type-C USB external charging)

ELECTRICAL
Internal Battery [5]

Internal 7.2V / 6900mAh Built-in lithium-ion rechargeable battery.
RTK rover(UHF/Cellular): up to 15 hours.
External power
Using standard smartphone chargers or external power banks.
(Support 5V 2.8A Type-C USB external charging)

COMMUNICATION

I/O Interface.....................1 × USB type C port, 1 × SMA antenna port, 1×Nano SIM card slot
Network Mode..Full band support for cellular mobile network
(4G, LTE, WCDMA, EDGE, GPRS, GSM)
WiFi...Frequency 2.4GHz, Supports 802.11 b/g/n
Bluetooth...BT 4.2/2.1+EDR, 2.4GHz
NFC..Near Field Communication for device touch pairing
Internal UHF Radio
Power.. 0.5W / 1W / 2W Adjustable
Frequency.. 410~470MHz
Protocols: HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc.
Working Range... Typically 3~5km, optimal 8~15km
Channels... 116 (16 scalable)

CAMERA

Pixel...Dual-camera, 2MP & 5MP
Function...............Real scene stakeout, image measurement, working distance 2~15m

CONTROL PANEL

Physical button... 1
LED Lights... Satellite, signal, power

SYSTEM CONFIGURATION

Storage...8G ROM internal stroage
Output format...ASCII: NMEA-0183
Output rate...1Hz~20Hz
Static data format...GNS, Rinex
Real Time Kinematic (RTK)...RTCM3.X
Network Mode...VRS, FKP, MAC, Support NTRIP protocol

Note:

[1]SBAS service can be provided by firmware upgrade, PPP service is not available in all regions, check with your local sales representative for more information.
[2]The measurement accuracy, precision, reliability and initialization time depend on various factors, including tilt angle, number of satellites, geometric distribution, observation time, atmospheric conditions and multi-path validation, etc. The data are derived under normal conditions.
[3]Accuracies are dependent on GNSS satellite availability. Hi-Fix Positioning ends after 5 minutes without differential data.Hi-Fix is not available in all regions, check with your local sales representative for more information.
[4]Irregular operations such as rapid rotation and high-intensity vibration may affect the inertial navigation accuracy.
[5]The battery operating time is related to the operating environment, operating temperature and battery life.
Descriptions and Specifications are subject to change without notice

CE MIL-STD 810G FC IP68

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Vision RTK

VENI, VIDI, VICI

vRTK

the New IMU GNSS RTK with
Visual Positioning Technology

vRTK

Hi-Target

vRTK

**Pocket-sized RTK comes with
brand new image positioning technology.**

Equipped with dual cameras, vRTK is Hi-Target's first lightweight and innovative visual RTK receiver product, which not only enables non-contact image surveying, breaking through the objective constraints of previous work, but also improves the speed of stakeout with the function for Live View Stakeout. It greatly improves the work efficiency for engineering users.

KEY FEATURES

Upgraded IMU: Tilt Survey with Auto Installation	AR Measurement	Live View Stakeout	Image Survey	Full-Constellation Tracking	Advanced RTK Engine

Image Positioning Technology

The new image survey function achieves non-contact measurement, which greatly enhances the available range of GNSS, realizing more efficient and safe operation. Based on Android's high-performance image processing technology, vRTK with camera for the rear view, can be used to obtain precise coordinates in real time, in the range of 2-15 meters, with an accuracy of 2-4 cm.

Brand-new Stakeout Experience

The camera beneath enables AR live-view stakeout with an accuracy of 2cm, saving time and effort in reaching the stakeout point.

Strong Signal and High-Quality Data

A new generation of GNSS engine supports the new frequency points B1C, B2a, and B2b RTK decoding of the Beidou-3 satellite. With the introduction of multi-frequency anti-jamming technology and multi-step adaptive filtering technology, it features strong signal, high-quality data, fast fixing, and high accuracy.

Abundant Industry Data Results

The different types of data results obtained from vRTK are compatible with third-party data processing software, meeting the needs of different industry applications. Moreover, vRTK is newly compatible with mainstream modeling software, making 3D modeling as simple as possible.

Groundbreaking GNSS System

Innovative integration of vision and surveying

The perfect partner for vRTK

Combined with the Hi-Survey software and the iHand55 large-screen handheld controller, vRTK achieves even better performance on measurement and field survey. The guaranteed compatibility allows users to apply the survey data from the vRTK to 3D modeling softwares or the Hi-Target Business Center for quick and easy data post processing.
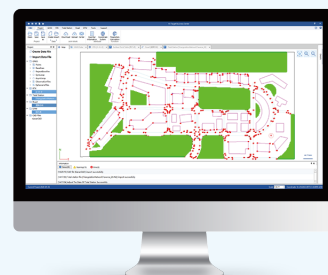
SPECIFICATIONS

Channel	Tilt Survey Accuracy
1408/1760	8mm+0.7mm/°tilt

Image Stakeout Accuracy	Image Survey Accuracy
2cm	2cm ~ 4cm

Size	Weight
Φ130mm×79mm	≤0.97kg

Satellite Tracking	Data Storage
BDS/ GPS/ GLONASS/ GALILEO/ QZSS/ IRNSS/ SBAS	Built-in 8GB ROM

Hi-Fix	PPP
H: RTK+10mm / minute RMS V: RTK+20mm / minute RMS	H: 10cm V: 20cm

*Accuracies are dependent on GNSS satellite availability. Hi-Fix Positioning ends after 5 minutes without differential data.Hi-Fix is not available in all regions, check with your local sales representative for more information.

60°

iHand55
Professional Field Controller

The iHand55 Handheld Controller is a professional field controller with a big vision. More features of the latest Hi-Survey Road Software contribute to achieving high intelligence. Keeping robust and reliable in fieldwork under any conditions, iHand55 is a perfect choice for your survey work.

Hardware Configuration	OS: Android 11 Processer: CPU: 8 core; 2.0 GHZ Storage: 4 GB RAM+64 GB ROM; T-Flash memory card, up to 128GB Display: 720*1440, 5.5'', 500 nit, bright Outdoor Color capacitive touch screen (with touch pen, can be operated with gloves) Input Configuration: Qwerty full keyboard, number / letter separate, professional custom smart input method
Communication	Cellular mobile: 4G, Dual SIM WiFi: IEEE 802.11 a/b/g/n/ac, Wapi, AP (2.4G / 5G) Bluetooth: BT5.1, BLE, NFC USB: USB Type-C interface, OTG, supports fast charging (5V,3A)
Physical	Weight: 406g(with battery) Size: 221 mm*78 mm*16.5 mm Operating temperature: -30℃~+60℃ Storage temperature: -40℃~+80℃ Free fall: 1.8 m Shock and vibration: MIL-STD-810H
GNSS Features	GNSS antenna, GPS, GLONASS, BDS, AGPS
Power Supply	Battery: 9200 mAh internal Duration: 15 hours

- Long-Distance Link
- AR Measurement
- Laser Rangefinder
- 5.5′ Screen
- 1.8m Drop-proof
- IP68 Waterproof and Dustproof
- Long Battery Life
- QWERTY Keyboard

Hi-Survey
Survey Data Collection Software

Hi-Survey is an Android software that is designed for all types of land survey and road engineering projects in the field. It is compatible with Hi-Target professional controllers, Android phones, tablets and other third-party Android devices. It is a sleek and easy-to-use software that supports the operating of big data with built-in tools. With customized industrial application solutions, more possibilities are created for users.

KEY FEATURES

High accuracy and good reliability with various algorithms even in tough environments.
Supporting tilt survey, quasi-dynamic technology, electronic bubble, detail survey, time mode static survey, etc..

Integrated professional measurement functions for engineering application.
Providing road functions, DTM surface operations, Cross-projects points selection, DXF and DWG format, Google map, OGC map service of WMS, WMTS, and third-party rangefinders, etc..

Strong interaction function to empower every surveyor.
AR stakeout, QR code scanning, COGO, FTP transmission, multi-format support, etc..

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