

PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously¹

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 PERFORMANCE²

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.....	8mm+1ppm RMS
Vertical.....	15mm+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)
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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-Fix³

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 Performance⁴

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°C~+75°C (-40°F~+167°F)
Storage temperature.....	-55°C~+85°C (-67°F~+185°F)
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 Battery⁵

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

(LTE, WCDMA, EDGE, GPRS, GSM)
WiFi.....Frequency 2.4GHz, Supports 802.11 b/g/n
Bluetooth.....BT 4.0/2.1+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



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Vision RTK

VENI, VIDI, VICI

