

PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously

Channels	336
GPS	L1C/A, L2E, L2C, L5
BeiDou	B1, B2, B3 ¹
GLONASS	L1C/A, L1P, L2C/A, L3 CDMA ²
Galileo	E1, E5A, E5B, E5A1(BOC), E6 ³
IRNSS	L5
SBAS	L1C/A, L5/QZSS, WAAS, MSAS, GAGAN ⁴
Global correction service	HI-RTP (optional)

POSITIONING PERFORMANCE

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	0.5m(H), 0.85m(V)

Real Time Kinematic (RTK)

Single Baseline

Horizontal	8mm + 1ppm RMS
Vertical	15mm + 1ppm RMS

Network RTK (VRS, FKP, MAC)

Horizontal	8mm + 0.5ppm RMS
Vertical	15mm + 0.5ppm RMS
Initialization time	Typically 2-10s
Initialization reliability	Typically > 99.99%

Hi-Fill⁵

Horizontal	RTK ⁶ + 10 mm/minute RMS
Vertical	RTK ⁶ + 20 mm/minute RMS

Tilt Survey Performance

2cm accuracy in the inclination of 30 degree

HARDWARE

Physical

Dimensions (W x H)	158mm x 98mm (6.22inch x 3.86inch)
Weight	lighter than 1.3kg (2.85lb) within internal battery
Operation temperature	-40°C ~ +75°C (-40°F ~ +167°F)
Storage temperature	-50°C ~ +85°C (-58°F ~ +185°F)
Temperature control	Auto-adjust the working power to maintain the temperature
Humidity	100%, condensing
Water/dustproof	IP67 dustproof, protected from temporary immersion to depth of 1m (3.28ft)

1. The hardware of this product is designed for BeiDou B3 compatibility (trial version) and its firmware will be enhanced to fully support such new signals as soon as the officially published signal interface control documentation (ICD) becomes available.

2. There is no public GLONASS L3 CDMA or Galileo E6 ICD. The current capability in the receivers is based on publicly available information.

3. Developed under a license of the European Union and the European Space Agency.

4. Input only network correction.

5. Accuracies are dependent on GNSS satellite availability. Hi-Fill positioning ends after 5 minutes of radio downtime. Hi-Fill is not available in all regions, check with your local sales representative for more information.

6. RTK refers to the last reported precision before the correction source was lost and Hi-Fill started.

Descriptions and Specifications are subject to change without notice

Shock and vibration	MIL-STD-810G, 514.6
Anti-salt spray	MIL-STD-810G, 509.4, 90h
Free fall	MIL-STD-810G, 516.6, designed to survive a 2m(6.56ft) natural fall onto concrete

Electrical

5V to 28V DC external power input(5-pin port), with over-discharge protection power consumption 4.4W Automatic switching between internal power and external power

Control Panel

Physical button	1
Display	240 x 240 pixel, 261ppi
Touchscreen	Support glove mode and wet-finger mode

Internal Battery

7.4V, 6800mAh lithium-ion rechargeable and removable battery.

RTK rover(UHF/Cellular) for 10 hours.

Power indicator embedded.

Quick charge within 3.5 hours.

I/O Interface

Bluetooth v4.0/2.1+ EDR, 2.4 GHz; USB 2.0 port with OTG function, 1 SMA antenna connector, 1 DC power input(5-pin), 1 SIM card slot
 Near Field Communication(NFC)

Communication

Network Communication

Full band support for cellular mobile network(LTE, WCDMA, EDGE, GPRS, GSM), 2.4GHz Wi-Fi, supports the standard protocol 802.11 b/g/n, Network RTK(in CORS) range is 20-50km.

Internal UHF Transceiver Radio

Frequency	403-473MHz
Transmitting power	1-4W Hi-Target Advanced Radio
Supports protocols	HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc
Working Range	Typically 3-5km, optimal 5-8km

External UHF Radio

Frequency	410-470MHz
Transmitting power	5W / 25W
Compatible with third party radio	
Working Range	Typically 8-10km, optimal 15-20km

SYSTEM CONFIGURATION

System

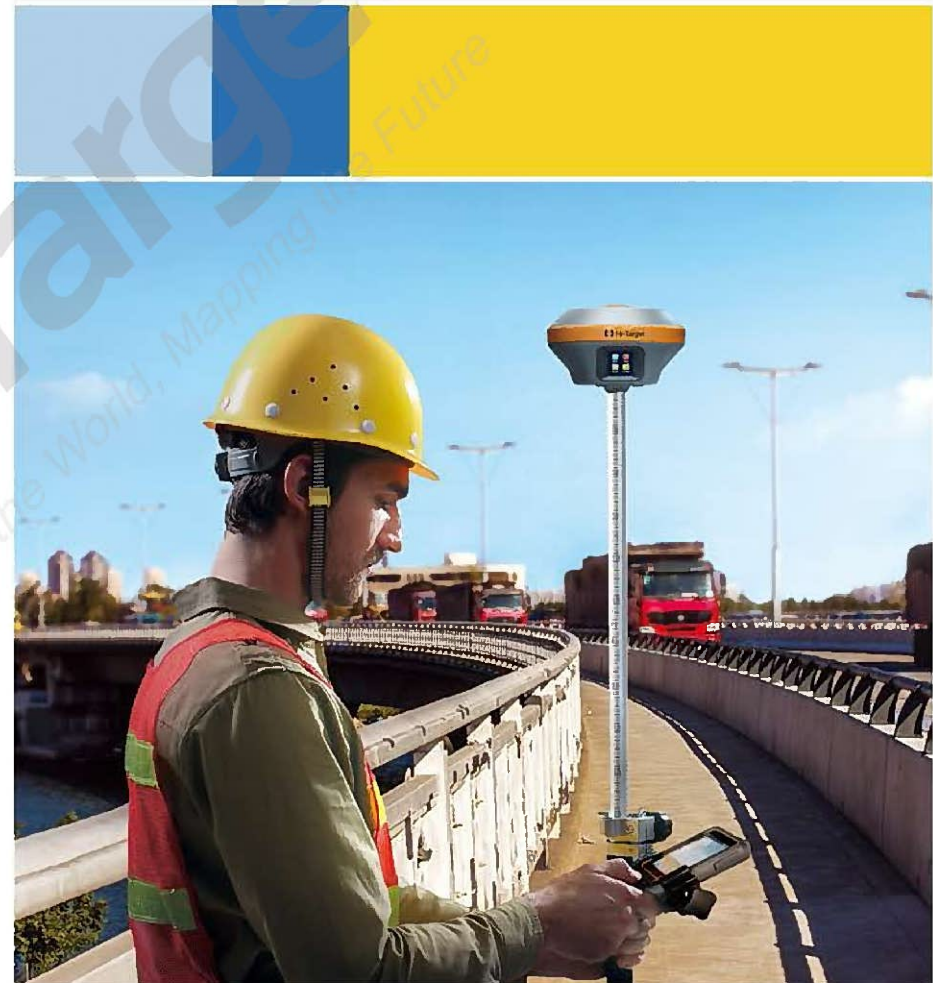
Data storage..... Circulating 16GB internal storage
 Record GNS and RINEX format simultaneously

Data Formats

1Hz positioning output, up to 50Hz. CMR, CMR+, RTCM2.X, RTCM3.0, RTCM3.1, RTCM3.2. Navigation outputs ASCII: NMEA-0183 GSV, AVR, RMC, HDT, VGK, VHD, ROT, GGG, GGA, GSA, ZDA, VTG, GST, PJK, BPQ, GLL, GRS, GBS. Binary: Trimble GSOE, NMEA2000

iRTK5 ^{New}

GNSS RTK SYSTEM



Website Facebook

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21/120T

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iRTK 5 GNSS RTK SYSTEM

Benefiting from the next-generation GNSS engine, unlimited communication technology and innovative designs, iRTK5, the high quality scalable GNSS receiver, provides an industry-leading GNSS RTK surveying solution.



Hi-RTP™ Global PPP Service

The correction source has been extended by Hi-RTP™ global correction service provided by Hi-Target. Enabling users to work without a base-station in rural or remote areas anywhere in the world.

- Provide centimeter-level global precision
- Harness all constellation signals from BDS, GLONASS, GPS, GALILEO
- More than 220 reference stations
- L band satellite radio/ internet broadcast



Hi-Fill Technology

Reduce downtime in the field with continuous RTK coverage during correction outages from an RTK base station or VRS network.



Unlimited Communication 360° Omni-directional Antenna and Multi-protocol Radio

The top-mounted radio antenna extends the radio working range and enables full omni-directional communication, making the transmitting and receiving distance more than 20% longer. Multi-protocol radio, support Hi-Target, TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc.

Revolutionary Tilt Survey with Built-in IMU

Customer benefit from calibration free for tilt survey without centering. Once you reach the surveying points, immediately start the operation. Compared with bubble leveling, boost working efficiency by 20%.



Error less than 2 cm within 30° inclination



Resistance to the interference of magnetic disturbances, ensure high accuracy.

Innovative Design



Reddot design award



Waterproof Touchscreen



Power Indicator



3rd Party Software



Web UI

Hi-Survey Software



Brand new UI, easier to understand and use



Professional programs in road application such as side slop settingout, DTM stakingout etc



Basemap from online maps, DXF and SHP data

P8 II Handheld Controller

- Android 6.0
- Type C USB port
- 8 cores, 2.0GHz, 3G RAM, 32G Internal storage and compatible with up to 128GB detachable TF card.
- WiFi & Cellular simultaneous working
- IP 67

