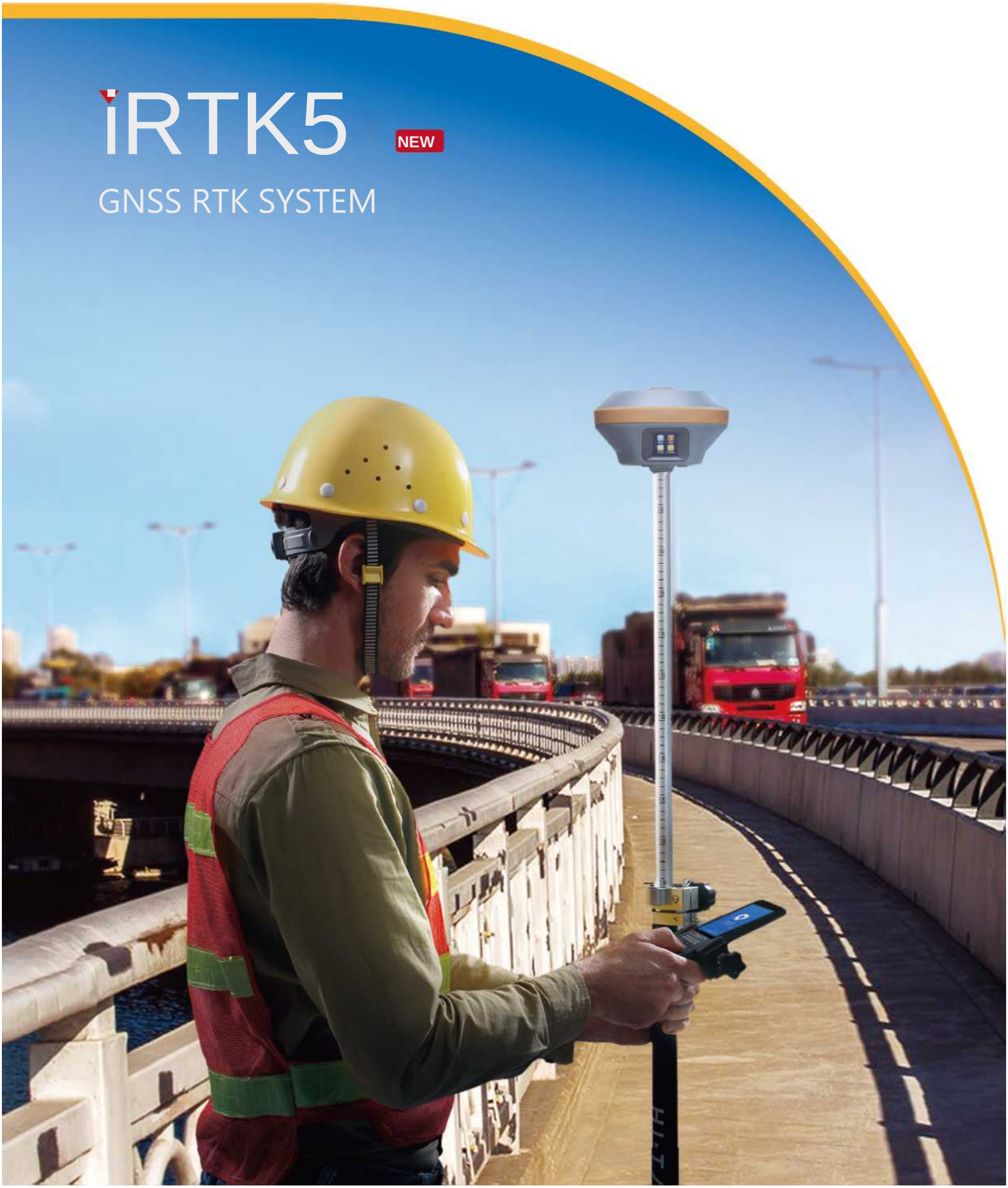
to Hi -Target

Surveying the World, Mapping the Future

iRTK5

NEW

GNSS RTK SYSTEM



iRTK5 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 industryleading GNSS RTK surveying solution.

Next-Generation GNSS Engine

With the full-wave GNSS antenna and the next-generation GNSS engine, it supports full constellation by 1408 tracking channels, enhanced initialization speed and anti-noise performance.

Hi-Fix Technology

It can 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 distance of data transmitting and receiving extend to 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%.

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

Error less than 2 cm within 30° inclination

PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously[1]

Channels 1408
GPS ..... L1C/A, L1C, L2P(Y), L2C, L5
BDS B1I, B2I, B3I, B1C, B2a, B2b
GLONASS L1, L2, L3
Galileo E1, E5a, E5b, E6
QZSS L1, L2, L5, L6*
NavIC L5
SBAS L1, L2, L5
PPP ..... B2b-PPP, Galileo E6-HAS

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 ..... 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 ..... ±0.25m+1ppm RMS
Vertical ..... ±0.5m+1ppm RMS
SBAS ..... 0.5m(H), 0.85m(V)
PPP ..... 10cm(H), 20cm(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
Positioning rate ..... 1 Hz, 5 Hz and 10 Hz
Initialization time ..... Typically 2-10s
Initialization reliability ..... Typically>99.99%

Hi-Fix[3]

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

Tilt Survey Performance[4]

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

HARDWARE

Physical

Dimensions (W x H) ..... 158mm x 98mm (6.22inch x 3.86inch)
Weight ..... lighter than 1.3kg (2.65lb) within internal battery
Operation temperature ..... -10°C~+55°C(-40°F~+167°F)
Storage temperature ..... -10°C~+55°C(-40°F~+167°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)
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

Electrical

6V 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 ..... 1.3" OLED Touch Screen
LED Lights ..... Satellite, Signal, Power

Battery[5]

7.2 V, 6900 mAh lithium-ion rechargeable and removable battery.
RTK rover(UHF/Cellular) for 24 hours.
Power indicator embedded.
Quick charge within 3.5 hours.

I/O Interface

Bluetooth 4.0/2.1+ EDR, 2.4 GHz. USB 3.0 port , OTG function. 1 SMA antenna connector.
1 DC power input(5-pin),1 SIM card slot.
Near Field Communication(NFC): receive only

Communication

Network Communication

Full band support for cellular mobile network (LTE, WCDMA).

P(e.i.r.p) max : 23 dBm at 2.4GHz Wi-Fi, supports the standard protocol 802.11 b/g/n..

Internal UHF Radio

Frequency ..... 410~470MHz
Transmitting power ..... 1.5~3.5W Hi-Target Advanced Radio
Supports protocols: HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc.

SYSTEM CONFIGURATION

System

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

Data Formats

Output rate 1Hz-20Hz
Static data format ..... GNS, Rinex Dual Format Static Data
Network model ..... VRS, FKP, MAC; supports NTRIP protocol
CMR & RTCM ..... RTCM2.X, RTCM3.X, CMR
Navigation outputs ASCI NMEA-0183

1.QZSS L6 can be provided by firmware upgrade.

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

AUTHORIZED DISTRIBUTION PARTNER

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Hi-Target Surveying Instrument Co., Ltd
ADD: Building 13, Tian'An Technology Zone HQ Center, No. 555, North of Panyu RD, Panyu District, 511400 Guangzhou, China.
www.hi-target.com.cn +86-20-28688296 sales@hi-target.com.cn