

KRYPTTON

GNSS RTK Receiver with Calibration-Free Tilt Compensation



Empowered by a high precision inertial measurement unit (IMU) on Ultimate version, Kryptton GNSS receiver from Z-Count Technologies is a new generation of tilt survey GNSS receiver. This kind of calibration-free tilt compensation is immune to magnetic disturbances. Kryptton GNSS Receiver gives a surveyor unprecedented flexibility and efficiency — holding the survey pole upright is no longer necessary. With an internal high-performance multi-constellation and multi-frequency GNSS board, the Kryptton GNSS Receiver can provide high accuracy and stable signal detection.

The built-in high-performance antenna can speed up the time to first fix (TTFF) and improve anti-jamming performance. With a Nano-SIM card inserted in Kryptton GNSS Receiver, it can access Internet, transmit and receive correction data through 4G/WiFi network. The built-in UHF radio module supports long distance communication. The built-in large capacity battery is detachable and can display power level. Two batteries support up to 16 hours of fieldwork in 4G/3G/2G network and Rover radio mode. Kryptton GNSS Receiver can be easily configured with 1.54 inch interactive screen on Ultimate and Advanced versions. The rugged housing protects the equipment from harsh environments.

Customers also have an easy backup from Caster Server, so that a GNSS BASE station can be quickly set up to broadcast correction stream via mobile networks instead of radio. Natively supported by FieldGenius and Nuwa App, Kryptton can be configured to different work modes to suit various daily jobs. Also pillared by the prompt technical supports from Z-Count's global partner network, Kryptton GNSS receiver is a surveyor's capable and reliable workmate.



Danger Zone









Hidden Point



Underground Utilities

Key Features

-  Supports multiple constellations & frequencies: GPS, GLONASS, BeiDou, Galileo, SBAS, QZSS
-  IP68-rated dust- & waterproof enclosure, for reliability in harsh environmental conditions
- 576 Supports 576 channels
-  16GB/8GB internal storage
-  Tilt compensation without calibration, immune to magnetic disturbances* (for Ultimate Model)
-  41-47MHz UHF radio, 4G network, Wi-Fi, Bluetooth, NFC
-  Smart battery displays power level, two batteries supports up to 16 hours working in 4G/3G/2G TCS network and Rover radio mode
- Free subscription of Caster Service (TCS): transmit the correction data from Kryptton GNSS Base to Rover via internal 4G network or controller network

Controllers & Survey Apps




TC30




T17M

Windows Platform






TC50




TC20



Smartphone

Android Platform



Nuwa APP

Specifications

Performance

Signal tracking:	
GPS L1C/A, L2C, L2P, L5; GLONASS L1C/A, L2C/A; BeiDou B1, B2, B3; Galileo E1, E5A, E5B; QZSS L1C/A, L1C, L2C, L5; SBAS (EGNOS, WAAS, MSAS, GAGAN) L1C/A	
Channels:	576
Single Point Positioning Accuracy (RMS):	
– Horizontal:	1.5m
– Vertical:	3.0m
DGPS Positioning Accuracy (RMS):	
– Horizontal:	0.25m
– Vertical:	0.5m
SBAS Differential Positioning Accuracy (RMS):	
– Horizontal:	0.6m
– Vertical:	1.2m
High-Precision Static (RMS):	
– Horizontal:	2.5mm+0.1ppm
– Vertical:	3.5mm+0.4ppm
Static & Fast Static (RMS):	
– Horizontal:	3mm+0.5ppm
– Vertical:	5mm+0.5ppm
Post Processed Kinematic (RMS):	
– Horizontal:	8mm+1ppm
– Vertical:	15mm+1ppm
Real Time Kinematic (RMS):	
– Horizontal:	8mm+1ppm
– Vertical:	15mm+1ppm
Network Real Time Kinematic (RMS):	
– Horizontal:	8mm+0.5ppm
– Vertical:	15mm+0.5ppm
Observation Accuracy (zenith direction):	
– C/A Code:	10cm
– P Code:	10cm
– Carrier Phase:	1mm
Time To First Fix (TTFF):	
– Cold Start:	<35s
– Warm Start:	<10s
Reacquisition:	<1s

Performance – continued

Tilt Compensation Accuracy (within 30°)	≤2cm ⁽¹⁾
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS):	0.03m/s
Initialization (typical):	<10s
Initialization Reliability:	>99.9%

System & Data

Operating system:	Linux
Storage:	built-in 16GB/8GB ⁽¹⁾
Data format:	CMR, RTCM 2.X/3.X
Data output:	RINEX, NMEA-0183, Binary
Data update rate:	20Hz

Physical

Display:	1.54" OLED ⁽¹⁾
Dimension:	157x157x103mm
Weight:	≈ 1.2kg (without battery) ≈ 1.4kg (with a battery)
Operating temperature:	-40°C ~ +75°C
Storage temperature:	-55°C ~ +85°C
Relative humidity:	100% not condensed
Dust- & Waterproof:	IP68
Pole drop onto concrete:	2m
Vibration:	Mil-STD-810G, FIG 514.6C-1

Electrical

Input voltage:	9~28V DC
Power consumption (typical):	
Network or Radio receive mode:	≈ 5W
Radio transmit mode (0.5W):	≈ 8W
Radio transmit mode (1W):	≈ 9W
Radio transmit mode (2W):	≈ 11W
Lithium battery:	7.4V 6400mAh x2 ⁽²⁾

Communication

Cellular:	4G LTE/TD-SCDMA/WCDMA/GPRS/GSM
Cellular bands (EU version):	LTE FDD B1/B2/B3/B4/B5/B8/B20 WCDMA B1/B2/B5/B8 GSM/GPRS 1900/1800/900/850MHz
Network protocols:	Ntrip Client, Ntrip Server, Caster Service (TCS)
Wi-Fi:	802.11b/g ⁽³⁾
Bluetooth:	4.1
Internal Radio	
RF transmit power:	0.5W/1W/2W
Frequency range:	410MHz ~ 470MHz
Operating mode:	Half-duplex
Channel spacing:	12.5KHz / 25KHz
Modulation type:	GMSK, 4FSK
Air baud rate:	4800 / 9600 / 19200bps
Distance (Typical):	>5km
Radio protocols:	TrimTalk450, TrimMark 3, South, Transparent, Satel
Wired communication	
USB OTG:	USB 2.0 x1
Serial ports:	RS232 x1
COM baud rate:	up to 921600bps

Software Support

Nuwa	
MicroSurvey FieldGenius*	
(Optional with Windows Controller)*	

Dives Configuration & Memory

Interchangeable Rover & Base*	
Internal Memory 8/16GB*	
External Memory upto 32GB*	




Note: (1) Details refer to performance comparison table.

(2) Kryptton uses one battery at a time, the other is a substitute. Each battery lasts up to 8 hours when Kryptton works in 4G/3G/2G network and Rover radio mode. Two batteries add up to 16 hours of continuous use.

(3) Hardware of Wi-Fi module is ready, the function will be supported by firmware update.

Version Comparison

The Kryptton GNSS Receiver has three versions: Ultimate, Advanced, and Basic. It provides selectivity for the requirement from different users.

Version	Display	LED Indicators	IMU (Tilt Compensation)	Memory
	1.54" OLED	Satellite, Tilt, Correction Data, Power	✓	16GB
	1.54" OLED	Satellite, Static, Correction Data, Power	—	16GB
	—	Satellite, Static, Correction Data, Power, Bluetooth, Solution Status	—	8GB

Common Specifications

Supports 576 channels

GPS L1C/A, L2C, L2P, L5; GLONASS L1C/A, L2C/A; BeiDou B1, B2, B3; Galileo E1, E5A, E5B; QZSS L1C/A, L1C, L2C, L5; SBAS (EGNOS, WAAS, MSAS, GAGAN) L1C/A

Integrated GNSS Antenna

FN, ON/OFF buttons

Bluetooth; NFC; UHF Radio; 4G

Electronic Bubble

USB OTG

2x 6400mAh Battery Capacity

Smart Battery with power display



To learn more, please visit:
For any inquiry:
Technical support:

www.zcount.co.in
info@zcount.co.in
support@zcount.co.in