# GEORA

Compact GNSS
RTK Receiver


**Best for beginners and professionals**

# MINI IMU GNSS RTK

The GEORA GNSS, an RTK receiver equipped with an IMU, is both portable and user-friendly, delivering top-tier positioning data to significantly enhance work productivity. This device, supporting a multiple constellations and frequency tracking, integrates calibration-free tilt compensation technology via its IMU. It is designed to be worn and used on-the-go, ensuring professional-grade results. The GEORA, armed with an ultra-precise GNSS module, achieves centimeter-level accuracy in positioning by utilizing CORS differential data.

# Handy & Lightweight

The GEORA GNSS RTK receiver features a shock-resistant and compact design, making it ideal for working in the most challenging conditions. The device provides dust and moisture protection that complies with the IP67 standard, ensuring reliability and durability in its operation. The GEORA GNSS is distinguished by its light weight of just 220 grams, making it exceptionally convenient to use. Made from robust materials, it can withstand a fall from up to 1.6 meters, confirming its high reliability and longevity. Additionally, the GEORA GNSS receiver can be used as a wearable device, thanks to the inclusion of a special clip for attachment in the set. This makes it a versatile instrument for fieldwork, providing mobility and ease of use in any work environment.

# Main advantages:

# Enhanced Performance with IMU

The GEORA GNSS receiver is equipped with a new generation IMU sensor, which features rapid initialization and increased resistance to electromagnetic interference. The new IMU sensor does not require calibration, making its use even more convenient and efficient. Thanks to the built-in IMU, the GEORA GNSS receiver allows for high-precision measurements without the need to level the receiver. The sensor operates at a frequency of up to 200 Hz, ensuring exceptional accuracy and response speed.


The GEORA GNSS features improved tilt compensation technology. With the IMU activated, the horizontal measurement accuracy is 1.5 cm at a tilt of up to 60 degrees, and at a tilt of up to 90 degrees, the horizontal accuracy reaches 2 cm. This allows users to perform precise measurements even in challenging conditions when the device is tilted or moving.

Using the GEORA GNSS receiver with integrated IMU provides a new experience in using GNSS RTK technologies, combining high accuracy, speed, and ease of use.

# AI-in-view RTK Positioning

The GEORA GNSS is a high-performance RTK receiver that supports all possible satellite constellations on all available GNSS frequencies. It provides full support for all major satellite systems, including GPS, GLONASS, GALILEO, BDS, QZSS, and SBAS, making it an ideal tool for various geodetic and GIS applications.

# Faster Initialization

With 1408 channels for signal reception, this receiver ensures the fastest possible initialization with visible satellites, significantly speeding up its readiness for operation and ensuring reliable performance in any conditions. The GEORA GNSS is equipped with an enhanced multi-frequency helix antenna, which provides faster and more reliable satellite signal reception. The antenna has a high degree of amplification, ensuring quicker satellite acquisition and enhancing the receiver's efficiency in complex satellite signal reception conditions.

Despite its compact design, the GEORA receiver offers geodetic accuracy, making it an ideal solution for professionals seeking reliable and precise geodetic equipment for a wide range of tasks.


# Rugged, Compact and Wearable Design


• The GEORA is specifically designed to function effectively in challenging environments.

• The GEORA features a robust design certified to comply with IP67 standards. It is shock-proof and resistant to drops from 1.6 meters onto concrete.

• The GEORA is incredibly flexible and can be carried in an armband bag, shirt pocket, or attached to a surveying pole.

# GEORA Technical Specification

| | | |
|---|---|---|
| **Signal Tracking** | Channels | 1408 |
| | GPS | L1C/A, L1C, L2P(Y), L2C, L5 |
| | GLONASS | L1 C/A, L1P, L2C/A, L2P |
| | GALILEO | E1, E5a, E5b |
| | BeiDou | B1I, B2I, B3I, B1C, B2a, B2b1 |
| | QZSS | L1, L2, L5 |
| | NavIC (IRNSS) | L5 |
| | SBAS | WAAS, EGNOS, MSAS, GAGAN,SDCM |
| **Performance Specifications** | Cold start | 25s |
| | Hot start | ≤3 seconds |
| | Signal reacquisition | <3 seconds |
| | Initialization reliability | >99.9% |
| | Speed accuracy | ≤0.03m/s |
| **Positioning Specifications** | Post Processing | 2.5 mm + 1 ppm Horizontal; 5 mm + 1 ppm Vertical |
| | Single Baseline RTK | 8 mm + 1 ppm Horizontal; 15 mm + 1 ppm Vertical |
| | DGPS | <0.4 m RMS Horizontal; <0.8 m RMS Vertical |
| | SBAS | 1 m 3D RMS |
| | Standalone | 1.5m 3D RMS |
| | **Tilt accuracy with RTK fixed solution:** | |
| | Tilt accuracy 0°~60° | 1.5 cm |
| | Tilt accuracy 60°~90° | 2.0 cm |
| **Communications** | Bluetooth | 4.2 LE |
| | USB Type-C | 2.0 |
| | ROM | 8 Gb |
| **User Interface** | Button | Power button x1 |
| | Indicator | Power indicator x1 |
| | | Bluetooth indicator x1 |
| | | Satellite indicator x1 |
| **Data Format** | Correction data | RTCM 2.X, 3.X, CMR (GPS only), CMR+(GPS only) |
| | Position Data Output | Position data output rate: 5 Hz |
| **Physical** | Size | 135 mm x 42mm x 64 mm |
| | Weight | ≤220 g |
| **Electrical** | Battery | Internal, Li-Pol, 3.7V / 5200 mAh |
| | Working time | ≥15 hours |
| | Input voltage | 5V DC / 2A |

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