



# MatrixRTK

## GNSS Receiver

### Overview

---

The MatrixRTK is a GNSS RTK receiver. It includes a high-performance, multi-constellation and multi-frequency GNSS board, which can provide high accuracy and stable signal detection.

Working with the choke ring antenna, the MatrixRTK can improve anti-jamming performance and output high-quality RTK corrections, which is an ideal solution for Continuously Operating Reference Station (CORS). The built-in, high-capacity battery can support up to 24 hours of field work. The rugged housing protects the equipment from harsh environments. The system can be operated remotely.

### Key Features

---

Supports multiple constellations & frequencies

- GPS: L1C/A, L1C, L2C, L2E, L5
- GLONASS: L1C/A, L1P, L2C/A, L2P, L3
- BeiDou: B1/B2/B3
- Galileo: E1 BOC, E5A, E5B, E5AltBOC, E6
- QZSS: L1, L2, L5
- IRNSS: L5
- SBAS: L1C/A, L5

---

Supports 64GB internal storage and up to 1TB via an external SD card

---

Rapid RTK integer ambiguity resolution

---

Supports stable, high-precision measurement output

---

Supports 3G, WiFi, and external radio.

---

Supports remote access and operation

---





# Technical Specifications

## Performance

Supports multiple constellations & frequencies

- GPS: L1C/A, L1C, L2C, L2E, L5
- GLONASS: L1C/A, L1P, L2C/A, L2P, L3
- BeiDou: B1/B2/B3
- Galileo: E1 BOC, E5A, E5B, E5AltBOC, E6
- QZSS: L1, L2, L5
- IRNSS: L5
- SBAS: L1C/A, L5

Channels: 336

Static GNSS Surveying:

- High-Precision Static:
  - Horizontal (RMS): 3mm+0.1ppm
  - Vertical (RMS): 3.5mm+0.4ppm
- Static and Fast Static:
  - Horizontal (RMS): 3mm+0.5ppm
  - Vertical (RMS): 5mm+0.5ppm

RTK Positioning Accuracy:

- Horizontal (RMS): 8mm+1ppm
- Vertical (RMS): 15mm+1ppm

PPK Surveying:

- Horizontal (RMS): 8mm+1ppm
- Vertical (RMS): 15mm+1ppm

Network RTK:

- Horizontal (RMS): 8mm+0.5ppm
- Vertical (RMS): 15mm+0.5ppm

Carrier Phase Measurements Precision: <1 mm

SBAS Positioning Accuracy: 0.5m

Initialization (typical): <10s

Initialization Reliability: >99.9%

RTK Format: CMR, CMR+, sCMRx, RTCM2.X/3.X

Operation System: Linux

Data Storage: 64GB internal storage

- Up to 1TB external SD card

## Communication

3G: TD-LTE, FDD-LTE, TD-SCDMA, WCDMA, GPRS, GSM

WiFi: 802.11b/g

USB Ports: USB 2.0 x1

Serial Ports: RS232 x3, RS485/RS422 x1

Ethernet: 10/100M BASE-T x1

External Radio Station (optional):

- Power: 5W/10W/20W/30W
- Frequency: 450MHz-470MHz
- Distance (typical): 15km

## Physical

Battery (Lithium): 12500mAh/7.4V x1

- Supports up to 24 hours working

Input Voltage: 7V~36V DC

- With over-discharge protection

Power Consumption (typical): <5W

Size: 147.6x64.3x246mm

Weight: 2.5kg (with battery)

Material: Magnesium alloy

Dust- & Waterproof: IP67

Shock: 1m drop onto concrete

Operating Temperature: -40°C ~ +75°C

Storage Temperature: -40°C ~ +80°C

Relative Humidity: 100% not condensed

Website | [www.tersus-gnss.com](http://www.tersus-gnss.com)

Sales Inquiry | [sales@tersus-gnss.com](mailto:sales@tersus-gnss.com)

Technical Support | [support@tersus-gnss.com](mailto:support@tersus-gnss.com)

