

# Tersus GNSS

## MatrixRTK GNSS Receiver

### Overview

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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 16 hours of field work. The rugged housing protects the equipment from challenging environments. The system can be operated remotely.

### Key Features

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- ✓ Supports multiple constellations and frequencies
  - GPS L1/L2/L5
  - GLONASS L1/L2
  - BeiDou B1/B2/B3
  - Galileo E1/E5a/E5b
  - QZSS L1/L2/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 pps
- ✓ Supports 4G, WiFi, and external radio
- ✓ Supports remote access and operation



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## Technical Specifications

### Performance

<b>Signal Tracking:</b>	
- GPS L1/L2/L5	
- BeiDou B1/B2/B3	
- GLONASS L1/L2	
- Galileo E1/E5a/E5b	
- QZSS L1/L2/L5	
Channels:	432
<b>Static GNSS Surveying:</b>	
High-Precision Static (RMS):	
- Horizontal:	3mm+0.1ppm
- Vertical:	3.5mm+0.4ppm
Static & Fast Static (RMS):	
- Horizontal:	3mm+0.5ppm
- Vertical:	5mm+0.5ppm
Real Time Kinematic Positioning Accuracy (RMS):	
- Horizontal:	8mm+1ppm
- Vertical:	15mm+1ppm
Post Processed Kinematic Surveying (RMS):	
- Horizontal:	8mm+1ppm
- Vertical:	15mm+1ppm
Network Real Time Kinematic (RMS):	
- Horizontal:	8mm+0.5ppm
- Vertical:	15mm+0.5ppm
Carrier Phase Measurements Precision:	< 1mm
Initialization (Typical):	< 10s
Initialization Reliability:	>99.9%
RTK Format:	CMR, RTCM 2.x, RTCM3.x
Operating System:	Linux
Data Storage:	64GB internal storage Up to 1TB external SD card

### Communication

4G:	TD-LTE/FDD-LTE/TD-SCDMA/WCDMA/GPRS/GSM
Wi-Fi:	802.11b/g
USB Ports:	USB 2.0 x1
Serial Ports:	RS232 x3, RS485/RS422 x1
Ethernet:	10/100M BASE-T x1
PPS:	Support
External Radio Station(Optional):	
- Power:	5W/10W/20W/30W
- Frequency:	450MHz-470MHz
- Distance:	15Km

### Physical

Battery (Lithium):	
- 12500mAh/7.4V x1	
- Supports up to 16 hours working	
Input Voltage:	
- 7V~28V 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

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