



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

In the Box

- 1x MatrixRTK GNSS receiver
- 1x 3D GNSS antenna
- 1x GNSS antenna cable
- 1x Power adpoter
- 1x AC power cable
- 1x Normal cable



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: 1×336

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%

Maximum update rate: 20Hz

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



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