



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
 - BeiDou: B1/B2
 - GALILEO: E1 BOC, E5A, E5B, E5AltBOC
 - SBAS: L1C/A, L5
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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

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

