

Oscar GNSS Receiver

Overview

The Oscar GNSS Receiver is a new generation GNSS RTK system. It supports calibration-free tilt compensation function, leveling pole is not required. Easy configuration with 1.3 inch big interactive screen. With an internal high-performance multi-constellation and multi-frequency GNSS board, the Oscar GNSS Receiver can provide high accuracy and stable signal detection. The high-performance antenna can speed up the time to first fix (TTFF) and improve anti-jamming performance. The built-in large capacity battery can support up to 10 hours of field work. The radio module in the package supports long distance communication. The rugged housing protects the equipment from harsh environments.

Key Features

Supports multiple constellations & frequencies:

- GPS L1/L2
- GLONASS L1/L2
- BeiDou B1/B2
- GALILEO E1,E5B
- SBAS L1C/A

410-470MHz UHF, 4G network
Wi-Fi, Bluetooth, NFC

More than 20 working modes like CORS, UHF, Ntrip server and etc.

Tilt compensation without calibration

16GB internal storage

Up to 10 hours working

IP67-rated dust- & waterproof enclosure, for reliability in harsh environmental conditions





Technical Specifications

Performance

Signal Tracking:	
GPS L1/L2, GLONASS L1/L2, BeiDou B1/B2	
GALILEO E1/E5B, SBAS L1C/A	
Channels:	576
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
Post Processed Kinematic (RMS):	
– Horizontal:	8mm+1ppm
– Vertical:	15mm+1ppm
Real Time Kinematic (RMS):	
– Horizontal:	8mm+1ppm
– Vertical:	15mm+1ppm
Network Real Time Kinematic (RMS):	
– Horizontal:	8mm+0.5ppm
– Vertical:	15mm+0.5ppm
Initialization (typical):	<10s
Initialization Reliability:	>99.9%
Tilt Measurement (within 30°)	≤3cm

System & Data

Operating System:	Linux
Storage:	16GB internal
RTK Format:	CMR, CMR+, RTCM 2.X/3.X

Communication

Cellular:	4G LTE/TD-SCDMA/WCDMA/GPRS/GSM
Wi-Fi:	802.11b/g
Bluetooth:	4.1
USB Ports:	USB 2.0 x1
Serial Ports:	RS232 x1
Internal Radio:	
- Power	2W
- Frequency	410MHz ~ 470MHz
Distance (Typical):	5km

Electrical

Input Voltage:	9~28V DC
Power Consumption (Typical):	4W
Lithium Battery:	6400mAh x2 ⁽¹⁾

Physical

Dimension:	157x157x88mm
Weight:	≈ 1.1kg (without battery) ≈ 1.3kg (with a battery)
Operating Temperature:	-40°C ~ +65°C
Storage Temperature:	-45°C ~ +75°C
Relative Humidity:	100% not condensed
Dust- & Waterproof:	IP67
Pole Drop onto Concrete:	2m

Note: (1) One battery is used in Oscar, the other is for backup.

