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 L1/C/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/ESB, 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

**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.