



FEATURES

- GPS/GLONASS or GPS/BDS RTK
- cm-level accuracy RTK receiver
- Support moving base RTK
- Base or rover mode configurable
- 12mm x 16mm small size
- Weighs 2 gram

The S1216F8-RTK is a cost-effective OEM GNSS receiver that delivers centimeter-level position accuracy for various high-precision aerial mapping and machine guidance control applications. When configured in moving-base mode, it provides high precision heading information.

The S1216F8-RTK can receive RTCM 3.x data from a base station, or another S1216F8-RTK receiver in base mode outputting SkyTraQ raw measurement, to perform carrier phase RTK processing, achieving centimeter-level accurate relative positioning. In challenging signal environments where cm-level RTK positioning is not possible, S1216F8-RTK delivers high accuracy Differential-GNSS and GNSS positioning.

The S1216F8-RTK has a size of 12mm x 16mm. This very small size makes it easy to integrate into applications requiring high precision RTK positioning.

TECHNICAL SPECIFICATIONS

Receiver Type

167 Channels L1 C/A Code
 Dedicated search and track engine
 GPS/GLONASS or GPS/BDS

Performance Spec

Hot Start 1 sec
 Warm Start 28 sec
 Cold Start 29 sec
 Reacquisition 1 sec
 Velocity Accuracy 0.05m/sec
 Timing Accuracy 10nsec
 Acceleration 2g

Sensitivity

Cold Start -148dBm
 Tracking -160dBm

Position Accuracy

Autonomous 2.5m CEP
 DGPS < 1m
 RTK centimeter-level

Communication

3.3V UART serial
 57600 baud, 8, N, 1

Supported Protocol

Rover Mode

NMEA-0183 V3.01 GPGGA, GPGLL,
 GPGSA, GPGSV,
 GLGSA, GLGSV,
 BDGSA, BDGSV
 GPVTG, GPRMC

RTCM-SC104 3.0, 3.1

Base Mode

SkyTraQ Raw Data

PHYSICAL CHARACTERISTICS

Size 12mm x 16mm
 Weight 2g

Electrical Characteristics

Voltage 3.3V +/- 5%
 Current 70mA

Environmental Characteristics

Working temperature -40°C ~ +85°C
 Storage temperature -55°C ~ +100°C
 Humidity 5% ~ 95%

Ordering Information

| Part Number | Description |
|----------------|---------------------------------|
| S1216F8-RTK-GL | GPS/GLONASS RTK Receiver Module |
| S1216F8-RTK-BD | GPS/BDS RTK receiver Module |

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