

SL900 GNSS Receiver

Data Specifications

GNSS

Signal Tracking

GPS: L1C/A, L1C, L1PY, L2C, L2P, L5
 GLONASS: L1CA, L2CA, L2P, L3 CDMA¹
 Beidou: B1I, B1C, B2a, B2I, B3¹
 Galileo: E1, E5a, E5b, E5 AltBoc, E6¹
 QZSS: L1C/A, L1C, L2C, L5, L6
 IRNSS: L5
 SBAS: Egnos, WAAS, GAGAN, MSAS,
 SDCM (L1, L5)

Additional Technologies

AIM+ unique anti-jamming and monitoring system against narrow and wideband interference
 IONO+ advanced scintillation mitigation
 APME+ a posteriori multipath estimator for code and phase multipath mitigation
 LOCK+ superior tracking robustness under heavy mechanical shocks or vibrations

No. of Channels

1760

MEASUREMENT PERFORMANCE

Real-time Kinematic

H: 6 mm + 0.5 ppm RMS / V: 10 mm + 1 ppm RMS

Network RTK

H: 8 mm + 0.5 ppm RMS / V: 15 mm + 0.5 ppm RMS

Post Processing Kinematic

H: 8 mm + 1 ppm RMS / V: 15 mm + 1 ppm RMS

High-precision Static

H: 2.5 mm + 0.1 ppm RMS / V: 3.5 mm + 0.4 ppm RMS

Static and Fast Static

H: 2.5 mm + 0.5 ppm RMS / V: 5 mm + 0.5 ppm RMS

DGPS Position Accuracy

H: 25 cm RMS / V: 50 cm RMS

SBAS Position Accuracy

H: 50 cm RMS / V: 85 cm RMS

Code Differential

DGPS/RTCM

Initializing Time

2 - 8 s

Initializing Reliability

99.9%

Time to first Fix

Cold start: < 45 s Hot start: < 30 s Signal re-acquisition: < 2 s

Tilt Survey Performance

Additional horizontal pole-tilt uncertainty typically less than 8mm + 0.7 mm/°tilt (2.5cm accuracy in the inclination of 60°)

Hi-Fix

H: RTK+10mm / minute RMS / V: RTK+20mm / minute RMS

INTERNAL RADIO

Frequency | Working Range

403MHz~473MHz | Typically 5km, optimally 8-10km

Transmitting Power

1- 4 W , Support HI-TARGET, TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc..

COMMUNICATIONS

Communication Ports

Internal 4 G Mobile Network
 TDD-LTE/FDD-LTE/WCDMA/HSDPA/HSPA/GPRS/GSM
 NTrip Enabled
 Bluetooth: V2.1 + EDR, NFC, Mini USB
 Wi-Fi: 2.4 G, 802.11 b/g/n

SYSTEM

Operation System

Linux

Start-up Time

3 s

Data Storage

Circulating 8 GB Internal Storage;
 Supports 32 G SD card

DATA MANAGEMENT

1 Hz Update (up to 20 Hz)
 CMR, CMR+, RTCM2.X, RTCM3.0, RTCM3.2
 GNS, Rinex

GENERAL

Environmental

IP67 environmental protection
 Waterproof to 1m (3.28ft) depth
 Temporary Submersion
 Shock resistant body to 2 m (6.5ft) pole drop
 Temperature -40°C to 65°C Operating
 -40°C to 85°C Storage

Physical Properties

Shock and vibration: MIL-STD-810 G, 514.6
 Size: 170 mm x 95 mm
 Weight: 1.2 kg including battery
 Battery: 5,000 mAh Lithium-Ion Battery
 Battery Life: 10 hours (RTK Rover)

Note

¹ Hardware ready

² Accuracies are dependent on GNSS satellite availability. Hi-Fix positioning ends after 5 minutes of radio downtime. Hi-Fix is not available in all regions, check with your local sales representative for more information.



SL900 GNSS Receiver



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The SL900 is a high-precision GNSS receiver that performs even under the most demanding conditions. With its features, the SL900 is capable of delivering highly accurate data in real-time to any devices via a Bluetooth connection. Compact and lightweight, this GNSS receiver is one of the most flexible solutions that promises positioning reliability.

Adaptability and Stability

Equipped with the latest tilt compensation algorithm and built-in high-performance 9-axis Inertial Measurement Unit (IMU), the measurement for hard-to-reach points is simple but precise with the high-performance tilt survey. Quality results are guaranteed even if you lose the signal while under extreme circumstances with great anti-interference ability.



Efficient and dependable

Powered by advanced GNSS engine, this receiver offers precise positioning and advanced interference mitigation which performs even in the most remote or challenging environments. Using its 1760 channel tracking capabilities, it can track all current and upcoming signals, offering sub-metre to centimetre precise positioning with different modes (RTK, PPK, Static).

Advanced Technologies Inside

SL900 enables accuracy and reliability in the toughest conditions, allowing you to complete projects with high quality and efficiency. It includes:

AIM+ : the most advanced on-board interference mitigation technology on the market (narrow and wide band, chirpjammers) .

LOCK+: for robust tracking during high vibrations and shocks.

APME+: multipath mitigation to disentangle direct signal and those reflected from nearby structures.

IONO+: provides advanced protection against ionospheric disturbances.

Applications

- Monitoring
- Mapping
- Land Survey
- Topography and As-built
- Landfill
- Hydrographic
- Agriculture
- Sensor
- UAV Base Station

TECHNICAL SUPPORT

Satlab offers online resources and a professional support network available worldwide.

