

SL900 GNSS Receiver

Data Specifications

GNSS

Signal Tracking	GPS (L1, L1C, L1C/A, L1P(Y), L2, L2C, L2P, L5) GLONASS (L1, L1 C/A, L1P, L2, L2C, L2C/A, L2P, L3 CDMA*) BeiDou (B1, B2, B1I, B2I, B3, B1C, B2a) Galileo (E1, E5A, E5B, E5 Alt-BOC, E6*) NavIC (IRNSS: L5*) QZSS (L1C/A, L1C, L1S, L2C, L5, L6*) SBAS (WAAS, EGNOS, MSAS, GAGAN) L-Band*
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No. of Channels	990+
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MEASUREMENT PERFORMANCE

Real-time Kinematic	H: 8mm + 1ppm RMS / V: 15mm + 1ppm RMS
Network RTK	H: 8mm + 0.5ppm RMS / V: 15mm + 0.5ppm RMS
Post Processing Kinematic	H: 8mm + 1ppm RMS / V: 15mm + 1ppm RMS
High-precision Static	H: 2.5mm + 0.1ppm RMS / V: 3.5mm + 0.4ppm RMS
Static and Fast Static	H: 2.5mm + 0.5ppm RMS / V: 5mm + 0.5ppm RMS
DGPS Position Accuracy	H: 25cm RMS / V: 50cm RMS
SBAS Position Accuracy	H: 50cm RMS / V: 85cm RMS
L-Band	H: 4cm / V: 10cm*
Code Differential	DGPS/RTCM
Initializing Time	2-10s
Initializing Reliability	99.9%
PPS(worldwide correction service)	Convergence to full accuracy typically 15-20 min.
IMU Tilt Survey Performance	Additional horizontal pole-tilt uncertainty typically less than 8mm +0.4 mm/°tilt (2.5cm accuracy in the inclination of 30° under ideal circumstances)

COMMUNICATIONS

Network Communication	Internal 4G Mobile Network TDD-LTE/FDD-LTE/WCDMA/GPRS/GSM GSM 900 MHz & 1800 MHz WCDMA 2100 MHz/900 MHz, LTE Band 1,3,7,8,20
Internal UHF Radio	Satel radio for Tx/Rx Transmitting Power: 0.5W, 1 W, 2 W(Optional) Frequency Range: 403Mhz-473Mhz Working Range: Typically 3~5km, optimal 5~8km

I/O Interface

	Bluetooth: V2.1 + EDR, NFC, E-Bubble, USB, TNC antenna port, SIM card slot, TF card slot, DC power input (5-pin), Wi-Fi: 2.4G, 802.11b/g/n
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SYSTEM

Operation System	Linux
Start-up Time	3s
Data Storage	Circulating 16GB Internal Storage; Supports 32G SD card

DATA MANAGEMENT

	Output rate 1Hz-20Hz CMR, CMR+, CMRx RTCM2.X, RTCM3.0, RTCM3.1, RTCM3.2, VRS, FKP and MAC option.
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GENERAL

Environmental	IP67 environmental protection Waterproof to 1m (3.28ft) depth, Temporary Submersion Shock resistant body to 2m (6.5ft) pole drop Humidity: 100% non-condensing 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: 170mm x 95mm Weight: 1.2kg including battery External power supply 12V: Nominal 11-24V DC, range supported. Exchangeable Li-Ion Battery: 5,000mAh Operation Time: 10 hours (RTK Rover) Controller: Satlab SHC30, Satlab SHC55, New Satlab SHC55, Satlab SLC and third party; Software: Satsurv latest or later.
Supported controllers & software	

Note: Descriptions and Specifications are subject to change without notice.
1. There is no public GLONASS L3 CDMA or Galileo E6 ICD. The current capability in the receivers is based on publicly available information.
2. L-Band, IRNSS L5, QZSS L6 can be provided by firmware upgrade.
3. The accuracy of L-band depends on the equipment observation environment and timing.



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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.



Tilt compensation solution

With surveyors in mind, Satlab designed a solution to increase efficiency in your workflow by cutting down time wasted from offsetting slanted measurements. With the tilt compensator, the SL900 can save up to 20 percent of time compared to conventional surveying practices. This solution allows you to focus on your surroundings conveniently while ensuring your safety and comfort.



Applications

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

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 990+ 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

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.

TECHNICAL SUPPORT

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

