

# SL900 GNSS Receiver

## Data Specifications

### GNSS

#### Signal Tracking<sup>1</sup>

GPS (L1C/A, L1C, L2P(Y), L2C, L5)  
 GLONASS (L1, L2, L3)  
 BeiDou (B1I, B2I, B3I, B1C, B2a, B2b)  
 Galileo (E1, E5A, E5B, E6)  
 NavIC (L5)  
 QZSS (L1, L2, L5, L6\*)  
 SBAS (L1, L2, L5)  
 PPP(B2b-PPP, Galileo E6-HAS)

#### No. of Channels

1408

### POSITION PERFORMANCE<sup>2</sup>

#### High-Precision Static Static and Fast Static Post Processing Kinematic (PPK / Stop & Go)

H: 2.5mm + 0.1 ppm RMS / V: 3.5mm + 0.4 ppm RMS  
 H: 2.5mm + 0.5 ppm RMS / V: 5mm + 0.5 ppm RMS  
 H: 8mm + 1 ppm RMS / V: 15mm + 1 ppm RMS  
 Initialization time: Typically 10 min for base and 5 min for rover  
 Initialization reliability: Typically >99.9%

#### PPP

#### Code Differential GNSS Positioning

H: 10cm / V: 20cm  
 H: ±0.25m+1ppm RMS / V: ±0.5m+1ppm RMS  
 SBAS: 0.5m (H), 0.85m (V)

#### Real Time Kinematic (RTK)

H: 8mm+1ppm RMS / V: 15mm+1ppm RMS  
 Initialization time: Typically <10s  
 Initialization reliability: Typically > 99.9%

#### Positioning rate

#### Time to first Fix

#### Hi-Fix<sup>3</sup>

#### Tilt Survey Performance<sup>4</sup>

1 Hz, 5 Hz and 10 Hz  
 Cold start: < 45s | Hot start: < 30s | Signal re-acquisition: < 2s  
 H: RTK+10mm / minute RMS | V: RTK+20mm / minute RMS  
 Additional horizontal pole-tilt uncertainty typically less than  
 8mm+0.7mm/°tilt(0° ~ 60°)

### COMMUNICATIONS

#### I/O Interface

Mini USB, TNC antenna port, DC power input(5-pin)

#### Network Communication

SIM card slot, TF card slot  
 Full band support for cellular mobile network  
 (LTE, WCDMA, GPRS, GSM)  
 GSM 900MHz&1800MHz, WCDMA 2100MHz/900MHz,  
 LTE Band 1,3,7,8,20

#### WiFi

#### Bluetooth

#### NFC

#### Internal UHF Radio

Frequency 2.4GHz, Supports 802.11 b/g/n  
 V2.1+EDR, 2.4GHz  
 Near Field Communication for device touch pairing  
 Power: 0.5W/1W/2W Adjustable  
 Frequency: 410MHz~470MHz | Channel: 116 (16 scalable)  
 Protocol: HI-TARGET, TRIMTALK450S, TRIMMARK III,  
 SATEL-3AS, TRANSEOT, etc.  
 Working Range: Typically 3~5km, optimal 8~15km

### PHYSICAL

#### Dimensions (W x H)

170mm x 95mm

#### Weight

1.2kg including battery

#### Operation temperature

-40 C to +65 C

#### Storage temperature

-40 C to +85 C

#### Humidity

100% non-condensing

#### Water/dustproof

IP67 dustproof, protected from temporary immersion to  
 depth of 1.0m (3.28ft)

#### Shock and vibration

MIL-STD-810G, 516.6

#### Free fall

Designed to survive a 2m(6.56ft) natural fall onto concrete

### ELECTRICAL

#### Battery<sup>5</sup>

Internal 7.4V / 5000mAh lithium-ion rechargeable  
 and removable battery

#### External power

RTK rover(UHF/Cellular): up to 18 hours  
 6V to 28V DC external power input(5-pin port)

### CONTROL PANEL

#### Physical button

1

#### LED Lights

Satellite, Signal, Power

### SYSTEM CONFIGURATION

#### Storage

8GB ROM internal storage

#### Output format

ASCII: NMEA-0183

#### Output rate

1Hz~20Hz

#### Static data format

GNS, Rinex

#### Real Time Kinematic (RTK)

RTCM2.X, RTCM3.X, CMR

#### Network Mode

VRS, FKP, MAC, Support NTRIP protocol



# SL900 GNSS Receiver



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#### Note

- 1.QZSS L6 can be provided by firmware upgrade.
- 2.The measurement accuracy, precision, reliability and initialization time depend on various factors, including tilt angle, number of satellites, geometric distribution, observation time, atmospheric conditions and multi-path validation, etc. The data are derived under normal conditions.
- 3.Accuracies are dependent on GNSS satellite availability. Hi-Fix Positioning ends after 5 minutes without differential data. Hi-Fix is not available in all regions, check with your local sales representative for more information.
- 4.Irregular operations such as rapid rotation and high-intensity vibration may affect the inertial navigation accuracy.
- 5.The battery operating time is related to the operating environment, operating temperature and battery life. Descriptions and Specifications are subject to change without notice.

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 1408 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.

