FREYJA GNSS Receiver

Data Specifications

GNSS

GPS (L1C/A, L1C, L2P(Y), L2C, L5) Signal Tracking[®] BDS (B1I, B2I, B3I, B1C, B2a, B2b)

> GLONASS (L1, L2, L3) Galileo (E1, E5a, E5b, E6) QZSS (L1, L2, L5, L6*)

NavIC(L5) SBAS(L1, L2, L5)

PPP(B2b-PPP, Galileo E6-HAS)

No. of Channels

POSITIONING PERFORMANCE²

High-precision static GNSS Surveying H:2.5mm + 0.1 ppm RMS / V:3.5mm + 0.4 ppm RMS Static and Fast Static H:2.5mm + 0.5 ppm RMS / V:5mm + 0.5 ppm RMS **Post Processing Kinematic** H:8mm + 1 ppm RMS / V:15mm + 1 ppm RMS

(PPK / Stop & Go) Initialization time: Typically 10 min for base and 5 min for rover

Initialization reliability: Typically>99.9%

PPP H:10cm / V:20cm

H:±0.25m+1ppmRMS / V:±0.5m+1ppmRMS Code Differential GNSS Positioning

SBAS:0.5m(H), 0.85m(V)

Real Time Kinematic (RTK) H:8mm+1ppm RMS / V:15mm+1 ppm RMS

> Initialization time: Typically <10 s Initialization reliability: Typically > 99.9%

Positioning rate 1Hz, 5Hz and 10Hz

Time to first Fix Cold start: < 45s | Hot start: < 30s | Signal re-acquisition: < 2 s Hi-Fix³ H:RTK+10mm / minute RMS / V:RTK+20mm / minute RMS Tilt Survey Performance Additional horizontal pole-tilt uncertainty typically less than

8mm +0.7 mm / °tilt (0° ~ 60°)

COMMUNICATION

 $1 \times USB$ type C port; $1 \times SMA$ antenna port I/O Interface Frequency 2.4GHz, Supports 802.11 b/g/n WiFi 4.2 / 2.1+EDR, 2.4GHz

Bluetooth

Near Field Communication for device touch pairing NFC Frequency: 410-470MHz | Channel: 116 (16 scalable) Internal UHF Radio Transmitting power: 0.5W / 1W / 2W adjustable Working Range: Typically 3~5km, optimal 8~15km

Supports multi-communication protocols: HI-TARGET, TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc.

ELECTRICAL

Internal 7.2V / 6900mAh lithium-ion rechargeable battery Internal battery[©]

RTK Rover (UHF/Cellular): up to 24 hours*

External power Charging:using standard smartphone chargers or external power banks.(Support 5V 2.8A Type-C USB external charging)

PHYSICAL

≤ 0.8kg(includes battery) Weight 132mm×67mm Dimensions (W x H) -30°C to +70°C Operation temperature -40°C to +80°C Storage temperature 100% non-condensing Humidity

Water/dustproof IP68 dustproof, protected from temporary immersion to

depth of 1.0m (3.28ft)

ASCII: NMEA-0183

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

CONTROL PANEL

Output format

Satellite, Signal, Power LED Lamp Physical button

SYSTEM CONFIGURATION

Storage 16GB ROM internal storage Output rate 1Hz-20Hz

Static data format GNS, Rinex

Network Mode VRS, FKP, MAC; supports NTRIP protocol

Real Time Kinematic (RTK) CMR, RTCM 2.x, RTCM 3.x

*Description and Specifications are subject to change without notice.

1.025S LG 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.

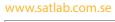




Stora Åvägen 21, 436 34 ASKIM, Sweden **Regional Offices:**

Warsaw, Poland Jičín, Czech Republic Ankara, Turkey Scottsdale, USA

Singapore Hong Kong, China Dubai, UAE



SatLab Freyja GNSS RTK is a progressive receiver that creates a new RTK experience for land surveyors. With its comprehensive features, it can perfectly handle the situations encountered in all kinds of surveying work, minimizing the burden from the physicality and extending the functionality of fieldwork. By increasing productivity by 25%, Freyja offers an accurate and efficient solution.

Key Features

















Compatibility with third-party software





Applications

Mapping

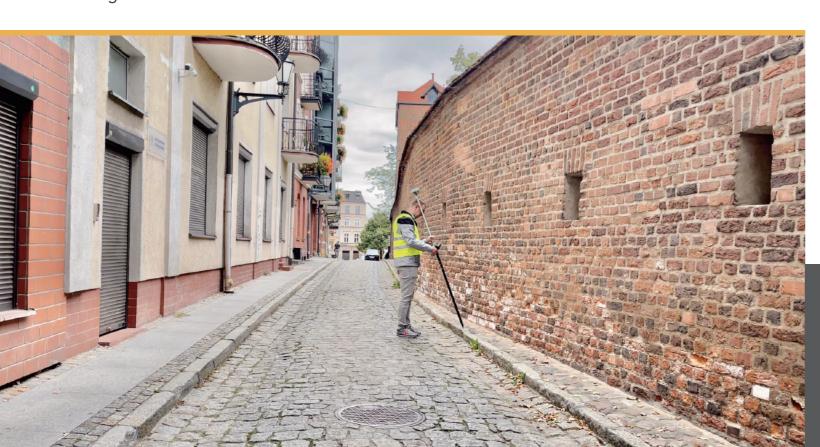
Sensor

Agriculture

Land Survey

Monitoring

- Landfill
- Topography and As-built
- Hydrographic
- UAV Base Station





Handiness and Convenience

Refinement of design makes it rugged and compact with only 770g. A more durable battery ensures operating time reaches more than 24 hours. Durability and portability are optimized for surveyors who carry them around a lot in the fieldwork.

Accuracy and Precision

Matured RTK technology promises positioning reliability. New GNSS Antenna, full-constellation and all satellite signal tracking technology lay the solid foundation-precision of fieldwork.

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.











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