FREYJA GNSS Receiver

Data Specifications

GNSS	
Signal Tracking①	GPS (L1 / L2 / L5 / L2C) BDS (B1 / B2 / B3 / B1C / B2a) GLONASS (L1 / L2 / L3) Galileo (E1 / E5 AltBOC / E5a / E5b / E6) SBAS(L1 / L5) QZSS (L1 / L2 / L5 / L6) IRNSS (L5)
No. of Channels	800+
POSITIONING PERFORMANCE	
High-precision static GNSS Surveying	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
Post Processing Kinematic (PPK / Stop & Go)	H:8mm + 1 ppm RMS / V:15 mm + 1 ppm RMS Initialization time: Typically 10 min for base and 5 min for rover Initialization reliability: Typically>99.9%
Code Differential GNSS Positioning	H:±0.25 m+1 ppm RMS V:±0.5 m+1 ppm RMS I SBAS: 0.5 m (H), 0.85 m (V)
Real Time Kinematic (RTK)	H:8 mm+1ppm RMS / V:15 mm+1 ppm RMS Initialization time: Typically <10 s Initialization reliability: Typically > 99.9%
Time to first Fix	Cold start:< 45 s I Hot start:< 30 s I Signal re-acquisition:< 2 s
Tilt Survey Performance	Additional horizontal pole-tilt uncertainty typically less than 8 mm +0.7 mm / °tilt (2.5 cm accuracy in the inclination of 30°)
COMMUNICATION	
Communication	Bluetooth: 4.2 / 2.1+EDR, 2.4 GHz Wi-Fi: frequency 2.4 GHz, Supports 802.11a / b / g / n
Internal UHF Radio	Frequency: 410-470 MHz I Channel: 116 (16 scalable) Transmitting power: 0.5 W / 1 W / 2 W adjustable Supports multi-communication protocols: HI-TARGET, TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc.
PHYSICAL	
Internal battery	Internal 7.4 V / 6800 mAh lithium-ion rechargeable battery. RTK Rover (Network) for 12 hours. I Static: up to 15 hours
External power	Power consumption:4.2W I Dimensions (W×H):132mm×67mm Charging:using standard smartphone chargers or external power banks. Weight:≤0.8 kg (includes battery) Data storage:8GB ROM internal storage
Control Panel	
LED Lamp	Satellite, Signal, Power
Physical button	1
Environment	
Water / Dustproof	IP67
Shock and vibration	Designed to survive a 2 m natural fall onto concrete
Humidity	100%, condensing
Operation temperature	-30℃~+70℃
Storage temperature	-40℃~+80℃
I / O Interface	
1 × USB port, Type C	
1 × SMA antenna connector	
Data Formats	
Output rate	1Hz-20Hz.
Static data format	GNS, Rinex
Network model	VRS, FKP, MAC; supports NTRIP protocol
CMR& RTCM	CMR, RTCM 2.x, RTCM 3.0, RTCM 3.2
Navigation outputs ASCII	NMEA-0183

*Description and Specifications are subject to change without notice.
1.Compliant, but subject to availability of IRNSS and Galileo commercial service definition. Galileo E6 and IRNSS L5 will be provided through future product upgrade.

Headquarters:
Järnbrotts Prästväg, 2
421 47 Vastra Frolunda
Goteborg, Sweden

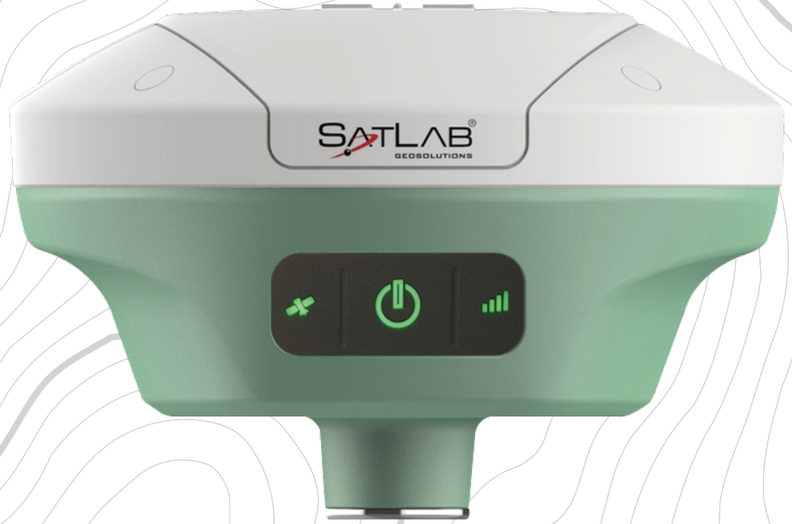
Regional Offices:
Warsaw, Poland
Jičín, Czech Republic
Ankara, Turkey
Scottsdale, USA
Singapore
Hong Kong, China
Dubai, UAE

www.satlab.com.se

SATLAB GEOSOLUTIONS

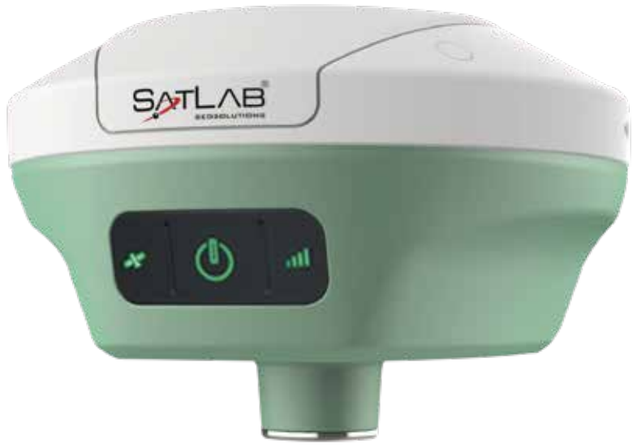
FREYJA

GNSS Receiver



Made by Sweden

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.

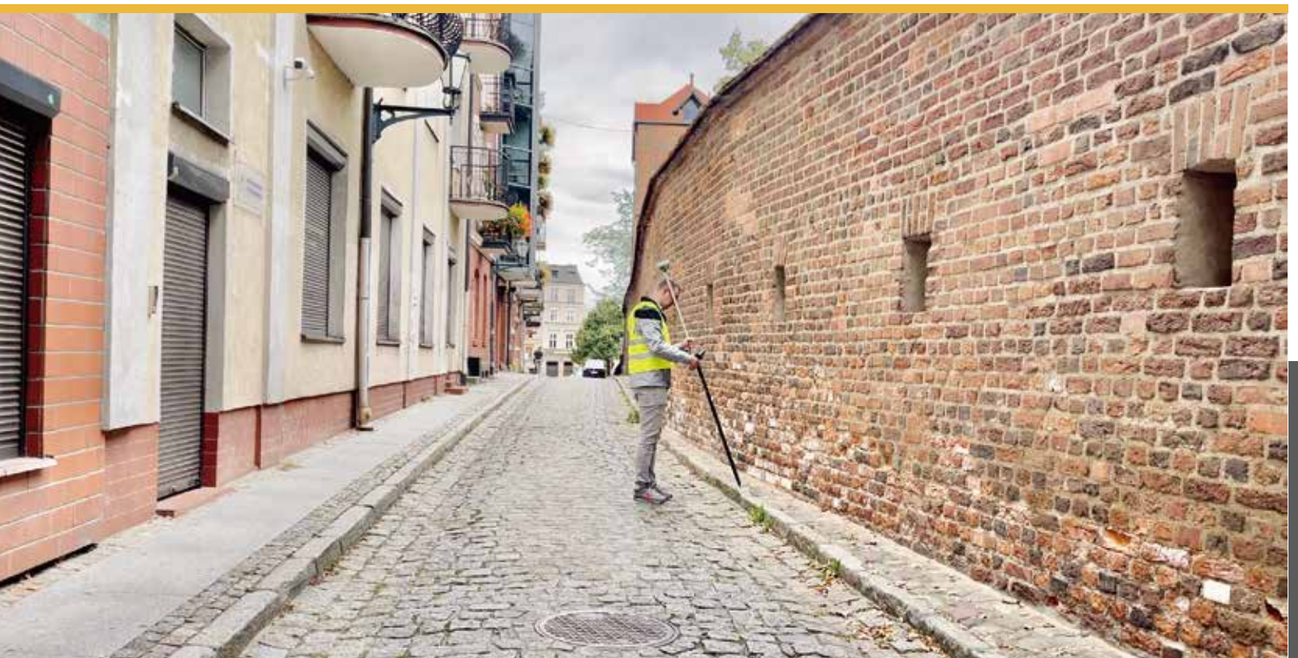


Key Features

- Advanced RTK Engine
- Multi-Constellation Tracking
- Built-in Radio
- Web UI
- Tilt Compensator
- NFC Module
- Long Battery Life (> 12 hours)
- Compatibility with third-party software

Applications

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



Handiness and Convenience

Refinement of design makes it rugged and compact with only 800g. A more durable battery ensures operating time reaches more than 12 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.

- WebUI
- Tilt Survey
- Electronic bubble
- High-performance Built-in Radio
- Professional Support Network

TECHNICAL SUPPORT

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