

FREYJA GNSS Receiver

Data Specifications

GNSS

Signal Tracking¹

GPS (L1C(A) / L1C / L2P(Y) / L2C / L5)
 BDS (B1I / B2I / B3I / B1C / B2a / B2b)
 GLONASS (L1 / L2 / L3*)
 GALILEO (E1 / E5A / E5B / E6)
 QZSS (L1 / L2 / L5 / L6*)
 IRNSS (L5)
 SBAS (L1 / L2 / L5)

No. of Channels 1408

POSITIONING PERFORMANCE

High-precision static GNSS Surveying Static and Fast Static

H:2.5 mm + 0.1 ppm RMS / V:3.5 mm + 0.4 ppm RMS
 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:±0.25m+1ppmRMS / V:±0.5m+1ppmRMS
 SBAS:0.5m(H), 0.85m(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 | Hot start:< 30 s | 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 60°)

COMMUNICATION

Communication

Internal 7.2 V / 6900 mAh lithium-ion rechargeable battery.
 Bluetooth: BT 5.2, 2.4GHz
 Wi-Fi: frequency 2.4 GHz, Supports 802.11a / b / g / n
 Frequency: 410-470 MHz | 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.

Internal UHF Radio

PHYSICAL

Internal battery²

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

External power

Charging:using standard smartphone chargers or external
 power banks.

Weight:770g (includes battery)

Dimensions (W×H):132mm×67mm

Data storage:8GB ROM internal storage

Control Panel

LED Lamp

Satellite, Signal, Power

Physical button

1

Environment

Water / Dustproof

IP68

Shock and vibration

Designed to survive a 2 m natural fall onto concrete

Humidity

100%, condensing

Operation temperature

-45 C ~+75 C

Storage temperature

-55 C ~+85 C

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.x

Navigation outputs ASCII

NMEA-0183



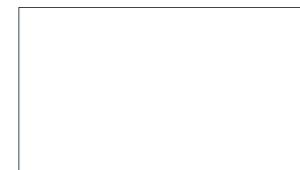
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*Description and Specifications are subject to change without notice.

1.Compliant, but subject to availability of IRNSS and Galileo commercial service definition. QZSS L6 and GLONASS L3 will be provided through future product upgrade.

2.The battery operating time is related to the operating environment, operating temperature and battery life

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



Applications

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



Handiness and Convenience

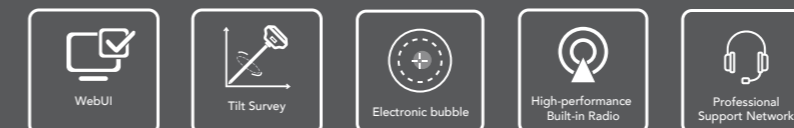
Refinement of design makes it rugged and compact with only 770g. A more durable battery ensures operating time reaches more than 24 hours. Durability and portability are optimized for surveyors who carry them around a lot in the fieldwork.

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.