

Description

The XT-200 GNSS Receiver is a GNSS RTK system designed for portability, ease of use, and high performance. Compact and lightweight, it features a calibration-free tilt compensation function that remains unaffected by magnetic interference, eliminating the need for a leveling pole. Equipped with a high-performance multi-constellation and multi-frequency GNSS board, the XT-200 ensures exceptional accuracy and stable signal reception. Its advanced antenna enhances time-to-first-fix (TTFF) and improves resistance to interference.

The built-in 10000mAh high-capacity battery provides up to 19 hours of continuous operation in 4G/3G/2G network and Rover radio mode.

The integrated UHF radio module enables long-range communication, while the rugged housing ensures durability in demanding environments.



Key Features

Multi-Constellation C Multi-Frequency Support:

GPS: L1C/A, L1C, L2C, L2P, L5C
GLONASS: L1OF, L2OF, L3OC
BeiDou: B1I, B2I, B3I, B1C, B2a, B2b
Galileo: E1, E5a, E5b, E5AltBoc, E6
QZSS: L1C/A, L1C, L2C, L5C
SBAS: WAAS, EGNOS, GAGAN, SDCM, MSAS
IRNSS: L5
L-band

High-Performance Capabilities:

1. Supports 1792 channels for enhanced positioning accuracy
2. Integrated UHF radio (410-470MHz), 4G network, Wi-Fi, Bluetooth, and NFC
3. Calibration-free tilt compensation, resistant to magnetic interference
4. Compact and ergonomic design for effortless portability and operation
5. 16GB internal storage (expandable up to 32GB) for data logging
6. Up to 19 hours of continuous operation in 4G/3G/2G network and Rover radio mode
7. IP68-rated dustproof and waterproof enclosure, ensuring durability in extreme environments



Technical Specifications

Performance

Signal Tracking:

GPS L1 C/A, L1C, L2C, L2P, L5C, BDS B1I, B2I, B3I, B1C, B2a, B2b, GLONASS L1OF, L2OF, L3OC, Galileo E1, E5a, E5b, E5AltBOC, E6, QZSS L1 C/A, L1C, L2C, L5C, SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS, IRNSS L5, L-Band

Channels: 1792

Single Point Positioning Accuracy (RMS):

- Horizontal: 1.5m
- Vertical: 2.5m

DGPS Positioning Accuracy (RMS):

- Horizontal: 0.25m
- Vertical: 0.4m

High-Precision Static (RMS):

- Horizontal: 2.5mm+0.1ppm
- Vertical: 3.5mm+0.4ppm

Static C Fast Static (RMS):

- Horizontal: 2.5mm+0.5ppm
- Vertical: 5mm+0.5ppm

Post Processed Kinematic (RMS):

- Horizontal: 2.5mm+1ppm
- Vertical: 5mm+1ppm

Real Time Kinematic (RMS):

- Horizontal: 8mm+1ppm
- Vertical: 15mm+1ppm

Initialization: 4s

Initialization Reliability: >99.9%

Network Real-Time Kinematic (RMS):

- Horizontal: 8mm+0.5ppm
- Vertical: 15mm+0.5ppm

Observation Accuracy:

- C/A Code: 10cm
- P Code: 10cm
- Carrier Phase: 1mm

Tilt Compensation Accuracy: $\leq 2\text{cm}$ (within 60°)

Time To First Fix (TTFF):

- Cold Start: <30s
- Warm Start: <5s
- Re-acquisition: <1s

Timing Accuracy (RMS): 20ns

Velocity Accuracy (RMS): 0.03m/s

System s Data

Operating System: Linux

Storage: Built-in 16GB (expandable up to 32GB)

Differential Data Format: CMR, RTCM 2.x/3.x

Data Output: RINEX, NMEA-0183

Data Update Rate: 20Hz

Software Support

XT Survey

Communication

Cellular: 4G LTE/WCDMA/GSM/EDGE Cellular

Bands :

- LTE FDD B1, B3, B7, B8, B20, B28
- LTE TDD B38, B40
- WCDMA B1, B8
- GSM/EDGE B3, B8

Network Protocols: Ntrip Client, Ntrip Server, TCP

Wi-Fi: 802.11b/g/n

Bluetooth: 4.1

RF Transmit Power: 0.5W/1.0W

Frequency Range: 410MHz ~ 470MHz

Operating Mode: Half-duplex

Channel Spacing: 12.5KHz / 25KHz

Modulation Type: GMSK, 4FSK

Air Baud Rate: 4800 / 9600 / 19200bps

Radio Protocols:

TrimTalk450, TrimMark 3, South, Transparent, Satel

Wired Communication

USB: Type-C, OTG



XT-200

Compact GNSS Survey Grade Receiver

Xtragen Technologies Private Limited

Enabling connectivity between Technology & People

User Interface

Power Button
LED Indicators: Satellite, Correction Data, Static, Solution, Bluetooth
Voice Support
Power Display Support

Electrical

External Power Supply Support USB (5-20V)
Fast Charging Support, 15W max (5V 3A)
Lithium Battery Built-in, 10000mAh/7.4V
Charging Time 3 hours (20%-90%)
Battery Charging Temperature: +10°C ~ +45°C
Working Time up to 19 hours
Smart Battery with Power Display Support
Electronic Bubble Support

Physical

Dimension: 133x68mm
Weight: 827g
Integrated GNSS Antenna
Operating Temperature: -40°C ~ +70°C
Storage Temperature: -55°C ~ +85°C
Relative Humidity: 100% not condensed
Dust C Waterproof: IP68
Pole Drop onto Concrete: 2m
Vibration: MIL-STD-810G, FIG 514.6C-1

Note:

- The initialization time depends on various factors, including the number of satellites, observation time, atmospheric conditions, multi-path, obstructions, satellite geometry, etc.
- The initialization reliability may be affected by atmospheric conditions, signal multipath, and satellite geometry.
- The working time of the battery is related to the working environment, working temperature, and battery life.
- The actual size/weight may vary depending on the manufacturing process and measurement method.



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