

V500

GNSS Receiver



TECHNICAL SPECIFICATIONS

| GNSS Feature | Specification | |
|--|---|---|
| GNSS Signal^[1] | Channels | 1408 |
| | 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* |
| | NavIC | L5 |
| | SBAS | L1, L2, L5 |
| Positioning Performance^[2] | High-Precision Static | H: 2.5 mm + 0.1 ppm RMS V: 3.5 mm + 0.4 ppm RMS |
| | Static and Fast Static | H: 2.5 mm + 0.5ppm RMS V: 5 mm + 0.5ppm RMS |
| | Post Processing Kinematic (PPK / Stop & Go) | H: 8mm + 1ppm RMS V: 15mm + 1ppm RMS Initialization time: Typically 10 min for base and 5 min for rover Initialization reliability: Typically >99.9% |
| | PPP | H: 10cm V: 20cm |
| | Positioning rate | 1 Hz, 5 Hz and 10 Hz |
| | Code Differential GNSS Positioning | H: ±0.25m+1ppm RMS V: ±0.5m+1ppm RMS SBAS: 0.5m (H), 0.85m (V) |
| | Real Time Kinematic (RTK) | Horizontal: 8mm+1ppm RMS Vertical: 15mm+1ppm RMS Initialization time: Typically <10s Initialization reliability: Typically > 99.9% |
| | Time to first Fix | Cold start: < 45s Hot start: < 30s Signal re-acquisition: < 2s |
| | Hi-Fix ^[3] | H: RTK+10mm / minute RMS V: RTK+20mm / minute RMS |
| | Tilt Survey Performance ^[4] | Additional horizontal pole-tilt uncertainty typically less than 8mm+0.7mm/*tilt (0° ~ 60°) |
| Physical | AR stakeout accuracy | 1cm |
| | Dimensions (W x H) | 130mm × 68mm |
| | Weight | ≤ 0.75kg (1.65lb) |
| | Operation temperature | -10°C~+55°C |
| | Storage temperature | -10°C~+55°C |
| | Humidity | 100% non-condensing |
| | Water/dustproof | IP68 dustproof, protected from temporary immersion to depth of 1.0m (3.28ft) |
| Electrical | Shock and vibration | MIL-STD-810G, 514.6 |
| | Free fall | Designed to survive a 2m(6.56ft) natural fall onto concrete |
| | Internal Battery ^[5] | Internal 7.4V / 6800mAh lithium-ion rechargeable battery RTK rover (UHF): up to 24 hours |
| Communication | External power | Using standard smartphone chargers or external power banks (Support 5V 2.8A Type-C USB external charging) |
| | I/O Interface | 1 × USB type C port; 1 × SMA antenna port |
| | WiFi | Frequency 2.4GHz, Supports 802.11 b/g/n, P(e.i.r.p) max: 20 dBm |
| | Bluetooth | BT 5.2, 2.4GHz Power: 0.5W/1W/2W Adjustable Frequency: 410MHz~470MHz Protocol: HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc. Working Range: Typically 3~5km, optimal 8~15km Channel: 116 (16 scalable) |
| Camera | Internal UHF Radio | |
| Camera | Function | Professional starlight night vision HD camera, large viewing angle, support live view stakeout |
| Control Panel | Physical button | 1 |
| System Configuration | LED Lights | Satellite, Signal, Power |
| | Storage | 16GB ROM internal storage |
| | Output format | ASCII: NMEA-0183 |
| | Output rate | 1Hz~20Hz |
| | Static data format | GNS, Rinex |
| System Configuration | Real Time Kinematic (RTK) | RTCM2.X, RTCM3.X, CMR |
| | Network Mode | VRS, FKP, MAC, Support NTRIP protocol |

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



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