

Meridian M20L Specification

| | | |
|-------------------------|--|---|
| GNSS Signal | Channel | 1408 |
| | BDS | B1I, B2I, B3I, B1C, B2a, B2b* |
| | GPS | L1 C/A, L1C, L2P(Y), L2C, L5 |
| | GLONASS | L1, L2, L3* |
| | GALILEO | E1, E5a, E5b, E6* |
| | QZSS | L1C/A, L1C, L2C, L5, L6* |
| | SBAS | L1, L5* |
| | NavIC(IRNSS)* | L5 |
| | L-band | B2b PPP (Only for the Asian-Pacific Region)& HAS* |
| | Data Format | CMR, CMR+, RTCM2.X, RTCM3.X |
| | Data Output | NMEA-0183, RINEX, DAT |
| | Data Updating Rate | Up to 20Hz |
| | Time to Recapture | <1s |
| | Cold Start | <40s |
| Positioning Performance | Single Point Positioning (RMS) | Horizontal: 1.5m Vertical: 3.0m |
| | DGPS (RMS) | Horizontal: 0.4m Vertical: 0.8m |
| | Real-Time Kinematic (RMS) | Horizontal: $\pm(8\text{mm}+1\times 10^{-6}\cdot D)$ Vertical: $\pm(15\text{mm}+1\times 10^{-6}\cdot D)$ |
| | Speed Accuracy (RMS) | 0.03m/s |
| | Static Accuracy (RMS) | Horizontal: $\pm(2.5\text{mm}+0.5\cdot D)$ Vertical: $\pm(5\text{mm}+0.5\cdot D)$ |
| | Time Accuracy (RMS) | 20ns |
| | Speed Accuracy | $\geq 0.03\text{m/s}$ |
| | Tilt Compensation Accuracy | $\leq 2\text{cm}$ (Tilt Angles $\leq 60^\circ$, Up to 120°) |
| | IMU Update Frequency | 200Hz |
| | Laser Accuracy (RMS) | Horizontal: $\pm(8\text{mm}+3\text{mm}/\text{m})$ Vertical: $\pm(15\text{mm}+3\text{mm}/\text{m})$ |
| Communication | Bluetooth | SPP3.0+BLE5.0 Dual Mode |
| | WiFi | 802.11 a/b/g/n/ac |
| | Cellular | LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 |
| | | LTE TDD: B38/39/40/41 |
| | Storage | WCDMA: B1/2/4/5/6/8/19 |
| | | GSM: B2/3/5/8 |
| Internal Radio | 32GB Transmitting Power: 2W($37\pm 1\text{dBm}$) 1W($30\pm 1\text{dBm}$) Frequency: 410~470MHz Protocol: SOUTH19200, SOUTH9600, Trimtalk9600, TRANSEOT9600, HITARGEY9600, HITARGET19200, SATEL, MeridianLink optional Air Baud Rate: 9600, 19200 | |
| Battery | Specifications | 7.4V, 7000mAh lithium-ion Rechargeable Battery |
| | Operating Time | Laser RTK Rover: Up to 22 hours (Typical Power Consumption) Static: Up to 40 hours (Typical Power Consumption) |
| | Charging | Support USB PD 15V/2A (Supports Quick Charging Adapter) |
| Environment | Operating Temperature | -40°C~+85°C |
| | Storage Temperature | -55°C~+85°C |
| | Anti-seismic Dust & Waterproof | 2m Pole Drop Onto Concrete IP67 |
| Physical | AR Camera | 1200 MegaPixel, large viewing angle, supports live view stakeout |
| | Laser Assisted Camera | 1200 MegaPixel, large viewing angle, supports live view stakeout |
| | I/O Interface | 1× USB type-C port; 1× TNC antenna port; 1× SIM card slot; 1× 5 pin LEMO port |
| | Dimensions Weight | supports laser aiming and live view stakeout <749g |

*All specifications are subject to change without notice.

(1) Compliant, GLONASS L3, Galileo E6, Galileo E6 High Accuracy Service (HAS), BDS B2b and SBAS L5 will be provided through future firmware upgrade.

(2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. PPP accuracy is subject to the region, environment, and convergence time. High-precision static requires a minimum of 24 hours of long-term observation and precise ephemeris.



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Meridian



M20L Laser GNSS Receiver

To be the Best
GNSS Solution Provider

CE FCC IP67

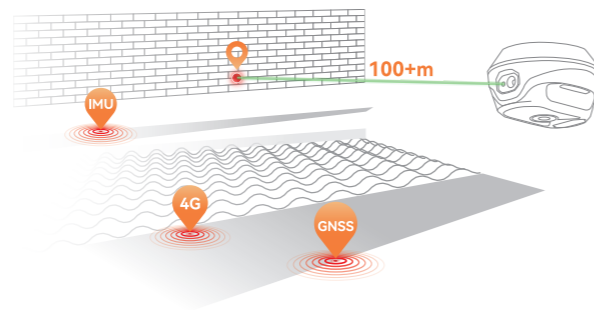
M20L High Precision Laser GNSS RTK

Meridian M20 Laser GNSS RTK is an innovative solution that combines advanced laser technology with Camera, IMU, and 4G integration. It is calibration-free, significantly boosting operational efficiency and laser measuring makes the rodless survey improve efficiency and reduce risk factors. The M20L laser receiver provides a new way to work in challenging & impossible scenarios with high accuracy, including riverine stake-out, bridge pile surveying, elevation surveying, municipal surveying, and outdoor & indoor combination surveying.



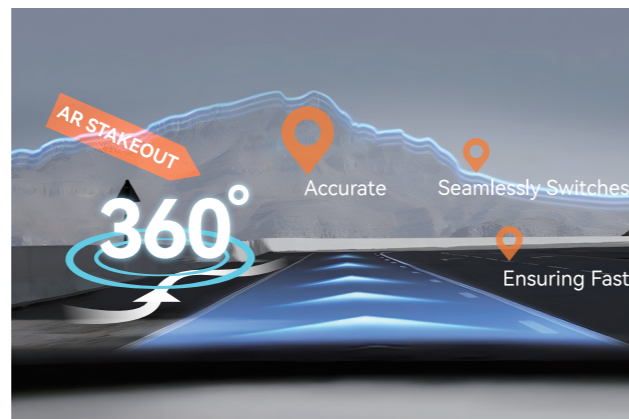
Latest Laser Technology

Laser technology offers unparalleled advantages in precision positioning and makes surveying work rodless and Easier. Combining cutting-edge 100m laser technology with full constellation GNSS, IMU, and 4G integration, delivers calibration-free accuracy, significantly enhancing work efficiency and reducing potential risks.



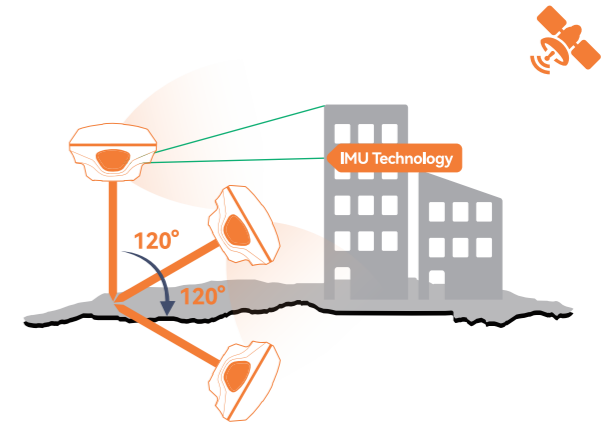
AR Stakeout

Visual positioning eases point finding by overlaying design files onto real scenes, enhancing stakeout efficiency. A high-performance HD camera achieves high accuracy with precise signal tracking. The 360-degree AR stakeout seamlessly switches between the handheld controller and rover, ensuring fast and accurate stakeout experiences.



Calibration-Free Solution

Equipped with laser & 120° calibration-free IMU technology in a small body, it complements the laser's outstanding performance, extending the M20L application range to locations that traditional RTK systems cannot reach, opening up new horizons for product applications, enhancing customer satisfaction and boosting operational efficiency.



Longer Working Distance

Equipped the MeridianLink protocol internal radio offers 15km working range and increases flexibility. By eliminating the need for an external radio, the M20L becomes more lightweight, less complex, and more portable, which can lead to increased efficiency and convenience in the field.



Full Constellations

Supports BDS, GPS, GLONASS, Galileo, QZSS, and SBAS. Its 1408 channels offer comprehensive GNSS signal tracking capabilities.

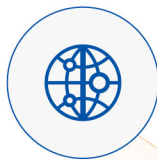




Meridian M5Plus GNSS Receiver

M5Plus GNSS receiver is an extremely lightweight, full-featured, intelligent GNSS receiver system equipped with an integrated full-frequency antenna and advanced multi-channel RTK engine, built-in radio, and 8GB internal storage, allowing users to attain accurate, reliable solutions.

Its powerful RTK algorithm makes M5Plus easy to get fixed solutions in the most demanding environments, brings you to focus on your surroundings and not the bubble to measure the points that previously could not be measured, making your stake out more efficiently and conveniently than ever before with increased speed, safety and comfort and greatly improving your working efficiency.



Multi Constellation

M5Plus provides an excellent onboard real-time navigation solution with high accuracy. Multi-satellite signals (GPS, GLONASS, BEIDOU, GALILEO, QZSS, IRNSS, L-Band) are included.



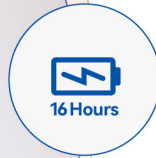
Powerful IMU Feature

Equipped with 120° calibration-free IMU technology in a small body, extending the M5Plus's application range to locations that traditional RTK systems cannot reach, opening up new horizons for product applications.



Palm Size

The palm-sized RTK (Real-Time Kinematic) system combines elegance with precision, offering a compact solution for accurate positioning on-the-go.



Powerful Battery

With 7.4V 7000mah and the quick-charge capability, supports you in working more than 26hours and greatly saves your time.



Rugged Housing

IP67 waterproof and dustproof design and magnesium-aluminum alloy housing.



Technical Specification

| | | |
|--------------------------|--------------------------------|---|
| Platform | Hardware | Qualcomm MDM9x07 Cortex-A7 |
| | System | Linux |
| GNSS Signal ^② | Channel | 1408 |
| | BDS | B1I, B2I, B3I, B1C, B2a, B2b* |
| | GPS | L1 C/A, L1C*, L2P(Y), L2C, L5 |
| | GLONASS | L1, L2, L3* |
| | GALILEO | E1, E5a, E5b, E6* |
| | QZSS | L1, L2, L5, L6* |
| | SBAS | L5* |
| | NavIC(IRNSS)* | L1, L2, L5 |
| | L-band | B2b PPP (Only for the Asian-Pacific Region) |
| | Data Format | CMR, CMR+, RTCM2.X, RTCM3.X |
| | Data Output | NMEA-0183, RINEX, TXT |
| | Data Updating Rate | Up to 20Hz |
| Time to Recapture | <1s | |
| Cold Start | <40s | |
| Positioning Performance | Single Point Positioning (RMS) | Horizontal: 1.5m Vertical: 3.0m |
| | DGPS (RMS) | Horizontal: 0.4m Vertical: 0.8m |
| | Real Time Kinematic (RMS) | Horizontal: ±(8mm+1×10 ⁻⁶ ·D) Vertical: ±(15mm+1×10 ⁻⁶ ·D) |
| | Speed Accuracy (RMS) | 0.03m/s |
| | Static Accuracy (RMS) | Horizontal: ± (2.5mm+0.5·6·D) Vertical: ± (5mm+0.5·6·D) |
| | Time Accuracy (RMS) | 20ns |
| | Speed Accuracy | ≥0.03m/s |
| | Tilt Compensation Accuracy | ≤2cm(Tilt Angle≤60°, Up to 120°) |
| Communication | IMU Update Frequency | 200Hz |
| | Bluetooth | V2.1+EDR/V4.0 Dual Mode |
| | WiFi | 802.11 a/b/g/n/ac |
| | Storage | 8GB |
| | Internal Radio | Transmitting power: 2W(37±1dBm) 1W(30±1dBm) Frequency: 410~470MHz Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL Air Baud Rate: 9600, 19200 |
| Battery | Specifications | 7.4V, 7000mAh lithium-ion Rechargeable Battery |
| | Operating Time | RTK Rover: Up to 26 hours (Typical Power Consumption) Static: Up to 30 hours (Typical Power Consumption) |
| | Charging | Support USB PD 15V/1.5A (Supports Quick Charging Adapter) |
| Environment | Operating Temperature | -40°C~+85°C |
| | Storage Temperature | -55°C~+85°C |
| | Anti-seismic | 2m Pole Drop Onto Concrete |
| | Dust & Waterproof | IP67 |
| | I/O Interface | 1× USB type-C port; 1× SMA antenna port; 1× 5 pin LEMO port |
| | Dimensions | 119mm×119mm×76mm |
| Physical | Weight | 599g |
| | Material | Magnesium-alloy Casing + ABS/PC Plastic Top Cover |
| | Dimensions | Φ147.9*68mm |

1. *This information is for reference only. The product parameters are subject to changes due to product upgrading without notice.

2. *BDS B2b, GALILEO E6, QZSS L6, IRNSS L5 will be provided through future product upgrade.



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