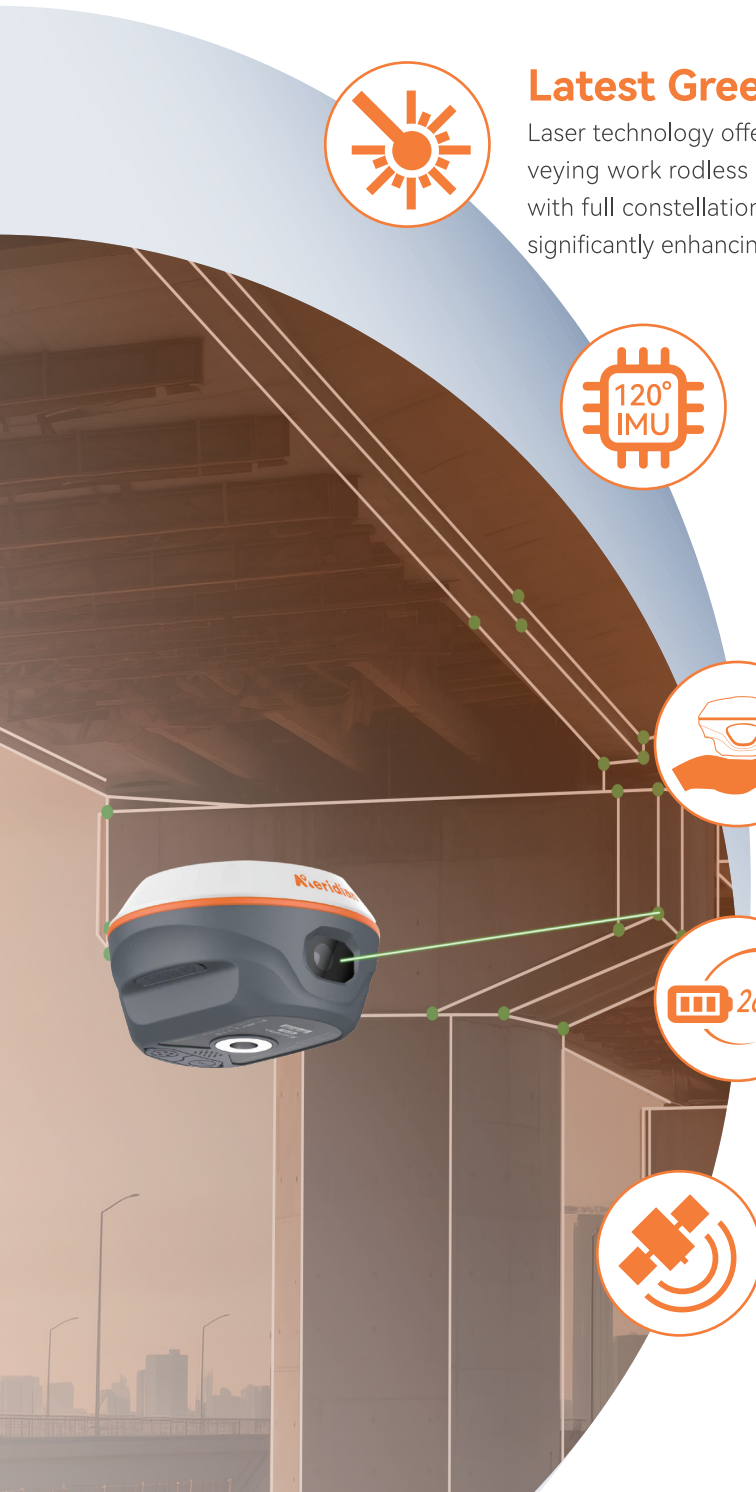
# M20L High Precision Laser GNSS RTK

Meridian M20L Green Laser GNSS RTK is an innovative solution that combines advanced laser technology 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 green laser receiver provides a new way to work in challenging & impossible& dangerous scenarios with high accuracy, including riverine stake-out, bridge pile surveying, elevation surveying, municipal surveying, and outdoor & indoor combination surveying, power station surveying, etc.



## Latest Green Laser Technology

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

## 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's application range to locations that traditional RTK systems cannot reach, opening up new horizons for product applications, enhancing customer satisfaction and boosting operational efficiency.

## 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.

## Full Constellations

Supports BDS, GPS, GLONASS, Galileo, QZSS, SBAS, L-Band. Its 1408 channels offer comprehensive GNSS signal tracking capability.

# Meridian M20L Specification

| | | |
|---|---|---|
| **GNSS Signal** | Channel | 1408 |
| | BDS | B1I, B2I, B3I, B1C, B2a, B2b* |
| | GPS | L1C/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:** ±(8mm+1×10$^{-6}$·D)<br>**Vertical:** ±(15mm+1×10$^{-6}$·D) |
| | Speed Accuracy (RMS) | 0.03m/s |
| | Static Accuracy (RMS) | **Horizontal:** ±(2.5mm+0.5$^{-6}$·D)<br>**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°) |
| | IMU Update Frequency | 200Hz |
| | Laser Accuracy (RMS) | **Horizontal:** ±(8mm+3mm/m)<br>**Vertical:** ±(15mm+3mm/m) |
| **Communication** | Bluetooth | SPP3.0+BLE5.0 Dual Mode, 2.4 GHz @ +6 dBm |
| | WiFi | 802.11 a/b/g/n \| 5.0GHz |
| | Cellular | LTE TDD: B34/38/39/40/41<br>LTE FDD: B1/3/5/7/8/20/28<br>WCDMA: B1/5/8<br>GSM: B850/900/1800 |
| | Storage | 32GB |
| | Internal Radio | **Transmitting Power:** 2W(33±1dBm) 1W(30±1dBm)<br>**Frequency:** 410~470MHz<br>**Protocol:** SOUTH, TRIMTALK 450S, TRIMMK III, TRANSEOT, SATEL, MERIDIANLINK<br>**Air Baud Rate:** 9600,19200,11000 |
| **Battery** | Specifications | 7.2V, 7000mAh lithium-ion Rechargeable Battery |
| | Operating Time | **Laser RTK Rover:** Up to 20 hours (Typical Power Consumption)<br>**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 | 2m Pole Drop Onto Concrete |
| | Dust & Waterproof | IP68 |
| **Physical** | I/O Interface | 1× USB type-C port; 1 × TNC antenna port; 1× SIM card slot; 1 × 5 pin LEMO port |
| | Dimensions | 125mm x 125mm x 79mm |
| | Weight | ⩽699g |

*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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