

**Meridian**



# M20L Laser

## GNSS Receiver

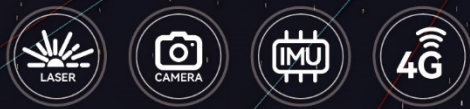
**To be the Best**  
GNSS Solution Provider

CE FCC IP67



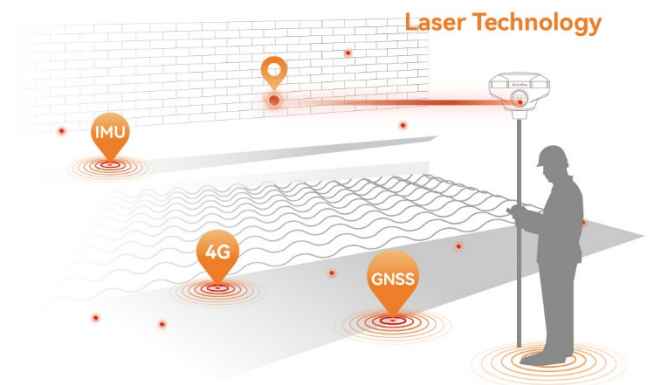
# M20L High Precision Laser GNSS RTK

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 laser technology with full constellation GNSS, IMU, and 4G integration, delivers calibration-free accuracy, significantly enhancing work efficiency and reducing potential risks.



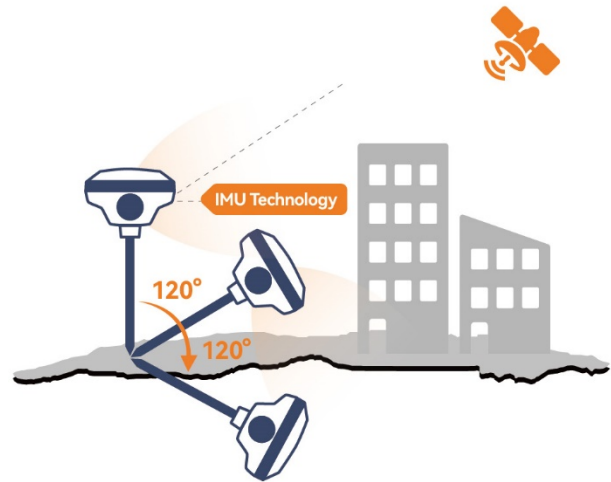
## 📍 AR Stakeout

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 M20'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.



## 📍 Longer Working Distance

Equipping 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.





# Technical Specification

System	System	Linux
GNSS Signal <sup>②</sup>	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
Positioning Performance	Time to Recapture	<1s
	Cold Start	<40s
	Single Point Positioning (RMS)	Horizontal: 1.5m   Vertical: 3.0mm
	DGPS (RMS)	Horizontal: 0.4m   Vertical: 0.8mm
	Real-Time Kinematic (RMS)	Horizontal: $\pm(8\text{mm}+1\times10^{-6}\cdot D)$
	Speed Accuracy (RMS)	Vertical: $\pm(15\text{mm}+1\times10^{-6}\cdot D)$
	Static Accuracy (RMS)	0.03m/s
	Time Accuracy (RMS)	Horizontal: $\pm(2.5\text{mm}+0.5\cdot D)$
	Laser Accuracy (RMS)	Vertical: $\pm(5\text{mm}+0.5\cdot D)$
	Speed Accuracy	20ns
	Tilt Compensation Accuracy	$\leq \pm(8\text{mm}+4\text{mm}/\text{m})$ Tilt Angle $\leq 30^\circ$
	IMU Update Frequency	$\geq 0.03\text{m/s}$
Communication	Bluetooth	$\leq 2\text{cm}$ (Tilt Angle $\leq 60^\circ$ , Up to $120^\circ$ )
	WiFi	200Hz
	Cellular	V2.1+EDR/V4.0 Dual Mode
	Storage	802.11 a/b/g/n/ac
	Internal Radio	LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28
		LTE TDD: B38/39/40/41
		WCDMA: B1/2/4/5/6/8/19
Battery	Specifications	GSM: B2/3/5/8
	Operating Time	Up to 64GB
	Charging	Transmitting Power: 2W( $37\pm 1\text{dBm}$ ) 1W( $30\pm 1\text{dBm}$ )
Environment	Operating Temperature	Frequency: 410~470MHz
	Storage Temperature	Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, MeridianLink optional
	Anti-seismic	Air Baud Rate: 9600, 19200
	Dust & Waterproof	7.4V, 7000mAh lithium-ion Rechargeable Battery
Data Formats	AR Camera	RTK Rover: Up to 22 hours (Typical Power Consumption)
	Laser Assisted Camera	Static: Up to 30 hours (Typical Power Consumption)
	I/O Interface	Support USB PD 15V/1.5A (Supports Quick Charging Adapter)
	Dimensions	-40°C~+85°C
	Weight	-55°C~+85°C

1. \*Description and Specifications are subject to change without notice.

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



Website: [www.meridiangnss.com](http://www.meridiangnss.com)

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