

Meridian



M20L Laser

GNSS Receiver

To be the Best
GNSS Solution Provider

CE FCC IP67

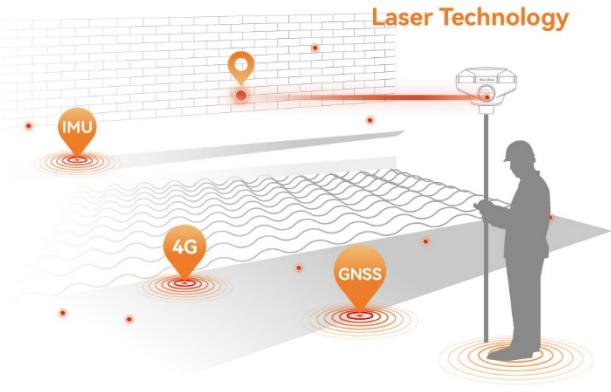
M20L High Precision Laser GNSS RTK

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.



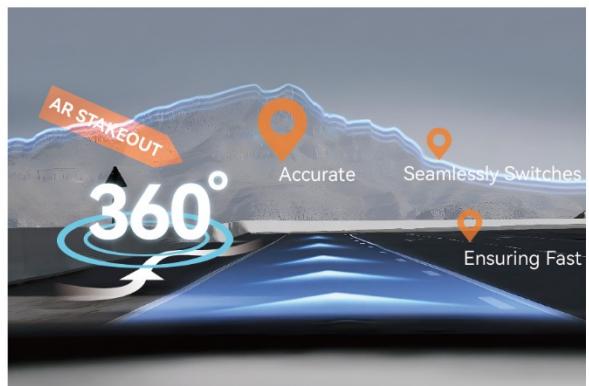
📍 Latest Laser Technology

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.



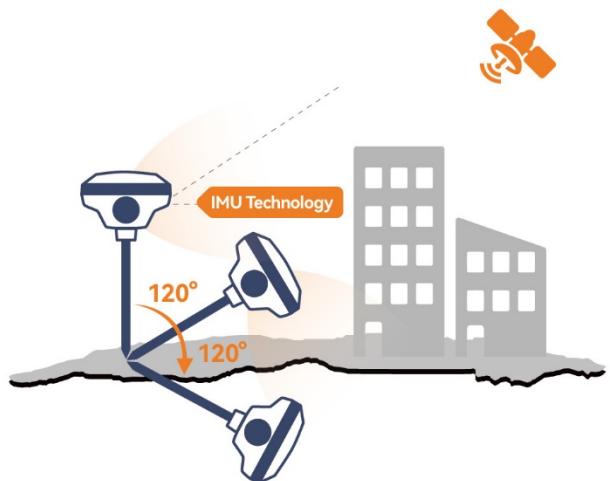
📍 AR Stakeout

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 ^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
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: $\pm(8\text{mm}+1\times10\text{-}6\cdot D)$ Vertical: $\pm(15\text{mm}+1\times10\text{-}6\cdot D)$
	Speed Accuracy (RMS)	0.03m/s
	Static Accuracy (RMS)	Horizontal: $\pm(2.5\text{mm}+0.5\text{-}6\cdot D)$ Vertical: $\pm(5\text{mm}+0.5\text{-}6\cdot D)$
	Time Accuracy (RMS)	20ns
	Laser Accuracy (RMS)	$\leq\pm(8\text{mm}+4\text{mm}/m)$ Tilt Angle $\leq30^\circ$
	Speed Accuracy	$\geq0.03\text{m/s}$
	Tilt Compensation Accuracy	$\leq2\text{cm}$ (Tilt Angle $\leq60^\circ$, Up to 120°)
	IMU Update Frequency	200Hz
Communication	Bluetooth	V2.1+EDR/V4.0 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 WCDMA: B1/2/4/5/6/8/19 GSM: B2/3/5/8
	Storage	Up to 64GB
	Internal Radio	Transmitting Power: 2W($37\pm1\text{dBm}$) 1W($30\pm1\text{dBm}$) Frequency: 410~470MHz Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, MeridianLink optional Air Baud Rate: 9600, 19200
	Specifications	7.4V, 7000mAh lithium-ion Rechargeable Battery
	Operating Time	RTK Rover: Up to 22 hours (Typical Power Consumption) Static: Up to 30 hours (Typical Power Consumption)
Battery	Charging	Support USB PD 15V/1.5A (Supports Quick Charging Adapter)
	Operating Temperature	-40°C~+85°C
	Storage Temperature	-55°C~+85°C
	Anti-seismic	2m Pole Drop Onto Concrete
Environment	Dust & Waterproof	IP67
	AR Camera	500 MegaPixel, large viewing angle, supports live view stakeout
	Laser Assisted Camera	500 MegaPixel, large viewing angle, supports laser aiming and guidance
	I/O Interface	1x USB type-C Port; 1 x SMA antenna Port; 1x SIM Card Slot; 1 x 5pin LEMO Port
Data Formats	Dimensions	119mm×119mm×76mm
	Weight	662g

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.



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