

M20L Laser
GNSS Receiver

To be the Best
GNSS Solution Provider

CE FCC IP68

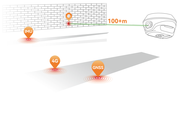
M20L High Precision Laser GNSS RTK

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 river-ine 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-de-gree AR stakeout seamlessly switches between the handheld controller and rover, ensuring fast and accu-rate stakeout experiences.



Calibration-Free Solution

Equipped with laser & 120° calibration-free IMU technolo-gy in a small body, it complements the laser's outstanding performance, extending the M20L application range to locations that traditional RTK systems cannot reach, open-ing 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 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(GIRNSS)*	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)
		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)
	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)
		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
		LTE FDD: B1/3/5/7/8/20/28
		WCDMA: B1/5/8
		GSM: B850/900/1800
	Storage	32GB
	Internal Radio	**Transmitting Power:** 2W(33±1dBm) 1W(30±1dBm)
		Frequency: 410~470MHz
		Protocol: SOUTH, TRIMTALK 450S, TRIMMK III, TRANSEOT, SATEL, MERIDIANLINK
		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)
		Static: Up to 40 hours (Typical Power Consumption)
	Charging	Support USB PD 15W/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	AR Camera	12 MegaPixel, large viewing angle, supports live view stakeout (optional)
	Laser Assisted Camera	12 MegaPixel, supports laser aiming display
	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.

Website: www.meridiangnss.com
Manufacture: **Guangzhou Meridian GNSS CO., LTD.**
Address: Building 3, No. 6, Hanxi Avenue, Dalong Street, Panyu District, Guangzhou, PRC.
Email: info@meridiangnss.com Tel: +8615241043026