

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 WCDMA: B1/2/4/5/6/8/19 GSM: B2/3/5/8
	Storage	32GB
	Internal Radio	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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M20L Laser GNSS Receiver

To be the Best
GNSS Solution Provider

CE FCC IP67

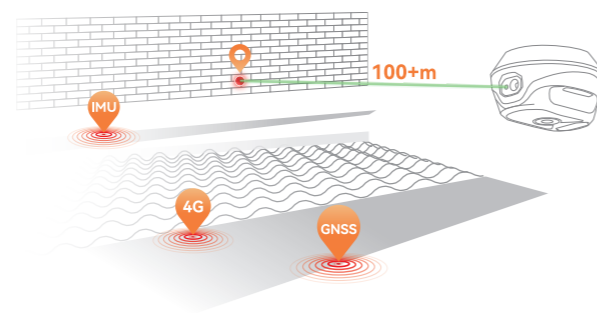
M20L High Precision Laser GNSS RTK

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.



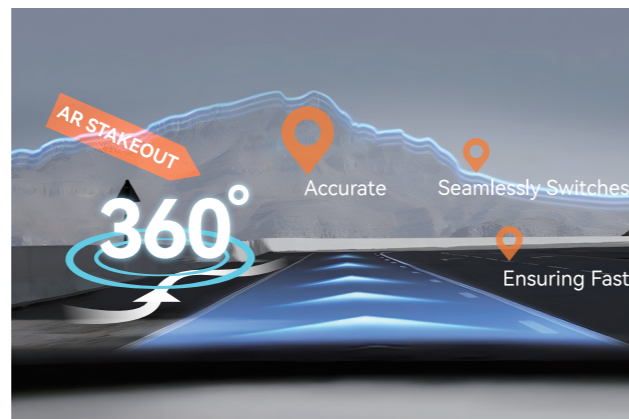
Latest Laser Technology

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.



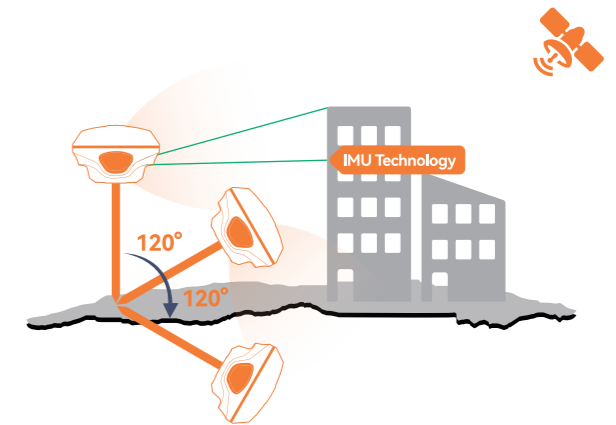
AR Stakeout

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.

