

Meridian M30 Dual Cameras 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, TXT
	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+1ppm) Vertical: ±(15mm+1ppm)
	Speed Accuracy (RMS)	0.03m/s
	Static Accuracy (RMS)	Horizontal: ± (2.5mm+0.5ppm) Vertical: ± (5mm+0.5ppm)
	Time Accuracy (RMS)	20ns
	Speed Accuracy	≥0.03m/s
	Tilt Compensation Accuracy	≤2cm(Tilt Angle≤60°, Up to 120°)
	IMU Update Frequency	200Hz
Communication	Bluetooth	V5.2 Dual Mode. 2.4GHz@+5dBm
	WiFi	IEEE 802.11b/g/n
	Cellular	LTE FDD: B1/3/5/7/8/20
		LTE TDD: B38/40/41
		UMTS/HSPA+: B1/8
	Storage	GSM/GPRS/EDGE: 900/1800 MHz 32GB, Up to 64GB
Internal Radio	Transmitting Power: 1 W (27 dBm ±1.5 dB) or 2 W (32 dBm ±1.5 dB) Frequency: 410~470MHz Protocol: TrimTalk 450S, South 9600, TrimMask III, South 19200, MeridianLink Air Baud Rate: 9600, 19200, 11000	
Battery	Specifications	7.2V, 6600mAh lithium-ion Rechargeable Battery
	Operating Time	RTK Rover: Up to 14 hours (Typical Power Consumption) Static: Up to 22 hours (Typical Power Consumption)
	Charging	Support USB PD 15V/2A (Supports Quick Charging Adapter)
Dual-Camera	AR Sensor pixels	Global shutter with 5 MP
	VR Sensor pixels	Global shutter with 2 MP
	VR Field of view	75°C
	Video frame rate	30fps
	Image accuracy	2~4 cm 95% (2σ)@10m
Environment	Operating Temperature	-40°C~+85°C
	Storage Temperature	-55°C~+85°C
	Anti-seismic	2m Pole Drop Onto Concrete
	Dust & Waterproof	IP68
Physical	Display	0.96" OLED Display
	I/O Interface	1× USB type-C port; 1× TNC antenna port; 1× SIM card slot; 1× 5 pin LEMO port
	Dimensions	133mm×133mm×84.5mm
	Weight	900g

*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.**

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M30

DUAL CAMERAS VISUAL GNSS RTK

To be the Best
GNSS Solution Provider

CE FCC IP68

M30 DUAL CAMERAS VISUAL GNSS RTK

Combines advanced technology with upgraded high-definition Camera, IMU, and 4G integration, M30 can quickly capture the site in images and measure points either in the field or later in the office, it enables you to measure what you see, such as obstruction points, obstacle points, dangerous points, and map hundreds of points with survey-grade accuracy within minutes and capture the scene quickly and decide what should be measured later—even if the scene subsequently changes or disappears.



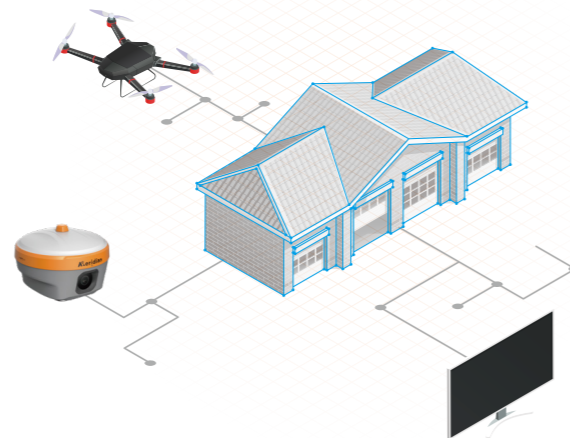
VR for Superior Visual Surveying

The M30 achieves real-time & non-contact measurement via camera, enabling precise measurements at points where signals are blocked or where access is difficult or unsafe. Its advanced cameras extract survey-grade 3D coordinates from real-world video, maps hundreds of survey-grade accurate points within minutes, providing higher efficiency and reliability.



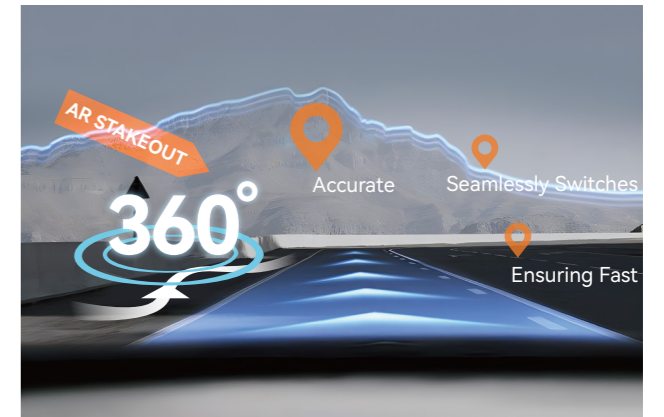
3D Modeling

The M30's video photogrammetry algorithms enable 3D modeling of buildings and facades. It effectively fuses drone and GNSS RTK data to efficiently perform 3D modeling over large areas. Additionally, the M30 is compatible with industry-standard 3D modeling software.



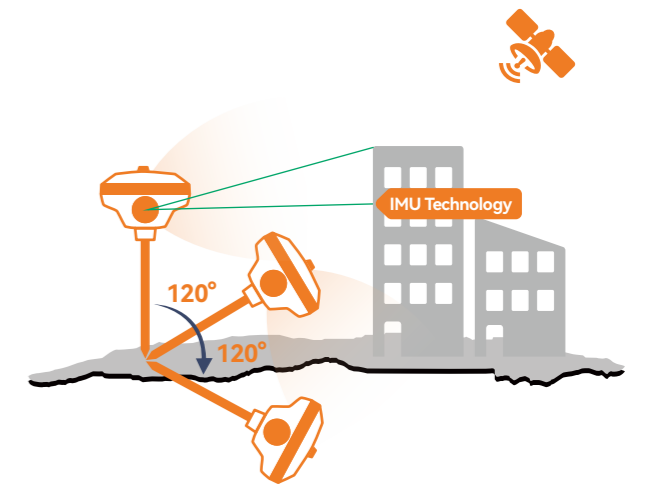
AR Stakeout

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 120° calibration-free IMU technology in a compact body, it complements the laser's outstanding performance, extending the M30'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 M30 becomes more lightweight, less complex, and more portable, which can lead to increased efficiency and convenience in the field.





MBase High Performance Base Receiver

The MBase GNSS receiver is a fully integrated, professional-grade GNSS base station tailored to address 95% of surveyors' requirements for UHF GNSS base and rover operations. It also has built-in 4G connectivity, Bluetooth, Wi-Fi, and a 5W data transmission radio, enabling high-speed data transfer and User-friendly WebUI, which improves efficiency and convenience.

The MBase has a rugged design, making it suitable for outdoor and harsh environments. Equipped with a 5-watt radio module, it ensures reliable GNSS RTK coverage extending up to 35 kilometers under ideal conditions, makes MBase the perfect base station receiver.



Longer Working Distance

Equipped with the MeridianLink protocol internal radio and upper radio antenna port, MBase offers up to 35km working range and increases flexibility. By eliminating the need for an external radio, the MBase becomes more lightweight, less complex, and more portable, which can lead to increased efficiency and convenience in the field.



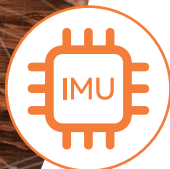
Highly Integrated Four-in-one Antenna

The highly integrated four-in-one antenna on the MBase provides several advantages, including saving space, improving performance and reliability, and reducing the failure rate during use, making MBase more portable and easier to handle, increasing the efficiency and accuracy of measurements.



Lightweight, Compact & Rugged Design

MBase is an ideal solution for surveyors who require portability and durability in demanding field conditions and eliminates the need for heavy external radio and accessories, ensuring easy transport and quick setup. This combination of lightweight portability, compact form factor, and rugged durability makes it a versatile tool for professionals on the go.



Enhanced Tilt IMU

Equipped with calibration-free IMU, support up to 60 ° tilt angle within 2cm accuracy, and no limitation tilt angle, allows for quick and accurate measurements without leveling the pole. Concentrate on where the pole tip needs to go, which is especially useful during a stakeout.



Meridian MBase 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*, E6B-HAS*	
	Data Format	CMR, CMR+, RTCM2.X, RTCM3.X	
	Data Output	NMEA-0183, RINEX, TXT	
	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+1ppm) Vertical: ±(15mm+1ppm)	
	Speed Accuracy (RMS)	0.03m/s	
	Static Accuracy (RMS)	Horizontal: ± (2.5mm+0.5ppm) Vertical: ± (5mm+0.5ppm)	
	Time Accuracy (RMS)	20ns	
	Speed Accuracy	≥0.03m/s	
	Tilt Compensation Accuracy	≤2cm(Tilt Angle≤60°), no tilt angle limitation	
	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
	Storage	GSM:	B2/3/5/8
		Storage	32GB, Up to 64GB
Transmitting power:		5W,2W	
Frequency:		410~470MHz	
Internal Radio	Protocol: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, MeridianLink Air Baud Rate: 9600, 19200		
Battery	Specifications	7.2V, 6900mAh lithium-ion Rechargeable Battery	
	Operating Times	RTK Rover: Up to 20 hours (Typical Power Consumption) Static: Up to 35 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	IP67	
Control Panel	Display	0.96" OLED Display	
	LED Lamp	Signal, Power	
	Physical button	2	
Physical	I/O Interface	1× USB type-C port; 1× SMA antenna port; 1× SIM card slot; 1× 5 pin LEMO port	
	Dimensions	133mm×133mm×84.5mm	
	Weight	700g	

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