Meridian



M20

DUAL CAMERAS VISUAL GNSS RTK

To be the Best
GNSS Solution Provider

CE FCC IP67

M20 DUAL CAMERAS VISUAL GNSS RTK

Combines advanced technology with upgraded high-definition Camera, IMU, and 4G integration, M20 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 M20 achieves real-timeS 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 M20'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 M20 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 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 M20 becomes more lightweight, less complex, and more portable, which can lead to increased efficiency and convenience in the field.



Meridian M20 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*
Positioning Performance	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
	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	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	32GB, Up to 64GB
	Internal Radio	**Transmitting Power:**2W(33±1dBm) 1W(30±1dBm) **Frequency:** 410~470MHz **Protocol:** TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, MeridianLink **Air Baud Rate:** 9600, 19200
Battery	Specifications	7.2V, 6900 mAh lithium-ion Rechargeable Battery
	Operating Time	**RTK Rover:** Up to14 hours (Typical Power Consumption) **Static:** Up to 22 hours (**Typical Power Consumption**)
	Charging	Support USB PD 15W/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% 2in@10m
Environment	Operating Temperature	-40°C~+85°C
	Storage Temperature	-55°C~+85°C
	Anti-seismic	2m Pole Drop Onto Concrete
	Dust & Waterproof	IP67
Physical	I/O Interface	1× USB type-C port; 1 × SMA antenna port; 1× SIM card slot; 1 × 5 pin LEMO port
	Dimensions	119mm×119mm×72mm
	Weight	650g

*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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