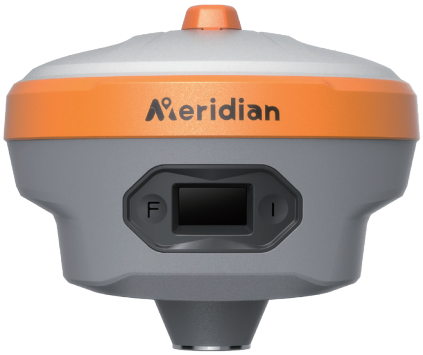
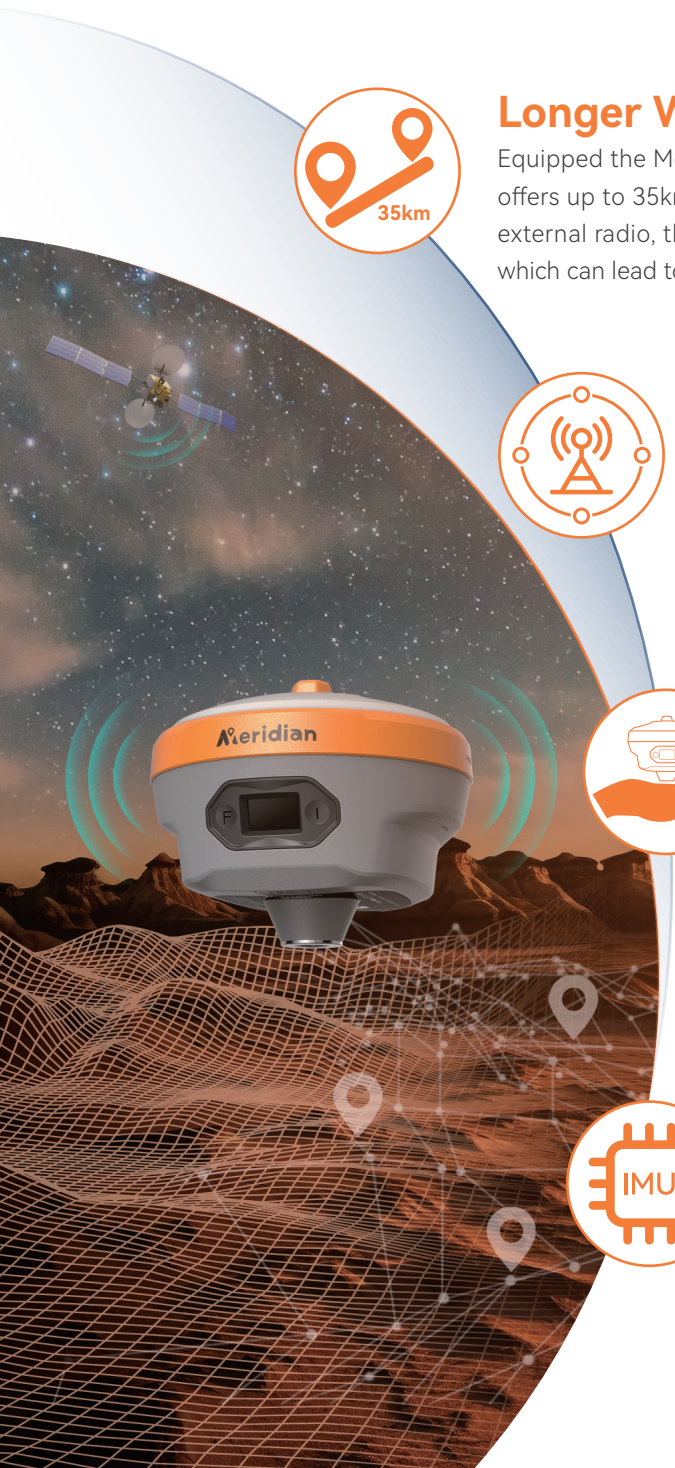
MBase High Performance Base Receiver

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 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
		GSM: B2/3/5/8
	Storage	32GB, Up to 64GB
	Internal Radio	**Transmitting power:** 5W,2W
		Frequency: 410~470MHz
		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

*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.