

R10L SPECIFICATION

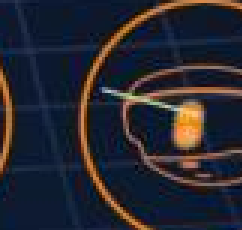
GNSS Performance	Channel	1408 GPS:L1C/A/L2P(Y)/L2C/L5 GLONASS:L1/L2 BDS:B1I/B2I/B3I/BIC/B2a/B2b Galileo:EI/E5a/E5b/E6 QZSS:L1/L2/L5/L6 SBAS:L1 L-Band NavIC L5
	Signal tracking	1Hz~50Hz
	Positioning output rate	<5s
	Initialization time	99.99%
Positioning Performance	Static	H: 2.5mm+0.5ppm RMS V: 5mm+0.5ppm RMS
	Real-Time Kinematic	H: 8mm+1ppm RMS V: 15mm+1ppm RMS
IMU	Accuracy	<2cm(within 60°)
	Angle	0° ~ 120°
Function Config	Tilt Measurement	Support
	PPK Survey	Support
	Voice	Support
	Buzzer	Support
Data Storage	Data format	RTCM2x, RTCM3x
	Data Output	NMEA 0183, Binary code
	Storage	32GB internal memory
Communication	Wireless Communication	Bluetooth, 4G/4G-LTE, Wi-Fi, Web
	Cellular	LTE-TDD B38/B40/B41 LTE-FDD B1/B3/B5/B7/B8/B20UMTS/HSPA+ B1/B8 GSM/GPRS/EDGE 900/1800 MHz Transmitting power: Built-in 2W transceiver radio(LoRa)
	Internal Radio	Frequency: 410~470MHz Protocol: TRIMTALK450S,TRIMMARKIII,SOUTH
Physical	I/O Interface	1× USB type-C port; 1 × TNC antenna port; 1× SIM card slot; 1 × 5 pin LEMO port 1xSMA radio antenna interface
	Dimensions	133mm×133mm×82mm
	Weight	850g
	Operating Temperature	-45°C ~ +75°C
	Storage Temperature	-55°C ~ +85°C
	Dust & waterproof	IP67
	Vibration	IK08
	Anti-shock	Survive 2m Pole Drop Onto Concrete
Electrical	Battery Specifications	7.4V,7000mAh Lithium-ion Rechargeable Battery
	Charging	Support USB PD 15V/2A (Supports Quick Charging Adapter)
	Power	9-24V DC external power input on 5 pin LEMO port
	Working Time (Typical Power Consumption)	CORS: Up to 20 hours Rover: Up to 20 hours Base: Up to 7.5 hours
Camera	AR stake out	High-definition cameras with an ultra-wide field of view for real-time AR layout
Laser	Survey Accuracy	± 8mm + 5mm/m*D (tilted angle ≤30°)

Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry, and atmospheric conditions. High-precision static requires a minimum of 24 hours of long-term observation and precise ephemeris.

GeoRise R10L LaserVis GNSS RTK Receiver



The image shows the GeoRise R10L LaserVis GNSS RTK Receiver, a white and orange device mounted on a tripod. It features a large lens and a power button. In the background, there is a cityscape and a building. A green laser line is shown extending from the device. Below the device, there is a map with location pins and arrows, indicating its use in surveying and navigation. At the bottom, there are several icons representing various features: a satellite for GNSS, a 120° IMU for tilt measurement, IP67 for waterproofing, a camera for AR, and an AR icon for augmented reality.





**ENABLES TOUCHLESS POSITIONING AND
AGILE STAKEOUT IN CHALLENGING ENVIRONMENTS**

R10L sets a new benchmark for safety speed and precision, empowering surveyors, engineers, and geospatial professionals to achieve unprecedented productivity in mission-critical projects. Whether working at heights, in confined spaces, or across vast terrains, R10L ensures every measurement is not just accurate but actionable.

📍 LASER MEASUREMENT REDEFINES NON-CONTACT SURVEYING

Featuring patented rapid laser coordinate calibration, R10L achieves centimeter-level precision while balancing accuracy and ease of use. Equipped with sunlight-resistant cameras, the system overcomes targeting challenges in bright environments, enhancing field efficiency and adaptability.



📍 VISION+AR DUAL CAMERAS STAKEOUT

A wide-angle front camera for long-range navigation and a high-resolution downward camera for sub-millimeter target alignment. R10L provides real-time overlay of stakeout coordinates onto live scenes, ensures single-step stakeout accuracy, enhancing workflow efficiency.



📍 CALIBRATION-FREE IMU & 120° TILT COMPENSATION

Equipped with a next-gen 4D IMU and advanced tilt algorithms, the R10L delivers <2cm tilt accuracy at 120° without manual calibration. Maintain productivity in complex terrains by measuring at any pole angle, eliminating repetitive initialization.



📍 MULTI-CONSTELLATION FUSION

Equipped with an advanced multi-channel GNSS chipset, R10L seamlessly integrates global satellite systems, including GPS, GLONASS, BEIDOU, Galileo, QZSS, SBAS, and IRNSS. Its multi-constellation fusion technology delivers high-precision spatial data solutions worldwide.

