

FEATURES



AR Visual Stakeout

Combining high-precision RTK with real-scene imaging, dual HD cameras guide staking with virtual arrows at long range and precise visuals at close range—faster, easier, and more efficient.

Laser Measurement

Powered by intelligent algorithms that fuse data from multiple sensors, the R90 enables efficient long-distance measurement and easy nighttime operation. Its front camera and laser system ensure an intuitive visual-laser experience.

SPECIFICATIONS

Signal Tracking	Accuracy Specifications	Physical Specifications
GPS: L1C/A, L1C, L2P(Y), L2C, L5 GLONASS: G1, G2, G3 Galileo: E1, E5a, E5b, E6 QZSS: L1C/A, L1C, L2C, L5, L6 Cold Start Time: < 12s Initialization Time: < 5s (typical) RTK Initialization Reliability: > 99.9% Re-acquisition Time: < 1s	Single Point Positioning: Horizontal: 1.5m ; Vertical: 2.5m RTK Accuracy: Horizontal: 8mm + 1ppm (RMS) Vertical: 15mm + 1ppm (RMS) Static Accuracy: Horizontal: 2.5mm + 1ppm (RMS) Vertical: 5mm + 1ppm (RMS) Laser Measurement: 3D Accuracy: 0.008 + 0.005 × D (tilt angle ≤ 30°, D: meter)	Operating Temperature: -45°C to +75°C Storage Temperature: -55°C to +85°C Dimensions: 129 × 78mm Ingress Protection: IP67 Drop Resistance: Withstands 1.8m free fall Shock Resistance: IK08 Buttons: 1 physical button Indicators: 4 LED indicators Humidity: 100% non-condensing Weight: 0.79kg
Data Output	Connectivity	Electrical Specifications
Differential Data: RTCM 3.X Positioning Data: NMEA-0183 Static Data: Binary format	Wireless: Bluetooth, Controller 4G, Wi-Fi, Built-in 4G LTE, NFC, WEBUI	Battery Life: Up to 20 hours (rover/CORS mode) Up to 7.5 hours (base station mode) Input: 12V ⚡ 2A Battery Capacity: 6600 mAh Storage Capacity: 32 GB
Radio Specifications	Data Interfaces	
Frequency Range: 410–470MHz Transmit Power: 0.5 W / 1.5 W Protocols Supported: SOUTH, TRIMTALK, TRANSEOT, TRIMMARK3, SATEL, LIANSHI, etc. Modulation Types: GMSK, 4FSK, GFSK, etc.	Interface Types: Type-C, SIM card slot, SMA connector	



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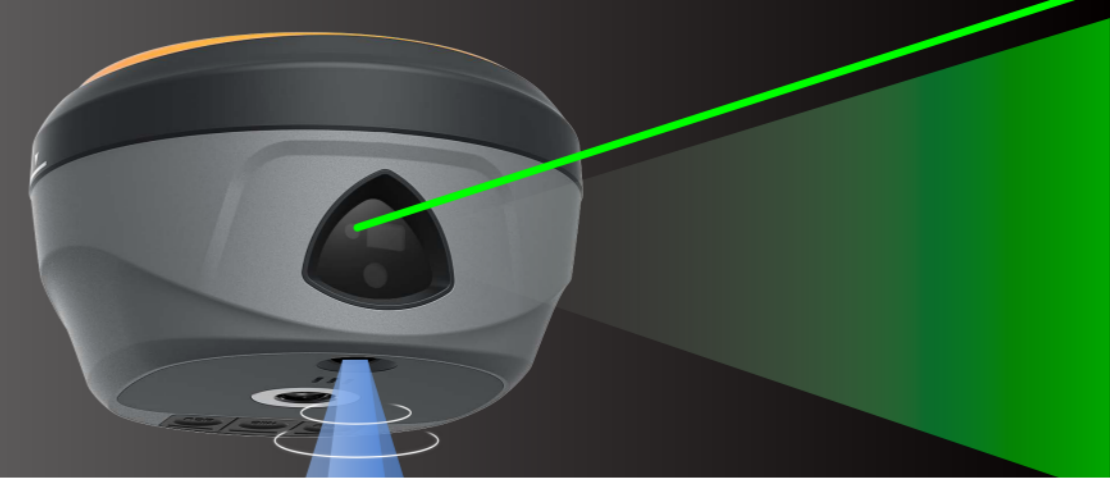


R90 Laser & AR RTK

Advanced IMU-RTK with Laser and Visual Surveying



WHY CHOOSE THE ALLYNAV R90 Laser & AR RTK

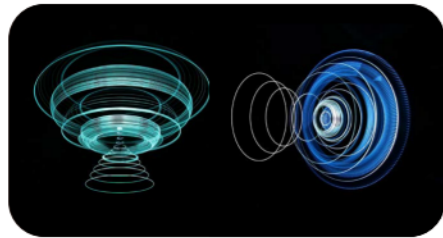


ADVANTAGES



Laser Measurement

Equipped with a high-performance laser module, this system fuses IMU, laser, and camera data through advanced algorithms to deliver accurate long-distance laser measurements. What you see is what you can measure—precise, intuitive, and efficient.



Efficient Dual Cameras

Integrated high-definition cameras enable real-world staking by capturing live site images. The front camera supports long-distance AR navigation, while the bottom camera provides close-range AR staking. Dual-camera integration significantly improves work efficiency.



Stable Satellite Signal Reception

Featuring a new all-in-one GNSS antenna, the system excels in anti-interference performance and maintains stable satellite signals even in challenging environments.



Tilt Measurement Accuracy Guaranteed

Featuring an advanced inertial navigation module that allows easy initialization without special procedures. Supports tilt angles up to **120°**, ensuring **2cm** accuracy at tilts within **60°**.



High-Precision Positioning

Powered by a full-constellation, multi-frequency positioning module supporting up to **1408 channels**. Supports **PPP-B2b** and **PPP-E6** precise positioning services to achieve centimeter-level high-accuracy positioning.



Universal Protocol Support

Equipped with a fully integrated transceiver radio compatible with all major protocols on the market. Enables data transmission over distances greater than **7km**.



Integrated Network Connectivity

With a built-in global cellular module, it allows for seamless communication with the controller. It can receive or transmit RTCM and NMEA data and can function as a network base station.

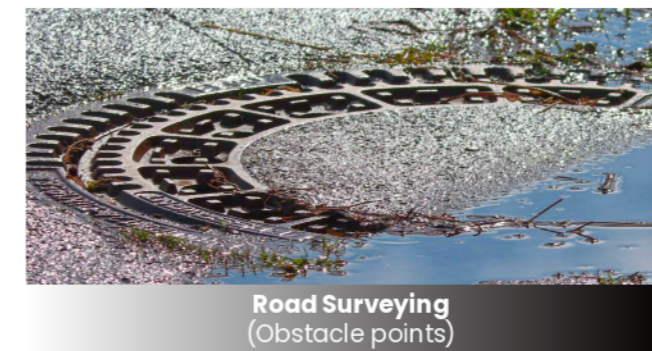
CORE APPLICATIONS



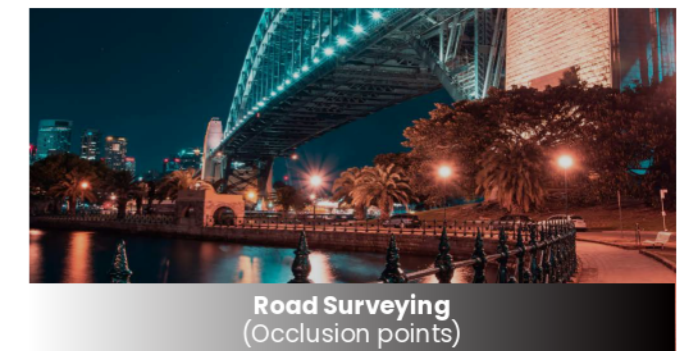
Construction Staking



Cultural Heritage Mapping



Road Surveying
(Obstacle points)



Road Surveying
(Occlusion points)