

R10L SPECIFICATION

GNSS Performance	Channel	1408 GPS:L1C/A/L2P(Y)/L2C/L5 GLONASS:L1/L2 BDS:B1I/B2I/B3I/BIC/B2a/B2b
	Signal tracking	Galileo:E1/E5a/E5b/E6 QZSS:L1/L2/L5/L6 SBAS:L1 L-Band NavIC L5
	Positioning output rate Initialization time Initialization reliability	1Hz~50Hz <5s 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 Buzzer	Support
	Buzzer	Support
Data Storage	Data format	RTCM2x, RTCM3x
	Data Output Storage	NMEA 0183, Binary code 32GB internal memory
Communication	Wireless Communication	Bluetooth, 4G/4G-LTE, Wi-Fi, Web LTE-TDD B38/B40/B41
	Cellular	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) Frequency: 410~470MHz Protocol: TRIMTALK450S,TRIMMARKIII,SOUTH
	Internal Radio	
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 Anti-shock	IK08 Survive 2m Pole Drop Onto Concrete
Electrical	Battery Specifications	7.4V,7000mAh Lithium-ion Rechargeable Battery
	Charging Power	Support USB PD 15V/2A (Supports Quick Charging Adapter) 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.

RTK GNSS RECEIVER

Precise Positioning, Efficient Surveying



High Precision
Centimeter-level accuracy



Multi-Constellation
GPS / BDS / GLONASS / Galileo



Strong & Reliable
IP67 Waterproof & Dustproof



Long Battery Life
12 hours working time



Easy to Use
Lightweight & Portable



Professional GNSS Solutions
for Surveying & Mapping



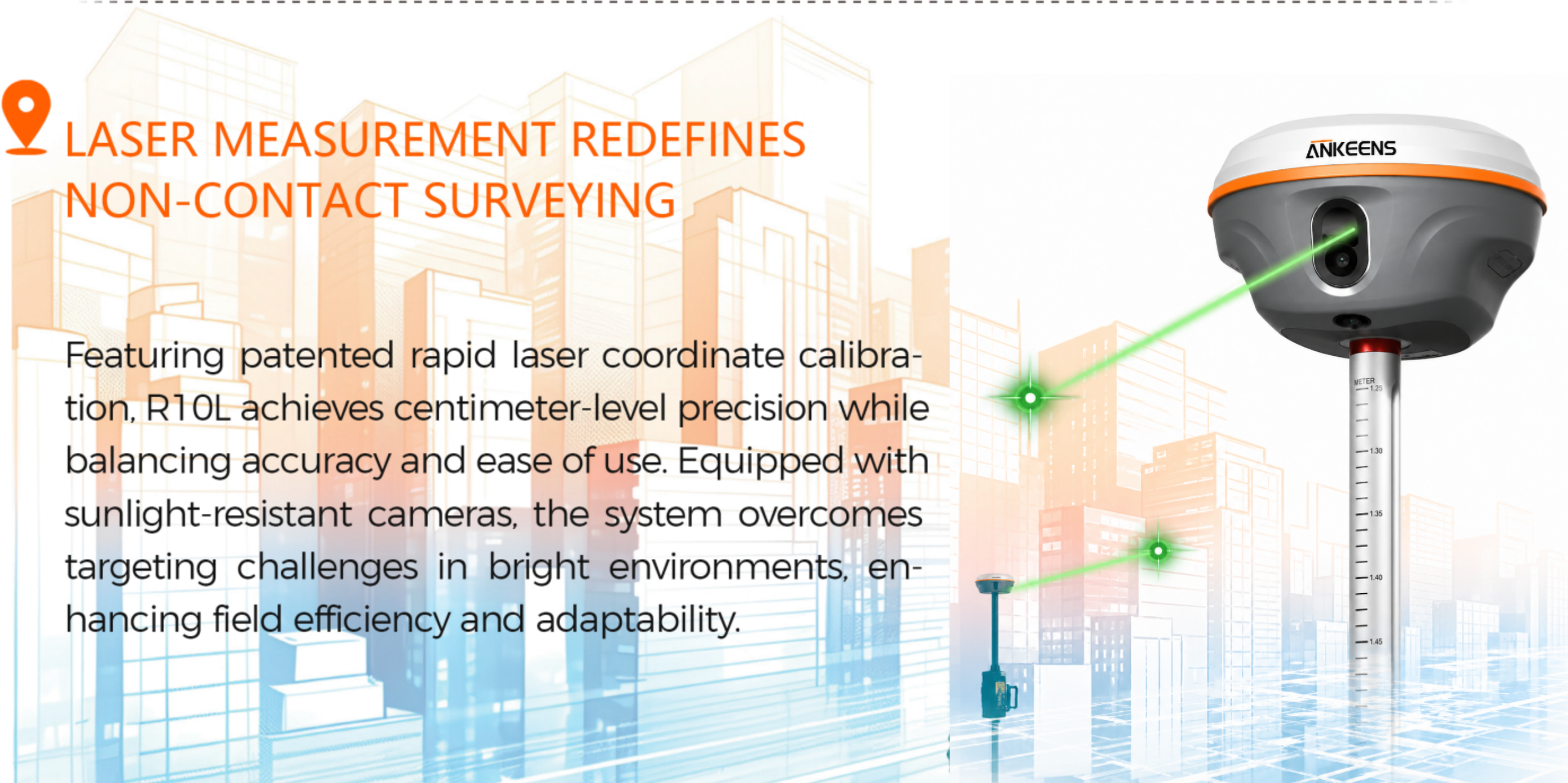
LASER X AR

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 <math><2\text{cm}</math> tilt accuracy at



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.

