

eRTK25

THE VISUAL GNSS RECEIVERS WITH LASER PRECISION

eSurvey eRTK25 is a high-precision GNSS receiver integrating laser ranging and a wide-angle dual-camera vision measurement system, designed for efficient operation in challenging environments such as daylight conditions, confined spaces, and extreme temperatures.



Laser + CAD AR Dual-Tech Integration

- **AR Stakeout:**

Overlay CAD designs onto real-world environments via AR, boosting on-site efficiency by 40%.

- **Laser Precision:**

Achieve centimeter-level accuracy with non-contact measurements, ideal for extreme temperatures or tight spaces.

- **High performance and stability:**

The eSurvey eRTK25 integrates laser ranging technology and AR vision stakeout, enabling robust centimeter-level positioning even in harsh or constrained settings. Its multimodal sensor fusion ensures operational adaptability across diverse scenarios, including full daylight visibility, narrow spaces, and extreme temperature ranges (-30°C to 70°C), making it ideal for industrial, construction, and geospatial applications requiring precision in dynamic environments.

Max 60° Tilt Survey

- **No-Leveling Measurement:**

Capture data while standing or moving, even with the rod tilted up to 60°.

- **Adapts to Complex Terrain:**

Easily access confined spaces (e.g., building corners, slopes) to boost efficiency.

- **Dynamic Stability:**

Maintains precision even if the rod shakes, as long as the tip remains stationary.

Multi-Constellation & Multi-Frequency Support

1408 GNSS Channels: Simultaneously processes signals from GPS, BDS, GLONASS, Galileo, QZSS, NavIC, SBAS, and L-Band, ensuring stable centimeter-level accuracy for global positioning.

Advanced Long-Range Tx/Rx UHF Modem

Integrated with the long range UHF modem, the eRTK25 is compatible with traditional major radio protocols. The maximum communication distance can reach 10 km with 1W transmit power in urban environments.



Website & Social media

Product Specification

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GNSS Performance		System
Satellites tracking	GPS	L1 C/A, L1C, L2P (Y), L2C, L5
	BDS	BII, B2I, B3I, B1C, B2a, B2b
	GLONASS	L1, L2, L3
	Galileo	E1, E5a, E5b, E6
	QZSS	L1, L2, L5
	NavIC	L5
	SBAS	WAAS, GAGAN, MSAS, EGNOS, SDCM, BDS
	L-Band	B2b PPP (Only for the Asian-Pacific region), HAS ¹
	Channels	1408
	Signal reacquisition	< 1 second
Cold start		< 30 seconds
Warm start		< 20 seconds
Hot start		< 5 seconds
RTK signal initialization		< 5 seconds
Initialization reliability		> 99.9%
Update rate		20Hz
High precision static	H:	2.5 mm + 0.1 ppm (RMS)
	V:	3.5 mm + 0.4 ppm (RMS)
Static and fast static	H:	2.5 mm + 0.5 ppm (RMS)
	V:	5 mm + 0.5 ppm (RMS)
RTK	H:	8 mm + 1 ppm (RMS)
	V:	15 mm + 1 ppm (RMS)
Standard point positioning	H:	1.5 m (RMS)
	V:	2.5 m (RMS)
Code differential	H:	0.4 m (RMS)
	V:	0.8 m (RMS)
SBAS	H:	0.8 m (RMS)
	V:	0.8 m (RMS)
Correction data	RTCM V3.X, RTCM2, CMR	
Data output	GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary	
Power Supply		
Battery	Rechargeable Built-in Lithium-ion battery x 1 3.6 V ~ 13400 mAh	
Voltage	Type-C PD 12V/1.5A	
Working time	10 hours as UHF with AR and Laser working	
Charging time	Typically 5 hours	
Internet Modem		
Supported band	Global 4G LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/ B13/B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900 MHz	
Visual Configuration		
Pixel	Dual cameras with 5MP for the bottom and 5MP for the front	
FOV	72° for the bottom and 90° for the front	
Laser accuracy	Range: 0.1-50m Accuracy: ±1cm+5mm/m	

1: It will be supported through future firmware update.

2: It varies with the obstacle, terrain and protocols.

3: It is only available for radio protocol "Satel".



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