

Technical parameters

GNSS Signal ^[1]	Channel	1408
	GPS	L1C/A, L1C, L2P(Y), L2C, L5
	BDS	B1I, B2I, B3I, B1C, B2a, B2b
	GLONASS	L1, L2, L3
	Galileo	E1, E5a, E5b, E6
	QZSS	L1, L2, L5, L6*
	NavIC	L5
	SBAS	L1, L2, L5
	PPP	B2b-PPP, Galileo E6-HAS
	High-Precision Static	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.4 ppm RMS
Positioning Performance ^[2]	Static and Fast Static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
	Post Processing Kinematic (PPK / Stop & Go)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialization time: typically 10 min for base and 5 min for rover Initialization reliability: typically >99.9%
	PPP	Horizontal: 10 cm RMS Vertical: 20 cm RMS
	Code Differential GNSS Positioning	Horizontal: ±0.25 m+1 ppm RMS Vertical: ±0.5 m+1 ppm RMS SBAS: 0.5 m (H), 0.85 m (V)
	Real Time Kinematic (RTK)	Horizontal: 8 mm+1 ppm RMS Vertical: 15 mm+1 ppm RMS Initialization time: typically < 10s Initialization reliability: typically > 99.9%
	Positioning Rate	1 Hz, 5 Hz and 10 Hz
	Time to First Fix	Cold start: < 45 s Hot start: < 30s Signal re-acquisition: < 2 s
	Hi-Fix	Horizontal: RTK+ 10 mm / minute RMS Vertical: RTK+ 20 mm / minute RMS
	Tilt Survey Performance ^[3]	200 Hz, auto calibration, additional horizontal pole-tilt uncertainty typically less than Horizontal: 8 mm+0.7mm/° tilt (0~60°) Vertical: 15mm+0.7mm/° tilt (0~60°)
	Image Stakeout Accuracy	2 cm accuracy
Physical	Laser measurement ^[4]	RMS≤3cm@5m; RMS≤5cm@10m
	Dimensions (W x H)	130.97mm × 71.99mm
	Weight	≤ 0.8kg (1.61 lb)
	Operation Temperature	-20°C ~ +50°C (-4°F ~ +122°F)
	Storage Temperature	-40°C ~ +55°C (-40°F ~ +131°F)
	Humidity	100% non-condensing
	IP Rating	IP68 (according to IEC 60529)
	Shock and Vibration	MIL- STD- 810 G, 514.6
	Free Fall	Designed to survive a 1.8 m natural fall onto concrete
	Internal Battery ^[5]	RTK rover(GSM): up to 16 h; RTK rover(UHF): up to 13 h; Laser Survey: up to 10 h;Visual Stakeout: up to 12 h; GSM RTK Base: up to 16 h;
Electrical	External Power	Using standard smartphone chargers or external power banks (Support 5V 2.8A Type-C USB external charging)
	I/O Interface	1 × USB type C port; 1 × SMA antenna port, 1 × Nano SIM card slot
	Wi-Fi	Frequency 2.4 GHz/5.8GHz, supports 802.11 a/b/g/n/ac
	Bluetooth	BT 5.2, 2.4 GHz
	NFC	Near field communication for device touch pairing
	Network Modem	TDD-LTE, FDD-LTE, GSM Power: 1 W / 1.5 W adjustable Frequency: 410 MHz~470 MHz
	Internal UHF Radio	Protocol: LoRa, SATLAB, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc.
		Working range: Up to 15 km ^[6]
		Channel: 116 (16 scalable)
Laser	Laser Product Classification	Class 3R
	Optimal Measuring Distance ^[7]	up to 100 m up to 50 m (optional)
Camera	Front Camera	Image-assisted laser aiming and Support real scene CAD stakeout
	Bottom Camera	Support AR stakeout
Control Panel	Physical Button	1
	LED Lights	Satellite, Signal, Power
System Configuration	Storage	64GB ROM internal storage
	Output Format	ASCII: NMEA-0183
	Output Rate	1 Hz~20 Hz
	Static Data Format	GNS, Rinex
	Real Time Kinematic (RTK)	RTCM2.X, RTCM3.X, CMR
	Network Mode	VRS, FKP, MAC, support NTRIP Client, NTRIP Caster, Satlab Caster

Note:

[1]The measurement accuracy, precision, reliability and initialization time depend on various factors, including tilt angle, number of satellites, geometric distribution, observation time, atmospheric conditions and multi-path validation, etc. The data are derived under normal conditions.

[2]Accuracies are dependent on GNSS satellite availability. Hi-Fix Positioning ends after 5 minutes without differential data.Hi-Fix is not available in all regions, check with your local sales representative for more information.

[3]Irregular operations such as rapid rotation and high-intensity vibration may affect the inertial navigation accuracy.

[4]The accuracy is tested by Satlab in specified test scenarios, it may have some deviations in certain scenarios.

[5]The battery operating time is related to the operating environment, operating temperature and battery life.

Descriptions and Specifications are subject to change without notice

[6]Communication distance can be achieved when the LoRa protocol is used

[7] Optimal measuring distance achieved under favourable conditions (nighttime, high-reflectivity targets). Actual range varies with target reflectivity, ambient light and weather conditions.



SL8

Dual-Camera Laser RTK



SL8 Dual-Camera Laser RTK

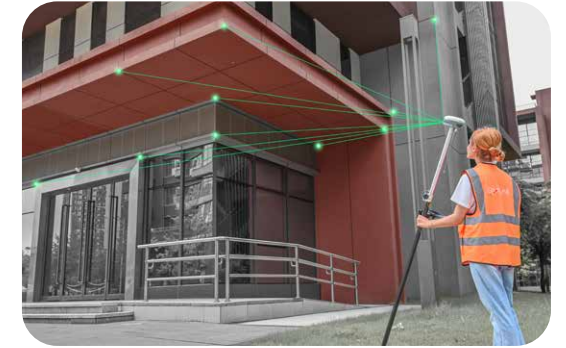
SatLab SL8 Laser RTK combines dual cameras, GNSS, IMU, and visible laser technology to make surveying faster and easier. With non-contact measurement, image-assisted targeting, CAD live-view stakeout, and a built-in LoRa radio , it ensures smooth, reliable work even in complex or GNSS-limited environments.



Features

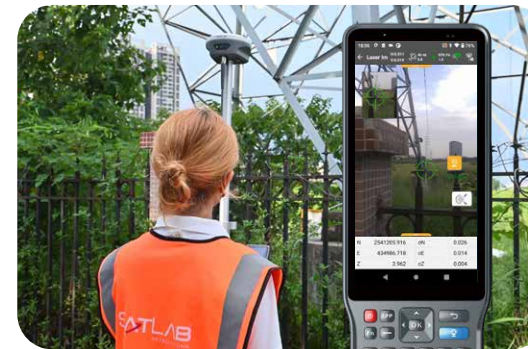
Laser Stakeout —Precise and Efficient

Laser RTK integrates high-precision positioning and visual laser guidance, enabling rapid stakeout that significantly improves work efficiency and accuracy, easily handling complex construction scenarios and facilitating the efficient advancement of engineering projects.



Exclusive Image-assisted Targeting

Laser points are directly overlaid on real-time images via Satsurv software, allowing users to quickly and accurately aim at distant objects, significantly improving field efficiency.



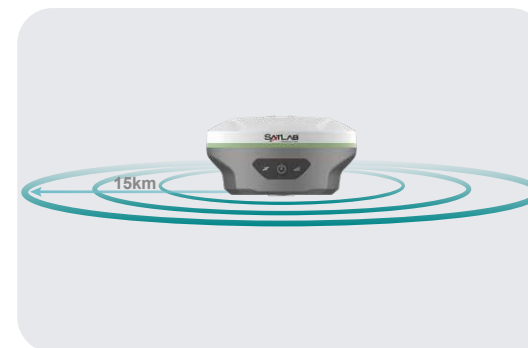
Advanced IMU — Greatly Boosted Efficiency

The IMU requires no manual calibration, allowing users to start measuring immediately without initialization. It delivers stable, accurate data, enhancing precision by up to 40%, and ensuring smooth operations in GNSS-challenged zones.



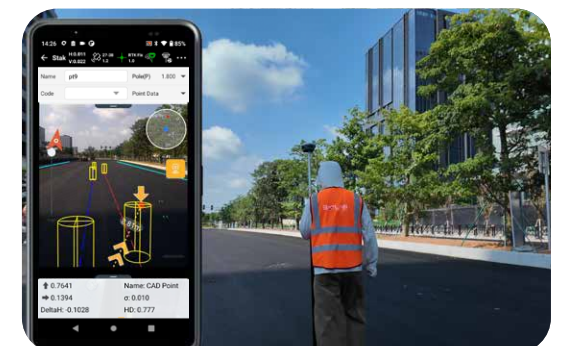
Extended-Range LoRa Communication — Reliable Working Distance

Equipped with a built-in LoRa transceiver supporting multiple protocols and compatible with various RTK brands, our self-developed LoRa algorithms deliver reliable data transmission over distances of up to 15 km.

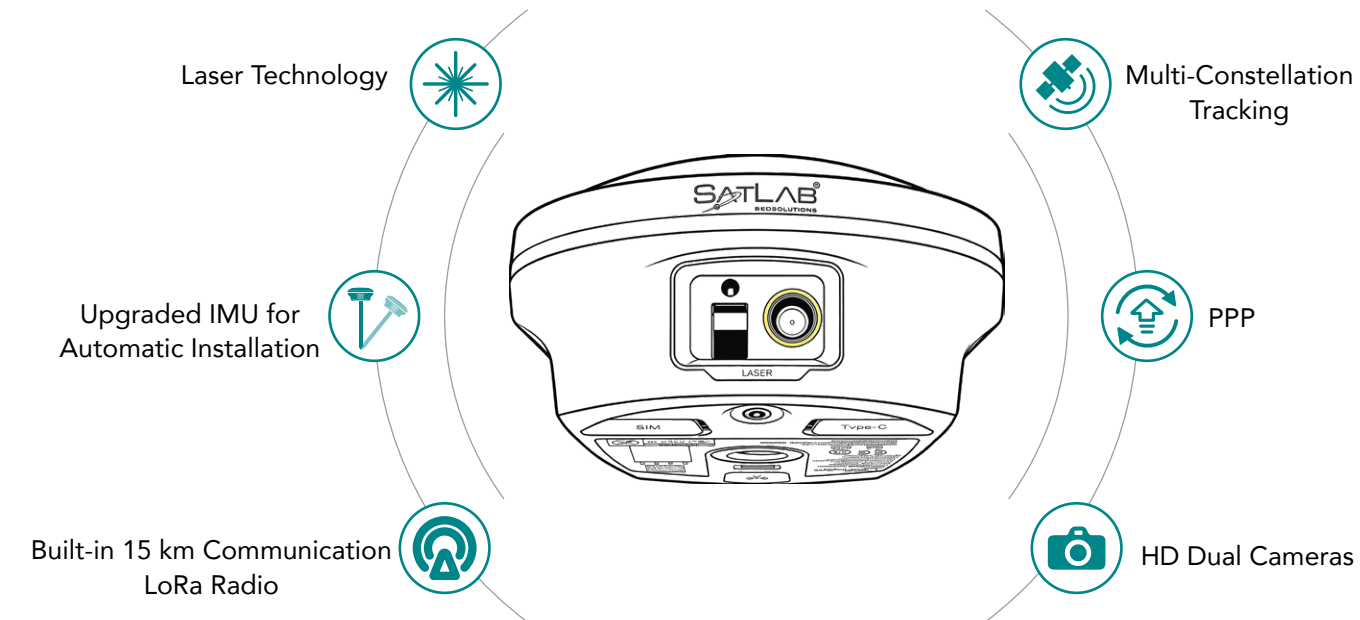


CAD Real Scene Staking — 3D Layer Visualization

Breaking away from the limitations of traditional stakeout, the new CAD engine "brings" drawings into the real site, realizing the visualization of CAD layout. The lines on the drawings closely match the real-world features, accurately guiding every point and structural boundary, making even complex components clear at a glance.



Features



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