## TECHNICAL SPECIFICATIONS

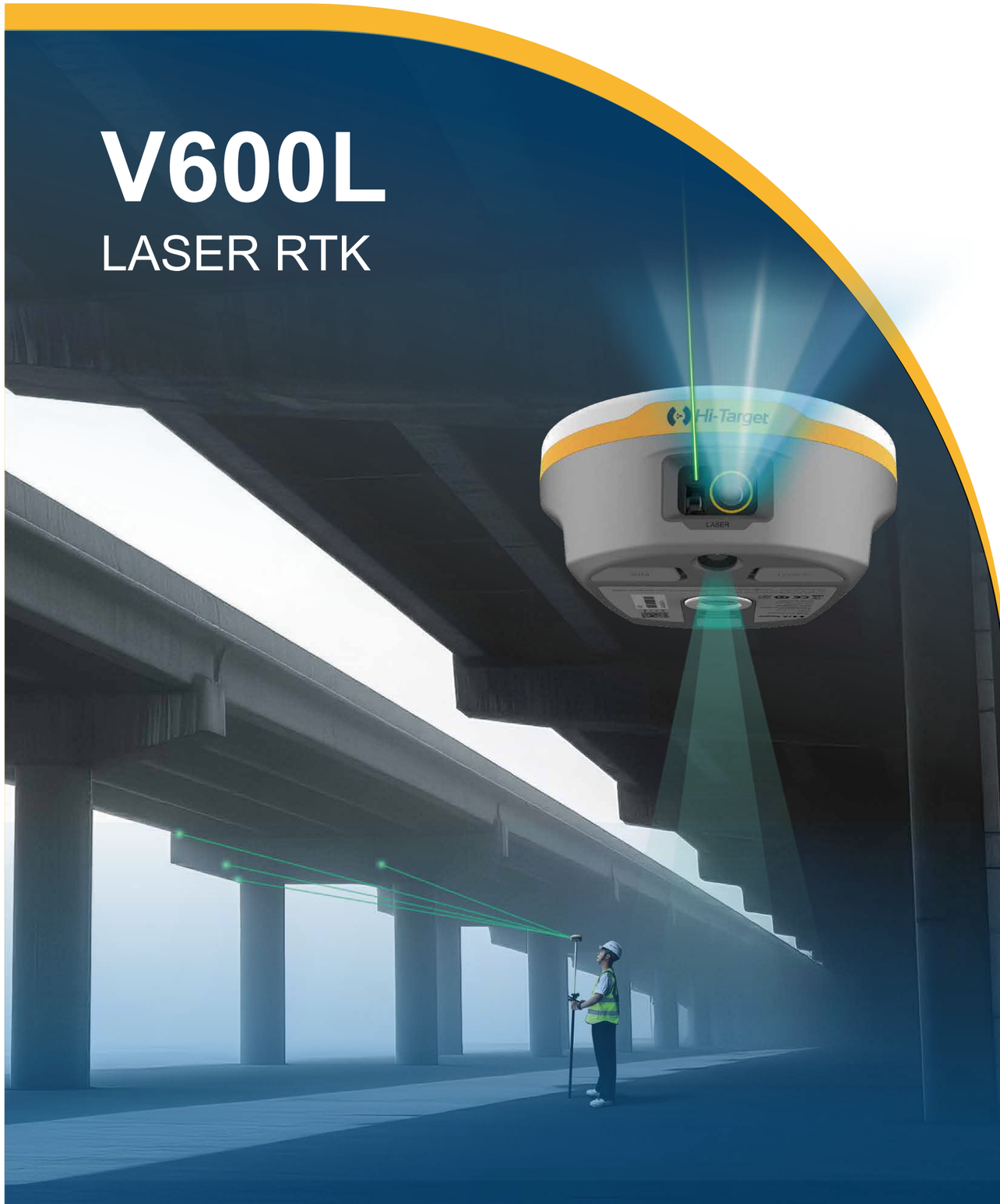
| | | | | |
|---|---|---|---|---|
| **GNSS Signal**[1] | Channel | 1408 | | |
| | GPS | L1C/A, L1C, L2P(Y), L2C, L5 | | |
| | BDS | B1I, B2I, B3I, B1C, B2a, B2b | | |
| | GLONASS | L1, L2, L3 | | |
| | GALILEO | E1, E5a, E5b, E6 | | |
| | QZSS | L1, L2, L5, L6* | | |
| | NavIC | L5 | | |
| | SBAS | L1, L2, L5 | | |
| | PPP | B2b-PPP, Galileo E6-HAS | | |
| **Positioning Performance**[2] | 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 | |
| | Post Processing Kinematic (PPK / Stop & Go) | H: 8 mm + 1 ppm RMS | V: 15 mm + 1 ppm RMS | |
| | | Initialization time: typically 10 min for base and 5 min for rover<br>Initialization reliability: typically>99.9% | | |
| | PPP | H: 10 cm | V: 20 cm | |
| | Code Differential GNSS Positioning | H: ±0.25 m+1 ppm RMS<br>SBAS: 0.5 m (H), 0.85 m (V) | V: ±0.5 m+1 ppm RMS | |
| | Real Time Kinematic (RTK) | H: 8 mm+1 ppm RMS<br>Initialization time: typically < 10 s | V:15 mm+1 ppm RMS<br>Initialization reliability: typically > 99.9% | |
| | Hi-Fix | H: RTK+10 mm / minute RMS | V:RTK+20 mm / minute RMS | |
| | Time to First Fix | Cold start: < 45 s | Hot start: < 30 s | Signal re-acquisition: < 2 s |
| | Positioning Rate | 1 Hz, 5 Hz and 10 Hz | | |
| | Tilt Survey Performance[3] | 200 Hz, auto calibration, additional horizontal pole-tilt uncertainty typically less than<br>H: 8 mm+0.7 mm/°tilt(0~60°); V: 15 mm+0.7 mm/°tilt (0~60°) | | |
| | Image Stakeout Accuracy | 2 cm accuracy | | |
| | Laser measurement[4] | RMS≤3cm@5m； RMS≤5cm@10m | | |
| **Physical** | Dimensions (W x H) | 130.97mm × 71.99mm | | |
| | Weight | ≤ 0.8kg ( 1.61 lb ) | | |
| | Operation Temperature | -20℃~+50℃ (-4°F~ +122°F) | | |
| | Storage Temperature | -40℃~+55℃(-40°F ~ +131°F) | | |
| | Humidity | 100% non-condensing | | |
| | IP Rating | IP68 ( according to IEC 60529 ) | | |
| | Shock and Vibration | MIL-STD-810G, 514.6 | | |
| | Free Fall | Designed to survive a 1.8 m natural fall onto concrete | | |
| **Electrical** | Internal Battery[5] | RTK rover(GSM): up to 16 h; RTK rover(UHF): up to 13 h;Laser Survey: up to 10 h;<br>Visual Stakeout: up to 12 h； GSM RTK Base: up to 16 h； | | |
| | External Power | using standard smartphone chargers or external power banks<br>(Support 5V 2.8A Type-C USB external charging) | | |
| **Communication** | 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 | | |
| | Internal UHF Radio | Power: 1 W / 1.5 W adjustable | | |
| | | Frequence: 410 MHz~470 MHz | | |
| | | Protocol: LoRa, HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc. | | |
| | | Working range: Up to15 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 | 64 GB ROM internal storage | | |
| | Output Format | ASCII: NMEA-0183 | | |
| | Output Rate | 1Hz~20Hz | | |
| | Static Data Format | GNS, Rinex | | |
| | Real Time Kinematic (RTK) | RTCM2.X, RTCM3.X, CMR | | |
| | Network Mode | VRS, FKP, MAC, support NTRIP Client, NTRIP Caster，Hi-Target 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 Hi-Target 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.

Hi-Target

# V600L

## LASER RTK



# V600L LASER RTK

Hi-Target next-generation Laser RTK that combines GNSS, IMU, dual-camera, and visible laser technologies for immersive, efficient, and precise fieldwork—especially in environments like under bridges, near fences, or across ditches.

With visualized laser targeting and non-contact measurement, it unlocks a new level of accessibility and safety in obstructed, complex, or semi-enclosed terrains.



## Laser Stakeout —Stake Everything You can See

The laser points directly at the target, with a clearly visible indication; what you see is what you get, just aim to stake-out, achieving precise stakeout job several meters away with a single click.





## IMU You Can Trust — No Initialization Needed

With Advanced IMU, no initialization needed. Start measuring instantly with up to 40% better stability and accuracy, even on rugged terrain.




## Built-in LoRa Radio, Cross-Brand Compatibility

Integrated LoRa transceiver supports multiple protocols and brands, delivering up to 15 km working range in typical environments.

# Hi-Survey Software

## Survey Data Collection Software

Hi-Survey is an Android software that is designed for all types of land survey and road engineering projects in the field. It is compatible with Hi-Target professional controllers, Android phones, tablets and other third-party Android devices. It is a sleek and easy-to-use software that supports the operating of big data with built-in tools. With customized industrial application solutions, more possibilities are created for users.

## Visual Laser Targeting

Seamlessly integrates laser and imaging technologies displaying the laser spot directly on the screen for fast, intuitive aiming. No guesswork, no extra steps.By fusing laser and visual technologies, our system delivers non-contact measurements with up to 5 cm accuracy within 10 m.





## CAD Real-Scene 3D Stakeout

A brand-new high-performance CAD engine is combined with the real scene, achieving precise and seamless integration. It provides a new, visualized measurement and stakeout experience, ensuring that stakeout jobs are completed in one step.

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