TFN TKI Series Laser Rangefinder Monocular

Product Introduction

The TKI Series is a professional monocular laser rangefinder engineered for long-distance precision measurement up to 6,000 meters. Built with a high-transmission, low-dispersion optical lens and a 7x magnification sight, it delivers crystal-clear images even for users with vision impairments. Equipped with advanced gating function, it minimizes environmental interference for selective ranging. This rugged device integrates distance, horizontal/vertical distance, elevation angle, and azimuth measurement modes, with an internal memory storing up to 1,000 data points. Ideal for surveying, forestry, outdoor sports, and military applications, the TKI Series offers reliability in extreme conditions (-20 ° C to +50 ° C), dustproof and waterproof construction, and a long operational life of over 20,000 shots.

Product Key Selling Points

☑ Ultra-Long Range & High Accuracy

The TKI Series measures distances from 30m to 6,000m with an outstanding error of only ± 0.5m. Whether you need to gauge a distant mountain peak or a far shoreline, this rangefinder provides dependable data. Achieve 98% hit probability with a repetition frequency of 10-20 measurements per minute – saving time and improving workflow efficiency for professional surveyors and outdoor enthusiasts.

☑ Selectable Gating Function for Complex Environments

Rain, fog, or background clutter often disrupt laser readings. The TKI Series features a distance gating function (20 – 5,100m, adjustable in 10m steps) that filters out unwanted echoes. This allows you to isolate your target from interfering objects like tree branches or power lines, ensuring you get the correct range every time. Perfect for military observation, search & rescue, and wildlife monitoring.

☑ Multi-Mode Measurement & Data Storage

Beyond simple distance, the TKI Series calculates horizontal distance (H), vertical distance (V), elevation angle (±0.1° accuracy within ±25°), and azimuth relative to true north (±1° accuracy). It stores up to 1,000 measurement records internally. Field engineers and geologists

can now track multiple points without a notepad, streamlining data collection and reducing human error.

☑ Ergonomic Design with Vision-Friendly Optics

The full optical low-dispersion lens ensures high light transmittance, while the right eyepiece diopter adjustment allows users with myopia, hyperopia, or presbyopia to view the reticle clearly without glasses. The large 6.5° field of view and 7x magnification make target acquisition effortless. No more eye strain during long hours of operation – a game-changer for outdoor professionals.

☑ Rugged & Reliable in Harsh Conditions

Rated for dustproof, waterproof, and shock-resistant performance, the TKI Series operates flawlessly from -20° C to +50° C. Its 1kg compact body (151 × 149 × 79mm) houses a rechargeable 18650 lithium battery (3.7V, 3400mAh) delivering extended field use. With a laser source lifetime of over 20,000 shots, this rangefinder is built to withstand years of heavy-duty service in construction, mining, and tactical environments.

Product Specifications

Parameter	Value
Product Model	TKI Series
Measurement Range	30 ~ 6000 m
Ranging Error	±0.5 m
Distance Gating Range	20 ~ 5100 m (adjustable step: 10 m)
Hit Probability	98%
Repetition Frequency	1/6 ~ 1/3 Hz (10 ~ 20 times/min)
Compass Accuracy	±1 degree
Tilt Angle Accuracy	±0.1 degree (within ±25°)
Measurement Data Storage	1000 records
Receiving Aperture	Φ30 mm
Sight Field of View	6.5°
Sight Magnification	7X
Laser Wavelength	1.064 μm
Laser Source	Nd:YAG
Output Energy	≥5 mJ
Operational Life (laser)	≥20,000 shots
Working Temperature	-20℃ ~ +50℃
Environmental Protection	Dustproof, waterproof, shock-resistant
Dimensions (L×W×H)	151 mm × 149 mm × 79 mm
Weight	1 kg
Power Supply	1×18650 Li-ion battery (3.7V, 3400mAh)

Product Features

Section 1: Long-Distance Precision with Error Compensation

The TKI Series delivers accurate distance readings from 30 meters up to an impressive 6 kilometers, with a margin of error as low as ±0.5 meters. For professionals in civil engineering, forestry, or power line inspection, traditional tape measures or GPS are often impractical over long spans or in dense canopy. This rangefinder eliminates guesswork by providing instant, reliable data even at extreme ranges. The built‑in compensation algorithm reduces environmental interference, so you can trust the number on screen whether you are measuring a valley width or a tower height. No more repeated measurements or cross-checking—one press, one confident result.

Section 2: Distance Gating to Reject Clutter

One of the biggest frustrations with ordinary laser rangefinders is picking up false echoes from foreground objects like branches, wires, or raindrops. The TKI Series solves this with its configurable distance gating function. You set a minimum range (e.g., 200m), and the device ignores any signal returned before that threshold. This ensures that even if a small bush is 50m in front of your target, the reading only reflects the intended structure. For search and rescue teams locating a hiker on a wooded slope, or for military observers scanning a ridgeline, this feature is indispensable. It drastically reduces false triggers and increases mission efficiency.

Section 3: Multi-Dimensional Measurement—One Device, Many Applications

Beyond simple line-of-sight distance, the TKI Series simultaneously calculates horizontal distance (H), vertical drop (V), elevation angle, and true azimuth. Surveyors can now determine the exact base length for a slope without climbing it; linemen can compute the clearance from a conductor to ground; hunters can gauge both the line-of-sight and horizontal distance to a steep target. The built‑in compass references true north, displayed as 000.0° to 359.9° with eastward increase. All these data points are stored internally for later analysis. By consolidating several instruments into one rugged unit, the TKI Series reduces gear weight and simplifies fieldwork.

Section 4: All-Day Usability with Vision-Friendly Optics

Many rangefinders force users to remove their corrective glasses or struggle with dim, distorted views. The TKI Series' full optical low-dispersion lens transmits maximum light, delivering a bright, sharp image even at dawn or dusk. The right eyepiece rotates to adjust focus, accommodating myopia, hyperopia, and presbyopia—so you can see the reticle and data clearly without wearing glasses. The 7x magnification and 6.5° field of view allow quick target acquisition, while the backlit display (with illumination button) ensures readability in low light. This thoughtful design reduces eye fatigue during prolonged observation, making it a preferred choice for rangers, spotters, and wildlife biologists.

Section 5: Rugged Reliability for Extreme Environments

Field equipment often fails due to dust, water ingress, or shock from accidental drops. The TKI Series is built to survive: its housing is dustproof and waterproof, and internal components are shock-resistant. Operating temperature spans from -20° C up to +50° C, so it works on frozen mountaintops or in desert heat. The laser source endures over 20,000 shots, backed by a

high-energy Nd:YAG laser (≥5 mJ). Power comes from a single 18650 lithium battery (3400mAh), widely available and easy to swap. For mining surveyors, tactical teams, or engineering inspectors working in harsh conditions, this rangefinder reduces downtime and replacement costs – a long-term investment in performance.

Applications & Pain Points Solved

Scenario	Customer Pain Point	How TKI Series Solves It
Forestry & Tree Height Measurement	Hard to measure tall tree height or canopy depth accurately from ground.	Horizontal & vertical distance modes plus tilt sensor give reliable tree height without climbing. Gating ignores branches in foreground.
Power Line & Tower Inspection	Need safe distance from live wires; difficult to get clearance values.	Long range (6km) plus horizontal distance calculation allows standing far back, while ±0.5m accuracy ensures compliance.
Military Reconnaissance / Border Patrol	Enemy targets hide behind bushes; ordinary rangefinders return wrong distances.	Distance gating (20-5100m) filters out foreground clutter, locking onto the real target. Rugged and shockproof for field use.
Outdoor Adventure & Mountaineering	Knowing remaining distance to summit or across a valley is critical for safety.	7x magnification and clear optics show distant landmarks. Stores 1,000 waypoints for route planning. Works in -20° C.
Search & Rescue Operations	Low visibility (fog, dust) makes visual estimation unreliable.	Laser rangefinder with ±0.5m precision and high hit probability (98%) works in poor weather. Large storage for recording multiple survivor positions.

Q&A

Q1: Can the TKI Series measure distance through glass or heavy rain?
A: The laser wavelength (1.064 μm) penetrates light rain and fog better than visible light, but thick glass or dense downpour will attenuate the signal. For best results, use the distance gating function to exclude rain droplets in the foreground.

Q2: How many measurements can I store, and how do I retrieve them?
A: The internal memory holds up to 1,000 measurement records. Data can be reviewed directly on the device's display or downloaded via a data interface (please check your unit's output options). This is ideal for logging multiple survey points without a separate notebook.

Q3: Is the battery rechargeable? What is the runtime?
A: Yes, it uses one standard 18650 lithium battery (3.7V, 3400mAh), which is rechargeable. Under normal intermittent use (10-20 shots per minute), the battery can last several days of field work. A spare battery is recommended for extended missions.

Q4: Can people wearing eyeglasses use this rangefinder comfortably?
A: Absolutely. The right eyepiece rotates to adjust diopter, so users with myopia, hyperopia, or presbyopia can focus the reticle without glasses. The rubber eyecup also accommodates eyeglass wearers with proper eye relief.

Q5: What is the difference between “straight line distance (L mode)” and horizontal distance?
A: L mode gives the direct line-of-sight distance between you and the target. Horizontal distance (H) is the projected distance on a flat plane – useful when the target is at a different elevation (e.g., on a hillside). The TKI Series calculates both simultaneously for slope compensation.

Package Contents

1× TKI Series Laser Rangefinder (monocular, with attached eyepiece and objective lens cap)
1× 18650 Rechargeable Lithium Battery (3.7V, 3400mAh)
1× Battery Charger (compatible with 18650 cells)
1× Neck Strap / Lanyard (for hands-free carry)
1× Protective Carry Case (hard shell, foam-lined)
1× Lens Cleaning Cloth (microfiber)
1× Quick Start Guide (multilingual)
1× User Manual (detailed operation instructions, including gating setup and data storage)

Note: Optional accessories (tripod adapter, USB data cable) may be ordered separately.