



TFN SAM5 Laser Rangefinder Monocular



Product Introduction

The TFN SAM5 is a high- performance monocular laser rangefinder designed for professionals who demand accurate distance measurement from 10m up to 4,000m. Combining horizontal ranging, vertical height measurement, and two - point distance calculation in a compact, lightweight body (223g), the SAM5 delivers reliable data for surveying, forestry, hunting, and outdoor navigation. Its single- handed operation and intuitive button layout allow fast mode switching without removing your eye from the target. Built with a clear optical path and durable housing, the SAM5 improves workflow efficiency, reduces field errors, and replaces bulky, heavy equipment. Whether you need to measure remote ridges or verify power line clearances, the TFN SAM5 gives you professional grade results every time.

Product Key Selling Points

Ultra- Long 4,000m Ranging Capability

The SAM5 covers a working distance from 10 meters up to 4,000 meters with high precision. Unlike short- range devices limited to 1,000 – 2,000m, this rangefinder supports long- distance surveying, mountain rescue planning, and large- scale forestry mapping. You can confidently measure faraway peaks, transmission towers, or coastline features without moving closer, saving hours of walking and improving safety in dangerous terrain.

Three- in- One Measuring Modes

Horizontal, vertical, and two- point distance modes are built into one device. Horizontal mode gives straight- line distance regardless of elevation changes – ideal for golf or slope- aware shooting. Vertical mode measures object height (e.g., trees, buildings, cliffs). Two- point mode calculates the straight line between two separate targets, solving complex layout tasks. Switch instantly with a single button; no extra tools or calculations needed.

Ultra- Compact & Lightweight (223g)

Weighing only 223g (without battery) and measuring 100 × 100 × 40mm, the SAM5 fits in a pocket or utility vest. Traditional long- range rangefinders often exceed 400g, causing fatigue



during all- day field work. The SAM5' s ergonomic design enables one- handed operation – press the power/measure button with your thumb while keeping the monocular steady. This means less arm strain and faster target acquisition, especially when wearing gloves or working from a vehicle.

Durable All- Weather Construction

Built to withstand dust, rain, and accidental drops, the SAM5 features a rugged housing with rubber armor. Field professionals in construction, mining, or coastal surveying face unpredictable weather. The rangefinder resists moisture and impacts, ensuring reliable operation in foggy mornings, light rain, or dusty job sites. The eyepiece and lens are treated for anti- reflection, giving clear views even under harsh sunlight. It' s a tool you can trust for years in extreme environments.

Single- Handed Ergonomic Control

The power/measure and mode buttons are placed within natural finger reach, allowing full control without changing grip. Many rangefinders require two hands or menu scrolling – the SAM5 eliminates that waste. After acquiring a target through the monocular, simply press the top button to measure; hold the mode button to cycle through horizontal/vertical/two- point modes. This streamlined workflow reduces reaction time and keeps your other hand free for holding a map, radio, or climbing rope.

Product Specifications

Parameter	Detail
Product Name	TFN SAM5 Laser Rangefinder Monocular
Measurement Range	10 m – 4000 m
Ranging Accuracy	± 1 m (typical)
Laser Type	Class 1, 905 nm (eye- safe)
Magnification	7x
Objective Lens Diameter	25 mm
Exit Pupil Diameter	3.6 mm
Eye Relief	15 mm
Field of View	7°
Diopter Adjustment	± 5 D
Display Type	Transflective LCD with backlight
Measuring Modes	Horizontal distance, vertical height, two- point distance
Ranging Resolution	0.1 m (below 1000m); 1 m (above 1000m)
Operating Temperature	-10° C ~ 50° C (14° F ~ 122° F)
Storage Temperature	-20° C ~ 60° C (-4° F ~ 140° F)
Water / Dust Resistance	IP54 (splash & dust protected)
Power Supply	1 × CR2 3V lithium battery (included)
Battery Life	Approx. 3,000 measurements
Dimensions	100 × 100 × 40 mm (3.94 × 3.94 × 1.57 in)
Weight	223 g (7.87 oz) without battery



Housing Material	ABS + rubber armor coating
Tripod Mount	1/4" - 20 threaded hole

Product Features

Section 1: High- Precision Long- Distance Ranging – Reduce Field Errors

The SAM5 uses a high-speed laser processor that calculates distances from 10m up to 4,000m within 0.5 seconds. Traditional tape measures or wheel meters are impossible for long spans like across a canyon, river, or large quarry. Even GPS can have multi-meter errors due to signal multipath. The SAM5 gives you an exact $\pm 1m$ accuracy on reflective targets, and $\pm 2m$ on natural surfaces like trees or rocks. For engineers needing to verify tower-to-tower spans or forestry crews mapping plot boundaries, this precision eliminates repeated walks and costly rework. You get instant, verifiable data – reducing human error and saving half a day of fieldwork per site.

Section 2: Horizontal Mode – True Distance on Slopes, No Math Needed

When you aim at a target on a steep slope (e.g., mountainside or hillside building), the line-of-sight distance is longer than the horizontal distance that matters for map plotting, construction staking, or shooting. The SAM5's horizontal mode automatically uses the built-in tilt sensor to calculate the corrected horizontal distance. This solves a huge pain point for civil engineers, solar farm installers, and hunters who previously had to carry a separate inclinometer and do trigonometry. You simply point, press, and read the real horizontal distance – instantly improving safety when working on slopes and ensuring accurate material estimates.

Section 3: Vertical Height Measurement – Measure Trees, Towers & Cliffs Without Climbing

Vertical mode allows you to measure the height of an object from base to top using a simple two-point aiming procedure. For arborists, it means no more dangerous ladder climbs to estimate tree height before a removal job. For power line inspectors, you can measure pole height from a safe distance. For rock climbers or rescue teams, you can assess cliff or building height quickly. The SAM5's algorithm works even if you cannot access the base (using angle + distance math). This functionality eliminates guesswork, reduces workplace accidents, and provides auditable records for compliance reporting.

Section 4: Two- Point Distance – Calculate Indirect Span Between Two Remote Objects

Sometimes you need to know the distance between two targets that are neither you nor on a straight line – for example, the width of a river, the gap between two radio towers, or the span from a tree edge to a building corner. The two-point mode on the SAM5 lets you aim at point A then point B, and the device instantly computes the straight line between them. Surveyors no longer need to walk around obstacles or set up a total station for a simple offset. Construction managers can verify clearance distances without entering hazard zones. This feature saves hours of manual triangulation and reduces the need for extra crew members.

Section 5: Monocular Optical Path & Clear LCD – Accurate Targeting in Any Light

The 7x magnification and 25mm objective lens deliver a bright, sharp image even in low-



dawn or dusk conditions. Unlike pure electronic range finders with small digital screens, the SAM5's optical monocular gives you a natural, real-time view while overlaying distance data on the LCD. You never lose sight of your target due to pixel lag or sunlight glare (thanks to the transfective display). For wildlife observers, hunters, or security patrols who need silent, battery-efficient operation, this hybrid design is a game-changer. It reduces eye strain after hours of use and enables fast target re-acquisition – critical when you have only seconds to log a measurement.

Applications & Pain Points Solved

Scenario	Customer Pain Point	How SAM5 Series Solves It
Forestry & Tree Height Assessment	Arborists risk injury climbing trees to measure height for removal quotes or inventory. Traditional long tape measures tangle on branches.	Use vertical mode from ground level – instantly get tree height without ladders. Reduce accident risk and speed up daily surveys by 70%.
Construction Site Slope Staking	Civil engineers need horizontal distances for foundation layout on hilly terrain. Standard GPS gives slope distance, causing foundation misalignment.	Horizontal mode provides corrected ground distance. Place stakes correctly the first time, avoiding costly concrete re-pours.
Power Line Sag & Clearance Check	Utility inspectors must verify conductor-to-ground and conductor-to-tower distances. Manual climbing or helicopter surveys are expensive and dangerous.	Two-point mode measures span between conductors and poles from a safe roadside position. Generate compliance reports in minutes, not days.
Long-Range Hunting & Shooting	Hunters in open country (e.g., Western US or African savannah) misjudge distances beyond 800m, leading to missed shots or unethical wounding.	4,000m laser gives precise range to target and automatically compensates for slope angle (horizontal mode). Increase first-round hit probability.
Marine & Coastal Survey	Harbor engineers need distance from shore to buoy or across inlet. Boats are expensive and weather-dependent.	Lightweight SAM5 can be used from a cliff or dock. Measure up to 4km across water – no boat, no fuel. Works in light fog/drizzle (IP54).

Q&A

Q1: What is the maximum reflective range and non-reflective range?

A1: The SAM5 measures up to 4,000m on highly reflective targets (e.g., survey prisms, road signs, white buildings). For natural objects like trees, rocks, or dark soil, the reliable range is 2,000 – 2,500m depending on lighting and target size. Minimum distance is 10m.

Q2: Is the laser safe for eyes?

A2: Yes. The SAM5 uses a Class 1 laser (905 nm) which is eye-safe under normal use. No special



goggles required. However, never intentionally point the laser into anyone's eyes.

Q3: Does it work through glass windows or heavy rain?

A3: Through standard window glass, ranging may be inaccurate or fail due to reflection. Heavy rain, snow, or dense fog can also reduce maximum range. For best results, use in clear conditions and aim at solid, non-glossy surfaces.

Q4: What battery does it use and how long does it last?

A4: The SAM5 runs on one CR2 3V lithium battery (included). Typical battery life is about 3,000 measurements under normal use (-10 ° C to 25 ° C). In extreme cold, keep a spare battery warm in your pocket.

Q5: Can I mount it on a tripod for long-term monitoring?

A5: Absolutely. The SAM5 has a standard 1/4" - 20 threaded socket on the bottom. Use any camera or surveying tripod for stable, shake-free measurements – ideal for construction layout or repetitive forestry plots.

Package Contents

- 1 × TFN SAM5 Laser Rangefinder Monocular (main unit)
- 1 × CR2 3V Lithium Battery (pre-installed)
- 1 × Carrying Pouch (nylon, belt-loop compatible)
- 1 × Neck/Wrist Lanyard (detachable)
- 1 × Lens Cleaning Cloth (microfiber)
- 1 × Quick Start Guide (multi-language: English, Spanish, German, French)
- 1 × Calibration Certificate (factory test report)

Optional accessories (sold separately): Tripod adapter kit, spare CR2 battery pack, hard carrying case.

For bulk orders or OEM inquiries, please contact our B2B sales team. All specifications are subject to improvement without prior notice.