

ZeroTech Optics USA - Precision Rifle Scopes, Binoculars & Spotting Scopes

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Description:

ZeroTech Optics USA has precision optics designed and built for the backcountry hunter with accuracy and clarity that will exceed your expectations. Featuring rifle scopes, binoculars, red dots, and spotting scopes with cutting-edge precision technology tailored to hunters and shooters. Over 50 years of expertise in the optics industry.

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Brand: ZeroTech Optics USA

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Product Intelligence

ZeroTech Optics USA: Comprehensive Technical Details, Specifications, and Features ## Organization Overview **ZeroTech Optics USA** is the official United States division and authorized retailer of ZeroTech Optics, serving as the primary direct sales channel through which customers in the United States can purchase optical products manufactured by ZeroTech. Operating as both a manufacturer's direct sales entity and authorized distributor, ZeroTech Optics USA enables customers to purchase authentic ZeroTech optical products with confidence in their direct sourcing from the manufacturer. ## Product Categories and Specifications ### Rifle Scopes ZeroTech Optics USA manufactures and distributes multiple rifle scope series across different performance tiers, each engineered with specific technical specifications and optical characteristics. #### Magnification and Optical Design Specifications Rifle scopes are available across varying magnification ranges with corresponding objective lens diameters. The magnification range specifications vary from entry-level models such as 3-9x configurations to advanced options including 6-24x and 4.5-27x magnification ranges. Objective lens diameters range from 24mm on compact models to 56mm on premium long-range configurations, affecting light gathering capability and overall scope brightness. The scopes feature either First Focal Plane (FFP) or Second Focal Plane (SFP) reticle designs. FFP designs, where the reticle is positioned in the front focal plane, enable accurate holdover and windage compensation at any magnification level, making them suitable for competitive shooting and long-range precision applications. SFP designs position the reticle in the rear focal plane, calibrating the reticle at a specific magnification power, typically used in hunting applications where quick target acquisition is prioritized. #### Main Tube Diameter Specifications The main tube diameter represents a critical structural specification affecting mounting compatibility and overall scope robustness. Optical scopes feature a 30mm main tube diameter, which has become the standard for modern riflescopes, providing

excellent strength while maintaining compact proportions. This specification directly influences the scope's capability to withstand recoil and environmental stress during field use. ##### Objective and Ocular Outer Diameter Specifications Objective outer diameters vary significantly across the product portfolio based on magnification and lens configuration. Measurements documented across various models range from 30mm on compact LPVO (Low Power Variable Optic) models to 57.5mm on standard hunting configurations and 59-65mm on premium long-range variants. These measurements determine the physical size of the front lens housing and influence mounting clearance and overall scope compatibility with various rifle platforms. Ocular outer diameter specifications, measuring the eyepiece assembly's external diameter, are consistently documented at 43.5mm across multiple scope configurations, including Thrive HD series models and Trace riflescope variants. Alternative measurements documented across different scope lines include 42.5mm, 43.9mm, 44mm, and 47mm specifications, affecting eyepiece comfort and ergonomics during extended shooting sessions. ##### Adjustment Specifications **Elevation and Windage Adjustments:** Optical scopes feature turret-based adjustment systems enabling elevation and windage corrections. Adjustment specifications include turret index values of 0.5 MOA (Minute of Angle), providing precise one-quarter inch adjustments at 100 yards. Internal elevation adjustment capabilities range from 50 MOA to 120 MOA depending on the specific model, enabling compensation across varying distances and shooting angles. **Parallax Adjustment:** Adjustable parallax systems enable elimination of parallax error across distance ranges from 15 meters to infinity, critical for precision shooting at variable distances. This adjustment ensures the reticle remains properly aligned with the target plane, maintaining accuracy across the entire field of view at different shooting distances. ##### Optical Performance Specifications **Exit Pupil Diameter:** Exit pupil measurements, documented at specifications such as 13.6mm on low magnification and 3.4mm on high magnification settings, determine the usable light output and brightness characteristics of the scope across the magnification range. **Eye Relief:** Eye relief specifications—the distance from the ocular lens at which the full field of view is visible—range from 82mm to 100mm across various models, with some configurations providing 90mm of eye relief for comfortable viewing and safety during recoil. These measurements ensure proper shooting ergonomics and safety margins preventing scope bite during rifle discharge. **Field of View:** Field of view measurements at 100 meters typically range from approximately 2.96m to 11.36m depending on magnification settings, with lower magnifications providing broader fields for quick target acquisition and higher magnifications offering narrower fields optimized for precision aiming. ##### Lens Coating Technologies Scopes feature Fully Multi-Coated (FMC) lens coating applied across optical surfaces to optimize light transmission and reduce reflections and glare. This coating technology ensures maximum brightness and image clarity by allowing light to pass efficiently through the optical system rather than being reflected away, particularly important for maintaining visibility across varying lighting conditions. ##### Waterproof and Environmental Protection All ZeroTech Optics USA scopes utilize argon purging and O-ring sealing technologies. Argon purging prevents internal fogging by displacing moisture-containing air with inert argon gas, maintaining internal clarity in humid conditions. O-ring sealing provides waterproof protection, enabling reliable performance in wet environments and preventing moisture infiltration that could compromise optical performance. ##### Weight Specifications Weight varies considerably across the product portfolio based on magnification range and objective lens diameter: - **Thrive HD models** range from 588 grams (20.7 ounces) for compact 1-6x24 configurations to 862 grams (30.4 ounces) for larger 3-18x56 variants - **Vengeance riflescopes** range from 596 grams (21.02 ounces) for compact 1-4x24 LPVO models to 800 grams (28.2 ounces) for 4-20x50 configurations - **Trace riflescopes** range from 824 grams (29.1 ounces) for 3-18x50 configurations to 825 grams for 4.5-27x50 models - **Trace Advanced models** represent the heaviest category, ranging from 1012 grams (35.7 ounces) to 1180 grams (41.6 ounces), reflecting their premium construction with Japanese precision glass ### Binoculars ZeroTech Optics USA manufactures binocular models designed for hunting, bird watching, and general outdoor observation. ##### Binocular Magnification and Objective Specifications Binocular models are available in standard configurations including 8x42mm, 10x42mm, 10x50mm, and 12x50mm variants, where the first number represents magnification power and the second number indicates objective lens diameter in millimeters. The magnification rating determines how many times closer the viewed object appears, while objective lens diameter determines light-gathering capability

and overall brightness, critical for low-light observation scenarios. ##### Optical Quality and Prism Systems Binoculars feature Bak 4 prisms that are dielectrically coated to maximize light transmission and image brightness. The optical systems are engineered with waterproof and fogproof construction using argon purging to maintain internal clarity across temperature variations and humid conditions. ##### Weight and Portability Binocular weight varies across the product line: - **Thrive binoculars** weigh 479-485 grams, representing lightweight options for extended field use - **Thrive HD binoculars** range from 685-811 grams across different magnification configurations, with the 8x42mm model weighing 685-811 grams - **Vengeance binoculars** include configurations weighing 588-793 grams, with the 10x42 model at 588 grams and the 10x50 model at 751 grams - **Trace ED 15x56mm binoculars** represent the premium option at 1520 grams, designed for serious hunters and outdoor enthusiasts requiring maximum optical performance ##### Models Available Through ZeroTech Optics USA The official USA website provides direct retail access to specific binocular models including the TH842, TH832, THD1042, THD842, THD825, VG842HD, and Vengeance VG1250 binoculars, enabling customers to purchase directly from the manufacturer through the official distribution channel. ### Spotting Scopes ZeroTech Optics USA manufactures spotting scopes designed for long-range target acquisition, precision shooting observation, and wildlife viewing. ##### Spotting Scope Specifications The **ZeroTech Trace Advanced 20-60x80 Spotting Scope** features a 20-60x magnification range with an 80mm objective lens, representing a precision optical instrument for demanding observation applications. Spotting scopes are engineered with superior light transmission and image clarity characteristics, utilizing premium Japanese optical glass components in advanced models. **Weight Specifications:** Spotting scopes represent the heaviest optical instruments in the ZeroTech portfolio, with the Thrive spotting scope weighing 1885 grams (66.5 ounces) and alternative models reaching 2377 grams, reflecting their substantial construction and premium optical components. ## Reticle Systems and Designs ### Proprietary Reticle Technologies ZeroTech Optics USA manufactures scopes featuring custom-designed reticles developed for specific shooting applications: **RMG (Refined Mil Grid) Reticle:** The RMG reticle system provides a perfect combination of accuracy and speed for maintaining elevation and windage adjustments, particularly suited for high-speed precision shooting and long-range targeting where turret marking for precise holdover is required. **R3 Reticle:** Designed for second focal plane (SFP) scope applications, the R3 reticle enables shooters to enjoy the advantages of SFP scopes without losing the ability to hold extremely accurate long-range shots, balancing quick target acquisition with precision aiming capability. **PHR II Reticle:** The Precision Hunting Reticle II represents a general-purpose hunting reticle design optimized for traditional hunting scenarios. **Additional Reticle Options:** ZeroTech Optics USA offers additional reticle designs including the Mildot (mil-based ranging reticle for tactical applications), LR Hunter reticle for long-range hunting, and Duplex (traditional crosshair for general-purpose use). ## Illuminated Reticle Systems Scopes feature illuminated reticle technology enabling low-light visibility during dawn, dusk, and night hunting scenarios. Illumination systems typically offer multiple brightness settings (commonly 6 settings documented) enabling shooters to adjust reticle visibility from barely-visible low settings to bright high settings compensating for harsh midday sun conditions. FMC lens coating combined with illuminated reticles provides optimal performance across varying lighting conditions. ## Adjustment and Control Systems ### Turret Systems Lockable quick-adjustment turrets allow precise and rapid adjustments in the field without losing zero, critical for field hunting scenarios where immediate range compensation is required. Turrets are engineered with responsive mechanical systems enabling reliable tracking across the full adjustment range. ### Adjustment Standards ZeroTech Optics USA offers scopes with both **MOA (Minute of Angle)** and **MRAD (Milliradian)** adjustment systems. MOA adjustment is intuitive for inches and yards measurements at 100 yards distance, while MRAD represents the metric standard for precision shooting applications. The choice between systems depends on individual preference and alignment with hunting partner preferences for field communication. ## Warranty Protection ### Triple-A Lifetime Warranty All riflescopes available through ZeroTech Optics USA are backed by ZeroTech's **Triple-A Lifetime Warranty**, providing unconditional coverage without requiring proof of purchase. This warranty covers all products for life, with the understanding that if a product fails or breaks, it will be repaired or replaced regardless of the issue. This comprehensive warranty reflects manufacturer confidence in product durability and provides

absolute peace of mind for customers purchasing optical equipment. ## Retail Availability and Direct Purchase ZeroTech Optics USA Website Functions as Official Distribution Channel providing direct retail access to multiple product categories including: - **Riflescopes:** Vengeance 1-8x24 RAR FDE, Vengeance 3-12x40 PHR 4 IR, Vengeance 4-16x40 PHR 4, Vengeance 4-16x40 PHR 4 IR, and Vengeance 6-24x50 R3 IR - **Binoculars:** TH842, TH832, THD1042, THD842, THD825, VG842HD, and Vengeance VG1250 - **Spotting Scopes:** Various configurations for long-range observation The official website functions as an authorized online retail platform consolidating multiple product categories, enabling customers to purchase ZeroTech Optics products with confidence in authenticity and direct sourcing from the manufacturer. ### References - [1] ZeroTech Optics — Complete Brand Profile

Downloads & References

- [View Product Guide](#)