

**APEX
VISION****TN Muo 2.0 Series**

Multispectral Fusion Thermal Binoculars

**Fusion Vision,
Zero Blind Spot**

outdoor

Introduction

The TN Muo 2.0 series multispectral fusion thermal binoculars continue the spirit of innovation and precision, setting a new standard for all-weather optical imaging. By combining thermal and visible-light imaging with intelligent sensor fusion and high-performance design, the series meets the diverse demands of hunting, law enforcement, and professional use, delivering exceptional performance and reliability in complex environments.

Features

- **APEXVISION:** Next-gen infrared imaging system for ultra-clarity
- **Ultra-Clear Detection:** 12μm thermal detector + 15mK NETD with Hyper-light 2.0 enhancement algorithm.
- **Dual-Sensor System:** 640×512 high-sensitivity thermal detector + 3840×2160 low-light CMOS sensor.
- **Lightweight Design:** Classic slim binocular structure with stepless adjustable 58–72mm interpupillary distance.
- **Intuitive Control:** Precision focus wheel for effortless one-handed use.
- **All-in-One Functionality:** Integrated rangefinder, GPS, and digital compass to support informed decision-making.
- **Rugged & Efficient:** IP67-rated with auto screen-off for both energy saving and discreet use.

Applications

- Night Hunting
- Law Enforcement
- Search & Rescue
- Personal security



Specifications

Product model	TN650MS
Sensor	
Core technology	Equipped with full ApexVision S1 system architecture: Detector ApexCore S1 + Platform Nexus 1.0 + Algorithm Hyper-Light 2.0
Type	Thermal: Uncooled VOx Infrared Detector, 8 to 14μm; Digital: CMOS
Resolution	Thermal: 640×512@12μm (NETD 15mK); Digital: 3840×2160@2μm
Frame rate	50Hz
Lens	
Objective lens	Thermal: 50mm, F1.0; Digital: 70mm, F1.8
Field of view	Thermal: 8.2°×4.9°; Digital: 5.9°×3.5°
FOV m@100m	Thermal: 14×9; Digital: 10×6
Magnification	Thermal: 3.9x~31.2x; Digital: 5.4x~43.2x
Detection range	Thermal: 2600m/2800yd; Digital: 1300m/1400yd
Focus	Manual
Display	
Display type	0.49" AMOLED 1920×1080
Color palettes	IR: White Hot, Black Hot, Red Hot, Green Hot, Iron Red, Blue Hot, Sepia; Visible: Day, Night, Low-light
Eyepiece	Eye relief: 20mm; Diopter: -6 to +6; Interpupillary distance adjustment: 58~72mm; Zoom: 13.8x
Hardware	
Laser rangefinder	1500m/1630yd
Wi-Fi	2.4G, 5G
Interface	USB-C (Charging/Power supply/USB2.0)
Others	Microphone, Compass, Gyroscope, Bluetooth
System	
Recording function	Photo/Video (Audio recording included)
Memory capacity	256 GB
Power	
Battery type	Customized Battery (Built-in) and 18650 ×1 Battery (External)
Operating time	5 hours
Environmental	
Operating temp.	-20°C to 50°C / -4°F to +122°F
Encapsulation	IP67
Physical	
Weight (g/oz)	1110/39.15
Size (mm/in)	235×134×63/9.25×5.28×2.48
Standard	Device, Neck Strap, Carry Bag, Lint-Free Cloth, 18650 Battery ×2, Battery Charger, Quick Charging Adapter, USB-C to USB-C Cable, Quick Start Guide, Warranty Card
Optional	Bluetooth Remote Control, 18650 Battery

* Product performance is based on testing in a controlled laboratory environment. Your test results may vary due to several external and environmental factors. All specifications are subject to the actual product. The manufacturer reserves the right to modify technical specifications without notice or liability to you.