

# VOYAGE TB50-640

## FUSION THERMAL IMAGING & CMOS BINOCULAR WITH BUILT-IN LASER RANGE FINDER



The AGM Voyage Fusion Binoculars are some of the most technologically advanced and feature-packed optics in the world. The primary engine behind these binoculars lies within the main thermal viewing channel, with its incredible new 12 micron 640x512 thermal detector. This new AGM thermal sensor possesses an industry leading sensitivity rating of sub-20mK (millikelvin). These sensors from AGM will ensure that not only are human-sized heat signatures detectable at up to 1.6 miles (2600m), but also that foliage and other background imagery will be crisp and detailed in closer distances/ranges. Unlike other thermal binoculars on the market, the Voyage also come outfitted with a digital night vision channel as well, which is great for aiding in recognition of targets after the thermal channel has detected a potential target. The built-in 1000m Laser Rangefinder simply takes the Voyage to another level, and this is without even mentioning its 64GB of internal memory and Wi-Fi compatibility.

The potential uses with the new Voyage fusion binoculars seem almost as endless as its firmware features, which include, but are not limited to: inclination sensor, GPS module, 2560x1440 CMOS resolution, Digital Detail Enhancement (DDE), built-in laser rangefinder, 50mm Germanium lens with a 0.9 aperture, 3.5X Base magnification with 16X digital zoom, up to 8 hours of battery life on three removable, rechargeable 18650 batteries, multiple viewing modes, multiple color palettes, USB Type-C port for external power capabilities, a fusion imaging mode, IP67 waterproof rating, picture-in-picture mode, included hard carrying case, neck strap and AGM's 5 Year Warranty!

- Dual-spectrum image fusion and object highlight (detail enhancement and target recognition)
- Selection of thermal view channel, visible light channel, or both them combined
- Thermal resolution: 640x512
- Optical resolution: 2560x1440
- NETD less than 20 mK (25°C, F#=0.9)
- Digital Detail Enhancement (DDE)
- Dynamic Noise Reduction (3D DNR)
- Adaptive Automatic Gain Control (AGC)
- Ultra-low illumination (optical channel), B/W: 0.001 lux @ (F1.2, AGC On)
- Video recording, replay, picture snapshot and search (capable to review the event on device)
- Wi-Fi hotspot
- Eye-safe laser rangefinder (up to 1,000 m distance detection with measuring accuracy 1 m)
- GPS module
- Digital magnetic compass
- Inclination sensor
- Proximity sensor to save power
- Up to 8 hours continuous operation
- Waterproof, IP67
- 5-Year Warranty



Equipment described herein is subject to US export regulations and may require a license prior to export. Diversion contrary to US law is prohibited.

## SPECIFICATIONS

### THERMAL MODULE

Image Sensor	12 µm Vanadium Oxide Uncooled Focal Plane Array
Resolution	640x512
Refresh Rate	25 Hz
Response Waveband	8 µm to 14 µm
NETD	Less than 20 mK (25°C, F#=0.9)
Lens (Focal Length)	50 mm, Manual focus
Magnification	3.5x - 56x
Field of View	8.7° x 7.0°
Aperture	F0.9
Digital Zoom	1x, 2x, 4x, 8x, 16x
Detection Range	2,600 m/yd (6' object)*
Focus Mode	Manual focus
Minimal Focus Distance	5 m

### OPTICAL MODULE

Max. Image Resolution	2560x1440
Image Sensor	1.88" Progressive Scan CMOS
Min. Illumination	B/W : 0.001 lux @ (F1.2 , AGC On)
Lens (Focal Length)	31 mm
Aperture	F1.2
IR Illuminator	Built-in 850 nm Smart IR
Night Viewing Range	400 m/yd *

### IMAGE DISPLAY

Monitor	0.39-inch, OLED, 1024x768, 50 FPS
Diopter Adjustment	-5 to +3 dpt
Interpupillary Distance	60 mm to 70 mm
Eye Relief	15 mm
Image Mode	Optical, White Hot Thermal, Black Hot Thermal, Red Hot Thermal, Image Fusion
Optical Mode	Day, Night, Auto, Defog
Flat Field Correction	Auto, Manual, External Correction
PIP	Yes

### LASER RANGEFINDER

Measuring Distance	Max. 1,000 m
Accuracy	±1 m
Laser Wavelength	905 nm (Class 1)

\* Approximate value. Ranges depend on various factors such as weather, temperature differences between objects, environment, etc.

### SYSTEM

Storage	Built-in memory module (64 GB)
Video Recording	MP4, 1600x1200
Snapshot Capture	JPEG, 1600x1200
Audio Recording	Yes
Local Album	Yes
Wi-Fi Hotspot	Yes
GPS	Yes
Digital Compass	Yes
Hot Track	Yes
Laser Rangefinder	Yes
Proximity Sensor	Yes
Standby Mode	Yes

### POWER SUPPLY

Battery Type	Three 18650 batteries
Battery Operating Time	Up to 8 hours
Battery Capacity Display	Yes
External Power Supply	DC 5V/2A, Max.10W, Type-C port

### GENERAL

Working Temperature	-30°C to 55°C (-22°F to 131°F)
Storage Temperature (w/o batteries)	-40°C to 70°C (-40°F to 158°F)
Working Humidity	< 90%
Protection Level	IP67
Mounting	1/4"-20 UNC
Cable Output	USB Type-C port
Accessories (Supplied)	Battery Charger, Power Cable, Lens Cloth, Two Wrist Straps, Neck Strap, Six 18650 Batteries, Power Adapter, User Manual, Carrying Case
Dimensions (LxWxH)	217 x 155 x 88 mm (8.5 x 6.1 x 3.5 in)
Weight	1.12 kg ( 2.5 lb)

Specifications are subject to change without notice.



MAIN OFFICE | 173 West Main Street | PO Box 962 | Springerville, AZ 85938, USA  
Tel. +1.928.333.4300 | info@agmglobalvision.com | www.agmglobalvision.com

EUROPEAN OFFICE | #6 Andrey Lyapchev Blvd | Sofia, P.C. 1756 | Bulgaria  
Tel. +35.988.560.0326 | info@agmglobalvision.eu | www.agmglobalvision.eu

[www.agmglobalvision.com](http://www.agmglobalvision.com)