



TFN FD8V Thermal Imager Laser Rangefinder Anti-Reconnaissance Device



Product Introduction

The FD8V outdoor thermal imaging monocular is a compact, rugged handheld device built around an uncooled focal plane infrared detector and a high-quality optical lens. It delivers clear thermal images in complete darkness, fog, or smoke, making it ideal for wildlife observation, search and rescue, police surveillance, night patrols, outdoor sports, and personal security. With a 384×288 IR resolution, multiple color palettes, and a 6-hour battery life, this thermal scope allows users to capture and store BMP images via a Micro USB port. Its lightweight design (541g) and user-friendly interface make it a reliable tool for professionals requiring portable, high-performance night vision and thermal detection.

Product Key Selling Points

High-Resolution Thermal Imaging for Critical Missions

The FD8V features a 384×288 uncooled focal plane infrared detector and a 50Hz frame rate, delivering smooth, real-time thermal video. With selectable 19mm, 25mm, or 35mm lenses and a 720×540 LCD display, you can spot heat signatures up to long distances. Whether you're conducting a search and rescue operation or patrolling at night, this thermal monocular helps you detect animals, people, or vehicles in total darkness, low light, or adverse weather.

Four Adjustable Color Palettes for Enhanced Target Contrast

Easily switch between Rainbow, Hot Metal, White Hot, and Black Hot color palettes with a single button. Each palette highlights temperature differences differently – Hot Metal emphasizes high-temperature targets, while White Hot provides a natural linear contrast. This flexibility allows you to customize the image based on your environment, making it easier to identify hidden objects, track wounded game, or scan large areas during surveillance.

Built-in Image Capture & Storage for Evidence and Documentation

Press the dedicated capture button to save still images in BMP format directly to the internal memory. A visual “√” confirms successful saving. Connect the device to a computer via Micro



USB to export and review images. This feature is invaluable for law enforcement reporting, wildlife research documentation, or sharing evidence with team members without needing to carry extra recording equipment.

2x/4x Digital Zoom for Long-Range Observation

The FD8V includes 2x and 4x digital zoom, allowing you to magnify distant targets without losing critical thermal details. Simply press the zoom button to cycle through magnification levels. This is especially useful when scanning vast open areas like fields or mountains, or when you need to observe shy wildlife from a safe distance. The zoom function helps you turn a distant heat spot into a recognizable target.

All-day Battery Life with Simple USB Charging

Powered by a built-in rechargeable battery, the FD8V provides up to 6 hours of continuous operation on a full charge. The Micro USB port supports convenient charging from power banks, car adapters, or laptops – ideal for extended field missions. An LED indicator shows charging status (red for charging, blue for full, purple during operation while charging). No need to carry spare batteries; just plug in and power up.

Product Specifications

Parameter	Specification
Model	FD8V
Weight	541.2 g
Dimensions	187.3 × 68 × 68.2 mm
Detector Type	Uncooled Focal Plane
IR Resolution	384 × 288 pixels
LCD Resolution	720 × 540 pixels
Focal Length Options	19 mm / 25 mm / 35 mm
Eyepiece	Monocular with diopter adjustment
Field of View	19.5° × 14.7° / 14.9° × 11.2° / 10.7° × 8°
Digital Zoom	2x, 4x
Wavelength Range	8 – 14 μ m
Thermal Image Frame Rate	50 Hz
Color Palettes	Rainbow, Hot Metal, White Hot, Black Hot
Focus	Manual adjustable lens
Image Storage Format	BMP
Battery	Built-in rechargeable
Charging Interface	Micro USB
Operating Time	≥ 6 hours
Operating Temperature	0° C to 45° C
Storage Temperature	-20° C to 60° C
Video Output	CVBS (via dedicated interface)
Laser Light	Not available on FD8V



Product Features

Section 1: Clear Thermal Imaging in Absolute Darkness

The FD8V uses an uncooled focal plane infrared detector that captures heat radiation (8 – 14 μ m wavelength) from objects and converts it into a visible image. Unlike traditional night vision devices that require some ambient light, this thermal monocular works in complete darkness, fog, smoke, or even light foliage. The 384 \times 288 resolution combined with a 50Hz refresh rate ensures smooth, real-time tracking without lag. This solves a major pain point for security personnel and wildlife observers: being unable to see targets in zero-light conditions. Whether you are navigating a dark forest or monitoring a perimeter at midnight, the FD8V gives you reliable visual intelligence.

Section 2: Customizable Color Palettes for Different Scenarios

Different tasks demand different ways of interpreting heat data. The FD8V offers four color palettes: Rainbow and Hot Metal enhance color contrast for high-temperature difference scenarios (e.g., spotting a warm animal against cool grass); White Hot and Black Hot provide a more natural grayscale image similar to traditional thermal cameras. By pressing the mode button, users can instantly cycle through these palettes to find the best view for their current environment. This eliminates the frustration of using a one-size-fits-all thermal image that may hide critical details. For example, search and rescue teams can use Hot Metal to quickly locate a missing person's body heat, while hunters may prefer White Hot for better depth perception.

Section 3: On-board Image Capture & Easy Evidence Export

The ability to capture and store thermal images directly on the device is a game-changer for professionals who need documentation. Simply press the capture button, and the FD8V saves a BMP image with an on-screen confirmation. Later, connect the monocular to any computer via Micro USB – no special drivers required – to access and export the images. This feature addresses the pain point of carrying separate recording equipment or trying to photograph a thermal screen with a smartphone. Police officers can document evidence at a crime scene, researchers can record animal behavior without disturbing them, and security guards can capture suspicious activity for later reporting. All images are stored internally, and you can delete unwanted shots directly from the device.

Section 4: Digital Zoom for Long-Distance Target Identification

When observing targets at extreme distances, standard thermal images may appear too small to identify. The FD8V includes 2x and 4x digital zoom, allowing you to magnify the center of the thermal image without moving closer. Each press of the zoom button increases magnification, and pressing again cycles back down. This feature solves the common problem of needing to physically approach a target – which may be dangerous or scare away wildlife. With 4x zoom, you can turn a distant heat blob into a recognizable shape, whether it's a deer in a field, a lost hiker on a ridge, or an intruder near a fence line. The zoom works seamlessly with all color palettes.

Section 5: Long Battery Life & Field Charging Flexibility



Nothing ends a mission faster than a dead battery. The FD8V is equipped with a high-capacity built-in rechargeable battery that delivers over 6 hours of continuous use. When the battery runs low, simply plug in a standard Micro USB cable – you can charge from a laptop, power bank, car charger, or wall adapter. The LED indicator clearly shows charging status: red for charging, blue for full, and purple when operating while charging. This eliminates the pain point of carrying bulky spare batteries or proprietary chargers. For extended overnight operations, you can even use the device while connected to a power bank. The FD8V keeps you operational through the night.

Applications & Pain Points Solved

Scenario	Customer Pain Point	How FD8V Solves It
Wildlife Observation	Animals are nocturnal or hide in dense brush; traditional scopes fail in darkness.	FD8V detects body heat through foliage and in total darkness, allowing researchers and nature lovers to observe without disturbing animals.
Search & Rescue	Missing persons are hard to spot at night or in foggy conditions.	Thermal imaging reveals body heat from a distance; 4x zoom helps scan large areas quickly; image capture records findings for coordination.
Police & Law Enforcement	Suspects hide in shadows or dark buildings; need evidence documentation.	White Hot/Black Hot palettes highlight human shapes; capture button saves thermal evidence; USB export supports case files.
Night Patrol & Security	Guards cannot see intruders in unlit perimeters.	FD8V provides 50Hz real-time thermal video; long 6h battery covers full shift; compact size allows one-handed operation while holding other gear.
Outdoor Adventure & Personal Security	Campers and hikers feel vulnerable to wild animals or strangers at night.	Lightweight (541g) and easy to carry; simple one-button operation; reveals any heat source within range – peace of mind in remote areas.

Q&A

Q1: Can the FD8V see through glass or windows?

No. Thermal imaging cannot see through glass because glass reflects and blocks infrared radiation. The FD8V is designed for open-air use. For best results, point it directly at your target without any transparent barriers.

Q2: How long does it take to fully charge the battery?

Charging time depends on the USB power source, but typically a full charge from empty takes about 4 – 5 hours using a standard 5V/1A adapter. The LED indicator turns blue when charging is complete.

Q3: Is the FD8V waterproof or weather-resistant?



The manual does not specify an IP rating. It is recommended to avoid heavy rain or submersion. However, it can be used in light moisture conditions. Always dry the device after use and store in a dry place.

Q4: Can I record videos with the FD8V?

No. The FD8V supports only still image capture in BMP format. It does not have video recording capability. For video output, use the CVBS interface to connect to an external DVR or monitor.

Q5: How do I delete a captured image?

Enter image playback mode by short pressing the designated button. Navigate to the image you want to delete using the previous/next buttons. Then long press the delete button until the image is removed. A confirmation may appear on screen.

Package Contents

FD8V Thermal Imaging Monocular *1
Micro USB Charging Cable *1
Safety Cover (pre-installed lens cap) *1
User Manual (as provided) *1
Warranty Card *1
Cleaning Cloth (recommended for lens) *1