

TNV Series

Thermal Monocular

User Manual

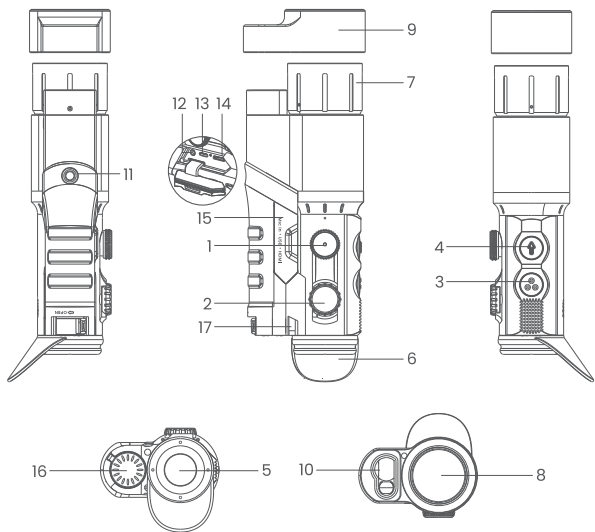
• Product Description

Thank you for choosing MILESEEEY product. Please thoroughly read this user manual before use, and keep it safe for future references.

This product is a hand-held thermal imaging monocular designed to enhance your outdoor experience such as hunting, observation, security, search and rescue, etc., both at nighttime and during the day. It is equipped with an advanced 35mm infrared camera, offering a stunning 640*512 thermal resolution with detection range up to 2,300m (2,515yd, on boar-sized objects). A 1300yd laser rangefinder is added to the design, and with the GPS function, you'll know the distance and location of your target. 50Hz frame rate with 8X digital zoom ensures unmatched thermal imaging clarity and maximum viewing comfort. Picture-in-Picture mode allows you to zoom in on the details of your target for more specific observation. Supporting both Wi-Fi and Bluetooth connection, you can seamlessly transfer the pictures and videos saved on the device to your smartphone or tablet for better viewing experience, or connect a HD display to the device via the HDMI port. It features a dual-power-supply design that guarantees exceptional battery life of up to 7 hours. Crafted with premium materials and a sturdy construction, this product boasts an IP65 protection rate with excellent resistance to water, dust and impact, perfect for long-time outdoor use.

Note: This user manual is applicable to both the TNV30 Pro and the TNV60 Pro models. The "640*512" thermal resolution and the "2,300m" detection range mentioned above are the configurations of the TNV60 Pro, for the TNV30 Pro, they are "384*288" and "1800m". Please see the **Product Specifications** section for detailed configuration differences between the TNV30 Pro and the TNV60 Pro.

• Overview



- | | |
|---------------------------------------|--------------------------|
| 1. Power / MENU / Digital Zoom Button | 10. Rangefinder Lens |
| 2. Eyepiece Diopter Adjustment Knob | 11. Tripod Socket |
| 3. Capture Button | 12. Microphone Connector |
| 4. Laser Rangefinder Button | 13. USB-C Connector |
| 5. Eyepiece | 14. Micro HDMI Connector |
| 6. Eyecup | 15. Protective Cover |
| 7. Lens Focus Ring | 16. Backup Battery |
| 8. Objective Lens | Compartment Cover |
| 9. Lens Cover | 17. Strap Loop |

• Operation Instructions

Power Supply

The TNV series runs on a dual power supply system: a built-in 4,800mAh Li-ion battery which supports USB-C charging and a backup 16340 battery which can be replaced.

Charging

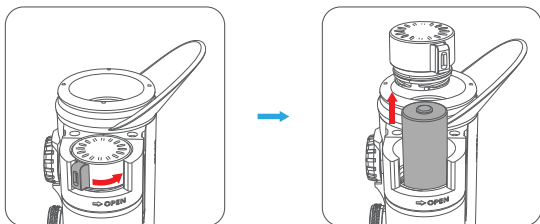
Use the included USB-C cable to connect the device to a 5V/1A power adapter for charging. The indicator stays on red during charging and turns green when fully charged.

● Charging

● Fully Charged

Backup Battery Replacement

Turn the compartment cover right to open it and replace the 16340 battery inside.



Attention!

1. Before first use, please fully charge the device.
2. DO NOT charge the device immediately after bringing it from a cold environment to a warm one. Please wait at least 30min for the device to resume to room temperature and then charge it.
3. DO NOT leave the device unattended during charging.
4. Please unplug the power adapter when the device is fully charged.
5. DO NOT disassemble the built-in battery from the device.
6. Please partially charge the device (50% to 80%) for long-term storage.

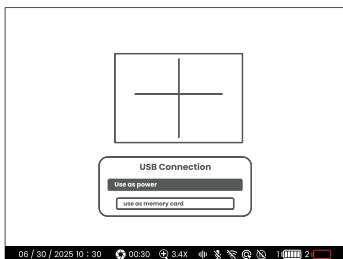
7. Please charge the device at an ambient temperature of 0°C to 35°C (32°F to 95°F), otherwise it may significantly decrease the lifespan of the battery.
8. Using the device at sub 0°C (<32°F) may decrease the battery capacity, which is normal and is not a defect.
9. Using the device at temperatures exceeding the range of -20°C to 60°C (-4°F to 140°F) may reduce battery life.
10. The battery is short-circuit protected, please avoid any situation that may cause short-circuiting.

USB Connection

A window will prompt up on the display with two connection modes after connecting the device to a PC / laptop via the USB-C cable: **Use as power & Use as memory card.**

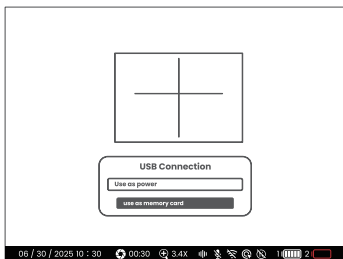
Use as power:

select this mode for charging.



Use as memory card:

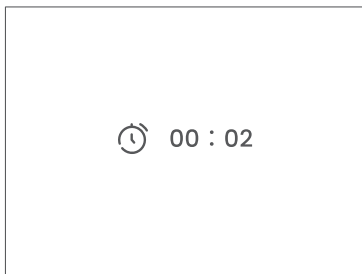
select this mode for accessing data (pictures & videos) saved on the built-in memory.



Power On/Off

On: Press and hold the Power button (ⓘ) for 2s to turn on the device.

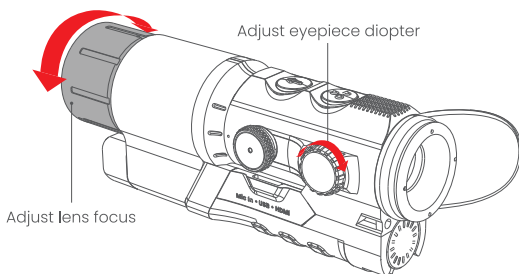
Off: Press and hold the Power button (⌚) until the display prompts the shutdown countdown, after the device counts down to 2, it will turn off, then release the button.



*The device won't turn off if you release the button during the process.

Diopter & Focus Adjustment

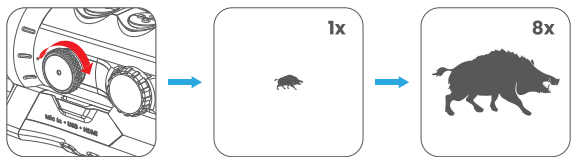
After power-on, rotate the eyepiece diopter knob to adjust until the symbols in the display are sharp and rotate the lens focus ring to focus on the target.



Digital Zoom

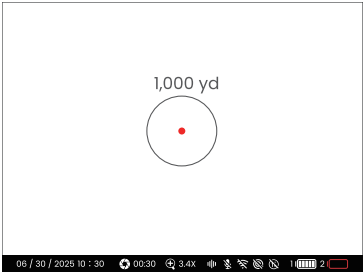
After power-on, in the home page (MENU not opened), rotate the MENU button (⌚) counterclockwise / clockwise to increase /

decrease digital zoom (1x~8x).



Laser Rangefinder

Press the Laser Rangefinder button () to turn on and off the function. A reticle with dynamic distance data to the target will appear on the center of the display.



Picture Capture & Video Recording

Picture: Short-press the Capture button () to take pictures and automatically save them on the built-in memory.

Video: Press and hold the Capture button () for 2s to start recording, short-press the button again to stop and finish recording.

All pictures and videos will be saved on the built-in eMMC card, you can view and delete them in the Gallery.

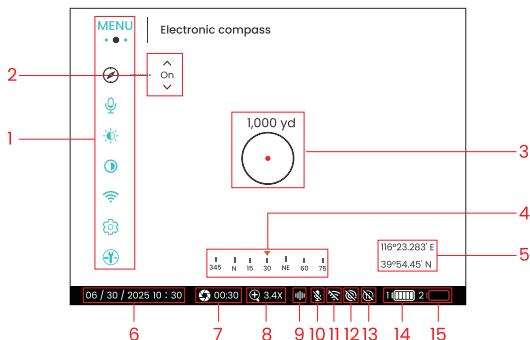
Delete Picture/Video: Open the MENU, select Gallery, press the MENU button () to enter the Picture or Video browsing interface, rotate the MENU button () to select picture or video, press the MENU button () to enter the full-screen view mode, press the Capture button () to delete the picture or video.

Under full-screen video browsing, press the MENU button () to play/pause video.

*Before using this feature please set the Date and Time in the General Settings.

*Connect a microphone (sold separately) to the device if you want sound for video recording.

Interface Description



- | | |
|------------------------------------|--|
| 1. Main MENU | 9. Soundwave Icon (Pulse when speaking during sound recording) |
| 2. Submenu | 10. Microphone |
| 3. Laser Rangefinder Reticle | 11. Wi-Fi |
| 4. Azimuth Angle (Compass enabled) | 12. GPS |
| 5. GPS Info | 13. Bluetooth |
| 6. Date & Time | 14. Built-in Battery Indicator |
| 7. Image Correction Countdown | 15. Backup Battery Indicator |
| 8. Digital Zoom | |

MENU Introduction

1. Short-press the MENU button () to enter main menu, submenu or items.
2. Rotate the MENU button () to cycle through items or adjust value in Date & Time, Brightness and Wi-Fi password settings.
3. Short-press the MENU button () again to change the confirm setting items.

4. Press and hold the MENU button () for 2s to return to previous page.

MENU includes:

Icon	Main Menu	Submenu	Description
	Color Palette	Iron / White Hot / Black Hot / Rainbow / Red Hot / Glimmer / Night Vision Rainbow / Amber / Violet / Deep Blue / Red	Switch color palettes for different scenarios.
	Gallery	Picture / Video	View or delete saved pictures and videos.
	Picture-in-Picture(PiP)	Upper Right Corner / Middle / Upper Left Corner / Close pip	PiP feature allows you to view both the main image and a magnified image in a dedicated window.
	Image Correction*	Auto / Manual	Select a setting option for image correction.
	Bluetooth	On / Off	Enable for app connection.
	Reticle Color	White & Red / Black & Red / White&Green / Black & Green / Automatic	Switch colors for the laser rangefinder's reticle.
	GPS Switch	On / Off	Enable to show the GPS info (longitude & latitude) of current location on the bottom right corner of the display.
	Compass	On / Off	Enable to show the azimuth angle on the bottom of the display.
	Microphone	On / Off	Enable to record sound during video recording.**

	Brightness	0 - 10	Adjust the display brightness.
	Contrast	0 - 10	Adjust the display contrast.
	Wi-Fi	On / Off / Password	Turn on/off Wi-Fi and set up password.
	General Settings	 Language	Switch system language.
		 Date & Time	Set up date and time.
		 Unit: m / ft / yd	Switch unit of measure for the rangefinder: meters (M), feet (ft) and yard (yd).
	Defective Pixel Correction	Perform correction for defective pixels.	
	Upgrade	Upgrade software version to the latest.	
	Reset Parameters	Reset device parameters to factory settings.	
	Format	Format the built-in memory.	
	Auto Power-off	Set up auto power-off frequency (30 min / 1 h / 2 h / 3 h).	
	About	See device information.	

*When switched to Auto, the device will perform image correction automatically, and an shutter icon will appear on the status bar counting down from 10 to remind you. You will hear clicking sound regularly if this function is enabled, which is normal and is not a defect.

**Need to connect a microphone (sold separately) to the device for recording sound.

• Troubleshooting

Problem	Possible Cause	Solution
The device does not turn on.	Both batteries are completely discharged.	Charge the device or replace the backup 16340 battery.
Blurry images with uneven background.	Image correction is required.	Perform image correction according to the instructions in the User Manual.
The image is too dark.	Brightness or contrast level is too low.	Adjust the brightness or contrast level in MENU-Brightness.
The image of the target being observed is missing.	The target is behind glass, which obstructs thermal vision.	Remove the glass.
Image disappears or the display shows color bars.	The device was exposed to static electricity during operation.	When the exposure to static electricity is over, the device may either reboot automatically or require to be switched off and on again.
Smartphone or tablet cannot be connected to the device.	Device password has been changed.	Delete the network and connect again using the password saved in the device.
	Signal interference caused by too many Wi-Fi networks nearby.	To ensure a stable Wi-Fi connection, relocate the device to an area with fewer or no Wi-Fi networks.
Wi-Fi signal is missing or interrupted.	Smartphone or tablet is out of range of strong Wi-Fi signal. There are obstacles between the device and the smartphone or tablet (e.g. walls).	Relocate the smartphone or tablet into the Wi-Fi signal line of sight.

• Product Specifications

Model	TNV30 Pro	TNV60 Pro
Thermal Resolution	384*288	640*512
Pixel Pitch	12 μ m	
NETD	< 40 mK, at 25 °C (77°F)	
Frame Rate	50 Hz	
Digital Zoom	1x - 8x	
Lens Focus	25 mm	35 mm
Aperture	F1.0	
Minimum Focus Distance	1.5 m / 1.6 yd	3 m / 3.3 yd
Eye Relief	18 mm	
Exit Pupil Diameter	5.3 mm	
Angular Field of View (Diagonal)	13°	16°
Linear Field of View	22.8 m at 100 m	28 m at 100 m
Detection Distance (on boar-sized objects)	1800 m / 1969 yd	2300 m / 2515 yd
Rangefinder Measurement Range	1200 m / 1300 yd	
Display Type	OLED	
Display Resolution	1024*768	
Picture/Video Resolution	1024*768 (interpolated)	
Picture/Video Format	.jpg / .mp4	
Built-in Memory	64 GB	
Wi-Fi Frequency	5.8 GHz	
Wi-Fi Standard	IEEE 802.11 ac	
Built-in Battery Type	4800 mAh Li-ion Battery	
Backup Battery Type	16340 Battery	
Battery Life (Built-in)	Max. 7 hours*	
Charging Port	USB-C	
Protection Rating	IP65	

Laser Class	Class 3R
Laser Type	905 nm
Operating Temperature	-20°C to 60°C (-4°F to 140°F)
Storage Temperature	-10°C to 40°C (14°F to 104°F)
Max. Relative Air Humidity	90%
Max. Altitude	2000 m
Pollution Degree According to IEC 61010-1	2
Dimensions	185*54*79 mm (w/o eyecup) 209*67*79 mm (w/ eyecup)
Weight	570 g (w/o eyecup) 580 g (w/ eyecup)

*Actual battery life may vary depending on various factors such as the use of Wi-Fi and the length of video recording.

**All data are measured and provided by the MILESEEEY Lab, the actual use will be slightly different depending on the specific circumstances.

• Safety Instructions



Please follow the instructions strictly when using the product to ensure safety, any damage caused by improper use won't be covered by the warranty.



If the product breaks down or is damaged, DO NOT disassemble the device for maintenance by yourself. Please contact local dealer or our customer service for help in time.



Please clean the lens with wet cloth or mild soap solution. DO NOT use abrasive, isopropanol or solvent to clean the device housing, lens and interfaces.



Please DO NOT use this device in flammable, explosive, steamy, humid or corrosive environments.



DO NOT aim the lens at the sun, laser and other high-energy light sources, otherwise it will cause irreversible physical damage to the lens and the thermal imaging detector.



Warning

a. The device is categorized into Class 3R laser product. DO NOT stare at laser directly or shoot at others or it will cause damage to eyes.

b. The product is in accordance with strict standards and regulations through the development and manufacturing, but still can't entirely exclude the possibility of interference to other devices, and may cause discomfort to human and animals.



Please DO NOT use this product under explosive or corrosive environment.

Please DO NOT use this product near medical devices.

Please DO NOT use this product on airplanes.



Disposal:

Everyone is responsible for environmental protection.

It's prohibited to dispose used batteries together with household waste. Please collect used batteries to designated waste station.

This product must not be recycled with household waste. Please dispose of the product appropriately in accordance with the national regulations in your country.

• Copyrights

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• Contact US

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Store: www.mileseeyoptics.com

E-mail: mileseeyoptics@mileseey.com

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Specific Absorption Rate (SAR) information:

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: This device has also been tested against this SAR limit.

This device was tested for typical body-worn operations with the back of the This device kept 0mm from the body.

To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of This device. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

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