



# TN Series DN Handheld Digital Binoculars User Guide

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# Guide®

**TN Series DN Handheld Digital Binoculars**



## Product Information

The product is the DN Handheld Digital Binoculars. It is a handheld device designed for viewing distant objects. The binoculars come with various features and accessories, including a focusing ring, diopter adjustment, pupil distance adjustment, buttons for menu navigation, battery cover, lens, micro HDMI port, and Type-C port. The binoculars also have a built-in battery that can be charged using the provided charger and Type-C cable.

## Product Usage Instructions

1. Read the user manual thoroughly before operating the binoculars and keep it for future reference.
2. Charge the battery using the method described in the manual. Follow the charging procedure and precautions to prevent damage or injury.
3. Avoid opening or disassembling the battery. In case of a leak, wash the eyes with clean water immediately and seek medical care.
4. Keep the binoculars stable during use and avoid violent shaking.
5. Avoid using or storing the binoculars in environments that exceed the allowable operating or storage temperature.
6. Avoid aiming the binoculars directly at high-intensity thermal radiation sources such as the sun, lasers, or spot welding machines.
7. Do not plug the holes on the equipment and avoid knocking, throwing, or vibrating the binoculars.
8. Avoid exposing the equipment to dust or moisture. Cover the lens when not in use and store it in the special packaging box.
9. Use the provided standard accessories such as the battery, charger, Type-C cable, HDMI video cable, and carrying case.
10. Follow the instructions to properly insert the battery into the battery cover.
11. Refer to the figure in the manual for the location and function of the different buttons on the binoculars.
12. Power on/off the binoculars using the power button.

Thank you for choosing our product. Please thoroughly go through user manual before operation and keep it well for future reference. All photos here are for reference only. and specifications are subject to the physical product

## IMPORTANT

- Thank you for choosing this product. Please read this guide before use and keep it for future reference. We hope you'll be satisfied with this product.
- This guide is a general guide for a series of products, which means that the specific model you receive may differ from the picture in the guide. Please refer to the actual product you receive.
- This user guide is organized for the convenience of users to use and understand our products. We will do our best to ensure the accuracy of the contents of this guide, however, we still cannot guarantee the completeness of the contents thereof. As our products are subject to continuous upgrading, we reserve the right to modify this guide from time to time without prior notice.

## **FCC**

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

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.

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

**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 rating information is located at the bottom of the unit.

## **DANGER**

1. Please charge the battery with the method described in this Guide and follow the charging procedure and precautions. Improper battery charging will cause heating, damage and even physical injury.
2. Do not try to open or disassemble the battery at any time. Once the battery leaks and the spill enters the human eye, wash the eyes with clean water immediately and take medical care.

## **WARNING**

1. When using the equipment, please try to keep it stable and avoid violent shaking.
2. Do not use or store the equipment in an environment that exceeds the allowable operating temperature or storage temperature.
3. Do not directly aim the equipment at high-intensity thermal radiation sources, such as the sun, lasers, spot welding machines, etc..

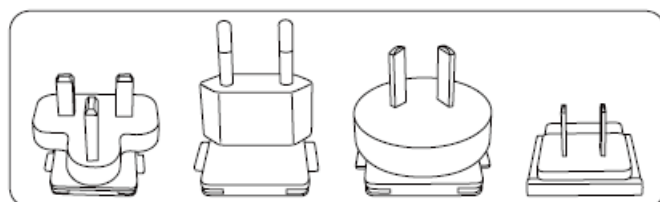
4. Do not plug the holes on the equipment.
5. Do not knock, throw or vibrate instruments and accessories to avoid damage.
6. Do not disassemble the machine by yourself, which may cause equipment damage and loss of warranty rights.
7. Do not use soluble or similar liquids on equipment and cables, which may cause damage to the equipment.
8. Please do not use the equipment in an environment that exceeds the operating temperature of the equipment, which may cause damage to the equipment.
9. Please observe the following measures when wiping this device:
  1. Non-optical surface: Use clean and soft cloth to wipe the non-optical surface of the thermographic camera.
  2. Optical surface: When using the thermographic camera, please avoid polluting the optical surface of the lens, especially avoid touching the lens with your hands, because the sweat on your hands will leave traces on the lens glass and may corrode the optical coating on the glass surface. When the surface of the optical lens is polluted, use special lens paper to wipe it carefully.
10. Do not place the battery in a high temperature or near a high-temperature object.
11. Do not short circuit the positive and negative poles of the battery.
12. Do not expose the battery to moisture or water.
13. Do not use non-original adapters or chargers (the contents of the original packaging shall prevail).

#### **NOTES:**

1. Do not expose the equipment to dust or moisture. Avoid water splashing to the equipment when being used in an environment with water. Cover the lens when not using the camera.
2. Please put the camera and all accessories in the special packaging box when not using it.

#### **LIST OF PARTS**

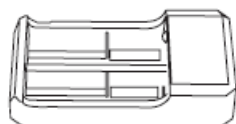
Standard accessories:



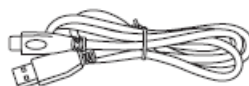
Plug of American, British, Australian, European standard



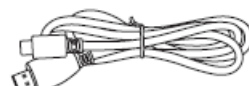
18650 battery\*2  
(including battery box)



Charger



Type-C cable



HDMI video cable



Carrying case



Shoulder strap



5V2A adapter

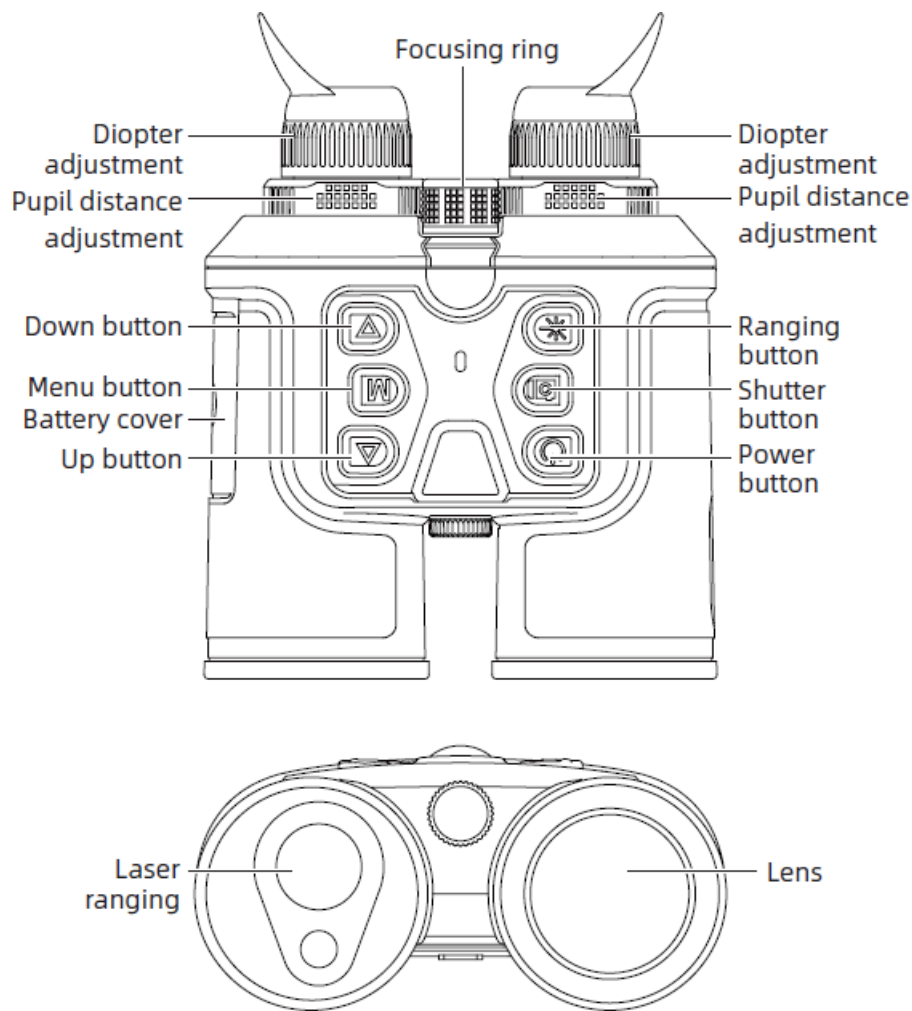
Options:



Bluetooth remote control

## PRODUCT COMPONENTS

This Guide is applicable to many models of this series, and only one model is shown in the figure.



#### 1. FOCUSING RING

Focus the target after the thermographic camera is turned on. The image may appear blurry when the distance to the target changes. Turn the lens focusing ring to refocus until the target image sharpens.

#### 2. LENS COVER

Please cover the lens when not using the product to protect the lens!

#### 3. USB TYPE C PORT

Use the USB cable to connect external power via the external interface to supply power to the product. The output specification of external power is 5V 2A.

#### 4. MICRO HDMI

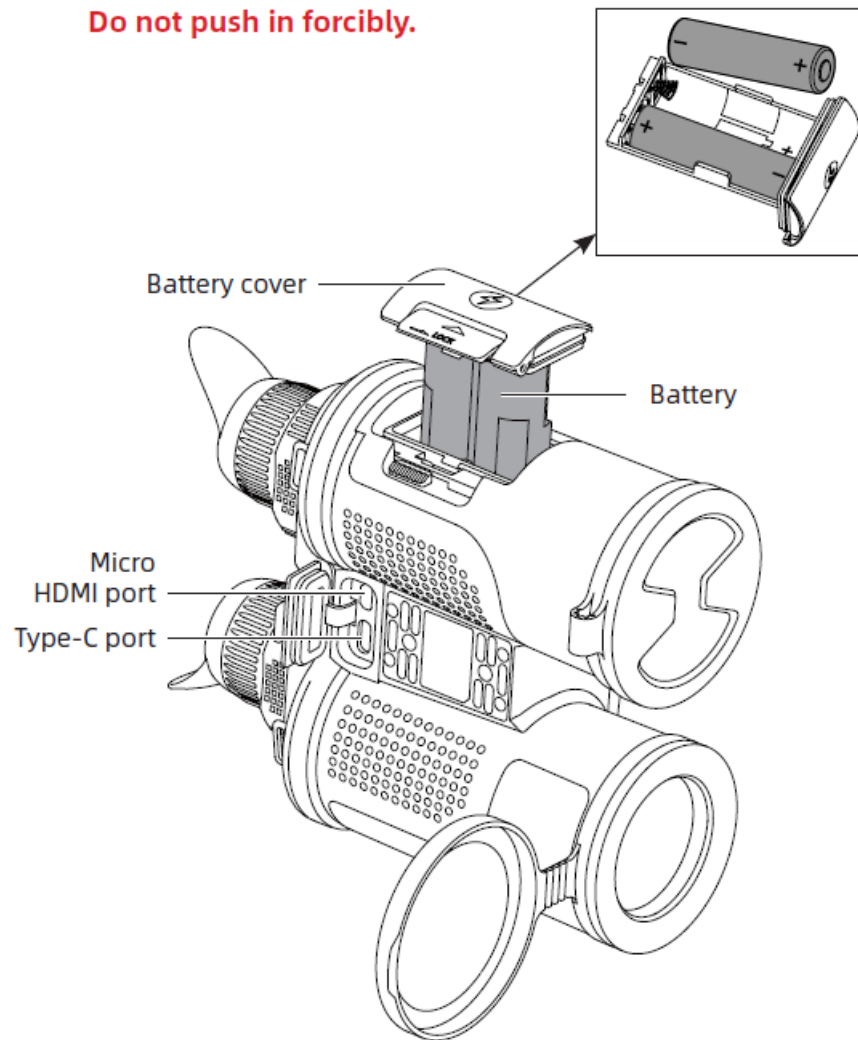
Use the video cable to connect the external power and external screen at the same time to output the thermographic camera image to the external monitor

#### 5. BATTERY COVER

Please open the battery cover and place the battery as shown in the figure below.

**NOTE:** Please place the battery in the direction shown. Do not push in forcibly.

**Do not push in forcibly.**



## **QUICKSTART INSTRUCTIONS**

Buttons	Current Device Status	Operation	Purpose
Power on/ off button	Power on and the menu is called out	Short press	Menu off
	Power on	Long press	Power off
	Power on and the power off countdown is displayed	Cancel while long pressing the power on/off button	Display off
	Power on and the fifth progress bar of the power off countdown is completed	Release the Power on/off button when the fifth power off progress bar is completed	Power off
	Power off	Long press	Power on
	Power off and battery low	Long press	Power on
	Forced shutdown	Long press for 15s	Power off
Up button	Power on and the menu is not called out	Short press	1x/2x/4x zoom in
	Power on and the menu is not called out	Long press	Infinite zoom in
	Power on and in menu state	Short press	Move the menu
	Power on and in menu state	Long press	Quickly move the menu



Buttons	Current Device Status	Operation	Purpose
Menu button	Power on and the menu is not called out	Short press	Shortcut menu
	Power on and in menu state	Short press	Confirm
	Power on and the menu is not called out	Long press	Enter the main menu
	Power on and in menu state	Long press	Return to previous menu/Exit menu
Down button	Power on and the menu is not called out	Short press	4x/2x/1x zoom out
	Power on and the menu is not called out	Long press	Infinite zoom out
	Power on and in menu state	Short press	Move the menu
	Power on and in menu state	Long press	Quickly move the menu
Shutter button	Power on and the menu is not called out	Short press	Take photos
	Video recording	Short press	Take photos
	Power on and the menu is not called out	Long press	Start video recording
	Video recording	Long press	End video recording
Ranging button	Power on	Short press	Switch the ranging mode

## BUTTON DESCRIPTION

### 1. POWER BUTTON

#### 1. POWER ON

Long press the Power button until the boot screen appears in the eyepiece, then the device is turned on successfully.

#### 2. POWER OFF

Manual power-off: Long press the Power button to display the shutdown progress bar until the progress bar is completed and the shutdown is successful.

Automatic power-off: If there is no button operation within the set automatic shutdown time, it will power off.

### 3. **DISPLAY OFF**

Long press the Power key to display the shutdown progress bar. Before the progress bar is completed, release the Power key to cancel the shutdown and enter the Display off mode.

### 4. **DISPLAY ON**

In Display off mode, press any button to wake up the screen.

## 2. **UP BUTTON**

### 1. **ZOOM IN**

When it is turned on and the menu is not called up, short-press the button to switch to Normal/2X/4X zoom in mode in turn. When the menu is not called, long press the “Infinite zoom in” until the button is released.

### 3. **DOWN BUTTON**

1. Short press to power on the device and the menu is not called up, short-press the button to switch to Normal/4X/2X zoom out mode in turn. When the menu is not called, long press the “Infinite zoom out” until the button is released.

### 4. **M BUTTON**

1. When it is turned on and the menu is not called up, long press the Menu button to pop up the menu.
2. Short press the Menu button to pop up the shortcut menu.

#### **OK AND BACK/EXIT**

3. When it is turned on and the menu is called up, short press the Menu button to enter the next menu or confirm the current option, and back to the previous menu at the same time. Long press the Menu button to return or exit the menu without saving the current setting.



















### 5. **RANGING BUTTON**










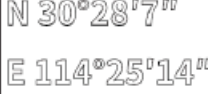
Short press the ranging button to switch between ‘Ranging on (continuous ranging)’ – ‘Ranging + Target coordinate’ – ‘Ranging off’ in turn

### 6. **SHUTTER BUTTON**

1. Short press the Shutter button to save the current image and freeze it for 300ms to restore the real-time screen.
2. Long press the Shutter button to start video recording, and long press it again to end video recording.

## FUNCTION DESCRIPTION

Icon	Definition	Icon	Definition
	Super power saving		Do not take photos
	Do not record videos		Do not adjust the screen brightness
	Photo taking successfully		Photo taking failed
	Video recording successfully		Video recording failed
	Do not turn on WIFI		Do not turn on serial port mode
	Low capacity		Memory full
	Memory is to be full		Do not update
	WiFi		Bluetooth
	WiFi to be connected		Bluetooth to be connected

Icon	Definition	Icon	Definition
	Mass storage mode		Serial port mode
	Zoom in		Zoom out
	Compass		Hold
	Auto sleep		Power off
	Disable Bluetooth		GPS coordinate

- PIP: When PIP is turned on, the picture will be 2x zoomed in from, and the PIP can be set at the upper left, upper middle and upper right.
- Screen brightness: The screen brightness can be adjusted from level 1 to 10.
- Super power saving: When the super power saving mode is turned, ARM is switched to low power mode.

- Scene mode: The scene mode can be switched to night vision/low light/white light.
- Image enhancement: This is used to adjust the image quality
- Brightness: The detector brightness can be adjusted from level 1 to 10.
- Contrast: The contrast can be adjusted from level 1 to 10.
- WiFi: WIFI switch. When the mobile client and the device are connected, real-time videos can be transmitted to the mobile phone, the device can be operated through the APP and the photos/videos of the device can be accessed, and photo/video play, sharing, deletion, etc. can be performed.
- GPS: GPS can be turned on/off. The GPS information can be collected in a real time and the longitude and latitude information can be displayed on the screen.
- Compass: Compass can be turned on/off. When it is turned on, the real-time direction information is displayed based on the current device status.
- Holding indication: The accelerometer can be turned on/off, and the angle of holding can be corrected. In case of angular deviation of the device, an indication of returning to position is given.
- Auto sleep: Auto sleep time can be set at 5/10/15min. If no operation is made within the set time, the camera will enter the sleep mode.
- Automatic power off: Automatic power off time can be set at 15/30/60min. If no operation is made within the set time, a countdown to power off will appear and the camera will be powered off when the countdown is over.
- Working indication: The working indicator can be turned on/off.
- Date format: The date format can be YYYY-MM-DD/MMDD- YYYY/DD-MM-YYYY.
- Time format: The time format can be 12H/24H.
- Time settings: Time can be adjusted in the time adjustment interface. time range:January 1, 2000 – December 31, 2040.
- Watermark settings: Options can be made from Date only/Time only/Time and date/Time, date and location.
- Video quality: The video quality can be set to high or low.
- Language settings: The device supports Chinese/ English/Russian/German/French/Italian/Korean/ Japanese/Polish.
- Memory card formatting: Memory card formatting can be selected. Select “Yes” to format the memory card and select “No” to cancel the operation.
- Restore default: Users can choose whether to restore the default value. Select ‘Yes’ to restore all parameters to factory settings. select ‘No’ to cancel the operation.
- About: The version number, MAC address and SN number of the program are displayed.
- Remote control: The Bluetooth of the device is turned on.
- Video output: The device supports plug and play , i.e. videos can be displayed when the HDMI cable is connected, and All UI information is displayed on the external screen.
- Battery status: When the thermographic camera is turned on and the battery capacity changes, the capacity indicator is displayed in the left bottom of the screen, and the part of the lit power indicator shows the remaining battery capacity. After starting up and entering the real-time screen, the icon corresponding to the above power capacity will be displayed in the left bottom of the screen.

## COMMON TROUBLESHOOTING GUIDE

1. The device cannot be powered on.

Solution: replace the battery or connect the adapter for power supply.

2. The device cannot take photos/videos.

Solution: the internal storage space of the device is full.

It is needed to format the memory card or disconnect the device from the computer.

3. The display time of the device is inconsistent with the actual time.

Solution: reset the time and date of the device in the menu.

4. The screen goes black during use.

Solution: short press any key to wake up sleep and light up the screen.

5. The imaging of the device is blurred in use.

Solution: turn the lens for manual focusing until the image sharpens

## STORAGE AND TRANSPORT

The following is the correct storage and transportation of the product. To prevent danger, property loss, etc., please read the manual carefully before using the device. Strictly observe it, and keep the instruction properly after reading it.

### Storage:


1. The storage environment of packaged products is -45°C~70°C, the relative humidity is not more than 95%, without condensation and corrosive gas, and is well ventilated and clean indoor.
2. Please take it out and charge it every 3 months.

### Transportation:

The thermographic camera shall be protected from rain, water, inversion, violent vibration and impact during transportation, and shall be handled with care. Throwing is not allowed.

Special statement: the version of the Guide will be updated after the technical improvement of the product

## Documents / Resources

	<p><a href="#">Guide TN Series DN Handheld Digital Binoculars</a> [pdf] User Guide ZG23, 2AKU5ZG23, zg23, TN Series DN Handheld Digital Binoculars, DN Handheld Digital Binoculars, Handheld Digital Binoculars, Digital Binoculars, Binoculars</p>
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## References

- [bolsa.de](https://www.bolsa.de)
- [+ Für Sie. Voller Energie | Waskönig+Walter](#)