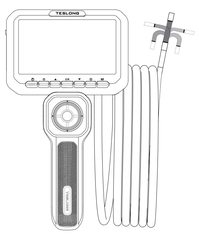
TESLONG

# Articulating Borescope User Manual



Model No.: TF500

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## Product Introduction

The TF500 inspection camera features a high-definition 5-inch LCD display with a tempered glass screen. It is primarily used for inspecting hard-to-reach areas such as automotive evaporators, fuel tanks, and three-way catalytic sensors. With its flexible probe, users can easily maneuver the small tip into narrow spaces and view vivid, clear, and comprehensive images or videos on the display screen or mobile app.

## Product Features

- 5-inch HD display with a resolution of 854×480
- Temperature detection function: The device is equipped with a temperature sensor to monitor the surrounding environment's temperature in real-time, which is displayed on the main interface.
- High-temperature alarm function
- Wi-Fi capability, allowing connection to a mobile app
- Detachable and installable screen module
- Directional joystick controls multi-directional bending of the lens, with a bending angle of ≤ 210°
- LED brightness adjustment for the camera
- Supports connection to a computer for data transfer
- Type-C charging port



## Product Specifications

**1. Product Specifications**

| Lens Specifications | |
|---|---|
| Display Size | 5-inch LCD screen |
| Display Resolution | 854x480 |
| Screen Glass | Tempered glass |
| Type-C Port | 1. Charging port 2. Connects to computer |
| TF Card Slot | Insert TF card, includes a 32 GB memory card |

| Physical Characteristics | |
|---|---|
| Product Size | 250x137x120 mm |
| Net Weight | 540 g |
| Product Color | Gunmetal gray + black |
| Product Material | ABS + PC + Rubber |
| Dust and Waterproof | Probe: IP67, Device: Non-waterproof |
| Working Temp | 0-45°C (32-113°F) |
| Storage Temp | 0-45°C (32-113°F) |



**2. Functional Parameters**

| | Functional Parameters |
|---|---|
| Temperature Detection | The lens is equipped with a temperature sensor that can monitor the surrounding environment temperature in real-time and display it on the screen. |
| High-Temperature Alarm | When the lens temperature reaches 74°C, the temperature value will turn red as a warning. When the lens temperature reaches 84°C, a high-temperature alarm will pop up on the main screen, and the lens will stop working. When the lens temperature drops below 60°C, the lens will restart. |
| Lens Bending | Supported. The lens can be bent in multiple directions using the joystick on the handle, with a maximum bending angle of 210 degrees. |
| Image Magnification | Supported. Press the up button to magnify the image: 1X → 1.3X → 1.5X. |
| Image Rotation | Supported. Press the down button to rotate the image 180 degrees. |
| Photo & Video | Supported. Switch to photo or video mode first, then press the photo button to capture an image or start recording a video. |
| Album | Photos and videos can be directly viewed and played in the album. |
| Wi-Fi | Supported. Press and hold the settings button to turn Wi-Fi on/off, or access the settings menu to enable it. |
| App Connection | Supported. Can be used with the Smart Endoscope app. |
| Camera Light Brightness Adjustment | Supported. Press the light button to control the light, with adjustable brightness levels: Bright → Medium → Dim → Off. |
| Data Transfer | Supported. Connect to a computer via the Type-C port. |



| Photo/Video Parameters | |
|---|---|
| Photo Format | JPG |
| Image Resolution | 1920x1080，1280x720 |
| Video Format | MOV |
| Video Resolution | 1920x1080，1280x720 |
| Recording Duration | The device will automatically start a new clip after recording for 10 minutes. |

**3. Working Parameters**

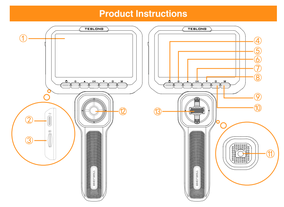
| Electrical Parameters Information | |
|---|---|
| Charging Voltage | DC 5V |
| Operating Voltage | 3.7V |
| Power Supply | 3000mAh Lithium Polymer Battery |
| Charging Time | Approximately 3 hours 20 minutes |
| Discharging Time | Approximately 4 hours 20 minutes |
| Indicator Light | • Power On: Solid green light<br>• Charging while powered on: Green light and orange light alternate flashing; orange light turns off when fully charged<br>• Charging while powered off: Solid orange light; orange light turns off when fully charged |



**4. Camera Parameters**

| Model | 6.5 mm Single Lens | 6.5 mm Dual Lens | 3.9 mm Single Lens | 6.5 mm AF |
|---|---|---|---|---|
| Camera Lens | Single Lens | Dual Lens Dual Open | Single Lens | Single Lens |
| Megapixel | 2 MP | 1 MP | 1 MP | 1 MP |
| Frame Rate | 20fps | 20fps | 20fps | 20fps |
| Camera Voltage | 3.3 V | 3.3 V | 3.3 V | 3.3 V |
| Lens Angle | 70° | 90° | 80° | 90° |
| Camera Light Source | 6 Led Lights | 6+1 Led Lights | 6 Led Lights | 6 Led Lights |
| Focal Length Range | 2-10 cm | 1 cm-∞ | 2-10 cm | 0.5 cm-∞ |
| Lens Diameter | 6.5 mm | 6.5 mm | 3.9 mm | 6.5 mm |
| Cable Length | 1.55 m | 1.55 m | 1.55 m | 1.55 m |

## Product Instructions

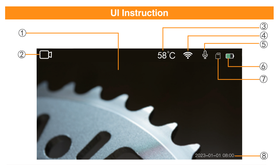




| Function Description | | |
|---|---|---|
| ① | Display Screen | 5-inch display screen |
| ② | Charging Port | 1. Type-C charging port<br>2. Connect to a computer for file transfer |
| ③ | TF Card Slot | Insert TF card |
| ④ | Power Button | Long press to turn on/off the device |
| ⑤ | Settings Button | 1. In photo/video mode, press once to enter the system settings menu.<br>2. In album mode, pressing the settings button will prompt options to delete or protect files.<br>3. Long press the settings button to quickly toggle Wi-Fi on/off. |
| ⑥ | Up Button | Select up<br>Zoom during photo/video mode: 1X-1.3X-1.5X |
| ⑦ | OK Button | In photo/video mode, press the OK button to pause the screen image<br>In album mode, select a video and press OK to play or pause. |
| ⑧ | Down Button | Select down<br>Rotate the screen 180 degrees during photo/video mode. |
| ⑨ | M Button | Mode switch (photo, video, album) |
| ⑩ | Light Control Button | Adjustable LED light brightness for the lens. Cycle: Bright - Medium Bright - Low Bright - Off |
| ⑪ | Photo Button | In photo/video mode, press once to start photo/video recording, press again to stop recording. |
| ⑫ | Four-way Joystick | Can drive the lens to bend in all directions, with a single-direction bending angle ≤ 210° (Note: When the entire probe is in a straight or U-shaped state, the bending angle can reach 210°). |
| ⑬ | Two-way Joystick | Can drive the lens to bend in two directions, with a single-direction bending angle ≤ 210° (Note: When the entire probe is in a straight or U-shaped state, the bending angle can reach 210°). |



## UI Instruction




| Function Description | | |
|---|---|---|
| ① | Display Window | Image display interface |
| ② | Photo/Video/ Album Icons | When switching modes by pressing the M button, the corresponding icon will be shown in this position. |
| ③ | Temperature Display | • The camera has a temperature sensor that monitors the surrounding environment temperature in real-time and displays it on the screen.<br>• When the lens temperature reaches 74°C, the temperature value turns red.<br>• When the lens temperature reaches 84°C, a high-temperature warning appears on the main interface, and the camera stops working. The camera resumes operation when the lens temperature drops below 60°C. |
| ④ | Wi-Fi Icon | When Wi-Fi is enabled, the Wi-Fi icon appears. If not connected, the Wi-Fi icon will blink continuously. After a successful connection, the Wi-Fi icon stops blinking, and double arrows will appear next to the Wi-Fi icon. |



| Function Description | | |
|---|---|---|
| ⑤ | Recording Icon | When switched to video mode, the recording icon will appear, indicating that the recording function is active. The recording function is enabled by default, but can be turned off in the settings menu under video mode if not needed. |
| ⑥ | Battery Level | Displays the current battery level. A lightning symbol will appear when charging. |
| ⑦ | Memory Card Icon | Displays the memory card status. If no memory card is present or the card is not recognized, a slash (/) will appear over the icon. |
| ⑧ | Date and Time | Displays the date and time (the date and time can be adjusted in Settings - Date & Time). |



## Quick Guide Autofocus/Manual Focus

1. Power on the device. By default, it will be in autofocus mode.

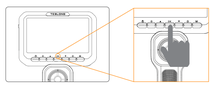


2. Long press the OK button to switch to manual focus mode.

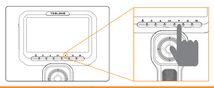




1.Press and hold the "OK" button to switch between AF/MF mode.



2. Use the up "▲" and down "▼" navigation buttons to adjust the focus in the MF mode.



## Settings Interface

Click the Settings button on the main interface to enter the settings menu (as shown in the image below).






| Name | Description |
|---|---|
| Resolution | Select different resolutions in photo or video mode: 1920x1080, 1280x720 |
| Date Stamp | Choose to enable or disable the date stamp, which will be directly displayed on photos or videos. Default is enabled. |
| Shutter Sound | Choose to enable or disable the shutter sound. Default is enabled. |
| Auto Power Off | Select auto power-off option: Off, 5 minutes, 10 minutes. After selecting an option, the device will automatically shut off after the corresponding time of inactivity. Default is off. |
| Language Settings | Choose from 8 languages: English, German, French, Italian, Spanish, Russian, Japanese, Chinese. Default is English. |
| Temperature Unit | Choose between °C or °F. Default is °F. |
| Date/Time | Manually set the date and time. |
| Wi-Fi | 1. The device has Wi-Fi functionality; press the OK button to turn it on or off. Default is off.<br>2. In the powered-on state, on the main interface, press and hold the settings button to toggle Wi-Fi on or off. |
| Format | Format the files saved on the TF card. After formatting, the photo album will display: "No Files." (Note: Formatting will delete all files on the TF card, please proceed with caution.) |
| Default Settings | Select default settings to restore all settings to their default state (except for Date/Time). |
| Version | View the device model and version information. |



## Wi-Fi Connecting: How to display the image on your Phone/Tablet

- Use your device to scan the QR code and download "Smart Endoscope"app.
- Turn on your device's Wi-Fi in Settings(At this time, the host's Wi-Fi indicator blinks)
- Connect the Wi-Fi
- Run the app.
- Click the button in the app to set up the device and start using it with your mobile device.
- You should see the image displayed on your mobile device.



Note: After the app on the phone starts displaying images, pressing the photo/video button on the device will have no effect. All operations must be done on the phone.

After a successful connection, the Wi-Fi icon on the device stops flashing and displays two arrows, indicating that the connection is successful. (If the Wi-Fi icon does not display the two arrows, it means the connection was not successful, and the app will not display any images. Please reconnect.)



## Transferring Files




Data Transfer: Connect the inspection camera directly to the computer. (It can either be powered on.) Once the connection is successful, the computer will automatically recognize the device, allowing you to copy photos and video files from it.



## Application

For professional use, this portable, articulating inspection camera can be used to inspect hard-to-reach places.
This is the perfect tool to perform precision inspection of automobile engines, HVAC units, plumbing, computers, buildings, and more!

| | | |
|---|---|---|
| Operating Environment | Camera Probe | In The Air: -10°C to 70°C |
| | | In The Air: 0°C to 45°C |
| Input Voltage | Machine | DC 5V |
| Humidity | | 10% to 90% |

## Notice

Please read this manual carefully before using this product and follow the instructions to avoid damage.

- Disassembly of this product is forbidden.
- Do not scrape the product against hard objects to avoid scratches, abrasion, or other hardware damage.
- Please note that the exposed metal parts of this product are conductive. Avoid exposure to live electrical circuits.
- Keep this product out of the reach of children.
- This is not a medical product and is NOT intended to be used in any animal body.
- Keep the product clean and avoid direct exposure to oil or corrosive liquids.
- This product is not waterproof. Avoid contact with liquids.
- Make sure the articulation wheel returns to the neutral position before pulling out the coiled probe. Do not turn the wheel aggressively.
- Do not twist or pull the articulating probe at the front of the probe.
- Please handle the inspection camera gently. Do not bend the camera probe excessively.



## Safety Warnings

⚠ Note:
1. Keep away from humid and sun-exposed environments.
2. Avoid contact with sharp objects.
3. Do not use strong detergents or organic solvents to clean the lens; it is recommended to use a soft cloth dampened with water or rubbing alcohol for cleaning.

⚠ Warning:
1. Do not pierce the product casing with nails or other sharp objects. Do not strike or step on the product.
2. Avoid using it near fire or in extremely hot conditions.
3. Do not disassemble the product in any way.



## Fault Diagnosis

| Symptoms | Diagnostic Methods |
|---|---|
| The imaging effect is unclear | 1. Check if the lens has dust or stains; if so, clean it gently with a soft, damp cloth.<br>2. Ensure the distance between the subject and the lens is at least 3 cm for the clearest image. |
| Unable to operate the device after connecting to the mobile app | This is normal. The device does not support simultaneous operation with both the mobile app and the device. After connecting to the mobile app, the device can only access the settings interface and cannot take photos or record videos. |
| Cannot take photos or record videos | Try replacing the TF card. Sometimes, a faulty TF card can cause the camera to be unresponsive or unable to save photos or videos. |
| Lens cannot bend or bends at a small angle | The more the cable is wound, the harder it is to bend the lens. You can try straightening the cable or arranging it in a U-shape. In these two configurations, the maximum bend angle can reach 210 degrees. |
| Unable to charge | The charging port may be dirty or have dust. Please clean it with a soft brush and try again.<br>The charging cable may be faulty. Try using a different charging cable. |



## Customer Service

Please contact us if you have any questions about your product.

- 12-month Warranty
- Lifetime Technical Support
- support@teslong.com
- +1 (877) 899-8809 (US)
  (Mon-Fri 8:00 AM-5:00 PM PST)
- www.teslong.com

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