

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 854x480
- 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 $\leq 210^\circ$
- 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 - 1.2X - 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	<ul style="list-style-type: none">Power On: Solid green lightCharging while powered on: Green light and orange light alternate flashing, orange light turns off after fully chargedCharging while powered off: Solid orange light, orange light turns on when fully charged

4. Camera Parameters

Model	6.5 mm Single Lens	6.5 mm Dual Lens	4.3 mm Single Lens	6.5 mm AF
Camera Lens	Single Lens	Dual Lens	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°	90°	90°
Camera Light Source	6 Led Lights	6 Led Lights	6 Led Lights	6 Led Lights
Load 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	1.05 m	1.05 m	1.05 m	1.05 m

Product Instructions

Function Description

① Display Screen	5-inch display screen
② Charging Port	1. Type-C charging port 2. Connect to a computer for file transfer
③ TF Card Slot	Insert TF card
④ Power Button	Long press to turn off the device
⑤ Settings Button	The device will automatically start a new clip after recording for 10 minutes.
⑥ Up Button	Select up 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 In album mode, select a video and press OK to play or pause.
⑧ Down Button	Select down 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 $\leq 210^\circ$ (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 $\leq 210^\circ$ (Note: When the entire probe is in a straight or U-shaped state, the bending angle can reach 210°).

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UI Instruction

Function Description
① Display Window
② Photo/Video/Album Icons
③ Temperature Display
④ Wi-Fi icon

Function Description

① Display Window

Image display interface

When switching modes by pressing the M button, the corresponding icon will be shown in this position.

- The camera has a temperature sensor that monitors the surrounding environment temperature in real-time and displays it on the screen.
- When the lens temperature reaches 74°C, the temperature value turns red.
- 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.

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/AMF mode.

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

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

Settings Interface

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

Automatic shut-down

Language settings

Temperature Unit

Date Time

Wi-Fi

Format

Default Settings

SSID:Wi-Fi_Monitor_xxxx

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. 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 "P" blinks).

Connect the Wi-Fi.

Run the app.

Click the "P" 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

Card reader

Type-C USB cable

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
Input Voltage	In The Air: -10°C to 70°C
Humidity	Machine DC 5V In The Air: 0°C to 45°C 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 articulating 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.

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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. 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. The charging cable may be faulty. Try using a different charging cable.

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 requirements. The device can be used in portable exposure condition without restriction.




Customer Service


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




12-month Warranty




Lifetime Technical Support




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