

Autel TS501 PRO

Autel MaxiTPMS TS501 PRO User Manual

Model: TS501 PRO | Brand: Autel

1. OVERVIEW

The Autel MaxiTPMS TS501 PRO is a professional-grade Tire Pressure Monitoring System (TPMS) tool designed for comprehensive TPMS service. It is an upgraded version of previous models like TS501, TS408S, TS408, and TS401, offering enhanced functionality and wider vehicle coverage. This device allows users to activate 99% of OEM/Universal TPMS sensors, program Autel MX-Sensors, perform various relearn procedures, and conduct full TPMS diagnostics.

Key features include:

- Activation of 99% of OEM/Universal TPMS sensors.
- Two methods for programming Autel MX-Sensors (Copy by OBD, Auto Create 1-16 Sensors).
- Multiple TPMS relearn procedures (Stationary, Automatic, OBD Relearn).
- Comprehensive TPMS diagnosis, including reading/clearing DTCs and on-screen descriptions.
- Tire Type/Pressure Selection and Frequency Test for 315 MHz and 433 MHz sensors.
- Lifetime free software updates via USB.
- Multi-language support and data management functions.

2. WHAT'S IN THE BOX

Upon unboxing your Autel MaxiTPMS TS501 PRO, please ensure all components are present:

- Autel MaxiTPMS TS501 PRO Scanner Unit
- OBDII Cable
- USB Cable
- Power Adapter
- Rugged Blow Molded Case
- Quick Start Guide



Figure 2.1: Autel MaxiTPMS TS501 PRO and its accessories, including the scanner, cables, power adapter, and protective case.

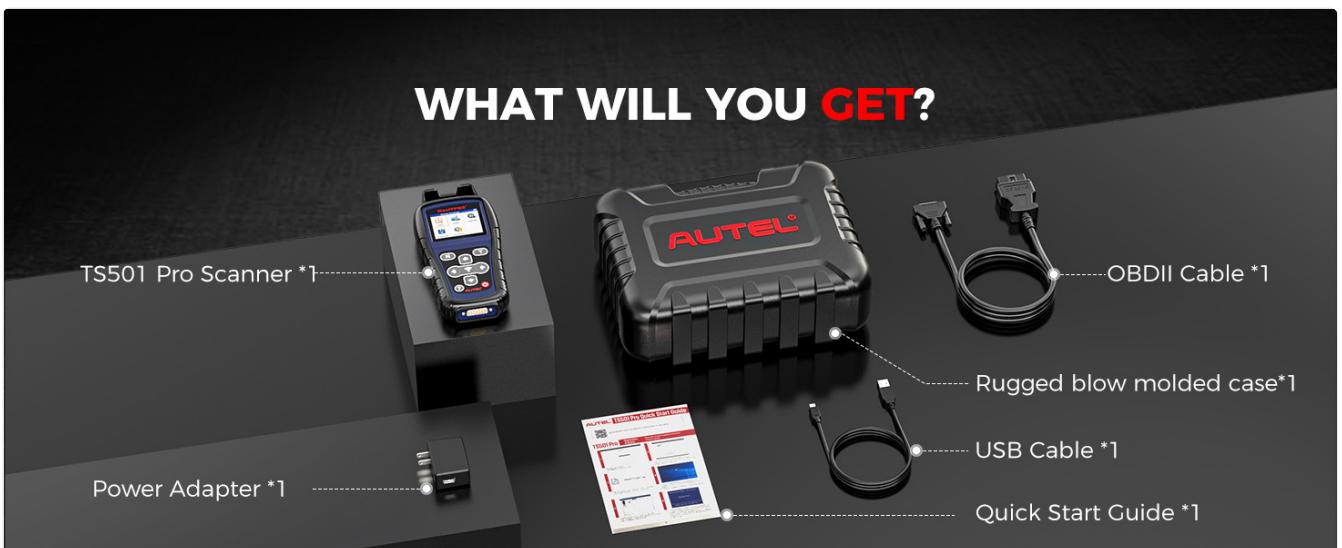


Figure 2.2: Visual representation of the items included in the Autel MaxiTPMS TS501 PRO package.

3. GETTING STARTED

3.1 Initial Setup and Device Update

Before using your MaxiTPMS TS501 PRO, it is crucial to ensure the device's software is up-to-date. This process involves connecting the tool to a computer and using the Maxi PC Suite software.

1. Unplug the tool from all power sources.
2. Hold down the power button for at least 60 seconds or until the tool turns off completely.
3. While holding the left arrow key, plug the USB cable into the tool and connect it to your PC. This action forces the tool into update mode.
4. Open the Maxi PC Suite software on your computer. If updates are available, proceed with the installation.
5. If the software indicates no available updates, navigate to the 'Installed' tab within Maxi PC Suite. Select all listed software components and choose 'Uninstall Selected'. Confirm the uninstallation.
6. Without unplugging the tool, switch back to the 'Updates Available' tab. The necessary updates should now appear. If not, click the 'Refresh' button.
7. Select all available updates and click 'Update Selected'. Wait for the installation process to complete.
8. Once all updates are installed and the software indicates 'No available updates', you can unplug the tool and power it on. The device should now be fully updated and ready for use.

Video 3.1: Instructions on how to resolve an Autel handheld tool update failure issue, demonstrating the update process.

Video 3.2: An unboxing video for the Autel Newest TS501 PRO Scanner, showing the contents and initial appearance of the device.

The image is a promotional graphic for the Autel MaxiTPMS TS501 PRO update process. It features a dark background with a laptop on the right displaying a blue interface with a hand icon. On the left, there is a red banner that says "LIFETIME F-FREE UPDATE". Below this banner are four checkmarks with text: "No Extra Fees", "Add More Functions", "Extend More Vehicles", and "Correct More Bugs". Below these is another red banner that says "Easy to Update". At the bottom, there are four numbered steps in blue boxes: 1) "Download & install MaxiPC Suite onto your Windows-based PC" (with a download icon), 2) "Connect the tool to the Windows-based PC by USB cable" (with a USB cable icon), 3) "Input your Autel ID, PW to sign up" (with an Autel ID card icon), and 4) "Follow the prompts, and click 'Update'" (with a refresh icon). On the right side, there is an image of the Autel MaxiTPMS TS501 PRO handheld device.

Figure 3.1: Visual guide to the lifetime free update process for the Autel MaxiTPMS TS501 PRO, detailing steps for connecting to a PC and updating software.

4. OPERATING INSTRUCTIONS

4.1 Activating TPMS Sensors

The TS501 PRO is designed to activate 99% of OEM/Universal TPMS sensors quickly, typically within 30 seconds per sensor. This allows for real-time status checks of tire pressure, temperature, sensor ID, battery power, sensor position, and frequency.

1. Select the type of sensor on the device.
2. Place the TS501 PRO near the sensor (within 1-inch of the antenna).
3. Press the trigger button on the device.
4. Repeat the process for each sensor.

TRIGGER 99% TPMS SENSORS IN 30 SEC

Quickly Tell Real-Time Status

30S
ONLY

-  Sensor ID
-  Tire Pressure
-  Tire Temp
-  Sensor Battery Power
-  Sensor Position
-  Sensor Frequency

99% OEM/ Universal Sensors
315MHz/433MHz Sensors

Figure 4.1: Illustration of how to trigger TPMS sensors using the Autel MaxiTPMS TS501 PRO, showing the device near a tire valve.

EASY TO TRIGGER TPMS SENSORS

EASY STEPS

- Step 1:** Select the type of sensor
- Step 2:** Put TS501 Pro near the sensor (within 1-inch of antenna)
- Step 3:** Press the trigger button
- Step 4:** Repeat process for each sensor





-  For 315/433MHz Sensors
-  Simple Easy Operation
-  Show Real-time Tire Data
-  Quick & Reliable



Figure 4.2: Step-by-step guide on easily triggering TPMS sensors using the Autel MaxiTPMS TS501 PRO.

4.2 Programming Autel MX-Sensors

The TS501 PRO supports two primary methods for programming Autel MX-Sensors (315/433MHz):

4.2.1 Auto Create 1-16 Sensors

This method is used when the original sensor ID is not obtainable. It allows for wireless programming of up to 16 MX-Sensors at once, with unlimited programming times.

4.2.2 Copy by OBD

This function allows you to copy the sensor ID from the vehicle's ECU into an Autel MX-Sensor after performing a read ID from the vehicle. This method eliminates the need for relearn procedures and manual programming, providing accurate sensor information for OBD compliant cars.

Note: The TS501 PRO can ONLY program Autel MX-Sensors. It is not compatible with other brands of sensors.

AUTEL MX-SENSORS 2 PROGRAMMING WAYS

Help You Replace the Broken TPMS Sensors with Low Batteries

Auto Create 1-16 Sensors

When it is unable to obtain the original sensor ID, TS501 Pro can Auto Create.

Advantages

- Wireless Programming
- Maximum 16 MX-Sensors at Once
- Unlimited Programming Times

Copy by OBD

This function allow user to copy the sensor ID from ECU into into Autel MX-Sensor after performing read IDs from vehicle

Advantages

- No Need to Relearn
- No Need Manual Programming
- Offer Accurate Sensor Information
- Work for All OBD Compliant Cars

NOTE: Programming Function is Not for All Brand Sensors. Only Work with Autel MX-Sensors (Need Extra Purchase)

Figure 4.3: Overview of the two programming methods for Autel MX-Sensors using the TS501 PRO: Auto Create and Copy by OBD.

AUTEL MX-SENSORS 2 PROGRAMMING WAYS

Programming Function is Not for All Brand Sensors. Only Work with Autel MX-Sensors

	<p>Auto Create 1-16 Sensors (When you have no way to get the old sensor ID)</p> <p>Steps:</p> <p>Select Car Model → Create New ID (1-16) → Write ID into MX-Sensors (Auto)</p>	<p>Advantages</p> <ul style="list-style-type: none"> • Wireless Programming • Maximum 16 MX-Sensors at Once • Unlimited Programming Times
	<p>Copy by OBD (TS401/TS408 don't have this capability)</p> <p>Steps:</p> <p>Connect OBD2 Cable → Get ID → Copy ID into MX-Sensors (Auto)</p>	<p>Advantages</p> <ul style="list-style-type: none"> • No Need to Relearn • Don't Need Manual Programming • Offer Accurate Sensor Information • Work for All OBD Compliant Cars



Figure 4.4: Detailed explanation of the Auto Create and Copy by OBD programming methods for Autel MX-Sensors.

EASIER AUTEL MX-SENSOR PROGRAMMING

	Autel TS501 Pro	Others	
<ul style="list-style-type: none"> • Unlimited Programming Times 			<ul style="list-style-type: none"> • Not Support
<ul style="list-style-type: none"> • Program in Batch 			<ul style="list-style-type: none"> • Not Support
<ul style="list-style-type: none"> • Max.16 MX-Sensors 			<ul style="list-style-type: none"> • Not Support
<ul style="list-style-type: none"> • No Need Manual Programming 			<ul style="list-style-type: none"> • Not Support
<ul style="list-style-type: none"> • Accurate Sensor Info 			<ul style="list-style-type: none"> • Incomplete Info
<ul style="list-style-type: none"> • Easy-to-use Interface 			<ul style="list-style-type: none"> • Clumsy Interface

Figure 4.5: Comparison highlighting the ease and advantages of Autel TS501 PRO for MX-Sensor programming versus other tools.

4.3 Relearning TPMS Sensors

After replacing TPMS sensors, they must be relearned to the vehicle to turn off the TPMS warning light. The TS501 PRO offers three on-tool relearn procedures for both OE and aftermarket sensors:

- **Stationary Relearn:** Requires the vehicle to be placed in 'Learn Mode'.
- **Automatic Relearn:** Completed by driving the vehicle.
- **OBD Relearn:** Directly writes sensor IDs to the TPMS module via the OBD connector (not supported by older TS408/TS401 models).
- **Copy Relearn:** Obtain sensor ID then clone.

The tool includes over 1000 built-in TPMS relearn guides, eliminating the need to search online.

FROM 3 TO 4 TPMS RELEARN METHODS

1000+ Relearn Guide Built-in

<h3>Stationary Relearn</h3> 	<h3>Automatic Relearn</h3> 
<h3>OBD Relearn</h3> 	<h3>Copy Relearn</h3> 

Your TPMS Relearn Expert

- ✓ 1000+ TPMS Relearn Guide Built-in (No Need to Search Online)
- ✓ For Cars w/wo Automatic Relearn
- ✓ OBD Relearn: Cover More Cars
- ✓ Faster Relearn Process

Figure 4.6: Visual representation of the four TPMS relearn methods supported by the Autel MaxiTPMS TS501 PRO.

4 + 1000 WAYS TO RELEARN TPMS SENSORS

OBD Relearn	Stationary Relearn	Automatic Relearn	Copy Relearn
 <p>Directly writes sensor IDs to the TPMS module via the OBD connector</p>	 <p>Requires the vehicle be placed in the "Learn Mode"</p>	 <p>Completed by driving</p>	 <p>Obtain Sensor ID then Cloned</p>

Your TPMS Relearn Expert

- 1000+ TPMS Relearn Guide Built-in (No Need to Search Online)
- For Cars w/wo Automatic Relearn
- Cover More Cars
- Faster Relearn Process

99%



Figure 4.7: Overview of the extensive relearn guide built into the Autel MaxiTPMS TS501 PRO, covering various methods for different vehicles.

Video 4.1: A detailed guide on how to use the Autel TS501 TPMS Tool for various functions, including sensor activation and relearn procedures.

4.4 TPMS Diagnostic Functions

The TS501 PRO provides quick and comprehensive TPMS diagnostic capabilities, helping technicians efficiently find and resolve faulty TPMS issues. It offers direct access to the vehicle's ECU via OBD II connection.

- Read/Clear TPMS DTCs with on-screen descriptions.
- View TPMS Live Data in graphs.
- Retrieve TPMS ECU Information.
- Turn off TPMS warning lights (MILs).

Figure 4.8: Demonstrates the quick TPMS diagnostic capabilities of the Autel MaxiTPMS TS501 PRO, showing how it helps troubleshoot issues.

ONE PRESS, COMPLETE TPMS DIAGNOSTIC & CHECK

Keep Driving Safe



30S to Read Sensor Data



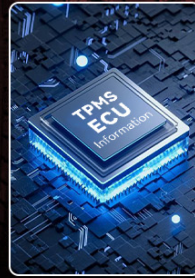
Read/ Erase TPMS DTCs



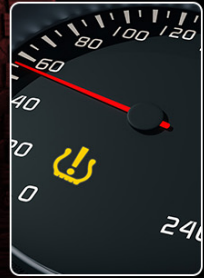
TPMS Live Data in Graphs



On-screen DTC Description



TPMS ECU Information



Turn-Off TPMS Light

Figure 4.9: Highlights the comprehensive TPMS diagnostic and check features available with a single press on the Autel MaxiTPMS TS501 PRO.

4.5 Tire Type/Pressure Selection & Frequency Testing

The TS501 PRO includes exclusive features like Tire Type/Pressure Selection and Frequency Testing. If the TPMS MIL (Malfunction Indicator Lamp) remains on after clearing faults, this function allows you to set the correct tire type and pressure value. The Frequency Test feature checks the frequency of 315 MHz and 433 MHz signals.

TIRE TYPE / PRESSURE SELECTION - EXCLUSIVE

Comparing with TS501, Autel Newer TS501 Pro Added Tire Type/Pressure Selection & Frequency Testing

If all TPMS faults are cleared and the four tires are inflated to the reference pressure listed on the placard, but the TPMS MIL is still on, you may need to use this function to select your tire type and set the right tire pressure value.

Read Tire Type/Pressure

Read Tire Type/Pressure	
Front Tire Type	Load Range C
Front Tire Pressure on Placard	172kPa/25psi
Rear Tire Type	Load Range D
Rear Tire Pressure on Placard	256kPa/37psi
Back	Save

Write Tire Type/Pressure

Write Tire Type/Pressure	
Front Tire Type	00: Please make a selection
Front Tire Pressure on Placard	00: Please make a selection
Rear Tire Type	00: Please make a selection
Rear Tire Pressure on Placard	00: Please make a selection
[N]No	[E]Edit [Y]Confirm

FREQUENCY TESTING

- Check the frequency of the signal and battery electricity
- TS501Pro TPMS tool can be linked to a signal transmitter

315/433 MHz Signal
72% Loading

Figure 4.10: Details the exclusive Tire Type/Pressure Selection and Frequency Testing features of the Autel MaxiTPMS TS501 PRO.

5. MAINTENANCE

5.1 Software Updates

The Autel MaxiTPMS TS501 PRO offers lifetime free software updates. Regular updates ensure compatibility with newer vehicle models, add new functions, and correct any bugs, enhancing the tool's performance and longevity. Updates are performed via USB connection to a Windows-based PC.



Figure 5.1: Visual guide to the lifetime free update process for the Autel MaxiTPMS TS501 PRO, detailing steps for connecting to a PC and updating software.

6. TROUBLESHOOTING

If you encounter issues with your Autel MaxiTPMS TS501 PRO, consider the following common troubleshooting steps:

- **Compatibility Issues:** Functions vary by vehicle's make, model, and year. Always verify compatibility by providing your car's VIN to Autel support before ordering or if you experience issues.
- **Sensor Programming Limitations:** The TS501 PRO can ONLY program Autel MX-sensors. It cannot program other brand sensors. Ensure you are using compatible sensors.
- **Inaccurate Sensor Data:** If the tool fails to read sensor data, it is highly recommended to replace old sensors with original or Autel MX-sensors, as inaccurate data from third-party sensors can cause issues.
- **Update Failures:** If the tool fails to update, follow the specific update procedure outlined in Section 3.1, including holding the power button and left arrow key during connection to force update mode.
- **TPMS Light Remains On:** After clearing faults, if the TPMS MIL is still on, use the Tire Type/Pressure Selection function to set the correct values. Ensure all sensors are properly relearned to the vehicle using one of the methods described in Section 4.3.

For any persistent problems or concerns, please contact Autel technical support.

7. SPECIFICATIONS

Feature	Detail
Brand	Autel
Model	US-TS501 PRO
Item Weight	1.2 pounds
Product Dimensions	7.96 x 4.2 x 1.48 inches
Display Resolution	320x240
Voltage	3.7 Volts
Batteries	1 Lithium Polymer battery required

Language	English (multiple languages supported via authorization)
Sensor Compatibility	315MHz/433MHz Autel MX-Sensors

8. WARRANTY & SUPPORT

Autel provides comprehensive support for the MaxiTPMS TS501 PRO:

- **Lifetime Software Updates:** Enjoy free software updates for the lifetime of the product, ensuring continued compatibility and new features.
- **Technical Support:** 24/7/365 thoughtful technical support is available.
- **Warranty:** The product comes with a 1-Year Quality Backup.
- **Returns:** 30-Day Free Returns & Replacement are offered.

For technical assistance or inquiries, please contact AutelChoice support via email at autelchoice@outlook.com. You can expect a solution within 12 hours.

Legal Disclaimer

Please note the following important information:

- All functions may vary by vehicle's make, model, and year. Always verify compatibility.
- The TS501 PRO exclusively programs Autel MX-Sensors and does not support other brands.
- Software updates are primarily via PC; WiFi updating is not supported by this model.
- It is strongly recommended to use original or Autel MX-sensors for accurate data, as third-party sensors may provide inaccurate readings.