

TESMEN TSM-599

TESMEN TSM-599 Smart Digital Multimeter User Manual

Model: TSM-599 | Brand: TESMEN

1. INTRODUCTION

The TESMEN TSM-599 Smart Digital Multimeter is a versatile and reliable tool designed for various electrical measurement needs. It features both automatic and manual measurement modes, providing flexibility for different testing scenarios. This manual provides essential information for the safe and effective use of your TSM-599 multimeter.



Figure 1: TESMEN TSM-599 Smart Digital Multimeter with included test leads, thermocouple, storage bag, and AAA batteries.

2. SAFETY INFORMATION

Always adhere to safety precautions when using electrical testing equipment. Failure to do so may result in electric shock, injury, or damage to the device.

- Ensure the multimeter is in good working condition before use.
- Do not exceed the maximum input values specified for each function.
- Use appropriate Personal Protective Equipment (PPE), such as insulated gloves and safety glasses.
- Verify the correct function and range settings before making measurements.
- Avoid contact with live circuits.
- The device is equipped with a 10A/250V fuse to prevent current measurement overload.
- The insulated silicone casing enhances safety and prevents electric shock.



Figure 2: Internal view highlighting the 10A/250V fuse and the full-coverage insulated case for enhanced safety.

3. PACKAGE CONTENTS

The TESMEN TSM-599 package includes:

- TSM-599 Smart Digital Multimeter
- 2 Test Leads
- 1 Thermocouple
- 1 Storage Bag
- 4 AAA Batteries

- User Manual

4. SETUP

4.1 Battery Installation

1. Carefully remove the blue protective silicone casing from the multimeter.
2. Locate the battery compartment cover on the back of the device.
3. Unscrew the retaining screw on the battery compartment cover using a small screwdriver.
4. Insert the 4 AAA batteries, ensuring correct polarity (+/-).
5. Replace the battery compartment cover and secure it with the screw.
6. Re-install the protective silicone casing.

Video 1: Demonstration of removing the protective cover and installing batteries in the TESMEN TSM-599 multimeter.

5. OPERATING MODES

The TSM-599 offers both automatic (Smart) and manual measurement modes.

5.1 Smart Mode (Auto)

In Smart Mode, the multimeter automatically detects and measures DC/AC voltage, resistance, and continuity without requiring manual selection. This mode is ideal for general-purpose measurements.

5.2 Manual Mode

To access specific functions not covered by Smart Mode, or to manually select a range, use Manual Mode. Press either of the two rightmost function buttons (FUNC) to enter Manual Mode. Long-press any of these two buttons to return to Smart Mode.

NCV

NON CONTACT AC VOLTAGE MEASUREMENT



 
Low Voltage High Voltage

Flashlight Design



Figure 3: Display illustrating the various functions available in Smart and Manual modes.

6. MEASUREMENT FUNCTIONS

The TSM-599 supports a wide range of electrical measurements:

- **DC/AC Voltage (V):** Measures direct and alternating current voltage.
- **Resistance (Ω):** Measures electrical resistance.
- **Continuity:** Checks for a complete electrical path.
- **Diode:** Tests the functionality of diodes.
- **Capacitance (F):** Measures electrical capacitance.
- **Frequency/Duty Cycle (Hz%):** Measures the frequency and duty cycle of signals.

- **Temperature (°C/°F):** Measures temperature using the included thermocouple.
- **NCV (Non-Contact Voltage):** Detects AC voltage without direct contact.
- **Live Wire:** Identifies live electrical wires.
- **DC/AC Current (A):** Measures direct and alternating current.



Figure 4: The multimeter display indicating True RMS 6000 counts and icons for various measurement functions.

6.1 Non-Contact Voltage (NCV) Detection

The NCV function allows for safe detection of AC voltage without direct contact. Bring the NCV sensing area (located at the top of the multimeter) close to the area to be tested. The screen will display '-----L' for low AC voltage (green indicator, low-frequency beep) or '-----H' for high AC voltage (red indicator, high-frequency beep).

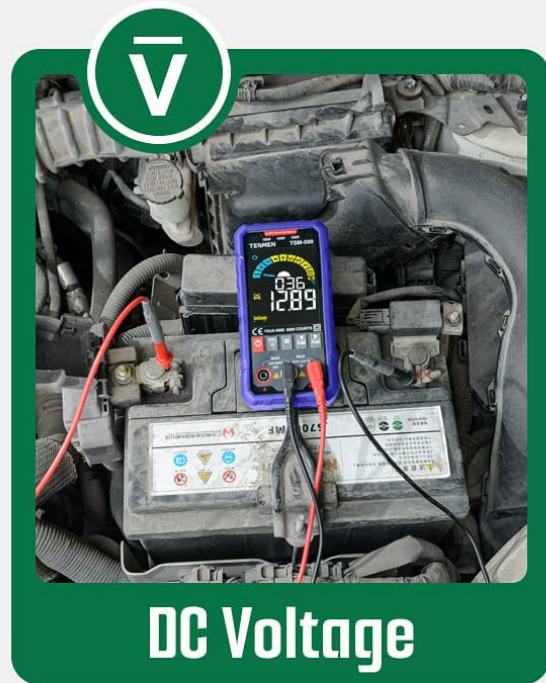


Figure 5: The NCV function in use, detecting AC voltage, and the built-in flashlight feature.

6.2 Current Measurement

When measuring current, ensure the red probe is inserted into the 'A' port. The multimeter will automatically switch to DC Current or AC Current measurement. Other functions are not available when the red probe is in the 'A' port.



NCV

Smart Digital Multimeter TRUE RMS 6000 Counts

Figure 6: Examples of the multimeter measuring AC Voltage, DC Voltage, Capacitance, and Temperature.

7. USER-FRIENDLY FEATURES

- **Auto-Off Function:** The multimeter automatically turns off after 15 minutes of inactivity to conserve battery life.
- **Low Battery Indicator:** Alerts the user when batteries need replacement.
- **Data Hold:** Freezes the current measurement on the display for easy reading.
- **Built-in Flashlight:** Provides illumination for working in dimly lit environments.
- **Integrated Stand:** Allows for convenient hands-free operation.
- **Large Color LCD Screen:** Ensures clear and easy data viewing with an analog bar and real-time temperature display.

8. MAINTENANCE

To ensure the longevity and accuracy of your TSM-599 multimeter:

- Keep the device clean and dry. Use a soft, damp cloth for cleaning; do not use abrasive cleaners or solvents.
- Store the multimeter in its provided storage bag when not in use to protect it from dust and physical damage.
- Replace batteries promptly when the low battery indicator appears.
- If the fuse blows, replace it with a 10A/250V fuse of the same type. Refer to the battery installation section for accessing the fuse.

9. TROUBLESHOOTING

- **Q: Why can't I switch functions after inserting the red probe into the A port?**

A: The A port is specifically designed for current measurement. When the red probe is in this port, you can only select DC current or AC current measurement; other functions are not available.

- **Q: How do I enter manual mode?**

A: You can enter manual mode by pressing either of the two rightmost function buttons (FUNC). To return to smart mode, long-press any of these two buttons.

- **Q: Why does the instrument beep when measuring resistance?**

A: When measuring resistance below 50 ohms, the TSM-599 smart multimeter also detects circuit continuity and emits a beep to alert you. The screen will simultaneously display the resistance value.

- **Q: What do the indications on the screen mean when using the NCV function?**

A: When using the NCV function, do not connect any probes. Bring the NCV sensing area close to the location you want to test. If the voltage meter detects a low AC voltage, the screen will display '----L', the indicator will turn green, and the instrument will emit a low-frequency beep. If the multimeter detects a high AC voltage, the screen will display '----H', the indicator will turn red, and the instrument will emit a high-frequency beep.

10. SPECIFICATIONS



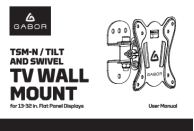

Specification	Value
Item Model Number	TSM-599
Package Dimensions	7.17 x 4.02 x 2.95 inches
Item Weight	1.16 Pounds
Batteries	4 AAA batteries required (included)
Power Source	Battery Powered
Color	Blue
Safety Certifications	CE, UL

11. WARRANTY AND SUPPORT

TESMEN provides a 3-year maintenance service and lifetime technical support for the TSM-599 Smart

Digital Multimeter. For assistance, please refer to the contact information provided in the product packaging or visit the official TESMEN website.

Related Documents - TSM-599

	<p>TESMEN TSM-599 Smart Digital Multimeter User Manual</p> <p>Comprehensive user manual for the TESMEN TSM-599 Smart Digital Multimeter, covering safety instructions, specifications, operation, measurement functions, and maintenance. Includes detailed guides for various electrical measurements.</p>
	<p>Tesmen TBF-200 Brake Fluid Tester User Manual</p> <p>User manual for the Tesmen TBF-200 Brake Fluid Liquid Tester, providing instructions on operation, safety, technical specifications, and maintenance.</p>
	<p>Agrowplow AP81 Spare Parts Manual</p> <p>Comprehensive spare parts manual for the Agrowplow AP81 plough, detailing all assemblies, components, and part numbers for various configurations including 17x529, 19x529, and 23x522 models. Includes hydraulic system diagrams and part listings.</p>
	<p>Gabor TSM-N Tilting TV Wall Mount Installation Guide</p> <p>Comprehensive guide for installing the Gabor TSM-N tilting TV wall mount for 32-inch displays. Includes safety instructions, parts list, and step-by-step assembly.</p>
	<p>Nightstick TSM Series Weapon-Mounted Light with Green Laser - Instruction Manual</p> <p>Comprehensive instruction manual for the Nightstick TSM Series Weapon-Mounted Light with Green Laser, covering installation, operation, safety, and warranty information.</p>