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## Psytfel TS457

# Psytfel TS457 Entry-Level Voltage Internal Resistance Tester User Manual

## 1. INTRODUCTION

This manual provides comprehensive instructions for the Psytfel TS457 Entry-Level Voltage Internal Resistance Tester. This device is designed for accurate measurement of battery voltage and internal resistance using the Kelvin four-wire detection method. It is an essential tool for battery maintenance, troubleshooting, and power supply analysis across various battery testing scenarios.

## 2. PRODUCT OVERVIEW

### 2.1 Key Features

- **Efficient Voltage & Resistance Measurement:** Accurately displays both voltage and internal resistance values. Supports recording and deleting measured resistance data.
- **Fine-Tunable Display Value:** Allows calibration of voltage and resistance readings to enhance display accuracy.
- **Display Backlight & Standby Time Management:** Adjustable display backlight and standby time settings for optimal visibility and energy conservation.
- **Versatile Configuration & Reset Functions:** Features screen display rotation adjustment and a factory reset option for operational flexibility.
- **Automatic Shutdown Function:** Configurable automatic shutdown time (default 2 minutes) to conserve battery power.

### 2.2 Components

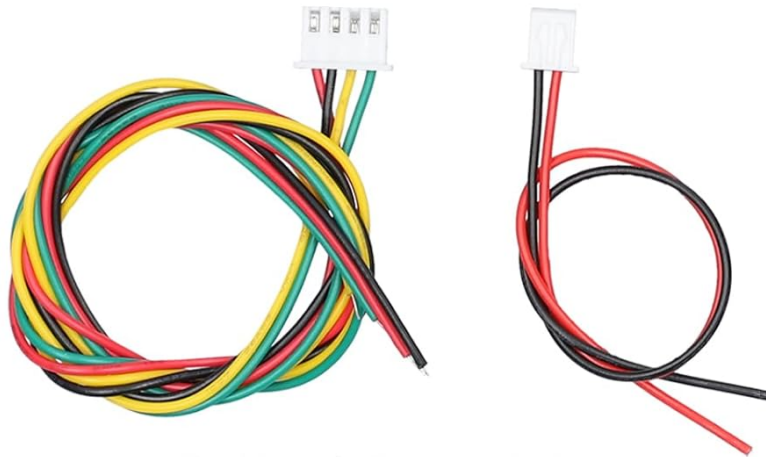
The standard package includes the following items:

- 1 x Psytfel TS457 Voltage Internal Resistance Tester
- 2 x Pre-Crimped Wires
- 1 x Clip (included with Kelvin clip set option)

# Packing List



**1 \* Voltage Internal Resistance Tester**



**2 \* Pre-Crimped Wires**

Image 1: Contents of the Psytfei TS457 package, including the tester, pre-crimped wires, and an optional clip.

## 3. SPECIFICATIONS

Parameter	Value
Name	Voltage Internal Resistance Tester
Material	Plastics
Voltage Measurement Range	0.001V - 45.00V
Internal Resistance Measurement Range	0.1m $\Omega$ - 6.99 $\Omega$
Item Size	79 mm * 42 mm * 28 mm (3.11 in * 1.65 in * 1.10 in)
Item Weight (Tester only)	40g (1.41 ounce)
Power Supply	DC 5V

# Specifications

**Name:** Voltage Internal Resistance Tester  
**Material:** plastics  
**Voltage measurement ranges:** 0.001V-45.00V  
**Internal resistance measurement ranges:** 0.1mΩ-6.99Ω

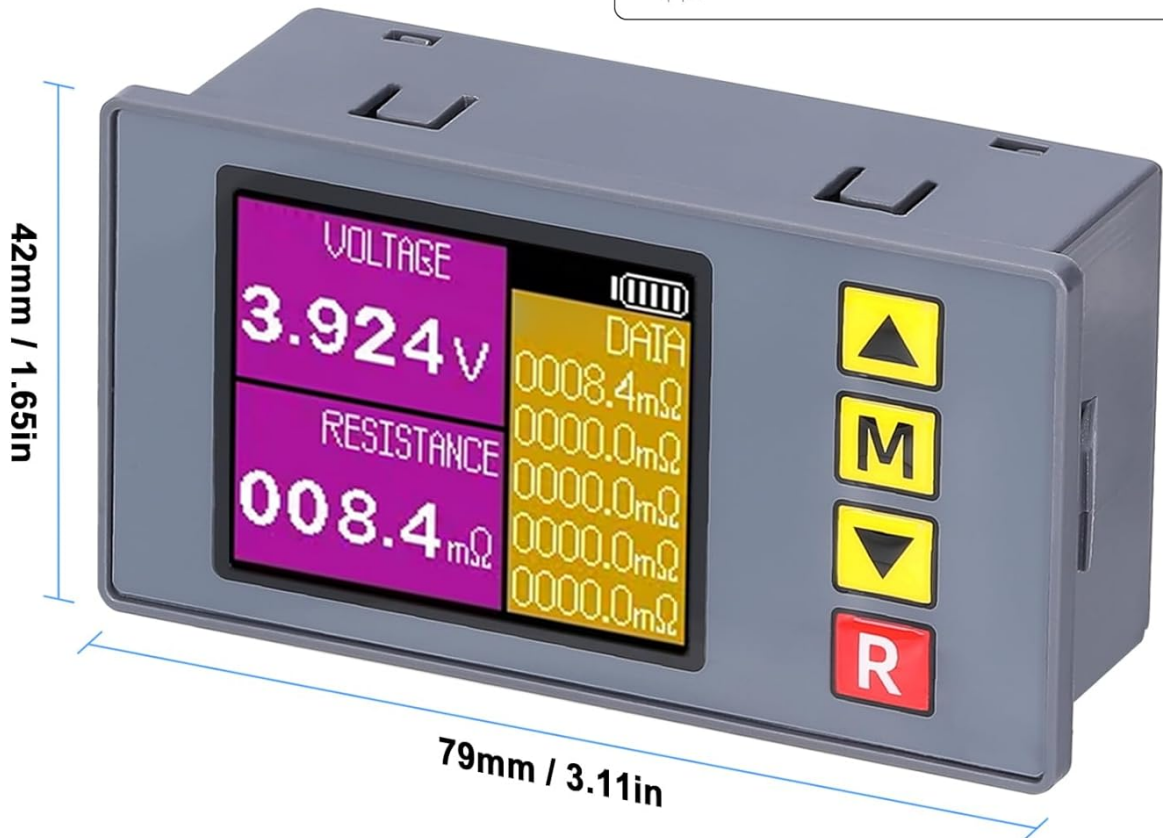
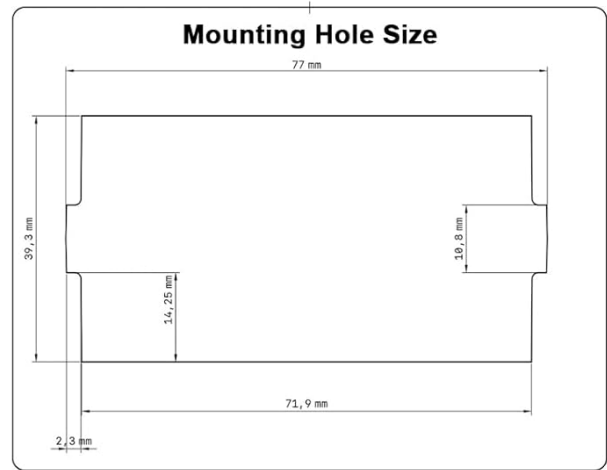


Image 2: Physical dimensions and key specifications of the Psytfel TS457 tester.

## 4. SETUP

### 4.1 Power Connection

The Psytfel TS457 requires a DC 5V power supply. Connect the appropriate power source to the device's power input port. Ensure the power supply is stable and within the specified voltage range.



Image 3: Front display and rear connection details of the Psytfel TS457. Note the DC 5V power input and the QR code for additional resources at [banber.com](http://banber.com).

## 4.2 Connecting to a Battery (Kelvin Four-Wire Method)

The tester utilizes the Kelvin four-wire method for accurate measurements. This method minimizes the impact of lead resistance and contact resistance on the readings.

1. Connect the voltage sensing wires (typically thinner wires) directly across the battery terminals.
2. Connect the current carrying wires (typically thicker wires) to the same battery terminals, ensuring good contact.
3. Ensure all connections are secure to obtain stable and accurate readings.

# TS457 ENTRY-LEVEL

## Efficient Voltage & Resistance Measurement



## Fine-Tunable Display Value

Image 4: The Psytfel TS457 in operation, demonstrating the connection to a battery for measurement. An inset shows the internal circuit board with expansion ports.

## 5. OPERATING INSTRUCTIONS

### 5.1 Basic Measurement

Once powered on and connected to a battery, the device will automatically display the voltage and internal resistance. The main display shows the current voltage and resistance values, while the 'DATA' column shows recorded resistance values.

### 5.2 Recording and Deleting Data

- After a measurement is stable, press the 'M' button to record the displayed resistance value.
- To delete recorded data, navigate to the appropriate menu option (refer to Section 5.3 for menu navigation) and select the delete function.

### 5.3 Menu Navigation and Configuration

The device features a menu system for various settings. Use the ▲ (Up), ▼ (Down), and 'M' (Menu/Select) buttons for navigation.

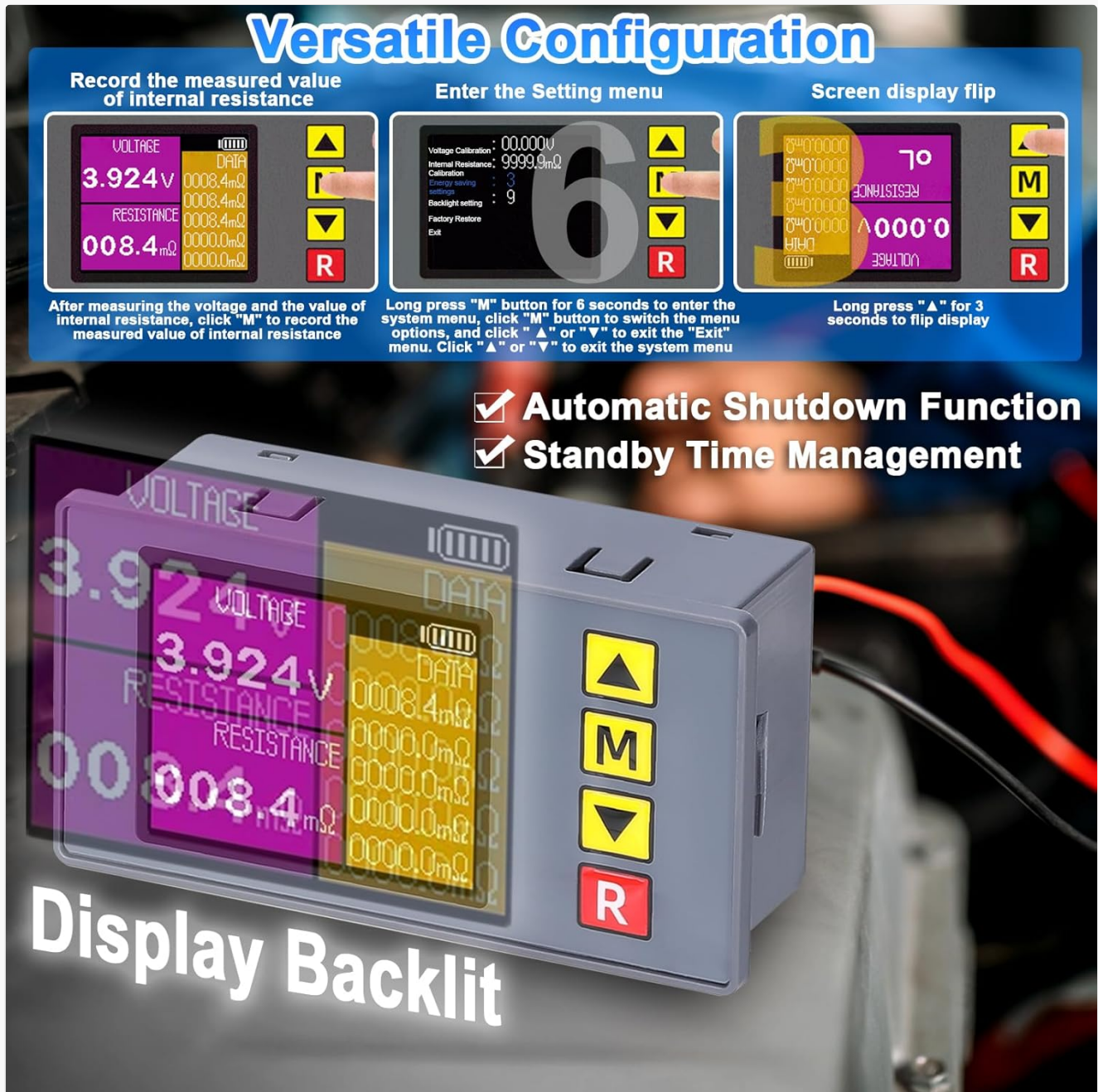


Image 5: The configuration interface of the Psytfel TS457, illustrating how to access settings like calibration, backlight, and screen display flip.

- **Entering Settings:** Long press the 'M' button for 3 seconds to enter the system menu.
- **Navigating Menus:** Use the ▲ or ▼ buttons to switch between menu options.
- **Exiting Menus:** Select the 'Exit' option or long press 'R' to exit the system menu.

#### 5.4 Adjustable Functions

- **Voltage Calibration:** Access this option in the settings menu to fine-tune voltage readings.
- **Resistance Calibration:** Access this option in the settings menu to fine-tune resistance readings.
- **Backlight Setting:** Adjust the display backlight intensity for different lighting conditions.
- **Standby Time:** Configure the time before the device enters standby mode to save power.
- **Screen Display Rotation:** Long press the ▲ button for 3 seconds to flip the screen display, useful for different mounting orientations.

- **Automatic Shutdown Time:** Set the duration after which the device will automatically power off if inactive. The default is 2 minutes.
- **Factory Reset:** Restore all settings to their default factory values. This option is available in the settings menu.

## 6. MAINTENANCE

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- Keep the device clean and dry. Avoid exposure to dust, moisture, and extreme temperatures.
- Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- Store the tester in a safe place when not in use to prevent physical damage.
- Ensure proper power supply (DC 5V) to prevent damage to internal components.

## 7. TROUBLESHOOTING

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- **No Display:** Check the DC 5V power connection. Ensure the power source is active.
- **Inaccurate Readings:** Verify that the Kelvin four-wire connections are secure and correctly applied to the battery terminals. Consider performing a calibration via the settings menu.
- **Device Unresponsive:** Try performing a factory reset through the settings menu. If the issue persists, disconnect and reconnect the power supply.
- **'oL' or Overload Display:** This indicates an out-of-range measurement. Ensure the battery voltage and resistance are within the specified measurement ranges (0.001V-45.00V, 0.1m $\Omega$ -6.99 $\Omega$ ).

## 8. WARRANTY AND SUPPORT

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For warranty information and technical support, please refer to the product packaging or contact your retailer. Keep your purchase receipt as proof of purchase.

