

**INSTRUCTIONAL MANUAL
CAT. #72907-01
Smart Tweezers – StraightTips**



Introduction

Carefully read and understand this manual before using the Tester.

Precise, non-magnetic tips reliably contact smallest SMD (surface mount device). The Quick Test tweezers gives users an easy way to sort and evaluate loose components and to perform on-board measurements and debugging. Surface mount devices are usually tiny and without wire leads, making it much more difficult to test and identify SMD than conventional components. Precise tips, made of non-magnetic steel, are able to pick and reliably contact even the smallest SMD components, or take measurements from the device already mounted on a board. The probe can also be used to test conventional components with wire leads too short to insert into the test terminals.

Features:

- Measures AC/DC voltage, resistance, continuity & diode test
- Auto Scanning Mode/Auto range
- Testing pins gold plated to reduce resistance and prevent rust
- Uses Lithium battery CR2032, included
- Will automatically identify whether component is a resistor, capacitor or diode

Safety Warnings



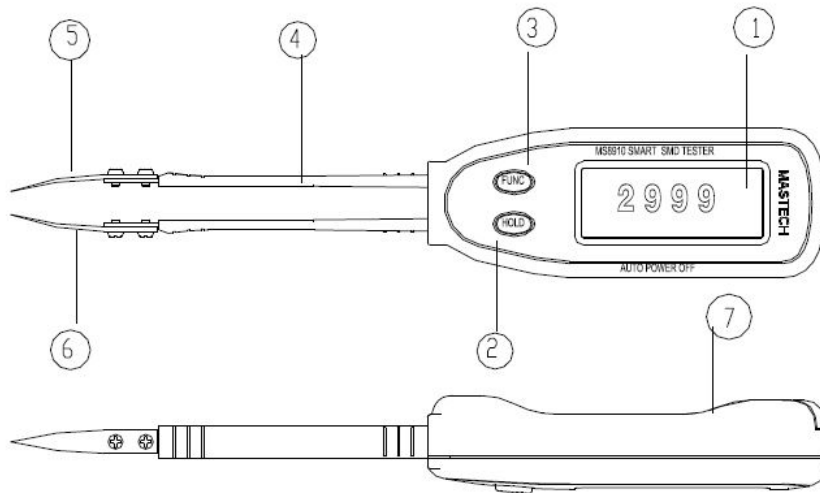
WARNINGS

- *Never use Tester on live circuits.*
- DO NOT use a damaged Tester.
- Inspect the Tester case before using
- Inspect the Pin Holder – ensure that the gold-plate is not damaged
- To prevent the pin tip from damage, DO NOT use the Tester as tweezers
- DO NOT apply external voltage between the two pins.
- DO NOT use in an environment with explosive gas, vapor, or dust
- There are situations where hazardous condition may exist, even though the Tester is not used to measure DC/AC Voltage or current.

Specifications

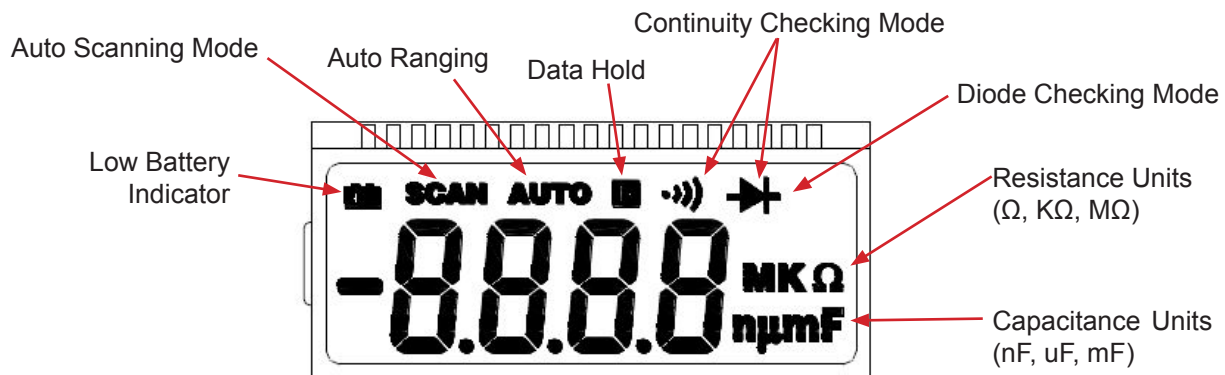
- 3000 count LCD display
- Full automatic measurement: Auto scanning the Resistance/Capacitance/Diode.
- Function selection by one FUNC Push Button
- Data Hold function
- Continuity Checking function
- Over Load Indication (OL)
- Low Battery Indication
- Power Supply: 3V Lithium Battery (CR2032)
- Test Pins are gold-plated
- Auto Power OFF: If the Tester is idle for more than 10 minutes, Tester automatically turns the power off.
- Operating temperature and Humidity: 0 ~ 40°C (32 ~104°F) and < 80% RH
- Storage temperature and Humidity: -10 ~ 50°C (14 ~ 122°F) and <70%RH
- Safety Class: IEC1010-1, CAT II
- EMC: According to CE regulation 89/336
- Dimension (L x W x H): 170 x 31 x 17 mm; Weight: approx. 48.6 g
- Environmental condition: Indoor use only, up to an altitude of 2000 meters

Tester Diagram



1. LCD
2. "HOLD" Push Button
3. "FUNC" Push Button
4. Pin Holder
5. Gold-plated Test Pin (INPUT Terminal)
6. Gold-plated Test Pin (COM Terminal)
7. Battery cover

LCD Display



Using the Tester

When the 3V lithium battery is installed, the Tester power is ON.

Once powered on, the Tester will perform the Scanning Mode, which will be displayed on the LCD. It will automatically identify the resistor, capacitor, diode and continuity measurement mode.

FUNC Button: Choose the function desired – Resistance, Capacitance, Diode, Continuity.

HOLD Button: Select measurement mode manually by pressing the HOLD button. Use this button to enter or exit the hold mode In any measurement mode. In the data hold mode, the Tester stops updating LCD, storing current measuring data and displaying the measured data and holding it until pressing the "HOLD" key once again.

NOTE: After auto power-OFF is active, push any of the buttons to turn on the Tester again.

Electrical Specifications

Function	Range	Best Resolution	Accuracy
Resistance	300Ω / 3KΩ 30KΩ / 300K / 3MΩ	0.1Ω	±(1%rdg+ 2dgt)
	30MΩ		±(1.2%rdg+ 3dgt)
Capacitance	3nF / 30nF / 300nF 3uF / 30uF 300uF / 3mF / 30mF	1pF	±(2%rdg+ 3dgt) ±(3%rdg+ 3dgt)
Diode Check	Open Voltage: 2.8V Testing Current : 2mA		
Continuity Check	When the resistance is less than 30Ω, the Buzzer is sounded.		

Operations

Scanning Mode

When two pins are in touch with the object being measured, the measured value will be displayed on the LCD.



CAUTION: When measuring SMD device on the PCB, you must disconnect power and discharge all high-voltage capacitors.

Resistance Measurement

Auto scanning Mode & Auto range: 300.0Ω — 3.000MΩ

Selected Resistance measurement Mode with the FUNC key: The range is extended to 30 MΩ, i.e.300.0Ω — 30.00MΩ

When overloaded, the OL symbol will be displayed on the LCD.

Capacitance Measurement

Auto scanning & Auto range: 3.000nF — 300.0uF.

When Capacitance Mode is selected by the FUNC key, the range is extended to 30.00mF, i.e. 3.000nF—30.00mF.



CAUTION: To avoid damage to the Meter or to the equipment under test, disconnect power and discharge all high-voltage capacitors before measurement capacitance.

Diode Check

Select Diode Mode with the FUNC button.

Use the diode test mode to check diodes, transistors and other semiconductor device. The diode test mode sends a current through the semiconductor junction and measures the voltage drop across the junction. A good silicon junction drop is between 0.5V — 0.8V.

For forward voltage drop reading on any semiconductor component, the test pin, connected to the 'INPUT' terminal, is in touch with the component anode and the another test pin is in touch with on the component cathode. The measured value is displayed on the LCD.

Reverse the test pin and measure the voltage across the diode again.

- If diode is good, the display shows OL.
- If diode is shorted, the display shows 0 (zero) in both direction.
- If display shows OL in both direction, the diode is open.

Continuity Check

Select the Continuity Mode by FUNC button.

When the resistance reading is less than 30Ω, the buzzer generates 2KHz beep to indicate continuity.



Maintenance

Replacing The Battery (Battery type: Lithium Battery 3V CR2032)

When the battery symbol is displayed on the LCD, the battery needs replacing.

1. Open the battery cover on the bottom case with a screwdriver.
2. Remove old battery and snap new one into battery holder.

Cleaning

The meter can be cleaned with soft clean cloth to remove any oil, grease or grim.
Do not use any liquid solvent or detergent.

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