Smart SMD Tester

USER'S MANUAL

MODEL: MS8910

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1. Introduction

The Tester is a handheld and battery operated very convenient small Tool that is specially used to measuring SMD(Surface Mounting

Device), there are Chip type resistor, Chip type capacitor and diode, for example. Moreover, the Tester have the continuity checking function

The Tester is automatically identified the passive Component as has been indicated above. Therefore, the measurement are allowed by fully automatic detection. The Tester is designed to meet IEC1010-1 standard and Stipulation of 2-Poulation Grade.

The Tester conform to the European Union's following Requirement: CE regulation 89/336 (EMC Electromagnetic Compatibility).

The entire outer surface of the Tester case has been with thermo plastic elastomer, and the two testing pins has been gold-plated, so that it is reduce pin contact resistance and prevent to get rusty.

This operating instruction covers information on safety and caution, so please read relevant information carefully and observe all the warming and note strictly.

2. Safety Note

The following safety notes should be observed prior to using this Tester and any associated accessory. Although the Tester do not used to measuring DC/AC Voltage or Current, but there are situations where hazardous condition may be present.

● Inspect the Tester case before using. Do not use damaged device.

● Inspect the Pin Holder and Pin gold-plated state.

● Do not attempt use the Tester as tweezers to prevent the pin tip from damage.

● Do not apply external voltage between the two pins.

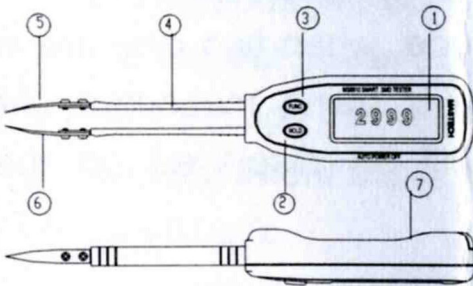● Do not used in the environment with explosive gas, vapor, or dust.
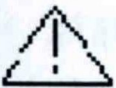
⚠️ Caution

Never use the Tester on alive circuits.

3. Explanation of Control and Indicators

3.1 Product Illustration

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

3.2. Push Buttons

[1] "FUNC": it is the function select key that acts trigger.
Use the Push Button as switch of Resistance/Capacitance/Diode/Continuity.
The Tester is have not Power Key. When install the 3V Lithium Battery, the Tester immediately power ON. Once powered on, the Tester will perform the

Scanning Mode and then
the 'SCAN' and ' - - - - ' sign is displayed on the
LCD. This is indicate the
Tester is inter to the auto scanning mode and will
be automatically identify
the resistor, capacitor, diode and continuity
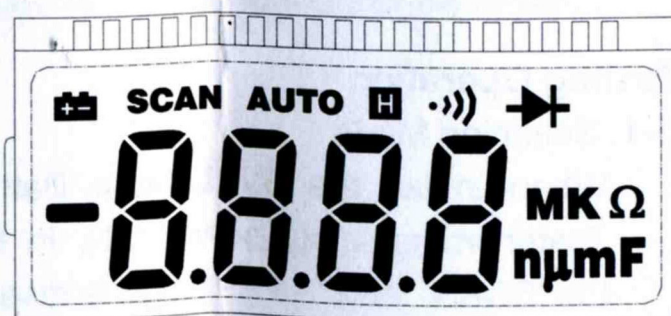measurement mode.
The 'FUNC' Button is used to selecting some one
measurement mode manually.
[2] "HOLD" : Press "HOLD" Button to enter
or exit the hold mode In any measurement mode.
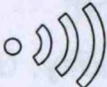This key is act with trigger.
In the data hold mode, the Tester stop updating
LCD, stored current measuring data and displayed
the measured data, and then holding the data until
press the "HOLD" key once again.

Note: after auto power-OFF is active,
        pushing any of the push button can
        turn on the Tester again.

3-3. LCD Display

No	Indicator	Meaning
1	SCAN	Auto Scanning Mode
2	AUTO	Auto Ranging
3	$\boxed{H}$	Data Hold
4	▶⊢	Diode checking Mode
5	∘)))	Continuity Checking Mode
6	numF	Capacitance Units(nF, uF, mF)
7	MKΩ	Resistance Units(Ω, KΩ, MΩ)
8	⊞⊟	Low Battery Indicator

4. Specification

4-1. General Feature

- 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) , 1pc
- Auto Power OFF. If the Tester is idle for more than 10 minutes,the Tester automatically turns the power off,
- Operating temperature & Humidity: 0 ~ 40°C (32 ~104 °F) & < 80% RH
- Storage temperature & Humidity: -10 ~ 50 °C (14 ~ 122 °F) & <70%RH
- Safety Class: IEC1010-1, CAT II
- EMC: According to CE regulation 89/336.
- Dimension (L x W x H) & Weight: 170 x 31 x 17mm, Approx. 48.6 g
- Environmental condition:
  (1) Indoor use;
  (2) Altitude up to 2000meter.

4-2. Electrical Specification

| Function.	Range	Resolu-tion	Accuracy
Resistance	300Ω /3K Ω /30K/300K/ 3M Ω	0.1Ω	±(1%rdg+ 2dgt) " " "
	30MΩ		±(1.2rd%+3dgt)
Capacitance	3nF/30nF/ 300nF/ 3uF/30uF/ 300uF/3mF/ 30mF	1pF	±(2.5%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.		

Accessory:

1. Spare Test Pin: 2 pcs

5. Testing Operation

5-1, Scanning Mode

When install the 3V Lithium Battery, the Tester immediately power ON. In this case, the 'SCAN ' and ' - - - - ' sign is displayed on the LCD. This is indicate the Tester is inter to

the auto scanning mode and automatically identified the resistor, capacitor, diode and continuity , and then enter to
the corresponding measurement mode.

In the Scanning Mode, when two pins are in touch with the object being measured, the measured value will be displayed on the LCD.
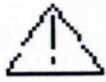
⚠ **Caution**

When measuring SMD device on the PCB, You must be
Disconnect power and discharge all high-voltage
Capacitors.

5-2. Resistance Measurement

[1] Auto scanning Mode & Auto range:

300.0Ω —$3.000M \Omega$

[2] Selected Resistance measurement Mode by the 'FUNC" key:

The range is extended to 30 $M\Omega$, i.e.300.0 Ω — 30.00M Ω

When over load, the 'OL' symbol will be displayed on the LCD.
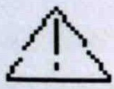
5-3. Capacitance Measurement

[1] Auto scanning & Auto range: 3.000nF — 300.0uF。

[2] Selected Capacitance Mode 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.

5-4 Diode Check

You can selecting the Scanning Mode or the
Diode Mode by
The 'FUNC' push button.

① Use the diode test mode to check diodes,
transistors and other semiconductor
device. In the diode test mode sends a
current through the semiconductor.
junction, and the measure the voltage drop
across the junction. A good silicon
junction drop between 0.5V — 0.8V.

② 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
show on the LCD.

③ 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.

5-5. Continuity Check

May selecting Scanning Mode or
Continuity Mode by 'FUNC' push button.
When the resistance reading is less than 30
Ω, the buzzer   generates 2KHz beep to
indicate continuity.

6. Maintenance

6-1. Replacing The Battery

When meter display ⊞⊟ , the battery must
be replace to maintain normal operation.

    ① Open the battery cover on
      the bottom case by
      screwdriver.

    ② Remove old battery and
      snap new one into battery
      holder

Note:

Lithium Battery type: 3V   CR2032

6-2. Cleaning

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

END —

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