



# 501 Insulation Tester



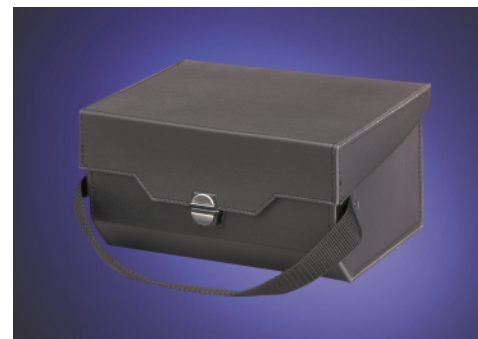
- **Five Test Voltages: 50, 100, 250, 500, and 1000 VDC**
- **Voltage Measurement to 1000 V AC/DC**
- **Test Probe Signal Lamp Illuminates Work Area and Indicates Pass/Fail of Insulation Resistance**
- **Rugged Tester Design for Industrial Applications with Leatherette Carrying Case**
- **Battery Powered, with Battery Test and Battery Charge Indicator**

Simpson's Model 501 is the newest addition to its insulation tester family. The Model 501 can be used for general purpose insulation tests that require voltages from 50 V to 1000 V only.

Additionally, this instrument is equipped with AC and DC measuring ranges up to 1000 V. This is especially advantageous for testing for the absence of voltage and the discharge of capacitive devices under test.

The Model 501 features a quick testing signal lamp within the test probe that serves to illuminate the work area. The signal lamp can also be used for quick Pass/Fail evaluations of insulation resistances. Minimum values for insulation resistances are present if the lamp lights up.

Each tester comes equipped with built-in test probes, one alligator clip, a leatherette carrying case and batteries.



# Model 501 Measuring Ranges

## Insulation Resistance

Measuring Range	Open-circuit voltage $U_o$	Internal Resistance $R_i$	Lamp in Test Prod Lights <sub>1</sub> for Resist.
0 ... 50 k $\Omega$ 20 k $\Omega$ ... 1 M $\Omega$ 200 k $\Omega$ ... 20 M $\Omega$	60 V	30 k $\Omega$ 10 k $\Omega$ 40 k $\Omega$	> 100 k $\Omega$
0 ... 100 k $\Omega$ 40 k $\Omega$ ... 2 M $\Omega$ 400 k $\Omega$ ... 40 M $\Omega$	120 V	60 k $\Omega$ 20 k $\Omega$ 80 k $\Omega$	> 200 k $\Omega$
0 ... 250 k $\Omega$ 100 k $\Omega$ ... 5 M $\Omega$ 1 M $\Omega$ ... 100 M $\Omega$	300 V	150 k $\Omega$ 50 k $\Omega$ 200 k $\Omega$	> 500 k $\Omega$
0 ... 500 k $\Omega$ 200 k $\Omega$ ... 10 M $\Omega$ 2 M $\Omega$ ... 200 M $\Omega$	600 V	300 k $\Omega$ 100 k $\Omega$ 400 k $\Omega$	> 1 M $\Omega$
0 ... 1 M $\Omega$ 400 k $\Omega$ ... 20 M $\Omega$ 4 M $\Omega$ ... 400 M $\Omega$	1200 V	600 k $\Omega$ 200 k $\Omega$ 800 k $\Omega$	> 2 M $\Omega$
0 ... 4 k $\Omega$	9 V	-	-

## Direct and Alternating Current

Measuring Range	Frequency	Internal Resistance	Maximum Overload	Intrinsic Error (1)
0 to 1000V AC/DC	0 or 40 to 200 Hz	900 K $\Omega$	1200V AC/DC Continuous	$\pm 2.5\%$

(1) Referring to scale length

# Model 501 Specifications

## Reference Conditions

**Ambient Temperature:** 73°F (23°C)

$\pm 4^\circ\text{F}$  ( $2^\circ\text{C}$ )

**Relative Humidity:** 45 to 55%

**Measurement Magnitude**

**Frequency:** 45-65Hz

(voltage measurements)

**Line Voltage Waveform:** Sine, deviation between effective and rectified value < .5%

**Battery Voltage:** 9V  $\pm$  .5V

**Operating Position:** Horizontal

## Electromagnetic Compatibility EMC

**Interference Emission:** EN 50081-1: 1992

**Interference Immunity:** EN 50082-1: 1992

## Power Supply

**Standard or Storage Battery:** 6 ea. 1.5V "D" size batteries

**Working Range:** 7V to 10V

**Battery Service Life:** Number of possible measurements with 1 set of "D" size batteries (with lamp in test probe switched on): at least 3,000 measurements of an insulation resistance of 1M $\Omega$  ( $U_n=1000V$ , 5 sec.

Measurement duration, switched off for 25 sec. etc.)

## Mechanical Design

**Dimensions:** *W* 6.50" (165mm) x

*D* 4.33" (110mm) x *H* 4.92" (125mm)

**Weight:** 3.5 lbs.016kg)(with batteries)

## Ambient Conditions

**Operating Temp. Range:** 32°F (0°C) to 104°F (40°C)

**Storage Temp. Range:** -4°F (-20°C) to 140°F (60°C)  
(without batteries)

**Relative Humidity:** Max. 45-55%, condensation must be avoided

## Electrical Safety

**Designed to IEC 1010-1**

Protection Class: II

Test Voltage: < 5.55Kv

Overvoltage Classification: II

Pollution Degree: 2

**Protection:** Housing IP52

# Ordering Information

501 Insulation Tester, 1000 V

Catalog No.  
12501

ACCESSORIES

Replacement Alligator Clip

Catalog No.  
46223



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