



501 Insulation Tester



The model 501 can be used for general purpose insulation tests that require voltages from 50V to 1000V only.

The Instrument is equipped with AC and DC measuring ranges up to 1000V. This is advantageous for testing for the absence of voltage and the discharge of capacitive devices under test.

The 501 features a quick testing signal lamp within the test probe that illuminates 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.

Comes equipped with built-in test probes, an alligator clip, a leatherette carrying case and batteries.

- 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
- Battery Powered with Battery Test and Battery Charge Indicator
- Rugged Tester Design for Industrial Applications with Leatherette Carrying Case

Measuring Ranges

INSULATION RESISTANCE

| Measuring Range | Open-Circuit Voltage U_0 | Internal Resistance R_i | Lamp in Test Prod. ⁽¹⁾ Lights for Resistance |
|--|----------------------------|---|---|
| 0...50K Ω 20K Ω ...1M Ω 200K Ω ...20M Ω | 60V | 30K Ω 10K Ω 40K Ω | > 100K Ω |
| 0...100K Ω 40K Ω ...2M Ω 400K Ω ...40M Ω | 120V | 60K Ω 20K Ω 80K Ω | > 200K Ω |
| 0...250K Ω 100K Ω ...5M Ω 1M Ω ...100M Ω | 300V | 150K Ω 50K Ω 200K Ω | > 500K Ω |
| 0...500K Ω 200K Ω ...10M Ω 2M Ω ...200M Ω | 600V | 300K Ω 100K Ω 400K Ω | > 1M Ω |
| 0...1M Ω 400K Ω ...20M Ω 4M Ω ...400K Ω | 1200V | 600K Ω 200K Ω 800K Ω | > 2M Ω |
| 0...4K Ω | 9V | — | — |

(1) Switching Accuracy

DIRECT AND ALTERNATING CURRENT

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

(1) Referring to scale length

Ordering Information

| ACCESSORIES | Catalog No. |
|-------------------------------|-------------|
| 501 Insulation Tester, 1000 V | 12501 |



Specifications

REFERENCE CONDITIONS

Ambient Temperature: 73°F (23°C) \pm 4°F (2°C)

Relative Humidity: 45 to 55%

Measurement Magnitude Frequency: 45-65 Hz (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

ELECTRICAL SAFETY

Designed to IEC 1010-1

Protection Class: II

Test Voltage: \approx 5.55Kv

Overvoltage Classification: II

Pollution Degree: 2

Protection: Housing IP52

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

MECHANICAL DESIGN

Dimensions: W 6.50" (165mm) x

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

Weight: 3.5 lbs. (1.6kg) (with batteries)

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 prod switched off): at least 3,000 measurements of an insulation resistance of 1M Ω (Nominal Voltage of 1000 V, 5 sec. Measurement duration, switched off for 25 sec. etc.)