

TECHNICAL DATA

# Fluke 1503 Insulation Resistance Meter



## Key features

- A rugged, compact insulation resistance tester for residential and commercial electricians
- Performs insulation tests from 0.01 MΩ to 2000 MΩ
- Offers two insulation test voltages: 500 V and 1000 V
- Includes live circuit detection to prevent insulation test if voltage >30 V is detected
- Measures resistance from 0.01 Ω to 20.00 kΩ

## Product overview: Fluke 1503 Insulation Resistance Meter

Fluke 1503 Insulation Resistance Tester handles all the basic insulation testing needs

The Fluke 1503 is a great choice for basic residential and commercial electrical insulation testing. This rugged, compact tool fits in the palm of your hand. The 1503 is the same form factor as the Fluke 1507 but with a few less features. You can count on it to handle the most common tests at a most affordable price. Additional features, like the remote probe, reduce the time needed to perform repetitive testing.

Other useful capabilities:

- Measures AC/DC voltage from 0.1 V to 600 V
- Includes auto-discharge of capacitive voltage for added user protection
- Provides lo-ohms earth-bond continuity (200 mA)
- Simplifies repetitive or hard-to-reach testing with the remote test probe

- Saves battery power with auto power off
- Presents results on a large, backlit display
- Features CAT IV 600 V overvoltage category rating
- Comes with remote probe, test leads, test probes, alligator clips, and one-year warranty
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Runs on four AA alkaline batteries (NEDA 15 A or IEC LR6) for at least 1000 insulation tests

## Specifications: Fluke 1503 Insulation Resistance Meter

AC/DC Voltage Measurement		
Accuracy	Range	600.0 V
	Resolution	0.1 V
	50 Hz to 400 Hz $\pm$ (% of Rdg + Digits)	$\pm$ (2% + 3)
Input impedance	3 M $\Omega$ (nominal), < 100 pF	
Common mode rejection ratio (1 k $\Omega$ unbalanced)	> 60 dB at DC, 50 or 60 Hz	
Overload protection	600 V rms or DC	
Earth Bond Resistance Measurement		
Range/Resolution	20.00 $\Omega$	0.01 $\Omega$
	200.0 $\Omega$	0.1 $\Omega$
	2000 $\Omega$	1.0 $\Omega$
	20.00 k $\Omega$	0.01 k $\Omega$
Accuracy	$\pm$ (1.5% + 3)	
Overload protection	2 V rms or DC	
Open circuit test voltage	> 4.0 V, < 8 V	
Short circuit current	> 200.0 mA	
Insulation Specifications		
Measurement range	0.01 M $\Omega$ to 2000 M $\Omega$	
Test voltage	500 V, 1000 V	
Test voltage accuracy	+ 20%, - 0%	
Short circuit current	1 mA nominal	
Auto discharge	Discharge time < 0.5 second for C = 1 $\mu$ F or less	
Live circuit indicator	Inhibit test if terminal voltage > 30 V prior to initialization of test	
Maximum capacitive load	Operable with up to 1 $\mu$ F load	
Measure accuracy	500 V	$\pm$ (1.5% + 5)
	1000 V	$\pm$ (1.5% + 5) to 2000 M $\Omega$ , $\pm$ (10% + 3) above 2000 M $\Omega$
General Specifications		

Maximum voltage applied to any terminal:	600 V AC rms or DC	
Storage temperature	-40°C to 60°C (-40°F to 140°F)	
Operating temperature	-20°C to 55°C (-4°F to 131°F)	
Temperature coefficient	0.05 x (specified accuracy) per °C for temperatures < 18°C or > 28°C (< 64°F or > 82°F)	
Relative humidity	0% to 95% @ 10°C to 30°C (50°F to 86°F)	
	0% to 75% @ 30°C to 40°C (86°F to 104°F)	
	0% to 40% @ 40°C to 55°C (104°F to 131°F)	
Vibration	Random, 2 g, 5-500 Hz per MIL-PRF-28800F, Class 2 instrument	
Shock	1 meter drop per IEC 61010-1 2nd Edition (1 meter drop test, six sides, oak floor)	
Electromagnetic compatibility	In an RF field of 3 V/M, accuracy = specified accuracy (EN 61326-1:1997)	
Safety	Complies with ANSI/ISA 82.02.01 (61010-1) 2004, CAN/CSA-C22.2 NO. 61010-1-04, and IEC/EN 61010-1 2nd Edition for measurement category IV 600 V (CAT IV)	
Certifications	CSA per standard CSA/CAN C22.2 No. 61010.1-04; TUV per standard IEC/EN 61010-1 2nd Edition	
Batteries	Four AA batteries (NEDA 15A or IEC LR6)	
Battery life	Insulation test use:	Tester can perform at least 1000 insulation tests with fresh alkaline batteries at room temperature. These are standard tests of 1000 V into 1 MΩ with a duty cycle of 5 seconds on and 25 seconds off.
	Resistance measurements:	Tester can perform at least 2500 earth bond resistance measurements with fresh alkaline batteries at room temperature. These are standard tests of 1 Ω with a duty cycle of 5 seconds on and 25 seconds off.
Size (H x W x L)	5.0 x 10.0 x 20.3 cm (1.97 x 3.94 x 8.00 in)	
Weight	550 g (1.2 lb)	
IP rating	IP40	
Altitude	Operating	2000 m CAT IV 600 V, 3000 m CAT III 600 V
	Non-operating (storage)	12,000 m
Over-range capability	110% of range	
Included accessories	TL224 Test Leads, TP74 Test Probes, clips PN 1958654 (red) and PN 1958646 (black), holster and remote probe	

## Ordering information



### **FLUKE- 1503**

Fluke 1503 Insulation Resistance Tester

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Includes:

- Remote probe
  - Test leads
  - Test probes
  - Alligator clips
  - User documentation
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