

# Fluke 1507/1503 Insulation Resistance Testers

AC/DC Voltage Measurement	
Accuracy	<b>Range</b> 600.0 V <b>Resolution</b> 0.1 V <b>50 Hz to 400 Hz <math>\pm</math> (% of Rdg + Digits) <math>\pm</math> (2 % + 3)</b>
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	<b>20.00 <math>\Omega</math></b> 0.01 $\Omega$ <b>200.0 <math>\Omega</math></b> 0.1 $\Omega$ <b>2000 <math>\Omega</math></b> 1.0 $\Omega$ <b>20.00 k<math>\Omega</math></b> 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	<b>1507:</b> 0.01 M $\Omega$ to 10 G $\Omega$ <b>1503:</b> 0.01 M $\Omega$ to 2000 M $\Omega$
Test voltage	<b>1507:</b> 50 V, 100 V, 250 V, 500 V, 1000 V <b>1503:</b> 500 V, 1000V
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:	<b>50 V:</b> $\pm$ (3 % + 5) <b>100 V:</b> $\pm$ (3 % + 5) <b>250 V:</b> $\pm$ (1.5 % + 5) <b>500 V:</b> $\pm$ (1.5 % + 5) <b>1000 V:</b> $\pm$ (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 $^{\circ}$ C to 60 $^{\circ}$ C (-40 $^{\circ}$ F to 140 $^{\circ}$ F)
Operating Temperature	-20 $^{\circ}$ C to 55 $^{\circ}$ C (-4 $^{\circ}$ F to 131 $^{\circ}$ F)
Temperature Coefficient	0.05 x (specified accuracy) per $^{\circ}$ C for temperatures < 18 $^{\circ}$ C or > 28 $^{\circ}$ C (< 64 $^{\circ}$ F or > 82 $^{\circ}$ F)
Relative Humidity	0 % to 95 % @ 10 $^{\circ}$ C to 30 $^{\circ}$ C (50 $^{\circ}$ F to 86 $^{\circ}$ F) 0 % to 75 % @ 30 $^{\circ}$ C to 40 $^{\circ}$ C (86 $^{\circ}$ F to 104 $^{\circ}$ F) 0 % to 40 % @ 40 $^{\circ}$ C to 55 $^{\circ}$ C (104 $^{\circ}$ F to 131 $^{\circ}$ F)
Vibration	Random, 2 g, 5-500 Hz per MIL-PRF-28800F, Class 2 instrument

<b>Shock</b>	1 meter drop per IEC 61010-1 2nd Edition (1 meter drop test, six sides, oak floor)
<b>Electromagnetic compatibility:</b>	In an RF field of 3 V/M, accuracy = specified accuracy (EN 61326-1:1997)
<b>Safety</b>	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)
<b>Certifications:</b>	CSA per standard CSA/CAN C22.2 No. 61010.1-04; TUV per standard IEC/EN 61010-1 2nd Edition
<b>Batteries</b>	Four AA batteries (NEDA 15A or IEC LR6)
<b>Battery Life</b>	<p><b>Insulation test use:</b> Tester can perform at least 1000 insulation tests with fresh alkaline batteries at room temperature. These are standard tests of 1000 V into 1 M<math>\Omega</math> with a duty cycle of 5 seconds on and 25 seconds off.</p> <p><b>Resistance measurements:</b> Tester can perform at least 2500 earth bond resistance measurements with fresh alkaline batteries at room temperature. These are standard tests of 1 <math>\Omega</math> with a duty cycle of 5 seconds on and 25 seconds off.</p>
<b>Size</b>	5.0 cm H x 10.0 cm W x 20.3 cm L (1.97 in H x 3.94 in W x 8.00 in L)
<b>Weight</b>	550 g (1.2 lb)
<b>IP Rating</b>	IP40
<b>Altitude</b>	<b>Operating:</b> 2000 m CAT IV 600 V, 3000 m CAT III 600 V <b>Non-operating (storage):</b> 12,000 m
<b>Over-range capability:</b>	110 % of range
<b>Included accessories:</b>	TL224 Test Leads, TP74 Test Probes, clips PN 1958654 (red) and PN 1958646 (black), holster and remote probe