FLUKE®

Fluke 77IV Series Digital Multimeter

Extended specifications

Technical Data

General specifications

Accuracy is specified for 1 year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity of 0 % to 90 %. Accuracy specifications take the form of ± ([% of Reading] + [Counts])	
Maximum voltage between any terminal and earth ground	1000 V
Surge protection	8 kV peak per IEC 61010
Fuse for mA inputs	440 mA, 1000 V FAST Fuse
Fuse for A input	11 A, 1000 V FAST Fuse
Display	Digital: 6,000 counts, updates 4/sec; Bar Graph: 33 segments, updates 32/sec Frequency: 10,000 counts; Capacitance: 1000 counts
Altitude	Operating: 2000 m; Storage: 12,000 m
Temperature	Operating: –10 °C to +50 °C; Storage: –40 °C to +60 °C
Temperature coefficient	0.1 X (specified accuracy /°C) (< 18 °C or > 28 °C)
Electromagnetic compatibility (EN 61326-1:1997)	In an RF field of 3 V/M, accuracy = specified accuracy except in temperature: specified accuracy ± 5 °C, ± 9 °F
Relative humidity (maximum non-condensing)	90 % to 35 °C; 75 % to 40 °C; 45 % to 50 °C
Battery life	400 hours typical (Alkaline)
Size (H x W x L)	4.3 cm x 9 cm x 18.5 cm
Weight	420 g
Safety compliances	ANSI/ISA S82.02.01, CSA C22.2-1010.1, IEC 61010 to 1000 V Measurement Category III, 600 V Measurement Category IV
Certifications	CSA, TÜV (EN61010), UL, CE, ✓ (N10140), VDE

Function	Overload Protection[1]	Input Impedance (Nominal)	Common Mode Rejection Ratio (1 kΩ Unbalanced)		Normal Mode Rejection
Volts ac	1000 V	> 10 MΩ < 100 pF	> 60 dB @ dc, 50 Hz or 60 Hz		
Volts dc	1000 V	> 10 MΩ < 100 pF	> 120 dB @ dc, 50 Hz or 60 Hz		> 60 dB @ 50 Hz or 60 Hz
mV	1000 V[2]	> 10 MΩ < 100 pF	> 120 dB @ dc, 50 Hz or 60 Hz		> 60 dB @ 50 Hz or 60 Hz
		Open Circuit Test Voltage	**Full Scale Voltage To: 6.0 MΩ**	**50 MΩ**	**Short Circuit Current**
Ohms/ Capacitance	1000 V[2]	< 8.0 V dc	< 660 mV dc	< 4.6 V dc	< 1.1 mA
Continuity/ Diode test	1000 V[2]	< 8.0 V dc	2.4 V dc		< 1.1 mA

[1] 10^7 V-Hz maximum.

[2] For circuits < 0.3 A short circuit. 660 V for high energy circuits.

Function	Overload Protection	Overload
mA	Fused, 440 mA, 1000 V FAST Fuse	600 mA overload for 2 minutes maximum, 10 minutes rest.
A	Fused, 11 A, 1000 V FAST Fuse	20 A overload for 30 seconds maximum, 10 minutes rest.

Function	Range	Resolution	Accuracy ± ([% of Reading] + [Counts])
AC volts (average responding)	6.000 V 60.00 V 600.0 V 1000 V	0.001 V 0.01 V 0.1 V 1 V	2.0 % + 2 (45 Hz to 1 kHz)
DC mV	600.0 mV	0.1 mV	0.3 % + 1
DC volts	6.000 V 60.00 V 600.0 V 1000 V	0.001 V 0.01 V 0.1 V 1 V	0.3 % + 1
Continuity	600 Ω	1 Ω	Meter beeps at <25 Ω, beeper turns off at >250 Ω; detects opens or shorts of 250 µs or longer.
Ohms	600.0 Ω 6.000 kΩ 60.00 kΩ 600.0 kΩ 6.000 MΩ 50.00 MΩ	0.1 Ω 0.001 kΩ 0.01 kΩ 0.1 kΩ 0.001 MΩ 0.01 MΩ	0.5 % + 2 0.5 % + 1 0.5 % + 1 0.5 % + 1 0.5 % + 1 2.0 % + 1
Diode test	2.400 V	0.001 V	1 % + 2
Capacitance	1000 nF 10.00 µF 100.0 µF 9999 µF[1]	1 nF 0.01 µF 0.1 µF 1 µF	1.2 % + 2 1.2 % + 2 1.2 % + 2 10 % typical
AC amps[2] (average responding)	60.00 mA 400.0 mA[3] 6.000 A 10.00 A[4]	0.01 mA 0.1 mA 0.001 A 0.01 A	2.5 % + 2 (45 Hz to 1 kHz)
DC amps[2]	60.00 mA 400.0 mA[3] 6.000 A 10.00 A[4]	0.01 mA 0.1 mA 0.001 A 0.01 A	1.5 % + 2
Hz[5] (ac voltage input)	99.99 Hz 999.9 Hz 9.999 kHz 99.99 kHz	0.01 Hz 0.1 Hz 0.001 kHz 0.01 kHz	0.1 % + 1
MIN MAX AVG	For dc functions, accuracy is the specified accuracy of the measurement function ± 12 counts for changes longer than 275 ms in duration. For ac functions, accuracy is the specified accuracy of the measurement function ± 40 counts for changes longer than 1.2 s in duration.		

[1] In the 9999 µF range for measurements to 1000 µF, the measurement accuracy is 1.2 % + 2.

[2] Amps input burden voltage (typical): 400 mA input 2 mV/mA, 10 A input 37 mV/A.

[3] 400.0 mA accuracy specified up to 600 mA overload.

[4] > 10 A unspecified.

[5] Frequency is specified from 2 Hz to 99.99 kHz. Below 2 Hz, the display shows zero Hz.

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Printed in U.S.A. 12/2006 2805757 D-EN-N Rev A