


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 \pm ([% 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 \pm 5 °C, \pm 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,  , VDE

Function	Range	Resolution	Accuracy \pm ([% 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 μ s or longer.
Ohms	600.0 Ω 6.000 k Ω 60.00 k Ω 600.0 k Ω 6.000 M Ω 50.00 M Ω	0.1 Ω 0.001 k Ω 0.01 k Ω 0.1 k Ω 0.001 M Ω 0.01 M Ω	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 μ F 100.0 μ F 9999 μ F ¹	1 nF 0.01 μ F 0.1 μ F 1 μ F	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 \pm 12 counts for changes longer than 275 ms in duration. For ac functions, accuracy is the specified accuracy of the measurement function \pm 40 counts for changes longer than 1.2 s in duration.		

Function	Overload Protection ¹	Input Impedance (Nominal)	Common Mode Rejection Ratio (1 k Ω Unbalanced)		Normal Mode Rejection
Volts ac	1000 V	> 10 M Ω < 100 pF	> 60 dB @ dc, 50 Hz or 60 Hz		
Volts dc	1000 V	> 10 M Ω < 100 pF	> 120 dB @ dc, 50 Hz or 60 Hz		> 60 dB @ 50 Hz or 60 Hz
mV	1000 V ²	> 10 M Ω < 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 M Ω 50 M Ω		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

¹ 10⁷ 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.

¹ In the 9999 μ F range for measurements to 1000 μ F, the measurement accuracy is 1.2 % + 2.

² Amps input burden voltage (typical): 400 mA input 2 mV/A, 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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