

FLUKE®

Fluke 117

Electrician's Multimeter

with Non-Contact Voltage

Technical Data



Compact true-rms meter for commercial applications

The Fluke 117 is the ideal meter for demanding settings like commercial buildings, hospitals and schools. The 117 includes integrated non-contact voltage detection to help get the job done faster.

Features include:

- **VoltAlert™ technology** for non-contact voltage detection
- **AutoVolt** automatic ac/dc voltage selection
- **LoZ:** helps prevent false readings due to ghost voltage
- Large white LED backlight to work in poorly lit areas
- True-rms for accurate measurements on non-linear loads
- Measures 10 A (20 A overload for 30 seconds)
- Resistance, continuity, frequency and capacitance
- Min/Max/Average to record signal fluctuations
- Compatible with optional magnetic hanger (ToolPak™) for hands free operation
- CAT III 600 V safety rated

General specifications

Accuracy is specified for 1 year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 90 %.

The accuracy specifications take the form of:
 $\pm ([\% \text{ of reading}] + [\text{counts}])$

Maximum voltage between any terminal and earth ground	600 V
Surge protection	6 kV peak per IEC 61010-1 600 V CAT III, Pollution Degree 2
Fuse for A input	11 A, 1000 V FAST Fuse (Fluke PN 803293)
Display	Digital: 6,000 counts, updates 4/sec
Bar graph	33 segments, updates 32/sec
Operating temperature	-10 °C to + 50 °C
Storage temperature	-40 °C to + 60 °C
Battery	9 volt Alkaline, NEDA 1604A/IEC 6LR61
Battery life	400 hours typical, without backlight

Actual size



Accuracy specifications

Measurement	Range	Resolution	Accuracy ± ([% of reading] + [counts])	
DC millivolts	600.0 mV	0.1 mV	0.5 % + 2	
DC volts	6.000 V	0.001 V	0.5 % + 2	
	60.00 V	0.01 V		
	600.0 V	0.1 V		
Auto volts	600.0 V	0.1 V	2.0 % + 3 (dc, 45 Hz to 500 Hz) 4.0 % + 3 (500 Hz to 1 kHz)	
AC millivolts ¹ true-rms	600.0 mV	0.1 mV	1.0 % + 3 (dc, 45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)	
AC volts ¹ true-rms	6.000 V	0.001 V	1.0 % + 3 (45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)	
	60.00 V	0.01 V		
	600.0 V	0.1 V		
Continuity	600 Ω	1 Ω	Beeper on < 20 Ω off > 250 Ω; detects opens or shorts of 500 μs or longer.	
Ohms	600.0 Ω	0.1 Ω	0.9 % + 2	
	6.000 kΩ	0.001 kΩ		
	60.00 kΩ	0.01 kΩ		
	600.0 kΩ	0.1 kΩ		
	6.000 MΩ	0.001 MΩ		
	40.00 MΩ	0.01 MΩ		
Diode test	2.000 V	0.001 V	0.9 % + 2	
Capacitance	1000 nF	1 nF	1.9 % + 2	
	10.00 μF	0.01 μF		
	100.0 μF	0.1 μF		
	9999 μF	1 μF		
	100 μF to 1000 μF			1.9 % + 2
	> 1000 μF			5 % + 20
Lo-Z capacitance	1 nF to 500 μF		10 % + 2 typical	
AC amps true-rms (45 Hz to 500 Hz)	6.000 A	0.001 A	1.5 % + 3	
	10.00 A	0.01 A		
	20 A overload for 30 seconds max.			
DC amps	6.000 A	0.001 A	1.0 % + 3	
	10.00 A	0.01 A		
	20 A overload for 30 seconds max.			
Hz (V or A input) ²	99.99 Hz	0.01 Hz	0.1 % + 2	
	999.9 Hz	0.1 Hz		
	9.999 kHz	0.001 kHz		
	50.00 kHz	0.01 kHz		

Notes:

¹ All ac voltage ranges except Auto-V/LoZ are specified from 1 % to 100 % of range. Auto-V/LoZ is specified from 0.0 V. Because inputs below 1 % of range are not specified, it is normal for this and other true-rms meters to display non-zero readings when the test leads are disconnected from a circuit or are shorted together. For volts, crest factor of ≤ 3 at 4000 counts, decreasing linearly to 1.5 at full scale. AC volts is ac-coupled. Auto-V LoZ, and ac mV are dc-coupled.

² Frequency is ac coupled, 5 Hz to 50 kHz for ac voltage. Frequency is dc coupled, 45 Hz to 5 kHz for ac current.

Ordering information

Fluke-117 Electrician's Multimeter with Non-Contact Voltage

Included

TL75 Test leads, holster, User's manual and 9 V battery (installed).



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