

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).



Fluke. Keeping your world up and running.™

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320 Series True-rms Clamp Meters

Fluke rugged. Fluke precise. Fluke reliable.

The Fluke 323, 324 and 325 Clamp Meters are designed to perform in the toughest environments and provide noise-free, reliable results users can trust to confidently diagnose problems. True-rms measurements and optimized ergonomics make the 320 Series Clamp Meters the best general troubleshooting tools for commercial and residential electricians.

New



Technical Data

Measurement capability

- 400 A ac current measurement (ac and dc current; 325 only)
- 600 V ac and dc voltage measurement
- True-rms ac voltage and current for accurate measurements on non-linear signals
- Resistance measurement to up to 40 k Ω with continuity detection
- Temperature and capacitance measurement (324 and 325 only)
- Frequency measurement (325 only)

Features

- Slim, ergonomic design
- Large, easy to read backlight display (324 and 325 only)
- CAT IV 300 V/CAT III 600 V safety rating
- Hold button
- Two-year warranty
- Soft carrying case

Specifications

		323	324	325
AC current	Range	400.0 A	40.00 A/400.0 A	40.00 A/400.0 A
	Accuracy	2 % ± 5 digits (45 Hz to 65 Hz) 2.5 % ± 5 digits (65 Hz to 400 Hz)	1.5 % ± 5 digits (45 Hz to 400 Hz) Note: Add 2 % for position sensitivity	2 % ± 5 digits (45 Hz to 65 Hz) 2.5 % ± 5 digits (65 Hz to 400 Hz)
DC current	Range	—	—	40.00 A/400.0 A
	Accuracy	—	—	2 % ± 5 digits
AC voltage	Range	600.0 V	600.0 V	600.0 V
	Accuracy	1.5 % ± 5 digits	1.5 % ± 5 digits	1.5 % ± 5 digits
DC voltage	Range	600.0 V	600.0 V	600.0 V
	Accuracy	1.0 % ± 5 digits	1.0 % ± 5 digits	1.0 % ± 5 digits
Resistance	Range	400.0 Ω/4000 Ω	400.0 Ω/4000 Ω	400.0 Ω/4000 Ω/40.00 kΩ
	Accuracy	1 % ± 5 digits	1 % ± 5 digits	1 % ± 5 digits
Continuity		≤ 70 Ω	≤ 30 Ω	≤ 30 Ω
Capacitance		—	100.0 μF to 1000 μF	100.0 μF to 1000 μF
Frequency		—	—	5.0 Hz to 500.0 Hz
AC response		True-rms	True-rms	True-rms
Backlight		—	Yes	Yes
Data hold		Yes	Yes	Yes
Contact temperature		—	-10.0 °C to 400.0 °C (14.0 °F to 752.0 °F)	-10.0 °C to 400.0 °C (14.0 °F to 752.0 °F)
Min/Max		—	—	Yes
Size	H x W x D (mm)	207 x 75 x 34	207 x 75 x 34	207 x 75 x 34
	Max wire diameter	30 mm (600 MCM)	30 mm (600 MCM)	30 mm (600 MCM)
	Weight	265 g	208 g	283 g
Category rating		CAT III 600 V CAT IV 300 V	CAT III 600 V CAT IV 300 V	CAT III 600 V CAT IV 300 V
Warranty		Two-year	Two-year	Two-year

Ordering information

323 True-rms Clamp Meter

324 True-rms Clamp Meter

325 True-rms Clamp Meter

Included with all models

Clamp meter, test leads, soft case, and users manual.

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- Temperature and capacitance measurement (324 and 325 only)
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	Accuracy	2 % ± 5 digits (45 Hz to 65 Hz) 2.5 % ± 5 digits (65 Hz to 400 Hz)	1.5 % ± 5 digits (45 Hz to 400 Hz) Note: Add 2 % for position sensitivity	2 % ± 5 digits (45 Hz to 65 Hz) 2.5 % ± 5 digits (65 Hz to 400 Hz)
DC current	Range	—	—	40.00 A/400.0 A
	Accuracy	—	—	2 % ± 5 digits
AC voltage	Range	600.0 V	600.0 V	600.0 V
	Accuracy	1.5 % ± 5 digits	1.5 % ± 5 digits	1.5 % ± 5 digits
DC voltage	Range	600.0 V	600.0 V	600.0 V
	Accuracy	1.0 % ± 5 digits	1.0 % ± 5 digits	1.0 % ± 5 digits
Resistance	Range	400.0 Ω/4000 Ω	400.0 Ω/4000 Ω	400.0 Ω/4000 Ω/40.00 kΩ
	Accuracy	1 % ± 5 digits	1 % ± 5 digits	1 % ± 5 digits
Continuity		≤ 70 Ω	≤ 30 Ω	≤ 30 Ω
Capacitance		—	100.0 μF to 1000 μF	100.0 μF to 1000 μF
Frequency		—	—	5.0 Hz to 500.0 Hz
AC response		True-rms	True-rms	True-rms
Backlight		—	Yes	Yes
Data hold		Yes	Yes	Yes
Contact temperature		—	-10.0 °C to 400.0 °C (14.0 °F to 752.0 °F)	-10.0 °C to 400.0 °C (14.0 °F to 752.0 °F)
Min/Max		—	—	Yes
Size	H x W x D (mm)	207 x 75 x 34	207 x 75 x 34	207 x 75 x 34
	Max wire diameter	30 mm (600 MCM)	30 mm (600 MCM)	30 mm (600 MCM)
	Weight	265 g	208 g	283 g
Category rating		CAT III 600 V CAT IV 300 V	CAT III 600 V CAT IV 300 V	CAT III 600 V CAT IV 300 V
Warranty		Two-year	Two-year	Two-year

Ordering information

323 True-rms Clamp Meter

324 True-rms Clamp Meter

325 True-rms Clamp Meter

Included with all models

Clamp meter, test leads, soft case, and users manual.

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**Optimized for your
type of work**

**4 NEW multimeters with
exactly the functions you need**



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110 Series Digital Multimeters

New



Fluke 117



Fluke 115



Fluke 114



Fluke 116

Compact design for ergonomic one-handed operation

The 110 Series comprises of four true-rms DMMs each designed for specific users, so one is sure to match your needs. The compact instruments offer convenient one-handed operation and feature a backlight display with large, easy-to-read digits.

117 Electrician's Multimeter with Non-Contact Voltage

For electricians working in commercial and non-commercial premises (like hospitals and schools), the 117 is recommended. It includes extras like non-contact voltage detection to help get the job done faster and safer.

116 Multimeter with temperature and microamps

The 116 is for heating, ventilation and air conditioning (HVAC) engineers. It includes temperature measurement and microamp current ranges to quickly troubleshoot HVAC problems.

115 Multimeter for field service testing

An everyday multimeter for technicians, the 115 is optimized for electrical and electronic testing in field service, industrial, and applications where more than basic functionality (such as measurement of ac/dc current) simplifies working.

114 Electrical Multimeter

The 114 is ideal for electrical troubleshooting and straightforward 'go/no-go' testing in residential/commercial electrical testing. It has all the basic functions plus a special feature to prevent false readings caused by ghost voltage.

Features

	114	115	116	117
True RMS readings	AC	AC	AC	AC
Counts	6000	6000	6000	6000
Backlight	●	●	●	●
Analog bargraph	●	●	●	●
AutoVolt: Automatic AC/DC voltage selection	●		●	●
VoltAlert™, Non-contact voltage detection				●
Built-in thermometer for HVAC applications			●	
LoZ: low input impedance to prevent ghost voltage	●		●	●
Min/Max/Average to record signal fluctuations	●	●	●	●
Resistance, continuity	●	●	●	●
Frequency, Capacitance, Diode test		●	●	●
Microamps to test flame sensors			●	
Display hold	●	●	●	●
Auto/manual ranging	●	●	●	●
Low battery indication	●	●	●	●
Compact case with removable holster	●	●	●	●

Specifications

(Check the Fluke web for detailed specifications)

Functions	Maximum	Max. resolution	114	115	116	117
Voltage DC	600V	1mV	±(0.5%+2)	±(0.5%+2)	±(0.5%+2)	±(0.5%+2)
Voltage AC	600V	1mV	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)	±(1.0%+3)
Current DC	10.00A	1mA		±(1.0%+3)		±(1.0%+3)
Current AC	10.00A	0.01A		±(1.5%+3)		±(1.5%+3)
Resistance	40MΩ	0.1Ω	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)	±(0.9%+1)
Capacitance	10000μF	1nF		±(1.9%+2)	±(1.9%+2)	±(1.9%+2)
Frequency	50kHz	0.01Hz		±(0.1%+2)	±(0.1%+2)	±(0.1%+2)
Temperature	-40°C/+400°C	0.1°C			±(1.0%+2)	

Accuracies are best accuracies for each function

Battery type: 9 volt Alkaline, 400 hours typical
Size (HxWxD): 167 mm x 84mm x 46 mm

Weight: 0.55 kg (including batteries)
Three Year Warranty



On all inputs



Included Accessories

Test leads with 4 mm lantern tips and protective cap. Holster, installed 9V battery and users manual

Ordering Information

Fluke 114 True RMS Multimeter
 Fluke 115 True RMS Multimeter
 Fluke 116 True RMS Multimeter
 Fluke 117 True RMS Multimeter

Recommended Accessories



C50



TL223



MC6



TPAK