

## DETAILED SPECIFICATIONS

# Fluke 114, 115, 116 and 117 Digital Multimeters

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

General specifications					
Maximum voltage (between any terminal and earth ground)	600 V rms				
Safety	IEC 61010-1, Pollution Degree 2 IEC 61010-2-033 CAT III 600 V, 10 A EMC IEC 61326-1: Portable				
Fuse for A input (115, 117 only)	11 A, 1000 V, IR 17 kA (Fluke PN 803293)				
Display	Digital: 6,000 counts, updates 4/sec; Bar Graph: 33 segments, updates 32/sec				
Temperature					
Operating	-10 °C to +50 °C				
Storage	-40 °C to +60 °C				
Humidity	0 % to 90 % to 35 °C; 75 % to 40 °C; 45 % to 50 °C				
Temperature coefficient	0.1 x (specified accuracy/°C) (< 18 °C or > 28 °C)				
Operating altitude	2,000 meters				
Battery	9 Volt Alkaline (IEC 6LR61)				
Battery life	400 hours typical, without backlight				
Certifications	CE, CSA, RCM				
IP rating (dust and water protection)	IP42				
Accuracy specifications (all models)					
Function	Range	Resolution	Accuracy ± ([% of Reading]+ [Counts])		Model
DC millivolts	600.0 mV	0.1 mV	0.5 % + 2		114, 115, 116, 117
DC volts	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	0.5 % + 2		114, 115, 116, 117
			DC, 45 Hz to 500 Hz	500 Hz to 1 kHz	
Auto-V LoZ <sup>1</sup> true-rms (114, 116, 117 only)	600.0 V	0.1 V	2.0 % + 3	4.0 % + 3	114, 116, 117
			45 Hz to 500 Hz	500 Hz to 1 kHz	
AC millivolts <sup>1</sup> true-rms	600.0 V	0.1 V	1.0 % + 3	2.0 % + 3	114, 115, 116, 117
AC volts <sup>1</sup> true-rms	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	1.0 % + 3	2.0 % + 3	114, 115, 116, 117
Continuity (115, 116 only)	600 Ω	1 Ω	Beeper on < 20 Ω, off > 250 Ω; detects opens or shorts of 500 μs or longer		114, 115, 116, 117
Ohms	600.0 Ω 6.000 kΩ 60.00 kΩ 600.0 kΩ 6.000 MΩ 40.00 MΩ	0.1 Ω 0.001 kΩ 0.01 kΩ 0.1 kΩ 0.001 MΩ 0.01 MΩ	0.9 % + 2 0.9 % + 1 0.9 % + 1 0.9 % + 1 0.9 % + 1 5.0 % + 2		114, 115, 116, 117
Diode test	2.000 V	0.001 V	0.9 % + 2		115, 116, 117
Capacitance (115, 116, 117 only)	1000 nF 10.00 μF 100.0 μF 9999 μF -	1 nF 0.01 μF 0.1 μF 1 μF -	1.9 % + 2 1.9 % + 2 1.9 % + 2 100 μF to 1000 μF: 1.9 % + 2 > 1000 μF: 5 % + 20		115, 116, 117

<sup>1</sup> All ac 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. For amps, crest factor of ≤ 3. AC volts is ac-coupled. Auto-V LoZ, ac mV, and ac amps are dc-coupled.

**Accuracy specifications (all models)**

Function	Range	Resolution	Accuracy ± ([% of Reading] + [Counts])	Model
LoZ capacitance (power-up option) (114, 116, 117 only)	1 nF to 500 µF		10 % + 2 typical	115, 116, 117
Temperature - K-Type thermocouple (116 only)	-40 °C to 400 °C -40 °F to 752 °F	0.1 °C 0.2 °F	1 % + 10 <sup>2</sup> 1 % + 18 <sup>2</sup>	116
AC amps true-rms <sup>1</sup> (45 Hz to 500 Hz) (115, 117 only)	6.000 A 10.00 A 20 A overload for 30 seconds maximum	0.001 A 0.01 A	1.5 % + 3	115, 117
AC µAmps true-rms <sup>1</sup> (45 Hz to 1 kHz) (116 only)	600.0 µA	0.1 µA	1.5 % + 3 (2.5 % + 3 > 500 Hz)	116
DC amps (115, 117 only)	6.000 A 10.00 A 20 A overload for 30 seconds maximum	0.001 A 0.01 A	1.0 % + 3	115, 117
DC µAmps true-rms (116 only)	600.0 µA	0.1 µA	1.0 % + 2	116
Hz (V or A input) <sup>2</sup> (Hz A 115, 117 only)	99.99 Hz 999.9 Hz 9.999 kHz 50.00 kHz	0.01 Hz 0.1 Hz 0.001 kHz 0.01 kHz	0.1 % + 2	115, 117
Hz (V input) <sup>3</sup> (115, 116, 117 only)	99.99 Hz 999.9 Hz 9.999 kHz 50.00 kHz	0.01 Hz 0.1 Hz 0.001 kHz 0.01 kHz	0.1 % + 2	116

1 All ac 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. For amps, crest factor of ≤ 3. AC volts is ac-coupled. Auto-V LoZ, ac mV, and ac amps are dc-coupled.

2 AC Volts Hz is ac-coupled and specified from 5 Hz to 50 kHz. AC Amps Hz is dc-coupled and specified from 45 Hz to 5 kHz. Amps input burden voltage (typical): 6 A input 2 mV/A, 10 A input 37 mV/A.

3 Frequency is ac-coupled, 45 Hz to 50 kHz.

**Frequency counter sensitivity (models 115, 116, 117)**

Input range		Typical sensitivity (rms sine wave)			
		5 Hz to 45 Hz	45 Hz to 5 kHz	5 kHz to 10 kHz	10 kHz to 50 kHz
Volts AC	V 60 V 600 V	0.2 V 2 V 20 V	0.2 V to 0.3 V 2 V to 3 V 20 V to 30 V	0.3 V to 0.4 V 3 V to 4 V 30 V to 40 V	0.4 V to 1.0 V 4 V to 10 V 40 V to 100 V
AC Amps (115, 117 only)	6 A 10 A	N/A N/A	0.4 A 0.5 A	N/A N/A	N/A N/A

**Input characteristics (all models)**

Function	Input impedance (nominal)	Common mode rejection ratio (1 kΩ unbalanced)		Normal mode rejection
Volts AC	> 5 MΩ < 100 pF	> 60 dB at dc, 50 or 60 Hz		
Volts DC	> 10 MΩ < 100 pF	> 100 dB at dc, 50 or 60 Hz		> 60 dB at 50 or 60 Hz
Auto-V LoZ (114, 116, 117 only)	~3 kΩ < 500 pF	> 60 dB at dc, 50 or 60 Hz		
	Open circuit test voltage	Full scale voltage		Short circuit current
Ohms	< 2.7 V dc	To 6.0 MΩ	40 MΩ	< 350 µA
		< 0.7 V dc	< 0.9 V dc	
Diode test (115, 117 only)	< 2.7 V dc	2.000 V dc		< 1.2 mA

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## TECHNICAL DATA

# Fluke 323 True RMS Clamp Meter



## Key features

- Rugged, reliable basic True-RMS clamp meter for measuring current up to 400 A
- Measures AC current to 400 A
- Measures AC voltage and DC voltage to 600 V
- Provides True RMS AC voltage and current for accurate measurements on non-linear signals
- Measures resistance to 4 kΩ with continuity detection

## Product overview: Fluke 323 True RMS Clamp Meter

### Fluke 323 True-RMS clamp meter delivers rugged reliable performance for general electrical troubleshooting

The Fluke 323 clamp meter is a good basic troubleshooting tool for commercial and residential electricians. It includes True RMS measurements, optimized ergonomics, and large display for efficient troubleshooting. It's designed to perform in the toughest environments and provide noise-free, reliable results, so you can trust it to help you confidently diagnose problems almost anywhere. Use it to verify the presence of load current, AC voltage, and continuity of circuits, switches, fuses and contacts. Its slim, compact size and rugged design make it well suited for measuring current up to 400 A in tight cable compartments.

The Fluke 323 comes with a two-year warranty and a soft carrying case.

### Other useful features:

- Features slim, ergonomic design for measuring in tight cable compartments
- Presents measurements on a large, easy-to-read display

- Hold function captures a reading on the display
- Features a CAT III 600 V, CAT IV 300 V safety rating
- Comes with a two-year warranty and soft carrying case

## Specifications: Fluke 323 True RMS Clamp Meter

Specifications		
AC current	Range	400.0 A
	Accuracy	2% ± 5 digits (45 Hz to 65 Hz) 2.5% ± 5 digits (65 Hz to 400 Hz)
DC current	Range	-
	Accuracy	-
AC voltage	Range	600.0 V
	Accuracy	1.5% ± 5 digits
DC voltage	Range	600.0 V
	Accuracy	1.0% ± 5 digits
Resistance	Range	400.0 Ω/ 4000 Ω
	Accuracy	1.0% ± 5 digits
Continuity		≤ 70 Ω
Capacitance		-
Frequency		-
AC response		True-RMS
Backlight		-
Data hold		Yes
Contact temperature		-
Min/Max		-
Size	H x W x D (mm)	207 x 75 x 34
	Max wire diameter	30 mm (600 MCM)
	Weight	265 g
Category rating		CAT III 600 V CAT IV 300 V
Warranty		Two-year

## Ordering information



### Fluke 323

Fluke 323 True RMS Clamp Meter

Includes:

- Test leads
- Soft case
- User's manual

#### Optional accessories

#### Description

##### Fluke C11XT Protective EVA Hard Tool Case

Durable EVA foam case with pockets to safely carry most smaller multimeters and accessories

##### Fluke L210 Probe Light Kit

L210 probe light + probe extenders. Includes L200 probe light and TP280 test probe extenders

##### Fluke TL175 TwistGuard™ Test Leads

Simply twist to change the exposed probe tip length.

##### Fluke TL223 SureGrip™ Electrical Test Lead Set

Includes 3 test lead accessories in an all-in-one set. Ideal starter kit for electrical applications.

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