

# 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



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## 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)<br>4.0 % + 3 (500 Hz to 1 kHz)             |
| AC millivolts <sup>1</sup><br>true-rms | 600.0 mV                          | 0.1 mV     | 1.0 % + 3 (dc, 45 Hz to 500 Hz)<br>2.0 % + 3 (500 Hz to 1 kHz)             |
| AC volts <sup>1</sup> true-rms         | 6.000 V                           | 0.001 V    | 1.0 % + 3 (45 Hz to 500 Hz)<br>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                           | 0.1Ω       | 0.9 % + 2                                                                  |
|                                        | 6.000 kΩ                          | 0.001 kΩ   | 0.9 % + 1                                                                  |
|                                        | 60.00 kΩ                          | 0.01 kΩ    |                                                                            |
|                                        | 600.0 kΩ                          | 0.1 kΩ     |                                                                            |
|                                        | 6.000 MΩ                          | 0.001 MΩ   |                                                                            |
|                                        | 40.00 MΩ                          | 0.01 MΩ    | 1.5 % + 2                                                                  |
| 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<br>(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) <sup>2</sup>         | 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:**

<sup>1</sup> 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  $\leq 3$  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.

<sup>2</sup> 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.™