

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 20 A (30 seconds momentary; 10 A continuous)
- 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 95 %.

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 | 2.0 % + 3 |
| DC volts | 6.000 V | 0.001 V | |
| | 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 | 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 | 1.9 % + 2 |
| | 100 μF to 1000 μF | | |
| | > 1000 μF | | |
| 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 continuous overload for 30 seconds max. | | |
| DC amps | 6.000 A | 0.001 A | 1.0 % + 3 |
| | 10.00 A | 0.01 A | |
| | 20 A continuous 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 are specified from 1 % to 100 % of range. 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 9V battery (installed).



Fluke. Keeping your world up and running.

Fluke Corporation
PO Box 9090, Everett, WA USA 98206

Fluke Europe B.V.
PO Box 1186, 5602 BD Eindhoven, The Netherlands

For more information call:
In the U.S.A. (800) 443-5853 or Fax (31 40) 2 675 222
In Europe/M-East/Africa (31 40) 2 675 200 or Fax (31 40) 2 675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: <http://www.fluke.com>

©2006 Fluke Corporation. All rights reserved.
Printed in U.S.A. 8/2006 2634028 D-EN-N Rev A

