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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 ([% of reading] + [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 | 0.9 % + 1 |
| | 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 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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