

TECHNICAL DATA

# Fluke 116 HVAC multimeter with temperature and microamps



## Compact true-rms meter for HVAC troubleshooting

The Fluke 116 was specifically designed for the HVAC professional. It has everything needed in an HVAC meter including temperature and microamp measurements to quickly troubleshoot problems with HVAC equipment and flame sensors.

### Features

- Built in thermometer for HVAC applications
- Microamps to test flame sensors
- LoZ: helps prevent false readings due to ghost voltage
- Large white LED backlight to work in poorly lit areas
- Resistance, continuity, frequency and capacitance
- Min/Max/Average with elapsed time to record signal fluctuations
- Compact ergonomic design for one-handed operation
- Compatible with optional magnetic hanger (ToolPak™)

### IDEAL FOR HVAC TECHNICIANS

- Measures  $\mu\text{A}$  for flame rods
- Thermometer measures from  $-40^{\circ}\text{C}$  to  $400^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $752^{\circ}\text{F}$ )
- Resistance up to  $6\text{ M}\Omega$
- Large white LED backlit display

### SAFETY RATING

**CAT III 600 V**

### WARRANTY

**Three-year warranty**

## 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 ] )

General specifications			
Maximum voltage (between any terminal and earth ground)	600 V		
Display	Digital: 6000 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, IEC 6LR61		
Battery life	400 hours typical, without backlight		
Safety	IEC 61010-1, Pollution Degree 2 IEC 61010-2-033 CAT III 600 V		
EMC standards	IEC 61326-1: Portable		
Accuracy specifications			
Measurement	Range	Resolution	Accuracy $\pm$ ([% of reading] + [counts])
DC millivolts	600.0 mV	0.1 mV	0.5 % + 2
DC volts	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	0.5 % + 2
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 <sup>1</sup> true-rms	600.0 V	0.1 V	1.0 % + 3 (dc, 45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
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 (45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
Continuity	600 $\Omega$	1 $\Omega$	Beeper on < 20 $\Omega$ off > 250 $\Omega$ ; detects opens or shorts of 500 $\mu$ s or longer.
Ohms	600.0 $\Omega$ 6.000 k $\Omega$ 60.00 k $\Omega$ 600.0 k $\Omega$ 6.000 M $\Omega$ 40.00 M $\Omega$	0.1 $\Omega$ 0.001 k $\Omega$ 0.01 k $\Omega$ 0.1 k $\Omega$ 0.001 M $\Omega$ 0.01 M $\Omega$	0.9 % + 1
Diode test	2.000 V	0.001 V	0.9 % + 2
Capacitance	1000 nF 10.00 $\mu$ F 100.0 $\mu$ F 9999 $\mu$ F 100 $\mu$ F to 1000 $\mu$ F > 1000 $\mu$ F	1 nF 0.01 $\mu$ F 0.1 $\mu$ F 1 $\mu$ F - -	1.9 % + 2 1.9 % + 2 1.9 % + 2 - 1.9 % + 2 5 % + 20
Lo-Z capacitance	1 nF to 500 $\mu$ F	-	10 % + 2 typical
Temperature <sup>2</sup> (Type-K thermocouple)	-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>
AC $\mu$ amps true-rms (45 Hz to 500 Hz)	600.0 $\mu$ A	0.1 $\mu$ A	1.5 % + 3 (2.5 % + 3 > 500 Hz)
DC $\mu$ amps	600.0 $\mu$ A	0.1 $\mu$ A	1.0 % + 2
Hz (V or A input) <sup>3</sup>	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

<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> Temperature uncertainty (accuracy) does not include the error of the thermocouple probe.

<sup>3</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-116 HVAC Multimeter with temperature and microamps**

### Included

**TL75** Test Leads  
**80BK-A** Integrated Temperature Probe  
 Holster  
 User documentation  
 9 V battery (installed)



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