FLUKE®

Fluke 113
Utility Multimeter

Technical Data



True RMS Utility Multimeter designed for basic electrical tests

The new 113 Utility Multimeter has the features needed to repair most electrical problems. This meter is simple to use and has significant improvements over Fluke's original 7-600, and other utility multimeters. With features such as Fluke's VCHEK™, added measurement functions, backlight, conformance to the latest safety standards, and a much larger display that's easier to view, this new meter is a must have for the utility users toolbox.

Features include:

- **VCHEK™ LoZ** low impedance measurement function to simultaneously test for voltage and continuity
- True-rms for accurate ac measurements on non-linear loads
- A large backlit display allows for easy visibility in low-lit areas
- Record signal fluctuations using the Min/Max function
- Diode test for testing general-purpose germanium, silicon, and power diodes
- Integral holster with probe holders for easy storage
- Auto and Manual ranging for added user functionality
- Meets Measurement Category CAT III 600 V and Category IV 300 V standards for a higher level of safety
- The optional TPAK magnetic hanger allows the user hands-free flexibility

600 V CAT III

N10140

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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 %. Accuracy specifications are given as follows:

Note:
Specifications are subject to change without notice.
± ([% of reading] + [number of least significant digits])

Function	Range	Resolution	Accuracy	
			DC, 45 to 500 Hz	500 Hz to 1 kHz
V Chek[1,2]	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	2.0 % + 3	4.0 % + 3
Function	**Range**	**Resolution**	**Accuracy**	
→|[3]	2.000 V	0.001 V	2.0 % + 3	
))))[3]			Beeper on < 20 Ω, off > 250 Ω; detects opens or shorts of 500 µs or longer	
Ω[3]	600.0 Ω 6.000 kΩ 60.00 kΩ	0.1 Ω 0.001 kΩ 0.01 kΩ	0.9 % + 2 0.9 % + 1 0.9 % + 1	
⊣⊢[3]	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 - 1000 µF: 1.9 % + 2 > 1000 µF: 5 % + 20	

Notes:
[1] All V Chek voltage ranges are specified from 60 counts to 100 % of range. Because inputs below 60 counts are not specified, it is possible and 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.
[2] Crest factor of ≤ 3 at 4000 counts, decreasing linearly to 1.5 at full scale.
[3] After measuring voltage, a wait time of 1 minute is required to maintain accuracy of ohms, capacitance, diode test, and continuity.

Maximum voltage between any terminal and earth ground	600 V
Display	3 3/4-digits, 6000 counts, updates 4/sec
Operating temperature	-10 °C to 50 °C (14 °F to 122 °F)
Storage temperature	-40 °C to 60 °C (-22 °F to 140 °F)
Temperature coefficient	0.1 x (specified accuracy)/°C (< 18 °C or > 28 °C)
Operating altitude	2,000 m
Storage altitude	10,000 m
Relative humidity	95 % to 30 °C
	75 % to 40 °C
	45 % to 50 °C
Battery type	9 Volt Alkaline, ANSI 1604A / IEC 6F22
Battery life	Alkaline: 300 hours typical, without backlight
Shock	1 Meter drop per IEC 61010-1-2001
Vibration	Per MIL-PRF-28800 for Class 2 instrument
Size (HxWxL)	167.1 mm X 85.1 mm X 46.0 mm (6.58 in X 3.35 in X 1.81 in)
Weight	13.0 oz (404 g)
Safety	Complies with ANSI/ISA 82.02.01 (61010-1) 2004, CAN/CSA-C22.2 No 61010-1-04, UL 61010-1 (2004) and IEC/EN 61010-1 2nd Edition for measurement Category III, 600 V, Pollution Degree 2, EMC EN61326-1
EMI regulations	Complies with FCC Part 15, Class B

Function	Input Impedance (Nominal)	
V Chek	~3 kΩ < 300 pF	
	Common Mode Rejection Ratio (1 kΩ Unbalanced)	
V	> 60 dB at dc, 50 or 60 Hz	
	Open Circuit Test Voltage	Full Scale Voltage
Ω	< 2.7 V dc	< 0.7 V dc
→|	< 2.7 V dc	2.000 V dc
	Short Circuit Current	
Ω	< 350 µA	
→|	< 1.0 mA	

Ordering information

Fluke 113 Utility Meter

Included
Fluke 113 Utility Multimeter
TL75 Test Leads
One 9V Battery
Printed Users Manual

Fluke. *Keeping your world up and running.*®

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