

80 Series III Analog/Digital Multimeters

True-rms



High Performance Meters for Demanding Industrial and Electronic Applications

Fluke's 80 Series III DMMs provide 11 functions for electronic and industrial applications, including high performance dc/ac voltage, and current measurement, frequency, duty cycle, resistance, conductance, continuity, diode test, and capacitance measurement.

- New, brighter backlit display on all models features 20% larger digits
- New battery access door
- Peak Min/Max recording mode (250 µs - 87 & 87E) (100 ms - 83 & 85) with Min/Max Alert™; stores the highest, lowest and 36-hour average of all readings
- Frequency, duty cycle and capacitance measurements

- True-rms measurements (Fluke 87, 87E, and 85 only)
- Input alert provides an audible warning if the test leads are in current, but the function switch is not.
- 4½ digit mode, 20 000 count display (Fluke 87 & 87E only)
- Extra long deluxe silicone test lead set with alligator clip (Fluke 87E only)

Safety Conformance

All inputs are protected to IEC 61010-1 category III 1000V. UL, CSA and TÜV listed.

Features

	83	85	87/87E	787
Digital Display Counts	4000	4000	4000; 20 000	4000; 30 000 for DC current
Additional Display	43-segment Bargraph	43-segment Bargraph	Analog Pointer	% of scale 4-20 mA
Measures AC/DC Voltage (up to 1000V)	●	●	●	●
Measures AC/DC Current (up to 10A*, All Fused)	●	●	●	1 µ to 1A*
Source, simulate, ramp and step current to 20 mA	N/A	N/A	N/A	●
Resistance	●	●	●	●
Frequency & Duty Cycle	●	●	●	Frequency only
Capacitance	●	●	●	N/A
Audible Continuity/Diode Test	●	●	●	●
True-rms AC Voltage and Current	N/A	●	●	●
MIN/MAX Average Recording	●	●	●	●
Touch Hold® & Relative Modes	●	●	●	●
Splash-Proof & Dust-Proof Case, Protective Holster w/Flex-Stand™	●	●	●	●
EMI Shielded	●	●	●	●
Backlit Display	●	●	●	●

* 10A continuous, 20A for up to 30 seconds. For 787, 0.44A continuous, 1A for up to 30 seconds.

Specifications

Function	Ranges & Resolution	Best Accuracy			
		83	85	87, 87E	787
VDC	4000 mV, 4.000V, 40.00V, 400.0V, -1000V	±(0.1% +1)	±(0.08% +1)	±(0.05% +1)	±(0.1% +1)
VAC	4000 mV, 4.000V, 40.00V, 400.0V, 1000V	±(0.5% +2)	±(0.7% +2)	±(0.7% +2)	±(0.7% +2)
ADC	400.0 µA, 4.000 mA, 40.00 mA, 400.0 mA, 4.000A, 10A*	±(0.4% +2)	±(0.2% +2)	±(0.2% +2)	±(0.05% +2)***
AAC	400.0 µA, 4.000 mA, 40.00 mA, 400.0 mA, 4000A, 10A*	±(1.2% +2)	±(1.0% +2)	±(1.0% +2)	±(1.0% +2)*
Resistance	400Ω-40.00 MΩ	±(0.4% +1)	±(0.2% +1)	±(0.2% +1)	±(0.2% +1)
Conductance	40.00 µS	±(1.0% +10)	±(1.0% +10)	±(1.0% +10)	N/A
Capacitance	5 nF-5 µF	±(1.0% +3)	±(1.0% +3)	±(1.0% +3)	N/A
Frequency	199.99 Hz, 1.9999 kHz, 19.999 kHz, 199.99 kHz	±(0.005% +1)	±(0.005% +1)	±(0.005% +1)	±(0.005% +1) (to 20 kHz)

* 10A continuous, 20A for up to 30 seconds and not specified. For 787, 0.44A continuous, 1A for up to 30 seconds.

** The Fluke 87 has 4½ digit display mode (20,000 counts). This increases meter reading resolution by a power of 10, over what is stated in the table above (e.g. A listed resolution of 0.1 mV becomes 0.01 mV). In 4½ digit display mode, multiply the number of least significant digits (counts) by 10. The 4½ digit display mode works in all functions except capacitance, peak MIN-MAX and 100 millisecond MIN-MAX.

*** 30,000 mA full scale, 1 µA resolution

Range & Resolution: If selected range is 4.000V the resolution is 0.001V in that range.
Battery Life: Models 83 and 85, 500 hours typical (alkaline). Model 87, 87E 400 hours typical (alkaline). Model 787, 50 hours typical (alkaline).

Size (Without Holster) (HxWxD): 187 mm x 87 mm x 32 mm

Weight: 0.36 kg

Lifetime Warranty (3 years on 787)



The Fluke 787 Process Meter™

The 787 Process Meter™ combines the capabilities of a digital multimeter and a loop calibrator.

Accessories and Ordering Information

Included Accessories

Every meter comes packaged with a C81Y yellow protective holster and Flex-Stand™, TL75 Test Leads and two AC70 Alligator Clips (Except 87E which comes with TL24 Test Leads, TP4 Test Probes, and an AC20 Alligator Clip), 9V battery (installed), manual and operator's guide.

Ordering Information

FLUKE 83 III Multimeter with Holster
 FLUKE 85 III Multimeter with Holster
 FLUKE 87 III Multimeter with Holster
 FLUKE 87E III Multimeter with Holster
 FLUKE 787 ProcessMeter with Holster

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