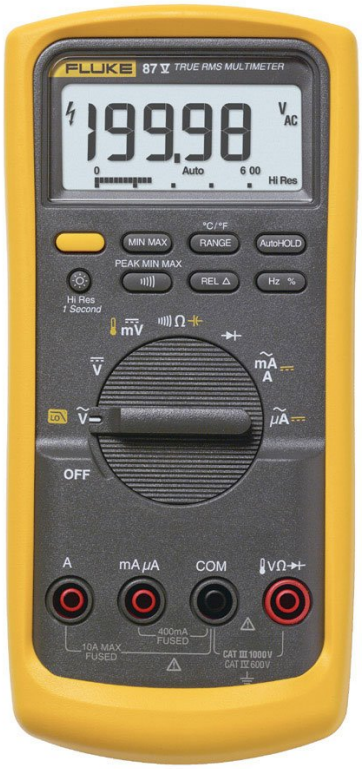
TECHNICAL DATA

Fluke 87V Industrial Multimeter



Key features

- Identify complex signal problems fast
- Supports accurate measurements on VFDs using a low-pass filter
- Captures intermittents as fast as 250 µS with Peak Capture

Product overview: Fluke 87V Industrial Multimeter

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The Fluke 87V Industrial Multimeter provides the resolution and accuracy to efficiently troubleshoot motor drives, plant automation, power distribution, and electromechanical equipment - even in loud, high-energy, and high-altitude locations. The 87V is designed so you can work more efficiently.

- Easy-access door for fast battery changes without breaking the calibration seal
- Analog bar graph for fast changing or unstable signals
- Large digit display with bright, two-level backlight for easier reading in low light
- Touch Hold keeps readings on display even after removing probes

The 87V lets you identify complex electrical problems fast. It supports accurate measurements on VFDs using a low-pass filter. The meter also captures intermittents as fast as 250 µS using Peak Capture. High-frequency, high-energy noise generated by large drive systems is blocked from your measurements with specially designed shielding.

Built to highest safety standards

All the inputs in the 87V are updated to the third edition of the EN 61010-1 to CAT III 1000 V and CAT IV 600 V. The meter is designed to withstand spikes of more than 8000 V. You also benefit from an audible Input Alert warning if the test leads are placed in the incorrect input jacks for the measurement being made.

Removable holster with built in test lead and probe storage for convenience

The 87V has a removeable holster that also holds a test probe during testing for easier viewing. Relative mode lets you remove test lead resistance, improving accuracy of low-resistance measurements. To make your life even easier, the 87V fits into an optional magnetic hanger for easy set-up and viewing while freeing your hands for other tasks.

Additional measurement features

The Fluke 87V is designed and built in the U.S. and comes with a lifetime warranty.

	Fluke 115 Field Technicians Digital Multimeter	Fluke 87V Industrial Multimeter	Fluke 3000 FC Series Wireless Multimeter	Fluke 1587 FC Insulation Multimeter	Fluke 279 FC True-rms Thermal Multimeter
CAT rating	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V
True-rms readings	☒	☒	☒	☒	☒
Voltage AC/DC	600 V	1000 V	1000 V	1000 V	1000 V
Current AC/DC	10 A	10 A	400 mA	400 mA	2500 A AC (with iFlex)
Resistance	40 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ
Capacitance	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF
Temperature	-	-200.0 °C to 1090 °C	with t3000 FC	-40 °C to 537 °C	Infrared camera -10 °C to 200 °C
Infrared camera	-	-	-	-	☒
Additional measurement capabilities	Continuity/diode test	Frequency, continuity/diode test, motor drive (VFD) measurement, duty cycle, microamps, analog bar graph, relative reference	Frequency, continuity/diode test. Able to connect to three 3000 FC modules.	Frequency, PI/DAR timed ratio tests, continuity/diode test, motor drive (VFD) measurement, microamps, relative reference	Frequency, continuity/diode test, motor drive (VFD) measurement

Specifications: Fluke 87V Industrial Multimeter

Specifications		
Voltage DC	**Maximum voltage**	1000 V
	Accuracy	±(0.05% + 1)
	Maximum resolution	10 µV

Voltage AC	**Maximum voltage**	1000 V
	Accuracy	±(0.7% + 2) True RMS
	AC bandwidth	20 kHz with low pass filter; 3 dB @ 1 kHz
	Maximum resolution	0.1 mV
Current DC	**Maximum amps**	10 A (20 A for 30 seconds maximum)
	Amps accuracy	±(0.2% + 2)
	Maximum resolution	0.01 µA
Current AC	**Maximum amps**	10 A (20 A for 30 seconds maximum)
	Amps accuracy	±(1.0% + 2) True RMS
	Maximum resolution	0.1 µA
Resistance	**Maximum resistance**	50 MΩ
	Accuracy	±(0.2% + 1)
	Maximum resolution	0.1 Ω
Capacitance	**Maximum capacitance**	9,999 µF
	accuracy	±(1% + 2)
	Maximum resolution	0.01 nF
Frequency	**Maximum frequency**	200 kHz
	Accuracy	±(0.005% + 1)
	Maximum resolution	0.01 Hz
Duty cycle	**Maximum duty cycle**	99.9%
	Accuracy	±(0.2% per kHz + 0.1%)
	Maximum resolution	0.1%
Temperature measurement	−200.0 °C – 1090 °C −328.0 °F – 1994.0 °F excluding probe	
80 BK temperature probe	−40.0 °C – 260 °C −40.0 °F – 500 °F, 2.2 °C or 2% whichever is greater	
Conductance	**Maximum conductance**	60.00 nS
	Accuracy	±(1.0% + 10)
	Maximum resolution	0.01 nS
Diode	**Range**	3 V
	Resolution	1 mV
	Accuracy	±(2% + 1)
Duty cycle range	**Accuracy**	Within ±(0.2% per kHz + 0.1%)
Environmental Specifications		
Operating temperature	−20 °C to + 55 °C	
Storage temperature	−40 °C to + 60 °C	

Humidity (without condensation)	0% – 90% (0 °C – 35 °C) 0% – 70% (35 °C – 55 °C)	
Operating Altitude	2000 m	
Safety Specifications		
Overvoltage category	EN 61010–1 to 1000 V CAT III, 600V CAT IV	
Agency approvals	CE, CSA, RCM	
Mechanical and General Specifications		
Size	201 x 98 x 52 mm (with holster)	
Weight	355 g 624 g – with holster	
Display	**Digital**	6000 counts updates 4/sec. 19,999 counts in high–resolution mode
	Analog	32 segments, updates 40/sec
	Frequency	19,999 counts, updates 3/sec at > 10 Hz
Warranty	Lifetime	
Battery Life	**Alkaline**	~400 hours typical, without backlight
Shock	1 Meter drop per IEC 61010–1:2001	
Vibration	Per MIL–PRF–28800 for a Class 2 instrument	

Ordering information

Fluke 87V

Fluke 87V Industrial Multimeter

Includes:

- TL75 Test Leads (TL175 EUR)
- AC175 Alligator Clips
- Holster
- 9V Battery (Installed)
- 80BK Temperature Probe

Fluke 87V CAL

Fluke 87V Industrial Multimeter, with a traceable certificate of calibration with data from Fluke

Includes:

- TL75 Test Leads (TL175 EUR)
- AC175 Alligator Clips
- Holster
- 9V Battery (Installed)
- 80BK Temperature Probe
- A traceable certificate of calibration with data from Fluke

Optional accessories	Description
Fluke TPAK ToolPak™ Magnetic Meter Hanger	Powerful magnetic strap for safe, hands free measurements.
Fluke TL175 TwistGuard™ Test Leads	Simply twist to change the exposed probe tip length.
Fluke C25 Large Soft Case for DMMs	Fits most mid-sized multimeters, process and temperature meters.

Optional accessories	Description
Fluke i1010 AC/DC Current Clamp	Highly reliable, measures 1 A to 1000 A and provides accurate current reading without breaking the circuit. Buy Online Now.

Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect® system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Access baseline, historical and current measurements by asset.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Share your measurement data using ShareLive™ video calls and emails.

Find out more at **flukeconnect.com**

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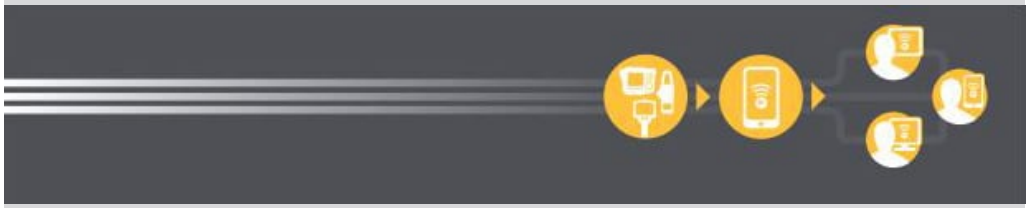

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