

TECHNICAL DATA

# Fluke 87V TRMS Industrial Multimeter



## Key features

The Fluke 87V industrial digital multimeter provides the resolution and accuracy to efficiently troubleshoot motor drives, plant automation, power distribution, and electromechanical equipment.

- Safer and rugged: Safety rated CAT III 1000 V, CAT IV 600 V
- Accurate: Measure current, voltage and frequency on complex variable frequency drive (VFD) signals
- This electrical multimeter correctly measure pulse-width modulated motor drive signals
- Save time: The 87V multimeter includes a built-in thermometer and temperature probe
- True-RMS AC voltage and current for measuring non-linear signals

## Product overview: Fluke 87V TRMS Industrial Multimeter

### Fluke 87V TRMS Industrial Multimeter

The Fluke 87V TRMS 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.

This digital multimeter takes the guesswork out of drive system troubleshooting. This electrical multimeter

includes a unique function for accurately measuring noisy at the VFD and at the motor terminals. Special shielding blocks high frequency, high-energy noise generated by large drive systems.

The Fluke 80 Series V of digital multimeters have improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in plant automation, power distribution, and electro-mechanical equipment.

#### Other useful features

- Rugged, high accuracy industrial electrical multimeter to measure current, voltage and frequency on complex variable frequency drive (VFD) signals
- Offers true-RMS AC voltage and current for measuring non-linear signals
- Captures intermittents as short as 250  $\mu$ S
- Safety rated CAT III 1000 V, CAT IV 600 V
- Includes a built-in thermometer and temperature probe

#### Applications

For Application engineer / Plant engineer / Industrial electricians (Working with VSD's) / Electrical engineer. In plant automation, Power distribution, Electro-mechanical equipment, Industrial electronics, Setting up / repairing, adjustable speed motor drives.

#### Includes

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

## Specifications: Fluke 87V TRMS Industrial Multimeter

Specifications		
Voltage DC	Maximum voltage	1000 V
	Accuracy	$\pm(0.05\% + 1)$
	Maximum resolution	10 $\mu$ V
Voltage AC	Maximum voltage	1000 V
	Accuracy	$\pm(0.7\% + 2)$ 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	$\pm(0.2\% + 2)$
	Maximum resolution	0.01 $\mu$ A
Current AC	Maximum amps	10 A (20 A for 30 seconds maximum)
	Amps accuracy	$\pm(1.0\% + 2)$ True RMS
	Maximum resolution	0.1 $\mu$ A
Resistance	Maximum resistance	50 M $\Omega$
	Accuracy	$\pm(0.2\% + 1)$
	Maximum resolution	0.1 $\Omega$

Capacitance	<b>Maximum capacitance</b>	9,999 $\mu$ F
	accuracy	$\pm(1\% + 2)$
	Maximum resolution	0.01 nF
Frequency	<b>Maximum frequency</b>	200 kHz
	Accuracy	$\pm(0.005\% + 1)$
	Maximum resolution	0.01 Hz
Duty cycle	<b>Maximum duty cycle</b>	99.9%
	Accuracy	$\pm(0.2\% \text{ per kHz} + 0.1\%)$
	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	<b>Maximum conductance</b>	60.00 nS
	Accuracy	$\pm(1.0\% + 10)$
	Maximum resolution	0.01 nS
Diode	<b>Range</b>	3 V
	Resolution	1 mV
	Accuracy	$\pm(2\% + 1)$
Duty cycle range	<b>Accuracy</b>	Within $\pm(0.2\% \text{ per kHz} + 0.1\%)$
<b>Environmental Specifications</b>		
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	
<b>Safety Specifications</b>		
Overvoltage category	EN 61010-1 to 1000 V CAT III, 600V CAT IV	
Agency approvals	CE, CSA, RCM	
<b>Mechanical and General Specifications</b>		
Size	201 x 98 x 52 mm (with holster)	
Weight	355 g 624 g – with holster	
Display	<b>Digital</b>	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

#### 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.
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.

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