Fluke 87V-Ex Intrinsically Safe True-RMS Multimeter

Designed to deliver maximum productivity and safety in and around potentially explosive work zones

The Fluke 87V-Ex is the ATEX-certified intrinsically safe version of the most popular meter in the world, the Fluke 87V. Intrinsically safe (I.S.) are protective methods employed in potentially explosive atmospheres. ATEX is the most stringent I.S. standard in Europe for products used in hazardous locations. Certified I.S. tools are designed to prevent the release of sufficient energy to cause ignition of flammable material.

I.S. standards apply to all equipment that can create one or more of a range of defined potential explosion sources such as electrical sparks, static electricity and mechanical friction. I.S. tools are designed for industries such as petro-chemical, grain processing, oil platforms and refineries, pharmaceutical and pipelines as well as other hazardous environments. For more information on intrinsic safety, visit www.fluke.com/ex.

Features:

- Unique function for accurate voltage and frequency measurements on variable speed motor drives (VSD’s)
- Atex 137 safety rating for use in zone 1 and zone 2
- CAT IV 600 V safety approval for non-Ex industrial environments
- Large display with bright, two-level backlight makes the 87V-Ex very easy to read
- Built-in thermometer (probe included)
- True-rms ac voltage and current for accurate measurements on non-linear signals
- 4-1/2 digit mode for precise measurements (20,000 counts)
- Measure up to 1000 V and 10 A (ac/dc)
- Frequency to 200 kHz and % duty cycle
- Resistance, continuity and diode test
- 10,000 µF capacitance range for components and motor caps
- Min/Max-Average and Peak capture to record transients and variations automatically
- Relative mode to remove test lead interference on resistance measurements
- Auto and manual ranging for maximum flexibility
- Analog bargraph for fast changing or unstable signals
- Input Alert provides audible warning against wrong use of input jacks

Safety ratings

- ATEX safety rating: II 2 G EEx ia IIC T4
- Electrical safety rating: EN61010-1 CAT IV 600 V and CAT III, 1000 V
### Summary specifications

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<th>Voltage dc</th>
<th>Voltage ac</th>
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<th>Resistance</th>
<th>Capacitance</th>
<th>Frequency</th>
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<tr>
<td>Voltage dc</td>
<td>Maximum voltage: 1000 V</td>
<td>Accuracy: ± (0.05 % + 1)</td>
<td>Maximum amps: 10 A (20 A for 30 seconds maximum)</td>
<td>Maximum resolution: 0.1 µV</td>
<td>Voltage ac</td>
<td>Maximum resolution: 0.1 µV</td>
<td>Accuracy: ± (0.05 % + 1)</td>
<td>Maximum amp: 10 A (20 A for 30 seconds maximum)</td>
<td>Voltage: 50 MΩ</td>
<td>Maximum capacitance: 9999 µF</td>
<td>Accuracy: ± (10 % + 20)</td>
<td>Conductance</td>
</tr>
<tr>
<td></td>
<td>Maximum resolution: 10 µV</td>
<td>Accuracy: ± (0.7 % + 2) True-rms 20 kHz</td>
<td>Accuracy: ± (0.2 % + 2)</td>
<td>Accuracy: ± (1.0 % + 2) True-rms 0.1 µA</td>
<td>Maximum resolution: 0.01 µF</td>
<td>Accuracy: ± (1.0 % + 2) True-rms 20 kHz</td>
<td>Accuracy: ± (1.0 % + 1) True-rms 0.1 µA</td>
<td>Accuracy: ± (1.0 % + 2) True-rms 0.1 µA</td>
<td>Range: -200.0 °C to 1090 °C (-328 °F to 1994 °F) excluding probe</td>
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</tr>
<tr>
<td></td>
<td>Accuracy: ± (0.2 % + 2)</td>
<td>AC bandwidth: 20 kHz</td>
<td>Accuracy: ± (1 % + 2)</td>
<td>Accuracy: ± (1 % + 2)</td>
<td>Maximum resolution: 0.01 µF</td>
<td>Frequency: 200 kHz</td>
<td>Frequency: 200 kHz</td>
<td>Frequency: 99.90 %</td>
<td>Measurements restriction in Ex-hazardous area</td>
<td>Operating temperature: -20 °C to +55 °C</td>
<td>Agency approvals: CSA, TÜV, ATEX specification: EN 61010-1 to 1000 V CAT III, 600 V CAT IV</td>
<td>Size: 201 x 98 x 52 mm (with holster)</td>
</tr>
<tr>
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<td>Maximum resolution: 0.1 µV</td>
<td>Maximum resolution: 20 kHz</td>
<td>Accuracy: ± (2 kHz + 0.1 %)</td>
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<td>Accuracy: ± (2 kHz + 0.1 %)</td>
<td>Accuracy: ± (2 kHz + 0.1 %)</td>
<td>Operating temperature: -40 °C to +60 °C</td>
<td>Storage temperature: 0 % to 90 % (0 °C to 35 °C)</td>
<td>Agency approvals: CSA, TÜV, ATEX specification: EN 61010-1 to 1000 V CAT III, 600 V CAT IV</td>
<td>Weight: 1.09 lbs</td>
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<tr>
<td></td>
<td>Accuracy: ± (0.1 µV + 10)</td>
<td>Humidity [w/o condensation]: 0 % to 90 % (0 °C to 35 °C)</td>
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<td>Humidity [w/o condensation]: 0 % to 90 % (0 °C to 35 °C)</td>
<td>Operating temperature: 0 % to 70 % (35 °C to 55 °C)</td>
<td>Humidity [w/o condensation]: 0 % to 90 % (0 °C to 35 °C)</td>
<td>Humidity [w/o condensation]: 0 % to 90 % (0 °C to 35 °C)</td>
<td>Storage: 2000 m</td>
<td>Humidity [w/o condensation]: 0 % to 90 % (0 °C to 35 °C)</td>
<td>Operating altitude: 2000 m</td>
<td>Weight: 1.46 lbs</td>
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<td>Environmental specifications</td>
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<td>Weight: 6000 lbs</td>
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<td>Accuracy: ± (1 µV + 10)</td>
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<td>Maximum resolution: 0.01 µF</td>
<td>Overvoltage category: EN 61010-1 to 1000 V CAT III, 600 V CAT IV</td>
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*with low pass filter; 3 dB @ 1 kHz

### Ordering Information

**Fluke-87-5-Ex**  
Intrinsically Safe  
True-rms Multimeter

**Included**  
DMM with holster, TL75 Test Lead Set, AC72 Alligator Clip Set, instruction manual in English, French, German and CD Rom with additional manuals in multiple languages.

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