

Fluke 31/33 Clamp Meters

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The Clamp Meter of Choice for Adjustable Speed Drive Measurements, with True-rms Crest and Frequency Measurement

The Fluke 31 and 33 give accurate True-rms current measurements from 0.3 to 700A max. In addition, the Model 33 captures peak values, up to 1000A, for Crest Factor calculation. Both models measure frequency, so you can use them to determine the output frequency of adjustable speed drives, to set the governor of an engine generator or

to detect third harmonic currents (180 Hz) in the neutral of a 3-phase system. The Fluke 31 and 33 are built extra strong to withstand job site abuse.

Why True-rms? Electrical professionals today need current clamps that are up to the challenge of accurately measuring harmonic currents caused by non-linear loads. Virtually all electronic equipment falls into this category - PCs, printers, HID lighting, adjustable speed drives, etc. Average-sensing meters can't do the job. They can produce readings that are 30%-50% low. Why? Harmonics cause distorted waveforms, and average-sensing meters can only accurately measure pure sine waves. One measure of waveform distortion is Crest Factor, the ratio of the peak to the rms value of the wave. CF for a pure sine wave is 1.4. Higher CF indicates harmonic currents. Fluke's true-rms Current Masters (Models 32, 31, 33, 36) give correct readings for any wave shape, within the instrument's CF specifications.

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Fluke 31/33 Clamp Meters Features

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Features at a Glance

- True-rms ac current measurement
- Frequency
- Min/Max records maximum, minimum and average RMS current or frequency values for over 24 hours (Fluke 33 only)
- Auto/Manual Ranging
- Crest measurement of the peak of the current waveform. Used to determine Crest Factor which can indicate the presence of harmonics. (Fluke 33 only)
- Smoothing T displays a 3 second running average of current or frequency. (Fluke 33 only)
- Tapered jaws can handle 2 parallel 500 MCM cables, or a single cable, up to 38 mm (1.5") in diameter
- Combination Digital/Analog display; Fast analog bar graph shows surge currents
- Audible beep confirms key presses and, in the Model 33, indicates new highs or lows in Min/Max mode
- Power-up self-test - verifies proper functioning and estimates battery life
- Clip-on holster
- Sleep Mode to preserve battery life
- CAT III 600V

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Fluke 31/33 Clamp Meters Specifications

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Technical Data

AC Current (RMS)	Range: 0.3A to 400A (700A max sine wave), 0.3A to 40A Resolution: 0.1A, 0.01A Accuracy: $\pm (2\%+2)$, $\pm (2\%+20)$
Frequency	Range: 0.5 to 10kHz Resolution: 0.1Hz Accuracy: $\pm (0.2\%+3)$
Crest/Instantaneous Peak (Fluke 33 only)	Range: 99.9A, 1000A Resolution: 0.2A on 40A range, 2A on 400A range, 4A above 400A range Accuracy for 33: $\pm (3\%+3)$
Crest Factor	< 2.0 at full scale (up to 5.0 at half scale)

General Specifications

Battery Life	80 hours typical (alkaline)
Size	231.5 mm L x 97 mm W x 43.9 mm D (9.11" L x 3.82" W x 1.73" D)
Weight	0.5 kg (17.6 oz.)
Warranty	One Year Warranty
Digital display count	4000 for current, 10000 for frequency
Analog display update	8 times/second
Digital display update	2 times/second

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Fluke 31/33 Clamp Meter Models, Options & Accessories

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Model Name	Product Description
Fluke 31	Current Clamp with Holster Includes: C30 Holster Operator's Manual Quick Reference Guide 9V battery (installed)
Fluke 33	Current Clamp with Holster Includes: C30 Holster Operator's Manual Quick Reference Guide 9V battery (installed)

Available Accessories and Options

Model Name	Accessory or Option Description
C30	Replacement Holster
TL20	63" Test Lead Set
TL26A	60" 5-Way Test Lead Set
TL28A	63" Alligator Clip Test Lead Set
TL71	Premium DMM Test Lead Assembly
TL74	4 mm Diameter Test Leads

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