

MODEL 536 CLAMP-ON METER

- TRUE RMS (current and voltage)
- DC CURRENT & VOLTAGE
- FREQUENCY
- RESISTANCE & CONTINUITY BEEPER
- AUTO AND MANUAL RANGING WITH DATA HOLD
- DUAL DISPLAY(4000 count digital display, 41 segment analog bar graph)
- MIN/MAX/AVERAGE RECORDING
- EASY SINGLE-HANDED OPERATION
- SAFETY-DESIGNED HAND GUARD
- DESIGNED FOR SAFETY TO IEC 61010-1
- RUGGED AND RELIABLE
- SEALED, SPLASH-PROOF AND DUST-PROOF CASE



GENERAL DESCRIPTION

Do More with One Tool

The Altek Model 536 is a rugged, reliable, clamp meter with greater versatility than clamp meters that measure only AC current. Measure AC Current, DC current, AC and DC volts, frequency, ohms plus check continuity. Troubleshoot industrial, commercial, hospital and residential electrical and HVAC systems with the 536. This versatile clamp meter offers true-rms sensing and MAX hold for measuring inrush current or the maximum load on a circuit. The Model 536's combination of true-rms measurements, rugged construction, and reliable performance makes this meter indispensable for troubleshooting various problems associated with non-linear loads.

True-RMS Readings

The Model 536 displays the true-rms value of AC measurements. This feature is highly desirable for today's engineers and technicians working with signals that contain harmonic currents caused by non-linear loads. Virtually all electronic equipment falls into this category – switching power supplies (UPS), PCs, printers, HID lighting, variable speed motor drives, and other types of equipment that draw current in short pulses. Average-sensing meters cannot accurately measure currents containing harmonics which cause distorted waveforms. Average-sensing meters can only accurately measure pure sine waves. One measure of waveform distortion is Crest Factor (CF), the ratio of the peak to the rms value of the wave. CF for a pure sine wave is 1.414. CFs other than 1.414 indicate the presence of harmonic current flow. Altek's true-rms Model 536 gives correct readings for any wave shape, within the instrument's CF specifications.

Frequency

Frequency can be used to determine the output frequency of variable speed drives, to set the governor of an engine generator, or to detect third harmonic currents (180 Hz) in the neutral of a three-phase system.

Designed for Heavy Duty Use

The jaw opening can handle two parallel 500 MCM cables, and the protective hand guard helps prevent accidental contact with conductors. The 536 is built extra strong to withstand heavy duty, job site abuse.

Easy-To-Use

Simple, one touch push-buttons make the Model 536 clamp meter easy to use.

Analog/Digital Display

The extra large LCD combines an accurate digital display with a fast analog bar graph for quick indication of varying signals. The digital display, updating four times per second, displays readings while the bar graph, updating 20 times per second, displays a quick view of the signal being measured.

Data Hold

Obtain readings in difficult areas where you can't see the display.

Auto Power Off

Preserves battery life by automatically shutting the unit off after ten minutes of inactivity. Disable the power off mode of the Model 536 by pressing the ON/OFF pushbutton once.

Max/Min/Avg

Monitor the fluctuations in a measurement and record the average value over time.

Soft

Provides stable readings when loaded currents are fluctuating. Displays a running three-second average.

Crest

Measures the instantaneous half-cycle peak value of current waveforms. The ratio of the instantaneous half-cycle peak current value to the RMS current value is the Crest Factor, which can be an indicator of the presence of harmonics.

DC Ampere Measurement

Using Hall-effect technology, the 536 accurately measures AC and DC amperes without disturbing the test circuit. Push a button for fast Zero adjustment to measure DC amperes.

SPECIFICATIONS

(Unless otherwise indicated, specifications are for one year in \pm (% of reading + number of digits) @ 23°C

General

DISPLAY: Digital 4000 counts ($3\frac{3}{4}$ digits), [Hz: 9999 counts]
Updates four times/sec
Analog 41 segment bar graph, Updates 20 times/sec

MAXIMUM CONDUCTOR SIZE: 2.01" (51 mm)

MAXIMUM JAW OPENING: 2.05" (52 mm)

MAXIMUM CONDUCTOR VOLTAGE: 600V rms

AC Voltage

Common Mode Rejection Ratio: > 80 dB, dc to 60 Hz

DC Voltage

Normal Mode Rejection Ratio: > 11 dB, at 50 Hz or 60 Hz

Common Mode Rejection Ratio: > 84 dB, at dc, 50 Hz, or 60 Hz

CREST FACTOR, CONTINUOUS WAVEFORM (45 HZ TO 65 HZ, LESS THAN 1000A PEAK):

- 1.4 to 2.0 – add 20 digits to accuracy below 100A
- 2.0 to 3.0 – add 1% to accuracy +20 digits below 100A
- 3.0 to 5.0 – add 2% to accuracy +20 digits below 100A

ADJACENT CONDUCTOR EFFECT: Maximum is 1% of current in adjacent conductor

OPERATING TEMPERATURE RANGE: 14°F to 131°F (-10°C to 55°C)

STORAGE TEMPERATURE RANGE: -4°F to 140°F (-20°C to 60°C)

RELATIVE HUMIDITY: 0% to 80% at 104°F (30°C), 70% at 122°F (50°C)

BATTERY: 9V, (NEDA 1604)

BATTERY LIFE: 80 hours typical (alkaline)

SAFETY STANDARDS: UL1244, IEC 61010-1 (Over voltage Category II), CSA C22.2 No. 231, ANSI/ISA (Appropriate Parts) S82, VDE 0411, and CE-certified

OVERALL SIZE: 1.73" H x 3.84" W x 9.65" L (4.39 cm x 9.75 cm x 24.5 cm)

WEIGHT: APPROX: 1.21 lb (545g)

DC CURRENT:		
Range	Resolution	Accuracy
0.30A to 39.99A	0.01A	$\pm(2\% + 30)$
0.3A to 399.9A	0.1 A	$\pm(2\% + 10)$
400A to 700A	1A	$\pm(2\% + 10)$

AC VOLTAGE (TRUE RMS) / DC VOLTAGE:				
Range	Resolution	Accuracy		
		AC Voltage		DC Voltage
		45 Hz to 65 Hz	45 Hz to 1 KHz	
0 to 39.9V	0.01V	$\pm(1.0\% + 3)$	$\pm(2.5\% + 5)$	$\pm(1.0\% + 3)$
0 to 399.9V	0.1V	$\pm(1.5\% + 5)$		$\pm(1.5\% + 5)$
0 to 600V	1V			

RESISTANCE:		
Range	Resolution	Accuracy
0 to 399.9 Ω	0.1 Ω	$\pm(1.0\% + 10)$
0 to 3.999 K Ω	1 Ω	$\pm(1.0\% + 3)$

CONTINUITY CHECK:	
Range	Continuity Beeper
400 Ω	Approx. < 35 Ω

FREQUENCY ¹ :		
Range	Resolution	Accuracy
0.5 Hz to 999.9 Hz	0.1 Hz	$\pm(0.2\% + 3)$
1000 Hz to 9999 Hz	1 Hz	$\pm(0.2\% + 3)$

¹ Sine Wave, measured with conductor centered at alignment marks, and battery life indication greater than 40 hours at meter power up self test

With Current Autorange: Trigger level, 5 Hz to 1,500 Hz, 0.7A RMS or more, peak current

With Manual Ranging: Trigger threshold, 10 Hz to 1,000 Hz
40A Range – 6A RMS or more
400A Range – 40A RMS or more

Specifications subject to change without notice

ORDERING INFORMATION

True RMS Clamp-On Meter

Part No.

536

Included with each Model 536 are:

- Clip-On Holster, Test Leads, Carrying Strap
- User's Manual, 9V Battery (Installed)
- Certificate of Conformity and Lifetime Warranty

AVAILABLE FROM

AC CURRENT: Amperes ¹			
Range	Resolution	Accuracy ²	
0.30A to 39.99A	0.01A	$\pm(8\% + 30)$	20 Hz – 30 Hz ³
		$\pm(4\% + 30)$	30 Hz – 45 Hz ⁴
		$\pm(3\% + 20)$	45 Hz – 65 Hz
		$\pm(4\% + 30)$	65 Hz – 1 KHz
0.30A to 399.9A	0.1A	$\pm(8\% + 3)$	20 Hz – 30 Hz ³
		$\pm(4\% + 3)$	30 Hz – 45 Hz ⁴
		$\pm(3\% + 2)$	45 Hz – 65 Hz
		$\pm(4\% + 3)$	65 Hz – 1K Hz
400A to 700A	1A	Not Specified	20 Hz – 30 Hz ³
		$\pm 7\%$	0 Hz – 45 Hz ⁴
		$\pm 5\%$	45 Hz – 65 Hz
		$\pm 7\%$	65 Hz – 1K Hz

¹ Sine Wave, measured with conductor centered at alignment marks and battery life indication greater than 40 hours at meter power up self test

² RMS Min/Max: Add 10 counts

³ AVG only, 2.5A and above RMS Min/Max: Add 2% of reading

⁴ 1A and above

INSTANTANEOUS AMPERES (PEAK MODE) ¹ :			
Range	Resolution	Accuracy	
0.4A to 39.99A	0.2A	$\pm(4\% + 40)$	20Hz – 30Hz ²
		$\pm(4\% + 30)$	30Hz – 45Hz ³
		$\pm(3\% + 30)$	45Hz – 65Hz
		$\pm(4\% + 30)$	65Hz – 1KHz
0.4A to 399.9A	2A	$\pm(4\% + 4)$	20Hz – 30Hz ²
		$\pm(4\% + 3)$	30Hz – 45Hz ³
		$\pm(3\% + 3)$	45Hz – 65Hz
		$\pm(4\% + 3)$	65Hz – 1KHz
400A to 599A	4A	$\pm 4\%$	20Hz – 30Hz ²
		$\pm 4\%$	30Hz – 45Hz ³
		$\pm 3\%$	45Hz – 65Hz
		$\pm 4\%$	65Hz – 1KHz
600A to 999A	4A	$\pm 7\%$	20Hz – 30Hz ²
		$\pm 7\%$	30Hz – 45Hz ³
		$\pm 7\%$	45Hz – 65Hz
		$\pm 7\%$	65Hz – 1KHz

¹ Sine Wave, measured with conductor centered at alignment marks and battery life indication greater than 40 hours at meter power up self test

² 2.5A and above

³ 1A and above

LIFETIME WARRANTY PROGRAM

Our equipment is guaranteed against defective material and workmanship (excluding batteries and test leads) for a period of one year. For a lifetime warranty: (1) Simply register the unit upon receipt by completing and returning the product's Warranty Registration Card. (2) Once a year, send the unit to any Altek authorized distribution center for re-certification. Claims under warranty can be made by returning the equipment, prepaid, to any authorized Altek distributor. Altek will repair, re-calibrate or replace, free of charge, any unit found to be defective or out of calibration at any time between re-certification intervals. The liability of Altek is restricted to that given under our guarantee. No responsibility is accepted for damage, loss or other expense incurred through sale or use of our equipment. Under no condition shall Altek be held liable for any special, incidental or consequential damage.

OTHER PRODUCTS

Altek designs and manufactures fast, accurate instruments for measurement, generation and simulation of virtually every process control signal. Consult our factory directly or contact your local stocking representative to order precise, low cost Milliamp Calibrators, Voltage Sources, Thermocouple Sources, RTD Simulators, Frequency Calibrators, Pressure Pumps, Indicators and Calibrators as well as electrical test instruments. Altek also produces calibrators for custom ranges and unique applications. New models are frequently added to the Altek family to meet all of your critical calibration requirements.