Test Equipment Depot
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Melrose, MA 02176
Phone 781-665-1400
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HIOKI

CLAMP ON HiTESTER 3291-50
CLAMP ON LEAK HiTESTER 3293-50

Clamp Testers

The World's First Flip Clamp!

LOOK!
Slim clamp sensor
fits in narrow spaces

True-rms measurement
provides great accuracy
True RMS

LOOK!
Easy-to-read
measurements
Adjustable display angle!

LOOK!
LED backlight
provides clear viewing
in dim locations

Bright white LEDs!

Powers on when
you open the clamp

Convenient
pocket-size design

3291-50 : Load current
3293-50 : Leak current

3291-50 3293-50

ISO 9001 JMI-0216
ISO14001 JQA-E-90091

HIOKI company overview, new products, environmental considerations and other information are available on our website.

CE

Flip-type clamp on design delivers the ease-of-use demanded by field technicians

Innovative Concept "Flip" clamp

Have you ever wanted...

- Easy visibility even when clamping in high and low places ?
- Measurement values you can hold for later reading ?
- A clamp sensor that won't break easily when twisted ?

LOOK!

Displayed values automatically invert when flipped open!

You can also push a button to manually invert the display.

Equipped with an innovative display that flips down for easy visibility, the 3291-50 and 3293-50 are designed for efficient measurement of indoor wiring in a variety of environments, from factories, buildings, and offices to residences.

■ Easy measurement of wires on ceilings

■ Easy to see, even on high or low locations

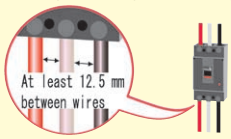
New Design Slim Sensor

Have you ever wanted...

- The ability to clamp even in crowded wiring locations ?
- To have thinner clamp sensors ?

LOOK!

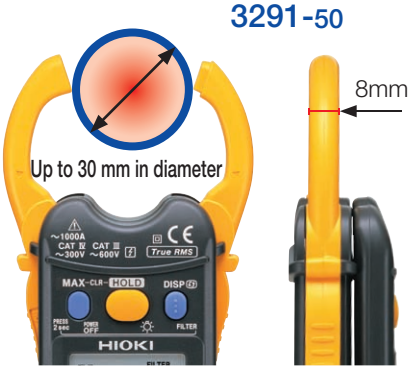
Model 3291-50 can clamp on wires spaced only 12.5 mm apart.



Sometimes it's easier to clamp the target wire at an angle.

Thin sensors let you clamp easily, even around closely spaced wires.

3291-50



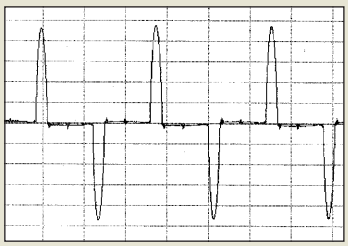
3293-50

Extensive current measurement functions

1 "True RMS" lets you measure even distorted currents accurately True RMS

With "True RMS" measurement, the 3291-50 and 3293-50 accurately measure even distorted load and leakage currents.

Two ways to convert alternating current to RMS are "**true RMS response**" and "average rectified RMS response" (averaging). Both display the same value for a sine wave, but can display very different values for distorted waveforms.

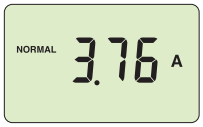


When measuring current waveforms distorted by inverters…

True RMS response
(the 3291-50 and 3293-50 work this way)

High-frequency waveform components are included in the calculated RMS display value.

Averaging



The measured waveform is treated as a single-frequency (undistorted) sine wave, and the calculated average of the ac signal is converted to an RMS display value. Measurement error increases with waveform distortion.

As inverters and switching power supplies proliferate, the need for the capability to measure distorted current waveforms grows.
A true RMS clamp-on current meter is the proper tool for accurate measurements.

2 Measure leak and load current with the 3293-50

The 3293-50 provides 6 ranges, from 30 mA to 1000 A.
The 3291-50 provides 3 ranges, from 60 A to 1000 A.

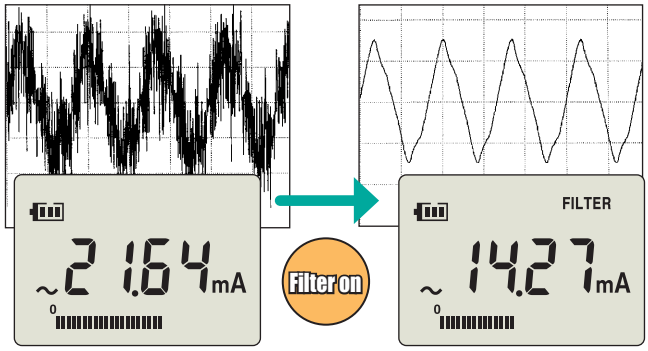
3293-50	Auto range					
Range	30.00mA	300.0mA	6.000A	60.00A	600.0A	1000A

3291-50	Auto range					
Range				60.00A	600.0A	1000A

3 Filter out noise

Provides a high-frequency noise filter.
When activated, the filter rejects frequencies above 180 Hz, approximating the filter characteristic of an earth leakage circuit breaker (ELCB) for measurements.

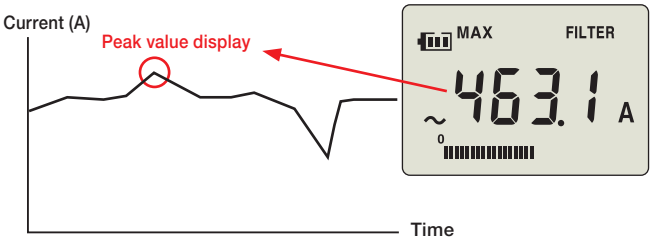
Cuts high-harmonic components to measure the fundamental waveform (The filter in the 3293-50 is enabled by default.)



4 Includes a Peak Hold function

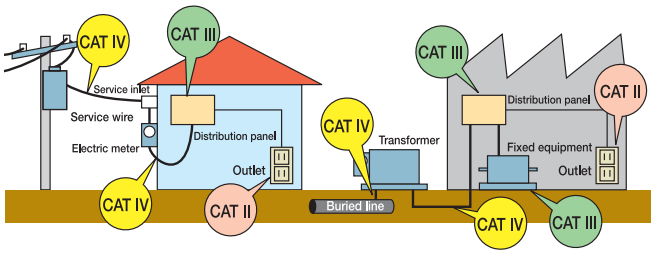
Captures the peak value of fluctuating currents.

Retains the maximum value during data updating



5 Safety Design

3291-50 : CAT III 600 V (CAT IV 300 V)
3293-50 : CAT III 300 V



3291-50, 3293-50 Specifications

(accuracy at 23°C±5°C (73°F±9°F), 80% RH or less)

		3291-50 (Load)	3293-50 (Leak)
Measurable conductor size		ø30mm (1.18")max.	ø24mm (0.94")max.
Rectification		True RMS	
Max. rated voltage to earth		600Vrms, Measurement category III 300Vrms, Measurement category IV	300Vrms, Measurement category III
Measurement Range (Auto Range switching)		60A/600A/1000A	30mA/300mA 6A/60A/600A/1000A
Accuracy filter ON : fc=180Hz		filter ON : ±1.5%rdg. ±5dgt. (50Hz to 60Hz) filter OFF : ±1.5%rdg. ±5dgt. (45Hz to 66Hz) ±3.0%rdg. ±5dgt. (66Hz to 400Hz)	
Guaranteeed Accuracy Period		1 Year (or opening and closing of the sensor 10,000 times)	
Accuracy Guaranteed Measurements		2A to 1000A	1mA to 1000A
Crest factor		2.8 or less (up to 600A), 1.68 or less (1000A range)	
Response Time		1.1sec. or less	
Display update Rate		1.1sec. or less	
Temperature Coefficient		Add (0.05 × accuracy specifications)/°C (except 23°C ±5°C)	
Effect of Conductor Position		within ±5.0%	within ±0.1% (up to 6A range) within ±5.0% (greater than 60A range)
Effect of External Magnetic Field		---	Max 7.5mA (within a 400A/m magnetic field, at or below 6A range)
Other Functions		Display hold, maximum value hold, reversible LCD display, backlight, auto power off, battery level indication	
Usage Environment		0°C to 40°C/32°F to 104°F, 80%rh or less. (no condensation)	
Storage Environment		-10°C to 50°C/14°F to 122°F, 80%rh or less. (no condensation)	
Stan-dards	Safety	EN61010 Type A current sensor	
	EMC	EN61326	
Rated Voltage and maximum rated power		DC3V, 25mVA	
Power Supply		Button type lithium battery (CR2032) × 1	
Battery lifetime		Approx. 20 hours	Approx. 18 hours
Dimensions and mass		50W×136H×26Dmm, 115g 1.97"× 5.35" H × 1.02" D, 4.1 oz.	50W×130H×26Dmm, 135g 1.97"× 5.12" H × 1.02" D, 4.8 oz.

Pocket Size Clamp On Design

Fits perfectly into a shirt pocket.
Compact design for superior portability

Loop a wrist strap through the small opening to help keep the instrument from being dropped

Bundled Accessories: Carrying Case 9757 × 1, Wrist strap × 1, Button type lithium battery (CR2032 - test use only) × 1, Instruction Manual × 1

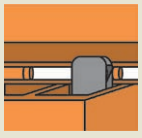
■ Wrist strap

Wrap around your hand or neck to avoid dropping

■ Carrying Case 9757

Protects the instrument
Attaches conveniently to your belt

Inside toolboxes



Attaches to belt

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All information correct as of Sep. 28, 2009. All specifications are subject to change without notice. 3291-50E1-99E Printed in Japan