

# HIOKI

AC/DC CLAMP METER  
AC CLAMP METER  
CM4000 series

**NEW**

## Remarkable ease of use

Introducing a new design that's even easier to fit between cables in confined spaces



**CM**  
**4000**  
**SERIES**  
MADE IN JAPAN



Please see [www.hioki.com](http://www.hioki.com) for list of supported regions.

Models with Bluetooth® support:  
CM4372, CM4374,  
CM4376, CM4142

CAT IV 600V  
CAT III 1000V



**3** year  
Warranty



CM4375, CM4376  
AC/DC 999.9 A

CM4141, CM4142  
AC 60.00A/600.0A/2000A



Narrowest width of jaw cross-section: 9.5 mm (0.37 in)



**AC/DC CLAMP METER CM4375, CM4376**  
 AC/DC 1000 A max, Core jaw diameter  $\phi$ 34 mm (1.34 in)

**Even measure the thick double-wires connected to power conditioners**

**Traditional design:**  
 shorter tip makes it impossible to wrap around cables



**New design:**  
 completely clamp doubled cables



The tip of traditional clamp sensors often lack the depth to completely surround doubled cables. The jaws of the new CM4375 and CM4376 are designed with this important application in mind, expanding their range of use.

See it in action



CM4375  
CM4376



CM4141  
CM4142

# Remarkable ease of use...

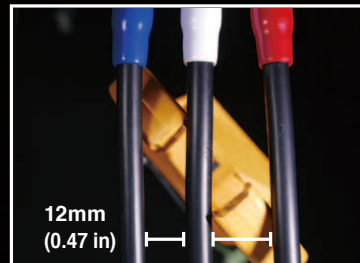
Easily Clamp Within Crowded Cables with New Jaw Design.  
CM4141, CM4142, CM4375, CM4376

## AC CLAMP METER CM4141, CM4142

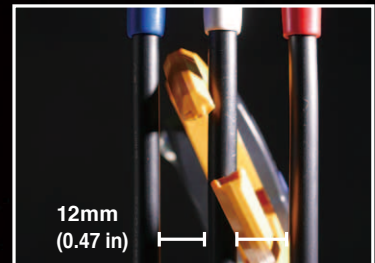
AC 2000 A max, Core jaw diameter  $\phi 55$  mm (2.17 in)

Get into the tightest gaps even with a large diameter clamp structure

**Traditional design:**  
thick jaws made it difficult to get between cables



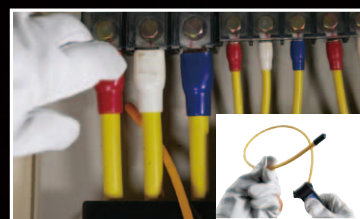
**New design:**  
easily slide between narrow gaps with thin sensor



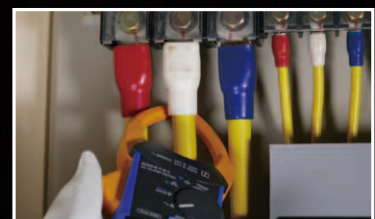
The large  $\phi 55$ mm clamp lets you measure higher currents up to 2000 A AC, yet still provides the ability to easily get into narrow gaps. Improve work efficiency especially when circuit breakers and terminal boxes are located in confined spaces.

Delivering safety and convenience

**Traditional approach:** attempts to snake flexible sensor around cable may lead to electric shock



**New approach:** easily measure large currents with a clamp



Because they can be bent freely and accommodate large-diameter cables, flexible sensors are used in applications such as measurement of large currents. However, sometimes the area in electrical panels are so tight that it may be impossible to snake the flexible sensor behind and around the cables, and attempts to grab the tip of the sensor so close to the metal terminals may lead to electric shock.

Narrowest width of jaw cross-section:  
11 mm (0.43 in)



# Field-Proven Strength

Hioki measuring instruments have evolved as we've sought to engineer products that can withstand use in harsh and demanding environments. The CM4000 series has proven its capabilities against numerous performance tests to ensure even greater improvements in ruggedness, durability, and reliability. These tough clamp meters are designed to deliver ultimate safety and peace of mind.

## Damage-resistant jaws

The new and improved design features stronger jaws (the current sensor portion of the instrument) and a dramatic boost in the duration of the warranty from 10,000 to 30,000 open-close cycles to ensure the instrument will provide even more years of reliable use. The CM4375, CM4376, CM4141 and CM4142 deliver the dual functionality of ease of clamping and resistance to damage.



### Clamp open/ close test



In this test, the jaws are opened and closed a specified number of times at the rate of one cycle per second. In addition, the test is continued until the jaws break to provide a better understanding of their strength. Tests like this help us improve the instrument's durability.

**Guaranteed for 30,000 open-close cycles**

## -25°C to + 65°C

Thanks to an operating temperature range that has been expanded from the previous design (which could be used from 0°C to 40°C), the CM4000 Series can be used in freezing temperatures or on the hottest summer days.



### Temperature test



In this test, we verified that the clamp meter can operate for an extended period of time while taking normal measurement in the specified temperature range.

**Expanded operating temperature range**



## Dustproof and waterproof performance

International Protection Code: IP54\* \*Jaws (current sensor portion): IP50

Measurement functionality is maintained despite exposure to sand or dust as well as water droplets.

Use the clamp meters with confidence in harsh and dusty environments such as saw mills and grain processing facilities, as well as work sites that operate welding equipment. (CM4141 and CM4142: IP50)



### Dustproof and waterproof tests



In the dustproof test, the clamp meter's enclosure is placed under reduced pressure and exposed to dust, and in the waterproof test, the instrument is sprayed with water from multiple directions in order to investigate how readily dust and water can enter.

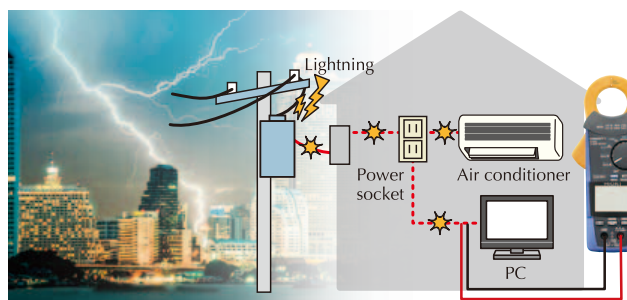
### Enhanced environmental resistance

Caution: The CM4370 Series' waterproof enclosure is designed to enable the instrument to maintain its measurement functionality even when wet. Getting the instrument wet or measuring energized parts with wet hands increases risk of electric shock.

## CAT IV 600 V

The CM4000 Series can safely measure service wires with a wire-to-ground voltage of up to 600 V as well as wires found in distribution panels.

The clamp meter series features a safe design that can withstand a transient overvoltage of 8 kV in case of a lightning strike.

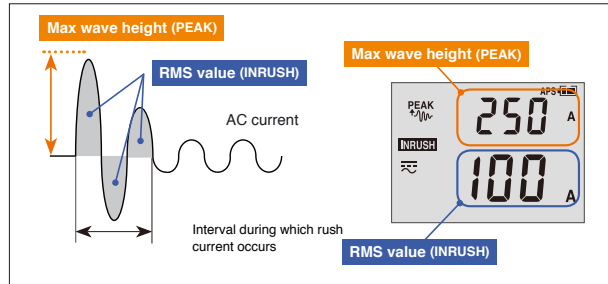
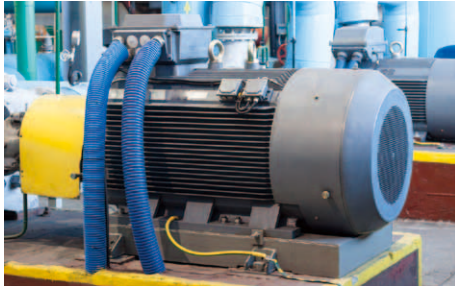


## Giving shape to ease of use and intuitive operation

### Assess transient currents at motor startup

The CM4000 Series can simultaneously measure inrush current in RMS as well as maximum crest values at motor startup and for welding currents.

The clamp meters automatically detect the duration of the inrush current (which can range from several dozen milliseconds to several hundred milliseconds) and measure the current during that interval, enabling them to yield more accurate measurements than standard clamp-on meters whose measurement interval is fixed to 100 ms.



#### Inrush trigger level

Model	Range	Current Detection	
CM4371, CM4372	600A	$\geq +10$ A	$\leq -10$ A
CM4373, CM4374	2000 A	$\geq +100$ A	$\leq -100$ A
CM4375, CM4376	1000 A	$\geq +10$ A	$\leq -10$ A
CM4141, CM4142	60.00 A	$\geq +2$ A	$\leq -2$ A
	600.0 A	$\geq +10$ A	$\leq -10$ A
	2000 A	$\geq +100$ A	$\leq -100$ A

#### Supported functionality

**AC/DC/AC+DC :** CM4371, CM4372, CM4373, CM4374, CM4375, CM4376

**AC :** CM4141, CM4142

#### Sampling frequency

RMS value and maximum wave height calculation: 4.8 kHz  
Smartphone waveform rendering: 2.4 kHz

### Automatically hold display values

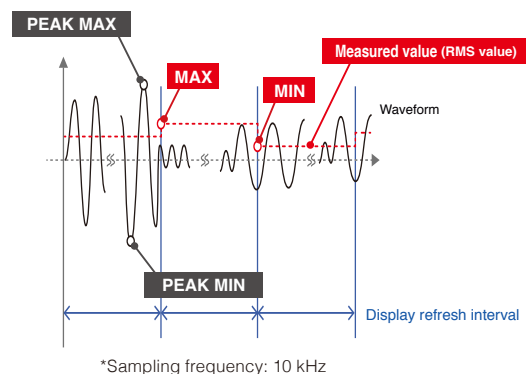
The clamp meters beep when the measured value stabilizes and then automatically hold the display value.

This is useful when using the instrument in locations where it is difficult to see the display or press the hold button.



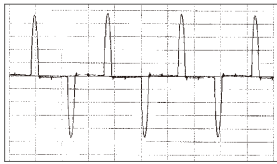
### Assess fluctuating current values

The ability to identify the maximum, minimum, average, and crest maximum and minimum values for equipment like machine tools whose load current fluctuates is useful in preventive maintenance and quality control.



## Accurate testing assured

### Get a correct reading of distorted waveforms with the True RMS method



Current waveform from an inverter (primary side)



Average-value method measured value

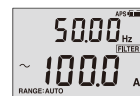
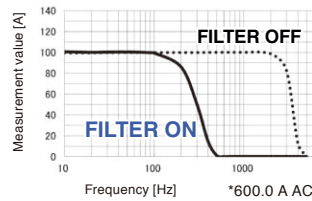


True RMS method measured value

Current waveforms are often distorted, causing the average-value and true RMS measurement methods to yield different results. To obtain accurate readings, RMS measurement is indispensable.

### Low pass filter delivers stable measurement values

Frequency characteristics when using the filter\*



FILTER ON

Measured value with reduced noise

Cutting the harmonic component serves to stabilize values, an approach that is useful when measuring the secondary side of a switching power supply or inverter.

CM4371, CM4372, CM4373, CM4374, CM4375, CM4376

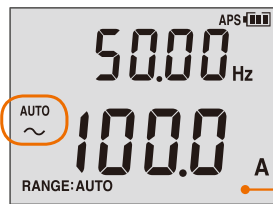
## Solar power system maintenance

### Automatically detect the signal when AC and DC are mixed

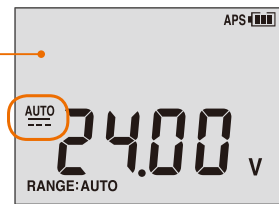
Simply rotate the rotary switch to the CURRENT MEASUREMENT or VOLTAGE MEASUREMENT function to take measurements after automatically detecting whether the signal is AC or DC. Since this functionality eliminates the need to operate the rotary switch in locations where AC and DC wires are intermingled, it helps boost work efficiency.



A mixture of AC and DC signals



Current measurement

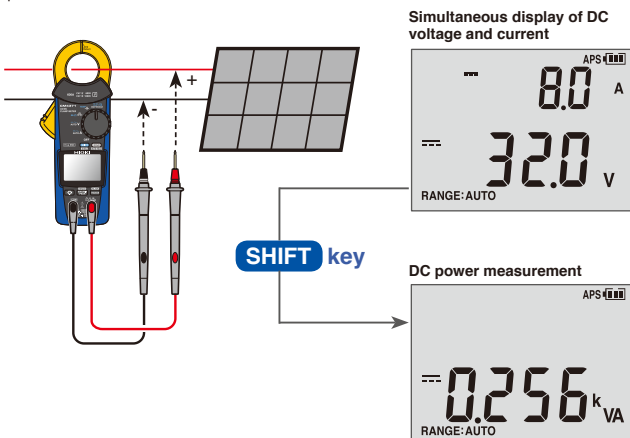


Voltage measurement

\*The CM4141 and CM4142 support automatic AC/DC detection for voltage measurement.

### Simultaneous display of DC current and voltage, and display of DC power

During DC measurement, the clamp meter can simultaneously display current and voltage values. Press a button to read the power value.

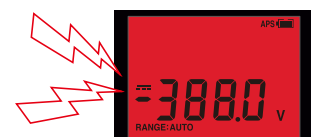


### Avoid missing DC wiring mistakes

If the DC voltage and DC current measured values are negative, the instrument will warn the user by sounding a beep and changing the backlight color. This functionality is useful when measuring no-load voltage and current in solar power systems. Thresholds: -10 V, -10 A



Convenient when you need to check a series of locations



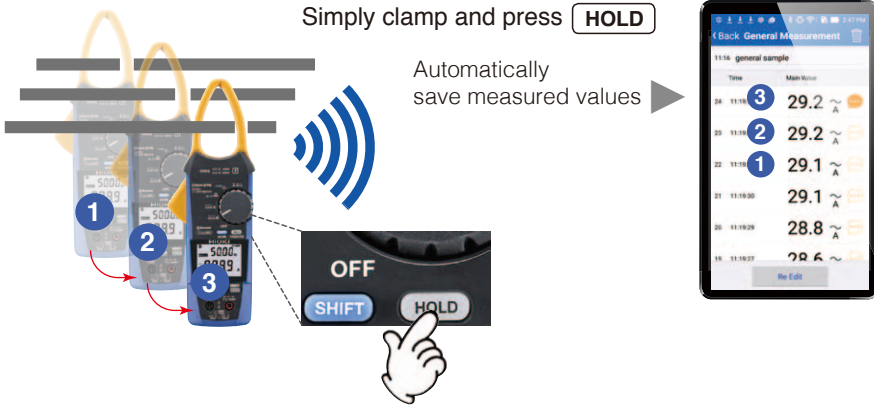
Beeping sound

# Send measured values to a smartphone or tablet

Models with Bluetooth® support: CM4372, CM4374, CM4376, CM4142

## General Measurement

Simply clamp and press **HOLD**



Automatically save measured values

Time	Main Value
11:18:03	29.2
11:18:04	29.2
11:18:05	29.1
11:18:06	29.1
11:18:07	28.8
11:18:08	28.6

### GENNECT Cross

SF4071 (Application for iOS)  
 SF4072 (Application for Android)

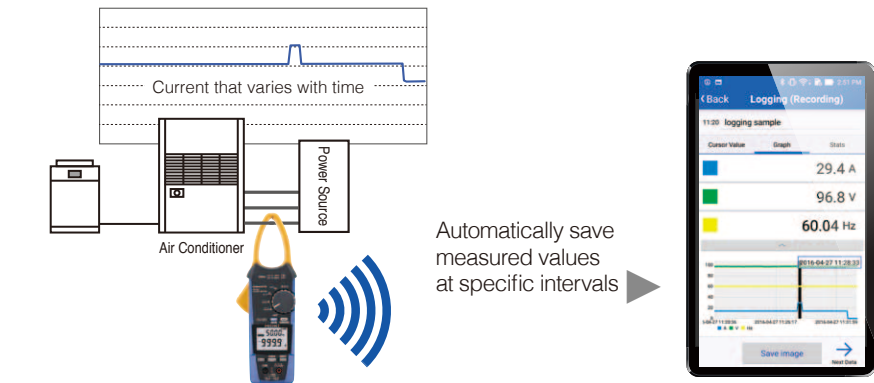
### Software specifications

**Interface:** Bluetooth® 4.0LE  
**Communication distance:** 10 m (line of sight), Varies with device performance and signal reception.  
**Supported Android™ devices:** Android™ 4.3 or later\*  
**Supported iOS devices:** iOS 10 or later\*  
 \*Bluetooth® low energy enabled devices

### No. of controllable devices

For data logging, up to 8 devices can be connected (up to 8 measured values can be logged) at once. Only 1 device can be used with the current/voltage waveform monitor and INRUSH waveform download function at any one time.

## Logging



Automatically save measured values at specific intervals

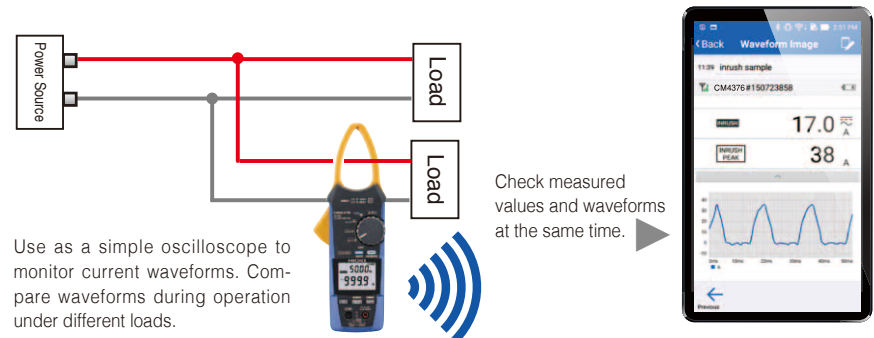
Current Value	Graph	Status
29.4 A		
96.8 V		
60.04 Hz		

### Get the App



Data can be downloaded to tablets and smartphones using Hioki's dedicated apps available from the Google Play or App Store. Search for "HIOKI" and download the "GENNECT Cross" app.

## Waveform Display




Check measured values and waveforms at the same time.

Current Value	Graph
17.0	
38 A	

Use as a simple oscilloscope to monitor current waveforms. Compare waveforms during operation under different loads.

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 \*For the latest information about countries and regions where wireless operation is currently supported, please visit the Hioki website.

## Augment Measured Values On Image



Upload image to app

Display data right on image

Measure

Load

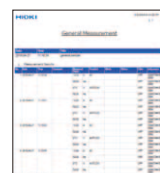
Send data wirelessly

Current Value
350.04 A
249.54 A
149.14 A

## Instantly create reports and e-mail the data

### Report creation function

Edit the measurement data and image data selected from the data list to instantly create a **PDF-format report**.



Input a title, subtitle, recipient, creator, and corporate logo on the cover sheet.

### E-mail transmission

Send the saved data via e-mail or easily share it on iCloud™ or Dropbox™.

Data formats:  
 Measured values: CSV or .hok  
 Image data: JPEG or .hok

\*.hok refers to the HIOKI GENNECT Format.  
 Use the .hok format to load data into the PC version of the free app, GENNECT Cross for Windows.

# CM4000 Series Basic Comparison



Model No. (Order Code)	CM4371	CM4372	CM4373	CM4374	CM4375	CM4376	CM4141	CM4142	
<b>Basic Characteristics</b>									
Current measurement	600 A AC/DC max.		2000 A AC/DC max.		1000 A AC/DC max.		2000 A AC max.		
Core jaw diameter	φ33 mm (1.30 in)		φ55 mm (2.17 in)		φ34 mm (1.34 in)		φ55 mm (2.17 in)		
Interface (Built-inBluetooth® wireless technology)	N/A	✓	N/A	✓	N/A	✓	N/A	✓	
<b>Measurement items (Typical ranges are indicated; may not reflect maximum or minimum measurable signal)</b>									
DCA current	20.00 A / 600.0 A		600.0 A / 2000 A		999.9 A		N/A		
ACA current	20.00 A / 600.0 A		600.0 A / 2000 A		999.9 A		60.00 A / 600.0 A / 2000 A		
DCA + ACA	20.00 A / 600.0 A		600.0 A / 2000 A		999.9 A		N/A		
DC voltage	600.0 mV / 6.000V / 60.00V / 600.0 V / 1500 V								
AC voltage	6.000 V / 60.00 V / 600.0 V / 1000 V								
DCV + ACV	6.000 V / 60.00 V / 600.0 V / 1000 V								
DC Power	0.0 VA to 1020 kVA	0.000 kVA to 3400 kVA		0.000 kVA to 1700 kVA		N/A			
Resistance	600.0 Ω / 6.000 kΩ / 60.00 kΩ / 600.0 kΩ								
Temperature	-40°C to 400°C								
Capacitance	1.000 μF / 10.00 μF / 100.0 μF / 1000 μF								
Frequency	9.999 Hz / 99.99 Hz / 999.9 Hz (Voltage frequency/Current frequency)						9.999 Hz / 99.99 Hz / 999.9 Hz (Voltage frequency) 99.99 Hz / 999.9 Hz (Current frequency)		
Continuity check					✓				
Diode check					✓				
Voltage detection	✓				N/A		N/A		
<b>Additional Functions</b>									
Automatic AC/DC detection	Voltage/Current						Voltage only		
Inrush (Rush current)	DCA + ACA						ACA		
Low-pass filter	Digital filter Cut-off: 100 Hz								
Max/Min/AVG/PEAK value	✓								
Simultaneous display of DC current and voltage	✓				✓		N/A		
Simultaneous display of DC current peak values and voltage peak values	✓				N/A		N/A		
Auto hold					✓				

## General Specifications

AC measurement method	True RMS measurement
Guaranteed accuracy period	1 year/ 2nd and 3rd year accuracy is 1.5 times the 1-year accuracy specifications and should be used for reference only.
Post-adjustment accuracy guaranteed	1 year
Guaranteed accuracy for temperature and humidity	23°C±5°C (73.0°F±9.0°F) 90% RH or less (no condensation)
Product warranty period	3 years (Measurement accuracy is defined in terms of a 1-year accuracy and a 3-year accuracy*.) *2nd and 3rd year accuracy values are for reference only. Number of sensor open/close cycles: 30,000
Functions	Automatic AC/DC detection, DC current and DC voltage polarity detection function, Max/Min/AVG/PEAK MAX/PEAK MIN value display, Low-pass filter function, Display value hold, Auto hold, Backlight, Auto power save, Buzzer sound, Zero-adjustment
Display update rate	Measured value excluding electrostatic capacity, frequency, and temperature: 5 times/s (after the range is fixed) Electrostatic capacity: 0.5 to 5 times/s (The number of times varies depending on the capacitance.) Frequency: 0.3 to 5 times/s (The number of times varies depending on the capacitance.) Temperature: 1 times/s (including thermocouple wiring break check)

Operating environment	Indoors, pollution degree 2, altitude up to 2000 m (6562 ft.)
Operating temperature and humidity	-25°C to 65°C (-13.0°F to 149.0°F) 90% RH or less (no condensation)
Storage temperature and humidity	-30°C to 70°C (-22.0°F to 158.0°F) 90% RH or less (no condensation)
Dust-proof and water-proof	<b>CM4371, CM4372, CM4373, CM4374, CM4375, CM4376</b> IP20 (Measurement of voltage or current of a hazardous live conductor under completely dry conditions) IP50 (Measurement of resistance under completely dry conditions) IP54 (Storage or measurement of current of an insulated conductor)  <b>CM4141, CM4142</b> IP20 (Measurement of voltage or current of a hazardous live conductor under completely dry conditions) IP50 (Measurement of resistance or current of an insulated conductor under completely dry conditions) *Grip provides IP54-equivalent dustproof and waterproof protection when instrument is not being used to measure.
Maximum terminal-to-terminal rated voltage	1000 V AC (up to 1 kHz) / 1700 V DC
Maximum rated voltage to earth	1000 V AC (Measurement category III) 600 V AC (Measurement category IV)
Standards	Safety: EN61010, EMC: EN61326

## CM4371, CM4372 Measurement specifications

Measurement accuracy pertains to 1-year accuracy specifications  
Figures in parentheses for ranges indicate the guaranteed accuracy range.

### AC Current

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy
20.00 A (1.00 A to 20.00 A)	0.01 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.10 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.08 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.10 A
600.0 A (1.0 A to 600.0 A)	0.1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.5 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.5 A

### DC Current

Range	Resolution	Measurement accuracy
20.00 A (±1.00 A to ±20.00 A)	0.01 A	±1.3% rdg. ±0.08 A
600.0 A (±1.0 A to ±600.0 A)	0.1 A	±1.3% rdg. ±0.3 A

### DC Power \*

Display range switching	Resolution	Measurement accuracy
0.0 VA to 1020 kVA	0.1 VA	±2.0% rdg. ±20 dgt.

\*Current: Fixed to 600.0 A range

### DC+AC Current

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy
20.00 A (1.00 A to 20.00 A)	0.01 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.10 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.13 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.10 A
600.0 A (1.0 A to 600.0 A)	0.1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±1.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.7 A

### General Specifications

Current measurement	600 A AC/DC max.
Core jaw diameter	φ33 mm (1.30 in)
Crest factor	For the 20.00 A range, 7.5 For the 600.0 A range (500.0 A or less), 3 For the 600.0 A range (greater than 500.0 A and less than or equal to 600.0 A), 2.5
Power supply	LR03 Alkaline battery x2
Continuous use	Approx. 24 hours (Backlight OFF, Bluetooth® ON) Approx. 45 hours (Backlight OFF, Bluetooth® OFF)
Dimensions, Mass	Approx. 65 mm (2.56 in) W x 215 mm (8.46 in) H x 35 mm (1.38 in) D mm, 340 g (12.0 oz)
Core jaw diameter	69 mm (2.72 in) W x 14 mm (0.55 in)

## CM4373, CM4374 Measurement specifications

Measurement accuracy pertains to 1-year accuracy specifications  
Figures in parentheses for ranges indicate the guaranteed accuracy range.

### AC Current

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy
600.0 A (1.0 A to 600.0 A)*	0.1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.5 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.5 A
2000 A (10 A to 1800 A)	1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±5 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±5 A
2000 A (1801 A to 2000 A)	1 A	10 Hz ≤ f < 45 Hz	±2.8% rdg. ±5 A
		45 Hz ≤ f ≤ 66 Hz	±2.3% rdg. ±3 A
		66 Hz < f ≤ 1 kHz	-

\*For currents of 30.0 A or less, add 0.5 A to the measurement accuracy

### DC Current

Range	Resolution	Measurement accuracy
600.0 A (±1.0 A to ±600.0 A)*	0.1 A	±1.3% rdg. ±0.3 A
2000 A (±10 A to ±2000 A)	1 A	±1.3% rdg. ±3 A

\*For currents of 30.0 A or less, add 0.5 A to the measurement accuracy

### DC Power \*

Display range switching	Resolution	Measurement accuracy
0.000 kVA to 3400 kVA (Automatically switched based on voltage range)	1 VA	±2.0% rdg. ±20 dgt.

\*Current: Fixed to 2000 A range

### DC+AC Current

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy
600.0 A (1.0 A to 600.0 A)	0.1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±1.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.7 A
2000 A (10 A to 1800 A)	1 A	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±13 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±7 A
2000 A (1801 A to 2000 A)	1 A	10 Hz ≤ f < 45 Hz	±2.8% rdg. ±7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±2.3% rdg. ±13 A
		66 Hz < f ≤ 1 kHz	-

### General Specifications

Current measurement	2000 A AC/DC max.
Core jaw diameter	φ55 mm (2.17 in)
Crest factor	For the 600.0 A range (500.0 A or less), 3 For the 600.0 A range (greater than 500.0 A and less than or equal to 600.0 A), 2.5 For the 2000 A range (1000 A or less), 2.84 For the 2000 A range (greater than 1000 A and less than or equal to 2000 A), 1.42
Power supply	LR03 Alkaline battery x2
Continuous use	Approx. 24 hours (Backlight OFF, Bluetooth® ON) Approx. 45 hours (Backlight OFF, Bluetooth® OFF)
Dimensions, Mass	Approx. 65 mm (2.56 in) W x 250 mm (9.84 in) H x 35 mm (1.38 in) D mm, 530 g (18.7 oz)
Core jaw diameter	92 mm (3.62 in) W x 18 mm (0.71 in)

## CM4375, CM4376 Measurement specifications

Measurement accuracy pertains to 1-year accuracy specifications

### AC Current

Range	guaranteed accuracy range (Resolution)	Accuracy guarantee frequency range	Measurement accuracy
1000 A	1.0 A to 30.0 A (0.1 A)	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±1.0 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.8 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±1.0 A
	30.1 A to 900.0 A (0.1 A)	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.5 A
		45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±0.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.5 A
	900.1 A to 999.9 A (0.1 A)	10 Hz ≤ f < 45 Hz	±2.3% rdg. ±0.5 A
		45 Hz ≤ f ≤ 66 Hz	±1.8% rdg. ±0.3 A
		66 Hz < f ≤ 1 kHz	±2.5% rdg. ±0.5 A

### DC Current

Range	guaranteed accuracy range	Resolution	Measurement accuracy
1000 A	±1.0 A to ±30.0 A	0.1 A	±1.3% rdg. ±0.8 A
	30.1 A to 999.9 A	0.1 A	±1.3% rdg. ±0.3 A

DC Power (Current: Fixed to 1000 A range)

Display range switching	Resolution	Measurement accuracy
0.000 kVA to 1700 kVA (Automatically switched based on voltage range)	0.001 kVA	±2.0% rdg. ±20 dgt. ±4.0% rdg. ±20 dgt.*

\*For voltage range of 1500 V and input voltage range of ±1001 V to ±1700 V.

### DC+AC Current

Range	guaranteed accuracy range (Resolution)	Accuracy guarantee frequency range	Measurement accuracy
1000 A	1.0 A to 30.0 A (0.1 A)	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±1.2 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±1.8 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±1.2 A
	30.1 A to 900.0 A (0.1 A)	10 Hz ≤ f < 45 Hz	±1.8% rdg. ±0.7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.3% rdg. ±1.3 A
		66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.7 A
	900.1 A to 999.9 A (0.1 A)	10 Hz ≤ f < 45 Hz	±2.3% rdg. ±0.7 A
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.8% rdg. ±1.3 A
		66 Hz < f ≤ 1 kHz	±2.5% rdg. ±0.7 A

### General Specifications

Current measurement	1000 A AC/DC max.
Core jaw diameter	φ34 mm (1.34 in)
Crest factor	For the 1000 A range, 1.5
Power supply	LR03 Alkaline battery x2
Continuous use	Approx. 20 hours (Backlight OFF, Bluetooth® ON) Approx. 40 hours (Backlight OFF, Bluetooth® OFF)
Dimensions, Mass	Approx. 65 mm (2.56 in) W x 242 mm (9.53 in) H x 35 mm (1.38 in) D mm, 330 g (11.6 oz)
Core jaw diameter	53 mm (2.09 in) W x 20 mm (0.79 in)
Smallest dimension of jaw cross-section	9.5 mm (0.37 in)

# CM4141 CM4142 Measurement specifications

## General Specifications

Current measurement	2000 A AC max.
Core jaw diameter	φ55 mm (2.17 in)
Crest factor	For the 60.00 A range (50.00 A or less), 3 For the 600.0 A range (greater than 50.00 A and less than or equal to 600.0 A), 2.5 For the 600.0 A range (500.0 A or less), 3 For the 600.0 A range (greater than 500.0 A and less than or equal to 600.0 A), 2.5 For the 2000 A range (2000 A or less), 1.5
Power supply	LR03 Alkaline battery x2
Continuous use	Approx. 24 hours (Backlight OFF, Bluetooth® ON) Approx. 48 hours (Backlight OFF, Bluetooth® OFF)
Dimensions, Mass	Approx. 65 mm (2.56 in) W x 247 mm (9.72 in) H x 35 mm (1.38 in) D mm, 300 g (10.6 oz)
Core jaw diameter	82 mm (3.23 in) Wx11 mm (0.43 in) D (Depth figure indicates value within 44 mm of tip.)
Smallest dimension of jaw cross-section	11 mm (0.43 in) (Figure indicates value within 44 mm of jaw tip.)

## Shared measurement specifications

Measurement accuracy pertains to 1-year accuracy specifications  
Figures in parentheses for ranges indicate the guaranteed accuracy range.

### AC Voltage

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy	Input impedance
6,000 V (0.000 V to 0.299 V)	0.001 V	15 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.015 V	3.2 MΩ±5%
		45 Hz ≤ f ≤ 66 Hz	±0.9% rdg. ±0.013 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.015 V	
6,000 V (0.300 V to 6.000 V)	0.001 V	15 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.005 V	3.1 MΩ±5%
		45 Hz ≤ f ≤ 66 Hz	±0.9% rdg. ±0.003 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.005 V	
60.0 V (3.00 V to 60.0 V)	0.01 V	15 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.05 V	3.0 MΩ±5%
		45 Hz ≤ f ≤ 66 Hz	±0.9% rdg. ±0.03 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.05 V	
600.0 V (30.0 V to 600.0 V)	0.1 V	15 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.5 V	3.0 MΩ±5%
		45 Hz ≤ f ≤ 66 Hz	±0.9% rdg. ±0.3 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.5 V	
1000 V (50 V to 1000 V)	1 V	15 Hz ≤ f < 45 Hz	±1.5% rdg. ±5 V	
		45 Hz ≤ f ≤ 66 Hz	±0.9% rdg. ±3 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±5 V	

Frequency range of 15 Hz≤f<20 Hz is designed value

### DC Voltage

Range	Resolution	Measurement accuracy	Input impedance
600.0 mV (0.0 mV to ±600.0 mV)	0.1 mV	±0.5% rdg. ±0.5 mV	6.7 MΩ±5%
6,000 V (0.000 V to ±6.000 V)	0.001 V	±0.5% rdg. ±0.003 V	
60.0 V (0.00 V to ±60.00 V)	0.01 V	±0.5% rdg. ±0.03 V	6.1 MΩ±5%
600.0 V (0.0 V to ±600.0 V)	0.1 V	±0.5% rdg. ±0.3 V	6.0 MΩ±5%
1500 V (0 V to ±1000 V)	1 V	±0.5% rdg. ±3 V	
1500 V (±1001 V to ±1700 V)		±2.0% rdg. ±5 V	

### DC+AC Voltage

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy	Input impedance
6,000 V (0.000 V to 0.299 V)	0.001 V	10 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.023 V	DC: 6.7 MΩ±5%
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.0% rdg. ±0.023 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.023 V	
6,000 V (0.300 V to 6.000 V)	0.001 V	10 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.013 V	AC: 3.2 MΩ±5%
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.0% rdg. ±0.013 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.013 V	
60.0 V (3.00 V to 60.0 V)	0.01 V	10 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.13 V	DC: 6.1 MΩ±5%
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.0% rdg. ±0.13 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.13 V	
600.0 V (30.0 V to 600.0 V)	0.1 V	10 Hz ≤ f < 45 Hz	±1.5% rdg. ±0.7 V	AC: 3.1 MΩ±5%
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.0% rdg. ±0.7 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±0.7 V	
1000 V (50 V to 1000 V)	1 V	10 Hz ≤ f < 45 Hz	±1.5% rdg. ±7 V	DC: 6.0 MΩ±5%
		DC, 45 Hz ≤ f ≤ 66 Hz	±1.0% rdg. ±7 V	
		66 Hz < f ≤ 1 kHz	±1.5% rdg. ±7 V	

Frequency range of 10 Hz≤f<20 Hz is designed value

### AC Voltage detection function (CM4371, CM4372, CM4373, CM4374)

Range (detection sensitivity)	Detection voltage range	Detection target frequency
Hi	AC 40 V to AC 600 V	50/60 Hz
Lo	AC 80 V to AC 600 V	

## AC Current

Range	Resolution	Accuracy guarantee frequency range	Measurement accuracy
60.00 A (1.00 A to 60.00 A)	0.01 A	45 Hz ≤ f ≤ 66 Hz	±1.5% rdg. ±0.08 A
		30 Hz ≤ f < 45 Hz, 66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.10 A
600.0 A (1.0 A to 600.0 A)	0.1 A	45 Hz ≤ f ≤ 66 Hz	±1.5% rdg. ±0.3 A
		30 Hz ≤ f < 45 Hz, 66 Hz < f ≤ 1 kHz	±2.0% rdg. ±0.5 A
2000 A (10 A to 2000 A)	1 A	45 Hz ≤ f ≤ 66 Hz	±1.5% rdg. ±3 A
		30 Hz ≤ f < 45 Hz, 66 Hz < f ≤ 1 kHz	±2.0% rdg. ±5 A

## Frequency

Range	Resolution	Measurement accuracy
9.999 Hz (1.000 Hz to 9.999 Hz)	0.001 Hz	±0.1% rdg. ±0.003 Hz
99.99 Hz (1.00 Hz to 99.99 Hz)	0.01 Hz	±0.1% rdg. ±0.01 Hz
999.9 Hz (1.0 Hz to 999.9 Hz)	0.1 Hz	±0.1% rdg. ±0.1 Hz

The CM4141 and CM4142 have two current frequency ranges (30.00 Hz to 99.99 Hz, 30.0 Hz to 999.9 Hz). Add +/-0.2 Hz to the accuracy uncertainty when using the 999.9 Hz range.

Frequency detection range of AC current

- CM4371, CM4372: 20.00 A range 4.00 A or more, 600.0 A range 20.0 A or more
- CM4373, CM4374: 600.0 A range 40.0 A or more, 2000 A range 200 A or more
- CM4375, CM4376: 1000 A range 5.0 A or more
- CM4141, CM4142: 60.00 A range 3.00 A or more, 600.0 A range 30.0 A or more, 2000 A range 200 A or more

The AC voltage frequency detection range is 10% of each range's full scale

## Continuity check

Range	Resolution	Measurement current	Measurement accuracy	Open terminal voltage
600.0 Ω (0.0 Ω to 600.0 Ω)	0.1 Ω	200 μA±20%	±0.7% rdg. ±0.5 Ω	2.0 V DC or less

Continuity on threshold: 25 Ω±10 Ω, Continuity off threshold: 245 Ω±10 Ω

## Diode

Range	Resolution	Short-circuit current	Measurement accuracy	Open terminal voltage
1.800 V (0.000 V to 1.800 V)	0.001 V	200 μA ±20%	±0.7% rdg. ±0.005 V	2.0 V DC or less

Beeping buzzer tone at forward connection (0.15 V to 1.8 V)

## Resistance

Range	Resolution	Measurement current	Measurement accuracy	Open terminal voltage
600.0 Ω (0.0 Ω to 600.0 Ω)	0.1 Ω	200 μA±20%	±0.7% rdg. ±0.5 Ω	2.0 V DC or less
6,000 kΩ (0.000 kΩ to 6.000 kΩ)	0.001 kΩ	100 μA±20%	±0.7% rdg. ±0.005 kΩ	
60.00 kΩ (0.00 kΩ to 60.00 kΩ)	0.01 kΩ	10 μA±20%	±0.7% rdg. ±0.05 kΩ	
600.0 kΩ (0.0 kΩ to 600.0 kΩ)	0.1 kΩ	1 μA±20%	±0.7% rdg. ±0.5 kΩ	

## Electrostatic capacity

Range	Resolution	Discharge current	Measurement accuracy	Open terminal voltage
1,000 μF (0.000 μF to 1.100 μF)	0.001 μF	10n/ 100n/ 1μA ±20%	±1.9% rdg. ±0.005 μF	2.0 V DC or less
10.00 μF (0.00 μF to 11.00 μF)	0.01 μF	100n/ 1μ/ 10μA ±20%	±1.9% rdg. ±0.05 μF	
100.0 μF (0.0 μF to 110.0 μF)	0.1 μF	1μ/ 10μ/ 100μA ±20%	±1.9% rdg. ±0.5 μF	
1000 μF (0 μF to 1100 μF)	1 μF	10μ/ 100μ/ 200μA ±20%	±1.9% rdg. ±5 μF	

## Temperature

Thermocouple type	Range	Resolution	Accuracy
K	-40.0°C to 400.0°C	0.1°C	±0.5% rdg. ±3.0°C
	-40.0°F to 752.0°F	0.1°F	±0.5% rdg. ±5.4°F

Accuracy does not include the error of the K thermocouple

# Order code/ Options

## AC/ DC CLAMP METER

Model No.  
(Order Code) (Note)

**CM4371**

**CM4372** Built in Bluetooth® wireless technology

**CM4373**

**CM4374** Built in Bluetooth® wireless technology

**CM4375**

**CM4376** Built in Bluetooth® wireless technology

## AC CLAMP METER

Model No.  
(Order Code) (Note)

**CM4141**


**CM4142** Built in Bluetooth® wireless technology

### Accessories:

TEST LEAD L9207-10, CARRYING CASE C0203  
LR03 Alkaline battery x2, Instruction Manual  
Precautions Concerning Use,  
Precautions Concerning Use of Equipment That Emits Radio Waves  
(only for CM4372, CM4374, CM4376, CM4142)

## TEST LEAD L9207-10 Options

**Bundled Accessory**





Cable length 90 cm (2.95 ft) with one each red and black caps

with cap  
CAT IV 600 V  
CAT III 1000 V

without cap  
CAT II 1000 V

**TEST LEAD L9207-10**

L4933 and L4934 probe tips (at right) can be used on L9207-10 Test Leads.

50mm

60 V DC / 30 V AC

**CONTACT PIN SET L4933**



CAT III 300 V  
CAT II 600 V

**SMALL ALLIGATOR CLIP SET L4934**

## CONNECTION CABLE L4930 Options



Length : 1.2 m (3.94 ft)

**CONNECTION CABLE SET L4930**



22 mm (0.87 in)  
φ3.7 mm (0.15 in)

with one each red and black caps  
CAT III 600V (with cap)  
CAT II 600V (without cap)

**TEST PIN SET L4938**



CAT IV 600 V  
CAT III 1000 V

**ALLIGATOR CLIP SET L4935**



30 mm (1.18 in)

CAT III 600 V

**BUS BAR CLIP SET L4936**



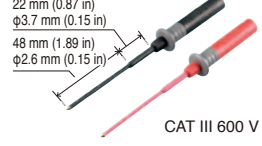
Magnet φ6mm(0.24 in)

CAT III 1000 V

**MAGNETIC ADAPTER SET L4937**

Probe tips (at right) can be used on L4930 connection cables.

**Attaching the L4937**

22 mm (0.87 in)  
φ3.7 mm (0.15 in)  
48 mm (1.89 in)  
φ2.6 mm (0.15 in)

CAT III 600 V

**BREAKER PIN SET L4939**



CAT IV 600 V, CAT III 1000 V with one each red and black caps

**TEST PIN SET L4932**



CAT III 1000 V

**GRABBER CLIP 9243**



Magnet φ11mm(0.43 in)

CAT III 1000 V generally compatible with M6 pan screws

**MAGNETIC ADAPTER 9804**



CAT IV 600 V  
CAT III 1000 V

Length : 1.5 m (4.92 ft)  
With coupling connectors


**EXTENSION CABLE SET L4931**

## Other options

**Bundled Accessory**



**CARRYING CASE C0203**



- Thermal junction form: exposed weld
- Sensor length: approx. 800 mm
- Measurement temperature range: -40 to 260°C
- Allowable tolerance: ±2.5°C
- Operating temperature range: -15 to 55°C

**THERMOCOUPLES (K) DT4910**

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**HIOKI**  
HIOKI E. E. CORPORATION

HEADQUARTERS  
81 Koizumi  
Ueda, Nagano 386-1192 Japan  
www.hioki.com

HIOKI USA CORPORATION  
TEL +1-609-409-9109 FAX +1-609-409-9108  
hioki@hiokiusa.com / www.hiokiusa.com

HIOKI (Shanghai) SALES & TRADING CO., LTD.  
TEL +86-21-6391-0090/0092 FAX +86-21-6391-0360  
info@hioki.com.cn / www.hioki.cn

HIOKI SINGAPORE PTE. LTD.  
TEL +65-6634-7677 FAX +65-6634-7477  
info-sg@hioki.com.sg / www.hioki.com.sg

HIOKI KOREA CO., LTD.  
TEL +82-2-2183-8847 FAX +82-2-2183-3360  
info-kr@hioki.co.jp / www.hiokikorea.com

HIOKI EUROPE GmbH  
TEL +49-6173-31856-0 FAX +49-6173-31856-25  
hioki@hioki.eu / www.hioki.com

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