



Agilent U1190A Series Handheld Clamp Meter

Quick Start Guide



Verify that you received the following items in the shipment of your clamp meter:

- ✓ One pair of red and black test leads
- ✓ Two 1.5 V AAA alkaline batteries
- ✓ One K-type thermocouple (U1194A only)
- ✓ One soft carrying case
- ✓ Printed copies of the Certificate of Calibration (CoC) and the U1190A Series Quick Start Guide (this manual)

If any item is missing or damaged, keep the shipping materials and contact the nearest Agilent Sales Office.

NOTE

The descriptions and instructions in this guide apply to the U1191A, U1192A, U1193A, and U1194A handheld clamp meters.

The model U1194A appears in all illustrations.

All related documents and software are available for download at www.agilent.com/find/hhTechLib.



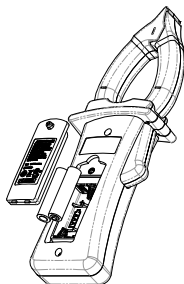
U1190A Series Handheld Clamp Meter

Install the Batteries

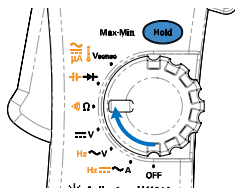
Install the Batteries

Your clamp meter is powered by two 1.5 V AAA alkaline batteries (included with the shipment).

- 1 Turn the clamp meter OFF and remove the test leads from the terminals.
- 2 Loosen the screw on the battery cover with a suitable Phillips screwdriver.
- 3 Remove the battery cover and observe the polarity markings.
- 4 Insert the batteries and replace the battery cover and screw.

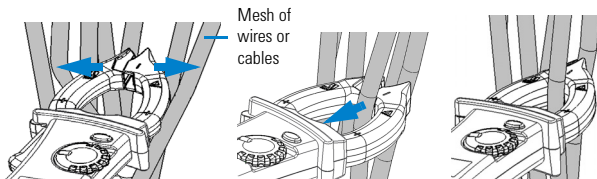


Power ON the Clamp Meter



To power ON your clamp meter, turn the rotary switch from the OFF position to any other position.

Using the Wire Separator and Hook



1 Open the clamp jaw slightly to reveal the wire separator tip.

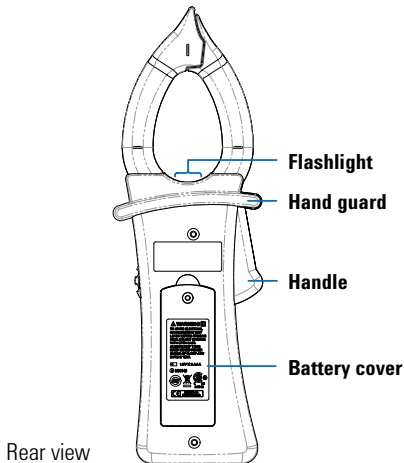
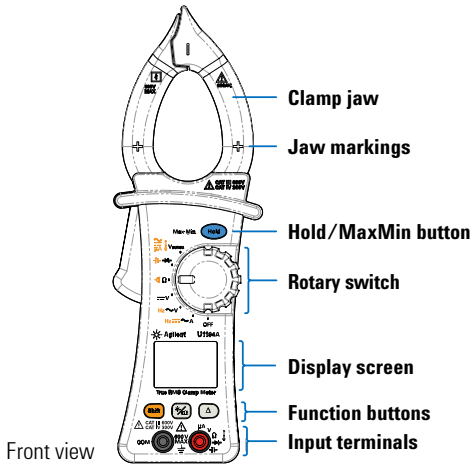
2 Separate the desired wire or cable by hooking it in the clamp jaw.

3 Secure the wire or cable and read the measurement.

U1190A Series Handheld Clamp Meter

The Clamp Meter at a Glance

The Clamp Meter at a Glance













U1190A Series Handheld Clamp Meter

Understanding the Rotary Switch

Understanding the Rotary Switch

NOTE





Some rotary switch positions have a *shifted* function printed in **orange**. Press  to switch between the shifted and primary function.

Legend	Functions shown in the primary display	U1194A	U1193A	U1192A	U1191A
OFF	Off	✓	✓	✓	✓
	AC A	✓	✓	✓	✓
 	DC A	✓			
	Frequency (current path)	✓	✓	✓	
	AC V	✓	✓	✓	✓
 	Frequency (voltage path)	✓	✓	✓	
	DC V	✓	✓	✓	✓
	Resistance	✓	✓	✓	✓
	Continuity	✓	✓	✓	✓
	Diode	✓	✓	✓	✓
	Capacitance	✓	✓	✓	
	Non-contact voltage detector	✓	✓	✓	
	Temperature	✓			
	DC μ A	✓			
	AC μ A	✓			

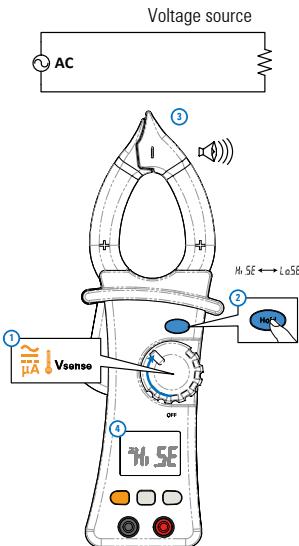
WARNING

Remove the test leads from the measuring source or target before changing the rotary switch position.

Understanding the Function Buttons


Legend	Key response when pressed for:	
	Less than 1 second	More than 1 second
 Hold	Freezes the present reading in the display.	Records the maximum, minimum, or average value.
 Shift	Switches between the primary and shifted functions.	-
 ☼/ACE	Turns the LCD backlight on or off.	Turns the LED flashlight on or off. ^[1]
 Δ	Sets the null/relative mode.	-

^[1]The LED flashlight function is available for U1194A/U1193A/U1192A models only.



Non-contact voltage detector (Vsense)

If the presence of AC voltage is sensed, the clamp meter's beeper will sound.

Press  to change the Vsense sensitivity from **Hi.SE** (high sensitivity) to **Lo.SE** (low sensitivity) and vice versa.

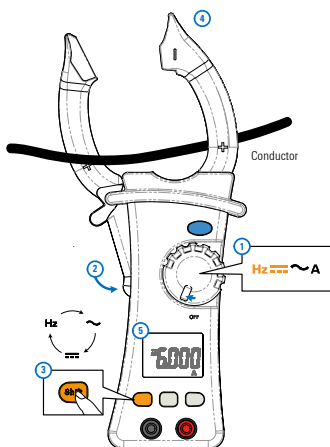
WARNING

Voltage could still be present even if there is no alert indication. Never touch live voltages or conductors without the necessary insulation protection.

U1190A Series Handheld Clamp Meter


Performing Measurements

Performing Measurements



Current measurement

Press the handle to open the clamp jaw. Clamp around a conductor and ensure that the conductor fits the markings on the clamp jaw.

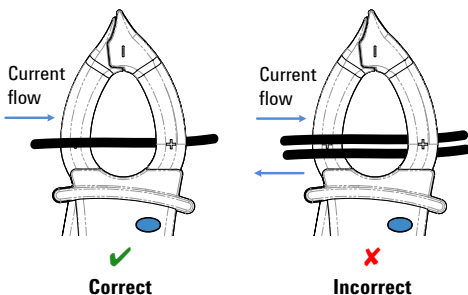
Press  to cycle between AC current, DC current, or to read the frequency of the AC current.

WARNING

Ensure that the test leads are disconnected from the input terminals when measuring current with the clamp meter's jaw.

CAUTION

Ensure that the clamp meter measures only one conductor at a time. Measuring multiple conductors may cause inaccuracy in measurement reading due to the vector sum of currents flowing in the conductors.



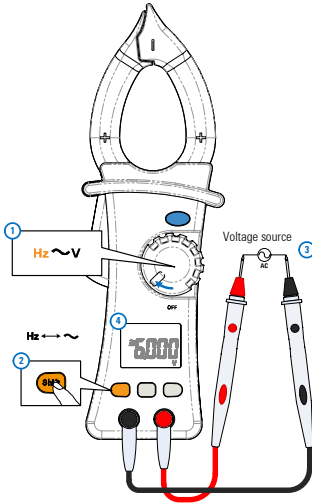
U1190A Series Handheld Clamp Meter

Performing Measurements

AC voltage measurement

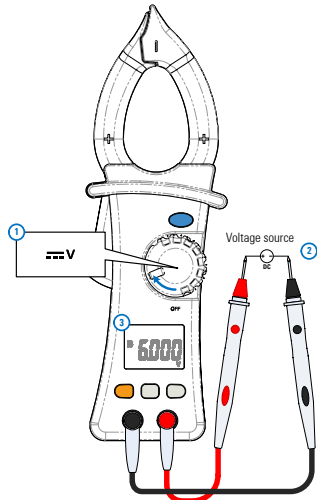
Set up your clamp meter to measure AC voltage as shown. Probe the test points and read the display.

Press **Hz** to measure the frequency of the AC voltage source.



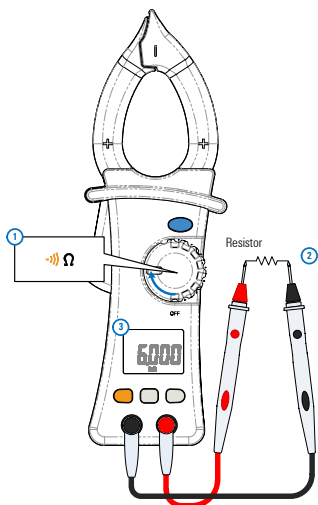
DC voltage measurement

Set up your clamp meter to measure DC voltage as shown. Probe the test points and read the display.



U1190A Series Handheld Clamp Meter

Performing Measurements





Resistance measurement

Set up your clamp meter to measure resistance as shown. Probe the test points and read the display.

CAUTION

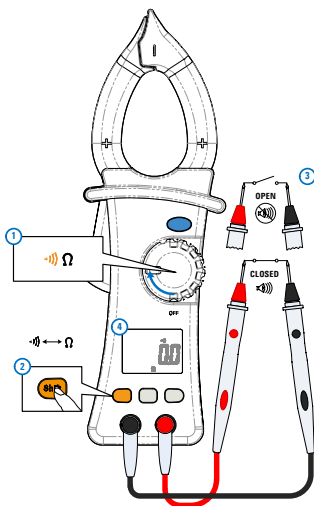
To avoid possible damage to your clamp meter or to the equipment under test, disconnect the circuit power and discharge all high-voltage capacitors before measuring resistance or testing for continuity.

Continuity test

Set up your clamp meter to test for continuity as shown. Press  to switch to the continuity test function ( is shown on the display).

NOTE

The beeper will sound and the backlight will flash when the circuit-under-test is shorted.



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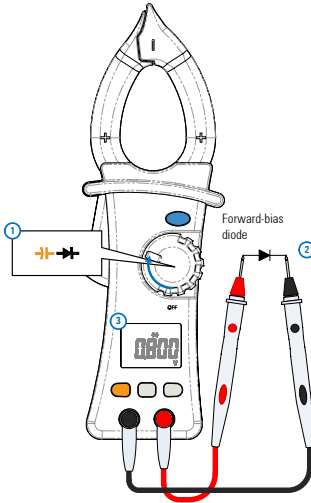
Performing Measurements

Diode test

Set up your clamp meter to test diodes as shown. Probe the test points and read the display.

NOTE

This test sends a current through a semiconductor junction, and then measures the junction's voltage drop. A good diode allows current to flow in one direction only.

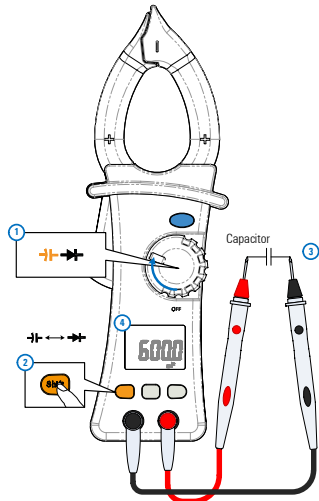


Capacitance measurement

Set up your clamp meter to measure capacitance as shown. Press **CAP** to switch to the capacitance measurement function.

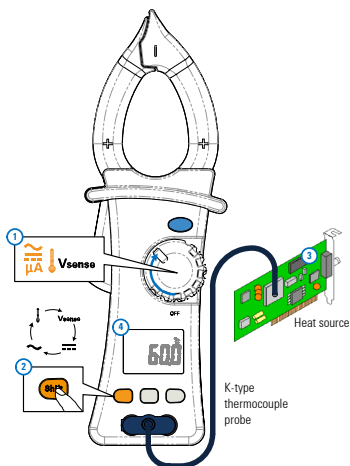
CAUTION

To avoid possible damage to the clamp meter or to the equipment under test, disconnect circuit power and discharge all high-voltage capacitors before measuring capacitance. Use the DC V function to confirm that the capacitor is fully discharged.



U1190A Series Handheld Clamp Meter

Performing Measurements



Temperature measurement (U1194A only)

The clamp meter uses a type-K thermocouple probe for measuring temperature. Press **TEMP** to switch to the temperature measurement function.

WARNING

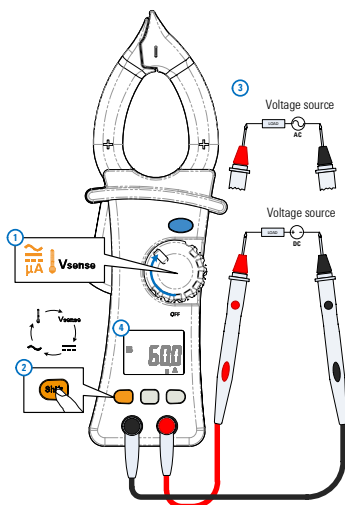
Do not connect the thermocouple to electrically live circuits. Doing so will potentially cause fire or electric shock.

Current measurement up to μA (U1194A only)

Set up your clamp meter to measure low current as shown. Press **TEMP** to switch to the current measurement function.

WARNING

Always use the proper function, range, and terminals for current measurements. Use the clamp jaw for currents above 600 μA .



Contacting Agilent

To obtain service, warranty, or technical assistance, contact us at the following phone numbers:

- United States Call Center: 800-829-4444
- Canada Call Center: 877-894-4414
- China Call Center: 800-810-0189
- Europe Call Center: 31-20-547-2111
- Japan Call Center: (81) 426-56-7832

For other countries, contact your country's Agilent support organization. A list of contact information for other countries is available on the Agilent Web site: www.agilent.com/find/assist

Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.






WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

Safety Information

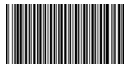
This meter is safety-certified in compliance with EN 61010-1 (IEC 61010-1:2001 and IEC/EN 61010-2-032:2002) for a CAT III 600 V and CAT IV 300 V pollution degree 2 environment. EMC is designed in compliance with IEC 61326-1:2005/EN 61326-1:2006. Use with standard or compatible test probes.

Safety Symbols

	Earth (ground) terminal
	Equipment protected throughout by double insulation or reinforced insulation
	Caution, risk of electric shock
	Caution, risk of danger (refer to the instrument manual for specific Warning or Caution information)
	Application around and removal from HAZARDOUS LIVE conductors is permitted
CAT III 600 V	Category III 600 V overvoltage protection
CAT IV 300 V	Category IV 300 V overvoltage protection

**For further safety information details, refer to the
Agilent U1190A Series Handheld Clamp Meter User's Guide.**

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