

**FLUKE**<sup>®</sup>

**305**

Clamp Meter

**Users Manual**

PN 4045148

June 2012, Rev. 1, 12/13

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## ***Introduction***

The Fluke 305 Clamp Meter (the Product) measures ac and dc voltage, ac current, resistance, and continuity.

### **Warning**

**Read "Safety Information" before you use the Product.**

## ***How to Contact Fluke***

To contact Fluke, call one of the following telephone numbers:

- Technical Support USA: 1-800-44-FLUKE (1-800-443-5853)
- Calibration/Repair USA: 1-888-99-FLUKE (1-888-993-5853)
- Canada: 1-800-36-FLUKE (1-800-363-5853)
- Europe: +31 402-675-200
- Mainland China: +86-400-810-3435
- Japan: +81-3-6714-3114
- Singapore: +65-6799-5566
- Anywhere in the world: +1-425-446-5500

Or, visit Fluke's website at [www.fluke.com](http://www.fluke.com).

To register your product, visit <http://register.fluke.com>.

To see, print, or download the latest manual supplement, visit <http://us.fluke.com/usen/support/manuals>.

## **Safety Information**

A **Warning** identifies conditions and procedures that are dangerous to the user. A **Caution** identifies conditions and procedures that could cause damage to the Product or the equipment under test.

International electrical symbols used on the Product and in this manual are explained in Table 1.

### **Warning**

**To prevent possible electrical shock, fire, or personal injury:**

- **Carefully read all instructions.**
- **Use the Product only as specified, or the protection supplied by the Product can be compromised.**
- **Use only correct measurement category (CAT), voltage, and amperage rated probes, test leads, and adapters for the measurement.**
- **Do not touch voltages > 30 V ac rms, 42 V ac peak, or 60 V dc.**












- **Hold the Product behind the tactile barrier. See The Clamp Meter item ①.**
- **Do not use test leads if they are damaged. Examine the test leads for damaged insulation or exposed metal. Check test lead continuity.**
- **Do not measure current while the test leads are in the input jacks.**
- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **Limit operation to the specified measurement category, voltage, or amperage ratings.**
- **Do not work alone.**
- **Do not apply more than the rated voltage, between the terminals or between each terminal and earth ground.**
- **Comply with local and national safety codes. Use personal protective equipment (approved rubber gloves, face protection, and flame-resistant clothes) to prevent shock and arc blast injury where hazardous live conductors are exposed.**
- **Replace the batteries when the low battery indicator shows to prevent incorrect measurements.**
- **The battery door must be closed and locked before you operate the Product.**

- **Measure a known voltage first to make sure that the Product operates correctly.**
- **Use only probes, test leads, and adapters supplied with the Product.**
- **Remove all probes, test leads, and accessories that are not necessary for the measurement.**
- **Keep fingers behind the finger guards on the probes.**
- **Connect the common test lead before the live test lead and remove the live test lead before the common test lead.**




- **Do not use the Product if it is damaged.**
- **Do not use the Product if it operates incorrectly.**
- **Before each use, examine the Product. Look for cracks or missing pieces of the clamp housing. Also look for loose or weakened components. Carefully examine the insulation around the Jaws.**
- **Examine the case before you use the Product. Look for cracks or missing plastic. Carefully look at the insulation around the terminals.**
- **Read all safety Information before you use the Product.**
- **Remove batteries to prevent battery leakage and damage to the Product if it is not used for an extended period.**
- **Remove batteries to prevent battery leakage and damage to the Product if it is to be stored above its operating temperature.**
- **Do not use a current measurement as an indication that a circuit is safe to touch. A voltage measurement is necessary to know if a circuit is hazardous.**

Table 1. Symbols

Symbol	Meaning	Symbol	Meaning
	AC (Alternating Current)		Earth ground
	DC (Direct Current)		Conforms to relevant South Korean EMC Standards.
	Hazardous voltage. Risk of electric shock.		Conforms to European Union directives.
	Risk of Danger. Important information. See Manual.		Double insulated
	Battery		Application around and removal from HAZARDOUS LIVE conductors is permitted.
	This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste. Go to Fluke's website for recycling information.		

**Table 1. Symbols (cont)**

Symbol	Meaning	Symbol	Meaning
CAT II	MEASUREMENT CATEGORY II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low voltage MAINS installation.	CAT III	MEASUREMENT CATEGORY III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.
CAT IV	MEASUREMENT CATEGORY IV is applicable to test and measuring circuits connected at the source of the building's low voltage MAINS installation.		This product has been tested to the requirements of CAN/CSA-C22.2 No. 61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements.

*Note*

*The Measurement Category (CAT) and voltage rating of combinations of test probes, test probe accessories, current clamp accessories, and the Product is the LOWEST rating of individual components.*

## **How to Clean the Product**

Regularly wipe the case with a damp cloth and mild detergent.

 **Caution**

**To prevent damage to the Product, do not use abrasives or solvents to clean the Product case.**

## **Specifications**

### **Electrical Specifications**

#### **AC Current (Jaw)**

Range .....	999.9 A
Resolution .....	0.1 A
Accuracy .....	1.5 % $\pm$ 5 digits (45 Hz to 400 Hz)

#### *Note*

*Add 2 % for position sensitivity.*

#### **AC Voltage**

Range .....	600.0 V
Resolution .....	0.1 V
Accuracy .....	1.5 % $\pm$ 5 digits (45 Hz to 400 Hz)

#### **DC Voltage**

Range .....	600.0 V
Resolution .....	0.1 V
Accuracy .....	1 % $\pm$ 5 digits

#### **Resistance**

Range .....	400.0 $\Omega$ /4000 $\Omega$
-------------	-------------------------------

Resolution .....	0.1 $\Omega$ /1 $\Omega$
Accuracy .....	1 % $\pm$ 5 digits
Continuity Beeper.....	$\leq$ 70 $\Omega$

### ***Mechanical Specifications***

Size (L x W x H) .....	(207 x 75 x 34) mm
Weight.....	205 g

### ***Environmental Specifications***

Operating Temperature.....	0 $^{\circ}$ C to +40 $^{\circ}$ C
Storage Temp .....	-30 $^{\circ}$ C to +60 $^{\circ}$ C
Operating Humidity .....	Non condensing (<10 $^{\circ}$ C) $\leq$ 90 % RH (at 10 $^{\circ}$ C to 30 $^{\circ}$ C) $\leq$ 75 % RH (at 30 $^{\circ}$ C to 40 $^{\circ}$ C) (Without Condensation)
Operating Altitude .....	2000 meters
Storage Altitude .....	12,000 meters
EMI, EMC.....	Meets all applicable requirements in EN/IEC 61326-1

Electromagnetic Compatibility.....Applies to use in Korea only. Class A Equipment (Industrial Broadcasting & Communication Equipment) <sup>[1]</sup>

[1] This product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and is not to be used in homes.

Temperature Coefficients.....Add 0.1 x specified accuracy for each °C above 28 °C or below 18 °C

Measurement Category .....CAT IV 300 V, CAT III 600 V

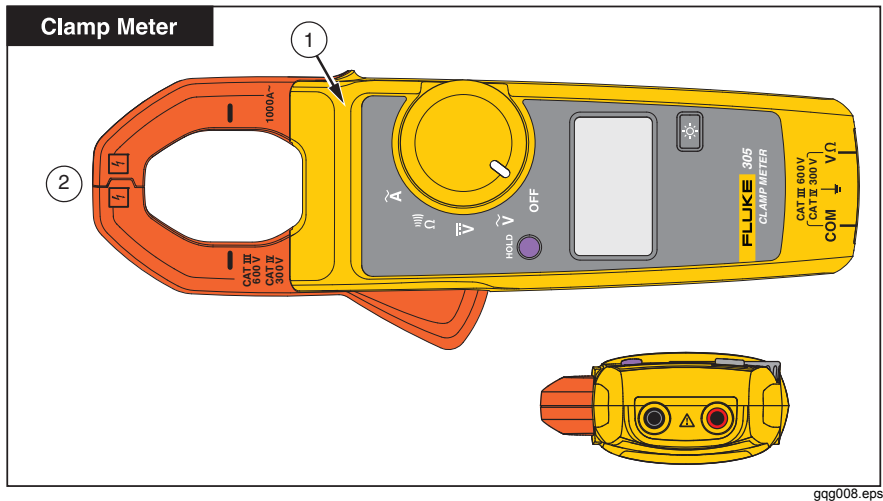
Safety Compliance.....EN/IEC 61010-1, Pollution Degree 2  
EN/IEC 61010-2-032  
EN/IEC 61010-031



Batteries.....2 AAA, NEDA 24A, IEC LR03

IP Rating .....IP 30 Per IEC 60529; Non-operating

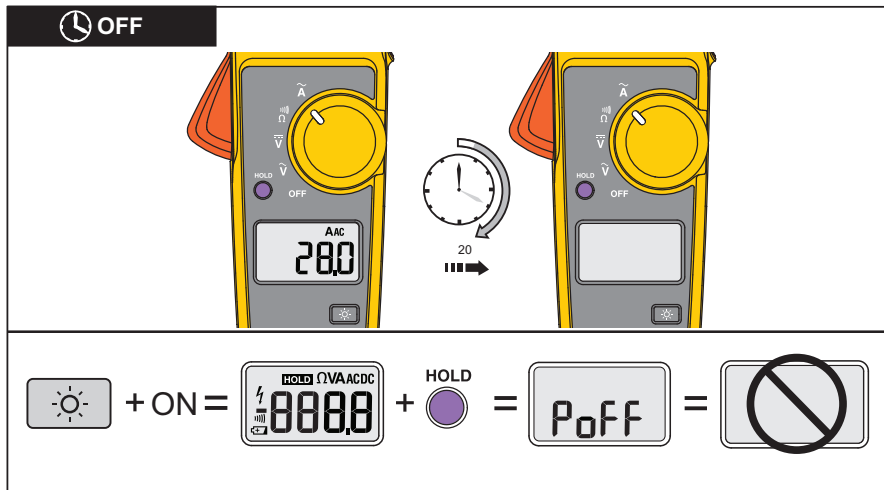
## The Clamp Meter



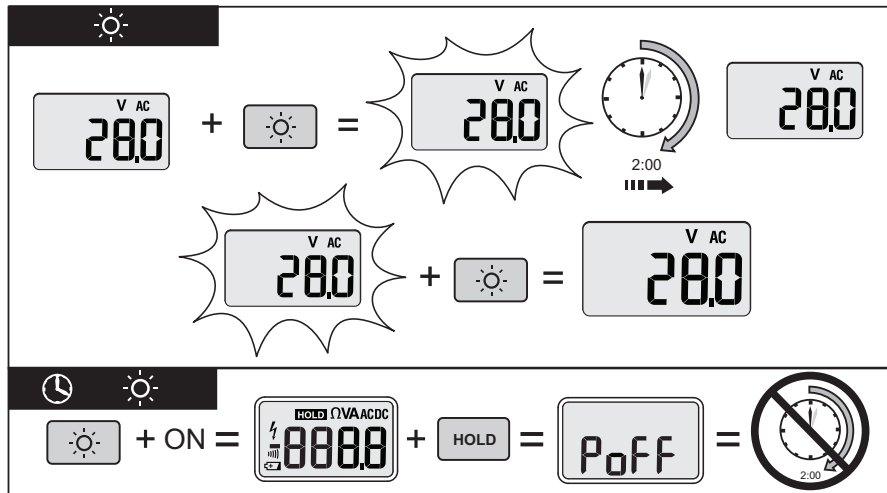


# Clamp Meter

## The Clamp Meter

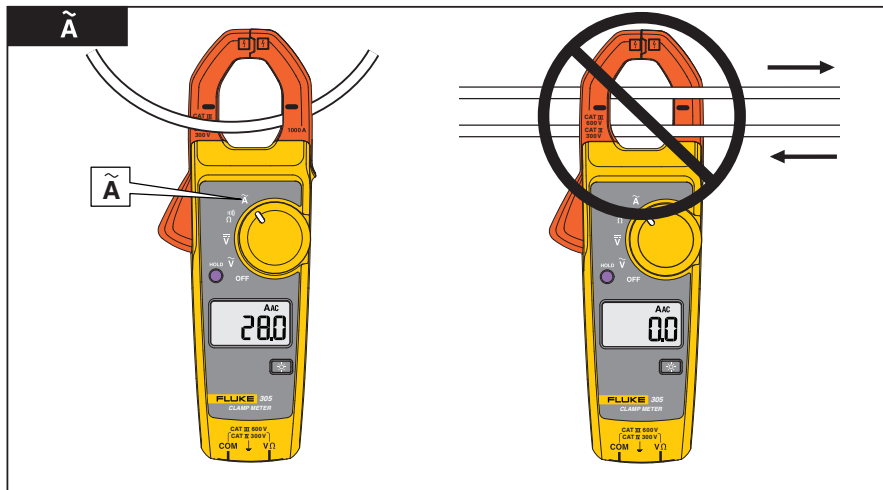


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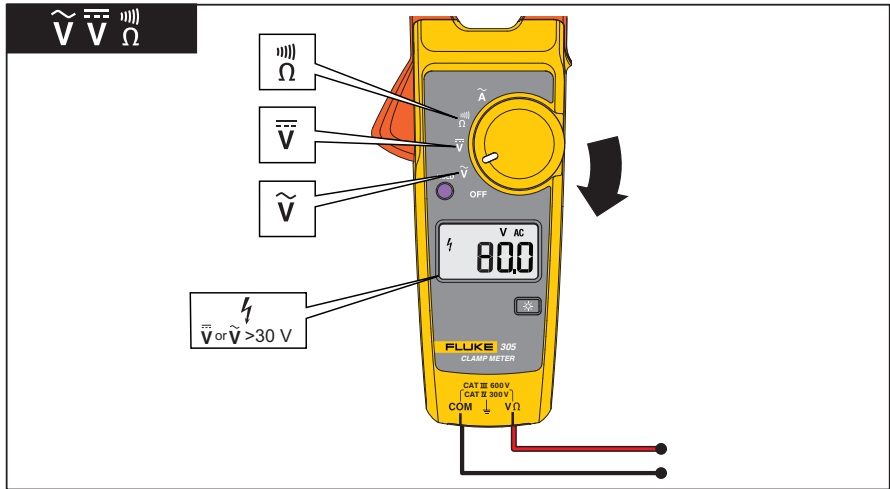


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## Clamp Meter The Clamp Meter



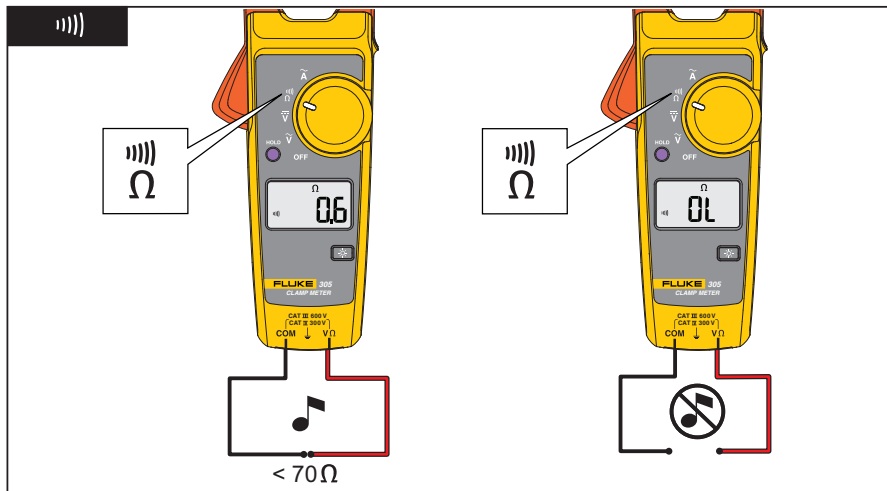
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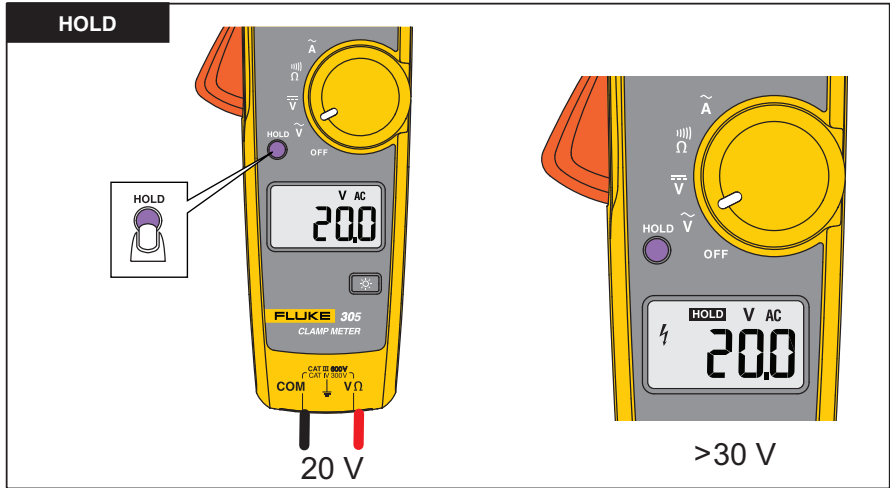
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# Clamp Meter

## The Clamp Meter



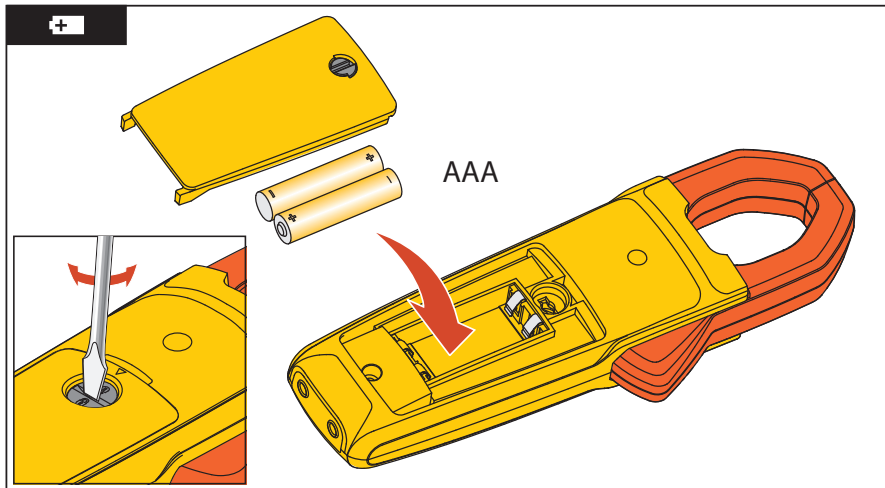
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# Clamp Meter

## The Clamp Meter



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