

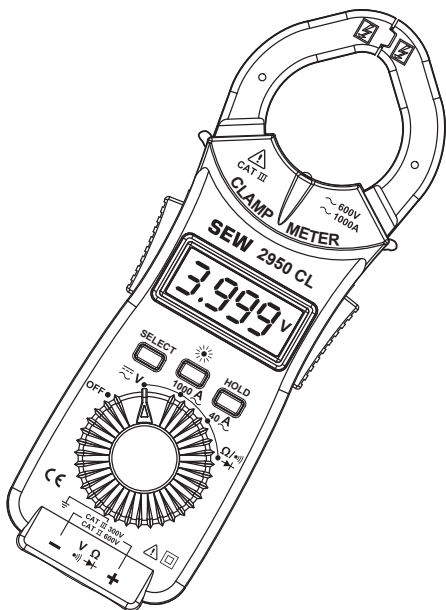
# SEW

# 2950 CL

# AC CLAMP METER

---

---



# INSTRUCTION MANUAL

<b>Index</b>	<b>Page</b>
1. Introduction.....	1
2. Safety notes.....	2-3
3. Features.....	3
4. Specifications.....	4-6
5. Instrument layout.....	7-8
6. Measurement.....	9-10
7. Maintenance.....	11

# 1. Introduction

## **Note**

This meter has been designed and tested according to CE Safety Requirements for Electronic Measuring Apparatus, EN 61010-1 EN 61010-2-32 and other safety standards. Follow all warnings to ensure safe operation.

## **Warning**


Read "Safety Notes"(next page) before using the meter.

## 2. Safety Notes


Read the following safety information carefully before attempting to operate or service the meter.

- Use the meter only as specified in this manual, otherwise the protection provided by the meter may be impaired.
- Always keep hands behind the meter barrier.
- Use extreme caution when clamping around uninstalled conductors or bus bars.
- Never clamp around any conductor carrying a voltage above 600V R.M.S.
- During current measurement to avoid an electric shock accident, do not connect the test leads to the instrument.
- To avoid electric shock when measuring live lines, wear appropriate protective gear, such as insulated rubber gloves and boots.
- Rated environmental conditions:
  - (1) Indoor use.
  - (2) Installation Category II 600V  
Category III 300V
  - (3) Pollution Degree 2.
  - (4) Altitude up to 2000 Meter.
  - (5) Relative Humidity 80% Max.
  - (6) Ambient Temperature 0~40°C.

- Observe the international electrical symbols listed below.


 Meter is protected throughout by double insulation or reinforced insulation.

 Warning ! Risk of electric shock.

 Caution ! Refer to this manual before using the meter.

 Alternating current.

 Direct current.

 Earth (ground).

### 3.Features

- 4000-count LCD.
- Full automatic measurement.
  - AC Current measurement.
  - AC/DC Voltage measurement.
  - Resistor measurement.
- Data Hold function.
- Continuity check.
- Diode measurement.
- Low battery indication.
- Auto-off function.
- Flashlight.
- Safety Standard :
  - EN 61010-1 CAT II 600V / CAT III 300V
  - EN 61010-2-32
  - EN 61326-1

## 4. Specifications

### AC Current

Range	Resolution	Accuracy
40.00A	0.01A	$\pm(2.0\%rdg+5dgt)$ (40~200Hz)
400.0A / 1000A	0.1A / 1A	

### AC Voltage

Range	Resolution	Accuracy
4.000V	1mV	$\pm(1.5\%rdg+10mV)$ (40~500Hz)
40.00V	10mV	$\pm(1.5\%rdg+5dgt)$ (40~500Hz)
400.0V	100mV	
750V	1V	

- Input impedance : 10M $\Omega$

### DC Voltage


Range	Resolution	Accuracy
4.000V	1mV	$\pm(1.0\%rdg+5dgt)$
40.00V	10mV	
400.0V	100mV	
1000V	1V	

- Input impedance : 10M $\Omega$

## Resistance

Range	Resolution	Accuracy
400.0Ω	0.1Ω	±(1.5%rdg+3dgt)
4.000kΩ	1Ω	
40.00kΩ	10Ω	
400.0kΩ	100Ω	
4.000MΩ	1kΩ	
40.00MΩ	10kΩ	±(2.0%rdg+4dgt)

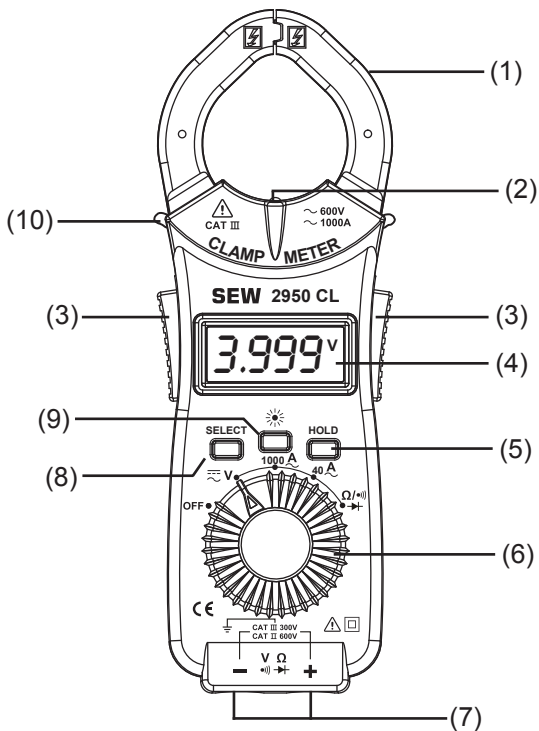
Threshold level (beep sound) : less than 25Ω

- Overload protection :  
ACV 750V rms  
DCV 1000V  
Diode & Ohm 250V rms
- Conductor size : 35mm
- Low battery indication :  
"  " sign appears on the display.
- Response time :  
Approx. 1 second.
- Sample rate :  
Approx. 2 times per second.

- Operating temperature and humidity :  
0°C~40°C 80% R.H. Max.
- Storage temperature and humidity :  
-10°C~50°C 80% R.H. Max.
- Battery life :  
Approx. 100 hours on continuity use.
- Dimension :  
183(L) × 62(W) × 20(D)mm
- Weight : Approx 123g (battery included)
- Power source : DC 3V (CR2032) battery × 1
- Accessories :  
Instruction manual  
Test leads  
Soft pouch  
Battery



## 5. Instrument layout



- |                      |                        |
|----------------------|------------------------|
| (1) Transformer Jaws | (6) Function Switch    |
| (2) Flashlight       | (7) Input Terminal     |
| (3) Jaw Trigger      | (8) SELECT Push Button |
| (4) LCD              | (9) Flashlight Button  |
| (5) Data Hold Button | (10) Barrier           |

**(1) Transformer Jaws**

Pick up the conductor within the jaws center.

**(2) Flashlight**

For easier viewing in the dark.

**(3) Jaw Trigger**

Press to open the jaws.

**(4) LCD**

3¾ digit LCD(4000 counts).

**(5) Data Hold Button**

Freeze the reading for all ranges with "HOLD" indicated.

**(6) Function Switch**

For function selection

**(7) Input Terminal**

"+" and "-" terminal

**(8) SELECT Push Button**

For select function :

a. ACV / DCV

b.  $\Omega$  /  $\bullet$ ) /  $\rightarrow$  

**(9) Flashlight Button**

For flashlight function

**(10) Barrier**

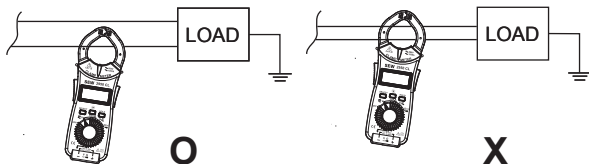
Provide a protective distance from hands to conductor.

## 6. Measurement

Before proceeding with measurement, read the safety notes.

### (1) AC current measurement

- Set the function switch to "1000  $\tilde{A}$ " or "40  $\tilde{A}$ " range.
- Press the jaw trigger to open the transformer jaws and clamp onto one conductor only.
- Read the display reading directly.



### (2) ACV measurement

- Insert the BLACK test lead to (-)terminal and the RED one to the other terminal.
- Set the function switch to " $\tilde{V}$ " range and press the SELECT button, until the " $\tilde{AC}$ " symbol appears.
- Connect the test leads to the object to be measured.
- Read the display.

### (3) DCV measurement

- Insert the BLACK test lead to (-)terminal and the RED one to the other terminal.
- Set the function switch to " $\bar{V}$ " range.

- Connect the test leads to the object to be measured.
- Read the display.

 Note

Reversing the polarity of the test leads displays a negative value.

(4) Resistance measurement

- Insert the BLACK lead to the (-)terminal and the RED one to another.
- Set the function switch to " $\Omega / \bullet$ ) /  $\rightarrow \vdash$ " range and make sure there is no power in the circuit being measured.
- Connect the test leads to the object under test and read the display directly.

(5) Continuity test

- Insert the BLACK lead to the (-)terminal and the RED one to another.
- Set the function switch to " $\Omega / \bullet$ ) /  $\rightarrow \vdash$ " range and press the "SELECT" button, until the " $\bullet$ ) "
- symbol appears.
- Connect the test leads to the object under test.
- The buzzer will work when the resistance is less than  $25\Omega$ .

(6) Diode test

- Turn the function switch to " $\Omega / \bullet$ ) /  $\rightarrow \vdash$ " setting and press the "SELECT" button twice, until the " $\rightarrow \vdash$ " symbol appears.

- Connect the 2950 CL red and black test lead, red test lead should connect Diode (+Anode) black test lead should connect Diode (-Cathode). The display will show the reading.

## 7. Maintenance

### (1) Battery Replacement:

When the low battery warning symbol appears, change a new battery as follows:

Disconnect the test leads from the instrument and turn off the power. Unscrew the battery cover and replace with a new battery.

### (2) Cleaning and storage:

 **WARNING**

**To avoid electrical shock or damage to the meter, do not get water inside the case.**

Periodically wipe the case with a damp cloth and detergent. Do not use abrasives or solvents.

If the meter is not to be used for a long time over 60 days, please remove the battery for storage.