



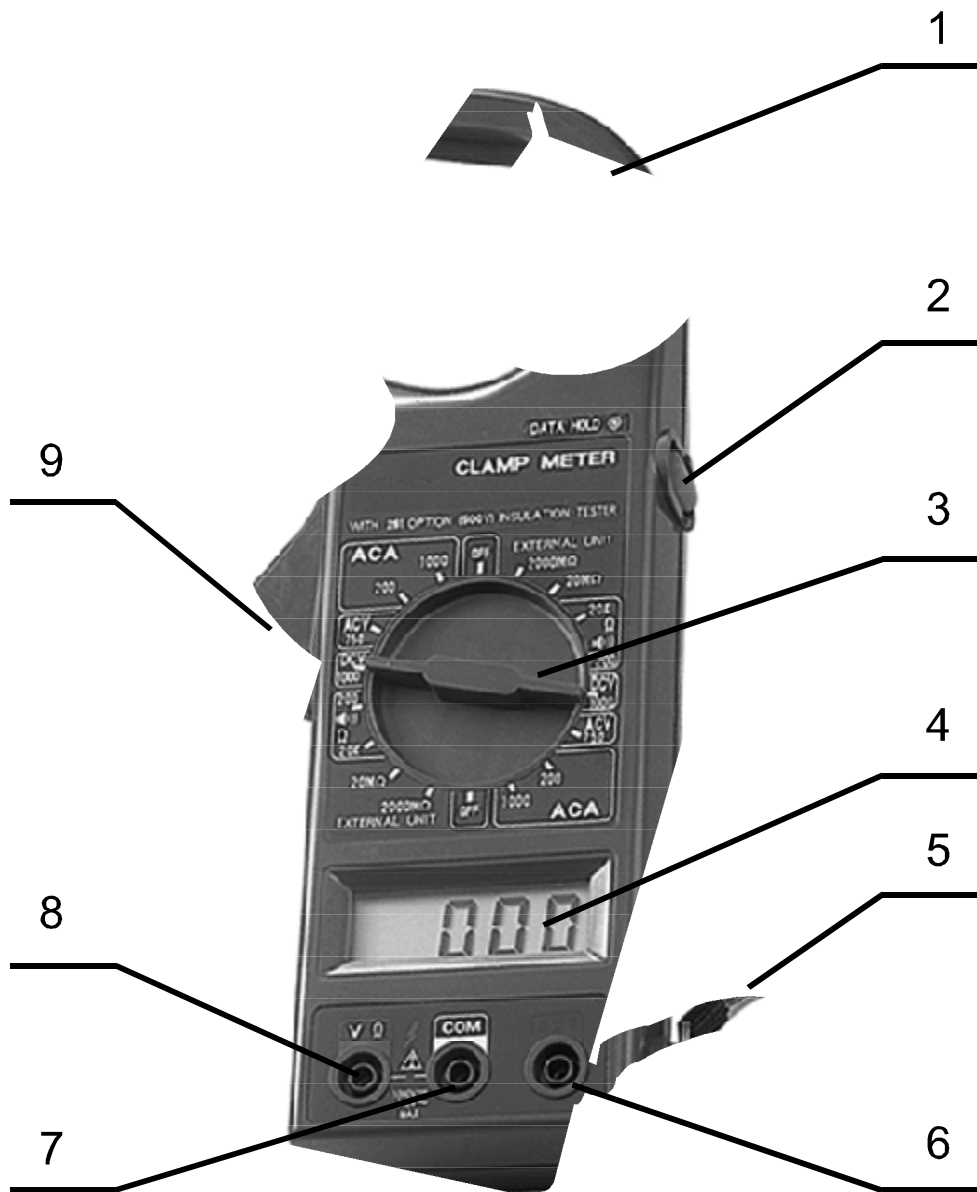
# **266 SERIES**

**— 3 1/2 DIGITAL CLAMP METER —**

## **OWNER'S MANUAL**

- Read this owner's manual thoroughly before use

# FRONT PANEL DESCRIPTION



## 1. Transformer Jaws

Pick up the AC current flowing through the conductor.

## 2. "DATA HOLD" Button

A push button for selecting Data Hold function.

### **3. Function / Range Switch**

Function / Range switch for selecting measurement function and range.

### **4. Display**

3 1/2 digits LCD, Max. reading 1999.

### **5. Drop-proof Wrist Strap:**

Prevent the instrument from slipping off the hand while in use.

### **6. "EXT" Jack**

Plug-in connector for the banana plug "EXT" from the extensional insulation resistance tester unit.

### **7. "COM" Jack**

Plug-in connector for the black test lead while measuring voltage, resistance and continuity; and for connecting the banana plug "COM" from the insulation tester unit while measuring insulation resistance.

### **8. V. $\Omega$ Input Connector:**

Plug-in connector for the red test lead while measuring voltage, resistance and continuity; and for connecting the banana plug "V. $\Omega$ " from the insulation tester unit while measuring insulation resistance.

### **9. Trigger**

Press the level to open the transformer jaws; when the finger pressing on the level is released, the jaws will close again.

		266	266C	266C+	260D	266E	266F	266FT
<b>ACV</b>	200mV							*
	20V							*
	200V		*	*	*	*	*	
	750V	*	*	*	*	*	*	*
<b>ACA</b>	20A		*	*	*			*
	200A	*	*	*	*	*	*	*
	1000A	*	*	*	*	*	*	*
<b>DCV</b>	200mV		*	*	*			*
	2V		*	*		*	*	
	20V		*	*	*	*	*	*
	200V		*	*	*	*	*	
	1000V	*	*	*	*	*	*	*
<b>Ω</b>	200Ω	*	*	*	*	*	*	
	2KΩ				*		*	*
	20KΩ	*	*	*	*	*	*	*
	200KΩ				*		*	
	2MΩ		*	*	*	*	*	
<b>Insulation</b>	20MΩ~200MΩ	*	*	*	*	*	*	*
<b>TEMP</b>	0°C~750°C		*	*				*
<b>F</b>	2kHz/20MHz					*	*	*
<b>→</b>	1mA, 2.8V				*	*	*	
<b>•))</b>	<50Ω	*		*	*	*	*	*
<b>BATT</b>	1.5V/9V					*		

## INTRODUCTION

The meter is a portable, 3-1/2 digits LCD clamp meter with insulation test function (with optional 500V insulation tester unit ), designed for being used by electricians, technicians, serviceman and hobbyists who need an instrument that is accurate, reliable, and always ready for use. It is powered by a standard 9V battery, and can provide 150-200 operating hours, which depends on the type of battery and using conditions. It has rugged structure design, good feeling held in operator's hand and convenient use.

## TECHNICAL SPECIFICATIONS

The following specifications assume a 1-year calibration cycle and operating conditions of temperature scale of 18°C to 28°C (64°F to 82°F) with relative humidity up to 80% unless otherwise noted.

Accuracy specifications take the form of:

$$\pm [(\% \text{ of Reading}) + (\text{Number of Least Significant Digits})]$$

### AC Current

Range	Resolution	Accuracy(50Hz - 60Hz)
20A	10mA	$\pm (2.5\% + 5)$
200A	100mA	
1000A	1A	$\pm (2.5\% + 5)$ for 800A and below
		$\pm (3.0\% + 5)$ for other current

Frequency response: 50~60Hz

Indication: Average (rms of sine wave)

Overload Protection: 1200A within 60seconds,

Jaw Opening: 2"(5cm)

## Insulation Test (with optional 500V insulation tester unit)

Range	Resolution	Accuracy
20M $\Omega$	10K $\Omega$	$\pm(2\% + 2)$
2000M $\Omega$	1M $\Omega$	$\pm(4\% + 2)$ for up to 500M $\Omega$
		$\pm(5\% + 2)$ for above 500M $\Omega$

## AC Voltage

Range	Resolution	Accuracy
200mV	0.1mV	$\pm(1.2\% + 3)$
20V	10mV	
200V	100mV	
750V	1V	$\pm(2.0\% + 5)$

Indication: Average (rms of sine wave)

Input impedance: 9M $\Omega$

Overload Protection: 750V AC/DC on all ranges.

## DC Voltage

Range	Resolution	Accuracy
200mV	0.1mV	$\pm(0.8\% + 3)$
2V	1mV	
20V	10mV	
200V	100mV	
1000V	1V	$\pm(1.2\% + 5)$

Overload Protection: 1000V DC/AC peak on all ranges.

Input impedance: 9M $\Omega$

## Resistance

Range	Resolution	Accuracy
200Ω	0.1Ω	±(1.0% + 2)
2KΩ	1Ω	
20KΩ	10Ω	
200KΩ	100Ω	
2MΩ	1KΩ	±(1.5% + 5)



## Temperature

Range	Resolution	Accuracy
0°C ~ 750°C	1°C	±(1.5% + 3)
32°F ~ 1382°F	1°F	

## Frequency Test

Range	Resolution	Accuracy
2KHz	1Hz	±(1.5% + 3)
20MHz	20KHz	

## Diode and Continuity Test

Range	Accuracy
	The approx. forward voltage drop of the diode will be displayed on the LCD.
	When the resistance <50Ω, the built-in buzzer will sound.

## Battery Test

Range	Description	Test Condition
1.5V	The working current of the battery will be displayed on the LCD, so that the quality of the battery can be judged.	The working current is about 40mA.
9V		The working current is about 24mA.

## Continuity Test

Range	200Ω
Buzzer sound	<50Ω
Overload protection	500V DC/rms AC

## GENERAL SPECIFICATIONS

**Normal Operation:** 18°C ~28°C(64°F ~82°F)

**Usable condition:** 0°C ~ 50°C (32°F ~122°F)

**Storage condition:** -20°C ~+60°C(-30°F ~140°F) with battery removed and <80% R.H

**Relative Humidity:** Max.80%

**Measurement method:** Dual slope integration A/D converter

**Reading rate:** 3 times/Sec.

**Polarity:** Automatic polarity indication, "-" displayed for negative polarity

**Overload indication:** Only figure "1" displayed on the LCD.

**Power supply:** 9V Battery

**Battery life:** Up to 200 hours (for Zinc carbon).

**Low battery indication:** " LO BAT" displayed on LCD when approximately 20% of battery life remains.

**Display:** 3-1/2 digits LCD (1999 counts, 0.5"high).



**Data hold:** Current reading will be held on the LCD if the button is pressed.

**Dimension:** 9"L×2.7"W×1.5"H (123mm×7mm×3.7mm)

**Weight:** about 11 ounces(310grams) (including battery)

## OPERATING INSTRUCTION

### AC Current Measurement

1. Make sure the "Data Hold" switch is not pressed.
2. Set the Function/Range switch to the desired ACA range.
3. Press the trigger to open the transformer jaws and clamp one conductor only. It is impossible to make measurements when two or three conductors are clamped at the same time.
4. The value displayed on the LCD is the AC current flowing through the conductor.

### Insulation Resistance Test

1. Set the Function/Range Switch to the insulation tester 2000MΩ range. In this condition, it is normal that the reading is unstable.
2. Insert the three banana plugs V.Ω, COM, EXT from the insulation tester unit to the corresponding V. Ω, COM, EXT input jacks on the clamp meter .
3. Set the range switch of the insulation tester unit to the 2000MΩ position.
4. Connect the test leads from the insulation tester unit to the appliance to be tested (the LED on the insulation tester unit will light).

5. Set the insulation tester Power switch to the "ON" position.
6. Push the "PUSH-500V" button, the red LED "500V" will light. The reading on the LCD of the clamp meter is the insulation resistance value; if the reading is below  $19\text{M}\Omega$ , set the rotary switch to range  $200\text{M}\Omega$  to increase the accuracy of the measurement.
7. If the insulation tester unit is not used, the power switch must set to OFF position. And the test leads must be removed from the input jacks; this can extend the battery life and prevent electrical shock hazard.

### **DC Voltage Measurement**

1. Connect the red test lead to the "V $\Omega$ " jack and the black test lead to the "COM" jack.
2. Set the rotary switch to the desired DCV range. If the voltage to be measured is not known beforehand, set the range switch to the highest range and then turn down range by range until satisfactory resolution is obtained.
3. Connect the test leads to the source or load to be measured.
4. Read the voltage value displayed on the LCD along with the polarity of the red test lead.

### **AC Voltage Measurement**

1. Connect the red test lead to the "V $\Omega$ " jack and the black test lead to the "COM" jack.
2. Set the rotary switch to the desired ACV range. If the voltage to be measured is not known beforehand, set the range switch to the highest range and then turn down range by range until satisfactory resolution is obtained.

3. Connect the test leads to the source or load to be measured.
4. Read the voltage value displayed on the LCD.

### **Resistance Measurement**

1. Connect the red test lead to the "V $\Omega$ " jack and the black test lead to the "COM" jack.
2. Set the rotary switch to the desired  $\Omega$  range.
3. Connect the test leads to the resistor to be measured and read the value displayed on the LCD.

### **Note:**

For resistance about 1M $\Omega$  and above, the meter may take a few seconds to stabilize. This is normal for high resistance readings.

### **Diode Test**

1. Connect the red test lead to the "V $\Omega$ " jack and the black test lead to the "COM" jack.(The polarity of the red test lead is positive "+")
2. Set the rotary switch to " $\rightarrow$ +" range.
3. Connect the red test lead to the anode of the diode to be tested and the black test lead to the cathode of the diode. The approximate forward voltage drop of the diode will be displayed on the LCD. If the connection is reversed, only figure "1" will be shown.

## **Audible Continuity Test**

1. Connect the red test lead to the "V $\Omega$ " and the black test lead to the "COM" jack.
2. Set the rotary switch to "•)))" range.
3. Connect the test leads to the two terminals of the circuit to be tested. If the resistance is less than about 50 $\Omega$ , the built-in buzzer will sound.

## **Temperature Measurement**

1. Connect the K type thermocouple to the corresponding measurement socket.
2. Set the rotary switch to the "°C" range.
3. Read the temperature value displayed on the LCD.

## **Frequency Measurement**

1. Connect the black test lead to the "COM" jack and the red test lead to the "V $\Omega$ " jack.
2. Set the rotary switch to the desired "Hz" range and connect the test leads to the source or load under measurement.
3. Read the frequency value displayed on the LCD.

## **Battery Test**

1. Connect the red test lead to the "V. $\Omega$ " jack and the black test lead to the "COM" jack.
2. Set the range switch to the "BATT" range.
3. Connect the test leads separately to the two polar of the battery under test and read the value displayed on the LCD.

## **Accessories**

Instruction manual:	1 copy
Test leads:	1 pair
9V Zinc carbon battery:	1 piece
Carrying Case:	1 piece