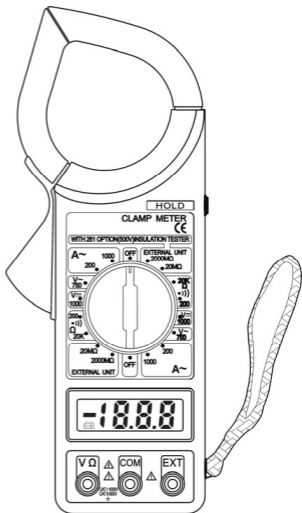




266

Digital **Clamp Meter**

## INSTRUCTION MANUAL




### WARNING

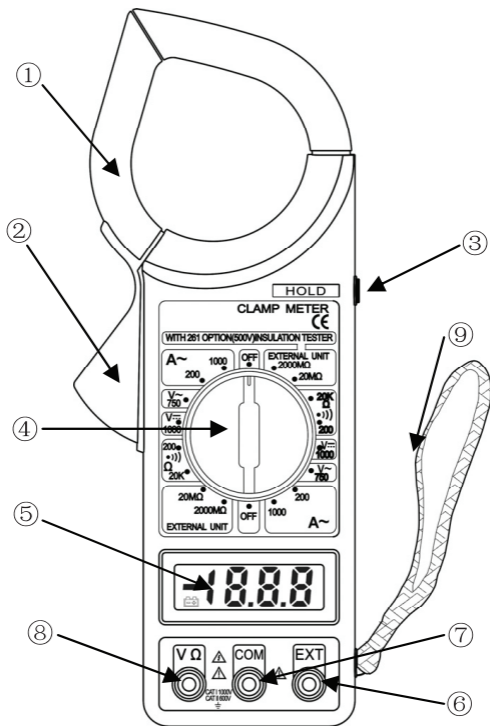
**READ AND UNDERSTAND THIS MANUAL  
BEFORE USING THE INSTRUMENT.**

## **Warning**

To avoid possible electric shock or personal injury, and to avoid possible damage to the meter or to the equipment under test, adhere to the following rules:

- Before using the meter inspect the case. Do not use the meter if it is damaged or the case (or part of the case) is removed. Inspect for cracks or missing plastic pieces. Pay attention to the insulation around the connectors.
- Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and grounding.
- The rotary switch should be placed in the right position and no changeover of range shall be made during measurement to prevent damage of the meter.
- When the meter is working at an effective voltage over 60V in DC or 36V rms in AC, special care should be taken for there is danger of electric shock.
- Use the proper terminals, function, and range for your measurements.
- Do not use or store the meter in an environment of high temperature, humidity, explosive, inflammable and strong magnetic field. The performance of the meter may deteriorate after dampened.
- When using the test leads, keep your fingers behind the finger guards.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity or diodes.
- Replace the battery as soon as the battery indicator  appears. With a low battery, the meter might produce false readings that can lead to electric shock and personal injury.

- Remove the connection between the testing leads and the circuit being tested, and turn the meter power off before opening the Meter case.
- When servicing the meter, use only the same model number or identical electrical specifications replacement parts.
- The internal circuit of the meter shall not be altered at will to avoid damage of the meter and any accident.
- Soft cloth and mild detergent should be used to clean the surface of the meter when servicing. No abrasive and solvent should be used to prevent the surface of the meter from corrosion, damage and accident.
- The meter is suitable for indoor use.
- Turn the meter power off when it is not in use and take out the battery when not using for a long time. Constantly check the battery as it may leak when it has been using for some time, replace the battery as soon as leaking appears.



① **Transformer Jaws**

Pick up the AC Current flowing through the conductor

② **Trigger**

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


③ **Data Hold Switch**

A push switch (pushes on, push off, do not pull to select function). All function and ranges with this feature.

④ **Rotary Switch**

A rotary switch is used to select measurement Function and Range switch.

⑤ **Display**

3 ½ digits (1999 counts), decimal point, minus polarity, Over range and “” indicators.

⑥ **EXT Input Connect**

Used for accept insulation tester unit EXT banana plugs, when measurement insulation resistance.

⑦ **COM Input Connect**

Low input for all voltage, resistance, and continuity measurement will accept banana plugs. When measurement insulation resistance, used for accept insulation tester unit COM banana plugs.

⑧ **VΩ Input Connect**

High input for all voltage, resistance, and continuity measurement will accept banana plugs. When measurement insulation resistance, used for accept insulation tester unit VΩ banana plugs.

⑨ **Drop-Proof Wrist Strap**

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

## 1. GENERAL SPECIFICATIONS

- Max display: LCD 3 ½ digits, 1999 counts, 0.5" high
- Polarity: Automatic, indicated minus, assumed plus.
- Measure method: double integral A/D switch implement
- Sampling speed: 2 times per second
- Over-load indication: "1" is displayed
- Operating Environment: 0°C~40°C, at <80%RH
- Storage Environment: -10°C~50°C, at <85%RH
- Power: 9V NEDA 1604 or 6F22
- Low battery indication: " $\frac{\square\square}{+ -}$ "
- Static electricity: about 4mA
- Product Size: 230x68x37mm
- Product net weight: 240g (including battery)

## 2. TECHNICAL SPECIFICATIONS


Accuracies are guaranteed for 1 year, 23°C±5°C, less than 80%RH

### 2-1. DC Voltage

Range	Resolution	Accuracy
1000V	1V	±(1.0% of rdg + 5D)

Overload Protection: 1000V DC or 750V rms for all ranges.

### 2-2. Audible Continuity

Range	Description
	Built-in buzzer sounds if resistance is less than 30±20Ω

Overload Protection: 15 second maximum 220V rms.

### 2-3. AC Voltage

Range	Resolution	Accuracy
750V	1V	$\pm(1.2\% \text{ of rdg} + 5D)$

RESPONSE: Average responding, calibrated in rms of a sine wave.

FREQUENCY RANGE: 45Hz ~ 450Hz

OVERLOAD PROTECTION: 1000V DC or 750V rms for all ranges.

### 2-4. AC Current (Average sensing, calibrated to rms of sine wave)

Range	Resolution	Accuracy(50Hz ~ 60Hz)
200A	100mA	$\pm(2.5\% + 13)$
1000A	1A	$\pm(2.5\% + 8)$ for 800A and below
		The reading is only for reference for more than 800A

Overload Protection: 1200A within 60 seconds. Jaw Opening: 2.09" (53mm)

### 2-5. Insulation Test (With option 500V insulation tester unit)

Range	Resolution	Accuracy(50Hz ~ 60Hz)
20M $\Omega$	10K $\Omega$	$\pm(2\% + 2)$
2000M $\Omega$	1M $\Omega$	$\pm(4\% + 2)$ for 500 $\Omega$ and below
		$\pm(5\% + 2)$ for others

## 2-6. Resistance

Range	Resolution	Accuracy
200 $\Omega$	0.1 $\Omega$	$\pm(1.0\%$ of rdg + 10D)
20K $\Omega$	10 $\Omega$	$\pm(1.0\%$ of rdg + 4D)

Maximum Open Circuit Voltage: 3V.

Overload Protection: 15 seconds maximum 220Vrms.

## 3. OPERATING INSTRUCTIONS

### 3-1. AC Current Measure

1. Make sure that "Data Hold" Switch is not pressed.
2. Set Range Switch to the ACA 1000A range. If the display indicates one or more leading zeros. Shift to the 200A range to improve the resolution of the measurement.
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. Display reading is flow the conductorAC current.

### 3-2. Insulation Resistance Tester

1. Set Range Switch to the insulation tester 2000M $\Omega$  range. This condition the display value is unstable that is normal.
2. The insulation tester unit V $\Omega$ -COM-EXT three banana plugs insert to clamp meter V $\Omega$ -COM-EXT three input connector.
3. Set the insulation tester unit range switch to the 2000M $\Omega$  position.
4. Use the insulation tester unit of the test leads.



5. Set the insulation tester power switch to the ON position.
6. Depress the PUSH 500V push-push switch, the 500V on red LED lamp will light. Clamp meter display reading is the insulation resistance value if the reading is below  $19\text{M}\Omega$ , change clamp meter and insulation tester unit to  $20\text{M}\Omega$  range, can be increase the accuracy.
7. If the insulation tester unit is not use the power switch must shift to power OFF position, and the test leads must leave the E-L input connect, that can be increase battery life and prevent electrical shock hazard.

### **3-3. DC & AC Voltage Measurement**

1. Connect red test lead to “V $\Omega$ ” jack, Black lead to “COM” jack.
2. Set RANGE switch to desired VOLTAGE position, if the voltage to be measured is not known beforehand, set switch to the highest range and reduce it until satisfactory reading is obtained.
3. Connect test leads to device or circuit being measured.
4. Turn on power of the device or circuit being measured voltage value will appear on Digital Display along with the voltage polarity.


### **3-4. Resistance Measurement**

1. Red lead to “V $\Omega$ ”. Black lead to “COM”.
2. RANGE switch to desired  $\Omega$  position.
3. If the resistance being measured is connected to a circuit, turn off power and discharge all capacitors before measurement.
4. Connect test leads to circuit being measured.
5. Read resistance value on Digital Display.

### **3-5. Audible Continuity Test**

1. Red lead to “VΩ”, Black lead to “COM”.
2. RANGE switch to “•))” position.
3. Connect test leads to two points of circuit to be tested. If the resistance is lower than  $30\Omega \pm 20\Omega$ , the buzzer will sound.

### **4. BATTERY REPLACEMENT**

If “” appears in display, it indicates that the battery should be replaced.

### **5. ACCESSORIES**

- Operator’s instruction manual
- Set of test leads
- Gift box
- 9-volt battery, NEDA 1604 6F22 type.

## **WARRANTY**

This Instrument is warranted to be free from defects in material and workmanship for a period of one year. Any instrument found defective within one year from the delivery date and returned to the factory with transportation charges prepaid, will be repaired, adjusted, or replaced at no charge to the original purchaser. This warranty does not cover expandable items such as batteries & fuses. If the defect has been caused by a misuse or abnormal operating conditions, the repair will be billed at a nominal cost.



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