

**TENMA®**



## **72-9485** **Operating Manual**

**Digital Clamp**  
**Multimeters**

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## Overview

This Operating Manual covers information on safety and cautions. Please read the relevant information carefully and observe all **Warnings** and **Notes** strictly.



### **Warning**

**To avoid damage to the Meter or personal injury, read the “Safety Information” and “Rules for Safe Operation” carefully before using the Meter.**

Digital Clamp Multimeter **Model 72-9485** (hereafter referred to as “the Meter”) is a 3 3/4 digit multimeter with a compact design and is highly reliable. The Meter has a double integrated A/D converter at its core and a full range of overload protection.

The Meter can measure AC/DC Voltage, AC/DC Current, Frequency, Resistance, Diodes, Continuity and etc.

## Unpacking Inspection

Open the carton and remove the Meter. Check the following items carefully to see if any items are missing or damaged.

Item	Description	Qty
1	English Operating Manual	1 piece
2	Test Lead	1 pair
3	Tool Box	1 piece
4	9V Battery (NEDA1604A or 6LF22)	1 piece

In the event you find any items are missing or damaged, please contact your dealer immediately.

## Safety Information

This Meter complies with the Safety/ Compliances: IEC 61010 CAT. II 600V, CAT. III 300V overvoltage and double insulation standard, pollution degree 2.

CAT. II: Local level, appliance, Portable Equipment, etc., with smaller transient overvoltages than CAT. III.

CAT. III: Distribution level, fixed installation, with smaller transient overvoltages than CAT. IV

Use the Meter only as specified in this operating manual to avoid personal injury or damage to your Meter or device under test.

In this manual, a **Warning** identifies conditions and actions that pose hazards to the user, or may damage the Meter or the equipment under test.

A **Note** identifies the information that user should pay attention to.

International electrical symbols used on the Meter and in this Operating Manual are explained on page 9.


## **Rules for Safe Operation**

### **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 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. Look for cracks or missing plastic. Inspect the insulation around the connectors.
- Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity. Replace damaged test leads with identical model number or electrical specifications before using the Meter.
- Do not apply more than the rated voltage as marked on the Meter, between terminals or between any terminal and grounding.
- When your measurements have been completed, disconnect the connection between the test leads and the circuit under test, remove the test leads from the input terminals of the Meter and turn the Meter power off.
- The rotary switch should be placed in the correct position and no adjustments to the range should be made during measurement to prevent damage to the Meter.

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- Do not operate when the Meter's back case and battery compartment are not closed to avoid electric shock.
- Do not exceed 600V between the Meter's input terminals to avoid electric shock and damage to the Meter.
- When the Meter working at an effective voltage over 70V in DC or 33V rms in AC, proper precaution should be taken to avoid 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, flammable and strong magnetic field. The performance of the Meter may deteriorate if damp or wet.
- When using the test leads, keep your fingers behind the finger guards.
- To avoid electric shock, do not touch the bare wires, connectors, unused input terminals or the circuit under test during measurement.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity and diode.
- 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.
- When servicing the Meter, use only replacement parts with the same model or identical electrical specifications.
- Do not tamper with the internal circuits of the Meter.
- 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 protect the surface of the Meter from corrosion, damage and accident.**

- **The Meter is suitable for indoor use.**
- **Turn the Meter off when it is not i use and take out the battery when not using for a long time.**
- **Periodically check the battery as it may leak when it has not been in use for some time, replace the battery if the battery is dead or leaking. A leaking battery will damage the Meter.**

## International Electrical Symbols

~	AC (Alternating Current)
⋮	DC (Direct Current)
~	AC or DC
⏏	Grounding
□	Double Insulated
⚠	Warning. Refer to the Operating Manual
🔋	Deficiency of Built-In Battery
•••)	Continuity Test
→	Diode
⚡	Danger of High Voltage
CE	Conforms to Standards of European Union

### The Meter Structure (see Figure 1)

1. Hand Guards
2. Jaw Trigger
3. Functional Buttons
4. Input Terminals
5. LCD Display
6. Rotary Switch
7. Transformer Jaw: designed to pick up the AC and DC current flowing through the conductor. The tested conductor must vertically go through the Jaw center.

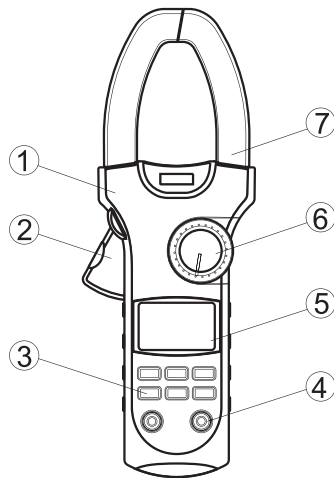






Figure 1

## Functional Buttons




Table below indicated for information about the functional button operations.

Button	Operation Performed
<b>SELECT</b>	Press <b>SELECT</b> button to select the alternate functions including $V_{\sim}$ , and $\bullet \rightarrow \Omega$ .
<b>PMAX/PMIN</b>	<ul style="list-style-type: none"><li>● Press and hold for 2 seconds to enter that function internal calibration</li><li>● Press the button once to start recording of maximum peak value.</li><li>● Press the button again to start recording of minimum peak value.</li><li>● Press and hold for one second to exit PMAX/PMIN mode.</li></ul>
	<ul style="list-style-type: none"><li>● Press once to turn the display backlight on.</li><li>● It will be automatically off after around 15 seconds.</li></ul>
<b>HOLD</b>	<ul style="list-style-type: none"><li>● Press <b>HOLD</b> to enter the Hold mode in any mode, the Meter beeps.</li><li>● Press <b>HOLD</b> again to exit the Hold mode to return to measurement mode, the Meter beeps.</li></ul>

Button	Operation Performed
<b>HOLD</b>	<ul style="list-style-type: none"><li>● Turn the rotary switch or press <b>SELECT</b> button can also exit Hold mode.</li><li>● Press <b>HOLD</b> button for 2 seconds when turning on the Meter to display full icon.</li></ul>
<b>Hz</b>	When the Meter is at <b>V</b>  , <b>A</b>  , and <b>A</b>  , press the button to measure frequency. But the frequency readings obtained from these ranges are only for reference.
<b>ZERO</b>	<ul style="list-style-type: none"><li>● Press <b>ZERO</b> to display the present value as stored value and display zero. After that, all the measurement result displayed will automatically subtract the stored value.</li><li>● Press <b>ZERO</b> again to display the stored value.</li><li>● Press and hold <b>ZERO</b> to exit and back to normal operation.</li></ul>

## The Effectiveness of Functional Buttons

Not every functional buttons can be used on every rotary switch position . The table below describes which functional buttons can be used on which rotary switch positions.

Rotary Switch Positions	Functional Buttons					
	SELECT	MAX/MIN		HOLD	$\varnothing$ Hz	ZERO
$V \sim$	•	•	•	•	•	•
$\Omega$	•	•	•	•	N/A	•
%Hz	N/A	•	•	•	N/A	•
44A 	N/A	•	•	•	•	•
1000A 	N/A	•	•	•	•	•
40A $\sim$	N/A	•	•	•	•	N/A
1000A $\sim$	N/A	•	•	•	•	N/A

### Display Symbols (see Figure 2)

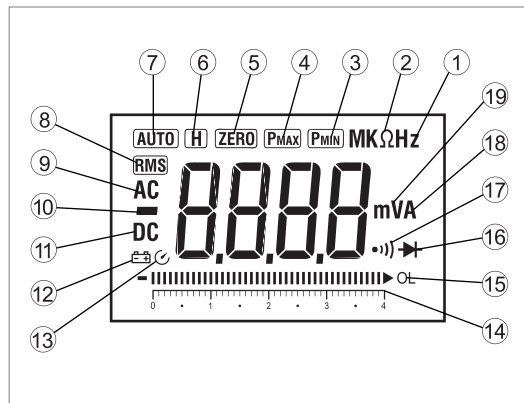








Figure 2

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Number	Symbol	Meaning
1	<b>Hz, kHz, MHz</b>	Hz: Hertz. The unit of frequency. KHz: Kilohertz. $1 \times 10^3$ or 1000 hertz. MHz: Meghertz. $1 \times 10^6$ or 1,000,000 hertz.
2	<b><math>\Omega</math>, k<math>\Omega</math>, M<math>\Omega</math></b>	$\Omega$ : Ohm. The unit of resistance. k $\Omega$ :Kilohm. $1 \times 10^3$ or 1000 ohms M $\Omega$ :Megohm. $1 \times 10^6$ or 1,000,000 ohms
3	<b>PMAx</b>	Maximum peak reading displayed
4	<b>PMIN</b>	Minimum peak reading displayed
5	<b>ZERO</b>	Indicator for relative value zeroing
6	<b>H</b>	Data hold is active
7	<b>AUTO</b>	The Meter is in the auto range mode in which the Meter automatically selects the range with the best resolution.
8	<b>RMS</b>	True RMS indicator
9	<b>AC</b>	Indicator for AC voltage or current
10	<b>—</b>	Indicates negative reading
11	<b>DC</b>	Indicator for DC voltage



Number	Symbol	Meaning
12		The battery is low. <b>⚠ Warning:</b> To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the battery indicator appears.
13		Sleep mode is on
14		Analogue bar graph ruler
15		Analogue Bar Graph
16		Test of diode
17		The continuity buzzer is on
18	<b>A</b>	Amperes (amps). The unit of current.
19	<b>mV, V</b>	Volts. The unit of voltage. mV: Millivolt. $1 \times 10^{-3}$ or 0.001 volts

### Measurement Operation

#### A. DC/AC Voltage Measurement (see Figure 3)

##### Warning

**To avoid damage to the Meter or personal injury, do not attempt to measure voltages higher than 600V AC/DC, although readings may be obtained.**

The DC Voltage ranges are:  
400mV, 4V, 40V, 400V and 600V

The AC Voltage ranges are:  
400mV, 4V, 40V, 400V and 600V

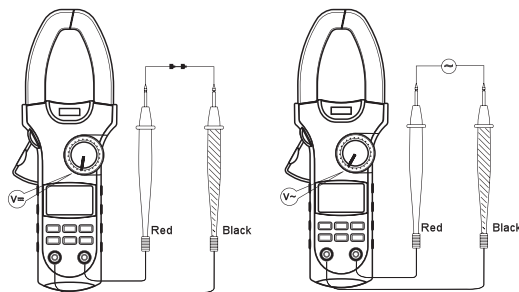


Figure 3

To measure DC/AC voltages, connect the Meter as follows:

1. Insert the red test lead into the **VΩ Hz** terminal and black test lead into the **COM** terminal.
2. Set the rotary switch to **V $\overline{\sim}$** . DC measurement mode and auto ranging is a default. Press **SELECT** to switch to AC measurement mode.
3. Press **Hz** button to measure frequency, but the frequency readings obtained from this range is only for reference.
4. Connect the test leads across with the object being measured.  
The measured value shows on the display.

**Notes:**

- When DC/AC voltage measurement has been completed, disconnect the connection between the testing leads and the circuit under test and remove testing leads from the input terminals.

**B. Resistance Measurement**(see Figure 4)**⚠ Warning**

To avoid damage to the Meter or personal injury, disconnect circuit power and discharge all the high-voltage capacitors before measuring resistance.

The resistance ranges are:  
400 $\Omega$ , 4k $\Omega$ , 40k $\Omega$ , 400k $\Omega$  and 40M $\Omega$

To measure resistance, connect the Meter as follows:

1. Insert the red test lead into the **V $\Omega$ Hz** terminal and black test lead into the **COM** terminal.
2. Set the rotary switch to  **$\Omega$**  Resistance measurement is a default or press **SELECT** to switch to  $\Omega$  measurement mode.

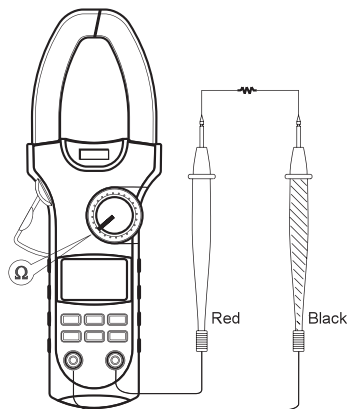


Figure 4

3. Connect the test leads across with the object being measured.  
The measured value shows on the display.

**Notes:**

- To obtain a more precise reading, you should remove the objects being tested from the circuit when measuring.
- When resistance measurement has been completed, disconnect the connection between the testing leads and the circuit under test and remove testing leads from the input terminals.

**72-9485: OPERATING MANUAL****C. Testing Diodes (see Figure 5)****⚠ Warning**

**To avoid damage to the Meter or to the devices under test, disconnect circuit power and discharge all the high-voltage capacitors before testing diodes.**

Use the diode test to check diodes, transistors, and other semiconductor devices. The diode test sends a current through the semiconductor junction, then measure the voltage drop across the junction. A good silicon junction drops between 0.5V and 0.8V.

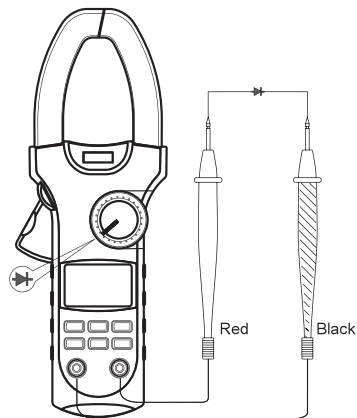


Figure 5

To test the diode out of a circuit, connect the Meter as follows:

1. Insert the red test lead into the **VΩHz** terminal and black test lead into the **COM** terminal.
2. Set the rotary switch to  $\rightarrow \Omega$  Press **SELECT** to switch to  $\rightarrow$  measurement mode.
3. For forward voltage drop readings on any semiconductor component, place the red test lead on the component's anode and the black test lead on the component's cathode.

### Notes:

- To obtain a more precise reading, you should remove the objects being tested from the circuit when measuring.
- When diode testing has been completed, disconnect the connection between the testing leads and the circuit under test and remove testing leads from the input terminals.

### D. Testing for Continuity (see Figure 6)

#### Warning

To avoid damage to the Meter or to the devices under test, disconnect circuit power and discharge all the high-voltage capacitors before measuring continuity.

To test for continuity, connect the Meter as follows:

1. Insert the red test lead into the **VΩHz** terminal and the black test lead into the **COM** terminal.
2. Set the rotary switch to  $\text{•|||} \rightarrow \Omega$  and press **SELECT** button to select  $\text{•|||}$  measurement mode.
3. The buzzer sounds if the resistance of a circuit under test is less than  $30\Omega$ .
4. The buzzer may or may not sound if the resistance of a circuit under test is between  $30\Omega$  to  $100\Omega$ .
5. The buzzer does not sound if the resistance of

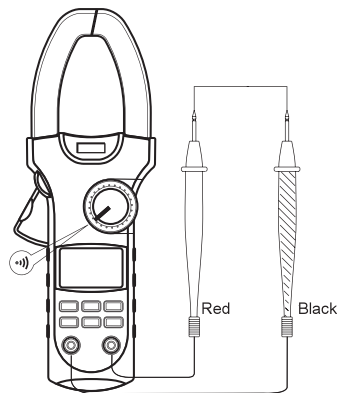


Figure 6



a circuit under test is higher than  $100\Omega$

**Notes:**

- When continuity testing has been completed, disconnect the connection between the testing leads and the circuit under test and remove testing leads from the input terminals.

### E. Frequency Measurement (see Figure 7)

#### Warning

To avoid damage to the Meter or personal injury, do not attempt to measure voltages higher than 600V AC/DC, although readings may be obtained.

The frequency ranges are:  
4kHz, 40kHz, 400kHz, 4MHz and 40MHz.

To measure frequency, connect the Meter as follows

1. Insert the red test lead into the **VΩHz** terminal and the black test lead into the **COM** terminal.
2. Set the rotary switch to **Hz**.
3. Connect the test leads with the object being measured.

The measured value shows on the display.

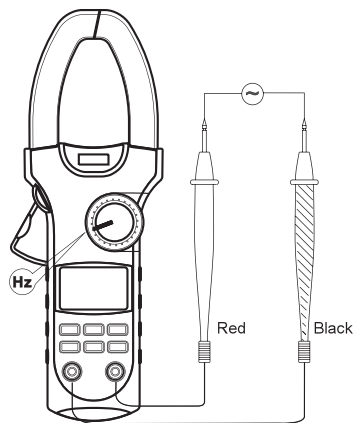


Figure 7

**Notes:**

- The maximum amplitude must not exceed 30Vrms.
- When frequency measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the test leads from the input terminals of the Meter.

### F. DC Current Measurement (see Figure 8)

#### Warning

The operating temperature must be 0°C ~40°C when measuring current.

The measurement ranges of current are: 40A $\overline{\text{DC}}$  and 1000A $\overline{\text{DC}}$ .

To measure current :

1. Set the rotary switch to **40A $\overline{\text{DC}}$**  or **1000A $\overline{\text{DC}}$** .
2. When the Meter is at **400A $\overline{\text{DC}}$**  range, the LCD displays 00.00. Press **ZERO** to zero the Meter. Minor fluctuations may be observed after zeroing.
3. When the Meter is at **1000A $\overline{\text{DC}}$**  range, it automatically separates **400A $\overline{\text{DC}}$**  and **1000A $\overline{\text{DC}}$**  range. The initial stage is **400A $\overline{\text{DC}}$** , the Meter displays 0.0. Press **ZERO** to zero the Meter.

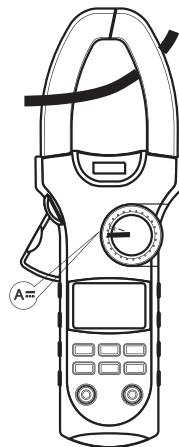


Figure 8

When the testing current is greater than **400A**, it is not necessary to zero.

4. Hold the Meter tight, don't release. The Hall components are very sensitive not only to magnetic interference as well as heat and physical shock. Any physical shock can cause fluctuations in observed readings.
5. Press the Trigger to open the transformer jaw.
6. Center the conductor within the transformer jaw, then release the Trigger slowly until the transformer jaw is completely closed. Make sure the conductor to be tested is placed at the center of the transformer jaw, otherwise it will cause a misreading. The Meter can only measure one conductor at a time, to measure more than one conductor at a time will cause error.

The following testing method can obtain more accurate DC current:

1. Power off the tested conductor current.
2. Press the Trigger to open the transformer jaw.
3. Center the conductor between the transformer jaw, then release the Trigger slowly until the transformer jaw is completely closed. Make sure the conductor to be tested is placed at the center of the transformer jaw, otherwise it will cause  $\pm 1.0\%$  deviation.
4. When the reading is stable at the minimal, press **ZERO** to display zero.

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5. Power on the tested conductor current, allow the Meter to come to a steady state and take your reading.
6. This DC current measurement result is more accurate.

### Notes:

- The Meter adopts relative value zeroing.
  - Press **ZERO** to store the displayed value.  
After that, all the measurement result displayed will automatically subtract the stored value.
  - Press **ZERO** again to display the stored value.
  - Press and hold **ZERO** to exit and back to normal operation.
- When measuring DC current, if the reading is positive, then the current direction is traveling from the front of the Meter through the clamps and away from the observer.
- When current measurement has been completed, disconnect the connection between the conductor under test and the jaw, and remove the conductor from the transformer jaw of the Meter.

### G. AC Current Measurement (see Figure 9)

#### Warning

**The operating temperature must be 0°C ~40°C when measuring current.**

The measurement ranges of current are: 40A~ and 1000A~.

To measure AC current, do the following:

1. Set the rotary switch to 40A~ or 1000A~.
2. Hold the Meter tight, don't release. The Hall components are very sensitive not only to magnetic interference as well as heat and physical shock. And physical shock can cause fluctuations in observed readings.
3. Press the Lever to open the transformer jaw.
4. Center the conductor within the transformer jaw, then release the Meter slowly until the transformer jaw is completely closed. Make sure the conductor to be tested is placed at the center of

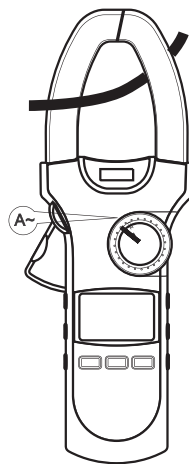


Figure 9

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the transformer jaw, otherwise it will cause deviation. The Meter can only measure one conductor at a time, to measure more than one conductor at a time will result in an improper reading.

5. When the measuring current  $>1A$ , press  $\text{Hz}$  button to toggle between AC current and frequency measurement mode. The frequency readings obtained from this range is only for reference.

### Notes:

- When measuring AC current range, minor fluctuations may occur it will not affect measurement result.
- Change to AC:  
Couple AC and True RMS response method. Input sine wave to adjust. Non sine wave must follow the below data to adjust:  
Peak factor: 1.4~2.0, add 1.0% on the stated accuracy.  
Peak factor: 2.0~2.5, add 2.5% on the stated accuracy  
Peak factor: 2.5~3.0, add 4.0% on the stated accuracy.
- When current measurement has been completed, disconnect the connection between the conductor under test and the jaw, and remove the conductor from the transformer jaw of the Meter.



### Sleep Mode

To preserve battery life, the Meter automatically turns off if you do not turn the rotary switch or press any button for approximately 30 minutes.

The Meter beeps 3 times in one minute before entering Sleep Mode and one long beep just before entering Sleep Mode.


The Meter can be activated by turning the rotary switch or pressing any button except the ☀ button, please see the ‘**The Effectiveness of Functional Buttons**’ on page 11-12 for details.

If the Meter is activated by pressing button, the Meter will retain the measurement value before entering Sleep Mode.

Pressing **PMAX/PMIN**, **ZERO** or **⌚Hz** to turn on the Meter can disable the Sleep Mode feature.

## **Specifications**

### **A. General Specifications:**

- For maximum Voltage between any Terminal and Grounding, refer to the Voltage ranges found in the Measurement Operations section of this manual.
- Display: 3 3/4 digits LCD display, Maximum display 4000.
- Polarity: Auto
- Overloading: Display **OL** or **-OL**.
- Battery Deficiency: Display .
- Sampling: 3 times per second.
- Measurement Deviation: If the conductor being measured is not placed in the center of the jaw during AC/DC current measurement, it will cause extra  $\pm 1\%$  deviation based on the stated accuracy.
- Drop Test: 1 meter drop test passed.
- Max. Jaw Opening: 55mm diameter.
- Projected Max. Current conductor size: 45mm diameter.
- Electro-Magnetic: When carrying out measurement near the electro-magnetic, it may cause unstable or wrong reading.
- Power: 1 x 9V battery (6LF22 1604A)

- Battery Life: typically 150 hours (alkaline battery)
- Dimensions: 285.3mm x 105mm x 44.5mm
- Weight: Approximate 533g (battery included)

### B. Environmental Requirements

- The Meter is suitable for indoor use.
- Altitude: Operating: 2000m  
Storage: 10000m
- Safety/ Compliance: IEC 61010 CAT.II 600V CAT.III 300V  
over voltage and double insulation standard, pollution degree 2.
- Temperature and humidity:
  - Operating:  
0°C~30°C (≤80%R.H)  
30°C~40°C (≤75%R.H)  
40°C~50°C (≤45%R.H)
  - Storage:  
-20°C~+60°C (≤80%R.H)

**72-9485:OPERATING MANUAL****Accurate Specifications**

Accuracy:  $\pm$  (a% reading + b digits), guaranteed for 1 year.

Operating temperature:  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$

Relative humidity:  $\leq 85\%\text{R.H}$

Temperature coefficient:  $0.1 \times (\text{specified accuracy}) / 1^{\circ}\text{C}$

**A. DC Voltage**

Range	Resolution	Accuracy	Overload protection
400mV	0.1mV	$\pm(0.8\%+3)$	600V DC/AC
4V	0.001V	$\pm(0.8\%+1)$	
40V	0.01V		
400V	0.1V		
600V	1V	$\pm(1 \%+3)$	

Remark: Input Impedance:  $10\text{M}\Omega$

**B. AC Voltage**

Range	Resolution	Accuracy	Overload protection
400mV	0.1mV	$\pm(1.2\%+20)$	600V DC/AC
4V	0.001V	$\pm(1.2\%+5)$	
40V	0.01V		
400V	0.1V		
600V	1V	$\pm(1.5\%+5)$	

**Remarks:**

- Input Impedance: 10M $\Omega$
- Frequency Response:  
     $\leq 400\text{mV}$  range: 50~100Hz  
    Other ranges: 40Hz~400Hz
- Change to AC:  
    Couple AC and True RMS response method. Input sine wave to adjust. Non sine wave must follow the below data to adjust:

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Peak factor: 1.4~2.0, add 1.0% on the stated accuracy


Peak factor: 2.0~2.5, add 2.5% on the stated accuracy

Peak factor: 2.5~3.0, add 4.0% on the stated accuracy


**C. Resistance**

Range	Resolution	Accuracy	Overload protection
400Ω	0.1Ω	± (1.2%+2)	250VAC
4kΩ	1Ω	±(1%+2)	
40kΩ	10Ω		
400kΩ	100Ω		
4MΩ	1kΩ	±(1.2%+2)	
40MΩ	10kΩ	±(1.5%+2)	

**D. Diode Test**

Range	Resolution	Accuracy	Overload protection
	1mV	0.5V~0.8V (Open circuit voltage approx. 3.0V)	250VAC

**E. Continuity Test**

Range	Resolution	Remarks	Overload protection
	0.1Ω	<ul style="list-style-type: none"><li>● The buzzer sounds if the resistance of a circuit under test is less than 30Ω.</li><li>● The buzzer may or may not sound if the resistance of a circuit under test is between 30Ω to 100Ω.</li><li>● The buzzer does not sound if the resistance of a circuit under test is higher than 100Ω</li><li>● Open circuit voltage approx. -1.2V</li></ul>	250VAC

**F. Frequency**

Range	Resolution	Accuracy	Overload protection
4kHz	0.001kHz	$\pm (0.1\%+3)$	250VAC
40kHz	0.01kHz		
400kHz	0.1kHz		
4MHz	0.001MHz		
40MHz	0.01MHz		

**Remarks:**

- Input Sensitivity as follows:  
When  $\leq 100\text{kHz}$ :  $\geq 300\text{mV rms}$   
When  $> 100\text{kHz}$ :  $\geq 600\text{mV rms}$
- Input amplitude a:  $300\text{mV} \leq a \leq 30\text{V rms}$



**G. DC Current**

Range	Resolution	Accuracy	Overload protection
40A	0.01A	$\pm(2\%+40)$	250VAC
1000A	1A	$\pm(2\%+8)$	

**H. AC Current**

Range	Resolution	Accuracy	Overload protection
40A	0.01A	$\pm(2\%+40)$	250VAC
1000A	1A	$\pm(2\%+8)$	

## **MAINTENANCE**

This section provides basic maintenance information including battery replacement instruction.

### **Warning**

**Do not attempt to repair or service your Meter unless you are qualified to do so and have the relevant calibration, performance test, and service information.**


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

### **A. General Service**

- Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- To clean the terminals, wipe with cotton or lint free cloth and a mild detergent. Dirt or moisture on the terminals may affect readings.
- Turn the Meter off when not in use.
- Remove the battery when not in use for an extended period of time.
- Do not store the Meter in places of high temperature, humidity, explosive/flammable environments, or in a strong magnetic field.

### B. Replacing the Battery (see Figure 10)

#### Warning

To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the battery indicator “ ” appears.

Make sure the transformer jaw and the test leads are disconnected from the circuit being tested before opening the case bottom.

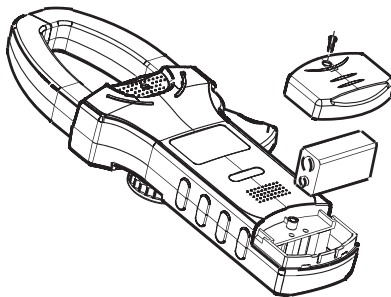


Figure 10

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To replace the battery:

1. Turn the Meter off and remove all the connections from the input terminals.
2. Place the Meter face down.
3. Remove the screw from the battery door and separate the battery door from the case bottom.
4. Take out the old battery and replace with a new 9V battery (6LF22, 1604A).
5. Rejoin the case bottom and the battery door, and reinstall the screw.

This operating manual is subject to change without notice.

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