Table of Contents

Overview

⚠Warning
To avoid electric shock or personal injury, read the "Safety Information" and "Rules for Safety Operation" carefully before using the Meter.

Digital Multimeters Model UT50D (hereafter referred to as "the Meter") is a 3 1/2 digits with steady operations, fashionable structure and highly reliable hand-held measuring instrument. The Meter uses large scale of integrated circuit with double integrated A/D converter as its core and has full range overload protection. The Meter not only can measure AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Temperature, Inductance, Diodes and Continuity, but also has Data Hold, Full Icon Display and Sleep Mode features.

The Meter adopted advanced "co-injection" technique in order to provide sufficient insulation and anti-shaking. In addition, the Automatic Display Backlight feature enables user to work in a dim condition.

Unpacking Inspection

Open the package case and take out the Meter. Check the following items carefully to see any missing or damaged part:

Item	Description	Qty
1	English Operating Manual	1 piece
2	Test Lead	1 pair
3	Test Clip	1 piece
4	Point Contact Temperature Probe	1 piece
5	9V Battery (NEDA 1604, 6F22 or 009P) (installed inside the Meter)	1 piece

In the event you find any missing or damage, please contact your dealer immediately.

Safety Information

This Meter complies with the standards IEC61010: in pollution degree 2, overvoltage category (CAT. II 1000V, CAT. III 600V) and double insulation.

CAT. II: Local level, appliance, PORTABLE EQUIPMENT etc., with smaller transient voltage 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, otherwise the protection provided by the Meter may be impaired.

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 on.

International electrical symbols used on the Meter and in this Operating Manual are explained on page 8.

Rules For Safe Operation (1)

⚠ 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. Look for cracks or missing plastic. Pay attention to 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 the terminals or between any terminal and grounding.
- The rotary switch should be placed in the right position and no any changeover of range shall be made during measurement is conducted to prevent damage of the Meter.
- When the Meter working at an effective voltage over 60V in DC or 30V 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.

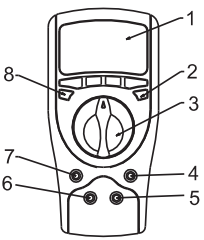
Rules For Safe Operation (2)

- Disconnect circuit power and discharge all high -voltage capacitors before testing resistance, continuity, diodes, capacitance or current.
- Before measuring current, check the Meter's fuses and turn off power to the circuit before connecting the Meter to the circuit.
- 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 test leads, test clips and temperature probe from the Meter 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. A leaking battery will damage the Meter.

International Electrical Symbols

~	AC (Alternating Current).
⎓	DC (Direct Current).
⏚	Grounding.
⧈	Double Insulated.
	Deficiency of Built-In Battery.
⚠	Warning. Refer to the Operating Manual.
	Diode.
≂	AC or DC.
	Fuse.
	Continuity Test.
CE	Conforms to Standards of European Union.

The Meter Structure (see figure 1)



(figure 1)

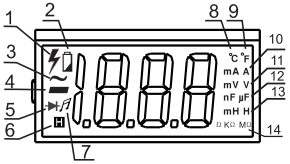
1. **LCD** Display
2. Data Hold Button.
3. Rotary Switch
4. Other Input Terminals
5. **COM** Input Terminal
6. 20A Input Terminal
7. mA Input terminal
8. Power

Functional Buttons

Below table indicated for information about the functional button operations

Button	Operation Performed
POWER (Yellow Button)	Turn the Meter on and off. l Press down the **POWER** to turn on the Meter. l Press up the **POWER** to turn off the Meter.
HOLD (Blue Button)	l Press **HOLD** once to enter hold mode. l Press **HOLD** again to exit hold mode. l In Hold mode, **H** is displayed and the present value is shown.

Display Symbols(1) (see figure 2)



(figure 2)

No.	Symbol	Meaning
1	ϟ	Dangerous Voltages.
2		The battery is low. ⚠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.
3	~	Indicator for AC voltage or current.The displayed value is the mean value.
4	−	Indicates negative reading.
5	⊣⊢	Test of diode.
6	H	Data hold is active.
7	♪	The continuity buzzer is on.
8	°C	Centigrade temperature
9	°F	Fahrenheit temperature
10	µA, mA, A	A: Amperes (amps). The unit of current. mA: Milliamp. 1 x 10^{-3} or 0.001 amperes. µA: Microamp. 1x 10^{-6} or 0.000001 amperes.
11	mV, V	V: Volts. The unit of voltage. mV: Millivolt. 1 x 10^{-3} or 0.001 volts.

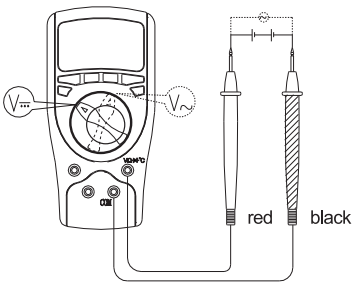
Display Symbols(2) (see figure 2)

No.	Symbol	Meaning
12	**nF, μF**	F: Farad. The unit of capacitance. μF: Microfarad.1 x 10^{-6} or 0.000001 farads. nF: Nanofarad. 1 x 10^{-9} or 0.000000001 farads.
13	**mH,H**	H: Henry. The unit of Inductance. mH: Millihenry. 1 x 10^{-3} or 0.001 henry.
14	Ω,kΩ,MΩ	Ω: Ohm. The unit of resistance. kΩ: kilohm. 1 x 10^{3} or 1000 ohms. MΩ: Megaohm. 1 x 10^{6} or 1,000,000 ohms.

Measurement Operation(1)

- Make sure the Sleep Mode is not on if you found there is no display on the LCD after turning on the Meter.
- Make sure the Low Battery Display is not on, otherwise false readings may be provided.
- Pay extra attention to the ⚠ symbol which is located besides the input terminals of the Meter before carrying out measeurement.

A.DC Voltage Measurement (see figure 3)



(figure 3)

⚠Warning

To avoid harms to you or damages to the Meter from electric shock, please do not attempt to measure voltages higher than 1000V or 750V rms although readings may be obtained.

The DC Voltage ranges are: 200mV, 2V, 20V, 200V and 1000V. To measure DC voltage, connect the Meter as follows:

Measurement Operation(2)

1. Insert the red test lead into thei VΩ→+°C nput terminal and the black test lead into the COM input terminal.
2. Set the rotary switch to an appropriate measurement position in V⎓range.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display.

Note

- If the value of voltage to be measured is unknown, use the maximum measurement position (1000V) and reduce the range step by step until a satisfactory reading is obtained.
- The LCD displays “1” indicating the existing selected range is overloaded, it is required to select a higher range in order to obtain a correct reading.
- In each range, the Meter has an input impedance of approx. 10MΩ This loading effect can cause measurement errors in high impedance circuits. If the circuit impedance is less than or equal to 10kΩ, the error is negligible (0.1% or less).
- When DC voltage measurement has been completed, disconnect the connection between the testing leads and the circuit under test.

Measurement Operation(3)

B.AC Voltage Measurement (see figure 3 in dotted line)

⚠Warning

To avoid harms to you or damages to the Meter from electric shock, please do not attempt to measure voltages higher than 1000V or 750V rms although readings may be obtained.

The AC voltage measurement has 4 measurement positions on the rotary switch: 2V, 20V, 200V and 750V To measure AC Voltage, connect the Meter as follows:

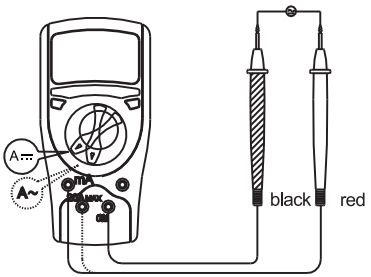
1. Insert the red test lead into the VΩ⊣⊢°C terminal and the black test lead into the COM terminal.
2. Set the rotary switch to an appropriate measurement position in V~ range.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display, which is effective value of sine wave (mean value response).

Note

- If the value of voltage to be measured is unknown, use the maximum measurement position (750V) and reduce the range step by step until a satisfactory reading is obtained.
- The LCD displays "1" indicating the existing selected range is overloaded, it is required to select a higher range in order to obtain a correct reading.
- In each range, the Meter has an input impedance of approx. 10MΩ. This loading effect can cause measurement errors in high impedance circuits. If the circuit impedance is less than or equal to 10kΩ, the error is negligible (0.1% or less).
- When AC voltage measurement has been completed, disconnect the connection between the testing leads and the circuit under test.

Measurement Operation(4)

C.DC Current Measurement (see figure 4)



(figure 4)

⚠ Warning

Never attempt an in-circuit current measurement where the open circuit voltage between terminals and ground is greater than 60V DC or 30V rms.
If the fuse burns out during measurement, the Meter may be damaged or the operator himself may be hurt.
Use proper terminals, function, and range for the measurement. When the testing leads are connected to the current terminals, do not parallel them across any circuit.

The DC current measurement has 3 measurement positions on the rotary switch: 2mA, 200mA and 20A.

To measure current, do the following:

1. Turn off power to the circuit. Discharge all high-voltage capacitors.
2. Insert the red test lead into the mA or 20A terminal and the black test lead into the COM terminal.
3. Set the rotary switch to an appropriate measurement position in A⎓ range.

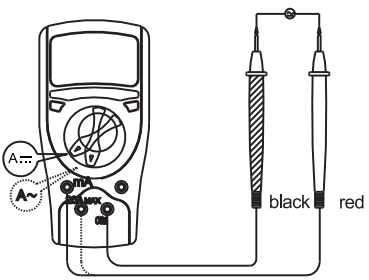
Measurement Operation(5)

4. Break the current path to be tested. Connect the red test lead to the more positive side of the break and the black test lead to the more negative side of the break.
5. Turn on power to the circuit.
   The measured value shows on the display.

Note

- If the value of current to be measured is unknown, use the maximum measurement position (20A) and 20A terminal, and reduce the range step by step until a satisfactory reading is obtained.
- When current measurement has been completed, disconnect the connection between the testing leads and the circuit under test.

D.AC Current Measurement (see figure 4 in dotted line)



(figure 4)

Measurement Operation(6)

⚠Warning
Never attempt an in-circuit current measurement where the voltage between terminals and ground is greater than 60V.
If the fuse burns out during measurement, the Meter may be damaged or the operator himself may be hurt. Use proper terminals, function, and range for the measurement. When the testing leads are connected to the current terminals, do not parallel them across any circuit.

The AC current measurement has 3 measurement positions on the rotary switch: 20mA, 200mA and 20A.
To measure current, do the following:

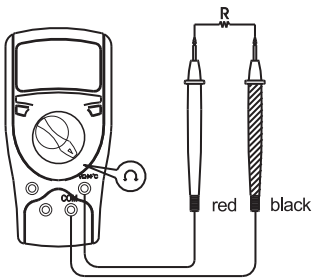
1. Turn off power to the circuit. Discharge all high-voltage capacitors.
2. Insert the red test lead into the mA or 20A terminal and the black test lead into the COM terminal.
3. Set the rotary switch to an appropriate measurement position in A~ range.
4. Break the current path to be tested. Connect the red test lead to the more positive side of the break and the black test lead to the more negative side of the break.
5. Turn on power to the circuit.
   The measured value shows on the display.

Note

- If the value of current to be measured is unknown, use the maximum measurement position (20A) and 20A terminal and reduce the range step by step until a satisfactory reading is obtained.
- When current measurement has been completed, disconnect the connection between the testing leads and the circuit under test.

Measurement Operation(7)

E.Measuring Resistance (see figure 5)



(figure 5)

⚠Warning

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

The resistance ranges are:200Ω,2kΩ,200kΩ,2MΩ,and 20MΩ .

To measure resistance, connect the Meter as follows:

1. Insert the red test lead into the VΩ terminal and the black test lead into the COM terminal.
2. Set the rotary switch to an appropriate measurement position inΩrange.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display.

Note

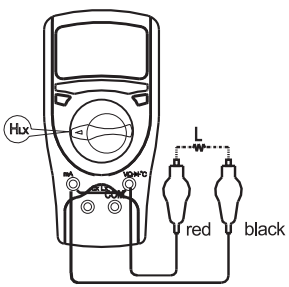
l The test leads can add 0.1Ω to0.3Ωof error when measuring low resistance, that is the range of 200Ω. To obtain precision readings in low-resistance, use the following equation:

Measurement Operation(8)

Precision readings of resistance = Measurement displayed reading minus the short circuit value of red and black test lead.

- For high resistance (>1MΩ), it is normal taking several seconds to obtain a stable reading.
- When there is no input, for example in open circuit condition, the Meter displays “1”.
- When resistance measurement has been completed, disconnect the connection between the testing leads and the circuit under test.

F.Inductance Measurement (see figure 6)



(figure 6)

⚠Warning
Make sure the tested inductance is far away from the high electromagnetic to obtain accurate reading.

Inductance measurement has 4 measurement positions on the rotary switch: 2mH, 20mH, 200mH and 20H.

To test for Inductance, connect the Meter as below:

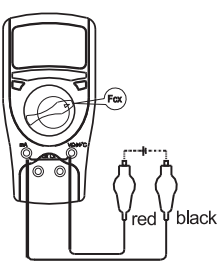
Measurement Operation(9)

1. According to the size of the tested object's leads, insert multi-purpose socket or test clip into the mA and VΩ⊣⊢°C terminal.
2. Set the rotary switch to an appropriate measurement position in HLx range.
3. Insert the tested object into the corresponding jack of the multi-purpose socket or connect the test clip to the object being measured.
   The measured value shows on the display.

Note:

- If the value of inductance to be measured is unknown, use the maximum measurement position, and reduce the range step by step until a satisfactory reading is obtained.
- When inductance testing has been completed, remove the multi-purpose socket or test clip from the input terminal, and remove multi-purpose socket or test clip away from the input terminal of the Meter.

G.Capacitance Measurement (see figure 7)



(figure 7)

Measurement Operation(10)

⚠Warning

To avoid damage to the Meter or to the equipment under test, disconnect circuit power and discharge all high-voltage capacitors before measuring capacitance.Use the DC voltage function to confirm that the capacitor is discharged. Never attempt to input over 60V in DC or 30V rms in AC to avoid personal dangerous.

Capacitance measurement has 4 measurement positions on the rotary switch: 20nF, 200nF, 2μF and 100μF.

To measure capacitance, connect the Meter as follows:

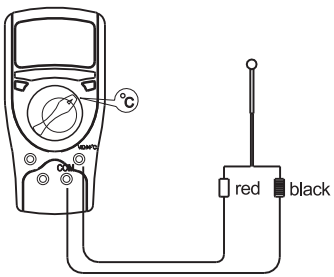
1. Insert the red test clip or red test lead into the **VΩ⊣⊢°C** terminal and the black test clip or black test lead into the mA terminal.
2. Set the rotary switch to an appropriate measurement position in FCx range.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display.

Note:

- For testing the capacitor with polarity, connect the red test lead or test clip to anode & black test lead or test clip to cathode
- When the tested capacitor is shorted or the capacitor value is overloaded, the LCD display "1".
- To minimize the measurement error caused by the distributed capacitor, the testing lead or testing clip should be as short as possible.
- To ensure precision especially when measuring small capacitance 200nF range, the correct reading is as follows:
  Measurement displayed reading minus the Meter's open circuit displayed value.
- It is normal to take a while for zeroing when changing over the measurement range. This process will not affect the accuracy of the final readings obtained.

Measurement Operation(11)

H.Temperature Measurement (see figure 8)



(figure 8)

⚠ Warning

To avoid harm to you or damages to the Meter, do not attempt to measure voltages higher than 60V in DC or 30V rms in AC although readings may be obtained.

The temperature measurement range is from -40°C ~1000°C. To measure temperature, connect the Meter as follows:

1. Insert the red temperature into the VΩ⊣⊢°C terminal and the black temperature probe into the COM terminal.
2. Set the rotary switch to °C.
3. Place the temperature probe to the object being measured.
   The measured value shows on the display.

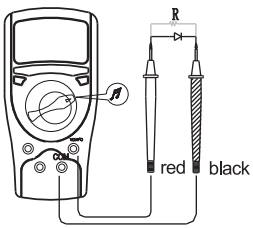
Note:

- The Meter automatically displays the temperature value inside the Meter when there is no temperature probe connection.
- The included temperature probe can only be measured up to 250°C. For any mesaurement higher than that, the rod type temperature probe must be used instead.

Measurement Operation(12)

l When temperature measeuremnet has been completed, disconnect the connection between the testing leads and te circuit under test.

I.Measuring Diodes & Continuity (see figure 9)



(figure 9)

Warning

To avoid damage to the Meter or to the equipment under test, disconnect circuit power and discharge all high-voltage capacitors before measuring diodes and continuity. To avoid harms to you or damages to the Meter, never attempt to measure voltages higher than 60V in DC or 30V rms in AC

Testing Diodes

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

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

1. Insert the red test lead into the VΩ→⊣°C terminal and the black test lead into the COM terminal.

Measurement Operation(13)

2. Set the rotary switch to →|←.
3. For forward voltage drop readings on any semiconductor component, place the red test lead on the component's anode and place the black test lead on the component's cathode.
   The measured value shows on the display.

Note

- In a circuit, a good diode should still produce a forward voltage drop reading of 0.5V to 0.8V; however; the reverse voltage drop reading can vary depending on the resistance of other pathways between the probe tips.
- Connect the test leads to the proper terminals as said above to avoid error display. The LCD will display "1" indicating open-circuit for wrong connection.The unit of diode is Volt (V), displaying the positive-connection voltage-drop value.
- When diode testing has been completed, disconnect the connection between the testing leads and the circuit under test.

Testing for Continuity

To test for continuity, connect the Meter as below:

1. Insert the red test lead into **V**Ω→|←°C terminal and the black test lead into the **COM** terminal.
2. Set the rotary switch to→|←.
3. Connect the test leads across with the object being measured.
   The buzzer sounds if the resistance of a circuit under test is less than 70Ω
   The LCD displays the resistance value of a circuit under test.

Measurement Operation(14)

Note

- The LCD display “1” indicating the circuit being tested is open.
- When continuity testing has been completed, disconnect the connection between the testing leads and the circuit under test.

Sleep Mode

To preserve battery life, the Meter automatically turns off if you do not turn the rotary switch or press any button for around 8 minutes. At that time, the Meter consumes around 10μA current.
The Meter can be activated by pressing the POWER two times.

Turning on the Auto Display Backlight

The Meter has a built-in sensor. Therefore the Display Backlight turns on and off automatically depending on the brightness of the environment. In a dim condition, the Display Backlight turns on automatically while in a bright condition, the Display Backlight turns off automatically.

General Specifications

- Maximum voltage between any Terminals and Grounding :1000V rms.
- ⚠ Fused Protection for mA Input Terminal :0.5A, 250V fast type, ϕ5x20mm.
- ⚠ Fused Protection for **20A** Input Terminal :Un-fused.
- Range :Manual ranging.
- Maximum Display :1999.
- Mesaurement Speed :Updates 2~3 times/second.
- Temperature:
  Operating:0°C~40°C(32°F~104°F)
  Storage: -10°C~50°C(14°F~122°F).
- Relative Humidity :≤75% @ 0°C~30°C; ≤50%@31°C~40°C.
- Altitude: Operating :2000m; Storage: 10000m.
- Battery Type :9V NEDA1604 or 6F22 or 006P.
- Battery Deficiency :Display " ".
- Data Holding :Display " "
- Negative reading :Display "-"
- Overloading :Display "1".
- Dimensions (HxWxL) :165x80x38.3mm.
- Weight : Approx.275g (battery included).
- Safety/Compliances :IEC61010 CAT II 1000V, CAT III 600V overvoltage and double insulation standard.
- Certificate: CE

Accuracy Specifications(1)

Accuracy: ±(a% reading + b digits) guarantee for 1 year.
Operating temperature:23°C±5°C.
Relative humidity:<75%.
Temperature coefficient: 0.1 x (specified accuracy) / 1°C.

A. DC Voltage

Range	Resolution	Accuracy	Overload Protection
200mV	0.1mV	±(0.5%+1)	250V DC or AC rms.
2V	0.001V		1000V DC / 750V ACrms.
20V	0.01V		
200V	0.1V		
1000V	1V	±(0.8%+2)	

Remark: Input impedance: 10MΩ

B. AC Voltage

Range	Resolution	Accuracy	Overload Protection
2V	0.001V	±(0.8%+3)	250V DC or AC rms.
20V	0.01V		1000V DC / 750V ACrms.
200V	0.1V		
750V	1V	±(1.2%+3)	

Remarks:

- **Input impedance:** 10MΩ .
- **Frequency response:** 40Hz~400Hz.
- Display effective value of sine wave (mean value response).

Accuracy Specifications(2)

C. DC Current

Range	Resolution	Accuracy	Overload Protection
2mA	0.001mA	±(0.8%+1)	0.5A. 250V fast type fuse,φ5x20mm
200mA	0.1mA	±(1.5%+1)	
20A	10mA	±(2%+5)	Un-Fused

Remarks:

- **At 20A Range:** For continuous measurement ≤10 seconds and interval not less than 15 minutes.
- **Measurement voltage drop:** Full range at 200mV.

D. AC Current

Range	Resolution	Accuracy	Overload Protection
20mA	0.01mA	±(1%+3)	0.5A. 250V fast type fuse,φ5x20mm
200mA	0.1mA	±(1.8%+3)	
20A	10mA	±(3%+5)	Un-Fused

Remarks:

- **At 20A Range:** For continuous measurement ≤10 seconds and interval not less than 15 minutes.
- **Measurement voltage drop:** Full range at 200mV.
- **Frequency reaponse:** 40Hz~400Hz
- Display effective value of sine wave (mean value response).

Accuracy Specifications(3)

E. Resistance Test

Range	Resolution	Accuracy	Overload Protection
200Ω	0.1Ω	±(0.8%+3)	250V rms
2kΩ	1Ω	±(0.8%+1)	
200kΩ	100Ω		
2MΩ	1kΩ		
20MΩ	10kΩ	±(1%+5)	

Remarks:

l At 200Ωrange, short circuit the test lead first to display the test lead resistance value. During measurement, subtract the test lead resistance value from the displayed reading to obtain the accurate reading.

F. Inductance

Range	Resolution	Accuracy	Overload Protection
2mH	1μH	±(2%+10)	250V rms
20mH	10μH		
200mH	100μH		
20H	10mH	±(3%+10)	

Remarks:

- The tested inductance: Q≥ 10, Internal resistance? ≤1.3kΩ

G. Capacitance

Range	Resolution	Accuracy	Overload Protection
20nF	10pF	±(2.5%+5)	250V rms
200nF	100pF		
2μF	1nF		
100μF	100nF	±(5%+4)	

Remarks:

- When the tested capacitor is higher than 30μF , the reading obtained is only for reference.

Accuracy Specifications(4)

H. Temperature

Range	Resolution	Accuracy	Overload Protection
-40°C~0°C	1°C	±(3%+3)	250V rms
0°C~400°C		±(1%+3)	
400°C~1000°C		±2.5%	

I. Diodes and Continuity Test

Function	Range	Resolution	Input Protection	Remark
Diodes	⊣◀	1mV	250V DC or AC	Open circuit voltage approx. 2.8V
Continuity Test	)))	1Ω		<70Ω buzzer beeps continuously

Maintenance(1)

This section provides basic maintenance information including battery and fuse replacement instruction.

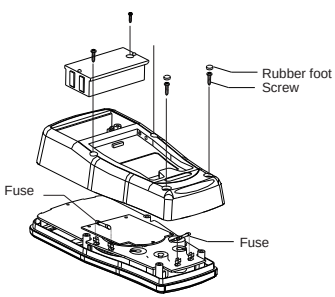
⚠Warning

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 damp cloth and mild detergent. Do not use chemical solvent.
- To clean the terminals with cotton bar with detergent, as dirt or moisture in the terminals can affect readings.
- Turn the Meter OFF when it is not in use and take out the battery when not using for a long time.
- Do not store the Meter in place of humidity, high temperature, explosive, inflammable and strong magnetic field

B.Replacing the Battery (see figure 10)



(figure 10)

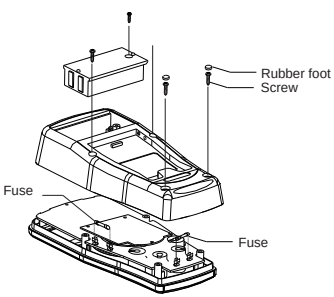
Maintenance(2)

⚠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.

To replace battery:

1. Disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.
2. Turn the Meter off
3. Remove the rubber feet and screws from the battery compartment, and separate the battery compartment from the case bottom
4. Remove the battery from the battery compartment.
5. Replace the battery with a new 9V battery (NEDA 1604 or 6F22 or 006P).
6. Rejoin the battery compartment and the case bottom, and install the screw and rubber feet.

C.Replacing the Fuses (see figure 10)



(figure 10)

Maintenance(3)

⚠Warning
To avoid electrical shock or arc blast, or personal injury or damage to the Meter, use specified fuses ONLY in accordance with the following procedure.

To replace the Meter's fuse:

1. Disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.
2. Turn the Meter off.
3. Remove the rubber feet and screws from the case bottom, and separate the case bottom from the case top.
4. Remove the fuse by gently prying one end loose, and then take out the fuse from its bracket.
5. Install ONLY replacement fuses with the identical type and specification as follows and make sure the fuse is fixed firmly in the bracket.
   0.5A. 250V fast type fuse, ϕ5x20mm
6. Rejoin the case bottom and the case top, and install the screw and rubber feet

   Replacement of fuses is seldom required. Burning of a fuse always results from the improper operation.

~ END ~

This operating manual is subject to change without notice.