DIGITAL MULTIMETER

Digital Multimeter

Owner's manual Model # 50

- Read this owner's manual thoroughly before use

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 or fuses. If the defect has been caused by a misuse or abnormal operating conditions, the repair will be billed at a nominal cost.

SAFETY INFORMATION

#50 has been designed according to IEC-1010 concerning electronic measuring instruments with an overvoltage category (CATII400V) and pollution degree 2.

ELECTRICAL SYMBOLS

⚠ Important safety information. Refer to the manual.

Dangerous voltage may be present.

Earth ground

CE Conforms to European Union directives

Double insulated

⚠ WARNING

To avoid possible electric shock or personal injury, follow these guidelines:

- Do not use the meter if it is damaged. Before you use the meter, inspect the case. Pay particular attention to the insulation surrounding the connectors.
- Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity. Replace damaged test leads before you use the meter.
- Do not use the meter if it operates abnormally. Protection may be impaired. When in doubt, have the meter serviced.
- Do not operate the meter around explosive gas, vapor, or dust.
- Do not apply more than the rated voltage, as marked on the meter, between terminals or between any terminal and earth ground.

- Before use, verify the meter's operation by measuring a known voltage.
- When servicing the meter, use only specified replacement parts.
- Use with caution when working above 30V ac rms or 60V dc.
- Such voltages pose a shock hazard.
- When using the probes, keep your fingers behind the finger guards on the probes.
- Connect the common test lead before you connect the live test lead. When you disconnect test leads, disconnect the live test lead first.
- Do not operate the meter with the battery door or portions of the cover removed or loosened.
- To avoid false readings, which could lead to possible electric shock or personal injury, replace the batteries as soon as the low battery indicator () appears.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity.
- Remove test leads from the meter before opening the meter case.

MAINTENANCE

- Before opening the case, always disconnect the test leads from all live circuits.
- Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- If the meter is not to be used for a long period, remove the battery.

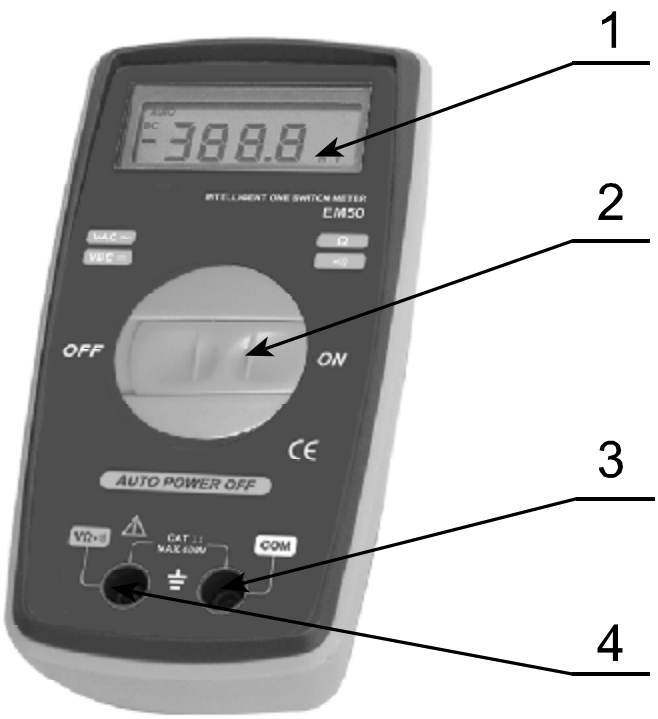
FRONT PANEL

1. 3 3/4 digit LCD

2. Power Switch

3. "COM" Jack

4. " VΩ•)) " Jack



GENERAL SPECIFICATIONS

Display : 3 3/4 LCD with max. reading 3999, "+" Symbol and decimal point .

Working temperature : 0℃~50℃

Storage temperature : -40℃~60℃

Power supply : 9V battery, NEDA 1604, IEC 6F22 or JIS 006P

Low battery Indication: The symbol "🔋" is displayed when the battery voltage is too low.

Dimensions : 70(W) x 155(L) x 39(H)mm

Weight : approx. 250g (including battery)

TECHNICAL SPECIFICATIONS

Accuracy is specified for a period of one year after calibration and at 18℃~28℃ with relative humidity to 75%.

Accuracy specifications take the form of:

±[(%of Reading)+(number of Least Significant Digits)]

DC VOLTAGE

RANGE	RESOLUTION	ACCURACY	INPUT IMPEDANCE	OVERLOAD PROTECTION
4V	0.001V	±(0.8%+1)	10MΩ	400 VDC/AC rms
40V	0.01V			
400V	0.1V			

RESISTANCE/CONTINUITY TEST

RANGE	RESOLUTION	ACCURACY	ACOUSTIC BEEPER
400Ω	0.1Ω	±(1.0%+2)	R<50Ω (Approx.)

AC VOLTAGE

RANGE	RESOLUTION	ACCURACY	FREQUENCY	INPUT IMPEDANCE	OVERLOAD PROTECTION
4V	0.001V	±(1.2%+3)	40~1KHz	10MΩ	400 VDC/AC rms
40V	0.01V				
400V	0.1V				

OPERATING INSTRUCTION

CAUTION:

Never connect the test teads to a source of voltage when the meter is powered off.

DC VOLTAGE MEASUREMENT

⚠ WARNING

The minimum DC Voltage is approximate 3V. The Maximum input for DC voltage is 400V. Never take any voltage measurement that exceeds the limits. Exceeding the limits could cause electrical shock and damage the multimeter.

1. Insert the red test lead into the " VΩ•))) " jack and the black one into the "COM" jack.
2. Connect the red and black test leads to the positive and negative poles of the source or circuit under test respectively.
3. Read the voltage value displayed on the LCD along with the polarity of the red test lead.

NOTE:

Accurate measurement and indication can be guaranteed when the input voltage is **>**3V. If the input voltage is >400V, you may get reading from the LCD, but the meter may be damaged.

AC VOLTAGE MEASUREMENT

⚠ WARNING

The minimum AC Voltage is approximate 3V. The Maximum input for AC voltage is 400V. Never take any voltage measurement that exceeds the limits. Exceeding the limits could cause electrical shock and damage the multimeter.

1. Insert the red test lead into the " VΩ•)) " jack and the black one into the "COM" jack.
2. Connect the test leads to the source or circuit under test.
3. Read the voltage value displayed on the LCD.

NOTE:

Accurate measurement and indication can be guaranteed when the input voltage is >3V. If the input voltage is >400V, you may get reading from the LCD, but the meter may be damaged.

RESISTANCE MEASUREMENT / CONTINUITY TEST

⚠ WARNING

Before taking any in-circuit resistance measurement,remove power from the circuit to be tested and discharge all the capacitors.

1. Insert the red test lead into the " VΩ•)) " jack and the black one into the "COM" jack.
2. Connect the test leads to the circuit under test.
3. Read the resistance value displayed on the LCD.

4. If the resistance value is lower than 50Ω, the instrument will emit an audio signal.
5. An indication as "OL Ω" means that the resistance value is over the maximum measurable value (400Ω).

AUTO POWER-OFF

The function of auto power-off extends the life of the battery by turning the meter off after it is powered on for about 15 minutes. To turn the meter on again, just slide the power switch.

BATTERY REPLACEMENT

Replace the battery , when the symbol "  " is displayed on the LCD.

1. Remove the test leads from the live circuit.
2. Turn the meter off.
3. Remove the fixing screws from the back case.
4. Disconnect the battery from the housing in the back case.
5. Connect a new battery of the same type (9V NEDA 1604 IEC 6F22 JIS 006P) observing the proper polarity from the diagram inside the battery compartment.
6. Reinstall the back case and screws.

ACCESSORIES

Users Manual	1 copy
Test Leads	1 pair
9V Battery (NEDA 1604 or 6FF22)	1 piece