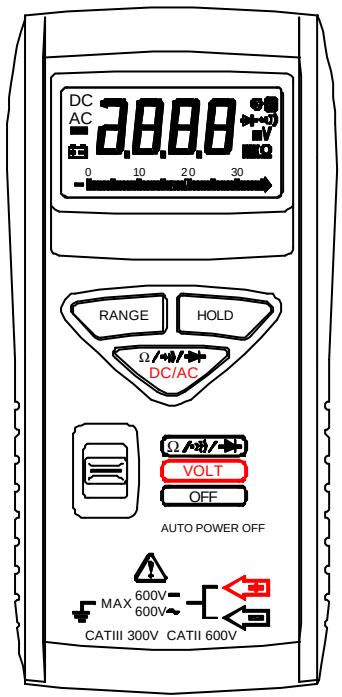
OPERATING INSTRUCTIONS
POCKET
DIGITAL MULTIMETER



SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation at this meter:

Do not use the meter if the meter or test leads look damaged, or if you suspect that the meter is not operating properly.

Never ground yourself when taking electrical measurements. Do not touch exposed metal pipes, outlets, fixtures, etc., which might be at ground potential. Keep your body isolated from ground by using dry clothing, rubber shoes, rubber mats, or any approved insulating material.

Turn off power to the circuit under test before cutting, unsoldering, or breaking the circuit. Small amounts of current can be dangerous.

Use caution when working above 60V dc or 30V ac rms. Such voltages pose a shock hazard.

When using the probes, keep your fingers behind the finger guards on the probes.

Measuring voltage which exceeds the limits of the multimeter may damage the meter and expose the operator to a shock hazard. Always recognize the meter voltage limits as stated on the front of the meter.

SPECIFICATIONS

Display: 3½digit liquid crystal display (LCD) with a maximum reading of 3400, with a 34-segment analog bar-graph.
Polarity: Automatic, (-) negative polarity indication.
Overrange: "OL" mark indication.
Low battery indication: The " " is displayed when the battery voltage drops below the operating level.
Measurement rate: 2 times per second, nominal.
Bar graph: 20 times per second.
Auto power off: approx. 8 minutes.
Operating environment: 0°C to 40°C (32°F to 144°F) at <70% R.H.
Storage temperature: -20°C to 60°C (-4°F to 140°F) at < 80% R.H. with battery removed from meter.
Temperature Coefficient: 0.1 x (specified accuracy) per °C. (0°C to 18°C, 28°C to 40°C).
Power: Two 1.5 button-type batteries (IEC # LR-44, NEDA # 1166A).
Battery life: 70 hours continuous operation.
Dimensions: 125mm (H) x 60mm (W) x 24mm (D).
Weight: Approx. 3.9 oz. (110g) including batteries and case.

(Accuracy at 23°C ± 5°C, <70% R.H.)

	Range	Resolution	ACCURACY	Input Impedance	Overload Protection
DCV	340mV	100µV	± 2.0% rdg + 2 dgts	100MΩ	600V DC or AC rms
	3.4V	1mV	± 1.0% rdg + 2 dgts	10MΩ	
	34V	10mV	± 2.0% rdg + 2 dgts	9.1MΩ	
	340V	100mV			
	600V	1V			
ACV (50/60Hz)	3.4V	1mV	± 4.0% rdg + 5 dgts	10MΩ	
	34V	10mV		9.1MΩ	
	340V	100mV			
	600V	1V			
OHM	Range	Resolution	Accuracy	Open circuit volts	Overload Protection
	340Ω	100mΩ	± 2.0% rdg + 5 dgts	-1.2Vdc	450V DC or AC rms
	3.4kΩ	1Ω	± 2.0% rdg + 4 dgts	-0.45Vdc	
	34kΩ	10Ω			
	340kΩ	100Ω			
	3.4MΩ	1kΩ	± 3.0% rdg + 4 dgts		
	34MΩ	10kΩ	± 5.0% rdg + 5 dgts		
Diode Test	2 V	1mV	± 3.0% rdg + 3 dgts	Test current 1.0mA	450V DC or AC rms
Continuity	340Ω	100mΩ	Audible indication: < 35Ω	Response time: 500ms	450V DC or AC rms

OPERATION

Before taking any measurements, read the Safety Information Section. Always examine the instrument for damage, contamination (excessive dirt, grease, etc.) and defects. Examine the test leads for cracked or frayed insulation. If any abnormal conditions exist do not attempt to make any measurements.

Autoranging

The meter defaults to autorange when you turn it on. In autorange, the meter selects the range automatically.

Manually Selecting a Range

The meter also has a manual range mode. In manual range, you select and lock the meter in a range. To manually select a range:
Press [RANGE] button to hold the selected range. Subsequently pressing the [RANGE] button will select each range in sequence from the lowest to highest range. Hold the button for 2 seconds to return to the Autorange Mode.

Data Hold Feature

Press [HOLD] button to toggle in and out of the Data Hold mode. In the data hold mode, the " H" annunciator is displayed and the last reading is held on the display. Press [HOLD] button again to release the hold and current readings are once again displayed.

Mode Switch (DC/AC), (W)

Press this switch to toggle between DC and AC in the voltage measurements. Press this switch to toggle between the continuity/diode and ohms modes, if the function switch is set to Ω position.

Measuring Voltage

1. Set the Function Switch to " VOLT" position.
2. Press Mode switch to toggle between "DC" and "AC". The "DC" to "AC" mark is displayed.
3. Touch the probes to the test points. The range will change automatically to the level that will display the input voltage with best resolution.
4. The value indicated in the display window is the measured value of voltage with proper decimal point and annunciator indication.

Measuring Resistance and Testing Continuity

1. Set the function switch to Ω position.
2. Turn off power to the circuit under test. External voltage across the components causes invalid readings.
3. To toggle between the ohms/continuity/diode modes, press Mode Switch.
4. Touch the probes to the test points. In ohms, the value indicated in the display is the measured value of resistance with proper decimal point and annunciator indication. In continuity test, the beeper sounds continuously, if the resistance is less than approximately 35Ω.

Testing Diodes

1. Set the Function switch to Ω position.
2. Turn off power to the circuit under test. External voltage across the components causes invalid readings.
3. Press Mode Switch to toggle between the ohms/continuity/diode modes
4. Touch probes to the diode. A forward-voltage drop is about 0.6V (typical for a silicon diode).
5. Reverse probes. If the diode is good, "OL" is displayed. If the diode is shorted, a value near 0mV will be displayed.
6. If the diode is open, "OL" is displayed in both directions.
7. Audible Indication: Less than 0.25V.

Auto Power off

1. Auto power off: approx. 8 minutes.
2. After auto power off, press any button to restart the meter, and the reading of measurement will be maintained in the display.

Cancellation Of Auto Power Off Feature: Press and hold the (RANGE) button while rotating function switch from off to any position to turn the meter on. The auto power off feature is disabled.

CE

Safety: Conforms to IEC1010-1 (EN61010-1), Rev-2; CATII 600V, CATIII 300V.

EMC: Conforms to EN61326.

The symbols used on this instrument are:

- Caution, refer to accompanying documents
- Equipment protected throughout by Double insulation (Class II)
- Alternating current
- Direct current
- Ground

BATTERY REPLACEMENT

Power is supplied by two button-type batteries (NEDA 1166A, IEC LR-44). The " " appears on the LCD display when replacement is needed.

WARNING

Before attempting to replace the battery, first disconnect the Test Leads from any energized circuit.

1. Disconnect the test leads from any energized circuit.
2. Set the Function Switch to OFF.
3. Remove battery cover screw.
4. Slide off battery cover and change batteries.
5. Replace battery cover and screw.