




## 3½ DIGITAL MULTIMETER

### FEATURES

- Display 3½ digits LCD with a max reading of 1999.
- Over range indicator: Only “1” displayed.
- Zero adjustment: Automatic.
- Low battery: The sign “ ” is displayed.
- Power: Single, standard 12-volt battery.
- Dimensions: 120mmx70mmx20mm.
- Weight: 90g (including battery and test leads).
- Automatic negative polarity indication.

### SPECIFICATIONS

Accuracies are  $\pm$  (%reading + no. of digits) at  $23 \pm 5^\circ\text{C}$ , less than 75%RH.

DC Voltage		
Range	Accuracy	Resolution
2V	$\pm(0.8\% + 1)$	1mV
20V		10mV
200V		100mV
500V	$\pm(1.0\% + 1)$	1V



- Input impedance: 1M $\Omega$ .
- Maximum input voltage: 500V DC or peak AC, 15 seconds maximum of overload time.

DC Current		
Range	Accuracy	Resolution
200mA	$\pm(2.0\% + 2)$	100uA

- Overload protection: 0.5A/250V fuse.

AC Voltage		
Range	Accuracy	Resolution
200V	$\pm(2.0\% + 10)$	100mV
500V		1V

- Frequency Range: 50 ~ 200KHz.
- Maximum input voltage: 500V rms AC.
- Indication: Average (rms of sine wave).

Diode and Audible Continuity Test		
Range	Description	Test Condition
	Display read approx forward voltage of diode.	Forward DC current approx 1mA. Reversed DC voltage approx 2.8 Volts.
	Built-in buzzer sounds if resistance is less than approx 30 $\Omega$ .	Open circuit voltage approx 2.8 Volts.

Resistance		
Range	Accuracy	Resolution
2K $\Omega$	$\pm(1\% + 4)$	1 $\Omega$
20K $\Omega$	$\pm(1\% + 4)$	10 $\Omega$
200K $\Omega$		100 $\Omega$
2000K $\Omega$		1K $\Omega$

- Overload protection: 250V DC/AC rms, less than 10 seconds.
- Open circuit voltage: less than 2.8V.

## OPERATION

### DC Volts Measurement (DCV)

- Set the FUNCTION switch to the proper Volts range and set the PUSH switch to the " $\bar{V}$ " position. If the voltage is unknown, set the FUNCTION switch to the highest range and work down.
- Connect the test lead to the circuit.

### DC Current Measurement (DCA)

- Set the FUNCTION switch to 200mA range and set the PUSH switch to the " $\bar{A}$ " position.
- Connect the test lead in series to the circuit.

### AC Voltage Measurement (ACV)

- Set the FUNCTION switch to the 200V or 500V range and set the PUSH switch to the " $\bar{V}$ ".
- Connect the test lead to the circuit.

### Resistance Measurement ( $\Omega$ )

- Set the FUNCTION switch to a proper OHM range and set the PUSH switch to the " $\Omega$ " position.
- Connect the test lead to the circuit.

### Diode and Audible Continuity Test

- Set the FUNCTION switch to " $\rightarrow| \rightarrow$ ".
- Connect the test lead to the diode, circuit or resistance.

## MAINTENANCE

The Digital Multimeter is a precision electronic device. Do not tamper with circuitry.

- Never connect more than 500 Volts DC/AC rms.
- Never connect a source of voltage with the Function switch in the " $\Omega$ " position.
- Never operate the DMM unless the battery cover is in place and fully closed.
- Battery replacement should only be done after the test leads have been disconnected and the power is off.
- Replace the battery if the "low" indicator is displayed on the LCD, or if the accuracy is no longer guaranteed.
- Turn the switch to the OFF position when not in use.



### INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

