



TESTER DE CONTINUIDAD

GENERAL DESCRIPTION

This compact digital multimeter is designed to measure AC and DC voltages, DC current, Resistance, Diode and to perform audible continuity checks with accuracy and easy.

Small and lightweight, with a carrying case and test leads wound on its body, this instrument will provide you years of satisfactory service.

FRONT PANEL DESCRIPTION

1. Range Switch

This switch is used to select desired ranges as well as to turn on/off the meter.

2. Function Switch

Switch for selecting functions

3. LCD Display

3½ digit, 7 segment, maximum 1999 counts

4. Test Leads

Red test lead for positive (+) and black test lead for negative (–)

SPECIFICATION

Accuracy is guaranteed for 1 year, 23°C ± 5°C, less than 75% RH.

DC VOLTAGE

Range	Resolution	Accuracy
2V	1mV	±0.5% of rdg ± 1dgt
20V	10mV	±0.8% of rdg ± 1dgt
200V	100mV	±0.8% of rdg ± 1dgt
500V	1V	±0.8% of rdg ± 1dgt

Overload Protection: 500V dc or rms ac for all ranges

AC VOLTAGE

Range	Resolution	Accuracy
200V	100mV	±1.2% of rdg ± 10dgt
500V	1V	±1.2% of rdg ± 10dgt

Overload protection: 500V dc or rms ac for all ranges.

Frequency range: 45Hz to 450Hz.

Response: Average responding, calibrated in rms of a sine wave.

**DC CURRENT**

Range	Resolution	Accuracy
200mA	0.1mA	$\pm 2.0\%$ of rdg ± 2 dgts
Overload Protection: F 250mA/250V fuse		

RESISTANCE

Range	Resolution	Accuracy
2k Ω	1 Ω	$\pm 1.0\%$ of rdg ± 2 dgts
20k Ω	10 Ω	$\pm 1.0\%$ of rdg ± 2 dgts
200k Ω	100 Ω	$\pm 1.0\%$ of rdg ± 2 dgts
2000k Ω	1k Ω	$\pm 1.0\%$ of rdg ± 2 dgts

Maximum Open Circuit Voltage: 0.65V


Overload Protection: 250V rms ac for all ranges

DIODE TEST

Range	Description
	Show the approx. forward voltage drop of the diode.


Overload Protection: 250V rms ac

DIODE TEST

Range	Description
	Built-in buzzer sounds when resistance is less than 50 Ω .

Overload Protection: 250V rms ac

GENERAL CHARACTERISTICS

Maximum voltage between terminals and earth ground	CAT II 600V
Fuse protection	F 250mA/250V
Power supply	12V battery, GP-23A x 1
Display	LCD, 1999 counts, updates 2-3/sec.
Measuring method	Dual-slope integration A/D converter
Overrange indication	Only figure "1" on the display
Polarity indication	"-" displayed for negative polarity
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-10°C to 50°C (10°F to 122°F)
Low battery indication	"  " appears on the display
Size	120 x 70 x 18 mm
Weight	Approx. 110g



OPERATING INSTRUCTION

DC VOLTAGE MEASUREMENT

1. Set the function switch at V_{DC} position.
2. Set the range switch at desired position. If the magnitude of voltage to be measured is unknown beforehand, set the range switch at the highest position and then reduce until satisfactory reading is obtained.
3. Connect test leads across the source or load being measured. The polarity of red lead connection will be indicated at the same time as the voltage value.
4. When the range switch is set at 500V position, a "HV" sign will appear on the display to remind user of high voltage measurement. Special attention should be paid.

AC VOLTAGE MEASUREMENT

1. Set the function switch at V_{AC} position.
2. Set the range switch at desired position. Measurement reading can be obtained at 2V and 20V positions, but the accuracy is not guaranteed.
3. Connect test leads across the source or load being measured and read the voltage value on the LCD display.
4. When the range switch is set at 500V position, a "HV" sign will appear on the display to remind user of high voltage measurement.

DC CURRENT MEASUREMENT

1. Set the function switch at A_{DC} position.
2. Set the range switch at 200mA position. Measurement reading can be obtained at other positions, but the decimal point will be at the incorrect places.
3. Open the circuit in which the current is to be measured, and connect test leads in series with the circuit.
4. Read current value on the LCD display along with the polarity of red lead connection.

RESISTANCE MEASUREMENT

1. Set the function switch at Ω position. (Note: The polarity of red lead is positive "+")
2. Set the range switch at desired position.



3. Connect test leads across the resistor to be measured and read LCD display.
4. If the resistor being measured is connected to a circuit, turn off power and discharge all capacitors before applying test leads.

DIODE TEST

1. Set the function switch at Ω position. (Note: The polarity of red lead is positive "+")
2. Set the range switch at \rightarrow position.
3. Connect the red test lead to the anode of the diode to be tested and the black lead to the cathode of the diode.
4. The approx. forward voltage drop of the diode will be displayed in mV. If the connection is reversed, only figure "1" will be shown.

AUDIBLE CONTINUITY TEST

1. Set the function switch at Ω position.
2. Set the range switch at \rightarrow position.
3. Connect test leads to two points of the circuit to be tested. If the resistance is less than 50Ω , buzzer will sound.

BATTERY & FUSE REPLACEMENT

If the sign "E" appears on the LCD display, it indicates that the battery should be replaced. Remove the screw on the back cover and open the case. Replace the exhausted battery with a new one of the same type.

Fuse rarely need replacement and blow almost always as a result of operator's error. Open the case and replace the blown fuse with the ratings specified: F 250mA/250V.

WARNING

Before attempting to open the case, always be sure that test leads have been disconnected from measurement circuits. Close case and tighten screws completely before using the meter to avoid electrical shock hazard

ACCESSORIES

Battery	12V, GP-23A	1
Carrying Case		1
Operating manual		1