

Digital Multimeter

DM-38A

- **Multifunction DMM**
- **Heavy Duty**
- **3 3/4 Digit, 0.5" H**
- **Peak Data Hold**
- Frequency Counter
- Capacitance Test
- Logic Detector
- 20A AC/DC
- 0.5% Basic DC Accuracy
- 40M Ω Full Scale
- Transistor h_{FE} Test
- Diode Test
- Audible Continuity Test
- 20M Ω Input Z
- Overload Protection
- RF Shielded
- Lo Power Ohms
- Tilt Stand
- Polarity Indicator
- Overrange Indicator
- Low Battery Indicator
- 1-Year Limited Warranty

Battery, Test Leads and Operating Instructions Included



SPECIFICATIONS:

General

Display: 3 3/4 Digit LCD, 0.5" high, with polarity indicator (4,000 count)

Overrange Indication: "OL" is displayed

Measurement Rate: 3 times per second

Operating Environment: 0°C to 50°C, <70% relative humidity

Storage Environment: -20°C to 60°C, <80% relative humidity with battery removed

Power: 9V carbon zinc battery (NEDA 1604)

Battery Life: 150 hours typical with carbon zinc cells

Low Battery Indicator: Display indicates "B"

Dimensions, Weight: 3.3" wide x 6.3" long x 1" thick (84mm x 160mm x 25mm), net weight 9oz. (250g)

Peak Data Hold: When the Peak Hold function is engaged, the maximum reading is shown on the display until a higher reading is recorded or power to the meter is removed

DC Voltage

Range	Resolution	Accuracy
400mV	100 μ V	$\pm 0.5\%$ of rdg $\pm 1D$
4V	1mV	$\pm 0.5\%$ of rdg $\pm 1D$
40V	10mV	$\pm 0.5\%$ of rdg $\pm 1D$
400V	100mV	$\pm 0.5\%$ of rdg $\pm 1D$
1000V	1V	$\pm 0.5\%$ of rdg $\pm 1D$

Input Impedance: 20M Ω on all ranges

Overload Protection: 500V DC/350V AC for 15 sec. on 400mV range; 1,100V DC/800V AC on all other ranges

DC Current

Range	Resolution	Accuracy
40mA	10 μ A	$\pm 1\%$ of rdg $\pm 1D$
400mA	100 μ A	$\pm 1\%$ of rdg $\pm 1D$
20A	10mA	$\pm 2\%$ of rdg $\pm 3D$

Overload Protection: mA input 0.8A/250V fuse; 20A input (unfused), up to 20A for 15 seconds

AC Voltage

Range	Resolution	Accuracy
400mV	100 μ V	$\pm 1\%$ of rdg $\pm 4D$
4V	1mV	$\pm 1\%$ of rdg $\pm 4D$
40V	10mV	$\pm 1\%$ of rdg $\pm 4D$
400V	100mV	$\pm 1\%$ of rdg $\pm 4D$
750V	1V	$\pm 1.5\%$ of rdg $\pm 4D$

Input Impedance: 20M Ω on all ranges

Overload Protection: 500V DC/350V AC for 15 sec. on 400mV range; 1,100V DC/800V AC on all other ranges

Frequency Range: 50 - 500Hz

AC Current

Range	Resolution	Accuracy
40mA	10 μ A	$\pm 1.2\%$ of rdg $\pm 4D$
400mA	100 μ A	$\pm 1.2\%$ of rdg $\pm 4D$
20A	10mA	$\pm 2\%$ of rdg $\pm 4D$

Overload Protection: mA input, 0.8A/250V fuse; 20A input (unfused), up to 20A for 15 seconds

Resistance

Range	Resolution	Accuracy
400 Ω	0.1 Ω	$\pm 1\%$ of rdg $\pm 3D$
4K Ω	1 Ω	$\pm 0.8\%$ of rdg $\pm 1D$
40K Ω	10 Ω	$\pm 0.8\%$ of rdg $\pm 1D$
400K Ω	100 Ω	$\pm 0.8\%$ of rdg $\pm 1D$
4M Ω	1K Ω	$\pm 0.8\%$ of rdg $\pm 1D$
40M Ω	10K Ω	$\pm 3\%$ of rdg $\pm 3D$
400M Ω	1M Ω	$\pm 5\%$ of rdg -10D, +4D

Overload Protection: 500V DC/AC, 10 seconds

Capacitance

Range	Resolution	Accuracy
4nF	1pF	$\pm 3\%$ of rdg $\pm 10D$
40nF	10pF	$\pm 3\%$ of rdg $\pm 10D$
400nF	100pF	$\pm 3\%$ of rdg $\pm 10D$
4 μ F	1nF	$\pm 3\%$ of rdg $\pm 10D$
40 μ F	10nF	$\pm 3\%$ of rdg $\pm 10D$

Test Frequency: 400Hz

Test Voltage: 50mV

Frequency Measurement

Range: 4K to 4MHz (Aurorange)

Accuracy: $\pm 1\%$ rdg $\pm 2D$

Input Sensitivity: 50mV rms

Overload Protection: 500V DC/AC

Logic Measurement

Logic Type: TTL

Input Impedance: 120K Ω $\pm 10K$

Logic Thresholds

Logic 1: 2.4V, $\pm 0.2V$

Logic 0: 0.7V, $\pm 0.2V$

Frequency Response: 20MHz

Detestable Pulse Width: 25ns, min.

Overload Protection: 50V DC/AC

Continuity Test

Resistance Range: 400 Ω

Beeper Response: <50 Ω

Response Time: <100mSec

Transistor h_{FE} Test (PNP, NPN)

Test Condition: 10 μ A Base Current @ 2.8V

h_{FE} Range: 0 - 1000

Diode Test

Voltage: 3.2V @ 1.6mA Max