# Digital Multimeter

# DM-38A

# Multifunction DMM Heavy Duty

# • 3 3/4 Digit, 0.5" H • Peak Data Hold

- Frequency Countér
- Capacitance Test
- Logic Detector
- 20A AC/DC
- 0.5% Basic DC Accuracy
- 40M $\Omega$  Full Scale
- Transistor her Test
- Diode Test
- Audible Continuity Test
- 20M $\Omega$  Input Z

- Overload Protection
- RF Shielded
- Lo Power Ohms
- Tilt Stand
- Polarity Indicator
- Overrange Indicator
- Low Battery Indicator
- 1-Year Limited Warranty

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## SPECIFICATIONS:

### General

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

Battery, Test Leads and Operating Instructions Included

Overrange Indication: "OL" is displayed Measurement Rate: 3 times per second

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

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	100μV	$\pm 0.5\%$ 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\(\Omega\) 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	10μΑ	$\pm 1\%$ of rdg $\pm 1D$
400mA	100μΑ	$\pm 1\%$ of rdg $\pm 1D$
20A	10mA	$\pm 2\%$ of rdg $\pm 3D$
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Overload Protection: mA input 0.8A/250V fuse; 20A input (unfused), up to 20A for 15 seconds

### **AC Voltage**

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Range	Resolution	Accuracy
400mV	100μV	$\pm 1\%$ 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\(\Omega\) 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	10μΑ	$\pm 1.2\%$ of rdg $\pm 4D$
400mA	100μΑ	$\pm 1.2\%$ of rdg $\pm 4D$
20A	10mA	±2% of rdg ±4D
Overload Protection: mA input, 0.8A/250V fuse,		
20A input (unfused), up to 20A for 15 seconds		

### Resistance

Range	Resolution	Accuracy
$400\Omega$	$0.1\Omega$	$\pm 1\%$ of rdg $\pm 3D$
$4K\Omega$	$1\Omega$	$\pm 0.8\%$ of rdg $\pm 1D$
$40$ K $\Omega$	$10\Omega$	$\pm 0.8\%$ of rdg $\pm 1D$
$400$ K $\Omega$	$100\Omega$	$\pm 0.8\%$ of rdg $\pm 1D$
$4M\Omega$	$1K\Omega$	$\pm 0.8\%$ of rdg $\pm 1D$
$40M\Omega$	10KΩ	±3% of rdg ±3D
$400M\Omega$	$1M\Omega$	±5% of rdg -10D, +4D
Overload I	Protection: 50	OV 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 $\pm 10D$
4μF	1nF	$\pm 3\%$ of rdg $\pm 10D$
40μF	10nF	$\pm 3\%$ of rdg $\pm 10D$
Test Frequency: 400Hz		

Test Frequency: 400Hz Test Voltage: 50mV

### **Frequency Measurement**

Range: 4K to 4MHz (Autorange) Accuracy: ± 1% rdg ± 2D Input Sensitivity: 50mV rms Overload Protection: 500V DC/AC

### **Logic Measurement**

Logic Type: TTL
Input Impedance:  $120K\Omega \pm 10K$ 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:  $400\Omega$ Beeper Response:  $<50\Omega$ Response Time: <100mSec

### Transistor hFF Test (PNP, NPN)

Test Condition: 10µA Base Current @ 2.8V

h<sub>FF</sub> Range: 0 - 1000

### **Diode Test**

Voltage: 3.2V @ 1.6mA Max





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