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
- 40MΩ Full Scale
- Transistor h_{FE} Test
- Diode Test
- Audible Continuity Test
- 20MΩ 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	100µV	±0.5% of rdg ±1D
4V	1mV	±0.5% of rdg ±1D
40V	10mV	±0.5% of rdg ±1D
400V	100mV	±0.5% of rdg ±1D
1000V	1V	±0.5% of rdg ±1D

Input Impedance: 20MΩ 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	10µA	±1% of rdg ±1D
400mA	100µA	±1% of rdg ±1D
20A	10mA	±2% of rdg ±3D

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

AC Voltage

Range	Resolution	Accuracy
400mV	100µV	±1% of rdg ±4D
4V	1mV	±1% of rdg ±4D
40V	10mV	±1% of rdg ±4D
400V	100mV	±1% of rdg ±4D
750V	1V	±1.5% of rdg ±4D

Input Impedance: 20MΩ 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	10µA	±1.2% of rdg ±4D
400mA	100µA	±1.2% of rdg ±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
400Ω	0.1Ω	±1% of rdg ±3D
4KΩ	1Ω	±0.8% of rdg ±1D
40KΩ	10Ω	±0.8% of rdg ±1D
400KΩ	100Ω	±0.8% of rdg ±1D
4MΩ	1KΩ	±0.8% of rdg ±1D
40MΩ	10KΩ	±3% of rdg ±3D
400MΩ	1MΩ	±5% of rdg -10D, +4D

Overload Protection: 500V DC/AC, 10 seconds

Capacitance

Range	Resolution	Accuracy
4nF	1pF	±3% of rdg ±10D
40nF	10pF	±3% of rdg ±10D
400nF	100pF	±3% of rdg ±10D
4µF	1nF	±3% of rdg ±10D
40µF	10nF	±3% of rdg ±10D

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: 120KΩ ±10K

Logic Thresholds
Logic 1: 2.4V, ±0.2V
Logic 0: 0.7V, ±0.2V

Frequency Response: 20MHz

Detestable Pulse Width: 25ns, min.

Overload Protection: 50V DC/AC

Continuity Test

Resistance Range: 400Ω

Beeper Response: <50Ω

Response Time: <100mSec

Transistor h_{FE} Test (PNP, NPN)

Test Condition: 10µA Base Current @ 2.8V

h_{FE} Range: 0 - 1000

Diode Test

Voltage: 3.2V @ 1.6mA Max

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