



DM391/DM393

Digital Multimeter

FULLY LOADED & BUILT FOR SAFETY!

■ All inputs, ranges and functions protected to 1000V CAT III!

■ Access to battery and fuses without breaking calibration seals!

■ Measures temperature! (DM393 only)

■ Measures:

- Capacitance
- Frequency/Duty Cycle
- Resistance
- AC/DC Voltage
- AC/DC Current
- Continuity
- Diode Bias

■ Features Include:

- 4,000 count back-lit display
- Data Hold & Relative Mode
- Ruggedized
- Autoranging
- Auto power off
- Five year limited warranty

■ The DM393 is True RMS



DM391/DM393 • Digital Multimeter

Specifications

Range	Resolution	Accuracy	
		DM391	DM393
400mV	100µV	0.5% + 2	0.5% + 2
4V	1mV		
40V	10mV		
400V	100mV	0.75% + 3	0.75% + 3
1000V	1V		

NMRR : >60db @ 50/60 Hz

CMRR (COMMON MODE

REJECTION RATIO) : >120 db @ DC, 50/60 Hz, Rs=1k

Input Impedance : 10MΩ, 30 pF nominal

(50 MΩ, 100 pF nominal for 400 mV range)

AC Voltage

Range	Resolution	Accuracy		
		40 Hz-400 Hz	400 Hz-1 kHz	1 kHz-20 kHz
		DM391	DM393	DM393
400mV	100µV	0.75% + 3	0.75% + 3	2.0% + 3
4V	1mV			
40V	10mV			
400V	100mV	1.0% + 5	1.0% + 5	2.0% + 5*1
1000V	1V			

CMRR (COMMON MODE : >60db @ DC Hz, Rs = 1 k

REJECTION RATIO)

Input Impedance : 10 MΩ, 30 pF nominal

(50 MΩ, 100 pF nominal for 400 mV range)

*1: Accuracy for 400 Hz to 1 kHz

DC Current

Range	Resolution	Accuracy	
		DM391	DM393
400µA	0.1µA	1.0% + 2	1.0% + 2
4000µA	1µA		
40mA	10µA		
400mA	100µA	1.5% + 5	1.5% + 5
4A	1mA		
10A	10mA		

AC Current

Range	Resolution	Accuracy		
		40 Hz - 400 Hz	400 Hz - 10 kHz	
		DM391	DM393	DM393
400µA	0.1µV	1.0% + 5	1.0% + 5	1.5% + 5
4000µA	1µV			
40mA	10µV			
400mA	100µV	1.5% + 10	1.5% + 10	2.0% + 10
4A	1mA			
10A	10mA			

Resistance

Range	Resolution	Accuracy	
		DM391	DM393
4 0 0	0.1	1.0% + 5	1.0% + 5
4 0 0 0	1		
4 0 k	10		
4 0 0 k	10 0	0.5% + 3	0.5% + 3
4 M	1 k		
10 M	10 k	1.5% + 10	1.5% + 10

Open Circuit Voltage: < 1.3V DC

Continuity

Audible threshold:	the beeper sounds if the measured resistance is lower than 10Ω, and turns off when greater than about 60
Response time:	< 1 msec.

Diode Test

Range	Accuracy	Test Current (Typical)	Open Circuit Voltage
4V	2%	0.25mA	< 1.5V DC

Capacitance

Range	Resolution	Accuracy	
		DM391	DM393
40nF	10pF	2.5% + 10	2.5% + 10
400nF	100pF		
4µF	1nF		
40µF	10nF		
100µF	100nF		

*1: Accuracy with film capacitor or better Using Δ Mode

Frequency and Duty Cycle

Range	Resolution	Accuracy		Remark
		DM391	DM393	
5Hz	0.001Hz	0.05% + 3	0.05% + 3	Minimum frequency: 0.5Hz
50Hz	0.01Hz			
500Hz	0.1Hz			
5kHz	1Hz			
50kHz	10Hz			
500kHz	100Hz			
5MHz	1kHz			
10MHz	10kHz	0.1% to 99.9%	0.1% to 99.9%	Sensitivity: 5Hz-1MHz > 250mV 1MHz-10MHz > 350mV
0.1% to 99.9%	0.1%			

Temperature (DM393)

Range	Resolution	Accuracy
-40°C to -10°C	1°C	(3% ± 5°F)
(-40°F to 14°F)	1°F	3% ± 5°C
-10°F to 400°F	1°C	(1% ± 3°F)
(14°F to 752°F)	1°F	1% ± 3°C
400°C to 1300°C	1°C	(3% of reading)
(752°F to 2372°F)	1°F	3% of reading

* This specification is effective at the ambient temperature of 73.4°F (23°C)

Frequency Counter Sensitivity

Range	Minimum Sensitivity (RMS Sine Wave)	
	40Hz to 10kHz	10Hz to 20kHz
V (4V to 1000V)	500mV	500mV
µA (400µA to 4mA)	> 15% F.S. of AC range	Not Specified
mA (40mA to 400mA)	> 15% F.S. of AC range	Not Specified
A (4.0A to 10A)	> 45% F.S. of AC range	Not Specified

Burden Voltage (A, mA, µA)

Function	Range	Burden Voltage (typical)
mA/µA	400µA	150µV/µA
	4000µA	150µV/µA
	40mA	3.3mV/mA
	400mA	3.3mV/mA
10A	4A	0.03V/A
	10A	0.03V/A

Standard Accessories:

Repl. Fuse 440 mA AF38

Repl. Fuse 11 A AF39

Optional Accessories:

Temperature Probe ATT29A

Temperature adapter ATT70

Soft Carrying Case AC319

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