

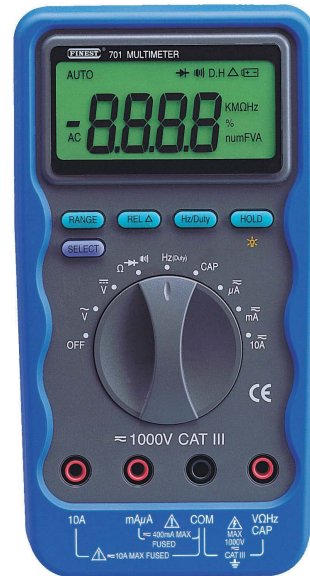
# Finest 701

## 3 3/4 Digit, Auto-ranging DMM

Model 701 is an average responding DMM that meets IEC 1010-1 safety standards for CAT III 1000V application.

### Features:

- 3¾ digit, 4000 count, auto ranging.
- Data hold.
- Relative mode.
- Continuity check/beeper
- Frequency measurement
- Capacitance measurement
- Diode test.
- Duty cycle.
- Backlighted display.
- Auto-power-off.
- 1000 V high energy fuses.
- Overmolded case.
- IEC 1010-1, CAT III 1000 V safety protection



### Accessories:

- Test Lead Set ( FTL-500V1)
- Alligator Clips (AC7)
- K-type Thermocouple (TP7)

### Battery required:

- Battery, 9V (BT1)  
(Not included in accessories)

### Standards

UL 3111-1  
 CSA C22.2 No. 1010.1-92  
 IEC 1010-1  
 EN 61010-1

### Electrical Specification

Accuracy is given as  $\pm$  [(% of reading) + (number of digits)] at 18°C to 28°C with relative humidity up to 80%, for a period of one year after calibration.

#### DC Voltage Measurement

Range	Resolution	Accuracy	Input Impedance
400mV	0.1mV	$\pm(0.5\% \text{ Read.} + 2\text{dgt})$	10 M $\Omega$ , 30pF nominal (50 M $\Omega$ , 100pF nominal for 400mV range)
4V	1mV		
40V	10mV		
400V	100mV		
1000V	1V	$\pm(0.75\% \text{ Read.} + 3\text{dgt})$	

NMRR: > 60dB @ 50/60 Hz

CMRR: > 120dB@ DC, 50/60 Hz, Rs=1k $\Omega$

**AC Voltage Measurement**

Range	Resolution	Accuracy (40Hz-400Hz)	Input Impedance
400mV	0.1mV	±(0.75% Read. + 3dgt)	10 MΩ, 30pF nominal (50 MΩ, 100pF nominal for 400mV range)
4V	1mV		
40V	10mV		
400V	100mV		
1000V	1V	±(1.0% Read. + 5dgt)	

CMRR: > 60dB @ DC to 60 Hz, Rs = 1 KΩ

**DC Current Measurement**

Range	Resolution	Accuracy
400μA	0.1μA	±(1.0% Read. + 2dgt)
4000μA	1μA	
40mA	10μA	
400mA	100μA	
4A	1mA	±(1.5% Read. + 5dgt)
10A	10mA	

**AC Current Measurement**

Range	Resolution	Accuracy (40Hz – 400Hz)
400μA	0.1μA	±(1.0% Read. + 5dgt)
4000μA	1μA	
40mA	10μA	
400mA	100μA	
4A	1mA	±(1.5% Read. + 10dgt)
10A	10mA	

**Resistance Measurement**

Range	Resolution	Accuracy	Open Circuit Voltage
400Ω	0.1Ω	±(1.0% Read. + 5dgt)	< 1.3 V DC
4 kΩ	1Ω	±(0.5% Read. + 3dgt)	
40 kΩ	10Ω		
400 kΩ	100Ω		
4 MΩ	1 kΩ	±(1.0% Read. + 5dgt)	
40MΩ	10 kΩ	±(1.5% Read. + 10dgt)	

**Continuity Measurement**

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

**Diode Test**

Range	Accuracy	Test Current (Typical)	Open circuit voltage
4.0V	2 %	0.25mA	<1.5 V DC

**Capacitance Measurement**

Range	Resolution	Accuracy
* 40nF	0.01nF	±(2.5% Read. + 10dgt)
400nF	0.1nF	
4μF	1nF	
40μF	10nF	
100μF	100nF	

\* Accuracy with film capacitor or better

Using Δ Mode

Due to our policy of continual product development we reserve the right to amend the specifications of all mentioned products without notice.

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Prepared by JIM

**Frequency and Duty Cycle**

Range	Resolution	Accuracy	Remark
5Hz	0.001Hz	±(0.05% Read. + 3dgt)	Minimum frequency: 0.5 Hz  Sensitivity: 5Hz – 1MHz, >250 mV 1MHz – 10MHz, >350 mV
50Hz	0.01Hz		
500Hz	0.1Hz		
5kHz	1Hz		
50kHz	10Hz		
500kHz	100 Hz		
5MHz	1 kHz		
10MHz	10 kHz		
0.1% to 99.9%	0.1%	0.5 Hz to 500 kHz (pulse width > 2 µsec.) (0.1% + 0.05% per kHz + 1 count) for 5 V input (Logic signals only)	

**Frequency Counter Sensitivity**

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

**Burden Voltage (A, mA, µA)**

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

## General Specifications

Display	:	3 3/4 digits LCD with max. reading of 4000.
Polarity	:	Automatic, (-) negative polarity indication.
Zero adjustment	:	Automatic.
Over range indication	:	Only the MSD "OL" is displayed.
Temperature Coefficient	:	Nominal 0.15x (Specified accuracy)/ °C (<18°C or > 28°C)
Operating Temperature	:	0°C to 45°C
Operating Humidity	:	<80% RH
Storage Temperature	:	-20°C to 60°C
Altitude	:	2000m
Pollution Degree	:	2
Shock & Vibration	:	Per MIL-T28800 for a class 2 instrument
Power	:	Single, standard 9 volt battery NEDA 1604, JIS 006P, IEC6F22.
Dimension	:	98 (W) x 188 (H) x 45 (D) mm.
Weight	:	Approx. 525 g
Compliances	:	Complies with CSA C22.2 No 1010.1-92, ANSI/ISA-S82, 01-94 to 1000 V Over voltage Category III.
Certifications	:	UL & cUL standard UL 3111-1 Listed CE-marking certificated
Surge Protection	:	8 kV peak per IEC 1010.1-92

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