



## PROVA 901/ 903 Digital Multi-Meter

### Electrical Specifications: (23°C±5°C)

**The following accuracy is specified for one single channel (channel 1 or channel 2). If dual channels are used at the same time, additional % of accuracy should be added to the listed accuracy. Please refer to the supplemental dual channels specification. The following accuracy is also specified for the ZEROED (relative) value. The accuracy is given as ±% of reading ± number of least significant digits.**

#### AC Voltage:

Range (ACV)	Resolution	Accuracy (50/ 60Hz)	Accuracy (45Hz – 1KHz)
60.000mV	0.001mV	±0.1%±20dgts	±0.3%±20dgts
600.00mV	0.01mV	±0.1%±20dgts	±0.3%±20dgts
6.0000V	0.0001V	±0.1%±20dgts	±0.3%±20dgts
60.000V	0.001V	±0.1%±20dgts	±0.6%±20dgts
600.00V	0.01V	±0.1%±20dgts	±0.6%±20dgts
1000.0V (0-400V)	0.1V	±0.1%±20dgts	±2%±30dgts
1000.0V (400-1000V)	0.1V	±0.1%±20dgts	<b>(45Hz – 400Hz) ±2%±30dgts</b>

Range (ACV)	Accuracy (20Hz - 45Hz)	Accuracy (1KHz– 10KHz)	Accuracy (10KHz – 20KHz)
60.000mV	±0.8%±25dgts	±2%±20dgts	±2.5%±20dgts
600.00mV	±0.8%±25dgts	±1%±20dgts	±2.5%±20dgts
6.0000V	±0.8%±25dgts	±1%±20dgts	±2.0%±20dgts
60.000V	±0.8%±25dgts	±1%±20dgts	±2.0%±20dgts
600.00V (0-400V)	±0.8%±25dgts	±5%±20dgts	Not Specified
600.00V (400-600V)	±0.8%±25dgts	Not Specified	Not Specified
1000.0V (0-400V)	±0.8%±25dgts	±2%±40dgts	Not Specified
1000.0V (400-1000V)	±0.8%±25dgts	Not Specified	Not Specified

Range (ACV)	Accuracy (20KHz – 50KHz)	Accuracy (50KHz– 100KHz)	Accuracy (100KHz-200KHz)
60.000mV	±4%±40dgts	±4%±40dgts	Not Specified
600.00mV	±2%±40dgts	±2%±40dgts	±2%±40dgts
6.0000V	±2%±40dgts	±2%±40dgts	±2%±40dgts
60.000V	±4%±40dgts	Not Specified	Not Specified
600.00V	Not Specified	Not Specified	Not Specified
1000.0V	Not Specified	Not Specified	Not Specified

**DC Voltage:** (Input Impedance: 10M $\Omega$ )

Range	Resolution	Accuracy	Overload Protection
60.000mV	0.001mV	$\pm 0.1\% \pm 5$ dgts	DC 1000V
600.00mV	0.01mV	$\pm 0.03\% \pm 3$ dgts	DC 1000V
6.0000V	0.0001V	$\pm 0.03\% \pm 3$ dgts	DC 1000V
60.000V	0.001V	$\pm 0.03\% \pm 3$ dgts	DC 1000V
600.00V	0.01V	$\pm 0.03\% \pm 3$ dgts	DC 1000V
1000.0V	0.1V	$\pm 0.04\% \pm 3$ dgts	DC 1000V

**AC Current:**

Range (ACA)	Resolution	Accuracy (50/60Hz)	Accuracy (45Hz – 1KHz)
600.00 $\mu$ A	0.01 $\mu$ A	$\pm 0.3\% \pm 20$ dgts	$\pm 0.4\% \pm 20$ dgts
6000.0 $\mu$ A	0.1 $\mu$ A	$\pm 0.3\% \pm 20$ dgts	$\pm 0.4\% \pm 20$ dgts
60.000mA	0.001mA	$\pm 0.3\% \pm 20$ dgts	$\pm 0.4\% \pm 20$ dgts
600.00mA	0.01mA	$\pm 0.3\% \pm 20$ dgts	$\pm 0.4\% \pm 20$ dgts
1.0000A	0.0001A	$\pm 0.3\% \pm 20$ dgts	$\pm 0.4\% \pm 20$ dgts
10.000A	0.001A	$\pm 0.5\% \pm 20$ dgts	$\pm 0.5\% \pm 20$ dgts

Range (ACA)	Accuracy (20Hz - 45Hz)	Accuracy (1KHz – 10KHz)	Accuracy (10KHz – 20KHz)
600.00 $\mu$ A	$\pm 1\% \pm 20$ dgts	$\pm 2\% \pm 20$ dgts	$\pm 1\% \pm 20$ dgts
6000.0 $\mu$ A	$\pm 1\% \pm 20$ dgts	$\pm 2\% \pm 20$ dgts	$\pm 1\% \pm 20$ dgts
60.000mA	$\pm 1\% \pm 20$ dgts	$\pm 0.5\% \pm 20$ dgts	$\pm 1\% \pm 20$ dgts
600.00mA	$\pm 1\% \pm 20$ dgts	$\pm 0.5\% \pm 20$ dgts	$\pm 1\% \pm 20$ dgts
1.0000A	$\pm 1\% \pm 20$ dgts	$\pm 1.5\% \pm 20$ dgts	Not Specified
10.000A	$\pm 2\% \pm 20$ dgts	$\pm 1.5\% \pm 20$ dgts	Not Specified

**DC Current:**

Range	Resolution	Accuracy
600.00 $\mu$ A	0.01 $\mu$ A	$\pm 0.2\% \pm 10$ dgts
6000.0 $\mu$ A	0.1 $\mu$ A	$\pm 0.1\% \pm 10$ dgts
60.000mA	0.001mA	$\pm 0.2\% \pm 10$ dgts
600.00mA	0.01mA	$\pm 0.1\% \pm 10$ dgts
1.0000A	0.0001A	$\pm 0.1\% \pm 10$ dgts
10.000A	0.001A	$\pm 0.3\% \pm 10$ dgts

**Resistance:** ( $\Omega$ )

Range	Resolution	Accuracy	Overload Protection
999.99 $\Omega$	0.01 $\Omega$	$\pm 0.19\% \pm 8$ dgts	AC 1000V
9.9999K $\Omega$	0.0001K $\Omega$	$\pm 0.39\% \pm 3$ dgts	AC 1000V
99.999K $\Omega$	0.001K $\Omega$	$\pm 0.39\% \pm 3$ dgts	AC 1000V
999.99K $\Omega$	0.01K $\Omega$	$\pm 0.19\% \pm 3$ dgts	AC 1000V
9.9999M $\Omega$	0.0001M $\Omega$	$\pm 0.2\% \pm 6$ dgts	AC 1000V
40.000M $\Omega$	0.001M $\Omega$	$\pm 1\% \pm 6$ dgts	AC 1000V

## Supplemental Dual Channels Specification (DC – 400Hz):

The following accuracy should be added to all the listed accuracy if dual channels measurements are performed.

	ACV (Ch2)	DCV (Ch2)	ACA (Ch2)	DCA (Ch2)
<b>ACV (Ch1)</b>	±1% ± (V1 – V2 ) * 200 PPM (Ch1, Ch2)	±0.5% ± (V1 – V2) * 20 PPM (Ch1, Ch2)	±0.1µA/ V (µA,Ch2) ±1µA / V (mA,Ch2) ±0.2mA / V (A, Ch2) ±2mV / A (mV, Ch1) ±5mV / A (V, Ch1)	±0.25% (Ch1, Ch2)
<b>DCV (Ch1)</b>	±0.5% ± (V1 – V2) * 20 PPM (Ch1, Ch2)	±0.25% (Ch1,Ch2)	±0.25% (Ch1, Ch2)	±0.25% (Ch1, Ch2)

The result of (V1-V2) \* PPM is of volts.

V1: the voltage reading in volts of channel 1

V2: the voltage reading in volts of channel 2

PPM: parts per million, Ch1: Channel 1, Ch2: Channel2

**Continuity:** (\*), open voltage 3V approx.)

Range	Resolution	Beeper	Overload Protection
999.99Ω	0.01Ω	< 40Ωapprox.	AC 1000V

**Capacitance:** (+, auto range, and for film capacitor or better)

Range	Resolution	Accuracy
60.00nF	0.01nF	±0.8%±5dgts
600.0nF	0.1nF	±1.5%±5dgts
6.000µF	0.001µF	±1.5%±5dgts
60.00µF	0.01µF	±2.0%±5dgts
490.0µF	0.1µF	±3.5%±5dgts

**Capacitance:** (+, manual range, and for film capacitor or better)

Range	Resolution	Accuracy
99.99nF	0.01nF	±0.8%±5dgts
999.9nF	0.1nF	±1.5%±5dgts
9.999µF	1µF	±1.5%±5dgts
99.99µF	0.01µF	±2.0%±5dgts
999.9µF	0.1µF	±3.5%±5dgts

**Diode Test:** (open voltage 3V approx., overload protection AC 1000V)

Range	Resolution	Accuracy	Short Circuit Current
3.0000V	0.0001V	±2%±5dgts	0.8 mA typical

**Frequency:** (TTL)

Range (Auto)	Resolution	Accuracy	Overload Protection
1.000Hz – 2MHz	0.0001Hz–0.0001MHz	±0.005%±4dgts	AC 1000V

**Duty Cycle:** (% , TTL, 1Hz – 600KHz)

Range	Resolution	Accuracy	Overload Protection
0.001% - 9.999%	0.001%	±30d/KHz±30dgts	AC 1000V
10.00% – 100.00%	0.01%	±3d/KHz±3dgts	AC 1000V


**Frequency: (AC sine wave)**

Range	Resolution	Accuracy	Overload Protection
1.0000Hz– 200KHz	0.0001Hz–100Hz	±0.02%±4dgts	AC 1000V

**Duty Cycle: (% , Sine Wave)**

Range	Resolution	Accuracy	Overload Protection
0.001% – 100.00%	0.001% – 0.01%	Not specified	AC 1000V

**General Specifications:**

Battery Type:	9V
Fuse:	Fast 20A/1000V (A terminal) Fast 1A/1000V (mA / $\mu$ A terminal)
Display:	5 + 5 digits LCD with 30 segments bar graph
Range Selection:	auto and manual
Sampling Time:	ACV, ACA: 2 times/sec (Approx.) DCV, DCA: 4 times/sec (Approx.)
Overload Indication:	OL
Power Consumption:	6 mA(approx.)
Low battery Indication:	
Operating Temperature:	-10°C to 40°C
Operating Humidity:	less than 85% relative
Altitude:	up to 2000M
Storage Temperature:	-20°C to 60°C
Storage Humidity:	less than 75% relative
Dimension:	207mm(L) x 101mm (W) x 47mm (H) 8.15" (L) x 4" (W) x 1.85" (H)
Weight:	430g / 15.2oz (battery included)
Accessories:	Users manual x 1 9V battery x 1 USB to RS-232 cable x 1 Software CD x 1 Software manual x 1

**PROVA<sup>®</sup>****PROVA INSTRUMENTS INC.**

**Add:** 6F-2, #129, Lane 235, Pao-Chiao Road,  
Shin-Tien, Taipei Hsien 231, Taiwan

**Tel:** 886-2-89191255

**Fax:** 886-2-89191489

**E-mail:** [prova@ms3.hinet.net](mailto:prova@ms3.hinet.net)