

PROVA-901/PROVA-903 Digital Multi-Meter

FEATURES:

The DMM to replace your bench-top one

- 0.02% DC and 0.1% AC basic accuracy
- 60,000 counts resolution
- 200KHz (max.) bandwidth
- True RMS with fast ACV/ACA response
- Dual channels measurement similar to a dual channels DSO (V+V, V+A)
- RS-232C ASCII interface
- Data logging (model 903 with 10,708 records for both channels)
- Capacitance measurement
- Free software (901,903)
- 1/3 the cost



SPECIFICATION:

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 $\pm\%$ of reading $\pm$ number of least significant digits.

Continuity : (, open voltage 3V approx.)

Range	Resolution	Beeper	Overload Protection
999.99 Ω	0.01 Ω	< 40 Ω (approx)	AC 1000V

Diode Test : (open voltage 3V approx.)

Range	Resolution	ShortCircuit Current	Overload Protection
3.0000V	0.0001V	0.8 mA typical	AC 1000V

Frequency :

Range (Auto)	Resolution	Accuracy	Overload Protection
1Hz - 200KHz(sine wave)	0.0001Hz -100Hz	$\pm 0.02\% \pm 4$ dgts	AC 1000V
1Hz -2MHz (TTL)	0.0001Hz - 0.0001MHz	$\pm 0.005\% \pm 4$ dgts	AC 1000V

Duty Cycle : (%, TTL, 1Hz – 600KHz)

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

Resistance: (Ω)

Range	Resolution	Accuracy	Overload Protection
999.99 Ω	0.01 Ω	$\pm 0.15\% \pm 8\text{dgts}$	AC 1000V
9.9999K Ω	0.0001K Ω	$\pm 0.09\% \pm 3\text{dgts}$	AC 1000V
99.999K Ω	0.001K Ω	$\pm 0.09\% \pm 3\text{dgts}$	AC 1000V
999.99K Ω	0.01K Ω	$\pm 0.09\% \pm 3\text{dgts}$	AC 1000V
9.9999M Ω	0.0001M Ω	$\pm 0.2\% \pm 6\text{dgts}$	AC 1000V
40.000M Ω	0.001M Ω	$\pm 1\% \pm 6\text{dgts}$	AC 1000V

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

Range	Resolution	Accuracy 1
60.00nF	0.01nF	$\pm 0.8\% \pm 5\text{dgts}$
600.0nF	0.1n F	$\pm 1.5\% \pm 5\text{dgts}$
6.000 μ F	0.001 μ F	$\pm 1.5\% \pm 5\text{dgts}$
60.00 μ F	0.01 μ F	$\pm 2.0\% \pm 5\text{dgts}$
600.0 μ F	0.1 μ F	$\pm 3.5\% \pm 5\text{dgts}$

DC Voltage: (Input Impedance: 10M)

Range	Resolution	Accuracy	Overload Protection
60.000mV	0.001mV	$\pm 0.1\% \pm 5\text{dgts}$ 1	DC 1000V
600.00mV	0.01mV	$\pm 0.02\% \pm 3\text{dgts}$	DC 1000V
6.0000V	0.0001V	$\pm 0.02\% \pm 3\text{dgts}$	DC 1000V
60.000V	0.001V	$\pm 0.02\% \pm 3\text{dgts}$	DC 1000V
600.00V	0.01V	$\pm 0.02\% \pm 3\text{dgts}$	DC 1000V
1000.0V	0.1V	$\pm 0.04\% \pm 3\text{dgts}$	DC 1000V

DC Current: (10A terminal is protected by a 10A fast blown, high energy fuse, and the terminal of μ A and mA is protected by 1A fast blown, high energy fuse)

Range	Resolution	Accuracy
600.00 μ A	0.01 μ A	$\pm 0.2\% \pm 10\text{dgts}$
6000.0 μ A	0.1 μ A	$\pm 0.1\% \pm 10\text{dgts}$
60.000mA	0.001mA	$\pm 0.2\% \pm 10\text{dgts}$
600.00mA	0.01mA	$\pm 0.1\% \pm 10\text{dgts}$
1.0000A	0.0001A	$\pm 0.1\% \pm 10\text{dgts}$
10.000A 1	0.001A	$\pm 0.3\% \pm 10\text{dgts}$

AC Current: (The accuracy is specified for a single channel for 5%-100% of range for 45Hz – 20KHz, True RMS, 10A terminal is protected by a 10A fast blown, high energy fuse, and the terminal of μ A and mA is protected by 1A fast blown, high energy fuse)

Range (ACA)	Resolution	Accuracy (50/60Hz)	Accuracy (45Hz - 1KHz)
600.00 μ A	0.01m A	$\pm 0.3\% \pm 20\text{dgts}$	$\pm 0.4\% \pm 20\text{dgts}$
6000.0 μ A	0.1m A	$\pm 0.3\% \pm 20\text{dgts}$	$\pm 0.4\% \pm 20\text{dgts}$
60.000mA	0.001mA	$\pm 0.3\% \pm 20\text{dgts}$	$\pm 0.4\% \pm 20\text{dgts}$
600.00mA	0.01mA	$\pm 0.3\% \pm 20\text{dgts}$	$\pm 0.4\% \pm 20\text{dgts}$

1.0000A	0.0001A	±0.3%±20dpts	±0.4%±20dpts
10.000A 1	0.001A	±0.5%±20dpts	±0.4%±20dpts

Range (ACA)	Accuracy (20Hz - 45Hz)	Accuracy (1KHz – 10KHz)	Accuracy (10KHz – 20KHz)
600.00 μ A	±1%±20dpts	±2%±20dpts	±1%±20dpts
6000.0 μ A	±1%±20dpts	±2%±20dpts	±1%±20dpts
60.000mA	±1%±20dpts	±0.5%±20dpts	±1%±20dpts
600.00mA	±1%±20dpts	±0.5%±20dpts	±1%±20dpts
1.0000A	±1%±20dpts	±1.5%±20dpts	Not Specified
10.000A 1	±2%±20dpts	±1.5%±20dpts	Not Specified

AC Voltage: The accuracy of ACV or AC mV is specified for 5%-100% of range from 20Hz – 10KHz, average sensing. Input Impedance is 10M , and overloaded protection is AC 1000V for all range. Accuracy is also specified for single channel (channel 1 or channel 2). If dual channels measurements are performed, additional specification of accuracy will be introduced. Please refer to the supplemental dual channels specification. Due to the wide bandwidth, the reading might not be zero when no inputs present. But the residual reading does not affect the listed accuracy. If the AC reading is less than 100 least significant counts, it is set to zero by the unit.

Range (ACV)	Resolution	Accuracy (50/60Hz)	Accuracy (45Hz - 1KHz)	Accuracy (20Hz - 45Hz)
60.000mV	0.001mV	±0.1%±20dpts	±0.3%±20dpts	±0.8%±25dpts
600.00mV	0.01mV	±0.1%±20dpts	±0.3%±20dpts	±0.8%±25dpts
6.0000V	0.0001V	±0.1%±20dpts	±0.3%±20dpts	±0.8%±25dpts
60.000V	0.001V	±0.1%±20dpts	±0.3%±20dpts	±0.8%±25dpts
600.00V	0.01V	±0.1%±20dpts	±0.5%±20dpts	±0.8%±25dpts
1000.0V (0–400V)	0.1V	±0.1%±20dpts	±2%±30dpts	±0.8%±25dpts
1000.0V (400-1000V)	0.1V	±0.1%±20dpts	(45Hz – 400Hz) ±2%±30dpts	±0.8%±25dpts

Range (ACV)	Accuracy 1KHz–10KHz)	Accuracy (10KHz–20KHz)	Accuracy (20KHz-50KHz)	Accuracy (50KHz-100KHz)	Accuracy (100kHz-200KHz)
60.000mV	±2%±20dpts	±2.5%±20dpts	±4%±40dpts	±4%±40dpts	Not Specified
600.00mV	±1%±20dpts	±2.5%±20dpts	±2%±40dpts	±2%±40dpts	±2%±40dpts
6.0000V	±1%±20dpts	±2.0%±20dpts	±2%±40dpts	±2%±40dpts	±2%±40dpts
60.000V	±1%±20dpts	±2.0%±20dpts	±4%±40dpts	Not Specified	Not Specified
600.00V (0-400V)	±5%±20dpts	Not Specified	Not Specified	Not Specified	Not Specified
600.00V (400-600V)	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified

1000.0V (0-400V)	±2%±40dgt	Not Specified	Not Specified	Not Specified	Not Specified
1000.0V (400-1000V)	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified

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)
ACV (Ch1)	±1%±(V1 - V2) 200 PPM (Ch1, Ch2)	±0.5%±(V1 - V2) * 20 PPM (Ch1, Ch2)	±0.1 μ A / V (μ A, Ch2) ±1 μ A / V (mA, Ch2) ±0.2mA / V (A, Ch2) ±2mV / A (mV, Ch1) ± 5mV / A (V, Ch1)	±0.25% (Ch1, Ch2)
DCV (Ch1)	±0.5%±(V1 - V2) * 20 PPM (Ch1, Ch2)	±0.25% (Ch1, Ch2)	±0.25% (Ch1, Ch2)	±0.25% (Ch1, Ch2)

General Specification

Battery Type	9V
Display	5 + 5 digits LCD with 30 segments bar graph
Range Selection	auto and manual
Overload Indication	OL
Power Consumption	6 mA (approx)
Low battery Indication	
Operating Temperature	-10 C to 50 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 RS-232C interface cable