

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%±20dpts | ±0.3%±20dpts |
| 600.00mV | 0.01mV | ±0.1%±20dpts | ±0.3%±20dpts |
| 6.0000V | 0.0001V | ±0.1%±20dpts | ±0.3%±20dpts |
| 60.000V | 0.001V | ±0.1%±20dpts | ±0.6%±20dpts |
| 600.00V | 0.01V | ±0.1%±20dpts | ±0.6%±20dpts |
| 1000.0V (0-400V) | 0.1V | ±0.1%±20dpts | ±2%±30dpts |
| 1000.0V (400-1000V) | 0.1V | ±0.1%±20dpts | (45Hz – 400Hz) ±2%±30dpts |

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

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

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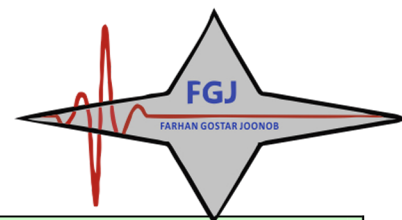
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**DC Voltage:** (Input Impedance: 10M Ω)

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

AC Current:

| Range (ACA) | Resolution | Accuracy (50/60Hz) | Accuracy (45Hz – 1KHz) |
|----------------|--------------|-------------------------------|-------------------------------|
| 600.00 μ A | 0.01 μ A | $\pm 0.3\% \pm 20\text{dgts}$ | $\pm 0.4\% \pm 20\text{dgts}$ |
| 6000.0 μ A | 0.1 μ 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 | $\pm 0.3\% \pm 20\text{dgts}$ | $\pm 0.4\% \pm 20\text{dgts}$ |
| 10.000A | 0.001A | $\pm 0.5\% \pm 20\text{dgts}$ | $\pm 0.5\% \pm 20\text{dgts}$ |

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

DC Current:

| 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 | 0.001A | $\pm 0.3\% \pm 10\text{dgts}$ |

Resistance: (Ω)

| Range | Resolution | Accuracy | Overload Protection |
|------------------|------------------|-------------------------------|---------------------|
| 999.99 Ω | 0.01 Ω | $\pm 0.19\% \pm 8\text{dgts}$ | AC 1000V |
| 9.9999K Ω | 0.0001K Ω | $\pm 0.39\% \pm 3\text{dgts}$ | AC 1000V |
| 99.999K Ω | 0.001K Ω | $\pm 0.39\% \pm 3\text{dgts}$ | AC 1000V |
| 999.99K Ω | 0.01K Ω | $\pm 0.19\% \pm 3\text{dgts}$ | 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 |

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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) | ±0.1μA / V (μA, Ch2) ±1μA / V (mA, Ch2) ±0.2mA / V (A, Ch2) ±2mV / A (mV, Ch1) ±5mV / A (V, Ch1) | ±0.25% (Ch1, Ch2) |
| DCV (Ch1) | ±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 |

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**Frequency: (AC sine wave)**

| Range | Resolution | Accuracy | Overload Protection |
|------------------|----------------|--------------|---------------------|
| 1.0000Hz– 200KHz | 0.0001Hz–100Hz | ±0.02%±4dpts | 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 / μ 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: | <input type="checkbox"/> B <input type="checkbox"/> |
| 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 |

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