

# Selector Guide Digital Multimeters

| Model                   | 2110                 | 2100         | 2000             | DMM7510              | 2010         | 2001              |
|-------------------------|----------------------|--------------|------------------|----------------------|--------------|-------------------|
| Page                    | 246                  | 250          | 254              |                      | 265          | 259               |
| Digits                  | 5½                   | 6½           | 6½               | 7½                   | 7½           | 7½                |
| Expansion Channels      | N/A                  | N/A          | 10               | Future               | 10           | 10                |
| <b>DC Volts</b>         |                      |              |                  |                      |              |                   |
| Sensitivity             | 1 µV                 | 0.1 µV       | 100 nV           | 10 nV                | 10 nV        | 10 nV             |
| Maximum Reading         | 1000 V               | 1000 V       | 1000 V           | 1010 V               | 1000 V       | 1100 V            |
| Basic Accuracy          | 0.012%               | 0.0038%      | 0.002%           | 0.0009%              | 0.0018%      | 0.0018%           |
| Ratio                   |                      | •            |                  | •                    | •            | Option            |
| DC Peak Spikes          |                      |              |                  |                      |              | •                 |
| <b>AC Volts (TRMS)</b>  |                      |              |                  |                      |              |                   |
| Sensitivity             | 1 µV                 | 0.1 µV       | 100 nV           | 100 nV               | 100 nV       | 100 nV            |
| Maximum Reading         | 750 V                | 750 V        | 750 V            | 707 V                | 750 V        | 775 V (1100 V pk) |
| Basic Accuracy          | 0.12%                | 0.08%        | 0.05%            | 0.06%                | 0.05%        | 0.03%             |
| Bandwidth               | 10 Hz–300 kHz        | 3 Hz–300 kHz | 3 Hz–300 kHz     | 3 Hz to 300 kHz      | 3 Hz–300 kHz | 1 Hz–2 MHz        |
| dB, dBm                 |                      | •            | •                | •                    | •            | •                 |
| Frequency, Period       | •                    | •            | •                | •                    | •            | •                 |
| Peak/Avg/RMS            | RMS                  | RMS          |                  | RMS                  |              | •                 |
| AC, AC + DC             | AC                   | AC           |                  | AC                   |              | •                 |
| <b>Ohms (2/4 Wire)</b>  |                      |              |                  |                      |              |                   |
| Sensitivity             | 1 mΩ                 | 100 µΩ       | 100 µΩ           | 0.1 µΩ               | 1 µΩ         | 1 µΩ              |
| Maximum Reading         | 100 MΩ               | 100 MΩ       | 120 MΩ           | 1.2 GΩ               | 120 MΩ       | 1 GΩ              |
| Basic Accuracy          | 0.02%                | 0.015%       | 0.008%           | 0.0024%              | 0.0032%      | 0.0032%           |
| Continuity Test         | •                    | •            | •                | •                    | •            | •                 |
| Diode Test              | •                    | •            | •                | •                    | •            | •                 |
| Offset Compensation     |                      |              |                  | •                    | •            | •                 |
| Dry Circuit             |                      |              |                  | •                    | •            | •                 |
| Constant Current        | •                    | •            | •                | •                    | •            | •                 |
| Open Source Detect      |                      |              |                  | •                    |              |                   |
| <b>DC Amps</b>          |                      |              |                  |                      |              |                   |
| Sensitivity             | 0.1 µA               | 10 nA        | 10 nA            | 1pA                  | 1 nA         | 10 pA             |
| Range Span              | 10 mA–10 A           | 10 mA–3 A    | 10 mA–3 A        | 10 µA–10.1 A         | 10 mA–3 A    | 200 µA–2 A        |
| Basic Accuracy          | 0.15%                | 0.055%       | 0.03%            | 0.006%               | 0.03%        | 0.03%             |
| In Circuit Current      |                      |              |                  |                      |              | •                 |
| <b>AC Amps (TRMS)</b>   |                      |              |                  |                      |              |                   |
| Sensitivity             | 10 µA                | 1 µA         | 1 µA             | 1 nA                 | 1 µA         | 100 pA            |
| Range Span              | 1 A–10 A             | 1 A–3 A      | 1 A–3 A          | 1 mA–10.1 A          | 1 A–3 A      | 200 µA–2 A        |
| Basic Accuracy          | 0.3%                 | 0.15%        | 0.1%             | 0.08%                | 0.1%         | 0.1%              |
| Bandwidth               | 10 Hz–5 kHz          | 3 Hz–5 kHz   | 3 Hz–5 kHz       | 3 Hz to 10 kHz       | 3 Hz–5 kHz   | 20 Hz–100 kHz     |
| <b>General Features</b> |                      |              |                  |                      |              |                   |
| Interface               | USB, GPIB (opt.)     | USB          | GPIB, RS-232     | GPIB, USB, LAN/LXI   | GPIB, RS-232 | GPIB              |
| Reading Hold            | •                    | •            | •                |                      | •            |                   |
| Digital I/O             | Trigger In/Out       | •            |                  | •                    |              | •                 |
| Reading Memory          | 2000 rdg.            | 2000 rdg.    | 1024 rdg.        | 27.5M rdg.           | 1024 rdg.    | Opt to 30,000     |
| Maximum Speed           | 50K rdg/s            | 2000 rdg/s   | 2000 rdg/s       | 1M rdg/s             | 2000 rdg/s   | 2000 rdg/s        |
| Temperature Meas.       | T/C, RTD, Thermistor | RTD          | T/C              | T/C, RTD, Thermistor | T/C, RTD     | T/C, RTD          |
| Language Emulation      |                      | 34401A       | 8840/42, 196/199 |                      | 196/199      |                   |

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| Model                   | 2002              | 3706A                   | 2015, 2016           | 2700                 | 2701                 | 2750                 |
|-------------------------|-------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|
| Page                    | 259               | 275, 174                | 267                  | 276                  | 276                  | 276                  |
| Digits                  | 8½                | 7½                      | 6½                   | 6½                   | 6½                   | 6½                   |
| Expansion Channels      | 10                | 576                     |                      | 80                   | 80                   | 200                  |
| <b>DC Volts</b>         |                   |                         |                      |                      |                      |                      |
| Sensitivity             | 1 nV              | 10 nV                   | 100 nV               | 100 nV               | 100 nV               | 100 nV               |
| Maximum Reading         | 1100 V            | 300 V                   | 1000 V               | 1000 V               | 1000 V               | 1000 V               |
| Basic Accuracy          | 0.0006%           | 0.002%                  | 0.002%               | 0.002%               | 0.002%               | 0.002%               |
| Ratio                   | Option            |                         |                      | w/MUX card           | w/MUX card           | w/MUX card           |
| DC Peak Spikes          | •                 |                         |                      |                      |                      |                      |
| <b>AC Volts (TRMS)</b>  |                   |                         |                      |                      |                      |                      |
| Sensitivity             | 100 nV            | 100 nV                  | 100 nV               | 100 nV               | 100 nV               | 100 nV               |
| Maximum Reading         | 775 V (1100 V pk) | 300 V                   | 750 V                | 750 V                | 750 V                | 750 V                |
| Basic Accuracy          | 0.02%             | 0.05%                   | 0.05%                | 0.06%                | 0.06%                | 0.06%                |
| Bandwidth               | 1 Hz–2 MHz        | 3 Hz–300 kHz            | 3 Hz–300 kHz         | 3 Hz–300 kHz         | 3 Hz–300 kHz         | 3 Hz–300 kHz         |
| dB, dBm                 | •                 | •                       | •                    |                      |                      |                      |
| Frequency, Period       | •                 | •                       | •                    | •                    | •                    | •                    |
| Peak/Avg/RMS            | •                 |                         |                      |                      |                      |                      |
| AC, AC + DC             | •                 |                         |                      |                      |                      |                      |
| THD, Harmonics          |                   |                         | 20 Hz–20 kHz         |                      |                      |                      |
| Spectrum Peaks          |                   |                         | -P versions          |                      |                      |                      |
| Sine Source             |                   |                         | 4V/9V (10 Hz–20 kHz) |                      |                      |                      |
| <b>Ohms (2/4 Wire)</b>  |                   |                         |                      |                      |                      |                      |
| Sensitivity             | 100 nΩ            | 100 nΩ                  | 100 µΩ               | 100 µΩ               | 100 µΩ               | 1 µΩ                 |
| Maximum Reading         | 1 GΩ              | 100 MΩ                  | 120 MΩ               | 120 MΩ               | 120 MΩ               | 120 MΩ               |
| Basic Accuracy          | 0.0007%           | 0.004%                  | 0.008%               | 0.008%               | 0.008%               | 0.008%               |
| Continuity Test         |                   | •                       |                      | •                    | •                    | •                    |
| Diode Test              |                   |                         | •                    |                      |                      |                      |
| Offset Compensation     | •                 | •                       | •                    | •                    | •                    | •                    |
| Dry Circuit             |                   | •                       |                      |                      |                      |                      |
| Constant Current        | •                 | •                       | •                    | •                    | •                    | •                    |
| Open Source Detect      | •                 |                         |                      |                      |                      |                      |
| <b>DC Amps</b>          |                   |                         |                      |                      |                      |                      |
| Sensitivity             | 10 pA             | 1 pA                    | 10 nA                | 10 nA                | 10 nA                | 10 nA                |
| Range Span              | 200 µA–2 A        | 10 µA–3 A               | 10 mA–3 A            | 20 mA–3 A            | 20 mA–3 A            | 20 mA–3 A            |
| Basic Accuracy          | 0.027%            | 0.03%                   | 0.03%                | 0.03%                | 0.03%                | 0.03%                |
| In Circuit Current      | •                 |                         |                      |                      |                      |                      |
| <b>AC Amps (TRMS)</b>   |                   |                         |                      |                      |                      |                      |
| Sensitivity             | 100 pA            | 1 nA                    | 1 µA                 | 1 µA                 | 1 µA                 | 1 µA                 |
| Range Span              | 200 µA–2 A        | 1 mA–3 A                | 1 A–3 A              | 1 A–3 A              | 1 A–3 A              | 1 A–3 A              |
| Basic Accuracy          | 0.1%              | 0.08%                   | 0.1%                 | 0.15%                | 0.16%                | 0.15%                |
| Bandwidth               | 20 Hz–100 kHz     | 3 Hz–10 kHz             | 3 Hz–5 kHz           | 3 Hz–5 kHz           | 3 Hz–5 kHz           | 3 Hz–5 kHz           |
| <b>General Features</b> |                   |                         |                      |                      |                      |                      |
| Interface               | GPIB              | GPIB, LXI/Ethernet, USB | GPIB, RS-232         | GPIB, RS-232         | Ethernet, RS-232     | GPIB, RS-232         |
| Reading Hold            |                   |                         | •                    | •                    | •                    |                      |
| Digital I/O             | •                 | 14                      | 2 in/5 out (TTL)     | 2 in/5 out (TTL)     |                      |                      |
| Reading Memory          | Opt to 30,000     | 650,000 rdg.            | 1024 rdg.            | 55,000 rdg.          | 450,000 rdg.         | 110,000 rdg.         |
| Maximum Speed           | 2000 r dg/s       | >14,000 rdg/s           | 2000 rdg/s           | 2000 rdg/s           | 3500 rdg/s           | 2500 rdg/s           |
| Temperature Meas.       | T/C, RTD          | T/C, RTD, Thermistor    | T/C                  | T/C, RTD, Thermistor | T/C, RTD, Thermistor | T/C, RTD, Thermistor |
| Language Emulation      | HP 3458           |                         |                      |                      |                      |                      |

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