

FLUKE®

Calibration

8508A/02 Reference Multimeter

Technical Data

Reference standard accuracy and stability, plus convenient lead kit

- 8.5 digit resolution
- True Ohms measurement
- 20 Amp current measurement
- Reference-standard accuracy and stability
- Replaces multiple laboratory reference standards
- Dual channel ratio provides simple yet fast measurement transfer
- Lead set included for making stable, accurate connections
- MET/CAL® *Plus* software automation



The 8508A/02 Reference Multimeter is designed specifically to address the measurement challenges faced by metrologists. Not only does it provide the performance required for complex measurement tasks, it is also extremely easy to use. Moreover, it is specified in a way that lets users really understand the uncertainties of the measurements they make.

Accuracy and stability

The 8508A/02 features 8.5 digit resolution, exceptional linearity and extremely low noise and stability, producing superior accuracy specifications as low as 3 ppm over one year. But measurements need to be repeatable and the 8508A delivers that as well, with 24-hour stability as low as 0.5 ppm and a 20-minute stability of 0.16 ppm. This stability is maintained over a wide operating temperature range and achieved

without requiring routine auto-cal or self-calibration, which can compromise measurement traceability and history.

Functional and versatile

The Fluke Calibration 8508A/02 lets you handle a wide range of applications and achieve your measurement requirements with a single instrument, thus saving time and money. In addition to ac and dc voltage, ac and dc current, resistance and frequency, the 8508A/02 also includes a host of other features designed to increase the range of measurements you can make. True Ohms measurement using current reversal technique improves the accuracy of your resistance measurements. The precision SPRT and PRT temperature readout extends the functionality of the 8508A/02 into advanced temperature metrology. The Lo Current Ohms feature reduces

measurement errors due to self-heating within the device being measured. A dual input channel ratio feature, under GPIB control, enables the 8508A/02 to be used as a simple, fast, automated transfer standard. High current measurement—up to 20 A—extends the operational range to address your multi-product calibrator workload. Up to 200 V compliance on resistance ranges gives you greater scope to measure high resistances with greater accuracy.



Easy to use

A clear control structure with Dual Paramatrix™ LCD displays and context sensitive menus provides a transparent, logical and intuitive interface that makes the 8508A/02 easy to use. The menu structures have been designed especially for metrology applications, so you can focus on getting the best possible measurements without needing to work through complex sequential or multi-instrument setups, or repeatedly reference supporting documentation.

Lead kit included for making accurate, stable connections

The 8508A/02 includes a set of high quality, low leakage, low dielectric absorption PTFE insulated cables, terminated with 6 mm gold plated copper spade terminals. Their insulation properties make them ideal for resistance and current measurements minimizing leakage current and charge storage problems; their low capacitance makes them ideal for ac applications; and the 6 mm gold plated copper spade terminals ensure low thermal emfs for dc voltage and resistance work.

This comprehensive measurement lead kit also includes test probes and alligator clips, providing the convenience of making rapid connections for less demanding applications and troubleshooting.

Summary specifications

Voltage dc	Range: 0 to ± 1050 V Best 1-year absolute specification: ± 3 ppm of reading
Voltage ac	Range: 2 mV to 1050 V, 1 Hz to 1 MHz Best 1-year absolute specification: ± 65 ppm of reading
Current dc	Range: 0 to ± 20 A Best 1-year absolute specification: ± 12 ppm of reading
Current ac	Range: 2 μ A to 20 A, 1 Hz to 100 kHz Best 1-year absolute specification: ± 250 ppm of reading
Resistance	Range: 0 to 20 G Ω Best 1-year absolute specification: ± 7.5 ppm of reading
Temperature	Range: -200 °C to 660 °C Best 1-year absolute specification: ± 2.5 m °C*

*Typical equivalent measurement uncertainty for 100 Ω PRT/SPRT probe at 0 °C

Refer to the 8508A Extended Specifications to obtain full specification information, relative and absolute certainty specifications, at both 95 % and 99 % confidence levels, for the 8508A/02.

Ordering information

Models

8508A/02	8508A Reference Multimeter with Front and Rear 4 mm binding posts and rear input ratio measurement. Includes 8508A-LEAD kit with two pairs of 1 m six-wire ptfе cable terminated with gold flashed spades connectors and 4 mm plugs.
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Options and accessories

8508A-7000K	Calibration Kit including one 1 G Ω resistor, one screened lead set, two 4-wire shorting P.C.B. and one carrying case
8508A-PRT	100 Ω Platinum Resistance Thermometer
8508A-SPRT	Standard Platinum Resistance Thermometer
Y8508	Rack Mount Kit
Y8508S	Rack Mount Slide Kit
1256990	NVLAP Accredited Calibration
1883673	UKAS Accredited Calibration

Software

MET/CAL® Plus	Automated Calibration Management Software
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Fluke Calibration. *Precision, performance, confidence.™*

Electrical	RF	Temperature	Pressure	Flow	Software
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