

8508A Reference Multimeter accessory guide

Technical Data

Introduction

The 8508A Reference Multimeter is complemented by a comprehensive range of accessories, all of which are designed to help you get the most from your reference multimeter.

This datasheet explains in more detail the make-up of each accessory and offers technical specifications where required.

Accessories currently available for the 8508A Reference Multimeter include:

- **8508A-LEAD**
Comprehensive Measurement Lead Kit
- **8508-7000K**
Calibration Kit
- **8508A-SPRT**
Standard Platinum Resistance Thermometer, 25.5 ohm
- **8508A-PRT**
Platinum Resistance Thermometer, 100 Ω
- **Y8508**
Rack Mount Kit
- **Y8508S**
Rack Mount Kit Slides
- **NVLAP**
NVLAP Accredited Calibration Ordering Information Item Number 4022363
- **UKAS**
UKAS Accredited Calibration Ordering Information Item Number 1883673

8508A-LEAD

| Qty. | Description |
|------|---|
| 4 | 1.5 m two core screened low thermal cable with gold plated 6 mm copper spade terminals |
| 1 | 1 m screened 322/0.1 copper core (30 Amp rating) with 6 mm gold plated copper spade terminals |
| 1 | General purpose probe kit and wallet includes: 2x test leads with 4 mm safety shroud plugs (red and black) 2x test probes (red and black) 2x crocodile clips (red and black) 2x 4-wire zero PCB |

The 8508A Reference Multimeter has excellent performance specifications. But stability and accuracy can often be compromised by the use of inappropriate connecting leads and associated processes when performing measurements.

The 8508A-LEAD set includes 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.

A general purpose lead kit which includes test probes and alligator clips provides the

convenience of making rapid connections for less demanding applications and troubleshooting. It also includes two four-wire shorting PCBs (used to null front and rear inputs).

8508A-7000K

The Fluke 8508A-7000K Calibration Kit contains a specially designed lead set, 1 GΩ standard resistor and two four-wire shorting P.C.B.s for performance verification and calibration adjustment of the 8508A. The lead set allows the 8508A to be connected to a 5720A calibrator and a 5725A amplifier in the configuration described in the 8508A User Manual Calibration and Verification chapter, enabling users to exactly duplicate the setup used for factory calibration.

The leads are constructed from low capacitance, low leakage dielectric material (PTFE), with low thermal emf 6 mm gold plated copper spade terminations. The 1 GΩ standard resistor plugs directly into the 8508A front input terminals without any inter-connecting leads, minimizing errors from lead effects and noise pickup. It is specified for stability with time (100 ppm/yr) and temperature (25 ppm/°C), and is supplied with a calibration certificate stating its measured value to an uncertainty of 110 ppm.



8508A-LEAD kit contents

8508A-7000K (cont.)

| Quantity | Description |
|----------|--|
| 1 | 1 GΩ resistor – 100 ppm/yr and 25 ppm/°C stability, factory calibration uncertainty 110 ppm (95 %CL) |
| 1 | Screened lead set that connects 8508A Reference Multimeter to 5720A and 5725A Precision Calibrator and Amplifier |
| 2 | Four-wire shorting P.C.B. (used to null front and rear input) |
| 1 | Carry case |

8508A-SPRT

- Measure temperatures as high as 661 °C
- Inconel™ and platinum sheaths guard against contamination
- Less than 10 mK/year drift
- Fifth wire provides shield ground

8508A-PRT

- Range to 660 °C
- Meets all ITS-90 requirements for resistance ratios
- Rtp drift < 30 mK after 500 hours at 660 °C
- Strain-free sensor design

The Fluke 8508A-SPRT Extended Range Metal-Sheath SPRT and 8508A-PRT Secondary Standard PRT Temperature Sensors have

been designed and manufactured to complement the Fluke 8508A Reference Multimeter's precision PRT temperature function.

| | 8508A-SPRT | 8508A-PRT |
|--------------------------|--|---|
| Temperature range | -200 °C to 661 °C | -200 °C to 660 °C |
| Nominal R _{TFW} | 25.5 Ω (± 0.5 Ω) | 100 Ω (± 1 Ω) |
| Calibration uncertainty | ± 2.1 mK @ 660 °C | ± 15 mK @ 661 °C |
| Sensitivity | 0.1 Ω/°C | 0.4 Ω/°C |
| Drift rate | < 10 mK per year max. 2-3 mK per year typical | < 30 mK per 500 hours at 660°C |
| Stability | ± 3 mK | ± 3 mK |
| Protective sheath | Inconel™ 600 5.56 mm dia. x 482 mm L (0.219 in dia. x 19 in L) | Inconel™ 600 6.35 mm dia. x 381 mm L (0.25 in dia. x 15 in L) |

Fluke Calibration. Precision, performance, confidence.™

| | | | | | |
|------------|----|-------------|----------|------|----------|
| Electrical | RF | Temperature | Pressure | Flow | Software |
|------------|----|-------------|----------|------|----------|

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