

8508A

Reference Multimeter

Safety Information Sheet

Introduction

This document supplies safety information for the 8508A Reference Multimeter (the Product).

How to Contact Fluke Calibration

To contact Fluke Calibration, call one of the following telephone numbers:

- Technical Support USA: 1-877-355-3225
- Calibration/Repair USA: 1-877-355-3225
- Canada: 1-800-36-FLUKE (1-800-363-5853)
- Europe: +31-40-2675-200
- Japan: +81-3-6714-3114
- Singapore: +65-6799-5566
- China: +86-400-810-3435
- Brazil: +55-11-3759-7600
- Anywhere in the world: +1-425-446-6110

To see product information and download the latest manual supplements, visit Fluke Calibration's website at www.flukecal.com.

To register your product, visit <http://flukecal.com/register-product>.

Safety Specifications

Voltage

115 V Setting	100 V to 120 V rms designed for additional voltage fluctuations ±10 %.
230 V Setting	200 V to 240 V rms designed for additional voltage fluctuations ±10 %.
Frequency	50 Hz to 60 Hz designed for additional frequency variation of ±3 Hz.
Power Cord.....	NEMA 5-15 plug, IEC 60320-C13 receptacle, cable 3 core 18AWG to SVT
Measurement.....	1000 V max to earth 1420 Vpk transient

Temperature

Operating.....	0 °C to 50 °C
Specified Operation	5 °C to 40 °C
Calibration (TCal)	20 °C to 25 °C
Factory Cal Temp	23 °C
Storage	-20 °C to 70 °C
Warm Up	4 hours to full uncertainty specification.

Relative Humidity (non-condensing)

Operating	5 °C to 40 °C < 90 %
Storage	0 °C to 70 °C < 95 %

Altitude

Operating.....	< 2000 meters
Storage.....	< 12000 meters

Safety Information

A **Warning** identifies conditions and procedures that are dangerous to the user.

Warning

To prevent possible electrical shock, fire, or personal injury:

- Read all safety information before you use the Product.
- Carefully read all instructions.
- Use the Product only as specified, or the protection supplied by the Product can be compromised.
- Use extreme caution when the Product is in use. The Product can supply a lethal electric shock.
- Do not use the Product if it operates incorrectly.
- Examine the Product before use. Do not use the Product if it shows signs of damage. Carefully examine the insulation around the connectors.
- Do not use the Product around explosive gas, vapor, or in damp or wet environments.
- Do not use and disable the Product if it is damaged.
- Do not apply more than the rated voltage, between the terminals or between each terminal and earth ground.
- Do not touch voltages >30 V ac rms, 42 V ac peak, or 60 V dc.
- Measure a known voltage first to make sure that the Product operates correctly.
- Do not use test leads if they are damaged. Examine the test leads for damaged insulation, exposed metal, or if the wear indicator shows. Check test lead continuity.
- Use conductors of adequate gauge to make current measurements. High current can cause excessive heating of underrated conductors and can cause a fire.
- Use this Product indoors only.
- Use only the mains power cord and connector approved for the voltage and plug configuration in your country and rated for the Product.

Table 1 shows the symbols used in the manuals and on the Product.

Table 1. Symbols

Symbol	Description
	Risk of danger. Important information. See manual.
	Hazardous voltage. Voltage >30 V dc or ac peak might be present.
	AC (Alternating Current).
	Power ON / OFF
	Functional Earth ground.
	This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste. Go to Fluke's website for recycling information.
	Recycle.
	Product conforms with the requirements of the applicable EC directives.
	Intertek ETL listed mark for CSA C22.2 61010-1, and UL 61010-1.

- Make sure the ground conductor in the mains power cord is connected to a protective earth ground. Disruption of the protective earth could put voltage on the chassis that could cause death.
- Replace the mains power cord if the insulation is damaged or if the insulation shows signs of wear.
- If the mains power cord is to be the accessible disconnect device, the mains power cord must not be longer than 3 meters (118.1 inches).
- Remove all probes, test leads, and accessories that are not necessary for the measurement.
- Do not remove the cover until the test leads are removed.
- Turn the Product off and remove the mains power cord. Stop for two minutes to let the power assemblies discharge before you open the fuse door.
- Do not operate the Product with covers removed or the case open. Hazardous voltage exposure is possible.
- Disconnect the mains power cord before you remove the Product covers.
- Remove the input signals before you clean the Product.
- Use only specified replacement parts.
- Use only specified replacement fuses.
- The mains power service must be a protected branch circuit, and if the mains power cord is internally fused, a 10 A fuse must be fitted in the mains power cord plug.
- Have an approved technician repair the Product.
- When the cover is removed, voltages more than 1.5 KV can be present.
- Properly terminate the sense leads to prevent exposure to hazardous voltages on the sense terminals. The voltage sense terminals are at output voltage when the two-wire function is set.
- Never touch a lead or terminal on the Product when a dangerous voltage is present.
- Do not use low voltage spade-terminated leads to connect to a hazardous voltage (>32 V ac rms or >42 V pk). A general purpose probe kit is supplied with the Product for safe measurement at higher voltages.
- Do not touch exposed metal on banana plugs, they can have voltages that could cause death.
- Do not use test leads if they are damaged. Examine the test leads for damaged insulation and measure a known voltage.
- Use the correct terminals, function, and range for measurements.
- Keep fingers behind the finger guards on the probes.
- Connect the common test lead before the live test lead and remove the live test lead before the common test lead.
- Remove signal connections before the protective ground connection is removed. For example, the mains power cord must be connected when the signal leads are connected.
- Do not connect or disconnect signal leads while they are connected to a hazardous voltage or current source.
- Disconnect power and discharge all high-voltage capacitors before you measure resistance, continuity, capacitance, or a diode junction.
- Before the Product is connected to a circuit to make a current measurement, check the fuses on the Product and turn off the power to the circuit.
- Limit operation to the specified measurement category, voltage, or amperage ratings.
- Do not connect measurement probes directly to mains.
- Complete safety tests after a part replacement to make sure the Product is safe.
- Do not connect an external capacitance greater than 50 nF to the Product terminals.

LIMITED WARRANTY AND LIMITATION OF LIABILITY

This Fluke product will be free from defects in material and workmanship for one year from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke's behalf. To obtain service during the warranty period, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY.

Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

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