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## Fluke 85RF II

# Fluke 85RF II High Frequency Probe Instruction Manual

Model: 85RF II

## 1. PRODUCT OVERVIEW

The Fluke 85RF II High Frequency Probe is an essential accessory designed to extend the capabilities of a standard DC voltmeter. It converts a DC voltmeter with a  $10\text{ M}\Omega$  input impedance into a high-frequency RF voltmeter, capable of measuring signals from 100 kHz up to 500 MHz.

This probe facilitates a one-to-one conversion from AC to DC, providing a measurement range of 0.25 to 30V rms. The DC output of the probe is precisely calibrated to represent the root mean square (rms) value of a sine wave input, ensuring accurate high-frequency voltage readings.

## 2. SETUP AND CONNECTION

Proper setup of the Fluke 85RF II probe is crucial for accurate measurements. Follow these steps to connect the probe to your compatible DC voltmeter.



*Image: The Fluke 85RF II High Frequency Probe, showing the main probe body, an attached alligator clip for ground connection, and a separate BNC adapter for connecting to a voltmeter.*

1. **Voltmeter Compatibility:** Ensure your DC voltmeter has an input impedance of  $10\text{ M}\Omega$ . The probe is designed to work optimally with such meters.
2. **Connect to Voltmeter:** Attach the output connector of the 85RF II probe to the input terminals of your DC voltmeter. The probe typically uses a BNC connector, which can be adapted to standard banana plugs if your voltmeter requires them.
3. **Ground Connection:** Connect the ground lead (usually an alligator clip) from the probe to the ground reference of the circuit under test. This is essential for stable and accurate readings.
4. **Power On:** Power on your DC voltmeter and set it to the appropriate DC voltage range.

### **3. OPERATING INSTRUCTIONS**

Once the probe is correctly set up, you can begin taking high-frequency measurements. The probe's output on your DC voltmeter will directly correspond to the RMS value of the AC signal.

- **Measurement Range:** The probe is designed for measurements within a 0.25 to 30V rms voltage range. Ensure the signal you are measuring falls within this range.

- **Frequency Range:** The probe operates effectively from 100 kHz to 500 MHz. Be aware of the frequency response characteristics detailed in the specifications section for precise measurements at higher frequencies.
- **Applying the Probe:** Carefully touch the probe tip to the test point of the high-frequency circuit. The DC voltage displayed on your voltmeter will be the RMS equivalent of the AC signal at that point.
- **Maximum Input:** Do not exceed the maximum input voltage of 30V RMS or 200V DC to prevent damage to the probe.

## 4. MAINTENANCE AND CARE

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To ensure the longevity and accuracy of your Fluke 85RF II High Frequency Probe, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the probe. Do not use abrasive cleaners or solvents. Ensure the probe tip and connectors are free from dust and debris.
- **Storage:** Store the probe in a clean, dry environment, away from extreme temperatures and direct sunlight. Use the original packaging or a protective case if available.
- **Handling:** Handle the probe with care. Avoid dropping it or subjecting it to physical shock, as this can damage internal components.
- **Inspection:** Periodically inspect the probe's cable and connectors for any signs of wear, damage, or fraying. Do not use the probe if any part appears damaged.

## 5. TROUBLESHOOTING

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If you encounter issues while using your Fluke 85RF II probe, consider the following common troubleshooting steps:

- **No Reading or Incorrect Reading:**
  - Verify that the probe is securely connected to the DC voltmeter.
  - Ensure the voltmeter is set to the correct DC voltage range.
  - Check the ground connection of the probe to the circuit under test. A poor ground can lead to unstable or inaccurate readings.
  - Confirm that the signal being measured is within the probe's specified voltage (0.25-30V rms) and frequency (100kHz-500MHz) ranges.
  - Inspect the probe tip and cable for any visible damage.
- **Unstable Readings:**
  - Ensure proper grounding of both the probe and the circuit.
  - Minimize external electromagnetic interference by keeping the test setup clear of other active electronic devices.
- **Probe Not Converting AC to DC:**
  - Confirm the input impedance of your DC voltmeter is 10 MΩ. Deviations can affect conversion accuracy.

If problems persist after attempting these steps, contact Fluke customer support for further assistance.

## 6. TECHNICAL SPECIFICATIONS

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Specification	Value
Model	85RF II
Voltage Range (RMS)	0.25 to 30V rms
Maximum Input Voltage	30V RMS, 200V DC
AC to DC Ratio	1:1

Specification	Value
Ratio Accuracy (at 25 MHz, 10 MΩ load)	Above 0.5V: ± 0.5 dB Below 0.5V: ± 1.0 dB Add ± 0.2 dB in RF fields of 1 to 3 V/m
Frequency Response (relative to 25 MHz)	100 KHz to 100 MHz: ± 0.5 dB 100 MHz to 200 MHz: ± 2.0 dB 200 MHz to 500 MHz: ± 3.0 dB
Input Impedance (Voltmeter)	10 MΩ (required)
Item Weight	4.48 ounces (approx. 127 grams)
Product Dimensions (L x W x H)	9 x 3.3 x 1.3 inches (approx. 22.86 x 8.38 x 3.3 cm)
Measurement Type	Voltmeter
Standard Met	IEC 61010-1:2000-1

## 7. WARRANTY AND SUPPORT

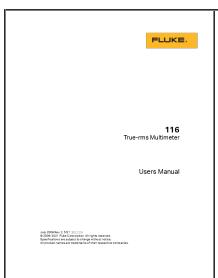
For information regarding product warranty, technical support, or service, please refer to the documentation included with your purchase or visit the official Fluke website. Fluke provides comprehensive support for its products to ensure customer satisfaction.

**Manufacturer:** Fluke Corporation

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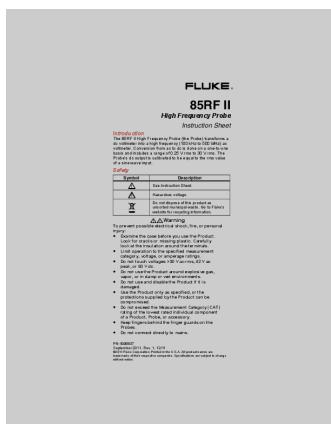
This manual is for informational purposes only and is subject to change without notice.

## Related Documents - 85RF II

	<p><a href="#">Fluke 116 True-rms Multimeter User Manual</a> User manual for the Fluke 116 True-rms Multimeter, covering features, operation, safety information, and specifications.</p>
	<p><a href="#">Fluke 106/107 Palmsized Digital Multimeters: Technical Specifications and Features</a> Detailed technical specifications, product highlights, and general information for the Fluke 106 and 107 palmsized digital multimeters. Learn about their electrical specifications, accuracy, features, and included equipment.</p>

	<p><a href="#">Fluke 179 Digital Multimeter: Maintenance and Field Service Guide</a></p> <p>Discover the Fluke 179 True-rms Digital Multimeter, designed for efficient electrical and HVAC maintenance. Learn about its features, specifications, and recommended accessories for reliable field service.</p>
	<p><a href="#">Fluke 317/319 Clamp Meter Instructions</a></p> <p>Instructions for using the Fluke 317 and 319 Clamp Meters, covering safety information, product features, specifications, and usage guidelines.</p>
	<p><a href="#">Konecranes DynA Vector II: Superior Crane Drive Technology</a></p> <p>Explore the advanced features and benefits of Konecranes DynA Vector II, a state-of-the-art drive technology designed for superior crane performance, safety, and productivity. Learn about its modular design, enhanced control, and robust construction.</p>
	<p><a href="#">Fluke 110 True-RMS Multimeter: Technical Specifications and Features</a></p> <p>Detailed specifications and features of the Fluke 110 compact True-RMS multimeter, designed for precise electrical installation and troubleshooting. Includes accuracy, safety ratings, and included accessories.</p>

## Documents - Fluke – 85RF II

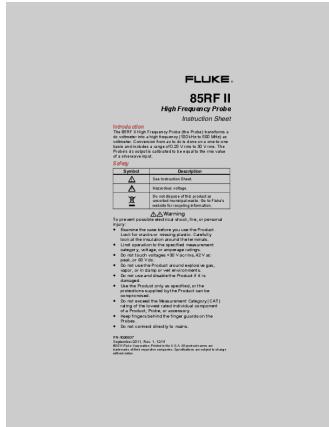


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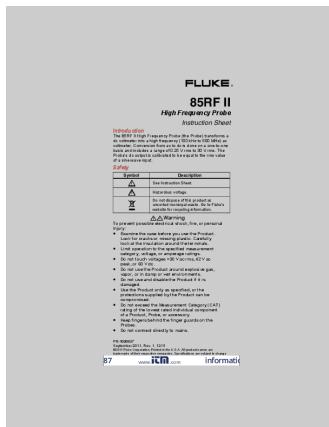


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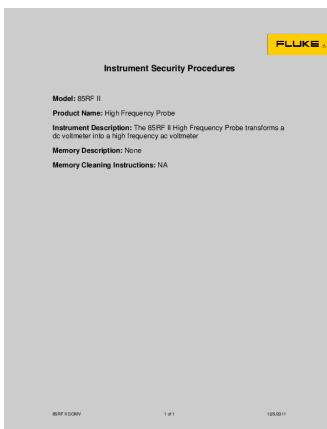


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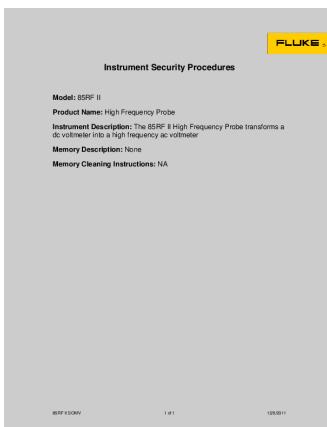
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dam assets fluke s3fs public Instrument Security |||

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Instrument Description: The **85RF II** High Frequency Probe transforms a dc voltmeter into a high frequency ac voltmeter  
Memory Description: None  
Memory Cleaning Instructions: NA  
**85RF II**  
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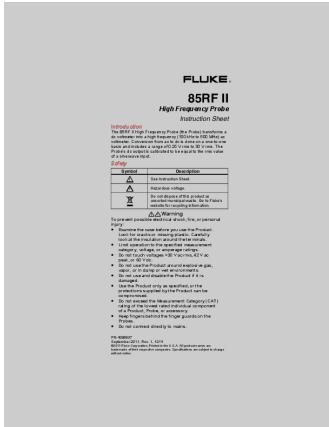
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Instrument Security Procedures Model: 85BF II Product Name: High Frequency Probe

Instrument Description: The **85RF II** High Frequency Probe transforms a dc voltmeter into a high frequency ac voltmeter  
Memory Description: None  
Cleaning Instructions: NA **85RF II**  
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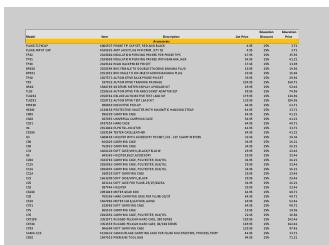
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