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Fluke TP175

Fluke TP175 TwistGuard Test Probe Instruction Manual

Model: TP175 | Brand: Fluke

1. INTRODUCTION

The Fluke TP175 TwistGuard Test Probes are designed for electrical testing, offering enhanced safety and precision. These probes feature an adjustable tip length, allowing users to reduce tip exposure for safety in higher category environments or extend it for precision in lower category applications. Compatible with various Fluke test leads, the TP175 probes are an essential accessory for professional electrical measurements.

2. SAFETY INFORMATION

Always adhere to safety precautions when working with electrical equipment. Failure to do so may result in injury or damage to equipment.

- **Inspect Before Use:** Always inspect test leads and probes for damage (e.g., cracks, frayed insulation) before each use. Do not use damaged equipment.
- **CAT Ratings:** The TP175 probes are rated CAT II 1000V, CAT III 1000V, and CAT IV 600V. Ensure the probes' rating matches or exceeds the environment and voltage being measured.
- **Adjust Tip Shroud:** Use the TwistGuard feature to expose only the necessary amount of tip. For higher CAT environments, minimize tip exposure to reduce the risk of arc flash.
- **Maximum Ratings:** Do not exceed the maximum voltage (1000V) or current (10A) ratings.
- **Pollution Degree:** Rated for Pollution Degree 2 environments. Avoid use in excessively dirty or wet conditions.
- **UL Listing:** These probes are UL Listed, indicating compliance with safety standards.

3. PRODUCT OVERVIEW

The Fluke TP175 TwistGuard Test Probes are designed for versatility and safety in electrical measurements. Key features include:

- **Adjustable Tip Length:** Patented TwistGuard extendable tip shroud allows adjustment of tip exposure from 2mm to 19mm.
- **Safety Ratings:** CAT II 1000V, CAT III 1000V, CAT IV 600V, 10A maximum.
- **Compatibility:** Designed to be compatible with Fluke TL22x series, TL238, and TL27 test leads.
- **Durable Construction:** Built for professional use in various environmental conditions.



Figure 1: Fluke TP175 TwistGuard Test Probes. One probe shows the tip extended for precision, and the other shows the tip retracted for safety.

4. SETUP

To prepare your Fluke TP175 TwistGuard Test Probes for use:

- 1. Connect to Test Leads:** Insert the banana plug end of the TP175 probes firmly into the corresponding jacks on your compatible Fluke test leads (e.g., TL22x series, TL238, TL27). Ensure a secure connection.
- 2. Adjust Tip Shroud:** The TwistGuard mechanism allows you to adjust the exposed tip length. Rotate the red or black shroud on the probe to extend or retract the metal tip.
 - For CAT III/IV environments, retract the shroud to expose only 2mm of the tip for maximum safety.
 - For CAT II environments or when greater reach is required, extend the shroud to expose up to 19mm of the tip.



Figure 2: Fluke TP175 Test Probes connected to standard red and black test leads, ready for use.

5. OPERATING INSTRUCTIONS

Once the TP175 probes are securely connected to your multimeter's test leads and the tip shroud is adjusted for the measurement environment, proceed with your electrical tests.

- 1. Select Measurement Function:** On your multimeter, select the appropriate function (e.g., AC Voltage, DC Voltage, Resistance, Continuity, Current).
- 2. Apply Probes:** Carefully touch the probe tips to the test points of the circuit or component you are measuring. Ensure good contact.
 - For voltage measurements, place probes across the points where voltage is to be measured.
 - For current measurements, the probes are typically used in series with the circuit, or a clamp meter function may be used if available on your primary device.
 - For continuity or resistance, ensure the circuit is de-energized before applying probes.
- 3. Read Measurement:** Observe the reading on your multimeter display.
- 4. Remove Probes:** Always remove the probes from the circuit after completing the measurement.



Figure 3: Proper use of the Fluke TP175 Test Probe for making a measurement on an electrical connection, demonstrating safe handling with gloves.

6. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Fluke TP175 Test Probes.

- **Cleaning:** Clean the probes with a damp cloth and mild detergent. Do not use abrasive cleaners or solvents. Ensure probes are completely dry before storage or next use.
- **Inspection:** Regularly inspect the probes for any signs of wear, cuts, cracks, or damage to the insulation or tip. Replace immediately if any damage is found.
- **Storage:** Store the probes in a clean, dry environment, away from extreme temperatures and direct sunlight. Avoid kinking or sharply bending the leads.

7. TROUBLESHOOTING

If you encounter issues with your Fluke TP175 Test Probes, consider the following:

- **No Reading/Intermittent Reading:** Check for loose connections between the probes and the test leads, or between the test leads and the multimeter. Ensure the probe tips are making good contact with the test points.
- **Inaccurate Readings:** Verify that the multimeter is set to the correct measurement function and range. Ensure the probes are not damaged and are clean.
- **Physical Damage:** If the insulation is cracked, cut, or the tip is bent or broken, the probes must be replaced immediately to ensure safety and proper function.

8. SPECIFICATIONS

| Feature | Specification |
|-----------------------|--|
| Model | TP175 |
| Voltage Rating | 1000V |
| Current Rating | 10A maximum |
| CAT Ratings | CAT II 1000V, CAT III 1000V, CAT IV 600V |
| Tip Diameter | 2mm |
| Pollution Degree | 2 |
| Environmental Ratings | -20 to 55 °C (-4 to 131 °F), Altitude: 2000m (6562 ft) |
| Dimensions | 10 x 7.5 x 2.5 cm |
| Weight | 59 g |
| Certification | UL Listed, Conforms to EN61010-031 |

9. WARRANTY AND SUPPORT

The Fluke TP175 TwistGuard Test Probes come with a **1-Year Warranty**.

For warranty claims, technical support, or additional product information, please visit the official Fluke website or contact your authorized Fluke distributor. Ensure you retain your proof of purchase for warranty validation.

