

How to use a multimeter to measure the current in a distribution box



Overview

Like with other DMM functions, measuring current follows a slightly different protocol than measuring voltage with a multimeter.

Key Takeaways

To measure current in a distribution box, connect a multimeter in series with the circuit, set the correct current range, and follow strict safety precautions. Step-by-Step Guide

1. Safety First Before starting, turn off the main power supply to the distribution box to prevent electric shock. Wear insulated gloves and use tools rated for the voltage of the circuit you are testing . 2. Select the Correct Multimeter Settings

- Insert the red probe into the port labeled A (for high current) or mA (for low current), depending on the expected current.

- Insert the black probe into the COM port.

- Set the multimeter dial to AC or DC current as required and choose a range slightly higher than the expected current . 3. Connect the Multimeter in Series

- Identify the circuit or load where you want to measure current.

- Break the circuit at the point of measurement so that current flows through the multimeter.

- Connect the red probe to the supply side and the black probe to the load side. This ensures the current passes through the meter . 4. Power On and Read the Measurement
 - Turn on the power supply to the distribution box.
 - Observe the current reading on the multimeter display. If the reading shows “OL” (overload), switch to a higher current range . 5. Complete the Measurement Safely
 - Turn off the power supply before disconnecting the probes.
 - Reconnect the circuit to its original configuration.
 - Return the multimeter to voltage mode or turn it off to prevent accidental damage .
- Important Safety Tips**
- Never connect the multimeter in parallel with the supply, as the low resistance of the meter can cause extremely high currents and damage the meter or cause injury .
 - Use a meter rated for the expected current and voltage.
 - If unsure about the current level, start with the highest range and reduce it gradually for accuracy.
 - Always follow local electrical codes and consider consulting a licensed electrician for high-voltage distribution boxes. By following these steps, you can safely and accurately measure the current in a distribution box using a multimeter while minimizing the risk of damage or injury.

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