



DC Voltage Measurement in industrial environment?

Check out our tips: 🙌



Use temporal averaging to filter out noise

Real-world DC signals are almost always affected by noise. Don't rely on a single instantaneous value – determine a stable equilibrium level.

👉 Tip: A 20 ms (1/50 Hz) average is a good baseline for filtering out line frequency disturbances.



Choose your reference point carefully

Voltage is always measured relative to something. The most reliable approach is to reference directly to the DUT ground.

👉 Avoid referencing from other parts of the measurement system – this can introduce additive interference.



Route the signal simply, but intentionally

Standard cabling may be sufficient, but always ensure proper shielding and grounding, especially for sensitive measurements.



Ensure consistent referencing during multiplexing

When switching between multiple measurement points (e.g., via relay matrix), make sure all channels share the same reference.

👉 If references differ, controlled switching is necessary to prevent shorts or incorrect readings.



Don't load the signal source

Use high input impedance instruments (e.g., DMM or PC-based AI cards) to avoid disturbing the source signal.