

Resistance Measurement Error Calculator

Compare a measured resistance with a reference value and report signed and absolute error in ohms and percent.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/resistance-measurement-error-calculator/>

Inputs

Input	Value	Unit
Measured resistance	110	ohm
Reference resistance	100	ohm

Results

Result	Value	Unit
Absolute error (ohm)	10	ohm
Absolute error (%)	10	%
Signed error	10	%

Status

Status	Value	Unit
Comparison note	Measured resistance is above reference	

Calculation details

Detail	Value	Unit
Calculation basis	Resistance error equals measured resistance minus reference resistance. Percent error uses the reference resistance as the denominator.	
Review boundary	Comparison arithmetic only; verify lead compensation, temperature, instrument accuracy, contact resistance, calibration, and the governing test procedure separately.	

Formulas

Signed error=Measured resistance-Reference resistance

Absolute error=|Measured resistance-Reference resistance|

Signed error percent=Signed error/Reference resistance x 100

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Absolute error percent=|Signed error percent|

Warnings and limitations

This is resistance comparison arithmetic only. It does not certify instrument accuracy, temperature correction, lead compensation, calibration, or compliance.