

Measurement Uncertainty Calculator

Estimate combined and relative uncertainty from three documented independent components.

Generated October 10, 2026

<https://www.elecatrrix.com/testing-protection-grounding/measurement-uncertainty-calculator/>

Inputs

Input	Value	Unit
Nominal measured value	100	unit
Uncertainty component A	1	unit
Uncertainty component B	2	unit
Uncertainty component C	2	unit

Results

Result	Value	Unit
Combined uncertainty	3	unit
Relative uncertainty	3	%
Nominal value used	100	unit
Components combined	3	count

Calculation details

Detail	Value	Unit
Calculation basis	Combined uncertainty equals the root-sum-square of three entered non-negative components. Relative uncertainty divides that result by the nominal value.	
Screening boundary	Simplified uncertainty arithmetic only; verify distributions, correlation, coverage, calibration, traceability, and the governing procedure separately.	

Formulas

$\text{combined uncertainty} = \sqrt{A^2 + B^2 + C^2}$

$\text{relative uncertainty percent} = \text{combined uncertainty} / \text{nominal value} \times 100$

Warnings and limitations

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This is a simplified uncertainty worksheet. It does not select a coverage factor, prove independence, certify calibration, or establish traceability or compliance.