

CT Ratio Test Calculator

Calculate expected and measured current-transformer ratios from nameplate and test readings, then compare the deviation with an entered review reference.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/ct-ratio-calculator/>

Inputs		
Input	Value	Unit
CT tap or terminal label	Nameplate tap	
Nameplate primary current	600	A
Nameplate secondary current	5	A
Measured or injected primary current	120	A
Measured secondary current	1	A
Entered reference deviation	N/A	%
Test basis or instrument note	Record procedure and instrument separately	

Results		
Result	Value	Unit
Expected CT ratio	120	x
Measured CT ratio	120	x
Signed ratio deviation	N/A	%
Absolute ratio deviation	N/A	%
Margin vs entered reference	N/A	%

Calculation details		
Detail	Value	Unit
Calculation basis	Expected ratio is nameplate primary current divided by nameplate secondary current. Measured ratio uses the entered test currents, and deviation compares the two ratios.	

CT Ratio Test Calculator

Calculate expected and measured current-transformer ratios from nameplate and test readings, then compare the deviation with an entered review reference.

Generated October 10, 2026

<https://www.elecatrrix.com/testing-protection-grounding/ct-ratio-calculator/>

Test boundary

Measured-ratio comparison only;
verify CT tap, polarity, phase,
instrument accuracy, procedure,
accuracy class, excitation,
saturation, relay performance, and
any acceptance criterion separately.

Formulas

$$R_{\text{expected}} = \frac{I_{\text{nameplate, primary}}}{I_{\text{nameplate, secondary}}}$$

$$R_{\text{measured}} = \frac{I_{\text{test, primary}}}{I_{\text{test, secondary}}}$$

$$\Delta_{\text{signed}} = \frac{R_{\text{measured}} - R_{\text{expected}}}{R_{\text{expected}}} \times 100\%$$

$$\Delta_{\text{absolute}} = |\Delta_{\text{signed}}|$$

$$M_{\text{reference}} = \Delta_{\text{reference}} - \Delta_{\text{absolute}}$$

when a reference is entered

Warnings and limitations

This is a measured-ratio comparison, not a CT acceptance, accuracy-class, saturation, excitation, relay, protection, or energization decision.