

Short-Circuit Current Calculator

Estimate available fault current from source voltage and total impedance on a common equivalent-circuit basis, with an optional screening multiplier for preliminary review.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/short-circuit-current-calculator/>

Inputs		
Input	Value	Unit
Source voltage	240	V
Total impedance	0.08	ohm
Screening multiplier	1.1	x
Source-voltage basis note	N/A	
Impedance basis note	N/A	
Screening-multiplier basis note	N/A	
Results		
Result	Value	Unit
Available fault current	3000	A
Adjusted fault current	3300	A
Available fault current	3	kA
Adjusted fault current	3.3	kA
Impedance percent at 100 A base	3.3333	%
Impedance used	0.08	ohm
Screening multiplier used	1.1	x
Calculation details		
Detail	Value	Unit
Calculation basis	Simplified Ohm law screening using entered source voltage divided by entered total impedance on the same equivalent-circuit basis, then multiplied by the entered screening multiplier.	

Short-Circuit Current Calculator

Estimate available fault current from source voltage and total impedance on a common equivalent-circuit basis, with an optional screening multiplier for preliminary review.

Generated October 10, 2026

<https://www.elecatrrix.com/testing-protection-grounding/short-circuit-current-calculator/>

Available fault current boundary	Available fault current is a simplified screening value from entered impedance only; it is not utility fault-duty data or a complete system study.
Utility/study boundary	No utility contribution, transformer source data, motor contribution, X/R ratio, grounding method, conductor temperature, or fault-location study is determined by this calculator.
Equipment rating boundary	No interrupting rating, SCCR, AIC, withstand rating, series rating, fuse, breaker, switchgear, panelboard, transformer, conductor, or equipment selection is made by this calculator.
Protective-device boundary	No protective-device coordination, clearing time, current-limiting behavior, selective coordination, or fuse/breaker setting is determined by this calculator.
Arc-flash boundary	No arc-flash incident energy, working distance, PPE category, label, or energized-work decision is made by this calculator.
Code-compliance boundary	No NEC, OSHA, NFPA 70E, AHJ, utility, manufacturer, inspection, or code-compliance result is made by this calculator.

Formulas

$$I_{AFC} = (V/Z)$$

$$I_{adjusted} = I_{AFC} \times M$$

$$I_{AFC, kA} = \frac{I_{AFC}}{1000}$$

$$I_{adjusted, kA} = \frac{I_{adjusted}}{1000}$$

$$\%Z_{100 A} = (100 A \times Z/V) \times 100$$

$$\text{available fault current} = \text{source voltage} / \text{total impedance}$$

Short-Circuit Current Calculator

Estimate available fault current from source voltage and total impedance on a common equivalent-circuit basis, with an optional screening multiplier for preliminary review.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/short-circuit-current-calculator/>

source voltage and total impedance must be on the same equivalent-circuit basis

available fault current in kA = available fault current / 1000

adjusted fault current in kA = adjusted fault current / 1000

equipment rating boundary = no interrupting rating, SCCR, AIC, withstand rating, series rating, fuse, breaker, switchgear, panelboard, transformer, conductor, or equipment selection is made by this calculator

Warnings and limitations

This calculator provides simplified impedance screening only. Source voltage and total impedance must be on the same equivalent-circuit basis; do not mix three-phase line-to-line voltage, per-phase impedance, transformer percent impedance, or symmetrical study assumptions without a qualified fault-study method. It is not a short-circuit study, not utility fault-duty data, not equipment selection, not interrupting-rating or SCCR/AIC verification, not protective-device coordination, not arc-flash analysis, not manufacturer approval, and not code-compliance. Verify utility contribution, transformer data, conductor impedance, motor contribution, X/R ratio, grounding, equipment ratings, manufacturer instructions, AHJ interpretation, and engineered study requirements before design, installation, or inspection decisions.