

Current From Power And Voltage Calculator

Calculate ideal current in amperes from real power in watts and voltage in volts, with AC phase and power-factor limits stated.

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<https://www.elecatrix.com/voltage-current-resistance/current-from-power-voltage-calculator/>

Inputs

Input	Value	Unit
Power	600	W
Voltage	120	V

Results

Result	Value	Unit
Current	5	A
Power used	600	W
Voltage used	120	V

Calculation details

Detail	Value	Unit
Calculation basis	Current A = power W / voltage V.	
Review boundary	Ideal direct algebra only; no phase model, power factor, voltage-drop, source regulation, conductor, protection, equipment rating, or code-compliance result is made.	

Formulas

$$I = (P/V)$$

Warnings and limitations

This direct-algebra current relationship does not determine AC phase current, power factor, inrush, conductor size, overcurrent protection, equipment rating, or code compliance.