

AC Watts From Voltage And Current Calculator

Calculate single-phase AC active power in watts from RMS voltage, RMS current, and power-factor magnitude.

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

Inputs

Input	Value	Unit
RMS voltage	120	V
RMS current	10	A
Power factor	0.8	PF

Results

Result	Value	Unit
Active power	960	W
Voltage used	120	V
Current used	10	A
Power factor used	0.8	PF

Calculation details

Detail	Value	Unit
Calculation basis	Active power W = RMS voltage V x RMS current A x power factor.	
Review boundary	Single-phase RMS arithmetic only; no phase multiplier, waveform, harmonics, equipment rating, conductor sizing, protection, utility, or code-compliance result is made.	

Formulas

$$P = V_{\text{RMS}} \times I_{\text{RMS}} \times \text{PF}$$

Warnings and limitations

This is a single-phase RMS active-power estimate. It does not select conductors, overcurrent protection, equipment, service capacity, or a code-compliant design.