

PV Array Azimuth Calculator

Compare PV array azimuth with a project reference direction and estimate circular-angle alignment from an entered daily-energy baseline.

Generated October 10, 2026

<https://www.elecatrix.com/solar-backup-power/pv-array-azimuth-calculator/>

Inputs

Input	Value	Unit
Array azimuth	180	deg
Reference azimuth	180	deg
Baseline daily energy	10	kWh/day

Results

Result	Value	Unit
Azimuth offset	N/A	deg
Azimuth alignment factor	1	x
Screened daily energy	10	kWh/day

Calculation details

Detail	Value	Unit
Calculation basis	The screen uses the shortest circular difference between the entered array and reference azimuth, then applies a cosine alignment factor to the entered baseline energy.	
Orientation boundary	Orientation screen only; this does not model solar production, weather, shading, tracking, horizon effects, utility interconnection, or code compliance.	

Formulas

$\Delta_{abs} = \theta_{array} - \theta_{reference} $
$\Delta_{azimuth} = \min(\Delta_{abs}, 360 - \Delta_{abs})$
$\text{Alignment factor} = \max(\cos(\Delta_{azimuth}), 0)$
$\text{Screened daily energy} = \text{baseline daily energy} \times \text{alignment factor}$

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Warnings and limitations

This is an orientation screen using an entered baseline. It does not model solar production and is not a universal best-azimuth rule.