

Generator Transfer Load Calculator

Estimate transfer load, usable generator capacity, reserve margin, and utilization from entered ratings and load assumptions.

Generated October 10, 2026

<https://www.elecatrix.com/solar-backup-power/generator-transfer-load-calculator/>

Inputs		
Input	Value	Unit
Transfer load	18	kW
Generator capacity	25	kW
Usable capacity factor	92	%
Reserve	15	%
Results		
Result	Value	Unit
Effective generator capacity	23	kW
Reserved capacity	3.45	kW
Available transfer capacity	19.55	kW
Transfer margin	1.55	kW
Capacity utilization	78.2609	%
Calculation details		
Detail	Value	Unit
Calculation basis	Effective generator capacity applies the entered transfer efficiency. Available capacity subtracts the entered reserve, then margin compares that result with transfer load.	
Boundary	Running-load summation and entered-capacity comparison only; no motor starting, sequencing, equipment listing, generator sizing, fuel, emissions, NEC, utility, AHJ, or approval result is made by this calculator.	

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Formulas

$\text{effective generator capacity} = \text{generator capacity} \times \text{usable capacity factor} / 100$

$\text{reserved capacity} = \text{effective generator capacity} \times \text{reserve percent} / 100$

$\text{available transfer capacity} = \text{effective generator capacity} - \text{reserved capacity}$

$\text{transfer margin} = \text{available transfer capacity} - \text{transfer load}$

Warnings and limitations

This is a running-load comparison only. It does not size a generator, model motor starting, select transfer equipment, or approve a transfer plan.