

Three-Phase Load Balance Calculator

Compares three entered phase loads, average load, maximum deviation, imbalance percent, and a simple load-transfer reference for panel or feeder review.

Generated October 10, 2026

<https://www.elecatrix.com/commercial-industrial-loads/three-phase-load-balance-calculator/>

Inputs		
Input	Value	Unit
Phase A load	100	A
Phase B load	80	A
Phase C load	90	A
Results		
Result	Value	Unit
Total phase load	270	A
Average phase load	90	A
Maximum phase load	100	A
Minimum phase load	80	A
Maximum deviation	10	A
Imbalance estimate	11.1111	%
Suggested transfer amount	10	A
Calculation details		
Detail	Value	Unit
Calculation basis	Average phase load is total phase load divided by three. Imbalance percent uses the largest absolute phase deviation divided by average phase load.	
Load boundary	Balance estimate only; no neutral current, harmonics, sequence components, demand treatment, equipment rating, utility requirement, or code-compliance result is made.	

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Formulas

Total load = Phase A load + Phase B load + Phase C load

Average phase load = (Total load/3)

Maximum deviation = $\max(|A-\text{Average}|, |B-\text{Average}|, |C-\text{Average}|)$

Imbalance = (Maximum deviation/Average phase load) x 100%

Suggested transfer = (Maximum phase load-Minimum phase load/2)

Warnings and limitations

This three-phase load balance estimate compares three entered phase values. It does not determine neutral current, harmonics, demand load, equipment ratings, utility limits, or code compliance.