

Commercial Load Calculator

Estimates connected VA, demand-adjusted load, continuous-load addition, and line current from entered commercial load blocks and phase data.

Generated October 10, 2026

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

Inputs

Input	Value	Unit
Load blocks	Rows: 4	
Row 1 - Label	Lighting	
Row 1 - Connected load	12000	VA
Row 1 - Demand factor	100	%
Row 1 - Continuous multiplier	125	%
Row 2 - Label	Receptacles	
Row 2 - Connected load	18000	VA
Row 2 - Demand factor	80	%
Row 2 - Continuous multiplier	100	%
Row 3 - Label	HVAC	
Row 3 - Connected load	24000	VA
Row 3 - Demand factor	100	%
Row 3 - Continuous multiplier	100	%
Row 4 - Label	Equipment	
Row 4 - Connected load	15000	VA
Row 4 - Demand factor	75	%
Row 4 - Continuous multiplier	100	%
System voltage	480	V
Phase	Balanced three-phase	

Commercial Load Calculator

Estimates connected VA, demand-adjusted load, continuous-load addition, and line current from entered commercial load blocks and phase data.

Generated October 10, 2026

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

Entered capacity	100	A
------------------	-----	---

Results

Result	Value	Unit
Connected load	69000	VA
Demand load	61650	VA
Continuous adder	3000	VA
Adjusted load	64650	VA
Line current	77.7619	A
Entered capacity margin	22.2381	A
Effective demand factor	93.6957	%
Counted load blocks	4	blocks
Phase multiplier	1.7321	x

Calculation details

Detail	Value	Unit
Calculation basis	Each load block is multiplied by its user-entered demand factor, then adjusted by its user-entered continuous multiplier before line current is estimated.	
Selection boundary	Commercial load estimate only; no occupancy classification, demand table, feeder selection, service sizing, utility approval, or code-compliance result is made.	

Formulas

Block demand VA = connected VA x (demand factor (%)/100)

Block continuous adder VA = block demand VA x ((continuous multiplier (%)/100) - 1)

Commercial Load Calculator

Estimates connected VA, demand-adjusted load, continuous-load addition, and line current from entered commercial load blocks and phase data.

Generated October 10, 2026

<https://www.elecatrrix.com/commercial-industrial-loads/commercial-load-calculator/>

Adjusted load VA = $\sum_i \text{block demand VA}_i + \sum_i \text{block continuous adder VA}_i$

Phase multiplier = 1 for single-phase, $\sqrt{3}$ for balanced three-phase

Line current = $(\text{adjusted load VA} / \text{phase multiplier} \times \text{system voltage})$

Effective demand (%) = $(\text{adjusted load VA} / \text{connected load VA}) \times 100$

Entered capacity margin = entered capacity (A) - line current

Warnings and limitations

This commercial load estimate uses user-entered load blocks and factor assumptions. It does not apply NEC demand tables, classify occupancy, select feeders or services, or prove code compliance.