

Control Circuit Fuse Calculator

Compare entered control VA and inrush multiplier with an entered fuse rating without selecting a fuse.

Generated October 10, 2026

<https://www.elecatrix.com/circuits-components/control-circuit-fuse-calculator/>

Inputs

Input	Value	Unit
Control load	300	VA
Control voltage	120	V
Inrush multiplier	4	x
Entered fuse rating	5	A

Results

Result	Value	Unit
Steady control current	2.5	A
Inrush reference current	10	A
Steady rating margin	2.5	A
Inrush reference margin	-5	A
Steady rating utilization	50	%

Entered fuse-rating status

steady_current_within_entered_rating

Calculation details

Detail	Value	Unit
Calculation basis	Control VA is divided by voltage for steady current; entered inrush multiplier creates a comparison reference.	
Fuse boundary	Current comparison only; fuse class, time-current curve, SCCR, transformer protection, and code review remain external.	

Formulas

steady current = control load VA / control voltage

inrush reference current = steady current x inrush multiplier

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steady rating margin = entered fuse rating - steady current

inrush reference margin = entered fuse rating - inrush reference current

Warnings and limitations

This worksheet does not select or approve a control-circuit fuse, conductor, SCCR, transformer protection, time-current curve, or code-compliant installation.