

Dwelling HVAC Load Calculator

Compares dwelling cooling, heating, and auxiliary-heat inputs as current values for preliminary service planning before equipment-specific MCA/MOCP review.

Generated October 10, 2026

<https://www.elecatrix.com/residential-load-service/dwelling-hvac-load-calculator/>

Inputs

Input	Value	Unit
Cooling equipment current	25	A
Heating equipment current	10	A
Auxiliary or resistance heat	5	kW
System voltage	240	V
Phase	Single-phase	

Results

Result	Value	Unit
Auxiliary-heat current	20.8333	A
Largest entered HVAC current	25	A
Largest-load source	Cooling equipment current	

Calculation details

Detail	Value	Unit
Calculation basis	The preliminary HVAC screen compares entered cooling current, heating current, and auxiliary-heat current converted from kW at the entered voltage and phase.	
Equipment boundary	No MCA, MOCP, breaker, conductor, service, or code-compliance result is made. Use exact equipment nameplate/manual values and qualified review.	

Formulas

$$I_{aux} = \frac{P_{aux}}{V_{phase}}$$

$$I_{largest} = \max(I_{cooling}, I_{heating}, I_{aux})$$

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Warnings and limitations

HVAC equipment often uses model-specific MCA/MOCP, compressor, motor, auxiliary-heat, and installation data. This page only compares entered load inputs and must not be used as final equipment or circuit selection.