Electricity Running Cost of an Appliance or Load

Energy used and electricity cost per day, per month and per year of an appliance or load from its power, hours of use per day and the rate per kWh.

Method: Energy = power × time; 1 unit = 1 kWh

Input parameters

Unit system: SI

Parameter	Value	Unit
Power of the load	1,500.0	W
Hours of use per day	8.0000	h
Days in the billing period	30.000	
Rate per kWh (your currency)	8.0000	

Calculated results

Parameter	Value	Unit
Energy per day	12.000	kWh
Energy in the period	360.00	kWh
Cost per day	96.000	
Cost in the period	2,880.0	
Cost per year (365 days)	35,040	

Formula and method

$$E = Pt, \quad C = E\ [\mathrm{kWh}] \times c$$

Variables

P	Power of the load	W
t_d	Hours of use per day	s
n_d	Days in the billing period	-
c	Rate per kWh (your currency)	-
E_d	Energy per day	J
E_p	Energy in the period	J
C_d	Cost per day	-
C_p	Cost in the period	-
C_y	Cost per year (365 days)	-

Method and standards

Energy is power times time.

Assumptions and limits

- Constant power while on.

References

- Energy = power × time; 1 unit = 1 kWh

Report details

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Release checks	3 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/electrical/power/electricity-running-cost

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.