

Electrical power meaning

???,,??? electric power,?,?,?kVAMVA?,...

In physics, electric power measures the rate of electrical energy transfer by an electric circuit per unit of time. Denoted by P and measured using the SI unit of power which is watt or one joule per second. Electric power is commonly supplied by electric batteries and produced by electric generators.

Electric power is the rate at which work is done or energy is transformed into an electrical circuit. Simply put, it is a measure of how much energy is used in a span of time.

V is the potential difference in the circuit.

I is the electric current.

The above two expressions are obtained by using Ohm's law, Where, voltage, current, and resistance are related by the following relation:

$V = IR$ Where,

Since power is the rate of energy consumption, energy can directly be calculated using

E is the energy consumption (in Joules)

t is the time in seconds

Based on the information given above, try the application problem given below:

A 9V battery is connected to a resistor having a resistance of 10 Ω . What is the current and power across the resistor?

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