

# Power

---

Power is the rate at which energy is being converted.

Power = Energy / Time =

$$(V \times I \times t) / t = V \times I$$

If V is in volts and I in amps, the power will be in watts (W).

When dealing with resistors, we can use the following forms of the equation to calculate the value of power dissipated:

$$\text{Power} = I^2 \times R \text{ OR } \text{Power} = V^2 / R$$

If we work in volts, milliamps and kilohms, the power will be given in milliwatts (mW).

**NOTE:**

***All of the above equations can be applied to a resistor. When dealing with devices such as motors, most of the electrical energy is being converted into mechanical energy.***