**Ohm’s Law**

**OHM'S LAW** is the relationship between current, voltage and resistance. It states that current varies directly with voltage and inversely with resistance.

\[ E = I \times R \]

**E (Electromotive Force or Voltage)** is the electrical potential that exists between two points and is capable of producing a flow of current when a closed circuit is connected between the two points. The unit of measure for Electromotive Force or Voltage is the volt (V). One volt will send one ampere of current through a resistance of one ohm.

**I (current)** is the flow of electrons past a point in a specified period of time, usually one second. The unit of measure for current is the ampere (A). One ampere of current is 6.24 x 10^18 electrons passing a point in one second. Ampere is often shortened to amp.

**R (resistance)** is the opposition to current flow offered by a resistive component. The unit of measure for resistance is the ohm. One ohm is the resistance through which a current of one ampere will flow when a voltage of one volt is applied.

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**Ohm’s and Watt’s Laws**

![Ohm’s and Watt’s Laws Diagram](image)