

basics of electronics

Amr Maree

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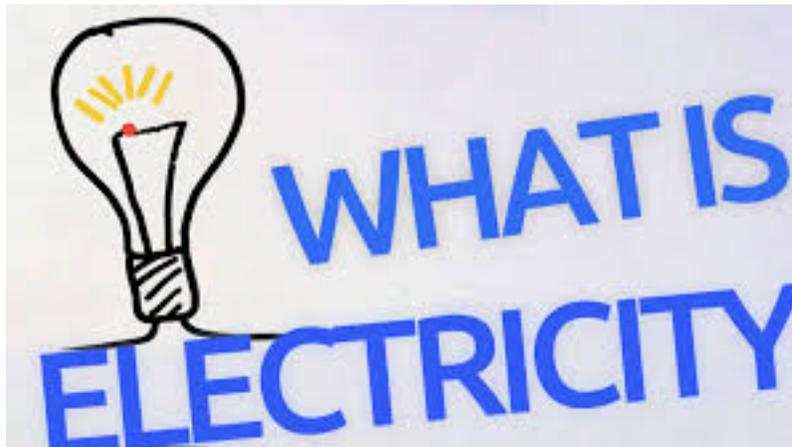
Written by \ Amr Yasser

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- *What is Electricity ?*
- *Ohm's Law .*
- *What is resistance ?*
- *Reading the values of resistance .*
- **Transformers **

The basics of electronics :

Any electric machine works with electricity, and this makes us ask ourselves what is electricity?



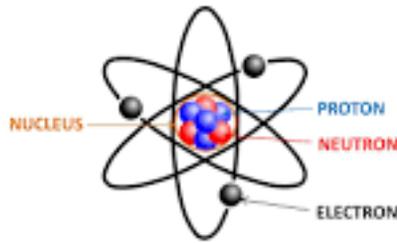
First you have to know what an atom is. An atom is the smallest part of something. It is microscopic and every thing is made up of atoms.

Atoms are made up of three parts. There are :

Protons These parts of an atom have a positive charge. They are in the middle of the atom, and they do not move.

Neutrons These parts of an atom have no charge.

Electrons These parts of the atom are very small and weigh a lot less than the protons and neutrons. Electrons are the only part of an atom that moves.



So what does this have to do with electricity?

Electricity is the flow of moving electrons. When the electrons flow it is called an **electrical current**.

Note:

1 Symbol Units

Voltage V Volt Resistance R Ohm Electrical Current I Ambere Power p Watt Frequency L Hertiz
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Now we will know how to get the value of any of these (Voltage,Electrical Current,Resistance)

by Ohm's Law

Ohm's Law :

Ohm's Law Its abbreviation Voltage = Electrical Current * Resistance $V = I * R$ Resistance = Voltage
 \ Electrical Current $R = V \ / \ I$ Electrical Current = Voltage \ Resistance $I = V \ / \ R$ -----
