

ELECTRICAL TERMINOLOGY

Subject Name: Electrical Fundamentals

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Sr. No.	Topic
1	Define the term of Electrical system potential difference, electromotive force, voltage, current, resistance, conductance, charge, conventional current flow, and electron flow

3.3 ELECTRICAL TERMINOLOGY

The following terms, their units and factors affecting them: potential difference, electromotive force, voltage, current, resistance, conductance, charge, conventional current flow, and electron flow

ELECTRICAL TERMINOLOGY

DC power system



Definition of electrical terms

- Current:** A flow of electrical charge caused by an potential difference. Current is measured in Amps (A).
- Voltage:** The differences in potential between two points that causes electrical charge to flow. Voltage is measured in Volts (V)
- Resistance:** The opposition to the flow of current. Resistance is measured in ohms (Ω)
- Power:** The time rate at which energy is transmitted to the time rate of doing work. Power is measured in Watts (W)

Potential difference the difference of electrical potential between two points.

Potential difference (V) – is measured in volts (V). Potential difference is the work done per unit charge. A potential difference of 1 V means that **1joule** of work is done per **coulomb** of charge.

Electromotive force a difference in potential that tends to give rise to an electric current.

In a device without internal resistance, if an electric charge Q passes through that device, it gains an energy W , the net emf for that device is the energy gained per unit charge, or W/Q . Like other measures of energy per charge, emf has SI units of **volts**, equivalent to **joules per coulomb**.

Conductance

The degree to which an object conducts electricity, calculated as the ratio of the current that flows to the potential difference present. This is the reciprocal of the resistance, and is measured in Siemens or mhos.

Electric charge is the physical property of matter that causes it to experience a force when placed in an electromagnetic field. There are two types of electric **charges**: positive and negative.

Electric Current : An electric **current** is a flow of electric charge. In electric circuits this charge is often carried by moving electrons in a wire.

Conductance is an expression of the ease with which **electric** current flows through a substance. In equations, **conductance** is symbolized by the uppercase letter G. The standard unit of **conductance** is the Siemens (abbreviated S), formerly known as the mho.

Conventional Current: Conventional current or simply current, behaves as if positive charge carriers cause current flow.

Conventional current flows from the positive terminal to the negative.

Electron flow is what we think of as electrical current. We are familiar with two types of **electron flow**, Direct Current, or DC, and Alternating Current, or AC. Direct Current is the kind of electrical **flow** we get from batteries and solar cells, when **electrons** travel in only one direction. The **flow** of electrons is termed electron **current**. Electrons **flow** from the negative terminal to the positive.