

An electric current is the rate of flow of electric charge past a point or region. However, current direction is defined, by convention, as the direction of movement of positive charge and therefore both holes and electrons contribute to current flowing through the conductor in the hole direction. Direct current may flow through a conductor such as a wire, but can also flow through semiconductors, insulators, or even through a vacuum as in electron or ion beams. It can also be carried by ions in an electrolyte, or by both ions and electrons such as in an ionized gas (plasma). At normal temperatures current will flow through a conductor if a battery is connected across it. Substances that let electric charge easily flow through them are called conductors. The electric current flows in a constant direction, distinguishing it from alternating current (AC). In electric circuits this charge is often carried by electrons moving through a wire. Electrons, being negative, will be attracted towards the positive side of the battery while holes (i. e. positive charge carriers) will move in opposite direction. Direct current (DC) is the unidirectional flow of an electric charge. The SI unit of electric current is the ampere, which is the flow of electric charge across a surface at the rate of one coulomb per second. Electric current is measured using a device called an ammeter. One of the best-known conductors is copper. The ampere (symbol: A) is an SI base unit. A battery is a prime example of d.c. power.