

Electricity Terms

Voltage = The driving force for charged particles, measured in “Volts.”

Current = The flow of charged particles past a given point per unit time, measured in “Amps”

1 microamp (μA) = 1/1000 of a milliamp (mA)

1000 microamps (μA) = 1 milliamp (mA)

Most TENS units operate within 1-80mA

Impedance = Sometimes referred to as resistance, measured in “Ohm’s.”

A substance that impedes the flow of current such as Skin, Fat etc...

Ohm's Law: Current = Voltage/Impedance

Constant Current – Constant Voltage

Constant Current = The ability of a device to keep its output voltage constant over any load resistance.

Current, which flows in a predetermined manner regardless of the impedance of change in impedance to that flow. Voltage will automatically fluctuate to maintain that current flow.

Higher Impedance will Higher Voltage

Lower Impedance will Lower Voltage

Constant Voltage = The ability of a device to keep its current constant over any load resistance.

A voltage applied in a predetermined manner, which does not change in characteristics, regardless of the impedance, or change in impedance the voltage is driving. The current flow will fluctuate inversely with impedance.

Higher Impedance will Lower Voltage

Lower Impedance will Lower Voltage

Types of Current

Alternating Current (AC) = Current that flows in one direction than reverses. Therefore the waveform has two phases with zero net DC.

Direct Current (DC) = Current has no change in the direction of flow.

Other good thing to know

Frequency = The rate of oscillation or alternation on cycles per second of an alternating current, expressed in units of hertz, or units per second.

Hertz = The international abbreviation (Hz) representing cycles per second.