

Series and parallel circuits similarities

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Components connected in parallel are connected along multiple paths, so the same voltage is applied to each component. A circuit composed solely of components connected in series is known as a series circuit; likewise, one connected completely in parallel is known as a parallel circuit.

These three key similarities in series and parallel circuits highlight how some aspects of electricity remain constant, no matter the complexity of the system. Electrical currents, wiring, and safety measures must all be taken into consideration to ensure your electrical system works correctly, safely, and efficiently.

Learn what differentiates series from parallel circuits. With electrical wiring, series and parallel circuits power multiple devices. They both have electrical current flowing through wires, but that's where the likeness ends. A series circuit is a closed circuit where the current follows one path.

There are three basic types of Electric Circuits: Series, Parallel and a Combination. Understanding these circuit configurations will help you in analyzing the circuits and with aid of couple of fundamental rules, you can easily calculate the current and voltage of each and every component. So, in this guide, let us take a closer look at the basics of Series and Parallel Circuits, compare Series vs Parallel and also list out some applications of Series and Parallel Circuits.

A simple DC Circuit consists of a closed path in which the direct current flows. The simplest source of DC is a battery and if we connect a small lamp across the terminals of the battery, then it makes up a simple DC Circuit.

But practical circuits consist of more components than a single lamp. If a circuit consists of more than one component and if they are all connected end-to-end so that the same current flows through all of them, then the circuit is known as a Series Circuit.

If we take the simplest electrical component i.e., a Resistor as an example, then the following circuit shows three resistors connected in Series with the voltage source. There is only one path for the current to flow in a series circuit.

If V is the supply voltage, I is the current in the circuit, R_1 , R_2 , R_3 are the resistances and V_{R1} , V_{R2} and V_{R3} are the voltages across the respective resistors, then applying Ohm's Law, we get.

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