

Electric Circuits

Types of Circuits:

- **Series** : simplest, one continuous circuit path, shorter conductor length. If one device in the circuit fails, all the others fail.
- **Parallel** : more complex, alternate circuit paths, longer conductor length, appearance often resembles a ladder. If one device in the circuit fails, others still work.

Symbols used in electric circuits/circuit diagrams:

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Protecting Circuits:

= **Fuse** : a piece of enclosed wire that will melt at a temperature lower than the rest of the wires in a circuit. Simple, cheap, but can only be used once.

= **Circuit Breaker** : a device that opens a switch, and shuts off electricity through the circuit to prevent the wires in a circuit from overheating. Reusable. Devices must be turned off before it will allow current to flow again.

Two types:

- 1- **Thermal** -short reset time
- 2- **Magnetic** (bimetallic strip)-longer reset time