

# Mesleki Yabancı Dil 1 Dersi

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Hafta 11

# CIRCUIT BREAKERS, FUSES AND SWITCHES

- A circuit breaker is an electromagnetic device that opens the circuit automatically when the current exceeds a predetermined value.
- A fuse is a protective device containing a short length of special wire that melts when the current through it exceeds the rated value for a definite period of time.
- A fuse is inserted in series with the circuit being protected, so it opens the circuit automatically during a serious overload.
- A switch is a manually, or mechanically, electrically or electronically actuated device for making, breaking, or changing the connections in an electric circuits.
- Their function is to protect the circuit in which they are built from possible damages.
- They are designed to interrupt excess current that can overload the electrical wires, and they cut off the circuit whenever the current jumps above a safe level.
- A circuit breaker, unlike a fuse, which operates once and then has to be replaced, can be reset (either manually or automatically) to resume normal operation.
- The choice of a proper circuit breaker depends on the particular application.

- It may be a small device used for protecting individual household appliance, or a large switchgear designed to protect high voltage circuits feeding an entire city.
- All switches perform the same basic function of opening or closing circuits.
- The type used in a given application is often a matter of style and/or convenience of operation.
- Fuses have the advantage of often being less expensive and simpler than a circuit breaker for similar rating.
- Modern consumer units contain magnetic circuit breakers instead of fuses.
- Fuses are often characterized as “fast-blow” or “slow-blow” according to the time they take to respond to an overcurrent condition.
- A fuse also has a rated interrupting capacity, also called breaking capacity, which is the maximum current the fuse can safely interrupt.