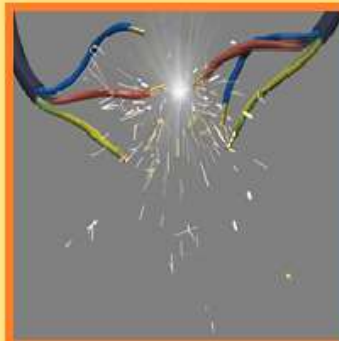


An Arc Fault Circuit Interrupter (AFCI) is a device that breaks the circuit when it detects a dangerous electrical arc to prevent an electrical fire. An AFCI distinguishes between a harmless arc that occurs incidental to normal operation of switches, receptacles, etc..., and an undesirable arc that can occur, for example, a loose connection or broken conductor in a lamp cord.



An overloaded circuit is an electric circuit that is carrying more current than it is designed to handle, creating a danger of fire through overheating. This often occurs when too many appliances are connected to a circuit at one time.



A short circuit is when the current in a circuit flows directly from the live conductor to the neutral or ground conductor without passing through a load.



An Arc-Fault is a dangerous electrical problem caused by damaged, overheated, or stressed electrical wiring or devices.

Conventional circuit breakers only respond to overloads and short circuits; they do not protect against arcing conditions. The AFCI device continuously monitors the current and discriminates between normal and unwanted arcing conditions. Once an unwanted arcing condition is detected, the AFCI opens its internal contacts, thus de-energizing the circuit and reducing the potential for a fire to occur.

AFCI breakers have been required for circuits feeding electrical outlets in most rooms in houses since the 23rd edition of the Canadian Electrical Code came out in 2015.