U.S. Fire Administration / National Fire Academy

Coffee Break Training

Topic: Fire Alarm Power Circuits

Learning objective: *The student shall be able to explain the code requirements for protecting branch circuits powering fire alarm control units.*

Fire alarm control units (panels) are required to have primary and secondary power sources. In most cases, the primary power source is the local power utility that provides electricity to the building where the fire alarm system is installed.

The fire alarm control panel must receive its power from a dedicated branch circuit. The circuit cannot be used for lights, receptacles, or any type of appliances.

The circuit must be mechanically protected: meaning it has to be provided with an automatic "disconnecting means" (commonly called a "circuit breaker"). The circuit breaker is intended to protect the fire alarm control panel from excess electrical current.

The circuit breaker for the fire alarm control panel must be painted red and be accessible only to authorized personnel. This illustration shows a locking tab attached to the circuit breaker that prevents it from being shut off inadvertently.

The circuit has to be identified in the electrical panel by the words FIRE ALARM CIRCUIT CONTROL, and the circuit breaker's location must be identified in the fire alarm control unit.

For additional information, refer to NFPA 72, *National Fire Alarm Code®*.