

See also

700.16(B) for the requirement covering the listing of control devices installed in emergency lighting systems

700.25 Branch Circuit Emergency Lighting Transfer Switch. Emergency lighting loads supplied by branch circuits rated at not greater than 20 amperes shall be permitted to be transferred from the normal branch circuit to an emergency branch circuit using a listed branch circuit emergency lighting transfer switch. The mechanically held requirement of 700.5(C) shall not apply to listed branch circuit emergency lighting transfer switches.

700.26 Automatic Load Control Relay. If an emergency lighting load is automatically energized upon loss of the normal supply, a listed automatic load control relay shall be permitted to energize the load. The load control relay shall not be used as transfer equipment.

Automatic load control relays traditionally were part of emergency unit equipment, but stand-alone devices are now listed under ANSI/UL 924, *Standard for Emergency Lighting and Power Equipment*. Load control relays listed under UL 924 are not to be used to transfer a load between two nonsynchronous power sources. Load control relays do not have mechanisms required by UL 1008, *Transfer Switch Equipment*, to prevent inadvertent connection of the normal and emergency sources, and they do not undergo the fault-current evaluation that is required of UL 1008 for transfer switches.

The UL Product IQ *Guide Information* differentiates automatic transfer switches (product category WPWR) from automatic load control relays (product category FTBR).

N 700.27 Class 2 Powered Emergency Lighting Systems.

Devices that combine control signals with Class 2 emergency power on a single circuit shall be listed as emergency lighting control devices.

Informational Note: An example of a device combining control signals with Class 2 emergency power sources is a Power over Ethernet (PoE) switch.

Part VI. Overcurrent Protection

700.30 Accessibility. The branch-circuit overcurrent devices in emergency circuits shall be accessible to authorized persons only.

700.31 Ground-Fault Protection of Equipment. The alternate source for emergency systems shall not be required to provide ground-fault protection of equipment with automatic disconnecting means. Ground-fault indication at the emergency source shall be provided in accordance with 700.6(D) if ground-fault protection of equipment with automatic disconnecting means is not provided.

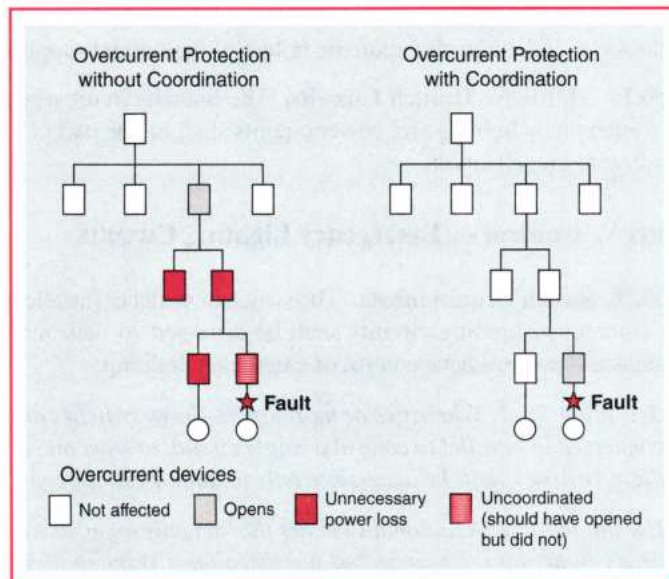


EXHIBIT 700.11 Overcurrent protection schemes without system coordination and with system coordination.

Δ 700.32 Selective Coordination.

Coordination, selective (selective coordination), as defined in Article 100, is a protection method in which the operation of the overcurrent protective scheme localizes an overcurrent condition to the circuit conductors or equipment in which an overload or fault (short circuit or ground fault) has occurred. This selective operation prevents power loss to unaffected loads.

Continuity of operation of lighting and life-safety equipment is necessary for safe occupant evacuation. This requirement minimizes the possibility that an overload, short circuit, or ground fault in a 20-ampere branch circuit would cause the feeder protective device supplying the branch-circuit panelboard to open. Coordination must be carried through each level of distribution that supplies power to the emergency system.

Design and verification of electrical system coordination can be achieved only through a coordination study. A coordination study entails detailed analysis of electrical supply system fault-current characteristics. Modifications to the electrical system after the initial design and installation can affect the original implementation of the coordinated system.

Examples of overcurrent protection with and without coordinated protection are illustrated in Exhibit 700.11.

N (A) General. Emergency system(s) overcurrent protective devices (OCPDs) shall be selectively coordinated with all supply-side and load-side OCPDs.

Selective coordination shall be selected by a licensed professional engineer or other qualified persons engaged primarily in the design, installation, or maintenance of electrical systems. The selection shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.