

N (3) Service Head. Raceways shall be equipped with an approved service head. More than one communications wire and cable shall be permitted to enter through a single raceway or bushing. Conduits or other metal raceways located ahead of the primary protector shall be grounded.

Part III. Protection

805.90 Protective Devices.

(A) Application. A listed primary protector shall be provided on each circuit run partly or entirely in aerial wire or aerial cable not confined within a block. Also, a listed primary protector shall be provided on each circuit, aerial or underground, located within the block containing the building served so as to be exposed to accidental contact with electric light or power conductors operating at over 300 volts to ground. In addition, where there exists a lightning exposure, each interbuilding circuit on a premises shall be protected by a listed primary protector at each end of the interbuilding circuit. Installation of primary protectors shall also comply with 110.3(B).

Informational Note No. 1: On a circuit not exposed to accidental contact with power conductors, providing a listed primary protector in accordance with this article helps protect against other hazards, such as lightning and above-normal voltages induced by fault currents on power circuits in proximity to the communications circuit.

Informational Note No. 2: Interbuilding circuits are considered to have a lightning exposure unless one or more of the following conditions exist:

- (1) Circuits in large metropolitan areas where buildings are close together and sufficiently high to intercept lightning.
- (2) Interbuilding cable runs of 42 m (140 ft) or less, directly buried or in underground conduit, where a continuous metallic cable shield or a continuous metal conduit containing the cable is connected to each building grounding electrode system.
- (3) Areas having an average of five or fewer thunderstorm days per year and earth resistivity of less than 100 ohm-meters. Such areas are found along the Pacific coast.

Telephone utility companies ordinarily provide primary protectors if telephone lines are exposed to lightning. Installers of private networks that include interbuilding cable should also install primary protectors where cables are exposed to lightning. A primary protector is required at each end of an interbuilding communications circuit where lightning exposure exists. See Exhibit 805.1 for an example of a primary protector unit typically installed in commercial buildings.

Informational Note No. 3: See NFPA 780-2020, *Standard for the Installation of Lightning Protection Systems*, for information on lightning protection systems.

Δ (1) Fuseless Primary Protectors. Fuseless-type primary protectors shall be permitted under any of the following conditions:

- (1) Where conductors enter a building through a cable with grounded metallic sheath member(s) and where the

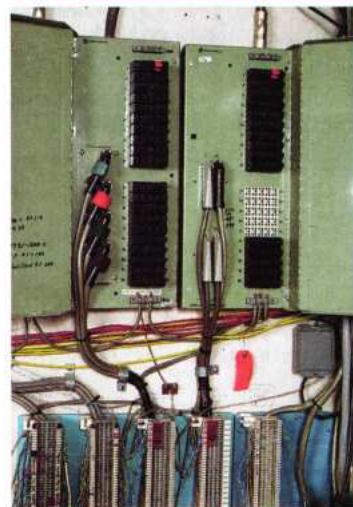


EXHIBIT 805.1 A primary protector unit installed in a commercial building that is the interface to the outside plant cable.

conductors in the cable safely fuse on all currents greater than the current-carrying capacity of the primary protector and of the primary protector bonding conductor or grounding electrode conductor

- (2) Where insulated conductors in accordance with 805.50(A) are used to extend circuits to a building from a cable with an effectively grounded metallic sheath member(s) and where the conductors in the cable or cable stub, or the connections between the insulated conductors and the plant exposed to accidental contact with electric light or power conductors operating at greater than 300 volts to ground, safely fuse on all currents greater than the current-carrying capacity of the primary protector, or the associated insulated conductors and of the primary protector bonding conductor or grounding electrode conductor
- (3) Where insulated conductors in accordance with 805.50(A) or (B) are used to extend circuits to a building from other than a cable with metallic sheath member(s), where (a) the primary protector is listed as being suitable for this purpose for application with circuits extending from other than a cable with metallic sheath members and (b) the connections of the insulated conductors to the plant exposed to accidental contact with electric light or power conductors operating at greater than 300 volts to ground or the conductors of the plant exposed to accidental contact with electric light or power conductors operating at greater than 300 volts to ground safely fuse on all currents greater than the current-carrying capacity of the primary protector, or associated insulated conductors and of the primary protector bonding conductor or grounding electrode conductor
- (4) Where insulated conductors in accordance with 805.50(A) are used to extend circuits aerially to a building from a buried or underground circuit that is unexposed to accidental