

**(B) Location.** The location of the primary protector, where required, shall comply with the following:

- (1) A listed primary protector shall be applied on each network-powered broadband communications cable external to and on the network side of the network interface unit.
- (2) The primary protector function shall be an integral part of and contained in the network interface unit. The network interface unit shall be listed as being suitable for application with network-powered broadband communications systems and shall have an external marking indicating that it contains primary electrical protection.
- (3) The primary protector(s) shall be provided on the derived circuit(s) (output side of the NIU), and the combination of the NIU and the protector(s) shall be listed as being suitable for application with network-powered broadband communications systems.

A primary protector, whether provided integrally or external to the network interface unit, shall be located as close as practicable to the point of entrance.

For purposes of this section, a network interface unit and any externally provided primary protectors located at mobile home service equipment located in sight from and not more than 9.0 m (30 ft) from the exterior wall of the mobile home it serves, or at a mobile home disconnecting means grounded in accordance with 250.32 and located in sight from and not more than 9.0 m (30 ft) from the exterior wall of the mobile home it serves, shall be considered to meet the requirements of this section.

**Informational Note:** Selecting a network interface unit and primary protector location to achieve the shortest practicable primary protector bonding conductor or grounding electrode conductor helps limit potential differences between communications circuits and other metallic systems.

**(C) Hazardous (Classified) Locations.** The primary protector or equipment providing the primary protection function shall not be located in any hazardous (classified) location as defined in 500.5 and 505.5 or in the vicinity of easily ignitable material.

*Exception: As permitted in 501.150, 502.150, and 503.150.*

## Part IV. Grounding Methods

**830.93 Grounding or Interruption of Metallic Members of Network-Powered Broadband Communications Cables.** Network-powered communications cables entering buildings or attaching to buildings shall comply with 830.93(A) or (B).

For purposes of this section, grounding located at mobile home service equipment located within 9.0 m (30 ft) of the exterior wall of the mobile home it serves, or at a mobile home disconnecting means grounded in accordance with 250.32 and located within 9.0 m (30 ft) of the exterior wall of the mobile

home it serves, shall be considered to meet the requirements of this section.

**Informational Note:** Selecting a grounding location to achieve the shortest practicable bonding conductor or grounding electrode conductor helps limit potential differences between the network-powered broadband communications circuits and other metallic systems.

Proper bonding of the network-powered broadband communications system cable sheath to the electrical power grounding electrode is needed to prevent potential fire and shock hazards. Failure to bond the two systems together can lead to a difference in potential between normally non-current-carrying parts.

### See also

**250.94** for more information regarding bonding of communications systems

**(A) Entering Buildings.** In installations where the network-powered communications cable enters the building, the shield shall be grounded in accordance with 800.100, and metallic members of the cable not used for communications or powering shall be grounded in accordance with 800.100 or interrupted by an insulating joint or equivalent device. The grounding or interruption shall be as close as practicable to the point of entrance.

**(B) Terminating Outside of the Building.** In installations where the network-powered communications cable is terminated outside of the building, the shield shall be grounded in accordance with 800.100, and metallic members of the cable not used for communications or powering shall be grounded in accordance with 800.100 or interrupted by an insulating joint or equivalent device. The grounding or interruption shall be as close as practicable to the point of attachment of the NIU.

## Part V. Installation Methods Within Buildings

**830.133 Installation of Network-Powered Broadband Communications Cables and Equipment.** Cable and equipment installations within buildings shall comply with 830.133(A) through (C), as applicable.

### (A) Separation of Conductors.

**(1) In Raceways, Cable Trays, Boxes, Enclosures, and Cable Routing Assemblies.**

(a) *Low- and Medium-Power Network-Powered Broadband Communications Circuit Cables.* Low- and medium-power network-powered broadband communications cables shall be permitted in the same raceway, cable tray, box, enclosure, or cable routing assembly.

(b) *Low-Power Network-Powered Broadband Communications Circuit Cables with Other Circuits.* Low-power network-powered broadband communications cables shall be