



First Revision No. 4582-NFPA 70-2015 [Section No. 840.1]

840.1 Scope.

This article covers premises-powered ~~optical fiber-based~~ broadband communications systems ~~that provide any combination of voice, video, data, and interactive services through an optical network terminal (ONT).~~

Informational Note No. 1: A typical basic system configuration consists of an optical fiber, ~~twisted pair, or coaxial~~ cable to the premises (~~FTTP~~) supplying a broadband signal to ~~an ONT, a network terminal,~~ that converts the broadband ~~optical~~ signal into component electrical signals, such as traditional telephone, video, high-speed ~~internet~~ Internet, and interactive services. Powering ~~of the ONT for the network terminal and network devices~~ is typically accomplished through ~~an ONT, a premises, power supply unit (PSU) and that might be built into the network terminal or provided as a separate unit. In order to provide communications in the event of a power interruption, a battery backup unit (BBU) that derive their power input from the available ac at the premises. The optical fiber cable is unpowered and may be nonconductive or conductive, or an uninterruptible power supply (UPS) is typically part of the powering system.~~

Informational Note No. 2: See 90.2(B)(4) for installations of premises-powered broadband communications systems that are not covered in this article.

Submitter Information Verification

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Submittal Date: Wed Jan 14 16:23:41 EST 2015

Committee Statement

Committee Statement: CMP-16 makes changes to the Scope. CMP-16 realizes that Scope is under the purview of the CC.

The revisions include the following:

- 1) Expand the scope and coverage of Article 840 to match the title "Premises-Powered Broadband Communications Systems".
- 2) Introduce powering systems such as Power over Ethernet (PoE) into Chapter 8 in order to provide safe installation rules for premises-powered communications applications.

Deployments of systems such as PoE are wide-spread methods of providing premises power to communications equipment. Compliance with the industry specifications for these systems is not mandatory; some installations comply while others do not. Each time the standards are revised, they enable higher power levels to the powered devices, thereby leading to safety concerns including, but not limited to, the excess heating of cables. Exceeding the temperature rating of a cable will lead to long term degradation of the cable. Acceptance of this PI and its companion PIs will provide for the safe installation of premises-powered communications systems. The proposed limits on PoE power are consistent with communications industry standards as well as the long-established limits for Class 2 dc power sources.

Many premises-powered broadband communications systems are provided by the local cable TV franchise over coaxial cable. Their network terminal is commonly called a modem. Other premises-powered broadband communications systems are offered by the local "telephone company". Some provide service over twisted pairs and others use optical fiber cables. One major supplier of service over twisted pairs calls their network terminal a gateway. The recommended text of the informational note simply uses the term "network terminal" to describe the terminal regardless of the input transmission medium.

Response Message:

[Public Input No. 1839-NFPA 70-2014 \[Section No. 840.1\]](#)

Ballot Results

✔ This item has passed ballot

17 Eligible Voters
 0 Not Returned
 17 Affirmative All
 0 Affirmative with Comments
 0 Negative with Comments
 0 Abstention

Affirmative All

Bish, George
 Brunssen, James E.
 Dawson, Fred C.
 Dorna, Gerald Lee
 Ivans, Randolph J.
 Jensen, Robert W.
 Johnson, Steven C.
 Lawrence, Eric
 McCoy, William J.
 McNamara, Jack
 Moore, Thomas E.
 Murphy, Michael F.
 Ohde, Harold C.
 Parrish, Thomas J.
 Pirkle, W. Douglas
 Prezioso, Luigi G.
 Zieman, Leo