ARTICLE

230 SERVICES

Introduction to Article 230—Services

This article covers the installation requirements for service conductors and the first means of disconnect. The requirements for service conductors differ from those for other conductors. For one thing, service conductors for one building cannot pass through the interior of another [230.3], and different rules are applied depending on whether a service conductor is inside or outside a building. When are they "outside" as opposed to "inside"? The answer may seem obvious, but 230.6 will help you determine when (and if) service conductors are considered to be outside.

Article 230 consists of seven parts:

- Part I. General
- Part II. Overhead Service Conductors
- Part III. Underground Service Conductors
- Part IV. Service-Entrance Conductors
- Part V. Service Disconnect
- Part VI. Disconnecting Means
- Part VII. Overcurrent Protection

230.67 Surge Protection

This new section requiring the installation of a surge-protective device (SPD) for all dwelling unit services has been a long time coming. Up until now, dwelling unit surge protection has been optional and usually an "extra" for the electrician.

Analysis

NEW

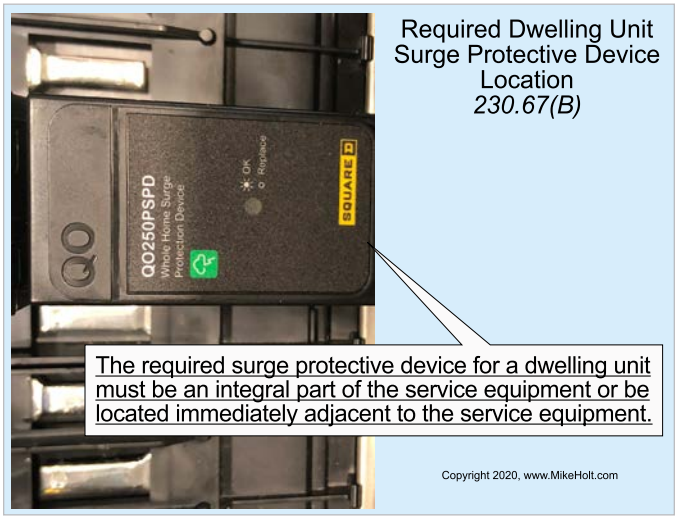
This requirement is being driven by the increasing amount of sensitive electronic equipment found in dwelling units. Electronic life safety equipment such as fire alarm systems, AFCIs, GFCIs, and smoke alarms, as well as consumer electronic devices such as computers and televisions can all be damaged by voltage surges. Studies by NEMA, IEEE, and UL all show that surges cause a significant amount of damage. The text in (B) requires the SPD to be an integral part of the service equipment or located immediately adjacent to that equipment. There is an exception that permits the SPD to be located at the next level downstream distribution equipment.

230.67 Surge Protection

Scan this QR code for a video of Mike explaining this topic; it's a sample from the videos that accompany this textbook.

(A) Surge-protective Device. All services suppling dwelling units must be provided with a surge-protective device.

(B) Location. The surge-protective device must be an integral part of the service disconnect or be located immediately adjacent to the service disconnect. ▸Figure 230–8



▸Figure 230–8

Ex: The surge-protective device is permitted to be located in the downstream panelboard.

Author's Comment:

- An example of where the exception could be applied is where there is an exterior meter main that feeds an interior panel. The SPD could be installed at the interior panel using the exception.
- See Parts I and II of Article 242 for the installation requirements that apply to SPDs.

(C) Type. The surge-protective device must be a Type 1 or Type 2 SPD.

(D) Replacement. Where service equipment is replaced, surge protection must be installed.