



**EXHIBIT 518.3** A listed power outlet for connection of portable switchboards in an assembly occupancy. (Courtesy of Union Connector Co., Inc.)

vary with the amplitude of the applied voltage waveform, without any of the nonlinear switching found in phase-control solid-state dimmers. Because solid-state sine wave dimmers are linear loads, they do not require the neutral to be considered a current-carrying conductor. This characteristic impacts the number of current-carrying conductors in a raceway or cable and the need to apply ampacity adjustment factors.

**518.6 Illumination.** Illumination shall be provided for all working spaces about fixed service equipment, switchboards, switchgear, panelboards, or motor control centers installed outdoors that serve assembly occupancies. Control by automatic means only shall not be permitted. Additional lighting outlets shall not be required where the workspace is illuminated by an adjacent light source.

In some assembly occupancies, fixed service equipment is installed outdoors. Illumination of indoor service equipment is required by 110.26(D). Section 518.6 requires illumination of outdoor service equipment supplying assembly occupancies.

## ARTICLE

# 520

## Theaters, Audience Areas of Motion Picture and Television Studios, Performance Areas, and Similar Locations

### Part I. General

**520.1 Scope.** This article covers all buildings or that part of a building or structure, indoor or outdoor, designed or used for

presentation, dramatic, musical, motion picture projection, or similar purposes and to specific audience seating areas within motion picture or television studios.

The special requirements of Article 520 apply only to that part of a building used as a theater or for a similar purpose and do not necessarily apply to the entire building. In a school building, for example, the requirements of Article 520 apply to an auditorium used for dramatic or other performances. The special requirements of this article apply to the stage, auditorium, dressing rooms, and main corridors leading to the auditorium but not to other parts of the building not involved in the use of the auditorium for performances or entertainment. Audience areas of motion picture and television studios, as defined and covered in Article 530, and stage areas of concert and festival venues are also covered by the requirements of Article 520.

### 520.5 Wiring Methods.

**(A) General.** The fixed wiring method shall be any of the following:

- (1) Metal raceways
- (2) Nonmetallic raceways encased in at least 50 mm (2 in.) of concrete
- (3) Type MI cable, Type MC cable, or Type AC cable containing an insulated equipment grounding conductor sized in accordance with Table 250.122

**(B) Communications, Signaling Systems, Data Systems, Fire Alarm Systems, and Systems Less Than 120 Volts, Nominal.** Fixed wiring methods for specific installations shall be as follows:

- (1) Audio signal processing, amplification, and reproduction equipment — 640.9
- (2) Communications systems — Parts I and IV of Article 800, Part IV of Article 805, and Part VI of Article 840
- (3) Class 2 and Class 3 remote control and signaling circuits — Part III of Article 725
- (4) Class 2 circuits that transmit power, data, or both to a powered device

**Informational Note:** See ANSI/NEMA C137.3-2017, *American National Standard for Lighting Systems — Minimum Requirements for Installation of Energy Efficient Power over Ethernet (PoE) Lighting Systems*, for information on installation of cables for PoE lighting systems. See Part III of Article 760 for information on fire alarm circuits.

**(C) Portable Equipment.** The wiring for portable switchboards, stage set lighting, stage effects, and other wiring not fixed as to location shall be permitted with approved flexible cords and cables as provided elsewhere in Article 520. Fastening such cables and cords by uninsulated staples or nailing shall not be permitted.

**(D) Nonrated Construction.** Nonmetallic-sheathed cable, Type AC cable, electrical nonmetallic tubing, and rigid nonmetallic conduit shall be permitted to be installed in those buildings or portions of buildings that are not required to be of fire-rated construction by the applicable building code.