

# ARTICLE 210

## BRANCH CIRCUITS

### Introduction to Article 210—Branch Circuits

This article contains branch-circuit requirements such as those for conductor sizing and identification, GFCI, AFCI and overcurrent protection, and receptacle and lighting outlet requirements. It consists of three parts:

- ▶ Part I. General Provisions
- ▶ Part II. Branch-Circuit Ratings
- ▶ Part III. Required Outlets

### 210.12 Arc-Fault Circuit-Interrupter Protection

There were no big changes here, but the panel did a great job organizing and editing this section to address over 50 public inputs while making the whole thing easier to read and use.

### Analysis



#### EDITED

The global changes made in this section are not technical in nature but were a massive improvement from a usability standpoint. One change that stands out is changing the phrase “arc-fault circuit interrupter” to “AFCI” throughout the section.



#### REORGANIZED

The rules for dwelling unit AFCIs were moved to subdivision (B), dormitory units were moved to (C), and the coverage requirements were converted into simple numbered lists. Rules about AFCI protection for branch-circuit extensions or modifications were moved to (E), and all the associated references within 210.12 were updated to match.



#### EXPANDED

The requirement to provide 15A and 20A branch circuits with AFCI protection was expanded to include the new allowance for 10A branch circuits in (B) through (D).



#### NEW

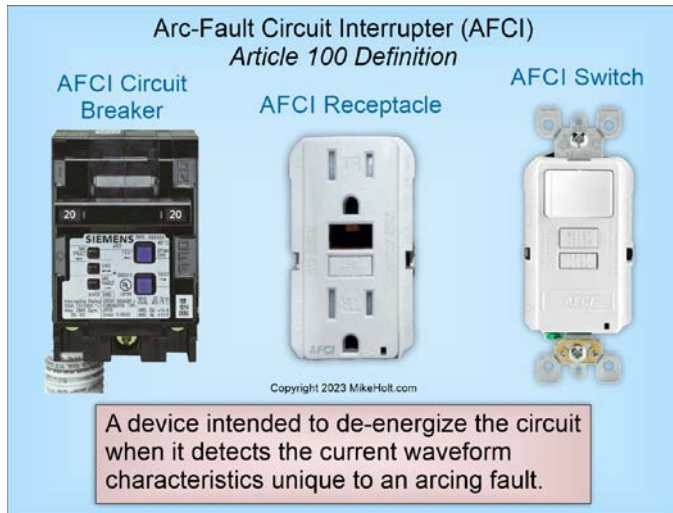
Subdivision (C) became (D) and was retitled as Other Occupancies. The requirements were reorganized into a list format which includes a list item 3 to clear up any confusion about AFCI protection requirements for branch circuits in the sleeping rooms of fire houses, rescue squads, police departments, and similar locations.

### 210.12 Arc-Fault Circuit-Interrupter Protection

Arc-fault circuit-interrupter protection (AFCI), in a readily accessible location, is required in accordance with 210.12(B) through (E)<sup>†</sup>.

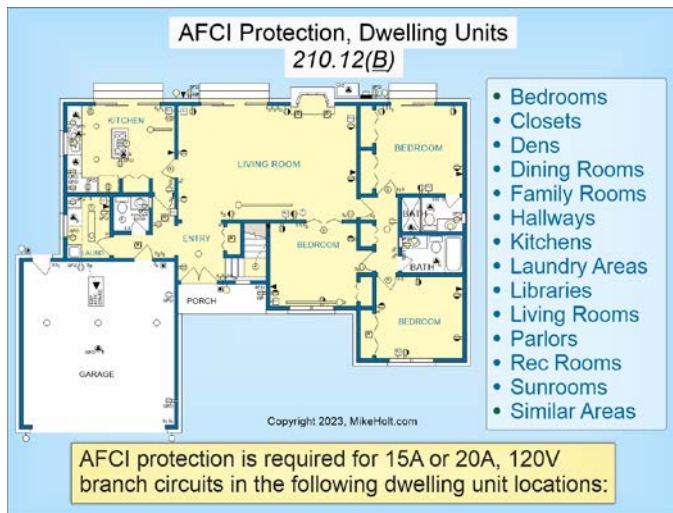
#### Author's Comment:

- ▶ According to Article 100, an “Arc-Fault Circuit Interrupter (AFCI)” is a device intended to de-energize the circuit when it detects the current waveform characteristics unique to an arcing fault. ▶Figure 210-47



►Figure 210-47

**(B) Dwelling Units.** AFCI protection is required for 15A or 20A, 120V branch circuits supplying outlets or devices in the following dwelling unit locations: ►Figure 210-48



►Figure 210-48

- (1) Kitchens
- (2) Family rooms
- (3) Dining rooms
- (4) Living rooms
- (5) Parlors
- (6) Libraries
- (7) Dens
- (8) Bedrooms
- (9) Sunrooms
- (10) Recreation rooms
- (11) Closets

- (12) Hallways
- (13) Laundry areas
- (14) Similar areas

**Author's Comment:**

- AFCI protection is not required for outlets in bathroom areas, garages, or outside.

**(C) Dormitory Units.** AFCI protection is required for 15A or 20A, 120V branch circuits supplying outlets or devices in the following dormitory unit locations: ►Figure 210-49



►Figure 210-49

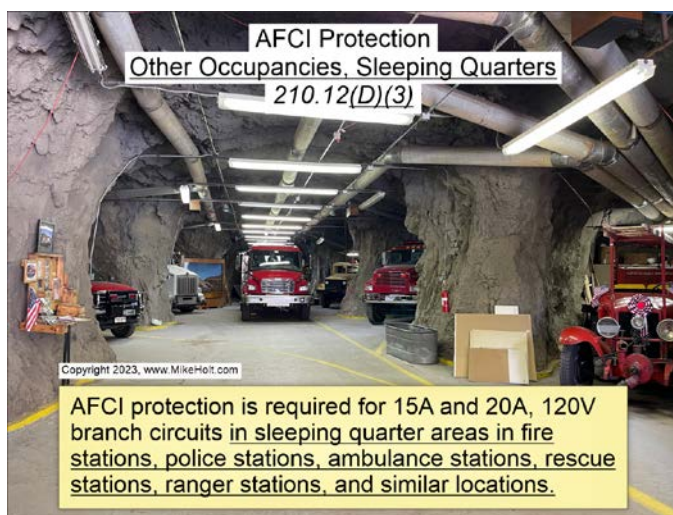
- (1) Bedrooms
- (2) Living rooms
- (3) Hallways
- (4) Closets
- (5) Bathrooms
- (6) Similar rooms

**(D) Other Occupancies.** AFCI protection is required for 15A and 20A, 120V branch circuits supplying outlets or devices in the following other occupancy locations:

- (1) Guest rooms and guest suites of hotels and motels. ►Figure 210-50
- (2) Areas used exclusively as patient sleeping rooms in nursing homes and limited care facilities.
- (3) Areas designed for use exclusively as sleeping quarters in fire stations, police stations, ambulance stations, rescue stations, ranger stations, and similar locations. ►Figure 210-51



►Figure 210-50



►Figure 210-51

**(E) Branch-Circuit Wiring Extensions, Modifications, or Replacements.** If 15A or 20A, 120V branch-circuit wiring is extended, modified, or replaced in any of the areas specified in 210.12(B), (C), or (D), the wiring must be AFCI protected by one of the following.

- (1) An AFCI circuit breaker
- (2) An AFCI receptacle installed at the first receptacle outlet of the existing branch circuit.

*Ex: AFCI protection is not required for extension wiring that is less than 6 ft in length (raceway or cable) if no outlets or devices, other than splicing devices, are added. This measurement does not include the conductors inside an enclosure, cabinet, or junction box.*