Codes & Standards

2020 NEC® GFCI Wiring Devices Overview

Powering Business Worldwide

National Electrical Code® 2020 Updates

GFCI Wiring Devices	
210.8(A)	➢ Dwelling Units
210.8(B)	➢ Other than Dwelling Units
210.8(D)	➢ Specific Appliances
210.8(E)	➢ Equipment Requiring Servicing
210.52(C)	➢ Island/Peninsula
406.9(C)	➢ Bathtub and Shower Space

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210.8 Scope Change

- 2017 NEC® included the door or doorway as exceptions for determining the distance from receptacles
- 2020 NEC® Receptacle outlet distance no longer has exception of door or doorway

210.8(A) Voltage Expansion

- Former language covered all 125-volt, single-phase, 15- and 20-ampere receptacles
- New language: All 125-volt through 250-volt receptacles

Plug-On Ground Fault Circuit Breakers, Type CH 10 kAIC, 120 Vac and 120/240 Vac

Type CH Single-Pole

Type CH Ground Fault Circuit Breakers (5 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C①	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6	CHFGFT115	CH215GFT
20	#14–6	CHFGFT120	CH220GFT
25	#14–6	CHFGFT125	CH225GFT
30	#14–6	CHFGFT130	CH230GFT
35	#14–6	—	CH235GFT
40	#14–6	—	CH240GFT
45	#14–6	—	CH245GFT
50	#14–6	—	CH250GFT
60	#14–6①	—	CH260GFT

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Dwelling Area Receptacle Outlets Requiring GFCI

210.8(A)(1)-(11)
Receptacle outlets 125V-250V

1. Bathrooms
2. Garages
3. Outdoors
4. Crawl Spaces
5. **Basements**Δ
6. Kitchens (countertops)
7. Sinks (within 6ft)
8. Boathouses
9. Bathtubs/ Shower Stalls
10. Laundry Areas
11. **Indoor Damp/Wet Locations***

210.8(A)(5) Basements

- Formerly “Unfinished Basements”
- Regardless of finished/unfinished, all basement receptacle outlets will now require GFCI protection

210.8(A)(11) Indoor Damp/ Wet Locations

- Examples of Locations (Check with AHJ)
  - Pet Washing Stations
  - Mud Rooms

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Non-Dwelling Area Receptacle Outlets Requiring GFCI

210.8(B)(1)-(12)
150V or less to ground,
Single-Phase, ≤50A
3-Phase, ≤100A

1. Bathrooms
2. **Kitchens**Δ
3. Rooftops
4. Outdoors
5. Sinks (6ft)
6. **Indoor Damp/Wet Locations**Δ
7. Locker Rooms
8. Garages, etc.
9. Crawl Spaces
10. Unfinished Basements
11. **Laundry Areas***
12. **Bathtubs/ Shower Stalls***

210.8(B)(2) Kitchens

- New Language:
  (2) Kitchens or areas with a sink and permanent provisions for either food preparation or cooking

- Commercial food prep areas that may not have been considered "kitchens" will now require GFCI
- Coffee shops, ice cream parlors, etc.

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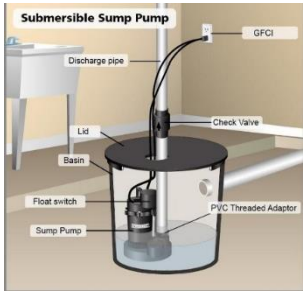
Specific Appliances Requiring GFCI

210.8(D) points to 422.5(A)
Receptacle outlets 150V or less to ground, 60A or less, Single-Phase or 3-Phase

1. Automotive vacuum machines
2. Drinking Water coolers **and bottle fill stations** Δ
3. **Cord-and-plug-connected high-**pressure spray washing machines Δ
4. Tire inflation machines
5. Vending machines
6. **Sump pumps***
7. **Dishwashers***

422.5(A)(6) and (7) Sump Pumps and Dishwashers



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Equipment Requiring Servicing - GFCI

210.8(E) points to 210.63(A)

(A) Heating, Air-Conditioning, and Refrigeration Equipment*

210.8(E) Equipment Requiring Servicing

- All applications specified require a 15A or 20A-rated receptacle outlet within 25ft of equipment
- 210.8(E) requires this receptacle to be GFCI-protected

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Countertop Receptacle Outlets Requiring GFCI

210.52(C)(2)

(a) At least one receptacle outlet shall be provided for the first 9 ft^2, or fraction thereof, of the countertop or work surface. A receptacle outlet shall be provided for every additional 18 ft^2, or fraction thereof, of the countertop or work surface.

(b) At least one receptacle outlet shall be located within 2 ft of the outer end of a peninsular countertop or work surface. Additional required receptacle outlets shall be permitted to be located as determined by the installer, designer, or building owner. The location of the receptacle outlets shall be in accordance with 210.52(C)(3).

210.52(C)(2) Island and Peninsular Countertops and Work Surfaces.

- New measurement to determine number of needed receptacles on islands, peninsula countertops
- Kitchen countertop receptacles are required to be GFCI-protected per 210.8(A)(6)

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Bathtub and Shower Space - Measurements

406.9 Receptacles in Damp and Wet Locations

406.9(C) Bathtub and Shower Space

Receptacles shall not be installed within a zone measured 900 mm (3 ft) horizontally and 2.5 m (8 ft) vertically from the top of the bathtub rim or shower stall threshold. The identified zone is all-encompassing and shall include the space directly over the tub or shower stall.

Exception: In bathrooms with less than the required zone the receptacle(s) shall be permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall within the room.

406.9(C) Bathtub and Shower Space

- New measurement requirements on particular placing of receptacle outlets in smaller bathroom areas
- These receptacle outlets are requires to be GFCI-protected per 210.8

CRDS C&S Industry Outreach/Engagement

Industry Education - IAEI Magazine Articles

- January/February Issue – GFCI: Installation Tips and NEC® 2020 Updates

Eaton Marketing Materials – Technical and White Papers

- Eaton 2020 NEC® Code Changes

How to Get Involved in C&S – IAEI, State Code Adoption

- Visit Local Chapters of IAEI, Give Presentations
  - Control the narrative and message on new requirements (Questions like “Why are the new requirements needed?”)
- State Code Adoption Process