

Ground Fault Circuit Interrupters



The Ground Fault Circuit Interrupter (GFCI) provides protections against overloads, short circuits, and ground faults. The GFCI breakers detect low levels of electrical current leakage (ground faults), and act quickly to shut off power, with a purpose of preventing serious shock.

The 2023 National Electrical Code (NEC) requires GFCI protection in dwelling units for 125-volt to 250-volt receptacles located:

- Within 6 feet of the top inside edge of the bowl of the sink
- Kitchen receptacles to serve countertops
- Areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking
- Bathrooms
- Within the 6 feet outside edge of bathtubs or shower stalls
- Laundry areas
- Basements
- Garages – including accessory buildings not intended as habitable rooms and limited to storage areas and work areas
- Crawl spaces – at or below grade level
- Outdoors
- Spa areas
- Boathouses
- Indoor damp and wet locations

For exceptions, refer to NEC 2023 article 210.8. This applies not only to new construction but also to existing homes. When an electrical outlet is replaced in a location that requires ground-fault protection, the new outlet must be GFCI protected, according to the NEC.

Personal protection

- HACR (Heating, Air Conditioning, and Refrigeration) rated
- UL943 fifth edition
- 5 mA ground fault protection for personnel protection
- Wire range maximum 4 AWG
- Torque requirements:
 - 14 AWG – 12 AWG – 20 lb-in
 - 10 AWG – 30 lb-in
 - 4 AWG – 8 AWG – 40 lb-in

Residential application

Ampere rating	1-pole, 120 volts AC			2-pole, 120/240 volts AC	
	Long pigtail	Short pigtail	Plug-on neutral	Long pigtail	Plug-on neutral
10,000 AIC	15	THQL1115GFT	THQL1115GFTS	THQL1115PGFT	THQL2115GFT
	20	THQL1120GFT	THQL1120GFTS	THQL1120PGFT	THQL2120GFT
	25	THQL1125GFT		THQL1125PGFT	THQL2125GFT
	30	THQL1130GFT		THQL1130PGFT	THQL2130GFT
	35	—	—	—	THQL2135GFT2
	40	—	—	—	THQL2140GFT2
	45	—	—	—	THQL2145GFT2
	50	—	—	—	THQL2150GFT2

Residential application

	Ampere rating	1-pole, 120 volts AC			2-pole, 120/240 volts AC	
		Long pigtail	Short pigtail	Plug-on neutral	Long pigtail	Plug-on neutral
22,000 AIC	15	THHQL1115GFT	—	THHQL1115PGFT	THHQL2115GFT	THHQL2115PGFT
	20	THHQL1120GFT	—	THHQL1120PGFT	THHQL2120GFT	THHQL2120PGFT
	25	THHQL1125GFT	—	THHQL1125PGFT	THHQL2125GFT	THHQL2125PGFT
	30	THHQL1130GFT	—	THHQL1130PGFT	THHQL2130GFT	THHQL2130PGFT

Commercial application

	Ampere rating	1-pole, 120 volts AC		2-pole, 120/240 volts AC	
		QB Bolt-on	QC Lug-Lug	QB Bolt-on	QC Lug-Lug
10,000 AIC	15	THQB1115GFT	THQC1115GFT	THQB2115GFT	THQC2115GFT
	20	THQB1120GFT	THQC1120GFT	THQB2120GFT	THQC2120GFT
	25	THQB1125GFT	THQC1125GFT	THQB2125GFT	THQC2125GFT
	30	THQB1130GFT	THQC1130GFT	THQB2130GFT	THQC2130GFT
	35	—	—	THQB2135GFT2	THQC2135GFT2
	40	—	—	THQB2140GFT2	THQC2140GFT2
	45	—	—	THQB2145GFT2	—
	50	—	—	THQB2150GFT2	—
22,000 AIC	15	THHQB1115GFT	—	THHQB2115GFT	THHQC2115GFT
	20	THHQB1120GFT	—	THHQB2120GFT	THHQC2120GFT
	25	THHQB1125GFT	—	THHQB2125GFT	THHQC2125GFT
	30	THHQB1130GFT	—	THHQB2130GFT	THHQC2130GFT

Equipment protection

- Ground fault
- UL1053 seventh edition
- 30 mA ground fault protection for equipment protection
- Wire range maximum 4 AWG
- Torque requirements:
 - 14 AWG - 12 AWG - 20 lb-in
 - 10 AWG - 30 lb-in
 - 4 AWG - 8 AWG - 40 lb-in

	Ampere rating	1-pole, 120 volts AC			2-pole, 120/240 volts AC	
		QL Plug-on	QB Bolt-on	QC Lug-lug	QL Plug-on	QB Bolt-on
10,000 AIC	15	THQL1115GFEP	THQB1115GFEP	THQC1115GFEP	THQL2115GFEP	THQB2115GFEP
	20	THQL1120GFEP	THQB1120GFEP	THQC1120GFEP	THQL2120GFEP	THQB2120GFEP
	30	THQL1130GFEP	THQB1130GFEP	THQC1130GFEP	THQL2130GFEP	THQB2130GFEP
	35	—	—	—	—	THQB2135GFEP2
	40	—	—	—	—	THQB2140GFEP2
	45	—	—	—	—	THQB2145GFEP2
	50	—	—	—	—	THQB2150GFEP2
	15	—	THHQB1115GFEP	THHQC1115GFEP	THHQL2115GFEP	THHQB2115GFEP
22,000 AIC	20	—	THHQB1120GFEP	THHQC1120GFEP	THHQL2120GFEP	THHQB2120GFEP
	30	—	THHQB1130GFEP	THHQC1130GFEP	—	THHQB2130GFEP

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