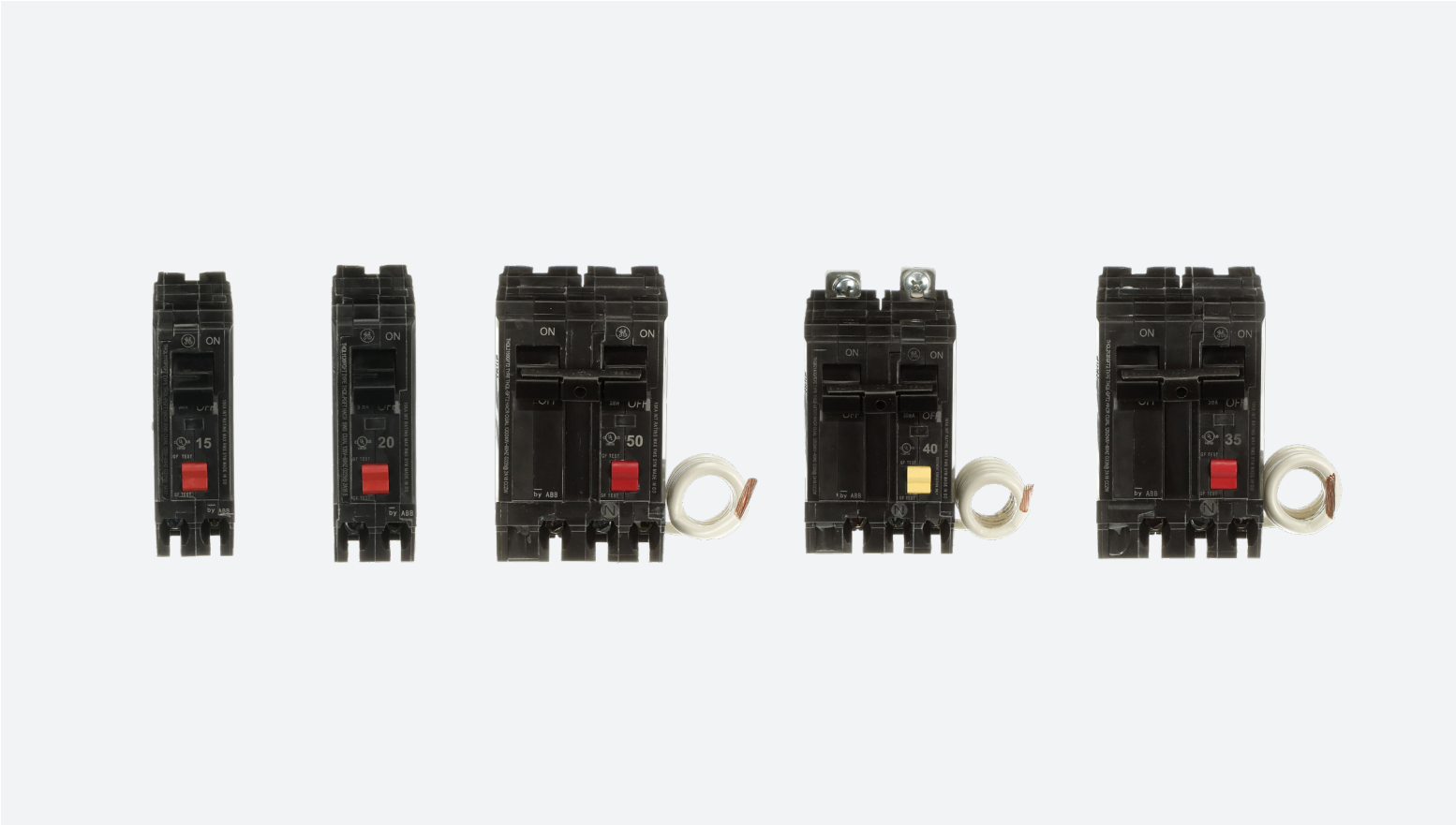
BROCHURE

# Ground Fault Circuit Interrupter (GFCI)

Provides ground fault protection



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 acts quickly to shut off power with a purpose of preventing serious shock




Ground Fault Circuit Interrupters – Personnel Protection

**What is a ground fault?**
Typically electrical current traveling to an electrical appliance is equal to the current traveling from that appliance. An imbalance in that flow indicates a current leak – also referred to as a ground fault, because the leaking current is flowing to ground.

If the leaking current travels through a person, they will be severely shocked or electrocuted. For example, if a hair dryer is dropped in a tub full of water, some of the electrical current leaks out of the appliance and into the water. This current leakage could be enough to kill someone who comes in contact with the water, but not large enough to trip a nonground fault circuit interrupter. Thermal magnetic circuit breakers only guard against overloads and short circuits. They are not designed to protect people from electrical shocks.

**Why ground fault circuit interrupters with self-test?**
Self-test functionality is a UL requirement on all GFCI devices that began in 2015. This variant of the GFCI ensures the ground fault circuitry is functioning properly by automatically running diagnostic testing on a periodic basis. Should a problem be detected, the circuit breaker will trip and will need to be replaced.

When installed in a home's load center, the GFCI helps protect people against dangerous electrical shock caused by ground faults. The breaker monitors the current going to and returning from the equipment along the circuit. If a ground fault is detected, the breaker shuts off power to the circuit.

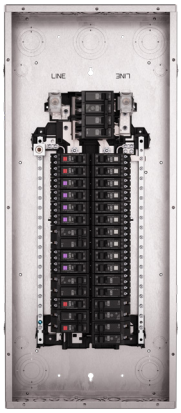



ON/OFF

Trip and LED indicators

Push button test validates the ground fault detection capability of the breaker

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02 ABB's THQL ground fault circuit interrupters can be installed in the PowerMark™ Pro and PowerMark Gold Load Centers

**Protecting up to 5mA for personnel protection**
The 2023 National Electrical Code (NEC) requires GFCI protection in dwelling units for 125 volt to 250 volt receptacles located throughout the home. GFCI with personnel protection is required throughout the home. This applies to new construction and existing homes installations, where equipment is updated or replaced.

**Specifications**
- Class A 5mA ground fault circuit interrupter
- 1 or 2 pole
- 15A, 20A, 25A, 30A, 35A, 40A, 45A, 50A, or 60A
- 10kAIC or 22kAIC
- 120 Vac or 120/240 Vac
- Certified by UL/UL Solutions
- UL489 – molded case circuit breakers
- UL943 – ground fault circuit interrupters 5mA
- UL1053 – ground fault circuit interrupters 30mA

**Plug-on-Neutral Circuit Breakers**
- Faster field installs
- Secure neutral connections
- Eliminates need for a pigtail
- Maximizes gutter space

**Scan QR code to see how it works**

**Short Pigtail Circuit Breakers**
- Cleaner finished look
- Uncluttered wire gutters
- Use in load centers 16 circuits or greater

**Scan QR code to see how it works**

| **Technical data** | | | | | | |
|---|---|---|---|---|---|---|
| | 1 pole 120 volts ac | | | | 2 pole 120/240 volts ac | |
| | **Ampere Rating** | **Long pigtail** | **Short pigtail** | **Plug -on neutral** | **Long pigtail** | **Plug-on neutral** |
| 10,000 AIC | | | | | | |
| | 15 | THQL1115GFT | THQL1115GFTS | THQL1115PGFT | THQL2115GFT | THQL2115PGFT |
| | 20 | THQL1120GFT | THQL1120GFTS | THQL1120PGFT | THQL2120GFT | THQL2120PGFT |
| | 25 | THQL1125GFT | | THQL1125PGFT | THQL2125GFT | THQL2125PGFT |
| | 30 | THQL1130GFT | | THQL1130PGFT | THn L2130GFT | THQL2130PGFT |
| | 35 | | | | THQL2135GFT2 | |
| | 40 | | | | THQL2140GFT2 | |
| | 45 | | | | THQL2145GFT2 | |
| | 50 | | | | THQL2150GFT2 | |
| | 60 | | | | THQL2160GFT2 | |
| 22,000 AIC | | | | | | |
| | 15 | THHQL1115GFT | | THHQL1115PGFT | THHQL2115GFT | THHQL2115PGFT |
| | 20 | THHQL1120GFT | | THHQL1120PGFT | THHQL2120GFT | THHQL2120PGFT |
| | 25 | THHQL1125GFT | | THHQL1125PGFT | THHQL2125GFT | THHQL2125PGFT |
| | 30 | THHQL1130GFT | | THHQL1130PGFT | THHQL2130GFT | THHQL2130PGFT |

| | 1 pole 120 volts ac | | | 2 pole 120/240 volts ac | |
|---|---|---|---|---|---|
| | **Ampere Rating** | **QB Bolt-on** | **QC Lug-lug** | **QB Bolt-on** | **QC lug-lug** |
| 10,000 AIC | | | | | |
| | 15 | THQB1115GFT | THQC1115GFT | THQB2115GFT | THQC2115GFT |
| | 20 | THQB1120GFT | THQC1120GFT | THQB1120GFT | THQC2120GFT |
| | 25 | THQB1125GFT | THQC1125GFT | THQB2125GFT | THQC2125GFT |
| | 30 | THQB1130GFT | THQC1130GFT | THQB2130GFT | THQC2130GFT |
| | 35 | THQB2135GFT2 | | THQB2135GFT2 | THQC2135GFT2 |
| | 40 | | | THQB2140GFT2 | THQC2140GFT2 |
| | 45 | | | THQB2145GFT2 | |
| | 50 | | | THQB2150GFT2 | |
| | 60 | | | THQB2160GFT2 | |
| 22,000 AIC | | | | | |
| | 15 | THHQB1115GFT | | THHQB2115GFT | THHQC2115GFT |
| | 20 | THHQB1120GFT | | THHQB2120GFT | THHQC2120GFT |
| | 25 | THHQB1125GFT | | THHQB2125GFT | THHQC2125GFT |
| | 30 | THHQB1130GFT | | THHQB2130GFT | THHQC2130GFT |

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03 Ground Fault Circuit Interrupters – Equipment Protection

**Protecting up to 30mA for equipment protection**
A ground fault in a piece of electrical equipment is caused by loss of insulation between a live conductor and an exposed conductive part, causing a flow of current to the ground. Ground faults can result from deterioration, mechanical damage, and harsh environments.

**Specifications:**
- 1 or 2 pole
- 15A, 20A, 30A, 35A, 40A, 45A, 50A, or 60A
- 10kAIC or 22kAIC
- 120 Vac or 120/240 Vac
- Certified by UL/UL Solutions
- UL489 – molded case circuit breakers
- UL1053 – ground fault circuit interrupters = 30mA




ON/OFF

Trip and LED indicators

Push button test validates the ground fault detection capability of the breaker

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**Ground Fault Equipment Protection Applications**
Ground fault equipment protection is utilized in many different situations including heat trace systems, data centers, deicing systems, and more.
The National Electric Code (NEC) requires the use of these devices for the protection of the equipment. Below are some examples where ground fault equipment protection is required by the NEC:
**Article 426.28:** Ground-fault protection for equipment shall be provided for fixed outdoor deicing and snowmelting equipment.
**Article 427.22:** Ground-fault protection for equipment shall be provided for heat tracing and heating panels for pipelines and vessels.
**Article 517.17:** In health care facilities, an addi tional level of ground fault protection of equipment (with selectivity) is required downstream.
**Article 553.4:** The main overcurrent protective device for a floating building/structure shall have ground fault protection not exceeding 100 mA.
**Articles 690.5 and 690.35** describe ground-fault protection for equipment in solar installations (PV arrays).

For exceptions, please check the NEC and your local jurisdiction.

**Technical data**

| | | 1-pole, 120 volts ac | | | 2-pole, 120/240 volts ac | | |
|---|---|---|---|---|---|---|---|
| | Ampere Rating | QL Plug-on | QB Bolt-on | QC Lug-lug | QL Plug-on | QB Bolt-on | QC Lug-lug |
| 10,000 AIC | | | | | | | |
| | 15 | THQL1115GFEP | THQB115GFEP | THQC1115GFEP | THQL2115GFEP | THQB2115GFEP | THQC2115GFEP |
| | 20 | THQL1120GFEP | THQB1120GFEP | THQC1120GFEP | THQL2120GFEP | THQB2120GFEP | THQC2120GFEP |
| | 30 | THQL1130GFEP | THQB1130GFEP | THQC1130GFEP | THQL2130GFEP | THQB2130GFEP | THQC2130GFEP |
| | 35 | | | | | THQB2135GFEP2 | |
| | 40 | | | | | THQB2140GFEP2 | |
| | 45 | | | | | THQB2145GFEP2 | |
| | 50 | | | | | THQB2150GFEP2 | |
| | 60 | | | | | THQB2160GFEP2 | |
| 22,000 AIC | | | | | | | |
| | 15 | THHQL1115GFEP | THHQB1115GFEP | THHQC1115GFEP | THHQL2115GFEP | THHQB2115GFEP | THHQC2115GFEP |
| | 20 | THHQL1120GFEP | THHQB1120GFEP | THHQC1120GFEP | THHQL2120GFEP | THHQB2120GFEP | THHQC2120GFEP |
| | 30 | THHQL1130GFEP | THHQB1130GFEP | THHQC1130GFEP | THHQL2130GFEP | THHQB2130GFEP | THHQC2130GFEP |

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**residential-circuit-breakers**

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1TQC143600E0001 REV.B July 2024