

# Circuit Breakers

## Arc-Fault and Ground-Fault Breakers

## Selection/Wiring Diagrams

### Arc-Fault Circuit Interrupters (AFCI)

AFCI's are designed to detect arcing faults (an unintentional arcing condition in a circuit) and mitigate the effects by functioning to de-energize the circuit when an arc-fault is detected.

#### Combination Type AFCI

Detects all three possible types of arc faults: line-to-ground, line-to-neutral and series arcs.

| Breaker Type  | Amp Rating | 10,000 A IR Catalog No. | 22,000 A IR Catalog No. | 65,000 A IR Catalog No. |
|---|------------|-------------------------|-------------------------|-------------------------|
| QAF2/QAFH2/HQAF2<br>1-Pole 120V AC                  | 15         | QA115AFC                | QA115AFCH               | QA115AFCHH              |
|   | 20         | QA120AFC                | QA120AFCH               | QA120AFCHH              |
| QAF/QAFH<br>2-Pole 120/240V AC                      | 15         | Q215AFC                 | Q215AFCH                | —                       |
|   | 20         | Q220AFC                 | Q220AFCH                | —                       |
| QTA <b>NEW</b><br>Tandem 120V AC                    | 15/15      | Q1515AFC                | —                       | —                       |
|   | 20/20      | Q2020AFC                | —                       | —                       |
| QAF2N<br>Plug-on Neutral / 1-Pole 120V AC           | 15         | QA115AFCN               | —                       | —                       |
|   | 20         | QA120AFCN               | —                       | —                       |
| QAFN<br>Plug-on Neutral / 2-Pole 120/240V AC        | 15         | Q215AFCN                | —                       | —                       |
|   | 20         | Q220AFCN                | —                       | —                       |
| QTAN <b>NEW</b><br>Plug-on Neutral / Tandem 120V AC | 15/15      | Q1515AFCN               | —                       | —                       |
|   | 20/20      | Q2020AFCN               | —                       | —                       |

#### Dual Function (AFCI/GFCI)

The Dual Function Circuit Breaker combines Combination Type AFCI and 5mA Class A GFCI protection in one device.

| Breaker Type                               | Amp Rating | 10,000 A IR Catalog No. | 22,000 A IR Catalog No. | 65,000 A IR Catalog No. |
|--|------------|-------------------------|-------------------------|-------------------------|
| QFGA2/QFGAH2/HQFGA2<br>1-Pole 120V AC      | 15         | Q115DF                  | Q115DFH                 | Q115DFHH                |
|  | 20         | Q120DF                  | Q120DFH                 | Q120DFHH                |
| QFGA2N<br>Plug-on Neutral / 1-Pole 120V AC | 15         | Q115DFN                 | —                       | —                       |
|  | 20         | Q120DFN                 | —                       | —                       |

### Ground-Fault Circuit Interrupters (GFCI)

**Class A (5mA) Ground Fault Protection** Intended for personnel protection.

| Breaker Type                              | Amp Rating | 10,000 A IR Catalog No. | 22,000 A IR Catalog No. | 65,000 A IR Catalog No. |
|---|------------|-------------------------|-------------------------|-------------------------|
| QPF2 / QPHF2 / HQPF2<br>1-Pole 120V AC    | 15         | QF115A                  | QF115AH                 | QF115AHH                |
|   | 20         | QF120A                  | QF120AH                 | QF120AHH                |
|   | 30         | QF130A                  | QF130AH                 | QF130AHH                |
| QPF/QPHF<br>2-Pole 120/240V AC            | 15         | QF215A                  | QF215AH                 | —                       |
|   | 20         | QF220A                  | QF220AH                 | —                       |
|   | 25         | QF225A                  | —                       | —                       |
|   | 30         | QF230A                  | QF230AH                 | —                       |
|   | 35         | QF235A                  | —                       | —                       |
|   | 40         | QF240A                  | QF240AH                 | —                       |
|   | 45         | QF245A                  | —                       | —                       |
|   | 60         | QF250A                  | QF250AH                 | —                       |
| QPF2N<br>Plug-on Neutral / 1-Pole 120V AC | 15         | QF115AN                 | —                       | —                       |
|   | 20         | QF120AN                 | —                       | —                       |
|   | 30         | QF130AN                 | —                       | —                       |

#### Ground-Fault Equipment Protection (30mA)

|                              |    |       |        |
|------------------------------|----|-------|--------|
| QE2/QEH2<br>1-Pole 120V AC   | 15 | QE115 | QE115H |
|                              | 20 | QE120 | QE120H |
|                              | 30 | QE130 | QE130H |
| QE/QEH<br>2-Pole 120/240V AC | 15 | QE215 | QE215H |
|                              | 20 | QE220 | QE220H |
|                              | 30 | QE230 | QE230H |
|                              | 40 | QE240 | QE240H |
|                              | 50 | QE250 | QE250H |
|                              | 60 | QE260 | QE260H |

### Accessories

| Description              | Catalog Number <sup>①</sup> |
|--------------------------|-----------------------------|
| Padlocking Device 1-Pole | ECPLD1                      |
| Padlocking Device 2-Pole | ECPLD2                      |
| Handle Block             | ECBX231M                    |

■ Built to order. Allow 8 -10 weeks for delivery.



1-Pole Combination Type AFCI



2-Pole Combination Type AFCI



1-Pole Dual Function AFCI/GFCI



1-pole Tandem Type AFCI



1-Pole AFCI Plug-on Neutral



1-Pole Dual Function Plug-on Neutral



1-Pole GFCI



2-Pole GFCI



1-Pole Equipment Protection



2-Pole Equipment Protection

MOLDED CASE  
CIRCUIT BREAKERS

# Molded Case Circuit Breakers

## Panelboard Mounting Circuit Breakers

Selection

### Arc-Fault Circuit Interrupters (AFCI)

AFCI's detect arcing faults (an unintentional arcing condition in a circuit) that standard circuit breakers are unable to detect. The device is intended to mitigate the effects of arcing faults by functioning to de-energize the circuit when an arc-fault is detected.

#### Combination Type AFCI

Detects all three possible types of arc fault: line-to-ground, line-to-neutral, and series.

| Breaker Type                              | Ampere Rating | 10,000 A IR Catalog Number | 22,000 A IR Catalog Number | 65,000 A IR Catalog Number |
|---|---------------|----------------------------|----------------------------|----------------------------|
| <b>BAF2/BAFH2/HBAF2</b><br>1-Pole 120V AC | 15            | BA115AFC <sup>Ⓞ</sup>      | BA115AFCH■                 | BA115AFCHH■                |
|   | 20            | BA120AFC <sup>Ⓞ</sup>      | BA120AFCH■                 | BA120AFCHH■                |
| <b>BAF/BAFH</b><br>2-Pole 120/240V AC     | 15            | B215AFC <sup>Ⓞ</sup>       | B215AFCH■                  | —                          |
|   | 20            | B220AFC <sup>Ⓞ</sup>       | B220AFCH■                  | —                          |

#### Dual Function AFCI/GFCI

The Dual Function Circuit Breaker combines Combination Type AFCI and GFCI, protecting against both Arc Faults and (5mA) Ground Faults. The device includes the Self Test feature, making it the first in class in electrical safety for homeowners.

| Breaker Type                                 | Ampere Rating | 10k A IR Catalog Number | 22k A IR Catalog Number | 65k A IR Catalog Number |
|--|---------------|-------------------------|-------------------------|-------------------------|
| <b>BFGA2/BFGAH2/HBFGA2</b><br>1-Pole 120V AC | 15            | B115DF                  | B115DFH■                | B115DFHH■               |
|  | 20            | B120DF                  | B120DFH■                | B120DFHH■               |

### Ground-Fault Circuit Interrupters (GFCI)

Provides Class A (5mA) ground fault protection. Intended for personnel protection. De-energizes the circuit for all ungrounded conductors of the circuit.

| Breaker Type                                  | Amp Rating | 10k A IR Cat. No.   | 22k A IR Cat. No.    | 65k A IR Cat. No. |
|---|------------|---------------------|----------------------|-------------------|
| <b>BLF2/BLHF2</b><br>1-Pole 120V AC Bolt-On   | 15         | BF115A <sup>Ⓞ</sup> | BF115AH <sup>Ⓞ</sup> | BF115AHH■         |
|   | 20         | BF120A <sup>Ⓞ</sup> | BF120AH <sup>Ⓞ</sup> | BF120AHH■         |
|   | 25         | BF125A              | BF125AH■             | BF125AHH■         |
|   | 30         | BF130A              | BF130AH■             | BF130AHH■         |
| <b>BLF/BLHF</b><br>2-Pole 120/240V AC Bolt-On | 15         | BF215A              | BF215AH■             | —                 |
|   | 20         | BF220A              | BF220AH■             | —                 |
|   | 30         | BF230A              | BF230AH■             | —                 |
|   | 40         | BF240A              | BF240AH■             | —                 |
|   | 50         | BF250A              | BF250AH■             | —                 |
|   | 60         | BF260A              | BF260AH■             | —                 |

### Ground Fault Equipment Protection (30mA)

Provides protection of equipment from damaging line-to-ground faults currents. De-energizes the circuit for all ungrounded conductors of the circuit.

| Breaker Type                                   | Amp Rating | 10k A IR Cat. No.  | 22k A IR Cat. No.    |
|--|------------|--------------------|----------------------|
| <b>BLE/ BLEH</b><br>1-Pole, 120V AC Bolt-On    | 15         | BE115 <sup>Ⓞ</sup> | BE115H■ <sup>Ⓞ</sup> |
|  | 20         | BE120 <sup>Ⓞ</sup> | BE120H■ <sup>Ⓞ</sup> |
|  | 30         | BE130              | BE130H■              |
| <b>BLE/ BLEH</b><br>2-Pole 120/240V AC Bolt-On | 15         | BE215              | BE215H■              |
|  | 20         | BE220              | BE220H■              |
|  | 30         | BE230              | BE230H■              |
|  | 40         | BE240              | BE240H■              |
|  | 50         | BE250              | BE250H■              |
|  | 60         | BE260              | BE260H■              |

• UL Listed

• HACR Rated



1-Pole Combination Type AFCI



2-Pole Combination Type AFCI



1-Pole Dual Function AFCI/GFCI



1-Pole Equipment Protection

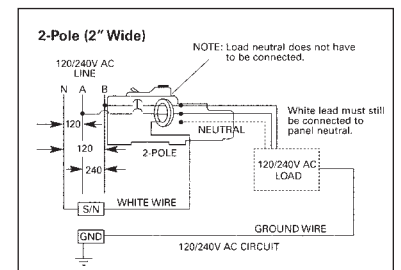
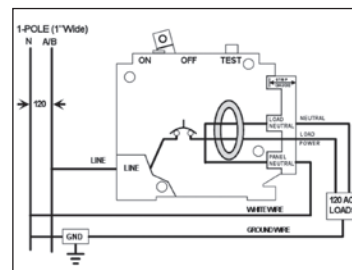


2-Pole Equipment Protection

### BAF2/BLF2/BLE Accessories

| Description              | Catalog Number |
|--------------------------|----------------|
| Padlocking Device 1-Pole | ECPLD1         |
| Padlocking Device 2-Pole | ECPLD2         |
| Handle Block             | ECBX231M       |

### Wiring Diagrams



■ Built to order. Allow 8 -10 weeks for delivery.  
 Ⓞ UL Listed as SWD (Switching Duty) Rated, suitable for 120V AC Fluorescent Lighting.