



### BR Circuit Breakers

#### Product Description

**Plug-On Branch Feeder Type Arc Fault Circuit Breakers, Type BR—10 kAIC, 120 Vac and 120/240 Vac**

A branch feeder type arc fault circuit interrupter is a device intended to mitigate high current arcing faults in the complete circuit, including connected cords. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults.

The branch feeder type AFCI is required in the 1999 and 2002 National Electrical Code.

The Combination Type AFCI is required in the 2005, 2008, and 2011 National Electrical Code.

**Plug-On Combination Type Arc Fault Circuit Breakers, Type BR—10 kAIC, 120 Vac and 120/240 Vac**

A combination type arc fault circuit interrupter is a device that includes all of the protection offered by the branch feeder AFCI (mitigation of high current arcing faults in the complete circuit, including connected cords). In addition it provides direct detection of persistent low current arcing faults down to 5 amps with associated mitigation of fire hazards in the cords connected to the outlets. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults. The current level of low current arcing faults is limited by the load.

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**Plug-On Ground Fault Circuit Breakers, Type GFTCB and GFEP—10/22 kAIC, 120 Vac and 120/240 Vac**

**Ground Fault**

**Application Notes**

Single-pole GFTCBs are designed for use in two-wire, 120 Vac circuits. See **Page V1-T1-87** for a typical wiring configuration.

Two-pole GFTCBs are designed for use in three-wire, 120/240 Vac circuits, 120 Vac multiwire circuits employing common, neutral and two-wire, 240 Vac circuits obtained from a 120/240 Vac source.

**Page V1-T1-87** shows typical wiring configurations for a 120/240 Vac multiwire circuits, and a 240 Vac, two-wire circuit. Note the “panel neutral” conductor connects to the neutral bar, even though the neutral is not included in the load circuit. This connection is necessary to supply a 120 Vac power source to the ground fault sensing circuit.

The figures are shown with a 120/240 Vac, single-phase, three-wire power source, but are also applicable to a 120/208 Vac, three-phase, four-wire power supply. For all figures, the electrical operation of the GFTCB is not affected by the equipment ground.

**Non-CTL Plug-On Replacement—Circuit Breakers, Type BRD—10 kAIC, 120/240 Vac**

**Non-CTL 10 kAIC for Replacement Purposes Only**

For replacement in enclosures manufactured prior to 1968 with unnotched stabs. Circuit breakers do not have rejection tab.

### Product Selection

Plug-On Circuit Breakers, Types BR—10/22/42 kAIC, 120 Vac, 120/240 Vac and 240 Vac

#### Type BR Breakers, 1-Inch (25.4 mm) per Pole 120/240, 10, 22 and 42 kAIC

BR120



BR215



BR320



BRH2100



BRX2125



Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Single-Pole 120/240 Vac Requires One 1-Inch (25.4 mm) Space		Two-Pole 120/240 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces			
		10 kAIC Catalog Number	22 kAIC Catalog Number	5 per Shelf Carton		42 kAIC Catalog Number	65 kAIC Catalog Number
10	#14-4	BR110	—	BR210	—	—	—
15	#14-4	BR115 ①②	BRH115	BR215 ③	BRH215	—	—
20	#14-4	BR120 ①②	BRH120	BR220 ③	BRH220	—	—
25	#14-4	BR125	BRH125	BR225 ③	BRH225	—	—
30	#14-4	BR130	BRH130	BR230 ③	BRH230	—	—
35	#14-4	BR135	BRH135	BR235 ③	BRH235	—	—
40	#14-4	BR140	BRH140	BR240 ③	BRH240 ③	—	—
45	#14-4	—	BRH145	BR245 ③	BRH245	—	—
50	#14-4	BR150	BRH150	BR250 ③	BRH250 ③	—	—
55	#14-3	BR150	BRH155	BR255	BRH255	—	—
60	#8-1/0	BR160	BRH160	BR260	BRH260	BRHH260	BRX260
70	#8-1/0	BR170	BRH170	BR270	BRH270	BRHH270	BRX270
80	#8-1/0	—	—	BR280	BRH280	BRHH280	BRX280
90	#8-1/0	—	—	BR290	BRH290	BRHH290	BRX290
100	#8-1/0	—	—	BR2100	BRH2100	BRHH2100	BRX2100
110	#8-1/0	—	—	BR2110	BRH2110	BRHH2110	BRX2110
125	#4-2/0	—	—	BR2125	BRH2125	BRHH2125	BRX2125
150	#4-2/0	—	—	BR2150 ④	—	—	—



**Notes**

- ① One pole, 1-inch (25.4 mm) per pole circuit breakers are available with high magnetic setting for switching large tungsten lamp loads. Add suffix H to catalog number.
  - ② Switching duty rated.
  - ③ On the black handle breaker, add suffix "B" to the catalog number to obtain a tapped molded opening for proper use with hold-down kits.
  - ④ For use as a branch circuit breaker in 400 and 600 ampere panels only.
- All Type BR single-, two- and three-pole circuit breakers carry listing for HACR application. For circuit breakers with a shunt trip, add ST suffix.

# 1.2

## Loadcenters and Circuit Breakers

### Type BR Loadcenters and Circuit Breakers

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#### BR Breakers



#### Type BR Breakers, 1-Inch (25.4 mm) per Pole 240 Vac, 10, 22 and 42 kAIC

Three-Pole 240 Vac  
Common Trip Requires Three  
1-Inch (25.4 mm) Spaces  
5 per Shelf Carton



Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	10 kAIC Catalog Number	22 kAIC Catalog Number
10	#14-4	BR310	—
15	#14-4	BR315 ①	BRH315
20	#14-4	BR320 ①	BRH320
25	#14-4	BR325	BRH325
30	#14-4	BR330	BRH330
35	#14-4	BR335	BRH335
40	#14-4	BR340	BRH340
45	#14-4	BR345	BRH345
50	#14-4	BR350	BRH350
55	#14-3	BR355	BRH355
60	#4-1/0	BR360	BRH360
70	#4-1/0	BR370	BRH370
80	#4-1/0	BR380	BRH380
90	#4-1/0	BR390	BRH390
100	#4-1/0	BR3100	BRH3100

#### Plug-On Branch Feeder Type Arc Fault Circuit Breakers, Type BR—10 kAIC, 120 Vac and 120/240 Vac

#### Type BR AFCI Circuit Breaker



#### Type BR, 1-Inch (25.4 mm) Wide FIRE-GUARD AFCI Circuit Breakers

Poles	Ampere Rating	Configuration	Catalog Number
Single-pole 10 kAIC	15	AFCI	BR115AF ②
	20	AFCI	BR120AF ②
Single-pole 22 kAIC	15	AFCI	BRH115AF
	20	AFCI	BRH120AF
Two-pole 10 kAIC ③④	15	AFCI Common Trip	BRL215AF
	20	AFCI Common Trip	BRL220AF

#### Notes

- ① One pole, 1-inch (25.4 mm) per pole circuit breakers are available with high magnetic setting for switching large tungsten lamp loads. Add suffix H to catalog number.
  - ② Clamshell packaging available with CS modification code on the end of catalog number.
  - ③ Common trip refers to two-pole 240 V load application sourced by 120/240 Vac (see **Page V1-T1-87**).
  - ④ Independent trip refers to two-pole multi-wire, home run or shared neutral circuits (see **Pages V1-T1-87 and V1-T1-88**).
- All Type BR single-, two- and three-pole circuit breakers carry listing for HACR application. For circuit breakers with a shunt trip, add ST suffix.