

BR Circuit Breakers



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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-T1-92** 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-T1-92 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.

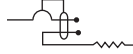
The figures are shown with a 120/240 Vac, single-phase, three-wire power source, but are also applicable to a 120/208 Vac, three-phase, four-wire power supply. For all figures, the electrical operation of the GFTCB is not affected by the equipment ground.

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.

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

GFTCB220

**Type GFTCB Ground Fault Personnel Protection Circuit Breakers—
5 Milliampere—1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC**

Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton
Plug-on Neutral
Catalog Number

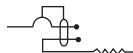


Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton
Pigtail
Catalog Number



Two-Pole 120/240 Vac
Common Trip Requires Two
1-Inch (25.4 mm) Spaces
1 per Shelf Carton
Catalog Number

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Plug-on Neutral Catalog Number	Pigtail Catalog Number	Catalog Number
15	#14–4	BRP115GF	BRN115GF	GFTCB215
20	#14–4	BRP120GF	BRN120GF	GFTCB220
25	#14–4	—	BRN125GF	GFTCB225
30	#14–4	—	BRN130GF	GFTCB230
35	#14–4	—	—	GFTCB235
40	#14–4	—	—	GFTCB240
45	#14–4	—	—	GFTCB245
50	#14–4	—	—	GFTCB250 ^①
60	#14–6	—	—	GFTCB260

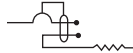
**Type GFTCBH Ground Fault Personnel Protection Circuit Breakers—
5 Milliampere—1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 22 kAIC**

Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton
Pigtail
Catalog Number



Two-Pole 120/240 Vac
Common Trip Requires Two
1-Inch (25.4 mm) Spaces
1 per Shelf Carton
Catalog Number

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Pigtail Catalog Number	Catalog Number
15	#14–4	BRHN115GF	GFTCBH215
20	#14–4	BRHN120GF	GFTCBH220
25	#14–4	BRHN125GF	GFTCBH225
30	#14–4	BRHN130GF	GFTCBH230

**Type GFEP Ground Fault Equipment Protectors—30 Milliampere—
1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC**

Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton
Plug-on Neutral
Catalog Number



Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton
Pigtail
Catalog Number



Two-Pole 120/240 Vac
Common Trip Requires Two
1-Inch (25.4 mm) Space
1 per Shelf Carton
Catalog Number

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Plug-on Neutral Catalog Number	Pigtail Catalog Number	Catalog Number
15	#14–4	BRP115EP	BRN115EP	GFEP215
20	#14–4	BRP120EP	BRN120EP	GFEP220
25	#14–4	BRP125EP	BRN125EP	GFEP225
30	#14–4	BRP130EP	BRN130EP	GFEP230
40	#14–4	—	—	GFEP240
50	#14–4	—	—	GFEP250 ^①

Note

^① For use with copper wire only.

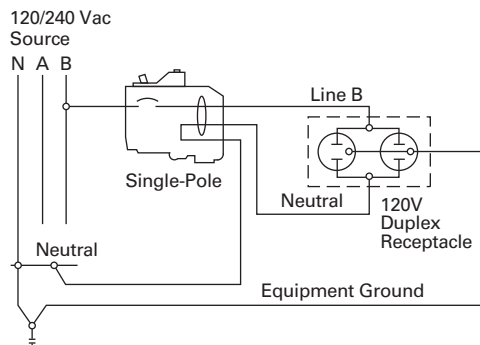
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Loadcenters and Circuit Breakers

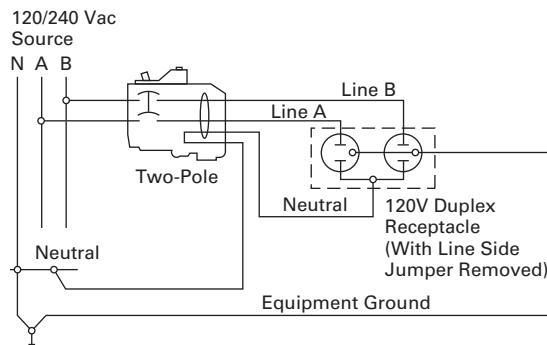
Type BR Loadcenters and Circuit Breakers

1 Wiring Diagrams

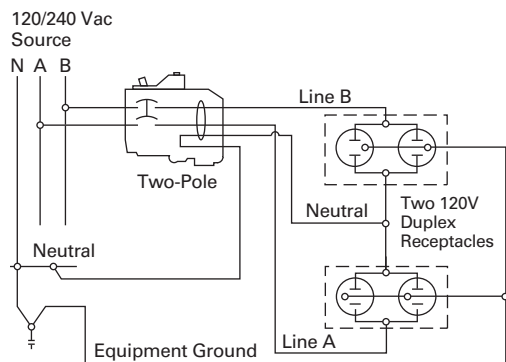
Single-Pole 120 V Load Application Sourced by 120/240 Vac



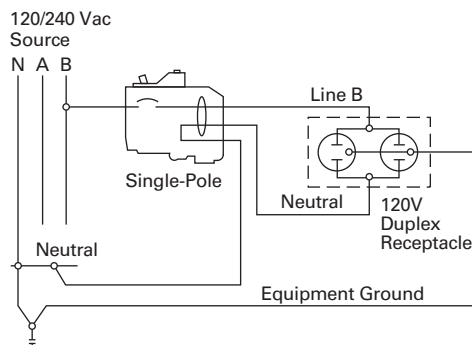
Two-Pole Shared Neutral with Duplex Receptacle Application



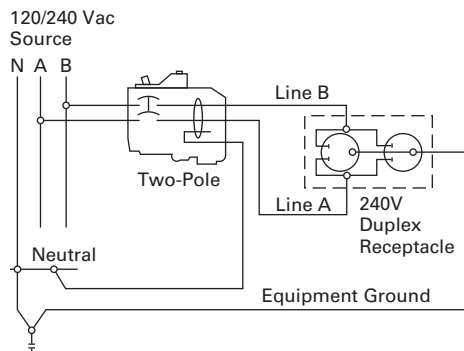
Two-Pole Shared Neutral with Multi-Duplex Receptacle Application



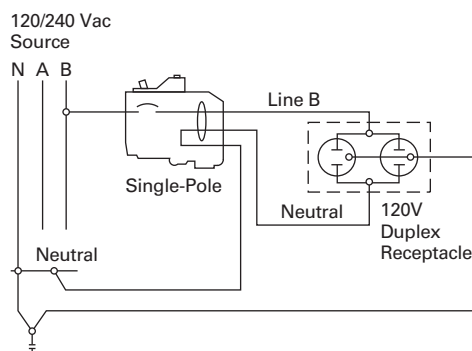
Single-Pole 120 V Load Application Sourced by 120/240 Vac



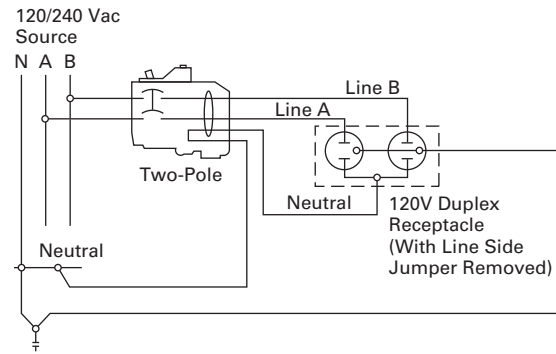
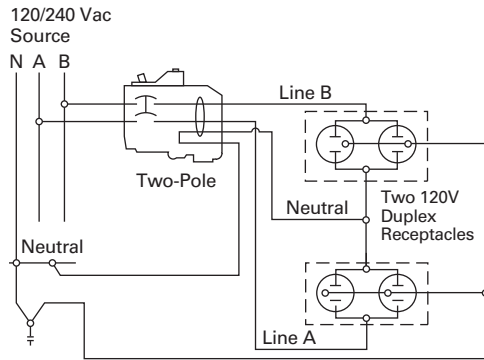
Two-Pole 240 V Load Application Sourced by 120/240 Vac



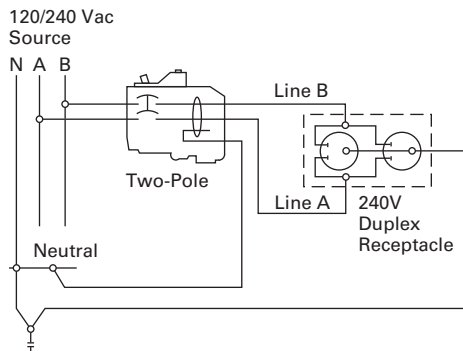
Single-Pole 120 V Duplex Receptacle Application



Two-Pole 120 V Multi-Duplex Receptacle Application



Two-Pole 120 V Duplex Receptacle Application



Two-Pole 240 V Duplex Receptacle Application