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BR Circuit Breakers

Contents

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 A 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.

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-T1-88** 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-T1-88 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

BR120

BR215

BR320

BRH2100

BRX2125

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

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 10 per Shelf Carton 10 kAIC Catalog Number	22 kAIC Catalog Number	Two-Pole 120/240 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces 5 per Shelf Carton 10 kAIC Catalog Number	22 kAIC Catalog Number	22 kAIC Catalog Number ⑤	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	**BR155**	**BRH155**	**BR255**	**BRH255**	—	—	—
60	#8–1/0	**BR160**	**BRH160**	**BR260**	**BRH260**	**BRHX260**	**BRHH260**	**BRX260**
70	#8–1/0	**BR170**	**BRH170**	**BR270**	**BRH270**	**BRHX270**	**BRHH270**	**BRX270**
80	#8–1/0	—	—	**BR280**	**BRH280**	**BRHX280**	**BRHH280**	**BRX280**
90	#8–1/0	—	—	**BR290**	**BRH290**	**BRHX290**	**BRHH290**	**BRX290**
100	#8–1/0	—	—	**BR2100**	**BRH2100**	**BRHX2100**	**BRHH2100**	**BRX2100**
110	#8–1/0	—	—	**BR2110**	**BRH2110**	**BRHX2110**	**BRHH2110**	**BRX2110**
125	#4–2/0	—	—	**BR2125**	**BRH2125**	**BRHX2125**	**BRHH2125**	**BRX2125**

Notes

① Single-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 A and 600 A panels only.
⑤ System series rating of 65 kAIC upstream when used in series with 22 kAIC BRHX breakers.

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.

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BR Breakers

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

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Three-Pole 240 Vac Common Trip Requires Three 1-Inch (25.4 mm) Spaces 5 per Shelf Carton 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, Dual Function Arc Fault / Ground Fault Circuit Breakers, Type BR—10 kAIC, 120 Vac

BRP120DF

Type BR, 1-Inch (25.4 mm) Dual Function Type AFCI Circuit Breakers ②③

Poles	Ampere Rating	Wire Size	Breaker Type	UL Type Designation for Series Ratings	Pigtail Catalog Number	Plug-on Neutral Catalog Number
Single-pole, 10 kAIC	15	#14–4	Dual Function AFCI/GFCI	ETN01	**BRN115DF**	**BRP115DF**
	20	#14–4	Dual Function AFCI/GFCI	ETN01	**BRN120DF**	**BRP120DF**

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

BRP120AF

Type BR, 1-Inch (25.4 mm) Wide Combination Type AFCI Circuit Breakers

Poles	Ampere Rating	Wire Size	Breaker Type	UL Type Designation for Series Ratings	Pigtail Catalog Number	Plug-on Neutral Catalog Number
Single-pole, 10 kAIC	15	#14–4	Combination AFCI	ETN01	**BRN115AF** ④	**BRP115AF** ④
	20	#14–4	Combination AFCI	ETN01	**BRN120AF** ④	**BRP120AF** ④
Two-pole, 10 kAIC	15	—	Combination AFCI	BRCAF	**BRL215CAF**	—
	20	—	Combination AFCI	BRCAF	**BRL220CAF**	—

Notes

① Single-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 Breaker qualifies as combination arc fault, per UL 1699.

③ Breaker qualifies as personnel protection ground fault, (5 mA) per UL 943.

④ Clamshell packaging available with CS modification code on the end of catalog number.

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.

See **Volume 4** for bolt-on AF/GF breakers; QB1015AFGF. QB1020AFGF, QBH1015AFGF and QBH1020AFGF.

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 mA—1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	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
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 mA—1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 22 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	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
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 mA—1-Inch (25.4 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	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
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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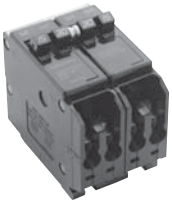
CTL Plug-on Circuit Breakers, Type BD Duplex, BQ and BQC Quadplex—10 kAIC, 120/240 Vac

BD2020

BQ2302115



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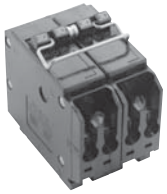
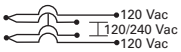


Class CTL, 1-Inch (25.4 mm) per Pole 10 kAIC—All Circuit Breakers Have Rejection Tab Feature ①

Type BD Duplex (UL Type BRD)

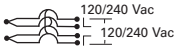
Single-Pole ②
Requires One 1-Inch (25.4 mm) Space
10 per Shelf Carton

Type BQ Quadplex Independent Trip (UL Type BRD)



Two-Pole ③ and Single-Pole ②
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

Type BQ Quadplex Independent Trip (UL Type BRD)



Two-Pole
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

	120 Vac		120 Vac	120/240 Vac	120 Vac		120/240 Vac		
			Ampere Rating				Ampere Rating		
Ampere Rating	Catalog Number	Wire Size Range Cu/Al 65 °C or 75 °C	Outer Left Single-Pole	Center Two-Pole Independent Trip	Outer Right Single-Pole	Catalog Number	Outer Two-Pole Independent Trip	Center Two-Pole Independent Trip	Catalog Number
10–10	**BD1010**	#14–4	15	20	15	**BQ2202115**	15	15	**BQ215215**
15–15	**BD1515**	#14–4	20	20	20	**BQ2202120**	15	20	**BQ215220**
15–20	**BD1520**	#14–4	15	30	15	**BQ2302115**	15	30	**BQ215230**
15–30	**BD1530**	#14–4	20	30	20	**BQ2302120**	15	40	**BQ215240**
20–15	**BD2015**	#14–4	15	40	15	**BQ2402115**	15	50	**BQ215250**
20–20	**BD2020**	#14–4	20	40	20	**BQ2402120**	20	20	**BQ220220**
20–30	**BD2030**	#14–4	15	50	15	**BQ2502115**	20	30	**BQ220230**
25–25	**BD2525**	#14–4	20	50	20	**BQ2502120**	20	40	**BQ220240**
30–15	**BD3015**	#14–4	—	—	—	**—**	20	50	**BQ220250**
30–20	**BD3020**	#14–4	—	—	—	**—**	25	25	**BQ225225**
30–30	**BD3030**	#14–4	—	—	—	**—**	30	30	**BQ230230**
30–40	**BD3040**	#14–4	—	—	—	**—**	30	40	**BQ230240**
30–50	**BD3050**	#14–4	—	—	—	**—**	30	50	**BQ230250**
50–30	**BD5030**	#14–4	—	—	—	**—**	40	40	**BQ240240**
50–50	**BD5050**	#14–4	—	—	—	**—**	40	50	**BQ240250**
—	**—**	—	—	—	—	**—**	50	50	**BQ250250**

Notes

① Not suitable for use in plug-on neutral style loadcenters.
② All 15 and 20 A single poles are switch-duty rated.
③ All Type BD duplex and BQ quadplex circuit breakers carry listing for HACR applications.

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

BR2020

Class Non-CTL, 1-Inch (25.4 mm) per Pole 10 kAIC—Breakers Do Not Have Rejection Tab Feature ①

Type BR Duplex

120 Vac
120 Vac

Single-Pole Requires One 1-Inch (25.4 mm) Space
10 per Shelf Carton

Type Brand BRD Quadplex Independent Trip

120/240 Vac
120/240 Vac

Two-Pole Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

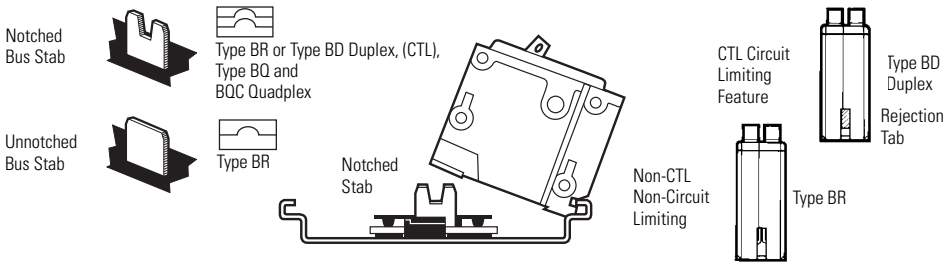
Type BRD Quadplex Common Trip Center and Outer Poles

120/240 Vac
120/240 Vac

Two-Pole Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

	120 Vac	Wire Size Range	120/240 Vac Ampere Rating			120/240 Vac Ampere Rating		
Ampere Rating	Catalog Number	Cu/Al 65 °C or 75 °C	Outer Two-Pole Independent Trip	Center Two-Pole Independent Trip	Catalog Number	Outer Two-Pole Common Trip	Center Two-Pole Common Trip	Catalog Number
15–15	**BR1515**	#14–4	15	15	**BR415**	15	15	**BRDC215215**
15–20	**BR1520**	#14–4	20	20	**BR420**	30	30	**BRDC230230**
20–15	**BR2015**	#14–4	30	30	**BR430**	30	40	**BRDC230240**
20–20	**BR2020**	#14–4	20	30	**BRD220230**	30	50	**BRDC230250**
30–30	**BR3030**	#14–4	30	40	**BRD230240**	—	—	**—**
30–50	**BR3050**	#14–4	30	50	**BRD230250**	—	—	**—**

CTL and Non-CTL Breakers



Note

① Suitable for use in plug-on neutral style loadcenters.

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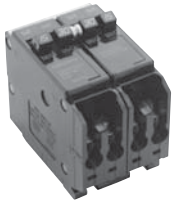
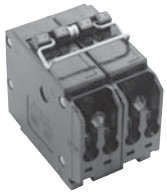
Common Trip Quadplex Breakers

BQC2302115

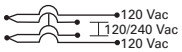


BQC2302115



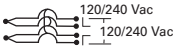
Class CTL, 1-Inch (25.4 mm) per Pole 10 kAIC—All Circuit Breakers Have Rejection Tab Feature ①

Type BQC Quadplex Common Trip Center Poles (UL Type BRD)



Two-Pole ② and Single-Pole ③
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

Type BQC Quadplex Common Trip Center and Outer Poles (UL Type BRD)



Two-Pole ②
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

120 Vac	120/240 Vac	120 Vac			120/240 Vac		
Ampere Rating					**Ampere Rating**		
Outer Left Single-Pole	**Center Two-Pole Common Trip**	**Outer Right Single-Pole**	**Catalog Number**	**Wire Size Range Cu/Al 65 °C or 75 °C**	**Outer Two-Pole Common Trip**	**Center Two-Pole Common Trip**	**Catalog Number**
15	20	15	**BQC2202115**	#14–4	15	15	**BQC215215**
15	25	15	**BQC2252115**	#14–4	15	20	**BQC215220**
15	30	15	**BQC2302115**	#14–4	15	30	**BQC215230**
15	40	15	**BQC2402115**	#14–4	20	15	**BQC220215**
15	50	15	**BQC2502115**	#14–4	20	20	**BQC220220**
—	—	—	**—**	#14–4	20	30	**BQC220230**
—	—	—	**—**	#14–4	20	40	**BQC220240**
—	—	—	**—**	#14–4	20	50	**BQC220250**
20	15	20	**BQC2152120**	#14–4	25	25	**BQC225225**
20	20	20	**BQC2202120**	#14–4	25	30	**BQC225230**
20	25	20	**BQC2252120**	#14–4	30	15	**BQC230215**
20	30	20	**BQC2302120**	#14–4	30	30	**BQC230230**
20	40	20	**BQC2402120**	#14–4	30	40	**BQC230240**
20	50	20	**BQC2502120**	#14–4	30	50	**BQC230250**
30	50	20	**BQC2502030**	#14–4	40	30	**BQC240230**
—	—	—	**—**	#14–4	40	40	**BQC240240**
—	—	—	**—**	#14–4	40	50	**BQC240250**
—	—	—	**—**	#14–4	50	20	**BQC250220**
—	—	—	**—**	#14–4	50	50	**BQC250250**

Notes

① Not suitable for use in plug-on neutral style loadcenters.
② All Type BQC quadplex circuit breakers carry listing for HACR applications.
③ All 15 A and 20 A single poles are switch-duty rated.

Plug-on Circuit Breakers, Types BJ and BJH—10/22 kAIC, 120/240 Vac and 240 Vac

For Use in Single-Phase and Three-Phase Loadcenters—150 A and Above

Type BJ

Types BJ and BJH Breakers, 1-Inch (25.4 mm) per Pole, 120/240 or 240 Vac, 10, 22 kAIC

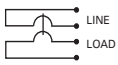
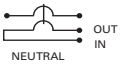
	 Two-Pole 120/240 Vac Common Trip Requires Four 1-Inch (25.4 mm) Spaces ① 10 per Shelf Carton		 Three-Pole 240 Vac Common Trip Requires Six 1-Inch (25.4 mm) Spaces ② 5 per Shelf Carton
Ampere Rating	**10 kAIC Catalog Number**	**Wire Size Range Cu/Al 60 °C or 75 °C**	**10 kAIC Catalog Number**
125	**BJ2125**	#2–300 kcmil	**BJ3125**
150	**BJ2150**	#2–300 kcmil	**BJ3150**
175	**BJ2175**	#2–300 kcmil	**BJ3175**
200	**BJ2200**	#2–300 kcmil	**BJ3200**
225	**BJ2225**	#2–300 kcmil	**BJ3225**

Plug-on Special Application Circuit Breakers—10 kAIC, 120 Vac, 120/240 Vac and 240 Vac

BRWH215
Water Heater Breaker

BRSN220
Switching Neutral Breaker

Special Application Circuit Breakers, 1-Inch (25.4 mm) per Pole

Water Heater Breakers  Two-Pole 120/240 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces With Isolated Line Terminals for Separately Metered Water Heaters 5 per Shelf Carton 10 kAIC		**Switching Neutral Breakers**  Two-Pole 120 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces With Switching Neutral Pole for Gasoline Pump Applications 5 per Shelf Carton 10 kAIC			**240 V Breakers**  Two-Pole 240 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces Where Voltage to Ground is 240 Vac 5 per Shelf Carton 10 kAIC		**Non-Automatic Molded Case Switches**  Two-Pole 240 Vac Requires Two 1-Inch (25.4 mm) Spaces For Use as Disconnect Contains No Magnetic or Thermal Trip Properties 5 per Shelf Carton 5 kAIC	
Ampere Rating	**Catalog Number**	**Ampere Rating**	**Catalog Number**	**Wire Size Range Cu/Al 60 °C or 75 °C**	**Ampere Rating**	**Catalog Number**	**Ampere Rating**	**Catalog Number**
15	**BRWH215**	15	**BRSN215**	#14–4	10	**BR210H**	—	—
20	**BRWH220**	20	**BRSN220**	#14–4	15	**BR215H**	—	—
30	**BRWH230**	25	**BRSN225**	#14–4	20	**BR220H**	—	—
—	—	30	**BRSN230**	#14–4	25	**BR225H**	—	—
—	—	—	—	#14–4	30	**BR230H**	—	—
—	—	—	—	#14–4	35	**BR235H**	—	—
—	—	—	—	#14–4	40	**BR240H**	—	—
—	—	—	—	#14–4	45	**BR245H**	—	—
—	—	—	—	#14–4	50	**BR250H**	50	**BR250NA**
—	—	—	—	#14–4	55	**BR255H**	—	—
—	—	—	—	#4–1/0	60	**BR260H**	60	**BR260NA**
—	—	—	—	#4–1/0	70	**BR270H**	—	—
—	—	—	—	#4–1/0	80	**BR280H**	—	—
—	—	—	—	#4–1/0	90	**BR290H**	—	—
—	—	—	—	#4–1/0	100	**BR2100H**	100	**BR2100NA**

Notes

① Breaker uses two 1-inch (25.4 mm) pole spaces on left side and two 1-inch (25.4 mm) pole spaces on right side of loadcenter.

② Breaker uses three 1-inch (25.4 mm) pole spaces on left side and three 1-inch (25.4 mm) pole spaces on right side of loadcenter.

If BJ or BJH breakers are used as a main or a back feed device, a hold-down kit is required. See **Page V1-T1-86**.

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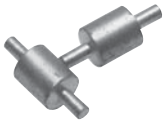
Options and Accessories

Field Installation Kits and Parts

THS1



BHLW2

BRQLW

MCBPL (Installed)

BHLW

BRLW2

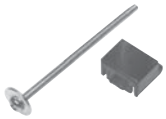
Description	Ordering Quantity ①	Catalog Number
New Products		
Padlockable device for locking the handle of BR long body AF/GF breaker into the ON or OFF position		**BRLAFGFLOFF**
Padlockable device for locking the handle of BR short body BRCAF, BRAFGF, QBCAF, QBAFGF breakers into the ON or OFF position		**BRCAFLOFF**
Handle Ties ②		
Handle tie bar for physically joining the handles of two adjacent single-pole Type BR circuit breakers (metal cylinder pin type)	10	**BHT**
Handle tie bar for joining two independent outside poles of Types BQ and BQC Quadplex and outside poles of two Type BD duplex circuit breakers	10	**THOW**
Handle tie bar for joining two adjacent outside poles of Types BQ and BQC Quadplex and outside poles of two Type BD duplex circuit breakers	10	**THS1**
Handle Lockoffs ③④		
Padlockable device for locking the handle of single-, two- or three-pole Type BR circuit breakers and single-pole of a Type BD Duplex or one independent outside pole of a Type BQ or BQC Quadplex circuit breakers (escutcheon mounted) ⑤	10	**BRLW**
Padlockable device for locking the handle of a single-pole Type BR circuit breaker (handle mounted) ⑥	10	**BRLW1**
Padlockable device for locking the handle of a two- and three-pole Type BR circuit breaker (handle mounted) ⑥	10	**BRLW2**
Padlockable device for locking the handle of a single-pole Type BD Duplex, BQ or BQC Quadplex breaker (handle mounted) ⑥	10	**BRDL1**
Padlockable device for locking the handle of the two center poles and the two outer poles of two-pole Types BQ and BQC quadplex circuit breakers (escutcheon mounted) ⑤	10	**BRQLW**
Padlockable device for locking the handle of main circuit breaker Types CC and CHH into the ON or OFF position (screw mounted) ⑦	1	**CCPL**
Padlockable device for locking the handle of main breaker Types BW and CSR into the ON or OFF position (escutcheon mounted) ⑤	1	**MCBPL**
Device used to secure handle in ON or OFF position for single-, two- or three-pole Type BR circuit breakers and single-pole of Type BD duplex and one independent outside pole of Type BQ or BQC Quadplex circuit breakers (escutcheon mounted) ⑤	10	**BHLW**
Device used to secure handle in ON or OFF position for single-pole Type BR circuit breakers (handle mounted) ⑥	10	**BHLW1**
Device used to secure handle in ON or OFF position for two- and three-pole Type BR circuit breakers (handle mounted) ⑥	10	**BHLW2**
Device used to secure handle in ON or OFF position for single-pole Type GFTCB ground fault circuit breakers (handle mounted) ⑥	10	**BHGW**
Device used to secure handle in ON or OFF position for one independent outside pole of Types BQ and BQC Quadplex or single-pole Type BD duplex circuit breakers (handle mounted) ⑥	10	**HLW1**

Notes

① Must be purchased in multiples of ordering quantities indicated.
② Handle ties: typically used to join two similar independent single-pole breakers to form a two-pole noncommon trip breaker.
③ Handle lockoffs: devices that use a padlock to lock the circuit breaker's handle in the ON or OFF position.
④ See table on **Page V1-T1-87** for handle position changeability chart.
⑤ Escutcheon mounted: device mounted semipermanently to the face of the circuit breaker and secured by the loadcenter deadfront.
⑥ Handle mounted: device mounted directly to the handle by the use of a set screw.
⑦ Screw mounted: device permanently mounted to the face of the circuit breaker by the use of a non-removable screw.

BREQS125

BRHDK125



BRML

Field Installation Kits and Parts, continued

Description	Ordering Quantity ①	Catalog Number
Hold-Down Kits ②		
Hold-down retainer kit for three-pole Type BR circuit breakers in S3100 and 3100R loadcenters only	1	**BRHDB**
Hold-down screw kit for two- and three-pole Type BR circuit breakers in single-phase MLO loadcenters through 100–125 A	1	**BREQS125**
Hold-down screw kit for two- and three-pole Type BR circuit breakers in MLO loadcenters 150–200 A	1	**BRHDK125**
Hold-down screw kit for two-pole Types BJ and BJH circuit breakers in MLO loadcenters 125–225 A	1	**BJHDS**
Hold-down screw kit for three-pole Types BJ and BJH circuit breakers in MLO loadcenters 125–225 A	1	**BJHDS3P**
Main Breaker Lug Kits		
Types CC and CHH main breaker lug kit (2) 300 kcmil	1	**CCL300**
Types BW/CSR main breaker lug kit (2) 300 kcmil	1	**MCBL300**
Mechanical Interlocks		
Types BR for two-, three- and four-pole breakers	10	**BRML**
Padlock Brackets		
BR padlock mounting bracket	10	**BRPLOFF**
BR three-pole lock-off bracket	10	**BRPLOFF3P**
BJ two-pole lock-off bracket	10	**BJL2P**
BJ three-pole lock-off bracket	10	**BJL3P**

Shunt Trips, Auxiliary and Alarm Contacts

Description	Catalog Number ③ Suffix Adder
Shunt Trip for Types BW/CSR	
12 Volts	**SR12**
24 Volts	**SR24**
120 Volts	**SR01**
Shunt Trip for Types BR	
120 Volts	**ST**
Auxiliary Contact for Types BW/CSR	
1NO and 1NC	**AL1**
2NO and 2NC	**AL2**
Alarm Contacts for Types BW/CSR	
Types BW/CSR	**CR1**
Alarm Contacts for Type GFTCB (Single-Pole)	
Alarm contact for GFTCB (single-pole)	**W1**
1NO and 1NC	**W2**

Handle Position Changeability Chart

	To Change Handle Position from ON to OFF, or OFF to ON You Must...		
Handle Lockoff and Lockdog Types	Remove Padlock	Remove Device	Remove Loadcenter Deadfront
Lockoff escutcheon mounted	Remove	—	—
Lockoff handle mounted	Remove	Remove	—
Lockoff screw mounted	Remove	—	—
Lockdog escutcheon mounted	N/A	Remove	Remove
Lockdog handle mounted	N/A	Remove	—

Notes

① Must be purchased in multiples of ordering quantities indicated.

② Hold-down kits: devices used to secure the circuit breaker to the loadcenter for back-feed main application. See NEC Article 408.36(D). Add "B" suffix to two-pole breaker for tapped hole for hold-down kit (ex. BR230B) for BR breakers below 60 A.

③ Add suffix indicated to end of breaker catalog number.

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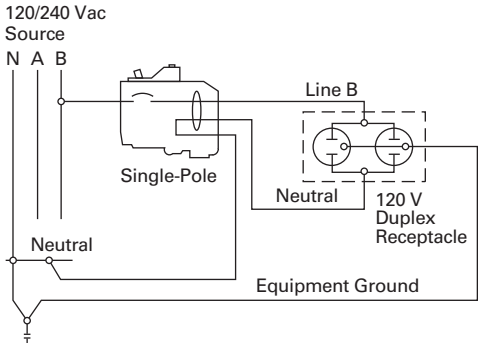
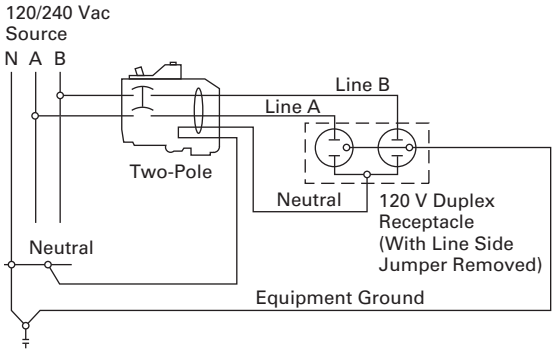
Wiring Diagrams

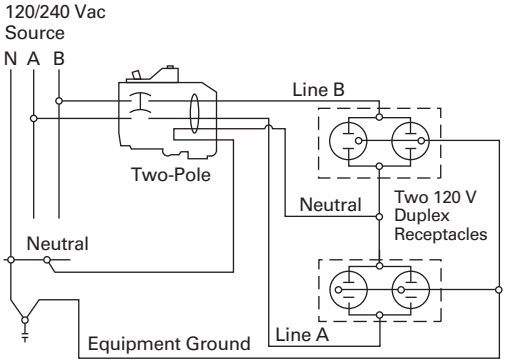
Single-Pole 120 V Load Application Sourced by 120/240 Vac



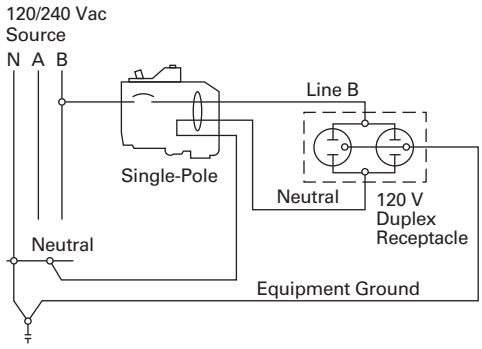
Two-Pole Shared Neutral with Duplex Receptacle Application



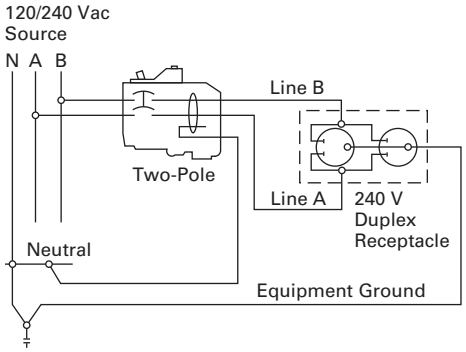
Two-Pole Shared Neutral with Multi-Duplex Receptacle Application



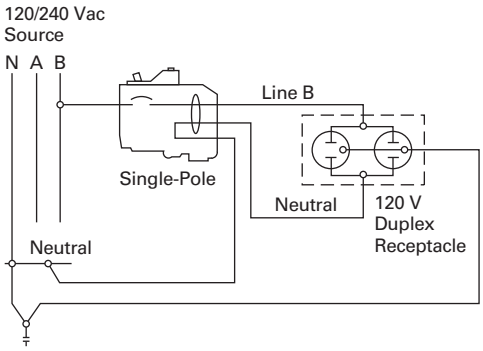
Single-Pole 120 V Load Application Sourced by 120/240 Vac



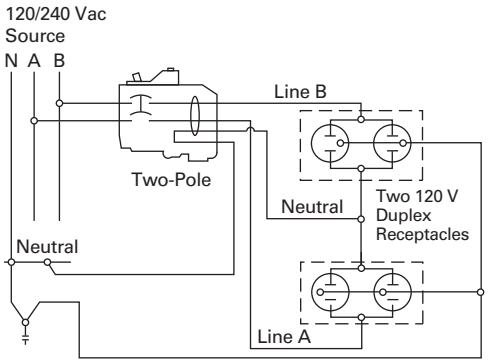
Two-Pole 240 V Load Application Sourced by 120/240 Vac



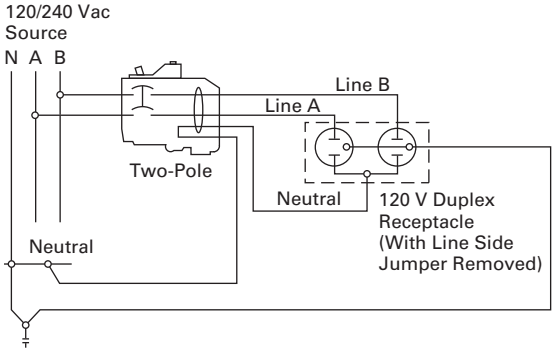
Single-Pole 120 V Duplex Receptacle Application



Two-Pole 120 V Multi-Duplex Receptacle Application



Two-Pole 120 V Duplex Receptacle Application



Two-Pole 240 V Duplex Receptacle Application