



Contents

<i>Description</i>	<i>Page</i>
Overview	
Standards and Certifications	V1-T1-47
Catalog Number Selection	V1-T1-49
Product Selection	V1-T1-51
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter.	V1-T1-63
BR Loadcenter Options and Accessories.	V1-T1-66
BR Circuit Breakers	V1-T1-83

Overview

General Product Description

Loadcenters are enclosures specifically designed to house the branch circuit breakers and wiring required to distribute power to individual circuits. They contain either a main breaker when used at the service entrance point or a main lug when used as a sub-panel to add circuits to existing service. The main breaker protects the main entire panel and can be used as a service disconnect. The branch breakers protect the wires leading to individual electrical loads such as fixtures and outlets.

Plug-on Neutral Loadcenters

The BR Plug-on Neutral portfolio from Eaton offers a unique design that offers improved safety, ease of installation and leaves the end result with a clean and professional look and feel.

Features, Benefits and Functions

Plug-on Neutral Style Loadcenters

- The short-body BR electronic circuit breakers are optimized to save gutter space and installation time with an easier, more succinct installation process
- Unique self-leveling tabs to allow for quick drywall offset
- Added keyhole hanging feature on cover for ease of installation
- Common drive types on screw connections for added simplicity and convenience
- Inboard neutral to increase the gutter space for easier installation of conductors
- Backed-out neutral screws to allow for a quick connection of ground and neutral conductors
- Upgraded to embossed circuit numbers for a more clean and professional look

Loadcenter Construction

Eaton's Type BR loadcenters have standard tin-plated aluminum bus with a limited availability of copper bus.

The sum of the handle ratings connected to any stab is limited to 150 A maximum on the 100 and 125 A loadcenters, and 200 A on loadcenters with 150 A or higher main bus. NEMA Type 1 boxes or enclosures are manufactured from galvanized steel. Raintight boxes are manufactured from galvanized steel, then finished using an electrostatic powder coat, baked urethane paint process.

Neutrals

Eaton BR loadcenters feature three types of neutrals:

Inboard Plug-on Neutral

Code changes and higher safety standards are leading to more arc fault circuit interrupter (AFCI) installations. With the electrical contractor in mind, Eaton has revolutionized the way Combination AFCIs are installed with the Plug-on Neutral line of loadcenters and breakers.

Insulated/Bondable Split Neutral

Panels are supplied with split insulated neutrals with an insulated cross strap. For service entrance applications, the neutral must be bonded by using the bonding strap supplied with the panel.

For non-service entrance (sub-panel) applications, the panel may be installed with the bonding strap not connected to the neutral. Separate ground bars must be used on non-service entrance panels.

Insulated/Bondable Single Neutral

Panels are supplied with a single insulated neutral. For service entrance applications, all that is required to bond the neutral is to loosen the bonding screw and the neutral screw directly beside it, insert the bonding strap into the neutral bar, and re-tighten both connections. The single neutral can be moved by the contractor to the other side of the panel, if desired. When used as a service entrance panel, unused neutral connections may be used for the termination of equipment grounds. For non-service entrance (sub-panel) applications, the panel may be installed with the bonding strap not connected to the neutral. Separate ground bars must be used on non-service entrance panels.

Grounds

In service entrance applications where the neutral is bonded, unused neutral holes may be used for terminating ground conductors. In sub-feed panels, the neutral must be isolated (non-bonded), and ground wires must be terminated on a separate ground bar.

The insulated/bondable single/split neutral panels have sufficient terminations for both ground and neutral conductors. The insulated/bondable single split neutral panels are supplied with a separate factory-installed ground bar if the catalog number contains a "G." If not, a separate ground bar should be installed. Insulated/Bondable Single Neutral panels are supplied without a ground bar (unless otherwise noted), and ground bar kits if needed must be purchased separately.

Neutral and Ground Terminals

The standard terminals on grounds and neutrals are rated to accept (3) #14–#10 Cu/Al or (1) #14–4, provided the cables terminated are of the same material. For larger cables, add-on neutral lugs may be ordered from the accessories on **Page V1-T1-72**.

Note: NEC allows only one current-carrying conductor per hole on neutrals unless otherwise noted.

Bottom Fed Loadcenters

For single-phase 225 A and below loadcenters that are bottom fed, a standard panel can be rotated 180 degrees to allow straight-in wiring of power cables to the main terminals. Because the main circuit breaker handle operates horizontally, the orientation of the main circuit breaker handle is consistent with the requirements of NEC 2008 Article 240.81.

Gutter Splicing

Loadcenters are not UL listed as wiring troughs. Therefore, gutter splicing of riser cables to tap off to the main device is not permitted. Refer to NEC 2008 Article 312.8.

Fire Rating

Due to the numerous openings in both loadcenter boxes and trims, they should not be mounted in firewalls. There is no approved method for sealing the enclosures for this application.

Date Code

The date of manufacture of each loadcenter is printed on the outside of the carton as well as inside the loadcenter. On the carton, the date code is printed on the end carton label. In the loadcenter, the date code is located on the small white label located on the right side wall (with the main device on top).

The date code is in the following format: F # # # &. The "F" is the numeric code for the Lincoln, IL plant, and the three numbers are the year and week of manufacturing, e.g., 023. The "!" sign at the end signifies the decade of the 2010. Therefore, the date code F023! would indicate that the product was manufactured in the 23rd week of 2010. The 1980s are represented by the "+" sign and the 1990s are represented by a "=" at the end of the code.

Surge Protectors

Complete home surge protection is available in multiple options, including a factory-installed option that provides the highest level of surge protection in a residential design. See Tab 3 for more details.

Circuit Breaker Case Interrupting Capacity

- 10 kAIC
- 22 kAIC
- 25 kAIC

Warranty Information

- 10-year limited loadcenter warranty
- 10-year limited branch breaker warranty

Standards and Certifications**UL Listings**

All Eaton Type BR loadcenters are listed under UL File E52977 except the 2–8 circuit loadcenters, up through and including 125 A, which are listed under UL File E8741.



1

Type BR Loadcenter

Optimized Knockouts

- Knockout locations for additional access
- Easier to remove

Smooth Case Edges

- Provides a more professional look and feel

Top or Bottom Feed

- Straight-in wiring saves labor and material
- One panel for either top or bottom applications

Plug-On Neutral

- Eliminates the pigtail connection providing time and labor savings
- Provides a professional installation

2/0 Lug

- Easily removable and can be installed in any location on the neutral bar

Type BR AFCI Breakers

- Compact design for easier wiring improved wireway access
- Optional LED indicates one of six trip codes for circuit diagnostics
- Provides a clean gutter space

Inboard Neutral

- Increases gutter space to allow for the professional installation of conductors

Standard Tin-Plated Aluminum Bus

- Excellent conductivity and corrosion resistance
- Copper bus options available for select catalog numbers

Drywall Offset on Both Sides of the Enclosure

- Allow for faster installation using predetermined self-leveling tabs



“Tangential” Center Knockout

- Easier installation for conduit applications

Commercial Grade Main Breaker

- 25 kAIC series rated main breaker for superior protection

Common Drive Types

- Minimizes number of tools required for installation as the neutral bar and breaker screws will share a common drive type

Grounding Screw

- Provides a quick and easy means of bonding the neutral and ground

Twin Neutral Bars

- Minimum 150% neutral capacity

Backed Out Neutral Screws

- Allows for quick connection of neutral and ground conductors

Cover Features not Shown:

- Cover Keyhole Hanging Feature
- Ease of cover installation

Rigid Center Cover Spine

- Provides strength when twistouts are removed

Improved Cover Twist-Outs

- Easier to remove twistouts

Embossed Cover Circuit Numbers

- Durable circuit numbering with added marking for twin breakers

Single Keyhole Mounting

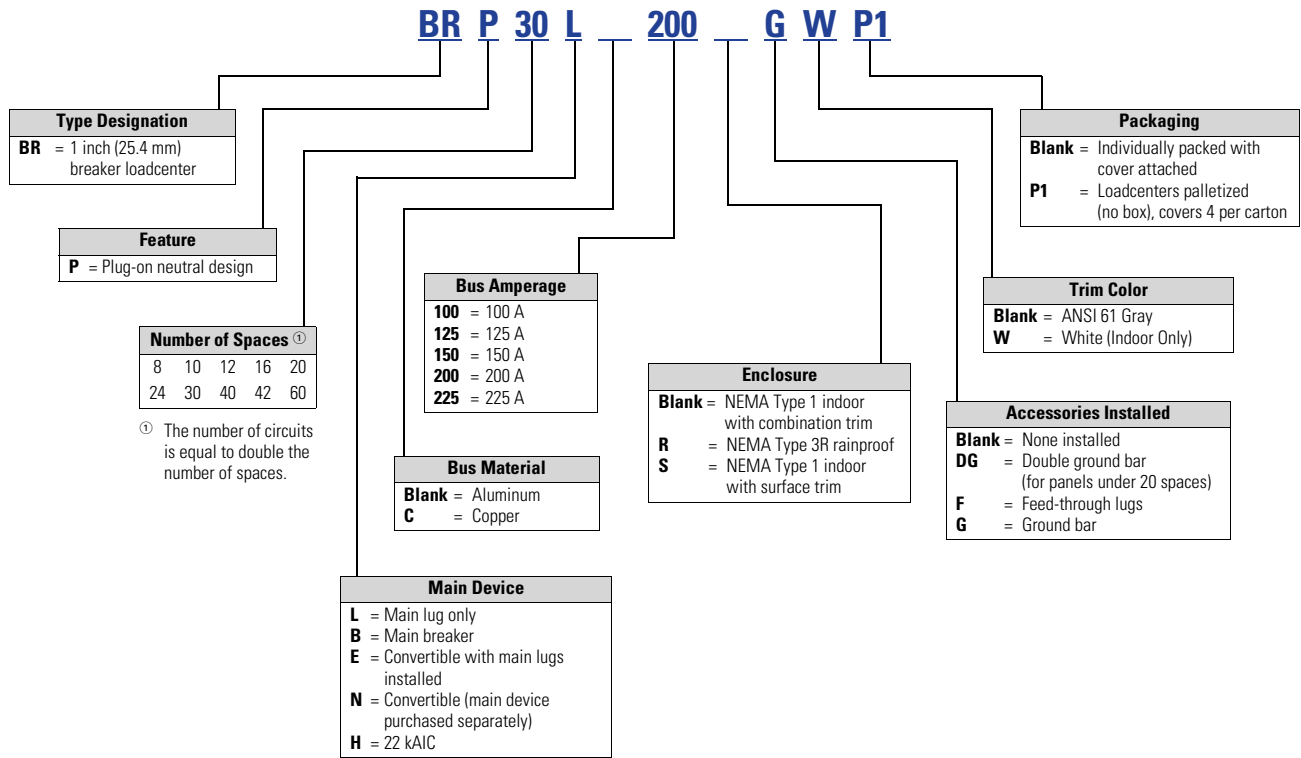
- One keyhole at the top and bottom provides easier mounting and leveling

Warranty

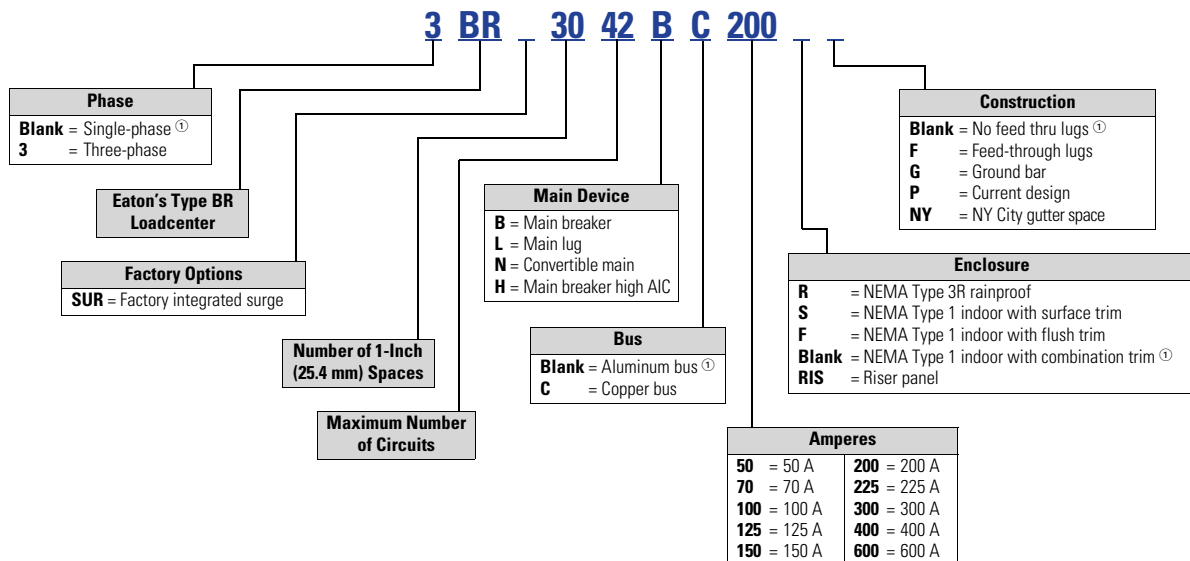
10-year warranty on all Type BR loadcenters and circuit breakers.

Catalog Number Selection

Single-Phase Plug-on Neutral Loadcenters



Single- and Three-Phase Legacy Loadcenters



Note

① No character space used.

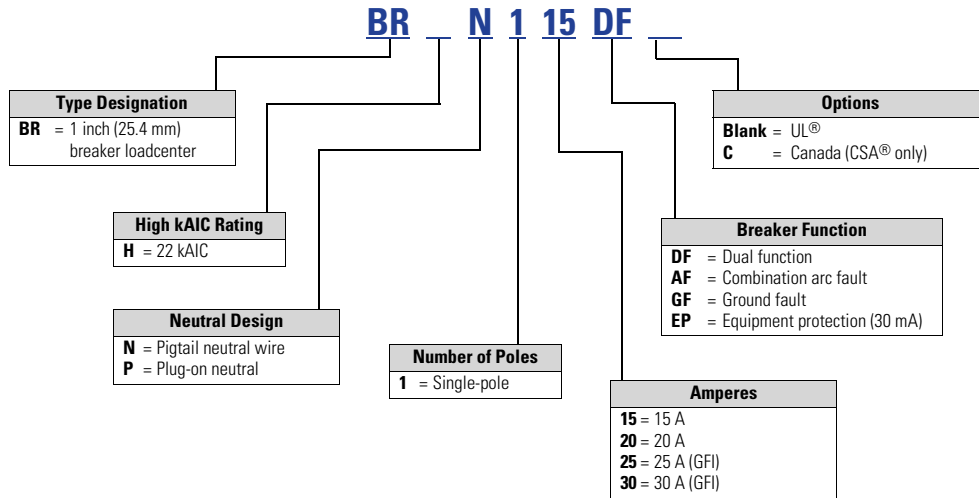
1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

BR Electronic Circuit Breakers



Product Selection

Single-Phase—Plug-on Neutral—Main Circuit Breaker Loadcenters—10/25 kAIC

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

BRP10B100



Main Breaker Type	Main Amp Rating	Maximum Number 1-Inch (25.4 mm) Spaces	Maximum Number 1-Inch (25.4 mm) Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number with Combination 1 or NEMA Type 3R Cover ^{①②}			
BR 10 kAIC	100	10	20	Indoor	X0	#4–1/0 2	BRP10B100			
		10	20	Outdoor	B2R		BR1020B100RF ^{③④⑦}			
		12	24	Indoor	X1		BRP12B100			
		12	24	Outdoor	B2R		BR1224B100R ^{④⑦}			
		16	32	Indoor	X2		BRP16B100			
		16	24	Outdoor	C1R		BR1624B100R ^{④⑦}			
		20	24	Outdoor	C3R		BR2024B100R ^{④⑦}			
		20	40	Indoor	X3		BRP20B100			
		30	60	Indoor	X5		BRP30B100			
		125	125	16	32		Indoor	X2	#4–2/0	BRP16B125
20	40			Indoor	X3	BRP20B125				
20	24			Outdoor	C3R	BR2024B125R ^{④⑦}				
30	60			Indoor	X5	BRP30B125				
BRH ^⑥ 22 kAIC	100	12	24	Indoor	X1	#4–1/0	BRP12H100			
		20	40	Indoor	X3		BRP20H100			
CSR ^⑥ 25 kAIC	150	8	16	Outdoor	C3R	#2–300 kcmil	BR816B150RF ^{③④⑦}			
		16	32	Indoor	X4		BRP12B150			
		20	40	Indoor	X4		BRP20B150			
		20	30	Outdoor	D1R		BR2030B150R ^{④⑦}			
		24	48	Indoor	X6		BRP24B150			
		20	40	Outdoor	D1R		BR2040B150R ^{④⑦}			
		30	60	Indoor	X6		BRP30B150			
		200	200	8	16		Outdoor	C3R	#2–300 kcmil	BR816B200RF ^{③④⑦}
				16	32		Indoor	X4		BRP16B200
				20	40		Outdoor	D1R		BR2040B200R ^{④⑦}
20	40			Indoor	X5	BRP20B200				
24	48			Indoor	X6	BRP24B200				
30	60			Indoor	X6	BRP30B200				
30	60			Indoor	X6	BRP30B200G				
30	40			Outdoor	G1R	BR3040B200R ^{④⑦}				
40	80			Indoor	X8	BRP40B200				
40	40			Outdoor	L1R	BR4040B200R ^{④⑦}				
60	120	Indoor	X10	BRP60B200						
60	120	Outdoor	L3R	BR60120B200R ^{④⑦}						

Notes

- ① Combination style covers may be used in surface or flush applications.
- ② All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with neutral bonding screw preattached. The maximum rating of the panel is the main circuit breaker rating when used as service entrance equipment. Ground bar kits priced separately. See **Page V1-T1-72**.
- ③ Includes through-feed lugs for both phase and neutral conductors.
- ④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑤ 22 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and ETN01 10 kAIC branch breakers are used in series with Type BRH main breaker.
- ⑥ 25 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and ETN01 10 kAIC branch circuit breakers are used in series with Type CSR main breaker.
- ⑦ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

Main Circuit Breaker Loadcenters—10/22 kAIC

B4242DFN



Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Commercial Loadcenter Catalog Number ^{①②③}	
		Spaces	Circuits				With Flush or NEMA Type 3R Cover	With Surface Cover
DK ^④	300	42	42	Indoor	24	(2) #3/0–250 kcmil	BR4242B300F	BR4242B300S
	400	42	42	Indoor	24	(2) #3/0–250 kcmil	BR4242B400F	BR4242B400S
		42	42	Outdoor	47	(2) #3/0–250 kcmil	BR4242B400R ^⑤	—
HLD ^⑥	600	42	42	Indoor	24	(2) #3/0–500 kcmil	—	BR4242B600S

Notes





- ① Ground bar kits priced separately. See **Page V1-T1-72**.
- ② The maximum rating of the panel is the main circuit breaker rating when used as service entrance equipment.
- ③ Door lock and key included with loadcenter.
- ④ Type DK main circuit breaker is rated 65 kAIC at 240 Vac and allows a 22 kAIC series rating on the panel when Types BR, BD and BJ branch circuit breakers are used.
- ⑤ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑥ Type HLD main circuit breaker is rated 65 kAIC at 240 Vac. Type HLD circuit breaker **is not** series rated with Types BR, BD and BJ branch circuit breakers.

Box sizes **Pages V1-T1-78** through **V1-T1-82**.

Please contact the Lincoln Flex Center for any configurations not listed.

Single-Phase—Main Lug Loadcenters—Small Space

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

	Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Trim Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number
		Spaces	Circuits					
Surface Outdoor 	70	2	4	Indoor	Surface (no door)	5	#8–#2	BR24L70SP ^{①②}
		2	4	Indoor	Surface (no door)	5		BR24L70SGP ^{②③}
		2	4	Outdoor	—	5R		BR24L70RP ^{①②④}
		2	4	Indoor	Flush (no door)	5		BR24L70FP ^{①②}
		2	4	Indoor	Flush (no door)	5		BR24L70FGP ^{②⑤}
Flush Outdoor 	125	2	4	Indoor	Surface (no door)	6	#14–1/0	BR24L125SP ^{①②}
		2	4	Outdoor	—	6R		BR24L125SRP ^{①②④}
		2	4	Outdoor	—	6R		BR24L125RSEP ^{②⑦⑧}
		2	4	Outdoor	—	6R		BR24L125RSEP ^{②⑥⑦}
		2	4	Indoor	Flush (no door)	6		BR24L125FP ^{①②}
		4	8	Indoor	Surface (no door)	7		#14–1/0
4	8	Indoor	Surface (no door)	7	BR48L125SGP ^{③⑨}			
4	8	Outdoor	—	7R	BR48L125RP ^{①④⑨}			
4	8	Indoor	Flush (no door)	7	BR48L125FP ^{①⑨}			
4	8	Indoor	Flush (with door)	7	BR48L125FDP ^{①⑨}			
4	8	Indoor	Flush (no door)	7	BR48L125FGP ^{③⑨}			
Surface (No Door) 	125	6	12	Indoor	Surface (no door)	7	#14–#1	BR612L125SP ^{①⑩}
		6	12	Indoor	Surface (no door)	7		BR612L125SGP ^{⑩⑪}
		6	12	Indoor	Surface (with door)	7		BR612L125SDP ^{①⑩}
		6	12	Indoor	Surface (with door)	7		BR612L125SDGP ^{⑩⑪}
		6	12	Outdoor	—	7R		BR612L125SRP ^{①④⑩}
		6	12	Indoor	Flush (no door)	7		BR612L125FP ^{①⑩}
		6	12	Indoor	Flush (no door)	7		BR612L125FGP ^{③⑩⑪}
		6	12	Indoor	Flush (with door)	7		BR612L125FDP ^⑩
		6	12	Indoor	Flush (with door)	7		BR612L125FDGP ^{③⑩⑪}
		8	16	Indoor	Surface (no door)	7		#14–#1
8	16	Indoor	Surface (no door)	7	BR816L125SGP ^{⑩⑪}			
8	16	Indoor	Surface (with door)	7	BR816L125SDP ^{①⑩}			
8	16	Indoor	Surface (with door)	7	BR816L125SDGP ^{⑩⑪}			
8	16	Outdoor	—	7R	BR816L125SRP ^{①④⑩}			
8	16	Indoor	Flush (no door)	7	BR816L125FP ^{①⑩}			
8	16	Indoor	Flush (no door)	7	BR816L125FGP ^{③⑩⑪}			
8	16	Indoor	Flush (with door)	7	BR816L125FDP ^{①⑩}			
8	16	Indoor	Flush (with door)	7	BR816L125FDGP ^{③⑩⑪}			
Outdoor 	125	8	16	Indoor	Surface (no door)	7	#14–#1	
		8	16	Indoor	Surface (no door)	7		BR816L125SGP ^{⑩⑪}
		8	16	Indoor	Surface (with door)	7		BR816L125SDP ^{①⑩}
		8	16	Indoor	Surface (with door)	7		BR816L125SDGP ^{⑩⑪}
		8	16	Outdoor	—	7R		BR816L125SRP ^{①④⑩}
		8	16	Indoor	Flush (no door)	7		BR816L125FP ^{①⑩}
		8	16	Indoor	Flush (no door)	7		BR816L125FGP ^{③⑩⑪}
		8	16	Indoor	Flush (with door)	7		BR816L125FDP ^{①⑩}
		8	16	Indoor	Flush (with door)	7		BR816L125FDGP ^{③⑩⑪}

Notes



- ① Ground bar kits priced separately. See **Page V1-T1-72**.
 – For 2/4 circuit loadcenters, use GBK5 or GBK520 ground bar.
 – For 4/8, 6/12 and 8/16 circuit loadcenters, use GBK10 ground bar.
 – Ground bars mount to the left side wall of the enclosure for the 4/8, 6/12 and 8/16 circuit loadcenters.
- ② Suitable for use as service equipment when not more than two service disconnecting mains are provided or when not used as a lighting and appliance panelboard.
- ③ Ground bar GBK5 is installed.
- ④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑤ CSA and UL approved.
- ⑥ Neutral/ground holes (6) #14–6 and (3) #14–2/0 AWG Cu/Al.
- ⑦ For use as service entrance applications only.
- ⑧ Neutral/ground holes (6) #14–6 and (3) #14–1/0 AWG Cu/Al.
- ⑨ Suitable for use as service equipment when not more than two service disconnecting mains are provided or when not more than six service disconnecting mains are provided and when not used as a lighting and appliance panelboard.
- ⑩ Suitable for use as service equipment when a main breaker is used or when not more than six service disconnecting mains are provided and when not used as a lighting and appliance panelboard.
- ⑪ Ground bar GBK10 is installed.
- ⑫ Ground bar GBK14 is installed.

Box sizes **Pages V1-T1-78** through **V1-T1-82**.

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Single-Phase—Main Lug Loadcenters

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral, continued

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number ^{①⑦}	
	Spaces	Circuits					
BRP12L125 	125	12	24	Indoor	X0	#6–2/0	BRP12L125 ^{②③④}
		12	24	Indoor	X0		BRP12L125G ^{②③④}
		12	24	Indoor	X0		BRP12L125DG ^{②③④⑤}
		12	24	Outdoor	B1R		BR1224L125R ^{②④⑥⑧}
		16	32	Indoor	X1		BRP16L125 ^{②③④}
		16	32	Indoor	X1		BRP16L125G ^{②③⑤}
		16	24	Outdoor	B2R		BR1624L125R ^{②⑥⑨}
		20	40	Indoor	X2		BRP20L125 ^{②③④}
		20	40	Indoor	X2		BRP20L125G ^{②③⑤}
		20	24	Outdoor	C1R		BR2024L125R ^{②⑥⑨}
		24	48	Indoor	X3		BRP24L125 ^{②③}
		24	48	Indoor	X3		BRP24L125G ^{②③⑤}
		24	48	Indoor	X3		BRP24L125GW ^{②③④⑤⑧}
		30	60	Indoor			BRP30L125 ^{②③}
		150	16	32	Indoor	X3	#1–300 kcmil
20	40		Indoor	X3		BRP20L150 ^③	
20	40		Indoor	X3		BRP20L150G ^{③⑤}	
BRP12L200R 	200	12	24	Outdoor	B2R		BR1224L200R ^{④⑥⑨}
		20	40	Indoor			BRP20L200 ^③
		20	40	Indoor			BRP20L200G ^{③⑤}
		20	40	Outdoor	C3R		BR2040L200R ^{⑥⑨}
		24	48	Indoor	X4		BRP24L200 ^③
		30	60	Indoor	X5		BRP30L200 ^③
		30	60	Indoor	X5		BRP30L200G ^{③⑤}
		31	61	Indoor	X5		BRP30L200GW ^{③⑤⑧}
		30	40	Outdoor	D1R		BR3040L200R ^{⑥⑨}
		40	80	Indoor	X6		BRP40L200 ^③
		40	80	Indoor	X6		BRP40L200G ^{③⑤}
		40	40	Outdoor	G1R		BR4040L200R ^{⑥⑨}

Single-Phase—Main Lug Loadcenters—400 and 600 A

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

4242DFN



Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Commercial Loadcenter Catalog Number ^①	
	Spaces	Circuits				With Flush or NEMA Type 3R Cover	With Surface Cover
400	12	24	Outdoor	42	(2) #3/0–400 kcmil	BR1224L400R ^{④⑤}	—
	42	42	Indoor	22		BR4242L400F	BR4242L400S
	42	42	Outdoor	46		BR4242L400R ^④	—
600	42	42	Indoor	22	(2) #2–500 kcmil	—	BR4242L600S

Notes

- ① Ground bar kits priced separately unless otherwise noted. See **Page V1-T1-72**.
- ② Has notch for BRPHD hold-down kit in 125A and 200A styles.
- ③ Combination cover style.
- ④ Suitable for use as service equipment when not more than six main disconnecting means are provided.
- ⑤ Ground bars installed.
- ⑥ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑦ Includes main lugs. Loadcenters can convert to main breaker using kit.
- ⑧ Comes with a white cover
- ⑨ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.

Convertible Loadcenters MCB or MLO—Base Units and Main Devices 10/22/25 kAIC, Complete Assembly Consists of: Loadcenter and Either Main Breaker Kit or Main Lug Kit

Note: Interrupting rating depends on main circuit breaker selected.

BRP12N125



Base Units—Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral (Unless Otherwise Noted)

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number With Combination or NEMA Type 3R ①②③
	Spaces	Circuits				
125 ④⑤	12	24	Indoor	X1	See main breaker kit and main lug kit tables on Page V1-T1-67.	BRP12N125
	12	24	Indoor	X2		BRP12N125G ⑥
	12	24	Outdoor	B1R		BR1224N125R ⑦⑧⑨
	16	32	Indoor	X2		BRP16N125
	16	24	Outdoor	B2R		BR1624N125R ⑦⑧⑨
	20	40	Indoor	X3		BRP20N125G ⑥
	20	24	Outdoor	C1R		BR2024N125R ⑦⑧⑨
	200 ⑤	8	16	Outdoor		B2R
12		24	Indoor	X4	BRP12N200 ⑥	
12		24	Outdoor	B2R	BR1224N200R ⑦⑧⑨	
16		32	Indoor	X4	BRP16N200 ⑥	
20		40	Indoor	X5	BRP20N200 ⑥	
20		40	Indoor	X5	BRP20N200G ⑥	
20		40	Outdoor	C3R	BR2040N200R ⑦⑧⑨	
30		60	Indoor	X6	BRP30N200 ⑥	
30		60	Indoor	X6	BRP30N200G ⑥	
30		60	Indoor	X6	#1–300 kcmil	BRP30E200G ⑥⑩
30		40	Outdoor	D1R	#1–300 kcmil	BR3040N200R ⑦⑧⑨
40		80	Indoor	X8	See main breaker kit and main lug kit tables on Page V1-T1-57.	BRP40N200
40		80	Indoor	X8	#1–300 kcmil	BRP40E200G ⑥⑩
40		40	Outdoor	G1R	#1–300 kcmil	BR4040N200R ⑦⑧⑨
40		80	Indoor	X8	See main breaker kit and main lug kit tables on Page V1-T1-67.	BRP40N200G ⑥
60		120	Indoor	X10	#1–300 kcmil	BRP60E200 ⑥

Convertible MLO Loadcenters—Factory Installed Lugs ⑥

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

Main Amp Rating	Spaces	Maximum Number of 1" Circuits	Enclosure Type	Box Size	Wire Size Range Cu/Al	Catalog Number
200	30	60	Indoor	X6	#1–300 kcmil	BRP30E200G ⑥
200	40	80	Indoor	X8	#1–300 kcmil	BRP40E200G ⑥
200	60	120	Indoor	X10	#1–300 kcmil	BRP60E200

- ① The maximum rating of the loadcenter is the main circuit breaker rating when used as service entrance equipment.
 - ② 125 and 200 A convertible base unit catalog numbers include interior, box and cover only. Main devices and accessories must be ordered separately for field installation. All convertible base units are listed as suitable for use as service entrance equipment when used per Article 408 of the NEC.
 - ③ Ground bar kits priced separately except as noted, refer to Page V1-T1-72.
 - ④ For main breaker, use Type BR. For main lug use Type BRPSF.
 - ⑤ For main breaker, use Type BW or CSR. For main lug, use Type BRPL200.
 - ⑥ Convertible to maximum of 125 A main circuit breaker and 125 A main lug.
 - ⑦ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to Page V1-T1-71.
 - ⑧ Includes through-feed lugs for both phase and neutral conductors.
 - ⑨ Insulated/bondable single neutral for legacy styles only. Does not apply to plug-on neutral style loadcenter.
 - ⑩ Includes ground bar.
 - ⑪ Main Lugs come installed.
 - ⑫ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.
- BRPHD comes with loadcenter for back-fed Types BR and BRH main circuit breakers.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

Convertible Loadcenters MCB or MLO—Base Units and Main Devices 10/22/25 kAIC, Complete Assembly Consists of: Loadcenter and Either Main Breaker Kit or Main Lug Kit

Note: Interrupting rating depends on main circuit breaker selected.

BW2200



Main Devices—Two- and Three-Pole Main Circuit Breakers—120/240 Vac or 208Y/120 Vac or 240 Vac

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	10 kAIC Catalog Number	22/25 kAIC Catalog Number ①
Two-Pole			
100	#4-1/0	BR2100	BRH2100
110	#4-1/0	BR2110	BRH2110
125	#4-2/0	BR2125	BRH2125
125	#2-300 kcmil	BW2125	CSR2125N
150	#2-300 kcmil	BW2150	CSR2150N
175	#2-300 kcmil	BW2175	CSR2175N
200	#2-300 kcmil	BW2200	CSR2200N
Three-Pole			
100	#1	BR3100	BRH3100

BRL200



Main Devices—Two- and Three-Pole Main Lug Kits—120/240 Vac or 208Y/120 Vac or 240 Vac

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Catalog Number
Two-Pole		
125	#6-2/0	BRSF125
150	#1-300 kcmil	BRL200
175	#1-300 kcmil	BRL200
200	#1-300 kcmil	BRL200
Three-Pole		
150	#6-3/0	3BRSF150

Main Circuit Breaker with Accessory

Example: BW22005R01 (Put description with catalog number on order. See **Page V1-T1-93.**)

Main Circuit Breaker Loadcenters—Copper Bus 10/22/25 kAIC

BRP20BC100



Main Circuit Breaker Loadcenters—With Copper Bus—Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number with Combination Cover ②③④
		Space	Circuits				
BR 10 kAIC	100	20	40	Indoor	X3	#4-1/0	BRP20BC100
		30	60	Indoor	X6	#4-1/0	BRP30BC100
	125	30	60	Indoor	X6	#4-1/0	BRP30BC125
BRH 22 kAIC ⑤	100	20	40	Indoor	X3	#4-1/0	BRP20HC100
		30	60	Indoor	X5	#4-1/0	BRP30HC100
CSR 25 kAIC	150	30	60	Indoor	X6	#2-300 kcmil	BRP30BC150
		200	20	40	Indoor	X3	#2-300 kcmil
	200	30	60	Indoor	X6	#2-300 kcmil	BRP30BC200
		40	80	Indoor	X8	#2-300 kcmil	BRP40BC200
225	42	84	Indoor	X9	#1-250 kcmil	BRP42BC225	

Main Lug Only Loadcenters—Copper Bus

BRP42LC225



Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Single Neutral with Copper Bus

Main Breaker Type	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number with Combination Cover ②③
	Space	Circuits				
225	42	84	Indoor	X8	#1-300 kcmil	BRP42LC225 ④
	42	84	Indoor	X8	#1-300 kcmil	BRP42LC225G ⑤

Notes

- ① Series combination rating with Types BD, BR, BQ, BQC and ETN01 is 22 kAIC with BRH main and 25 kAIC with CSR main.
- ② All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with neutral bonding screw preattached.
- ③ The maximum rating of the panel is the main circuit breaker rating when used as service entrance equipment.
- ④ Ground bar kits priced separately. See **Page V1-T1-72.**
- ⑤ 22 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and ETN01 10 kAIC branch breakers are used in series with Type BRH main breaker.
- ⑥ Includes ground bar.

Box sizes **Pages V1-T1-78** through **V1-T1-82.**

Convertible Loadcenters—Copper Bus 10/22/25 kAIC

BRP12NC125



Convertible—Single-Phase, Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

Main Breaker Type	Main Amp Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main	Loadcenter Catalog Number (With Combination or NEMA Type 3R Cover) ①②③④	
		Spaces	Circuits					
10/22 kAIC ⑤⑥	125	12	24	Indoor	X1	See main breaker kit and main lug kit tables on Page V1-T1-67	BRP12NC125	
		12	24	Outdoor	B2R		BR1224NC125R ⑥⑦⑧	
		20	40	Indoor	X3		BRP20NC125	
		20	24	Outdoor	C3R		BR2024NC125R ⑥⑦⑧	
10/25 kAIC ⑤⑩	200	20	40	Indoor	X5	See main breaker kit and main lug kit tables on Page V1-T1-67	BRP20NC200	
		20	40	Outdoor	D1R		BR2040NC200R ⑥⑦⑧	
		30	60	Indoor	X6		BRP30NC200	
		30	60	Indoor			#1–300 kcmil	BRP30EC200GP2 ⑩
		30	40	Outdoor	G1R		BR3040NC200R ⑥⑦⑧	
		40	80	Indoor	X8			BRP40NC200
		40	40	Outdoor	L1R			BR4040NC200R ⑥⑦⑧

Convertible MLO Loadcenters—Factory Installed Lugs—Copper Bus

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral

Main Amp Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main	Loadcenter Catalog Number (With Combination or NEMA Type 3R Cover) ①②③
	Spaces	Circuits				
200	30	60	Indoor	—	#1–300 kcmil	BRP30EC200GP2
200	8	16	Outdoor	—	#1–300 kcmil	BRP08E200RF ⑦

Notes

- ① 125 and 200 A convertible base unit catalog numbers include interior, box and cover only. Main devices and accessories must be ordered separately for field installation. All convertible base units are listed as suitable for use as service entrance equipment when used per Article 384 of the NEC.
- ② Ground bar kits priced separately, refer to **Page V1-T1-72**.
- ③ All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with a neutral bonding screw preattached. The maximum main rating of the loadcenter is the main breaker rating when used as service entrance equipment.
- ④ Interrupting rating depends on main circuit breaker selected. **Page V1-T1-72** for mains.
- ⑤ Hold-down screw BRPHD comes with loadcenter for back-fed Types BR and BRH main circuit breakers.
- ⑥ For main breaker, use Type BR. For main lug, use Type BRPSF.
- ⑦ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-72**.
- ⑧ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.
- ⑨ For main breaker, use Type BW or CSR. For main lug, use Type BRPL.
- ⑩ Suitable for use as service equipment when not more than six main disconnecting means are provided.
- ⑪ Ground bar included.

1 Three-Phase—Type BR Main Circuit Breaker Loadcenters

Three-Phase, Four-Wire—Main Lug Loadcenters—Copper Bus—208Y/120 Vac or 240 Vac, Insulated/Bondable Split Neutral

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number (With Combination or NEMA Type 3R Cover)
	Spaces	Circuits				
125	12	24	Indoor	C1	#6–3/0	3BR1224LC125
125	12	24	Outdoor	C1R	#6–3/0	3BR1224LC125R
150	24	42	Indoor	D1	#4–300 kcmil	3BR2442LC150
150	24	42	Outdoor	D1R	#4–300 kcmil	3BR2442LC150R
200	12	24	Indoor	C4	#4–300 kcmil	3BR1224LC200
200	12	24	Outdoor	C3R	#4–300 kcmil	3BR1224LC200R
200	30	42	Indoor	G1	#4–300 kcmil	3BR3042LC200
200	30	42	Outdoor	G1R	#4–300 kcmil	3BR3042LC200R
200	42	42	Indoor	L1	#4–300 kcmil	3BR4242LC200
200	42	42	Outdoor	L1R	#4–300 kcmil	3BR4242LC200R
225	30	42	Indoor	L1	#4–300 kcmil	3BR3042LC225
225	30	42	Outdoor	L1R	#4–300 kcmil	3BR3042LC225R
400	42	42	Indoor	24	(2) 3/0–250 kcmil	3BR4242LC400S
	42	42	Outdoor	47		3BR4242BC400R
600	42	42	Indoor	24	(2) 3/0–500 kcmil	3BR4242LC600S

Three-Phase, Four-Wire—Main Circuit Breaker Loadcenters—Copper Bus—208Y/120 Vac or 240 Vac, Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number (With Combination or NEMA Type 3R Cover)
		Spaces	Circuits				
BR 10 kAIC	100	12	24	Indoor	C1	#14–1/0	3BR1224BC100
	100	12	24	Outdoor	C1R	#14–1/0	3BR1224BC100R
CC 10 kAIC	150	30	42	Indoor	L1	#6–4/0	3BR3042BC150
	150	30	42	Outdoor	L1R	#6–4/0	3BR3042BC150R
	200	42	42	Indoor	L2	2/0–300 kcmil	3BR4242BC200
	200	42	42	Outdoor	L2R	2/0–300 kcmil	3BR4242BC200R
	225	42	42	Indoor	L2	2/0–300 kcmil	3BR4242BC225
	225	42	42	Outdoor	L2R	2/0–300 kcmil	3BR4242BC225R
DK 22 kAIC	400	42	42	Indoor	24	(2) 3/0–250 kcmil	3BR4242BC400S
		42	42	Outdoor	47		3BR4242BC400R
HLD 10 kAIC	600	42	42	Indoor	24	(2) 3/0–500 kcmil	3BR4242BC600S

Three-Phase, Four-Wire—Main Circuit Breaker Loadcenters—Aluminum Bus—208Y/120 Vac or 240 Vac Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number ^{①②} (With Combination or NEMA Type 3R Cover)
		Spaces	Circuits				
BR 10 kAIC	100	12	24	Indoor	C1	#14–1/0	3BR1224B100
		12	24	Outdoor	C1R		3BR1224B100R ^③
CC 10 kAIC	125	30	42	Indoor	L1	#6–4/0	3BR3042B125
		30	42	Outdoor	L1R		3BR3042B150R ^③
	200	30	42	Indoor	L1	#1–250 kcmil	3BR3042B200
		30	42	Outdoor	L1R		3BR3042B200R ^③
		42	42	Indoor	L2		3BR4242B200
		42	42	Outdoor	L2R		3BR4242B200R ^③
CHH 100 kAIC	200	42	42	Indoor	L2	2/0–300 kcmil	3BR4242H200 ^⑥
CC 10 kAIC	225	42	42	Indoor	L2	2/0–300 kcmil	3BR4242B225
		42	42	Outdoor	L2R		3BR4242B225R ^③
DK ^④ 22 kAIC	400	42	42	Indoor	24	(2) #3/0–250 kcmil	3BR4242B400S ^⑦
		42	42	Indoor	24		3BR4242B400F
		42	42	Outdoor	47		3BR4242B400R ^③
LD ^⑤	600	42	42	Indoor	24	(2) #3/0–500 kcmil	3BR4242B600F

Notes

- ① All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with a neutral bonding strap pre-attached (commercial loadcenters do not have a pre-attached bonding strip). The maximum main rating of the panel is the main circuit breaker rating when used as service entrance equipment.
- ② Ground bar kits priced separately. See **Page V1-T1-72**.
- ③ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ④ Type DK main circuit breaker is rated 65 kAIC at 240 Vac and allows a 22 kAIC series rating on the loadcenter when Types BR, BD and BJ branch circuit breakers are used.
- ⑤ The LD main circuit breaker is rated 65 kAIC at 240 Vac. Type LD circuit breaker **is not** series rated with Types BR, BD and BJ branch circuit breakers.
- ⑥ Includes CHH 100 kAIC rated MCB. 100 kAIC series rating combination is obtained when types BD, BR, BQ, BQC and GFGB branch breakers are used with CHH main.
- ⑦ With surface cover.

3BR4242B200



3BR1224L125



Three-Phase, Four-Wire—Main Lug Loadcenters—Aluminum Bus—208Y/120 Vac or 240 Vac, Insulated/Bondable (Unless Otherwise Noted)

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number ^① (With Combination or NEMA Type 3R Cover)
	Spaces	Circuits				
100	3	3	Indoor	6	#6-1/0	3BR3L100S ^{②③}
	3	3	Outdoor	6R		3BR3L100R ^{③④}
125	12	24	Indoor	C1	#6-3/0	3BR1224L125 ^{⑤⑥}
	12	24	Outdoor	C1R		3BR1224L125R ^{④⑤⑥}
150	18	36	Indoor	C2	#6-4/0	3BR1836L150
	18	36	Outdoor	C3R		3BR1836L150R
	24	42	Indoor	D1	#4-300 kcmil	3BR2442L150
	24	42	Outdoor	D1R		3BR2442L150R ^④
200	12	24	Indoor	C4	#4-300 kcmil	3BR1224L200 ^⑥
	12	24	Outdoor	C3R		3BR1224L200R ^{④⑥}
	18	36	Indoor	C4	#4-300 kcmil	3BR1836L200
	18	36	Outdoor	C3R		3BR1836L200R
	30	42	Indoor	G1	#4-300 kcmil	3BR3042L200
	30	42	Outdoor	G1R		3BR3042L200R ^④
	42	42	Indoor	L1	#4-300 kcmil	3BR4242L200
	42	42	Outdoor	L1R		3BR4242L200R ^④
225	42	42	Indoor	L1	#4-300 kcmil	3BR4242L225
	42	42	Outdoor	L1R		3BR4242L225R ^④

3BR4242L400F



Three-Phase, Four-Wire—Main Lug Loadcenters—Aluminum Bus—208Y/120 Vac or 240 Vac, Insulated/Bondable Split Neutral

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Commercial Loadcenter Catalog Number ^⑦	
	Spaces	Circuits				With Flush or NEMA Type 3R Cover	With Surface Cover
400	42	42	Indoor	22	(1) 250-750 kcmil	3BR4242L400F	3BR4242L400S
	42	42	Outdoor	46	or (2) #3/0-250 kcmil	3BR4242L400R ^④	—
600	42	42	Indoor	22	(2) #2-500 kcmil	—	3BR4242L600S

Notes

- ① Ground bar kits priced separately. See **Page V1-T1-72**.
- ② Surface cover only.
- ③ Insulated/bondable single neutral.
- ④ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑤ Has notch for BREQS125 hold-down kit.
- ⑥ Suitable for use as service equipment when not more than six main disconnecting means are provided and when not used as a lighting and appliance panelboard.
- ⑦ Door lock and key included with loadcenter.

Box sizes **Pages V1-T1-78** through **V1-T1-82**.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

3BR3030N100



3BR4242N225NY



Three-Phase, Four-Wire—Convertible Loadcenters—Aluminum Bus—208Y/120 Vac or 240 Vac, Insulated/Bondable Split Neutral

Main Ampere Rating ^①	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number ^{②③} (With Combination or NEMA Type 3R Cover)
	Spaces	Circuits				
100 ^④	30	30	Indoor	D1	See main breaker kit and main lug kit tables on Page V1-T1-67	3BR3030N100 ^⑤
	30	30	Outdoor	D1R		3BR3030N100R ^{⑤⑥}
125 ^④	12	24	Indoor	C1		3BR1224N125 ^{⑤⑥⑦}
	12	24	Outdoor	C1R		3BR1224N125R ^{⑤⑥⑦⑧}
200	30	42	Indoor	L1		3BR3042N200
225	42	42	Indoor	L2		3BR4242N225
	42	42	Indoor	B		3BR4242B225NY ^⑨

Notes

- ① The maximum rating of the loadcenter is the main circuit breaker rating when used as service entrance equipment.
- ② 100, 125 and 200 A convertible base unit catalog numbers include interior, box and cover only. Main devices and accessories must be ordered separately for field installation.
All convertible base units are listed as suitable for use as service entrance equipment when used per Article 384 of the NEC.
- ③ Ground bar kits priced separately. See **Page V1-T1-72**.
- ④ For main breaker, use Type BR. For main lug, use Type BRSE.
- ⑤ BREQS125 hold-down screw comes with loadcenter for back-fed Types BR and BRH main circuit breakers.
- ⑥ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-71**.
- ⑦ Convertible to maximum of 100 A main circuit breaker and 125 A main lug.
- ⑧ Suitable for use as service equipment when not more than six main disconnecting means are provided and when not used as a lighting and appliance panelboard.
- ⑨ Order 3BR42FTNY or 3BR42STNY cover separately.

Box sizes **Pages V1-T1-78** through **V1-T1-82**.

Spa Panels



Spa Panels

Product Description

Eaton's BR Spa Panels distribute power to outdoor loads and provide protection for people from electric shock. Save time and money with streamlined installation procedures and easy-access features. Spa panels meet NEC requirements by providing a ground fault circuit interruption device and a disconnect switch in a single simple device. Ships assembled prewired, factory tested and ready to install.

Features

- 10-year warranty
- UL Listed
- Factory-installed two-pole ground fault circuit interrupter (GFCI)

Product Selection

BR Spa Panel



Spa Panel—Meets NEC Article 680.40 Through 680.43—Requirements for GFCI Protection

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm)		Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Catalog Number
	Space	Poles				
40	—	—	Outdoor	5R	#8-#2	BR40SPAST ^①
50	—	—	Outdoor	5R	#8-#2	BR50SPAST ^②

Notes

- ① Includes a GFTCB240 breaker, factory installed.
- ② Includes a GFTCB250 breaker, factory installed.

Contents

Description

Description	Page
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter	V1-T1-63
BR Loadcenter Options and Accessories	V1-T1-66
BR Circuit Breakers	V1-T1-83

Riser Panel



Contents

<i>Description</i>	<i>Page</i>
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	
Type BR Renovation Loadcenter.....	V1-T1-63
BR Loadcenter Options and Accessories.....	V1-T1-66
BR Circuit Breakers	V1-T1-83

Riser Panel

Product Description

Eaton's Riser Panel is a loadcenter with an offset interior to allow riser cables to pass through the enlarged gutter. By using lay-in tap lugs, the contractor is able to simply strip off a length of the riser cable's insulation, and tap off to the riser panel's main lugs. These panels are used in the construction of assisted living homes, dormitories, public housing complexes and apartments.

Product Selection

BR1224L125RIS



Riser Panel

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm) Space	Circuits	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Catalog Number
125	12	24	Indoor	C4	#6-2/0	BR1224L125RIS
125	12	24	Indoor	C4	#6-2/0	BR1224L125RISBP ①
125	20	24	Indoor	C4	#6-2/0	BR2024L125RIS
125	20	24	Indoor	C4	#6-2/0	BR2024L125RISBP ①
125	20	30	Indoor	C2	#6-2/0	BR2030L125RIS
200	30	40	Indoor	D1	#1-300	BR3040L200RIS

BRGUTTER (Shown with Loadcenter)



Riser Panel Accessories

Catalog Number

BRGUTTER ②
GTAP250

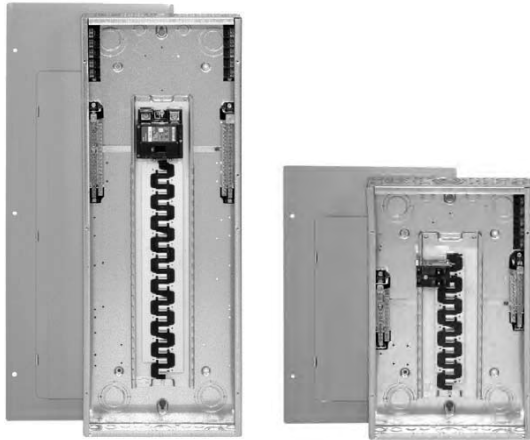
Notes

- ① Bulk-packaged loadcenter without carton. Must be ordered in multiples of 16.
- ② Refer to **Page V1-T1-79** for dimensions. BRGUTTER is box size C2.

Accessories

For riser panels not shown, contact the Flex Center at 1-800-330-6479 for both CH and BR riser panels.

BR Renovation Loadcenters



Contents

Description	Page
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter	
BR Loadcenter Options and Accessories	V1-T1-66
BR Circuit Breakers	V1-T1-83

Type BR Renovation Loadcenter

Product Description

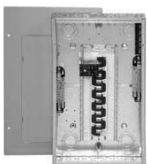
- Available in 10, 20, 30 and 40 circuit main breaker styles
- Designed to replace existing loadcenters and fuse boxes
- Type BR loadcenter packaged with circuit breakers
- Factory-installed 5-circuit terminal block(s)
- Twin-stacked neutral design

Features, Benefits and Functions

- Factory-installed terminal block(s) allows installer to terminate existing short wires without using wire nuts or junction boxes
- Twin-stacked neutrals are mounted up high in the loadcenter, which allows for all neutral and ground wires to be terminated in the top half of the loadcenter
- Specifically designed for the service contractor—this is the ONLY renovation line in the industry
- Single-pole and two-pole breakers included
- 10-year warranty on loadcenter and breakers

Product Selection

BR2020B100RN



BR Value Packs ①

Main Breaker Type	Description	Wire Size Range	Number of 5-Circuit Terminal Blocks	Single-Pole Breakers	Two-Pole Breakers	Catalog Number
BR 10 kAIC	Single-phase 100 A 10k main breaker 10/20 circuit surface-mount box is 11.75" wide x 13" tall	#6-1/0	0	(2) BR115	(1) BR230	BR1020B100SRNV
	Single-phase 100 A 10k main breaker 10/20 circuit flush-mount box is 11.75" wide x 13" tall		0	(2) BR115	(1) BR230	BR1020B100FRNV

Note

① Indoor enclosure type.

Type BR Retrofit Interior



Type BR Retrofit Adjustable Interior



Type BR Retrofit Interior Collar and Assembly with Trim

Contents

Description	Page
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter	V1-T1-63
BR Loadcenter Options and Accessories	
Type BR Retrofit Interior Kits	
BR Specialty Product Selection	V1-T1-65
Type BR Mechanical Interlock Kits	V1-T1-68
Technical Data and Specifications	V1-T1-74
Dimensions	V1-T1-78
BR Circuit Breakers	V1-T1-83

Type BR Retrofit Interior Kits

Product Description

Eaton's unique Retrofit Interior allows the customer to cost-effectively and safely upgrade an electrical service without removing the existing enclosure from the wall.

Application Description

The Retrofit Interior is designed and tested specifically for renovating an outdated electrical panel in an apartment, a condominium or a single family home. These outdated panels are being recognized by local inspectors and other authorities as a possible hazard.

Opportunities to Retrofit

- Single- or three-phase
- Main lug only or main breaker
- Up to 42 circuits
- Up to 225 A interiors, 400 A available upon request
- Available with CH breakers (3/4-inch) with copper bus or BR breakers (1-inch) with aluminum bus
- The minimum lifetime warranty for residential breakers shall be as follows:
 - 10-year warranty on all BR branch breakers and loadcenters
 - Refer to Eaton for complete warranty details

Features and Benefits

Upgrading Existing Electrical Infrastructure Is Simple

- Replaces vintage brands that have hard to find, expensive replacement breakers
- Safety upgrade to arc fault and ground fault breakers to meet current electrical codes
- Maximizes number of circuits available with compact design
- Eco-friendly in asbestos-filled environments
- Exclusive design

Save Time and Money Throughout the Installation

- Uses existing panel box and wires
- Eliminates expensive and time-consuming drywall/paint repair
- Saves 2–3 hours of installation time compared to a complete panel changeout
- Eliminates precise measurements with field-adjustable kit

Standards and Certifications

- Meets 2017 NEC wire bending requirements
- UL 67 Listed (for UL listings for specific part numbers, see the table on the following page.



BR Specialty Product Selection

To select the retrofit kit:

1. From the existing box size determine which retrofit groups are suitable (may be more than one).
2. Use type of interior, number of phases, and type of main to find the selection chart.
3. Select part number from chart (if main breaker, replace XXX with specific amp rating).

How to Order:

1. Measure the existing panel enclosure to determine appropriate kits for your project.
2. Match the existing dimensions with the table below to obtain the correct catalog number.
3. Order your retrofit kit from a local Eaton authorized distributor.

Need assistance or can't find retrofit to fit existing enclosure?

Call Eaton's Residential Flex Center at 1-800-330-6479 or email for all your retrofit needs. Go to www.eaton.com/eccn to locate an Eaton Certified Contractor.

Retrofit Interior Kit Specifications

Five recommended groups: existing box height determines retro group size. Approximate Dimensions in Inches (mm).

Catalog Number ①	Cover ②	Existing Enclosure Parameters—Inches (mm)				Phase	Main	Bus	Amperes ③	Spaces / Circuits	UL 67 Listed
		Minimum Depth	Maximum Depth	Minimum Width	Minimum Height						
BR Retrofit Interiors and Covers											
RTBR8L100P	CRTBR8ML****	3.13 (79.5)	3.63 (92.2)	10.50 (266.7)	13.00 (330.2)	Single	MLO	BR	100	8/16	Yes
RUBR8L100_	CRUBR8ML****	3.75 (95.3)	6.00 (152.4)	10.50 (266.7)	13.00 (330.2)	Single	MLO	BR	100	8/16	Yes
RTBR12L100P	CRTBR12ML****	3.13 (79.5)	3.63 (92.2)	10.50 (266.7)	14.50 (368.3)	Single	MLO	BR	100	12/24	Yes
RTBR10B100P	CRTBR12ML****	3.13 (79.5)	3.63 (92.2)	10.50 (266.7)	14.50 (368.3)	Single	MLO	BR	100	10/20	Yes
RUBR12L100_	CRUBR12ML****	3.75 (95.3)	6.00 (152.4)	10.50 (266.7)	14.50 (368.3)	Single	MLO	BR	100	12/24	Yes
RUBR10B100_	CRUBR12ML****	3.75 (95.3)	6.00 (152.4)	10.50 (266.7)	14.50 (368.3)	Single	MB	BR	100	10/20	Yes
RTBR12L125P	CRTBR12ML****	3.13 (79.5)	3.63 (92.2)	11.00 (279.4)	17.00 (431.8)	Single	MLO	BR	125	12/24	Yes
RTBR10B125P	CRTBR12ML****	3.13 (79.5)	3.63 (92.2)	11.00 (279.4)	17.00 (431.8)	Single	MB	BR	125	10/20	Yes
RUBR12L125_	CRUBR12ML****	3.75 (95.3)	6.00 (152.4)	11.00 (279.4)	17.00 (431.8)	Single	MLO	BR	125	12/24	Yes
RUBR10B125_	CRUBR12ML****	3.75 (95.3)	6.00 (152.4)	11.00 (279.4)	17.00 (431.8)	Single	MB	BR	125	10/20	Yes
RABR20B125_	CRABR20ML****	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	21.00 (533.4)	Single	MCB	BR	125	20/24	No
RABR20L125_	CRABR20ML****	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	21.00 (533.4)	Single	MLO	BR	125	20/24	No
RBBR20B200_	CRBBR20BW****	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	29.00 (736.6)	Single	MLO	BR	200	20/40	No
RBBR20L200_	CRBBR20ML****	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	34.00 (863.6)	Single	MLO	BR	200	30/40	No
RDBR40B200_	CRDBR40BW****	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	37.00 (939.8)	Single	MLO	BR	200	40/40	No

Complete Assembly

Note: For complete assembly, interior and cover need to be ordered separately.

Adjustable Interior

- Factory installed ground and neutral bars positioned to accept existing wires
- Field adjustable depth matches existing panel box
- Adjustable height enables optional placement of the interior
- Field bondable for service entrance options



Adjustable Interior

Standard Trim and Collar

- Standard trim matches new interior
- New circuit directory for updated labeling
- Oversized collar eliminates expensive wall/paint repair



Collar and Assembly with Trim

Notes

- ① Catalog numbers shown with "_" at the end need one of the following suffixes to denote depth:
J = 3.75–4.25
K = 4.25–5.00
L = 5.00–6.00
Example: RUBR12L125J would signify an interior set with a depth range of 3.75 to 4.25 inches.
- ② **** Denotes characters in the catalog number that relate to overall cover size. Example: CRTBR12ML2620 would signify a cover 26.00 inches H x 20.00 inches W.
- ③ Amperes for MB panels is maximum; catalog number will reflect actual amperage of breaker included.

For UL applications, maximum cover sizes may apply.

Options and Accessories—Mechanical Interlocks



Contents

<i>Description</i>	<i>Page</i>
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter	V1-T1-63
BR Loadcenter Options and Accessories	
Type BR Retrofit Interior Kits	V1-T1-64
Type BR Mechanical Interlock Kits	V1-T1-68
Technical Data and Specifications	V1-T1-74
Dimensions	V1-T1-78
BR Circuit Breakers	V1-T1-83

BR Loadcenter Options and Accessories

Product Selection

Plug-on Neutral Installation Kits and Parts

Plug-on Neutral Installation and Parts

Description	Ordering Quantity ^①	Catalog Number
Bonding kit for bonding the neutral bus to the loadcenter	1	BONDKITP
Cover replacement latch—indoor loadcenters (white)	1	LATCHPW
Door replacement latch—outdoor loadcenters	1	CH3RLATCH
Incoming 2/0 neutral lug	1	NLP20
Incoming 300 kcmil neutral lug	1	NLP300
Screws used to mount loadcenter cover	25	LCCS
Screws used to mount loadcenter cover (white)	25	LCCSW
Spray paint—12 oz can (white)	1	SPCWH
Series rating caution label	25	SRL
Circuit directory (2) 42 Ckt cards, (2) adhesive plastic sleeves	12	CKTDIR
Circuit directory—adhesive backed	10	TCD
Keyed door lock for loadcenter trim door	1	TDL
Terminal insulator kit—Type CSR, CSH, BW, BWH mains	10	TICSR300
Terminal insulator kit—Type CH, BR, BRH, BRHH, BRX mains	10	TIMCB3/0
5 circuit terminal block for renovation	1	RN5TB
Retaining bracket for backfed main breaker—BR	1	BRPHD
Mechanical interlock kit for BR loadcenters with backfed main breaker	1	BRPMIKBR ^②
Bulk pack—mechanical interlock kit for BR loadcenters with backfed main breaker	10	BRPMIKBRP ^②
Mechanical interlock kit for BR loadcenters with Type CSR main breaker	1	BRPMIKCSR ^②
Bulk pack—mechanical interlock kit for BR loadcenters with Type CSR main breaker	10	BRPMIKCSR ^②
Gutter tap kit for riser panels (250 mcm)	1	GTAP250
Loadcenter auxiliary gutter	1	BRPGUTTER
Replacement main lugs for 200 A/225 A MLO or convertible panels (#1–300 kcmil)	1	BRPL200
1 inch filler plates for branch breakers slot in BR loadcenter	25	BRFP
Multipack—1 inch filler plates for branch breakers slot in BR loadcenter (5 pieces)	1	BRFP
Circuit marking strip for BR loadcenter cover/ door	1	BRMS
CSR main breaker filler plate (gray)	1	CSRFPG
Cover replacement latch—indoor loadcenters (gray)	1	LATCHPG
Spray paint—12 oz can (ANSI 61 light gray)	1	SPG61

Notes

- ① Must be purchased in multiples of ordering quantities indicated.
- ② Not compatible with legacy style BR loadcenters.

BRSF125



3BRS225



BRL200



TDL



Legacy Field Installation Kits and Parts

Number of Poles	Ampere Rating	Number of 1-Inch (25.4 mm) Spaces Needed	Wire Size Range Cu/Al 60 °C or 75 °C	Ordering Quantity ^①	Catalog Number
Main and Sub-Feed Lug Blocks					
2	125	2	#8–2/0	1	BRSF125
	150	2	#8–2/0	1	BRSF150 ^②
	225	4	#2–300 kcmil	1	BRS225
3	150	3	#8–2/0	1	3BRSF150 ^②
	225	6	#2–300 kcmil	1	3BRS225
Main Lugs					
Two-pole, 200 A stud mounted (includes deadfront filler plate)			#1–300 kcmil	1	BRL200
Neutral/ground lug			#2/0 maximum	1	NL20
Add-on neutral or ground lug			#3/0 maximum	1	NL30
			300 kcmil maximum	1	NL300
Filler Plates					
1-inch (25.4 mm) circuit breaker space				25	BRFP
BW main circuit breaker space (with hardware)				1	BWFP
Door lock—12–42 circuits, and 100–225 A				1	TDL
Door lock—4–8 circuits, 125 A				1	CH9FL
ANSI-61 light gray touchup paint for current loadcenters				1	SPC61
Isolated neutral assembly (computer circuits)				1	BINA
Circuit directory—adhesive backed				10	TCD
Cover screws				25	LCCS
Cover replacement latch (gray) 14-5/16 (363.5 mm) wide loadcenters only				1	BRRL
Circuit marking strip (next to breaker)				10	BRMS
Circuit identification label (preprinted breaker labels)				25	CHBL
Series rated caution label				25	SRL
Bonding strip with screw				1	BSSUSE

Three-Phase Accessories

Three-Phase Main Breaker Kits—10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Catalog Number
100	#6–4/0	CC3100N
125	#6–4/0	CC3125N
150	#6–4/0	CC3150N
175	#2/0–300 kcmil	CC3175N
200	#2/0–300 kcmil	CC3200N
225	#2/0–300 kcmil	CC3225N

Three-Phase Main Lugs Kit for Convertible Loadcenters

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Catalog Number
225	#1–300 kcmil	3BRL225
225	#1–300 kcmil	3BRS225 ^③

Notes

^① Must be purchased in multiples of ordering quantities indicated.

^② #8–2/0 wire size range is 75 °C rated only.

^③ For subfeed.

Box sizes **Pages V1-T1-78** through **V1-T1-82**.

Type BR Mechanical Interlock Kits



Type BR Loadcenter with Mechanical Interlock Kit

Type BR Mechanical Interlock Kits

Product Description

With the aging electrical infrastructure and frequent severe storms, power outages are becoming more and more frequent, affecting thousands of people nationwide. Eaton mechanical interlock kit provides an easy and cost-effective solution when using backup emergency power.

This solution expands the robust line of emergency power products and accessories.

Features and Benefits

- Prevents utility and generator supplies from being on at the same time
- Protects utility linemen from dangerous generator backfeed
- Robust interlock design
- Offered in two unique styles for almost any BR loadcenter, which can reduce inventory levels
- Quick and easy installation—drill points or fixtures for pilot holes are provided on all applicable BR loadcenters; no additional assembly is required

Contents

Description

	<i>Page</i>
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter.....	V1-T1-63
BR Loadcenter Options and Accessories	
Type BR Retrofit Interior Kits	V1-T1-64
Type BR Mechanical Interlock Kits	V1-T1-68
Technical Data and Specifications	V1-T1-74
Dimensions	V1-T1-78
BR Circuit Breakers	V1-T1-83

Standards and Certifications

- UL 67 Listed—For use with BR loadcenters
- Meets NEC® Article 702



Product Selection



Each mechanical interlock kit includes:

- Interlock assembly
- Hold down kit ①
- New labels
- Necessary screws

Warranty information:

- 10-year warranty on all Type BR circuit breakers and loadcenters
- Refer to Eaton for complete warranty details

Mechanical Interlock Kits ②

	Description	Legacy Style Loadcenters Catalog Number	Plug-On Neutral Style Loadcenters Catalog Number
 BRMIKBR	Single	BRMIKBR	BRPMIKBR
	Bulk pack ③	BRMIKBRBP	BRPMIKBRBP
 BRMIKCSR	Single	BRMIKCSR	BRPMIKCSR
	Bulk pack ③	BRMIKCSRBP	BRPMIKCSRBP

Notes

- ① For breakers under 70 A used in backfed applications, add "B" to the end of the catalog string to get the appropriate "hold-down" version.
- ② Clamshell packaged.
- ③ Bulk pack contains 10 units, individually packaged.

Mechanical Interlock Cover

Covers mechanically interlock two breakers—Type BW or CSR main breaker with a Type BR branch breaker.

Mechanical Interlock Cover

Fits Loadcenter Catalog Numbers	Mechanical Interlock Trim/Deadfront Catalog Numbers	Mechanical Interlock Kit Catalog Numbers
Indoor		
BR816B100	BRCOVC10M	BRMIKBR
BR816N100		
BR1212B100	BRCOVC12M	
BR1220B100		
BR1220H100		
BR1224N125	BRCOVC13M	
BR1616B100	BRCOVC16M	
BR1620B100		
BR1624B100		
BR1624B125	BRCOVC17M	
BR1624N125		
BR2020B100, BR2020BC100, BR2020H100, BR2020HC100	BRCOVC22M	
BR2024H100		
BR2020HC100		
BR2030B100		
BR2040B100		
BR2024B125	BRCOVC23M	
BR2024N125, BR2024NC125		
BR3030B100, BR3030BC100	BRCOVC59M	
BR3030H100, BR3030HC100		
Raintight		
BR1020B100R	BR3RDF1M	Field-installed interlock kits not available for these catalog numbers.
BR1224B100R		
BR1224N125R, BR1224NC125R		
BR1624B100R	BR3RDF2M	
BR1624N125R		
BR2024B100R, BR2024B125R	BR3RDF4M	
BR2024N125R, BR2024NC125R		

Mechanical Interlock Cover, continued

Fits Loadcenter Catalog Numbers	Mechanical Interlock Trim/Deadfront Catalog Numbers	Mechanical Interlock Kit Catalog Numbers
Indoor		
BR1630B150	BRCOV16C4FM	BRMIKCSR
BR1224N200		
BR1632B200		
BR1632N200		
BR2030B150	BRCOV20C4FM	
BR2030H150		
BR2040B150		
BR2040B200, BR2040BC200	BRCOV20D1FM	
BR2040H200		
BR2040N200, BR2040NC200		
BR2430B150, BR2430BC150	BRCOV30G1FM	
BR3030B150		
BR3030H150		
BR3040B150		
BR2440B200		
BR2440N200		
BR3040BC200		
BR3040N200, BR3040NC200		
BR4040BC200	BRCOV40L1FM	
BR4040N200, BR4040NC200		
BR4242B225	BRCOV42L2FM	
Raintight		
BR816B150RF	BR3RDF5M ①	
BR816B200RF		
BR816N200RF		
BR1224N200R		
BR2030B150R	BR3RDF11M ①	
BR2040B150R		
BR2040B200R		
BR2040B225R		
BR2040N200R		
BR3030B150R	BR3RDF12M ①	
BR3040B200R		
BR3040N200R		
BR4040B200R	BR3RDF13M ①	
BR4040N200R		
BR48B200RF	BR3RDF14M	
BR4242B225R	BR3RDF15M ①	
Mechanical Interlock Loadcenter Replacement Covers ②		
BR2020B100M, BR2020BC100M	BRCOV20C2FM	Field-installed interlock kits not available for these catalog numbers.
BR2024H100M		
BR3030BC100M	BRCOV30D1FM	

Notes

① Deadfront only.

② Can only be provided as replacement covers for factory-installed mechanically interlock loadcenters.

Field Installable Rainproof Conduit Hubs

Description	Conduit Size— Inches (mm)	Ordering Quantity ^①	Catalog Number
Group 1—for use with 70, 100 and 125 A MLO and MCB loadcenters and circuit breaker enclosures and the following 150 and 200 A panels: BR48B200RF	0.75 (19.1)	1	DS075H1
	1.00 (25.4)	1	DS100H1
	1.25 (31.8)	1	DS125H1
	1.50 (38.1)	1	DS150H1
	2.00 (50.8)	1	DS200H1
Group 2—for use with 150, 200 and 225 A MLO and MCB loadcenters and circuit breaker enclosures except for the following 200 A loadcenters: BR48B200RF. Also for use with 400 and 600 A loadcenters and New York City loadcenters manufactured after November 1, 2005	2.00 (50.8)	1	DS200H2
	2.50 (63.5)	1	DS250H2
	3.00 (76.2)	1	DS300H2
Type H conduit hubs for loadcenters PL0724R and S3100RN	0.75 (19.1)	1	RH75P
	1.00 (25.4)	1	RH100P
	1.25 (31.8)	1	RH125P
	1.50 (38.1)	1	RH150P
Adapter kit—Allows Installing a Group 1 hub on devices arranged for Group 2 hubs	—	1	DS900AP
Group 1 small blank hub plate with bump	—	1	DS900CP1
Group 2 Large blank hub plate with bump	—	1	DS900CP2

Note

^① Must be purchased in multiples of ordering quantities indicated.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

GBKP14



Plug-on Neutral Ground Bar Kits

Description (See Legend)	Length Inches (mm)	Ordering Quantity ^①	Catalog Number
●○○○○○●○○○○○	4.05	1	GBKP10 ^②
●○○○○○●○○○○○	5.05	1	GBKP1020 ^②
●○○○○○●○○○○○■	4.05	1	GBKP10P ^{②③}
●○○○○○●○○○○○○○○○	5.39	1	GBKP14 ^②
●○○○○○●○○○○○○○○○■	6.39	1	GBKP1420 ^②
●○○○○○●○○○○○○○○○	5.39	1	GBKP14P ^{②③}
●○○○○○●○○○○○○○○○○○○○○○	7.72	1	GBKP21 ^②
●○○○○○●○○○○○○○○○○○○○○○■	8.72	1	GBKP2120 ^②
●○○○○○●○○○○○○○○○○○○○○○	7.72	1	GBKP21P ^{②③}
●○○○○○●	2.39	1	GBKP5 ^②
●○○○○○●■	3.39	1	GBKP520 ^②
●○○○○○●	2.39	1	GBKP5P ^{②③}

GBK14



BRGBK39512



Legacy Ground Bar Kits

Description (See Legend)	Length Inches (mm)	Ordering Quantity ^①	Catalog Number
●○○○○○●	2.54 (64.5)	1	GBK5 ^②
●○○○○○●■	3.59 (91.2)	1	GBK520 ^②
●○○○○○●○○○○○○○	4.29 (109.0)	1	GBK10 ^②
●○○○○○●○○○○○○○■	5.34 (135.6)	1	GBK1020 ^②
●○○○○○●○○○○○○○○○	5.69 (144.5)	1	GBK14 ^②
●○○○○○●○○○○○○○○○■	6.74 (171.2)	1	GBK1420 ^②
●○○○○○●○○○○○○○○○○○○○○○	8.14 (206.8)	1	GBK21 ^②
●○○○○○●○○○○○○○○○○○○○○○■	9.19 (233.4)	1	GBK2120 ^{②③}

Ground Bar Legend

- = (3) #14–#10 Cu/Al or (1) #14–#4 Cu/Al
- = (1) #6–2/0 Cu/Al
- = Mounting hole

Notes

- ① Must be purchased in multiples of ordering quantities indicated.
- ② Distance between mounting holes is 2 inches (50.8 mm).
- ③ Individually packaged.

Loadcenter Goof Collars

Don't let an ugly drywall problem ruin a beautiful electrical installation.

Eaton's Goof Collar is designed to cover gaps between the finished drywall and loadcenter enclosure.

This is often necessary when upgrading the electrical service and the drywall surrounding the panel is damaged. The collar allows 2 inches of overhang beyond the standard flush trim.



Before



After

BR Goof Collars

Inches (mm)		Catalog Number	
Height	Width	BR Box Size	Goof Collar
21.00 (533.4)	19.00 (482.6)	B1	BRB1GC2119
23.00 (584.2)	19.00 (482.6)	B2	BRB2GC2319
25.00 (635.0)	19.00 (482.6)	C1	BRC1GC2519
27.00 (685.8)	19.00 (482.6)	C2	BRC2GC2719
31.00 (787.4)	19.00 (482.6)	C4	BRC4GC3119
34.00 (863.6)	19.00 (482.6)	D1	BRD1GC3419
38.00 (965.2)	19.00 (482.6)	G1	BRG1GC3819
43.00 (1092.2)	19.00 (482.6)	L1	BRL1G4319
48.00 (1219.2)	19.00 (482.6)	L2	BRL2GC4819

Note

Type BD Duplex, BQ and BQC Quadplex circuit breakers can be installed in Circuit Limiting (CTL) listed BR loadcenters. Type BR twin breakers can be installed in Non-CTL BR loadcenters.

Technical Data and Specifications**General**

- A. The Contractor shall furnish and install deadfront loadcenters incorporating circuit breakers of the number, rating and type as specified herein and as shown on the contract drawings.
- B. The loadcenter and all components shall be designed, manufactured and tested in accordance with the latest applicable standards of UL, NEMA and NEC including:
 - 1. UL 67—Standards for Panelboards.
 - C. UL 50—Standards for Cabinets and Boxes.
 - D. UL 489—Standards for Molded Case Circuit Breakers.
 - E. UL 869—Standards for Service Equipment.
 - F. Federal Specification W-C 375B—Circuit Breakers.
 - G. Federal Specification W-C P115b—Panel Power Distribution Type 1, Class 2.

Qualifications

- A. The manufacturer of the loadcenter shall be the manufacturer of the circuit breaker within the loadcenter.
- B. For the equipment specified herein, the manufacturer shall be ISO 9000 certified.
- C. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of seven (7) years.

Manufacturers

- A. Eaton.

Ratings

- A. Loadcenters shall be rated for 120/240 Vac and shall have short-circuit ratings as shown on the drawings or as herein scheduled, but not less than 10,000 amperes rms symmetrical.
- B. Circuit breakers shall be a minimum of 125 A frame. Circuit breakers 15 through 125 A trip size shall take up the same pole spacing.
- C. Loadcenters shall be labeled with a UL short-circuit rating. When series combination ratings are applied with integral or remote upstream devices, a label shall be provided. Series combination ratings shall cover all trip ratings of installed frames. It shall state the conditions of the UL series ratings including:
 - 1. Size and type of upstream device.
 - 2. Branch devices that can be used.
 - 3. UL series short circuit rating.

Construction

- A. All interiors, with the exception of the branch circuit breakers, shall be completely factory assembled with main breakers, main lugs, or no main device.
- B. Interiors shall be designed so that circuit breakers can be replaced without disturbing adjacent units and without removing the main bus connectors and shall be designed so that circuits may be changed without machining, drilling, or tapping.
- C. Physical means shall be provided to prevent the installation of more overcurrent devices than that number for which the enclosure was designed, rated and approved. Half-size breakers shall have a UL listed rejection tab over the line terminals. Loadcenter interiors must have notched stabs to accept these rejection tab class CTL breakers, if required and approved.

Bus

- A. Busbars for the main and cross connectors shall be [tin-plated aluminum] [copper] in accordance with Underwriters Laboratories standards. Busing shall be braced throughout to conform to industry standard practice governing short-circuit stresses in loadcenters.

Note: Note to spec writer—select one (copper available in limited ratings).

- B. Neutral busing shall have a suitable lug for each outgoing feeder requiring a neutral connection of same ampacity as branch.

Wiring/Termination

- A. All wire connectors and terminals shall be of the anti-turn solderless type and shall be suitable for copper or aluminum wire of the sizes indicated. All connectors must meet the "Requirements for Wire Connectors and Soldering Lugs" as stated in UL 486B.
- B. All loadcenters where marked shall be suitable for use with 60 °C or 75 °C rated wire.

Circuit Breakers

- A. Circuit breakers shall be molded case type. Circuit breakers shall have four-rivet construction (GFI Type—5 rivets). Multipole circuit breakers shall be of a stack pole design to provide electrical phase isolation.
- B. Each pole of the circuit breaker will provide inverse time delay overload and instantaneous short-circuit protection by means of both thermal and magnetic sensors.
- C. The circuit breaker calibration shall not be affected by environmental changes in relative humidity. The thermal bimetal element shall be welded to the steel frame and calibration shall be set independent of the molded case by computer controlled equipment.
- D. All circuit breakers shall be operated by a toggle-type handle and multipole circuit breakers shall have an internal common trip mechanism. The circuit breakers shall incorporate trip mechanisms that are mechanically trip-free from the handle. The handle position shall provide visual trip indication.
- E. Contacts shall be of non-welding silver alloy.
- F. All circuit breakers shall have the trip rating inscribed on the handle on each circuit breaker pole. Also, unique color-coded cases that indicate the UL listed 10 kA or 22 kA interrupting ratings. Breakers shall be able to be used as main or branch disconnect devices.
- G. Branch circuit breakers may also be used in the 1/2-inch (12.7 mm) per pole ratings that include two-pole 1-inch (25.4 mm) wide modules and four-pole 2-inch (50.8 mm) wide modules. Two-pole circuit breakers must incorporate a common trip mechanism.
- H. Circuit breakers shall be completely enclosed in a molded case of thermoset material. No internal aluminum parts shall be used. All internal ferrous parts shall be plated to prevent corrosion.
- I. All terminals shall be listed for use with copper or aluminum conductors. Terminals shall be of the box lug or clamp type design. The terminals shall meet UL 486B requirements and shall be suitable for use with either 60 °C or 75 °C wire.
- J. The calibrated bimetal assembly shall be mechanically isolated from the load terminal using a flexible braided copper shunt wire, such that movement of the terminals due to twisting and overtorquing does not affect breaker calibration.
- K. Breakers shall be SWD rated and/or HACR rated as required.
- L. Arc Fault Interrupting circuit breakers, (AFI), shall be provided on all 15 and 20 A single-phase 120/240 Vac circuits except those indicated as remote controlled breakers. AFI breakers shall be “Classified for mitigating the effects of arcing faults,” or conforming to UL Standard 1699 and as defined by Article 210.12 Section A of the 1999 NEC Code.

Surge Protection Devices

See Volume 1, Tab 2 for complete details on surge protection.

Enclosures

- A. Loadcenter shall have NEMA Type 1 general purpose or NEMA Type 3R rainproof enclosures as indicated on the drawings and shall be surface or combination flush/surface mounted except where noted.
- B. Boxes shall be made from galvanized sheet steel having multiple knockouts. Rainproof boxes shall use galvanized steel or an approved coating system which meets or exceeds standards for outdoor NEMA Type 3R enclosures. Boxes shall be of sufficient size to provide at least a minimum code gutter space on all sides.
- C. The deadfront shall have an easy adjustment feature for flush applications.
- D. Boxes shall be factory assembled into a single rigid structure.
- E. Unless otherwise noted on drawings, hinged doors covering all circuit breaker handles shall be included in all trims. Trim doors shall not uncover any live parts in making the circuit breaker handles accessible. If key locks are required, all locks shall be keyed alike.
- F. Combination trims for flush and surface panels shall be flat and shall overlap the box by at least 5/8-inch (15.9 mm) all around. Trims shall be mounted by a screwdriver without the need for special tools.

Finish

- A. Trims shall be bonderized and finished with a light gray ANSI-61 enamel. The paint finish shall be of a type to which field applied paint will adhere.

Factory Testing

- A. The standard factory tests shall be performed on the equipment provided under this section. All tests shall be in accordance with the latest version of UL and NEMA.

BR Loadcenters**Description****Service**

Single-phase, three-wire, 120/240 Vac

Three-phase, four-wire, 208Y/120 Vac
Three-phase, three-wire, 240 Vac delta**Short-Circuit Current Rating**

10 kAIC: All single- and three-phase loadcenters 70–225 A, 8 to 42 circuits

25 kAIC: All convertible and factory-installed single-phase loadcenters rated 150 and 200 A using Type CSR main breakers

22 kAIC: All convertible loadcenters using 125 A rated Type BRH main breakers or selected factory installed 125 A rated Type BRH main breaker

Main Breaker/Main Lug Loadcenters

Single-phase

Three-phase

Main breaker: 100, 125, 150, 200, 225, 400, 600 A

Main breaker: 100, 125, 150, 200, 225, 400, 600 A

Main lugs: 70, 125, 150, 200, 225, 400, 600 A

Main lugs: 100, 125, 150, 200, 225, 400, 600 A

Convertible Loadcenters

Main breaker: single-phase up to 200 A and three-phase up to 225 A

Main lugs: single-phase up to 200 A and three-phase up to 150 A

Branch Breakers

Types BR, BRH and BRHH: 10–150 A, single-, two- and three-pole; selected amperage available in switching duty, HACR, shunt trip and high magnetic setting

Type BQ and BQC Multibreaker: 15–30 A. Two of two-pole or one two-pole and two one-pole; takes two 1-inch (25.4 mm) spaces

Type GFTCB: 15–60 A

Type BRW: 15–30 A; two-pole water heater breakers

Types BJ and BJH: 125–225 A; two- and three-pole

Type BRSN: 15–30 A; two-pole switching neutral breakers

Type BD Twin: 10–50 A; two of one-pole; take one 1-inch (25.4 mm) space

Type BR 15–100 A; two-pole, 240 Vac delta breakers

BR-AFCI arc fault circuit interrupter

Enclosures

NEMA Type 1 indoor

NEMA 4X

NEMA Type 3R outdoor

Meets or exceeds UL requirements for indoor or outdoor applications

Loadcenter and Breaker Accessories

Branch circuit breaker:

Surge protection:

Auxiliary components Hold-down kits Handle ties
Lockoffs LockdogsSingle-phase plug-on surge protector Single-phase bottle type surge protector
Three-phase bottle type surge protector Single-phase whole home surge protector

Complete line of ground bar kits 5, 10, 14 and 21 circuit, some with additional #2/0 lugs; each terminal will accommodate: (3) #14–#10 Cu/Al or (1) #14–#4 Cu/Al

Universal rainproof conduit hubs

Main and sub-feed lugs 125, 150, 225 A—two- and three-pole

Group One: 3/4, 1, 1-1/4, 1-1/2, 2 inches (19.1, 25.4, 31.8, 38.1, 50.8 mm)

Shunt trips

Group Two: 2, 2-1/2, 3 inches (50.8, 63.5, 76.2 mm)

Adapter plate

Bussing

Tin-plated aluminum as standard

Limited copper bus panels available

BR Series Ratings

Main Module Overcurrent Device Breaker Type or Class Fuse	System AIC Rating 120/240 Vac Maximum	Meter Module Tenant Feeder Breaker Type 1MM, 3MM, 35MM, 37MM, 35SS, 37SS or Loadcenter Main Breaker	Tenant Feeder Breaker Short-Circuit Rating	Loadcenter Branch Breaker (Single-, Two- or Three-Pole)
None	10,000	None	N/A	BD, BR, BRD, BQ, BQC, BRCAF, GFTCB, ETN01
Without Main Disconnect	10,000	BR, CC, BW, CCV	10,000	—
Cable Tap Box	22,000	BRH	22,000	—
Type 1MTB, 3MTB	25,000	CSR	25,000	—
Main Switch Module	42,000	CVS ②	42,000	—
Type 1MFS, 3MFS and 1BPS, 3BPS	25,000	CCVH ③	25,000	BD, BR, BRD, BQ, BQC, GFTCB, ETN01
Main Breaker Module	42,000	BRHH	42,000	BD, BR, BRD, BQ, BQC, BRCAF, ETN01
Type 1MCB, 3MCB ①	65,000	BRX ④	65,000	BD, BR, BRD, BQ, BQC, GFTCB, ETN01
	65,000	CV ②	65,000	BD, BR, BRD, BQ, BQC, BRCAF, GFTCB
	100,000	CVH	100,000	BD, BR, BRD, BQ, BQC
	65,000	T or J Fuse (200 A Max) ⑤	65,000	BD, BR, BRD, BQ, BQC, BRH, ETN01
Main Breaker Module Type 1MCB, 3MCB RGH 1600 A NGS 1200 A MDL 800 A LGS/LD 600 A HKD/KD 400 A	65,000	BRHX	22,000	BR, BRD, BQ, BQC, ETN01
Main Switch Module Type 1MFS, 3MFS with Class T Fuse 600 A Max	100,000	BRH	22,000	BD, BR, BRD, BQ, BQC, GFTCB, ETN01
Main Switch Module Type 1MFS, 3MFS with Class T Fuse 1200 A Max	100,000	BRHH	42,000	BD, BR, BRD, BQ, BQC, GFTCB, ETN01

Notes

- ① For 100 kAIC systems the main needs to be rated to 100 kAIC.
- ② GFTCB (40 A maximum).
- ③ GFTCB (1-pole 30 A maximum, 2-pole 50 A maximum).
- ④ GFTCB (1-pole 20 A maximum, 2-pole 40 A maximum).
- ⑤ GFTCB 2-pole (50 A maximum).

Dimensions

Approximate Dimensions in Inches (mm)

Residential/Commercial/New York City Loadcenters, Unit Enclosures—Box Sizes**Note:** Box sizes do not include covers/fronts.**Plug-on Neutral Residential Loadcenters—
NEMA Type 1 Indoor**

Box Size	Height	Width	Depth
X0	16.75 (425.5)	14.30 (363.2)	3.80 (96.5)
X1	18.75 (476.3)	14.30 (363.2)	3.80 (96.5)
X2	21.00 (533.4)	14.30 (363.2)	3.80 (96.5)
X3	23.00 (584.2)	14.30 (363.2)	3.80 (96.5)
X4	27.00 (685.8)	14.30 (363.2)	3.80 (96.5)
X5	29.13 (739.9)	14.30 (363.2)	3.80 (96.5)
X6	34.13 (866.9)	14.30 (363.2)	3.80 (96.5)
X7	37.00 (939.8)	14.30 (363.2)	3.80 (96.5)
X8	39.00 (990.6)	14.30 (363.2)	3.80 (96.5)
X9	45.00 (1,143.0)	14.30 (363.2)	3.80 (96.5)
X10	48.38 (1,228.9)	14.30 (363.2)	3.80 (96.5)

Legacy Residential Loadcenters—NEMA Type 1 Indoor

Box Size	Height	Width	Depth
A1	15.00 (381.0)	11.25 (285.8)	3.75 (95.3)
B1	16.75 (425.5)	14.31 (363.5)	3.88 (98.4)
B2	18.75 (476.3)	14.31 (363.5)	3.88 (98.4)
C1	21.00 (533.4)	14.31 (363.5)	3.88 (98.4)
C2	23.00 (584.2)	14.31 (363.5)	3.88 (98.4)
C4	27.00 (685.8)	14.31 (363.5)	3.88 (98.4)
D1	29.13 (739.8)	14.31 (363.5)	3.88 (98.4)
G1	34.13 (866.8)	14.31 (363.5)	3.88 (98.4)
L1	39.00 (990.6)	14.31 (363.5)	3.88 (98.4)
L2	45.00 (1143.0)	14.31 (363.5)	3.88 (98.4)
L3	48.38 (1228.3)	14.31 (363.5)	3.88 (98.4)
2	8.63 (219.1)	5.00 (127.0)	3.50 (88.9)
3	9.44 (239.7)	4.50 (114.3)	3.00 (76.2)
4	13.00 (330.2)	11.00 (279.4)	3.56 (90.5)
5	9.44 (239.7)	4.50 (114.3)	3.00 (76.2)
6	12.00 (304.8)	6.88 (174.6)	4.50 (114.3)
7	13.00 (330.2)	11.00 (279.4)	3.56 (90.5)
9	14.50 (368.3)	6.50 (165.1)	3.50 (88.9)

Legacy Residential Loadcenters—NEMA Type 3R Outdoor

Box Size	Height	Width	Depth
B1R	16.75 (425.5)	14.31 (363.5)	5.19 (131.8)
B2R	18.75 (476.3)	14.31 (363.5)	5.19 (131.8)
C3R	25.00 (635.0)	14.31 (363.5)	5.19 (131.8)
D1R	29.13 (739.8)	14.31 (363.5)	5.19 (131.8)
G1R	34.13 (866.8)	14.31 (363.5)	5.19 (131.8)
L1R	39.00 (990.6)	14.31 (363.5)	5.19 (131.8)
L2R	45.00 (1143.0)	14.31 (363.5)	5.19 (131.8)
L3R	48.75 (1238.2)	14.31 (363.5)	5.19 (131.8)
2R	8.63 (219.1)	5.00 (127.0)	3.50 (88.9)
3R	9.44 (239.7)	4.50 (114.3)	3.00 (76.2)
4R	13.00 (330.2)	11.00 (279.4)	3.56 (90.5)
5R	9.44 (239.7)	4.50 (114.3)	3.00 (76.2)
6R	11.75 (298.5)	6.50 (165.1)	4.50 (114.3)
7R	13.00 (330.2)	11.00 (279.4)	3.56 (90.5)
8R	27.00 (685.8)	10.50 (266.7)	4.75 (120.7)
9R	14.25 (362.0)	6.50 (165.1)	4.00 (101.6)
C1R	21.00 (533.4)	14.31 (363.5)	5.19 (131.8)

Commercial Loadcenters—NEMA Type 1 Indoor

Box Size	Height	Width	Depth
19	44.00 (1117.6)	16.16 (410.4)	6.25 (158.8)
20	44.00 (1117.6)	16.16 (410.4)	6.25 (158.8)
22	54.00 (1371.6)	16.22 (412.0)	6.31 (160.3)
24	66.50 (1689.1)	16.22 (412.0)	6.31 (160.3)

Commercial Loadcenters—NEMA Type 3R Outdoor

Box Size	Height	Width	Depth
42	38.00 (965.2)	16.31 (414.3)	6.38 (161.9)
43	44.00 (1117.6)	16.31 (414.3)	6.38 (161.9)
46	54.00 (1371.6)	16.31 (414.3)	6.38 (161.9)
47	66.56 (1690.7)	16.31 (414.3)	6.38 (161.9)

New York City Loadcenters—NEMA Type 1 Indoor

Box Size	Height	Width	Depth
A	38.00 (965.2)	18.13 (460.4)	5.00 (127.0)
B	44.00 (1117.6)	18.13 (460.4)	5.00 (127.0)
C	66.50 (1689.1)	18.13 (460.4)	6.25 (158.8)

ECC Unit Enclosures—NEMA Type 1 Indoor

Height	Width	Depth
23.25 (590.6)	8.88 (225.4)	4.50 (114.3)

ECC Unit Enclosures—NEMA Type 3R Outdoor

Height	Width	Depth
23.68 (601.7)	9.31 (236.5)	5.44 (138.1)

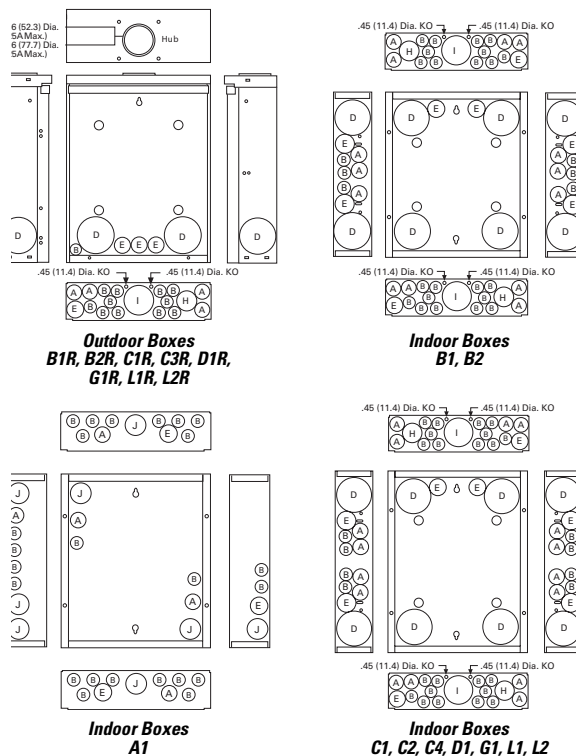
Approximate Dimensions in Inches (mm)

Residential Loadcenter Knockouts

Knockouts for Box Sizes A1, B1, B2, C1, C2, C4, D1, G1, L1, L2, B1R, B2R, C1R, C3R, D1R, G1R, L1R, L2R

Code	Diameter				
A	0.50 (12.7)	0.75 (19.1)	—	—	—
B	0.50 (12.7)	—	—	—	—
C	0.50 (12.7)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)
D	1.25 (31.8)	1.25 (31.8)	2.00 (50.8)	2.50 (63.5)	—
E	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	—	—
F	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	1.50 (38.1)	2.00 (50.8)
G	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	—	—
H	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)
I	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)
J	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	—	—

Residential NEMA Type 1 Indoor and NEMA Type 3R Outdoor Enclosures



1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

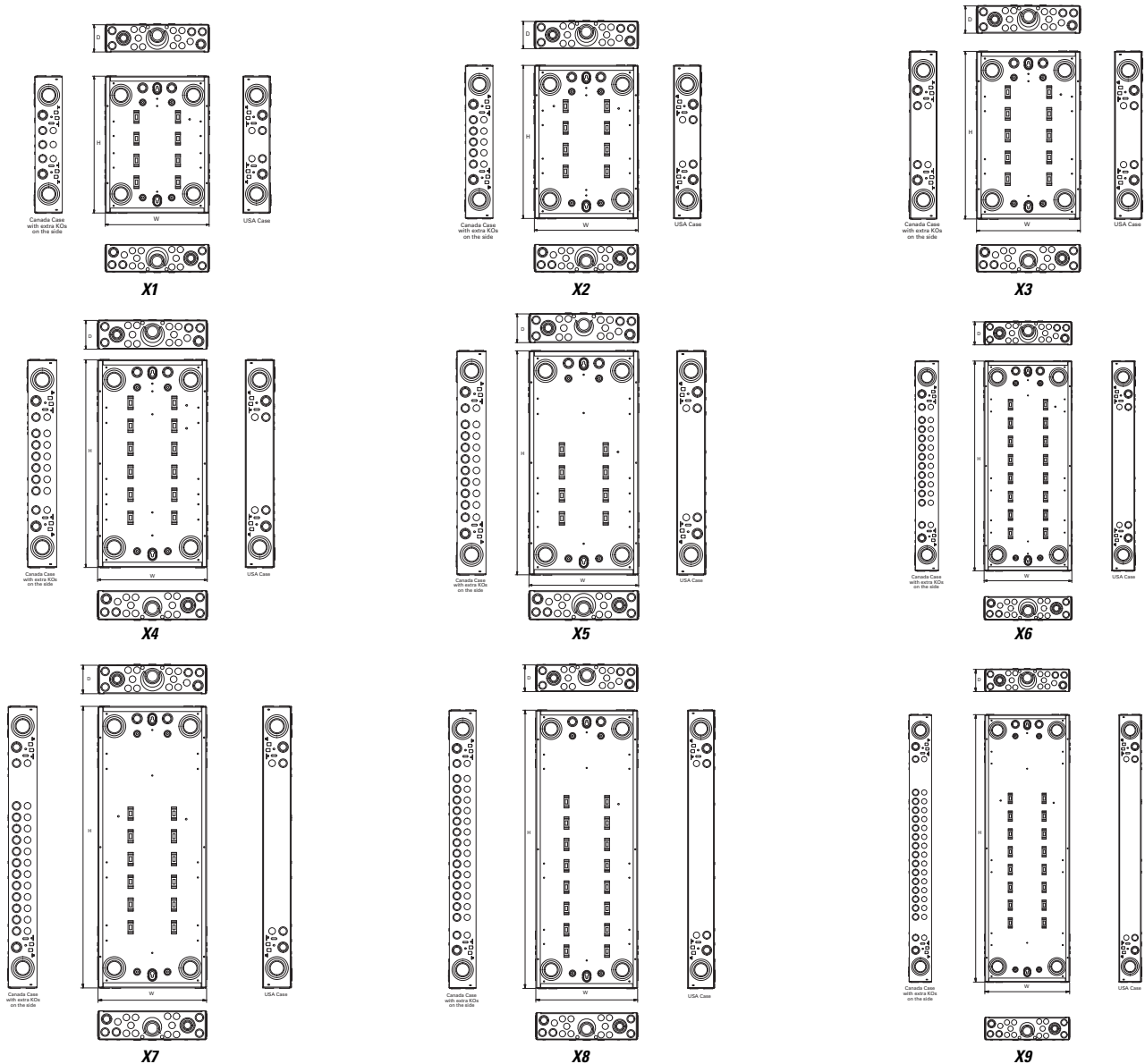
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Residential NEMA Type 1 Indoor and NEMA Type 3R Outdoor Enclosures

Box Sizes for X1–X9

Box Size	Height	Width	Depth
X1	18.90 (480.1)	14.30 (363.2)	3.80 (96.5)
X2	21.10 (535.9)	14.30 (363.2)	3.80 (96.5)
X3	23.10 (586.7)	14.30 (363.2)	3.80 (96.5)
X4	27.10 (688.3)	14.30 (363.2)	3.80 (96.5)
X5	29.20 (741.7)	14.30 (363.2)	3.80 (96.5)
X6	34.20 (868.7)	14.30 (363.2)	3.80 (96.5)
X7	37.10 (942.3)	14.30 (363.2)	3.80 (96.5)
X8	39.10 (993.1)	14.30 (363.2)	3.80 (96.5)
X9	45.10 (1145.5)	14.30 (363.2)	3.80 (96.5)

Knockout Positions

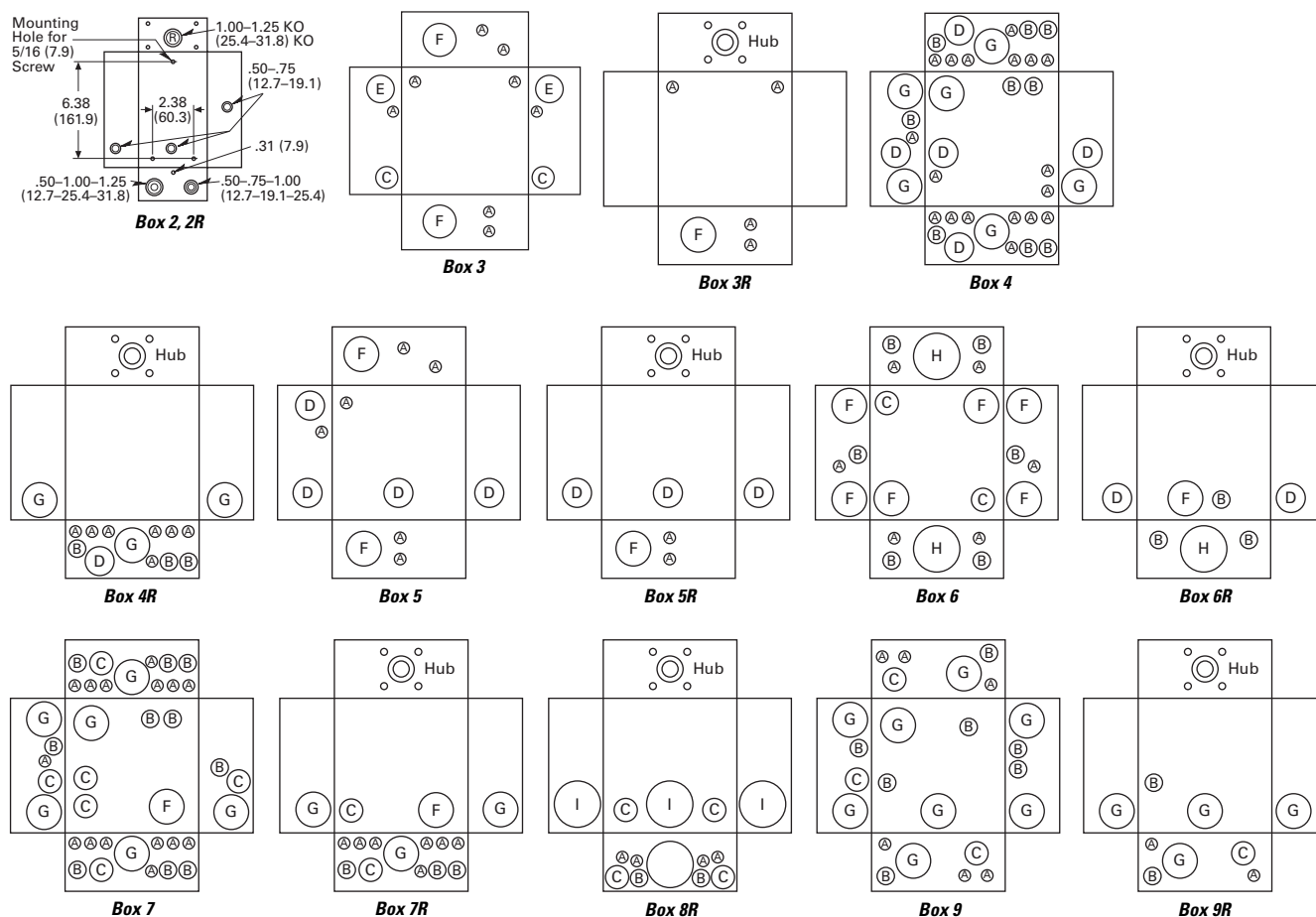


Approximate Dimensions in Inches (mm)

Knockouts for Box Sizes 3, 4, 5, 6, 7, 9, 2R, 3R, 4R, 5R, 6R, 7R, 8R, 9R

Code	Diameter			
A	0.50 (12.7)	—	—	—
B	0.50 (12.7)	0.75 (19.1)	—	—
C	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	—
D	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)
E	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	—
F	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)
G	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	—
H	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)
I	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	—

Residential NEMA Type 1 Indoor and NEMA Type 3R Outdoor Enclosures



1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1

Approximate Dimensions in Inches (mm)

Commercial Loadcenter Knockouts

NEMA Type 1 Indoor Commercial Enclosures Knockouts for Box Sizes 19, 20, 22, 24

Code	Diameter			
A	0.50 (12.7)	—	—	—
B	0.50 (12.7)	0.75 (19.1)	—	—
C	0.75 (19.1)	1.00 (25.4)	1.50 (38.1)	—
D	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)	3.00 (76.2)
E	2.00 (50.8)	2.50 (63.5)	3.00 (76.2)	—
F	2.50 (63.5)	3.00 (76.2)	3.50 (88.9)	—

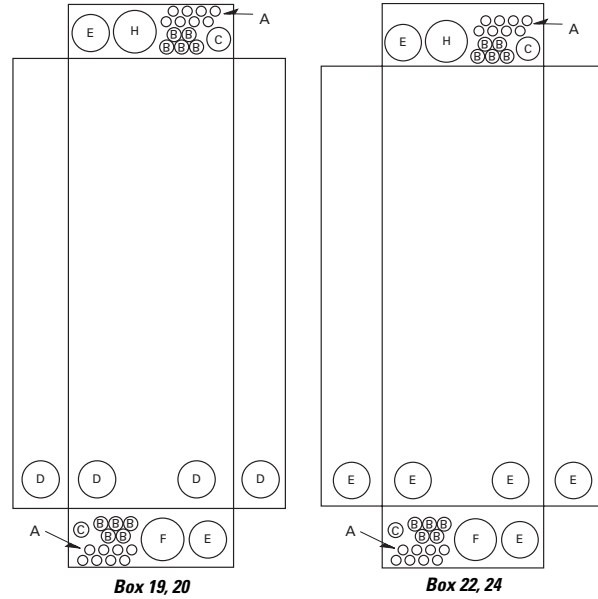
NEMA Type 3R Outdoor Commercial Enclosures Knockouts for Box Sizes 42, 43, 46, 47

Code	Diameter			
A	0.50 (12.7)	—	—	—
B	0.50 (12.7)	0.75 (19.1)	—	—
C	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	—
D	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)	—
E	2.00 (50.8)	2.50 (63.5)	3.00 (76.2)	—
F	2.50 (63.5)	3.00 (76.2)	3.50 (88.9)	—
G	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)
H	3.25 (82.6) Sq.	—	—	—

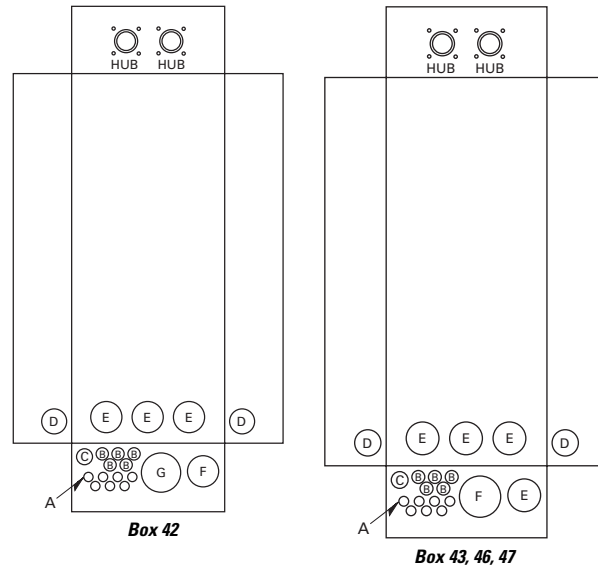
Unit Enclosure Knockouts, Types ECB and ECC Knockouts

Code	Diameter			
NEMA Type 1 Indoor (Flush and Surface Trims)				
A	0.50 (12.7)	—	—	—
B	1.25 (31.8)	1.50 (38.1)	1.75 (44.5)	2.00 (50.8)
NEMA Type 3R Outdoor				
A	0.50 (12.7)	—	—	—
B	1.25 (31.8)	1.50 (38.1)	1.75 (44.5)	2.00 (50.8)

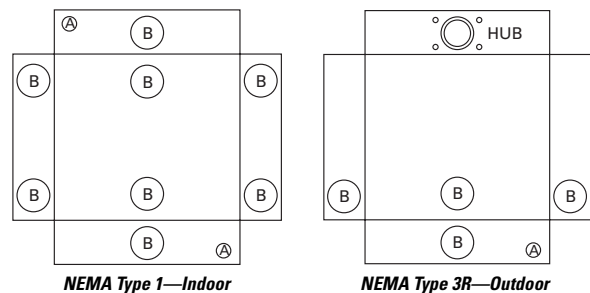
Indoor Commercial Enclosures



Outdoor Commercial Enclosures



Unit Enclosure Knockouts



BR Circuit Breakers



Contents

<i>Description</i>	<i>Page</i>
Overview	V1-T1-46
BR Plug-on Neutral Loadcenters	V1-T1-58
Spa Panels	V1-T1-61
Riser Panel	V1-T1-62
Type BR Renovation Loadcenter	V1-T1-63
BR Loadcenter Options and Accessories	
Type BR Retrofit Interior Kits	V1-T1-64
Type BR Mechanical Interlock Kits	V1-T1-68
BR Circuit Breakers	
Product Selection	V1-T1-84
Options and Accessories	V1-T1-91
Wiring Diagrams	V1-T1-93

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.

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-T1-93** 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-T1-93 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.

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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		Two-Pole 120/240 Vac Common Trip Requires Two 1-Inch (25.4 mm) Spaces				
		10 per Shelf Carton		5 per Shelf Carton		22 kAIC Catalog Number ⑤	42 kAIC Catalog Number	65 kAIC Catalog Number
		10 kAIC Catalog Number	22 kAIC Catalog Number	10 kAIC Catalog Number	22 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	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
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.
- 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.

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, 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	LED Diagnostics Included	Pigtail Catalog Number	Plug-on Neutral Catalog Number
Single-pole, 10 kAIC	15	#14-4	Dual Function AFCI/GFCI	Yes	BRN115DF	BRP115DF
Single-pole, 10 kAIC	20	#14-4	Dual Function AFCI/GFCI	Yes	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	LED Diagnostics Included	Pigtail Catalog Number	Plug-on Neutral Catalog Number
Single-pole, 10 kAIC	15	#14-4	Combination AFCI	Yes	BRN115AF ④	BRP115AF ④
	20	#14-4	Combination AFCI	Yes	BRN120AF ④	BRP120AF ④
Two-pole, 10 kAIC	15	—	Combination AFCI	—	BRL215CAF	—
	20	—	Combination AFCI	—	BRL220CAF	—

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 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.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

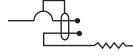
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Plug-on Ground Fault Circuit Breakers, Type GFTCB and GFEP—10/22 kAIC, 120 Vac and 120/240 Vac

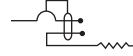
GFTCB220



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



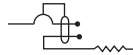
Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton



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

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	BRP125GF	BRN125GF	GFTCB225
30	#14–4	BRP130GF	BRN130GF	GFTCB230
40	#14–4	—	—	GFTCB240
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



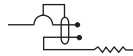
Single-Pole 120 Vac
Requires One
1-Inch (25.4 mm) Space
1 per Shelf Carton



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

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



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



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

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.

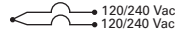
CTL Plug-on Circuit Breakers, Type BD Duplex, BQ and BQC Quadplex—10 kAIC, 120/240 Vac

BD2020



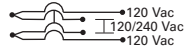
Class CTL, 1-Inch (25.4 mm) per Pole 10 kAIC—All Circuit Breakers Have Rejection Tab Feature

Type BD Duplex (UL Type BRD)



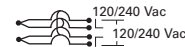
Single-Pole ②
Requires One 1-Inch (25.4 mm) Space
10 per Shelf Carton

Type BQ Quadplex Independent Trip (UL Type BRD)



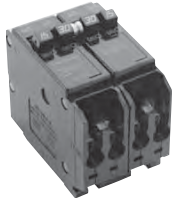
Two-Pole ③ and **Single-Pole** ②
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

Type BQ Quadplex Independent Trip (UL Type BRD) ①

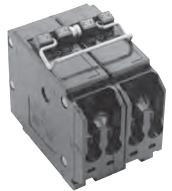


Two-Pole
Requires Two 1-Inch (25.4 mm) Spaces
5 per Shelf Carton

BQ2302115



BQ230230



Ampere Rating	Catalog Number	Wire Size Range Cu/Al 65 °C or 75 °C	Ampere Rating			Catalog Number	Ampere Rating		
			Outer Left Single-Pole	Center Two-Pole Independent Trip	Outer Right Single-Pole		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.

1.2

Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

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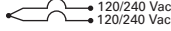
Non-CTL Plug-on Replacement—Circuit Breakers, Type BRD—10 kAIC, 120/240 Vac

BR2020



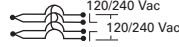
Class Non-CTL, 1-Inch (25.4 mm) per Pole 10 kAIC—Breakers Do Not Have Rejection Tab Feature ①

Type BR Duplex



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

Type Brand BRD Quadplex Independent Trip



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

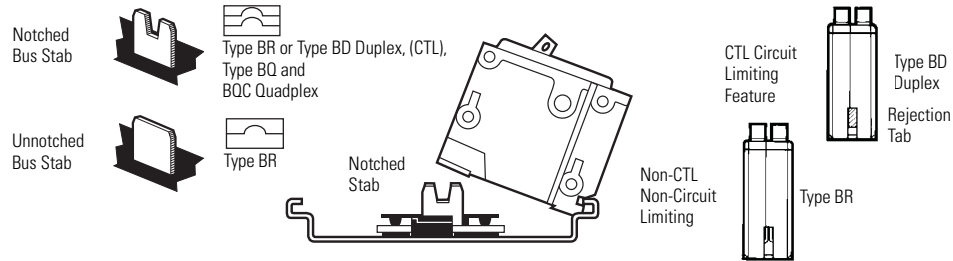
Type BRD Quadplex Common Trip Center and Outer Poles



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

Ampere Rating	Catalog Number	Wire Size Range Cu/Al 65 °C or 75 °C	120/240 Vac		Catalog Number	120/240 Vac		Catalog Number
			Outer Two-Pole Independent Trip	Center Two-Pole Independent Trip		Outer Two-Pole Common Trip	Center Two-Pole Common Trip	
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

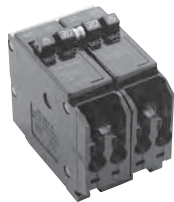


Note

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

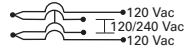
Common Trip Quadplex Breakers

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

120 Vac 120/240 Vac 120 Vac

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

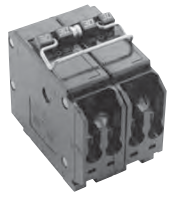


Two-Pole ②

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

120/240 Vac

BQC2302115



Ampere Rating			Catalog Number	Wire Size Range Cu/Al 65 °C or 75 °C	Ampere Rating		
Outer Left Single-Pole	Center Two-Pole Common Trip	Outer Right Single-Pole			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 and 20 ampere single poles are switch-duty rated.

1.2

Loadcenters and Circuit Breakers

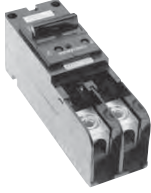
Type BR Loadcenters and Circuit Breakers

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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 Amperes 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		Wire Size Range Cu/Al 60 °C or 75 °C	22 kAIC	
	Catalog Number	Catalog Number		Catalog Number	Catalog Number
125	BJ2125	BJH2125	#2–300 kcmil	BJ3125	BJH3125
150	BJ2150	BJH2150	#2–300 kcmil	BJ3150	BJH3150
175	BJ2175	BJH2175	#2–300 kcmil	BJ3175	BJH3175
200	BJ2200	BJH2200	#2–300 kcmil	BJ3200	BJH3200
225	BJ2225	BJH2225	#2–300 kcmil	BJ3225	BJH3225

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

BRWH215

Water Heater Breaker



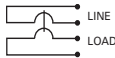
BRSN220

Switching Neutral Breaker



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

Water Heater Breakers



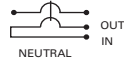
Two-Pole 120/240 Vac
Common Trip Requires Two
1-Inch (25.4 mm) Spaces

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.

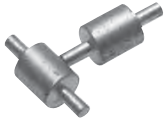
^② Breaker uses three 1-inch (25.4 mm) pole spaces on left side and three 1-inch (25.4 mm) pole spaces on right side of loadcenter.

If BJ or BJH breakers are used as a main or a back feed device, a hold-down kit is required. See **Page V1-T1-91**.

Options and Accessories

Field Installation Kits and Parts

THS1



BHLW2



BRQLW



MCBPL (Installed)



BHLW



BRLW2



Description

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 a 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-T1-92** 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 150–225 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

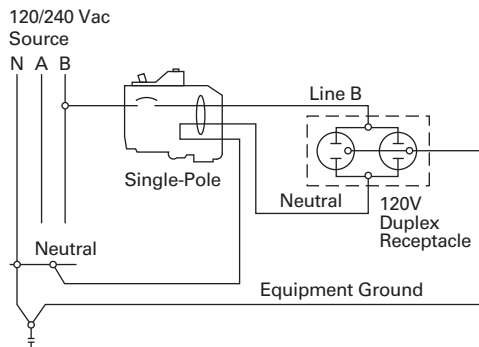
Handle Lockoff and Lockdog Types	To Change Handle Position from ON to OFF, or OFF to ON You Must...		
	Remove Padlock	Remove Device	Remove Loadcenter Deadfront
Lockoff escutcheon mounted	Remove	—	—
Lockoff handle mounted	Remove	Remove	—
Lockoff screw mounted	Remove	—	—
Lockdog escutcheon mounted	N/A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

Notes

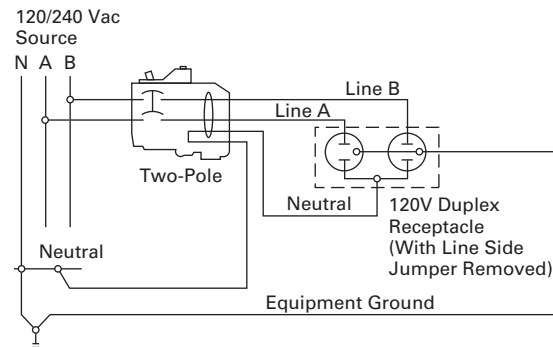
- ① Must be purchased in multiples of ordering quantities indicated.
- ② Hold-down kits: devices used to secure the circuit breaker to the loadcenter for back-feed main application. See NEC Article 408.36(D). Add "B" suffix to two-pole breaker for tapped hole for hold-down kit (ex. BR230B) for BR breakers below 60 A.
- ③ Add suffix indicated to end of breaker catalog number.

Wiring Diagrams

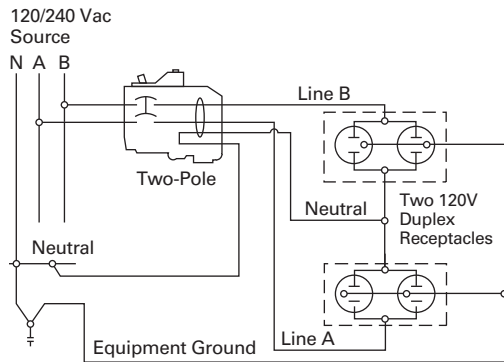
Single-Pole 120 V Load Application Sourced by 120/240 Vac



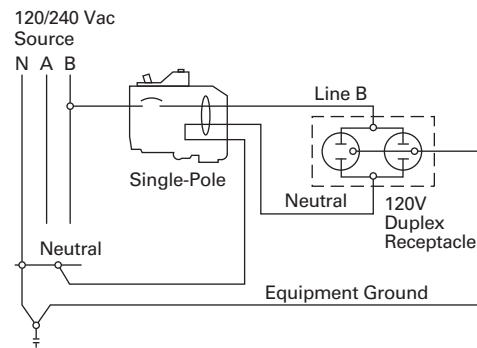
Two-Pole Shared Neutral with Duplex Receptacle Application



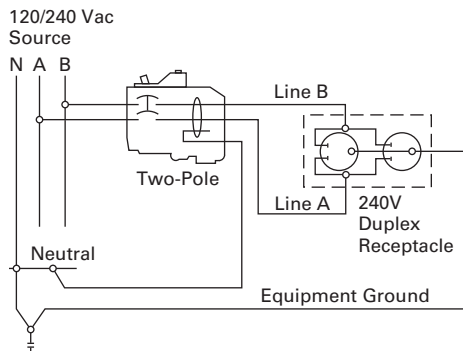
Two-Pole Shared Neutral with Multi-Duplex Receptacle Application



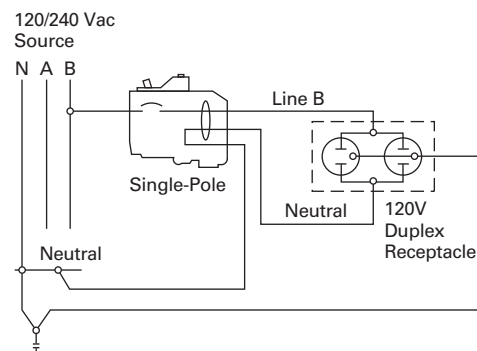
Single-Pole 120 V Load Application Sourced by 120/240 Vac



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



Single-Pole 120 V Duplex Receptacle Application

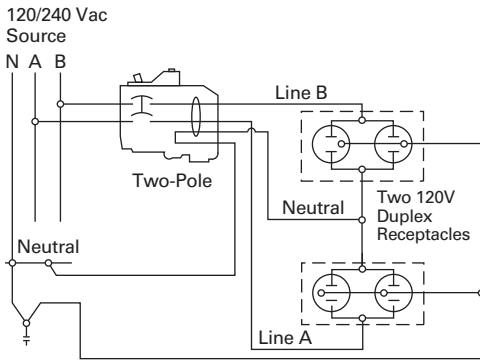


1.2

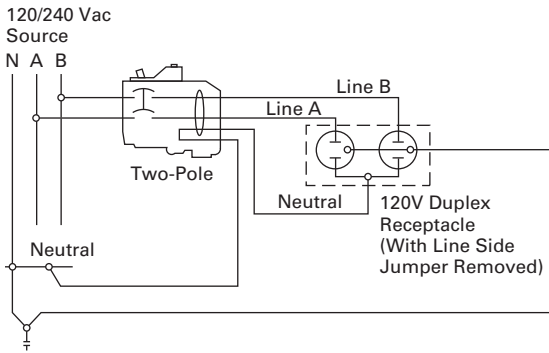
Loadcenters and Circuit Breakers

Type BR Loadcenters and Circuit Breakers

1 Two-Pole 120 V Multi-Duplex Receptacle Application



Two-Pole 120 V Duplex Receptacle Application



Two-Pole 240 V Duplex Receptacle Application

