

### Type BR Loadcenters and Circuit Breakers



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## Overview

### Product Selection Guide

#### 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 70–225A, 8 to 42 circuits  
22 kAIC: All convertible loadcenters using 125A rated Type BRH main breakers or selected factory installed 125A rated Type BRH main breaker

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

##### Main Breaker/Main Lug Loadcenters

Single-phase  
Main breaker: 100, 125, 150, 200, 225, 400, 600A  
Main lugs: 70, 125, 150, 200, 225, 400, 600A

Three-phase  
Main breaker: 100, 125, 150, 200, 225, 400, 600A  
Main lugs: 100, 125, 150, 200, 225, 400, 600A

##### Convertible Loadcenters

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

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

##### Branch Breakers

Types BR, BRH and BRHH: 10–150A, single-, two- and three-pole; selected amperage available in switching duty, HACR, shunt trip and high magnetic setting  
Type GFCB: 15–60A  
Types BJ and BJH: 125–225A; two- and three-pole  
Type BD Twin: 10–50A; two of one-pole; take one 1-inch (25.4 mm) space

Type BQ and BQC Multibreaker: 15–30A. Two of two-pole or one two-pole and two one-pole; takes two 1-inch (25.4 mm) spaces  
Type BRW: 15–30A; two-pole water heater breakers  
Type BRSN: 15–30A; two-pole switching neutral breakers  
Type BR 15–100A; two-pole, 240 Vac delta breakers  
BR-AFCI arc fault circuit interrupter

##### Enclosures

NEMA Type 1 indoor  
NEMA Type 3R outdoor

NEMA 4X  
Meets or exceeds UL requirements for indoor or outdoor applications

##### Loadcenter and Breaker Accessories

Branch circuit breaker:  
  Auxiliary components    Hold-down kits    Handle ties  
  Lockoffs                    Lockdogs

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

Surge protection:  
  Single-phase plug-on surge protector    Single-phase bottle type surge protector  
  Three-phase bottle type surge protector    Single-phase whole home surge protector

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

### 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.

### Features, Benefits and Functions

#### 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 150A maximum on the 100 and 125A loadcenters, and 200A on loadcenters with 150A 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 Type CH loadcenters feature two types of neutrals:

#### 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-T1-60**.

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

#### Bottom Fed Loadcenters

For single-phase 225A 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 "1" 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

### Type BR Loadcenter—BR4040B200

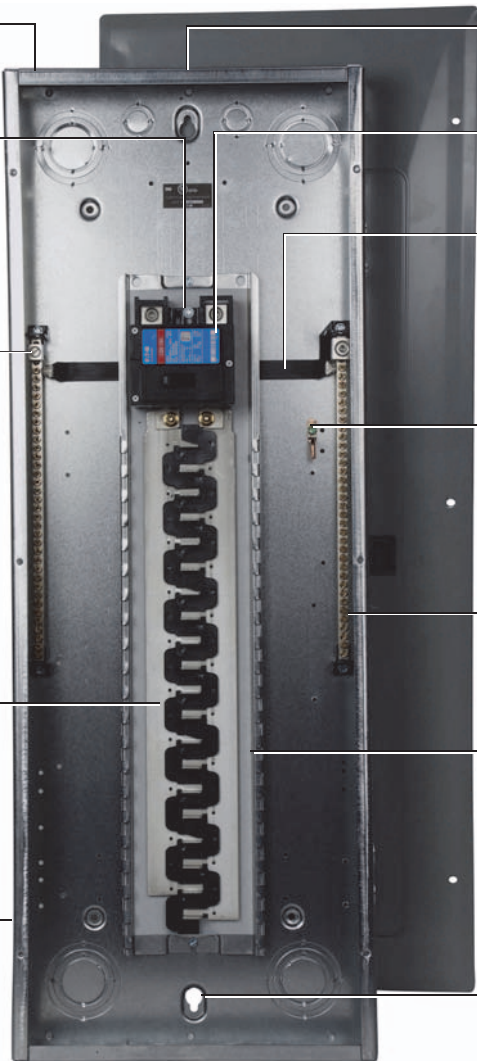
Extra 1.5-Inch (38.1 mm) Knockout  
 ■ Larger knockout provides easier installation and time savings

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

2/0 Lug  
 ■ Easily removable and can be installed in any location on the neutral bar

Standard Tin-Plated Aluminum Bus  
 ■ Excellent conductivity and corrosion resistance  
 ■ Copper bus options are available for select catalog numbers

Drywall Marking on Enclosure  
 ■ Indicates proper mounting depth for flush applications



“Tangential” Center Knockout  
 ■ Easier installation for conduit applications

Commercial Grade Main Breaker  
 ■ 25 kAIC series rated main breaker for superior protection

Neutral Bus (Strap)  
 ■ Is easily removable for sub-panel applications

Bonding Z-strap  
 ■ Provides easy field conversion for service entrance applications

Split Neutral Bars  
 ■ A minimum of 150% neutral capacity

Steel Backpan  
 ■ Provides solid and reliable breaker mounting—single piece design for stability and durability

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.

# 1.2

## Loadcenters and Circuit Breakers

### Type BR Loadcenters and Circuit Breakers

#### 1

#### Standards and Certifications

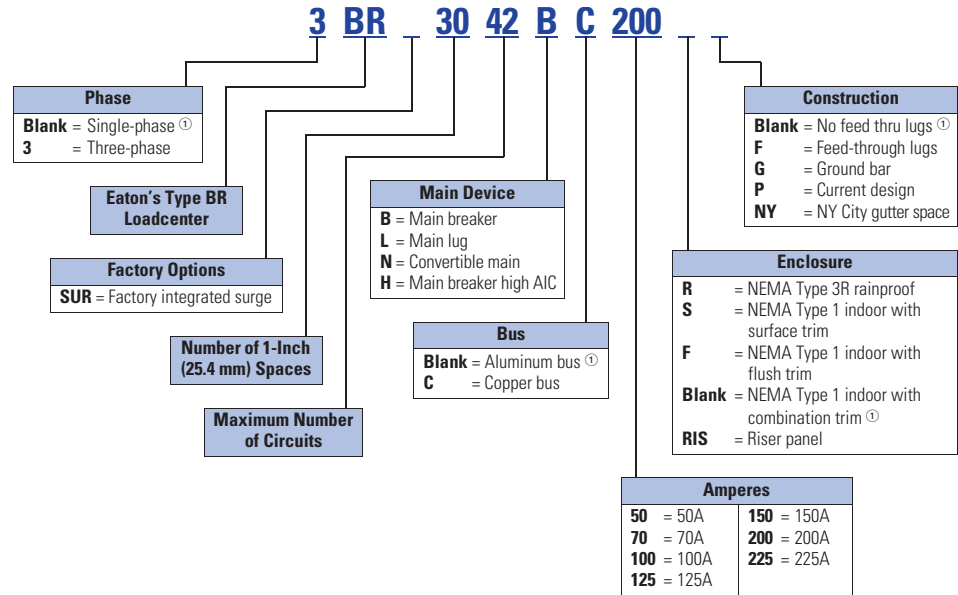
##### UL Listings

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

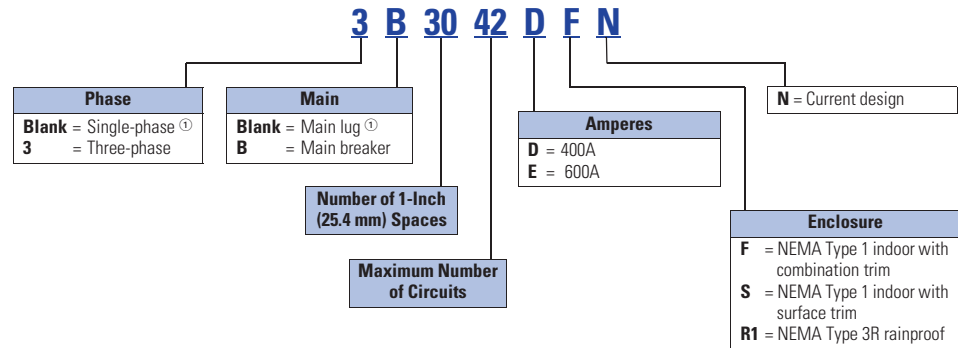


#### Catalog Number Selection

##### Single- and Three-Phase Through 225A



##### Single- and Three-Phase 400–600A



Example No. 1: BR1224L125G

Single-phase Type BR loadcenter rated at 125A with main lugs, 12 spaces allowing 24 poles, indoor combination enclosure, aluminum bus and ground bar.

Example No. 2: BR24L70RP

Single-phase Type BR loadcenter rated at 70A with main lugs, two spaces allowing four poles, rainproof enclosure with aluminum bus.

Example No. 3: 3B4242EFN

Three-phase Type BR loadcenter rated at 600A with main breaker, 42 spaces allowing 42 poles, indoor combination enclosure.

##### Note

① No character space used.

### Product Selection

#### Single-Phase—Main Circuit Breaker Loadcenters—10/25 kAIC

BR4040B200



#### 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 <sup>①</sup> or NEMA Type 3R Cover
		Spaces	Circuits				
BR 10 kAIC	100	8	16	Indoor	B1	#4–1/0 <sup>②</sup>	BR816B100
		10	20	Indoor	A1		BR1020B100S11
		10	20	Indoor	A1		BR1020B100F11
		10	20	Outdoor	B2R		BR1020B100RF <sup>③④</sup>
		12	12	Indoor	B2		BR1212B100
		12	20	Indoor	B2		BR1220B100
		12	24	Outdoor	B2R		BR1224B100R <sup>④</sup>
		16	16	Indoor	C1		BR1616B100
		16	20	Indoor	C1		BR1620B100
		16	24	Outdoor	C1R		BR1624B100R <sup>④</sup>
		20	24	Outdoor	C3R		BR2024B100R <sup>④</sup>
		20	20	Indoor	C2		BR2020B100
	16	24	Indoor	C1	BR1624B100		
	125	16	24	Indoor	C1	#4–2/0	BR1624B125
	20	24	Indoor	C1	BR2024B125		
	20	24	Outdoor	C3R	BR2024B125R <sup>④</sup>		
30	30	Indoor	G1	BR3030B125			
BRH <sup>⑤</sup> 22 kAIC	100	20	24	Indoor	C2	#4–1/0	BR2024H100 <sup>⑥</sup>
BWH <sup>⑦</sup> 25 kAIC	150	8	16	Outdoor	C3R	#2–300 kcmil	BR816B150RF <sup>③④</sup>
		16	30	Indoor	C4		BR1630B150
		20	30	Indoor	C4		BR2030B150
		20	30	Outdoor	D1R		BR2030B150R <sup>④</sup>
		20	40	Indoor	D1		BR2040B150
		20	40	Outdoor	D1R		BR2040B150R <sup>④</sup>
		24	30	Indoor	G1		BR2430B150
		30	30	Outdoor	G1R		BR3030B150R <sup>④</sup>
		30	30	Indoor	G1		BR3030B150
		30	40	Indoor	G1		BR3040B150
	200	4	8	Outdoor	8R	#2–300 kcmil	BR48B200RF <sup>③⑧⑨</sup>
	8	16	Outdoor	C3R	BR816B200RF <sup>③④</sup>		
	16	32	Indoor	C4	BR1632B200		
	20	40	Outdoor	D1R	BR2040B200R <sup>④</sup>		
20	40	Indoor	D1	BR2040B200			
24	40	Indoor	G1	BR2440B200			
30	40	Outdoor	G1R	BR3040B200R <sup>④</sup>			
30	40	Indoor	G1	BR3040B200			
40	40	Outdoor	L1R	BR4040B200R <sup>④</sup>			
40	40	Indoor	L1	BR4040B200			
225	42	42	Indoor	L2	#1–250 kcmil	BR4242B225	
42	42	Outdoor	L2R	BR4242B225R <sup>④</sup>			

#### Notes

- ① Combination style covers may be used in surface or flush applications.
- ② Wire range size for BR1020B100SP is #6–#1 Cu/Al.
- 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-T1-60**.
- ⑤ See copper bus offering, **Page V1-T1-52**.
- ⑥ 22 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and GFCB 10 kAIC branch breakers are used in series with Type BRH main breaker.
- ⑦ 25 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and GFCB 10 kAIC branch circuit breakers are used in series with Type BWH main breaker.
- ⑧ Supplied with adapter plate to use DS Group1 hubs on **Page V1-T1-60**. If 2.50-inch (63.5 mm) hub is needed, remove adapter and use ARP00007CH25 hub.
- ⑨ Neutral is bonded—suitable for service entrance only—cannot be converted for sub-feed application.

All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with neutral bonding strap 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-T1-60**.

# 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 <sup>①②③</sup>	
		Spaces	Circuits				With Flush or NEMA Type 3R Cover	With Surface Cover
DK <sup>④</sup>	300	42	42	Indoor	24	(2) #3/0–250 kcmil	<b>BR304242F</b>	<b>BR304242S</b>
	400	42	42	Indoor	24	(2) #3/0–250 kcmil	<b>B4242DFN</b>	<b>B4242DSN</b>
		42	42	Outdoor	47	(2) #3/0–250 kcmil	<b>B4242DR1N</b> <sup>⑤</sup>	—
HLD <sup>⑥</sup>	600	42	42	Indoor	24	(2) #3/0–500 kcmil	<b>B4242EFN</b>	<b>B4242ESN</b>

#### Notes

- ① Ground bar kits priced separately. See **Page V1-T1-60**.
- 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-T1-60**.
- 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-T1-61** through **V1-T1-64**.

### Single-Phase—Main Lug Loadcenters

#### 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										
70	Surface	Outdoor	Indoor	Surface (no door)	5	#8-#2	BR24L70SP <sup>①②</sup>					
			Indoor	Surface (no door)	5		BR24L70SGP <sup>②③</sup>					
	Outdoor	—	5R	BR24L70RP <sup>①②④</sup>								
	Indoor	Flush (no door)	5	BR24L70FP <sup>①②</sup>								
	Indoor	Flush (no door)	5	BR24L70FGP <sup>②⑤</sup>								
125	Flush	Outdoor	Indoor	Surface (no door)	6	#14-1/0	BR24L125SP <sup>①②</sup>					
			Outdoor	—	6R		BR24L125RP <sup>①②④</sup>					
	Flush	Outdoor	Outdoor	—	6R	#14-1/0	BR24L125RSEP <sup>②⑦⑧</sup>					
			Outdoor	—	6R		BR24L125RSE2P <sup>②⑥⑦</sup>					
			Indoor	Flush (no door)	6		BR24L125FFP <sup>①②</sup>					
	Surface (No Door)	Indoor	Indoor	Indoor	Surface (no door)	7	#14-1/0	BR48L125SP <sup>①⑨</sup>				
				Indoor	Surface (no door)	7		BR48L125SGP <sup>③⑨</sup>				
				Outdoor	—	7R		BR48L125RP <sup>①④⑨</sup>				
				Indoor	Flush (no door)	7		BR48L125FFP <sup>①⑨</sup>				
				Indoor	Flush (with door)	7		BR48L125FDP <sup>①⑨</sup>				
				Indoor	Flush (no door)	7		BR48L125FGP <sup>③⑨</sup>				
				Flush (No Door)	Indoor	Indoor		Indoor	Surface (no door)	7	#14-#1	BR612L125SP <sup>①⑩</sup>
								Indoor	Surface (no door)	7		BR612L125SGP <sup>⑩⑪</sup>
	Indoor	Surface (with door)	7				BR612L125SDP <sup>①⑩</sup>					
	Indoor	Surface (with door)	7				BR612L125SDGP <sup>⑩⑪</sup>					
	Outdoor	—	7R				BR612L125RP <sup>①④⑩</sup>					
	Indoor	Flush (no door)	7				BR612L125FFP <sup>①⑩</sup>					
	Indoor	Flush (no door)	7				BR612L125FGP <sup>⑤⑩⑪</sup>					
	Indoor	Flush (with door)	7				BR612L125FDP <sup>⑩</sup>					
	Outdoor	Indoor	Indoor	Indoor	Flush (with door)	7	#14-#1	BR612L125FDGP <sup>⑤⑩⑪</sup>				
Indoor				Surface (no door)	7	BR816L125SP <sup>①⑩</sup>						
Indoor				Surface (no door)	7	BR816L125SGP <sup>⑩⑫</sup>						
Indoor				Surface (with door)	7	BR816L125SDP <sup>①⑩</sup>						
Indoor				Surface (with door)	7	BR816L125SDGP <sup>⑩⑫</sup>						
Outdoor				—	7R	BR816L125RP <sup>①④⑩</sup>						
Indoor				Flush (no door)	7	BR816L125FFP <sup>①⑩</sup>						
Indoor				Flush (no door)	7	BR816L125FGP <sup>⑤⑩⑫</sup>						
Indoor				Flush (with door)	7	BR816L125FDP <sup>①⑩</sup>						
Indoor				Flush (with door)	7	BR816L125FDGP <sup>⑤⑩⑫</sup>						



#### Notes

- ① Ground bar kits priced separately. See **Page V1-T1-60**.
  - 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 (see Article 408.34 of the NEC).
- ③ Ground bar GBK5 is installed.
- ④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-60**.
- 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 (see Article 408.34 of the NEC).
- 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 (see Article 408.34 of the NEC).
- ⑪ Ground bar GBK10 is installed.
- ⑫ Ground bar GBK14 is installed.

Box sizes **Pages V1-T1-61 through V1-T1-64**.

#### 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 with Combination or NEMA Type 3R Cover ①	
	Spaces	Circuits					
BR1224L125 	125	12	12	Indoor	#6–2/0	BR1212L125 ②③④⑤	
		12	24	Indoor		B1	BR1224L125 ②④⑤
		12	24	Indoor		B1	BR1224L125G ②④⑤
		12	24	Indoor		B1	BR1224L125DG ②④⑤⑥
		12	24	Outdoor		B1R	BR1224L125R ②⑤⑦
		16	16	Indoor		B2	BR1616L125 ②④⑤
		16	24	Indoor		B2	BR1624L125 ②④
		16	24	Indoor		B2	BR1624L125G ②④
		16	24	Outdoor		B2R	BR1624L125R ②⑦
		20	20	Indoor		C1	BR2020L125 ②④⑤
		20	24	Indoor		C1	BR2024L125 ②④
		20	24	Indoor		C1	BR2024L125G ②④⑤
		20	24	Outdoor		C1R	BR2024L125R ②⑦
		24	24	Indoor		C2	BR2424L125 ②④
		24	24	Indoor		C2	BR2424L125G ②④⑤
150	16	30	Indoor	C2	#1–300 kcmil	BR1630L150 ④⑥	
	20	30	Indoor	C2		BR2030L150 ④⑥	
BR1224L200 	200	8	16	Outdoor	#1–300 kcmil	BR816L200RF ⑤⑦⑧	
		12	24	Indoor		B2	BR1224L200 ④⑤⑥
		12	24	Outdoor		B2R	BR1224L200R ⑤⑦⑧
		20	40	Indoor		C2	BR2040L200 ④⑥
		20	40	Indoor		C2	BR2040L200G ④⑤⑥
		20	40	Outdoor		C3R	BR2040L200R ⑦⑧
		24	40	Indoor		C4	BR2440L200 ④⑥
		30	40	Indoor		D1	BR3040L200 ④⑥
		30	40	Indoor		D1	BR3040L200G ④⑤⑥
		30	40	Outdoor		D1R	BR3040L200R ⑦⑧
		40	40	Indoor		G1	BR4040L200 ④⑥
		40	40	Indoor		G1	BR4040L200G ④⑥
		40	40	Outdoor		G1R	BR4040L200R ⑦⑧
225	42	42	Indoor	L1	#1–300 kcmil	BR4242L225 ④	
	42	42	Outdoor	L1R		BR4242L225R ⑦	

#### Notes

- ① Ground bar kits priced separately unless otherwise noted. See **Page V1-T1-60**.
- ② Has notch for BREQS125 hold-down kit.
- ③ Single, movable neutral is provided.
- ④ Combination cover style.
- ⑤ 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 (see Article 408.34 of the NEC).
- ⑥ Ground bars GBK5 and GBK520 installed.
- ⑦ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-60**.
- ⑧ Ground bar GBK1220 installed.
- ⑨ Has notch for BRHDK125 hold-down kit.
- ⑩ Includes through-feed lugs for both phase and neutral conductors.



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

4242DFN



### Single-Phase Three-Wire—120/240 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 <sup>①②③</sup>	
	Spaces	Circuits				With Flush or NEMA Type 3R Cover	With Surface Cover
400	12	24	Indoor	19	(1) #4/0–750 kcmil	—	1224DSN <sup>⑤</sup>
	12	24	Outdoor	42	or	1224DR1N <sup>④⑤</sup>	—
	24	42	Indoor	20	(2) #3/0–400 kcmil	—	2442DSN
	42	42	Indoor	22		4242DFN	4242DSN
	42	42	Outdoor	46		4242DR1N <sup>④</sup>	—
600	42	42	Indoor	22	(2) #2–500 kcmil	—	4242ESN

#### Notes

- ① Ground bar kits priced separately unless otherwise noted. See **Page V1-T1-60**.
- ② Has notch for BRHDK125 hold-down kit.
- ③ Ground bar GBK8 installed.
- ④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-60**.
- ⑤ 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 (see Article 408.34 of the NEC).

# 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.

BR3040N200



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

Main Ampere Rating <sup>①</sup>	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 <sup>②③</sup>
	Spaces	Circuits				
125 <sup>④</sup>	12	24	Indoor	B2	See main breaker and main lug kit tables Page V1-T1-53.	BR1224N125 <sup>⑤⑥</sup>
	12	24	Outdoor	B2R		BR1224N125R <sup>⑤⑥⑦</sup>
	16	24	Indoor	C1		BR1624N125 <sup>⑤</sup>
	16	24	Outdoor	C1R		BR1624N125R <sup>⑤⑦</sup>
	20	24	Indoor	C2		BR2024N125 <sup>⑤</sup>
	20	24	Outdoor	C3R		BR2024N125R <sup>⑤⑦</sup>
200 <sup>⑧</sup>	8	16	Outdoor	C3R	BR816N200RF <sup>⑦⑨⑩⑫</sup>	
	12	24	Indoor	C4	BR1224N200 <sup>⑩</sup>	
	12	24	Outdoor	C3R	BR1224N200R <sup>⑦⑩</sup>	
	16	32	Indoor	C4	BR1632N200 <sup>⑩</sup>	
	20	40	Indoor	D1	BR2040N200 <sup>⑩</sup>	
	20	40	Indoor	D1	BR2040N200G <sup>⑩</sup>	
	20	40	Outdoor	D1R	BR2040N200R <sup>⑦⑩</sup>	
	20	40	Outdoor	D1R	BR2040N200RG <sup>⑩</sup>	
	24	40	Indoor	G1	BR2440N200 <sup>⑦⑩</sup>	
	30	40	Indoor	G1	BR3040N200 <sup>⑩</sup>	
	30	40	Indoor	G1	BR3040N200G <sup>⑩</sup>	
	30	40	Outdoor	G1R	BR3040N200R <sup>⑦⑩</sup>	
	30	40	Outdoor	G1R	BR3040N200RG <sup>⑩</sup>	
	40	40	Indoor	L1	BR4040N200 <sup>⑩</sup>	
	40	40	Indoor	L1	BR4040N200G <sup>⑩</sup>	
	40	40	Outdoor	L1R	BR4040N200R <sup>⑦⑩</sup>	
40	40	Outdoor	L1R	BR4040N200RG <sup>⑩</sup>		

#### Notes

- ① The maximum rating of the loadcenter is the main circuit breaker rating when used as service entrance equipment.
- ② 100, 125 and 200A 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 except as noted, refer to Page V1-T1-60.
- 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 Convertible to maximum of 100A main circuit breaker and 125A main lug.
- ⑦ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to Page V1-T1-60.
- ⑧ For main breaker, use Type BW or BWH. For main lug, use Type BRL.
- ⑨ Includes through-feed lugs for both phase and neutral conductors.
- ⑩ No hold-down provisions for back-fed Types BR and BRH main circuit breakers.
- ⑪ Includes GBK2120 ground bar.
- ⑫ Insulated/bondable single neutral.

**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
<b>Two-Pole</b>			
100	#4-1/0	BR2100	BRH2100
110	#4-1/0	BR2110	BRH2110
125	#4-2/0	BR2125	BRH2125
125	#2-300 kcmil	BW2125	BWH2125
150	#2-300 kcmil	BW2150	BWH2150
175	#2-300 kcmil	BW2175	BWH2175
200	#2-300 kcmil	BW2200	BWH2200
<b>Three-Pole</b>			
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
<b>Two-Pole</b>		
125	#6-2/0	BRSF125
150	#1-300 kcmil	BRL200
175	#1-300 kcmil	BRL200
200	#1-300 kcmil	BRL200
<b>Three-Pole</b>		
150	#6-3/0	3BRSF150

**Main Circuit Breaker with Accessory**

Example: BW22005R01 (Put description with catalog number on order. See **Page V1-T1-80**.)

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

**BR3030BC100**



**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 ②③
		Spaces	Circuits				
BR 10 kAIC	100	20	20	Indoor	C2	#4-1/0	BR2020BC100
		30	30	Indoor	D1	#4-1/0	BR3030BC100
BRH 22 kAIC ④	100	30	30	Indoor	D1	#4-1/0	BR3030HC100
BWH 25 kAIC	150	30	30	Indoor	G1	#2-300 kcmil	BR3030BC150
	200	20	40	Indoor	D1	#2-300 kcmil	BR2040BC200
		30	40	Indoor	G1	#2-300 kcmil	BR3040BC200
		40	40	Indoor	L1	#2-300 kcmil	BR4040BC200

**Main Lug Only Loadcenters—Copper Bus**

**BR816LC125FDP**



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

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					
125	8	16	Indoor	Surface (with door)	7	#14-1	BR816LC125SDP
	8	16	Indoor	Flush (with door)	7		BR816LC125FDP

**Notes**

- ① Series combination rating with Types BD, BR, BQ, BQC and GFCB is 22 kAIC with BRH main and 25 kAIC with BWH main.
- ② All main circuit breaker loadcenters are listed for use as service entrance equipment and are shipped with neutral bonding strap preattached. The maximum rating of the panel is the main circuit breaker rating when used as service entrance equipment.
- ③ Ground bar kits priced separately. See **Page V1-T1-60**.
- ④ 22 kAIC series combination rating is obtained when Types BD, BR, BQ, BQC and GFCB 10 kAIC branch breakers are used in series with Type BRH main breaker.

Box sizes **Pages V1-T1-61 through V1-T1-64**.