Loadcenters and Circuit Breakers

Residential Loadcenters and Breaker Family

Learn Online

Eaton Type CH Convertible Family

Contents

Overview

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.

CH Plug-on Neutral Loadcenter

Quicker, easier and cleaner than the competition. The CH Plug-on Neutral portfolio 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

Loadcenter Construction

Eaton's Type CH loadcenters feature silver flash plated copper bus in all interiors. Stabs are rated 200 A throughout the CH line. Therefore, the sum of the handle ratings connected to any one stab is limited to 200 A maximum. NEMA 1 boxes are manufactured from cold rolled 16 gauge sheet steel. Raintight boxes are manufactured from galvanized steel. All boxes and trims are finished using an electrostatic powder coat, baked urethane sandalwood paint process.

Neutrals

Eaton Type CH loadcenters feature three 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.

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.

This unique product solution enables the contractor to connect the breaker directly to the neutral bar, eliminating the need for wiring a pigtail.

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. All CH Main Lug Only Plug-on Neutral loadcenters come with a factory-installed 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 wires. For larger cables, add-on neutral lugs may be ordered from the Accessories.

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

Bottom-Fed Loadcenters

When the power cable is brought into the loadcenter from below the panel; then the main lug panels, and single-phase, 225 A and below, loadcenters can be rotated 180 degrees to allow straight-in wiring of power cables to the main terminals. Because the CSR main circuit breaker handle operates horizontally, the orientation of the main circuit breaker handle is consistent with the requirements of NEC 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 Article 373.8.

Fire Rating

Due to the numerous openings in both loadcenter boxes and trims, they should not be mounted in firewalls. There is no approval 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 manufacture, e.g., 023. The "&" sign at the end signifies the decade of the 2000s. The "!" at the end signifies the decade of the 2010s. Therefore, the date code F023& would indicate that the product was manufactured in the 23rd week of 2000. The 1980s are represented by a "+" sign and the 1990s are represented by a "=" at the end of the code.

Plug-on Type CH Breakers

Quick-make, quick-break switch mechanism combined with inverse time element tripping operation and trip-free handle design. Type CH circuit breakers trip to the OFF position eliminating nuisance callbacks. The thermal-magnetic trip curve avoids nuisance tripping on mild overloads while reacting almost instantaneously to severe short-circuit conditions. CHF breakers include a 'trip flag' to differentiate between a tripped breaker and one that has been turned off. Multipole breakers have internal common trip connection to operate all poles simultaneously. Handles are marked with ON-OFF indication and ampere rating of the breaker. Type CH breakers meet UL Standard 489, NEMA standards, and Federal Spec Classification W-C 375 b/Gen. They are UL listed under File Number E11713, E8741, E3624 and E51287: and CSA® certified file number LR87196, except Type CHT breakers.

Type CH Circuit Breaker Ratings

Single- and double-pole CH breakers rated 15 and 20 A have low instantaneous magnetic trip levels. The 15 and 20 A breakers with "HM" suffix have high magnetic trip settings recommended for circuits with inherently high inrush currents. All Type CH breakers are marked for heating, air conditioning and refrigeration (HACR) equipment application. Single-pole 15–20 A breakers are also suitable for switching duty (SWD). Shunt trip coils operate on 120 Vac and require one additional pole space per breaker.

Standards and Certifications

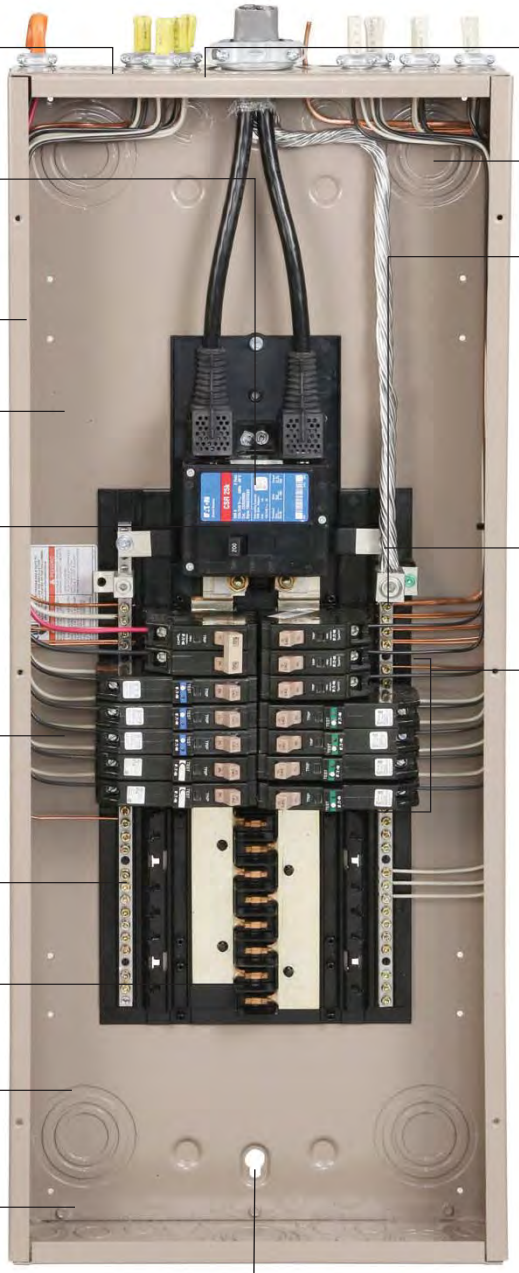
UL® Listings

All Eaton Type CH loadcenters are listed under the UL 67 certification in file E8741.

UL Listed

1

Type CH Loadcenter



Optimized Knockouts
- Provide additional access and allow for easier removal improving installation times

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

Smooth Case Edges
- Provide a more professional look and feel

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

Commercial Grade Main Breaker
- 25 kAIC series rated main breaker in 150 A–225 A loadcenters. 35, 42 and 100 kAIC series ratings are available
- Optional convertible design—reduces inventory requirements

Full Length Neutral Bars
- Offer flexibility of placing electronic breakers at any space within the panel
- Offer easy installation of neutral connection time and labor savings

Inboard Neutral
- Increases gutter space to allow for the installation of conductors

One Piece Silver-Flashed Copper Bus
- Provides superior conductivity, corrosion resistance and durability

Drywall Offsets
(located on both sides of enclosure)
- Allow for faster installation using predetermined self-leveling tabs

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

"Tangential" Center Knockout
- Easier installation for conduit applications

Unique Sandalwood Finish
- Aesthetically appealing, scratch-resistant powder coating

Full Length Neutral Bars
- Offer flexibility of placing electronic breakers at any space within the panel
- Allow for easy installation of neutral wire connection

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

Type CHF AFCI/GFCI/Thermal-Magnetic Breakers
- Advanced electronics effectively reduce nuisance tripping
- CHF AFCI breakers have a standard diagnostic LED indicating 1 of 7 trip codes
- Mechanical flag for trip indication (on thermal-magnetic AFCI and GFCI)
- All CH breakers provide industry exclusive 2-position handle with simple 1 step reset

Cover Features not Shown:

Improved Cover Twist-Outs
- Easier to remove twistouts

Embossed Cover Circuit Numbers
- Durable circuit numbering with added marking for twin breakers

Cover Keyhole Hanging Feature
- Provide easier cover installation by allowing quick hanging of cover regardless of orientation of the panel

Rigid Center Cover Spine
- Provides strengthened center spine when the twistouts are removed

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

Warranty

The minimum warranty for residential loadcenters, breakers and surge protection devices shall be as follows:

- Lifetime loadcenter warranty
- Lifetime warranty on CH circuit breakers
- Lifetime warranty on CHSPT2ULTRA including $75,000 connected equipment warranty
- 1-year warranty on plug-in surge protective device (CHSA)

Catalog Number Selection

CH Plug-on Neutral Loadcenters

CH P 32 L 225 X5 F

Type Designation
CH = 3/4-inch (19.1 mm) breaker loadcenter

Feature
P = Plug-on neutral design

Number of Spaces

08	10	12	14	16
20	22	24	30	32
40	42	60		

Note: The number of circuits is equal to double the number of spaces.

Main Device
L = Main lug only
B = Main breaker
E = Convertible with main lugs installed
N = Convertible (main device purchased separately

Bus Amperes
100 = 100 A
125 = 125 A
150 = 150 A
200 = 200 A
225 = 225 A

Enclosure
R = NEMA Type 3R rainproof
X0 ① = 16.75 inch
X1 ① = 18.75 inch
X2 ① = 21.00 inch
X3 ① = 23.00 inch
X4 ① = 27.00 inch
X5 ① = 29.12 inch
X6 ① = 34.12 inch
X7 ① = 37.00 inch
X8 ① = 39.00 inch
X9 ① = 45.00 inch
X10 ① = 48.00 inch

① NEMA Type 1 indoor with no cover (to be ordered separately).

Accessories Installed
Blank = None installed
F = Feed-through lugs
E = Ground bar ②

② All MLO loadcenters come with a factory-installed ground, which is not indicated by the part number.

CH Plug-on Neutral Covers (Ordered Separately)

CHP X5 L F __

Type Designation
CHP =CH Plug-on neutral loadcenter cover

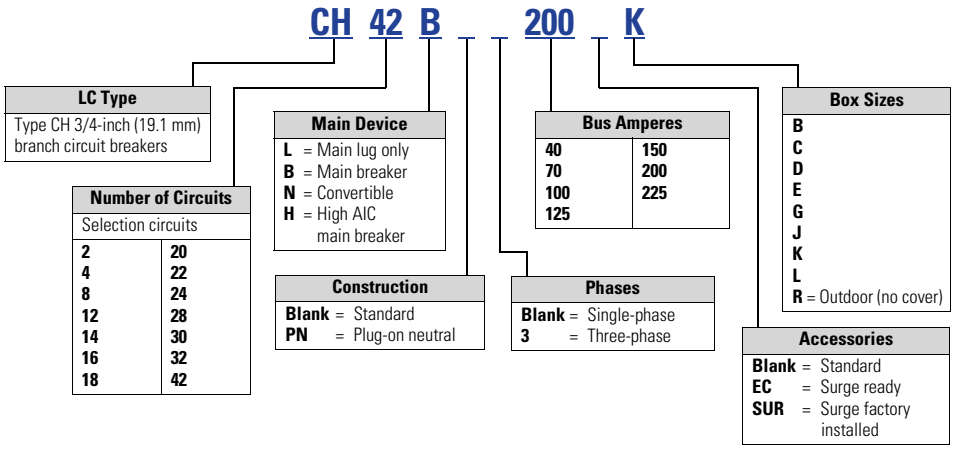
Bus Amperes
X0 = 16.75 inch
X1 = 18.75 inch
X2 = 21.00 inch
X3 = 23.00 inch
X4 = 27.00 inch
X5 = 29.12 inch
X6 = 34.12 inch
X7 = 37.00 inch
X8 = 39.00 inch
X9 = 45.00 inch
X10 = 48.00 inch

Main Device/Maximum Amperage
A = 125 A or below
B = 150 A, 200 A, 225 A main breaker
L = 150 A, 200 A, 225 A MLD
N = 150 A, 200 A, 225 A convertible

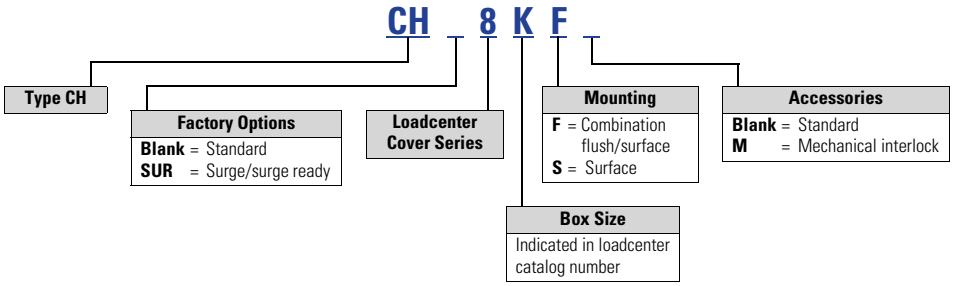
Mount
S = NEMA Type 1 indoor with surface trim
F = NEMA Type 1 indoor with flush trim

Options
Blank = Sandalwood
W = White

CH Legacy Loadcenters



CH Legacy Indoor Covers (Ordered Separately)



Note: All combinations are not valid, refer to the catalog section.

Product Selection

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

CHP14B100X1

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

Main Breaker Type	Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) of Spaces	Maximum Number 3/4-Inch (19.1 mm) of Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter ①② Catalog Number	Combination ③	Surface
CH 10 kAIC	100	14	28	Indoor	X1	#6–1/0	**CHP14B100X1** ④⑤	**CHPX1AF** ⑤	**CHPX1AS** ⑤
		14	28	Outdoor	B	#6–1/0	**CH14B100R** ⑥⑨	—	—
		18	36	Indoor	X2	#6–1/0	**CHP18B100X2** ④⑤	**CHPX2AF** ⑤	**CHPX2AS** ⑤
		18	36	Outdoor	C	#6–1/0	**CH18B100R** ⑥⑨	—	—
		22	44	Indoor	X2	#6–1/0	**CHP22B100X2** ④⑤	**CHPX2AF** ⑤	**CHPX2AS** ⑤
		22	44	Outdoor	C	#6–1/0	**CH22B100R** ⑥⑨	—	—
		30	60	Indoor	X5	#6–1/0	**CHP30B100X5** ④⑤	**CHPX5AF** ⑤	**CHPX5AS** ⑤
		30	60	Outdoor	D	#6–1/0	**CH30B100R** ⑥⑨	—	—
	125	22	44	Indoor	X2	#6–1/0	**CHP22B125X2** ④⑤	**CHPX2AF** ⑤	**CHPX2AS** ⑤
		22	44	Outdoor	C	#6–1/0	**CH22B125R** ⑥⑨	—	—
		30	60	Indoor	X5	#6–1/0	**CHP30B125X5** ④⑤	**CHPX5AF** ⑤	**CHPX5AS** ⑤
		30	60	Outdoor	D	#6–1/0	**CH30B125R** ⑥⑨	—	—
CSR 25 kAIC	150	24	48	Indoor	X5	#2–300 kcmil	**CHP24B150X5** ④⑤	**CHPX5BF** ⑤	**CHPX5BS** ⑤
		24	48	Outdoor	E	#2–300 kcmil	**CH24B150R** ⑥⑨	—	—
		32	64	Indoor	X6	#2–300 kcmil	**CHP32B150X6** ④⑤	**CHPX6BF** ⑤	**CHPX6BS** ⑤
		32	64	Outdoor	J	#2–300 kcmil	**CH32B150R** ⑥⑨	—	—
	200	8	16	Outdoor	E	#2–300 kcmil	**CH8B200RF** ⑦⑨	—	—
		24	48	Indoor	X5	#2–300 kcmil	**CHP24B200X5** ④⑤	**CHPX5BF** ⑤	**CHPX5BS** ⑤
		24	48	Outdoor	E	#2–300 kcmil	**CH24B200R** ⑥⑨	—	—
		32	64	Indoor	X6	#2–300 kcmil	**CHP32B200X6** ④⑤	**CHPX6BF** ⑤	**CHPX6BS** ⑤
		32	64	Outdoor	J	#2–300 kcmil	**CH32B200R** ⑥⑨	—	—
		42	84	Indoor	X7	#2–300 kcmil	**CHP42B200X7** ④⑤	**CHPX7BF** ⑤	**CHPX7BS** ⑤
		42	84	Outdoor	K	#2–300 kcmil	**CH42B200R** ⑥⑨	—	—
		60	120	Indoor	X9	#2–300 kcmil	**CHP60B200X9** ④⑤	**CHPX9BF** ⑤	—
	225	32	64	Outdoor	J	#2–300 kcmil	**CH32B225R** ⑥⑨	—	—
		42	84	Indoor	X7	#2–300 kcmil	**CHP42B225X7** ④⑤	**CHPX7BF** ⑤	**CHPX7BS** ⑤
		42	84	Outdoor	K	#2–300 kcmil	**CH42B225R** ⑥⑨	—	—
		60	120	Indoor	X9	#2–300 kcmil	**CHP60B225X9** ④⑤	**CHPX9BF** ⑤	—
DK 10 kAIC	300	42	84	Indoor	PM	(2) 3/0–250 kcmil	**CH42PM300**	**CH7PMF** ⑧	**CH7PMS**
	400	42	84	Indoor	PM	(2) 3/0–250 kcmil	**CH42PM400**	**CH7PMF** ⑧	**CH7PMS**

Notes

① All main circuit breaker loadcenters are listed for use as service entrance equipment.
② Ground bar kits priced separately. See **Page V1-T1-27**.
③ Combination style covers may be used in surface or flush applications.
④ Can be top or bottom fed by rotating the enclosure and trim 180 degrees.
⑤ Plug-on Neutral style loadcenter.
⑥ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to See **Page V1-T1-26**.
⑦ Panel includes #2–300 kcmil feed-through lugs.
⑧ This cover is for flush applications only (not combination).
⑨ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.

Box sizes **Pages V1-T1-32** and **V1-T1-33**.

1

Single-Phase—High Interrupting Rated Main Circuit Breaker Loadcenters—100 kAIC

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

Main Breaker Type	Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter ① Catalog Number	Loadcenter Cover Catalog Number Combination ②	Surface
CHB4 100 kAIC ⑤	100	32	Indoor	L	#6–1/0	**CH32H100L** ③	**CH8LF**	**CH8LS**
		32	Outdoor	L	#6–1/0	**CH32H100R** ④	—	—
CHH 100 kAIC ⑤	150	32	Indoor	L	#2/0–300 kcmil	**CH32H150L**	**CH8LF**	**CH8LS**
		32	Outdoor	L	#2/0–300 kcmil	**CH32H150R** ④	—	—
	200	32	Indoor	L	#2/0–300 kcmil	**CH32H200L**	**CH8LF**	**CH8LS**
		32	Outdoor	L	#2/0–300 kcmil	**CH32H200R** ④	—	—
		42	Indoor	L	#2/0–300 kcmil	**CH42H200L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42H200R** ④	—	—
	225	42	Indoor	L	#2/0–300 kcmil	**CH42H225L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42H225R** ④	—	—

Notes

① All main circuit breaker loadcenters are listed for use as service entrance equipment.

② Combination style covers may be used in surface or flush applications.

③ Loadcenter can be top or bottom fed by rotating the enclosure and trim 180 degrees.

④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to refer to **Page V1-T1-26**.

⑤ Series rated for 100 kAIC with all Types CH, CHT and CHP breakers.

Single-Phase—Main Lug Loadcenters—Small Space

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

Surface Outdoor

Flush Outdoor

Surface (No Door)

Flush (No Door)

Outdoor

Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) Space	Poles	Enclosure Type	Type of Trim (Included)	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number ①
40	2	4 1	Indoor	Surface (no door)	5	#14–6	**CH2L40SP** ②③
	2	4 1	Outdoor	—	5R	#14–6	**CH2L40RP** ②③④
	2	4 1	Indoor	Flush (no door)	5	#14–6	**CH2L40FP** ②③
70	2	4 1	Indoor	Surface (no door)	5	#14–2	**CH2L70SP** ②③
	2	4 1	Outdoor	—	5R	#14–2	**CH2L70RP** ②③④
	2	4 1	Indoor	Flush (no door)	5	#14–2	**CH2L70FP** ②③
125	2	4 1	Indoor	Surface (no door)	6	#14–1/0	**CH2L125SP** ②③
	2	4 1	Outdoor	—	6R	#14–1/0	**CH2L125RP** ②③④
	2	2	Outdoor	—	—	#14–1/0	**CH2L125RSE2P** ④⑤⑥
	2	4 1	Indoor	Flush (no door)	6	#14–1/0	**CH2L125FP** ②③
	4	8 1	Indoor	Surface (no door)	7	#14–1/0	**CH4L125SP** ②⑦
	4	8 1	Outdoor	—	7R	#14–1/0	**CH4L125RP** ②④⑦
	4	8 1	Indoor	Flush (no door)	7	#14–1/0	**CH4L125FP** ②⑦
	6	12 1	Outdoor	—	6R	#14–1/0	**CH6L125R** ②⑥⑦
	8	16 1	Indoor	Surface (no door)	7	#6–1/0	**CH8L125SP** ②⑦
	8	16 1	Outdoor	—	7R	#6–1/0	**CH8L125RP** ②⑥⑦
	8	16 1	Indoor	Flush (no door)	7	#6–1/0	**CH8L125FP** ②⑧

Notes

① Requires the use of Type CHT breakers.

② Ground bar kits priced separately, see **Page V1-T1-27**.
– For 2/4 and 6/12 circuit loadcenters, use Type GBK5 or GBK520 ground bar
– For 4/8 and 8/16 circuit loadcenters, use Type 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

③ 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.

④ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.

⑤ For use as service entrance applications only.

⑥ Neutral/ground holes (6) #14–6 and (3) #14–2/0 AWG Cu/Al.

⑦ 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.

⑧ 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.

Box sizes **Pages V1-T1-32** and **V1-T1-34**.

1

Single-Phase—Main Lug Loadcenters

CHP12L125X0

Single-Phase Three-Wire—120/240 Vac—Insulated/Bondable Split Neutral—Factory-Installed Ground Bar

Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) Spaces	Maximum Number 3/4-Inch (19.1 mm) Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number	Loadcenter Cover Catalog Number Flush	Surface
125	12	24	Indoor	X0	#6–2/0	**CHP12L125X0** ①	**CHPX0AF**	**CHPX0AS**
	12	24	Outdoor	B	#6–2/0	**CH12L125R** ①②⑦	—	—
	16	32	Indoor	X1	#6–2/0	**CHP16L125X1** ①	**CHPX1AF**	**CHPX1AS**
	16	32	Outdoor	B	#6–2/0	**CH16L125R** ①②⑦	—	—
	20	40	Indoor	X2	#6–2/0	**CHP20L125X2** ①	**CHPX2AF**	**CHPX2AS**
	20	40	Outdoor	C	#6–2/0	**CH20L125R** ①②⑦	—	—
	24	48	Indoor	X2	#6–2/0	**CHP24L125X2** ①	**CHPX2AF**	**CHPX2AS**
	24	48	Outdoor	C	#6–2/0	**CH24L125R** ①②⑦	—	—
150	24	48	Indoor	X5	#4–300 kcmil	**CHP24L150X5** ①③	**CHPX5LF**	**CHPX5LS**
	24	48	Outdoor	D	#4–300 kcmil	**CH24L150R** ②④⑦	—	—
	32	64	Indoor	X5	#4–300 kcmil	**CHP32L150X5** ①③	**CHPX5LF**	**CHPX5LS**
	32	64	Outdoor	D	#4–300 kcmil	**CH32L150R** ②④⑦	—	—
200	12	24	Outdoor	D	#4–300 kcmil	**CH12L200R** ②④⑦	—	—
	16	32	Indoor	X5	#4–300 kcmil	**CHP16L200X5** ①③	**CHPX5LF**	**CHPX5LS**
	16	32	Outdoor	D	#4–300 kcmil	**CH16L200R** ②④⑦	—	—
225	24	48	Indoor	X5	#4–300 kcmil	**CHP24L225X5** ①③	**CHPX5LF**	**CHPX5LS**
	24	48	Outdoor	D	#4–300 kcmil	**CH24L225R** ②④⑦	—	—
	32	64	Indoor	X5	#4–300 kcmil	**CHP32L225X5** ①③	**CHPX5LF**	**CHPX5LS**
	32	64	Outdoor	D	#4–300 kcmil	**CH32L225R** ②④⑦	—	—
	42	84	Indoor	X6	#4–300 kcmil	**CHP42L225X6** ①③	**CHPX6LF**	**CHPX6LS**
	42	84	Outdoor	G	#4–300 kcmil	**CH42L225R** ②④⑦	—	—
400	42	84	Indoor	P	(2) 1/0–300 kcmil (1) 750 kcmil	**CH42PL400** ⑤	**CH7PF** ⑥	**CH7PS**

Notes

① Suitable for use as service equipment when not more than six disconnecting means are provided.

② Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.

③ Suitable for use as service equipment when a circuit breaker is used as a main breaker.
The main breaker is backfed and requires hold-down bracket kit catalog number **CHPHD**.

④ Suitable for use as service equipment when a circuit breaker is used as a main breaker.
The main breaker is backfed and requires hold-down bracket kit catalog number **CH125RB**.

⑤ Suitable for use as service equipment when a circuit breaker is used as a main breaker.
The main breaker is backfed and must be a Type **CHB**.
The breaker cannot be a Type CH.

⑥ This cover is for flush application only (not combination).

⑦ These styles will be replaced in 2019 with new plug-on neutral style loadcenter.

Box sizes **Pages V1-T1-32** and **V1-T1-34**.

Convertible Loadcenters MCB or MLO—Base Units and Main Devices—10/25/35 kAIC

Complete assembly consists of: loadcenter, cover, and either main breaker kit or main lug kit.

Indoor—Single-Phase—Three-Wire—120/240 V—Insulated/Bondable Split Neutral—Top or Bottom Feed

Maximum Main Ampere Rating	Maximum Number of 3/4 Inch Spaces	Maximum Number of 3/4 Inch Poles	Enclosure Type	Box Size	Loadcenter Box and Panel Catalog Number ①②	Loadcenter Cover Catalog Number ①		Main Breaker Kit					
						Combination	Surface	kAIC Rating	Catalog Number	kAIC Rating	Wire Size	Catalog Number	
125	22	44	Indoor	X2	**CHP22N125X2**	**CHPX2AF**	**CHPX2AS**	#10–1/0	**CHSF2125**	10	#10–1/0	**CH2100N** ③	—
												CH2125N ③	—
225	32	64	Indoor	X6	**CHP32N225X6**	**CHPX6NF**	**CHPX6NS**	#4–300 kcmil	**CHPL225**	25/35 ⑤	#2–300 kcmil	**CSR2125N**	**CSH2125N** ④
												CSR2150N	**CSH2150N** ④
												CSR2175N	**CSH2175N** ④
												CSR2200N	**CSH2200N** ④
												CSR2225N	**CSH2225N** ④
225	42	84	Indoor	X7	**CHP42N225X7**	**CHPX7NF**	**CHPX7NS**	#4–300 kcmil	**CHPL225**	25/35 ⑤	#2–300 kcmil	**CSR2125N**	**CSH2125N** ④
												CSR2150N	**CSH2150N** ④
												CSR2175N	**CSH2175N** ④
												CSR2200N	**CSH2200N** ④
												CSR2225N	**CSH2225N** ④

Indoor—Single-Phase—Three-Wire—120/240 V—Insulated/Bondable Split Neutral—Top or Bottom Feed—Main Lugs Installed

Maximum Main Ampere Rating	Maximum Number of 3/4 Inch Spaces	Maximum Number of 3/4 Inch Poles	Enclosure Type	Box Size	Loadcenter Box and Panel Catalog Number ②	Loadcenter Cover Catalog Number		Main Breaker Kit			
						Combination	Surface	kAIC Rating	Wire Size	Catalog Number	
225	32	64	Indoor	X6	**CHP32E225X6**	**CHPX6NF**	**CHPX6NS**	25/35 ⑤	#2–300 kcmil	**CSR2125N**	**CSH2125N** ④
										CSR2150N	**CSH2150N** ④
										CSR2175N	**CSH2175N** ④
										CSR2200N	**CSH2200N** ④
										CSR2225N	**CSH2225N** ④
225	42	84	Indoor	X7	**CHP42E225X7**	**CHPX7NF**	**CHPX7NS**	25/35 ⑤	#2–300 kcmil	**CSR2125N**	**CSH2125N** ④
										CSR2150N	**CSH2150N** ④
										CSR2175N	**CSH2175N** ④
										CSR2200N	**CSH2200N** ④
										CSR2225N	**CSH2225N** ④
225	60	120	Indoor	X9	**CHP60E225X9**	**CHPX9NF**	—	25/35 ⑤	#2–300 kcmil	**CSR2125N**	**CSH2125N** ④
										CSR2150N	**CSH2150N** ④
										CSR2175N	**CSH2175N** ④
										CSR2200N	**CSH2200N** ④
										CSR2225N	**CSH2225N** ④

Notes

① Panel does not include main. Order main breaker or main lug kit separately.
② Interrupting rating depends on main circuit breaker selected.
③ Hold-down kit included.
④ 35 kAIC series combination rating is obtained when Types CH, CHT and CHP branch breakers are used with CSH main.
⑤ If 35 kAIC is required, use CSH breaker.

1

Outdoor—Single-Phase—Three-Wire—120/240 V—Insulated/Bondable Split Neutral (Unless Otherwise Noted)

Maximum Main Ampere Rating	Maximum Number of Single Poles	Box Size	Loadcenter Box and Panel Catalog Number ①②	Main Lug Kit Wire Size	Main Breaker Kit Catalog Number	Main Breaker Kit kAIC Rating	Main Breaker Kit Wire Size	Catalog Number	
125	22	C	**CH22N125R** ③	#10–1/0	**CHL125N**	10	#10–1/0	**CH2100N** ⑦	—
								CH2125N ⑦	—
200	8	E	**CH8N200RF** ③④⑤	#4–300 kcmil	**CHL225N**	25/35 ⑥	#2–300 kcmil	**CSR2125N**	**CSH2125N**
								CSR2150N	**CSH2150N**
								CSR2175N	**CSH2175N**
								CSR2200N	**CSH2200N**
200	32	J	**CH32N200R** ③	#4–300 kcmil	**CHL225N**	25/35 ⑥	#2–300 kcmil	**CSR2125N**	**CSH2125N** ⑧
								CSR2150N	**CSH2150N** ⑧
								CSR2175N	**CSH2175N** ⑧
								CSR2200N	**CSH2200N** ⑧
225	42	K	**CH42N225R** ③	#4–300 kcmil	**CHL225N**	25/35 ⑥	#2–300 kcmil	**CSR2125N**	**CSH2125N** ⑧
								CSR2150N	**CSH2150N** ⑧
								CSR2175N	**CSH2175N** ⑧
								CSR2200N	**CSH2200N** ⑧
								CSR2225N	**CSH2225N** ⑧

Notes

① Panel does not include main. Order main breaker or main lug kit separately.
② Interrupting rating depends on main circuit breaker selected.
③ Rainproof panels are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.
④ Includes feed-through lugs for both phase and neutral conductors.
⑤ Insulated/bondable single neutral.
⑥ If 35 kAIC is required, use CSH breaker.
⑦ Hold-down kit included.
⑧ 35 kAIC series combination rating is obtained when Types CH, CHT and CHP branch breakers are used with CSH main.

Three-Phase—Main Circuit Breaker Loadcenters—10 kAIC

CH42B3200L

Three-Phase Four-Wire—208Y/120 Vac or 240 Vac Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter ①② Catalog Number	Loadcenter Cover Catalog Number Combination	Surface
CC 10 kAIC	150	30	Indoor	L	#1–4/0	**CH30B3150L**	**CH8LF**	**CH8LS**
		30	Outdoor	L	#1–4/0	**CH30B3150R** ③	—	—
	200	30	Indoor	L	#2/0–300 kcmil	**CH30B3200L**	**CH8LF**	**CH8LS**
		30	Outdoor	L	#2/0–300 kcmil	**CH30B3200R** ③	—	—
		42	Indoor	L	#2/0–300 kcmil	**CH42B3200L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42B3200R** ③	—	—
	225	30	Indoor	L	#2/0–300 kcmil	**CH30B3225L**	**CH8LF**	**CH8LS**
		30	Outdoor	L	#2/0–300 kcmil	**CH30B3225R** ③	—	—
		42	Indoor	L	#2/0–300 kcmil	**CH42B3225L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42B3225R** ③	—	—
	400	42	Indoor	PM	(2) 3/0–350 kcmil	**CH424PM400**	**CH7PMF** ④	**CH7PMS**

Three-Phase—High Interrupting Rated Main Circuit Breaker Loadcenters—100 kAIC

Three-Phase Four-Wire—208Y/120 Vac or 240 Vac Insulated/Bondable Split Neutral

Main Breaker Type	Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) of Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Breaker	Loadcenter Catalog Number ①②	Loadcenter Cover Catalog Number Combination	Surface
CHH 100 kAIC ⑤	200	30	Indoor	L	#2/0–300 kcmil	**CH30H3200L**	**CH8LF**	**CH8LS**
		30	Outdoor	L	#2/0–300 kcmil	**CH30H3200R** ③	—	—
		42	Indoor	L	#2/0–300 kcmil	**CH42H3200L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42H3200R** ③	—	—
	225	42	Indoor	L	#2/0–300 kcmil	**CH42H3225L**	**CH8LF**	**CH8LS**
		42	Outdoor	L	#2/0–300 kcmil	**CH42H3225R** ③	—	—

Notes

① All main circuit breaker loadcenters are listed for use as service entrance equipment.
② Ground bar kits priced separately. For ground bar kits, see **Page V1-T1-27**.
③ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.
④ This cover for flush application only (not combination).
⑤ 100 kAIC series combination rating is obtained when Types CH and CHP branch breakers are used with CHH main.

Three-Phase—Main Lug Loadcenters

Three-Phase Four-Wire—208Y/120 Vac or 240 Vac Insulated/Bondable Split Neutral (Unless Otherwise Noted)

Main Ampere Rating	Maximum Number 3/4-Inch (19.1 mm) Spaces	Poles	Enclosure Type	Type of Trim Included	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number	Loadcenter Cover Catalog Number Combination	Single
125	6	12 ①	Indoor	Surface, no door	7	#14–1/0	**CH6L3125SP** ②③④	—	—
	6	12 ①	Outdoor	—	7R	#14–1/0	**CH6L3125RP** ②③④⑤	—	—
	6	12 ①	Indoor	Flush, no door	7	#14–1/0	**CH6L3125FP** ②③④	—	—
	12	12	Indoor	—	B	#6–2/0	**CH12L3125B** ⑥⑦	**CH8BF**	**CH8BS**
	12	12	Outdoor	—	B	#6–2/0	**CH12L3125R** ⑤⑥⑦	—	—
	18	18	Indoor	—	C	#6–2/0	**CH18L3125C** ⑥⑦	**CH8CF**	**CH8CS**
	18	18	Outdoor	—	C	#6–2/0	**CH18L3125R** ⑥⑦⑧	—	—
	24	24	Indoor	—	C	#6–2/0	**CH24L3125C** ⑥⑦	**CH8CF**	**CH8CS**
	24	24	Outdoor	—	C	#6–2/0	**CH24L3125R** ⑥⑦⑧	—	—
150	30	30	Indoor	—	D	#4–300 kcmil	**CH30L3150D** ⑥⑦	**CH8DF**	**CH8DS**
	30	30	Outdoor	—	D	#4–300 kcmil	**CH30L3150R** ⑤⑥⑨	—	—
225	24	24	Indoor	—	D	#4–300 kcmil	**CH24L3225D** ⑥⑦	**CH8DF**	**CH8DS**
	24	24	Outdoor	—	D	#4–300 kcmil	**CH24L3225R** ⑤⑥⑨	—	—
	30	30	Indoor	—	D	#4–300 kcmil	**CH30L3225D** ⑥⑦	**CH8DF**	**CH8DS**
	30	30	Outdoor	—	D	#4–300 kcmil	**CH30L3225R** ⑤⑥⑨	—	—
	42	42	Indoor	—	G	#4–300 kcmil	**CH42L3225G** ⑧⑨	**CH8GF**	**CH8GS**
	42	42	Outdoor	—	G	#4–300 kcmil	**CH42L3225R** ⑤⑧⑨	—	—
400	42	42	Indoor	—	P	(2) 1/0–300 kcmil (1) 750 kcmil	**CH424PL400** ⑩⑪	**CH7PF** ⑫	**CH7PS**

Notes

① Requires the use of Type CHT breakers.

② Suitable for use as service equipment when not more than two service disconnecting means are provided or when not more than six service disconnecting means are provided and when not used as a lighting and appliance panelboard.

③ Ground bar kits priced separately, see **Page V1-T1-27**.
– Use GBK10 ground bar
– Ground bars mount to the left side wall of the enclosure.

④ Insulated/bondable single neutral.

⑤ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.

⑥ Ground bar Type GBK14 is installed.

⑦ Suitable for use as service equipment when a circuit breaker is used as a main breaker. The main breaker is backfed and requires hold-down bracket kit catalog number Type **CH125RB**. Suitable for use as service equipment when not more than six service disconnecting means are provided and when not used as a lighting and appliance panelboard.

⑧ Ground bar Type GBK21 is installed.

⑨ Suitable for use as service equipment when a circuit breaker is used as a main breaker. The main breaker is backfed and requires hold-down kit catalog number Type **CH125RB**.

⑩ For ground bar kits, see **Page V1-T1-27**.

⑪ Suitable for use as service equipment when a circuit breaker is used as a main breaker. The main breaker is backfed and must be a Type CHB. **The breaker cannot be a Type CH**.

⑫ This cover for flush application only (not combination).

Box sizes **Pages V1-T1-32** and **V1-T1-34**.

Spa Panels

Contents

CH Specialty Products

Spa Panels

Product Description

Eaton's CH Spa Panels are premium factory-assembled "combination" units that provide ground fault protection, as well as a convenient way to turn spa pumps on and off. The NEC requires that all pool and spa pumps be protected by a ground fault interrupter and a disconnect switch mounted within 10 feet of the tub or the spa.

Features

- Two extra circuits for additional loads
- Limited lifetime warranty
- UL Listed
- Tough powder-coated galvanized steel enclosure
- Factory-installed two-pole ground fault circuit interrupter (GFCI)

Product Selection

CH Spa Panel

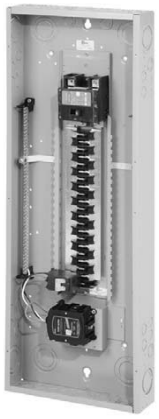
Single-Phase Three-Wire—120/240 Vac Insulated/Bondable Neutral—Factory-Installed Ground Bar

Main Ampere Rating	Circuit Breaker Included	Enclosure Type	Type of Trim Included	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Catalog Number
30	CH230GFT	Outdoor	—	5R	#14–1/0	**CH30SPAST** ①
40	CH240GFT	Outdoor	—	5R	#14–1/0	**CH40SPAST** ②
50	CH250GFT	Outdoor	—	5R	#14–1/0	**CH50SPAST** ③
60	CH260GFT	Outdoor	—	5R	#14–1/0	**CH60SPAST** ④

Notes

① Includes a CH230GFT breaker, factory installed, and two extra circuits for convenience.
② Includes a CH240GFT breaker, factory installed, and two extra circuits for convenience.
③ Includes a CH250GFT breaker, factory installed, and two extra circuits for convenience.
④ Includes a CH260GFT breaker, factory installed, and two extra circuits for convenience.

Surge Panel



Contents

Surge Panel

Product Description

Eaton's Type CH Surge Loadcenter includes a factory-mounted and wired surge suppressor device. There is a knockout in the cover that allows the user to view the status indication lights on the surge suppressor. The CH Surge Loadcenter reduces the surge current, helping protect sensitive home electronic equipment.

Save labor by installing a factory-mounted surge protective device.

Factory-Installed Surge Protection

- Includes a CHSPT2ULTRA and a two-pole 50 A circuit breaker
- Increases the effectiveness of surge protection due to reduced lead length
- A modified deadfront allows for easy viewing of indicating lights

Surge Ready

- Provides a mounting provision for CHSPT2ULTRA
- A modified deadfront allows for easy viewing of indicating lights

Product Selection

Surge Installed Loadcenters

Ampere Rating	Type	Number of Circuits	Loadcenter Catalog Number	Loadcenter Cover Catalog Number Combination	Surface
225	Convertible	42	**CHSUR42N225L** ①	**CHSUR8LF**	**CHSUR8LS**
225	Convertible ②	42	**CHSUR42L225L2** ①	**CHSUR8LF**	**CHSUR8LS**
200	Main breaker	42	**CHSUR42B200L2** ①	**CHSUR8LF**	**CHSUR8LS**
225	Convertible	32	**CHSUR32N225K** ①	**CHSUR8KF**	**CHSUR8KS**
225	Convertible ②	32	**CHSUR32L225K** ①	**CHSUR8KF**	**CHSUR8KS**
200	Main breaker	32	**CHSUR32B200K** ①	**CHSUR8KF**	**CHSUR8KS**
150	Main breaker	32	**CHSUR32B150K** ①	**CHSUR8KF**	**CHSUR8KS**
100	Main breaker	32	**CHSUR32B100K** ①	**CHSUR8KF**	**CHSUR8KS**
125	Convertible ②	24	**CHSUR24L125E** ①	**CHSUR8EF**	**CHSUR8ES**
100	Main breaker	24	**CHSUR24B100E** ①	**CHSUR8EF**	**CHSUR8ES**
200	Convertible	40/40	**BRSUR4040N200**	Cover included	
200	Main lug	40/40	**BRSUR4040L200**	Cover included	
200	Main breaker	40/40	**BRSUR4040B200**	Cover included	
200	Convertible	30/40	**BRSUR3040N200**	Cover included	
200	Main lug	30/40	**BRSUR3040L200**	Cover included	
200	Main breaker	30/40	**BRSUR3040B200**	Cover included	

Notes

① Order cover separately.

② With main lugs installed.

Surge Ready Loadcenters (provision only, CHSPT2ULTRA and breaker not included)

Ampere Rating	Type	Number of Circuits	Loadcenter Catalog Number ①	Loadcenter Cover Catalog Number Combination	Loadcenter Cover Catalog Number Surface
225	Convertible	42	**CHEC42N225L**	**CHSUR8LF**	**CHSUR8LS**
225	Convertible ②	42	**CHEC42L225L**	**CHSUR8LF**	**CHSUR8LS**
200	Main breaker	42	**CHEC42B200L**	**CHSUR8LF**	**CHSUR8LS**
225	Convertible ②	32	**CHEC32L225K**	**CHSUR8KF**	**CHSUR8KS**
225	Convertible	32	**CHEC32N225K**	**CHSUR8KF**	**CHSUR8KS**
225	Convertible	32	**CHEC32N225R** ③	—	—
200	Main breaker	32	**CHEC32B200K**	**CHSUR8KF**	**CHSUR8KS**
150	Main breaker	32	**CHEC32B150K**	**CHSUR8KF**	**CHSUR8KS**
100	Main breaker	32	**CHEC32B100K**	**CHSUR8KF**	**CHSUR8KS**
125	Convertible ②	24	**CHEC24L125E**	**CHSUR8EF**	**CHSUR8ES**
100	Main breaker	24	**CHEC24B100E**	**CHSUR8EF**	**CHSUR8ES**

Technical Data and Specifications

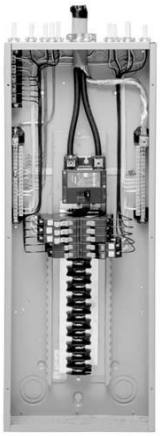
Ratings

- Loadcenter
  - 25 kAIC main breaker, main lug only, and convertible main breaker/main lug
  - Factory installed or provision for field-installed surge suppressor
  - Top or bottom feed
- Surge protective device (CHSPT2ULTRA)
  - Nominal discharge current: 20 kA (I_n)
  - Surge current capacity per phase: 108 kA
  - Warranty: $75,000 connected equipment ④
  - For further product ratings, see Volume 1, Tab 2.1 Surge Protection

Notes

① Order cover separately.
② With main lugs installed.
③ Rainproof loadcenters are furnished with hub closure plates. For rainproof hubs, refer to **Page V1-T1-26**.
④ For warranty details, visit www.eaton.com/surgetrap.

Renovation Panel



Contents

Type CH Renovation Loadcenter

Product Description

Eaton's Renovation Loadcenter is designed for the service contractor. With the addition of a five-circuit terminal block factory mounted in the top left corner of the loadcenter, the service contractor can terminate short-circuit wires instead of having to use expensive wire nuts. Also, the Renovation Loadcenter incorporates a twin-stacked neutral design that places the neutral and ground terminations higher in the loadcenter. Both of these features were added without increasing any size from a standard loadcenter. These features will eliminate the need for wire nuts and make for a much neater installation. There is a provision to field mount a second five-circuit terminal block (RN5TB) in the top right corner of the loadcenter. Choose amongst Eaton's Type CH breaker family for use in the Renovation Panel.

Product Selection

Single-Phase—Main Circuit Breaker Loadcenters 25 kAIC ①

Single-Phase, Three-Wire—120/240 Vac—Stacked Split Neutral

Main Breaker Type	Main Ampere Rating	Max. Number 3/4-Inch (19.1 mm) of Poles	Enclosure Type	Box Size	Wire Size Range Cu/Al 60 °C or 70 °C for Main Breakers	Loadcenter Catalog Number	Cover Catalog Number ②	
							Combination	Surface
CH	100	20	Indoor	C	#6–1/0	**CH22B100CRN**	**CH8CFF**	**CH8CS**
CSR	150	32	Indoor	J	#2–300 kcmil	**CH32B150JRN**	**CH8JF**	**CH8JS**
CSR	200	32	Indoor	J	#2–300 kcmil	**CH32B200JRN**	**CH8J**	**CH8JS**
CSR	200	42	Indoor	K	#2–300 kcmil	**CH42B200KRN**	**CH8KF**	**CH8KS**

Branch Circuit Breakers (CH)

See **Pages V1-T1-2–V1-T1-14**.

Renovation Loadcenter

Description	Catalog Number
Five-circuit terminal block kit Ground bar kits (two maximum per panel)	**RN5TB** (See **Page V1-T1-27**)

Notes

① 100 A main breaker is rated 10 kAIC.

② Combination style covers may be used in surface or flush applications.

All main circuit breaker loadcenters are listed for use as service entrance equipment. Loadcenters are factory-bonded for service entrance applications. Remove bonding strap for separate neutral and ground bars for sub-feed applications.

Type CH Retrofit Interior

Type CH Retrofit Adjustable Interior

Type CH Retrofit Interior Collar and Assembly with Trim

Contents

Type CH 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:
  - Limited lifetime warranty on all CH 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
- Safely 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.

1

CH 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?

Phone:
800-330-6479

E-mail:
FlexCenterLincoln@Eaton.com

Locate an Eaton Certified Contractor at EatonCertified.com

Retrofit Interior Kit Specifications

		Existing Enclosure Parameters—Inches (mm)									
Catalog Number ①	**Cover** ②	**Minimum Depth**	**Maximum Depth**	**Minimum Width**	**Minimum Height**	**Phase**	**Main**	**Bus**	**Amperes** ③	**Spaces / Circuits**	**UL 67 Listed**
CH Retrofit Interiors and Covers											
RWCH6L125N	**CRWCH6ML******	3.13 (79.5)	4.13 (104.9)	7.00 (177.8)	10.00 (254.0)	Single	MLO	CH	125	6	No
RSCH10B125N	**CRWCH12ML******	3.50 (88.9)	4.50 (114.3)	8.50 (215.9)	16.50 (419.1)	Single	MCB	CH	125	10	No
RSCH12L125N	**CRWCH12ML******	3.50 (88.9)	4.50 (114.3)	8.50 (215.9)	16.50 (419.1)	Single	MLO	CH	125	12	No
RACH22B125_	**CRACH24ML******	3.75 (95.3)	4.25 (108.0)	13.00 (330.2)	21.00 (533.4)	Single	MCB	CH	125	22	No
RACH24L125_	**CRACH24ML******	3.75 (95.3)	4.25 (108.0)	13.00 (330.2)	21.00 (533.4)	Single	MLO	CH	125	24	No
RBCH24B200_	**CRBCH24CS******	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	29.00 (736.6)	Single	MCB	CH	200	24	No
RBCH32L200_	**CRBCH32ML******	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	29.00 (736.6)	Single	MLO	CH	200	32	No
RCCH32B200_	**CRBCH32CS******	3.75 (95.3)	6.00 (152.4)	13.00 (330.2)	34.00 (863.6)	Single	MCB	CH	200	32	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: RBCH24B200J 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: CRWCH6ML2620 would signify a cover 26.00 inches H x 20.00 inches W, or CRBCH24CS3324 would be 33.00 inches H x 24.00 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.

Non-Metallic Loadcenter

Single-Phase—Main Lug Loadcenters, Non-Metallic

2460SNM

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

Main Ampere Rating	Maximum Number 1-Inch (25.4 mm) Spaces	Circuits	Enclosure Type	Trim Type	Box Size	Wire Size Range Cu/Al 60 °C or 75 °C for Main Lugs	Loadcenter Catalog Number
40 ①	2	4	Indoor	Flush (no door)	2	②	**TT120FLGNM** ②③
	2	4	Indoor	Surface (no door)	2		**TT120SLGNM** ②③
60	2	4	Indoor	Flush (no door)	2	#14–2	**2460FNM**
	2	4	Indoor	Surface (no door)	2		**2460SNM**
	2	4	Indoor	Flush (no door)	2		**2460FGNM** ③
	2	4	Indoor	Surface (no door)	2		**2460SGNM** ③
	2	4	Outdoor	—	—		**2460RNM-A2**

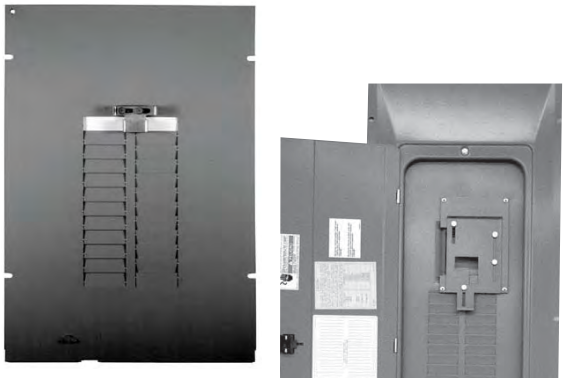
Notes

① 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.

② This device has no main lugs. A Type BR or BD breaker is required to be backfed to supply power to branch breakers. This device is single-phase 120 Vac only. With the use of three Type BR breakers, there are two branch circuits available. With the use of three Type BD breakers, there are five branch circuits available.

③ Includes GB4NM ground bar.

Options and Accessories—Mechanical Interlocks



Contents

CH Loadcenter Options and Accessories

Product Selection

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 (brown)	1	**LATCHPS**
Cover replacement latch—indoor loadcenters (white)	1	**LATCHPW**
Door replacement latch—outdoor loadcenters	1	**CH3RLATCH**
Replacement main lugs for 200 A/225 A MLO or convertible panels (#1-300 kcmil)	1	**CHPL225**
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—CH	1	**CHPHD**
Mechanical interlock kit for CH loadcenters with backfed main breaker	1	**CHPMIKCH**
Mechanical interlock kit for CH loadcenters with Type CSR main breaker	1	**CHPMIKCSR**
3/4-inch Filler Plates for Branch Breakers Slot in CH Loadcenter	25	**CHFP**
Multipack—3/4-inch filler plates for branch breakers slot in CH loadcenter (5 pieces)	1	**CHFPP**
Blank dead front directory marking strip	10	**CHMS**
CSR main breaker filler plate (sandalwood)	1	**CSRFPS**
Spray paint—12 oz can (sandalwood)	1	**SPCSW**

Note

① Must be purchased in multiples of ordering quantities indicated.

CHSF2125

CHSF3125

CHFP

TDL

BINA

Legacy Field Installation and Parts

Description	Ordering Quantity ①	Catalog Number
Sub-feed lug blocks—two-pole, 125 A, 3/4-inch (19.1 mm) spaces needed	1	**CHSF2125** ②
Sub-feed lug blocks—three-pole, 125 A, 3/4-inch (19.1 mm) spaces needed	1	**CHSF3125**
Neutral/ground lug—add-on neutral or ground lug	1	**NL20**
	1	**NL30**
	1	**NL300**
Filler plates—3/4-inch (19.1 mm) space circuit breaker space	25	**CHFP**
CSR main circuit breaker filler plate (with hardware)	1	**CSRFP**
Door lock—12–42 circuits, and 100–225 A	1	**TDL**
Sandalwood spray paint	1	**SPCSW**
ANSI-61 light gray touchup paint for outdoor loadcenters	1	**SPC61**
Isolated neutral assembly (computer circuits)	1	**BINA**
Circuit directory—adhesive backed	10	**TCD**
Cover screws	25	**LCCS**
Cover replacement latch 14-5/16 inch (363.55 mm) wide loadcenters only	1	**CHRLS**
Circuit marking strip (next to breakers)	10	**CHMS**
Circuit identification label (preprinted breaker labels next to breakers)	25	**CHBL**
Series rated caution label	25	**SRL**
Branch circuit numbering strip	20	**CHNS**
Bonding strap with screw	1	**BSSUSE**
CH plug-on neutral ground bonding strap	1	**BSCHPON**

Main Breaker Kits

Maximum Main Ampere Rating	Catalog Number 25 kAIC	35 kAIC
100	**CSR2100N**	**CSH2100N**
150	**CSR2150N**	**CSH2150N**
200	**CSR2200N**	**CSH2200N**
225	**CSR2225N**	**CSH2225N**

Main Breaker Kits

Breaker Ampere Rating	Lug Size	Catalog Number
100	#2–300 kcmil	**CSR2100**
150	#2–300 kcmil	**CSR2150N**
200	#2–300 kcmil	**CSR2200N**
225	#2–300 kcmil	**CSR2225N**

Main Lug Kits

Maximum Main Ampere Rating	Catalog Number
125	**CHL125N**
225	**CHL225N**

Notes

① Must be purchased in multiples of ordering quantities indicated.

② CHSF2125 is also used as 125 A main lug kit for convertible loadcenters.

Mechanical Interlock Covers

Covers mechanically interlock two breakers. Type A covers interlock two CH breakers mounted across from one another. Type B covers interlock a main Type CSR breaker with a Type CH.

Mechanical Interlocks

CH8BRM Type A

CH8EFM Type B

Type	Fits Loadcenter Catalog Numbers	Mechanical Interlock Trim/Deadfront Catalog Numbers Flush	Surface
A	**CH12L125B**	**CH8BFM**	**CH8BSM**
	CH16L125B		
	CH12L3125B		
	CH14B100B		
	CH20L125C	**CH8CFM**	**CH8CSM**
	CH24L125C		
	CH18L3125C		
	CH24L3125C		
	CH22B100C		
	CH22N100C		
	CH24L150D	**CH8DFM**	**CH8DSM**
	CH32L150D		
	CH24L3225D		
	CH30L3150D		
	CH42L225G	**CH8GFM**	**CH8GSM**
	CH42L3225G		
	Inner cover of Box B raintight	—	**CH8BRM**
	Inner cover of Box C raintight	—	**CH8CRM**
Indoor			
B	**CH24B150E**	**CH8EFM**	**CH8ESM**
	CH24B200E		
	CH24BPN200E		
	CH32B150J	**CH8JFM**	**CH8JSM**
	CH32B200J		
	CH3242B200J		
	CH32BPN200J		
	CH32N200J		
	CH32B225J		
	CH42B200K	**CH8KFM**	**CH8KSM**
	CH42N200K		
	CH42BPN200K		
	CH42B225K		
	CH60BPN200N	**CH8NFM**	—

CH8EFM Type B

Mechanical Interlocks, continued

Type	Fits Loadcenter Catalog Numbers	Mechanical Interlock Trim/Deadfront Catalog Numbers Flush	Surface
Outdoor			
B	**CH8B150RF**	**CH3RDF7M**	—
	CH8B200RF		
	CH8N200RF		
	CH12B200RF		
	CH24B150R		
	CH24B200R		
	CH32B150R	**CH3RDF9M**	—
	CH32B200R		
	CH32N200R		
	CH32B225R		
	CH42B200R	**CH3RDF10M**	—
	CH42N200R		
	CH42B225R		
Next Generation Power Center			
B	**CHPC32B150L**	**CHPC8B32LFM**	—
	CHPC32B200L		
	CHPC32N200L		
	CHPC42B150L	**CHPC8B42LFM**	—
	CHPC42B200L		
	CHPC42N200L		
	CHPC32B125TR	**CH3RDF15M**	—
	CHPC32B150TR		
	CHPC32B200TR		
	CHPC32N200TR		
	CHPC42B150TR	**CH3RDF16M**	—
	CHPC42B200TR		
	CHPC42N200TR		
	CHPC32B150TR	**CH3RDF17M**	—
	CHPC32B200TR		
	CHPC42B200BR	**CH3RDF18M**	—
Vintage ①			
	CH20JJM200	**CH7JJFREPLM**	—
	CH24JJM150		
	CH30JJM150		
	CH30JJM200		
	CH30JJM150H		
	CH3040JJMM200		
	CH304JJM150		
	CH304JJM200		
	CH304JJM200H		
	CH30KKM225	**CH7KKFREPLM**	—
	CH40KKM200H		
	CH40KKM225		
	CH40KKM200H		
	CH40KKM225H		
	CH304KKM200		
	CH304KKM200H		
	CH304LLM225	**CH7LLFREPLM**	—
	CH424LLM225H		

Note

① If vintage part number does not match exactly, the cover may not fit. Simple variations such as an "N" at the end of the part number contain minor design variations that will prevent our cover from working with that particular loadcenter.

PON Rainproof Conduit Hub

DS100H1

Field Installation 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	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	2.00 (50.8)	1	**DS200H2**
	2.50 (63.5)	1	**DS250H2**
	3.00 (76.2)	1	**DS300H2**
Adapter kit—allows installing a Group 1 hub on devices arranged for Group 2 hubs	—	1	**DS900AP**
Group 1—small blank hub closure plate	—	1	**DS900CP1**
Group 2 —large blank hub closure plate	—	1	**DS900CP2**

Note

① Must be purchased in multiples of ordering quantities indicated.

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

Ground Bar Legend

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

GBK14

Legacy Ground Bar Kits

Description (See Legend)	Length Inches (mm)	Ordering Quantity ①	Catalog Number
●○○○○●○	2.54 (64.5)	1	**GBK5** ④
●○○○○●○■	3.59 (91.2)	1	**GBK520** ④
●○○○○●○○○○○	4.29 (109.0)	1	**GBK10** ④
●○○○○●○○○○○○■	5.34 (135.6)	1	**GBK1020** ④
◒●◒◒◒⬓◒●◒⬓◒◒◒	5.69 (144.5)	1	**GBK14** ④
●○○○○●○○○○○○○○	6.74 (171.2)	1	**GBK1420** ④
●○○○○●○○○○○○○○■	8.14 (206.8)	1	**GBK21** ④
●○○○○●○○○○○○○○○○○○	9.19 (233.4)	1	**GBK2120** ④

Ground Bar Legend

○ = (3) #14–#10 Cu/Al or (1) #14–#4 Cu/Al
■ = (1) #6–2/0 Cu/Al
⬓ = (1) 1/0–14 or (3) #10–12 Cu/Al
◒ = (1) #14–1/0 Cu/Al or (3) #14–#10 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.
④ Distance between mounting holes is 1-3/4 inches (44.5 mm).

Legacy Grounded "B" Phase Adapters

Maximum Amperes	Three-Phase Loadcenter Types of Panels	Kit Catalog Number ①
125	12–32 circuit main lug	**CHGRD1**
225	Main lug and CHH main breaker panels	**CHGRD2**
	CC main CB panels	**CHGRD3**

Legacy Neutral Bar Accessories

Description	Catalog Number ①
Replacement neutral for all B and C type boxes	**CHN125C**
Replacement neutral for all D type boxes	**CHN125D**
Replacement neutral for all E, G, J, K and L type boxes	**CHN225L**
Isolated Neutral Assembly (computer circuits)	**BINA**

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

CH Goof Collars

Inches (mm) Height	Width	Catalog Number Loadcenter Cover	Goof Collar
21.00 (533.4)	19.00 (482.6)	**CH8BF**	**CH8BFC1921**
26.00 (660.4)	19.00 (482.6)	**CH8CF**	**CH8CFC1926**
34.00 (863.6)	19.00 (482.6)	**CH8DF**	**CH8DFC1934**
		CH8EF	
		CHSUR8EF	
39.00 (990.6)	19.00 (482.6)	**CH8GF**	**CH8JFC1939**
		CH8JF	
42.00 (1066.8)	19.00 (482.6)	**CH8KF**	**CH8KFC1942**
		CHSUR8KF	
44.00 (1117.6)	19.00 (482.6)	**CH8LF**	**CH8LFC1944**
		CHSUR8LF	

Note

① Cannot be used in Safety Breaker Panels. Classic Plus Panels only.

Technical Data and Specifications

General

A. The Contractor shall furnish and install 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 and NEMA including:

1. UL 67—standards for panelboards
2. UL 50—standards for cabinets and boxes
3. UL 489—standards for molded case circuit breakers
4. Federal Spec Classification W-C 375
5. UL 1699—all fault interrupting

Qualifications

A. The manufacturer of the loadcenter shall be the manufacturer of the circuit breaker within the load center. All breakers shall be full size.

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 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. Breakers shall be full size and a minimum of 125 A frame. Breakers 10 –125 A trip size shall take up the same pole spacing.

C. Loadcenters shall be labeled with a UL short-circuit rating. When series ratings are applied with integral or remote devices, a label shall be provided. Series 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 so designed that circuit breakers can be replaced without disturbing adjacent units and without removing the main bus connectors and shall be so designed that circuits may be changed without machining, drilling or tapping.

C. Physical means must be provided to prevent the installation of more overcurrent devices than that number for which the enclosure was designed. Full size breakers are required.

Bus

A. Busbars for the main and cross connectors shall be of silver flash plated copper construction in accordance with UL standards. Bussing shall be braced to 65 kAIC.

B. Neutral bussing 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 suitable for copper or aluminum wire of the sizes indicated. All connectors shall meet the "Requirements for Wire Connectors and Soldering Lugs" UL 486B.

B. All loadcenters where marked shall be suitable for use with 60/75 °C rated wire.

1

Circuit Breakers

A. Circuit breakers shall be molded case type, 3/4-inch (19.1 mm) wide per pole. Multipole circuit breakers shall be of a stack pole design to provide electrical phase isolation and have an internal common trip.

B. Each pole of the circuit breaker will have inverse time delay overload and instantaneous short-circuit protection by means of both thermal and magnetic sensors. Circuit breakers shall be quick-make/quick-break.

C. The circuit breaker calibration shall not be affected by environmental changes in relative humidity. Breakers shall be calibrated after assembly.

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 good visual trip indication.

E. Contacts shall be of non-welding silver alloy.

F. All branch breaker handles shall be of a different color than the case of the breaker.

G. All terminals shall be listed for use with copper or aluminum conductors. Terminals shall be of the box lug design. The terminals shall meet UL 486B requirements and shall be suitable for use with either 60 °C or 75 °C wire.

H. Breakers shall be SWD rated and/or HACR rated as required.

I. Arc fault interrupting circuit breakers, (AFC), 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 per Article 210.12 Section A of the NEC Code.

Enclosures

A. Loadcenters shall have NEMA 1 general purpose or NEMA 3R rainproof enclosures as indicated on the drawings and shall be surface or flush mounted except where noted.

B. For indoor applications, enclosures shall be rated NEMA 1. Enclosures shall be manufactured from cold-rolled code-gauge sheet steel having multiple knockouts and painted per paint specification. For outdoor applications, enclosures shall be rated NEMA 3R. Enclosures shall be manufactured from galvanized steel which shall be painted per the painted as specified. Enclosures shall be of sufficient size to meet or exceed NEC wire bending space.

C. The cover shall have an easy adjustment feature for flush applications.

D. Boxes shall be factory assembled into a single rigid structure.

E. Provide circuit breaker marking labels and directories.

Finish

A. Boxes and trims shall be finished with a high scratch-resistant aesthetically pleasing finish. The finish shall be polyurethane coating electrostatically applied to a thickness of 1.8 to 2 mils.

All loadcenters shall be provided with provisions for accepting a paintable or wall paperable decorator accessory cover. Where loadcenters are installed in living areas, provide manufacturer designed and tested decorator cover kits.

CH Loadcenters

Description	
Service	
Single-phase, three-wire, 120/240 Vac	Three-phase, four-wire, 208Y/120 Vac
Three-phase, three-wire, 240 V corner grounded delta	Three-phase, three-wire, 240 Vac delta
Short-Circuit Current Rating	
10 kAIC: All single- and three-phase loadcenters 40–400 A, 2–42 circuits except when series ratings are applied 25 kAIC: All factory-installed main breakers single-phase loadcenters rated 150–225 A using Type CSR main breakers	35 kAIC available on convertible units using CSH main breaker 42 and 100 kAIC are available on some styles: single-phase and three-phase ①
Main Breaker/Main Lug Loadcenters	
Single-phase	Three-phase
Main breaker: 100, 125, 150, 200, 225, 400 A	Main breaker: 150, 200, 225, 300, 400 A
Main lugs: 40, 70, 125, 150, 200, 225, 400 A	Main lugs: 125, 150, 200, 225, 400 A
Convertible Loadcenters	
Main breaker or main lugs: single-phase up to 225 A	
Branch Breakers	
Type CH: 10–150 A. Single-, two- and three-pole. Selected amperages available in shunt trip, HACR and switching duty Ground fault circuit interruptors: 15–60 A Type CH-HID: 15–30 A. Single-, two- and three-pole CH-HM high magnetic CH-M50 high ambient	Type CH-AFCI arc fault circuit interrupter Type CHP: 10–125 A. Single-, two- and three-pole. three-position commercial trip Selected amperages available in HACR switching duty Type CHP-HID: 15–30 A. Single-, two- and three-pole Type CHP-GFCI: 15–30 A. Single-pole ground fault breakers
Enclosures	
NEMA® Type 1 indoor	NEMA Type 3R outdoor
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 circuits, some with additional #2/0 lugs Each terminal will accommodate: (3) #14–#10 Cu/Al or (1) #14–#4 Cu/Al Sub-feed lugs 125, 150 A—two- and three-pole Shunt trips 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	
Silver flash plated copper bus is a standard feature	

CH 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	Tennant Feeder Breaker Short-Circuit Rating	Loadcenter Branch Breaker (Single-, Two- or Three-Pole)
None	10,000	None	N/A	CH, CHT, CHFCAF, CHF, CHGF
Without Main Disconnect	10,000	BR, CC, BW, CCV	10,000	—
Cable Tap Box Type 1MTB, 3MTB	22,000	BRH	22,000	CH, CHGF
	25,000	CSR	25,000	CH, CHT, CHFCAF, CHF, CHGF
Main Switch Module Type 1MFS, 3MFS and 1BPS, 3BPS	25,000	CCVH	25,000	CH
	25,000	BWH	25,000	CH, CHT, CHFCAF, CHGF
Main Breaker Module Type 1MCB, 3MCB	42,000	BRHH	42,000	CH, CHGF
	65,000	CV	65,000	—
	65,000	BRX	65,000	CH, CHT, CHFCAF, CHGF
None	100,000	Class T Fuse 200 maximum	100,00	CH, CHT, CH3, CHGF, CHCAF
Main Switch Module Type 1MFS, 3MFS with Class T Fuse 1200 A Max	65,000	Class J Fuse 200 maximum	100,00	—
	100,000	BRHH	42,000	CH, CH3

Note

① For 100 kAIC systems the main needs to be rated to 100 kAIC.

1

Dimensions

Approximate Dimensions in Inches (mm)

Residential/Commercial/Unit Enclosure—Box Sizes

Note: Box sizes do not include covers/fronts.

CH Plug-on Neutral Residential Loadcenters

Box Size	Height	Width	Depth
NEMA Type 1 Indoor			
X0	16.75 (425.5)	14.30 (363.2)	3.13 (79.4)
X1	18.75 (476.3)	14.30 (363.2)	3.39 (86.1)
X2	21.00 (533.4)	14.30 (363.2)	3.69 (93.7)
X3	23.00 (584.2)	14.30 (363.2)	3.88 (98.4)
X4	27.00 (685.8)	14.30 (363.2)	3.88 (98.4)
X5	29.13 (739.9)	14.30 (363.2)	3.88 (98.4)
X6	34.13 (866.9)	14.30 (363.2)	3.88 (98.4)
X7	37.00 (939.8)	14.30 (363.2)	3.88 (98.4)
X8	39.00 (990.6)	14.30 (363.2)	3.88 (98.4)
X9	45.00 (1143.0)	14.30 (363.2)	3.88 (98.4)
X10	48.38 (1228.9)	14.30 (363.2)	3.88 (98.4)

Legacy CH Residential Loadcenters

Box Size	Height	Width	Depth
NEMA Type 1 Indoor			
5	9.50 (241.3)	4.50 (114.3)	3.13 (79.4)
6	11.38 (288.9)	6.88 (174.6)	3.39 (86.1)
7	13.00 (330.2)	11.00 (279.4)	3.69 (93.7)
B	16.75 (425.5)	14.31 (363.5)	3.88 (98.4)
C	21.00 (533.4)	14.31 (363.5)	3.88 (98.4)
D	29.13 (739.8)	14.31 (363.5)	3.88 (98.4)
E	29.13 (739.8)	14.31 (363.5)	3.88 (98.4)
G	34.13 (866.8)	14.31 (363.5)	3.88 (98.4)
J	34.13 (866.8)	14.31 (363.5)	3.88 (98.4)
K	37.00 (939.8)	14.31 (363.5)	3.88 (98.4)
L	39.00 (990.6)	14.31 (363.5)	3.88 (98.4)
N	45.00 (1143.0)	14.31 (363.5)	3.88 (98.4)
NEMA Type 3R Outdoor			
5R	9.50 (241.3)	4.50 (114.3)	3.13 (79.4)
6R	11.75 (298.5)	6.50 (165.1)	4.50 (114.3)
7R	13.00 (330.2)	11.00 (279.4)	3.69 (93.7)
B	16.75 (425.5)	14.31 (363.5)	5.19 (131.8)
C	21.00 (533.4)	14.31 (363.5)	5.19 (131.8)
D	29.13 (739.8)	14.31 (363.5)	5.19 (131.8)
E	29.13 (739.8)	14.31 (363.5)	5.19 (131.8)
G	34.13 (866.8)	14.31 (363.5)	5.19 (131.8)
J	34.13 (866.8)	14.31 (363.5)	5.19 (131.8)
K	37.00 (939.8)	14.31 (363.5)	5.19 (131.8)
L	39.00 (990.6)	14.31 (363.5)	5.19 (131.8)

Legacy Commercial Loadcenters

Box Size	Height	Width	Depth
NEMA Type 1 Indoor			
P	54.38 (1381.1)	21.00 (533.4)	6.00 (152.4)
PM	62.63 (1590.7)	21.00 (533.4)	6.00 (152.4)

Types ECB and ECC Unit Enclosures

Height	Width	Depth
NEMA Type 1 Indoor		
23.25 (590.6)	8.88 (225.4)	4.50 (114.3)
NEMA Type 3R Outdoor		
23.69 (601.7)	9.31 (236.5)	5.44 (138.1)

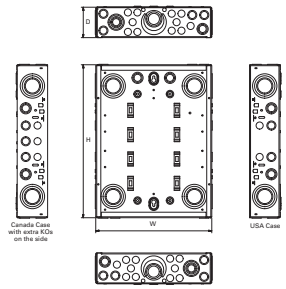
Approximate Dimensions in Inches (mm)

Plug-on Neutral Loadcenter

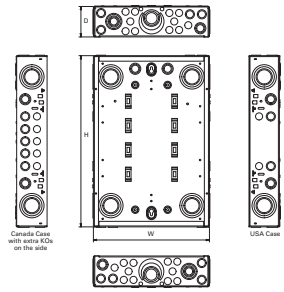
Box Sizes for X1–X9

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)

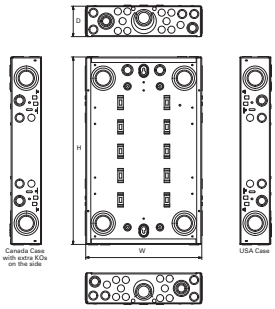
Knockout Positions



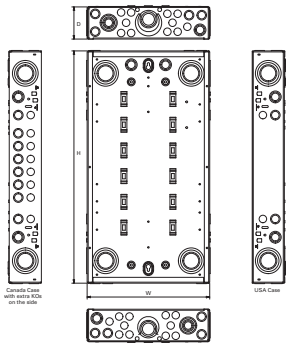
X1



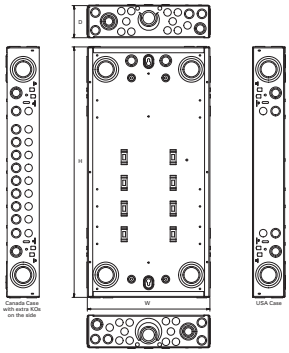
X2



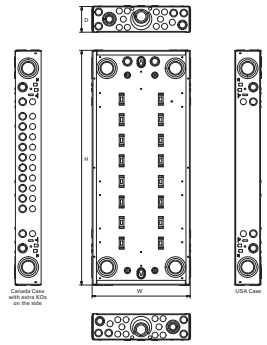
X3



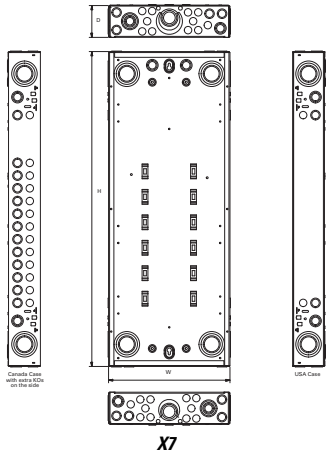
X4



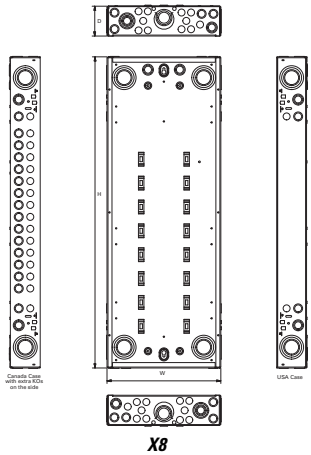
X5



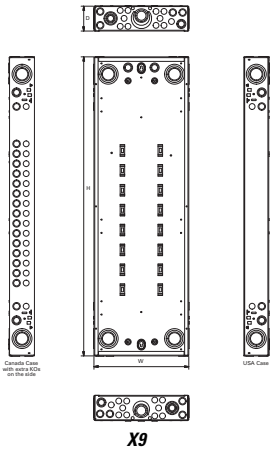
X6



X7



X8



X9

Approximate Dimensions in Inches (mm)

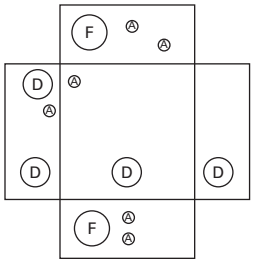
Residential Loadcenter Knockout

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

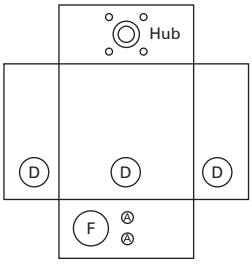
Knockouts for Box Sizes 5, 6, 7, 5R, 6R, 7R

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)	—

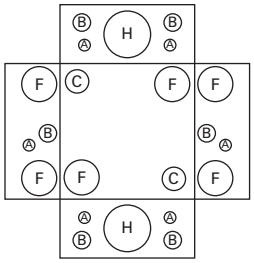
Knockout Positions



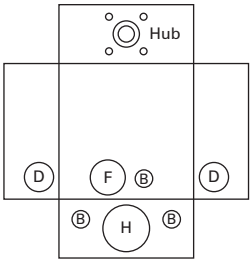
Box 5



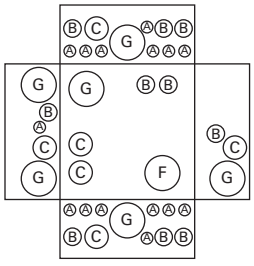
Box 5R



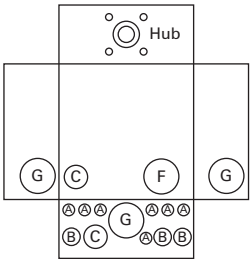
Box 6



Box 6R



Box 7



Box 7R

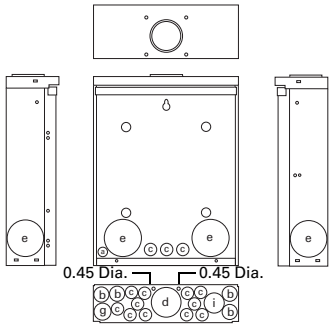
Residential and Commercial Loadcenter Knockout

Residential NEMA Type 1 indoor and NEMA Type 3R outdoor enclosures.

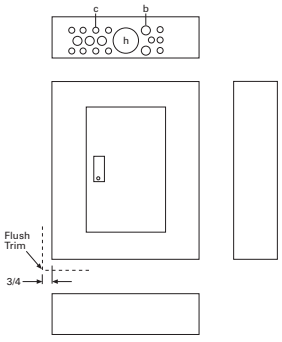
Knockouts for Box Sizes 8, 8R, P, PM, B, C, D, E, G, J, K, L, N and Outdoor Boxes 12–60 Circuits

Code	Diameter				
a	0.75 (19.1)	—	—	—	—
b	0.50 (12.7)	0.75 (19.1)	—	—	—
c	0.50 (12.7)	—	—	—	—
d	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)
e	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)	—
f	0.75 (19.1)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	—
g	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	—	—
h	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)	—	—
i	0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)
j	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	—	—
k	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	—	—
m	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)
n	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	—
p	2.00 (50.8)	2.50 (63.5)	—	—	—

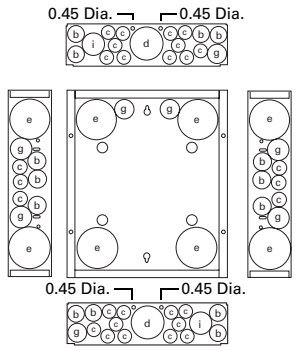
Knockout Diagram



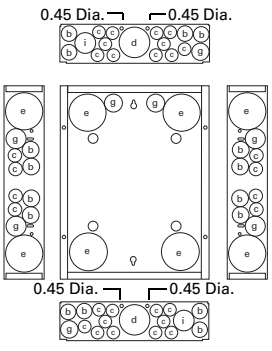
Outdoor Boxes 12–42 Circuits 225 A Maximum



Box P, PM



Box B

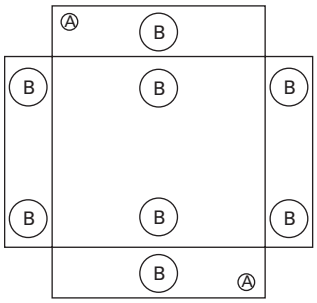


Box C, D, E, G, J, K, L, N

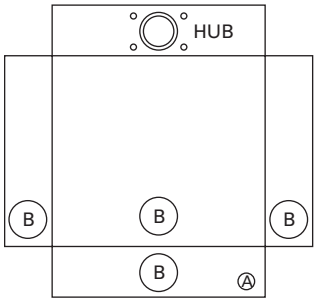
Type ECB and ECC Unit Enclosure Knockout

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)	2.50 (63.5)
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)	2.50 (63.5)

NEMA Type 1—Indoor



NEMA Type 3R—Outdoor



Plug-on Circuit Breakers

Contents

CH Circuit Breakers

Product Description

Quick-make, quick-break switch mechanism combined with inverse time element tripping operation and trip-free handle design. Type CH circuit breakers trip to the OFF position, eliminating nuisance callbacks. The CHF family also includes a trip flag to differentiate between a trip and the breaker being turned off. The thermal-magnetic trip curve avoids nuisance tripping on mild overloads while reacting almost instantaneously to severe short-circuit conditions. Multipole breakers have internal common trip connection to operate all poles simultaneously. Handles are marked with ON-OFF indication and ampere rating of the breaker.

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

Branch Feeder Type Arc Fault Circuit Breakers

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 all subsequent editions of the National Electrical Code.

Combination Type Arc Fault Circuit Breakers

A combination type arc fault circuit interrupter is a device that offers 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.

Ground Fault Circuit Breakers—Ground Fault Application Notes

Single-pole Type CHGFIs are designed for use in two-wire, 120 Vac circuits. The diagram on **Page V1-T1-44** shows a typical wiring configuration.

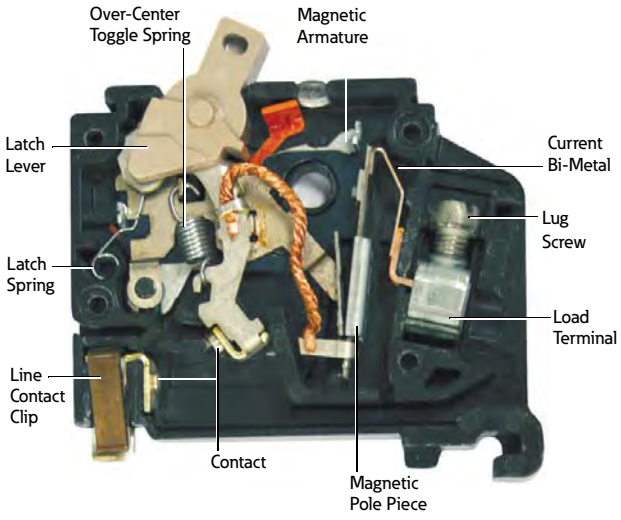
Two-pole Type CHGFIs are designed for use in three-wire, 120/240 Vac circuits, 120 Vac multiwire circuits employing common, neutral and two-wire, 240 Vac circuits obtained from a 120/240 Vac source.

Diagrams on **Page V1-T1-44** illustrate typical wiring configurations for 120/240 Vac multiwire circuits.

The diagram on **Page V1-T1-44** depicts 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 Type CHGFI is not affected by the equipment ground.

Features



Product Selection

10 kAIC, 120 Vac, 120/240 Vac and 240 Vac

Type CH Plug-on Circuit Breakers

Type CH Breakers, 3/4-Inch (19.1 mm) per Pole 120, 120/240 or 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Catalog Number Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton	Three-Pole 240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton
10	(1) #14–8 ①	CH110	CH210	CH310
15	(2) #14–10 ①②	CH115 ⑤⑥	CH215 ⑥	CH315 ⑥
20	(1) #14–6 ③	CH120 ⑤⑥	CH220 ⑥	CH320 ⑥
25		CH125 ⑥	CH225 ⑥	CH325 ⑥
30		CH130 ⑥	CH230 ⑥	CH330 ⑥
35	#14–2 ① #14–6 ③	CH135 ⑥	CH235 ⑥	CH335 ⑥
40	#10–1/0 ④	CH140 ⑥	CH240 ⑥	CH340 ⑥
45	#14–2 #3/0	CH145 ⑥	CH245 ⑥	CH345 ⑥
50		CH150 ⑥	CH250 ⑥	CH350 ⑥
60		CH160	CH260	CH360
70		CH170	CH270	CH370
80		—	CH280	CH3080
90		—	CH290	CH3090
100		—	CH2100	CH3100
110		—	CH2110	—
125		—	CH2125	—

Type CH Plug-on Circuit Breakers

CHF Breakers with Mechanical Trip Flag

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Catalog Number Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton
10	(1) #14–8 ①	CHF110	CHF210
15	(2) #14–10 ①②	CHF115 ⑤⑥	CHF215 ⑥
20		CHF120 ⑤⑥	CHF220 ⑥
25		CHF125 ⑥	CHF225 ⑥
30		CHF130 ⑥	CHF230 ⑥
35	#14–2 ①	CHF135 ⑥	CHF235 ⑥
40	#14–4 ④	CHF140 ⑥	CHF240 ⑥
45		CHF145 ⑥	CHF245 ⑥
50		CHF150 ⑥	CHF250 ⑥

Notes

① For single- and two-pole breakers.
② Solid and stranded wire can be used together.
③ For three-pole breakers.
④ Single-pole and two-pole 40–50 A.
⑤ Switching duty rated.
⑥ HACR rated.

For factory-installed options, refer to **Page V1-T1-43.**

Type CH AF/GF Single-Pole Circuit Breaker

Type CH AFCI Single-Pole Circuit Breaker

Dual Function Arc Fault/Ground Fault 3/4-Inch (19.1 mm) Wide Circuit Breakers, Type CH, 120 Vac—10 kAIC ①②

Poles	Ampere Rating	Configuration	Catalog Number
Single-pole 10 kAIC	15	Combination AFCI GFCI	**CHFAFGF115** ③
	20	Combination AFCI GFCI	**CHFAFGF120** ③
Single-pole, plug-on neutral 10 kAIC	15	Combination AFCI GFCI	**CHFAFGF115PN**
	20	Combination AFCI GFCI	**CHFAFGF120PN**

Plug-on Branch Feeder Type Arc Fault Circuit Breakers, Type CH 10 kAIC, 120 Vac and 120/240 Vac

Type CH AFCI Single-Pole Circuit Breaker

Combination Type CH AFCI 3/4-Inch (19.1 mm) Wide Circuit Breakers

Poles	Ampere Rating	Catalog Number
Standard Pigtail		
Single-pole 10 kAIC	15	**CHFCAF115**
	20	**CHFCAF120**
Two-pole 10 kAIC	15	**CH215CAF**
	20	**CH220CAF**

Plug-on Neutral Combination Type Arc Fault Circuit Breakers and Ground Fault, Type CH 10 kAIC, 120 Vac and 120/240 Vac ④

Type CH AFCI Single-Pole PON Combo Circuit Breaker

Combination Type CH AFCI 3/4-Inch (19.1 mm) and CHGFCI Circuit Breakers

Poles	Ampere Rating	Configuration	Catalog Number
Single-pole 10 kAIC	15	AFCI plug-on neutral	**CHFCAF115PN**
	20	AFCI plug-on neutral	**CHFCAFT120PN**
	15	GFCI plug-on neutral	**CHFGFT115PN**
	20		**CHFGFT120PN**
	25		**CHFGFT125PN**
	30		**CHFGFT130PN**

Notes

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

② Breaker qualifies as personnel protection ground fault, (5 mA) per UL 943.

③ Clamshell packaging available with CS modification code on the end of catalog number.

④ Requires plug-on neutral loadcenter.

Common trip refers to two-pole 240 V load application sourced by 120/240 Vac (see diagram on **Page V1-T1-44**).
Independent trip refers to two-pole multi-wire, home run or shared neutral circuits (see diagrams on **Page V1-T1-44**).

Plug-on Ground Fault Circuit Breakers, Type CH 10 kAIC, 120 Vac and 120/240 Vac

Type CH Single-Pole

Type CH Ground Fault Circuit Breakers (5 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac,10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C ①	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Catalog Number—1 per Shelf Carton Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6	**CHFGFT115**	**CH215GFT**
20	#14–6	**CHFGFT120**	**CH220GFT**
25	#14–6	**CHFGFT125**	**CH225GFT**
30	#14–6	**CHFGFT130**	**CH230GFT**
35	#14–6	—	**CH235GFT**
40	#14–6	—	**CH240GFT**
45	#14–6	—	**CH245GFT**
50	#14–6	—	**CH250GFT**
60	#14–6 ①	—	**CH260GFT**

Type CH Two-Pole

Type CH Ground Fault Equipment Protectors (30 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C ①	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Catalog Number—1 per Shelf Carton Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6	**CHFEP115**	**CH215EPD**
20	#14–6	**CHFEP120**	**CH220EPD**
25	#14–6	**CHFEP125**	—
30	#14–6	**CHFEP130**	**CH230EPD**
40	#14–6	—	**CH240EPD**
50	#14–6	—	**CH250EPD**
60	#14–6 ①	—	**CH260EPD**

Type CH Switching Neutral Breakers—10 kAIC, 120 Vac and 120/240 Vac

Used to open the neutral along power line(s) for applications of gas pumps.

CH220SW

3/4-Inch (19.1 mm) per Pole 120/240 or 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Catalog Number—1 per Shelf Carton Two-Pole 120 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces (Hot leg) Neutral Out Neutral In	Catalog Number—1 per Shelf Carton Three-Pole 120/240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces Phase Phase Neutral Out Neutral In
15	#14–8	**CH215SW** ②	**CH315SW** ③
20	#14–8	**CH220SW** ②	**CH320SW** ③
30	#14–8	**CH230SW** ②	**CH330SW** ③
40	#14–8	**CH240SW** ②	**CH340SW** ③
50	#14–8	**CH250SW** ②	**CH350SW** ③

Notes

① 60 A breaker listed for 75 °C Cu wire only.

② For circuit breakers with shunt trip, add ST suffix. Shunt trip requires one additional pole space.

③ Switching duty rated.

1

Type CH-HID Circuit Breakers—10 kAIC, 120 Vac, 120/240 and 240 Vac

Suitable for use in circuits for fluorescent and high intensity discharge lighting. Also suitable for HACR applications.

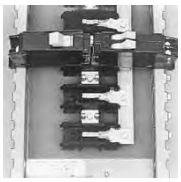
3/4-Inch (19.1 mm) per Pole 120 Vac, 120/240 and 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton Catalog Number	Two-Pole 240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number	Three-Pole 240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number
15	#14–8	**CH115HID**	**CH215HID** ①	**CH315HID**
20	#14–8	**CH120HID**	**CH220HID**	**CH320HID**
30	#14–8	**CH130HID**	**CH230HID**	**CH330HID**

Type CHT Twin 10 kAIC, 120/240 Vac, Universal CTL and Non-CTL Plug-on Circuit Breakers

Suitable for CTL and Non-CTL CH loadcenters.

Type CH and CHT Circuit Breakers Mounted in Twin Breaker Panel



Twin (CTL) 3/4-Inch (19.1 mm) per Pole 120 Vac Class CTL 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Single-Pole Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton Catalog Number 120/240 Vac 120/240 Vac
15–15	#14–8	**CHT1515** ②③
15–20	#14–8	**CHT1520** ②③
20–20	#14–8	**CHT2020** ②③

Notes

① CH215HID is rated for 120/240 V.

② Switching duty rated.

③ HACR rated.

Type CHP Commercial Breakers—10 kAIC, 120 Vac, 120/240 Vac and 240 Vac

Note: CHP breakers feature on-off and trip positions for commercial applications.

3/4-Inch (19.1 mm) per Pole 120, 120/240 or 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60 °C or 75 °C	Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton Catalog Number	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number	Three-Pole 240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number
10	(1) #14–8 ① (2) #14–10 ①② (1) #14–6 ③	**CHP110**	**CHP210**	**CHP310**
15		**CHP115** ⑥⑦	**CHP215** ⑦	**CHP315** ⑦
20		**CHP120** ⑥⑦	**CHP220** ⑦	**CHP320** ⑦
25		**CHP125** ⑦	**CHP225** ⑦	**CHP325** ⑦
30		**CHP130** ⑦	**CHP230** ⑦	**CHP330** ⑦
35	#14–2 ① #14–6 ③	**CHP135** ⑦	**CHP235** ⑦	**CHP335** ⑦
40	#10–1/0 ④ #14–2 ⑤	**CHP140** ⑦	**CHP240** ⑦	**CHP340** ⑦
45		**CHP145** ⑦	**CHP245** ⑦	**CHP345** ⑦
50		**CHP150** ⑦	**CHP250** ⑦	**CHP350** ⑦
60		**CHP160** ⑦	**CHP260** ⑦	**CHP360** ⑦
70		**CHP170**	**CHP270**	**CHP370**
80		—	**CHP280**	—
90		—	**CHP290**	—
100		—	**CHP2100**	**CHP3100**
110		—	**CHP2110**	—
125		—	**CHP2125**	—

Notes

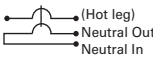
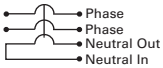
① For single- and two-pole breakers.
② Solid and stranded wire can be used together.
③ For three-pole breakers.
④ Single-pole 60–70 A, two-pole 80–125 A, three-pole 40–100 A.
⑤ Single-pole 40–50 A, two-pole 40–70 A.
⑥ Switching duty rated.
⑦ HACR rated.

CHP breakers offer on-off and trip positions for commercial applications.

Type CHP Neutral Switching Breakers—10 kAIC, 120 Vac and 120/240 Vac

Used to open the neutral along power line(s) for applications of gas pumps.

3/4-Inch (19.1 mm) per Pole 120 or 120/240 Vac, 10 kAIC

		Two-Pole 120 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 1 per Shelf Carton Catalog Number	Three-Pole 120/240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces 1 per Shelf Carton Catalog Number
Ampere Rating	**Wire Size Range Cu/Al 60 °C or 75 °C**		
15	#14–8	**CHP215SW** ①	**CHP315SW** ①
20	#14–8	**CHP220SW** ①	**CHP320SW** ①

Type CH-M50 High Ambient Breaker

3/4-Inch (19.1 mm) per Pole 120 or 120/240 Vac, 10 kAIC

		Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton Catalog Number	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number
Ampere Rating	**Wire Size Range Cu/Al 60 °C or 75 °C**		
15	(1) #14–8 (2) #14–10	**CH115M50**	**CH215M50**
20		**CH120M50**	**CH220M50**
25		**CH125M50**	**CH225M50**
30		**CH130M50**	**CH230M50**
35		**CH135M50**	**CH235M50**
40		**CH140M50**	**CH240M50**
45		**CH145M50**	**CH245M50**
50		**CH150M50**	**CH250M50**
60		—	**CH260M50**
70		—	**CH270M50**

Type CH-HM and CHP-HM High Magnetic Breakers

3/4-Inch (19.1 mm) per Pole 120 or 120/240 Vac, 10 kAIC

		Single-Pole 120/240 Vac Requires One 3/4-Inch (19.1 mm) Space 10 per Shelf Carton Catalog Number	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces 5 per Shelf Carton Catalog Number
Ampere Rating	**Wire Size Range Cu/Al 60 °C or 75 °C**		
15	(1) #14–8 (2) #14–10	**CH115HM**	**CH215HM**
20		**CH120HM**	**CH220HM**
15	(1) #14–8 (2) #14–10	**CHP115HM**	**CHP215HM**
20		**CHP120HM**	**CHP220HM**

Note

① For circuit breakers with shunt trip, add ST suffix. Shunt trip requires one additional pole space, obtain pricing from **Page V1-T1-43**.

Options and Accessories

CHHT

CHPL

CHPLGF

MCBPL

CHLO

CH125RB

CH9MB270

CHML

Field Installation Kits and Parts

Description	Ordering Quantity ①	Catalog Number
Handle Ties ②		
Handle tie bar for physically joining the handles of two adjacent single-pole Type CH circuit breakers (molded plastic handle cover)	25	**CHHT**
Padlockable device for locking the handle of CH AFGF, CAF and GFT breakers into the ON or OFF position.		**CHFAFGFLOFF**
Handle Lockoffs ③④		
Padlockable device for locking the handle of single-, two- or three-pole Type CH circuit breakers (escutcheon mounted) ⑤	1	**CHPL**
Padlockable device for locking the handle of a single-pole Type CHGFI circuit breaker (escutcheon mounted) ⑤	1	**CHPLGF**
Padlockable bracket for locking the handle of two-, three- and four-pole Type CH circuit breakers	10	**CHPLOFF**
Padlockable device for locking the handle of main circuit breaker Types CC and CCH into the ON or OFF position.(screw mounted) ⑥	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**
Handle Lockdogs ④⑦		
Device used to secure handle in ON or OFF position for single-pole Type CH circuit breakers (handle mounted) ⑧	10	**CHLO**
Hold-Down Kits ⑨		
Hold-down retainer kit for single-, two-, three-pole Type CH circuit breakers. For 6–24 circuit 125 A single- and three-phase, 12–42 circuit single-phase 225 A and 24–42 circuit three-phase 225 A MLO Type CH loadcenters	1	**CH125RB**
Hold-down retainer kit for single-, two-, three-pole Type CH circuit breakers for 2–4 circuit MLO CH loadcenters.	1	**CH125RB24**
Mounting Bases		
Mounting base for two-pole Type CH circuit breaker—70 A maximum	1	**CH9MB270**
Main Breaker Lug Kits		
Types CC and CCH main breaker lug kit (2) 300 kcmil	1	**CCL300**
Type CSR main breaker lug kit (2) 300 kcmil	1	**MCBL300**
Mechanical Interlock		
Type CH for two-, three- and four-pole breakers	10	**CHML** ⑩

Shunt Trip Options

Description Type	Volts	Catalog Number Suffix Adder ⑪
CSR	12 DC	**SR12**
CSR	24 DC	**SR24**
CSR	120 AC	**SR01**
CH	120 AC	**ST** ④
CC	12 DC	**SR12**
CC	24 DC	**SR24**
CC	120 AC	**SR01**
CC	208 AC	**SR08**
CC	240 AC	**SR02**

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 screw mounted	Remove	—	—
Lockdog handle mounted	N/A	Remove	—

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 Requires one additional pole space.
⑤ Escutcheon mounted: device mounted semipermanently to the face of the circuit breaker and secured by the loadcenter deadfront.
⑥ Screw mounted: device permanently mounted to the face of the circuit breaker by the use of a non-removable screw.
⑦ Handle lockdogs: devices that are used to secure a circuit breaker's handle in the ON or OFF position. Handle lockdogs are not padlockable devices.
⑧ Handle mounted: device mounted above or below handle using spring pressure.
⑨ Hold-down kits: devices used to secure the circuit breaker to the loadcenter for back-feed main application. See NEC Article 408.36(D).
⑩ CHML not suitable to transfer emergency power.
⑪ Add suffix indicated to end of breaker catalog number.

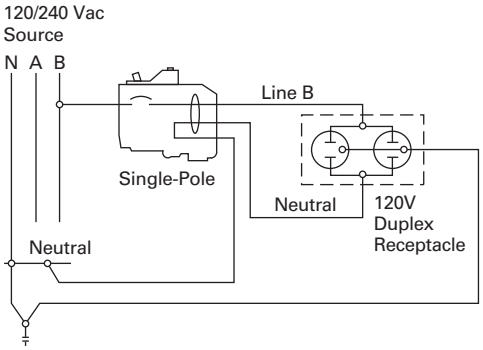
Technical Data and Specifications

Ratings

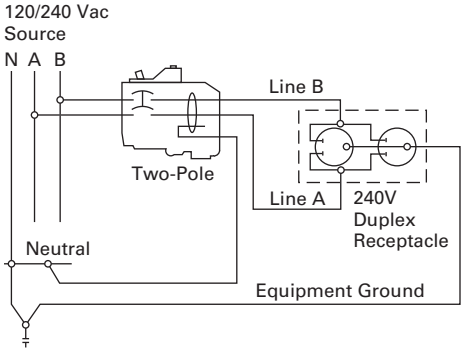
Single- and two-pole CH breakers rated 15 and 20 A have low instantaneous magnetic trip levels. The 15 and 20 A breakers with "HM" suffix have high magnetic trip settings recommended for circuits with inherently high inrush currents. All Type CH breakers are marked for heating, air conditioning and refrigeration (HACR) equipment application. Single-pole 15–20 A breakers are also suitable for switching duty (SWD). Shunt trip coils operate on 120 Vac and require one additional pole space per breaker.

Wiring Diagrams

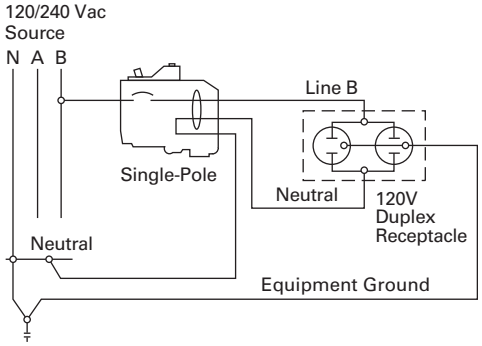
Typical Single-Pole



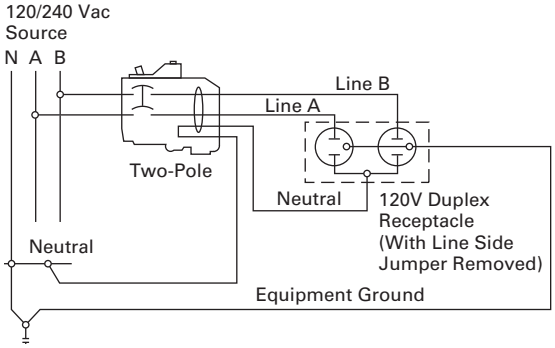
Two-Pole 240 V Load Application Sourced by 120/240 Vac



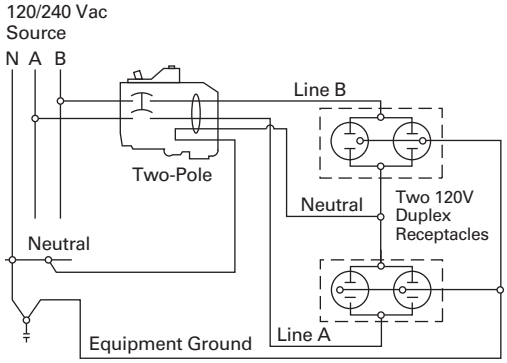
Single-Pole 120 V Load Application Sourced by 120/240 Vac



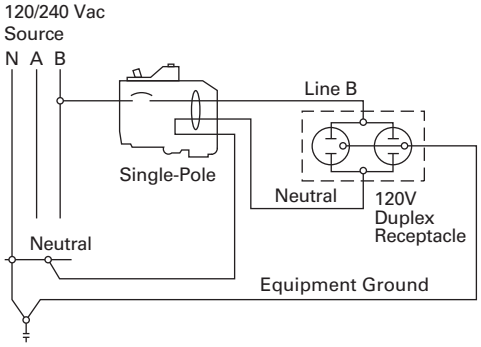
Two-Pole Shared Neutral with Duplex Receptacle Application



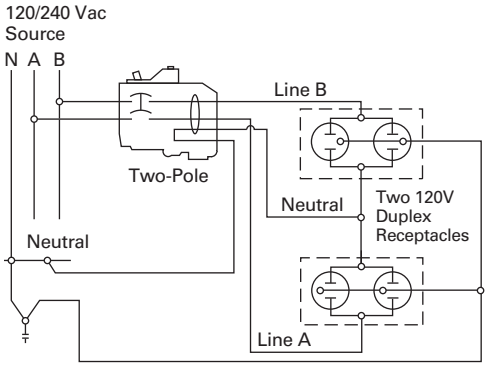
Two-Pole Shared Neutral with Multi-Duplex Receptacle Application



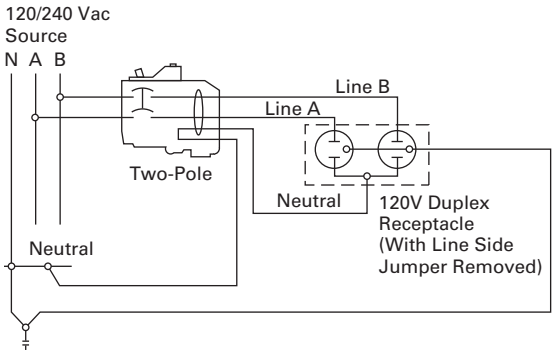
Single-Pole 120 V Duplex Receptacle Application



Two-Pole 120 V Multi-Duplex Receptacle Application



Two-Pole 120 V Duplex Receptacle Application



Two-Pole 240 V Duplex Receptacle Application