

Quik-Spec Coordination Panelboard, 30 to 400 A



IMPORTANT

These procedures do not claim to cover all possible details or variations encountered with the Quik-Spec™ Coordination Panelboard. Nor do they provide for all possible conditions that may be encountered. If further information is desired or needed to address any particular issue not covered in this document, contact your Bussmann products representative. The information in this document does not relieve the user from exercising good judgment, nor from using sound safety practices.

Note: Because Eaton has a policy of continuous product improvement, we reserve the right to change design specifications without notice. Should a conflict arise between the general information in this document and the contents of drawings or supplementary material, or both, the latter shall take precedence. For the latest version of this manual, download it from Eaton.com/bussmannseries.

The contents of this manual are not part of, nor do they modify, any prior or existing agreement, commitment or relationship. The Bussmann Division terms and conditions of sale constitute the entire obligation of Eaton. The warranty in the terms and conditions of sale is the sole warranty. Any statements in this document do not create new warranties or modify any existing warranty.

	⚠ DANGER
	<p>HAZARDOUS VOLTAGE Will cause severe injury or death.</p> <p>Working on or near energized circuits poses a serious risk of electrical shock. De-energize all circuits before installing or servicing this equipment and follow all prescribed safety procedures.</p>

QUALIFIED PERSON

For the purpose of this Instruction Leaflet, a qualified person:

- (a) is familiar with the subject equipment and the hazards involved with their application, use, administration and maintenance.
- (b) is trained and authorized to de-energize, clear, ground, and tag circuits and equipment in accordance with established safety practices.
- (c) is trained in the proper care and use of personal protective equipment such as rubber gloves, hard hat, safety glasses or face shields, arc-flash clothing, etc., in accordance with established safety practices.
- (d) is trained to render first aid.
- (e) has received safety training to recognize and avoid the hazards involved.
- (f) has the skills and knowledge pertaining to the construction and operation of this equipment and its installation.

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Visit Eaton.com/bussmannseries for the following:

- Data sheet no.1160
- Application note no. 3148

Signal Words

The signal words “DANGER,” “WARNING,” “CAUTION” and “NOTICE” (along with their assigned symbol) throughout this manual indicate the degree of hazard the user may encounter.

These symbols and words are defined as:

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE: Indicates a hazardous situation which, if not avoided, could result in property damage.



Safety Concerns

The following are important safety precautions that Quik-Spec™ Coordination Panelboard users should observe at all times. This summary is not comprehensive. It is assumed the Quik-Spec Coordination Panelboard user will follow standard safety precautions for

working in an electrical environment. For more information on safety precautions and

procedures, consult the following sources:

Cooper Bussmann Safety BASICs™ Handbook for Electrical Safety, Edition 2, 2005.

Websites:

National Fire Protection Association (NFPA): www.nfpa.org.

Underwriters Laboratories (UL): www.ul.com.

National Electrical Manufacturers Association (NEMA): www.nema.org.

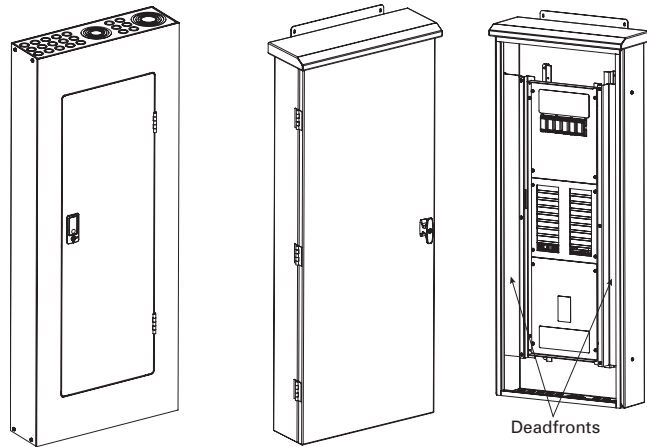
International Electrotechnical Commission (IEC): www.iec.ch.

Enclosure mounting instructions

Important

Read these instructions carefully to assure proper installation and assembly. Ensure all fasteners and connections are properly tightened (refer to torque information label 3A1064 on panelboard)

A separate booklet NEMA Standards Publication ANSI/NEMA PB 1.1-2007 titled “General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less” was provided with this equipment. You should become familiar with its contents before proceeding with these specific instructions. If you did not receive this booklet, contact your local Bussmann products distributor, Bussmann series products representative or download an electronic version from <http://www.nema.org/stds/pb1-1.cfm#download>.



NEMA 1 flush or surface mount enclosure.

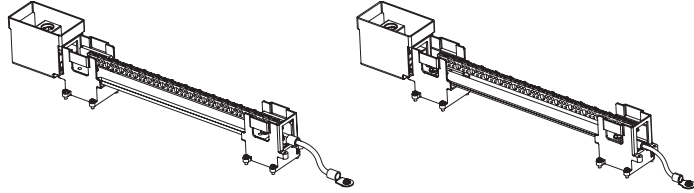
NEMA 3R* surface mount enclosure.

1. Mount NEMA 1 box or NEMA 3R* enclosure per ANSI/NEMA PB 1.1 instructions. NEMA 1 enclosure box can be rotated 180° to accommodate conduit feed.
2. If installing NEMA 1 flush mount panelboard, make allowances for finished wall thickness.
3. Install “Grounding Bar” and “Neutral Bar” using supplied #10-32 x 1/2” long screws.
 - NEMA 1 box: Grounding Bar and Neutral Bar may be installed on either side (one bar per side) of the enclosure to facilitate wire routing needs.
 - NEMA 3R enclosure: Remove left and right side deadfronts. Install Neutral Bar on the left side and Grounding Bar on the right side. Reinstall deadfronts to their original positions.
4. Tighten all fasteners and connections to specified torque values.
5. If panelboard is installed as a SERVICE Entrance, install Neutral Bar bonding wire per the following instructions.

* NEMA 3R enclosure is bottom feed only.

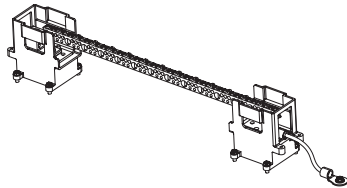
Neutral bonding wire installation

For SERVICE entrance installations, install bonding wire between the neutral bar stud using 1/4-20 hex flange nut and enclosure using #10-32 x 1/4" long screw, as shown in the illustration below, and tighten fasteners to specified torque values.



800A neutral bar

400A neutral bar

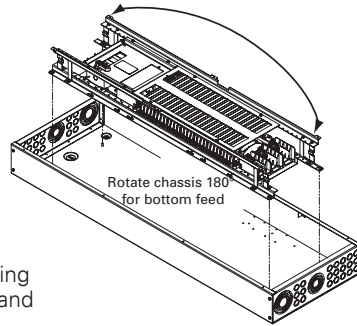


200A neutral bar

NOTE: Neutral bonding wire is to be installed only when panelboard is installed as SERVICE equipment.

Chassis installation

Note: The NEMA 1 panelboard chassis can be rotated 180 degrees to meet bottom or top conductor feed requirements. NEMA 3R is bottom feed only.

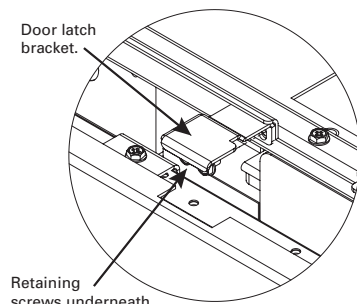


1. Align mounting holes on chassis with studs on back wall of enclosure.
2. Secure chassis to enclosure using four (4) 1/4-20 hex flange nuts and torque to 35 Lb-In (2.8 N•m).
3. As necessary, drill holes or remove knockouts and feed conductors as needed using appropriate hardware (see NEMA PB 1.1).
4. Check that all fasteners and wire terminals are tightened to specified torque values.
5. Install deadfronts and trim as required.

Door-in-door latch adjustment

For NEMA 1 installations with the Door-in-Door front; if the door trim latch does not engage the latch bracket:

1. Make sure door latch bracket is installed on correct side of chassis. If not, remove retaining screws and reinstall bracket on other side.
2. Adjust bracket by loosening the two retaining screws.
3. Reposition door latch bracket for proper engagement with door latch and retighten retaining screws.



DANGER

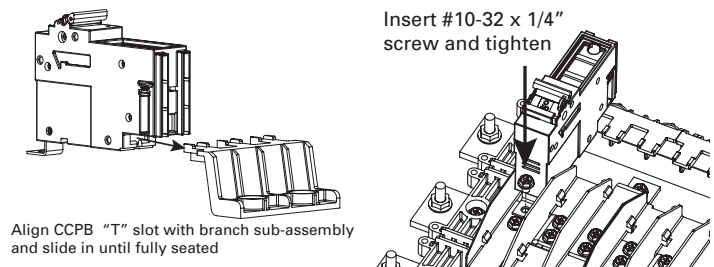
ELECTRIC SHOCK HAZARD

Electrical equipment may contain hazardous voltages that can cause electrical shock, burn or death.

Only qualified personnel should perform procedures involving electrical equipment. Always properly ground equipment and lockout electric power (de-energize) before accessing electrical equipment and enclosures. All unused branch circuit positions must be filled with blank covers before energizing panelboard.

Take note of and follow all safety instructions in this manual.

Installing CCPB branch disconnect instructions

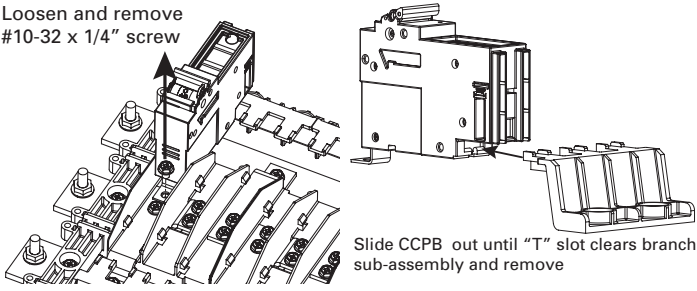


The CCPB branch disconnects come factory installed. If it is necessary to replace or install additional CCPB branch disconnects, order as many as required. Be sure to specify the correct ampacity rejection rating and number of poles for the circuits being added (see replacement parts list on page XX) and follow the installation steps below:

1. De-energize and lockout panelboard power supply.
2. Remove branch circuit deadfront.
 - 2a. Remove branch circuit knockout(s) from deadfront where CCPB is being installed.
3. On the CCPB to be installed, push the switch to the "OFF" (O) position and remove fuse (if present).
4. Align "T" slot on CCPB with branch sub-assembly and slide CCPB into position until fully seated.
5. Align hole on CCPB bus tab with hole on bus bar, insert #10-32 x 1/4" screw and tighten to 25 Lb-In (2.82 N•m) torque.
6. Install additional #10-32 x 1/4" screws for 2- and 3-pole CCPBs and tighten to 25 Lb-In (2.82 N•m) torque.
7. Strip insulation off load wire end per marking on side of CCPB branch disconnect, insert into box terminal and tighten terminal screw to specified torque for conductor size (see label 3A1064 on panelboard).
 - 7a. With branch disconnect switch in the "OFF" (O) position, install fuse of correct amp rating and push in until fully seated.
8. Repeat steps 3 to 7a above to install additional CCPB branch disconnects.
9. Reinstall branch circuit deadfront.

Removing CCPB branch disconnect instructions

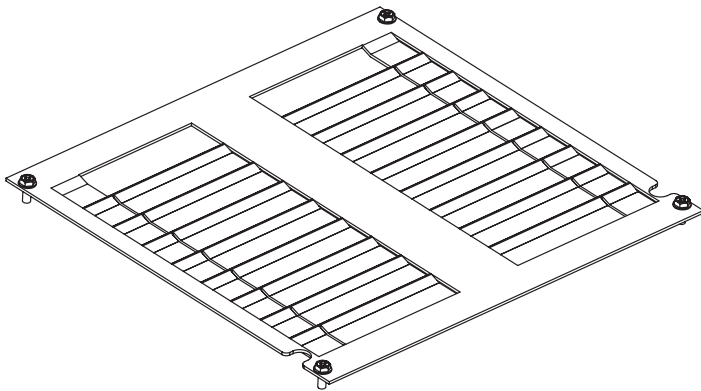
Loosen and remove
#10-32 x 1/4" screw



Slide CCPB out until "T" slot clears branch sub-assembly and remove

1. De-energize and lockout panelboard power supply.
2. Push CCPB switch to the "OFF" (O) position and remove fuse (if present).
3. Remove branch circuit deadfront.
4. Remove load wire(s).
5. Remove #10-32 x 1/4" screws from CCPB bus tab(s).
6. Slide CCPB off of branch sub-assembly until "T" slot is disengaged and remove CCPB.
7. Repeat steps 2 to 6 above to remove additional CCPB branch disconnects.
8. Reinstall branch circuit deadfront.
9. Install branch knockout covers in all open branch circuit positions.

Branch circuit deadfront knockout removal



Branch circuit disconnects come factory installed with the appropriate branch circuit deadfront knockouts removed. If installing additional CCPB branch disconnects, follow these procedures.

1. De-energize and lockout panelboard power supply.
2. Remove branch circuit deadfront.
3. Use pliers to remove appropriate branch circuit deadfront knockouts to match installed CCPB branch disconnect location.

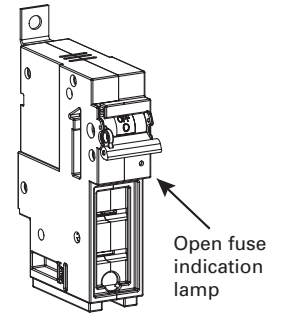
Note: To cover unused/open branch circuit positions, insert branch knockout covers (available in kit part numbers 2A1918-1 (15 to 60 A switches) and 2A1918-2 (70 to 100 A switches)).

Replacing branch fuses

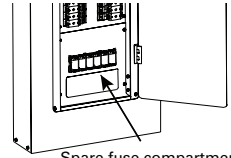
1. Prior to replacing any open fuse, follow safe work practices*.
2. Locate open fuse indicated by indicating lamp** or open fuse indication on CUBEFuse (if equipped).
3. Turn switch to the "OFF" (O) position.
4. Lockout/tagout CCPB per OSHA requirements.
5. Correct the overcurrent condition.
6. Pull fuse straight out.
7. Note fuse amp rating.
8. From the spare fuse compartment, select a replacement fuse of equal amp rating.

* Refer to NFPA 70E.

** Circuit must be closed with minimum 90V for indication lamp to illuminate.



Open fuse indication lamp

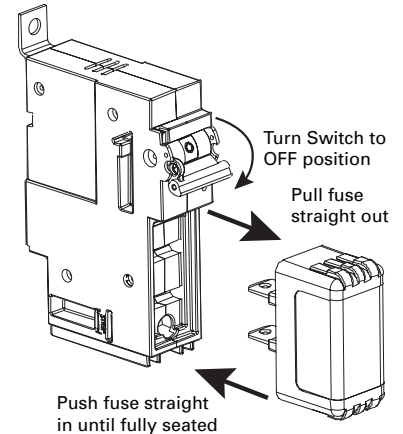


Spare fuse compartment
(located either top or bottom)

Note: Fusible branch circuit switches are amp rating rejecting. Replace fuse only with one of equal rating. If a replacement fuse with equal rating is not available, order one from a Bussmann series product distributor. If the distributor does not have a replacement in stock, place an order for an emergency† fuse shipment, call 636-394-3877 between 8:00 A.M. and 4:30 p.m. Central Time, or 314-995-1342 for after hours service.

† Rush freight and service charges apply.

9. Insert replacement fuse until fully seated.
10. Remove lockout/tagout.
11. Turn switch to the "ON" (I) position.
12. Make note of fuse inventory in spare fuse compartment and order replacement fuses, in the appropriate amp ratings, as needed.



Turn Switch to OFF position

Pull fuse straight out

Push fuse straight in until fully seated

Typical Wiring

Additional information is contained on panelboard labels:

- 3A1063, main label - specific panel ratings
- 3A1064, agency label - wire sizes and ratings, fastener torque values, assembly short-circuit current rating
- 3A1066, inner door label - CUBEFuse amp rating rejection table, fuse replacement procedure.

Voltages and system types

Volts AC	Volts DC	Phase	Wires
120	<125	1	2
240/120		3	4 Delta
208Y/120		3	4
480Y/277		3	4
600Y/347		3	4
120/240		1	3
600		3	3 Delta
480		3	3 Delta
240		3	3 Delta

Main disconnects

Main switch* amp ratings (part numbers listed on pages xx-xx).

- 30-60 A:
 - 10-18 AWG, single/dual
 - 6-8 AWG, single/dual
 - 4 AWG, single
- 70-200 A, 300 kcmil-4 AWG
- 225-400 A, 600 kcmil-2 AWG

* Use only 75°C conductors.

Class J Bussmann series fuses for fused main disconnects

- LPJ-(amps)SP (70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400 amps)
- LPJ-(amps)SPI (with indication) (70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400 amps)

Main and feed-through lugs

Lug amp ratings, type and wire range** (part numbers listed on pages xx-xx).

- 30-60 A, compression, 1/0- 8 AWG
- 30-60 A, mechanical, 2-14 AWG
- 30-200 A, double/sub-feed, 300 kcmil-6 AWG
- 70-200 A, compression, 300 kcmil-4 AWG
- 70-200 A, mechanical, 300kcmil-6 AWG
- 225-400 A, compression, 600-250 kcmil
- 225-400 A, mechanical, 600 kcmil-4 AWG
- 225-400 A, double/sub-feed, 600 kcmil-2 AWG

**Use only 60/75°C, Cu-Al conductors.

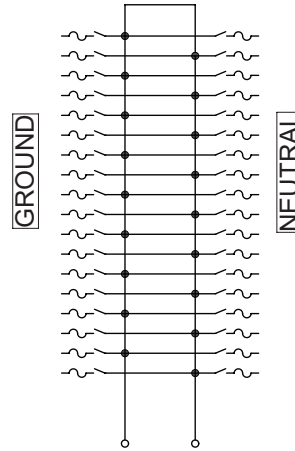
CCPB amp rating rejecting branch disconnects

- CCPB-1-(amp)CF 1-Pole (15, 20, 30, 40, 50, 60, 70, 90, 100 amps)
- CCPB-2-(amp)CF 2-Pole (15, 20, 30, 40, 50, 60, 70, 90, 100 amps)
- CCPB-3-(amp)CF 3-Pole (15, 20, 30, 40, 50, 60, 70, 90, 100 amps)

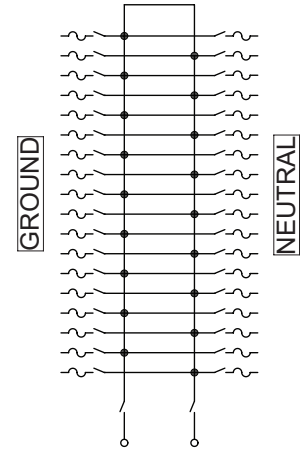
For more information, see data sheet no. 1160 online at Eaton.com/bussmannseries.

Typical schematics

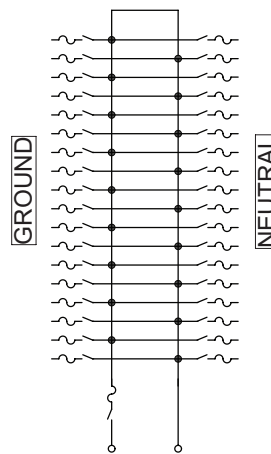
See main fused disconnect switch rating, if used.



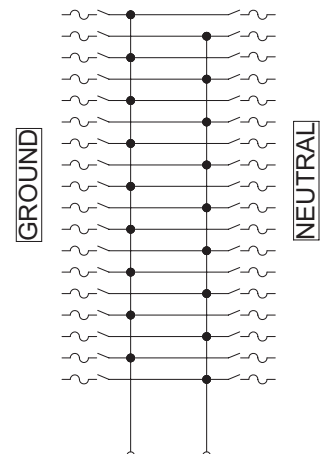
Single-Phase, 2 Wire
Main Lug Only



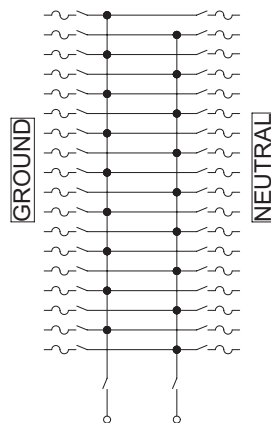
Single-Phase, 2 Wire
Non-Fused Disconnect



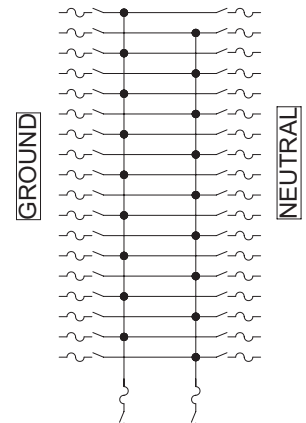
Single-Phase, 2 Wire
Fused Disconnect



Single-Phase, 3 Wire
Main Lug Only



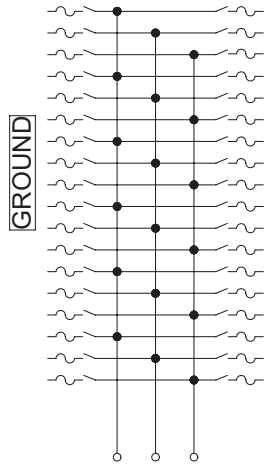
Single-Phase, 3 Wire
Non-Fused Main Disconnect



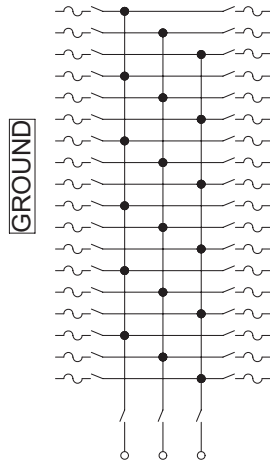
Single-Phase, 3 Wire
Fused Main Disconnect

Typical schematics (continued)

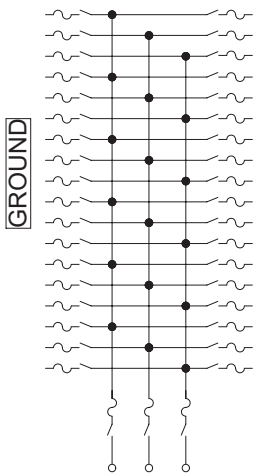
See main fused disconnect switch rating, if used.



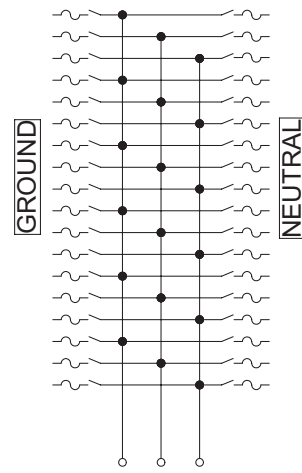
Three-Phase, 3 Wire
Main Lug Only



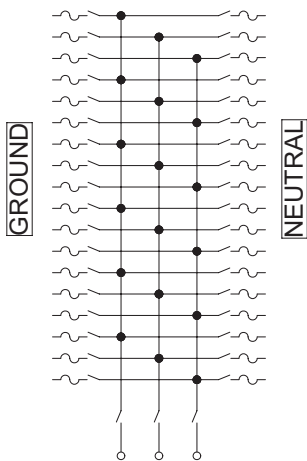
Three-Phase, 3 Wire
Non-Fused Main Disconnect



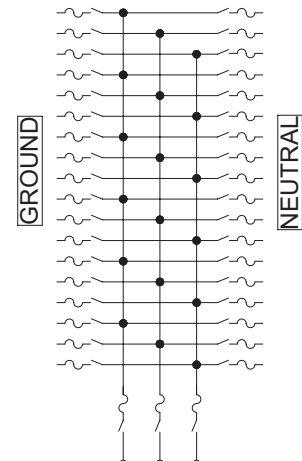
Three-Phase, 3 Wire
Fused Main Disconnect



Three-Phase, 4 Wire
Main Lug Only



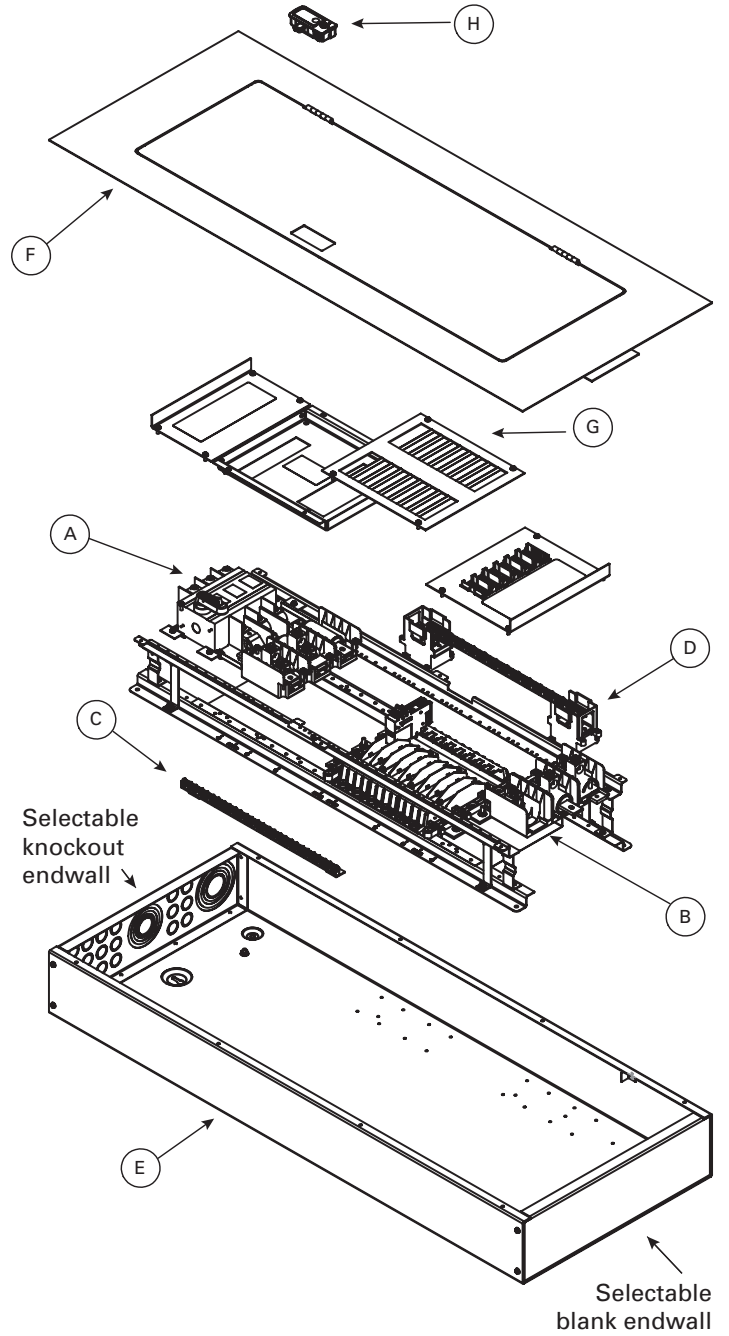
Three-Phase, 4 Wire
Non-Fused Main Disconnect



Three-Phase, 4 Wire
Fused Main Disconnect

Panelboard replacement parts

See list for part numbers.



A and B - main devices and lugs

2A1909-1*	Kit, compression lug 3-phase, 70-200A
2A1909-2*	Kit, mechanical lug 3-phase, 70-200A
2A1909-3*	Kit, double/sub-feed lug 3-phase, 30-200A
2A1909-4	Kit, main disconnect 70-200A
2A1909-5*	Kit, compression lug 1-phase, 3 wire, 70-200A
2A1909-6*	Kit, mechanical lug 1-phase, 3 wire, 70-200A
2A1909-7*	Kit, double/sub-feed lug 1-phase, 3 wire, 30-200A
2A1909-8	Kit, main disconnect 30-60A 1-phase, 3 wire
2A1909-9	Kit, main disconnect 30-60A 3-phase
2A1909-10*	Kit, compression lug 3-phase, 30-60A
2A1909-11*	Kit, mechanical lug 3-phase, 30-60A
2A1909-12*	Kit, compression lug 1-phase, 3 wire, 30-60A
2A1909-13*	Kit, mechanical lug 1-phase, 3 wire, 30-60A
2A1909-14*	Kit, compression lug 1-phase, 2 wire, 70-200A
2A1909-15*	Kit, mechanical lug 1-phase, 2 wire, 70-200A
2A1909-16*	Kit, double/sub-feed lug 1-phase, 2 wire, 30-200A
2A1909-17*	Kit, compression lug 1-phase, 2 wire, 30-60A
2A1909-18*	Kit, mechanical lug 1-phase, 2 wire, 30-60A
2A1909-19	Kit, main disconnect 30-60A 1-phase, 2 wire,
2A1909-20*	Kit, compression lug 3-phase, 225-400A
2A1909-21*	Kit, mechanical lug 3-phase, 225-400A
2A1909-22*	Kit, double/sub-feed lug 3-phase, 225-400A
2A1909-23*	Kit, compression lug 1-phase, 3 wire, 225-400A
2A1909-24*	Kit, mechanical lug 1-phase, 3 wire, 225-400A
2A1909-25*	Kit, double/sub-feed lug 1-phase, 3 wire, 225-400A
2A1909-26*	Kit, compression lug 1-phase, 2 wire, 225-400A
2A1909-27*	Kit, mechanical lug 1-phase, 2 wire, 225-400A
2A1909-28*	Kit, double/sub-feed lug 1-phase, 2 wire, 225-400A
2A1909-29	Kit, main disconnect 225-400A

* Also for use as feed-through lugs based upon panelboard ampacity rating

C - Ground bars

2A1907-1	Kit, non-isolated
2A1907-2	Kit, isolated

D - Neutral bars

2A1908-1	Kit, 200A unbonded
2A1908-2	Kit, 400A unbonded
2A1908-3	Kit, 200A bonded
2A1908-4	Kit, 400A bonded
2A1908-5	Kit, 800A unbonded
2A1908-6	Kit, 800A bonded

E - Enclosures and boxes

2A1690-1XX	NEMA 1 box, 50" tall
2A1690-2XX	NEMA 1 box, 59" tall
2A1690-3XX	NEMA 1 box, 69" tall
2A1690-4XX	NEMA 1 box, 33" tall
2A1649-1	NEMA 3R enclosure, 51.5" tall
2A1649-2	NEMA 3R enclosure, 60.5" tall
2A1649-3	NEMA 3R enclosure, 70.5" tall
2A1649-4	NEMA 3R enclosure, 34.5" tall
2A1916-1	Kit, blank enclosure endwall (set of 2)
2A1916-2	Kit, knockout enclosure endwall (set of 2)

XX in the p/n denotes endwall choices B = Blank and K = Knockout

F - Enclosure doors

200 amp models	
2A1667-1	Door, surface for 50" box
2A1667-2	Door, surface for 59" box
2A1667-3	Door, flush for 50" box
2A1667-4	Door, flush for 59" box
2A1667-5	Door-in-door, surface for 50" box
2A1667-6	Door-in-door, surface for 59" box
2A1667-7	Door-in-door, flush for 50" box
2A1667-8	Door-in-door, flush for 59" box
2A1667-13	Door, surface for 33" box
2A1667-14	Door, flush for 33" box
2A1667-15	Door-in-door, surface for 33" box
2A1667-16	Door-in-door, flush for 33" box
400 amp models	
2A1667-9	Door, surface for 69" box
2A1667-10	Door, flush for 69" box
2A1667-11	Door-in-door, surface for 69" box
2A1667-12	Door-in-door, flush for 69" box
2A1667-17	Door, surface for 50" box
2A1667-18	Door, flush for 50" box
2A1667-19	Door-in-door, surface for 50" box
2A1667-20	Door-in-door, flush for 50" box
2A1667-21	Door, surface for 59" box
2A1667-22	Door, flush for 59" box
2A1667-23	Door-in-door, surface for 59" box
2A1667-24	Door-in-door, flush for 59" box

G - Deadfronts - branch enclosure

2A1906-1	Kit, single KO, 18 positions
2A1906-2	Kit, single KO, 30 positions
2A1906-3	Kit, single KO, 42 positions
2A1960-1	Kit, double KO, 18 positions
2A1960-2	Kit, double KO, 30 positions
2A1960-3	Kit, double KO, 42 positions

H - Keys and locks

2A1910-1	Kit, NEMA 3R replacement keys (2)
2A1910-2	Kit, NEMA1 door lock and 2 keys
2A1910-3	Kit, NEMA 3R door lock and 2 keys
2A1910-4	Kit, NEMA 1 replacement keys (2)

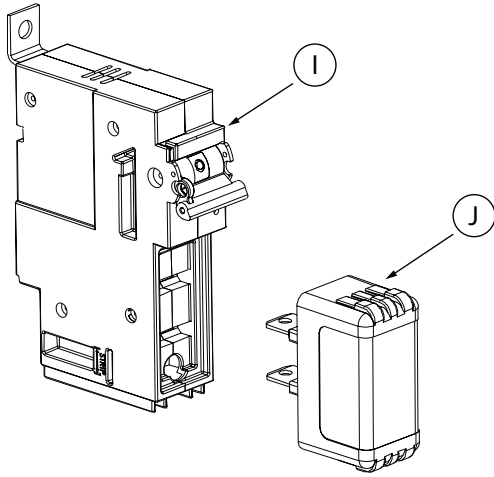
Lockout/tagout devices

2A1912-1	Kit, lockout 70-400A main
2A1912-2	Kit, lockout 30-60A main
2A1912-3	Kit, branch (3M Panelsafe) 18 position
2A1912-4	Kit, branch (3M Panelsafe) 30 position
2A1912-5	Kit, branch (3M Panelsafe) 42 position

Miscellaneous

2A1914	Kit, circuit directory card and sleeve
2A1918-1	<_60A Kit, branch knockout covers
2A1915	Kit, circuit number and fuse rating labels
2A1918-2	70A-100A Kit, branch knockout covers
2A1917-1	Kit, panelboard hardware
2A1919	Kit, touch-up paint
2A1917-2	Kit, CCPB hardware (10 screws)
2A1961-1	Kit, Spare Fuse Compart. TCF 1-100A

CCPB branch disconnects and CUBEFuse replacement parts



I - CCPB branch disconnects

Poles	Amp ratings	Part Number
1-Pole		CCPB-1-(amp)CF
2-Pole	15A, 20A, 30A, 40A,	CCPB-2-(amp)CF
3-Pole	50A, 60A, 70A, 90A, 100A	CCPB-3-(amp)CF

J - time-delay and fast-acting CUBEFuse

For CCPB** part no.	Time-Delay		Fast-Acting
	Non-indicating part no. TCF(amps)RN	Indicating* part no. TCF(amps)	Non-Indicating part no. FCF(amps)RN
CCPB-(# of Poles)-15CF	TCF1RN, TCF3RN, TCF6RN, TCF10RN, TCF15RN	TCF6, TCF10, TCF15	FCF1RN, FCF3RN, FCF6RN, FCF10RN, FCF15RN
CCPB-(# of Poles)-20CF	TCF17-1/2RN, TCF20RN	TCF17-1/2, TCF20	FCF20RN
CCPB-(# of Poles)-30CF	TCF25RN, TCF30RN	TCF25, TCF30	FCF25RN, FCF30RN
CCPB-(# of Poles)-40CF	TCF35RN, TCF40RN	TCF35, TCF40	FCF35RN, FCF40RN
CCPB-(# of Poles)-50CF	TCF45RN, TCF50RN	TCF45, TCF50	FCF45RN, FCF50RN
CCPB-(# of Poles)-60CF	TCF60RN	TCF60	FCF60RN
CCPB-(# of Poles)-70CF	TCF70RN	TCF70	FCF70RN
CCPB-(# of Poles)-90CF	TCF80RN, TCF90RN	TCF80, TCF90	FCF80RN, FCF90RN
CCPB-(# of Poles)-100CF	TCF100RN	TCF100	FCF100RN

* 1A and 3A Indicating CUBEFuse not available. Correct fit with CCPB disconnect requires indicating CUBEFuse with date code R38 or later.

**CCPB disconnect can accept CUBEFuses with amp ratings less than or equal to its amp rating.

Notes

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