

Low-voltage power distribution and control systems > Panelboards >

Pow-R-Line 3XF panelboards

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Powering Business Worldwide



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Eaton.com/panelboards



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Lighting and Distribution Panelboards Overview

- Designed for sequence phase connection of branch circuit devices
- Enables single-, two- or three-pole arrangements for a balanced electrical load on each phase
- Sturdy, rigid chassis assembly ensures accurate alignment of interior with panel front
- Assembly also prevents flexing and minimizes loosening or damage to current-carrying parts
- Four-point in-and-out adjustment of panel interior meets critical depth dimensions on flush installations
- Main lugs are approved for copper or aluminum conductors

Available Ratings

- Rated at 240 Vac, 480 Vac and 600 Vac
- Fault current available up to 200 kAIC at 240 Vac, 100 kAIC at 480 Vac and 65 kAIC at 600 Vac

Panelboard Options

- Aluminum, copper, silver-plated copper or tin-plated copper bus
- Aluminum or copper lugs
- Density-rated bus
- Ground bars
- Customer-owned meters
- Service entrance equipment construction
- Surge protective devices
- Seismically qualified panelboards

Enclosures

- Boxes are code-gauge galvanized steel, available unfinished or painted ANSI-61 light gray
- Standard panelboard cabinets are designed for indoor use
- Alternate types are available for special-purpose applications
- All enclosures meet UL® standards and include wiring gutters with proper wire bending space
- Box dimensions shown are inside dimensions—for outside dimensions, add 0.25 inch (6.4 mm)
- Standard panelboard boxes are supplied without knockouts (blank endwalls)



From left to right: Pow-R-Line 1X, Pow-R-Line 2X, Pow-R-Line 4X and Pow-R-Line 3X panelboards



The Three-Piece Trim for Larger Power Distribution Panelboards Provides for Easy Handling and Installation

Fronts

- Made of code-gauge steel with a high-durability ANSI-61 light gray finish
- Branch circuit and small power distribution panelboards include a door and concealed hinges
- Flush-type latch and lock assembly included
- All locks are keyed alike
- Trims available in both surface- and flush-mounted designs

Power Distribution Panelboard Fronts Only

- Utilize a breaker front cover design providing each device with a dedicated bolt-on steel cover
- Individual covers form a single deadfront used with two wiring gutter covers to complete the trim
- A door is not finished but can be provided for an additional charge using a deeper-than-standard box

EZ Box™ and EZ Trim™

Provided standard for:

- Pow-R-Line 1X and Pow-R-Line 2X lighting panelboards
- Pow-R-Line 3X, Pow-R-Line 3E and Pow-R-Line 3XF mid-range panelboards



EZ Box and EZ Trim

Features

- Virtually eliminates sharp edges
- Trim installs quickly
- Door-in-door is standard
- Ability to adjust flush box to wall irregularities
- Trim installs without the need for tools
- No exposed hardware (because there is none)

EZ Box

- Flanges are bent and painted, and without sharp edges
- All steel panelboard chassis parts are painted to reduce injuries during handling and installation
- Each flange adjusts outward up to 0.75 inch (19.1 mm), enabling installer to flush the box with a wall after wall material is installed
- Flanges also provide means for attaching EZ Trim

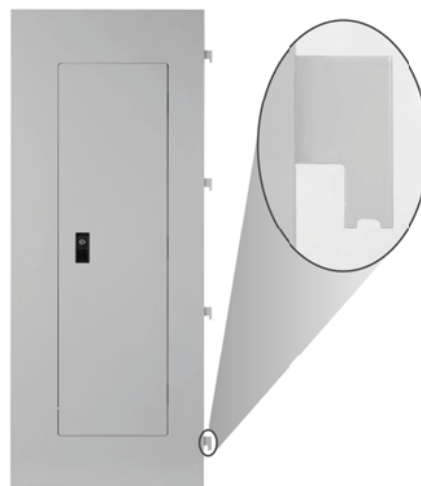
EZ Trim

- Design installs in seconds
- Standard trim includes door-in-door construction and no exposed hardware
- No tools required for installation
- Includes hangers attached on the right side
- Bottom trim hanger with notch in base inserts into the bottom right side box flange opening, resting the notch on the flange

Standards and Certifications

When used with Eaton's panelboard chassis, EZ Box and EZ Trim meet the following applicable industry standards:

- UL 50 Listed
- NEMA® Standard PB1
- Federal specifications
- National Electrical Code® (NEC®)



Standalone Trim and Bottom Flange Hanger with Notch

Application Considerations and Definitions

Standards

All Eaton panelboards meet the following applicable industry standards, except where noted:

- UL
 - Panelboards: UL 67
 - Cabinets, boxes and trims: UL 50
- Note:** Only panelboards containing UL Listed devices can be UL labeled.
- NEC
 - NEMA PB 1
 - Federal Specification W-P-115c
 - Circuit breaker—Type I Class 1
 - Fusible switch—Type II Class 1

Panelboard Selection Factors

In selecting a panelboard, the following factors must be considered:

- Service (voltage and frequency)
- Interrupting capacity (fully or series rated)
- Ampere rating of main
- Ampere ratings of branches
- Installation environment
- Codes and standards mandates

Panelboard Short-Circuit Rating

- Eaton's assembled panelboards are test verified by, and listed with, UL
- Ratings are generally that of the lowest interrupting rated device in the panel
- Where branch devices have been UL tested in combination with specific main devices having a higher interrupting rating, the series short-circuit rating of the assembled panelboard will be the same as the series tested rating of the approved rated main breaker
- Series ratings apply to panels having main devices, or main-lug-only panelboards fed remotely by the device listed in the series ratings chart as the main, for which UL Listed tests were conducted

Selective Coordination

Refer to Molded Case Circuit Breakers Design Guides for information on overcurrent protective device combinations used in selectively coordinated systems.

Service Entrance Equipment

Service Entrance Equipment NEC Articles 230.62 and 230.71, and UL, require that:

- Panelboards used as service entrance equipment must be located near the point where the supply conductors enter the building
- A single service disconnect within the panelboard
- Must include service disconnect barrier, connector for bonding and grounding neutral conductor
- A service-entrance-type UL label must be factory installed
- Ground fault protection of equipment shall be provided for solidly grounded wye electrical services of more than 150 V to ground, but not exceeding 600 V phase-to-phase for each service disconnecting means rated 1000 A or more
- Service entrance panels must be identified as such on the order entry to the manufacturing location

Table 22.10-1. Service Entrance Main Breaker Kits

Description	Circuit Breaker Frame	Catalog Number
Service entrance barrier for PD5	PD5	PRLSEBPD5
Service entrance barrier for PD4	PD4	PRLSEBPD4
Service entrance barrier for PD3	PD3	PRLSEBPD3
Service entrance barrier for PD2	PD2	PRLSEBPD2
Service entrance barrier for GHB	GHB	PRLSEBGHB
Service entrance barrier for BAB	BAB	PRLSEBBAB

Column Type Panelboards

The same general code restrictions apply as for standard-width panels except where trough extensions are used.

Multi-Section Panelboards

- When more than 42 overcurrent protective devices are required, two or more separate enclosures may be required
- Separate fronts for each box are standard

Interconnecting Multi-Section Panelboards

- When a panelboard must be furnished in more than one section (box) for connection to one feeder, each section must be furnished with main bus and terminals of the same rating unless a main overcurrent device is provided in each section
- Sub-feed or through-feed provisions must also be added to provide connection capability to the second section

Note: Sub-feed or through-feed lugs cannot be used on any panelboard not protected by a single main overcurrent device either in the panelboard or immediately upstream, i.e., service entrance panelboards with main-lug-only using the six disconnect rule.

Sub-Feed Lugs (Figure 22.10-1)

- Sub-feed (second set of) lugs interconnect multi-section panels
- Mounted directly beside the main lugs
- Required in each section except the last panel in the lineup
- Feeder cables are brought into the wiring gutter of the first section and connected to the main lugs
- Another set of same-size cables connect to the sub-feed lugs (Section 1) and are carried over to the main lugs of the adjacent panel
- Cross connection cables are not furnished by Eaton
- Sub-feed lugs are only available on main-lug-only panels

Note: Sub-feed lugs may not be used on main-lug-only (six disconnect rule) service entrance panels.

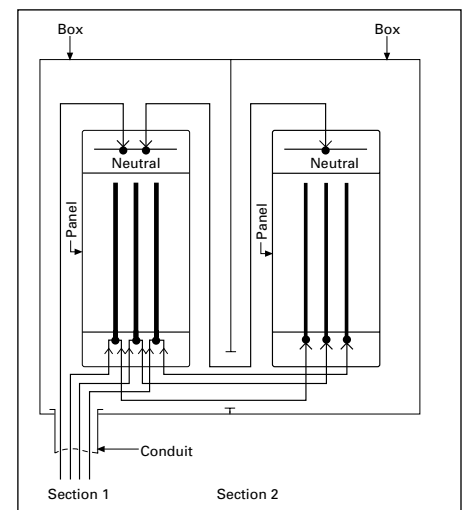


Figure 22.10-1. Sub-Feed Lugs

Through-Feed Lugs (Figure 22.10-2)

- Another method to interconnect multi-section panelboards
- Incoming feeder cables connect to main lugs or main breaker at the bottom of panel (Section 1)
- Another set of lugs (through-feed) are located at the opposite end of the main bus
- Interconnecting cables connect to the through-feed lugs in Section 1 and are carried over to the main lugs in Section 2
- Connection arrangement is reversible, with main lugs at top and through-feed lugs at bottom end of panel
- Cross connection cables are not furnished by Eaton

Note: Through-feed lugs may not be used on main-lug-only (six disconnect rule) service entrance panels.

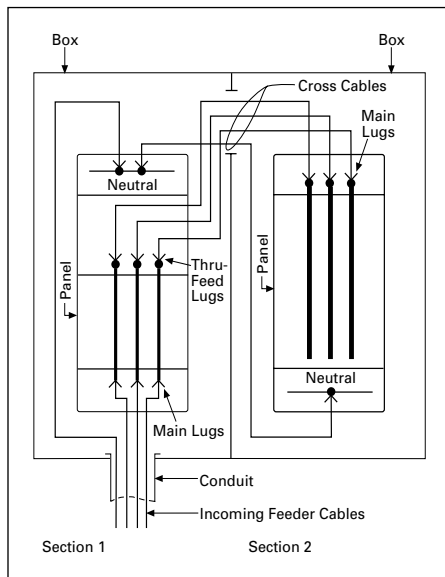
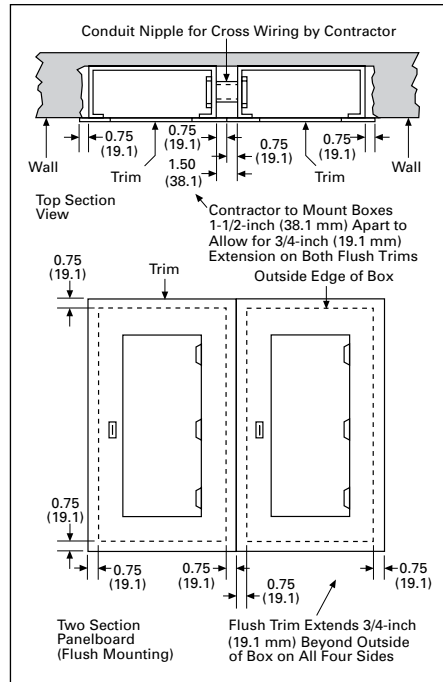


Figure 22.10-2. Through-Feed Lugs

**Multiple Section Panelboard—
Flush Mounted**

Shown below is the standard method for flush mounting multiple section lighting and distribution panelboards using standard flush trims.



**Figure 22.10-3. Multiple Section Panelboard—
Flush Mounted—Dimensions in Inches (mm)**

**Branch Circuit Loading for
Lighting Panels**

The size of mains and branches should be selected based on the following:

- Lighting circuits: NEC Article 210, 215, 220 and 240
- Distribution circuits, actual or continuous loads: NEC Article 384.16
- Motor circuits: NEC Article 430
- Diversity factor
- Provision for future loading

Overcurrent Protection

- NEC Article 408 states a panelboard shall be protected by an overcurrent protective device having a rating not greater than that of the panelboard
- The overcurrent protective device shall be located within, or at any point on the supply side of, the panelboard
- Exceptions to Article 408 selectively apply—refer to it for specifics

Ground Fault Protection

May be added to most panelboards using Eaton’s integral molded case circuit breaker and included feeder devices on:

- Power panelboards
- Mains on all panelboards

**Arcflash Reduction
Maintenance System™**

- Available on many molded case circuit breakers from 70 A to air power circuit breakers at 5000 A
- Enables breakers to trip quickly, significantly reducing the available arc flash potential
- Recognized by the 2011 NEC and the National Electrical Safety Code® (NFPA 70E®)

Combination AFCI Circuit Breakers

- Eaton’s 125 Vac AFCI single- and two-pole, 15 A and 20 A bolt-on breakers in panelboards meet NEC Article 210.12
- See the NEC for definitions and details

Ambient Temperatures

The primary function of an overcurrent device is to protect the conductor and its insulation against overheating. In selecting the size of the devices and conductors, consideration should be given to the ambient temperature surrounding the conductors within and external to the panelboard. Cumulative heating within the panelboard may cause premature operation of overcurrent protective devices.

- UL test procedures are based, in part, on 80% loading of panelboard branch circuit devices
- NEC Article 408 limits the loading of overcurrent devices in panelboards to 80% of rating where in normal operation, the load will continue for three hours or more
- Further derating may be required, depending on ambient temperature, duty cycle, frequency or altitude
- An exception applies to assemblies and overcurrent devices approved for continuous duty at 100% of their rating and is covered in NEC 210.20 (a) — for additional information, see Molded Case Circuit Breakers Design Guides

Special Conditions

Standard panelboards, assembled with standard components, are adequate for most applications. However, special consideration should be given to those required for application under special conditions, such as:

- Excessive vibration or shock
- Frequencies above 60 cycles
- Altitudes above 6600 feet (2012 m)
- Damp environment (possible fungus growth)
- Compliance with federal, state and municipal electrical codes and standards

Seismic Qualification



Refer to Power Distribution Systems Design Guides for information on seismic qualification for this and other Eaton products.

Harmonic Currents

- Standard panelboard neutrals are rated for 100% of the panelboard current
- Because harmonic currents can cause overheated neutrals, an option is provided for neutrals to be rated at 200% (1200 A maximum neutral for 600 A main bus) of the panelboard phase current
- Panelboards with the 200% rated neutral are UL Listed as suitable for use with nonlinear loads
- Prior to specifying the 200% rated neutral, a harmonic survey of the distribution system is recommended

Surge Protective Devices (SPD)

The quality of power feeding sensitive electronic loads is critical to the reliable operation of any modern facility. The most frequent causes of microprocessor-based equipment downtime and damage are voltage transients and electrical noise.

- High-energy transients include lightning-induced surges and power company switching that can destroy components instantly
- Continual low-energy transients and high-frequency noise, which are more frequent, can cause erratic equipment performance or sudden failure of electronic circuit board components

Eaton's SPD provides protective and diagnostic systems that are integral to panelboards:

- Safeguards sensitive electronic equipment from the damaging effects of high- and low-energy transients
- Integrates into the panelboards using a "zero lead length" direct bus bar connection
- Uses integral disconnect on all panelboards

For complete product description and available ratings, refer to Surge Protection (SPD) & Power Conditioning Products Design Guides.



Eaton SPDs May be Integrated into Most Panelboards

Compact Panelboard Meter

Most Eaton panelboards can integrate a meter for reading the panelboard power and energy usage. Our Power Xpert® Meter 350 offers:

- ANSI 12.20 0.5% accuracy
- A bright backlit LCD display
- Real energy pulse output
- Phase loss alarm
- Optional RS-485 communication capability

Product Overview



Pow-R-Line 3XF

General Description

The Pow-R-Line 3XF (PRL3XF) is a fusible lighting panel designed for high fault current applications where circuit breakers may not meet the application. This panel is ideal when selective coordination mandates apply. Designed for use with Eaton's Bussmann® CUBEFuse®, the panel will selectively coordinate with the maximum available fault current.

Application Description

- Hospitals
- Surgery centers
- Emergency systems
- Fire stations
- Police stations
- Laboratories
- Communication systems
- Ventilation and smoke removal systems
- Critical industrial processes
- Data centers
- Other critical or sensitive loads

Panelboard Ratings

Listings

- UL 67 panelboard chassis
- UL 50 Listed box and trim
- UL 98 Listed fusible switches

Seismic Qualifications

Qualified for International Building Code® (IBC®) categories and site class A, B, C and D.

Voltage

- 600 Vac maximum
- 125 Vdc maximum (80 A maximum branch)

Mains

For available mains, refer to **Table 22.10-2**.

Branch Overcurrent Devices

- Eaton Bussmann Type Compact Circuit Protector Base (CCP2B)
- 15–100 A
- Single-, two- and three-pole
- Branch fuses: Bussmann TCF or FCF CUBEFuse
- Maximum branch device ampacity by bus rating
 - 100 A: 60 A branch device
 - 200 A: 60 A branch device
 - 400 A: 100 A branch device (170 A total for twin devices)

Branch Circuit Spaces

- 18-, 30- and 42-circuit chassis

Spare Fuse Compartment

- Provisions for six spare CUBEFuses, standard

Replacement Fuses

- Replace only with Bussmann fuses of the same type and size
- Contact your authorized Eaton Bussmann distributor for replacement fuses

Table 22.10-2. PRL3XF Mains kAIC

Main Device	Switch Frames (Amperes)	Interrupting Rating (kA Symmetrical)	
		600Vac	125Vdc
Main lugs only (MLO)	—	—	—
Fusible	30, 60, 100, 200, 400	50	50
Fusible (High SCCR)	30, 60, 100, 200, 400	200	100
Non-fusible	30, 60, 100, 200, 400	10	10
Non-fusible (High SCCR)	30, 60, 100, 200, 400	200 ^①	100 ^①

① When protected by upstream Bussmann class CF, J or T fuses with equivalent ampere rating.

Bussmann Series CUBEFuse Devices



CUBEFuse Compact Circuit Protector Base



Bussmann Series Low-Peak CUBEFuse

CUBEFuse Compact Circuit Protector Base (CCP2B)

These single-, two- and three-pole switches are UL 98 horsepower rated branch circuit disconnects and are available in ratings up to 100 A. The CCP2B has ampere rejection breaks that prevent installing any CUBEFuse ampere rating greater than that of the switch. These coincide with standard conductor ampacities to help prevent overfusing and are available at 15, 20, 30, 40, 50, 60, 70, 90 and 100 A for all single-, two- and three-pole switches.

For Eaton's Bussmann series product information, visit: www.eaton.com/bussmannseries.

Time-Delay Low-Peak CUBEFuse (TCF)

Eaton's Bussmann series Low-Peak® CUBEFuse, is a UL Class CF current-limiting, dual-element, time-delay branch circuit fuse with Class J electrical performance. Available in indicating and non-indicating versions, this finger-safe fuse has a very compact, space-saving size and is easily applied using the CUBEFuse holder, UL 98 compact circuit protector switch or compact circuit protector base.

Features

- Smallest installed footprint of any UL Class CC, J or R fuse solution
- Holders and switches have an ampere rating rejection feature to help prevent overfusing:
 - 30, 60 and 100 A switches and holders will hold any CUBEFuse up to its rating
 - 200 and 400 A switches / 200, 225 and 400 A holders will hold any CUBEFuse 110 A and above up to its rating
- True dual-element fuse construction with a minimum 10 seconds time-delay at 500% of rating
- Available in indicating and non-indicating versions
- Indicating version features local easyID™ open fuse technology for faster troubleshooting and reduced downtime

Ratings

- Listings
 - UL Listed Class CF fuse: Guide JDDZ, File E4273 (up to 400 A)
- Volts
 - 600 Vac
 - 300 Vdc
- Amperes
 - 6–400 A indicating
 - 1–400 A non-indicating
- Interrupting Rating
 - 300 kA rms sym. (up to 100 A UL)
 - 200 kA rms sym. (110 to 400 A UL)
 - 100 kA DC (up to 400 A UL)

Bussmann Series CUBEFuse Devices, continued



Bussmann Series Fast-Acting CUBEFuse

Fast-Acting CUBEFuse (FCF)

Eaton's Bussmann series fast-acting CUBEFuse delivers a faster response to damaging faults to help reduce destructive thermal and magnetic forces. It is ideally suited for UPS and other critical applications.

The industry's first finger-safe CUBEFuse is a Class CF fuse that provides the same electrical performance as a Class J fuse, but with a significantly smaller footprint.

Features

- Fast-acting protection specifically for UPS and other critical applications
- Finger-safe fuse minimizes exposure to live parts, reducing the likelihood of accidental contact with energized parts
- Integral use with Compact Circuit Protector (cat. no. CCP2B) or CUBEFuse holder to minimize panel space
- Minimizes incident energy and reduces arc flash hazards utilizing Class J current-limiting electrical characteristics
- Smallest footprint of any class fuse including Class CC, J, RK and T

Ratings

- Listings
 - UL Listed Class CF fuse: Guide JDDZ, File E4273
- Volts
 - 600 Vac/Vdc
- Amperes
 - 1–100 A
- Interrupting Rating
 - 300 kA rms sym. (up to 60 A UL)
 - 200 kA rms sym. (70–100 A UL)
 - 50 kA DC (UL)

Surge Protective Devices



Integrated Surge Protective Devices

Integrated Surge Protective Devices

Eaton integrates our industry-leading surge protective devices (SPD) into panelboards. Lead length is kept to a minimum to maximize SPD performance. SPD units are available with ratings up through 400k, and are UL Listed and labeled to UL 1449 3rd Edition.

All panelboards with integrated SPD units are connected to a lineside overcurrent protective device for disconnecting means. When applied on the lineside of a service entrance main, the disconnecting means does not count as a service disconnect per National Electrical Code Article 230.71[A].

For complete SPD product description, application and ratings, visit www.eaton.com/spd.

Table 22.10-3. Side-by-Side Comparison of the SPD Series' Available Feature Packages

Feature Package Comparison	Basic	Standard	Standard with Surge Counter	Power Xpert SPD
Surge protection using thermally protected MOV technology	■	■	■	■
Dual-colored protection status indicators for each phase	■	■	■	■
Dual-colored protection status indicators for the neutral-ground protection mode ①	■	■	■	
Tri-colored protection status indicators for each phase and the neutral-ground protection mode ①				■
Audible alarm with silence button		■	■	■
Form C relay contact		■	■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		■	■	■
Surge counter with reset button			■	■
Percentage protection remaining status				■
RJ45 Ethernet port for LAN connection, Modbus TCP/IP or BACnet/IP				■
UI webpage and programmable settings				■
Time-and-date stamped surge log and surge categorization				■

① Neutral-ground protection mode available in applicable voltage configurations only.

Branch Circuit Disconnects Technical Data

Table 22.10-4. Branch Circuit Disconnects Compact Circuit Protector Base (CCP2B)

CCP2B ① Part Number	Number of Poles	Fuse Ampere Range	Maximum CCP2B Ampacity	Non-Indicating Fuses (Standard) ①	Indicating Fuses (Optional) ①②
CCP2B-1-15CF CCP2B-2-15CF CCP2B-3-15CF	1 2 3	1-15 1-15 1-15	15 15 15	TCF1RN,TCF3RN, TCF6RN,TCF10RN, TCF15RN	TCF6,TCF10, TCF15
CCP2B-1-20CF CCP2B-2-20CF CCP2B-3-20CF	1 2 3	17.5-20 17.5-20 17.5-20	20 20 20	TCF17-1/2RN, TCF20RN	TCF17-1/2, TCF20
CCP2B-1-30CF CCP2B-2-30CF CCP2B-3-30CF	1 2 3	25-30 25-30 25-30	30 30 30	TCF25RN, TCF30RN	TCF25, TCF30
CCP2B-1-40CF CCP2B-2-40CF CCP2B-3-40CF	1 2 3	35-40 35-40 35-40	40 40 40	TCF35RN, TCF40RN	TCF35, TCF40
CCP2B-1-50CF CCP2B-2-50CF CCP2B-3-50CF	1 2 3	45-50 45-50 45-50	50 50 50	TCF45RN, TCF50RN	TCF45, TCF50
CCP2B-1-60CF CCP2B-2-60CF CCP2B-3-60CF	1 2 3	60 60 60	60 60 60	TCF60RN	TCF60
CCP2B-1-70CF CCP2B-2-70CF CCP2B-3-70CF	1 2 3	70 70 70	70 70 70	TCF70RN	TCF70
CCP2B-1-90CF CCP2B-2-90CF CCP2B-3-90CF	1 2 3	80-90 80-90 80-90	90 90 90	TCF80RN, TCF90RN	TCF80, TCF90
CCP2B-1-100CF CCP2B-2-100CF CCP2B-3-100CF	1 2 3	100 100 100	100 100 100	TCF100RN	TCF100

① CCP2B disconnect can accept CUBEFuses with ampere ratings less than or equal to the ampere rating of the CCP2B disconnect.

② Correct fit with CCP2B disconnect requires indicating CUBEFuses with date code R38 or later.

Note: Spare or replacement CCP2B available only from authorized Eaton Bussmann distributors.

Table 22.10-5. CCP2B Horsepower Ratings

CCP2B Disconnect	Ampere Rating	Horsepower Rating at Vac			
		120	240	480	600
CCP2B-(Poles)-15CF	15	0.5	3.0	5.0	7.5
CCP2B-(Poles)-20CF	20	0.75	3.0	7.5	10.0
CCP2B-(Poles)-30CF	30	1.5	5.0	15.0	10.0
CCP2B-(Poles)-40CF	40	2.0	7.5	20.0	10.0
CCP2B-(Poles)-50CF	50	3.0	7.5	20.0	10.0
CCP2B-(Poles)-60CF	60	3.0	7.5	20.0	10.0
CCP2B-(Poles)-70CF	70	3.0	15.0	30.0	40.0
CCP2B-(Poles)-90CF	80	5.0	20.0	40.0	50.0
CCP2B-(Poles)-100CF	100	5.0	20.0	50.0	50.0

PRL3XF Layout Guide



Pow-R-Line 3XF

Technical Data and Specifications

Bussing

- 100–400 A: Silver-plated copper bus and branch connectors

Boxes

- Boxes are made from code-gauge galvanized steel
- Blank ends are supplied as standard, knockouts are available upon request

EZ Trim

- Trims are made from code-gauge steel and painted ANSI 61 gray
- All panelboards have door-in-door as standard with multi-point catch and lock, and concealed mounting hardware

Standard Terminals

Table 22.10-6. Main Lugs

Ampere Rating	Standard Mechanical Lug Wire Range
100 A	(1) #1–300 kcmil
200 A	(1) #1–300 kcmil
400 A	(1) #4–600 kcmil

Table 22.10-7. Main Fusible Switch (Class J Fuses Only)

Ampere Rating	Standard Mechanical Lug Wire Range
100 A	(1) #1–300 kcmil
200 A	(1) #1–300 kcmil
400 A	(1) #4–600 kcmil

Table 22.10-8. Main Non-Fusible Switch

Ampere Rating	Standard Mechanical Lug Wire Range
100 A	(1) #1–300 kcmil
200 A	(1) #1–300 kcmil
400 A	(1) #4–600 kcmil

Modifications

Table 22.10-9. Sub-Feed Lugs (Main Lugs)

Ampere Rating	Panel Height Addition
100 A	0 Inches (0 mm)
200 A	0 Inches (0 mm)

Table 22.10-10. Through-Feed Lugs

Ampere Rating	Information
100 A	See Table 22.10-11
200 A	See Table 22.10-11
400 A	See Table 22.10-11

Neutral

Mounted on chassis.
 Same material as main bus.

Ground Bar

Standard bolted in box.
 Aluminum is standard.

Enclosures

Types 1 and 3R (up to 200 A).

Surge Protective Device (SPD)

Integrated onto panelboard chassis.
 For complete product description and available ratings, refer to Surge Protection (SPD) & Power Conditioning Products Design Guides.

Box Sizing and Selection

Box size for all Type 1 panelboards are available from **Table 22.10-11**.

Instructions

1. Select the rating and type of mains required.
2. Count total number of branch circuit poles (including spaces) required in the panelboard. Do not count main device poles. Convert two- or three-pole branch device to single poles, i.e., three-pole device, count as three poles.
3. Using correct table, type of mains and ampere rating per Step 1, find total number of poles.

Note: Where total number of poles (Step 2) fall between number in table, use the next higher number.

4. Read box size across columns to the right.

Top and Bottom Gutters (Minimum)

5.50 inches (139.7 mm).

Side Gutters

20.00-inch (508.0 mm) wide box:
 6.50 inches (165.1 mm).

Table 22.10-11. Type 1 Panelboards—Dimensions in Inches (mm)

Panelboard Types	Types and Mounting Position		Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Device	Sub-Feed Device		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim ④
100 A										
Main lugs	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main device	CCP2B fusible CCD2 non-fusible (60 A max.)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
	CCP2B fusible CCD2 non-fusible (100 A max.)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main lugs with 100 A through- feed lugs	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main device with 100 A through- feed lugs	CCP2B fusible CCD2 non-fusible (60 A max.)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
	CCP2B fusible CCD2 non-fusible (100 A max.)	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTX2090S or F
200 A										
Main lugs	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main device	Fusible switch (class J) (200 A max.)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
	Non-fusible switch (200 A max.)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main lugs with 200 A through- feed lugs	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTX2060S or F
	—	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
Main device with 200 A through- feed lugs	Fusible switch (class J) (200 A max.)	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTX2090S or F
	Non-fusible switch (200 A max.)	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTX2072S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTX2090S or F
400 A										
Main lugs	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTXV2060S or F
	—	—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTXV2060S or F
	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
Main device	Fusible switch (class J)	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
	Non-fusible switch	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2060R	EZTXV2060S or F
		—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
Main lugs with 400 A through- feed lugs	—	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
	—	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
	—	—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
Main device with 400 A through- feed lugs	Fusible switch (class J)	—	18	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
		—	30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
	Non-fusible switch	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2072R	EZTXV2072S or F
		—	30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F
		—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	—	—	EZB2090R	EZTXV2090S or F

① Smaller panelboard box sizes are available if required. Contact Eaton for application information.

② For applications with SPD, contact Eaton.

③ Sizing is based on standard terminal sizes.

④ Ventilated trim is required at 400 A.

