Panelboards

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Panelboards and Lighting Controls

Contents

Product Selection Guide

Product Types

Type PRL1a

Bolt-On or Plug-On Circuit Breakers 240 Vac Maximum

Main lugs only
400A maximum

Main Circuit breaker
400A maximum

Branch circuit breakers
100A maximum,
Single-, two- and three-pole

Fusible Lighting Panelboard PRL1aF

240 and 480Y/277 Vac Maximum

Main lugs only
400A maximum

Branch overcurrent protective devices
30A maximum,
Single-, two and three-pole utilizing Class CC fuses

Type PRL1a-LX Column Type

Bolt-On Circuit Breakers 240 Vac Maximum

Main lugs only
225A maximum

Main circuit breaker
225A maximum

Branch circuit breakers
100A maximum,
Single-, two- and three-pole

Type PRL2a

Bolt-On Circuit Breakers 240 or 480Y/277 Vac; 125/250 Vdc Maximum

Main lugs only
400A maximum

Main circuit breaker
400A maximum

Branch circuit breakers
100A maximum,
Single-, two- and three-pole

Fusible Lighting Panelboard PRL2aF

240 and 480Y/277 Vac Maximum

Main lugs only
400A maximum

Branch overcurrent protective devices
30A maximum,
Single-, two- and three-pole utilizing Class CC fuses

Type PRL2a-LX, Column Type

Bolt-On Circuit Breakers 240 or 480Y/277 Vac; 125/250 Vdc Maximum

Main lugs only
225A maximum

Main circuit breaker
225A maximum

Branch circuit breakers
100A maximum,
Single-, two- and three-pole

Product Types, continued

Retrofit Panelboard
PRL-1R and PRL-2R

Bolt-On Circuit Breakers
480Y/277 Vac;
240 Vac, 480Y/277 Vac

Main lugs only
225A maximum

Main circuit breaker
225A maximum

Branch circuit breakers
100A maximum,
Single-, two and three-pole

Type PRL3a

Bolt-On Circuit Breakers
240, 480 or 600 Vac;
250 Vdc Maximum

Main lugs only
800A maximum

Main circuit breaker
600A maximum

Branch circuit breakers
225A maximum,
Single-, two- and three-pole

Type PRL3E

Bolt-On Circuit Breakers
240, 480Y/277 or 480 Vac;
250 Vdc Maximum

Main lugs only
600A maximum

Main circuit breaker
600A maximum

Branch circuit breakers
125A maximum,
Single-, two- and three-pole

Type PRL4

Circuit Breakers or Fusible Switches
240, 480 or 600 Vac; 600 Vdc Maximum

Main lugs only
1200A maximum

Main circuit breaker
1200A maximum

Main fusible switch
1200A maximum

Branch circuit breakers
1200A maximum,
Single-, two- and three-pole

Branch fusible switches
1200A maximum,
two- and three-pole

Type PRL5P

Plug-On Circuit Breakers
240, 480 or 600 Vac;
250 Vdc Maximum

Main lugs only
1200A maximum

Main circuit breaker
1200A maximum

Branch circuit breakers
1200A maximum,
Single-, two- and three-pole

Product Types, continued

Pow-R-Command

Bolt-On Circuit Breakers
240 or 480Y/277 Vac

Main lugs only
400A maximum

Main circuit breaker
400A maximum

Branch circuit breakers
225A maximum,
Single-, two- and three-pole

Integral power switching controls

Metering Service Section

Bolt-On Circuit Breaker or Fusible Switch 240, 480 or 600 Vac

Service entrance panels combining a main disconnect with a power company metering compartment
400–1200A

Elevator Control Panelboard

Bolt-On Fusible Switches
600 Vac Maximum

Controls for up to four elevators in a single Panelboard

Main lugs only
800A maximum

Branch overcurrent devices
15–200A fusible switches with Class J fuse clips maximum

Designed to meet specific sections of various codes impacting elevators

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Type PRL1a Panelboard

Contents

Product Description

Eaton's EZ box and EZ trim represents the first significant change in panelboard box and trim designs in more than a half-century. The EZ box and EZ trim have been designed for faster, more secure and safer installations. The new EZ box and EZ trim are provided standard for Eaton's Pow-R-Line 1a and Pow-R-Line 2a lighting panelboards, as well as the Pow-R-Line 3a and Pow-R-Line 3E mid-range panelboard.

Flange Detail

Features

- Virtually eliminates sharp edges
- Trim installs in seconds rather than minutes
- 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)

The EZ box flanges are bent and painted, which virtually eliminates the sharp edges associated with traditional boxes. Additionally, all steel panelboard chassis parts are painted. This significantly reduces potential injury for material handlers and installers. Each flange is adjustable outward up to 3/4-inch (19.1 mm). This feature allows the installer to adjust flush box applications to be level and flat with the finished wall after the wall material is installed to help correct wall irregularities. The new box flange also provides the means for attaching the EZ trim.

Standalone Trim and Bottom Flange Hanger with Notch

Corner Flange Detail

Fast Installation

The EZ trim incorporates a groundbreaking design that installs in seconds, rather than minutes. The standard trim features include door-in-door construction; no exposed hardware and no tools are required for installation.

Each EZ trim includes hangers attached on the right side. The bottom trim hanger has a notch in its base. To install, the bottom hanger is inserted into the bottom right side box flange opening, resting the notch on the flange.

Trim Hanger Inserted Into Box Flange

The balance of the hangers are aligned with the other flange openings and pushed in. When all hangers are in the box flange, the trim is lifted up slightly to clear the notch on the bottom hanger, and the trim in self-supported on the EZ box.

The installation is completed by swinging the trim to the closed position, then lifting and pushing slightly to the right. The trim will drop into place totally secured. The multi-point catches on the left side of the trim will lock into the left side box flange openings.

To prevent the trim from being removed by non-authorized persons, a unique sliding means automatically latches in place when the trim door is closed. Along with a new lock, the EZ trim offers a high degree of door security.

Trim Hanging on Surface Mounted Box

Standards and Certifications

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

- UL 50 listed
- NEMA Standard PB1
- Federal specifications
- National Electrical Code

Listed

Product Selection

Boxes and Trims Only—Type 1

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Types PRL1a, PRL2a and PRL3a (400A Maximum)

Box Dimensions—Inches (mm)	Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box ① Catalog Number	EZ Trim ① Catalog Number
20.00 W x 5.75 D (508.0 W x 146.1 D)	36.00 (914.4)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
	42.00 (1066.8)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
	90.00 (2286.0)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Type PRL3a (600A)

Box Dimensions—Inches (mm)	Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box ① Catalog Number	EZ Trim ① Catalog Number
20.00 W x 5.75 D (508.0 W x 146.1 D)	36.00 (914.4)	**YS2036**	**LTV2036S or F**	**EZB2036R**	**EZTV2036S or F**
	48.00 (1219.2)	**YS2048**	**LTV2048S or F**	**EZB2048R**	**EZTV2048S or F**
	60.00 (1524.0)	**YS2060**	**LTV2060S or F**	**EZB2060R**	**EZTV2060S or F**
	72.00 (1828.8)	**YS2072**	**LTV2072S or F**	**EZB2072R**	**EZTV2072S or F**
	90.00 (2286.0)	**YS2090**	**LTV2090S or F**	**EZB2090R**	**EZTV2090S or F**

Type PRL3a (800A)

Box Dimensions—Inches (mm)	Height	YS Box Catalog Number	LT Trim Catalog Number
28.00 W x 5.75 D	36.00 (914.4)	**YS2836**	**LTV2836S or F**
	48.00 (1219.2)	**YS2848**	**LTV2848S or F**
	60.00 (1524.0)	**YS2860**	**LTV2860S or F**
	72.00 (1828.8)	**YS2872**	**LTV2872S or F**
	90.00 (2286.0)	**YS2890**	**LTV2890S or F**

Note

① EZ box must be used with EZ trim.

Pow-R-Line C Panelboards

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Product Description

Lighting and Distribution Panelboards

Eaton's assembled panelboards are designed for sequence phase connection of branch circuit devices. This allows complete flexibility of circuit arrangement (single-, two- or three-pole) to allow balance of the electrical load on each phase.

Sturdy, rigid chassis assembly ensures accurate alignment of interior with panel front; prevents flexing and minimizes possibility of loosening or damage to current carrying parts during and after installation.

Four-point in-and-out adjustment of panel interior is provided to meet critical depth dimensions on flush installations. This compensates for possible misalignment of box at installation.

Main lugs are mechanical solderless type and approved for copper or aluminum conductors.

Enclosures

Boxes are code-gauge galvanized steel, which include a painted box finished in ANSI-61 light gray to match the trim.

Standard panelboard cabinets are designed for indoor use. Alternate types are available for indoor and special purpose applications.

All enclosures are furnished in accordance with Underwriters Laboratories standards and include wiring gutters with proper wire bending space. Special cabinets can be provided at an additional charge.

The box dimensions shown are inside dimensions. For outside dimensions, add 1/4-inch (6.4 mm).

Standard panelboard boxes are supplied without knockouts (blank endwalls).

Fronts

Fronts (trims) for all panelboards are made of code-gauge steel and have a high durability ANSI-61 light gray finish applied by a baked-on polyester powder coating paint system.

The fronts for lighting and appliance branch circuit panelboards and small power distribution panelboards include a door with rounded corners and concealed hinges. A flush-type latch and lock assembly is included. All locks are keyed alike. These trims are available in both surface- and flush-mounted designs.

EZ Trim Features Standard Door-in-Door with No Exposed Hardware or Sharp Edges (no Tools are Required for Installation)

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

Fronts for power distribution panelboards utilize a unique breaker front cover design in which each device has a dedicated bolt-on steel cover. The individual covers form a single deadfront for the panelboard that is used in conjunction with two wiring gutter covers to complete the trim. A door is not finished as part of the standard offering on these panelboards but can be provided, for an additional charge, using a deeper than standard box.

Application Description

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
- Environment

Panelboard Short-Circuit Rating

The short-circuit rating of Eaton's assembled panelboards are test verified by, and listed with, Underwriters Laboratories (UL). Generally, these ratings are that of the lowest interrupting rated device in the panel.

Certain exceptions to this rule exist where branch devices have been UL tested in combination with specific main devices having a higher interrupting rating. Where these defined main devices and branch breaker combinations are utilized, the series short-circuit rating of the assembled panelboard will be the same as the tested rating of the approved rated main device in series with the branches. Available main and branch breaker combinations are tabulated starting on **Page 366**. All combinations shown are UL tested and listed.

These 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.

Service Entrance Equipment

The National Electrical Code (NEC) requires that:

- A panel used as service entrance equipment must be located near the point where the supply conductors enter the building
- A panelboard having main lugs only shall have a maximum of six service disconnects to de-energize the entire panelboard from the supply conductors. Where more than six disconnects are required, a main service disconnect must be provided
- A disconnectable electrical bond must be provided between the neutral and ground
- A service entrance type UL label must be factory installed
- Ground fault protection of equipment shall be provided for each service disconnect rated 1000A or more if the electrical service is a solidly grounded wye system of more than 150V to ground, but not exceeding 600V phase-to-phase

Note: Service entrance panels must be identified as such on the order.

Panelboard Standards

In 2008, both the National Electrical Code (Article 408) and UL 67 were updated to remove the mandated 42-circuit limitation. Eaton offers panelboards with more than 42 circuits for those jurisdictions that have adopted the 2008 NEC or later.

For jurisdictions that have not adopted the 2008 or later version of the National Electrical Code, the 42-circuit limitation for Lighting and Appliance Branch Panelboards remains in place. Check with your local code officials to determine specific jurisdiction status.

Panelboard Installation

NEC requires that the operating handle of the topmost mounted device be no more than 6 feet 7 inches (2006.6 mm) above the finished floor and should be installed per NEC and manufacturer's instructions.

Additional boxes and fronts are required when the components required for one panelboard exceed the standard box dimensions.

Multi-Section Panelboards

When two or more separate enclosures are required, separate fronts for each box are standard. A common front can be furnished at additional charge.

Interconnecting Multi-Section Panelboards

When a panelboard, for connection to one feeder, must be furnished in more than one section (Box), 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 included (and priced) to provide connection capability to the second section.

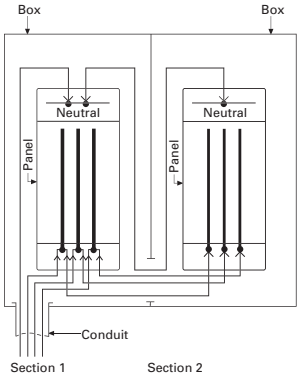
Note: Sub-feed or through-feed lugs cannot be used on any panelboard that is not protected by a single main overcurrent device either in the panelboard or immediately upstream, i.e., service entrance panelboards with main lugs only using the six disconnect rule.

Sub-Feed Lugs

Sub-feed lugs (see figure below) are one means of interconnecting multi-section panels. The sub-feed (second set of) lugs are mounted directly beside the main lugs. These are required in each section except the last panel in the lineup. The feeder cables are brought into the wiring gutter of the first section and connected to the main lugs. Another set of the same size cables are connected 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.

Sub-Feed Lugs

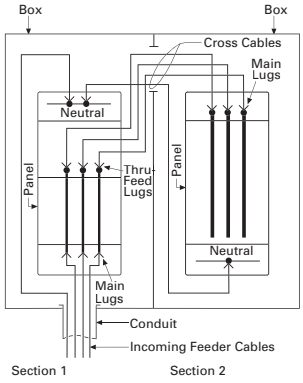


Through-Feed Lugs

Through-feed lugs (see figure below) are another method to interconnect multi-section panelboards. The incoming feeder cables are connected to the 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. The interconnecting cables are connected to the through-feed lugs in Section 1 and are carried over to the main lugs in Section 2. The connection arrangement could be reversed, i.e., main lugs at top; through-feed lugs at bottom end of panel. Cross cables are not furnished by Eaton.

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

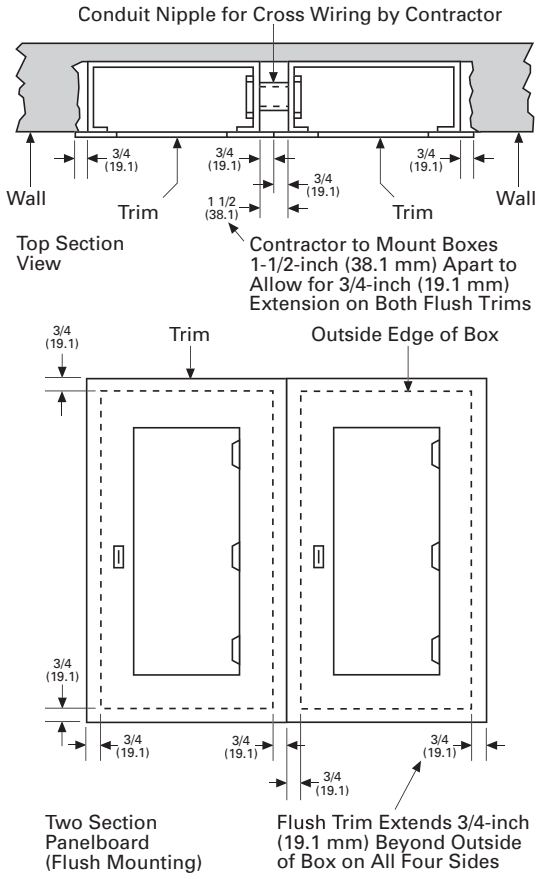
Through-Feed Lugs



Multiple Section Panelboard—Flush Mounted

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

Multiple Section Panelboard Flush Mounted—Dimensions in Inches (mm)



Overcurrent Protection

The following requirements will be found in the NEC:

Each lighting and appliance branch circuit panelboard shall be individually protected on the supply side by not more than two main circuit breakers or two sets of fuses having a combined rating not greater than that on the panelboard.

Branch Circuit Loading for Lighting Panels

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

- Motor circuits: NEC Article 430
- Diversity factor
- Provision for future loading

Exception Number 1: Individual protection for a lighting panelboard is not required when the panelboard feeder has overcurrent protection not greater than that of the panelboard.

Exception Number 2: For existing installations, individual protection for lighting panelboards is not required where such panelboards are used as service equipment in supplying an individual residential occupancy and where any bus supplying 15 or 20A circuits is protected on the supply side by an overcurrent device.

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 the overcurrent protective devices.

Underwriters Laboratories test procedures are based, in part, on 80% loading of panelboard branch circuit devices. The NEC 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 such factors as ambient temperature, duty cycle, frequency or altitude.

Exception: There is one exception to this rule in both UL and NEC. It applies to assemblies and overcurrent devices that have been listed for continuous duty at 100% of its rating.

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 (2011.7m)
- Damp environment (possible fungus growth)
- Compliance with federal, state and municipal electrical codes and standards

Seismic Considerations

The Uniform Building Code® and the International Building Code, as well as local and state building codes, place an emphasis on seismic building design requirements. Electrical distribution systems are treated as attachments to the building and therefore, fall into this category.

All Eaton panelboards are seismic qualified at the highest possible level, and have been tested in accordance with ANSI C37.81. This standard quantifies actual earthquake conditions, as well as equipment seismic capability.

Harmonic Currents

Standard panelboard neutrals are rated for 100% of the panelboard current. However, since harmonic currents can cause overheated neutrals, an option is provided for neutrals to be rated at 200% (1200A maximum neutral for 600A main bus) of the panelboard phase current.

Panelboards with the 200% rated neutral are UL listed as suitable for use with non-linear loads.

Prior to specifying the 200% rated neutral, Eaton recommends a harmonic survey be conducted of the distribution system, be it new or existing.

Surge Protective Devices

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

Electrical loads and microprocessor-based equipment are highly susceptible to both high and low energy transients. High energy transients include lightning induced surges and power company switching. These high energy transients can destroy components instantly.

More frequently the electrical system experiences low energy transients and high frequency noise.

The effects of continual low energy transients and high frequency noise can cause erratic equipment performance or sudden failure of electronic circuit board components.

Eaton can provide protective and diagnostic systems integral to panelboards. The surge protective device (SPD) is integrated into the panelboards using a "zero lead length" direct bus bar connection.

Pow-R-Line 4

The SPD protects sensitive electronic equipment from the damaging effects of high and low energy transients, as well as high frequency noise.

Standards and Certifications

Eaton's panelboards are designed to meet the following applicable industry standards, except where noted:

- Underwriters Laboratories:
  - Panelboards: UL 67
  - Cabinets and Boxes: UL 50

Note: Only panelboards containing UL listed devices can be UL labeled.

- National Electrical Code
- NEMA Standards: PB 1
- Federal Specification W-P-115c:
  - Circuit Breakers—Type I Class I
  - Fusible Switch—Type II Class I

UL Listed

Technical Data and Specifications

Panelboard Selection Guide

Panelboard Type	Device Type	Maximum Voltage Rating AC	Maximum Voltage Rating DC	Maximum Main Rating (Amperes) MLO	Maximum Main Rating (Amperes) Main Device	Branch Circuits Ampere Range	Sub-Feed Breaker Maximum Amperes	AC Interrupting Capacity rms Symmetrical Amperes (kA) Fully Rated	AC Interrupting Capacity rms Symmetrical Amperes (kA) Series Rated
PRL1a	Breaker	240	—	400	400	15–100	400	10–22	22–100
PRL1R	Breaker	240	—	225	225	15–100	—	10–22	22–100
PRL1aF	Fusible	240	—	400	400	15–30	400	200	—
PRL1a-LX	Breaker	240	—	225	225	15–100	—	10–22	22–100
PRL2a	Breaker	240	250	400	400	15–100	400	65	65–200
	Breaker	480Y/277	250	400	400	15–100	400	14	22–150
PRL2R	Breaker	240	—	225	225	15–100	—	10–22	22–200
	Breaker	480Y/277	—	225	225	15–100	—	14	22–100
PRL2aF	Fusible	480Y/277	—	400	400	15–30	400	200	—
PRL2a-LX	Breaker	240	250	225	225	15–100	—	65	65–200
	Breaker	480Y/277	250	225	225	15–100	—	14	22–150
PRL3a	Breaker	240	250	800	600	15–225	600	10–200	22–200
	Breaker	480	250	800	600	15–225	600	14–100	22–150
	Breaker	600	250	800	600	15–225	600	14–35	—
PRL3E	Breaker	240	250	600	600	15–125	400	25–100	100–200
	Breaker	480Y/277	250	600	600	15–125	400	18–65	65–100
	Breaker	480	250	600	600	15–125	400	18–65	65–100
PRL4B	Breaker	240	600	1200	1200	15–1200	—	10–200	22–200
	Breaker	480	600	1200	1200	15–1200	—	14–200	22–150
	Breaker	600	600	1200	1200	15–1200	—	14–200	—
PRL4F	Fusible	240	250	1200	1200	30–1200	—	100–200	—
	Fusible	600	250	1200	1200	30–1200	—	100–200	—
PRL5P	Breaker	240	250	1200	1200	15–1200	—	10–200	22–200
	Breaker	480	250	1200	1200	15–1200	—	14–200	22–150
	Breaker	600	250	1200	1200	15–1200	—	14–200	—
PRC100/50 PRC25	Breaker	240	—	400	400	15–225	—	10–65	22–100
	Breaker	480Y/277	—	400	400	15–225	—	14	65–100
Elevator Control	Fusible	240	—	800	800	15–200	—	200	—
	Fusible	480Y/277	—	800	800	15–200	—	200	—
	Fusible	480	—	800	800	15–200	—	200	—

Terminal Wire Ranges, Pressure-Type Al/Cu Terminals Except as Noted

Note: All terminal sizes are based on wire ampacities corresponding to those shown in NEC Table 310-16 under the 75°C insulation columns (75°C wire). The use of smaller size, (in circular mills), regardless of insulation temperature rating, is not permitted.

Where copper-aluminum terminals are supplied on designated panelboard types, best results are obtained if a suitable joint compound is applied when aluminum conductors are used.

Check Eaton's standard terminal sizes versus customer requirements. In particular, 400 and 800A breakers often require nonstandard lugs.

Optional 750 kcmil mechanical screw-type terminals are available upon request. Panelboard dimensions may be affected, refer to Eaton.

Standard Main Lug Terminals

	Wire Size Ranges for Ampere Capacity						
Panel Type	**100A**	**225A**	**250A**	**400A**	**600A**	**800A**	**1200A**
PRL1a	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL2a	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL1R	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL2R	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL1aF	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL2aF	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL3a	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	(2) #4–500 kcmil	(3) #4–500 kcmil	—
PRL3E	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	(2) #4–500 kcmil	—	—
PRL4	—	—	#4–500 kcmil	(2) #4–500 kcmil	(2) #4–500 kcmil	(3) #4–500 kcmil	(4) #4–500 kcmil
PRL1a-LX	#12–1/0	#6–300 kcmil	—	—	—	—	—
PRL2a-LX	#12–1/0	#6–300 kcmil	—	—	—	—	—
PRC100/PRC50	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	—	—	—
PRC25	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRL5P	—	—	—	(1) #1/0–500 kcmil or (2) #1/0–250 kcmil	(2) #4–500 kcmil	(2) #2–500 kcmil or (3) #2–400 kcmil	(4) #4–750 kcmil
Elevator Control	—	—	#4–500 kcmil	(2) #4/0–500 kcmil	(2) #4/0–500 kcmil	(3) #4/0–500 kcmil	—

Standard Circuit Breaker Terminals

Breaker Type	Ampere Rating	Wire Range
BAB, QBHW, BABRSP, HQP, QPHW	15–70	#14–#4
	90–100	#8–1/0
EDB, EDS, ED, EDH, EDC	100–225	#4–4/0 or #6–300 kcmil
EGB, EGE, EGS, EGH	15–50	#14–3/0 AL/CU
	60–125	#6–3/0 AL/CU
EHD, FDB, FD, HFD, FDC, HFDDC ②	15–100	#14–1/0
	125–225	#4–4/0
FCL	15–100	#14–1/0
GHB, HGHB, GHQ, GHQRSP	15–20	#14–#10
	25–100	#10–1/0
EGB, EGS, EGH	15–50	#14–1/0
	60–125	#6–2/0
JD, HJD, JDC, HJDDC ②	70–250	#4–350 kcmil
DK	250–350	250–500 kcmil
	400	(2) 3/0–250 kcmil or (1) 3/0–500 kcmil
KD, HKD, KDC, HKDDC, ② CKD, CHKD	225	(1) #3–350 kcmil
	350	(2) 3/0–250 kcmil or
	400	(2) 3/0–250 kcmil or (1) 3/0–500 kcmil
LHH	150–400	#2–500 kcmil
	150–400	(2) #2–500 kcmil
	150–400	(1) 500–750 kcmil
LGE, LGH, LGC, LGU, LHH ①	250–400	(1) #2–500 kcmil
	500–600	(2) #2–500 kcmil
LD, HLD, LDC, HLDDC ② CLD, CHLD	300–500	(2) 250–350 kcmil
	600	(2) 400–500 kcmil
MDL, HMDL, HMDLDC ② CMDL, CHMDL	400–600	(2) #1–500 kcmil
	700–800	(3) 3/0–400 kcmil
ND, HND, CND, CHND, NDC, CNDC	800–1000	(3) 3/0–400 kcmil
	1200	(4) 4/0–500 kcmil
LCL	125–225	(1) #6–350 kcmil
	250–400	(1) #4–250 kcmil and (1) 3/0–600 kcmil
FB-P	15–100	#14–1/0
LA-P	70–225	#6–350 kcmil
	250–400	(1) #4–250 kcmil and (1) 3/0–600 kcmil
NB-P, NBDC ②	300–700	(2) #1–500 kcmil
	800	(3) 3/0–400 kcmil

FDPW Switch Terminals

Ampere Rating	Wire Range
30	#14–1/0
60	#14–1/0
100	#14–1/0
200	#4–300 kcmil
400	250–750 kcmil or (2) 3/0–250 kcmil
600	(2) #4–600 kcmil or (4) 3/0–250 kcmil
800	(3)250–750 kcmil or (6) 3/0–250 kcmil
1200	(4) 250–750 kcmil or (8) 3/0–250 kcmil

Elevator Control Panel Feeder Terminals

Ampere Rating	Wire Range
30	#14–1/0
60	#14–1/0
100	#14–1/0
200	#4–300 kcmil

Notes

① LHH is 400A maximum.

② Suitable for DC applications only.

Selection Guide

Molded Case Circuit Breaker Ratings

Note: Circuit breakers equal or exceed Federal Specification W-C-375b requirements for the particular class associated with each circuit breaker type.

10

Breaker Type	Continuous Ampere Rating	Number of Poles	Maximum Voltage AC	UL Listed Interrupting Ratings—kA Symmetrical Amperes AC Rating Volts 120/240	240	277	480	600	DC Rating Volts ① 125	250
BAB ②③, HQP ②③	15–70	1	120	10	—	—	—	—	—	—
	15–100	2	120/240	10	—	—	—	—	—	—
	15–100	2, 3	240	—	10	—	—	—	—	—
BABRP, BABRSP ②	15–30	1	120	10	—	—	—	—	—	—
	15–30	2	120/240	10	—	—	—	—	—	—
QBGF, QBGFEP, QPGF, QPGFEP, QBAF, QBAG	15–40	1	120	10	—	—	—	—	—	—
	15–50	2	120/240	10	—	—	—	—	—	—
	15–20	1	120	10	—	—	—	—	—	—
	15–20	2	120/240	10	—	—	—	—	—	—
QBHW ②③, QPHW ②③	15–70	1	120	22	—	—	—	—	—	—
	15–100	2	120/240	22	—	—	—	—	—	—
	15–100	2, 3	240	—	22	—	—	—	—	—
QBHGF, QBHGFEP, QPHGF, QPHGFEP	15–30	1	120	22	—	—	—	—	—	—
	15–30	2	120/240	22	—	—	—	—	—	—
GQ, GHQ ②, GHQRSP, GHB ②③	15–20	1	277	65	—	14	—	—	—	—
	15–100 ④	1	277	65	—	14	—	—	14	—
	15–100 ④	2, 3	480Y/277	—	65	—	14	—	—	14
HGHB ②, GHBGFEP	15–30	1	277	65	—	25	—	—	—	—
	15–60	1	277	—	—	14	—	—	—	—
GHBS	15–30	1	277	65	—	14	—	—	—	—
	15–30	2	480Y/277	—	65	—	14	—	—	—
EHD ②③	15–100	1	277	—	—	14	—	—	10	—
	15–100	2, 3	480	—	18	—	14	—	—	10
EGB	15–125	1	277	35	35	18	—	—	10	—
	15–125	2, 3	480	—	35	—	18	—	—	10
EGS	15–125	1	277	100	—	35	—	—	35	—
	15–125	2, 3	480	—	100	—	35	—	—	35
EGH	15–125	1	277	200	—	65	—	—	42	—
	15–125	2, 3	480	—	200	—	65	—	—	42
FDB ⑤, FD ②③	15–150	2, 3	600	—	18	—	14	14	—	10
	15–150	1	277	—	—	35	—	—	10	—
	15–225	2, 3	600	—	65	—	35	18	—	10
HFD ②③	15–150	1	277	—	—	65	—	—	10	—
	15–225	2, 3	600	—	100	—	65	25	—	22

Notes

① DC ratings apply to substantially non-inductive circuits.
② 15 and 20A single-pole switching duty rated for fluorescent applications.
③ Single-, two- and three-pole HACR rated.
④ DC rated single-pole, 15–70A only.
⑤ Two- and three-pole HACR rated.

Selection Guide, continued

Molded Case Circuit Breaker Ratings, continued

Note: Circuit breakers equal or exceed Federal Specification W-C-375b requirements for the particular class associated with each circuit breaker type.

Breaker Type	Continuous Ampere Rating	Number of Poles	Volts AC	UL Listed Interrupting Ratings—kA Symmetrical Amperes AC Rating Volts 120/240	240	277	480	600	DC Rating Volts ① 125	250
FDC ②	15–225	2, 3	600	—	200	—	100	35	—	22
FCL	15–100	2, 3	480	—	200	—	150	—	—	—
EDB ②	100–225	2, 3	240	—	22	—	—	—	10	—
EDS ②	100–225	2, 3	240	—	42	—	—	—	10	—
ED ②	100–225	2, 3	240	—	65	—	—	—	10	—
EDH ②	100–225	2, 3	240	—	100	—	—	—	10	—
EDC ②	100–225	2, 3	240	—	200	—	—	—	10	—
EGB ②	15–125	1, 2, 3	240	—	25	—	18	—	—	—
EGE ②	15–125	1, 2, 3	240	—	—	—	—	18	—	—
EGS ②	15–125	1, 2, 3	240	—	85	—	35	22	—	—
EGH ②	15–125	1, 2, 3	240	—	100	—	65	25	—	—
JD ②	70–250	2, 3	600	—	65	—	35	18	—	10
HJD ②	70–250	2, 3	600	—	100	—	65	25	—	22
JDC ②	70–250	2, 3	600	—	200	—	100	35	—	22
DK	250–400	2, 3	240	—	65	—	—	—	—	10
KD, CKD ③	100–400	2, 3	600	—	65	—	35	25	—	10 ④
HKD, CHKD ③	100–400	2, 3	600	—	100	—	65	35	—	22 ④
LHH ⑤	150–400	2, 3	480	—	100	—	65	35	—	42
KDC	100–400	2, 3	600	—	200	—	100	65	—	22 ④
LCL ⑤	125–400	2, 3	600	—	200	—	200	100	—	—
LGE	250–600	3	600	—	65	—	35	18	—	22
LGC ⑤	250–600	2, 3	600	—	200	—	100	50	—	42
LGU ⑤	250–600	2, 3	600	—	200	—	150	65	—	50
LD ⑤, CLD ③⑤	300–600	2, 3	600	—	65	—	35	25	—	22 ④
LGH	250–600	3	600	—	100	—	65	35	—	22
HLD ⑤, CHLD ③⑤	300–600	2, 3	600	—	100	—	65	35	—	25 ④
LDC ⑤, CLDC ③⑤	300–600	2, 3	600	—	200	—	100	50	—	25 ④
MDL ⑤, CMDL ③⑤	400–800	2, 3	600	—	65	—	50	25	—	22 ④
HMDL ⑤, CHMDL ③⑤	400–800	2, 3	600	—	100	—	65	35	—	25 ④
ND ⑤, CND ③⑤	600–1200	2, 3	600	—	65	—	50	25	—	—
HND ⑤, CHND ③⑤	600–1200	2, 3	600	—	100	—	65	35	—	—
NDC ⑤, CNDC ③⑤	600–1200	2, 3	600	—	200	—	100	65	—	—
Integrally Fused, Current Limiting Circuit Breakers										
FB-P	15–100	2, 3	600	—	200	—	200	200	—	⑥
LA-P	70–400	2, 3	600	—	200	—	200	200	—	⑥
NB-P	300–800	2, 3	600	—	200	—	200	200	—	⑥

Notes

① DC ratings apply to substantially non-inductive circuits.
② Two- and three-pole HACR rated.
③ 100% rated circuit breaker.
④ DC rating not available with electronic trip.
⑤ Available with integral ground fault protection.
⑥ 100k based on NEMA test procedure.

Series Rated Combinations

Underwriters Laboratories permits panelboards to be labeled with a short-circuit rating of up to 200 kA symmetrical where UL listed combinations of main and branch circuit breakers are used.

These combinations consist of main breakers or fusible devices connected ahead of, and in series with approved conventional breakers used as branch devices.

Two arrangements are acceptable and comply with UL standards for panelboards. **The main circuit breaker or fusible switch may be installed in the panel as a main device, or it may be mounted remote, (directly upstream) from the panel.** In either case, the approved main and branch combinations must be followed. These arrangements are acceptable and are UL listed having been tested in accordance with UL 67 standards.

From the tables that follow, specific combinations of main devices (upstream) and branch devices (downstream), series connected and electrically adjacent in the system, may be selected to qualify the assembled panelboard for the short-circuit ratings shown.

Applying Series Ratings

The following is provided to use the series rating tables on the following pages.

1. Determine the available system voltage and fault current.
2. Select the appropriate table using the system voltage.
3. Use the appropriate "Series Equipment Rating" column equal to, or greater than, the available fault current, to determine the allowable UL recognized combinations of main (upstream) and branch (downstream) overcurrent devices. Main devices are shown in bold/shaded areas. Respective branch breakers are shown directly below their associated main device. If a rating is not initially found in a column, first look to the columns to the right for higher "Series Equipment Ratings" within the same table. If still not found, use ratings from table of a higher system voltage (higher numbered table(s).

Series Rating Tables

120/240 Vac—Breaker/Breaker Series Ratings

Main devices are shown at top in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical 18	22	42	65			100			200	
100	**EHD**	**QBHW** **QPHW**		**GB, GHB**			**FB-P**			**FCL**	
	BA, BAB BABRP BABRSP HQP QBGF QBAF	BA, BAB HQP QBGF QPGF QBAF		BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW			BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW EHD FD			BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB GHQ EHD FD HFD	
125	**FDB**						**EGS**				
	BA, BAB HQP QBGF QBAF QBAG						GHQ, GHB				
150	**FDB**										
	BA, BAB HQP QBGF QBAF QBAG										
200							**LA-P**				
							BA, BAB HQP QBHW QPHW EHD FD				
225		**EDB**	**EDS**	**ED, FD, FDE**			**EDH, CHH**	**HFD, HFDE**	**FDC**		**FDC**
		BA, BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG	BA, BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG	BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QBHGF			BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG	BA, BAB HQP QBGF QBAF QBAG QBHW QPHW QBHGF GB, GHB GHQ, GHQRSP EHD FD, EGS	BA, BAB HQP QBHW QPHW		GB, GHB GHQ GHQRSP EHD FD HFD EGS EGH
250				**JD, JDB**	**HJD**	**JDC**	**HJD**	**JDC**		**JDC**	
				BA (15–70A) BAB (15–70A) HQP (15–70A) QBHW QPHW EHD	BA, BAB HQP QBHW QPHW	QBGF QPGF QBAF QBAG	GB, GHB EHD FD EGS	BA, BAB HQP QBHW QPHW		GB, GHB EHD FD HFD EGS EGH	

120/240 Vac—Breaker/Breaker Series Ratings, continued

Main devices are shown at top in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	18	22	42	65			100		200	
400		**DK, KD** **KDB** BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG	**DK, KD** **KDB, CKD** BA (15–70A) BAB (15–70A) BABRP BABRSP HQP (15–70A) QBHW QPHW	**HKD, CHKD** BA (15–70A) BAB (15–70A) BABRP BABRSP HQP (15–70A) QBHW QPHW	**DK, KD** **KDB** **CKD** **EHD**	**KDC** BA (15–70A) BAB (15–70A) HQP (15–70A)	**HKD** **CHKD** GB, GHB EHD FD EGS ①	**KDC** QBHW QPHW	**KDC** GB, GHB EHD FD HFD EGS EGH	**LCL** BA, BAB HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB EHD FD HFD
600							**CHLD, HLD** EHD			
800							**HMDL** EHD			
1200							**HND** EHD			

Note

① Not valid with CHKD.

240 Vac—Breaker/Breaker Series Ratings

For single- and two-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see **Page 367**.
Main devices are shown at top in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical 18	22	42	65	100	200
100	**EHD** BAB_H HQP_H	**QBHW_H** **QPHW_H** BAB_H HQP_H		**GB, GHB** BAB_H HQP_H QBHW_H QPHW_H	**FB-P** BAB_H HQP_H EHD FDB FD	**FCL** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FD, FDE FDB HFD, HFDE
125					**EGH** GHB	
150	**FDB** BAB_H HQP_H					
200					**LA-P** BAB_H HQP_H QBHW_H QPHW_H EHD FDB FD JD, JDB	
225	**EDB** HQP_H BAB_H QBHW QPHW	**EDS** HQP_H BAB_H QBHW QPHW	**ED** BAB_H HQP_H QBHW_H	**FD, FDE** BAB_H HQP_H QBHW_H QPHW_H EHD (15–70A) FDB	**EDH, EDC** BAB_H HQP_H	**HFD, HFDE** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB FD, FDE	**FDC** BAB_H HQP_H QBHW_H QPHW_H	**FDC** GB, GHB EHD FDB FD, FDE HFD, HFDE
		CHH BAB_H						
250			**JD, JDB** BAB_H (15–70A) HQP_H (15–70A) QBHW_H QPHW_H EHD FDB	**HJD** BAB_H (15–70A) HQP_H (15–70A) QBHW_H QPHW_H	**HJD** GB, GHB EHD FD FDB ED JD, JDB EGS	**JDC** BAB_H HQP_H QBHW_H QPHW_H		**JDC** GB, GHB EHD FD, FDE FDB HFD, EDB, EDS, HFDE ED EDH JD, JDB HJD, EGS, EGH

Note

① Valid with BAB_H only.

240 Vac—Breaker/Breaker Series Ratings, continued

For single- and two-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see **Page 367**.
Main devices are shown at top in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical 65	100		200	
400	**DK, KD, KDB** **CKD** BAB_H HQP_H QBHW_H QPHW_H EHD FDB	**HKD, CHKD** QBHW_H ① QPHW_H ① GB, GHB EHD FDB, FDE FD, EDB, EDS ED JD, JDB DK, KD, KDB EGS ②	**KDC** QBHW_H QPHW_H	**KDC** GB, GHB EHD FDB FD, FDE, HFDE HFD, EDB, EDS ED EDH JD, JDB HJD DK, KD, KDB HKD	**LCL** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB, FDE, HFDE FD, HFD, EDB, EDS ED EDH JD, JDB HJD DK, KD, KDB HKD
500		**NB-P** JD, JDB KD, KDB, DK CKD			
600		**HLD, HLDB, CHLD** GB ①, GHB ① FD, EDB, EDS ED, EHD JD, JDB KD, KDB, DK, CKD LD, LDB		**LDC** EDB, EDS, ED EDH	
800		**NB-P** KD, KDB, DK	**HMDL** EHD FD		
1200		**HND, CHND** EDB, EDS, ED EHD			**NDC** EDB, EDS, ED EDH
2500		**RD** EDB, EDS, ED			**RDC** EDB, EDS, ED EDH

Notes

① Valid on two- and three-pole breakers only. Not valid for single-pole.

② Not valid with CHKD.

277 Vac—Breaker/Breaker Series Ratings

Main devices are shown at top in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to single-pole branch breakers only. For two- and three-pole branch breakers, see other tables.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	22	25	35	65	100	150
100						**FCL**
						GHB GHQ, GHQRSP EHD FD HFD
125			**EGS**	**EGH**		
			GHQ GHB	GHQ GHB		
225			**FD, FDE**	**HFD, HFDE**	**FDC**	
			GHB GHQ GHQRSP ①	GHB, GHQRSP ② GHQ EHD FD	GHB EHD FD HFD	
250	**JD, JDB**		**JD, JDB**	**HJD**	**LCL**	**JDC**
	GHB		GHB (15–50A)	GHB (15–50A) EHD FD	GHBS	GHB EHD FD HFD
400	**KD, KDB** **CKD**	**HKD** **CHKD**	**KD, KDB** **CKD**	**HKD, CHKD**	**KDC**	**LCL**
	GHB	GHB	GHB (15–50A) EHD FD	GHB (15–50A) EHD FD	GHB (15–50A) EHD FD HFD	GHB EHD FD HFD

480Y/277 Vac—Breaker/Breaker Series Ratings

Main devices are shown at top in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to two- and three-pole branch breakers only. For single-pole branch breakers, see table above.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	22	25	35	65	100	150
100						**FCL**
						GHB, GHQRSP
125			**EGS**	**EGH**		
			GHB	GHB		
225			**FD, FDE**	**HFD, HFDE**	**FDC**	
			GHB, GHQRSP ①	GHB, GHQRSP ②	GHB	
250	**JD, JDB**		**JD, JDB**	**HJD**	**JDC**	
	GHB		GHB (15–50A)	GHB (15–50A)	GHB	
400	**KD, KDB** **CKD**	**HKD, CHKD**	**KD, KDB** **CKD**	**HKD, CHKD**	**KDC**	**LCL**
	GHB	GHB	GHB (15–50A)	GHB (15–50A)	GHB (15–50A)	GHB

Notes

① Not valid with FDE.
② Not valid with HFDE.

480 Vac—Breaker/Breaker Series Ratings

Main devices are shown at top in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to two- and three-pole branch breakers only. Not valid for single-pole branch breakers.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	25	35	65	100		150
100				**FB-P**		**FCL**
				EHD FDB FD HFD		EHD FDB FD, FDE HFD, HFDE
200				**LA-P**		
				EHD FDB FD HFD JD, JDB HJD		
225		**FD, FDE**	**HFD, HFDE**	**FDC**		
		EHD FDB	EHD FDB FD, FDE EGS ①	EHD, EGS, EGH FDB FD, FDE HFD, HFDE		
250	**JD, JDB**		**HJD**	**JDC**		**LCL**
	EHD FDB		EHD FDB FD, FDE JD, JDB, EGS	EHD, EGS, EGH FDB FD, FDE HFD, HFDE JD, JDB HJD		FDE, HFDE
400		**KD, KDB**	**HKD**	**KDC**	**LA-P**	**LCL**
		EHD FDB	EHD FDB FD, FDE JD, JDB KD, KDB, EGS	EHD, EGS, EGH FDB FD, FDE HFD, HFDE JD, JDB HJD KD, KDB HKD	JD, JDB HJD KD, KDB HKD	EHD FDB FD, FDE HFD, HFDE FDC JD, JDB HJD KD, KDB HKD
500				**NB-P**		
				JD, JDB HJD KD, KDB HKD		
600		**LD, LDB** **CLD**	**HLD, HLDB** **CHLD**			
		JD, JDB	FD, FDE JD, JDB KD, KDB LD, LDB			

Note

① Not valid with HFDE.

600 VacXXX—Breaker/Breaker Series Ratings

Main fuse class shown at top in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to two- and three-pole branch breakers only. Not valid for single-pole branch breakers.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	18	25	35	42	50	100
225	**FD**	**HFD**	**FDC**			
	FDB	FDB FD, FDE	FDB FD, FDE HFD, HFDE			
250	**JD, JDB**	**HJD**	**JDC**			**LCL**
	FDB	FDB FD, FDE JD, JDB	FDB FD, FDE HFD, HFDE JD, JDB HJD			FDE, HFDE
400		**KD, KDB** **CKD**	**HKD, CHKD**	**KDC**	**KDC**	**LCL**
		FDB FD, FDE JD, JDB	FDB FD, FDE HFD, HFDE JD, JDB HJD	FDB FD, FDE HFD, HFDE	JD, JDB HJD KD, KDB HKD	FDB FD, FDE HFD, HFDE FDC JD, JDB HJD JDC KD, KDB HKD KDC
600		**LD, LDB** **CLD**	**HLD, HLDB** **CHLD**			
		FD, FDE JD, JDB	KD, KDB LD, LDB			

120/240 Vac—Fuse/Breaker Series Ratings

Main fuse class shown at top in shaded area. Respective branch devices shown directly below.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	100			200		
100						**R**
						BA, BAB HQP QBHW QPHW GB GHB
200			**R**	**J**	**T**	
			GB GHB	BA, BAB HQP QBHW QPHW	BA, BAB HQP QBHW QPHW	
400	**J**	**T**		**J**	**T**	
	BA, BAB HQP QBHW QPHW	BA, BAB HQP QBHW QPHW		GB GHB	GB GHB	

240 Vac—Fuse/Breaker Series Ratings

For single-pole and two-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see **Page 373**.
Main fuse class shown at top in shaded area. Respective branch devices shown directly below.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	100					200				
100									**R**	
									BAB_H HQP_H QBHW_H QPHW_H GB GHB	
200				**R**		**J**		**T**	**R**	
				GB GHB		BAB_H HQP_H QBHW_H QPHW_H		BAB_H HQP_H QBHW_H QPHW_H	GB ① GHB ①	
400	**J**		**T**			**J**		**T**		
	BAB_H HQP_H QBHW_H QPHW_H		BAB_H HQP_H QBHW_H QPHW_H			GB GHB		GB GHB		
600				**L**						
				EHD FDB FD, FDE ED JD, JDB DK, KD, KDB						

277—Vac Fuse/Breaker Series Ratings

Main fuse class are shown at top in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to single-pole branch breakers only. For two- and three-pole branch breakers, consult other tables.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	65			100			200			
100				**J**		**T**	**R**			
				GHBS GHQ GHQRSP		GHBS GHQ GHQRSP	GHB			
200	**J**		**T**	**J**		**T**	**R**			
	GHBS GHQ GHQRSP		GHBS GHQ GHQRSP	EHD FD HFD		EHD FD HFD	GHB			
400							**J**		**T**	
							GHB		GHB	

Note

① Valid on two- and three-pole breakers only. Not valid for single-pole.

480Y/277 Vac—Fuse/Breaker Series Ratings

Main fuse class shown at top in shaded area. Respective branch devices shown directly below. All ratings in this table apply to two- and three-pole branch breakers only. Not valid for single-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	65		100		200					
100			J	T			R			
			GHBS	GHBS			GHB			
200	J	T		R						
	GHBS	GHBS		GHB						
400					J	T				
					GHB	GHB				
600			J	T						
			EHD FD, FDE HFD FDC HFDE	GHB EHD FD, FDE HFD, HFDE FDC JD HJD JDC						

480 Vac—Fuse/Breaker Series Ratings

Main fuse class shown at top in shaded area. Respective branch devices shown directly below. All ratings in this table apply to two- and three-pole branch breakers only. Not valid for single-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	100				200					
100				R						
				EHD						
200	J	T								
	EHD FD HFD FDC	EHD FD HFD FDC								

600 Vac—Fuse/Breaker Series Ratings

Main fuse class shown at top in shaded area. Respective branch devices shown directly below. All ratings in this table apply to two- and three-pole branch breakers only. Not valid for single-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	100			200						
100			R							
			FD, FDE HFD, HFDE FDC							
200	J	T	R							
	FD, FDE HFD, HFDE FDC	FD, FDE HFD, HFDE FDC	JD HJD JDC							
400	J	T	R							
	JD HJD JDC	JD HJD JDC	KD HKD KDC							
600			J	T						
			KD HKD KDC	KD HKD KDC						

Triple Series Ratings

Main Fuse Class and Maximum Amperes	Tenant Main Type	Branch Type	System Voltage	Short-Circuit Series Rating (kA, Sym.)
L-6000	DK, KD, KDB	GB, GHB, EHD ①	240	100
L-6000	DK, KD, KDB	GB, GHB	120/240	100
L-6000	DK, KD, KDB	FD ①, FDB	240	100
L-6000	DK, KD, KDB	JD, JDB	240	100
L-6000	JD, JDB	GB, GHB	240	100
L-6000	JD, JDB	GB, GHB	120/240	100
L-6000	FD	GB, GHB	240	100
L-6000	FD	GB, GHB	120/240	100
L-6000	FD, FDB	BAB_H, HQP_H QBHW_H, QPHW_H	240	100
L-6000	FD, FDB	BA, BAB HQP (15–70A)	120/240	100
L-6000	EHD	BAB_H, HQP_H	240	100
L-6000	EHD	BA, BAB, HQP	120/240	100

Note

① Valid on two- and three-pole breakers only. Not valid for single-pole.

Type PRL1a

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Contents

Type PRL1a

Product Description

- 240 Vac maximum
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 400A maximum mains
- 100A maximum branch breakers
- Bolt-on or plug-on branch breakers
- Each branch connector is capable of up to a total of 140A maximum by breaker ampere rating
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Lighting branch panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

UL Listed

Product Selection

Type PRL1a

PRL1a

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac	Breaker Type
Main Lug Only		
100	—	—
225	—	—
400	—	—
Main Breaker		
100	10	BAB
100	18	EHD
100	22	QBHW
100	22	EDB
100	42	EDS
100	65	ED
100	65	FD, FDE
100	100	EDH
100	100	HFD, HFDE
225	22	EDB
225	42	EDS
225	65	ED
225	100	EDH
250	65	JD
250	100	HJD
250	200	JDC
400	65	DK
400	65	KD
400	100	HKD
400	100	LHH
400	200	KDC

PRL1a Branch Circuit Breakers

Bolt-on = BAB, QBHW, QBGF, QBHGF, QBGFEP, QBHGFEP, QBAF, QBAG, QBHAF, QBHAG
Plug-on = HQP, QPHW, QPGF, QPHGF, QPGFEP, QPHGFEP

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac ①	Breaker Type
15–60	10	BAB, HQP
70	10	BAB, HQP
80–100	10	BAB, HQP
15–50 ②	10	QBGF, QPGF ③
15–50 ②	10	QBGFEP, QPGFEP ④
15–20	10	QBCAF ⑤
15–60	10	BAB-D, HQP-D ⑥
15–30	10	BAB-C, HQP-B ⑦
15–30	10	BABRP ⑧
15–30	10	BABRSP ⑧
15–60	22	QBHW, QPHW
70	22	QBHW, QPHW
80–100	22	QBHW, QPHW
15–30	22	QBHGF, QPHGF ③
15–30	22	QBHGFEP, QPHGFEP ④
15–20	22	QBHCAF ⑤
Provision	—	—

Notes

① Single-pole breakers are rated 120 Vac maximum.
② 50A devices are available as two-pole only.
③ GFCI for 5 mA personnel protection.
④ GFP for 30 mA equipment protection.
⑤ Arc fault circuit breaker.
⑥ HID (High Intensity Discharge) rated breaker.
⑦ Switching Neutral Breaker. single-pole device requires two-pole space, two-pole device requires three-pole space.
⑧ Solenoid operated breaker.

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards and Lighting Controls

Box size and box and trim catalog numbers for all standard panelboard types are found on **Page 379**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breaker to single-poles, i.e., three-pole breaker, count as three poles. Determine sub-feed breaker or through-feed lug requirements.
3. Select the main ampere rating section from table on **Page 379**.
4. Select panelboard type from first column, main breaker frame, if applicable, from second column, and sub-feed breaker frame, if applicable, from the third column.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. Specify surface or flush mounting on the order.

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm). Standard width is 20 inches (508.0 mm). An optional 28-inch (711.2 mm) wide box is available.

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Approximate Dimensions in Inches (mm)

PRL1a Panelboard Sizing

Panelboard Types	Main Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Sub-Feed Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Maximum No. of Branch Circuits Including Provisions	Box Dimensions ① Height	Width	Depth	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100A										
Main breaker	BAB, QBHW (H)	—	15	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	27	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	39	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
Main lugs or main breaker	EHD FD, HFD (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 100A through-feed lugs or sub-feed breaker	EHD FD HFD (V)	EHD FD HFD (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
225A										
Main lugs or main breaker	EDB, EDS, ED, EDH, FD, HFD (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 225A throughfeed lugs or sub-feed breaker	FD, HFD, EDS, ED, EDH (V)	FD, HFD, EDS, ED, EDH (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
400A										
Main breaker	DK, KD, HKD, KDC, LHH (V)	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC, LHH (V)	FD, HFD, EDS, ED, EDH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main breaker with 400A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC, LHH (V)	DK, KD, HKD, KDC (V)	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Note

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

Type PRL1aF

Contents

Type PRL1aF

Product Description

- 240 Vac maximum
- 400A maximum mains
- Three-phase four-wire, single-phase three-wire
- 30A maximum branch devices
- Factory assembled

Application Description

- Lighting branch panelboards
- Instrument protection
- Fully rated
- Interrupting ratings up to 200 kA symmetrical when protected by fuse

Standards and Certifications

- UL 67, UL 50

Listed

Product Selection

Type PRL1aF

PRL1aF

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac	Breaker Type
Main Lug Only		
100	—	—
225	—	—
400	—	—
Main Breaker		
100	18	EHD
100	22	EDB
100	42	EDS
100	65	ED
100	65	FD
100	65	FDE
100	100	EDH
100	100	HFD
100	100	HFDE
225	22	EDB
225	42	EDS
225	65	ED
225	65	FD
225	65	FDE
225	100	EDH
225	100	HFD
225	100	HFDE
400	42	DK
400	65	KD
400	100	HKD
400	200	KDC
400	200	LHH

PRL1aF—Branch Overcurrent Devices

Hybrid breaker/fuse (Class CC) branch device

Ampere Rating	Interrupting Rating	Breaker Type
30	200	Hybrid

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards

Box size and box and trim catalog numbers for all standard panelboard types are found on **Page 383**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Determine through-feed lug requirements.
3. Select the main ampere rating section from table on **Page 383**.
4. Select panelboard type from first column, main breaker frame.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. Specify surface or flush mounting on the order.

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm). Standard width is 20 inches (508.0 mm). An optional 28-inch (711.2 mm) wide box is available.

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Approximate Dimensions in Inches (mm)

PRL1aF Panelboard Sizing

Panelboard Types	Main Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Maximum No. of Branch Circuits Including Provisions	Box Dimensions ① Height	Width	Depth	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100A									
Main lugs or main breaker	EHD FD, HFD FDE, HFDE (V)	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 100A through-feed lugs	EHD FD, FDE HFD, HFDE (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
225A									
Main lugs or main breaker	EDB, EDS, ED, EDH, FD, HFD FDE, HFDE (V)	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 225A through-feed lugs	FD, HFD, EDS, ED, EDH, FDE, HFDE (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
400A									
Main breaker	DK, KD, HKD, KDC, LHH (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
Main lugs or main breaker with 225A through-feed lugs	DK, KD, HKD, KDC, LHH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main breaker with 400A through-feed lugs	DK, KD, HKD, KDC, LHH (V)	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
		30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
		42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Note

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

Type PRL1a-LX, Column Type

Contents

Type PRL1a-LX

Product Description

- 240 Vac maximum
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 225A maximum mains
- 100A maximum branch breakers
- Bolt-on branch breakers
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Lighting branch panelboard
- Column mounting width
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

Listed

Product Selection

Type PRL1a-LX

PRL1a-LX

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac	Breaker Type
Main Lug Only		
100	—	—
225	—	—
Main Breaker		
100	10	BAB
100	18	EHD
100	22	QBHW
100	22	EDB
100	42	EDS
100	65	ED
100	65	FD
100	100	EDH
100	100	HFD
255	22	EDB
255	42	EDS
225	65	ED
225	100	EDH

Branch Circuit Breakers—PRL1a-LX ①

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac ②	Breaker Type
15–60	10	BAB
70	10	BAB
80–100	10	BAB
15–50 ③	10	QBGF ④
15–50 ③	10	QBGFEP ⑤
15–20	10	QBCAF ⑥
15–30	10	BABRP ⑦
15–30	10	BABRSP ⑦
15–60	22	QBHW
70	22	QBHW
80–100	22	QBHW
15–30	22	QBHGF ④
15–30	22	QBHGFEP ⑤
15–20	22	QBHCAF ⑥
Provision	—	—

Pull Box With Extension Trough

Includes pull box with trough extension. For additional trough extensions, refer to table below.

Description	Catalog Number
Pullbox with 36-inch trough	**XCTXB036**
Pullbox with 48-inch trough	**XCTXB048**
Pullbox with 60-inch trough	**XCTXB060**
Pullbox with 72-inch trough	**XCTXB072**
Pullbox with 84-inch trough	**XCTXB084**

Neutral Bars

When Column Type panels are furnished with trough extensions and pull box, the neutral bar will be placed in the pull box unless otherwise specified.

When troughs and pull box are not furnished, the neutral bar will be located on the panel at the same end as the main.

Additional Trough Extensions

Width and depth are the same as the panelboard.

Length Inches (mm)	Catalog Number
36.00 (914.4)	**CTXB036**
48.00 (1219.2)	**CTXB048**
60.00 (1524.0)	**CTXB060**
72.00 (1828.8)	**CTXB072**
84.00 (2133.6)	**CTXB084**

Notes

① 240V breakers must be used on three-phase, three-wire, 240V delta systems or on the high leg of a midpoint delta grounded system.
② Single-pole breakers are rated 120 Vac maximum.
③ 50A devices are available as two-pole only.
④ GFCI for 5 mA personnel protection.
⑤ GFP for 30 mA equipment protection.
⑥ Arc fault circuit breaker.
⑦ Solenoid operated breaker.

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards

Box size, box and trim catalog numbers for standard Column Type panelboards listed are available from tables on **Page 387**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
   a. 100A panelboards—**Page 387**.
   b. 225A panelboards—**Page 387**.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breaker to single poles, i.e., three-pole breaker, count as three poles. Determine sub-feed breaker or through-feed lug requirements.
3. Select the panelboard main ampere rating from tables on **Page 387**.
4. Panelboard Type from first column, main breaker Frame and Designation, if applicable from second column, and sub-feed breaker Frame and Designation, if applicable, from the third column.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. All panels are surface mounted.

Cabinets

Boxes and trims are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are furnished without knockouts. Standard depth is 6.00 inches (152.4 mm). Standard width is 8.63 inches (219.1 mm).

Top and Bottom Gutters

4.50 inches (114.3 mm) minimum.

Left Side Gutter

4.38 inches (111.2 mm) minimum.

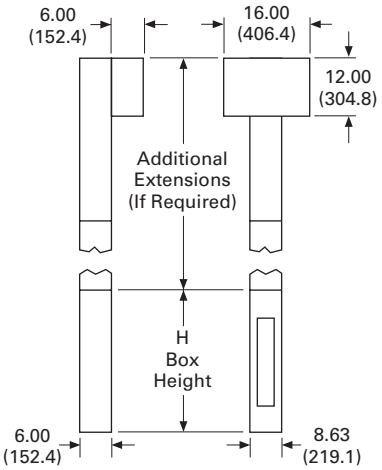
Pull Box

Pull box is furnished without knockouts. Standard dimensions:

Pull Box Dimensions

Height	Width	Depth
12.00 (304.8)	16.00 (406.4)	6.00 (152.4)

PRL1a-LX Trough Extension



Trough Extension

When extension troughs are used, Section 376 of the National Electrical Code, reading as follows, should be observed: 376. Number of Conductors. Wireways shall not contain more than 30 conductors at any cross section, unless the conductors are for signal circuits or are control conductors between a motor and its starter and used only for starting duty. The sum of the cross-sectional areas of all contained conductors at any cross section of a wireway shall not exceed 20% of the interior cross-sectional area of the wireway.

Approximate Dimensions in Inches (mm)

100A Maximum PRL1a-LX Column Type Panelboard Sizing

Panelboard Types	Main Breaker Types Mounting: (H) = Horizontal (V) = Vertical	Sub-Feed Breaker Types Vertical Mounting	Maximum Number of Branch Circuits Including Provisions	Box Dimensions Height	Width	Depth	Box Catalog Number	Trim Catalog Number ①
Main breaker	BAB, QBHW (H)	—	27	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	39	81.00 (2057.4)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker	EHD, EDB, EDS, ED, FD, HFD (V)	—	30	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	42	81.00 (2057.4)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker with 100A through-feed lugs or sub-feed breaker	EHD, EDB, EDS, ED, FD, HFD (V)	EHD, FD, HFD	30	78.00 (1981.2)	8.63 (219.2)	6.00 (152.4)	**YSC978**	**LTC978S**
			42	90.00 (2286.0)	8.63 (219.2)	6.00 (152.4)	**YSC990**	**LTC990S**

225A Maximum PRL1a-LX Column Type Panelboard Sizing

Panelboard Types	Main Breaker Types Vertical Mounting	Sub-Feed Breaker Types	Maximum Number of Branch Circuits Including Provisions	Box Dimensions Inches Height	Width	Depth	Box Catalog Number	Trim Catalog Number ①
Main lugs or main breaker	EDB, EDS, ED, EDH	—	30	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	42	81.00 (2057.4)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	EDB, EDS, ED, EDH	EHD, FD, HFD, EDB, EDS, ED, EDH	30	78.00 (1981.2)	8.63 (219.2)	6.00 (152.4)	**YSC978**	**LTC978S**
			42	90.00 (2286.0)	8.63 (219.2)	6.00 (152.4)	**YSC990**	**LTC990S**

Note

① Add suffix B to trim catalog number for bottom fed panelboards (i.e., LTC969SB).

Type PRL2a

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Contents

Type PRL2a

Product Description

- 480Y/277 Vac maximum (125 Vdc)
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 400A maximum mains
- 100A maximum branch breakers
- Bolt-on branch breakers
- Each branch connector is capable of up to a total of 140A maximum by breaker ampere rating
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Lighting branch panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

UL Listed

Product Selection

Type PRL2a

PRL2a

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480Y/277 Vac	125/250 Vdc	Breaker Type
Main Lug Only				
100	—	—	—	—
225	—	—	—	—
400	—	—	—	—
Main Breaker				
100	65	14	14	GHB
100	18	14	10	EHD
100	65	35	10	FD, FDE
100	100	65	22	HFD, HFDE
100	200	100	22	FDC
225	65	—	—	ED
225	65	35	10	FD, FDE
225	100	65	22	HFD, HFDE
225	200	100	22	FDC
250	65	35	10	JD
250	100	65	22	HJD
250	200	100	22	JDC
400	65	35	10	KD
400	100	65	22	HKD
400	100	65	—	LHH
400	200	100	22	KDC

PRL2a Branch Circuit Breakers

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac ①	480Y/277 Vac	125/250 Vdc	Breaker Type
15–20	65	14	—	GHQ ②
15–20	65	14	14	GHB ②
25–60	65	14	14	GHB ②
70–100	65	14	14	GHB ②
15–30	65	25	—	HGHB ②
15–20	65	14	—	GHQRSP ③
15–30	65	14	—	GHBS ②③
15–60	—	14	—	GHBGFEP ②④
15–20	—	14	—	GHBHID ②⑤
Provision	—	—	—	—

Notes

① Interrupting ratings in this column are applicable to 120 Vac for single-pole breakers.
② Must be used on 480Y/277V grounded wye systems only.
③ Remote controllable breaker.
④ GFP for 30 mA equipment protection. Requires two-pole spaces. 277 Vac only.
⑤ HID (High Intensity Discharge) rated breaker.

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards and Lighting Controls

Box size and box and trim catalog numbers for all standard panelboard types are found on **Page 391**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breaker to single-poles, i.e., three-pole breaker, count as three poles. Determine sub-feed breaker or through-feed lug requirements.
3. Select the main ampere rating section from table on **Page 391**.
4. Select panelboard type from first column, main breaker frame, if applicable, from second column, and sub-feed breaker frame, if applicable, from the third column.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. Specify surface or flush mounting on the order.

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm). Standard width is 20 inches (508.0 mm). An optional 28-inch (711.2 mm) wide box is available.

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Approximate Dimensions in Inches (mm)

PRL2a Panelboard Sizing

Panelboard Types	Main Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Sub-Feed Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Maximum No. of Branch Circuits Including Provisions	Box Dimensions ① Height	Width	Depth	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100A										
Main breaker	BAB, QBHW (H)	—	15	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	27	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	39	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
Main lugs or main breaker	EHD FD, HFD, FDE HFDE (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 100A through-feed lugs or sub-feed breaker	EHD FD, FDE HFD, HFDE (V)	EHD FD HFD (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
225A										
Main lugs or main breaker	EDB, EDS, ED, EDH, FD, HFD FDE, HFDE (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
	JD, HJD JDC (V)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	EHD, FD, HFD, EDB, EDS, ED, EDH FDE, HFDE (V)	EHD, FD, HFD, EDB, EDS, ED, EDH (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
	JD, HJD JDC (V)	EHD, FD, HFD, EDB, EDS, ED, EDH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
400A										
Main lugs or main breaker	DK, KD, HKD, KDC, LHH (V)	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC, LHH (V)	EHD, FD, HFD, EDB, EDS, ED, EDH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 400A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC, LHH (V)	JD, HJD, JDC, DK, KD, HKD, KDC (V)	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**
			42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Note

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

Type PRL2aF

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Contents

Type PRL2aF

Product Description

- 240 Vac maximum
- 400A maximum mains
- Three-phase four-wire, single-phase three-wire
- 30A maximum branch devices
- Factory assembled

Application Description

- Lighting branch panelboard
- Instrument protection
- Fully rated
- Interrupting ratings up to 200 kA symmetrical when protected by fuse

Standards and Certifications

- UL 67, UL 50

UL Listed

Product Selection

Type PRL2aF

PRL2aF

Ampere Rating	Interrupting Rating (kA Sym.) 480Y/277 Vac	Breaker Type
Main Lug Only		
100	—	—
225	—	—
400	—	—
Main Breaker		
100	14	EHD
100	35	FD
100	35	FDE
100	35	HFD
100	35	HFDE
225	35	FD
225	35	FDE
225	65	HFD
225	65	HFDE
400	35	KD
400	65	HKD
400	100	KDC
400	100	LHH

PRL2aF Branch Overcurrent Devices

Hybrid breaker/fuse (Class CC) branch device

Ampere Rating	Interrupting Rating (kA Sym.) 480Y/277 Vac	Breaker Type
30	200	Hybrid

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards

Box size and box and trim catalog numbers for all standard panelboard types are found on **Page 395**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard.
3. Determine through-feed lug requirements.
4. Select the main ampere rating section from table on **Page 395**.
5. Select panelboard type from first column, main breaker frame, if applicable, from second column.
6. From Step #2, determine the number of branch circuits in Column 4.
7. Read box size, box and trim catalog numbers across columns to the right. Specify surface or flush mounting on the order.

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm). Standard width is 20 inches (508.0 mm). An optional 28-inch (711.2 mm) wide box is available.

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Approximate Dimensions in Inches (mm)

PRL2aF Panelboard Sizing

Panelboard Types	Main Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Maximum No. of Branch Circuits Including Provisions	Box Dimensions ① Height	Width	Depth	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100A									
Main lugs or main breaker	EHD FD, HFD, FDE HFDE (V)	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 100A through-feed lugs or sub-feed breaker	EHD FD, FDE HFD, HFDE (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
225A									
Main lugs or main breaker	EDB, EDS, ED, EDH, FD, HFD FDE, HFDE (V)	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
	JD, HJD JDC (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 225A through-feed lugs	EHD, FD, HFD, EDB, EDS, ED, EDH FDE, HFDE (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
	JD, HJD JDC (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
		42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
400A									
Main lugs or main breaker	KD, HKD, KDC, LHH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 225A through-feed lugs	KD, HKD, KDC, LHH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
		42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 400A through-feed lugs	KD, HKD, KDC, LHH (V)	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
		30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**
		42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Note

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

Type PRL2a-LX, Column Type

Contents

Type PRL2a-LX

Product Description

- 480Y/277 Vac maximum (125 Vdc)
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 225A maximum mains
- 100A maximum branch breakers
- Bolt-on branch breakers
- Factory assembled
- Refer to Refer to **Page 357** for additional information

Application Description

- Lighting branch panelboard
- Column mounting width
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

Listed

Product Selection

Type PRL2a-LX

PRL2a-LX

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480Y/277 Vac	125/250 Vdc	Breaker Type
Main Lug Only				
100	—	—	—	—
225	—	—	—	—
Main Breaker				
100	65	14	14	GHB
100	18	14	10	EHD
100	65	35	10	FD, FDE
100	100	65	22	HFD, HFDE
100	200	100	22	FDC
225	65	—	—	ED
225	65	35	10	FD
225	100	65	22	HFD
225	200	100	22	FDC

Branch Circuit Breakers—PRL2a-LX

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac ①	480Y/277 Vac	125/250 Vdc	Breaker Type
15–20	65	14	—	GHQ ②
15–20	65	14	14	GHB ②
25–60	65	14	14	GHB ②
70–100	65	14	14	GHB ②
15–30	65	25	—	HGHB ②
15–20	65	14	—	GHQRSP ③
15–30	65	14	—	GHBS ②③
15–60	—	14	—	GHBGFEP ②④
Provision	—	—	—	—

Pull Box With Extension Trough

Includes pull box with trough extension. For additional trough extensions, refer to table below.

Description	Catalog Number
Pullbox with 36-inch trough	**XCTXB036**
Pullbox with 48-inch trough	**XCTXB048**
Pullbox with 60-inch trough	**XCTXB060**
Pullbox with 72-inch trough	**XCTXB072**
Pullbox with 84-inch trough	**XCTXB084**

Neutral Bars

When Column Type panels are furnished with trough extensions and pull box, the neutral bar will be placed in the pull box unless otherwise specified.

When troughs and pull box are not furnished, the neutral bar will be located on the panel at the same end as the main.

Additional Trough Extensions

Width and depth are the same as the panelboard.

Length Inches (mm)	Catalog Number
36.00 (914.4)	**CTXB036**
48.00 (1219.2)	**CTXB048**
60.00 (1524.0)	**CTXB060**
72.00 (1828.8)	**CTXB072**
84.00 (2133.6)	**CTXB084**

Notes

① Interrupting ratings in this column are applicable to 120 Vac for single-pole breakers.
② At 480V, must be used on 480Y/277V grounded wye systems only.
③ Solenoid operated breaker.
④ GFP for 30 mA equipment protection. Requires two pole spaces.

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards

Box size, box and trim catalog numbers for standard column type panelboards listed are available from tables on **Page 399**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
   a. 100A panelboards—**Page 399**.
   b. 225A panelboards—**Page 399**.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breaker to single poles, i.e., three-pole breaker, count as three poles.

   Determine sub-feed breaker or through-feed lug requirements.
3. Select the panelboard main ampere rating from tables on **Page 399**.
4. Panelboard Type from first column, main breaker Frame and Designation, if applicable from second column, and sub-feed breaker Frame and Designation, if applicable, from the third column.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. All panels are surface mounted.

Cabinets

Boxes and trims are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are furnished without knockouts. Standard depth is 6.00 inches (152.4 mm). Standard width is 8.63 inches (219.1 mm).

Top and Bottom Gutters

4.50 inches (114.3 mm) minimum.

Left Side Gutter

3.31 inches (84.2 mm) minimum.

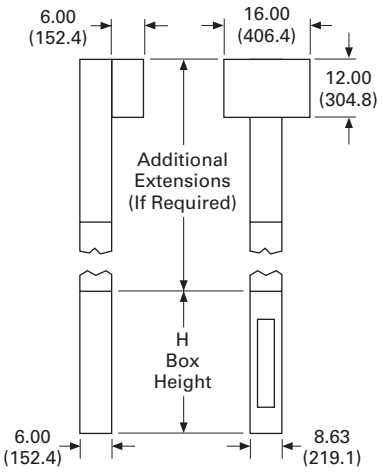
Pull Box

Pull box is furnished without knockouts. Standard dimensions:

Pull Box Dimensions

Height	Width	Depth
12.00 (304.8)	16.00 (406.4)	6.00 (152.4)

PRL2a-LX Trough Extension



Trough Extension

When extension troughs are used, Section 376 of the National Electrical Code, reading as follows, should be observed: 376. Number of Conductors. Wireways shall not contain more than 30 conductors at any cross section, unless the conductors are for signal circuits or are control conductors between a motor and its starter and used only for starting duty. The sum of the cross-sectional areas of all contained conductors at any cross section of a wireway shall not exceed 20% of the interior cross-sectional area of the wireway.

Approximate Dimensions in Inches (mm)

100A Maximum PRL2a-LX Column Type Panelboard Sizing

Panelboard Types	Main Breaker Types Mounting: (H) = Horizontal (V) = Vertical	Sub-Feed Breaker Types Vertical Mounting	Maximum Number of Branch Circuits Including Provisions	Box Dimensions Height	Width	Depth	Box Catalog Number	Trim Catalog Number ①
Main breaker	GHB (H)	—	27	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	39	81.00 (2057.7)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker	EHD, FD HFD, FDC (V)	—	30	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	42	81.00 (2057.7)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker with 100A through-feed lugs or sub-feed breaker	EHD, FD HFD, FDC (V)	EHD, FD, HFD	30	78.00 (1981.2)	8.63 (219.2)	6.00 (152.4)	**YSC978**	**LTC978S**
			42	90.00 (2286.0)	8.63 (219.2)	6.00 (152.4)	**YSC990**	**LTC990S**

225A Maximum PRL2a-LX Column Type Panelboard Sizing

Panelboard Types	Main Breaker Types Vertical Mounting	Sub-Feed Breaker Types	Maximum Number of Branch Circuits Including Provisions	Box Dimensions Height	Width	Depth	Box Catalog Number	Trim Catalog Number ①
Main lugs or main breaker	ED, FD HFD, FDC	—	30	69.00 (1752.6)	8.63 (219.2)	6.00 (152.4)	**YSC969**	**LTC969S**
		—	42	81.00 (2057.7)	8.63 (219.2)	6.00 (152.4)	**YSC981**	**LTC981S**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	ED, FD HFD, FDC	EHD, FD, HFD, ED, EDH	30	78.00 (1981.2)	8.63 (219.2)	6.00 (152.4)	**YSC978**	**LTC978S**
			42	90.00 (2286.0)	8.63 (219.2)	6.00 (152.4)	**YSC990**	**LTC990S**

Note

① Add suffix B to trim catalog number for bottom fed panelboards (i.e., LTC969SB).

Retrofit Panelboard

10

Contents

Retrofit Panelboard

Product Description

- PRL1R—240 Vac; PRL2R—480Y/277V
- Single-phase three-wire or single two-wire
- Three-phase three-wire or three-phase four-wire
- 225A maximum
- 100A maximum branch breakers
- Standard PRL1R fits existing box depths from 4.50–6.00 inches deep; Standard PRL2R fits existing box depths from 4.75–6.00 inches deep (without additional accessories)
- Integrally mounted neutral assembly
- Grounding lug included
- Neutral and ground convertible from left-right
- Bolt-on branch breakers
- Factory assembled

Application Description

- Lighting branch panelboard
- Fully rated or series rated
- Interrupting capacities to 100 kA symmetrical
- Suitable for use as Service Entrance Equipment where specified on the order

Standards and Certifications

- UL 67
- Federal Specification W-P-115c
- CSA C22.2 No. 29

Listed

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Catalog Number Selection

Retrofit Panelboard

P1R B 1 C 1 30 BAB 100 TL B

Panelboard Type
P1R = ≤ 240V
P2R = > 480Y/277V

Main Device
L = MLO
B = Main breaker

System Type
1 = Single-phase (three-wire)
3 = Three-phase (three- or four-wire)

Bus Type
A = Aluminum
C = Copper

Bus Ampere Rating
1 = 100A
2 = 225A

Circuits
18 = 18
30 = 30
42 = 42

Main Breaker
Blank = MLO
BAB
GHB ①
ED
FD
EHD ①
FD ①

Main Breaker Amperes
Blank = MLO
30 = 30A
60 =60A
100 =100A
125 =125A
150 =150A
175 =175A
200 =200A
225 =225A

Sub-Feed Device
Blank = None
TL = Through-feed lugs

Feed
B = Bottom fed
T = Top fed

Trim Selection

RCT B 20 00 36 50 F S

Renovation Panelboard Custom Trim
RCT

Door Style
A = 18-circuit MLO/ branch-mounted MCB
B = 30-circuit MLO/ branch-mounted MCB; 18-circuit F-Frame MCB
C = 42-circuit MLO/ branch-mounted MCB
D = 30-circuit F-Frame MCB
E = 42-circuit F-Frame MCB

Existing Box Width (Inches)

Existing Box Width (Fraction)
00 = None
13 = 1/8
25 = 1/4
38 = 3/8
50 = 1/2
63 = 5/8
75 = 3/4
88 = 7/8

Existing Box Height (Inches)

Existing Box Height (Fraction)
00 = None
13 = 1/8
25 = 1/4
38 = 3/8
50 = 1/2
63 = 5/8
75 = 3/4
88 = 7/8

Trim Style
S = Surface
F = Flush ②

Trim Finish Option ③
Blank = ANSI 61 painted steel
S = Brushed stainless steel ④
P = Custom painted steel
C = Custom painted stainless steel

Notes
① P2R only.
② Flush trims include 1-inch overlap per side.
③ Standard trim includes 12-gauge steel painted ANSI 61 grey.
④ Stainless trims provided as 304 standard. Optional 316 available.

Product Selection

Retrofit Panelboard

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P1R—Aluminum Bus, Single-Phase or Three-Phase ①

Ampere Rating	Number of Circuits	Interrupting Rating (kA Sym.) 240 Vac	Main Breaker Type	Single-Phase Three-Wire—Single-Phase Two-Wire Catalog Number	Three-Phase Three-Wire—Three-Phase Four-Wire Catalog Number
Main Lug Only					
100	18	—	MLO	**P1RL1A118**	**P1RL3A118**
	30	—	MLO	**P1RL1A130**	**P1RL3A130**
	42	—	MLO	**P1RL1A142**	**P1RL3A142**
225	18	—	MLO	**P1RL1A218**	**P1RL3A218**
	30	—	MLO	**P1RL1A230**	**P1RL3A230**
	42	—	MLO	**P1RL1A242**	**P1RL3A242**
Main Breaker					
100	18	10	BAB ②	**P1RB1A118BAB** ③	**P1RB3A118BAB** ③
	30	10	BAB ②	**P1RB1A130BAB** ③	**P1RB3A130BAB** ③
	42	10	BAB ②	**P1RB1A142BAB** ③	**P1RB3A142BAB** ③
	18	18	EHD	**P1RB1A118EHD** ③	**P1RB3A118EHD** ③
	30	18	EHD	**P1RB1A130EHD** ③	**P1RB3A130EHD** ③
	42	18	EHD	**P1RB1A142EHD** ③	**P1RB3A142EHD** ③
	18	22	QBHW ②	**P1RB1A118QBHW** ③	**P1RB3A118QBHW** ③
	30	22	QBHW ②	**P1RB1A130QBHW** ③	**P1RB3A130QBHW** ③
	42	22	QBHW ②	**P1RB1A142QBHW** ③	**P1RB3A142QBHW** ③
	18	65	ED	**P1RB1A118ED** ③	**P1RB3A118ED** ③
	30	65	ED	**P1RB1A130ED** ③	**P1RB3A130ED** ③
	42	65	ED	**P1RB1A142ED** ③	**P1RB3A142ED** ③
	18	100	EDH	**P1RB1A118EDH** ③	**P1RB3A1-8EDH** ③
	30	100	EDH	**P1RB1A130EDH** ③	**P1RB3A130EDH** ③
	42	100	EDH	**P1RB1A142EDH** ③	**P1RB3A142EDH** ③
225	18	65	ED	**P1RB1A218ED** ③	**P1RB3A218ED** ③
	30	65	ED	**P1RB1A230ED** ③	**P1RB3A230ED** ③
	42	65	ED	**P1RB1A242ED** ③	**P1RB3A242ED** ③
	18	100	EDH	**P1RB1A218EDH** ③	**P1RB3A218EDH** ③
	30	100	EDH	**P1RB1A230EDH** ③	**P1RB3A230EDH** ③
	42	100	EDH	**P1RB1A242EDH** ③	**P1RB3A242EDH** ③

Notes

① Standard trim included. Select standard trim from **Page 404**. Custom trims are available for an additional charge. Contact your local Satellite for more information about custom trims.

② BAB and QBHW main devices consume available circuit space positions. (Two circuits for single-phase; three circuits for three-phase.)

③ Add main breaker ampere rating suffix. May NOT exceed main bus rating.

A neutral assembly is included with the base chassis. For single-phase two-wire systems or for three-phase, three-wire systems, do not connect.

Sum of branch circuit amperes not to exceed 140A.

Retrofit Panelboard

P2R—Aluminum Bus, Three-Phase

Ampere Rating	Number of Circuits	Main Breaker Interrupting Rating (kA Sym.) 480Y/277 Vac	Main Breaker Type	Three-Phase Four-Wire Catalog Number
Main Lug Only				
100	18	—	MLO	**P2RL3A118**
	30	—	MLO	**P2RL3A130**
	42	—	MLO	**P2RL3A142**
225	18	—	MLO	**P2RL3A218**
	30	—	MLO	**P2RL3A230**
	42	—	MLO	**P2RL3A242**
Main Breaker				
100	18	14	GHB ①	**P2RB3A118GHB** ②
	30	14	GHB ①	**P2RB3A130GHB** ②
	42	14	GHB ①	**P2RB3A142GHB** ②
	18	14	EHD	**P2RB3A118EHD** ②
	30	14	EHD	**P2RB3A130EHD** ②
	42	14	EHD	**P2RB3A142EHD** ②
	18	35	FD	**P2RB3A118FD** ②
	30	35	FD	**P2RB3A130FD** ②
	42	35	FD	**P2RB3A142FD** ②
	18	65	HFD	**P2RB3A118HFD** ②
	30	65	HFD	**P2RB3A130HFD** ②
	42	65	HFD	**P2RB3A142HFD** ②
	18	100	FDC	**P2RB3A118FDC** ②
	30	100	FDC	**P2RB3A130FDC** ②
	42	100	FDC	**P2RB3A142FDC** ②
225	18	35	FD	**P2RB3A218FD** ②
	30	35	FD	**P2RB3A230FD** ②
	42	35	FD	**P2RB3A242FD** ②
	18	65	HFD	**P2RB3A218HFD** ②
	30	65	HFD	**P2RB3A230HFD** ②
	42	65	HFD	**P2RB3A242HFD** ②
	18	100	FDC	**P2RB3A218FDC** ②
	30	100	FDC	**P2RB3A230FDC** ②
	42	100	FDC	**P2RB3A242FDC** ②

Notes

① GHB main devices consume available circuit space positions. (Three circuits for three-phase).

② Add main breaker ampere rating suffix. May NOT exceed main bus rating.

A neutral assembly is included with the base chassis.

Trim Selection

Instructions

- In order to meet minimum wire bending space requirements and to ensure ease of installation, minimum enclosure space dimensions have been defined for each chassis. In order to ensure a proper fit, every panelboard to be renovated must be carefully surveyed prior to installation
- Determine the electrical requirements of the panelboard to be renovated (i.e., main breaker or main lugs, amperes, interrupting rating, circuit space, branch breakers, accessories)
- Using the electrical requirement data, select a base chassis and any required breakers, options and accessories
- **Page 406** provides the minimum dimensions of the enclosure, in which each base chassis may be installed. These dimensions assume that the chassis is mounted in the center of the existing box, both vertically and horizontally. Where site conditions require the chassis to be offset from this centrally mounted position, it is the installer's responsibility to ensure wire bending space and electrical clearance requirements are met
- **Page 406** provides a "Trim Door Size Code." Using this code, select a standard trim from the tables that will fit the outside dimensions of the existing box. Refer to **Page 405** to define non-standard trim requirements

Standard Trim Selection—20-Inch (508.0 mm) Wide Enclosure

		Surface Type			Flush Type		
Trim Door Size Code	Enclosure Height—Inches (mm)	Catalog Number	Trim Dimensions—Inches (mm) Height	Width	Catalog Number	Trim Dimensions—Inches (mm) Height	Width
A	24.00 (609.6)	**RTA2024**	24.00 (609.6)	20.00 (508.0)	**RTA2226**	26.00 (660.4)	22.00 (558.8)
A	30.00 (762.0)	**RTA2030**	30.00 (762.0)	20.00 (508.0)	**RTA2232**	32.00 (812.8)	22.00 (558.8)
A	36.00 (914.4)	**RTA2036**	36.00 (914.4)	20.00 (508.0)	**RTA2238**	38.00 (965.2)	22.00 (558.8)
B	30.00 (762.0)	**RTB2030**	30.00 (762.0)	20.00 (508.0)	**RTB2232**	32.00 (812.8)	22.00 (558.8)
B	36.00 (914.4)	**RTB2036**	36.00 (914.4)	20.00 (508.0)	**RTB2238**	38.00 (965.2)	22.00 (558.8)
B	42.00 (1066.8)	**RTB2042**	42.00 (1066.8)	20.00 (508.0)	**RTB2244**	44.00 (1117.6)	22.00 (558.8)
C	36.00 (914.4)	**RTC2036**	36.00 (914.4)	20.00 (508.0)	**RTC2238**	38.00 (965.2)	22.00 (558.8)
C	42.00 (1066.8)	**RTC2042**	42.00 (1066.8)	20.00 (508.0)	**RTC2244**	44.00 (1117.6)	22.00 (558.8)
C	48.00 (1219.2)	**RTC2048**	48.00 (1219.2)	20.00 (508.0)	**RTC2250**	50.00 (1270.0)	22.00 (558.8)
D	30.00 (762.0)	**RTD2030**	30.00 (762.0)	20.00 (508.0)	**RTD2232**	32.00 (812.8)	22.00 (558.8)
D	36.00 (914.4)	**RTD2036**	36.00 (914.4)	20.00 (508.0)	**RTD2238**	38.00 (965.2)	22.00 (558.8)
D	42.00 (1066.8)	**RTD2042**	42.00 (1066.8)	20.00 (508.0)	**RTD2244**	44.00 (1117.6)	22.00 (558.8)
E	36.00 (914.4)	**RTE2036**	36.00 (914.4)	20.00 (508.0)	**RTE2238**	38.00 (965.2)	22.00 (558.8)
E	42.00 (1066.8)	**RTE2042**	42.00 (1066.8)	20.00 (508.0)	**RTE2244**	44.00 (1117.6)	22.00 (558.8)
E	48.00 (1219.2)	**RTE2048**	48.00 (219.2)	20.00 (508.0)	**RTE2250**	50.00 (1270.0)	22.00 (558.8)

Standard Trim Selection—14-Inch (355.6 mm) Wide Enclosure

		Surface Type			Flush Type		
Trim Door Size Code	Enclosure Height—Inches (mm)	Catalog Number	Trim Dimensions—Inches (mm) Height	Width	Catalog Number	Trim Dimensions—Inches (mm) Height	Width
A	24.00 (609.6)	**RTA1424**	24.00 (609.6)	14.00 (355.6)	**RTA1626**	26.00 (660.4)	16.00 (406.4)
A	30.00 (762.0)	**RTA1430**	30.00 (762.0)	14.00 (355.6)	**RTA1632**	32.00 (812.8)	16.00 (406.4)
A	36.00 (914.4)	**RTA1436**	36.00 (914.4)	14.00 (355.6)	**RTA1638**	38.00 (965.2)	16.00 (406.4)
B	30.00 (762.0)	**RTB1430**	30.00 (762.0)	14.00 (355.6)	**RTB1632**	32.00 (812.8)	16.00 (406.4)
B	36.00 (914.4)	**RTB1436**	36.00 (914.4)	14.00 (355.6)	**RTB1638**	38.00 (965.2)	16.00 (406.4)
B	42.00 (1066.8)	**RTB1442**	42.00 (1066.8)	14.00 (355.6)	**RTB1644**	44.00 (1117.6)	16.00 (406.4)
C	36.00 (914.4)	**RTC1436**	36.00 (914.4)	14.00 (355.6)	**RTC1638**	38.00 (965.2)	16.00 (406.4)
C	42.00 (1066.8)	**RTC1442**	42.00 (1066.8)	14.00 (355.6)	**RTC1644**	44.00 (1117.6)	16.00 (406.4)
C	48.00 (1219.2)	**RTC1448**	48.00 (1219.2)	14.00 (355.6)	**RTC1650**	50.00 (1270.0)	16.00 (406.4)
D	30.00 (762.0)	**RTD1430**	30.00 (762.0)	14.00 (355.6)	**RTD1632**	32.00 (812.8)	16.00 (406.4)
D	36.00 (914.4)	**RTD1436**	36.00 (914.4)	14.00 (355.6)	**RTD1638**	38.00 (965.2)	16.00 (406.4)
D	42.00 (1066.8)	**RTD1442**	42.00 (1066.8)	14.00 (355.6)	**RTD1644**	44.00 (1117.6)	16.00 (406.4)
E	36.00 (914.4)	**RTE1436**	36.00 (914.4)	14.00 (355.6)	**RTE1638**	38.00 (965.2)	16.00 (406.4)
E	42.00 (1066.8)	**RTE1442**	42.00 (1066.8)	14.00 (355.6)	**RTE1644**	44.00 (1117.6)	16.00 (406.4)
E	48.00 (1219.2)	**RTE1448**	48.00 (1219.2)	14.00 (355.6)	**RTE1650**	50.00 (1270.0)	16.00 (406.4)

Custom Trim Selection

Instructions

In order to accommodate instances where the standard trims do not suit an installation, custom-sized trims may be ordered. Since the trim mounts to the retrofit chassis, and not the existing enclosure, custom trims can solve many problems encountered with differing enclosure sizes and configurations. Contact your local satellite plant to ensure manufacturability and determine lead time required.

Outer Dimensions

The outer dimensions are the overall OUTSIDE dimensions of the trim. In surface-mounted applications, this is usually the same as the outside dimensions of the enclosure to be renovated. For flush-mounted applications, an additional amount of trim material extends beyond the outer edge of the box, in order to cover any gap between the wall material and the box. Extending the outer dimensions can cover larger than normal wall gaps or imperfections that may be encountered.

Application Guidelines

Instructions

- In order to meet minimum wire bending space requirements and to ensure ease of installation, minimum enclosure space dimensions have been defined for each chassis. In order to ensure a proper fit, every panelboard to be renovated must be carefully surveyed prior to installation
- Determine the electrical requirements of the panelboard to be renovated (i.e., main breaker or main lugs, amperes, interrupting rating, circuit space, branch breakers, accessories)
- Using the electrical requirement data, select a base chassis and any required breakers, options and accessories
- This page provides the minimum dimensions of the enclosure, in which each base chassis may be installed. These dimensions assume that the chassis is mounted in the center of the existing box, both vertically and horizontally. Where site conditions require the chassis to be offset from this centrally mounted position, it is the installer's responsibility to ensure wire bending space and electrical clearance requirements are met. Installing chassis offset from the central position requires a custom offset trim. Contact your local Satellite for pricing and ordering details
- The table below provides a "Trim Door Size Code." Using this code, select a standard trim from the tables that will fit the outside dimensions of the existing box. Refer to **Page 405** to define non-standard trim requirements

Minimum Enclosure Sizing

Ampere Rating	Number of Circuits	Main Device Type	Trim Door Size Code	Minimum Enclosure Dimensions—Inches (mm) Height	Width	Depth
Main Lug Only						
100	18	MLO	A	19.50 (495.3)	14.00 (355.6)	4.50 (114.3)
	30	MLO	B	26.50 (673.1)	14.00 (355.6)	4.50 (114.3)
	42	MLO	C	33.50 (850.9)	14.00 (355.6)	4.50 (114.3)
225	18	MLO	A	19.50 (495.3)	14.00 (355.6)	4.50 (114.3)
	30	MLO	B	26.50 (673.1)	14.00 (355.6)	4.50 (114.3)
	42	MLO	C	33.50 (850.9)	14.00 (355.6)	4.50 (114.3)
Main Breaker						
100	18	BAB, GHB	A	19.50 (495.3)	14.00 (355.6)	4.50 (114.3)
	30	BAB, GHB	B	26.50 (673.1)	14.00 (355.6)	4.50 (114.3)
	42	BAB, GHB	C	33.50 (850.9)	14.00 (355.6)	4.50 (114.3)
	18	EHD	B	30.00 (762.0)	14.00 (355.6)	4.50 (114.3)
	30	EHD	D	36.00 (914.4)	14.00 (355.6)	4.50 (114.3)
	42	EHD	E	42.00 (1066.8)	14.00 (355.6)	4.50 (114.3)
	18	QBHW	A	19.50 (195.3)	14.00 (355.6)	4.50 (114.3)
	30	QBHW	B	26.50 (673.1)	14.00 (355.6)	4.50 (114.3)
	42	QBHW	C	33.50 (850.9)	14.00 (355.6)	4.50 (114.3)
	18	ED, FD	B	30.00 (762.0)	14.00 (355.6)	4.50 (114.3)
	30	ED, FD	D	36.00 (914.4)	14.00 (355.6)	4.50 (114.3)
	42	ED, FD	E	42.00 (1066.8)	14.00 (355.6)	4.50 (114.3)
	18	EDH, HFD, FDC	B	30.00 (762.0)	14.00 (355.6)	4.50 (114.3)
	30	EDH, HFD, FDC	D	36.00 (914.4)	14.00 (355.6)	4.50 (114.3)
	42	EDH, HFD, FDC	E	42.00 (1066.8)	14.00 (355.6)	4.50 (114.3)
225	18	ED, FD	B	30.00 (762.0)	14.00 (355.6)	4.50 (114.3)
	30	ED, FD	D	36.00 (914.4)	14.00 (355.6)	4.50 (114.3)
	42	ED, FD	E	42.00 (1066.8)	14.00 (355.6)	4.50 (114.3)
	18	EDH, HFD, FDC	B	30.00 (762.0)	14.00 (355.6)	4.50 (114.3)
	30	EDH, HFD, FDC	D	36.00 (914.4)	14.00 (355.6)	4.50 (114.3)
	42	EDH, HFD, FDC	E	42.00 (1066.8)	14.00 (355.6)	4.50 (114.3)

Options and Accessories

Branch Circuit Breakers—P1R

Ampere Rating	Interrupting Rating (kA Sym.) 240 Vac ①	Breaker Type
15–60	10	BAB
70	10	BAB
80–100	10	BAB
15–30	10	BABRP ③
15–30	10	BABRSP ③
15–50 ②	10	QBGF ④
15–50 ②	10	QBGFEP ⑤
15–20	10	QBCAF ⑥
15–60	10	BAB-D ⑦
15–30	10	BAB-C ⑨
15–60	22	QBHW
70	22	QBHW
80–100	22	QBHW
15–30	22	QBHGF
15–30	22	QBHGFEP
15–20	22	QBHCAF ⑥
Provision	—	—

Branch Breakers—P2R

Ampere Rating	Interrupting Rating (kA Sym.) 480Y/277 Vac	Breaker Type Rating (kA Sym.)
15–20	14	GHQ
15–20	14	GHB
25–60	14	GHB
70–100	14	GHB
15–60	14	GHBGFEP ⑨
15–20	14	GHB-HID ⑩
15–30	25	HGHB
Provision	—	—

Copper Main Bus Adder

Main Bus Ampere Rating	Catalog Number
100	⑪
225	⑪

Copper Terminal Ground Bar for Copper Cable Only

Catalog Number
P1RGBC

Insulated/Isolated Ground Bus (Separately Mounted)

Aluminum Catalog Number	Copper Catalog Number
P1RGKA	**P1RNKC**

Neutral Kit (Separately Mounted) ⑫

Number of Termination Points	Aluminum Catalog Number	Copper Catalog Number
18	**P1RNKA18**	**P1RNKC18**
30	**P1RNKA30**	**P1RNKC30**
42	**P1RNKA42**	**P1RNKC42**

Depth Adder Kits ⑬

Standard Pow-R-Line 1R—Fits 4.50 to 6.00 inches
Standard Pow-R-Line 2R—Fits 4.75 to 6.00 inches

Accessory/Kits	For Use With Box Depth—Inches (mm)	Part Number
1.50 depth adder	6.00–7.50 (152.4–190.5)	**P1RDA15**
3.00 depth adder	7.50–9.00 (190.5–228.6)	**P1RDA30**
4.50 depth adder	9.00–10.50 (228.6–266.7)	**P1RDA45**
6.00 depth adder	10.50–12.00 (266.7–304.8)	**P1RDA60**

Box Collar Kits ⑭

Accessory/Kits	For Use With Box Depth—Inches (mm)	Part Number
Box collar	3.50–4.50 (88.9–114.3)	**P1RBC10**

Notes

① Single-pole breakers are rated 120 Vac maximum.
② 50A devices available as two-pole only.
③ Remote controllable circuit breaker.
④ GFCI for 5 mA personnel protection.
⑤ GFP for 30 mA equipment protection.
⑥ Arc fault circuit breaker.
⑦ HID (High Intensity Discharge) rated breaker.
⑧ Switching neutral breaker. Single-pole device requires two pole spaces; two-pole device requires three pole spaces.
⑨ GFP for 30 mA equipment protection. Requires two-pole spaces. 277 Vac only.
⑩ HID (High Intensity Discharge) rated breaker.
⑪ To convert base chassis catalog number from aluminum main bus to copper main bus, change the 6th digit of the aluminum base chassis catalog number to "C" (e.g., P1RL1A1-42 becomes P1RL1C1-42).
⑫ Each base chassis includes a neutral bar that contains one connection point for every circuit space available. Use this kit when additional connection points are required or the neutral must be separately mounted to meet existing cable locations.
⑬ Allows for panel to be used in boxes deeper than 6.00 inches.
⑭ Allows for panel to be used in boxes less than 4.50 inches.

Type PRL3a

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Contents

Type PRL3a

Product Description

- 600 Vac maximum (250 Vdc)
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 800A maximum main lugs
- 600A maximum main breaker
- 225A maximum branch breakers
- Bolt-on branch breakers
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Lighting panelboard or power distribution panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

Listed

Product Selection

Type PRL3a

PRL3a

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type
Main Lug Only					
100	—	—	—	—	—
250	—	—	—	—	—
400	—	—	—	—	—
600	—	—	—	—	—
800 ①	—	—	—	—	—
Main Breaker					
100	18	14	—	10	EHD
100	18	14	14	10	FDB
100	22	—	—	—	EDB
100	42	—	—	—	EDS
100	65	—	—	—	ED
100	100	—	—	—	EDH
100	65	35	18	10	FD, FDE
100	100	65	25	22	HFD, HFDE
100	200	100	35	22	FDC
100	200	150	—	—	FCL
100	200	200	200	100 ②	FB-P ③
225	22	—	—	—	EDB
225	42	—	—	—	EDS
225	65	—	—	—	ED
225	100	—	—		EDH
225	200	—	—	—	EDC
225	65	35	18	10	FD, FDE
225	100	65	25	22	HFD, HFDE
225	200	100	35	22	FDC
250	65	35	18	10	JD
250	100	65	25	22	HJD
250	200	100	35	22	JDC
400	65	—	—	10	DK
400	65	35	25	10	KD
400	100	65	35	22	HKD
400	100	65	—	—	LHH
400	200	100	65	22	KDC
400	65	—	—	—	LCL ④
400	200	200	200	100 ②	LA-P ③④
600	65	35	18	22	LGE
600	100	65	35	22	LGH
600	200	100	50	42	LGC
600	65	35	25	22	LD
600	100	65	35	25	HLD
600	200	100	50	25	LDC
600	65	35	25	22	CLD ⑤
600	100	65	35	25	CHLD ⑤
600	200	100	50	25	CLDC ⑤

Notes

① 800A MLO requires 28-inch (711.2 mm) wide box.
② 100,000 based on NEMA test procedure.
③ Top feed only.
④ Requires 6.50-inch (165.1 mm) deep box. Not available in Type 3R, 12, 4 and 4X enclosures.
⑤ 100% rated circuit breaker. Requires copper bus. Not available in Type 12, 4 and 4X enclosures.

PRL3a Branch Circuit Breakers

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type
15–60	10 ②③	—	—	—	BAB
15–60	10	—	—	—	BAB-H
70	10 ②③	—	—	—	BAB
70	10	—	—	—	BAB-H
80–100	10 ②③	—	—	—	BAB
80–100	10	—	—	—	BAB-H
15–50 ①	10 ②③	—	—	—	QBGF
15–50 ①	10	—	—	—	QBGFEP
15–20	10 ②③	—	—	—	QBCAF ④
15–60	10 ②③	—	—	—	BAB-D ⑤
15–30	10 ②③	—	—	—	BAB-C ⑥
15–30	10 ②	—	—	—	BABRP ⑦
15–30	10 ②	—	—	—	BABRSP ⑦
15–60	22 ②③	—	—	—	QBHW
15–60	22	—	—	—	QBHW-H
70	22 ②③	—	—	—	QBHW
70	22	—	—	—	QBHW-H
80–100	22 ②③	—	—	—	QBHW
80–100	22	—	—	—	QBHW-H
15–30	22	—	—	—	QBHGF
15–30	22	—	—	—	QBHGFEP
15–20	22 ②③	—	—	—	QBHCAF ④
15–20	65	14 ⑧⑨	—	—	GHQ
15–20	65	14 ⑧⑨	—	14	GHB

PRL3a Branch Circuit Breakers, continued

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type
25–60	65	14 ⑧⑨	—	14	GHB
70–100	65	14 ⑧⑨	—	14	GHB
15–30	65	25 ⑧⑨	—	—	HGHB
15–20	65	14 ⑧⑨	—	14	GHQRSP ⑦
15–30	65	14 ⑧⑨	—	14	GHBS ⑦
15–60	—	14 ⑧⑨	—	—	GHBGFEP
15–20	—	14 ⑧⑨	—	—	GHBHID ⑤
15–60	18 ⑩	14 ⑧	—	10	EHD
70–100	18 ⑩	14 ⑧	—	10	EHD
15–60	18	V14	14	10	FDB
70–100	18	14	14	10	FDB
110–150	18	14	14	10	FDB
15–60	65 ⑩	35 ⑧	18	10	FD, FDE
70–100	65 ⑩	35 ⑧	18	10	FD, FDE
110–225	65 ⑩	35	18	10	FD ⑪, FDE
15–60	100 ⑩	65 ⑧	25	22	HFD, HFDE
70–100	100 ⑩	65 ⑧	25	22	HFD, HFDE
110–225	100 ⑩	65	25	22	HFD ⑪, HFDE
15–60	200	100	35	22	FDC
70–100	200	100	35	22	FDC
110–225	200	100	35	22	FDC ⑪
100–225	22	—	—	—	EDB ⑪
100–225	42	—	—	—	EDS ⑪
100–225	65	—	—	—	ED ⑪
100–225	100	—	—	—	EDH ⑪
100–225	200	—	—	—	EDC ⑪

Notes

① 50A devices are available as two-pole only.
② Single-pole breaker rated 120 Vac.
③ Two-pole breaker rated 120/240 Vac.
④ Arc fault circuit breaker.
⑤ HID (High Intensity Discharge) rated breaker.
⑥ Switching Neutral Breaker. single-pole device requires two-pole space, two-pole device requires three-pole space.
⑦ Solenoid operated breaker.
⑧ Single-pole breaker rated 277 Vac.
⑨ For use on 480Y/277V systems only.
⑩ AIC rating for two- and three-pole breakers only.
⑪ Maximum of six breakers per panel, 175–225A.

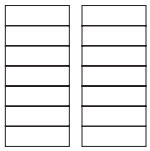
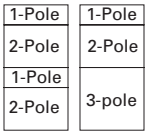
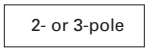
Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Panel Layout Instructions

1. Select:
   a. Required mains (lugs or breaker).
   b. Neutral where required.
   c. Branch circuits as required.
2. Layout panel as shown below, using appropriate "X" dimensions.
3. Using total X units (panel height) find box height in inches (mm) and box catalog number from table below. (When total X units come out to an uneven number, use next highest number; i.e., if total X comes out 25X, use 31X.)

Layout—PRL3a

		Poles	
		6 - 3X 12 - 5X 18 - 8X 24 - 10X 30 - 13X 36 - 15X 42 - 18X	BAB, QBHW, QBCAF, BABRP, BABRSP, QBHCAF GHQ, GHB, HGHB ①
		1X 2X 3X	EDB, EDS, ED, EDH, EDC, EHD, FDB, FD, FDE, HFD, FDC, HFDE 150A max. per branch breaker (300A max. per connector)
		2X 2-Pole 3X three-pole	EDB, EDS, ED, EDH, EDC FD, HFD, FDC, ② FDE, HFDE
Neutral Section		5X 8X 11X	100–250A 400–800A 800A with through-feed lug
Main Lug Section		2X 5X 8X 14X	100A 250A 400–600A 800A
Main Breaker Section	Horizontal Mounting	2X 2-Pole 3X three-pole	EHD, FDB, FD, HFD, FDC, FDE, HFDE EDB, EDS, ED, EDH, EDC ③
	Vertical Mounting	7X 9X 14X 15X 17X 18X 21X	EHD, FDB, FD, FDE, HFD, FDC, HFDE, EDB, EDS, ED, EDH, EDC ④ FCL, FB-P ⑤ JD, HJD, JDC DK, KD, HKD, KDC, LHH LD, HLD, LDC, CLD, CHLD, CLDC LGE, LGH, LGC LCL, LA-P ⑤⑥

Notes

① GHB, HGHB and GHQ breakers cannot be mixed on same connector as BAB, QBHW, BABRP and BABRSP.
② Maximum of six breakers per panel.
③ Horizontal mounted 15–150A main breakers EHD, FDB, FD, FDE, HFD, HFDE and FDC, will be furnished as branch breaker construction. Branch breakers single-, two- or three-pole as required, may be located opposite these main breakers.
④ If optional terminal kit 3TA225FDK is required, use 10X.
⑤ FB-P and LA-P top mounting only.
⑥ LCL or LA-P main breaker requires 6-1/2-inch (165.1 mm) deep box.

Layout Example

1. Description of Panel
   Type PRL3a three-phase, four-wire, 120/208 Vac flush mounting. Panel to have short-circuit rating of 22,000 symmetrical amperes. Main breaker 400A, three-pole, bottom mounting. Branch circuits bolt-on as follows:
   12–200A single-pole QBHW
   1–200A three-pole ED
   1–225A three-pole ED
2. Layout Information from **Layout—PRL3a** table (left):
   a. 400A Neutral . . . . . = 8X
   b. 12-poles of QBHW . . . . . = 5X
   c. Two three-pole ED breakers . = 6X
   d. Main breaker, 400A,
   Three-pole DK. . . . . = 15X
   Total Height . . . . . = 34X
3. From **Box Tabulation—PRL3a** table (below):
   a. 34X Height (use 40X box)
   b. Box Height 72 inches (1828.8 mm)
   c. Box Catalog Number. . . . . **YS2072** or **EZB2072R**

Box Tabulation—PRL3a

"X" Units	Box Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100–400A					
14X	36.00 (914.4)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
23X	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
31X	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
40X	72.00 (1524.0)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
53X	90.00 (2286.0)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**
600A					
23X	48.00 (1219.2)	**YS2048**	**LTV2048S or F**	**EZB2048R**	**EZTV2048S or F**
31X	60.00 (1524.0)	**YS2060**	**LTV2060S or F**	**EZB2060R**	**EZTV2060S or F**
40X	72.00 (1524.0)	**YS2072**	**LTV2072S or F**	**EZB2072R**	**EZTV2072S or F**
53X	90.00 (2286.0)	**YS2090**	**LTV2090S or F**	**EZB2090R**	**EZTV2090S or F**
800A					
23X	48.00 (1219.2)	**YS2848**	**LTV2848S or F**	—	—
31X	60.00 (1524.0)	**YS2860**	**LTV2860S or F**	—	—
40X	72.00 (1524.0)	**YS2872**	**LTV2872S or F**	—	—
53X	90.00 (2286.0)	**YS2890**	**LTV2890S or F**	—	—

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm).

Standard widths are:
20-inch (508.0 mm)
100–600A.
28-inch (711.2 mm)
800A.

Standard Depth

5-3/4 inches (146.1 mm).

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Side Gutters

4 inches (101.6 mm) minimum.

Type PRL3E

10

Contents

Type PRL3E

Product Description

- 480V Vac maximum (250 Vdc)
- Three-phase four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- 600A main lugs
- 600A main breaker
- 125A maximum branch breakers
- Bolt-on branch breakers
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Lighting and appliance branch panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

Listed

Product Selection

Type PRL3E

PRL3E

Ampere Rating	Breaker Type	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	250 Vdc
Main Lug Only				
100	—	—	—	—
250	—	—	—	—
400	—	—	—	—
600	—	—	—	—
Main Breaker				
125	EGB	35	18	10
125	EGS	100	35	35
125	EGH	200	65	42
225	EDB	22	—	—
225	EDS	42	—	—
225	ED	65	—	—
225	EDH	100	—	—
225	EDC	200	—	—
225	FD, FDE	65	35	10
225	HFD, HFDE	100	65	22
225	FDC	200	100	22
400	DK	65	—	—
400	KD	65	35	10
400	HKD	100	65	22
400	LHH	100	65	—
400	KDC	200	100	22
600	LGE	65	35	22
600	LGH	100	65	22

Box Sizing and Selection

Approximate Dimensions in Inches (mm)

Assembled Circuit Breaker Panelboards and Lighting Controls

Box size and box and trim catalog numbers for all standard panelboard types are found on **Page 415**.

Instructions

1. Using description of the required panelboard, select the rating and type of main required.
2. Count the total number of branch circuit poles, including provisions, required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breaker to single-poles, i.e., three-pole breaker, count as three poles. Determine sub-feed breaker or through-feed lug requirements.
3. Select the main ampere rating section from **Page 415**.
4. Select panelboard type from first column, main breaker frame, if applicable, from second column, and sub-feed breaker frame, if applicable, from the third column.
5. From Step #2, determine the number of branch circuits in Column 4.
6. Read box size, box and trim catalog numbers across columns to the right. Specify surface or flush mounting on the order.

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5-3/4 inches (146.1 mm). Standard width is 20 inches (508.0 mm). An optional 28-inch (711.2 mm) wide box is available.

Top and Bottom Gutters

5-1/2 inches (139.7 mm) minimum.

Approximate Dimensions in Inches (mm)

PRL3E Panelboard Sizing

Panelboard Types	Main Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Sub-Feed Breaker Types and Mounting Position (H) = Horizontal (V) = Vertical	Maximum No. of Branch Circuits Including Provisions	Box Dimensions ① Height	Width	Depth	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
125A										
Main breaker	EG, EGS, EGH (H)	—	12	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	24	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	36	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	42	42.00 (1066.8)	20.00 (508.0)	5.75 (146.1)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
Main lugs or main breaker	FD, HFD (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	42.00 (1066.8)	20.00 (508.0)	5.75 (146.1)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 125A through-feed lugs or sub-feed breaker	FD HFD (V)	EHD FD HFD TFL (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
250A										
Main lugs or main breaker	EDS, ED, EDH, FD, HFD (V)	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
		—	30	42.00 (1066.8)	20.00 (508.0)	5.75 (146.1)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
		—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
Main lugs or main breaker with 225A through-feed lugs or sub-feed breaker	FD, HFD, EDS, ED, EDH (V)	FD, HFD, EDS, ED, EDH (V)	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
			30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
400A										
Main breaker	DK, KD, HKD, KDC (V)	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
		—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
		—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
Main breaker with 225A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC (V)	EHD, FD, HFD, EDB, EDS, ED, EDH (V)	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
			30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
Main lugs or main breaker with 400A through-feed lugs or sub-feed breaker	DK, KD, HKD, KDC (V)	JD, HJD, JDC, DK, KD, HKD, KDC (V)	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
			42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

PRL3E Branch Circuit Breakers

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	250 Vdc	Breaker Type
15–125	25	18	10	EGB
15–125	85	35	35	EGS
15–125	100	65	42	EGH

Note

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

Type PRL4

Type PRL4B Circuit Breaker and Type PRL4F Fusible Panelboards

Contents

Type PRL4

Product Description

- 600 Vac maximum (600 Vdc)
- Three-phase, four-wire, three-phase three-wire, single-phase three-wire, single-phase two-wire
- PRL4B circuit breaker panelboard
- PRL4F fusible switch panelboard
- 1200A maximum mains
- 1200A maximum branch devices
- Bolt-on branch devices
- Factory assembled
- Refer to **Page 357** for additional information

Application Description

- Power distribution panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification
- W-P-115c
- Refer to **Page 357** for additional information

UL Listed

Product Selection

Type PRL4

PRL4 Main Lugs and Main Breakers

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	600 Vdc	Breaker Type
Main Lug Only						
250	—	—	—	—	—	—
400	—	—	—	—	—	—
600	—	—	—	—	—	—
800	—	—	—	—	—	—
1200	—	—	—	—	—	—
Main Breaker ①						
250	65	35	18	10	—	JD
250	100	65	25	22	—	HJD
250	—	—	—	42	35	HJDDC ②
250	200	100	35	22	—	JDC
250	200	200	—	—	—	LCL
400	65	—	—	10	—	DK
400	65	35	25	10	—	KD
400	65	35	25	—	—	CKD ③④
400	100	65	35	22	—	HKD
400	—	—	—	42	35	HKDDC ②
400	100	65	35	42	—	LHH
400	100	65	35	—	—	CHKD ③④
400	200	100	65	22	—	KDC
400	200	200	—	—	—	LCL
400	200	200	200	—	—	LA-P
600	65	35	18	22	—	LGE ①
600	100	65	35	22	—	LGH ①
600	200	100	50	42	—	LGC
600	200	150	65	50	—	LGU
600	65	35	25	22	—	LD
600	65	35	25	—	—	CLD ③
600	100	65	35	25	—	HLD
600	—	—	—	42	35	HLDDC ②
600	100	65	35	—	—	CHLD ③
600	200	100	50	25	—	LDC
600	200	100	50	—	—	CLDC ③
800	65	50	25	22	—	MDL
800	100	65	35	25	—	HMDL
800	—	—	—	42	35	HMDLDC ②
800	65	50	25	—	—	CMDL ③
800	100	65	35	—	—	CHMDL ③
800	200	200	200	—	—	NB-P
800	65	50	25	—	—	ND
800	100	65	35	—	—	HND
800	200	100	65	—	—	NDC
800	65	50	25	—	—	CND ③⑤
800	100	65	35	—	—	CHND ③⑤
800	200	100	65	—	—	CNDC ③⑤
1200	65	50	25	—	—	ND
1200	100	65	35	—	—	HND
1200	200	100	65	—	—	NDC
1200	65	50	25	—	—	CND ③⑤
1200	100	65	35	—	—	CHND ③⑤
1200	200	100	65	—	—	CNDC ③⑤
1200	—	—	—	42	50	NBDC ②

PRL4 Main Fusible Switches

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	Device Type
Main Fusible Switch 240 Vac, 250 Vdc ⑥⑦⑧			
200	See **Page 419**		FDPB
400			FDPW
600 ⑨			FDPW
800 ⑨			FDPW
1200 ⑨			FDPW
Main Fusible Switch 600 Vac ⑥⑦			
200	See **Page 419**		FDPB
400			FDPW
600 ⑨			FDPW
800 ⑨			FDPW
1200 ⑨			FDPW

Notes

① For ground fault protection on main devices, see **Modification 14—Applies to 310 and 310+ Trip Units on Page 442** or **Modification 15 on Page 442**.
② For use on DC systems only.
③ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 and 4X enclosures.
④ Breaker only available in three-pole frame.
⑤ Requires 44-inch (1117.6 mm) wide box.
⑥ For ground fault protection on main devices, see **Modification 15 on Page 442**.
⑦ Fuses not included. **Specify required fuse clips on all switches.**
⑧ Class J Fuse provisions are applicable only to 600V units. When required, use dimensions of 600V units for all voltages 600 and below.
⑨ No DC rating on 600, 800 and 1200A switches

PRL4 Branch Devices

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	600 Vdc	Breaker Type
15–60	10 ②③	—	—	—	—	BAB
15–60	10	—	—	—	—	BAB-H
70–100	10 ②③	—	—	—	—	BAB
70–100	10	—	—	—	—	BAB-H
15–50 ①	10 ②③	—	—	—	—	QBGF
15–20	10 ②③	—	—	—	—	QBCAF ④
15–60	22 ②③	—	—	—	—	QBHW
15–60	22	—	—	—	—	QBHW-H
70–100	22 ②③	—	—	—	—	QBHW
70–100	22	—	—	—	—	QBHW-H
15–30	22 ②③	—	—	—	—	QBHGF
15–20	22 ②③	—	—	—	—	QBHCAF ④
15–20	65 ②	14 ⑤	—	—	—	GHQ ⑦
15–60	65 ②	14 ⑤	—	14	—	GHB ⑦
70–100	65 ②	14 ⑤	—	14	—	GHB ⑦
15–30	65 ②	25 ⑤	—	—	—	HGHB ⑦
15–60	18 ⑧	14 ⑤	—	10	—	EHD
70–100	18 ⑧	14 ⑤	—	10	—	EHD
15–60	18	14	14	10	—	FDB
70–100	18	14	14	10	—	FDB
110–150	18	14	14	10	—	FDB
15–60	65 ⑧	35 ⑤	18	10	—	FD, FDE
70–100	65 ⑧	35 ⑤	18	10	—	FD, FDE
110–225	65 ⑧	35	18	10	—	FD, FDE
15–60	100 ⑧	65 ⑤	25	22	—	HFD, HFDE
70–100	100 ⑧	65 ⑤	25	22	—	HFD, HFDE
110–225	100 ⑧	65	25	22	—	HFD, HFDE
15–60	200	100	35	22	—	FDC
70–100	200	100	35	22	—	FDC
110–225	200	100	35	22	—	FDC
15–100	200	150	—	—	—	FCL
15–150	—	—	—	42	35	HFDDC ⑥
100–225	22	—	—	—	—	EDB
100–225	42	—	—	—	—	EDS
100–225	65	—	—	—	—	ED
100–225	100	—	—	—	—	EDH
100–225	200	—	—	—	—	EDC
70–225	65	35	18	10	—	JD
250	65	35	18	10	—	JD
70–225	100	65	25	22	—	HJD

PRL4 Branch Devices, continued

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	600 Vdc	Breaker Type
250	100	65	25	22	—	HJD
70–250	—	—	—	42	35	HJDDC ⑥
70–225	200	100	35	22	—	JDC
250	200	100	35	22	—	JDC
125–250	200	200	—	—	—	LCL
250–400	65	—	—	10	—	DK
100–400	65	35	25	10	—	KD
100–400	65	35	25	—	—	CKD ⑨⑩⑪
100–400	100	65	35	22	—	HKD
100–400	—	—	—	42	35	HKDDC ⑥
100–400	100	65	35	—	—	CHKD ⑨⑩⑪
125–400	100	65	35	42	—	LHH
100–400	200	100	65	22	—	KDC
200–400	200	200	—	—	—	LCL
250–600	65	35	18	22	—	LGE
300–600	65	35	25	22	—	LD
300–600	65	35	25	—	—	CLD ⑨
250–600	100	65	35	22	—	LGH
300–600	100	65	35	25	—	HLD
300–600	—	—	—	42	35	HLDDC ⑥
300–600	100	65	35	—	—	CHLD ①
250–600	200	100	35	42	—	LGC
300–600	200	100	50	25	—	LDC
300–600	200	100	50	25	—	CLDC ①
250–600	200	150	65	50	—	LGU
400–800	65	50	25	22	—	MDL
400–800	100	65	35	25	—	HMDL
300–800	—	—	—	42	35	HMDLDC ⑥
400–800	65	50	25	—	—	CMDL ①
400–800	100	65	35	—	—	CHMDL ①
400–800	65	50	25	—	—	ND
400–800	100	65	35	—	—	HND
400–800	200	100	65	—	—	NDC
400–800	65	50	25	—	—	CND ①②
400–800	100	65	35	—	—	CHND ①②
400–800	200	100	65	—	—	CNDC ①②
600–1200	65	50	25	—	—	ND
600–1200	100	65	35	—	—	HND
600–1200	200	100	65	—	—	NDC
600–1200	65	50	25	—	—	CND ①②
600–1200	100	65	35	—	—	CHND ①②
600–1200	200	100	65	—	—	CNDC ①②
700–1200	—	—	—	42	50	NBDC ⑥

Notes

① 50A devices are available as two-pole only.
② Single-pole breakers rated 120 Vac.
③ Two-pole breakers rated 120/240 Vac.
④ Arc fault circuit breaker.
⑤ Single-pole breakers rated 277 Vac.
⑥ For use on DC systems only.
⑦ At 480V, must be used on 480Y/277V grounded wye systems only.
⑧ AIC rating for two- and three-pole breakers only.
⑨ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 and 4X enclosures.
⑩ Breaker only available in three-pole frame.
⑪ Available in single branch mounting only.

PRL4 Branch Devices, continued

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type
Integrally Fused, Current Limiting Circuit Breaker					
15–100	200	200	200	①	FB-P
125–225	200	200	200	①	LA-P
250–400	200	200	200	①	LA-P
400–600	200	200	200	①	NB-P
700–800	200	200	200	①	NB-P
Fusible Switches 240 Vac, 250 Vdc ②					
30/30 ③	See table at the right				FDPW-Twin
60/60 ③					FDPW-Twin
100/100 ③					FDPW-Twin
200/200					FDPB-Twin
100					FDPW-Single
200					FDPB-Single
400	See table at the right				FDPW-Single
600 ④					FDPW-Single
800 ④					FDPW-Single
1200 ④					FDPW-Single
Fusible Switches 600 Vac ②					
30/30 ③	See table at the right				FDPW-Twin
60/60 ③					FDPW-Twin
100/100 ③					FDPW-Twin
200/200 ⑤					FDPB-Twin
100					FDPW-Single
200					FDPB-Single
400	See table at the right				FDPW-Single
600 ④					FDPW-Single
800 ④					FDPW-Single
1200 ④					FDPW-Single

FDPW and FDPB Switch Ratings, 240 or 600 Vac

Ampere Rating	Fuse Class Used	Short-Circuit Ratings (kA Symmetrical)
30–100	R, J ⑤	200
200 Single	R, J ⑤	200
200 Twin	R ⑥, J ⑤, T	200
400, 600 ⑦	R ⑦, J ⑤, T	200
800, 1200 ⑦	L	200

Notes

① 100 kAIC based on NEMA test procedure.

② Fuses not included. **Specify required fuse clips on all switches. (T fuse clips not available for 200/200 twin switches.)**

③ When branches of a twin unit are of different ampere ratings, as a 30–60 twin unit, price and layout as a 60–60 twin unit; when a 60–100 twin unit, price and layout as a 100–100 twin unit.

④ No DC rating on 600, 800 and 1200A switches.

⑤ Class J fuse provisions are applicable to 600V units. When required, use price and dimensions of 600V units for all voltages 600V and below.

⑥ Twin 200A switches are not available with Class R fuse clips at 600V.

⑦ When shunt trip is required, 400–600A switches used with Class R fuses are rated 100 kAIC.

10

Box Sizing and Selection—PRL4B

Approximate Dimensions in Inches (mm)

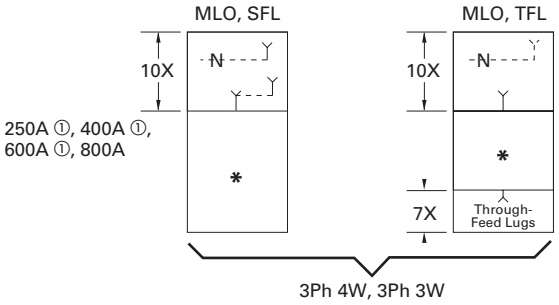
Main Lug (MLO), Main Breaker, Neutral, Through-Feed (TFL) and Sub-Feed Lug (SFL) "X" Space Requirements. (For other configurations not shown, refer to Eaton.)

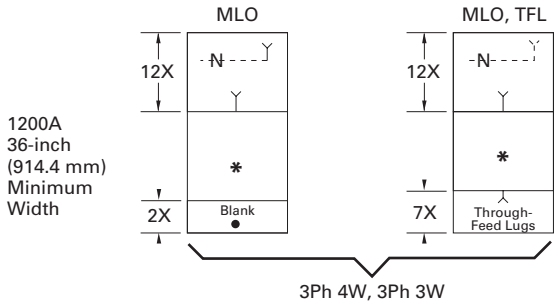
* = Space available for branch devices. For device sizing, see **Page 422**.

• = Blank means no bus under cover, to meet NEC cable bending space.

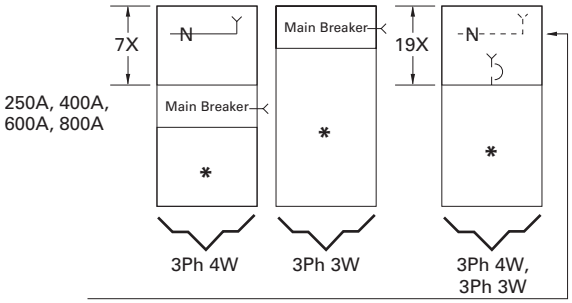
PRL4B Layout

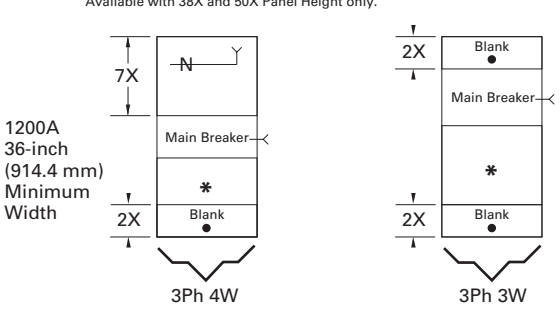
Standard Main Lug, Through-Feed and Sub-Feed Lugs ① (500 kcmil Maximum)



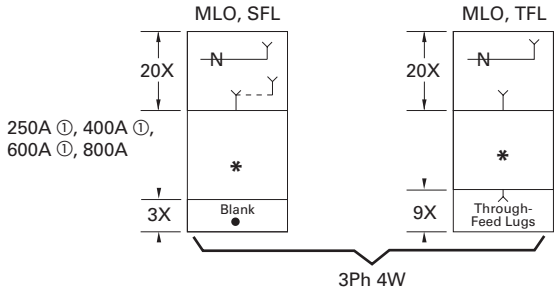


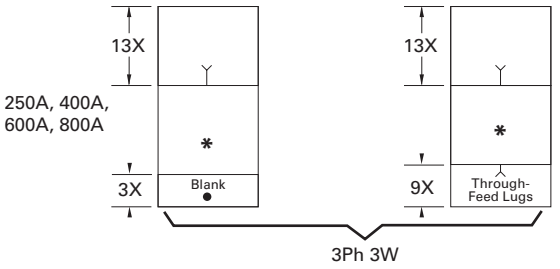
Main Breaker with Neutral (when required) (500 kcmil Maximum)

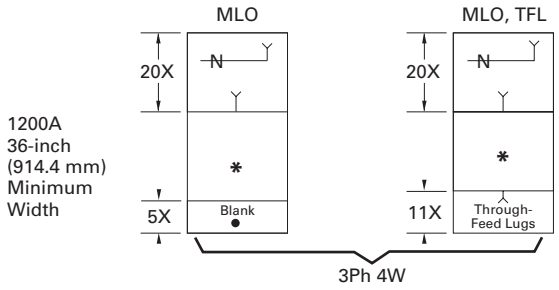


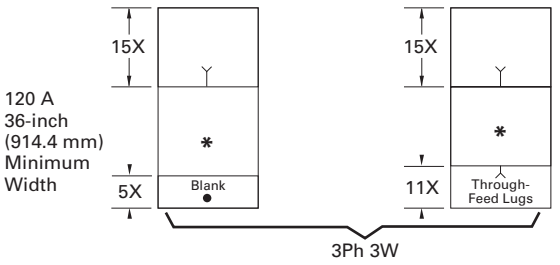


Optional Main Lugs, Through-Feed and Sub-Feed Lugs ① (750 kcmil Maximum)









Note

① Sub-feed lugs are available 250–600A. For 600A, use 1200A "A" space.

Approximate Dimensions in Inches (mm)

Panel Layout and Dimensions

To determine the dimensions of a given panelboard enclosure, make a layout sketch by fitting together the main, branch and lug modules according to the appropriate tables in the layout guide. Assign "X" units to each module as shown and obtain a total "X" number.

The height of the enclosure is related to the total "X" units in the layout as shown in table on right. Three standard box heights are available to accommodate any and all layout arrangements. "X" unit totals that do not exactly match those in table on right must be rounded off to the next highest standard (26X, 38X, 50X).

If a calculated "X" total for a panel exceeds 50X, the panel must be split into two or more separate sections with "X" space for through-feed lugs figured in for all but one section. If a neutral is required, a separate neutral bar and appropriate "X" space must be included in each section.

Layout Example

- 1–PRL4B panelboard, 480Y/277 volt, three-phase four-wire 65 kA, 800A, main lug, consisting of:
  - 12–20 A/single-pole HFD
  - 2–250 A/three-pole HJD
  - 1–400 A/three-pole HKD

Reference PRL4B Layout Example

1. From layout guide, total "X" height of panel = 26X, (which is a design standard and no rounding off is necessary).
2. From table on right, enclosure height for 26X panel = 57 inches (1447.8 mm).
3. Width = 24 inches (609.6 mm)—directly from layout guide.
4. Enclosure depth = 11.31 inches (287.0 mm)—standard for all PRL4 panelboards.

PRL4B Layout Example

20A/1P	20A/1P	1X
20A/1P	20A/1P	1X
20A/1P	20A/1P	1X
20A/1P	20A/1P	1X
20A/1P	20A/1P	1X
20A/1P	20A/1P	1X
250A/3P		3X
250A/3P		3X
400A/3P		4X
Main Lugs 800A Neutral		10X

Total = 26X

Box Dimensions—PRL4B

"X" Units	Catalog Number	Height	Width	Depth ①
26X	**BX2457**	57.00 (1447.8)	24.00 (609.6)	11.31 (287.0)
38X	**BX2473**	73.50 (1866.9)	24.00 (609.6)	11.31 (287.0)
50X	**BX2490**	90.00 (2286.0)	24.00 (609.6)	11.31 (287.0)
38X	**BX3673**	73.50 (1866.9)	36.00 (914.4)	11.31 (287.0)
50X	**BX3690**	90.00 (2286.0)	36.00 (914.4)	11.31 (287.0)
38X	**BX4473**	73.50 (1866.9)	44.00 (1117.6)	11.31 (287.0)
50X	**BX4490**	90.00 (2286.0)	44.00 (1117.6)	11.31 (287.0)

Top and Bottom Gutters

10.63-inch (269.9 mm) minimum.

Side Gutters—Minimum

24.00-inch (609.6 mm) wide box—5.00-inch (127.0 mm).
36.00-inch (914.4 mm) wide box—6.00-inch (152.4 mm).
44.00-inch (1117.6 mm) wide box—8.00-inch (203.2 mm).

Notes

① Box depth is 10.40 inches (264.2 mm), cover adds 0.90 inches (22.9 mm) to depth.

800A maximum bus size in 24.00-inch (609.6 mm) wide box. Flush trims not available on PRL4B panels.

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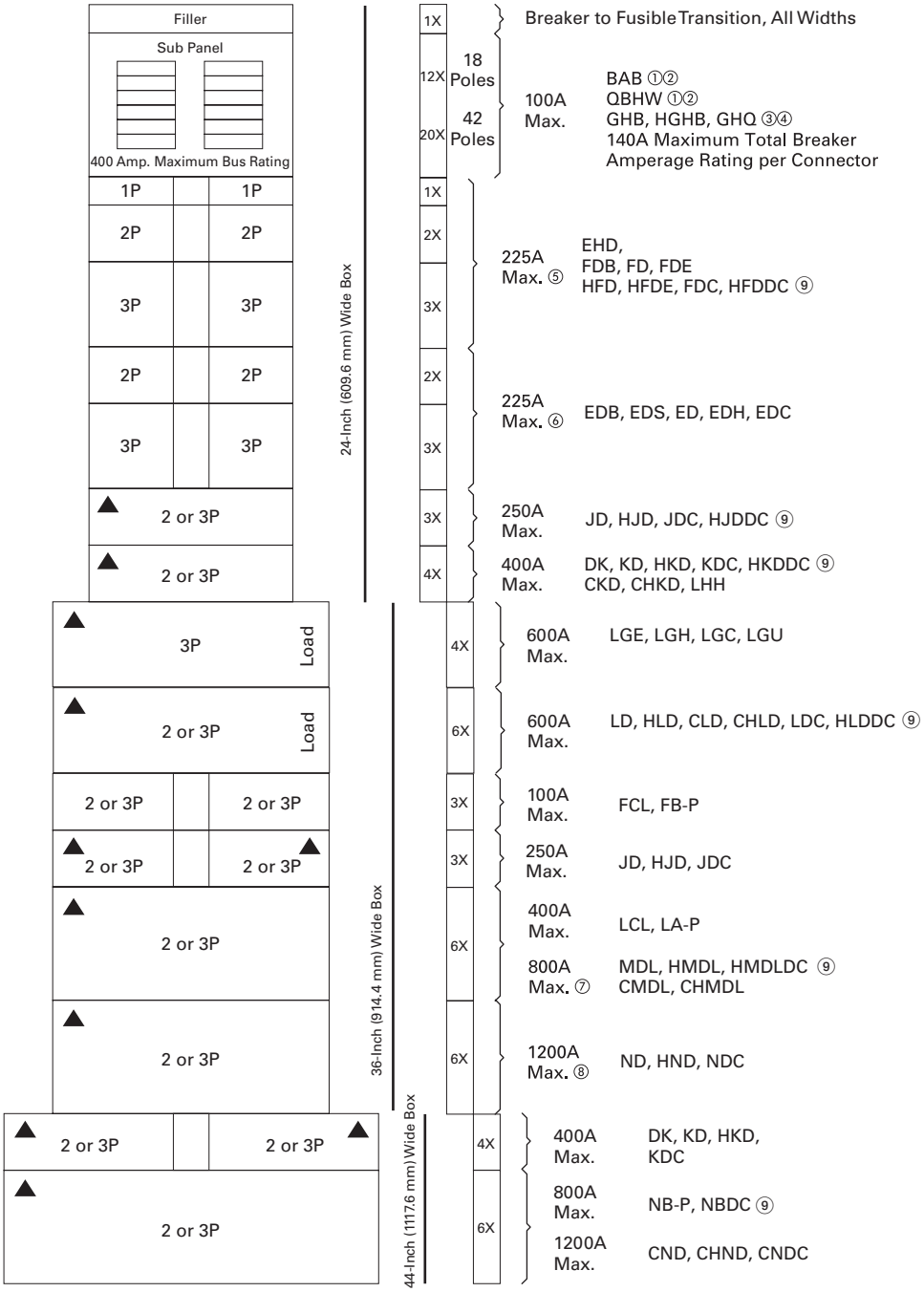
Layout for Branch and Horizontally Mounted Main Devices—PRL4B



Notes

① BAB and QBHW breakers with shunt trips require one additional pole space, i.e., single-pole is two-pole size, two-pole is three-pole size, and three-pole is four-pole size.
② If panel contains only BAB or QBHW branch breakers, use a PRL1a panelboard.
③ GHB, HGHB or GHQ breakers cannot be mixed on same subchassis as BAB, QBHW.
④ If panel contains only GHB, HGHB or GHQ branch breakers, use a PRL2a panelboard.
⑤ When only one single-pole breaker of the group is required on either side of chassis, the single-pole breaker space required changes from 1X to 2X.
⑥ Minimum 36-inch (914.4 mm) wide box is required if optional #6–300 kcmil lug is required.
⑦ MDL main breaker in 24-inch (609.6 mm) wide box, refer to **Page 420**.
⑧ Optional 750 kcmil terminal requires 44-inch (1117.6 mm) wide box.
⑨ For use on DC systems only.

See **Page 420** for MLO or Neutral and Vertically Mounted Mains space requirements.

Box Sizing and Selection—PRL4F

Approximate Dimensions in Inches (mm)

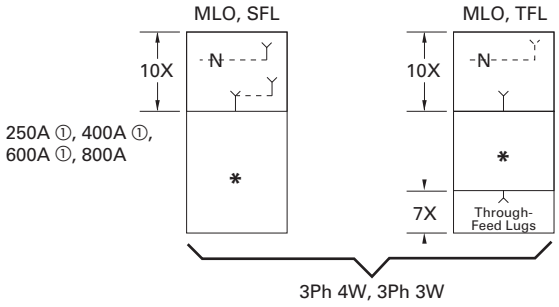
Main Lug (MLO), Main Switch, Neutral, Through-Feed (TFL) and Sub-Feed Lug (SFL) "X" Space Requirements. (For other configurations not shown, refer to Eaton.)

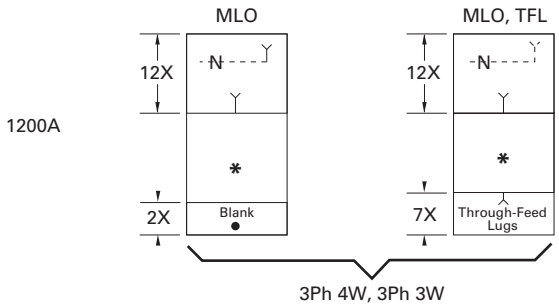
* = Space available for branch devices. For device sizing, see **Page 425**.

• = Blank means no bus under cover, to meet NEC cable bending space.

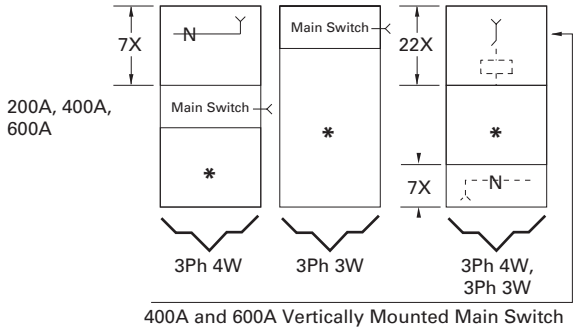
PRL4F Layout

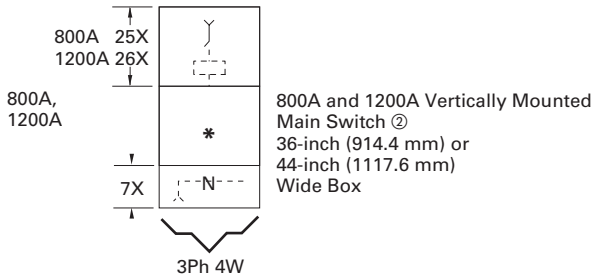
Standard Main Lug, Through-Feed and Sub-Feed Lugs ① (500 kcmil Maximum)



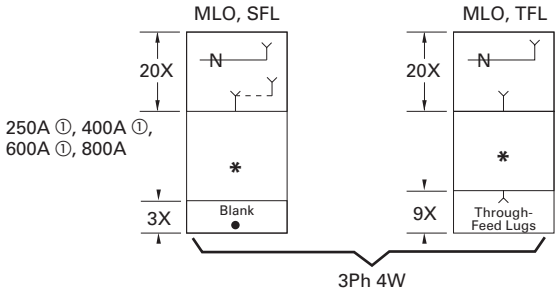


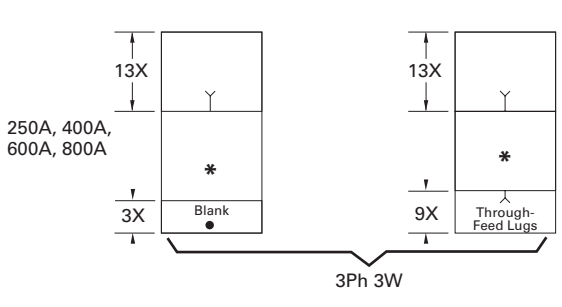
Main Switch with Neutral (when required) (500 kcmil Maximum)

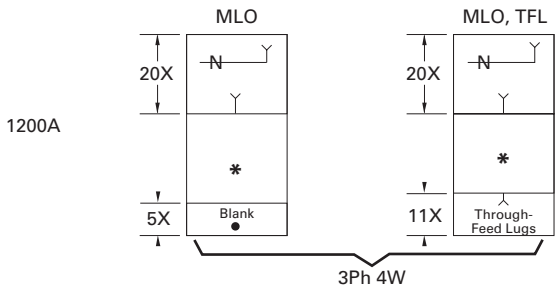


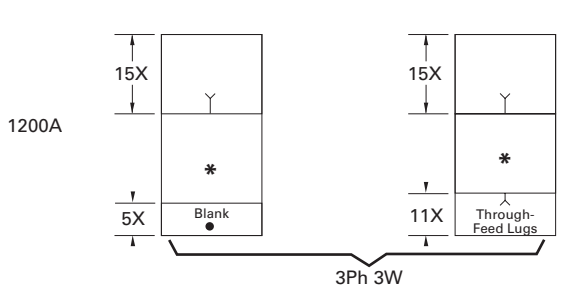


Optional Main Lugs, Through-Feed and Sub-Feed Lugs ① (750 kcmil Maximum)









Notes

① Sub-feed lugs are available 250–600A. For 600A, use 1200A "A" space.

② 800A and 1200A mains available only in vertical mounting.

Approximate Dimensions in Inches (mm)

Panel Layout and Dimensions

To determine the dimensions of a given panelboard enclosure, make a layout sketch by fitting together the main, branch and lug modules according to the appropriate tables in the layout guide. Assign "X" units to each module as shown and obtain a total "X" number.

The height of the enclosure is related to the total "X" units in the layout as shown in table on right. Three standard box heights are available to accommodate any and all layout arrangements. "X" unit totals that do not exactly match those in table on right must be rounded off to the next higher standard (38X, 50X).

If a calculated "X" total for a panel exceeds 50X, the panel must be split into two or more separate sections with "X" space for through-feed lugs figured in for all but one section. If a neutral is required, a separate neutral bar and appropriate "X" space must be included in each section.

Layout Example

- PRL4F, three-phase four-wire, 208Y/120 volt complete with 400A main switch and the following branches:
  - 1–200 A/three-pole
  - 2–100 A/three-pole
  - 2–30 A/three-pole

Panel to have short-circuit rating of 100 kA symmetrical.

Reference Figure

1. From layout guide, total "X" height of panel = 43X.
2. Rounded off to next higher standard = 50X.
3. From table on right, enclosure height for 50X panel = 90 inches (2286.0 mm).
4. Width = 36 inches (914.4 mm).
5. Enclosure depth is standard for all PRL4 panelboards = 11.31 inches (287.0 mm).

Type PRL4F Layout Example

400A Neutral		7X
30A/3P	30 A/3P	4X
100 A/3P	100 A/3P	4X
200 A/3P		6X
400A three-pole Main Switch (Vertical Mounted)		22 X

Total = 43X

Box Dimensions—PRL4F

"X" Units	Catalog Number	Height	Width	Depth ①
38X	**BX3673**	73.50 (1866.9)	36.00 (914.4)	11.31 (287.0)
50X	**BX3690**	90.00 (2286.0)	36.00 (914.4)	11.31 (287.0)
38X	**BX4473**	73.50 (1866.9)	44.00 (1117.6)	11.31 (287.0)
50X	**BX4490**	90.00 (2286.0)	44.00 (1117.6)	11.31 (287.0)

Top and Bottom Gutters

10.63 inches (269.9 mm) minimum.

Side Gutters—Minimum

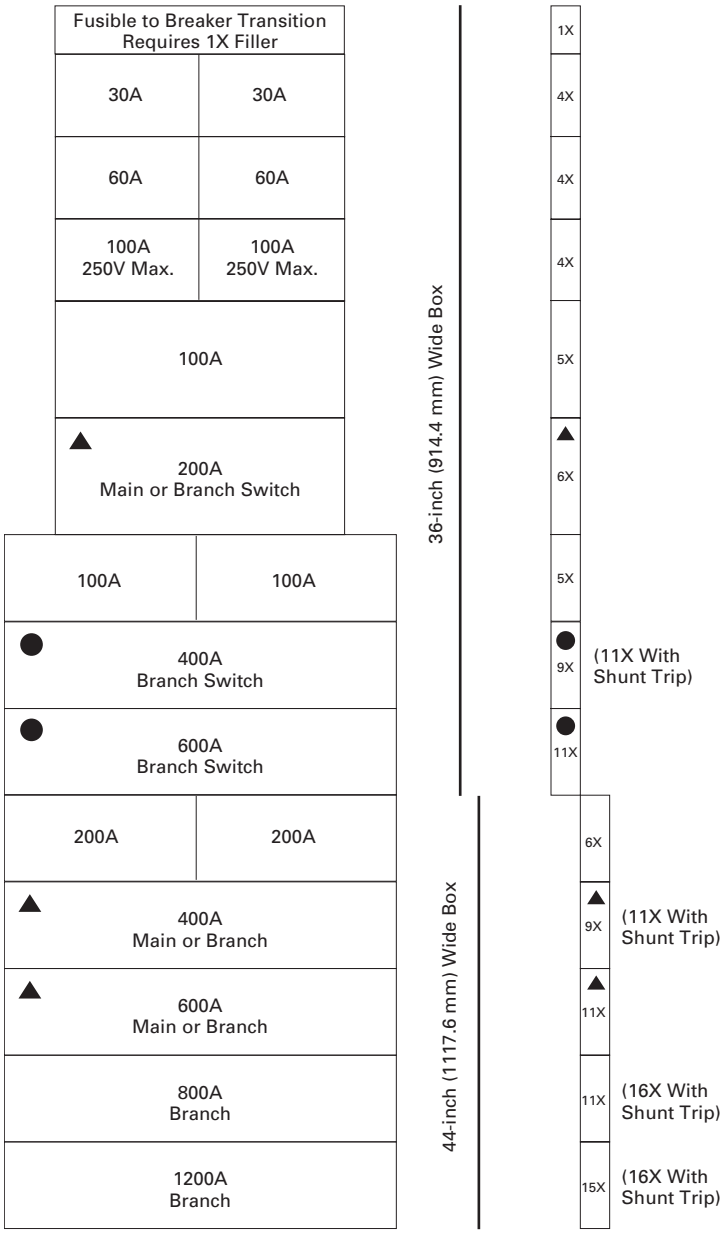
- 36-inch (914.4 mm) wide box:
  - 8-inch (203.2 mm)—200A maximum
  - 6-inch (152.4 mm)—400–1200A maximum
- 44-inch (1117.6 mm) wide box:
  - 10-inch (254.0 mm)—200A maximum
  - 8-inch (203.2 mm)—400–1200A

Notes

① Box depth is 10.40-inch (264.2 mm) cover adds 0.90-inch (22.8 mm) to depth.

Flush trims not available on PRL4F panels.

Branch and Horizontally Mounted Main Device Layout—PRL4F



▲ Fusible switch may be used as horizontally main.

● 400 and 600A horizontally mounted feeder switches in 36-inch (914.4 mm) or 44-inch (1117.6 mm) wide box. 400 and 600A horizontally mounted main switches only in 44-inch (1117.6 mm) wide box. For vertically mounted main, see **Page 423** for sizing.

Note: See **Page 423** for MLO or Neutral and Vertically Mounted Main space requirements.

Type PRL5P

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Contents

Product Overview

The PRL5P panelboard incorporates Eaton's plug-on power panelboard experience with modern manufacturing technology to provide the most flexible plug-on design in the industry.

Designed to eliminate the multitude of parts associated with other similar products, the PRL5P panelboard is the choice for applications where additions and changes must be fast and convenient.

Panelboard Installation

Plug-On Mains and Branches provide the flexibility to move devices on factory-assembled panels after the boards are received at the job site. The electrician may move branch devices and place them into a configuration that fits the particular wiring needs of that installation.

Breakers are mounted to an adapter that includes the bus connection hardware. The breaker to bus bar connection is positive and secure. This proven connection has been utilized by Eaton in plug-on power panelboards since 1984.

Two Enclosure Widths Provide Greater Flexibility

30-Inch (762.0 mm) Wide. The narrowest enclosure in the industry for an 800A main, breaker or lug, and up to 600A branch breakers—while providing ample wiring bending space. An industry exclusive is the ability to mount two 225A, 480 Vac breakers on the same adapter unit. It requires half the space necessitated by other products.

Type PRL5P—30-Inch (762.0 mm) Wide

48-Inch (1219.2 mm) Wide. Provides for mains up to 1200A. The 1200A lug adapter unit accepts up to 750 kcmil conductors. Two 600A breakers can be mounted across from one another. Another exclusive allows breakers of different sizes to be mounted across from one another, providing the ability to maximize space within the panel. There are no restrictions or predetermined spaces where branch devices must be placed.

Type PRL5P—48-Inch (1219.2 mm) Wide

Circuit Breaker and Lug Adapter Units

Breaker adapter units utilize molded case circuit breakers that provide increased performance in considerably less space than standard breakers. They're available from 15–1200A at 600 Vac maximum. A wide range of integrally mounted breaker accessories are available.

Main and through-feed lug adapter units are available and are mounted similar to the breakers. Lug units are available up to 1200A.

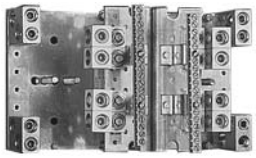
Breaker and lug attachment units can withstand fault currents up to 200 kA rms symmetrical.

600A L-Frame Breaker

400A K-Frame Breaker

Dual-Mounted 225A F-Frame Breakers

1200A Main Lug Unit



An Oversized Area is Provided for Neutral Connections with Ample Lugs for Ease of Installation

Type PRL5P

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Contents

Type PRL5P

Product Description

- 600 Vac maximum (250 Vdc)
- Three-phase four-wire, three-phase three-wire, single-phase three-wire
- 1200A maximum mains
- 1200A maximum branch devices
- Plug-on branch devices
- Factory assembled
- Refer to **Pages 357** and **428** for additional information

Application Description

- Power distribution panelboard
- Fully rated or series rated
- Interrupting ratings up to 200 kA symmetrical
- Suitable for use as Service Entrance Equipment, when specified on the order
- See **Pages 357** through **373** for additional information

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 357** for additional information

Listed

Product Selection

Panelboard Selection and Layout

Select either single-row or double-row bus chassis. Single-row bus chassis—maximum 800 ampere main breaker or main lug only. Select main device and "X" space from table below. Select branch devices and corresponding "X" space from the following tables.

Refer to layout data from the following tables. Make a layout sketch of the main and branch devices utilizing either a single-row or double-row bus chassis indicating the "X" space for each device. The maximum total "X" space cannot exceed 40X for any panelboard. Should more than 40X be required, add the appropriate through-feed lug adapter or breaker to feed an additional panelboard.

Type PRL5P

PRL5P ①

Main Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Main Device Type	Main "X" Space
Main Lug Only Single-Row Bus						
400	—	—	—	—	Lug	8X
600	—	—	—	—	Lug	8X
800	—	—	—	—	Lug	8X
Main Lug Only Double-Row Bus						
800	—	—	—	—	Lug	7X
1200	—	—	—	—	Lug	7X
Main Breaker Single-Row Bus						
400	65	—	—	10	DK	4X
400	65	35	25	10	KD	4X
400	100	65	35	22	HKD	4X
400	200	100	65	22	KDC	4X
600	35	35	25	22	LD	6X
600	100	65	35	25	HL	6X
600	200	100	35	25	LDC	6X
800	65	50	25	22	MDL	6X
800	100	65	35	25	HMDL	6X
Main Breaker Double-Row Bus						
800	65	50	25	22	MDL	6X
800	100	65	35	25	HMDL	6X
1200	65	50	25	—	ND	6X
1200	100	65	35	—	HND	6X
1200	200	100	65	—	NDC	6X

Branch Devices—Single-Pole Breakers in Single Adapter Units—PRL5P

Ampere Rating	Interrupting Rating (kA Symmetrical) 120 Vac	240 Vac	277 Vac	125 Vdc	Breaker Type	"X" Type
15–60	14	—	14	10	EHD	2X, 3X
15–60	35	—	35	10	FD	2X, 3X
15–60	65	—	65	10	HFD	2X, 3X

Note

① Includes aluminum bus chassis, box, trim, main and neutral (if required).

Branch Devices—Two- and Three-Pole Breakers in Single Adapter Units—PRL5P

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type	"X" Space
100–225	22	—	—	—	EDB	3X
100–225	42	—	—	—	EDS	3X
100–225	65	—	—	—	ED	3X
100–225	100	—	—	—	EDH	3X
100–225	200	—	—	—	EDC	3X
15–60	18	14	—	10	EHD	3X
70–100	18	14	—	10	EHD	3X
15–60	65	35	18	10	FD	3X
70–100	65	35	18	10	FD	3X
110–225	65	35	18	10	FD	3X
15–60	100	65	25	22	HFD	3X
70–100	10	65	25	22	HFD	3X
110–225	100	65	25	22	HFD	3X
15–60	200	100	35	22	FDC	3X
70–100	200	100	35	22	FDC	3X
110–225	200	100	35	22	FDC	3X
70–225	65	35	18	10	JD	3X
250	65	35	18	10	JD	3X
70–225	100	65	25	22	HJD	3X
250	100	65	25	22	HJD	3X
70–225	200	10	35	22	JDC	3X
250	200	100	35	22	JDC	3X
100–400	65	—	—	—	DK	4X
250–400	65	35	25	10	KD	4X
250–400	100	65	35	22	HKD	4X
250–400	200	100	65	22	KDC	4X
300–600	65	35	25	22	LD	6X
300–600	100	65	35	25	HLD	6X
300–600	200	100	50	25	LDC	6X
400–800	65	50	25	22	MDL ①	6X
400–800	100	65	35	25	HMDL ①	6X
400–800	65	50	25	—	ND ①	6X
400–800	100	65	35	—	HND ①	6X
400–800	200	100	65	—	NDC ①	6X
600–1200	65	50	25	—	ND ①	6X
600–1200	100	65	35	—	HND ①	6X
600–1200	200	100	65	—	NDC ①	6X

Branch Devices—Sub-Feed Lug Units—PRL5P

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type	"X" Space
400	—	—	—	—	Lug	8X
600	—	—	—	—	Lug	8X
800	—	—	—	—	Lug	8X
1200	—	—	—	—	Lug ①	7X

Note

① For use only in double-row chassis panelboards only.

Branch Devices—Dual Breaker Adapters—PRL5P

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	250 Vdc	Breaker Type	"X" Space
100–225	65	—	—	—	ED	3X
100–225	100	—	—	—	EDH	3X
100–225	200	—	—	—	EDC	3X
15–60	18	14	—	10	EHD	3X
70–100	18	14	—	10	EHD	3X
15–60	65	35	18	10	FD	3X
70–100	65	35	18	10	FD	3X
110–225	65	35	18	10	FD	3X
15–60	100	65	25	22	HFD	3X
70–100	100	65	25	22	HFD	3X
110–225	100	65	25	22	HFD	3X
15–60	200	100	35	22	FDC	3X
70–100	200	100	35	22	FDC	3X
110–225	200	100	35	22	FDC	3X

Note: Any two breakers listed above may be mounted on the same 2X or 3X dual breaker adapter. Dual breaker adapters may be in single- or double-row chassis. Dual breaker adapters can NOT be mounted across from another in a double-row chassis.

Modifications

1. Ambient Compensating Breakers

For ambient compensating breakers (where available) in lieu of standard breakers, add 10% to panelboard branch breaker and to main breaker list prices, if required. (Not UL listed.)

2. Bus Density

Main bus ampere rating is determined by UL listed temperature test. 1000A per square inch copper is available and included in copper bus price addition.

3. Special Cabinet (Box) Construction

Modification 3

Modification
Type 3R Enclosure
Add per panel

4. Complete Assembly

Complete assembly of panelboard box, interior and trim prior to shipment when required.

Modification 4

Description
Add per panel

5. Conduit Covers

Fabricated sheet metal to cover open conduits above and/or below standard Type 1 box.

Modification 5

Cover Type
Conduit enclosing shield (open back)

6. Copper Main Bus

Modification 6

Panel Construction
Single-bus interior
Double-bus interior

6a. Silver-Plated Copper Main Bus

For silver-plated copper panelboard main bus and/or connectors, add as follows:

Modification 6a

Main Bus Ratings Amperes
Single-bus interior
Double-bus interior

6b. Copper Neutral

Modification 6b

Panel Construction
Single-bus—800A maximum
Double-bus—1200A maximum

7. Copper Lugs

Optional copper only mechanical main lugs (includes main incoming neutral lugs).

Modification 7

Main Lug Amperes
400
600
800
1200

8. Directory Frame—Metal

Modification 8

Frame Type
Metal frame, plastic cover

9. Trim and Door Modifications —Special Fronts and Doors

Modification 9

Type
Hinged door over devices for Type 1 Enclosure

10. Ground Bar

Modification 10

Description
Add per panel

11. Solid-State Trip Units

Modification 11

Description
K-, L-, M-Frame Circuit Breaker
Digitrip RMS310 LS
Digitrip RMS310 LSI
Digitrip RMS310 LSG
Digitrip RMS310 LSIG
N-Frame Circuit Breaker
Digitrip RMS310 LS
Digitrip RMS310 LSI
Digitrip RMS310 LSG
Digitrip RMS310 LSIG

12. Circuit Breaker Handle Lockoff Devices

Modification 12

Description
Non-padlockable
Padlockable

13. Nameplates, Engraved

Modification 13

Type
Mastic back and installed by purchaser, per nameplate
Fixed to panel trim with two screws or rivets, per nameplate

14. Copper Wire Only Terminals for Molded Case Circuit Breakers

To replace standard Al/Cu terminals.

Modification 14

Breaker Frame	Maximum Breaker Ampere Rating	Terminal Material	Wire Range
F	225	Copper	#4–4/0
J	250	Stainless Steel	#4–350
K	225	Copper	(1) #3–350
	350	Copper	(1) 250–500
	400	Copper	(2) 3/0–250
L	600	Copper	(2) 250–500
M	600	Copper	(2) #2/0–500
	800	Copper	(3) #3/0–300
N	700	Copper	(2) #2/0–500
	1000	Copper	(3) #3/0–500
	1200	Copper	(4) #3/0–400

15. Painting and Special Coatings

Standard boxes are code-gauge galvanized sheet steel. Standard trims are code-gauge sheet steel with a rust inhibiting phosphatized coating and finished with ANSI-61.

Modification 15

Description
Painted Boxes (ANSI-61)
Painted Trims or Boxes (other than ANSI-61)

16. Permanent Circuit Numbers

Modification 16

Description
To provide permanently attached Micarta circuit numbers.

17. Service Entrance

To provide a Service Entrance Label as detailed under the "Service Entrance Equipment" in application considerations. Only panelboards meeting these requirements can be labeled as such. The requirement for a Service Entrance Label must be noted on order entry. Includes neutral disconnect link and Service Entrance Equipment Label. (Ground bar not included—see **Modification 10**.)

Modification 17

Description
Add per panel

18. Shunt Trip for Main or Branch Circuit Breaker

For tripping circuit breaker from a remote point. Voltage and frequency must be specified. Wiring to terminal blocks is not included. Standard leads extend 18 inches (457.2 mm) out of breaker.

Circuit breakers with factory installed 120, 240 or 480 Vac shunt trips are available with UL listing as shown in table below.

Modification 18

Description
Add per device

19. Touchup Paint

Modification 19

Type
12 oz. spray can ANSI-61 light gray Indoor
Case lot of 12—12 oz. spray cans ANSI-61 light gray indoor Single style

Technical Data and Specifications

PRL5P Maximum Component Unit Ampere Rating

Bus Chassis Type	Total "X" Space ①	Maximum Ampere Rating of Plug-on Components			
		Main Lugs	Branch Lugs	Main Breaker	Branch Breaker
Single-row bus	24X	800	600	800	600
	32X	800	600	800	600
	40X	800	600	800	600
Double-row bus	24X	1200	1200	1200	1200
	32X	1200	1200	1200	1200
	40X	1200	1200	1200	1200

Main Lug and Sub-Feed Lug Unit—PRL5P

Ampere Rating	"X" Space	Mechanical Lug Size and Number Al/Cu Rated
Single Bus Connection		
400	8X	(1) 1/0–500 kcmil or (2) 1/0–250 kcmil
600	8X	(2) #4–500 kcmil
800	8X	(2) #2–500 kcmil or (3) #2–400 kcmil
Double Bus Connection		
400–1200	7X	(4) #4–750 kcmil

Dimensions

Approximate Dimensions in Inches (mm)

Layout Information—PRL5P Box Sizes

Bus Chassis Type	Total "X" Space ①	Box Width	Box Height
Single-row bus	24X	30.00 (762.0)	64.00 (1625.6)
	32X	30.00 (762.0)	75.00 (1905.0)
	40X	30.00 (762.0)	86.00 (2184.4)
Double-row bus	24X	48.00 (1219.2)	64.00 (1625.6)
	32X	48.00)1219.2)	75.00 (1905.0)
	40X	48.00 (1219.2)	86.00 (2184.4)

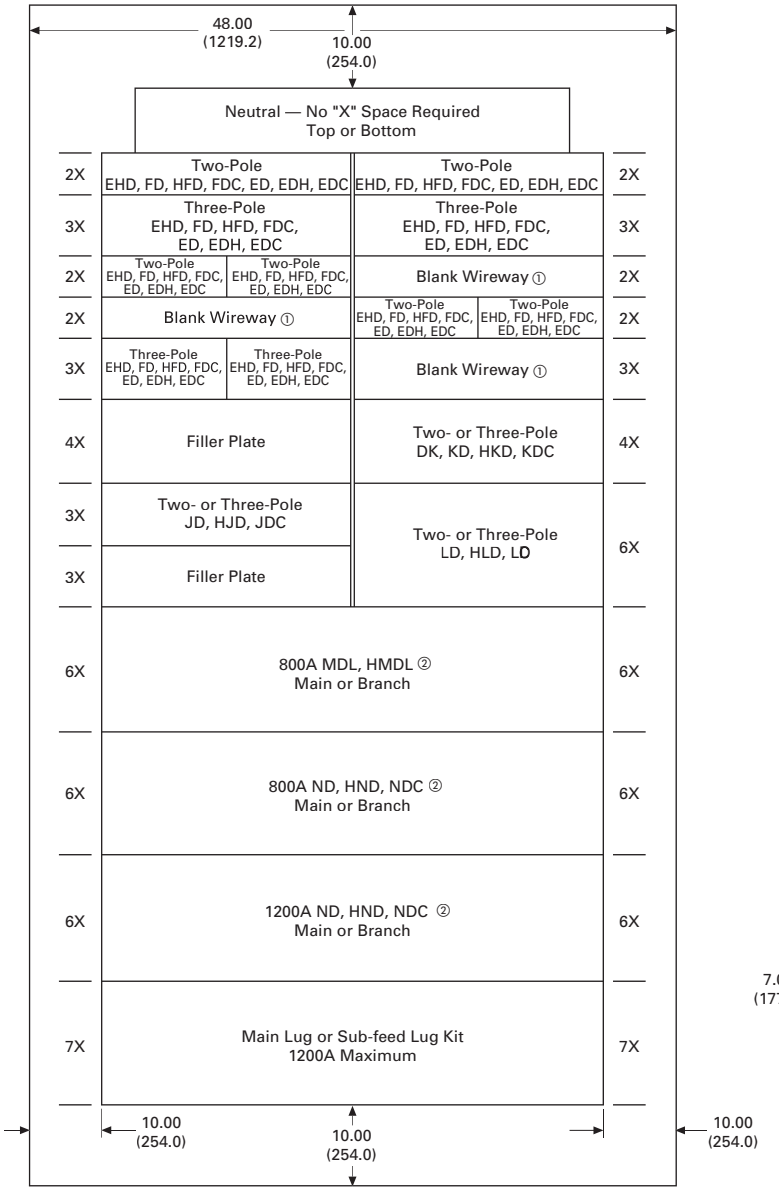
Note

① Deduct "X" space for main breaker or lugs from the total available "X" spaces listed above.

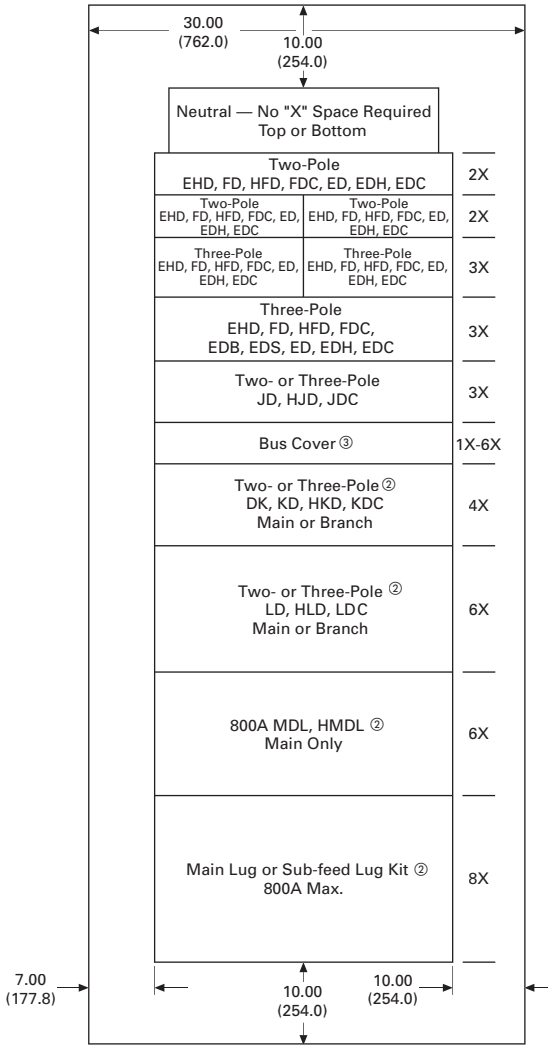
Chassis Layout

PRL5P Chassis Layout—"X" Unit Layout of Circuit Breaker and Lug Units—X = 1.38 Inches (34.9 mm)

Double-Bus Interior Mounted in 48-Inch (1219.2 mm) Wide Enclosure



Single-Bus Interior in 30-Inch (762.0 mm) Wide Enclosure



Notes

① Blank wireway fillers are required opposite any dual breaker unit.
② If used as a main device, must be mounted at the neutral end of panel.
③ Fixed bus covers are required for unused spaces if NEC six circuit disconnect rule is to be met.

Elevator Control Panelboard

Contents

Elevator Control Panelboard

Product Description

- 600 Vac maximum
- Three-phase four-wire
- 800A maximum mains
- 30–200A branch devices
- Short-circuit current rating up to 200 kA rms symmetrical
- Elevator controls including shunt trip, CPT, indicating lights and keyed selector switch

Application Description

- Instrument protection
- Fully rated
- Interrupting ratings up to 200 kA symmetrical when protected by fuse
- Provides selective coordination to 0.01 seconds with the appropriate upstream overcurrent protective device
- Eaton's Elevator Control Panelboard provides significant space savings in the elevator control room when compared to traditional installations
- Factory assembled

Standards and Certifications

- UL 67 panelboards
- UL 50 enclosures
- UL 98 fusible switches

Elevator Control Panelboard is intended to meet the:

- NFPA 70 (National Electrical Code)
- NFPA 72 (National Fire Alarm Code)
- ANSI/ASME A17.1 (Safety Code for Elevators and Escalators)
- NFPA 13 (Installation of Sprinkler Systems)

Listed

Product Selection

Elevator Control Panelboard

Elevator Control Panelboard

Ampere Rating	Interrupting Rating (kA Symmetrical) 600 Vac	Main Type	Fuse Clip ①
Main Lug Only			
400	200	—	—
600	200	—	—
800	200	—	—
Main Fusible Switch 600 Vac			
400	200	FDPW	Class J
600	200	FDPW	Class J
800	200	FDPB	Class J

Branch Elevator Control Modules ②

Ampere	Interrupting Rating (kA Symmetrical)	Breaker Type	Fuse Clip ①
30	200	FDPB	Class J
60	200	FDPB	Class J
100	200	FDPB	Class J
200	200	FDPB	Class J

Options

Elevator Control Options

Description	
Fused control power transformer	
Fire safety interface relay	
ON pilot light	
Isolated neutral termination	
200% isolated neutral termination	
Fire alarm voltage monitoring relay (monitors shunt trip voltage)	
NEMA Type 3R enclosure	
Surge Protective Devices	
120 kA	Basic
	Standard
	Standard with surge counter
160 kA	Basic
	Standard
	Standard with surge counter
200 kA	Basic
	Standard
	Standard with surge counter
250 kA	Basic
	Standard
	Standard with surge counter

Notes

① Fuses provided by others.

② Standard features include, fused switch with 120 Vac shunt trip, control power terminals ground termination, 120 Vac key test switch, 1NO and 1NC 120 Vac class mechanically interlocked auxiliary contact for hydraulic elevators with automatic recall.

Box Sizing and Selection

- Refer to Bid Manager™ drawings for your specific configuration

Panelboards and Lighting Controls

10

Contents

Types PRL1a, 2a, 3a, 3E, 4, Column

Modifications Selection Guide

Modifications—Alphabetical Index

		Available on Panelboard Types						
Modification	**Item**	**PRL1a**	**PRL2a**	**PRL3a**	**PRL3E**	**PRL4B**	**PRL4F**	**Column Type**
Ambient compensating breakers	1	No	No	Yes	No	Yes	—	No
Bus density	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cabinets—special: Types 2, 3R, 4, 4X, 12	3	Yes	Yes	Yes	Yes	Yes	Yes	No
Complete assembly	4	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compression type lugs, mains only	5	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Concealed trim clamps (LT trim)	6	Yes	Yes	Yes	Yes	No	No	No
Conduit covers	7	Yes	Yes	Yes	Yes	Yes	Yes	No
Copper lugs	8	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Copper main bus	9, 9a, 9b	Yes	Yes	Yes	Yes	Yes	Yes	Standard
Directory frame—metal	10	Yes	Yes	Yes	Yes	Yes	Yes	No
Doors, special	11	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fungus-proof	12	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground bar	13	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electronic trip units	14	No	No	No	Yes	Yes	—	No
Ground fault protection (zero sequence)	15	No	No	No	No	Yes	Yes	No
Handle lockoff device	16	Yes	Yes	Yes	Yes	Yes	Std.	Yes
Hinges, special (LT trim)	17	Yes	Yes	Yes	Yes	Yes	Yes	No
Increased dimensions	18	Yes	Yes	Yes	Yes	No	No	No
Increased panel bus rating	19	Yes	Yes	Yes	Yes	No	No	No
Interiors to fit existing boxes	20	Yes	Yes	Yes	Yes	Yes	Yes	No
Locks, special (LT trim)	21	Yes	Yes	Yes	Yes	Yes	Yes	No
Molded case switches	22	Yes	Yes	Yes	Yes	Yes	No	Yes
Nameplates engraved	23	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Modifications—Alphabetical Index, continued

Modification	Item	Available on Panelboard Types PRL1a	PRL2a	PRL3a	PRL3E	PRL4B	PRL4F	Column Type
Neutral rated 200%	24	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Painting and special coating	25	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Permanent circuit numbers	26	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Remote control switches (ASCO 920)	27	No	No	Yes	Yes	No	No	No
Service entrance	28	Yes	Yes	Yes	Yes	Yes	Yes	No
Shunt trips	29	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Split bus or meter loop	30	No	No	Yes	No	No	No	No
Metering devices	31	No	No	No	Yes	Yes	Yes	No
Sub-metering, IQ Energy Sentinel	32	No	No	No	No	Yes	No	No
Sub-feed breakers	33	Yes	Yes	Yes	Yes	No	No	Yes
Sub-feed lugs	34	Yes	Yes	Yes	Yes	Yes	Yes	No
Tamperproof screws (LT trim)	35	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Through-feed lugs	36	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time clock space only	37	Yes	Yes	Yes	Yes	—	—	No
Touchup paint	38	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surge protective device (SPD)	39	Yes	Yes	Yes	Yes	Ye	Yes	No
Terminals, copper only for breakers	40	Yes	Yes	Yes	Yes	Yes	—	Yes

1. Ambient Compensating Breakers

For ambient compensating breakers (where available) in lieu of standard breakers, add 10 percent to panelboard branch breaker and to main breaker list prices, if required. (Not UL listed.)

2. Bus Density

Main bus ampere rating is determined by UL listed temperature test. For 750A per square inch aluminum or 1000A per square inch copper, make price addition as follows:

Modification 2

Panel Type	Maximum Amperes
Aluminum—750A per Square Inch	
PRL1a, 2a	100
	225
	400
PRL3a	250
	400
PRL4	400
	800
Copper—1000A per Square Inch	
PRL1a, 2a	100
	225
	400
PRL3a	250
	600
PRL4	400
	1200

3. Special Cabinet (Box) Construction

Modification 3

Modification
Type 1 Enclosure
28-inch (711.2 mm) wide in place of standard 20-inch (508.0 mm) wide PRL1a, PRL2a, PRL3a, PRL3E
Type 2 Enclosure
(Drip-proof with gasketed trim) PRL1a, PRL2a, PRL3a, PRL3E 20-inch (508.0 mm) wide
Type 3R Enclosure
PRL1a, PRL2a 20-inch (508.0 mm) wide
PRL1a, PRL2a 28-inch (711.2 mm) wide
PRL3a ①, PRL3E 20-inch (508 mm) wide (600A maximum)
PRL3a ①, PRL3E 28-inch (711.2 mm) wide (600A maximum)
PRL4 24-inch (609.6 mm) or 36-inch (914.4) wide only
Type 12 Enclosure
PRL1a, PRL2a 20-inch (508.0 mm) wide
PRL1a, PRL2a 28-inch (711.2 mm) wide
PRL3a ①, PRL3E 20-inch (508 mm) wide (600A maximum)
PRL3a ①, PRL3E 28-inch (711.2 mm) wide (600A maximum)
PRL4 24-inch (609.6 mm) or 36-inch (914.4) wide only Must also add bus density price from Modification 2 for PRL4
Type 4 Enclosure or Type 4X Stainless Steel Enclosure
Refer to Eaton

4. Complete Assembly

Complete assembly of panelboard box, interior and trim prior to shipment when required.

5. Compression Main Lugs—Al/Cu Burndy Range Taking

For other terminal types and box sizes, refer to Eaton.

Modification 5—Compression Lug Data

Main Amperes	Wire Range by Panel Type PRL1a and PRL2a	PRL3E	PRL3a	PRL4
100	(1) #1–1/0 or (1) 2/0–300 kcmil	—	—	—
125	—	(1) #4–2/0 or (1) 2/0–300 kcmil	(1) #4–2/0 or (1) 2/0–300 kcmil	—
225	(1) 2/0–300 kcmil or (1) 4/0–500 kcmil	—	—	—
250	—	(1) 2/0–350 kcmil or (1) 4/0–500 kcmil	(1) 2/0–350 kcmil or (1) 4/0–500 kcmil	(2) 500–750 kcmil
400	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 500–750 kcmil
600	—	(2) 2/0–500 kcmil or (2) 500–750 kcmil	(2) 2/0–500 kcmil or (2) 500–750 kcmil	(2) 500–750 kcmil
800	—	—	—	(3) 500–750 kcmil
1200	—	—	—	(4) #2–600 kcmil or (4) 500–750 kcmil

Modification 5—Box Height Additions

Main Amperes	PRL1a, PRL2a	PRL3E, PRL3a without Neutral	PRL3E, PRL3a with Neutral
100	0	0X	0X
225	0	—	—
250	—	2X	5X
400	0	0X	0X
600	—	0X	0X

Maximum size for PRL1a and PRL2a panels:
1–750 kcmil per phase, or 2–500 kcmil per phase.
For PRL4 panels, see layout pages.

6. Concealed Trim Clamps—LT Trim

Modification 6

Description
Add per panel PRL1a, PRL2a, PRL3a, PRL3E

7. Conduit Covers

Fabricated sheet metal to cover open conduits above and/or below standard Type 1 box.

Modification 7

Cover Type
Conduit Enclosing Shield (open back) PRL1a, PRL2a, PRL3a, PRL3E, PRL4—Refer to Eaton
Conduit Enclosure (solid back) PRL1a, PRL2a, PRL3a, PRL3E, PRL4—Refer to Eaton

Note

① At 600A, PRL3a requires the addition of density rated copper bus for Type 3R or 12 enclosure.

8. Copper Lugs

Optional copper mechanical main lugs only. (Includes main incoming neutral lug.)

Modification 8

Main Amperes	Wire Range and Number of Lugs Per Phase
100	(1) #14–1/0
225	(1) #6–250 kcmil
250	(1) #6–250 kcmil
400	(2) #1/0–600 kcmil
600	(2) #1/0–600 kcmil
800	(2) #1/0–600 kcmil
1200	(3) #1/0–600 kcmil

Modification 8—Box Height Additions

Main Amperes	PRL1a, PRL2a	PRL3E, PRL3a without Neutral	PRL3E, PRL3a with Neutral	PRL4
100	0	0X	0X	—
225	0	—	—	—
250	—	0X	0X	0X
400	0	0X	0X	0X
600	—	1X	1X	0X
800	—	—	—	0X
1200	—	—	—	0X

9. Copper Main Bus

Modification 9

Available in PRL1a, PRL2a, PRL3a, PRL3E, PRL4, PRL1aF, PRL2aF, PRL1R, PRL2R, PRL1a-LX and PRL2a-LX

9a. Silver-Plated Copper Main Bus

Modification 9a

Available in PRL1a, PRL2a, PRL3a, PRL3E, PRL4, PRL1aF, PRL2aF, PRL1R, PRL2R, PRL1a-LX and PRL2a-LX

9b. Tin-Plated Copper Main Bus (PRL1a, 2a, 3a, Only)

Modification 9b

Panel Type
PRL1a, PRL2a, PRL3a, PRL3E

10. Directory Frame—Metal

Modification 10

Frame Type
Metal frame, plastic cover

11. Trim and Door Modifications—Special Fronts and Doors

Modification 11

Description
Door-in-door, one door over interior and one which exposes gutter. (LT Trim) (PRL1a, PRL2a, PRL3a, PRL3E only)
Common trim for two section panels with boxes bolted together. (LT Trim) (PRL1a, PRL2a, PRL3a, PRL3E only)
Standard flush lock with quarter turn fasteners at top and bottom of trim door (LT Trim) (standard on doors 48-inch (1219.2 mm) high and over). (PRL1a, PRL2a, PRL3a, PRL3E only)
To provide a trim with a lockable door for PRL4 panels (door-in-door is standard with this adder). Includes National lock with standard keying. ① **Add per panel**

12. Fungus Proofing

For fungus proofing external portions of circuit breakers and all non-metallic parts, add 10 percent of total panelboard list price. For fungus proofing fusible switches and all non-metallic parts, add 20 percent of total panelboard list price.

13. Ground Bar

Modification 13

	Description	Bar Type
Panel Type		
PRL1a PRL2a PRL3a PRL3E PRL4	Aluminum terminal bar for aluminum or copper cable	Standard, insulated/isolated ②
	Copper terminal bar for copper cable only	Standard, insulated/isolated ②
Column Type		
In Pull Box In Gutter	Aluminum terminal bar for aluminum or copper cable	Standard, insulated/isolated ②
	Copper terminal bar for copper cable only	Standard, insulated/isolated ②

Notes

① Extra depth box is required. Box will be 12.82-inch (325.6 mm) deep.

② For PRL1a, 2a, 3a and Column Type panelboards. The insulated/isolated ground bar includes a standard ground bar.

14. Electronic Trip Units

Modification 14—Applies to Digitrip 310 and 310+ Trip Units

Description
K-, L- and M-Frame Circuit Breaker (three-pole only)
Digitrip RMS310 LS
Digitrip RMS310 LSI
Digitrip RMS310 LSG ①
Digitrip RMS310 LSIG ①
N-Frame circuit breaker
Digitrip RMS310 LS
Digitrip RMS310 LSI
Digitrip RMS310 LSG ①
Digitrip RMS310 LSIG ①
Digiview Ammeter for 310+ Trip Unit

15. Zero Sequence Ground Fault Protection

For main devices only (circuit breakers or FDPW switch) in PRL4 assembled panels. Available in 250–1200A panels.

Price includes current monitors, ground bar, static sensor, shunt trip, necessary space, mounting and connecting in panelboards. Price does not include circuit breaker or FDPW switch.

Zero sequence ground fault is available with the following family of main devices:

Modification 15

Main Device
JD, KD, LD, MDL, ND, LCL, LA-P, NB-P FDPW switches (400–1200A)

16. Circuit Breaker Handle Lockoff Devices

Modification 16

Breaker Types
Non-Padlockable
BAB, QBHW, GHB, EHD, FDB, FD, ED, EDH, EDC, HQP, QPHW
JD, KD, MDL, ND
Padlockable
EHD, FDB, FD, HFD, FDC, ED, EDH, EDC, GHB, BAB, QBHW, HQP, QPHW, EGB, EGS, EGH
JD, KD, LD, MDL, ND, FDE, HFDE

17. Special Hinges—LT Trim

Piano hinges in lieu of standard hinges.

18. Increased Dimensions (PRL1a, PRL2a, PRL3a and PRL3E Only) Type 1 Enclosure Only

Modification 18

Description
Increased End Gutters
4 inch (101.6 mm) Top or Bottom
7 inch (177.8 mm) Top or Bottom
12 inch (304.8 mm) Top or Bottom
Increased Side Gutters
4 inch (101.6 mm) Left or Right
7 inch (177.8 mm) Left or Right
12 inch (304.8 mm) Left or Right

19. Increased Panel Main Bus Rating (Three-Phase Four-Wire, Single-Phase Three-Wire)

Modification 19

Main Bus Ampere Rating	Panel Type
100–225/250	PRL1a, PRL2a, PRL3a, PRL3E
225–400	
600 (PRL3a)	
250–400	PRL4
400–600	
600–800	
800–1200	

20. Interior and Fronts to Fit Existing Boxes

Refer to Eaton.

21. Special Locks

Modification 21

Description
LT Type Trim
Yale 511S with rosette
Yale 4651S (LL803 Key)
Master keying—above locks or standard lock—per panelboard
Corbin 15767 (Cat. #60 Key) PRL1a, PRL2a, PRL3a, PRL3E
Tee handle and 3-point catch PRL1a, PRL2a, PRL3a, PRL3E
COMPX metal lock with standard keying PRL1a, PRL2a, PRL3a, PRL3E
COMPX metal lock with GE75 keyway PRL1a, PRL2a, PRL3a, PRL3E, PRL4
EZ Type Trim
Standard Lock, Keyed GE75
Standard Lock, Keyed to Corbin TEU-1
Standard Lock, Keyed to Corbin Cat 60
Standard Lock, Keyed to Corbin WEM1

Notes

① Main breaker only.

PRL4 with door includes National lock with standard keying. See **Modification 11**.

22. Molded Case Switches (Three-Pole, Two-Pole)

Modification 22

Not UL Listed

Breaker Frame	Maximum Volts	Maximum Amperes
EHD	480	100
FD	600	225
JD	600	250
DK	240	400
KD	600	400
LD	600	600
MDL	600	800
ND	600	1200

23. Nameplates, Engraved

Modification 23

Type
Mastic back and installed by purchaser, per nameplate
Fixed to panel trim with two screws or rivets, per nameplate PRL1a, PRL2a, PRL3a, PRL3E only

24. Neutral Rated 200%

Modification 24

Main Bus Rating	Neutral Rating
100	225
225	450
250	500
400	800
600	1200

Modification 24—Box Height Additions

Main Bus Rating	Neutral Rating	PRL1a, PRL2a	PRL3a, PRL3E	PRL4
100	225	0	0X	—
225	450	0	—	—
250	500	—	3X	0X
400	800	0	3X	0X
600	1200	—	3X	0X

Note: Dimensions based on mechanical lugs. For compression or copper lugs, refer to Eaton.

For 800 and 1200A PRL4 with 200% neutral, refer to Eaton.

25. Painting and Special Coatings

Standard boxes are code-gauge galvanized sheet steel. Standard trims are code-gauge sheet steel with a rust inhibiting phosphatized coating and finished with ANSI-61.

Modification 25

Description
Painted boxes (ANSI-61)
Painted trims or boxes (other than ANSI-61)

26. Permanent Circuit Numbers

Modification 26

Description
To provide permanently attached Micarta® circuit numbers.

27. Remote Control Switches—ASCO 920 (Three-Pole, Two-Pole)

Electrically operated, mechanically held remote control switch directly mounted to panelboard bus for total or split bus switching applications.

(For split bus applications, make price addition from **Modification 30**.)

480 Vac maximum short-circuit rating of panelboard is 22 kAIC maximum.

Includes complete installation in the panelboard with a screw cover over the switch compartment.

Pushbuttons or other control devices are not included. For control circuit modifications, refer to Eaton.

Modification 27—Remote Control Switches
(PRL3a and PRL3E Only)

Switch Rating Amperes
30, 60, 75, 100, 150, 200, 225

Modification 27—Remote Control Switch Modifications

Description
Two-wire control relay
Three-wire control relay
Control power transformer
To provide hinged cover in place of standard screw cover

28. Service Entrance

To provide a Service Entrance Label as detailed under the "Service Entrance Equipment" in application considerations. Only panelboards meeting these requirements can be labeled as such. The requirement for a Service Entrance Label must be noted on order entry. Includes neutral disconnect link and Service Entrance Equipment Label. (Ground bar not included—see **Modification 13**.)

Modification 28

Panel Type
PRL1a, PRL2a, PRL3a, PRL3E, PRL4

29. Shunt Trip for Main or Branch Circuit Breaker and FDPW Switches

For tripping device from a remote point. Voltage and frequency must be specified. Wiring to terminal blocks is not included. Standard leads extend 18-inches (457.2 mm) out of device.

Factory-installed 120, 240 or 480 Vac shunt trips are available with UL listing as shown in table below. Underwriters Laboratories listing is not available for shunt trip mounted on molded case switches.

Modification 29

Device
BAB, QBHW Requires one additional pole space, i.e., single-pole is two-pole size, two-pole is three-pole size and three-pole is four-pole size.
GHB (three-pole only)
All other circuit breakers
FDPW switch (400–1200A)

30. Split Bus or Meter Loop (250A Max., 3Ph 4W, 3Ph 3W, 1Ph 3W, 1Ph 2W)

Panel type PRL3a only. For enclosure size, refer to Eaton.

Modification 30

Main Bus Amperes
100–250

31. Metering Devices (PRL4 Only)

IQ digital metering for incoming service. Devices are installed in chassis mounted compartment with hinged door. Standard CTs (1200A maximum) are included with devices. Requires copper bus at 1200A.

Modification 31

Device	Box Height Addition
IQ 130 with CTs and display	13X
IQ 130 with CTs, no display	13X
IQ 140 with CTs and display	13X
IQ 140 with CTs, no display	13X
IQ 150 with CTs and display	13X
IQ 150 with CTs, no display	13X
IQ 210 with CTs	13X
IQ 220 with CTs	13X
IQ 230 with CTs	13X
IQ 230M with CTs	13X
IQ 250 with CTs and display	13X
IQ 250 with CTs, no display	13X
IQ 260 with CTs and display	13X
IQ 260 with CTs, no display	13X
PXM 2250 with CTs and display	13X
PXM 2250 with CTs, no display	13X
PXM 2260 with CTs and display	13X
PXM 2260 with CTs, no display	13X
PXM 2270 with CTs and display	13X
PXM 2270 with CTs, no display	13X

32. Sub-Metering IQ Multi-Point Submeter II (PRL4 Only)

Microprocessor-based breaker-mounted device to monitor power and energy (kW, kWH, kW demand). Device mounts on the load side of three-pole F-, J- and K-Frame feeder breakers. Units are shipped with the interior for field installation. Minimum box width of 36 inches (914.4 mm) is required.

Modification 32

IQ Energy Sentinel
F-Frame three-pole (150A maximum)
J-Frame three-pole
K-Frame three-pole

33. Sub-Feed Breakers

Modification 33—Panel Types PRL1a, PRL2a, PRL3a, PRL3E. One Breaker Per Panel

Maximum Amperes	Number of Poles	Breaker Type	Interrupting Rating (kA Symmetrical) 240V	480V	Box Height Addition PRL3a
100	2	EHD	18	14	NA
150	2	FDB	18	14	NA
225	2	FD	65	35	NA
225	2	HFD	100	65	NA
225	2	FDC	200	100	NA
225	2	EDB	22	—	NA
225	2	EDS	42	—	NA
225	2	ED	65	—	NA
225	2	EDH	100	—	NA
225	2	JD	65	35	14X
225	2	HJD	100	65	14X
225	2	JDC	200	100	14X
250	2	JD	65	35	14X
250	2	HJD	100	65	14X
250	2	JDC	200	100	14X
400	2	DK	65	—	15X
400	2	KD	65	35	15X
400	2	HKD	100	65	15X
400	2	KDC	200	100	15X
100	3	EHD	18	14	NA
150	3	FDB	18	14	NA
225	3	FD	65	35	NA
225	3	HFD	100	65	NA
225	3	FDC	200	100	NA
225	3	EDB	22	—	NA
225	3	EDS	42	—	NA
225	3	ED	65	—	NA
225	3	EDH	100	—	NA
225	3	JD	65	35	14X
225	3	HJD	100	65	14X
225	3	JDC	200	100	14X
250	3	JD	65	35	14X
250	3	HJD	100	65	14X
250	3	JDC	200	100	14X
400	3	DK	65	—	15X
400	3	KD	65	35	15X
400	3	HKD	100	65	15X
400	3	KDC	200	100	15X

Note: 225A maximum on Column Type panels. Sub-feed breaker not available on PRL3a panel with subchassis.

Modification 33—Panel Type PRL3a Only. Two Breakers Per Panel—Twin Mounted

Maximum Amperes	Number of Poles	Breaker Type	Interrupting Rating (kA Symmetrical) 240 Volts	480 Volts	Box Height Addition PRL3a
225	2	JD	65	35	20X
225	2	HJD	100	65	20X
225	2	JDC	200	100	20X
250	2	JD	65	35	20X
250	2	HJD	100	65	20X
250	2	JDC	200	100	20X
225	3	JD	65	35	20X
225	3	HJD	100	65	20X
225	3	JDC	200	100	20X
250	3	JD	65	35	20X
250	3	HJD	100	65	20X
250	3	JDC	200	100	20X

34. Sub-Feed Lugs (3Ph 4W, 3Ph 3W, 1Ph 3W, 1Ph 2W)

Note: Not available on service entrance panels with main lugs only (six disconnect rule).

Mechanical Al/Cu lugs. Compression or copper lugs requires additional price adder from **Modification 5—Compression Lug Data** or **Modification 8** as appropriate.

Available on main lug panels only.

Modification 34

Main Amperes	Box Height Addition
Panel Types PRL1a, PRL2a	
100–225	0X
Panel Type PRL3a, PRL3E	
100–250	1X
Panel Type PRL4 ①	
250–400	0X
600	4X

35. Tamperproof Screws—LT Trim

Modification 35

Description
Tamperproof screws for trims, in lieu of standard screws.

36. Through-Feed Lugs (3Ph 4W, 3Ph 3W, 1Ph 3W, 1Ph 2W)

Note: 225 amperes maximum on Column Type panels. Not available on service entrance panels with main lugs only (six disconnect rule).

Mechanical Al/Cu lugs. Compression or copper lugs requires additional price adder from **Modification 5—Compression Lug Data** or **Modification 8** as appropriate.

Not available on panels with sub-feed breaker.

Modification 36

Main Amperes	Box Height Addition
Panel Types PRL1a, PRL2a	
100	②
225	②
400	②
Panel Type PRL3a, PRL3E	
100	2X
250	5X
400	8X
600	8X
800	14X
Panel Type PRL4 ②	
250	7X
400	7X
600	7X
800	7X
1200	5X

37. Time Clock Space Only

Includes box, trim, door and mounting pan.

Modification 37

Enclosure Type
Type 1
PRL1a, PRL2a, PRL3a, PRL3E (24-inch (609.6 mm) space)
PRL1a, PRL2a, PRL3a, PRL3E (36-inch (914.4mm) space)
Type 3R
PRL1a, PRL2a, PRL3a, PRL3E (24-inch (609.6 mm) space)

38. Touchup Paint

Modification 38

Description
12 oz. spray can. ANSI-61 light gray indoor
Case Lot of 12—12 oz. spray cans. ANSI-61 light gray indoor single style

Notes

① Refer to PRL4 layout.
② Refer to panelboard sizing charts.

39. Surge Protective Device (SPD)

Type PRL1a, PRL2a, PRL 3a and PRL3E Panelboards

Package includes SPD unit connected to the panelboard bus.

Available for all enclosure types.

Sizing:
PRL1a, PRL2a, PRL3E: Add 7 inches (177.8 mm) to the standard box height.

PRL3a: Add 4X for 100–200 kA SPD units.

PRL3E: AdVisor/SuperVisor display (200 kA maximum) add 8 inches. SML TVSS add 7 inches.

Type PRL4 and Elevator Control Panelboards

Package includes SPD unit and integral circuit breaker disconnect (30A) connected to the panel bus.

Available for all enclosure types.

The SPD unit and integral circuit breaker disconnect will require 7X of chassis space. (Only available in 36-inches (914.4 mm) or 44-inches (1117.6 mm) wide enclosure.)

Modification 39

Description	kA/Phase								
Surge Current Rating	**50**	**80**	**100**	**120**	**160**	**200**	**250**	**300**	**400**
SPD Package Options									
Basic LEDs monitor L-N, L-G, L-L and N-G									
PRL1a, PRL2a, PRL3a, PRL3E	■	■	■	■	■	■	—	—	—
PRL4, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■
Standard Feature Package LEDs monitor L-N, L-G, L-L and N-G EMI/RFI filtering Audible alarm with disable switch Form C relay contact									
PRL1a, PRL2a, PRL3a, PRL3E	■	■	■	■	■	■	—	—	—
PRL4, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■
Standard Package LEDs monitor L-N, L-G, L-L and N-G EMI/RFI filtering Audible alarm with disable switch Form C relay contact Six digit LCD display Counts surges in all modes Non-volatile memory (no battery backup) Reset button designed to prevent accidental resets									
PRL1a, PRL2a, PRL3a, PRL3E	■	■	■	■	■	■	—	—	—
PRL4, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■

40. Copper Wire Only Terminals for Molded Case Circuit Breakers

(To replace standard Al/Cu terminals.)

Modification 40

Breaker Frame	Maximum Breaker Ampere Rating	Terminal Material	Wire Range
F	225	Copper	#4–4/0
J	250	Stainless Steel	#4–350
K	225	Copper	(1) #3–350
	350	Copper	(1) 250–500
	400	Copper	(2) 3/0–250
L	600	Copper	(2) 250–500
M	600	Copper	(2) #2/0–500
	800	Copper	(3) #3/0–300
N	700	Copper	(2) #2/0–500
	1000	Copper	(3) #3/0–500
	1200	Copper	(4) #3/0–400

Note

① Requires 15A branch breaker for cable connection—three-pole (three-phase) or two-pole (single-phase). (Add breaker separately, not included in price.)

Pow-R-Command Family

Contents

An Eaton Green Solution

Product Overview

Eaton's Pow-R-Command™ family of lighting control panelboards is designed to meet the lighting control needs for buildings of all sizes and complexity. The system incorporates microprocessor-based distributed intelligence within a traditional panelboard, simplifying wiring in the field. The system can be networked over customers' LAN or directly interfaced to the Internet, allowing for password protected web access. The panelboard design allows the Pow-R-Command lighting control system to meet short-circuit ratings, as required by the National Electrical Code (NEC). The Pow-R-Command panelboard mounting, power wiring and branch wiring are the same as in traditional panelboards. Depending on the controller model, PRC controllers can be applied to distribution systems rated single-phase three-wire and three-phase four-wire 120, 120/240, 208Y/120 and 480Y/277 Vac. The PRC family consists of the PRC2000, PRC1000, PRC750, PRCEP, PRC100, PRC50 and the PRC25 for panelboard installations and the PRC4000 building control devices, which have wireless communications.

Lighting Control Overview

Traditional lighting control employs lighting contactors or relay panels to turn groups of lighting on or off. Input devices are typically time clocks, photo cells, wall switches, or, in more sophisticated applications, contact inputs from a building automation system (BAS). Pow-R-Command is a lighting control panelboard with remote controllable circuit breakers. These controllable circuit breakers perform a dual function:

1. They provide the overcurrent and overload protection for the circuit.
2. They perform the same function as relays and contactors in traditional lighting control systems, opening and closing the circuit in response to a remote signal.

Design Considerations

Short-Circuit Protection: In the past, contactors or relay panels were mounted close to the lighting load and short-circuit ratings were not a major concern. Today, most of the lighting control devices are located in electrical rooms, often adjacent to the panelboards that feed them. These devices are subjected to short-circuit conditions almost as high as those of the electrical distribution equipment. The current version of the National Electrical Code requires that these lighting control devices carry a short-circuit rating (Article 110-10). Although some traditional lighting control components are available with short-circuit ratings, these ratings are limited and may require upstream fusing. A lighting control panelboard makes meeting the requirements of NEC 110-10 as simple as specifying the short-circuit rating of the panelboard.

Flexibility: Lighting control panelboards allow simple and inexpensive changes during startup. Contactor and relay panels often require rewiring to make changes in the field.

Choices: Eaton's lighting control panelboards offer varying levels of flexibility, from six zones per panel with the Pow-R-Command 25 up to 250 zones per panel with the Pow-R-Command 2000.

Space: Lighting control panelboards eliminate contactor panels and/or relay panels, freeing up valuable wall space. Pow-R-Command panels are the same width as standard panelboards.

Retrofit Applications: Retrofitting traditional lighting control methods into an existing electrical distribution system often requires extensive rewiring and unwanted downtime. In most cases, a Pow-R-Command panel interior can be installed into an existing panelboard back box, and the cables can be re-terminated on the new circuit breakers, with minimal downtime.

Installation Considerations

Simplicity: Lighting control panelboards are as easy to install as standard panelboards. There are no additional components to install.

Labor: Because contactors and relays are eliminated, the labor associated with installing them and the additional cables and conduit associated with them is eliminated.

Startup: Startup for the Pow-R-Command panelboards is straightforward. The PRC25 requires no startup. It is prewired at the factory. The PRC100 is provided with factory startup assistance for trouble-free installation. The PRC750 is provided with an LCD display and keypad for on-site programming. The PRC1000 and PRC2000 are programmed over the network. They have an optional display available for local interface.

Operational Considerations

Failure Modes: If a lighting contactor or relay fails to operate due to a mechanical or control system failure, it is very difficult to control the lights manually. Often, it is necessary to hard-wire around the device on a temporary basis. With a lighting control panelboard system, the circuit breaker can be manually switched on or off as necessary until the system is back in operation.

Flexibility: In many cases, the lighting control scheme may change over the life of the facility. With traditional lighting control methods, changes require major rewiring and facility downtime. Breaker control schemes can be changed within the lighting control panelboard, often with a simple modification through software.

Pow-R-Command 4000 (PRC4000)

The Power-R-Command 4000 wireless lighting control system is a robust wireless communication system that can be utilized in new and retrofit applications. The wireless system components consist of the Pow-R-Command 4000 (PRC4000) controller, the Pow-R-Command Wireless I/O Module (PRCWIOM) and the Pow-R-Command Wireless Switch (PRCWS). It has a multitude of advanced features that perform the seamless control of every zone in your entire facility, as well as complex energy-management tasks. Basic programming of the PRC4000 is done through a standard Web page interface including the scheduling, status and override.

Pow-R-Command 2000 (PRC2000)

Eaton's PRC2000 is a microprocessor-based programmable lighting control system that can be used to control all of the lighting in your industrial facilities, high-rise office buildings and airports. Being on the cutting edge of technology, the Pow-R-Command 2000 is an IP-based device with an embedded Web server. Capable of being utilized in both standalone and networkable applications, the PRC2000 can incorporate both standard branch mounted breakers and controllable thermal-magnetic breakers for tailored control. The System Controller also includes load override, holiday scheduling, one-shot or event schedules, off warning to tenants, memory loss protection, hardware diagnostics and real-time clock for optimal energy management functions. The PRC2000 also incorporates the ability to communicate with networked devices over the Building Automation and Control Network (BACnet®) protocol. BACnet is an industry standard protocol and provides increased flexibility in component and device selection for the control system.

Pow-R-Command 1000 (PRC1000)

Eaton's PRC1000 is a microprocessor-based programmable lighting control system. With ratings from 100–225A, the PRC1000 can be used as a standalone panelboard or networked as a system. The panelboard utilizes both branch mounted standard breakers through 100A, and controllable thermal-magnetic breakers controlled by the Pow-R-Command 1000 System Controller. The System Controller also includes load override, holiday scheduling, one-shot or event schedules, off warning to tenants, memory loss protection, hardware diagnostics and real-time clock for optimal energy management functions. The PRC1000 system contains networkable intelligence and provides automated switching of branch circuit breakers.

Advanced Control Devices

The PRC2000 and PRC1000 controller has an onboard Digital Switch Network (DSN) that provides interaction with the Pow-R-Command Digital Switches. The Pow-R-Command Digital Switch (PRCDS) is a state-of-the-art microprocessor-based low voltage device. Each PRCDS is completely customizable and can be programmed to meet the needs of the customer's lighting control strategy. This programming is stored directly in the switch's integrated memory, which adds to the reliability of the digital switch network. Each switch has the ability to communicate directly to a PRC1000 or PRC2000 lighting controller through a dedicated switch network. In addition to its network communication capabilities, the PRCDS has built-in inputs and outputs that allow the connection of photo sensors, occupancy sensors and dimmable ballasts to achieve a fully integrated zone lighting control from one device. Each PRC controller can have up to 99 digital switches connected to its DSN using CAT6 cable. This gives distributed control throughout the entire facility at a much lower cost of installation. In addition, there is local feedback through a status LED illuminated in each button on the switch.

The Pow-R-Command Low Voltage Switch (PRCLS) is a momentary dry contact switch that is used for inputs into the Pow-R-Command controllers. This simple switch does not need a power supply; it is connected directly between the digital or universal inputs and its common of the PRC controller. This provides the ability to have up to six individual switches in one standard switch location. Both the PRCDS and PRCLS are offered in three configurations, a 2-button, 4-button or 6-button. In addition, each configuration is offered in three colors, Black, White or Almond.

Pow-R-Command 750 (PRC750)

Designed for standalone applications, Eaton's PRC750 is a premier microprocessor-based lighting control system that can be used to control all of the lighting in your industrial facilities, high-rise office buildings and airports. A single PRC750 panelboard can be connected to a maximum of three expansion panelboards for the ability to control up to a total of 168 Smart Breakers™. The PRC750 also boasts load override, holiday scheduling, memory loss protection, astronomical time clocks and scheduling, 16 switch inputs, and alarm and message log features.

Pow-R-Command Expansion Panelboard (PRCEP)

The PRCEP is a slave panelboard designed to work in conjunction with the PRC750, PRC1000 and PRC2000 controller. The PRCEP is configured the same as a standard panelboard, but has PRC Breaker Control Bus (BCB) units installed that communicate to the PRC controller. To aid in cost reduction in some applications, there can be controllable and standard breakers installed in the panelboard, and the panelboard can be configured with a BCB on the left, the right or on both sides of the panelboard for a more custom solution. The PRC controller has the ability to control up to eight BCBs in any of the various PRCEP configurations. The PRCEP breaker compatibility is the same as the PRC controller panelboards and the layout and sizing rules are the same as a standard 1A/2A panelboard.

Pow-R-Command 100 (PRC100)

Eaton's PRC100 panelboard system offers the broadest range of energy control in the industry using standalone PRC100 panelboards or a network of PRC100 panelboards. The PRC100 system is ideal for large, medium and small facilities with lighting control systems that require frequent changes, networkable panelboards, remote access, or all of the above. There are application-specific controllers available such as the native Johnson Controls® Metasys® (JCI) and the native Modbus® controllers. Examples may include stadiums, auditoriums and theatres, office buildings, large retailers and schools.

Pow-R-Command 50 (PRC50)

The PRC50 panelboard is a PRC100 panelboard with additional programming capability added that provides the ability to group up to 42 remotely operated circuit breakers into 8 individual zones. Each zone is designed to be switched by a dry contact from an external time clock, switch or Interposing relay.

The PRC50 programming board included with the controller allows the breakers to be grouped locally without the need of special equipment or software. The groupings can be easily changed without the need of any field rewiring. The grouping configurations are made using simple pushbutton inputs.

The panelboards are available with a full line of ratings and accessories.

Pow-R-Command 25 (PRC25)

Eaton's PRC25 Panelboard replaces contactors and relay panels in lighting control and other load switching systems. It is the most basic and cost-effective way to remotely control loads. The PRC25 is ideal for any building that requires a fixed lighting control scheme with a low installed cost. Examples may include small commercial buildings, tenant spaces, and other light commercial facilities.

Pow-R-Command 100 Universal System Controller (PRC100 USC)

The heart of the PRC100 panelboard is the Universal System Controller. Integral to the panelboard, this controller provides the PRC100 panelboard with distributed intelligence to control solenoid operated circuit breakers. The controller has the ability to communicate with other panelboard mounted controllers using a shielded twisted pair network cable. To further support system integrations, the PRC100 is also available in two additional native protocol versions that are installed in the PRC100 panelboard. The PRC100MOD is a native Modbus protocol controller that can be integrated easily into an existing or new Modbus system. Also available is the PRCJCI, a native JCI Metasys protocol controller, which is used in new or existing JCI system integrations.

Pow-R-Command PRC100 Panelboard Standard Features

- Time-of-Day scheduling—Each breaker may be individually time scheduled
- Holiday scheduling
- Astronomical scheduling
- Memory loss protection
- Real-time clock
- Hardware diagnostics
- Power failure recovery
- Brownout recovery
- Alarms and alarm log
- Local programming port
- Network communications port
- Breaker bypass On/Off and restore buttons
- Lights-off warning
- Load priority management
- Plug-and-play installation
- Data logging
- 12 dry contact switch inputs

Pow-R-Command PRC100 Panelboard Network

Should more than one panelboard be required for a facility, Pow-R-Command panelboards can be networked to form a system. This allows each panelboard to communicate with each other and to a central computer over a shielded twisted pair network cable.

Pow-R-Command PRC100 Panelboard Optional Features:

The Pow-R-Command PRC100 panelboard may be ordered with an optional factory-installed Expansion Chassis in addition to the factory-installed Universal System Controller. The optional Expansion Chassis houses up to two PRC100 Application Specific Controllers (ASC), which may be field installed. The addition of the optional Expansion Chassis and Application Specific Controllers to the standard PRC100 panelboard will extend the functionality of the PRC100 panelboard beyond time-of-day power switching.

PRC100 Application Specific Controllers

Eaton's Pow-R-Command Application Specific Controllers (ASCs) are designed to expand the PRC100 panelboard system beyond time-of-day power switching requirements. The controllers may be plugged into the PRC100EC panelboard and the PRC100SCC Control Cabinet.

PRC100SCC Control Cabinet with Application Specific Controllers

Switch Override Controller (PRC100SOC)

The Switch Override Controller provides the ability to connect and monitor up to 48 dry contact closures from wall switches, occupancy sensors, photocells, building automation system relay contacts or any remotely mounted device with a dry contact relay. Input connections to the controller are self powered with 28 Vac and may be individually custom programmed to operate differently. It is possible to program any connected input to control any breaker or group of breakers in the panelboard or system. Inputs have adjustable priorities and are capable of being individually time schedule enabled for different days of the week.

Telephone Override Controller (PRC100TOC)

The Telephone Override Controller provides a voice prompted method for On/Off override control of lighting. The telephone override controller is connected the same as an extension telephone. Simply plug it into a local analog telephone extension wall jack. The telephone override controller allows voice prompted control of lighting circuits for up to 1000 individual users. It is possible to program any of the 1000 users to override any breaker, or group of breakers in the panelboard, or system on or off during scheduled or non-scheduled hours, using any touch-tone telephone.

Remote Access Controller (PRC100RAC)

Allows programming and monitoring of the Pow-R-Command system from a remote location using a personal computer with a modem. The RAC is ideal for multi-location systems, such as campus and chain stores. Only one RAC is required per system to accomplish this task. The system can be designed to allow various levels of access. All programming and monitoring functions are available from the central location.

PRC100 Network Interface Box (PRC100NIB)

The Network Interface Box allows the central computer to be located more than 25 feet (7.6m) from the closest Pow-R-Command panelboard. The Network Interface Box comes complete with serial interface cable and power cord.

PRC100 Control Cabinet

The PRC100 Control Cabinet incorporates a power supply and the Universal System Controller from the PRC100 panelboard into a cabinet that may house up to three ASCs. The PRC100 Control Cabinet is ideal for retrofit applications when the existing panelboards may be reused or new construction applications where two or more panelboards requiring switched loads are located within the same electrical closet. The PRC100 Control Cabinet will control up to 48 remotely mounted circuit breakers using pre-terminated pigtail cables.

PRC100 Setup Software (PRC100LOS)

Windows®-based setup software is required for programming the PRC100 panelboard and Application Specific Controllers.

PRC100 System Support

Application Engineering support is available from the Pow-R-Command Applications Engineering Group located in the Sumter, SC, plant.

PRC100 Field Technical Support

Programming, Startup, Training and Field Service are available from a professional team of factory trained engineers. Startup services are recommended to ensure peak system performance.

Online Support

Available to those customers who choose Remote Access Controllers. Factory technicians can help diagnose systems, set up or change programs and troubleshoot online.

Product Selection Guide

Pow-R-Command Selection Guide

Controller	PRC25	PRC50	PRC100	PRC750	PRC1000	PRC2000	PRC2000B
Mandatory Eaton startup and integration required	No	No	Yes	No	Yes	Yes	No ①
Inputs							
Switch	6	8	4	8	8	8	8
Universal (switch or analog)	0	0	8	8	8	8	8
Optional switch input expander	0	0	48	0	48	48	48
Total inputs	6	8	64	16	64	64	64
Outputs							
Outputs digital (maximum controllable zones)	6	0	4	16	75	75	75
Analog	0	0	4	0	4	4	4
Universal I/O module	No	No	Yes	No	Yes	Yes	Yes
Telephone override	No	No	Yes	No	Yes	Yes	Yes
Data logging	No	No	Yes	No	Yes	Yes	Yes
Remote access	No	No	Yes	No	Yes	Yes	Yes
Power supply for external devices	N/A	No	Yes	Yes	Yes	Yes	Yes
Maximum number of loads (breaker/relay)	42	42	42	168	168	168	168
Number of expansion panels	0	0	0	7 ②	7 ②	7 ②	7 ②
Manual override	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes

① Startup and Integration by Eaton is not mandatory when utilizing the PRC2000B with BACnet protocol.

② Each rail drives 21 breakers. Rails can be distributed individually over a total of eight panels (max. SLAN wire-length of 150 ft).

Pow-R-Command Selection Guide, continued

Controller	PRC25	PRC50	PRC100	PRC750	PRC1000	PRC2000	PRC2000B
Outputs (continued)							
Dimming	No	No	Yes	No	Yes	Yes	Yes
Maximum number of dimming ballasts	0	0	160	0	160	160	160
Daylight harvesting (using dimming ballasts)	No	No	Yes	No	Yes	Yes	Yes
Daylight switching (on/off circuit switching)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time clock	No	No	Yes	Yes	Yes	Yes	Yes
Time schedules	No	No	Yes	Yes	Yes	Yes	Yes
Scheduling zones	N/A	N/A	75	75	75/250 ①	75/250 ①	75/250 ①
On/off periods per schedule	N/A	N/A	50	50	50	50	50
Holidays	N/A	N/A	30	30	30/16 ②	30/16 ②	30/16 ②
Blink notice	No	No	Yes	Yes	Yes	Yes	Yes
Maximum override time (hrs)	N/A	N/A	24	24	24	24	24
RS-232 port	No	No	No	No	No	No	No
RS-485 port	No	No	Yes	No	Yes	Yes	Yes
Ethernet port	No	No	No	No	No	Yes	Yes
Ethernet via external gateway	No	No	Yes	No	Yes	Yes	Yes
Input/output matrix across controllers	No	No	Yes	No	Yes	Yes	Yes
Input/output matrix within controller	No	Yes	Yes	Yes	Yes	Yes	Yes
Local LCD/LED display	No	No	No	Yes	Option	Option	Option
Local LED status indicators	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Non-volatile program memory	No	Yes	Yes	Yes	Yes	Yes	Yes
Battery backup for program memory	N/A	10 yrs	10 yrs	10 yrs	10 yrs	10 yrs	10 yrs
Clock memory backup	N/A	10 yrs	10 yrs	10 yrs	10 yrs	10 yrs	10 yrs
Flash firmware memory	N/A	No	No	Yes	Yes	Yes	Yes
Protocols							
Modbus® ASCII/RTU	N/A	N/A	Yes	No	No	No	N/A
Modbus TCP	N/A	N/A	No	No	No	No	N/A
Johnson Controls® N2	N/A	N/A	Yes	No	No	No	N/A
BACnet	N/A	N/A	Yes	No	Yes	Yes	Yes
LonWorks®	N/A	N/A	No	No	No	No	N/A
SOAP/XML	N/A	N/A	Yes	No	Yes	Yes	N/A
OPC	N/A	N/A	Yes	No	Yes	Yes	Yes
Browser Access							
TCP/IP external device	N/A	No	Yes	No	Yes	Yes	Yes
Built-in Web Server							
TCP/IP	N/A	No	No	N/A	N/A	Yes	Yes
BACnet IP server	N/A	No	No	N/A	N/A	N/A	Yes
Standards							
UL 916 energy management equipment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
California Title 24	N/A	N/A	Yes	Yes	Yes	Yes	Yes
NEC 110-10	—	Yes	Yes	Yes	Yes	Yes	Yes
UL 67 panelboards	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CSA C22.2 #29 panelboards	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baud rate	N/A	9.6k	9.6k	9.6k	9.6k	9.6k	9.6k
Maximum controllers/network	N/A	1	120	1	1800	1800	1800
Password protected	No	No	Yes	Yes	Yes	Yes	Yes
Mounting							
Three-pole breaker housing	No	No	No	No	No	No	No
External bracket mount available	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes

① 250 additional schedules with optional Network Interface Box NIB.
② 16 additional holidays with optional Network Interface Box NIB.

Pow-R-Command 4000 Wireless Controller

Contents

An Eaton Green Solution

Pow-R-Command 4000 (PRC4000)

Product Description

The PRC4000 wireless controller is designed to act as the coordinator of the wireless lighting network; All configuration and control can be done through a standard Web browser instead of learning a new software platform. In addition, the PRC4000 is networkable with existing Pow-R-Command lighting control products over the RS-485 network to expand system capabilities. The PRC4000 also comes equipped with analog and digital inputs/outputs to accommodate an extended array of input devices, switching and dimming needs. The PRC4000 wirelessly communicates to the PRCWIOM and the PRC Wireless Switch using the IEEE®802.15.4 standard.

Components

- Embedded Web server
- Integrated I/O
- PRC Wireless I/O Module
- PRC Wireless Switch

PRC Wireless I/O Module

The PRC4000 wireless controller offers industry-leading wireless technology. Not only does it have a built-in radio to communicate wirelessly directly with each I/O module and wireless switch, but it also offers many advanced features to help coordinate your lighting network. The PRC4000 has a built-in battery-backed time clock. In addition to its advanced time-scheduling feature set, the PRC4000 also offers astronomical time scheduling that dynamically adjusts to your geographic location and time of year. With any automated system, data logging and alarm notifications are essential. To meet this need, the PRC4000 offers an integrated internal data and alarm notification system. This gives you access to valuable information that you would need to quickly see the status of your lighting system.

PRC Wireless Devices

PRC Wireless I/O Module (PRCWIOM)

The PRCWIOM is used to segment the system and connect external inputs and loads to the system remotely. It allows local connectivity of low voltage switches, photo sensors, occupancy sensors, 0–10 Vdc dimming ballasts, and other auxiliary devices. The I/O module also adds discrete on/off load control through an onboard relay for loads up to 120/277V, 20A. Running control wires from each device in the facility back to the electrical room is no longer required. The configuration and programming is stored in the internal memory of the PRC Wireless I/O module and the PRC Wireless Switch. This allows for distributed intelligence that adds reliability to an already robust lighting control network.

PRC Wireless Switch Interface

PRC Wireless Switch (PRCWS)

The PRC Wireless Switch is a state-of-the-art, microprocessor-based, low voltage wireless communication device that is based on the 802.15.4 wireless standard. The switch is used for local control and has the ability to communicate directly to the PRC4000 and to the standard Pow-R-Command line of lighting controllers through a Pow-R-Command Wireless Switch Interface (PRCWSI) unit. Each PRCWS switch is completely customizable and can be programmed to meet the needs of the customer's lighting control strategy. The PRCWS configuration is stored directly in the integrated memory of the switch, which adds to the reliability of the device. In addition to the wireless network communication capabilities, the PRCWS has built-in input and output that are capable of connecting a photo sensor, occupancy sensor, and dimmable ballasts to achieve a fully integrated zone lighting control from one device. The wireless switch network can have up to 99 switches per controller.

PRC Wireless Switch Interface (PRCWSI)

The PRCWSI is a wireless gateway device that passes the wireless data of the PRC Wireless Switch to the PRC Digital Switch network of the PRC1000 or PRC2000 Controller. This two-way communication transfers commands from the switch as well as feedback from the controller.

Pow-R-Command 2000 Panelboard

Contents

An Eaton Green Solution

Pow-R-Command 2000 Panelboard

Product Description

Eaton's Pow-R-Command 2000 is a microprocessor-based programmable lighting control system with an embedded Web server for robust control. The PRC2000 can be used as a standalone panelboard or networked as a system. An upgrade can be purchased to integrate the unit within BACnet native control networks.

Features

- LCD display and keypad
- Memory loss protection
- Power failure/brownout recovery
- Astronomical real-time clock
- Control software
- Time scheduling
- Holiday scheduling
- Input to output switch matrix
- Messages/alarms
- Daylight optimization
- Switch Override Controller (SOC)
- Telephone Override Controller (TOC)

Components

- Embedded Web server
- Intelligent power switching equipment
- LCD programming display and keypad
- Application Specific Controllers (ASCs)
- Software and support
- Integration components

Intelligent Power Switching Equipment

PRC2000 Panelboards

PRC2000 panelboards are offered from 100–225A in main lug and main configurations. Available voltages are 120/240V, 208Y/120V and 480Y/277V, single-phase and three-phase. The panelboard utilizes both branch mounted standard breakers through 100A, and controllable thermal-magnetic breakers that are controlled by the PRC2000 System Controller. The PRC2000 controllers provide the ability to directly operate up to eight breaker control buses that are installed in the PRC2000 panelboard and the various PRCEP panelboards with one or two breaker control bus installed in each. Such a capability allows a single controller to directly operate up to 168 GHQRSP and BABRSP controllable circuit breakers, with individual control and status feedback of each controllable breaker.

The System Controller also includes load override, holiday scheduling, one-shot or event schedules, off warning to tenants by blinking lights, memory loss protection, power failure/brownout protection, hardware diagnostics, a real-time clock and 16 dry contact switch inputs.

Equipment within the PRC2000 system may be networked. Up to 120 panelboards may be networked over a shielded twisted pair network cable without the need for a personal computer in the system. To better support retrofit applications, the PRC2000 is offered in an external cabinet and the Breaker Control Bus is offered in retrofit kits.

BACnet Protocol

The PRC2000 unit can also be used for integration within BACnet native control networks. BACnet is a communications protocol widely used in building automation and controls and adds even more flexibility to the control system.

Standards and Certifications

The Pow-R-Command 2000 Panelboard is listed UL 67 for panelboards and UL 916 for energy management equipment.

UL Listed

Technical Data and Specifications

System Configurations

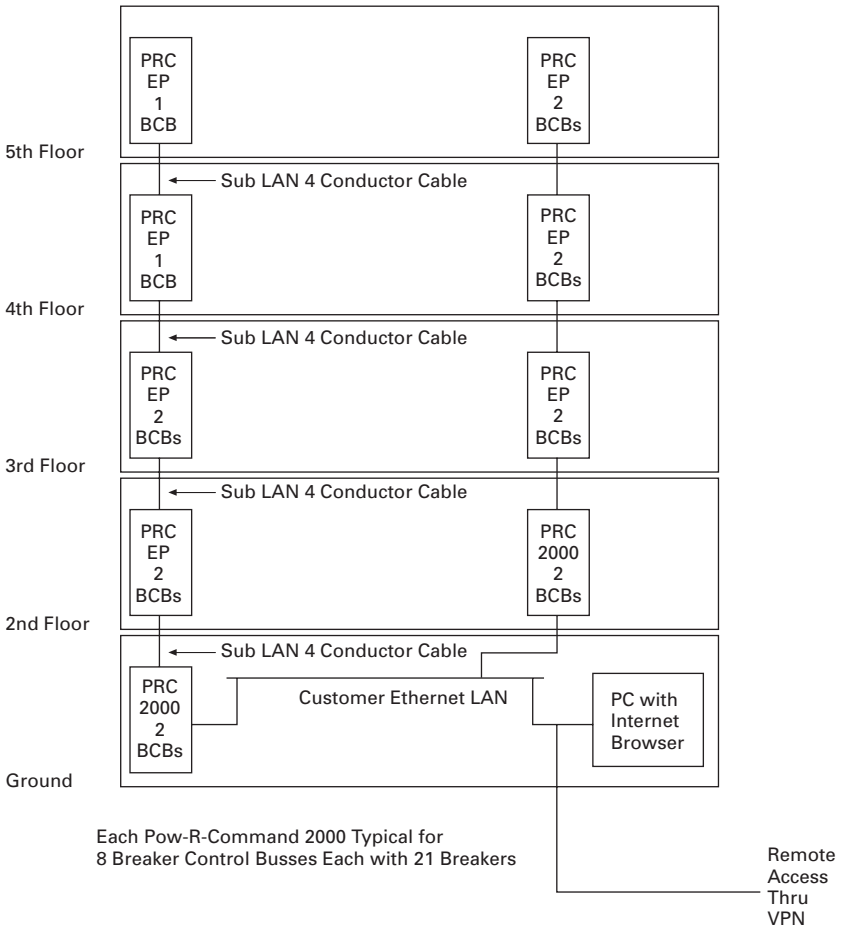
PRC2000 Network Architecture

Containing an embedded webserver, each PRC2000 system is programmed with a unique IP address for communication via any standard Internet browser. Web access is standard with the PRC2000. Eight 21-circuit control buses configured as needed throughout PRL1A and PRL2A panels. The PRC2000B directly interfaces to a BACnet Client Workstation.

Breaker Control Buses (BCB)

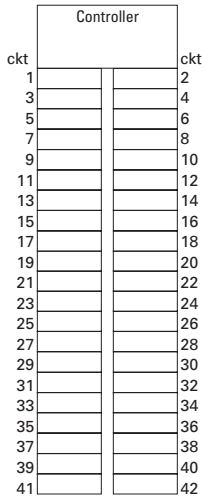
Every Pow-R-Command Expansion Panelboard can be configured with the left and/or right breaker control buses installed. When using PRC EP Panel with one BCB, the remote-controlled breakers are placed on the side with the control bus. Standard and controlled breakers can be distributed anywhere in the panel as needed.

PRC2000 Breaker Control Busses



Panel Layout

PRC2000 Layout



14 in.–18 Ckt. Chassis Includes PRC2000 Controller

20 in.–30 Ckt. Chassis Includes PRC2000 Controller

26 in.–42 Ckt. Chassis Includes PRC2000 Controller

Main Lug Section	2 in.—100 Amp MLO 4 in.—225 Amp MLO 6 in.— 400 Amp MLO
Vertically Mounted	8 in.—100 Ampere Frame EHD, EDB, EDS, ED, EDH, FD, HFD
	9 in. — 225 Ampere Frame EDB, EDS, ED, EDH, FD, HFD, FDC
	22 in.—400 Ampere Frame DK, KD, HKD, KDC

PRC2000 Panel Layout Instructions

1. Select PRC2000 Panelboard Chassis from layout on left.
   a. Determine required mains (lugs or breaker)
   b. Select appropriate main lug
   c. Select appropriate main device
   d. Select appropriate branch breakers
2. Layout panel as shown on left. Total "in." determine box height shown in on left. (When total "in." units exceeds the number shown, use next size box size.

Layout Example

1. Panel Description:
   a. PRC2000, three-phase four-wire, 208Y/120 Vac, interrupting rating of 10 kAIC symmetrical: 225A main lugs only at bottom, surface mounted and the following branch breakers
   b. 36–20A, single-pole BABRSP
   c. 6–20A, single-pole BABRSP spaces
2. Layout information from layout on left.
   a. PRC2000 with 42-circuit Interior 26 inches
   b. 225A main lugs Section 4 inches
   c. Total panelboard height 30 inches
3. From table below:
   - Panel height: 30 inches 20 inches wide x 5.75 inches deep
   - Box height: 48 inches
   - Box catalog number: YS2048 or EZB2048R
   - Trim catalog number: LT2048S or EZT2048S

Approximate Dimensions in Inches (mm)

Box Selection

Maximum Panel Height	Box Height,	Catalog Number YS Box	LT Trim	EZ Box	EZ Trim
20-Inch Wide x 5.75-Inch Deep Boxes					
0–22.00	36.00 (914.4)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
23.00–28.00	42.00 (1066.8)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
29.00–34.00	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
35.00–46.00	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
47.00–58.00	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**

Cabinets

Trims are code gauge steel, ANSI 61 light gray painted finish. Boxes are code gauge galvanized steel without knockout. Standard size is 20.00 inches (508.0 mm) wide x 5.75 inches (146.1 mm) deep.

Note: Width of enclosure will be 28.00 inches (711.2 mm) minimum.

Top and Bottom Gutters

6.38 inches (162.1 mm).

Minimum Side Gutters

4.00-inch (101.6 mm) minimum on 20.00-inch (508.0 mm) wide box size.

Pow-R-Command 1000 Panelboard

Contents

An Eaton Green Solution

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Pow-R-Command 1000 Panelboard

Product Description

Eaton's Pow-R-Command 1000 is a microprocessor-based programmable lighting control system. The PRC1000 can be used as a standalone panelboard or networked as a system.

Features

- LCD display and keypad
- Memory loss protection
- Power failure/brownout recovery
- Astronomical real-time clock
- Control software
- Time scheduling
- Holiday scheduling
- Input to output switch matrix
- Messages/alarms
- Daylight optimization
- Switch Override Controller (SOC)
- Telephone Override Controller (TOC)

Components

- Intelligent power switching equipment
- LCD programming display and keypad
- Application Specific Controllers (ASCs)
- Software and support
- Integration components

Intelligent Power Switching Equipment

PRC1000 Panelboards

PRC1000 panelboards are offered from 100–225A in main lug and main breaker configurations. Available voltages are 120/240V, 208Y/120V and 480Y/277V, single-phase and three-phase. The panelboard utilizes both branch mounted standard breakers through 100A, and controllable thermal-magnetic breakers that are controlled by the PRC1000 System Controller. The PRC1000 controllers provide the ability to directly operate up to eight breaker control buses. To better support retrofit applications, the PRC1000 is offered in an external cabinet and the Breaker Control Bus is offered in retrofit kits. Such a capability allows a single controller to directly operate up to 168 GHQRSP and BABRSP controllable circuit breakers, with individual control and status feedback of each controllable breaker.

The System Controller also includes load override, holiday scheduling, one-shot or event schedules, off warning to tenants by blinking lights, memory loss protection, power failure/brownout protection, hardware diagnostics, a real-time clock and 16 dry contact switch inputs.

Equipment within the PRC1000 system may be networked. Up to 120 panelboards may be networked over a shielded twisted pair network cable without the need for a personal computer in the system that are installed in the PRC1000 panelboard and the various PRCEP panelboards with one or two breaker control bus installed in each.

Standards and Certifications

The PRC1000 panelboard is listed UL 67 for panelboards and UL 916 for energy management equipment.

UL Listed

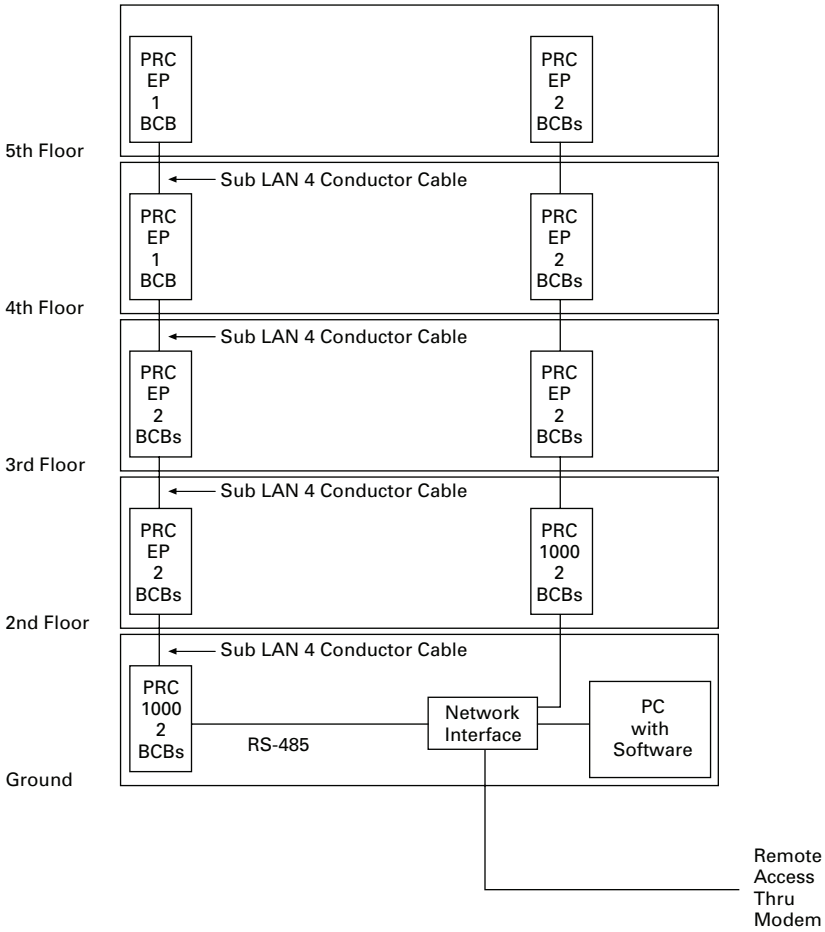
Technical Data and Specifications

System Configurations

PRC1000 Application

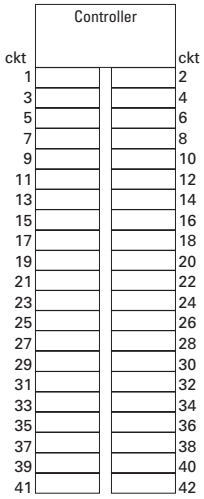
Customizable extension panels allow for combinations of both regular and remote controllable breakers for individualized solutions as shown in this riser diagram. Eaton's PRC1000 Controller can support up to eight Breaker Control Buses contained within four standard panelboards or split between a maximum of eight. When connected to the building's Internet, all master and expansion panels can be controlled.

PRC1000 Breaker Control Buses



Panel Layout

PRC1000 Layout



14 in. - 18 Ckt. Chassis Includes PRC1000 Controller

20 in. - 30 Ckt. Chassis Includes PRC1000 Controller

26 in. - 42 Ckt. Chassis Includes PRC1000 Controller

Main Lug Section	2 in.—100 Amp MLO 4 in.—225 Amp MLO 6 in.— 400 Amp MLO
Vertically Mounted	8 in.—100 Ampere Frame EHD, EDB, EDS, ED, EDH, FD, HFD
	9 in. — 225 Ampere Frame EDB, EDS, ED, EDH, FD, HFD, FDC
	22 in.—400 Ampere Frame DK, KD, HKD, KDC

PRC1000 Panel Layout Instructions

1. Select PRC1000 Panelboard Chassis from layout on left.
   a. Determine required mains (lugs or breaker)
   b. Select appropriate main lug
   c. Select appropriate main device
   d. Select appropriate branch breakers
2. Layout panel as shown on left. Total "in." determine box height shown on left. (When total "in." units exceeds the number shown, use next size box size.

Layout Example

1. Panel Description:
   a. PRC1000, three-phase four-wire, 208Y/120 Vac, interrupting rating of 10 kAIC symmetrical: 225A main lugs only at bottom, surface mounted and the following branch breakers
   b. 36–20A, single-pole BABRSP
   c. 6–20A, single-pole BABRSP spaces
2. Layout information from layout on left.
   a. PRC1000 with 42-circuit Interior 26 inches
   b. 225A main lugs section 4 inches
   c. Total panelboard height 30 inches
3. From table below:
   - Panel height: 30 inches 20 inches wide x 5.75 inches deep
   - Box height: 48 inches
   - Box catalog number: YS2048 or EZB2048R
   - Trim catalog number: LT2048S or EZT2048S

Approximate Dimensions in Inches (mm)

Box Selection

Maximum Panel Height	Box Height,	Catalog Number YS Box	LT Trim	EZ Box	EZ Trim
20-Inch Wide x 5.75-Inch Deep Boxes					
0–22.00	36.00 (914.4)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
23.00–28.00	42.00 (1066.8)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
29.00–34.00	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
35.00–46.00	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
47.00–58.00	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**

Cabinets

Trims are code gauge steel, ANSI 61 light gray painted finish. Boxes are code gauge galvanized steel without knockout. Standard size is 20.00 inches (508.0 mm) wide x 5.75 inches (146.1 mm) deep.

Note: Width of enclosure will be 28.00 inches (711.2 mm) minimum.

Top and Bottom Gutters

6.38 inches (162.1 mm).

Minimum Side Gutters

4.00-inch (101.6 mm) minimum on 20.00-inch (508.0 mm) wide box size.

Pow-R-Command 750 Panelboard

Contents

An Eaton Green Solution

Pow-R-Command 750 Panelboard

Product Description

Eaton's Pow-R-Command 750 is a microprocessor-based programmable lighting control system. The PRC750 can be used as a standalone panel, or the user has the option to connect up to three expansion panels, creating its own standalone subnetwork.

Features

- LCD display and keypad
- Memory loss protection
- Power failure/brownout recovery
- Astronomical real-time clock
- Control software
- Time scheduling
- Holiday scheduling
- Input to output switch matrix
- Messages/alarms
- Daylight optimization
- Switch Override Controller (SOC)
- Telephone Override Controller (TOC)

Components

- Intelligent power switching equipment
- LCD programming display and keypad
- Integration components

Intelligent Power Switching Equipment

PRC750 Panelboards

PRC750 panelboards are offered from 100–225A in main lug and main breaker configurations. Available voltages are 120/240V, 208Y/120V and 480Y/277V, single-phase and three-phase. The panelboard utilizes both branch mounted standard breakers through 100A, and controllable thermal-magnetic breakers that are controlled by the PRC750 system controller. The PRC750 controllers provide the ability to directly operate up to eight breaker control buses. To better support retrofit applications, the PRC750 is offered in an external cabinet and the Breaker Control Bus is offered in retrofit kits. Such a capability allows a single controller to directly operate up to 168 GHQRSP and BABRSP controllable circuit breakers, with individual control and status feedback of each controllable breaker.

The System Controller also includes load override, holiday scheduling, one-shot or event schedules, off warning to tenants by blinking lights, memory loss protection, power failure/brownout protection, hardware diagnostics, a real-time clock and 16 dry contact switch inputs that are installed in the PRC750 panelboard and the various PRCEP panelboards with one or two breaker control bus installed in each.

Standards and Certifications

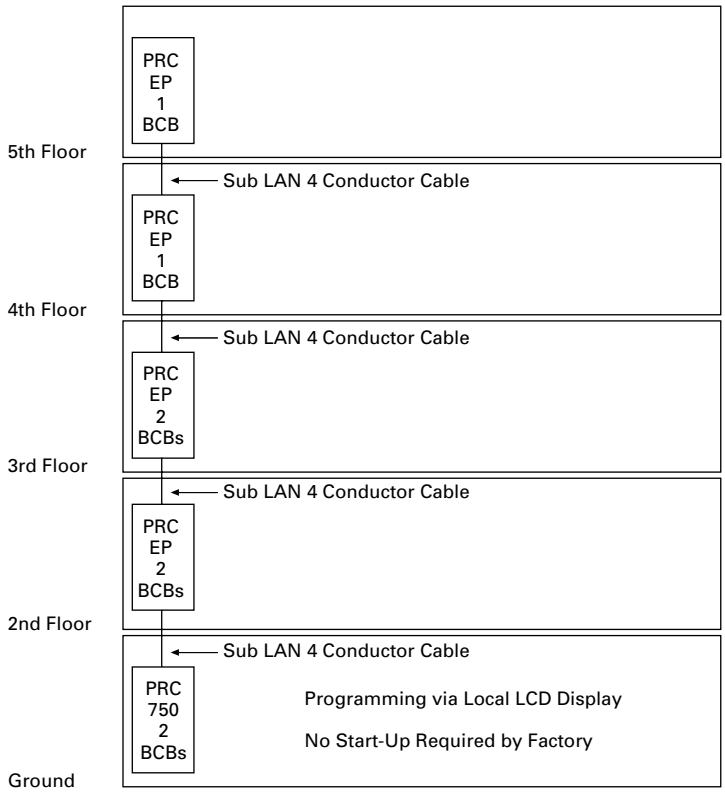
The PRC750 panelboard is listed UL 67 for panelboards and UL 916 for energy management equipment.

UL Listed

Technical Data and Specifications

Designed for standalone applications, Eaton's PRC750 is a premier microprocessor-based lighting control system that can be used to control all of the lighting in your industrial facilities, high-rise office buildings and airports. A single PRC750 panel can be connected to a maximum of eight Breaker Control Buses (BCB) in any combination within panelboards for the ability to control up to a total of 168 Smart Breakers. The PRC750 also boasts load override, holiday scheduling, memory loss protection, astronomical time clocks and scheduling, 16 switch inputs, and alarm and message log features.

PRC750 Standalone System Architecture



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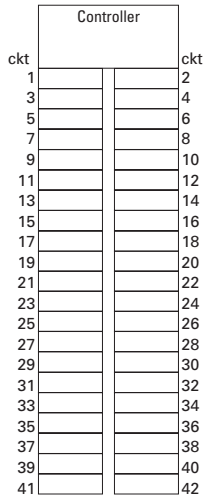
Panel Layout

PRC750 Layout



14 in. - 18 Ckt. Chassis Includes PRC750 Controller

20 in. - 30 Ckt. Chassis Includes PRC750 Controller

26 in. - 42 Ckt. Chassis Includes PRC750 Controller

Main Lug Section	2 in.—100 Amp MLO 4 in.—225 Amp MLO 6 in.—400 Amp MLO
Vertically Mounted	8 in.—100 Ampere Frame EHD, EDB, EDS, ED, EDH, FD, HFD
	9 in.—225 Ampere Frame EDB, EDS, ED, EDH, FD, HFD, FDC
	22 in.—400 Ampere Frame DK, KD, HKD, KDC

PRC750 Panel Layout Instructions

1. Select PRC750 Panelboard Chassis from layout on left.
   a. Determine required mains (lugs or breaker)
   b. Select appropriate main lug
   c. Select appropriate main device
   d. Select appropriate branch breakers
2. Layout panel as shown on left. Total "in." determine box height shown on left. (When total "in." units exceeds the number shown, use next size box size.

Layout Example

1. Panel description:
   a. PRC750, three-phase four-wire, 208Y/120 Vac, interrupting rating of 10 kAIC symmetrical: 225A main lugs only at bottom, surface mounted and the following branch breakers
   b. 36–20A, single-pole BABRSP
   c. 6–20A, single-pole BABRSP spaces
2. Layout information from layout on left.
   a. PRC750 with 42-circuit Interior 26 inches
   b. 225A main lugs section 4 inches
   c. Total panelboard height 30 inches
3. From table below:
   - Panel height: 30 inches 20 inches wide x 5.75 inches deep
   - Box height: 48 inches
   - Box catalog number: YS2048 or EZB2048R
   - Trim catalog number: LT2048S or EZT2048S

Approximate Dimensions in Inches (mm)

Box Selection

Maximum Panel Height	Box Height,	Catalog Number YS Box	LT Trim	EZ Box	EZ Trim
20-Inch Wide x 5.75-Inch Deep Boxes					
0–22.00	36.00 (914.4)	**YS2036**	**LT2036S or F**	**EZB2036R**	**EZT2036S or F**
23.00–28.00	42.00 (1066.8)	**YS2042**	**LT2042S or F**	**EZB2042R**	**EZT2042S or F**
29.00–34.00	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
35.00–46.00	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
47.00–58.00	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**

Cabinets

Trims are code gauge steel, ANSI 61 light gray painted finish. Boxes are code gauge galvanized steel without knockout. Standard size is 20.00 inches (508.0 mm) wide x 5.75 inches (146.1 mm) deep.

Note: Width of enclosure will be 28.00 inches (711.2 mm) minimum.

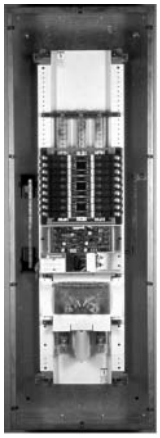
Top and Bottom Gutters

6.38 inches (162.1 mm).

Minimum Side Gutters

4.00-inch (101.6 mm) minimum on 20.00-inch (508.0 mm) wide box size.

PRC100 Panelboard



Contents

An Eaton Green Solution

PRC100 Panelboard

Product Description

Eaton's Pow-R-Command is designed to meet the needs for microprocessor-based programmable lighting control. Used as a standalone panelboard or networked as a system, the Pow-R-Command PRC100 offers the broadest range of energy control in the industry. The PRC100 panelboard system is ideal for large, medium and small building applications. The Pow-R-Command panelboard mounts the same as traditional panelboards. Power and branch wiring is also the same. It can be applied to distribution systems rated single-phase three-wire and three-phase four-wire 120V, 120/240V, 208Y/120V and 480Y/277 Vac.

See **Page 447** for additional information.

Standards and Certifications

- UL 67 Panelboards
- UL 50 Enclosures
- UL 916 Energy Management Equipment
- National Electrical Code
- Federal Specification W-P-115C
- FCC Emissions Standards: Part 15, Subject J for Class A Application
- IBC and UBC Seismic Qualified Equipment is available

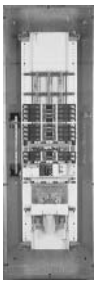
UL Listed

Branch Breakers

- Refer to **Page 465**.

Product Selection

Type PRC100



PRC100 Panelboard

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type
Main Lug Only ①			
100	—	—	MLO
250	—	—	MLO
400	—	—	MLO
Main Breaker ②			
100	18	14	EHD
100	18	14	FDB
100	65	35	FD
100	100	65	HFD
100	200	100	FDC
100	200	150	FCL
100	200	200	FB-P ③
225	22	—	EDB
225	42	—	EDS
225	65	—	ED
225	100	—	EDH
225	200	—	EDC
225	65	35	FD
225	100	65	HFD
225	200	100	FDC
250	65	35	JD
250	100	65	HJD
250	200	100	JDC
400	65	—	DK
400	65	35	KD
400	100	65	HKD
400	200	100	KDC
400	200	100	LCL ④

Main Integral Fuse Disconnect—Series Rated Combinations

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type	Approved Branch Devices
100	100	100	T Fuse Disconnect ⑥	GHB, GHBS, EHD, FDB, FD
200	65	65	T Fuse Disconnect ⑥	GHB, GHBS, EHD, FDB, FD

Notes

① The short-circuit rating of the MLO assembled panelboard may be fully rated based upon the lowest rated branch breaker or series rated with an approved upstream device.

② The short-circuit rating shown is that of the main breaker only. The rating of the assembled panelboard is the same as the short-circuit rating of the lowest rated main or branch device.

③ Top feed only.

④ Requires 6.50-inch (165.1 mm) deep box.

⑤ The short-circuit rating shown is the rating of the panelboard assembly with the main and approved branch devices as listed.

⑥ Fuses not included.

Includes Smart Chassis (system controller integral to the panelboard chassis).
Lighting optimization software and startup support must be included with each system—see Page 475.

BABRP Remote Control Circuit Breaker

GHBS Remote Control Circuit Breaker

Branch Circuit Breakers—480Y/277V Maximum

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480V	Breaker Type
Remote Controllable Branch Circuit Breakers			
15–30	10	—	BABRP ①
15–30	10	—	BABRSP ①
15–20	65	14	GHQRSP ②③
15–30	65	14	GHBS ②
Conventional Branch Circuit Breakers—Not Controllable			
15–60	10	—	BAB ①
15–60	10	—	BAB-H
70	10	—	BAB ①
70	10	—	BAB-H
80–100	10	—	BAB ①
80–100	10	—	BAB-H
15–50 ③	10	—	QBGF ④
15–50 ③	10	—	QBGFEP ⑤
15–20	10	—	QBCAF ⑥
15–20	65	14	GHQ ②③
15–20	65	14	GHB ②③
25–60	65	14	GHB ②③
70–100	65	14	GHB ②③
15–60	18	14	EHD
70–100	18	14	EHD
15–60	18	14	FDB
70–100	18	14	FDB
110–150	18	14	FDB
15–60	65	35	FD ②
70–100	65	35	FD ②
110–225	65	35	FD
15–60	100	65	HFD ②
70–100	100	65	HFD ②
110–225	100	65	HFD
15–60	200	100	FDC
70–100	200	100	FDC
110–225	200	100	FDC
100–225	22	—	EDB
100–225	42	—	EDS
100–225	65	—	ED ⑦
100–225	100	—	EDH ⑦
100–225	200	—	EDC ⑦

Notes

① Single-pole breaker rated 120 Vac. two-pole breaker rated 120/240 Vac.
② Single-pole breakers are rated 277 Vac maximum. Two- and three-pole breakers are rated 480Y/277 Vac maximum.
③ For use on 480Y/277 Vac maximum.50A devices are available as two-pole only.
④ GFCI for 5 mA personnel protection.
⑤ GFP for 30 mA equipment protection.
⑥ Arc fault circuit breaker.
⑦ Maximum lug size, 4/0 AWG Al/Cu in 20-inch (508.0 mm) wide box. 300 kcmil lug available in 28-inch (711.2 mm) wide box.

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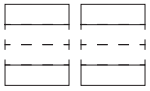
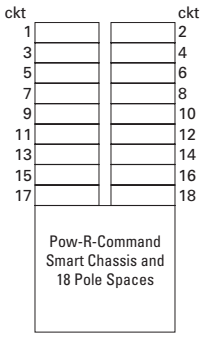
Panel Layout

PRC100 Layout

1-Pole ①	1-Pole ①	1X	EHD
2-Pole ①	2-Pole ①	2X	FDB FD
1-Pole ①	3-Pole ①	3X	HFD FDC
2-Pole ①			
	2-Pole ①②	2X	EDB, EDS, ED, EDH EDC
3-Pole ①②		3X	EDB, EDS, ED, EDH EDC
		5X 12 Poles 10X 24 Poles	BABRP BABRSP BAB GHBS GHQRSP GHB ③④



13X
Smart Chassis
includes spaces
for 18 Poles
GHBS, GHQRSP, GHB, BABRP, BABRSP, BAB
③④

Smart Chassis is always located at the bottom of the panelboard chassis immediately below all GHBS/GHB or BABR/BABRS/BAB breakers.

Neutral Section	5X 100–250 A 8X 400 A
Main Lug Section	2X 100 A 5X 250 A 8X 400 A
Main Device Horizontally Mounted	See branch mounted — EHD, FD, FDB, HFD, FDC, EDB, EDS, ED, EDH, EDC above
Main Device Vertically Mounted	7X—EHD, FDB, FD, HFD, FDC, EDB, EDS, ED, EDH, EDC
	7X—100 A Class T fusible pullout
	9X—200 A Class T fusible pullout
	9X—FB-P ⑤
	14X—JD, HJD, JDC
	15X—DK, KD, HKD, KDC

Notes

① All F-Frame branch breakers must be mounted above (top) of all controllable breakers on the chassis.

② EDB, EDS, ED, EDH and EDC branch mounted breakers may be mounted with load lugs on either left or right. Specify on order.

③ All add-on branch spaces must be adjacent to smart chassis poles.

④ GHBS, GHQRSP and GHB breakers cannot be mixed on same chassis with BABRP, BABRSP and BAB breakers.

⑤ Top-mounted main—only.

Layout Instructions

1. Select:
   a. Smart Chassis from layout on left.

Note: Smart chassis is always located at the bottom of the panelboard chassis immediately below the bottom breaker.

   b. Required mains (lugs, breaker or fuse pullout).
   c. Appropriate neutral.
   d. Branch breakers and additional chassis space, as needed.

2. Layout panel as shown on left, using appropriate "X" units. Total "X" units determine box height shown in table below. (When total "X" units exceeds the number shown, use next size box size.

Layout Example

1. Panel description:
   a. Pow-R-Command, three-phase, four-wire 480Y/277 Vac, interrupting rating of 14 kAIC symmetrical, 250A main lugs only at bottom, surface mounted and the following branch breakers:
   b. 36–20A, single-pole GHBS.
   c. 6–20A, single-pole GHBS spaces.

2. Layout information from layout on left:
   a. Smart Chassis . = 13X
   b. 24-circuit add-on chassis . . . . . = 10X
   c. 250A neutral . . = 5X
   d. 250A main lugs only . . . . . = 5X
   e. Total panelboard height . . . . . = 33X

3. From table below: 33X height (use 40X box).
   Box catalog number. **YS2072**
   Trim catalog number. **LT2072S**
   OR
   Box catalog number. **EZB2072R**
   Trim catalog number. **EZT2072S**

Approximate Dimensions in Inches (mm)

Box Tabulation

"X" Units	Box Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100–400A					
23X	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
31X	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
40X	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
53X	90.00 (2286.0)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5.75 inches (146.1 mm). Standard width is 20.00-inch (508.0 mm) 100–400A.

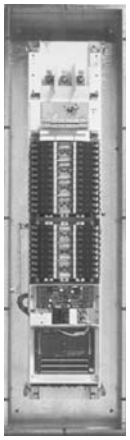
Top and Bottom Gutters

5.50 inches (139.7 mm) minimum.

Side Gutters

4.00 inches (101.6 mm) minimum.

PRC100EC Panelboard



Contents

An Eaton Green Solution

10

PRC100EC Panelboard

Product Description

Eaton's Pow-R-Command PRC100 panelboard may be ordered with an optional factory-installed Expansion Chassis in addition to the factory-installed Universal System Controller. The optional Expansion Chassis houses up to two PRC100 Application Specific Controllers (ASC) that may be field installed. The addition of the optional Expansion Chassis and Application Specific Controllers to the standard PRC100 panelboard will extend the functionality of the PRC100 panelboard beyond time-of-day power switching.

Branch Breakers

- Refer to **Page 465**

Application Specific Controllers (ASC)

- Select up to two ASCs per panel from **Page 475**

Product Selection

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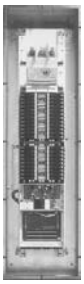
Type PRC100EC



PRC100EC Panelboard

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type
Main Lug Only ①			
100	—	—	MLO
250	—	—	MLO
400	—	—	MLO
Main Breaker ②			
100	18	14	EHD
100	18	14	FDB
100	65	35	FD
100	100	65	HFD
100	200	100	FDC
100	200	150	FCL
100	200	200	FB-P ③
225	22	—	EDB
225	42	—	EDS
225	65	—	ED
225	100	—	EDH
225	200	—	EDC
225	65	35	FD
225	100	65	HFD
225	200	100	FDC
250	65	35	JD
250	100	65	HJD
250	200	100	JDC
400	65	—	DK ③
400	65	35	KD ③
400	100	65	HKD ③
400	200	100	KDC ③

Main Integral Fuse Disconnect—Series Rated Combinations ④

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type	Approved Branch Devices
100	100	100	T Fuse Disconnect ⑤	GHB, GHBS, EHD, FDB, FD
200	65	65	T Fuse Disconnect ⑤	GHB, GHBS, EHD, FDB, FD

Notes

① The short-circuit rating of the MLO assembled panelboard may be fully rated based upon the lowest rated branch breaker or series rated with an approved upstream device.

② The short-circuit rating shown is that of the main breaker only. The rating of the assembled panelboard is the same as the short-circuit rating of the lowest rated main or branch device.

③ Top feed only.

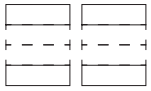
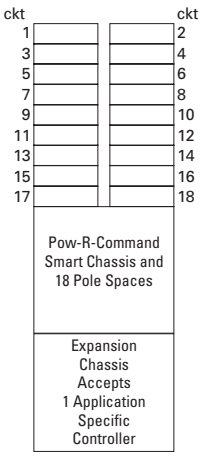
④ The short-circuit rating shown is the rating of the panelboard assembly with the main and approved branch devices as listed.

⑤ Fuses not included.

Includes Smart Chassis (system controller integral to the panelboard chassis).
Lighting optimization software and startup support must be included with each system—see Page 475.

Panel Layout

Pow-R-Command PRC100EC Layout

1-Pole ①	1-Pole ①	1X	EHD
2-Pole ①	2-Pole ①	2X	FDB FD
1-Pole ①	3-Pole ①	3X	HFD FDC
2-Pole ①			
	2-Pole ①②	2X	EDB, EDS, ED, EDH EDC
3-Pole ①②		3X	EDB, EDS, ED, EDH, EDC
		5X 12 Poles 10X 24 Poles	BABRP BABRSP BAB GHQRSP GHBS GHB ③④
		20X Smart Chassis includes spaces for 18 Poles GHBS, GHQRSP, GHB, BABRP, BABRSP, BAB ③④ Smart Chassis is always located at the bottom of the panelboard chassis immediately below all GHBS/GHB or BABR/BABRS/BAB breakers.	

Neutral Section	5X 100–250 A 8X 400 A
Main Lug Section	2X 100 A 5X 250 A 8X 400 A
Main Device Horizontally Mounted	See branch mounted — EHD, FD, FDB, HFD, FDC, EDB, EDS, ED, EDH, EDC above
Main Devices Vertically Mounted	7X—EHD, FDB, FD, HFD, FDC, EDB, EDS, ED, EDH, EDC
	7X—100 A Class T fusible pullout
	9X—200 A Class T fusible pullout
	9X—FB-P ⑤
	14X—JD, HJD, JDC
	15X—DK, KD, HKD, KDC ④

Notes

① All F-Frame branch breakers must be mounted above (top) of all controllable breakers on the chassis.

② EDB, EDS, ED, EDH and EDC branch mounted breakers may be mounted with load lugs on either left or right. Specify on order.

③ All add-on branch spaces must be adjacent to smart chassis poles.

④ GHBS, GHQRSP and GHB breakers cannot be mixed on same chassis with BABRP, BABRSP and BAB breakers.

⑤ Top mounted main—only.

Instructions

1. Select: (from layout on left)
   a. Smart Chassis with Expansion Chassis.

Note: Smart chassis is always located at the bottom of the panelboard chassis immediately below the bottom breaker.

   b. Required mains (lugs, breaker or fuse pullout).
   c. Appropriate neutral.
   d. Branch breakers and additional chassis space, as needed.

2. Layout panel as shown on left, using appropriate "X" units. Total "X" units determine box height shown on left. (When total "X" units exceeds the number shown, use next size box size.)

Layout Example

1. Panel description:
   a. Pow-R-Command, three-phase, four-wire 480Y/277 Vac, interrupting rating of 14 kAIC symmetrical, 250A main lugs only at bottom, surface mounted and the following branch breakers:
   b. 36–20A, single-pole GHBS.
   c. 6–20A, single-pole GHBS spaces.

2. Layout information from layout on left:
   a. Smart Chassis with EC . . . . . = 20X
   b. 24-circuit add-on chassis . . . . . = 10X
   c. 250A neutral . . = 5X
   d. 250A main lugs only . . . . . = 5X
   e. Total panelboard height . . . . . = 40X

3. From table below:
   (40X box)
   Box catalog number **YS2072**
   Trim catalog number **LT2072S**
   OR
   Box catalog number **EZB2072R**
   Trim catalog number **EZT2072S**

Approximate Dimensions in Inches (mm)

Box Tabulation

"X" Units	Box Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
100–400A					
23X	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
31X	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
40X	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**
53X	90.00 (2286.0)	**YS2090**	**LT2090S or F**	**EZB2090R**	**EZT2090S or F**

Cabinets

Fronts are code-gauge steel, ANSI-61 light gray painted finish.

Boxes are code-gauge galvanized steel without knockouts. Standard depth is 5.75 inches (146.1 mm). Standard width is 20.00-inch (508.0 mm) 100–400 amperes.

Top and Bottom Gutters

5.50 inches (139.7 mm) minimum.

Side Gutters

4.00 inches (101.6 mm) minimum.

PRC50 Panelboard

Contents

An Eaton Green Solution

PRC50 Panelboard

Product Description

Eaton's PRC50 panelboard is similar to a PRC100 panelboard with additional programming capability added that provides the ability to group up to 42 remotely operated circuit breakers into eight individual zones. Each zone is designed to be switched by a dry contact from an external time clock, switch or interposing relay.

The PRC50 programming board included with the controller allows the breakers to be grouped locally without the need of special equipment or software. The groupings can be easily changed without the need of any field rewiring. The grouping configurations are made using simple pushbutton inputs.

Service

- 120/240 Vac single-phase three-wire, 208Y/120 Vac three-phase four-wire
- 240/120 Vac three-phase four-wire, 480Y/277 Vac three-phase four-wire

Zone Configuration

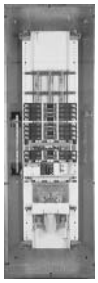
- Eight Zones of Event Driven Control
- Simple two key field programming
- Matrix wiring allows breakers to be assigned to multiple zones
- Eight integrated digital override inputs
- No analog inputs

Branch Breakers

- Refer to **Page 472**

Product Selection

Type PRC100



PRC50 Panelboard

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type
Main Lug Only ①			
100	—	—	MLO
250	—	—	MLO
400	—	—	MLO
Main Breaker ②			
100	18	14	EHD
100	18	14	FDB
100	65	35	FD
100	100	65	HFD
100	200	100	FDC
100	200	150	FCL
100	200	200	FB-P ③
225	22	—	EDB
225	42	—	EDS
225	65	—	ED
225	100	—	EDH
225	200	—	EDC
225	65	35	FD
225	100	65	HFD
225	200	100	FDC
250	65	35	JD
250	100	65	HJD
250	200	100	JDC
400	65	—	DK
400	65	35	KD
400	100	65	HKD
400	200	100	KDC
400	200	100	LCL ④

Main Integral Fuse Disconnect—Series Rated Combinations

Ampere Rating	Interrupting Rating (kA Symmetrical) 240V	480Y/277V	Device Type	Approved Branch Devices
100	100	100	T Fuse Disconnect ⑥	GHB, GHBS, EHD, FDB, FD
200	65	65	T Fuse Disconnect ⑥	GHB, GHBS, EHD, FDB, FD

Notes

① The short-circuit rating of the MLO assembled panelboard may be fully rated based upon the lowest rated branch breaker or series rated with an approved upstream device.

② The short-circuit rating shown is that of the main breaker only. The rating of the assembled panelboard is the same as the short-circuit rating of the lowest rated main or branch device.

③ Top feed only.

④ Requires 6.50-inch (165.1 mm) deep box.

⑤ The short-circuit rating shown is the rating of the panelboard assembly with the main and approved branch devices as listed.

⑥ Fuses not included.

Includes Pow-R-Command Universal System Controller integral to the panelboard chassis (Smart Chassis) and the PRC50 Programming Board. Lighting optimization software and start-up support are not required.

BABRP Remote Control Circuit Breaker

GHBS Remote Control Circuit Breaker

Branch Circuit Breakers—480Y/277 Volt Maximum

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Volt	480 Volt	Breaker Type
Remote Controllable Branch Circuit Breakers			
15–30	10	—	BABRP ①
15–30	10	—	BABRSP ①
15–20	65	14	GHQRSP ②⑦
15–30	65	14	GHBS ②
Conventional Branch Circuit Breakers—Not Controllable			
15–60	10	—	BAB ①
15–60	10	—	BAB-H
70	10	—	BAB ①
70	10	—	BAB-H
80–100	10	—	BAB ①
80–100	10	—	BAB-H
15–50 ③	10	—	QBGF ④
15–50 ③	10	—	QBGFEP ⑤
15–20	10	—	QBCAF ⑥
15–20	65	14	GHQ ②⑦
15–20	65	14	GHB ②⑦
25–60	65	14	GHB ②⑦
70–100	65	14	GHB ②⑦
15–60	18	14	EHD
70–100	18	14	EHD
15–60	18	14	FDB
70–100	18	14	FDB
110–150	18	14	FDB
15–60	65	35	FD ②
70–100	65	35	FD ②
110–225	65	35	FD
15–60	100	65	HFD ②
70–100	100	65	HFD ②
110–225	100	65	HFD
15–60	200	100	FDC
70–100	200	100	FDC
110–225	200	100	FDC
100–225	22	—	EDB
100–225	42	—	EDS
100–225	65	—	ED ⑧
100–225	100	—	EDH ⑧
100–225	200	—	EDC ⑧

Notes

① Single-pole breaker rated 120 Vac. Two-pole breaker rated 120/240 Vac.
② Single-pole breakers are rated 277 Vac maximum. Two- and three-pole breakers are rated 480Y/277 Vac maximum.
③ 50A devices are available as two-pole only.
④ GFCI for 5 mA personnel protection.
⑤ GFP for 30 mA equipment protection.
⑥ Arc fault circuit breaker.
⑦ For use on 480Y/277 Vac maximum.
⑧ Maximum lug size, 4/0 AWG Al/Cu in 20-inch (508.0 mm) wide box. 300 kcmil lug available in 28-inch (711.2 mm) wide box.

PRC25 Panelboard

Contents

PRC25 Panelboard

Product Description

The PRC25 panelboard is designed to meet the needs for control of lighting and small branch circuits. Used as a standalone panelboard controlled by a time clock or wall switch, the PRC25 offers a solution for replacement of contactor and relay-based lighting control schemes. It can be applied to distribution systems rated:

- Single-phase three-wire and three-phase four-wire
- 120/240, 208Y/120 and 480Y/277 Vac

The heart of the PRC25 panel is the Zoning Board integral to the panelboard. This controller provides the ability to group individual breakers into zones that may be switched on/off by a dry contact from a time clock, photocell, wall switch or building automation system.

Branch Breakers

Refer to **Page 478**.

Standards and Certifications

- UL 67, UL 50
- Federal Specification W-P-115c
- Refer to **Page 463** for additional information

UL Listed

Product Selection

Branch Circuit Breakers—PRC25

Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac ①	Breaker Type
15–60	10	BAB
70	10	BAB
80–100	10	BAB
15–50 ②	10	QBGF ③
15–50 ②	10	QBGFEP ④
15–20	10	QBCAF ⑤
15–60	10	BAB-D ⑥
15–30	10	BAB-C ⑦
15–30	10	BABRP ⑧
15–30	10	BABRSP ⑧
Provision	—	—

Branch Breakers—PRC25

Ampere Rating	Interrupting Rating (kA Symmetrical) 480Y/277 Vac	Breaker Type
15–20	14	GHQ
15–20	14	GHB
25–60	14	GHB
70–100	14	GHB
15–30	25	HGHB
15–20	14	GHQRSP ④
15–60	14	GHBGFEP ⑥
15–20	14	GHBHID ⑥
Provision	—	—

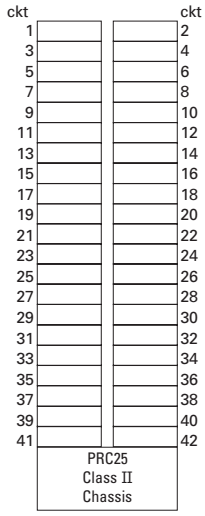
Notes

① Single-pole breakers are rated 120 Vac maximum.
② 50 ampere devices are available as two-pole only.
③ GFCI for 5 mA personnel protection.
④ GFP for 30 mA equipment protection.
⑤ Arc fault circuit breaker.
⑥ HID (High Intensity Discharge) rated breaker.
⑦ Switching neutral breaker. Single-pole device requires two-pole space; two-pole device requires three-pole space.
⑧ Solenoid operated breaker.

Panel Layout

PRC25 Layout

Note: Controlled circuits must be grouped in maximum of 6 Zones. All circuits within a zone must be together on the same side of the panelboard.



31 in. - Includes Class II Chassis and spaces for 42 poles

Note: PRC25 Chassis may be located at the Top or Bottom of the panelboard immediately above or below the breakers.

Deadfront Cover	2 in. for Deadfront Cover Supports
Main Lug Section	2 in.—100 Amp MLO 4 in.—225 Amp MLO 21 in.—400 Amp MLO
Vertically Mounted	8 in.—100 Ampere Frame EHD, EDB, EDS, ED, EDH, FD, HFD
	9 in.—225 Ampere Frame EDB, EDS, ED, EDH, FD, HFD, FDC
	24 in.—JD, HJD, JDC
	24 in.—DK, KD, HKD, KDC

Instructions

1. Select PRC25 Panelboard Chassis from layout on left.
   a. Determine required mains (lugs or breaker)
   b. Select appropriate main lug
   c. Select appropriate main device
   d. Select appropriate branch breakers
2. Layout panel as shown on left. Total inches determine box height shown on left. (When total inch units exceed the number shown, use next size box size.)

Layout Example

1. Panel Description:
   a. PRC25, three-phase four-wire, 208Y/120 Vac, interrupting rating of 10 kAIC symmetrical: 225A main lugs only at bottom, surface mounted and the following branch breakers
   b. 36–20A, single-pole BABRP
   c. 6–20A, single-pole BABRP spaces
2. Layout information from layout on left.
   a. PRC25 with 42-circuit Interior 31 inches
   b. 225A main lugs Section 4 inches
   c. Total panelboard height 35 inches
3. From table below:
   - Panel height: 20 inches wide x 5.75 inches deep
   - Box height: 35 inches 60 inches
   - Box catalog number: YS2060 or EZB2060R
   - Trim catalog number: LT2060S or EZT2060S

Approximate Dimensions in Inches (mm)

Box Tabulation

"X" Units	Box Height	YS Box Catalog Number	LT Trim Catalog Number	EZ Box Catalog Number	EZ Trim Catalog Number
20-Inch Wide x 5.75-Inch Deep Boxes					
33.00 (838.2)	48.00 (1219.2)	**YS2048**	**LT2048S or F**	**EZB2048R**	**EZT2048S or F**
35.00 (889.0)	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
38.00 (965.2)	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
40.00 (1016.0)	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
44.00 (1117.6)	60.00 (1524.0)	**YS2060**	**LT2060S or F**	**EZB2060R**	**EZT2060S or F**
55.00 (1397.0)	72.00 (1828.8)	**YS2072**	**LT2072S or F**	**EZB2072R**	**EZT2072S or F**

Cabinets

Trims are code gauge steel, ANSI 61 light gray painted finish. Boxes are code gauge galvanized steel without knockout. Standard size is 20.00 inches (508.0 mm) wide x 5.75 inches (146.1 mm) deep.

Top and Bottom Gutters

6.38 inches (162.1 mm).

Minimum Side Gutters

4.00-inch (101.6 mm) minimum on 20.00-inch (508.0 mm) wide box size.

PRC Catalog Numbers

Description	Catalog Number ①
Control Cabinet—With Power Supply, System Controller and Space for Up to Three ASCs	
Control cabinet—surface mount	**PRC100CCS**
Control cabinet—flush mount	**PRC100CCF**
GHBS pigtail cable—8 feet (2.4m)	**PRL100ECP**
GHBS pigtail cable—16 feet (4.9m)	**PRC100ECP-16**
GHBS pigtail cable—24 feet (7.3m)	**PRC100ECP-24**
GHBS pigtail cable—32 feet (9.8m)	**PRC100ECP-32**
Controllers	
208V PRC2000 Controller—LCD display	**PRC2000D-208**
480V PRC2000 Controller—LCD display	**PRC2000D-480**
240V PRC2000 Controller—LCD display	**PRC2000D-240**
208V PRC2000 Controller	**PRC2000-208**
480V PRC2000 Controller	**PRC2000-480**
240V PRC2000 Controller	**PRC2000-240**
208V PRC1000 Controller—LCD display	**PRC1000D-208**
480V PRC1000 Controller—LCD display	**PRC1000D-480**
240V PRC1000 Controller—LCD display	**PRC1000D-240**
208V PRC1000 Controller	**PRC1000-208**
480V PRC1000 Controller	**PRC1000-480**
240V PRC1000 Controller	**PRC1000-240**
208V PRC750 Controller—LCD display	**PRC750D-208**
480V PRC750 Controller—LCD display	**PRC750D-480**
240V PRC2000 Controller—LCD display	**PRC750D-240**
External Controller	
120V PRC2000 External Controller—LCD display	**PRC2000ECD-120**
120V PRC2000 External Controller	**PRC2000EC-120**
277V PRC2000 External Controller—LCD display	**PRC2000ECD-277**
277V PRC2000 External Controller	**PRC2000EC-277**
120V PRC1000 External Controller—LCD display	**PRC1000ECD-120**
120V PRC1000 External Controller	**PRC1000EC-120**
277V PRC1000 External Controller—LCD display	**PRC1000ECD-277**
277V PRC1000 External Controller	**PRC1000EC-277**
120V PRC750 External Controller—LCD display	**PRC750ECD-120**
277V PRC750 External Controller—LCD display	**PRC750ECD-277**

Note

① All catalog numbers are non-standard items.

PRC Catalog Numbers, continued

Description	Catalog Number ①
Advanced Control Devices	
PRC Digital Network Switch 2-button (Black)	**PRCDS2B**
PRC Digital Network Switch 2-button (White)	**PRCDS2W**
PRC Digital Network Switch 2-button (Almond)	**PRCDS2A**
PRC Digital Network Switch 4-button (Black)	**PRCDS4B**
PRC Digital Network Switch 4-button (White)	**PRCDS4W**
PRC Digital Network Switch 4-button (Almond)	**PRCDS4A**
PRC Digital Network Switch 6-button (Black)	**PRCDS6B**
PRC Digital Network Switch 6-button (White)	**PRCDS6W**
PRC Digital Network Switch 6-button (Almond)	**PRCDS6A**
PRC Digital Switch Network Power Injector	**PRCDSNPI**
PRC Digital Switch Network Splitter	**PRCDSNSP**
PRC 2-button Momentary Low Voltage Switch (Black)	**PRCLS2B**
PRC 2-button Momentary Low Voltage Switch (White)	**PRCLS2W**
PRC 2-button Momentary Low Voltage Switch (Almond)	**PRCLS2A**
PRC 4-button Momentary Low Voltage Switch (Black)	**PRCLS4B**
PRC 4-button Momentary Low Voltage Switch (White)	**PRCLS4W**
PRC 4-button Momentary Low Voltage Switch (Almond)	**PRCLS4A**
PRC 6-button Momentary Low Voltage Switch (Black)	**PRCLS6B**
PRC 6-button Momentary Low Voltage Switch (White)	**PRCLS6W**
PRC 6-button Momentary Low Voltage Switch (Almond)	**PRCLS6A**
Wireless Control Devices	
PRC4000 Wireless Small Building Controller	**PRC4000-W**
PRC4000 Wireless Extended Range Small Building Controller	**PRC4000-WX**
PRC Wireless I/O Module Assembly	**PRCWIOM**
PRC Wireless Switch Interface	**PRCWSI**
PRC Wireless Network Switch 2-button (Black)	**PRCWS2B**
PRC Wireless Network Switch 2-button (White)	**PRCWS2W**
PRC Wireless Network Switch 2-button (Almond)	**PRCWS2A**
PRC Wireless Network Switch 4-button (Black)	**PRCWS4B**
PRC Wireless Network Switch 4-button (White)	**PRCWS4W**
PRC Wireless Network Switch 4-button (Almond)	**PRCWS4A**
PRC Wireless Network Switch 6-button (Black)	**PRCWS6B**
PRC Wireless Network Switch 6-button (White)	**PRCWS6W**
PRC Wireless Network Switch 6-button (Almond)	**PRCWS6A**
PRC25	
6-zone PRC25 Maintained to Momentary Controller	**PRC25-6**
4-zone PRC25 Maintained to Momentary Controller	**PRC25-4**

Note

① All catalog numbers are non-standard items.

PRC Catalog Numbers, continued

Description	Catalog Number ①
Optional Equipment	
LCD Display unit for PRC1000/2000	**PRCLCD**
Breaker Control Bus—21-circuit—Retrofit Kit	**PRCBCB-21R**
Breaker Control Bus—15-circuit—Retrofit Kit	**PRCBCB-15R**
Breaker Control Bus— 9-circuit—Retrofit Kit	**PRCBCB-9R**
Breaker Control Bus—21-circuit	**PRCBCB-21**
Breaker Control Bus—15-circuit	**PRCBCB-15**
Breaker Control Bus—9-circuit	**PRCBCB-9**
24 Volt AC Power supply	**PRCPS24**
Application Specific Controllers (ASC)	
Switch override controller	**PRC100SOC**
Telephone override controller	**PRC100TOC**
PRC100 universal system controller	**PRC100USC**
PRC50 programming board	**PRC50SPB**
Native Modbus controller	**PRC100MOD**
JCI Metasys controller	**PCR100JCI**
Computers and Peripherals	
Network interface box	**PRC100NIB**
Ethernet terminal server	**PRC100ENS**
Smart programming cable (serial)	**PRCSMARTCABLE**
Modbus programming cable (serial)	**MPC-S**
Laptop computer	**PRC100LTC**
Central operator's station	**PRC100COS**
Data logging printer	**PRC100DLP**
Data fax modem—56K	**PRC100DFM**
Software	
Lighting optimization software ②	**PRC100SLO**
Web server software with hardware server key	**PRC100SWS**
Building graphics software with PC hardware key	**PRC100SBG**
Custom graphics screens programming ②	**PRC100SCG**
Technical Support	
Startup, training and/or programming first day of trip (includes expenses) ③	**PRC100SUT1**
Additional consecutive days of same trip ④	**PRC100SUT2**
Additional user's guide ⑤	**PRC100UG**

Notes

① All catalog numbers are non-standard items.
② One software package required per system.
③ One day required per system (up to six panels).
④ Required to start up six panels per day after the first day.
⑤ One user's guide included with each system at no charge.

Modifications

1. Special Cabinet (Box) Construction

Modification 1

Modification
Type 1 Enclosure
28-inch (711.2 mm) wide in place of standard 20-inch (508.0 mm) wide
Type 2 Enclosure
(Drip-proof with gasketed trim)
Type 3R Enclosure
(20-inch (508 mm) wide) (28-inch (711.2 mm) wide)
Type 12 Enclosure
(20-inch (508 mm) wide) (28-inch (711.2 mm) wide)

2. Complete Assembly

Complete assembly of panelboard box, interior and trim prior to shipment when required.

Modification 2

Description
Add per panel

3. Concealed Trim Clamps—LT Trim

Modification 3

Description
Add per panel

4. Nameplate, Engraved

Modification 4

Type
Mastic back and installed by purchaser, per nameplate
Fixed to panel trim with two screws or rivets, per nameplate

5. Directory Frame—Metal

Modification 5

Frame Type
Metal frame, plastic cover

6. Permanent Circuit Numbers

Modification 6

Description
To provide permanently attached Micarta circuit numbers

7. Tamperproof Screws—LT Trim

Modification 7

Description
Tamperproof screws for trims, in lieu of standard screws

8. Trim and Door Modifications —Special Fronts and Doors

Modification 8

Description
Door-in-door, one door over interior and one which exposes gutter (LT Trim)
Common LT trim for two section panels with boxes bolted together
Standard flush lock with quarter turn fasteners at top and bottom of trim door (standard on doors 48-inch (1219.2 mm) high and over) (LT Trim)

9. Special Hinges—LT Trim

Piano hinges in lieu of standard hinges.

Modification 9

Description
Add for each panel door

10. Special Locks

Modification 10

Description
LT Type Trim
Yale 511S with rosette Yale 4651S (LL803 Key) Master keying—above locks or standard lock—per panelboard
Tee handle and 3-point catch
National metal lock with standard keying
National metal lock with GE75 keyway
EZ Trim
Standard lock, keyed GE75
Standard lock, keyed to Corbin TEU-1
Standard lock, keyed to Corbin Cat 60
Standard lock, keyed to Corbin WEM1

11. Conduit Covers

Fabricated sheet metal to cover open conduits above and/or below standard NEMA Type 1 box.

Modification 11

Cover Type
Conduit enclosing shield (open back)
Conduit enclosure (solid back)

12. Increased Dimensions

Modification 12

Description
Increased End Gutters
4-inch (101.6 mm) top or bottom
7-inch (177.8 mm) top or bottom
12-inch (304.8 mm) top or bottom
Increased Side Gutters
4-inch (101.6 mm) left or right
7-inch (177.8 mm) left or right
12-inch (304.8 mm) left or right

13. Painting and Special Coatings

Standard boxes are code-gauge galvanized sheet steel. Standard trims are code-gauge sheet steel with a rust inhibiting phosphatized coating and finished with ANSI-61.

Modification 13

Description
Painted boxes (ANSI-61)
Painted trims or boxes (other than ANSI-61)

14. Copper Main Bus

Modification 14

Main Bus Ratings Amperes
100
225–250
400

14a. Silver-Plated Copper Main Bus

For silver-plated copper panelboard main bus and/or connectors, add as follows:

Modification 14a

Main Bus Ratings Amperes
100–250
400

14b. Tin-Plated Copper Main Bus

For tin-plated copper panelboard main bus and/or connectors, add as follows:

Modification 14b

Main Bus Ratings Amperes
100–250
400

15. Ground Bar

Modification 15

Aluminum Terminal Bar for Aluminum or Copper Cable		Copper Terminal Bar for Copper Cable Only	
Standard	Insulated/ Isolated ①	Standard	Insulated/ Isolated ①

16. Bus Density

Main bus ampere rating is determined by UL listed temperature test. For 750 ampere per square inch aluminum or 1000 ampere per square inch copper, make price addition as follows:

Modification 16

Amperes Per Square Inch
Aluminum—750A
250A Maximum
400A Maximum
Copper—1000A
250A Maximum
400A Maximum

Note: Modification 14—Applies to 310 and 310+ Trip Units.

17. Neutral Rated 200%

Modification 17

Main Bus Rating Amperes	Neutral Rating Amperes	Box Height Addition
100	225	0
225	450	0
250	500	3X
400	800	3X

Note: Prices and dimensions based on mechanical lugs. For compression or copper lugs, refer to Eaton.

18. Increased Panel Main Bus Rating

Modification 18

Ampere Rating Change
100–250
250–400
400–600

19. Compression Main Lugs—Type Burndy Range Taking Al/Cu Compression Terminations

For other terminal types, refer to Eaton.

Modification 19

Main Ampere	Wire Range by Panel Type PRL1a and PRL2a	PRL3E	PRL3a	PRL4
100	(1) #1–1/0 or (1) 2/0–300 kcmil	—	—	—
125	—	(1) #4–2/0 or (1) 2/0 –300 kcmil	(1) #4–2/0 or (1) 2/0–300 kcmil	—
225	(1) 2/0–300 kcmil or (1) 4/0–500 kcmil	—	—	—
250	—	(1) 2/0 –350 kcmil or (1) 4/0–500 kcmil	(1) 2/0–350 kcmil or (1)–4/0–500 kcmil	(2) 500–750 kcmil
400	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 4/0–300 kcmil or (2) 500–750 kcmil	(2) 500–750 kcmil
600	—	(2) 2/0–500 kcmil or (2) 500–750 kcmil	(2) 2/0–500 kcmil or (2) 500–750 kcmil	(2) 500–750 kcmil
800	—	—	—	(3) 500–750 kcmil
1200	—	—	—	(4) #2–600 kcmil or (4) 500–750 kcmil

Note

① Insulated/isolated ground bar includes a standard ground bar.

20. Copper Lugs

Optional copper mechanical main lugs only. (Includes main incoming neutral lug.)

Modification 20

Main Amperes	Wire Range and Number of Lugs Per Phase
100	(1) #14–1/0
225–250	(1) #6–250 kcmil
400	(2) #1/0–600 kcmil

21. Sub-Feed Lugs—PRC100 and PRC50 Only

Mechanical Al/Cu lugs. Compression or copper lugs requires additional price adder from **Modification 19** or **Modification 20** as appropriate.

Available on main lug panels only.

Modification 21

Main Amperes	Box Height Addition
100–250	1X

22. Through-Feed Lugs

Mechanical Al/Cu lugs. Compression or copper lugs requires additional price adder from **Modification 19** or **Modification 20** as appropriate.

Modification 22

Main Amperes	Box Height Addition
100	2X
250	5X
400	8X

23. Service Entrance

To provide a Service Entrance label as detailed under the "Service Entrance Equipment" in application considerations. Only panelboards meeting these requirements can be labeled as such. The requirement for a Service Entrance Label must be noted on order entry. Includes neutral disconnect link and Service Entrance Equipment Label. (Ground bar not included—see **Modification 15**.)

Modification 23

Device
Add per panel

24. Shunt Trip for Main or Branch Circuit Breaker

For tripping circuit breaker from a remote point. Voltage and frequency must be specified. Wiring to terminal blocks is not included. Standard leads extend 18 inches (457.2 mm) out of breaker.

Circuit breakers with factory-installed 120, 240 or 480 Vac shunt trips are available with UL listing as shown in table below.

Modification 24

Device
GHB (three-pole only)
All other circuit breakers ①

25. Circuit Breaker Handle Lockoff Devices

Modification 25

Breaker Type
Non-Padlockable
GHB, EHD, FDB, FD, ED, EDH, EDC, BAB
Padlockable
EHD, FDB, FD, HFD, FDC, ED, EDH, EDC, GHB, BAB

26. Copper Wire Only Terminals for Molded Case Circuit Breakers

(To replace standard Al/Cu terminals)

Modification 26

Frame	Max. Breaker Ampere Rating	Terminal Material	Wire Range
F	225	Copper	#4–4/0
J	250	Stainless Steel	#4–350
K	225	Copper	(1)#3–350
	350	Copper	(1)250–500
	400	Copper	(2)3/0–250

27. Touchup Paint

Modification 27

Description
12 oz. Spray Can. ANSI-61 Light Gray Indoor
Case lot of 12—12 oz. spray cans. ANSI-61 light gray indoor Single style

Note

① BAB breakers with shunt trips require one additional pole space, i.e., three-pole breaker with shunt trip requires four-pole space.

Metering Service Section

Contents

10

Product Description

- 600 Vac maximum
- Three-phase four-wire, three-phase three-wire, single-phase three-wire.
- Service entrance panel combining a main disconnect with a power company metering compartment
- Circuit breaker or fusible switch disconnect
- 400–1200A ratings
- Provision for power company metering:
  - Hinged sealable door over CT section
  - Arranged for bar-type, 200–1200A utility-furnished CTs
  - Barriered CT compartment
- Factory assembled
- Wallmounted enclosure

Application Description

- For use in areas where the disconnect and current transformer combination is required by utilities
- Suitable for use as Service Entrance Equipment
- Top or bottom entrance
- Hot or cold sequence metering
- The current transformer compartment will accommodate the following 12-inch (304.8 mm) bar-type CTs:

Bar-Type CTs

ABB	General Electric	Sangamo	Astra
CTB	JCT-10	R6B	TAB, TA
CSF	JCM-0	R6BA	TCB, AA
CMF	JCW-0	R6M	AB
CBH	JAK-0		

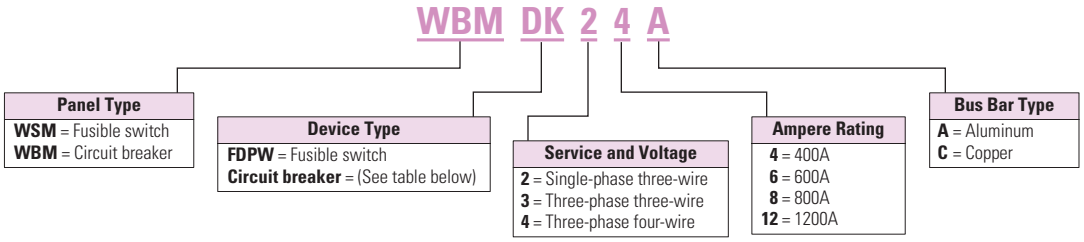
Standards and Certifications

- UL 67, UL 50
- NEC

UL Listed

Catalog Number Selection

Panelboard Catalog Number Selection Guide ①



Example: WBMDK24A

WBM = Circuit breaker type, **DK** = Circuit breaker type from table below, **2** = Single-phase three-wire, **4** = 400A, **A** = Aluminum bus bar.

Product Selection

Metering Service Section

Type WBM Circuit Breaker Sections

Max. Ampere Rating	Interrupting Rating (kA Symmetrical) 240 Vac	480 Vac	600 Vac	Breaker Type ②③	Base Catalog Number ④
400	65	—	—	DK	**WBMDK**
400	65	35	25	KD	**WBMKD**
400	100	65	35	HKD	**WBMHKD**
400	200	100	50	KDC	**WBMKDC**
400	200	200	—	LCL	**WBMLCL**
600	65	35	25	LD	**WBMLD**
600	100	65	35	HLD	**WBMHLD**
600	200	100	50	LDC	**WBMLDC**
800	65	50	25	MDL	**WBMMDL**
800	100	65	35	HMDL	**WBMHMDL**
800	65	50	25	ND	**WBMND800**
800	100	65	35	HND	**WBMHND800**
1200	65	50	25	ND	**WBMND1200**
1200	65	50	25	NDG ⑤	**WBMNDG1200**
1200	100	65	35	HND	**WBMHND1200**
1200	100	65	35	HNDG ⑤	**WBMHNDG1200**

Notes

① Refer to Hartford Satellite Plant.
② For other breaker types, refer to Hartford Satellite Plant.
③ In cold sequence metering only, a 10X or 18X feeder breaker section can be supplied downstream from the CT compartment. Refer to Hartford Satellite Plant.
④ Complete catalog number according to Catalog the Number Selection Guide—table above.
⑤ Integral ground fault.

WSM Fusible Switch Sections

Ampere Rating	Interrupting Rating (kA Symmetrical)	Fusible Switch ①	Base Catalog Number ②
240 Vac Fusible Devices ③			
400	Refer to table on right (FDPW Switch Ratings, 250 or 600 Vac)	FDPW	**WSMFDPW**
600		FDPW	**WSMFDPW**
800		FDPW	**WSMFDPW**
1200		FDPW	**WSMFDPW**
600 Vac Fusible Devices ③			
400	Refer to table on right (FDPW Switch Ratings, 250 or 600 Vac)	FDPW	**WSMFDPW**
600		FDPW	**WSMFDPW**
800		FDPW	**WSMFDPW**
1200		FDPW	**WSMFDPW**

Modifications

Modifications for WBM Metering Service Sections

Description
Copper bus
Circuit breaker shunt trip installed
Circuit breaker undervoltage release installed
Type 3R outdoor enclosure
Provisions for PTs

Modifications for WSM Metering Service Sections

Description
Copper bus
Shunt trip installed
Type 3R outdoor enclosure
Provisions for PTs
FDPW fusible switch ground fault system Includes zero sequence current monitor, static sensor, shunt trip and fused control power transformer

Technical Data and Specifications

FDPW Switch Ratings, 250 or 600 Vac

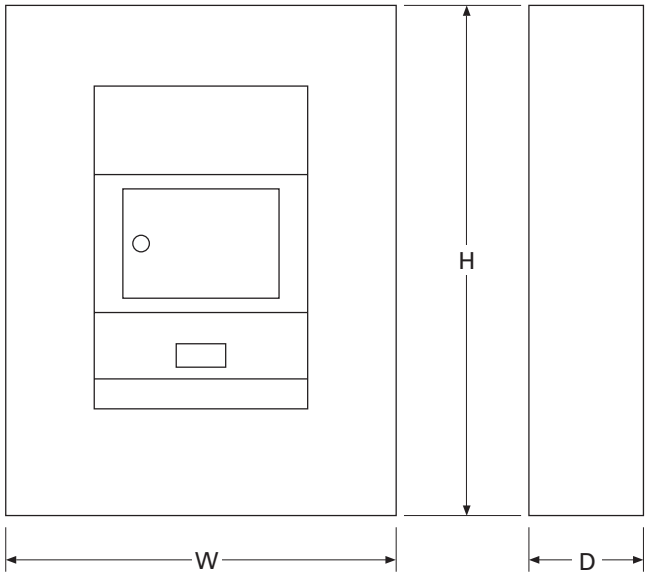
Ampere Rating	Fuse Class Used ①	Short-Circuit Ratings (kA Sym.)
400, 600	R	200
400, 600	J ④	200
800, 1200	L	200

Dimensions

Approximate Dimensions in Inches (mm)

Note: Not to be used for construction purposes unless approved.

Type 1 Enclosure—Metering Service Section



Type 1 Enclosure

Panelboard Type	Ampere Rating	Enclosure Dimensions Height	Width	Depth	Box Catalog Number
WBM, Circuit breaker	400–1200	73.50 (1866.9)	36.00 (914.4)	11.31 (287.0)	**BX3673**
WSM, Fusible	400–1200	90.50 (2286.0)	36.00 (914.4)	11.31 (287.0)	**BX3690**

Notes

① Fuses are not included.

② Complete catalog number according to Catalog Number Selection Guide—**Page 482**.

③ Class J Fuse provisions are applicable only to 600V units. When required, use price and dimensions of 600V units for all voltages 600 and below.

④ Class J Fuse provisions are applicable only to 600V units. When required, use price and dimensions of 600V units for all voltages 600 and below.

Pow-R-Stock Plus

Product Description

Offering two options to meet the demanding schedule requirements of today's customers.

Type PRL1a Panelboard

- Factory-assembled panelboards available from your local satellite plant in 24 to 72 hours
- Unassembled panelboards in stock at authorized Pow-R-Stock Plus distributors

The Product Offering

Pow-R-Stock Plus panels, available either as factory-assembled or as unassembled from distributor stock, are based on the most frequently ordered panelboards, including:

- 120/240V, 208Y/120V and 480Y/277V ratings
- 100–400A mains
- Single- and three-phase
- Surface and flush mounted
- Aluminum or copper bus
- Type 1 or Type 3R enclosures
- Service entrance available
- Options for 200% neutrals and isolated ground bars
- Full menu of branch breakers available

Factory-Assembled Panelboard Option

The Pow-R-Stock Plus factory-assembled panelboard option offers key advantages over programs that offer only unassembled panelboards.

Reduced Installation Time

Unassembled panelboards must be assembled at the job site before the true installation process can begin, adding time and labor cost to the process. Pow-R-Stock Plus assembled panelboards are ready to install the moment they arrive at the job site.

Reduced On-Site Material Handling

A typical 42-circuit unassembled panelboard has a minimum of 46 parts to receive and handle, taking up valuable time at the job site. A Pow-R-Stock Plus assembled panelboard is just one item to receive and handle (two if the box is shipped ahead).

Factory Warranty

Field assembly of unassembled panelboards adds to contractor warranty responsibility. Pow-R-Stock Plus assembled panelboards carry a full factory warranty.

Simplicity

Order your Pow-R-Stock Plus Panelboard by description and it will arrive at the job site complete. No need to worry about matching catalog number kits at the job site or chasing after miscellaneous parts and pieces.

Contact your local satellite plant (see next page for a listing) for more information on the Pow-R-Stock Plus factory-assembled panelboard option.

Pow-R-Stock Plus Program Includes the EZ Trim and EZ Box

Unassembled Panelboard Option

Pow-R-Line 1a and 2a Panelboards are Designed to Provide Application Flexibility with Off-the-Shelf Service

The Pow-R-Stock Plus unassembled panelboard interior is designed specifically for distributor stock and field assembly. Its modular design allows for easy configuration in the field.

Top or bottom incoming, main lugs or main breaker...all with the same Pow-R-Stock Plus unassembled interior. Lug and breaker kits provide greater flexibility with fewer boxes, interiors and trims to stock.

Color-Coded Package Labels

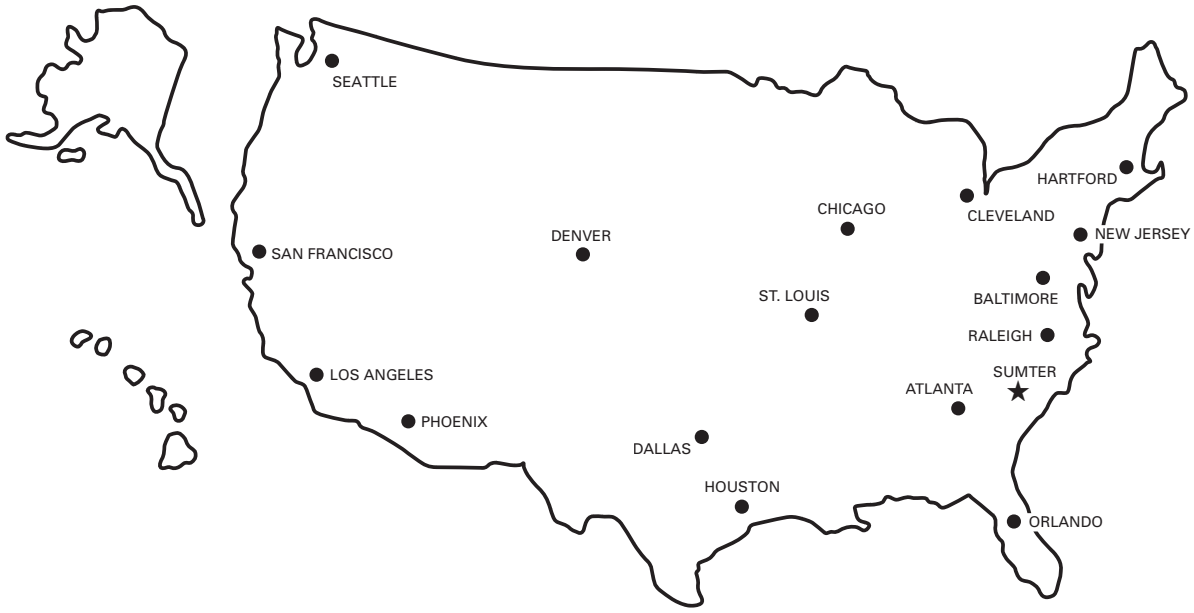
The box, interior and trim packaging are clearly identified with brightly colored labels (a different color for each box size). This facilitates stocking, filling orders, and matching components in the field.

Contact your local Eaton distributor for more details on the Pow-R-Stock Plus unassembled panelboard option.

Eaton Distributors

Contact your Eaton sales office or local satellite manager and arrange to review the program details and criteria for qualification as a Pow-R-Stock Plus distributor.

Manufacturing Plant Locations



Main Plant

Sumter
845 Corporate Circle
P.O. Box 2258
Sumter, SC 29150
(803) 481-3131

Satellite Plants

Atlanta
7000 Highlands Parkway SE
Suite 102
Smyrna, GA 30082
Fax (770) 433-1863
Phone (678) 309-4260

Baltimore
7451 Coca Cola Drive
Suite C
Hanover, MD 21076
Fax (410) 796-7755
Phone (410) 796-7777

Chicago
220 Windy Point Drive
Glendale Heights, IL 60139
Fax (630) 260-6303
Phone (630) 860-3569

Cleveland
12875 Corporate Drive
Suite E
Parma, OH 44130
Fax (216) 433-0545
Phone (216) 433-0616

Dallas
631 Westport Parkway
Suite 100
Grapevine, TX 76051
Fax (817) 251-6249
Phone (817) 251-6797

Denver
2450 Airport Road
Suite C
Aurora, CO 80011
Fax (303) 366-9993
Phone (303) 366-2080

Hartford
40A International Drive
Windsor, CT 06095
Fax (860) 298-1305
Phone (860) 298-1306

Houston
10810 West Little York
Suite 100
Houston, TX 77041
Fax (713) 688-3764
Phone (713) 688-8430

Los Angeles
Electrical Group—Satellite
11120 Philadelphia Street
Mira Loma, CA 91752
Fax (951) 685-3775
Phone (951) 685-5788

New Jersey
96 Stemmers Lane
Westampton, NJ 08060
Fax (609) 835-4777
Phone (609) 835-4230

Orlando
9436 Southridge Park Court
Suite 100
Orlando, FL 32819
Fax (407) 841-9135
Phone (407) 264-9301

Phoenix
921 South Park Lane
Tempe, AZ 85281
Fax (480) 449-4223
Phone (480) 449-4222

Raleigh
2933 S. Miami Boulevard
Suite 111
Durham, NC 27703
Fax (919) 572-9751
Phone (919) 544-7074

St. Louis
56 Soccer Park Road
Fenton, MO 63026
Fax (636) 717-3590
Phone (636) 717-3500

San Francisco
20923 Cabot Boulevard
Hayward, CA 94545
Fax (510) 784-8980
Phone (510) 784-8981

Seattle
1604 15th Street SW
Suite 114
Auburn, WA 98001
Fax (253) 833-5058
Phone (253) 833-5021

Satellites

A unique concept of facilities close to customer locations, assuring fast delivery of standard- and custom- assembled equipment *when it's needed*.

Located at strategic locations throughout the United States, these facilities manufacture and deliver standard or custom-assembled panelboards, switchboards and enclosed circuit breakers…when and where you need them. And, when you have an emergency, they can have your equipment ready in hours.

Highly trained and experienced personnel will manage your order and ensure that you receive on-time delivery of high quality equipment that meets your specifications.

Special Configurations

The unique capabilities of these plants and people can provide solutions for special products to meet special needs.

Typical examples include special dimensions, retrofit equipment and panelboard interiors to fit existing boxes.

Speedy Delivery

- Panelboards: from one to five days.
- Switchboards: between five and 10 days.
- Assembled Enclosed Circuit Breakers: from one to 10 days.

Save Time and Money

No matter your location, you will save time and money when ordering from a satellite. For more information, contact your Eaton representative or authorized distributor.