

Low-voltage power distribution and control systems > Panelboards >

Pow-R-Line 1X, 2X and 3X panelboards

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Powering Business Worldwide



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Lighting and Distribution Panelboards Overview

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

Available Ratings

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

Panelboard Options

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

Enclosures

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



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



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

Fronts

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

Power Distribution Panelboard Fronts Only

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

EZ Box™ and EZ Trim™

Provided standard for:

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



EZ Box and EZ Trim

Features

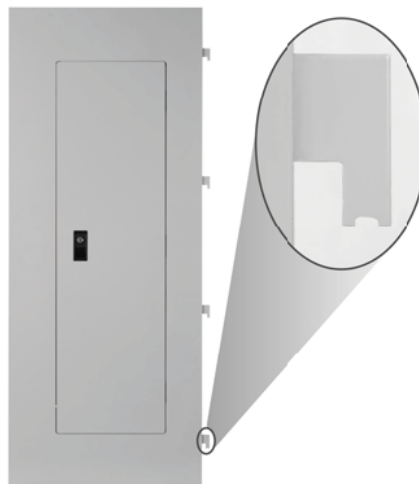
- Virtually eliminates sharp edges
- Trim installs quickly
- Door-in-door is standard
- Ability to adjust flush box to wall irregularities
- Trim installs without the need for tools
- No exposed hardware (because there is none)

EZ Box

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

EZ Trim

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



Standalone Trim and Bottom Flange Hanger with Notch

Enhanced Type 3R Panelboard Enclosure

Redesigned to improve safety, product longevity and appearance over time.

- Galvanized G40 steel
- Zinc coated external hardware
- Hardware on sides, not on front or top ①
- No external door hinge ①
- Folded outside edge ①

Note: Eaton recommends mounting redesigned enclosures with at least six inches of clearance between adjacent structures to provide adequate access to side bolts.

① Applicable for type LWPQ only.



Enhanced Type 3R Panelboard Enclosure

Standards and Certifications

When used with Eaton's panelboard chassis, EZ Box, EZ Trim and Type 3R enclosure meet the following applicable industry standards:

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



The enhanced Type 3R panelboard design has been tested to perform to the following standards:

- ASTM B117-9
- ASTM D1654-08
- ASTM D714-02

Application Considerations and Definitions

Standards

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

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

Panelboard Selection Factors

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

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

Panelboard Short-Circuit Rating

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

Selective Coordination

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

Service Entrance Equipment

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

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

Table 22.1-1. Service Entrance Main Breaker Kits

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

Column Type Panelboards

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

Multi-Section Panelboards

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

Interconnecting Multi-Section Panelboards

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

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

Sub-Feed Lugs (Figure 22.1-1)

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

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

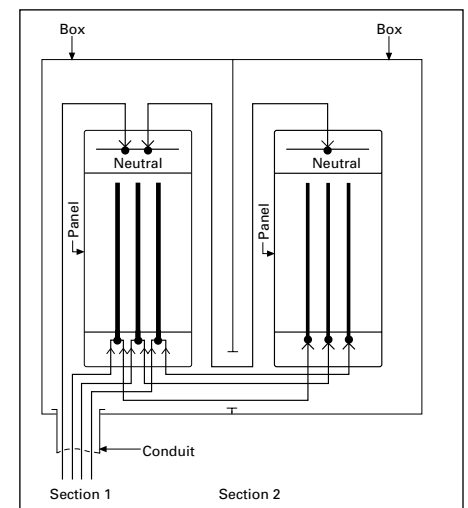


Figure 22.1-1. Sub-Feed Lugs

Through-Feed Lugs (Figure 22.1-2)

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

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

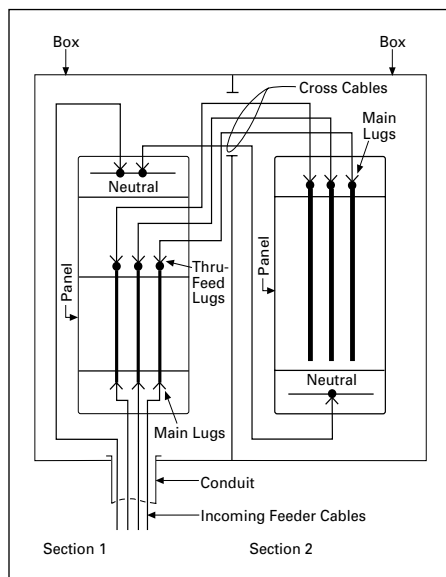
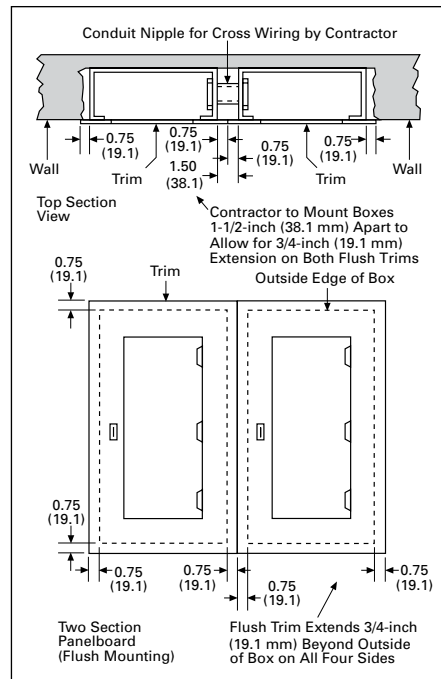


Figure 22.1-2. Through-Feed Lugs

Multiple Section Panelboard— Flush Mounted

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



**Figure 22.1-3. Multiple Section Panelboard—
Flush Mounted—Dimensions in Inches (mm)**

Branch Circuit Loading for Lighting Panels

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

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

Overcurrent Protection

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

Ground Fault Protection

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

- Power panelboards
- Mains on all panelboards

Arcflash Reduction Maintenance System™

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

Combination AFCI Circuit Breakers

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

Ambient Temperatures

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

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

Special Conditions

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

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

Seismic Qualification



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

Harmonic Currents

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

Surge Protective Devices (SPD)

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

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

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

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

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



**Eaton SPDs May be Integrated
into Most Panelboards**

Compact Panelboard Meter

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

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

Pow-R-Line 1X



Pow-R-Line 1X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum

Main Lugs

- 100–600 A

Main Breakers

- 100–600 A

Branch Breakers

- 15–100 A
(Bolt-on or plug-on chassis)

Short-Circuit Current Ratings (Symmetrical)

- 240 Vac: 10 kA and 22 kA fully rated
- 240 Vac: 22–200 kA series rated

Service

- Three-phase, four-wire 208Y/120 V and 240/120 V delta
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 208 V and 240 V

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-2**.

Main breakers, 100 A, Types BAB and QBH are horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-3**.

Main Lugs Only

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

Main lugs only ampere ratings:
100, 225, 400 and 600.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-2. Main Circuit Breakers

Breaker Frame Amperes	Breaker Type	Interrupting Rating (kA Symmetrical) at 240 Vac
100	BAB	10
100	QBHW	22
100	PDG2xF	35
225	PDD2xF	35
225	PDD2xG	65
225	PDD2xM	100
225	PDD2xP	200
225	PDG2xG	65
225	PDG2xM	100
225	PDG2xP	200
400	PDD3xG	65
400	PDF3xG ①②	65
400	PDG3xG ①	65
400	PDF3xM ①②	100
400	PDG3xM ①	100
400	PDG3xP ①	200
400	LHH	100
600	PDD3xG	65
600	PDG3xG ①	65
600	LGS	85
600	PDG3xM ①	100
600	PDG3xP ①	200

① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

② 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-3. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical)		
			120 Vac	120/240 Vac	240 Vac
BAB, HQP	15–70	1	10	—	—
BAB, HQP	15–100	2	—	10	—
BAB, HQP	15–100	2, 3	—	—	10
BAB-D ③, HQP-D ③	15–60	1, 2	10	10	—
BAB-C ④, HQP-B ④	15–30	1, 2	10	10	—
BABRP ⑤	15–30	1, 2	10	10	—
BABRSP ⑤	15–30	1, 2	10	10	—
QBGF, QBGFEP, QPGF, QPGFEP, QBCAF ⑦	15–50 ⑥	1, 2	10	10	—
	15–50 ⑥	1, 2	10	10	—
	15–20	1	10	10	—
QB-GF, QB-EP	15–20	1	10	10	—
QB-AFGF ⑦	15–20	1	10	10	—
QB-CAF ⑦	15–20	1	10	10	—
QBHW	15–70	1	22	—	—
QBHW	15–100	2	—	22	—
QBHW	15–100	2, 3	—	—	22
QBHGF, QBGFEP, QPHGF, QPHGFEP, QBHCAF ⑦	15–30	1, 2	22	22	—
	15–30	1, 2	22	22	—
	15–20	1	22	22	—
QBH-GF	15–20	1	22	22	—
QBH-EP	15–20	1	22	22	—
QBH-AFGF ⑦	15–20	1	22	22	—
QBH-CAF ⑦	15–20	1	22	22	—

③ HID (High Intensity Discharge) rated breaker.

④ Switching neutral breaker. Single-pole device requires two-pole space, two-pole device requires three-pole space.

⑤ Solenoid operated breaker.

⑥ 50 A is two-pole only.

⑦ Arc fault breaker.

Pow-R-Line 2X



Pow-R-Line 2X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum
- 480Y/277 Vac maximum

Note: PRL2X panelboards are suitable for use on three-phase, three-wire applications when derived from a three-phase, four-wire 480Y/277 Vac service where the neutral is not brought to the panelboard. For three-phase, three-wire 480 Vac delta services, use a PRL3X panelboard.

- 250 Vdc maximum

Main Lugs

- 100–600 A

Main Breakers

- 100–600 A

Branch Breakers

- 15–100 A (bolt-on)

Short-Circuit Current Ratings (Symmetrical)

- 240 Vac: 65 kA fully rated
- 240 Vac: 100–200 kA series rated
- 480Y/277 Vac: 14 kA fully rated
- 480Y/277 Vac: 22–150 kA series rated
- 250 Vdc: 10 kA and 14 kA fully rated

Service

- Three-phase, four-wire 208Y/120 V and 240/120 V delta and 480Y/277 V
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 208 and 240 V
- Two-wire 125 Vdc
- Two-wire 250 Vdc

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-4**.

The GHB main breaker is horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-5**.

Main Lugs Only

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

Main lugs only ampere ratings: 100, 225 and 400.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-4. Main Circuit Breakers

Breaker Frame (Amperes)	Breaker Type	Interrupting Rating (kA Symmetrical)		
		240 Vac	480Y/277 Vac	125/250 Vdc
100	GHB ①	65	14	14
100	PDG2xF	35	25	10
100	PDG2xG	65	35	10
100	PDG2xM	100	65	22
100	PDG2xP	200	100	22
225	PDD2xG	65	—	—
225	PDG2xG	65	35	10
225	PDG2xM	100	65	22
225	PDG2xP	200	100	22
400	PDD3xG	65	—	10
400	PDF3xG ②③	65	35	10
400	PDG3xG ②	65	35	10
400	PDF3xM ②③	100	65	22
400	PDG3xM ②	100	65	22
400	LHH	100	65	—
400	PDG3xP ②	200	100	22
600	PDD3xG	65	—	—
600	PDG3xG ②	65	35	22
600	LGS	85	50	22
600	PDG3xM ②	100	65	42
600	PDG3xP ②	200	100	42

① For use on 480Y/277 Vac systems only.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-5. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical)				
			120 Vac	240 Vac	277 Vac	480Y/277 Vac	125/250 Vdc
GHB	15–100	1	65	—	14	—	14
GHB	15–100	2, 3	—	65	—	14	14
GHQ	15–30	1, 2	65	—	14	—	—
HGHB	15–30	1	65	—	25	—	—
GHQD ④⑤	15–20	1, 2	65	65	14	14	—
GHBGFEP ④	15–60	1	—	—	14	—	—

④ For use on 480Y/277 Vac systems only.

⑤ Solenoid operated breaker.

Pow-R-Line 3X



Pow-R-Line 3X

General Description

Panelboard Ratings

Voltage

- 240 Vac maximum
- 480 Vac maximum
- 600 Vac maximum
- 250 Vdc maximum

Main Lugs

- 100–800 A

Main Breakers

- 100–600 A

Branches

- 240 Vac 15–225 A
- 480 Vac 15–225 A
- 600 Vac 15–225 A (bolt-on)

Interrupting Capacity (Symmetrical)

- 240 Vac: 10–200 kA fully rated
- 240 Vac: 22–200 kA series rated
- 480 Vac: 14–100 kA fully rated
- 480 Vac: 22–150 kA series rated
- 250 Vdc: 10–22 kA fully rated

Service

- Three-phase, four-wire 208Y/120 V, 240/120 V delta and 480Y/277 V
- Single-phase, three-wire 120/240 V
- Single-phase, two-wire 120 V
- Three-phase, three-wire 240, 480 and 600 V
- Two-wire 125 Vdc
- Two-wire 250 Vdc

Suitable for service entrance applications when specified.

Mains

For available mains, refer to **Table 22.1-6**.

Main breakers, 100, 150 and 225 A, Types PDG2xF, PDG2xG, PDG3xG, PDG2xM, HFDE and PDG2xP may be horizontally mounted, same as branch breakers. All other main breakers are vertically mounted.

Branch Circuits

For available branch devices, refer to **Table 22.1-7**.

Main Lugs Only

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

Main lugs only ampere ratings: 100, 250, 400, 600 and 800.

Main Circuit Breakers

The short-circuit rating shown is that of the main breaker only. The short-circuit rating of the assembled panelboard is the rating of the lowest fully rated main or branch device, or the rating of an approved series rated combination.

Series Rating Combinations

For more information on product series ratings, please refer to the Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download [Eaton Information Manual 1C96944H02](#).

Table 22.1-6. Main Circuit Breakers

Breaker Frame (Amperes)	Breaker Type	Interrupting Rating (kA Symmetrical)			
		240 Vac	480 Vac	600 Vac	250 Vdc
100	PDG2xF	35	25	—	10
100	PDG2xG	65	35	—	10
100	PDG2xM	100	65	—	22
100	PDG2xP	200	100	—	22
100	FCL	200	150	—	—
100	FB-P	200	200	200	①
225	PDD2xF	22	—	—	—
225	PDD2xG	65	—	—	—
225	PDD2xM	100	—	—	—
225	PDD3xP	200	—	—	—
225	PDG2xG	65	35	18	10
225	PDG2xM	100	65	25	22
225	PDG2xP	200	100	35	22
400	PDD3xG	65	—	—	—
400	PDF3xG ②③	65	35	25	10
400	PDG3xG ②	65	35	25	10
400	PDF3xM ②③	100	65	35	22
400	PDG3xM ②	100	65	35	22
400	LHH	100	65	—	—
400	PDG3xP ②	200	100	65	22
400	LA-P	200	200	200	①
600	PDD3xG	65	—	—	—
600	PDG3xG ②	65	35	18	22
600	PDG3xM ②	100	65	35	22
600	PDG3xP ②	200	100	50	42

① 100,000 AIC based on NEMA test procedure.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ 100% rated breaker. Requires copper bus. Not available in Type 12, 4 or 4X enclosure.

Table 22.1-7. Branch Circuit Breakers

Breaker Type	Ampere Rating	Number of Poles	Interrupting Rating (kA Symmetrical) Volts						
			120 Vac	120/240 Vac	240 Vac	480 Vac	600 Vac	125 Vdc	250 Vdc
BAB	15–70	1	10	—	—	—	—	—	—
BAB	15–100	2	—	10	—	—	—	—	—
BAB	15–100	2, 3	—	—	10	—	—	—	—
BAB-D ①	15–60	1, 2	10	10	—	—	—	—	—
BAB-C ②	15–30	1, 2	10	10	—	—	—	—	—
BABRP ③	15–30	1, 2	10	10	—	—	—	—	—
BABRSP ③	15–30	1, 2	10	10	—	—	—	—	—
BABEM ④	15–50	1, 2	10	10	—	—	—	—	—
BABEVEM	40	2	10	10	—	—	—	—	—
QBGf, QBGFEP	15–50 ⑤	1, 2	10	10	—	—	—	—	—
QBCAF ④	15–20	1	10	10	—	—	—	—	—
QB-GF	15–20	1	10	10	—	—	—	—	—
QB-EP	15–20	1	10	10	—	—	—	—	—
QB-AFGF ⑥	15–20	1	10	10	—	—	—	—	—
QB-CAF ⑥	15–20	1	10	10	—	—	—	—	—
QBHW	15–70	1	22	—	—	—	—	—	—
QBHW	15–100	2	—	22	—	—	—	—	—
QBHW	15–100	2, 3	—	—	22	—	—	—	—
QBHGf, QBHGFEP	15–50 ⑤	1, 2	22	22	—	—	—	—	—
QBHCAF ④	15–20	1	22	22	—	—	—	—	—
QBH-GF	15–20	1	22	22	—	—	—	—	—
QBH-EP	15–20	1	22	22	—	—	—	—	—
QBH-AFGF ⑥	15–20	1	22	22	—	—	—	—	—
QBH-CAF ⑥	15–20	1	22	22	—	—	—	—	—
GHB ⑦⑧	15–100	1	—	—	65	14	—	14	—
GHB ⑦	15–100	2, 3	—	—	65	14	—	—	14
GHQ ⑦⑧	15–30	1, 2	—	—	65	14	—	—	—
HGHB ⑦⑧	15–30	1	—	—	65	25	—	—	—
GHBGFEP	15–60	1	—	—	65	14	—	14	—
GHQRSP ③⑦⑧	15–20	1, 2	65	65	65	14	—	—	—
PDG2xF ⑨	15–100	1	—	—	14	14	—	10	—
PDG2xF	15–100	2, 3	—	—	18	14	—	—	10
PDG2xG ⑨	15–100	1	—	—	65	35	—	10	—
PDG2xG, PDG3xG ⑨	15–225	2, 3	—	—	65	35	18	—	10
PDG2xM ⑨	15–100	1	—	—	65	65	—	10	—
PDG2xM	15–225	2, 3	—	—	100	65	25	—	22
PDG2xP	15–225	2, 3	—	—	200	100	35	—	22
PDD2xF	100–225	2, 3	—	—	22	—	—	10	—
PDD2xG	100–225	2, 3	—	—	65	—	—	10	—
PDD2xM	100–225	2, 3	—	—	100	—	—	10	—
PDD2xP	100–225	2, 3	—	—	200	—	—	10	—

① HID (High Intensity Discharge) rated breaker.

② Switching neutral breaker. Single-pole device requires two-pole space, two-pole device requires three-pole space.

③ Solenoid operated breaker.

④ 40–50 A is two-pole only.

⑤ 50 A is two-pole only.

⑥ Arc fault breaker.

⑦ For use on 480Y/277 Vac systems only.

⑧ Single-pole breaker rated 277 Vac.

⑨ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Circuit Breaker Technical Data

Table 22.1-8. Electrical Characteristics of Circuit Breakers

Circuit Breaker Ratings				UL Listed Interrupting Ratings (kA rms Symmetrical)						
Type	Ampere Rating	Number of Poles	Volts AC	AC Rating, Volts					DC Rating, Volts ①	
				120/240	240	277	480	600	125	250
BAB, HQP	15–70 15–100	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
BAB-H, HQP-H	15–100	2, 3	240	—	10	—	—	—	—	—
BABRP, BABRSP	15–30 15–30	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
BABEM	15–30	1	120	10	—	—	—	—	—	—
BABEVEM	15–50 40	2 2	120/240 120/240	10 10	— —	— —	— —	— —	— —	— —
QBGf, QPGf, QPGFEP QBGFEP	15–50 15–50	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
QB-Gf, QB-EP, QB-AFGf, QB-CAF	15–20	1	120	120/240	10	—	—	—	—	—
QBAF, QBAG	15–20 15–20	1 2	120 120/240	10 10	— —	— —	— —	— —	— —	— —
QBHW, QPHW	15–70 15–100	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
QBHW-H, QPHW-H	15–100	2, 3	240	—	22	—	—	—	—	—
QBHGf, QPHGf, QPHGFEP QBHGFEP	15–30 15–30	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
QBH-Gf, QBH-EP, QBH-AFGf, QBH-CAF	15–20	1	120	120/240	22	—	—	—	—	—
QBHAF, QBHAG	15–20 15–20	1 2	120 120/240	22 22	— —	— —	— —	— —	— —	— —
GHB	15–100 ② 15–100	1 2, 3	277 480Y/277	65 —	— 65	14 —	— 14 ③	— —	14 —	— 14
GHQ	15–30	1, 2	277	65	—	14	—	—	—	—
HGHB	15–30	1	277	65	—	25	—	—	—	—
GHBGFEP	15–60	1	277	—	—	14	—	—	—	—
GHQRSP	15–100 15–100	1 2	277 480Y/277	65 —	— 65	14 14	— 14 ③	— —	— —	— —
EGB	15–125 15–125	1 2, 3	277 480	35 —	35 35	18 —	— 18	— —	10 —	— 10
EGS	15–125 15–125	1 2, 3	277 480	100 —	— 100	35 —	— 35	— —	35 —	— 35
EGH	15–125 15–125	1 2, 3	277 480	200 —	— 200	65 —	— 65	— —	42 —	— 42
PDG2xF	15–100 15–100	1 2, 3	277 480	— —	— 18	14 —	— 14	— —	10 —	— 10
PDG2xG, PDG3xG ④	15–150 15–225	1 2, 3	277 600	— —	— 65	35 —	— 35	— 18	10 —	— 10
PDD2xF PDD2xG PDD3xG	100–225 100–225 250–400	2, 3 2, 3 2, 3	240 240 240	— — —	22 65 65	— — —	— — —	— — —	10 10 —	— — 10
PDG3xG ④⑤, PDF3xG ⑥ LHH ⑦ PDG3xG ④	100–400 150–400 250–600	2, 3 2, 3 3	600 480 600	— — —	65 100 65	— — —	35 65 35	25 35 18	— — —	10 42 22

① DC ratings apply to substantially non-inductive circuits.

② DC rated single-pole, 15–70 A only.

③ Rating 480Y/277 Vac maximum.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

⑤ Available with integral ground fault protection.

⑥ 100% rated breaker.

⑦ DC rating not available with PXR trip units.

Table 22.1-8. Electrical Characteristics of Circuit Breakers (Continued)

Circuit Breaker Ratings					UL Listed Interrupting Ratings (kA rms Symmetrical)							
Type	Ampere Rating	Number of Poles	Voltage		AC Rating, Volts					DC Rating, Volts ①		
			AC	DC	120/240	240	277	480	600	125	250	600
High Interrupting Capacity Circuit Breakers												
PDG2xM	15–150 15–225	1 2, 3	277 600	— —	— —	— 100	65 —	— 65	— 25	10 —	— 22	— —
PDD2xM PDG3xM ②③, PDF3xM ④	100–225 100–400	2, 3 2, 3	240 600	— —	— —	100 100	— —	— 65	— 35	10 —	— 22	— —
Current-Limiting Circuit Breakers												
PDG2xP	15–225 100–225	2, 3 2, 3	600 240	— —	— —	200 200	— —	100 —	35 —	— 10	22 —	— —
PDG3xP ②③	100–400 250–600	2, 3 2, 3	600 600	— —	— —	200 200	— —	100 100	65 50	— —	22 42	— —
Current Limit-R® Circuit Breakers												
FCL	15–100	2, 3	480	—	—	200	—	150	—	—	—	—
TRI-PAC® Current-Limiting Circuit Breakers												
FB-P LA-P	15–100 70–400	2, 3 2, 3	600 600	— —	— —	200 200	— —	200 200	200 200	— —	④ ④	— —

① DC ratings apply to substantially non-inductive circuits.

② The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

③ Available with integral ground fault protection.

④ 100k based on NEMA test procedure.

⑤ DC rating not available with PXR trip units.

⑥ Non-interrupting trip type.

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

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.

Table 22.1-9. Standard Main Lug Terminals

Panel Type	Wire Size Ranges for Ampere Capacity						
	100 A	225 A	250 A	400 A	600 A	800 A	1200 A
Pow-R-Line 1X, 1XF, 1RX	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	(2) #4–500 kcmil ①	—	—
Pow-R-Line 2X, 2XF, 2RX	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	(2) #4–500 kcmil ①	—	—
Pow-R-Line 3X	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	(2) #4–500 kcmil	(3) #4–500 kcmil	—
Pow-R-Command	#12–1/0	#6–300 kcmil	—	#4–500 kcmil	—	—	—
PRCE	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—
PRC100	#12–1/0	—	#6–350 kcmil	(2) #4–500 kcmil	—	—	—
PRC25	#12–1/0	#6–300 kcmil	—	(2) #4–500 kcmil	—	—	—

① Not applicable PRL 1XF, 1RX, PRL 2XF, 2RX.

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

Table 22.1-10. Standard Main Breaker and Branch Breaker Terminals

Breaker Type	Ampere Rating	Wire Size Ranges
BAB, QBHW, BABRSP	15–70	#14–#4
HQP, QPHW	90–100	#8–1/0
PDD2xF, PDD2xG	100–225	#4–4/0 or
PDD2xM, PDD2xM ②		#6–300 kcmil
EGB, EGE, EGS, EGH	15–50	#14–3/0 Al/Cu
	60–125	#6–3/0 Al/Cu
PDG2xF, PDG2xG	15–100	#14–1/0
PDG2xM, PDG2xP ②, HFDDC ③	125–225	#4–4/0
FCL	15–100	#14–1/0
GHB, HGHB, GHQ,	15–50	#14–1/0
GHQRSP	25–100	#10–1/0
HJDDC ③	70–250	#4–350 kcmil
PDD3xG	250–350	250–500 kcmil
	400	(2) 3/0–250 kcmil or
		(1) 3/0–500 kcmil
PDG3xG ④	225	(1) #3–350 kcmil
PDG3xM ④, PDG3xP ④	350	(2) 3/0–250 kcmil or
HKDDC ③, PDF3xG ②	400	(2) 3/0–250 kcmil or
PDF3xM ②		(1) 3/0–500 kcmil
LHH	150–400	#2–500 kcmil
		(2) #2–500 kcmil or
		(1) 500–750 kcmil
PDG3xG ④, PDG3xM ④,	250–400	(1) #2–500 kcmil
PDG3xM ④	500–600	(2) #2–500 kcmil

② Suitable for DC applications only.

③ LHH is 400 A maximum.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-11. Fusible Switch Terminals

Ampere Rating	Wire Size Ranges
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

Power Xpert Release Trip Unit for Molded Case Circuit Breakers

Description

Eaton's Power Xpert Release (PXR) trip units are programmable communicating microprocessor-based low-voltage electronic trip unit systems for Eaton molded case circuit breakers. PXR trip units are available in three models: PXR 10, PXR 20 and PXR 25.

Standards and Certifications

The PXR trip units are listed by Underwriters Laboratories (UL) and Canadian Standards Association (CSA) for use in Power Defense™ Frame 2, 3, 4, 5 and 6 molded case circuit breakers. All PXR units have also passed the IEC 60947-2 test program that includes EMC testing. All trip units meet the low-voltage and EMC directives and carry the CE mark.

Features

The PXR electronic trip units provide an enhanced and easy-to-use interface that enables end users and maintenance engineers to more easily change set points, test and configure circuit breakers, and review energy and power information. The Power Xpert Protection Manager (PXPMP) software also provides the capability of secondary injection tests and reports on-demand without the need of expensive test kits.

Advanced features include:

- Industry-first breaker health algorithms provide real-time monitoring and communication of breaker condition
- Cause of trip LED indication and trip event data storage
- Zone selective interlocking (ZSI) verification and testing indication
- Adjustable Arcflash Reduction Maintenance System settings
- LCD display with programmable settings

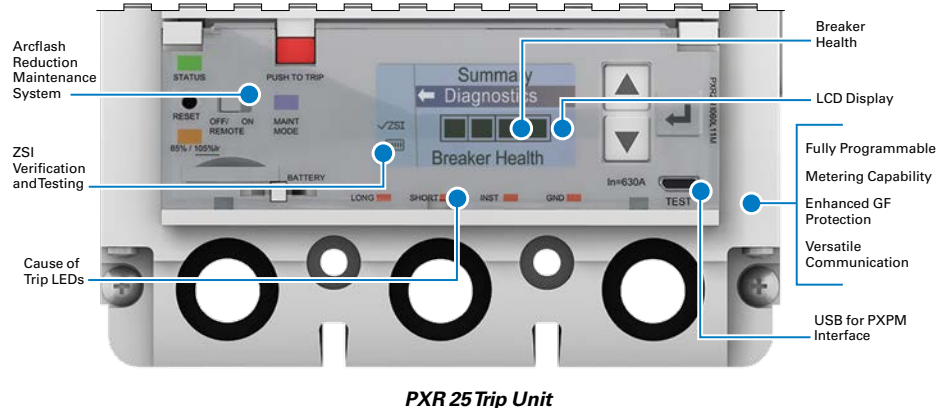


Table 22.1-12. PXR Features

Features	PXR 10	PXR 20	PXR 25
Protection types	LSI	LSI/LSIG	LSI/LSIG
Status indication	●	●	●
USB secondary injection testing	●	●	●
Programmable by USB port (PXPMP)	●	●	●
Independent instantaneous adjustment	●	●	●
Adjustable L, S, I, G pickup and time		●	●
Cause of trip indication	▲	●	●
Load alarm indication with 2 levels		●	●
Programmable load alarm levels			●
Ground fault protection and alarm		○	○
Arcflash Reduction Maintenance System™ Available PD3, PD4, PD5, PD6 to meet NEC 240.87 requirements		○	○
Zone selective interlocking (ZSI) with indication		○	○
Programmable relays		○	●
Modbus RTU communication		○	●
CAM module communication		○	○
Rotatable LCD display			●
Breaker health and diagnostic monitoring		▲	●
Current metering accuracy		2.0%	0.5%
Voltage metering accuracy			0.5%
Power and energy metering accuracy			1.0%

Legend:

● Standard

○ Optional

▲ Available through USB port (PXPMP)

Metering, Monitoring and Surge Protective Devices



Power Xpert Meter 350

Power Xpert Meter 350

The Power Xpert Meter 350 (PXM350) is a revenue grade energy meter that delivers a cost-effective solution for energy and submetering applications. This DIN rail mounted, three-phase energy meter provides high accuracy in a small form factor. The user-friendly LCD display is ideal for building energy management, energy monitoring and metering systems.

Meter features include:

- Data collection and management for energy and multi-parameters measurement
- Demand measurement and forecasting of current, active power, reactive power and apparent power
- Standard with Modbus RTU, BACnet MSTP and pulse output
- Multiple current sensors options are available—5 A/1 A, 333 mV and Rogowski coil system event logging with configurable parameter alarms
- LCD display with backlight support
- Electronic and physical sealing to prevent tampering



Power Xpert Branch Circuit Monitor

Power Xpert Branch Circuit Monitor

Eaton's Power Xpert Branch Circuit Monitor (PXBCM) provides remote access to live energy readings and facilitates data integration for data center intensive industries, facilities working to optimize server capacity and companies with a critical need to maintain uptime. By combining monitoring capabilities down to the plug level with overload alerts, which indicate when circuits are close to exceeding thresholds, the PXBCM helps minimize or prevent downtime.

- ANSI C12.20 0.5% revenue accuracy for panelboard applications
- Satisfies energy code requirements to meter energy by branch circuit and report energy consumption by load group
- Modular form factor supports either pre-mounted CTs (PXBCM-MMS) or loose CTs (PXBCM-MME) and makes it easy to scale for 18-, 30-, 42- and 84-circuit panelboard applications

For more information, visit www.eaton.com/meters.



Integrated Surge Protective Devices

Integrated Surge Protective Devices

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

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

Refer to **Table 22.1-13** for side-by-side comparison of integrated SPD offerings.

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

Metering, Monitoring and Surge Protective Devices, Continued

Table 22.1-13. Side-by-Side Comparison of the SPD Series' Available Feature Packages

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

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

Pow-R-Line Metering and Monitoring Options

					
Device	Pow-R-Line 1X	Pow-R-Line 2X	Pow-R-Line 3E	Pow-R-Line 3X	Pow-R-Line 4X / 4F
Power Defense molded case circuit breakers with Power Xpert Release trip units	■	■	■	■	■
Power Xpert Meter 350	■	■	■	■	
Veris E30 Branch Circuit Monitor	■	■	■		
Power Xpert Branch Circuit Monitor	■	■	■	■	■ (Type PRL4X only)
Power Xpert Meter 1000					■
Power Xpert Meter 2000					■
Power Xpert Meter 3000					■
Power Xpert Gateway					■
Power Distribution Monitoring and Control					■

PRL1X Layout Guide



Pow-R-Line 1X

Technical Data and Specifications

Bussing

100–400 A: Tin-plated aluminum is standard, copper is available as an option.

600 A: Only copper density is available for these applications.

Boxes

Boxes are made from code-gauge steel.

Blank ends are supplied as standard, knockouts are available upon request.

EZ Trim

Trims are made from code-gauge steel and painted ANSI 61 gray.

All panelboards have door-in-door as standard with multi-point catch and lock, and concealed mounting hardware.

Modifications

Table 22.1-14. Sub-Feed Lugs (Main Lugs Only)

Ampere Rating	Panel Height Addition
100	0 Inches (0 mm)
225	0 Inches (0 mm)

Table 22.1-15. Through-Feed Lugs

Ampere Rating	Information
100	See Table 22.1-17
225	See Table 22.1-17
400	See Table 22.1-17
600	See Table 22.1-17

Table 22.1-16. Sub-Feed Breakers (One Per Panel)

Ampere Rating	Breaker Type	Interrupting Rating (kA Symmetrical) at 240 V
225	PDD2xF	22
225	PDD2xG	65
225	PDD2xM	100
225	PDD3xP	200
225	PDG2xG	65
225	PDG2xM	100
225	PDG2xP	200
400	PDD3xG	65
400	PDG3xG ①	65
400	PDG3xM ①	100
400	PDG3xP ①	200
600	PDG3xG ①	65
600	PDG3xM ①	100
600	PDD3xP	100

① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Shunt Trips

Shunt trips are available on breakers. BAB, HQP, QBHW and QPHW require one additional pole space for shunt trip, i.e., single-pole is two-pole size, two-pole is three-pole size and three-pole is four-pole size.

Ground Bar

Standard bolted in box. Aluminum is standard, copper is available as an option.

Enclosures

Types 1, 12, 3R, 4 and 4X.

Surge Protective Device (SPD)

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

Box Sizing and Selection

Box size for all Type 1 panelboards are available from **Table 22.1-17**.

Instructions

1. Select the rating and type of mains required.
2. Count total number of branch circuit poles (including spaces) required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breakers to single-poles, i.e., three-pole breaker, count as three poles.

Note: For horizontal mounted mains (BAB Type), use main lug table, include space in branch section for mains.

3. Using correct table, type of mains and ampere rating per Step 1, find total number of poles.

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

4. Read box size across columns to the right.

Top and Bottom Gutters (Minimum)

5.50 inches (139.7 mm).

Side Gutters

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

Table 22.1-17. Type 1 Panelboards—Dimensions in Inches (mm)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
100 A											
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	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker	PDG2xF PDD3xG PDG2xM PDG2xP (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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main lugs with 100 A through-feed lugs or sub-feed breaker	—	PDG2xF	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG2xG	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG3xG ⑤	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xP (V)	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker with 100 A through-feed lugs or sub-feed breaker	PDG2xF PDG2xF PDG3xG ⑤ PDG2xM (V)	PDG2xG	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG2x	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDG3xG ⑤	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xP (V)	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
225 A											
Main lugs ①	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker ④	PDD2xF PDD2xG, PDD2xM PDG2xG PDG2xM PDG2xP PDG3xG ⑤ (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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ JD, JDC is same space requirement as 400 A PDD3xG, PDG3xM*, PDG3xP* (see footnote 5 for PDG3 breaker information).

⑤ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-17. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
225 A (Continued)											
Main lugs with 225 A through-feed lugs or sub-feed breaker ④	—	PDD2xF	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		PDD2xG	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDD2xM	—	42	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDD2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xG	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xM	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xP	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		(V)	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker with 225 A through-feed lugs or sub-feed breaker ④	PDD2xF PDD2xG PDD2xM PDD2xM PDG2xG PDG2xM PDG2xP PDG3xG ⑤ PDG3xG ⑤	PDD2xF	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDD2xG	—	30	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		PDD2xM	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDD2xM	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		PDG2xG	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		PDG2xM	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		PDG2xP	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		(V)	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main lugs with 225 A dual sub-feed breaker ④	—	—	PDD2xF	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
			PDD2xG	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			PDD2xM	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			PDD2xM	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xG	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xM	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xP	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			(V)	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 225 A dual sub-feed breakers ④	PDD2xF PDD2xG PDD2xM PDD2xM PDG2xG PDG2xM PDG2xP PDG3xG ⑤ (V)	—	PDD2xF	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			PDD2xG	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			PDD2xM	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDD2xM	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xG	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xM	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			PDG2xP	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			(V)	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
400A											
Main lugs	—	—	—	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
			—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker	PDD3xG PDG3xG ⑤ PDG3xM ⑤ PDG3xP ⑤ 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
			—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with through-feed lugs	—	—	—	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
			—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ JD, JDC is same space requirement as 400 A PDD3xG, PDG3xM*, PDG3xP* (see footnote 5 for PDG3 breaker information).

⑤ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-17. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions ①②③			Catalog Number					
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim		
400A (Continued)													
Main breaker with through-feed lugs	PDD3xG PDG3xG ④ PDG3xM ④ PDG3xP ④ 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		
		—	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		PDD2xG PDD2xM PDD2xM PDG2xG PDG2xM PDG3xG ④ (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	
—	—		48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F			
		—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main breaker with 225 A or 100 A sub-feed breaker	PDD3xG PDG3xG ④ PDG3xM ④ PDG3xP ④ (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		
—	—			48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
—	—			54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		PDD2xG PDD2xM PDD2xM PDG2xG PDG2xM PDG2xP PDG3xG ④ (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	
—	—		48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F			
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main breaker with 225 A or 100 A dual sub-feed breaker	PDD3xG PDG3xG ④ PDG3xM ④ PDG3xP ④ 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		
—	—			48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main lugs with 400 A sub-feed breaker	PDD3xG PDG3xG ④ PDG3xP ④ PDG3xM ④ 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		
—	—			48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main lugs	—	—	—	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		
—	—			48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main breaker with 400 A sub-feed breaker	PDD3xG PDG3x ④ PDG3xM ④ PDG3 ④ 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		
—	—			48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		Main lugs	—	—	—	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		
—	—			48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F		
		—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F		
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F		
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
Main breaker	PDG3xG ④ PDG3xM ④ PDG3xM ④	—	—	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		
		—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		

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

② For applications with SPD, contact Eaton.

③ 28.00 inch (711.2 mm) optional width is available for panelboards with high circuit counts.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-17. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
600A (Continued)											
Main lugs with through-feed lugs	—	—	—	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
	—	—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with through-feed lugs	PDG3xG ④ PDG3xM ④ PDG3xM ④ (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
		—	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	96	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with 225 A or 100 A sub-feed breaker or dual sub-feed breaker	—	PDD2xF PDD2xG PDG2xG PDG2xP PDG3xG ④ (V)	PDD2xF PDD2xG PDD2xM (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
Main breaker with 225 A or 100 A sub-feed breaker or dual sub-feed breaker	PDG3xG ④ PDG3xM ④ (V)	PDD2xF PDD2xG PDG2xG PDG2xP PDG3xG ④ (V)	PDD2xF PDD2xG PDD2xM (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
Main lugs with 400 A sub-feed breaker	—	PDD3xG PDG3xG ④ PDG3xM ④ PDG3xP ④ (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
Main breaker with 400 A sub-feed breaker	PDG3xG ④ PDG3xM ④ (V)	PDG3xG ④ PDG3xM ④ PDG3xP ④ (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
Main lugs with 600 A sub-feed breaker	—	PDG3xG ④ PDG3xM ④ (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
			54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
			84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
Main breaker with 600 A sub-feed breaker	PDG3xG ④ PDG3xM ④ (V)	PDG3xM ④ LGU (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
				48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		
		84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F		

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

PRL2X Layout Guide



Pow-R-Line 2X

Technical Data

Bussing

100–400 A: Tin-plated aluminum is standard, copper is available as an option.

600 A: Only copper density is available for these applications.

Boxes

Boxes are made from code-gauge steel.

Blank ends are supplied as standard, knockouts are available upon request.

EZ Trim

Trims are made from code-gauge steel and painted ANSI 61 gray.

All panelboards have door-in-door as standard with multi-point catch and lock, and concealed mounting hardware.

Modifications

Table 22.1-18. Sub-Feed Lugs (Main Lugs Only)

Amperes	Panel Height Addition
100	0 Inches (0 mm)
225	0 Inches (0 mm)

Table 22.1-19. Through-Feed Lugs

Amperes	Information
100	See Table 22.1-21
225	See Table 22.1-21
400	See Table 22.1-21
600	See Table 22.1-21

Table 22.1-20. Sub-Feed Breakers (One Per Panel)

Ampere Rating	Breaker Type	Interrupting Rating (kA Symmetrical)	
		240V	480Y/277V
225	PDG2xG	65	35
225	PDG2xM	100	65
225	PDG2xP	200	100
225	PDD2xG	65	—
225	PDD2xM	100	—
225	PDD2xM	200	—
400	PDG3xG ①	65	35
400	PDG3xM ①	100	65
400	PDG3xP ①	200	100
600	PDG3xG ①	65	35
600	PDG3xM ①	100	65
600	PDG3xP ①	200	100

① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Shunt Trips

Shunt trips are available on breakers. GHB breakers with shunt trips require three-pole frame.

Ground Bar

Standard bolted in box. Aluminum is standard. Copper is available as an option.

Enclosures

Types 1, 12, 3R, 4/4X.

Surge Protective Device (SPD)

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

Box Sizing and Selection

Box size for all Type 1 panelboards are available from Table 22.1-21.

Instructions

- Using description on the required panelboard, select the rating and type of mains required.
- Count total number of branch circuit poles (including spaces) required in the panelboard. Do not count main breaker poles. Convert two- or three-pole branch breakers to single-poles. i.e., three-pole breaker, count as three poles.

Note: For horizontal mounted mains (GHB Type), use main lug table, include space in branch section for mains.

- Using correct table, type of mains and ampere rating per Step 1, find total number of poles.

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

- Read box size across columns to the right.

Top and Bottom Gutters (minimum)

5.50 inches (139.7 mm).

Side Gutters

20.00-inch (508.0 mm) wide box:
5.50 inches (139.7 mm).

Table 22.1-21. Type 1 Panelboards—Dimensions in Inches (mm)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
100 A											
Main breaker	GHB (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	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM, PDG2xP (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 (1219.2)	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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main lugs with 100 A through-feed lugs or sub-feed breaker	—	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker with 100 A through-feed lugs or sub-feed breaker	PDG2xF PDG2xG PDG2xM, PDG2xP (V)	PDG2xF PDG2xG PDG2xM, PDG2xP (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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
225 A											
Main lugs ④	—	—	—	18	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	30	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)	YS2036	LT2036S or F	EZB2036R	EZT2036S or F
		—	—	42	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S or F
		—	—	48	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	—	—	—	54	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker ④	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (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 (1219.2)	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
		—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
		—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		—	—	84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ JD, JDC is same space requirement as 400 A PDD3xG, PDG3xM*, PDG3xP* (see footnote 5 for PDG3 breaker information).

⑤ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-21. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
225 A											
Main lugs with 225 A through-feed lugs or sub-feed breaker ④	—	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (V)	—	18	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S 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
				48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
				60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
				72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				84	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main breaker with 225 A through-feed lugs or sub-feed breaker ④	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (V)	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (V)	—	18	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S 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
				48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
			—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
Main lugs with 225 A dual sub-feed breaker ④	—	—	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (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
				48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
				84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 225 A dual sub-feed breakers ④	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (V)	—	PDG2xF PDG2xG PDG3xG ⑤ PDG2xM PDG2xP (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
			—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
			—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
400 A											
Main lugs	—	—	—	18	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S 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
				48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
				60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
				72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
				72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ JD, JDC is same space requirement as 400 A PDD3xG, PDG3xM*, PDG3xP* (see footnote 5 for PDG3 breaker information).

⑤ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-21. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LTTrim	EZ Box	EZTrim
400A (Continued)											
Main breaker	PDD3xG	—	—	18	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2048	LT2048S or F	EZB2048R	EZT2048S or F
	PDG3xG ④	—	—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xM ④	—	—	42	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xP ④	—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	LHH (V)	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with through-feed lugs	—	—	—	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
	—	—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with through-feed lugs	PDD3xG	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xG ④	—	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xM ④	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xP ④	—	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	LHH (V)	—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with 225 A or 100 A sub-feed breaker or dual sub-feed breaker	—	PDG2xF	PDG2xF	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xG	PDG2xG	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG3xG ④	PDG3xG ④	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG2xM, PDG2xM (V)	PDG2xM, PDG2xM (V)	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 225 A or 100 A sub-feed breaker	PDD3xG	PDG3xG ④	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xG ④	PDG3xP ④	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xM ④	PDG2xM, PDG2xP (V)	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	LHH (V)	—	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 225 A or 100 A dual sub-feed breaker	PDD3xG	—	PDG2xF	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xG ④	—	PDG2xG	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xM ④	—	PDG3xG ④	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	PDG3xP ④	—	PDG2xM	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	LHH (V)	—	PDG2xP (V)	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with 400 A sub-feed breaker	—	PDD3xG	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG3xG ④	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG3xM ④	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG3xP ④	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	LHH (V)	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 400 A sub-feed breaker	PDD3xG	PDD3xG	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xG ④	PDG3xG ④	—	30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	PDG3xM ④	PDG3xM ④	—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	PDG3xP ④	PDG3xP ④	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	LHH (V)	LHH (V)	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250.

The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-21. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LTTrim	EZ Box	EZTrim
600 A											
Main lugs	—	—	—	18	42.00 (1219.2)	20.00 (508.0)	5.75 (146.1)	YS2042	LT2042S or F	EZB2042R	EZT2042S 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
	—	—	—	48	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	54	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	60	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	—	—	72	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker	PDG3xG ④	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xM ④	—	—	30	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xM ④	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	(V)	—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with through-feed lugs	—	—	—	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
	—	—	—	48	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	54	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	60	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	84	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with through-feed lugs	PDG3xG ④	—	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	PDG3xM ④	—	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xM ④	—	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	(V)	—	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with 225 A or 100 A sub-feed breaker or dual sub-feed breaker	—	PDG2xF	PDG2xF	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG2xG	PDG2xG	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG3xG ④	PDG3xG ④	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG2xM	PDG2xM	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	PDG2xP (V)	PDG2xP (V)	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main lugs with 400 A sub-feed breaker	—	PDD3xG	—	18	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)	YS2060	LT2060S or F	EZB2060R	EZT2060S or F
	—	PDG3xG ④	—	30	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG3xM ④	—	42	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	—	PDG3xP ④	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	LHH (V)	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
Main breaker with 400 A sub-feed breaker	PDG3xG ④	PDD3xG	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
	PDG3xM ④	PDG3xG ④	—	30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	PDG3xM ④	—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	PDG3xP ④	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	LHH (V)	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
	—	—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Table 22.1-21. Type 1 Panelboards—Dimensions in Inches (mm) (Continued)

Panelboard Types	Types and Mounting Position (H) = Horizontal / (V) = Vertical			Maximum Number of Branch Circuits Including Provisions	Box Dimensions in Inches (mm) ①②③			Catalog Number			
	Main Breaker	Sub-Feed Breaker	Dual Sub-Feed Breaker		Height	Width	Depth	YS Box	LT Trim	EZ Box	EZ Trim
600 A (Continued)											
Main lugs with 600 A sub-feed breaker	—	PDG3xG ④ PDG3xM ④ PDG3xM ④ (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
			—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
				60	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
				72	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
				—	—	—	—	—	—	—	—
Main breaker with 600 A sub-feed breaker	PDG3xG ④ PDG3xM ④ PDG3xM ④ (V)	PDG3xG ④	—	18	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)	YS2072	LT2072S or F	EZB2072R	EZT2072S or F
		PDG3xM ④	—	30	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		PDG3xM ④	—	42	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		PDG3xM ④ (V)	—	48	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F
		—	54	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)	YS2090	LT2090S or F	EZB2090R	EZT2090S or F	
		—	—	—	—	—	—	—	—		

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

② For applications with SPD, contact Eaton.

③ 28.00 inches (711.2 mm) optional width is available for panelboards with high circuit counts.

④ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

PRL3X Layout Guide



Pow-R-Line 3X

Technical Data and Specifications

Bussing

100–400 A: Tin-plated aluminum is standard, copper is available as an option. Density rated bus is also available as an option.

600 A: Only copper density is available for these applications. Density rated bus is also available as an option.

800 A (main lug only): Only copper density is available for these applications.

Boxes

Boxes are made from code-gauge steel.

Blank ends are supplied as standard, knockouts are available upon request.

EZ Trim

Trims are made from code-gauge steel and painted ANSI 61 gray.

All panelboards have door-in-door as standard with multi-point catch and lock, and concealed mounting hardware.

Modifications

Table 22.1-22. Sub-Feed Lugs (Main Lugs Only)

Ampere Rating	Added Panel Height
100	0X
250	1X

Table 22.1-23. Through-Feed Lugs

Ampere Rating	Added Panel Height
100	2X
250	5X
400	8X
600	8X

Note: Sub-feed breakers and through-feed lugs cannot be supplied in the same panel.

Table 22.1-24. Sub-Feed Breakers (One Per Panel)

Ampere Rating	Breaker Type	Interrupting Rating (kA Symmetrical)		Added Panel Height
		240 V	480 V	
400	PDG3xG ①	65	35	15X
400	PDG3xM ①	100	65	
400	PDG3xP ①	200	100	
600	PDG3xG ①	65	35	18X
600	PDG3xM ①	100	65	
600	PDG3xP ①	200	100	

① The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.

Note: Sub-feed breakers and through-feed lugs cannot be supplied in the same panel.

Note: Twin mounted J-Frame sub-feed breakers are available. Requires 20X panel height addition.

Shunt Trips

Shunt trips are available on breakers. BAB and QBHW require one additional pole space for shunt trip, i.e., single-pole is two-pole size, two-pole is three-pole size and three-pole is four-pole size. GHB breakers with shunt trip require three-pole frame.

Table 22.1-25. Type 1 Box Sizes—Dimensions in Inches (mm)

Maximum Panel Height X Units	Box Dimensions		
	Height	Width	Depth
100–400 A			
14X	36.00 (914.4)	20.00 (508.0)	5.75 (146.1)
23X	48.00 (1219.2)	20.00 (508.0)	5.75 (146.1)
31X	60.00 (1524.0)	20.00 (508.0)	5.75 (146.1)
40X	72.00 (1828.8)	20.00 (508.0)	5.75 (146.1)
53X	90.00 (2286.0)	20.00 (508.0)	5.75 (146.1)
600–800 A			
23X	48.00 (1219.2)	28.00 (711.2)	5.75 (146.1)
31X	60.00 (1524.0)	28.00 (711.2)	5.75 (146.1)
40X	72.00 (1828.8)	28.00 (711.2)	5.75 (146.1)
53X	90.00 (2286.0)	28.00 (711.2)	5.75 (146.1)

Remote Control Switches

Contactors can be bus connected and mounted in panel for main or sub-main (split-bus) applications.

Time Clocks

Time clocks are mounted at the top or bottom of the panel, either in extended end gutters or in a separate enclosure under a separate door.

Ground Bar

Standard bolted in box. Aluminum is standard. Copper is available as an option.

Enclosures

Types 12, 3R, 4/4X.

Note: Type 12, 3R, 4/4X enclosures are not available for 800 A applications.

Top and Bottom Gutters (Minimum)

All mains: 5.50 inches (139.7 mm).

Side Gutters (Minimum)

4.00 inches (101.6 mm).

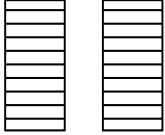
Panel Layout Instructions

1. Select:
 - a. Required mains (lugs or breaker), refer to **Table 22.1-6** for main breaker information.
 - b. Neutral where required, refer to **Table 22.1-8**.
 - c. Branch circuits as required.
2. Layout panel as shown in **Table 22.1-26**, using appropriate "X" dimensions.
3. Using total X units (panel height) find box height in inches from **Table 22.1-25**. (When total X units come out to an uneven number, use next highest number, i.e., if total X comes out 25X, use 31X.)

Surge Protective Device (SPD)

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

Table 22.1-26. Layout Example

		Poles 3X-6 5X-12 8X-18 10X-24 13X-30 15X-36 18X-42	} BAB BABEM ① BABEVEM ② QBGF QBHW QBHGF QBGFEP QBCAF GHB GHQ HGHB QBHGF QBHCAF GHBGFEP GHQRSP
Single-pole	Single-pole	1X	PDG2xF
Single-pole	Three-pole	3X	PDG2xG (150 A PDG2xM PDG2xP) ④
Two-pole			
Neutral selection ⑤		5X 100, 250 A 8X 400, 600, 800 A 11X 800 A with through-feed lug	
Two- and three-pole		2X, PDG2xF, PDG2xG, PDG2xM, PDG2xP, PDD2xF, PDD2xG, PDD2xM, PDD2xP ⑥ (225 A maximum) ④	
Main lug section		2X 100 A 5X 250 A 8X 400, 600 A 14X — 800 A	
Surge protective device		⑦	
Main breaker section	Horizontal mounting	2X two-pole PDG2xF, PDG2xG, PDG2xM, PDG2xP ⑧, PDD2xF, PDD2xG, PDD2xM 3X three-pole PDG2xF, PDG2xG, PDG2xM, PDG2xP ⑧, PDD2xF, PDD2xG, PDD2xM, PDD2xP	
	Vertically mounted	7X PDG2xF, PDG2xG, PDG2xM, PDG2xP, PDD2xF, PDD2xG, PDD2xM, PDD2xP, FB-P ⑨ 15X PDD3xG, PDG3xG ⑩, PDG3xM ⑩, PDG3xP ⑩, LHH 18X PDG3xG ⑩, PDG3xM ⑩ 21X LA-P ⑩⑪	

- ① Contains one additional pole space for electronics.
- ② Requires two additional pole spaces for electronics.
- ③ GHB, GHQ and HGHB breakers cannot be mixed on same connector as BAB, QBHW.
- ④ PD2 with PXR trip units may require additional 1X for wire spacing.
- ⑤ Sizing shown is for 100% rated neutral with mechanical lugs. For 200% rated neutral with mechanical lugs, add 3X. For special lug arrangements, contact Eaton.
- ⑥ Maximum of six breakers per panel.
- ⑦ Add 5X for 200 kA maximum SPD.
- ⑧ Horizontally mounted 15–225 A main breakers PDG2xF, PDG2xG, PDG2xM, PDG2xP, may be furnished as branch breaker construction. Branch breakers single-, two- or three-pole as required, may be located opposite these main breakers (150 A maximum).
- ⑨ FB-P and LA-P top mounting only.
- ⑩ The 400 A frame must use trip units of ratings 100–400, while the 600 A frame must use trip units of ratings 500, 600 or designated by H, such as H250. The H as the leading character of the ampacity indicates a high instantaneous version of the breaker for coordination purposes. H ratings must use 600 A frame.
- ⑪ LA-P main breaker requires 6.50 inch (165.1 mm) deep box.

Series Rated Combinations

UL permits panelboards to be labeled with a short-circuit rating of up to 200,000 A symmetrical where UL listed combinations of main and branch circuits are used.

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

Two arrangements are acceptable and comply with UL standards for panelboards. The main circuit breaker may be installed in the panel as a main device (**Figure 22.1-4**), or it may be mounted remote (**Figure 22.1-5**) 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 standards.

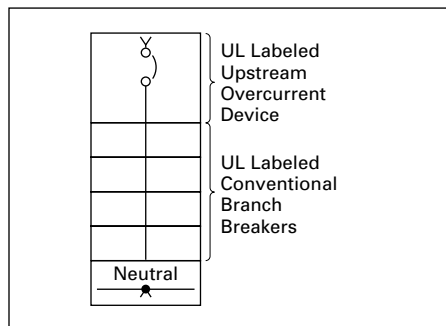


Figure 22.1-4. Main Device

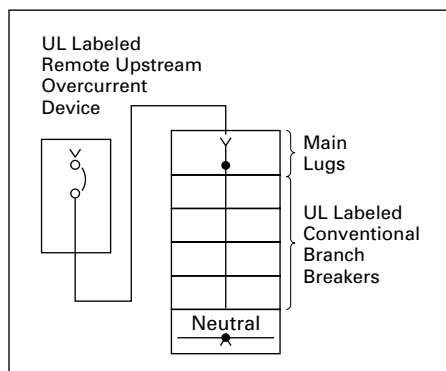


Figure 22.1-5. Mounted Remote

Industry standards and the NEC require protection of the entire electrical distribution system from damage due to short-circuit faults. Article 230.205 of the NEC states that service entrance equipment shall be suitable for the short-circuit current available at its supply terminals. The entire distribution system is required to meet this standard. Series rated systems have become an effective method of meeting these requirements.

There are three protection systems used to protect low voltage power distribution equipment. They are:

- Fully rated protection
- Fully rated, selectively coordinated protection
- Series rated protection

Fully Rated Protection—All overcurrent devices are rated for the full prospective short-circuit current at their line side terminals throughout the system.

Selectively Coordinated Protection—A fully rated system where the overcurrent device closest to the fault will open first, thus isolating the faulty circuit.

Series Rated Protection—A short-circuit interrupting rating assigned to a combination of two or more over-current protective devices that are connected in series and in which the rating of the downstream device(s) in the combination is less than the series rating.

Series ratings are also known in the industry as integrated ratings, series combination ratings and series connected ratings.

UL Issues

In a series rated system, all of the overcurrent devices in series in the protective scheme must have been tested and listed by Underwriters Laboratories for series combination use in the system.

All Eaton's series ratings are in full compliance with all applicable requirements of the latest editions of UL 489, 891 and 67.

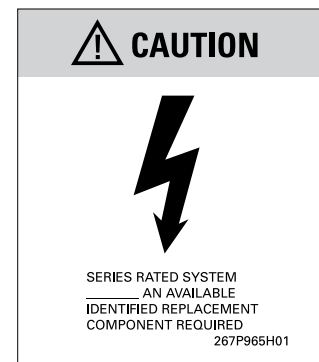
The UL Recognized Component Directory (the Yellow Book) contains breaker manufacturers' series connected listings. These are intended ONLY as a guideline for use by others who are responsible for their own testing, labeling and listing. Therefore, the UL Recognized Component Directory cannot be used to interpret series connected ratings in assembled equipment. The assembled equipment must also be UL tested for series ratings.

Code Issues

The fault current contribution of motors connected between series rated breakers must be considered. Article 240.86 in the NEC states that for series ratings, the sum of the motor full-load currents cannot exceed 1% of the interrupting rating of the lower rated circuit breaker. The actual fault current contribution from induction motors is about four times their full-load current (impedance value of 25%). For example, if the downstream branch circuit breakers used in a series rated combination have an interrupting rating of 14,000 A rms symmetrical for a 480 V system, the maximum allowable motor contribution to that panel from the branch circuit breakers is 140 A (1%). For typical induction motors, this is equivalent to a total horsepower at 480 V of approximately 115 horsepower.

Requirements of the NEC (NFPA 70) for series ratings may be met by equipment marked with ratings adequate for the available fault current at the point of application in the electrical system. Eaton panelboards and switchboards are marked consistent with NEC Article 240.83.

Additionally, Article 110.22 requires field marking on equipment where series ratings are used. This label is supplied standard with all Eaton panelboards and switchboards.



NEC Required Caution Label

Note: The NEC requires the installer to properly apply and complete this label. Label(s) must be placed on all equipment where series ratings are used.

Fuse Application Considerations

Fuses can be used instead of circuit breakers in fully rated, selectively coordinated and series connected protection systems.

Visit Eaton website at <https://www.eaton.com/us/en-us/products/low-voltage-power-distribution-control-systems/series-rating.html> or download Eaton Information Manual 1C96944H02 for fuse breaker data applied to series connected designs.

Don't apply fuses using the up-over-down method, which has been recommended by some fuse manufacturers for sizing a current-limiting fuse that protects a downstream molded case circuit breaker with a specified rms symmetrical interrupting rating. The method can lead to erroneous and unsafe conclusions, and should not be used.

Example: Assume a specific type of current-limiting fuse rated 2000 A. Then using the figure below:

1. Draw a vertical line from the prospective short-circuit current of 200 kA to intersect the typical peak let-through curve at "A."
2. Draw a horizontal line left from Point "A" to intersect the "prospective peak" curve at "B."
3. Drop a vertical line from "B" to intersect the horizontal axis and read the recommended rating, 65 kA rms, concluding that a circuit breaker with a 65 kA interrupting capacity will be protected by a specified 2000 A current-limiting fuse.

This conclusion is wrong when the downstream service has a blow-open contact assembly, as does a molded case circuit breaker or similar device.

The reason: The up-over-down method ignores dynamic impedance (the inherent current-limiting of the downstream molded case circuit breaker). Such impedance is developed directly by the forces of the let-through current created when the contacts are blown open.

For proper application of current-limiting fuses, always refer to recommendations by the manufacturer of the circuit breaker, which are based on actual test data.

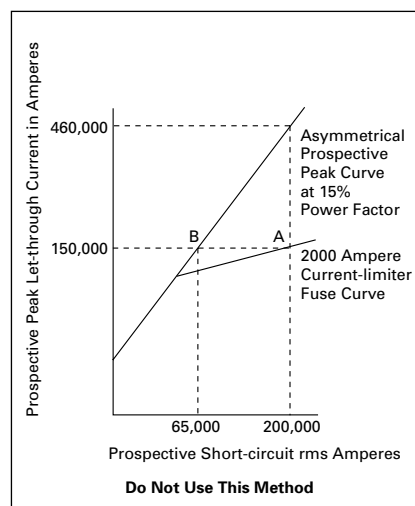


Figure 22.1-6. Old Up-Over-Down Chart

Applications of Series Ratings

Series ratings can be applied under the following guidelines:

Any FULLY RATED breaker can be applied upstream, downstream or in the middle of any of the series ratings stated in the tables.

Any series rating stated in the tables may have additional branch breakers of the EXACT SAME TYPE further downstream in that rating.

COMBINING SERIES RATINGS is allowed under certain conditions. Main and branch series ratings may be combined if:

- Breakers A, B and C are in series respectively from main to branch
- Breakers A and B series rate together
- Breakers A and C series rate at the same interrupting rating level (or higher)
- It is allowable to use A, B and C together at the A-B series rating

It is improper to combine series ratings under the following condition:

- Breakers A, B and C are in series respectively from main to branch
- Breakers A and B series rate together
- Breakers A and C series rate at the same interrupting rating level (or higher)
- It is NOT allowable to use A, B and C together at the A-B or B-C series rating

However, combining multiple overcurrent devices as in this example, can be accomplished if all devices in the series combination have been tested together.

For more information on available series ratings combinations, please see [Information Manual 1C96944H02](#).

Panelboard Selection Guide

Table 22.1-27. Product Types

			
Type PRL1X	Fusible Lighting Panelboard PRL1XF	Type PRL1X-LX Column Type	Type PRL2X
Bolt-on or plug-on circuit breakers 240 Vac maximum	240 Vac maximum	Bolt-on circuit breakers 240 Vac maximum	Bolt-on or plug-on circuit breakers 240 or 480Y/277 Vac 125/250 Vdc maximum
Main lugs only 600 A maximum	Main lugs only 400 A maximum	Main lugs only 225 A maximum	Main lugs only 600 A maximum
Main circuit breaker 600 A maximum		Main circuit breaker 225 A maximum	Main circuit breaker 600 A maximum
Branch circuit breakers 100 A maximum Single-, two- and three-pole	Branch overcurrent protective devices 30 A maximum Single-, two- and three-pole utilizing Class CC fuses	Branch circuit breakers 100 A maximum Single-, two- and three-pole	Branch circuit breakers 100 A maximum Single-, two- and three-pole

		
Fusible Lighting Panelboard PRL2XF	Type PRL2X-LX Column Type	Retrofit Panelboard PRL-1RX and PRL-2RX
240 and 480Y/277 Vac maximum	Bolt-on or plug-on circuit breakers 240 or 480Y/277 Vac 125/250 Vdc maximum	Bolt-on or plug-on circuit breakers 240 or 480Y/277 Vac
Main lugs only 400 A maximum	Main lugs only 225 A maximum	Main lugs only 225 A maximum
	Main circuit breaker 225 A maximum	Main circuit breaker 225 A maximum
Branch overcurrent protective devices 30 A maximum Single-, two- and three-pole utilizing Class CC fuses	Branch circuit breakers 100 A maximum Single-, two- and three-pole	Branch circuit breakers 100 A maximum Single-, two- and three-pole

Table 22.1-27. Product Types (Continued)

			
Type PRL3E	Type PRL3X	Type PRL3XF	Type PRL4X / PRL4F
Bolt-on circuit breakers 240 Vac maximum	Bolt-on circuit breakers 240, 480 or 600 Vac; 250 Vdc maximum	Bolt-on fusible switches 600 Vac; 125 Vdc maximum	Circuit breakers or fusible switches; 240, 480 or 600 Vac; 600 Vdc maximum
Main lugs only 600 A maximum	Main lugs only 800 A maximum	Main lugs only 400 A maximum	Main lugs only 1200 A maximum
Main circuit breaker 600 A maximum	Main circuit breaker 600 A maximum	Main fusible or non-fusible switch 400 A maximum	Main circuit breaker 1200 A maximum
Branch circuit breakers 125 A maximum Single-, two- and three-pole	Branch circuit breakers 225 A maximum Single-, two- and three-pole	Branch Bussmann Compact Circuit Protector Base with CUBEFuse 100 A maximum Single-, two- and three-pole	Main fusible switch 1200 A maximum
			Branch circuit breakers 1200 A maximum, Single-, two- and three-pole
			Branch fusible switches 1200 A maximum, Single-, two- and three-pole

		
Pow-R-Command	Multipoint Metering Distribution Panelboard	Elevator Control Panelboard
Bolt-on or plug-on circuit breakers 240 or 480Y/277 Vac	Bolt-on circuit breakers 600 Vac or 600 Vdc maximum	Bolt-on fusible switches 600 Vac maximum
Main lugs only 400 A maximum	Type PRL4X panelboard specially formatted to provide a compact and flexible multipoint metering solution for 250–1200 A applications	Controls for up to four elevators in a single panelboard
Main circuit breaker 400 A maximum		Main lugs only 800 A maximum
Branch circuit breakers 225 A maximum Single-, two- and three-pole		Branch overcurrent devices 15–200 A fusible switches with Class J fuse clips maximum
Single- and two-pole remote operated circuit breakers		
Integral load switching and dimming controls		Designed to meet specific sections various codes impacting elevators

Table 22.1-28. Panelboard Selection Guide

Panelboard Type	Device Type	Maximum Voltage Rating		Maximum Main Rating, Amperes		Branch Circuits Ampere Range	Short-Circuit Current Ratings rms Symmetrical Amperes, AC	
		AC	DC	Main Lugs Only	Main Device		Fully Rated (kA)	Series Rated (kA)
Pow-R-Line 1X ①	Breaker	240	—	600	600	15–100	10–22	22–200
Pow-R-Line 2X ①	Breaker	240 480Y/277	250	600 400 ②	600 400 ②	15–100 15–100	65 14	65–200 22–150
Pow-R-Line 3X ①	Breaker	240 480 600	250	800 800 800	600 600 600	15–225 15–225 15–225	10–200 14–100 14–35	22–200 22–150 —
Pow-R-Line 3E ①	Breaker	480	250	600	600	15–125	35–65	35–100
Pow-R-Line 4X ①	Breaker	240 480 600	600	1200 1200 1200	1200 1200 1200	15–1200 15–1200 15–1200	10–200 14–200 14–200	22–200 22–150 —
Pow-R-Line 4F ①	Fusible switch	240 600	250	1200 1200	1200 1200	30–1200 30–1200	100–200 100–200	— —
Pow-R-Line 4DX	Breaker	240 480	— —	1200 1200	1200 1200	20–600 Drawout 15–1200 Fixed	100 65	— —
Pow-R-Line 1XF	Fusible switch	240	—	400	400	15–30	200	200
Pow-R-Line 2XF	Fusible switch	480Y/277	—	400	400	15–30	200	200
Pow-R-Line 3XF	Fusible switch	600	125	400	400	15–100	200	200
Pow-R-Line 1X-LX	Breaker	240	—	225	225	15–30	10–22	18–200
Pow-R-Line 2X-LX	Breaker	480Y/277	125/250	225	225	15–30	14	25–150
Pow-R-Line 1RX	Breaker	240	—	225	225	15–100	10–22	22–100
Pow-R-Line 2RX	Breaker	480Y/277	—	225	225	15–100	14	22–150
Elevator control panelboard ①	Fusible	480	—	800	800	15–200	10–200	14–100

① Available with surge protective device (SPD) and metering.

② Amperage rating for DC voltage.

Types PRL1X, 2X and 3X Modifications



Types PRL1X, 2X and 3X

Modifications Selection Guide

Table 22.1-29. Modifications—Alphabetical Index

Modification	Available on Panelboard Types		
	PRL1X	PRL2X	PRL3X
Ambient compensating breakers	No	No	Yes
Branch circuit monitoring	Yes	Yes	Yes
Bus density	Yes	Yes	Yes
Cabinets—special: Types 2, 3R, 4, 4X, 12	Yes	Yes	Yes
Complete assembly	Yes	Yes	Yes
Compression type lugs, mains only	Yes	Yes	Yes
Concealed trim clamps (LT trim)	Yes	Yes	Yes
Conduit covers	Yes	Yes	Yes
Copper lugs	Yes	Yes	Yes
Copper main bus	Yes	Yes	Yes
Directory frame—metal	Yes	Yes	Yes
Doors, special	Yes	Yes	Yes
Electronic trip units	Yes	Yes	Yes
Fungus-proof	Yes	Yes	Yes
Ground bar	Yes	Yes	Yes
Ground fault protection (zero sequence)	No	No	No
Handle lockoff device	Yes	Yes	Yes
Hinges, special (LT trim)	Yes	Yes	Yes
Increased dimensions	Yes	Yes	Yes
Increased panel bus rating	Yes	Yes	Yes
Interiors to fit existing boxes	Yes	Yes	Yes
Locks, special (LT trim)	Yes	Yes	Yes
Metering devices	Yes	Yes	Yes
Molded case switches	Yes	Yes	Yes
Nameplates engraved	Yes	Yes	Yes
Neutral rated 200%	Yes	Yes	Yes
Painting and special coating	Yes	Yes	Yes
Permanent circuit numbers	Yes	Yes	Yes
Remote control switches (contactor)	No	No	Yes
Service entrance	Yes	Yes	Yes
Shunt trips	Yes	Yes	Yes
Split bus or meter loop	No	No	Yes
Sub-feed breakers	Yes	Yes	Yes
Sub-feed lugs	Yes	Yes	Yes
Surge protective device (SPD)	Yes	Yes	Yes
Tamperproof screws (LT trim)	Yes	Yes	Yes
Terminals, copper only for breakers	Yes	Yes	Yes
Through-feed lugs	Yes	Yes	Yes
Time clock space only	Yes	Yes	Yes
Touchup paint	Yes	Yes	Yes

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1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

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Printed in USA
Publication No. DG014001EN / Z28292
December 2023