

Type PRL4



Type PRL4B Circuit Breaker and Type PRL4F Fusible Panelboards

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## Type PRL4

### Product Description

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

### Application Description

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

### Standards and Certifications

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



## Product Selection

Type PRL4



## PRL4 Main Lugs and Main Breakers

Ampere Rating	Interrupting Rating (kA Symmetrical)					Breaker Type
	240 Vac	480 Vac	600 Vac	250 Vdc	600 Vdc	
Main Lug Only						
250	—	—	—	—	—	—
400	—	—	—	—	—	—
600	—	—	—	—	—	—
800	—	—	—	—	—	—
1200	—	—	—	—	—	—
Main Breaker ①						
250	65	35	18	10	—	JD
250	100	65	25	22	—	HJD
250	—	—	—	42	35	HJDDC ②
250	200	100	35	22	—	JDC
250	200	200	—	—	—	LCL
400	65	—	—	10	—	DK
400	65	35	25	10	—	KD
400	65	35	25	—	—	CKD ③④
400	100	65	35	22	—	HKD
400	—	—	—	42	35	HKDDC ②
400	100	65	35	42	—	LHH
400	100	65	35	—	—	CHKD ③④
400	200	100	65	22	—	KDC
400	200	200	—	—	—	LCL
400	200	200	200	—	—	LA-P
600	65	35	18	22	—	LGE ①
600	100	65	35	22	—	LGH ①
600	200	100	50	42	—	LGC
600	200	150	65	50	—	LGU
600	65	35	25	22	—	LD
600	65	35	25	—	—	CLD ③
600	100	65	35	25	—	HLD
600	—	—	—	42	35	HLDDC ②
600	100	65	35	—	—	CHLD ③
600	200	100	50	25	—	LDC
600	200	100	50	—	—	CLDC ③
800	65	50	25	22	—	MDL
800	100	65	35	25	—	HMDL
800	—	—	—	42	35	HMDLDC ②
800	65	50	25	—	—	CMDL ③
800	100	65	35	—	—	CHMDL ④
800	200	200	200	—	—	NB-P
800	65	50	25	—	—	ND
800	100	65	35	—	—	HND
800	200	100	65	—	—	NDC
800	65	50	25	—	—	CND ③⑤
800	100	65	35	—	—	CHND ③⑤
800	200	100	65	—	—	CNDC ③⑤
1200	65	50	25	—	—	ND
1200	100	65	35	—	—	HND
1200	200	100	65	—	—	NDC
1200	65	50	25	—	—	CND ③⑤
1200	100	65	35	—	—	CHND ③⑤
1200	200	100	65	—	—	CNDC ③⑤
1200	—	—	—	42	50	NBDC ②

## PRL4 Main Fusible Switches

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

## Notes

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

## PRL4 Branch Devices

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

## PRL4 Branch Devices, continued

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

## Notes

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

## PRL4 Branch Devices, continued

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

## FDPW and FDPB Switch Ratings, 240 or 600 Vac

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

**Notes**

- ① 100 kAIC based on NEMA test procedure.
- ② Fuses not included. **Specify required fuse clips on all switches. (T fuse clips not available for 200/200 twin switches.)**
- ③ When branches of a twin unit are of different ampere ratings, as a 30–60 twin unit, price and layout as a 60–60 twin unit; when a 60–100 twin unit, price and layout as a 100–100 twin unit.
- ④ No DC rating on 600, 800 and 1200A switches.
- ⑤ Class J fuse provisions are applicable to 600V units. When required, use price and dimensions of 600V units for all voltages 600V and below.
- ⑥ Twin 200A switches are not available with Class R fuse clips at 600V.
- ⑦ When shunt trip is required, 400–600A switches used with Class R fuses are rated 100 kAIC.

# 10.3 Panelboards and Lighting Control

## Pow-R-Line C Panelboards

### Box Sizing and Selection—PRL4B

Approximate Dimensions in Inches (mm)

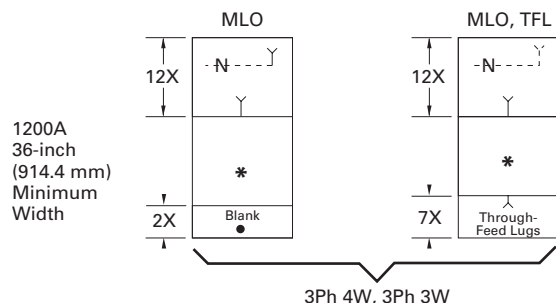
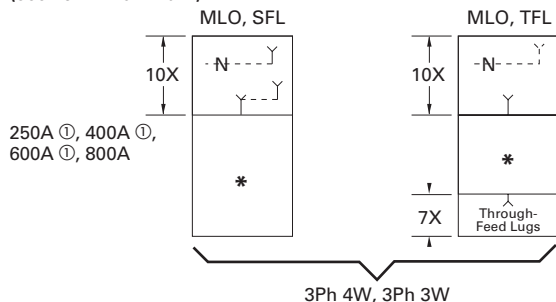
Main Lug (MLO), Main Breaker, Neutral, Through-Feed (TFL) and Sub-Feed Lug (SFL) "X" Space Requirements. (For other configurations not shown, refer to Eaton.)

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

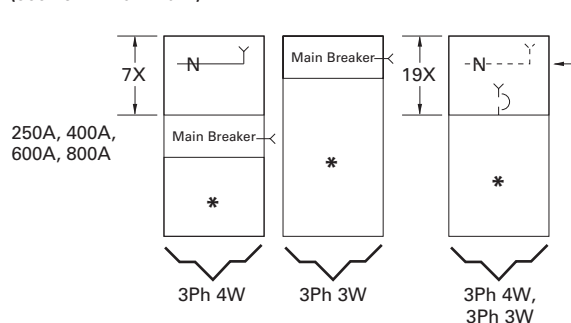
• = Blank means no bus under cover, to meet NEC cable bending space.

### PRL4B Layout

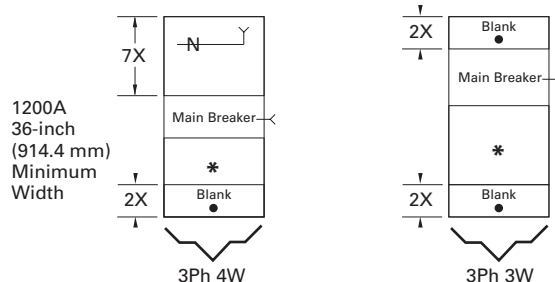
#### Standard Main Lug, Through-Feed and Sub-Feed Lugs ① (500 kcmil Maximum)



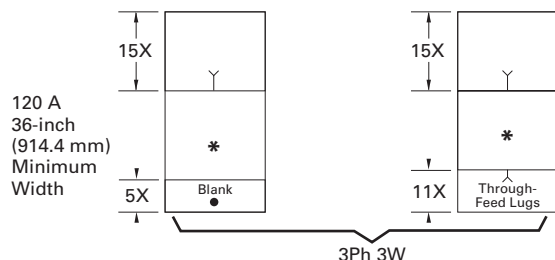
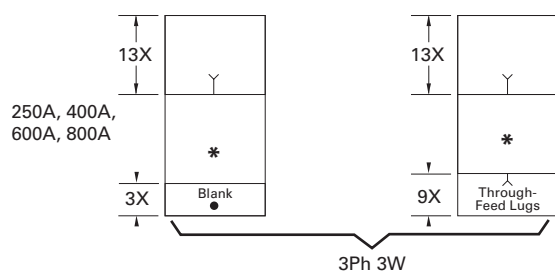
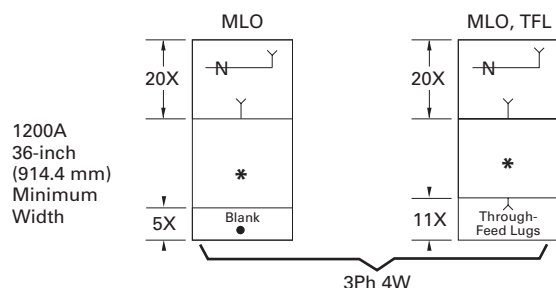
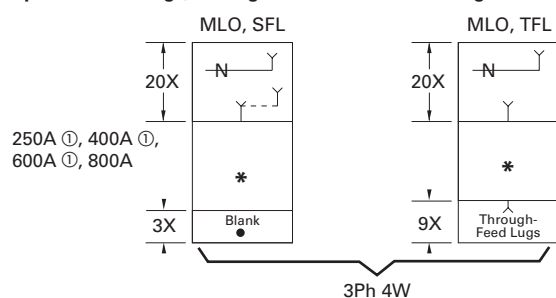
#### Main Breaker with Neutral (when required) (500 kcmil Maximum)



800A Vertically Mtd. MDL Main Breaker only in 24-inch (609.6 mm) wide box. Available with 38X and 50X Panel Height only.



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



#### Note

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

Approximate Dimensions in Inches (mm)

### Panel Layout and Dimensions

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

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

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

### Layout Example

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

### Reference PRL4B Layout Example

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

### PRL4B Layout Example

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

Total = 26X

### Box Dimensions—PRL4B

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

### Top and Bottom Gutters

10.63-inch (269.9 mm) minimum.

### Side Gutters—Minimum

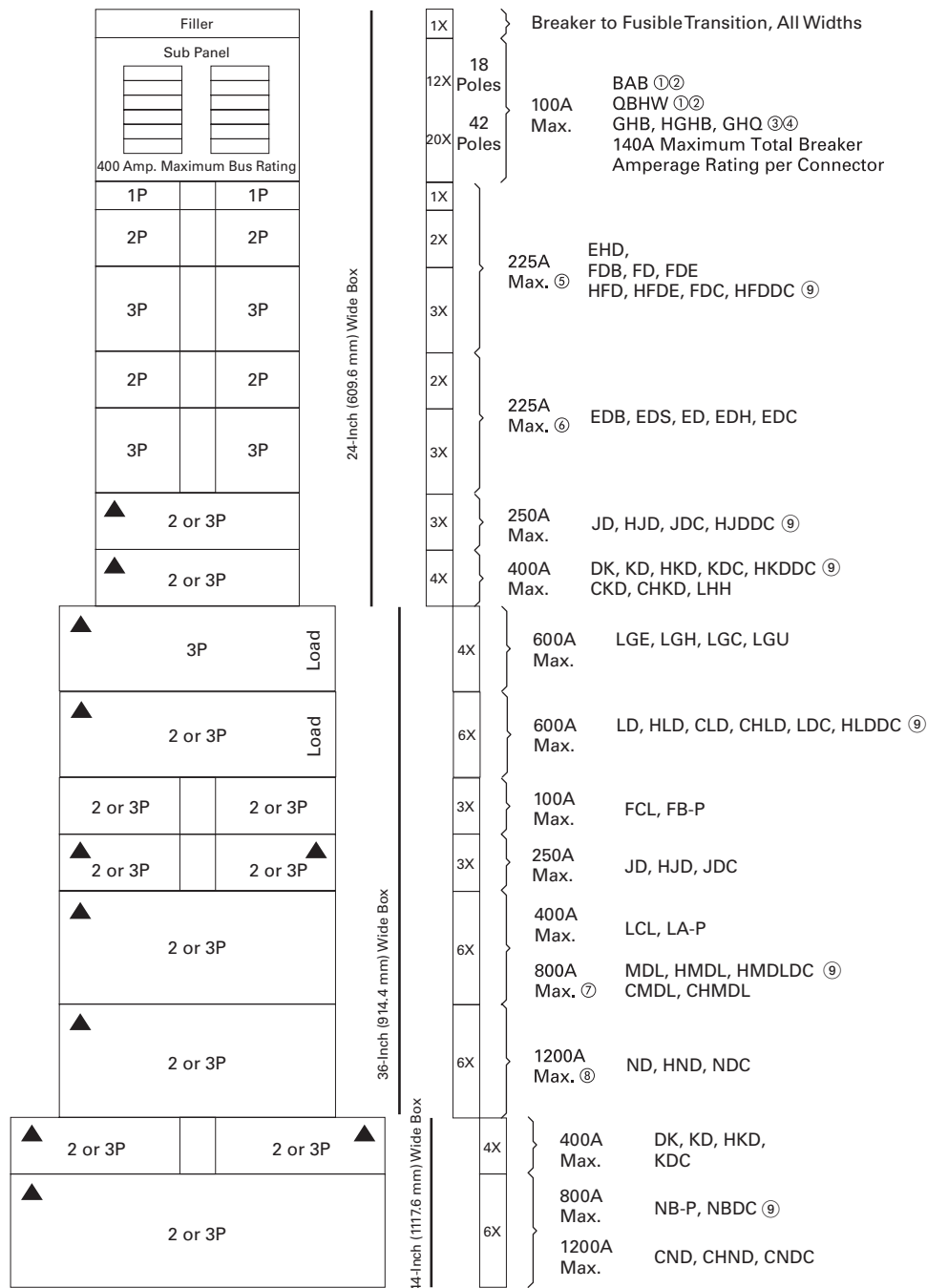
24.00-inch (609.6 mm) wide box—5.00-inch (127.0 mm).  
 36.00-inch (914.4 mm) wide box—6.00-inch (152.4 mm).  
 44.00-inch (1117.6 mm) wide box—8.00-inch (203.2 mm).

### Notes

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

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

## Layout for Branch and Horizontally Mounted Main Devices—PRL4B



### Box Sizing and Selection—PRL4F

Approximate Dimensions in Inches (mm)

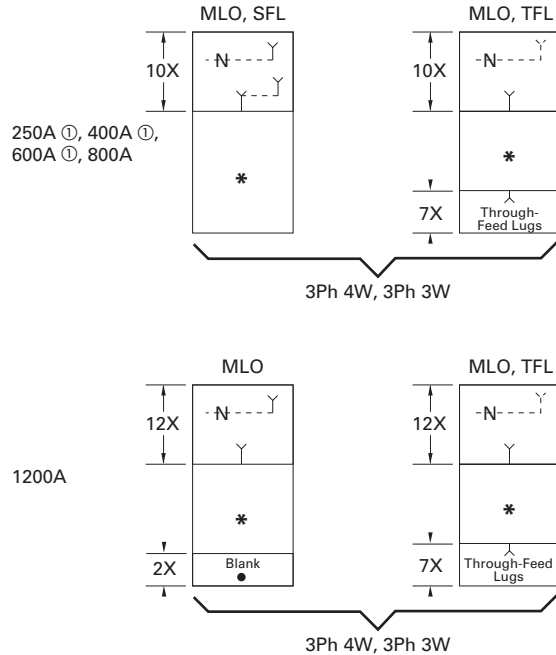
Main Lug (MLO), Main Switch, Neutral, Through-Feed (TFL) and Sub-Feed Lug (SFL) “X” Space Requirements. (For other configurations not shown, refer to Eaton.)

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

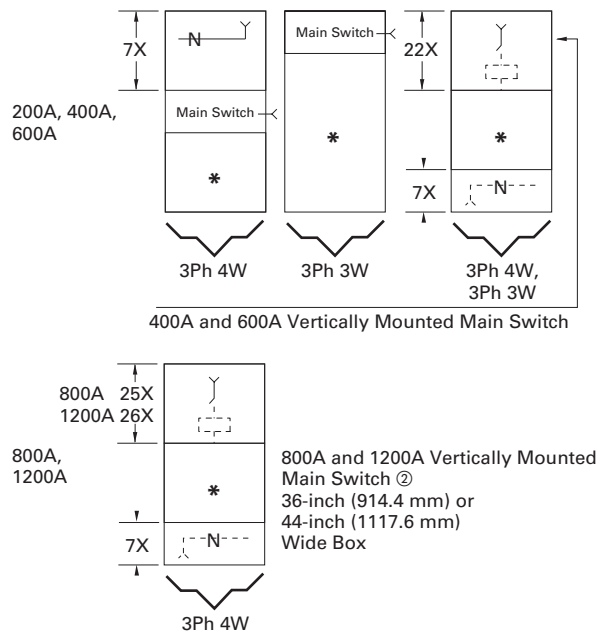
• = Blank means no bus under cover, to meet NEC cable bending space.

### PRL4F Layout

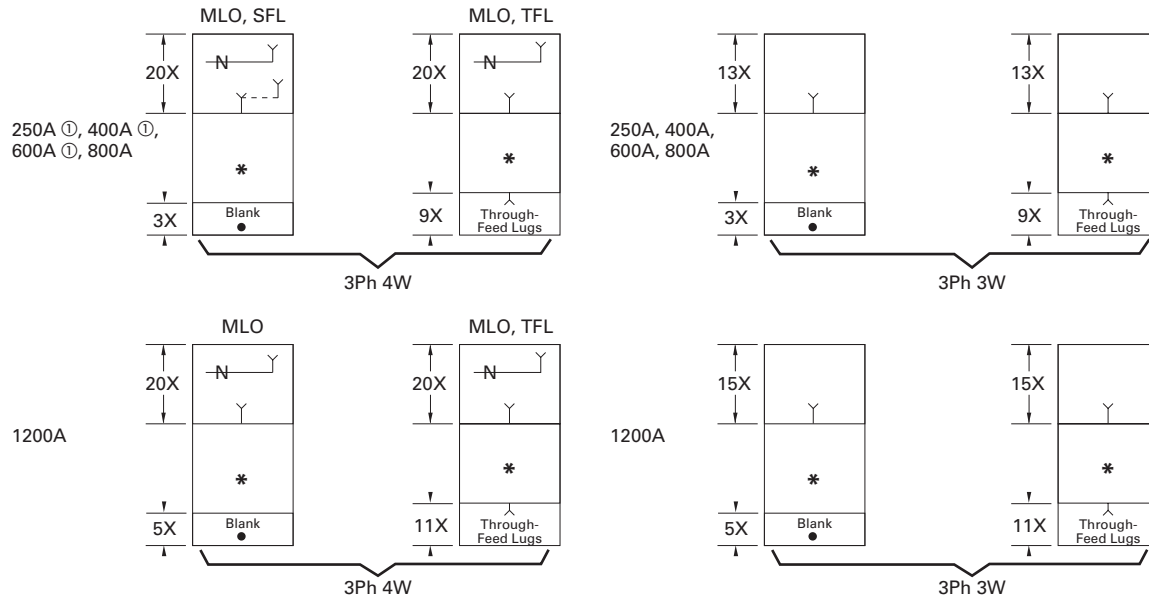
#### Standard Main Lug, Through-Feed and Sub-Feed Lugs ① (500 kcmil Maximum)



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



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



### Notes

- ① Sub-feed lugs are available 250–600A. For 600A, use 1200A “A” space.
- ② 800A and 1200A mains available only in vertical mounting.



# 10.3 Panelboards and Lighting Control

## Pow-R-Line C Panelboards

Approximate Dimensions in Inches (mm)

### Panel Layout and Dimensions

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

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

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

### Layout Example

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

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

### Reference Figure

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

### Type PRL4F Layout Example

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

Total = 43X

### Box Dimensions—PRL4F

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

### Top and Bottom Gutters

10.63 inches (269.9 mm) minimum.

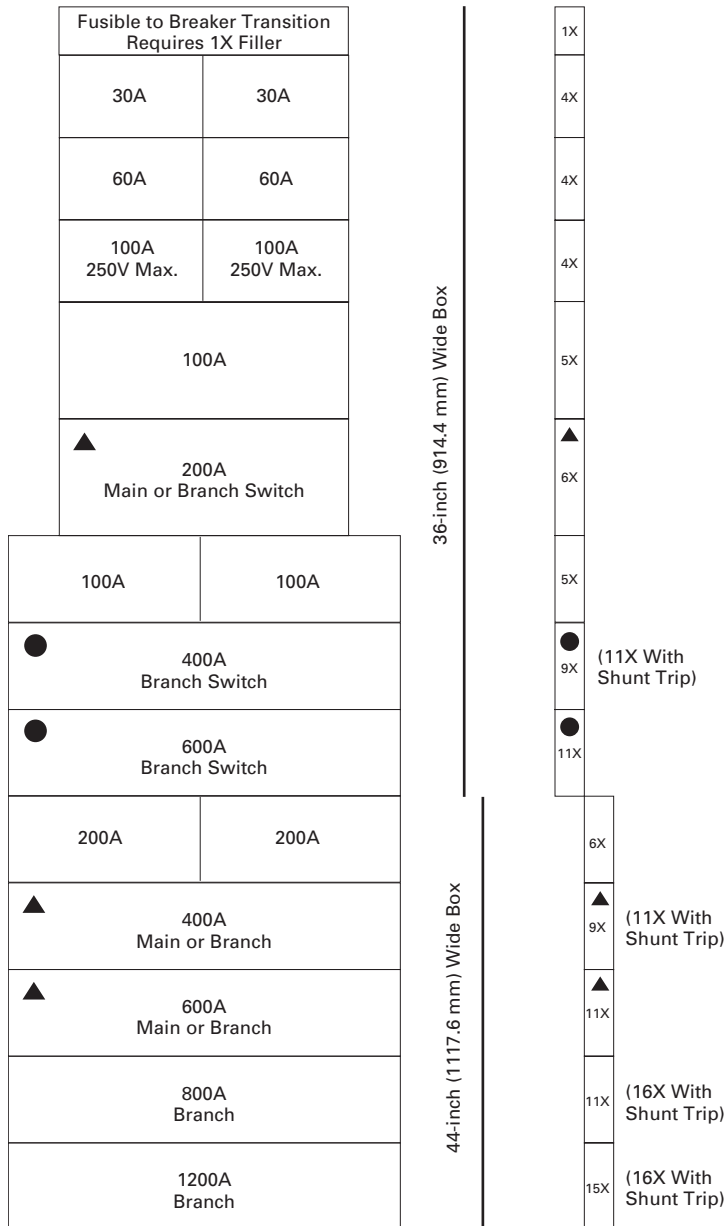
### Side Gutters—Minimum

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

### Notes

- <sup>①</sup> Box depth is 10.40-inch (264.2 mm) cover adds 0.90-inch (22.8 mm) to depth. Flush trims not available on PRL4F panels.

## Branch and Horizontally Mounted Main Device Layout—PRL4F



▲ Fusible switch may be used as horizontally main.

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

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