

Panelboards

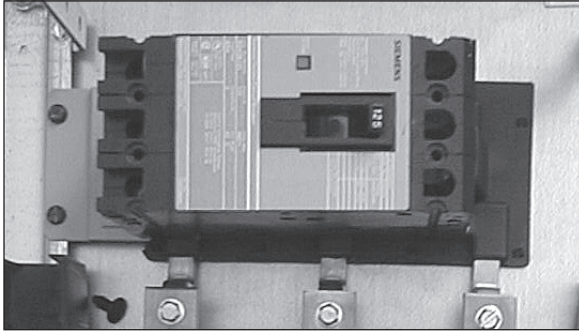
Type P1 Panelboards

Reference

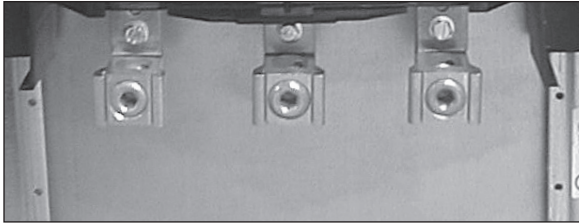
Features and Benefits

The standard Siemens P1 panelboard has some unique features that make it easier to design for an engineer, easier to reconfigure in the field for a contractor, and easier to upgrade and maintain for the owner. What makes it different is its split neutral design and its open ended bus. In the Siemens panel, instead of the common single neutral bus on one end, there is a neutral bus on both sides that is cross-bussed. This makes branch wiring simpler and cleaner – the lead lengths for line and neutral can now be made the same, creating more room and a neater installation. It also allows access to both ends of the bus as a standard feature – this provides the flexibility to make changes in the field, even if it wasn't part of the original configuration.

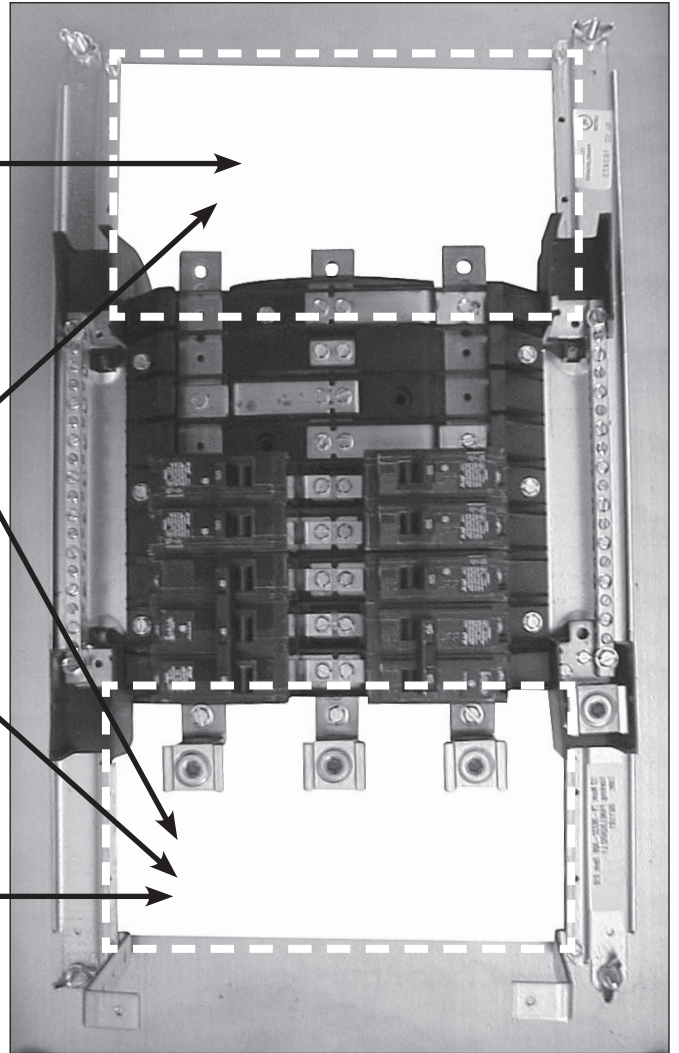
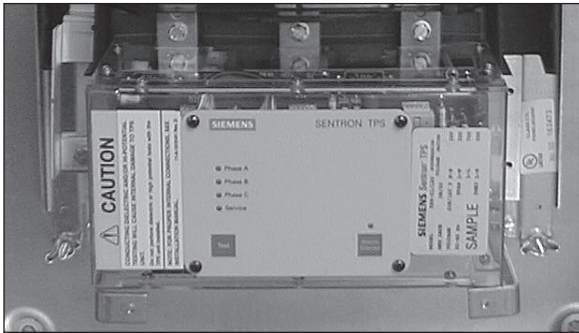
MAIN BREAKER or SUB-FEED BREAKER



MAIN LUGS or FEED-THROUGH LUGS



INTEGRAL BUS MOUNTED SPD



The following can be done to a standard P1 panelboard **in the field** with no modifications:

- Change from top fed to bottom fed
- Add feed-through lugs
- Add an Integral bus-mounted SPD
- Add a sub feed breaker up to 250 amps
- Change from Main Lugs to Main Breaker
- Change from Main Breaker to Main Lugs
- Panel may have up to two ground assemblies. Options are standard aluminum, copper, insulated or isolated aluminum or copper. Mounting provisions in opposing corners of the box are standard. Any of these options may be added after installation.

Panelboards

Type P1 Panelboards

Voltage - 600Y/347V AC Max.
250V DC Max.

Amperage - 400 amp Max. Mains
100 amp Max. Branch

Short Circuit Rating -
100,000 A @ 240Vac*

Branch breaker symmetrical interrupting capacity based on CSA's test procedures

Feed thru and subfeed lugs may result in lower interrupting ratings if not protected by a main device. Consult sales office.

Panelboards

Certified by CSA under file #165172 Listed by Underwriters' Laboratories, Inc., under "Panelboards" File #E2269 for interiors and #E4016 for boxes and fronts.

Service

1-phase 2-wire - 120 Vac, 240 Vac, 24 Vdc, 48 Vdc, 125 Vdc

1-phase 3-wire - 120/240 Vac, 125/250 Vdc

3-phase 3-wire - 600Y/347 Vac. and 480Y/277 (when derived from 3-phase 4-wire system), 240 Vac, 120 Vac, 125/250 Vdc

3-phase 4-wire - 208Y/120 Vac, 240/120 Vac, 480Y/277 Vac, 600Y/347 Vac.

Enclosure

Type 1 enclosure 20" wide x 5.75" deep.

- End walls are blank as standard. End walls with knockouts are available.

Panelboard Trims and Doors

Standard panelboards are furnished with trim featuring concealed fasteners and hinges with a flush door lock. All are factory-assembled for ease of installation. Trims are fabricated from code gauge steel and finished ANSI-61 grey paint. See page 6-6 for optional fronts.

Main Breakers

BL, BLH, HBL, BQD, BQD6, ED2, NGB, ED4, ED6, HED4, QJ2, QJH2, QJ2-H, FXD6, FD6, HFD6, JXD6, JD6, HJXD6, HJD6. (All main breakers except 400 amp frame are mounted horizontal.)

* IR rating will depend on the type of main breaker applied or if main breaker is "Series Rated" with an up stream protective device (circuit breaker or fuse).

Ⓞ P1 400 amp main breaker panels have wire bending space available for 600 kcmil.
Ⓞ 400A main breaker is vertical mounted.

Main Breaker Panel Connectors

Ampere Rating	Connector Wire Range
100	(1) #14 - 1/0 AWG Al/Cu
125	(1) #4 - 1/0 AWG Al/Cu
225	(1) #4 AWG - 300 kcmil Al/Cu
250	(1) #4/0 AWG - 350 kcmil Al or (1) #6/0 AWG - 350 kcmil Cu
400 [Ⓞ]	(1) #4/0 AWG - 500 kcmil Al or (2) #3/0 AWG - 500 kcmil Cu

Connector ranges indicated do not apply to all main breaker types. Refer to molded case circuit breaker standard pressure wire connector chart (Section 5) for the connector range of a specific frame.

Main Lug Connectors (phase)

125	(1) #6 AWG - 350 kcmil Al/Cu
250	(1) #6 AWG - 350 kcmil Al/Cu
400	(2) 1/0 AWG - 250 kcmil Al/Cu or (1) #2 AWG - 600 kcmil Al/Cu

Main Breaker Wire Bending Space - Inches (mm)

Main Breaker	Side Gutter		Neutral Location
	20" w/box	24" w/box (optional)	20" w/box
BL, BLH, HBL, BQD, BQD6	8.500 (216)	10.500 (267)	11.500 (292)
NGB	8.000 (203)	10.000 (254)	11.500 (292)
ED2, ED4, ED6, HED4	6.125 (156)	8.125 (206)	11.500 (292)
QJ2, QJH2, QJ2-H	6.500 (165)	8.500 (216)	11.500 (292)
FD6, FXD6, HFD6	5.250 (133)	7.250 (184)	11.500 (292)
JXD6 [Ⓞ] , HJD6 [Ⓞ]	15.000 (381)	15.000 (381)	26.750 (680)

Main Lug End Gutter Dimensions - Inches (mm)

Amp Rating	End Gutter	Neutral Location
125	10.500 (267)	11.500 (292)
250	10.500 (267)	11.500 (292)
400 [Ⓞ]	25.500 (648)	26.750 (680)

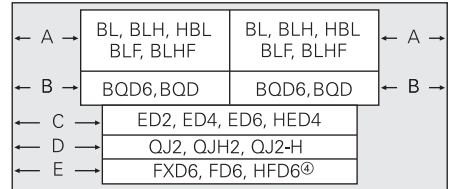
Ⓞ Feed-thru lug and neutral wire bending space is 15.000" (381mm) and 16.250" (413mm) respectively on 400A panel.
Ⓞ P1 panel limited to (1) subfeed 250 amperes max.

General

Side Gutter Wiring Space - Inches (mm)

Reference Letter	Panel Width 20"	Panel Width 24" (Optional)
A	6.375 (162)	7.375 (187)
B	5.500 (140)	7.500 (191)
C	6.125 (156)	8.125 (206)
D [Ⓞ]	6.500 (165)	8.500 (216)
E	5.250 (133)	7.250 (184)

Branch Breaker Side Gutters



Weight - Approximate

Total panelboard weight when filled with a normal quantity of breakers and accessories is:

- About 3 lbs. (1kg) per inch (54g per mm) of box height

Gauge Steel Boxes

Width - in (mm)	Height - in (mm)	Gauge Steel
20 (508)	All	#14

Gauge Steel Trims - Surface, Flush

20 (508)	All	#14
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Series Connected Short Circuit Ratings

The term "Series Connected Short Circuit Rating" refers to the application of series connected circuit breakers in a combination that allows some breakers to have lower individual interrupting ratings than the available fault current. This is permitted as long as the series combination has been tested and certified by CSA. Series ratings must be specified on order at time of entry.

See Circuit Breaker Section of this book for combinations available.

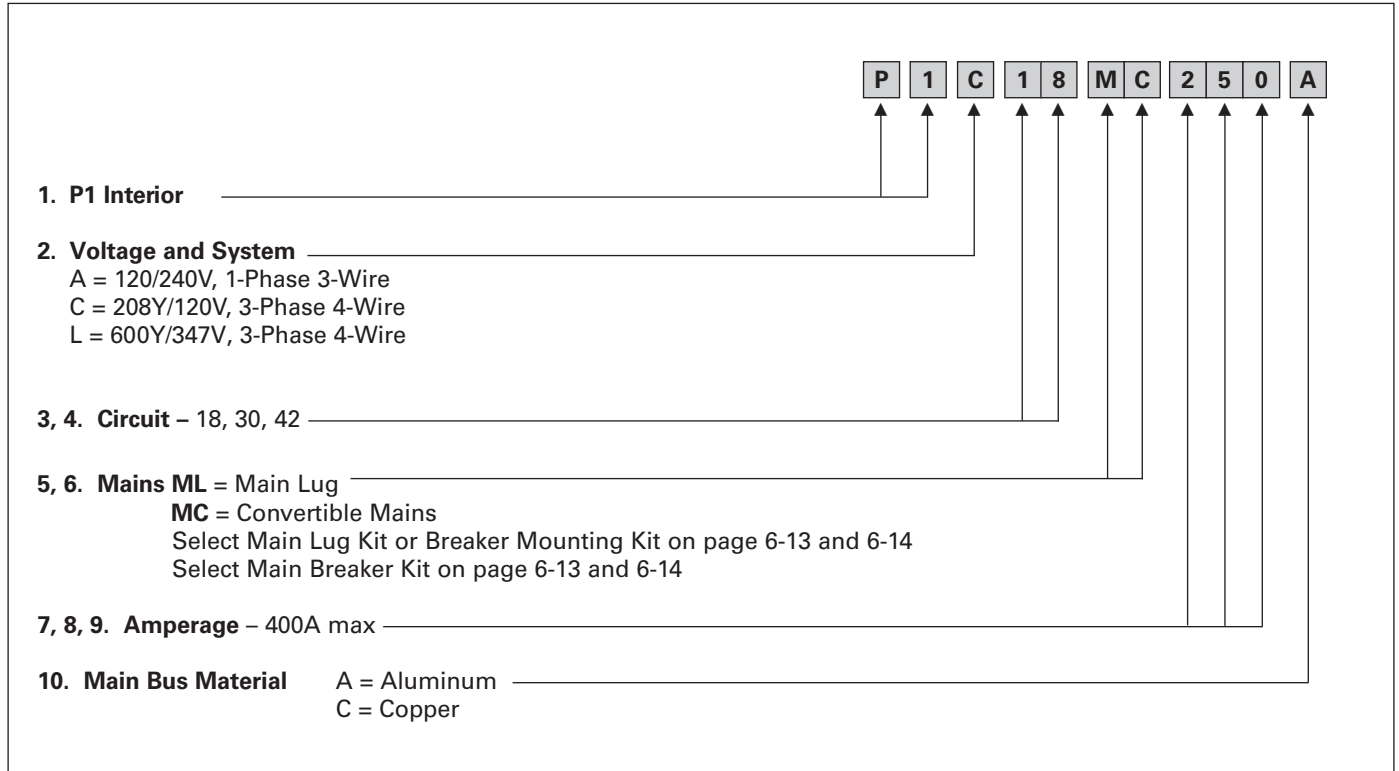
Panelboards

Distributor Stock - Type P1

Reference

Interior Numbering System

Type P1 Unassembled Panels are completely convertible from main lug to main breaker and vice-versa. Additionally, feed-thru lugs or a subfeed circuit breaker up to 250 amperes can be added without increasing the box height.



Note: Standard bussing in P1 panels is tin plated for aluminum and copper.
 Standard bus is temperature rated to the maximum amperage in the panel.

Branch Breakers

Panel Type	Voltage (Max.)	Breaker Type	Power Product Catalogue Page
P1	240	BL, BLH, HBL, BQD, BQD6	See section 5
	600/347	BQD, BQD6	

Panelboards

Distributor Stock - Type P1

Interior, Box and Trim selection

400A Max. — 20" Wide x 5.75" Deep

1. Determine voltage, system, amperage, bussing material and type of main entry to select the appropriate Interior from the table below.
2. Select the type of box and trim needed and select the appropriate height based on the number of circuits.

3. Select main lug kit or main breaker kit.
Note: Main/Subfeed breaker mounting kits may be ordered with or without breaker, see pages 6-13 and 6-14 for selection.
4. List required branch circuit breakers:
Type BL, BQD or BQD6 breakers.
5. Select accessories on page 6-15.

Selection



Type P1 Unassembled Panelboards

Interiors Only – Less Branch Breakers					Boxes			Trims	
Amperes Rating Mains	Max. No. of Circuits	Main Bus Material	Convertible Main	Main Lug	Height - Inches (mm)	Type 1	Type 3R/12 ^①	Surface	Flush ^②
1-Phase, 3-Wire					120/240V				
250	18	Al	P1A18MC250A	P1A18ML250A	32 (813)	B32	WP32	S32B	F32B
	30		P1A30MC250A	P1A30ML250A	38 (965)	B38	WP38	S38B	F38B
	42		P1A42MC250A	P1A42ML250A	44 (1118)	B44	WP44	S44B	F44B
400	18	Al	P1A18MC400A	P1A18ML400A	56 (1422)	B56	WP56	S56B	F56B
	30		P1A30MC400A	P1A30ML400A	62 (1575)	B62	WP62	S62B	F62B
	42		P1A42MC400A	P1A42ML400A	68 (1727)	B68	WP68	S68B	F68B
250	18	Cu	P1A18MC250C	P1A18ML250C	32 (813)	B32	WP32	S32B	F32B
	30		P1A30MC250C	P1A30ML250C	38 (965)	B38	WP38	S38B	F38B
	42		P1A42MC250C	P1A42ML250C	44 (1118)	B44	WP44	S44B	F44B
400	18	Cu	P1A18MC400C	P1A18ML400C	56 (1422)	B56	WP56	S56B	F56B
	30		P1A30MC400C	P1A30ML400C	62 (1575)	B62	WP62	S62B	F62B
	42		P1A42MC400C	P1A42ML400C	68 (1727)	B68	WP68	S68B	F68B
3-Phase, 4-Wire					208Y / 120V				
250	18	Al	P1C18MC250A	P1C18ML250A	32 (813)	B32	WP32	S32B	F32B
	30		P1C30MC250A	P1C30ML250A	38 (965)	B38	WP38	S38B	F38B
	42		P1C42MC250A	P1C42ML250A	44 (1118)	B44	WP44	S44B	F44B
400	18	Al	P1C18MC400A	P1C18ML400A	56 (1422)	B56	WP56	S56B	F56B
	30		P1C30MC400A	P1C30ML400A	62 (1575)	B62	WP62	S62B	F62B
	42		P1C42MC400A	P1C42ML400A	68 (1727)	B68	WP68	S68B	F68B
250	18	Cu	P1C18MC250C	P1C18ML250C	32 (813)	B32	WP32	S32B	F32B
	30		P1C30MC250C	P1C30ML250C	38 (965)	B38	WP38	S38B	F38B
	42		P1C42MC250C	P1C42ML250C	44 (1118)	B44	WP44	S44B	F44B
400	18	Cu	P1C18MC400C	P1C18ML400C	56 (1422)	B56	WP56	S56B	F56B
	30		P1C30MC400C	P1C30ML400C	62 (1575)	B62	WP62	S62B	F62B
	42		P1C42MC400C	P1C42ML400C	68 (1727)	B68	WP68	S68B	F68B
3-Phase, 4-Wire					600Y / 347V				
250	18	Al	P1L18MC250A	P1L18ML250A	32 (813)	B32	WP32	S32B	F32B
	30		P1L30MC250A	P1L30ML250A	38 (965)	B38	WP38	S38B	F38B
	42		P1L42MC250A	P1L42ML250A	44 (1118)	B44	WP44	S44B	F44B
400	18	Al	P1L18MC400A	P1L18ML400A	56 (1422)	B56	WP56	S56B	F56B
	30		P1L30MC400A	P1L30ML400A	62 (1575)	B62	WP62	S62B	F62B
	42		P1L42MC400A	P1L42ML400A	68 (1727)	B68	WP68	S68B	F68B
250	18	Cu	P1L18MC250C	P1L18ML250C	32 (813)	B32	WP32	S32B	F32B
	30		P1L30MC250C	P1L30ML250C	38 (965)	B38	WP38	S38B	F38B
	42		P1L42MC250C	P1L42ML250C	44 (1118)	B44	WP44	S44B	F44B
400	18	Cu	P1L18MC400C	P1L18ML400C	56 (1422)	B56	WP56	S56B	F56B
	30		P1L30MC400C	P1L30ML400C	62 (1575)	B62	WP62	S62B	F62B
	42		P1L42MC400C	P1L42ML400C	68 (1727)	B68	WP68	S68B	F68B

① Hinged door included with type 3R/12 enclosures.

② Flush trims extend 3/4" beyond each side of the base box dimensions.

Panelboards

Distributor Stock - Type P1

Selection

Main Entry Kit Selection

Main Breaker Mounting Kits with Breakers

Catalogue Number	Description	Max. Interrupting Rating (kA)		
		240V	480V	600V
MBKBL12100	Kit with 2-Pole BL 100A Breaker	10	–	–
MBKBL33100	Kit with 3-Pole BL 100A Breaker	10	–	–
MBKQJ12225	Kit with 2-Pole QJ2 225A Breaker	10	–	–
MBKQJ33150	Kit with 3-Pole QJ2 150A Breaker	10	–	–
MBKQJ33200	Kit with 3-Pole QJ2 200A Breaker	10	–	–
MBKQJ33225	Kit with 3-Pole QJ2 225A Breaker	10	–	–
MBKED33100	Kit with 3-Pole ED6 100A Breaker	65	25	18
MBKED33125	Kit with 3-Pole ED6 125A Breaker	65	25	18
MBKFD33200	Kit with 3-Pole FXD6 200A Breaker	65	35	22
MBKFD33225	Kit with 3-Pole FXD6 225A Breaker	65	35	22
MBKFD33250	Kit with 3-Pole FXD6 250A Breaker	65	35	22
MBKHF33250	Kit with 3-Pole HFD6 250A Breaker	100	65	25
MBKJD33400 ^①	Kit with 3-Pole JXD6 400A Breaker	65	35	25



Breaker Mounting Kits without Breaker – Main or Subfeed (250A max.)

Amp Rating	Breaker Types ^②	Service	Catalogue Number
100	BL, BLH, HBL	1 Phase	MBKBL1
		3 Phase	MBKBL3
125	ED2, ED4, ED6, HED4	1 Phase	MBKED1
		3 Phase	MBKED3
225	QJ2, QJH2, QJ2-H	1 Phase	MBKQJ1
		3 Phase	MBKQJ3
250	FXD6, FD6, HFD6	1 Phase	MBKFD1
		3 Phase	MBKFD3
400 ^①	JD6, JXD6, HJD6	1 Phase	MBKJD1
		3 Phase	MBKJD3

Lug Kits – Main and/or Feed-Thru

Amp Rating	Material	Wire Range	Service	Catalogue Number
250	Al	(1) #6 AWG - 350 kcmil Al/Cu	1 Phase	MLKA1
			3 Phase	MLKA3
	Cu	(1) #6 AWG - 350 kcmil Cu	1 Phase	MLKC1
			3 Phase	MLKC3
400	Al	(2) 1/0 - 250 kcmil Al/Cu or (1) #2 AWG - 600 kcmil Al/Cu	1 Phase	4MLKA1
			3 Phase	4MLKA3
	Cu	(1) 1/0 AWG - 600 kcmil Cu or (2) 1/0 AWG - 4/0 AWG Cu	1 Phase	4MLKC1
			3 Phase	4MLKC3

① 400 amp kits is for main only - not allowed as subfeed breaker.

② Main breaker selection p. 6-14.

Panelboards

Circuit Breaker / Lighting and Distribution

Selection

Type P1 Panelboards

Main Breaker Selection

Ampere Rating	Breaker Type	Maximum Interrupting Rating (kA)			Catalogue Number	Available Trip Values
		240 Vac	480/277 Vac	600Y/347 Vac		
70	BQD6	65	—	10	B6	15, 20, 25, 30, 35, 40, 45, 50, 60, 70
100	BL	10	—	—	BL	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	BLH	22	—	—	BH	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	HBL	65	—	—	HB	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	BQD	65	14	—	BQ	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	ED2	10	—	—	E2	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
125	NGB	100	25	14	NB	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125
	ED4	65	18	—	E4	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
	ED6	65	25	18	E6	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
	HED4	100	42	—	H4	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125
225	QJ2	10	—	—	QJ	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	QJH2	22	—	—	QH	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	QJ2-H	42	—	—	Q2	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	FD6	65	35	22	FD	70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	FXD6	65	35	22	FX	70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	HFD6	100	65	25	HF	70, 80, 90, 100, 110, 125, 150, 175, 200, 225
250	FD6	65	35	22	FD	250
	FXD6	65	35	22	FX	250
	HFD6	100	65	25	HF	250
400	JD6	65	35	25	J6	200, 225, 250, 300, 350, 400
	JXD6	65	35	25	JX	200, 225, 250, 300, 350, 400
	HJD6	100	65	35	H6	200, 225, 250, 300, 350, 400

Subfeed Breakers^{①②}

Breaker Type	Number of Poles	Max. Interrupting Rating (kA)			Available Trip Values
		240V	480Y/277V	600Y/347V	
QJ2	2, 3	10	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
QJH2	2, 3	22	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
QJ2H	2, 3	42	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
ED2	2, 3	10	—	—	15 ^③ , 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
ED4	2, 3	65	18	—	15 ^③ , 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
ED6	2, 3	65	25	18	15 ^③ , 20, 25, 30, 35, 40, 45, 50, 60 ^③ , 70 ^③ , 80 ^③ , 90 ^③ , 100 ^③ , 110 ^③ , 125 ^③
HED4	2, 3	100	42	—	15 ^③ , 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
FXD6	2, 3	65	35	22	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250
FD6	2, 3	65	35	22	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250
HFD6	2, 3	100	65	25	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250

Note: For detailed circuit breaker information please consult section 5. For "Series Rating" tested combinations, please consult the Siemens Series Rated Combination Guide p. 5-84.

^① Please consult CSA, CEC and local inspection authorities for specification and installation guidelines.

^② No increase in box height, space is already built into P1 panel.

^③ Amperage available in 3 pole breaker only.

Panelboards

Circuit Breaker/Lighting and Distribution

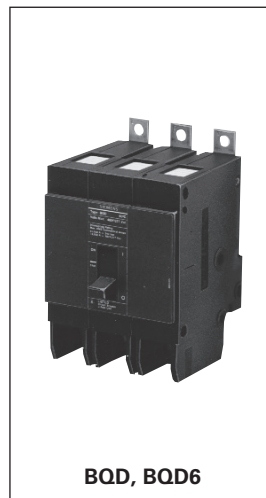
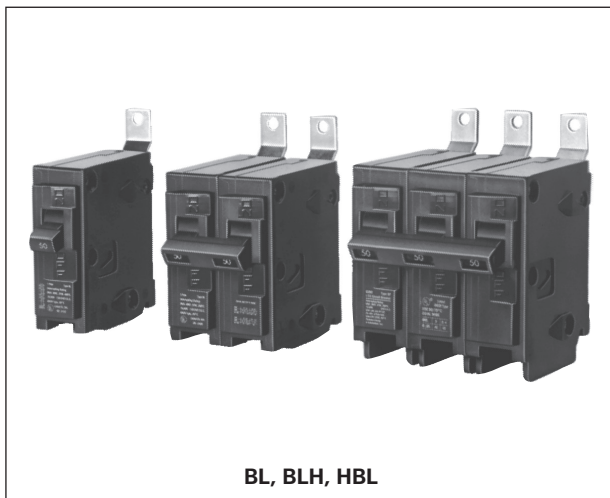
Selection

Branch Breakers Selection Guide for P1

1. Select branch breaker type based on interrupting rating required.
2. Select required amperage.
3. Select number of poles.
4. Select branch breaker catalogue numbers on page 6-16.
5. Select ground bar and filler to cover any unused positions.
(See replacement parts & accessories on page 6-17.)

Branch Circuit Breakers

Breaker Type	Number of Poles	Max. Interrupting Rating (kA)							Available Trip Values
		120V	120/240V	240V	277V	480/277V	347V	600/347V	
BL	1	10	—	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70
	2	—	10	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	3	—	—	10	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
BLH	1	22	—	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70
	2	—	22	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	3	—	—	22	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
HBL	1	65	—	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70
	2	—	65	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100
	3	—	—	65	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100
BLR	2	—	—	10	—	—	—	—	15, 20, 30, 40, 50, 60, 70, 80, 90, 100
BLF	1	10	—	—	—	—	—	—	15, 20, 25, 30
	2	—	10	—	—	—	—	—	15, 20, 30, 40, 50, 60
BLHF	1	22	—	—	—	—	—	—	15, 20, 25, 30
	2	—	22	—	—	—	—	—	15, 20, 30, 40, 50, 60
BLE	1	10	—	—	—	—	—	—	15, 20, 30
	2	—	10	—	—	—	—	—	15, 20, 30, 40, 50, 60
BLEH	1	22	—	—	—	—	—	—	15, 20, 30
	2	—	22	—	—	—	—	—	15, 20, 30, 40, 50, 60
BAF	1	10	—	—	—	—	—	—	15, 20
BAFH	1	22	—	—	—	—	—	—	15, 20
BQD	1	65	—	—	14	—	—	—	15, 20, 25, 30, 35, 45, 50, 60, 70, 80, 90, 100
	2	—	—	65	—	14	—	—	15, 20, 25, 30, 35, 45, 50, 60, 70, 80, 90, 100
	3	—	—	65	—	14	—	—	15, 20, 25, 30, 35, 45, 50, 60, 70, 80, 90, 100
BQD6	1	65	—	—	—	—	10	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70
	2	—	—	65	—	—	—	10	15, 20, 25, 30, 35, 40, 45, 50, 60, 70
	3	—	—	65	—	—	—	10	15, 20, 25, 30, 35, 40, 45, 50, 60, 70



Panelboards

Circuit Breaker/Lighting and Distribution

Selection

Branch Breakers Selection for P1

BL Branch Breakers – 10,000A IR^①

Ampere Rating	Catalogue Number			
	1-Pole 120/240V	2-Pole 120/240V	2-Pole 240V	3-Pole 240V
15	B115	B215	B215R	B315
20	B120	B220	B220R	B320
25	B125	B225	B225R	B325
30	B130	B230	B230R	B330
35	B135	B235	B235R	B335
40	B140	B240	B240R	B340
45	B145	B245	B245R	B345
50	B150	B250	B250R	B350
55	B155	—	—	—
60	B160	B260	B260R	B360
70	B170	B270	B270R	B370
80	—	B280	B280R	B380
90	—	B290	B290R	B390
100	—	B2100	B2100R	B3100

BLH Branch Breakers – 22,000A IR^①

Ampere Rating	Catalogue Number		
	1-Pole 120/240V	2-Pole 120/240V	3-Pole 240V
15	B115H	B215H	B315H
20	B120H	B220H	B320H
25	B125H	B225H	B325H
30	B130H	B230H	B330H
35	B135H	B235H	B335H
40	B140H	B240H	B340H
45	B145H	B245H	B345H
50	B150H	B250H	B350H
55	B155H	B255H	B355H
60	B160H	B260H	B360H
70	B170H	B270H	B370H
80	—	B280H	B380H
90	—	B290H	B390H
100	—	B2100H	B3100H

HBL Branch Breakers – 65,000A IR^①

Ampere Rating	Catalogue Number		
	1-Pole 120/240V	2-Pole 120/240V	3-Pole 240V
15	B115HH	B215HH	B315HH
20	B120HH	B220HH	B320HH
25	B125HH	B225HH	B325HH
30	B130HH	B230HH	B330HH
35	B135HH	B235HH	B335HH
40	B140HH	B240HH	B340HH
45	B145HH	B245HH	B345HH
50	B150HH	B250HH	B350HH
55	B155HH	B255HH	B355HH
60	B160HH	B260HH	B360HH
70	B170HH	B270HH	B370HH
80	—	B280HH	B380HH
90	—	B290HH	B390HH
100	—	B2100HH	B3100HH

BQD6 Branch Breakers – 10,000A IR max. @ 600/347 Vac

Ampere Rating	Catalogue Number		
	1-Pole 347V	2-Pole 600Y/347V	3-Pole 600Y/347V
15	BQD6115	BQD6215	BQD6315
20	BQD6120	BQD6220	BQD6320
25	BQD6125	BQD6225	BQD6325
30	BQD6130	BQD6230	BQD6330
35	BQD6135	BQD6235	BQD6335
40	BQD6140	BQD6240	BQD6340
45	BQD6145	BQD6245	BQD6345
50	BQD6150	BQD6250	BQD6350
60	BQD6160	BQD6260	BQD6360
70	BQD6170	BQD6270	BQD6370

AFCI – Branch Feeder

Breaker Type	Ampere Rating	Catalogue Number
BAF - 10,000 IR 1-pole	15 20	BA115AF BA120AF
BAFH - 22,000 IR 1-pole	15 20	BA115AFH BA120AFH

GFCI Personnel Protection (5mA)

Breaker Type	Ampere Rating	Catalogue Number
BLF - 10,000 IR 1-pole	15 20 25 30	BF115 BF120 BF125■ BF130
BLF - 10,000 IR 2-pole	15 20 30 40 50 60	BF215 BF220 BF230 BF240■ BF250■ BF260■
BLHF - 22,000 IR 1-pole	15 20 25 30	BF115H BF120H BF125H■ BF130H
BLHF - 22,000 IR 2-pole	15 20 30 40 50 60	BF215H BF220H BF230H BF240H■ BF250H■ BF260H■

GFCI Equipment Protection (30mA)

Breaker Type	Ampere Rating	Catalogue Number
BLE - 10,000 IR 1-pole	15 20 30	BE115 BE120 BE130
BLE - 10,000 IR 2-pole	15 20 30 40 50 60	BE215 BE220 BE230 BE240 BE250 BE260■
BLEH - 22,000 IR 1-pole	15 20 30	BE115H BE120H BE130H
BLEH - 22,000 IR 2-pole	15 20 30 40 50 60	BE215H BE220H BE230H BE240H BE250H BE260H■

BQD Branch Breakers – 65,000A IR max. @ 240 Vac^②

Ampere Rating	Catalogue Number		
	1-Pole 120/240V	2-Pole 120/240V	3-Pole 240V
15	BQD115	BQD215	BQD315
20	BQD120	BQD220	BQD320
25	BQD125	BQD225	BQD325
30	BQD130	BQD230	BQD330
35	BQD135	BQD235	BQD335
40	BQD140	BQD240	BQD340
45	BQD145	BQD245	BQD345
50	BQD150	BQD250	BQD350
60	BQD160	BQD260	BQD360
70	BQD170	BQD270	BQD370
80	BQD180	BQD280	BQD380
90	BQD190	BQD290	BQD390
100	BQD1100	BQD2100	BQD3100

■ Built to order.

① To add shunt trip to BL breakers, see page 6-18 Accessories.

② To add shunt trip to BQD breakers, see page 6-18 Accessories.

Panelboards

Modifications and Additions

Type P1 Panelboards

Copper Neutral Lug Kits - 250A

Number of Circuits	Description	Catalogue Number
18		CNLK18
30	2 Branch Neutral Strips, 1 Main Neutral Lug, Hardware	CNLK30
42		CNLK42

200% Copper Neutral Lug Kits - 250A

18		2NLK18
30	2 Branch Neutral Strips, 2 Main Neutral Lug, Hardware	2NLK30
42		2NLK42

200% Copper Neutral Lug Kits - 400A

18		42NLK18
30	2 Branch Neutral Strips, 1 Main 600 kcmil Neutral Lug, Hardware	42NLK30
42		42NLK42

250A Branch Neutral Connections

No. of circuits	Branch Neutral Lugs - Wire Size range	No. of connections per neutral bar	
		Al Neutral bar Std	Cu Neutral bar
18 circuits	(1) #6 - 350 MCM Al/Cu	(2) #4 - #14 AWG (8) 1/0 - #14 AWG	(9) #4 - #14 AWG (8) 1/0 - #14 AWG
30 circuits		(2) #4 - #14 AWG (15) 1/0 - #14 AWG	(16) #4 - #14 AWG (15) 1/0 - #14 AWG
42 circuits		(22) 1/0 - #14 AWG	(23) #4 - #14 AWG (22) 1/0 - #14 AWG

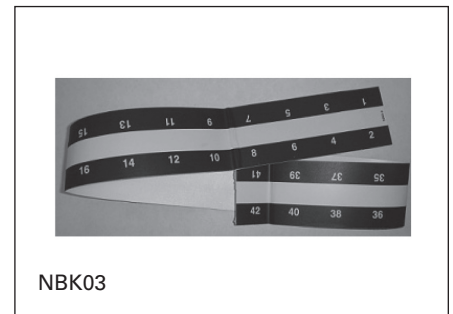
400A Branch Neutral Connections

No. of circuits	Branch Neutral Lugs - Wire Size range	No. of connections per neutral bar	
		Al Neutral bar Std	Cu Neutral bar
18 circuits	(1) #2 - 600 MCM Al/Cu	(2) #4 - #14 AWG (8) 1/0 - #14 AWG	(9) #4 - #14 AWG (8) 1/0 - #14 AWG
30 circuits		(2) #4 - #14 AWG (15) 1/0 - #14 AWG	(16) #4 - #14 AWG (15) 1/0 - #14 AWG
42 circuits		(22) 1/0 - #14 AWG	(23) #4 - #14 AWG (22) 1/0 - #14 AWG

Type P1 Miscellaneous Parts and Accessories

Catalogue Number	Description
12-1110-01	1 Directory card for 1-42 circuits
11-1824-01	1 Plastic directory card holder
MCHK	1 Metallic directory card holder
10FLHX2	200 BL/BQD breaker line side screws
10FLHX5	500 BL/BQD breaker line side screws
FPLK2	2 Spare Fas-latch trim locks with 2 keys
BK1	1 Bonding kit for P1 panels
EGK	1 Aluminum non-insulated ground bar
ECGK	1 Copper non-insulated ground bar
EWK1	1 End Wall with knockouts (20" W x 5.75" D)
IGK	1 Insulated Al ground bar
ICGK	1 Insulated Cu ground bar
IMK1	1 Interior adjusting kit
JCK24	24 Trim screws and 24 trim clips
NBK03	1 Number Strip 1-42 circuits
QF3-UL	1 Filler Plate
SDKN	1 Dripshield kit (20" W x 5.75" D)
TPS9IKITP1	1 P1 mounting bracket for SPD TPS3 09

Selection



Type P1 Spare Part Kit

Catalogue Number	Content
MHKP1	<ul style="list-style-type: none"> ▪ 8 trim screws ▪ 8 trim clips ▪ 1 bonding kit ▪ 1 interior adjusting kit ▪ 2 Al non-insulated ground bar ▪ 2 Cu non-insulated ground bar ▪ 2 Insulated Al ground bar ▪ 2 Insulated Cu ground bar ▪ 1 numbering strip label ▪ 1 directory card ▪ 1 plastic directory pouch ▪ 1 panelboard instruction book

Panelboards

Type P1 Panelboard Factory Assembled / Modifications and Additions

Selection

Enclosure Modifications

Description
Type 1 with gasket Type 1 with dripshield Type 3R - Waterproof and silicone free Type 3R/12 - Dustproof Type 4/4X - Standard type 304 Stainless Steel Type 4/4X - Type 316 Stainless Wider enclosure - 24" wide
Hinged trim Piano hinged trim Trim with padlock Door-in-door trim Screw to the box trim Trim with gasketed door Stainless steel trim
Mounted devices <ul style="list-style-type: none"> Pilot lights Toggle switches Push buttons (Devices mounted into a 10" minimum box extension)
Painted boxes Custom colours

Panel Skirts

See page 6-47

Panel Modifications

Service Entrance Label

Type P1 Panelboards are factory labeled "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" when identified as "Service Entrance" at the time of order entry. For regulations governing this feature, please consult CEC, CSA or local electrical authorities.

Bus Material

Represented by "A", "C" or "E" in the 11th digit of the catalogue number

Standard bussing is tin plated Al, alternate bus bar material can be selected:

- Tin plated copper
- Silver plated copper - optional

Branch and Main Breaker See section 5 and Accessories

- Handle blocks
- Handle locks

Panel Modifications (cont.)

Grounding of Panelboards

Ground Bars are shipped with the panel interior factory mounted.

- Non-Insulated Equipment Ground Bar
- Copper Non-Insulated Ground Bar
- Al Insulated Equipment Ground Bar
- Cu Insulated Equipment Ground Bar

Shunt Trip on Main or Branch

BL, BLH, HBL, BQD, BQD6 as branch only. BL, BLH, HBL, ED4, ED6, HED4, uses 1" unit space for shunt trip as a branch device. All others may be used on mains or subfeeds.

Feed-Thru Lugs

Cannot be used in conjunction with SPD or subfeed breakers

Ampere Rating	Type	Connector Wire Range
250	Al Mechanical	(1) #6 AWG - 350 kcmil Al/Cu
	Cu Mechanical	(1) #6 AWG - 350 kcmil Cu
	Compression	(1) #6 AWG - 350 kcmil Al/Cu
400	Al Mechanical	(2) #3/0 AWG - 250 kcmil Al/Cu or
		(1) #3/0 AWG - 600 kcmil Al/Cu

Compression Lugs

Style	Amp Rating	Breaker Type	Compression Connector Wire Range	Box Height Addition
MLO	125	N/A	(1) #4 AWG - 350 kcmil Al/Cu	None
	250			
	400	N/A	(1) 250 - 600 kcmil or (2) #3/0 AWG - 250 kcmil	None
Main Breaker	125	ED4, ED6, HED4	(1) #12 - 1/0 AWG Al/Cu	Box must go to 24" wide
	250	FXD6, HFD6	(1) #6 AWG - 350 kcmil Al/Cu	Box must go to 24" wide

Note: Standard compression lugs used for P1 are range taking lugs and may require a particular crimping tool to accommodate the range. Consult factory for information.

Surge Protective Devices see section 6

- TPS3 01
 - Bus connected
 - Internally mounted (30A breaker required to feed SPD)
 - Externally mounted in a 15" high aux. enclosure (30A breaker required to feed SPD)
- TPS3 09
 - Internally mounted (20A breaker required to feed SPD)
 - Externally mounted (20A breaker required to feed SPD)
- TPS3 12
 - Externally mounted (40A breaker required to feed SPD)

Panelboards

Panelboard Replacement, Modification, and Additions

Selection

S1/S2 Panels—All the P1 panel kits for 250 amp and below panels will work for 250 amp maximum S1/S2 panels.

400/600 Amp S1/S2

Lug Kits — Main or Feed-Thru

Ampere Rating	Material	Wire Range	Service	Catalogue Number
125A/250A	Al/Cu	(2) 1/0–250 kcmil	1-Phase	MLKA1
125A/250A	Al/Cu	(2) 1/0–250 kcmil	3-Phase	MLKA3
400A/600A	Al/Cu	(2) #4–250 kcmil or (1) 3/0–500 kcmil	1-Phase	SMLKA1
400A/600A	Al/Cu	(2) #4–250 kcmil or (1) 3/0–500 kcmil	3-Phase	SMLKA3

Breaker Mounting Kits

Ampere Rating	Breaker Types	Service	Catalogue Number
125A	ED2, ED4, ED6, HED4, HED6, HHED6	1-Phase	SMBKED1
225A	ED2, ED4, ED6, HED4, HED6, HHED6	3-Phase	SMBKED3
225A	QJ2, HQJ2, HQJ2H [Ⓞ]	1-Phase	SMBKQJ1
225A	QJ2, HQJ2, HQJ2H [Ⓞ]	3-Phase	SMBKQJ3
250A	FXD6, FD6, HFXD6, HFD6	1-Phase	SMBKFD1
250A	FXD6, FD6, HFXD6, HFD6	3-Phase	SMBKFD3
400A	JD6, JXD6, HJD6, HJXD6	1-Phase	SMBKJD1
400A	JD6, JXD6, HJD6, HJXD6	3-Phase	SMBKJD3
600A	LD6, LXD6, HLD6, HLXD6	1-Phase	SMBKLD1
600A	LD6, LXD6, HLD6, HLXD6	3-Phase	SMBKLD3

Neutral Kits

Ampere Rating	Description	Catalogue Number
250A max.	30/42 circuit 200% neutral kit	2NLK2
400/600A max.	42 circuit 200% neutral kit	2NLK1

[Ⓞ] QJ mounting kit is for subfeed breakers only, not main breaker.
The kit contains mountings for (2) breakers.

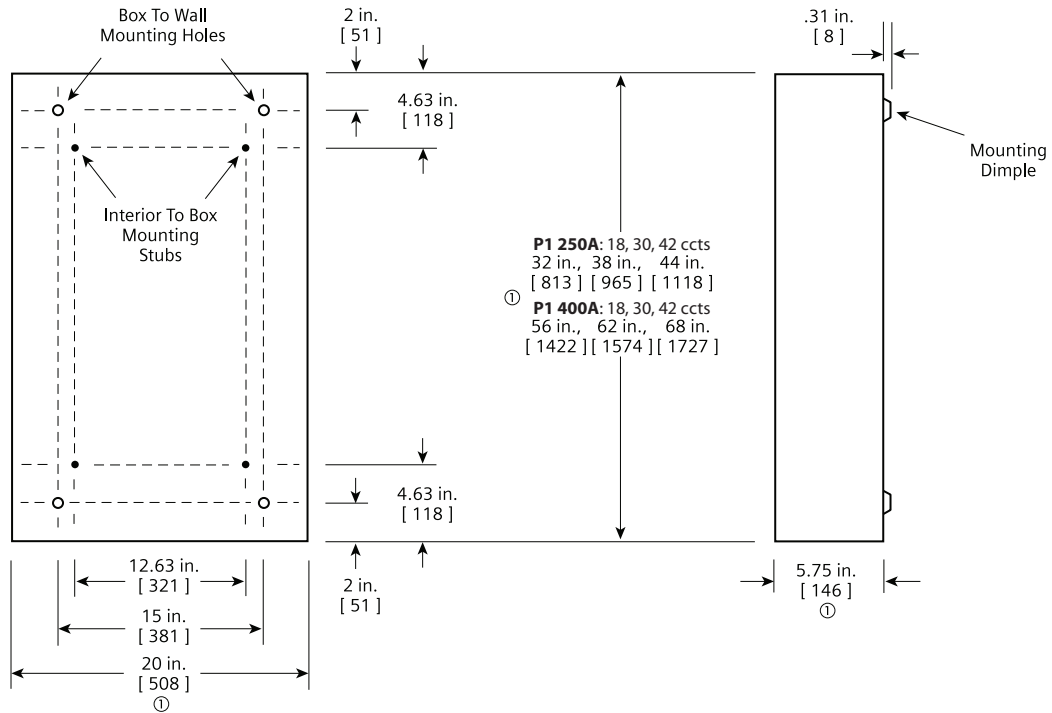
Panelboards

Type P1

Dimensions

Type 1 Box

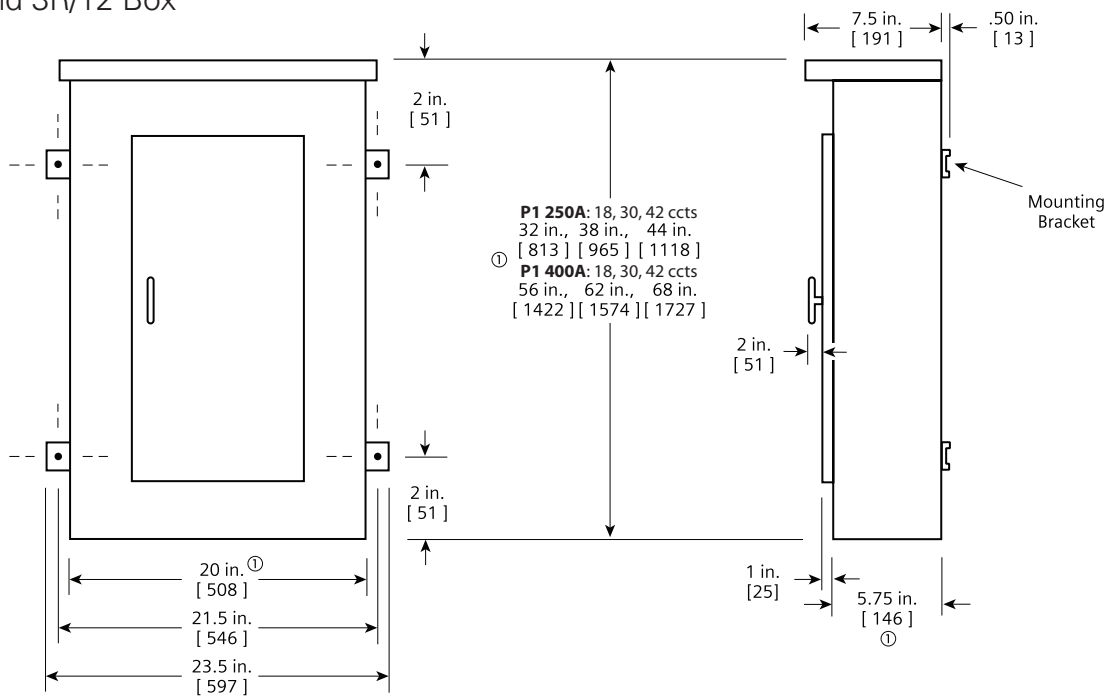
Box is symmetrical



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PANELBOARDS

Type 3R and 3R/12 Box



①Dimensions are interior of the box. Add 5/8" [16mm] to width for absolute dimension. Add 1/8" [3mm] to height for absolute dimension.

Dimensions shown in inches and millimeters [].