

Panelboards

Type P2 Panelboards

General

Features

Flexibility is the hallmark of the P2 panel. This panel offers a wide array of factory-assembled options to meet almost all lighting panel applications. With this design, the ability to mix breaker frames in unit space up to 250 amps will also meet many distribution panel requirements in a much smaller package. Bussing options for the P2 are aluminum and copper. Standard bussing in the P2 panel is tin-plated. Silver-plated copper is also offered as an option. Bus mounted contactors, as mains or sub mains, and subfeed lugs (up to 400 amp) are just a few of the options of this unique panel.

P2 is set up around 18, 30, 42, 54, 66, 78, 90, 102, 114 circuit configurations. It will also allow the user to configure the panel to the smallest possible size. The P2 panel starts with 9" of unit space (18 circuits of 1" pole breakers). Breakers mounted in unit space can be mixed and matched to meet customer requirements. All 1" pole breakers (BL, BQD, ED frames) are mounted in 3" or 6" pole increments. Breaker frames, above 125 amps, are mounted in 6" single breaker mountings.

As an example of a minimum panel, (6) 20 amp 1-pole BL breakers (3" of unit space) and a 3-pole 225 amp QJ breaker (6" of unit space) equaling 9" of unit space can be configured in a P2 panel without any extra provisions or space required. FD 250 amp and JD 400 amp breakers are mounted as subfeed breakers outside of unit space.

Another unique feature of the P2 panel is that blank unit space can be added to allow for future expansions or modifications. Any expansions or modifications must be in 3" increments. BL, BQD, and ED frame breakers have 3" or 6" pole kits, and can be mixed in unit space by these increments. Breakers of the same frame can cross from one mounting to another if contiguous. QJ frame breakers are mounted in 6" increments for two- and three pole, single mounted units. Changes in the unit space length for BL, BQD, or ED frame breakers require an addition deadfront, center strip kit. Check with sales or the factory for additional unit space kits.

Voltage – 600V AC max.
250V DC max.

Amperage – 600 amp max.

Short circuit rating
200,000 A IR Maximum /
100,000 A @ 600 Vac
symmetrical or equal to the lowest rated device installed unless a series rating is indicated. Panels with subfeed or feed-thru lugs without a main device, circuit breaker or fusible unit, are limited to 22 KAIC or the lowest rated device installed unless a series combination rating for a main or remote main is indicated. Note that the main device may be mounted remote from the panel.

Panelboards

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

Bussing – The P2 panel has more options to meet market requirements. The standard bussing is tin-plated aluminum for amperage up to 400A and is tin-plated copper for 600A. The rating is per the requirements of CSA 22.2 No.29 – the standard for panelboards. The copper bus option for this panel is tin-plated or silver flash.

Enclosure – Standard Type 1 enclosure is 20" wide x 5.75" deep. Box Height is determined by main device and unit space. See charts for box height.

Panelboards Fronts and Doors

Standard panelboards are furnished with trim featuring concealed fasteners and hinges with 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

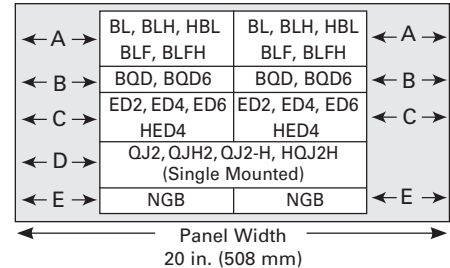
BL, BLH, HBL, BQD, BQD6, ED2, ED4, ED6, HED4, CED6, NGB, QJ2, QJH2, QJ2-H, FXD6, FD6, HFD6, CFD6, JXD6, JD6, HJD6, SHJD6, CJD6, SCJD6, LXD6, LD6, HLD6, SLD6, SHLD6, CLD6, SCLD6.

Branch Breaker

Side Gutter Wiring Space - Inches (mm)

Reference Letter	Panel Width 20" (508)
A	5.750 (146)
B	5.125 (130)
C	4.000 (102)
D [Ⓜ]	5.000 (127)
E	4.625 (117)

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)	26-74 (660-1880)	#14

Gauge Steel Trims - Surface, Flush

20 (508)	26-74 (660-1880)	#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

Type P2 Panelboards

Selection/Dimensions

P2 Box Size Requirements

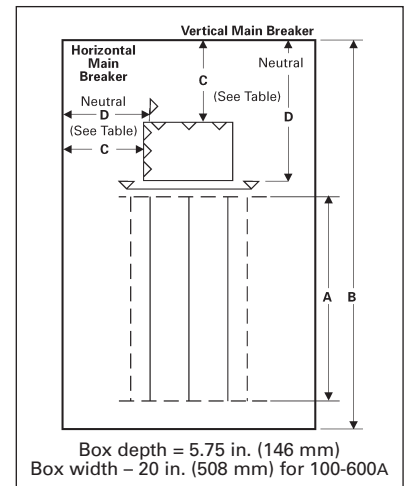
Base Box Size Requirements for P2 Panels with Standard Line Lugs are for 1" module (BL, BQD, ED, NGB) branch breakers and provisions. Unit Spaces range from 9" to 57" (in 6" increments). Boxes range from 26" to 74" high (in 6" increments). Inclusion of optional modifications may require size increases that must be added to these base values to calculate the final box size for the panel (see pages 6-29, 6-30). For service entrance application, breaker is vertically mounted only.

Box Height - Inches (mm) "B" dimension	P2 Panels, with standard Line lugs unit space (starting with 9" and adding 6" increments) - "A" dimension														
	Main Lugs			Main Breakers											
	125A	250A	400A 600A	125A Horiz. BL, BQD, NGB, ED	125A Vert. ED ^①	125A Horiz. CED	225A Horiz. QJ	225A Vert. QJ ^①	250A Horiz. FD	250A Vert. FD ^①	250A CFD	400A JD	400A CJD	600A LD	600A CLD
26 (660)	9	—	—	9	—	—	—	—	—	—	—	—	—	—	—
32 (813)	15	9	—	15	9	9	9	—	—	—	—	—	—	—	—
38 (965)	21	15	9	21	15	15	15	9	9	—	—	—	—	—	—
44 (1118)	27	21	15	27	21	21	21	15	15	9	—	—	—	—	—
50 (1270)	33	27	21	33	27	27	27	21	21	15	9	9	—	—	—
56 (1422)	39	33	27	39	33	33	33	27	27	21	15	15	—	9	—
62 (1575)	45	39	33	45	39	39	39	33	33	27	21	21	9	15	9
68 (1727)	51	45	39	51	45	45	45	39	39	33	27	27	15	21	15
74 (1880)	57	51	45	57	51	51	51	45	45	39	33	33	21	27	21

Main Breaker Wire Bending Space - Inches (mm)

Panel Amps	Breaker Frames	Side Gutter	Neutral Location
		C ^②	D ^②
100	BL	5.75 (146)	8.00 (203)
	BQD	5.13 (130)	8.00 (203)
125	NGB	4.63 (118)	8.00 (203)
	ED (horiz.)	4.00 (102)	8.00 (203)
	ED (vert.)	6.56 (167)	11.13 (283)
225	QJ (horiz.)	5.00 (127)	7.00 (178)
	QJ (vert.)	10.06 (256)	16.69 (423)
250	FD (horiz.)	5.00 (127)	7.00 (178)
	FD (vert.)	13.25 (337)	22.72 (577)
400	JD	15.38 (391)	25.00 (635)
600	LD	15.38 (391)	23.00 (584)

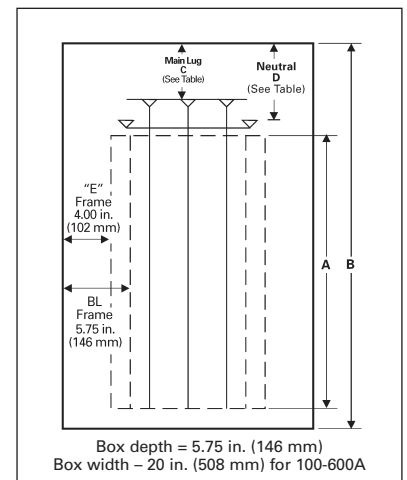
Main breaker wire bending space diagram



Main Lug Connectors

Panel Amps	Std Connectors for Al interior	Std Connectors for Cu interior	Side Gutter	Neutral Location
			C ^②	D ^②
125	(1) #6 - 2/0 AWG Al/Cu	(1) #6 AWG - 350 kcmil Cu	6.62 (168)	8.19 (208)
250	(1) #6 - 350 kcmil Al/Cu	(1) #6 AWG - 350 kcmil Cu	11.75 (298)	10.72 (273)
400	(1) #2 AWG - 600 kcmil Al/Cu or (1) 1/0 AWG - 250 kcmil Al/Cu	(1) 1/0 AWG - 600 kcmil Cu or (2) 1/0 - 4/0 AWG Cu	14.00 (356)	13.09 (333)
600	(2) #2 AWG - 600 kcmil Al/Cu	(2) #2 AWG - 600 kcmil Cu	14.00 (356)	11.00 (279)

Main lug wire bending space diagram



① Vertical main breaker application for ED, QJ and FD adds 6" (152mm) of box height.

② Refer to wire bending space diagrams.

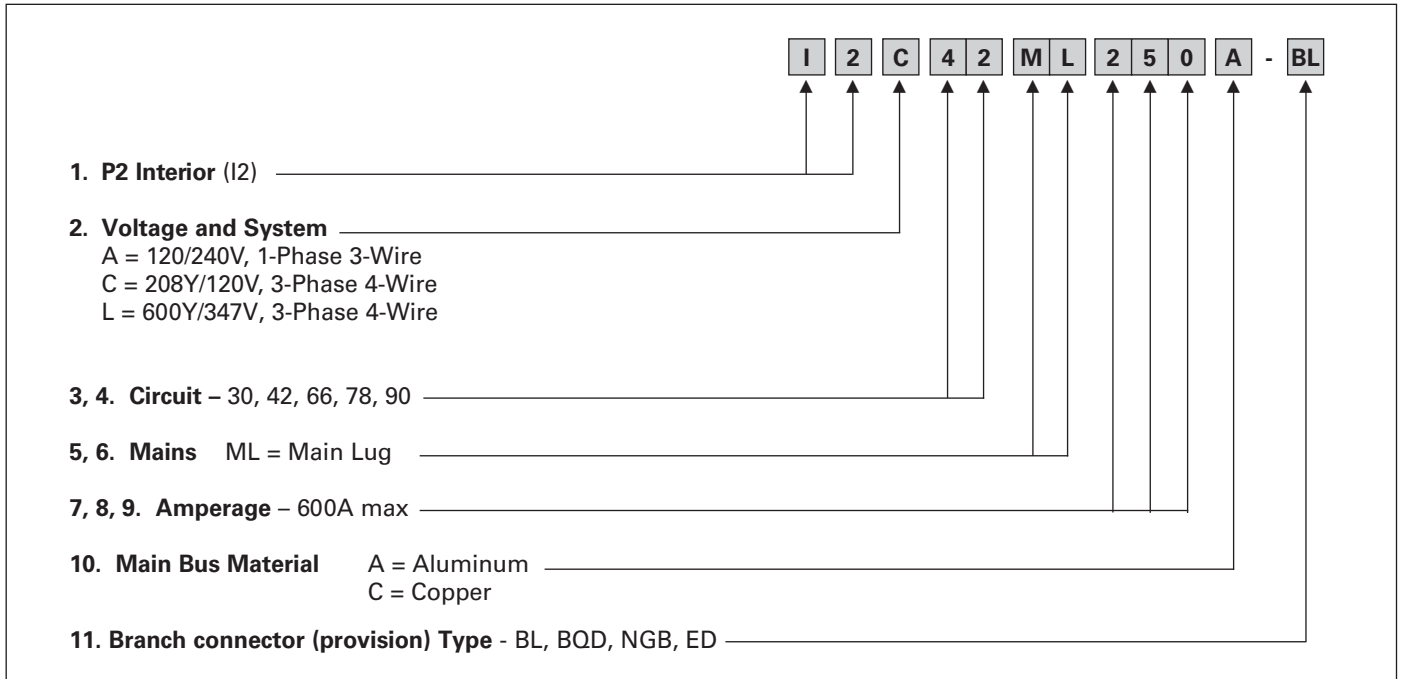
Panelboards

Distributor Stock - Type P2 Main Lug Only

Reference

Interior Numbering System

Type P2 unassembled panelboards are available as main lug only and come with provisions for the branch breaker type selected.



Branch Breakers

Panel Type	Voltage (Max.)	Breaker Type	Power Product Catalogue Page
P2	240	BL, BLH, HBL, BQD, BQD6	See section 5
	600/347	BQD, BQD6	

Panelboards

Distributor Stock - Type P2 Main Lug Only

Selection

Interior, Box and Trim Selection

600A Max. — 20" Wide x 5.75" Deep

1. Determine voltage, system, amperage and type of branch breaker connectors to select the appropriate Interior from the table below.
2. Select the type of box and trim needed.
3. List required branch circuit breakers: Type BL, BQD, NGB or ED breakers.

Type P2 Unassembled Panelboards

Interiors Only - Less Branch Breakers				Boxes			Trim	
Amperes Rating Mains	Max. No. of Circuits	Provision Type	Main Lug + provisions	Height - Inches (mm)	Type 1	Type 3R/12 [Ⓢ]	Surface	Flush [Ⓢ]

1-Phase, 3-Wire

120 / 240V

250	66	BL/BQD	I2A66ML250A-BL	56 (1422)	B56	WP56	S56B	F56B
	78		I2A78ML250A-BL	62 (1575)	B62	WP62	S62B	F62B
400	42	BL/BQD	I2A42ML400A-BL	50 (1270)	B50	WP50	S50B	F50B
	66		I2A66ML400A-BL	62 (1575)	B62	WP62	S62B	F62B

3-Phase, 4-Wire

208Y / 120V

250	42	BL/BQD	I2C42ML250A-BL	44 (1118)	B44	WP44	S44B	F44B
	66		I2C66ML250A-BL	56 (1422)	B56	WP56	S56B	F56B
	78		I2C78ML250A-BL	62 (1575)	B62	WP62	S62B	F62B
400	42	BL/BQD	I2C42ML400A-BL	50 (1270)	B50	WP50	S50B	F50B
	66		I2C66ML400A-BL	62 (1575)	B62	WP62	S62B	F62B
	78		I2C78ML400A-BL	68 (1727)	B68	WP68	S68B	F68B
	90		I2C90ML400A-BL	74 (1880)	B74	WP74	S74B	F74B
600	66	BL/BQD	I2C66ML600A-BL	62 (1575)	B62	WP62	S62B	F62B

3-Phase, 4-Wire

600Y / 347V

250	30	ED	I2L30ML250A-ED	38 (965)	B38	WP38	S38B	F38B
	42	ED	I2L42ML250A-ED	44 (1118)	B44	WP44	S44B	F44B
		NGB	I2L42ML250A-NGB	44 (1118)	B44	WP44	S44B	F44B
	66	BQD6	I2L66ML250A-BQD	56 (1422)	B56	WP56	S56B	F56B
ED NGB		I2L66ML250A-ED I2L66ML250A-NGB	56 (1422) 56 (1422)	B56 B56	WP56 WP56	S56B S56B	F56B F56B	
400	42	BQD6	I2L42ML400A-BQD	50 (1270)	B50	WP50	S50B	F50B
		ED NGB	I2L42ML400A-ED I2L42ML400A-NGB	50 (1270) 50 (1270)	B50 B50	WP50 WP50	S50B S50B	F50B F50B
	66	BQD6	I2L66ML400A-BQD	62 (1575)	B62	WP62	S62B	F62B
		ED NGB	I2L66ML400A-ED I2L66ML400A-NGB	62 (1575) 62 (1575)	B62 B62	WP62 WP62	S62B S62B	F62B F62B
78	BQD6	I2L78ML400A-BQD	68 (1727)	B68	WP68	S68B	F68B	
	ED	I2L78ML400A-ED	68 (1727)	B68	WP68	S68B	F68B	
90	BQD6	I2L90ML400A-BQD	74 (1880)	B74	WP74	S74B	F74B	
	ED	I2L90ML400A-ED	74 (1880)	B74	WP74	S74B	F74B	
600	66	BQD6	I2L66ML600A-BQD	62 (1575)	B62	WP62	S62B	F62B
		ED	I2L66ML600A-ED	62 (1575)	B62	WP62	S62B	F62B
		NGB	I2L66ML600A-NGB	62 (1575)	B62	WP62	S62B	F62B

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

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

Panelboards

Circuit Breaker/Lighting and Distribution

Selection

Type P2 Panelboards

Main Breaker Selection^①

Ampere Rating	Breaker Type	Maximum Interrupting Rating (kA)			Ref. Catalogue Number	Available Trip Values	
		240V AC	480V AC	600V AC			
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	—	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	
	CED6 ^②	200	200	100	CE	15, 20, 30, 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	
	QJ2H	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	
	HFXD6	100	65	25	H2	70, 80, 90, 100, 110, 125, 150, 175, 200, 225	
	CFD6 ^②	200	200	100	CF	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	
HFXD6		100	65	25	H2	250	
CFD6 ^②		200	200	100	CF	250	
400	JXD6 ^②	65	35	25	JX	200, 225, 250, 300, 350, 400	
	JD6 ^②	65	35	35	J6	200, 225, 250, 300, 350, 400	
	HJD6 ^②	100	65	35	H6	200, 225, 250, 300, 350, 400	
	SJD6 ^②	65	35	25	SJ	200, 300, 400	
	SHJD6 ^②	100	65	35	SX	200, 300, 400	
	CJD6 ^②	200	150	100	CJ	200, 225, 250, 300, 350, 400	
	SCJD6 ^②	200	150	100	SC	200, 300, 400	
600	LXD6 ^②	65	35	25	LX	450, 500, 600	
	LD6 ^②	65	35	25	L6	250, 300, 350, 400, 450, 500, 600	
	HLD6 ^②	100	65	35	HL	250, 300, 350, 400, 450, 500, 600	
	SLD6 ^②	65	35	25	SL	300, 400, 500, 600	
	SHLD6 ^②	100	65	35	S2	300, 400, 500, 600	
	CLD6 ^②	200	150	100	CL	450, 500, 600	
	SCLD6	200	150	100	S1	300, 400, 500, 600	

Subfeed Breakers (available in 2-pole or 3-pole)

Breaker Type	Mounting Position When Used as Subfeed Breaker	Ampere Ratings For Load	Maximum Interrupting Rating (kA) Symmetrical		
			240 Vac	480 Vac	600 Vac
FD6 ^③ , FXD6	Twin	70–250	65	35	22
HFD6 ^③ , HFXD6	Twin	70–250	100	65	25

① Interchangeable trip main breakers are mounted at the top of the panel only.

② Vertically mounted.

③ Twin mounted subfeed breakers are mounted at the bottom of panelboard only and adds 24" to the panel height.

Note: For detailed circuit breaker information, consult section 5.

Panelboards

Circuit Breaker/Lighting and Distribution

Selection

Type P2 Panelboards

Branch Circuit Breakers

Max. Amp Rating	Breaker Type	Number of Poles	Maximum Interrupting Rating (kA)							Available Trip Values	
			120V AC	120/240V AC	240V AC	277V AC	480/277V AC	347V AC	600Y/347V AC		
70	BOD6	1	65	—	—	—	—	—	10	15, 20, 25, 30, 35, 40, 45, 50, 60, 70	
		2	—	65	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70	
		3	—	—	65	—	—	—	10	15, 20, 25, 30, 35, 40, 45, 50, 60, 70	
100	BL	1	10	—	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 55, 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, 55, 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, 40, 45, 50, 60, 70, 80, 90, 100	
	2	—	—	65	—	—	14	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100	
	3	—	—	65	—	—	14	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100	
ED2	1	10	—	—	—	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100	
	2	—	—	10	—	—	—	—	—	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	
125	NGB	1	100	—	—	25	—	14	—	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	
		2	—	—	100	—	25	—	14	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	
		3	—	—	100	—	25	—	14	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	
	ED4	1	65	—	—	22	—	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
		2	—	—	65	—	18	—	—	—	20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
		3	—	—	65	—	18	—	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
	ED6	1	—	—	—	25	—	18 ^②	—	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
		2	—	—	65	—	25	—	18	—	20, 25, 30, 35, 40, 45, 50
		3	—	—	65	—	25	—	18	—	15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125
	HED4	1	100	—	—	25 ^①	—	—	—	—	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125
		2	—	—	100	—	42	—	—	—	20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125
		3	—	—	100	—	42	—	—	—	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125
CED6 ^③	2	—	—	200	—	200	—	100	—	20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	
	3	—	—	200	—	200	—	100	—	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	
225	QJ2	2	—	—	10	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225	
		3	—	—	10	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225	
		3	—	—	—	—	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	QJH2	2	—	—	22	—	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
		3	—	—	22	—	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
	HQJ2H	2	—	—	42	—	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225
3		—	—	42	—	—	—	—	—	60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225	

Neutral Connections

Amps	Main Neutral Lugs - Wire Size range
125A	(1) #6 - 2/0 AWG Al/Cu
250A	(1) #6 - 350 MCM AWG Al/Cu
400A	(1) #2 - 600 MCM Al/Cu and (1) #6 - 350 MCM Al/Cu
600A	(2) #2 - 600 MCM Al/Cu and (1) #6 - 350 MCM Al/Cu

Branch Neutral connections	Material	Wire Size range per neutral rack
Standard MB	Al	(18) #14 - #6 AWG Al/Cu and (3) 1/0 - #6 AWG Al/Cu
Standard MLO	Al	(36) #14 - #4 Al/Cu and (6) 3/0 - #6 Al/Cu
Optional	Al / Cu	(18) #6 - #14 AWG Al/Cu and (3) 1/0 - #14 AWG Al/Cu

- ① 1-Pole HED4 15-30A rated 65kA
35-100A rated 25kA
- ② 1-Pole ED6 15-30A rated 30kA @ 347V
35-100A rated 18kA @ 347V
- ③ CED6 breaker can be used in 400A panel with copper bussing only.
Panel enclosure required is 24" (610mm) wide.

NOTE: QJ Breakers are single mounted in unit space and take 6" of unit space. Limited to (4) per panel max. BL, HBL, BLH and BOD breakers are mounted in common mountings in 3" or (6) pole increments. ED2, ED4, ED6 and HED4 breakers are mounted in common mountings in 3" or (6) pole increments.

Panelboards

Type P2 Panelboard Kit and Accessories

Selection

Branch Breaker Connector Kits

Kit Number	Description	Contents
BBKB32 BBKB32AT BBKB32CS	BL/BQD 6-pole 3" branch breaker kit Cu/Tin BL/BQD 6-pole 3" branch breaker kit Al/Tin BL/BQD 6-pole 3" branch breaker kit Cu/Silver	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKCED32 BBKCED32CS	CED branch breaker kit Cu/Tin CED branch breaker kit Cu/Silver	Kit contains connector kit for P2 400A, 24" wide only
BBKED32 BBKED32AT BBKED32CS	ED 6-pole 3" branch breaker kit Cu/Tin ED 6-pole 3" branch breaker kit Al/Tin ED 6-pole 3" branch breaker kit Cu/Silver	Kit contains breaker support, inter-phase barrier, (3) A/C connectors, (1) B connector, hardware
BBKNB32 BBKNB32AT BBKNB32CS	NGB 6-pole 3" branch breaker kit Cu/Tin NGB 6-pole 3" branch breaker kit Al/Tin NGB 6-pole 3" branch breaker kit Cu/Silver	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKQ1 BBKQ1AT BBKQ1CS	QJ 6-pole branch breaker kit Cu/Tin QJ 6-pole branch breaker kit Al/Tin QJ 6-pole branch breaker kit Cu/Silver	Kit contains all connectors and cover plates necessary to mount both 2 and 3-pole breakers

Type P2 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
FPLK2	2 Fas-latch trim locks with 2 keys
DFK1	BL, BQD, ED deadfront kit for 1" (include 7 different length centre strips)
DFFP3	1 Filler plate 3"
EGK	1 Aluminum non-insulated ground bar
ECGK	1 Copper non-insulated ground bar
EWK1	1 End walls 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
NBK04	1 Number Strip 43-84
NBK05	1 Number Strip 85-126
NBK3	1 Numbering Button Kit 1@42
NBK4	1 Numbering Button Kit 43@84
NBK5	1 Numbering Button Kit 85@126
QF3-UL	1 Filler Plate 1"
P2BK1	1 P2 250A Max. Bonding Kit
P2BK2	1 P2 400A Max. Bonding Kit
P2BK3	1 P2 600A Max. Bonding Kit
SDKN	1 Dripshield 20"W x 5.75"D

Type P2 Spare Part Kit

Catalogue Number	Description
MHKP2	<ul style="list-style-type: none"> ▪ 8 trim screws ▪ 8 trim clips ▪ 1 bonding kit 600A max. ▪ 1 int. 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 Directory card 1-42 ccts ▪ 1 Directory card 43-84 ccts ▪ 1 numbering button kit 1-42 ccts ▪ 1 numbering button kit 43-84 ccts ▪ 1 Panelboard instruction book ▪ 2 plastic directory pouch

Panelboards

Type P2 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 Steel 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 P2 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 Accessories

See section 5.

- Handle blocks
- Handle locks
- Aux. Contacts[Ⓞ]
- UVR[Ⓞ]

Panel Modifications (cont.)

Subfeed (Double) Lugs— For Main Lug Panelboards Only

Ampere Rating	Type	Connector Wire Range
125	Al Mechanical	(2) #14 AWG - 2/0 AWG Al/Cu
250	Al Mechanical	(2) #6 AWG - 350 kcmil Al/Cu
400	Al Mechanical	(2) #2 AWG - 600 kcmil Al/Cu

Note: Ref. p.6-29 for box size additions (inches) for optional features

Feed-Thru Lugs — Cannot be used in conjunction with SPD or Subfeed Breakers (200% Neutral not available)

Amp Rating	Type	Connector Wire Range
125	Al Mechanical	(1) #6 AWG - 2/0 AWG Al/Cu
	Cu Mechanical	(1) #6 AWG - 350 kcmil Cu
	Compression	(1) #6 AWG - 350 kcmil Al/Cu
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	(1) #2 AWG - 600 kcmil Al/Cu and (1) 1/0 AWG - 250 kcmil Al/Cu
	Cu Mechanical	(1) 1/0 AWG - 600 kcmil or (2) 1/0 AWG - 4/0 AWG
	Compression	(1) 250 kcmil - 600 kcmil Cu or (2) #6 AWG - 350 kcmil Al/Cu
600	Al Mechanical	(2) #2 AWG - 600 kcmil Al/Cu
	Cu Mechanical	(2) #2 AWG - 600 kcmil Cu
	Compression	(2) #6 AWG - 350 kcmil Al/Cu (2) 400 kcmil - 600 kcmil Al or (2) 400 kcmil - 500 kcmil Cu

Note: Ref. p.6-29 for box size additions (inches) for optional features

Contactors

- Asco 920 through 225 amps – installed in an 24" auxiliary box
- Siemens LEN through 200A - installed in auxiliary box:
LEN 30A-60A = Min. 5¾"D x 20"W x 10"H
LEN 100A = Min. 5¾"D x 20"W x 18"H
LEN 200A = Min. 7¾"D x 20"W x 24"H

Increase Capacity Neutral up to 200% (N/A on FeedThru Lugs & Subfeed Lugs)

Main Bus Amps
125
250
400
600

See page 6-29 for unit space adders and compatibility with other options.

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, NGB, ED4, HED4, HED6, uses 1" unit space for shunt trip. All others may be used on mains or subfeeds.

Surge Protective Device see section 9

- 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)

[Ⓞ] Accessories on 1" pole breakers (BL, BQD, ED) will take unit space.

Panelboards

Type P2 Panelboard Standard Modifications and Additions

Selection

Box Size Additions for Optional Features - Inches (mm)

Options	Main Lugs				Main Breakers											
	125A	250A	400A	600A	125A Horiz. BL, BQD, ED, NGB	125A Horiz. CED	125A Vert. ED	225A Horiz. QJ	225A Vert. QJ	225A Horiz. FD	250A Vert. FD	250A Vert. CFD	400A JD	400A CJD	600A LD	600A CLD
*Min. Box Size	26 (660)	32 (813)	38 (965)	38 (965)	26 (660)	32 (813)	32 (813)	32 (813)	38 (965)	38 (965)	44 (1118)	50 (1270)	50 (1270)	62 (1575)	56 (1422)	62 (1575)
200% Neutral (lug type)	0	0	6 (all) (152)	6 (all) (152)	0	0	0	N/A	0	N/A	0	0	0	0	0	0
Std. Lugs (100% Neut. PNL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CU Lugs (100% Neut. PNL)	6 (152)	6 (152)	6 (152)	0	N/A	N/A	0	N/A	0	N/A	0	0	0	0	0	0
Comp Lugs (100% Neut. PNL)	6 (152)	6 (152)	6 (152)	6 (152)	N/A	N/A	0	N/A	0	N/A	0	0	0	0	0	0
Feed-thru Standard Lugs	6 (152)	6 (152)	12 (305)	12 (305)	6 (152)	6 (152)	6 (152)	N/A	6 (152)	N/A	6 (152)	6 (152)	12 (305)	12 (305)	12 (305)	12 (305)
Feed-thru Cu Lugs	6 (152)	6 (152)	12 (305)	N/A	N/A	N/A	6 (152)	N/A	6 (152)	N/A	6 (152)	6 (152)	12 (305)	12 (305)	N/A	N/A
Feed-thru Comp Lugs	6 (152)	12 (305)	12 (305)	N/A	N/A	N/A	6 (152)	N/A	6 (152)	N/A	12 (305)	12 (305)	12 (305)	12 (305)	N/A	N/A
Subfeed Standard Lugs	0	6 (152)	6 (152)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(1) FD Subfeed (Horizontal Mtg.)	N/A	12 (305)	12 (305)	12 (305)	N/A	N/A	N/A	N/A	N/A	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)
(2) FD Subfeed (Vertical Mtg.)	N/A	24 (610)	24 (610)	24 (610)	N/A	N/A	N/A	N/A	N/A	24 (610)	24 (610)	24 (610)	24 (610)	N/A	N/A	N/A
SPD	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)

NOTE: N/A = OPTION NOT AVAILABLE

*Min. Box Size, corresponding to 9" of Unit Space.

Compression Lugs

Style	Amp Rating	Breaker Type	Compression Connector Wire Range	Box Height Addition - Inches (mm)
MLO	125	N/A	(1) #6 AWG - 350 kcmil Al/Cu	6 (152)
	250	N/A	(1) #6 AWG - 350 kcmil Al/Cu	6 (152)
	400	N/A	(1) 250 - 600 kcmil Cu	6 (152)
			(2) #6 AWG - 350 kcmil Al/Cu	
600	N/A	(2) #6 AWG - 350 kcmil Al/Cu	6 (152)	
		(2) 400 - 600 kcmil Al or (2) 400 - 500 kcmil Cu		
Main Breaker	100	ED2, ED4, ED6, HED4, CED6 [Ⓛ]	(1) 2/0 AWG Al/Cu	Box must go to 24" wide on CED6 breaker only Add 6" to box height for NØ
	250	FXD6, HFD6, CFD6	(1) 350 kcmil Al/Cu	Box must go to 24" wide for all breakers Requires an additional 6.0" box height
	400	JD6, JXD6, HJD6, CJD6, SJD6, SHJD6, SCJD6	(1) 500 kcmil Al/Cu	9 (229)
	600	LD6, LXD6, HLD6, CLD6, SLD6, SHLD6, SCLD6	(1) 500 kcmil Al/Cu	6 (152)

NOTE: Standard compression lugs used for P2 are range taking lugs and may require a particular crimping tool to accommodate the range. Consult factory for information.

Alternate Lugs

Style	Amp Rating	Breaker Type	Alternate Connector Wire Range	Box Height Addition - Inches (mm)
MLO	400	N/A	(1) 250 - 750 kcmil Al/Cu or (2) #3/0 AWG - 250 kcmil Al/Cu	6 (152)
Main Breaker	400	JD6, JXD6, HJD6, CJD6, SJD6, SHJD6, SCJD6	(1) #4/0 AWG - 750 kcmil Al/Cu	6 (152)

Ⓛ Not available for feed thru lug.

Panelboards

Type P2 Panelboard Kits and Accessories

Selection

Standard Enclosures

Box Height - Inches (mm)	Catalogue Number			
	Type 1 Standard			Type 3R/12 ^②
	Box	Surface Trim	Flush Trim ^①	
26 (660)	B26	S26B	F26B	WP26
32 (813)	B32	S32B	F32B	WP32
38 (965)	B38	S38B	F38B	WP38
44 (1118)	B44	S44B	F44B	WP44
50 (1270)	B50	S50B	F50B	WP50
56 (1422)	B56	S56B	F56B	WP56
62 (1575)	B62	S62B	F62B	WP62
68 (1727)	B68	S68B	F68B	WP68
74 (1880)	B74	S74B	F74B	WP74

Options For Type 1 Trims

Hinged trim – Replace "B" suffix with "H"

Door-in-door – Replace "B" suffix with "D"

Screw to box – Replace "B" suffix with "C"

Trim with padlock – Add "-PL" suffix

Metal card holder – Add "M" suffix on all trims

Option For 24" Wide Enclosures

24" wide with equal gutter on both sides - Add "24" as prefix

^① Flush trim extend 3/4" on each side of the base box.

^② Hinged door included in type 3R/12 enclosures.

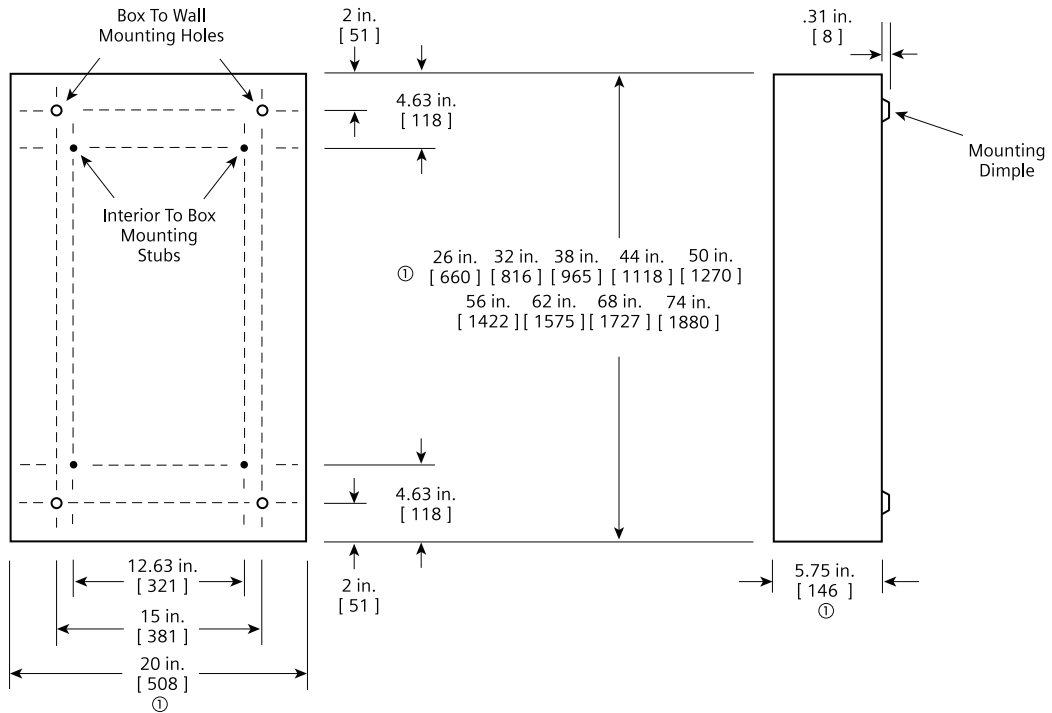
Panelboards

Type P2 Panelboards

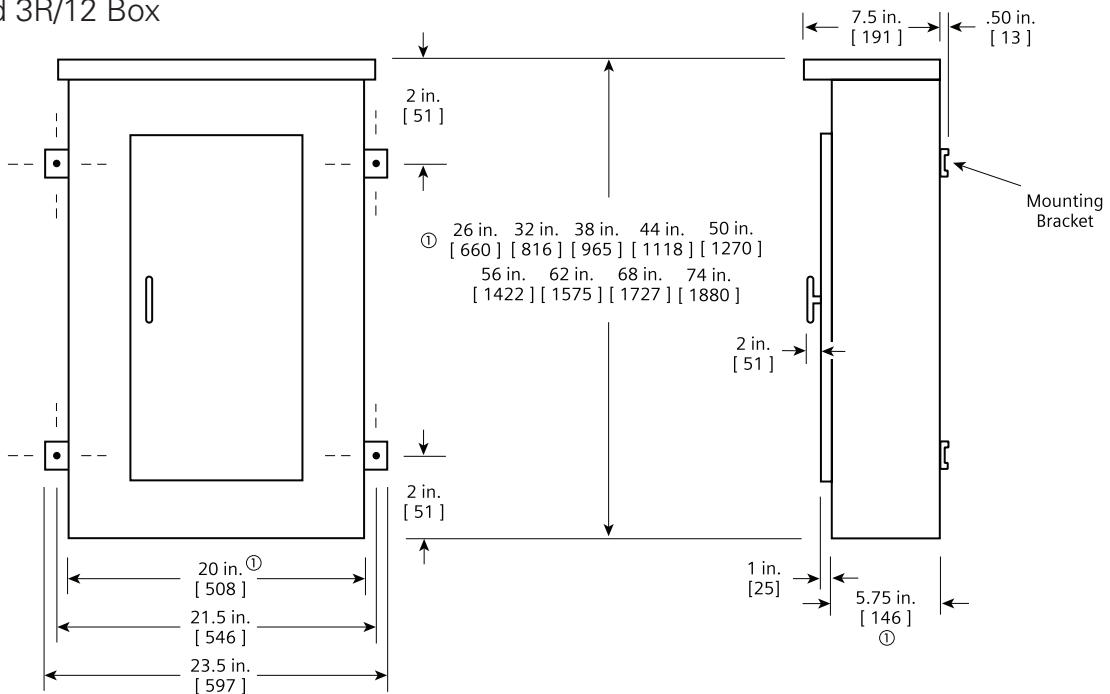
Dimensions

Type 1 Box

Box is symmetrical



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 [].