

Panelboards

Type P3 Panelboards

General

Features

Another innovation from Siemens is the P3 panel. It is a smaller, footprint distribution panel to fit a number of applications. This panel offers factory-assembled options, and has the ability to mix breaker frames in unit space up to 250 amps. Bussing options for the P3 are aluminum and copper. All bussing in the P3 panel is tin-plated as a standard. Silver-plated copper is offered as an option.

The P3 panel configurations, defined by the unit space, allow for a given amperage and box height. The P3 panel starts with a 56" high box. Breaker unit space can be mixed and matched to meet customer requirements. All 1" pole breakers (BL, BQD, NGB, ED, NEB, HEB frames) are mounted in 3" or 6" pole increments. Breakers frames, above 125 amps, are mounted in 6" single or twin breaker mountings. As an example, FD 250 amp and JD 400 amp breakers are mounted as subfeed breakers outside of unit space.

Like other distribution panels, the P3 panel can have blank space added into the panel to allow for future expansions or modifications. Any expansions or modifications must be in 3" increments. BL, BQD, NGB, ED, NEB and HEB 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 and twin mounted units. Changes in the unit space length for BL, BQD, NGB, ED, NEB or HEB frame breakers require an addition deadfront centre strip kit. Check with sales or the factory for additional unit space kits.

Voltage – 600V AC max.
250V DC max.

Amperage – Main Lug - 800 amp max.
Main Breaker - 600 amp max.

Short circuit rating
200,000 A @ 480 Vac
100,000 A @ 600 Vac IR Maximum 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 remote main is indicated. Note that the main device may be mounted remote from the panel.

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

and fronts.

Enclosure – Standard Type 1 enclosure is 24" wide x 7.75" deep x Box Height is determined by main device and unit space. See charts for box height.

Panelboards Fronts and Doors

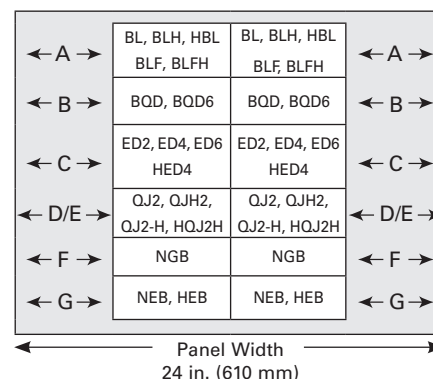
Standard panelboards are furnished with trim featuring concealed fasteners and hinges with a flush door lock. All are factory assembled for ease of installation. Trims are fabricated from code gauge steel and finished ANSI-61. See page 6-6 for optional trims.

Branch Breaker Side Gutter Wiring Space - Inches (mm)

Reference Letter	Panel Width 24" (610)
A	7.750 (197)
B	7.125 (181)
C	6.000 (152)
D [ⓐ]	7.000 (178)
E	5.000 (127)
F	6.625 (168)
G	5.750 (144)

[ⓐ] Single branch mounting construction.

Branch Breaker Wire Bending Diagram



Weight – Approximate

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

- About 5 lbs. (1kg) per inch of box height

Gauge Steel of Boxes and Fronts, Surface & Flush

Dimensions - Inches (mm)		Gauge Steel	
Width	Height	Box	Front
24 (610)	56-80 (1422-2032)	#14	#14

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Selection/Dimensions

Panel Unit Space to Box Height Requirements

Box Height - Inches (mm) "B" dimension	P3 Panels With Standard Line Lugs. Unit Space (starting with 9" and adding 6" increments) - "A" dimension				
	Main Lugs			Main Breakers	
	400A	600A	800A	400A JD	600A LD
56 (1425)	21	21	21	9	9
62 (1575)	27	27	27	15	15
68 (1727)	33	33	33	21	21
74 (1880)	39	39	39	27	27
80 (2032)	45	45	45	33	33

Main Lug Wire Bending - Inches (mm)

Panel Amps	Standard Connectors	C	D
400	(1) #2 - 600 kcmil Al/Cu and (1) 1/0 - 250 kcmil Al/Cu	16.00 (406)	17.88 (454)
600	(2) #2 - 600 kcmil Al/Cu	16.00 (406)	17.88 (454)
800	(2) #2 - 600 kcmil Al/Cu	16.00 (406)	17.88 (454)

Main Breaker Wire Bending - Inches (mm)

Panel Amps	C	E	F
JD	—	15.63 (397)	29.38 (746)
LD	—	14.75 (375)	29.38 (746)

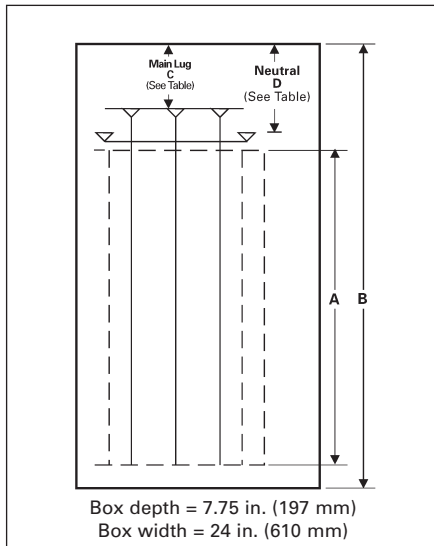
400A Neutral Connections

No. of circuits	Neutral Lug - Wire Size range	No. of connections per neutral bar
42 circuits	(1) #2 - 600 kcmil Al/Cu	(16) #4 - #14 AWG
54 circuits		(15) 1/0 - #14 AWG
66 circuits	(1) #2 - 600 kcmil Al/Cu	(23) #4 - #14 AWG
78 circuits		(22) 1/0 - #14 AWG
90 circuits		

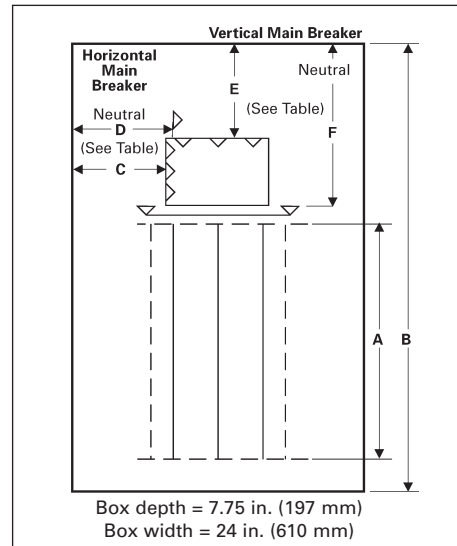
600A - 800A Neutral Connections

No. of circuits	Neutral Lug - Wire Size range	No. of connections per neutral bar
42 circuits	(2) #2 - 600 kcmil Al/Cu	(16) #4 - #14 AWG
54 circuits		(15) 1/0 - #14 AWG
66 circuits	(2) #2 - 600 kcmil Al/Cu	(23) #4 - #14 AWG
78 circuits		(22) 1/0 - #14 AWG
90 circuits		

Main Lug Wire Bending Diagram



Main Breaker Wire Bending Diagram



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Selection

Alternate Main Breakers

Ampere Rating	Breaker Type	Maximum Interrupting Rating (kA)			Ref. Catalogue Number	Available Configurations ^②			Available Trip Values
		240V	480V	600V		240V AC	480V AC	600V AC	
400	JXD6 ^①	65	35	25	JX	STD	STD	STD	200, 225, 250, 300, 350, 400
	JD6 ^①	65	35	25	J6	STD	STD	STD	200, 225, 250, 300, 350, 400
	HJXD6 ^①	100	65	35	H6	ADD	ADD	ADD	200, 225, 250, 300, 350, 400
	HJD6 ^①	100	65	35	H5	ADD	ADD	ADD	200, 225, 250, 300, 350, 400
	SJD6 ^①	65	35	25	SJ	ADD	ADD	ADD	200, 300, 400
	SHJD6 ^①	100	65	35	S2	ADD	ADD	ADD	200, 300, 400
600	LXD6 ^①	65	35	25	LX	STD	STD	STD	450, 500, 600
	LD6 ^①	65	35	25	L6	STD	STD	STD	250, 300, 350, 400, 450, 500, 600
	HLXD6 ^①	100	65	35	HL	ADD	ADD	ADD	250, 300, 350, 400, 450, 500, 600
	HLD6 ^①	100	65	35	HO	ADD	ADD	ADD	250, 300, 350, 400, 450, 500, 600
	SLD6 ^①	65	35	25	SL	ADD	ADD	ADD	300, 400, 500, 600
	SHLD6a	100	65	35	S6	ADD	ADD	ADD	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		
	Vertical		240V AC	480V AC	600V AC
FD6 ^① , FXD6	Twin	70–250	65	35	18
HFD6 ^① , HFXD6	Twin	70–250	100	65	25
JD6 ^① , JXD6	Single	200–400	65	35	25
HJD6 ^① , HJXD6	Single	200–400	100	65	35

Neutral Connectors

Wire Range	Max. Number of Connections	Ampere Ratings For Load
#14-#1/0	44	125
#4 - 350 kcmil	6	250
(1)#4 - 600 kcmil or (2)#6 - 250 kcmil	1	400

① Vertically mounted

② STD = Standard configuration. ADD = Additional cost.

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

④ Subfeed breaker is mounted at bottom of panelboard only. 400 amp subfeed breaker adds 30" to the panel height.

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Circuit Breaker/Lighting and Distribution

Selection/Dimensions

Type P3 Panelboards

Branch Circuit Breakers

Max. Amp Rating	Bolt-On Breaker Type	Amps	Provisions for Maximum Interrupting Rating (kA)						
			120V AC	120/240V AC	240V AC	277V AC	480V AC	600V AC	250V DC
70	BQD6	15-70	—	65	65	—	—	10	14
100	BL	15-60	10	—	—	—	—	—	—
		70	—	10	—	—	—	—	—
		80-100	—	—	10	—	—	—	—
	BLH	15-60	—	22	—	—	—	—	—
		70	—	22	—	—	—	—	—
		80-100	—	—	22	—	—	—	—
	HBL	15-55	—	65	—	—	—	—	—
		60-100	—	—	65	—	—	—	—
	BLE (GFCI)	15-30	10	—	—	—	—	—	—
		40-60	—	10	—	—	—	—	—
	BLEH (GFCI)	15-30	22	—	—	—	—	—	—
		15-60	—	22	—	—	—	—	—
	BLF (GFCI)	15-30	10	—	—	—	—	—	—
	40-60	—	10	—	—	—	—	—	
BLHF (GFCI)	15-30	22	—	—	—	—	—	—	
	40-60	—	22	—	—	—	—	—	
BAF	15-20	10	—	—	—	—	—	—	
BAFH	15-20	22	—	—	—	—	—	—	
BQD	15-60	—	—	65	—	—	14	—	14
	70-100	—	—	—	65	—	14	—	14
ED2	15-60	—	—	—	100	42	42	—	30
	70-100	—	—	—	100	42	42	—	30
125	NGB	15-60	100	100	100	25	25	—	14 [ⓐ]
		70-100	100	100	100	25	25	—	14 [ⓐ]
		110-125	100	100	100	25	25	—	14 [ⓐ]
	NEB	15-60	85	85	85	35	35	22	35
		70-100	85	85	85	35	35	22	35
		110-125	85	85	85	35	35	22	35
	HEB	15-60	100	100	100	65	65	25	42
		70-100	100	100	100	65	65	25	42
		110-125	100	100	100	65	65	25	42
	ED4	15-60	65	—	—	22	—	—	—
		70-100	—	—	65	—	18	—	30
		110-125	—	—	65	—	18	—	—
ED6	15-60	—	—	65	—	25	18	30	
	70-100	—	—	65	—	25	18	—	
	110-125	100	—	—	—	—	—	—	
HED4	15-60	100	—	—	—	—	—	—	
	70-100	—	—	—	65	—	—	—	
	110-125	—	—	—	65	—	—	—	
225	QJ2	60-225	—	—	10	—	—	—	
	QJH2	60-225	—	—	42	—	—	—	
	QJ2H	60-225	—	—	22	—	—	—	

Branch Breaker Connector Kits

Kit Number	Description	Contents
BBKB32	BL/BQD 6-pole 3" branch breaker kit Cu/Tin	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKEB32	NEB/HEB branch breaker kit Cu/Tin	Kit contains breaker support, inter-phase barrier, (3) A/C connectors, (1) B connector, hardware
BBKED32	ED 6-pole 3" branch breaker kit Cu/Tin	Kit contains breaker support, inter-phase barrier, (3) A/C connectors, (1) B connector, hardware
BBKNB32	NGB 6-pole 3" branch breaker kit Cu/Tin	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware

Note: QJ Breakers are twin mounted in unit space and take 6" of unit space. Limited to (4) per panel max. BL, HLB, BLH and BQD 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.

[ⓐ] 2-pole only (or) two outer poles of 3-pole breaker.

Panelboards

Type P3 Panelboard Factory Assembled/Modifications and Additions

Selection

Enclosure Modifications

Description
Type 1 with gasket Type 1 with dripshield Type 3R/12 - Dustproof Type 4/4X - Standard type 304 Stainless Steel
Hinged trim Door-in-door trim Screw to the box trim Trim with gasketed door Stainless steel trim
Painted boxes Custom colours

Panel Skirts

See page 6-47

Panel Modifications

Service Entrance Label

Type P3 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.

P3 service entrance panels are available in type 1 enclosure only (indoor application) and come standard with plated copper.

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 Breaker Accessories

See section 5.

- Handle blocks
- Handle locks
- Aux. Contacts^①
- UVR^①

Panel Modifications (cont.)

Subfeed (Double) Lugs -

For Main Lug Panelboards Only

Ampere Rating	Connector Cu/Al Wire Range
225/250	(2) #6 - 600 AWG - 350 kcmil
400	(2) 250 kcmil
	(1) 600 kcmil

Feed-Thru Lugs — Cannot be used in conjunction with SPD or subfeed breakers. See page 6-35 for unit space adders and compatibility with other options

Ampere Rating	Connector Cu/Al Wire Range
225/250	(2) #6 - 600 AWG - 350 kcmil
400	(2) 250 kcmil
	(1) 600 kcmil
600	(2) 250 - 500 kcmil
800	(2) 600 kcmil

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, ED4, HED4, ED6, HED6, QJ2, QJ2H, QJH2 as branch only. BL, BLH, HBL, NGB, ED2, ED4, HED4, ED6, HED6 uses 1" unit space for shunt trip. All others may be used on mains or subfeeds.

Surge Protective Devices

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 (Sold separately)
 - Externally mounted (40A breaker required to feed SPD)

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

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Type P3 Panelboard Standard Modifications

Selection

Option Combinations

Amps	Incoming	Subfeed Lugs	Feed-thru Lugs	FD ^① Subfeed	JD ^② Subfeed	FD ^③ Subfeed	200% Neutral	Min. Box Size Inches (mm)	Unit Space Inches (mm)	
400 ^{③③}	Main Lug Only	•	—	—	—	—	•	56 (1422)	21 (533)	
		—	•	—	—	—	•	56 (1422)	15 (381)	
		—	—	•	—	—	•	56 (1422)	9 (229)	
		—	—	—	•	—	•	56 (1422)	9 (229)	
		—	—	—	—	•	•	62 (1575)	9 (229)	
	Main Breaker (JD)	None Std.	—	•	—	—	—	•	56 (1422)	9 (229)
		—	—	—	•	—	—	•	62 (1575)	9 (229)
		—	—	—	—	•	—	•	68 (1727)	9 (229)
		—	—	—	—	•	—	•	68 (1727)	9 (229)
		—	—	—	—	—	•	•	74 (1880)	9 (229)
600 ^{③③}	Main Lug Only	—	•	—	—	—	•	56 (1422)	21 (533)	
		—	—	•	—	—	•	56 (1422)	15 (381)	
		—	—	—	•	—	•	56 (1422)	9 (229)	
		—	—	—	—	•	—	•	56 (1422)	9 (229)
		—	—	—	—	—	•	•	62 (1575)	9 (229)
	Main Breaker (LD)	—	—	•	—	—	—	•	56 (1422)	9 (229)
		—	—	—	•	—	—	•	62 (1575)	9 (229)
		—	—	—	—	•	—	•	68 (1727)	9 (229)
		—	—	—	—	•	—	•	68 (1727)	9 (229)
		—	—	—	—	—	•	•	74 (1880)	9 (229)
800 ^{③③}	Main Lug Only	—	•	—	—	—	•	56 (1422)	21 (533)	
		—	—	•	—	—	•	56 (1422)	9 (229)	
		—	—	—	•	—	•	56 (1422)	9 (229)	
		—	—	—	—	•	—	•	56 (1422)	9 (229)
		—	—	—	—	—	•	•	62 (1575)	9 (229)

• Available as an option

① Subfed lugs are currently not offered as standard with main circuit breakers.
 ② Subfed lugs on panels above 400A are not standard.
 ③ 200% neutral cannot be provided along with a 400A subfeed breaker because the breaker blocks the 4th lug site.

Type P3 Panelboard Standard Modifications

Selection

Compression Lugs

Style	Amp Rating	Breaker Type	Compression Connectors	Box Height Addition
MLO	400	N/A	(1) 250 - 500 kcmil or (2)# 1/0 AWG - 250 kcmil	—
	600	N/A	(2)#3/0 AWG - 500 kcmil	—
	800	N/A	(2) 400-750 kcmil Cu only	—
Main Breaker	400	JD6, JXD6, HJD6, SJD6, SHJD6, SCJD6	(2)#1/0 AWG - 500 kcmil Cu or Al	—
	600	LD6, LXD6, HLD6, SLD6, SHLD6, SCLD6	(2)#2/0 AWG - 500 kcmil Cu or Al	—

NOTE: Standard compression lugs 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	Standard AL Connectors	Box Height Addition - Inches (mm)
MLO	400	N/A	(1) 250 - 750 kcmil or (2)#3/0 AWG - 250 kcmil Cu or Al	6 (152)
	800	N/A	(3) 500 kcmil	6 (152)
Main Breaker	400	JD6, JXD6, HJD6, SJD6, SHJD6, SCJD6	(1)#4/0 AWG - 750 kcmil Cu or Al	6 (152)

Branch Breaker Connector Kits

Kit Number	Description	Contents
BBKB32	BL/BQD 6-pole 3" branch breaker kit	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKNB32	NGB 6-pole 3" branch breaker kit	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKEB32	NEB/HEB 6-pole 3" branch breaker kit	Kit contains top barrier, (3) A/C connectors, (1) B connector, hardware
BBKED32	ED 6-pole 3" branch breaker kit	Kit contains breaker support, inter-phase barriers, (3) A/C connectors, (1) B connector, hardware
BBKQ2	Branch breaker kit for 2 and 3-pole QJ twin mount	Kit contains all connectors and cover plates necessary to mount both 2 and 3-pole breakers

Type P3 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 Spare 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"
DFFP6	1 Filler plate 6"
EBF1	HEB/NEB Filler plate
EGK	1 Aluminum non-insulated ground bar
ECGK	1 Copper non-insulated ground bar
EWK2	1 End wall with knockouts (24"W x 7.75"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 "Snap-in" type 1 @ 42
NBK4	1 Numbering Button Kit "Snap-in" type 43 @ 84
NBK5	1 Numbering Button Kit "Snap-in" type 85 @ 126
QF3-UL	1 Filler Plate 1"
P3BK1	P3 Bonding kit
DSK724	1 Dripshield 24"W x 7.75"D

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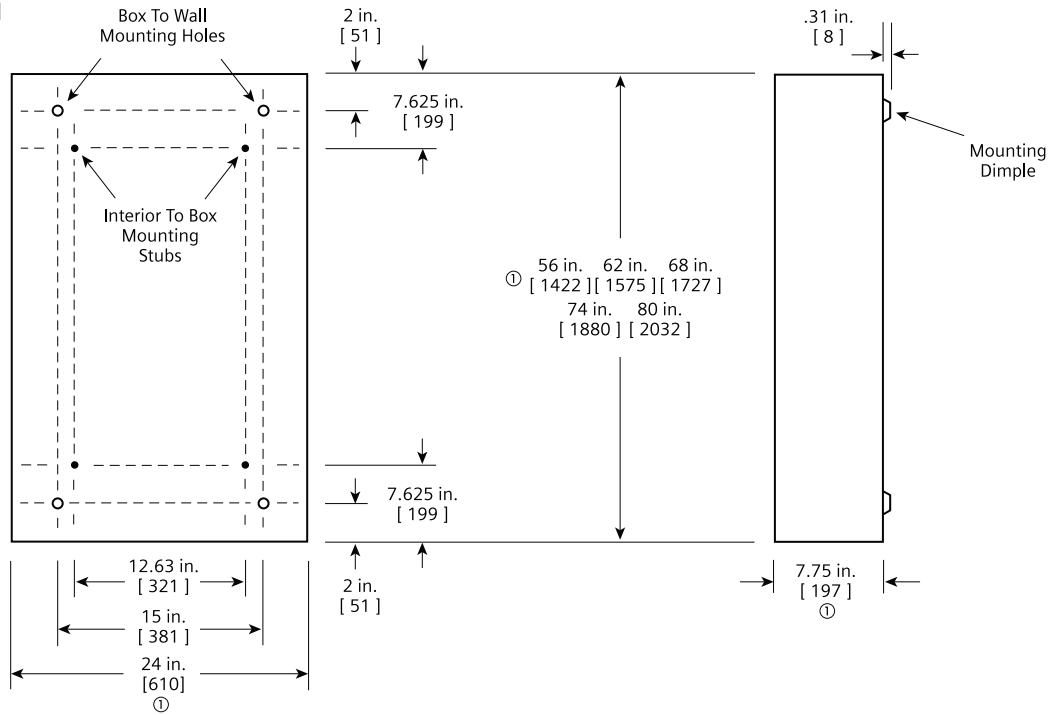
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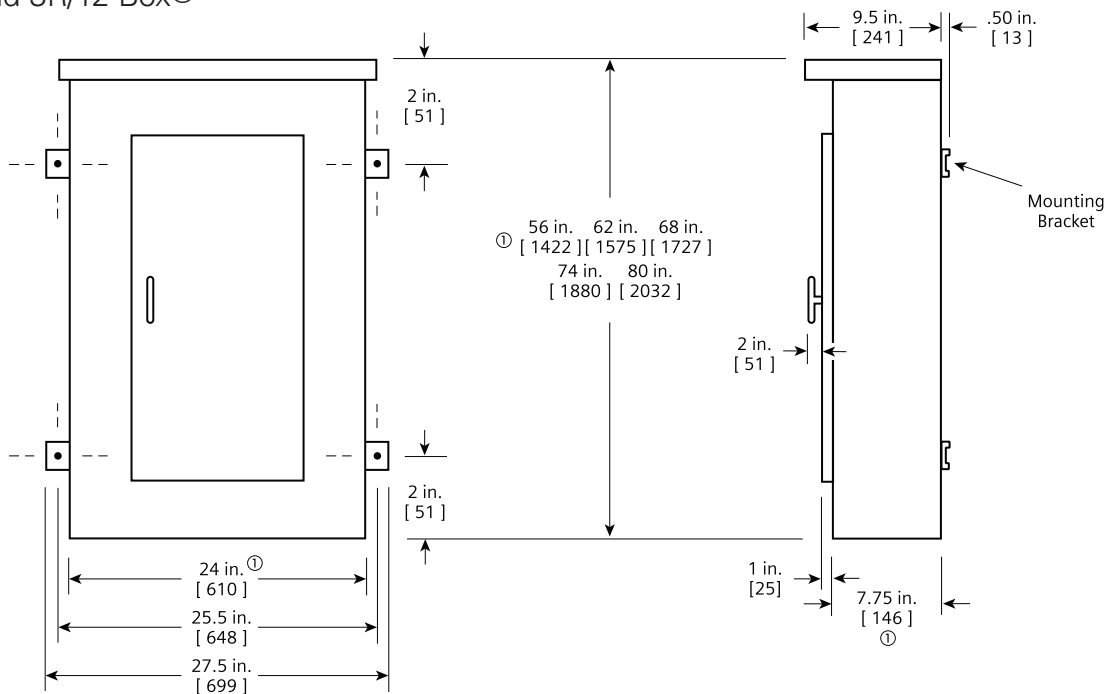
Dimensions

Type 1 Box

Box is symmetrical



Type 3R and 3R/12 Box[Ⓜ]



Ⓜ Dimensions 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 [].

Ⓜ Type 3R and 3R/12 enclosures are not available for service entrance rated equipment