

# Panelboards

## Type P5 Panelboards

General

### Features

The P5 panel is the largest footprint distribution panel in the Siemens panel family. Even though it is our largest panel type, the P5 panel is still a space saver with its 38" width and 12.75" depth. With even higher main ratings to fit the application that require more or larger branch devices. This panel offers a wide array of factory assembled options and has the ability to mix breaker frames in unit space up to 1200 amps and fusible switches up to 1200 amps. Bussing options for the P5 vary from the standard temperature rated aluminum to temperature rated copper and 750 A/SI aluminum and 1000A/SI copper designs. All aluminum bussing in the P5 panel is tin-plated as a standard. Silver-plated is offered as the default for copper bus and tin as an option. Integrated time clocks, bus mounted contactors as mains or submains, split bus and subfeed lugs (up to 600 amps) are just a few of the options of this flexible panel.

The P5 panel configurations defined by the unit space allowed for a given amperage, main device and box height. The P5 panel starts with a 60" high box. All of the branch devices are unit space mounted. Breakers and switches can be mixed and matched to meet customer requirements.

### Main Lug / Main Breaker / Main Switch

**Enclosure** – Standard Type 1 enclosure is 38" wide x 12.75" deep. X Box Height is determined by main device and unit space. See charts for box height.

**Voltage** – 600V AC max.  
250V DC max.

**Amperage** – 400-1200 amp main breaker, 400-1200 amp main lug only or 200-1200 amp main switch.

**Short Circuit Rating** – 200 Kaic max. 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 a three-cycle rating. The three-cycle rating for the P5 panel is limited to 42 Kaic. Note that the main device may be mounted remote from the panel.

**Bussing** – The P5 panel has more options to meet market requirements. The standard bussing is temperature rated aluminum. The rating is per the requirements of UL 67 – the standard for panelboards. All aluminum bussing is tin-plated. Optional bussing for the P5 panel is: 750 A/SI aluminum, temperature rated copper, and 1000 A/SI copper. The copper bus option for this panel is tin-plated.

### Weight – Approximate

Total panelboard weight when filled with a normal quantity of breakers and accessories is about 10 lbs. (1 kg) per inch (54g per mm) of box height.

### Main Lugs <sup>①</sup>

Ampere Rating	Connectors Suitable for Copper or Aluminum
400	(1) 250-500Kcmil
600	(2) #3/0-500Kcmil
800	(3) #3/0 AWG-500 Kcmil
1000	(4) #3/0 AWG-500 Kcmil
1200	(4) #3/0 AWB-500 Kcmil

<sup>①</sup> Alternate lugs for 750 kcmil cable are available, but result in significant loss of branch unit mounting space. Consult Siemens.

### Gauge Steel of Boxes Fronts, Surface and Flush

Dimensions in inches (mm)		Gauge Steel	
Width	Height	Box	Fronts
38" (965)	60 - 75 - 90 (1524, 1905, 2286)	#16 <sup>①</sup>	#14 (1 piece trim) #14 (4 piece trim)
	60 - 75 - 90 (1524, 1905, 2286)	#14	#12 (1 piece & door in door) #10 (1 piece & door in door)
	60 - 75 - 90 (1524, 1905, 2286)	#14	#16 (4 piece, top and bottom over) #10 (4 piece, side/ gutter cover)

<sup>①</sup> 16 gauge side panels, 12 gauge back support, 14 gauge back panels.

# Panelboards

## Power and Distribution

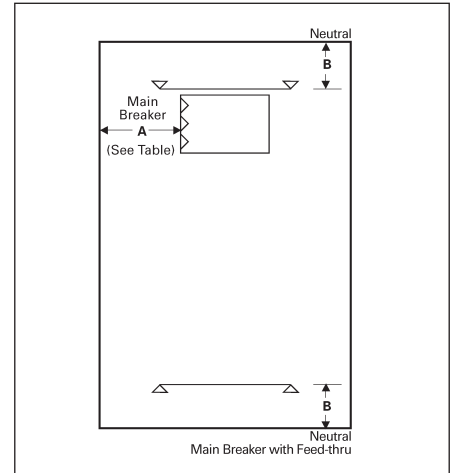
## Selection/Dimensions

### Enclosure Selection <sup>①</sup>

Enclosure Dimension in Inches (mm)				Available Unit Space in Inches (mm)					
H	W	D		Main Lug Only	Main Breaker		Main VB Switch		Main HCP Switch
Type 1 or 3R/12	Type 1	Type 3R/12		400 - 1200A	400-800A	1200A	200A	400A-600A	400-1200A
60 (1524)	38 (965)	12.75 (324)	14.25 (362)	30 (762)	21.25 (540)	20 (508)	20 (508)	-	13.75 (349)
75 (1905)	38 (965)	12.75 (324)	14.25 (362)	45 (1143)	36.25 (921)	35 (889)	40 (1016)	25 (889)	28.75 (730)
90 (2286)	38 (965)	12.75 (324)	14.25 (362)	60 (1524)	51.25 (1302)	50 (1270)	55 (1397)	40 (1270)	43.75 (1111)

### Main Breaker Unit Space Dimensions

Ampere Rating	Breaker Family	Breaker Type	Dimensions in inches (mm)	
			A	B
400	Sentron	JXD6, JD6, HJXD6, HJD6, HHJXD6, HHJD6	13.425 (265)	13.125 (333)
	VL <sup>Ⓢ</sup>	NJ, HJ, LJ	15.500 (318)	
	Sentron	SJD6, SHJD6	13.425 (265)	
		CJD6, SCJD6	11.250 (210)	
600	Sentron	LXD6, LD6, HLXD6, LD6, HHLXD6, HHLD6	13.425 (265)	
	VL <sup>Ⓢ</sup>	NL, HL, LL	14.250 (286)	
	Sentron	SLD6, SHLD6	13.425 (265)	
		CLD6, SCLD6	11.250 (210)	
800	VL	NM, HM, LM	13.425 (265)	
	Sentron	MXD6, MD6, HMXD6, HMD6, CMD6, SMD6, SHMD6, SCMD6	13.00 (330) 10.42 (265)	
		VL	NN, HN, LN	
1200	Sentron	NXD6, ND6, HNXD6, HND6, CND6, SND6, SHMD6, SCND6	13.00 (330) 13.00 (330)	



Main Breaker Wire Bending Space Dimensions & Main Switch

### Main Switch

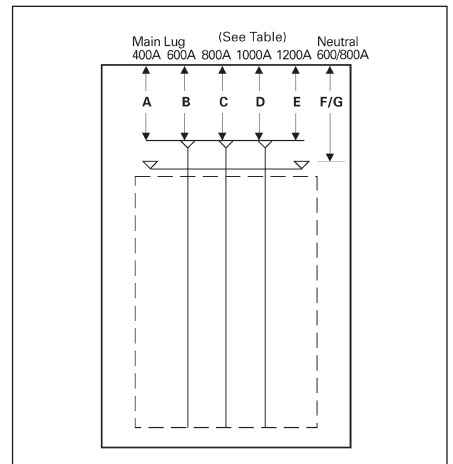
Maximum Ampere Rating	A	B
400A/600A VB	9.30 (236)	13.125 (333)
800A/1200A HCP	10.30 (262)	
200A VB	13.425 (265)	

### Main Switch Connectors

Ampere Rating	Connectors suitable for Copper or Aluminum
400	(1) #3/0 AWG-500 kcmil (2) #3/0 AWG-250 kcmil
600	(2) #3/0 AWG-500 kcmil
800	(3) #3/0 AWG-500 kcmil
1200	(4) #3/0 AWG-500 kcmil

### Main Lugs Only Wire Bending Space

Lugs	Dimensions in inches (mm)					
	Main Lug					Neutral
	400A A	600A B	800A C	1000A D	1200A E	800A G
Standard	16.500 (419)	16.750 (425)	15.969 (406)	15.969 (406)	15.969 (406)	13.125 (333)
Oversize	16.500 (419)	21.750 (552)	25.969 (660)	25.969 (660)	25.969 (660)	23.125 (587)
Crimp	19.187 (487)	18.250 (464)	18.687 (475)	18.250 (464)	18.250 (464)	15.937 (405)
Standard with Subfeed	16.750 (425)	15.969 (406)	—	—	—	13.125 (333)
Standard with Feed-thru	16.500 (419)	16.750 (425)	—	—	—	13.125 (333)



Main Lugs Only Wire Bending Space

<sup>①</sup> Standard trim is for space without door. Surface flush one piece trim is available for 32" (813mm) wide circuit breaker panel.

<sup>Ⓢ</sup> Available with solid state (electronic) trip units only.

# Panelboards

• Revised •  
01/14/16

## Power and Distribution

*Selection*

### Type P5

#### Shown with Standard Mains, Top Fed and Surface Trim

Catalog number is for aluminum main bus. For optional copper main bus change "A" in position 11 to "E" (silver-plated copper bus).

Panels are top feed, surface mounted. For bottom feed, change "T" in position 12 to "B". For flush mounting, change "S" in position 13 to "F".

Replace fifth and sixth position in panelboard catalog number, with alternate main breaker code. Use price adders from main breaker section table. Horizontally mounted.

#### Main Lugs Only — shown with aluminum bus, top fed, and surface trims.

Maximum Panel Ampere Rating	Unit Space (inches)	208Y/120V	240/120V	120/240V or 250 Vdc Max
		3-Phase, 4-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	1-Phase, 3-Wire Catalog Number
800 <sup>②</sup>	30	P5C60ML800ATS	P5B60ML800ATS	P5A60ML800ATS
	45	P5C75ML800ATS	P5B75ML800ATS	P5A75ML800ATS
	60	P5C90ML800ATS	P5B90ML800ATS	P5A90ML800ATS
1000	30	P5C60ML101ATS	P5B60ML101ATS	P5A60ML101ATS
	45	P5C75ML101ATS	P5B75ML101ATS	P5A75ML101ATS
	60	P5C90ML101ATS	P5B90ML101ATS	P5A90ML101ATS
1200	30	P5C60ML120ATS	P5B60ML120ATS	P5A60ML120ATS
	45	P5C75ML120ATS	P5B75ML120ATS	P5A75ML120ATS
	60	P5C90ML120ATS	P5B90ML120ATS	P5A90ML120ATS
Maximum Panel Ampere Rating	Unit Space (inches)	240	480Y/277V	480V <sup>①</sup>
		3-Phase, 3-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	1-Phase, 3-Wire Catalog Number
800 <sup>②</sup>	30	P5D60ML800ATS	P5E60ML800ATS	P5F60ML800ATS
	45	P5D75ML800ATS	P5E75ML800ATS	P5F75ML800ATS
	60	P5D90ML800ATS	P5E90ML800ATS	P5F90ML800ATS
1000	30	P5D60ML101ATS	P5E60ML101ATS	P5F60ML101ATS
	45	P5D75ML101ATS	P5E75ML101ATS	P5F75ML101ATS
	60	P5D90ML101ATS	P5E90ML101ATS	P5F90ML101ATS
1200	30	P5D60ML120ATS	P5E60ML120ATS	P5F60ML120ATS
	45	P5D75ML120ATS	P5E75ML120ATS	P5F75ML120ATS
	60	P5D90ML120ATS	P5E90ML120ATS	P5F90ML120ATS

#### Main Circuit Breaker — shown with aluminum bus, top fed, and surface trims.

Maximum Panel Ampere Rating	Unit Space (inches)	208Y/120V	240/120V	120/240V or 250 Vdc Max
		3-Phase, 4-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	1-Phase, 3-Wire Catalog Number
800 <sup>②</sup>	21.25	P5C60M1800ATS	P5B60M1800ATS	P5A60M1800ATS
	36.25	P5C75M1800ATS	P5B75M1800ATS	P5A75M1800ATS
	51.25	P5C90M1800ATS	P5B90M1800ATS	P5A90M1800ATS
1200	20	P5C60N1120ATS	P5B60N1120ATS	P5A60N1120ATS
	35	P5C75N1120ATS	P5B75N1120ATS	P5A75N1120ATS
	50	P5C90N1120ATS	P5B90N1120ATS	P5A90N1120ATS
Maximum Panel Ampere Rating	Unit Space (inches)	240	480Y/277V	480V <sup>①</sup>
		3-Phase, 4-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	1-Phase, 3-Wire Catalog Number
800 <sup>②</sup>	21.25	P5D60M1800ATS	P5E60M1800ATS	P5F60M1800ATS
	36.25	P5D75M1800ATS	P5E75M1800ATS	P5F75M1800ATS
	51.25	P5D90M1800ATS	P5E90M1800ATS	P5F90M1800ATS
1200	20	P5D60N1120ATS	P5E60N1120ATS	P5F60N1120ATS
	35	P5D75N1120ATS	P5E75N1120ATS	P5F75N1120ATS
	50	P5D90N1120ATS	P5E90N1120ATS	P5F90N1120ATS

For inches / millimeters conversion, see Application Data section.

① For 600V, change "F" in position 3 to "G". Price only branch breakers with 600V ratings.

② Alternate main breaker requires additional 1.25" unit space.

# Panelboards

## Power and Distribution

Selection

### Main Fusible Switch (fuses not included)

Maximum Panel Ampere Rating	Unit Space (inches)	208Y/120V	240/120V	120/240V	240V	480Y/277V	480V <sup>①</sup>
		3-Phase, 4-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	1-Phase, 3-Wire Catalog Number	3-Phase, 3-Wire Catalog Number	3-Phase, 4-Wire Catalog Number	3-Phase, 3-Wire Catalog Number
400	25	P5C75MS400ATS	P5B75MS400ATS	P5A75MS400ATS	P5D75MS400ATS	P5E75MS400ATS	P5F75MS400ATS
	40	P5C90MS400ATS	P5B90MS400ATS	P5A90MS400ATS	P5D90MS400ATS	P5E90MS400ATS	P5F90MS400ATS
600	25	P5C75MS600ATS	P5B75MS600ATS	P5A75MS600ATS	P5D75MS600ATS	P5E75MS600ATS	P5F75MS600ATS
	40	P5C90MS600ATS	P5B90MS600ATS	P5A90MS600ATS	P5D90MS600ATS	P5E90MS600ATS	P5F90MS600ATS
800 <sup>④</sup>	28.75	P5C75MS800ATS	P5B75MS800ATS	P5A75MS800ATS	P5D75MS800ATS	P5E75MS800ATS	P5F75MS800ATS
	43.75	P5C90MS800ATS	P5B90MS800ATS	P5A90MS800ATS	P5D90MS800ATS	P5E90MS800ATS	P5F90MS800ATS
1200 <sup>④</sup>	28.75	P5C75MS120ATS	P5B75MS120ATS	P5A75MS120ATS	P5D75MS120ATS	P5E75MS120ATS	P5F75MS120ATS
	43.75	P5C90MS120ATS	P5B90MS120ATS	P5A90MS120ATS	P5D90MS120ATS	P5E90MS120ATS	P5F90MS120ATS

### Alternate Main Breaker Selection<sup>②</sup>

Breaker Frame Rating	Trip Type	Breaker Family	Frame Type	Alternate Main Breaker Code <sup>③</sup>	Trip Amperage	Unit Space Requirements in Inches	Maximum Interruption Rating (KAIC) Volts AC			
							240	480	600	
400	Thermal Magnetic	Sentron	JXD6	JX	200, 225, 250, 300, 350, 400	8.75	65,000	35,000	25,000	
			JD6	J6	200, 225, 250, 300, 350, 400	8.75	65,000	35,000	25,000	
			HJXD6	H5	200, 225, 250, 300, 350, 400	8.75	100,000	65,000	35,000	
			HJD6	H6	200, 225, 250, 300, 350, 400	8.75	100,000	65,000	35,000	
			HHJXD6	H9	200, 225, 250, 300, 350, 400	8.75	200,000	100,000	50,000	
			HHJD6	6H	200, 225, 250, 300, 350, 400	8.75	200,000	100,000	50,000	
			CJD6	CJ	200, 225, 250, 300, 350, 400	8.75	200,000	150,000	100,000	
	Electronic (Solid state)	VL	Sentron	NJ	J1	250, 400	6.25	65,000	35,000	25,000
				HJ	J7	250, 400	6.25	100,000	65,000	25,000
				LJ	J3	250, 400	6.25	200,000	100,000	25,000
		Sentron	SJD6	SJ	200, 300, 400	8.75	65,000	35,000	25,000	
			SHJD6	SX	200, 300, 400	8.75	100,000	65,000	35,000	
			SCJD6	SC	200, 300, 400	8.75	200,000	150,000	100,000	
			LXD6	LX	450, 500, 600	8.75	65,000	35,000	25,000	
600	Thermal Magnetic	Sentron	LD6	L6	250, 300, 350, 400, 450, 500, 600	8.75	65,000	35,000	25,000	
			HLXD6	HO	200, 300, 350, 400, 450, 500, 600	8.75	100,000	65,000	35,000	
			HLD6	HL	250, 300, 350, 400, 450, 500, 600	8.75	100,000	65,000	35,000	
			HHLXD6	XH	250, 300, 350, 400, 450, 500, 600	8.75	200,000	100,000	50,000	
			HHLD6	HH	250, 300, 350, 400, 450, 500, 600	8.75	200,000	100,000	50,000	
			CLD6	CL	250, 300, 350, 400, 450, 500, 600	8.75	200,000	150,000	100,000	
			NL	L7	400, 600	6.25	65,000	35,000	25,000	
	Electronic (Solid state)	VL	Sentron	HL	L2	400, 600	6.25	100,000	65,000	25,000
				LL	SL	400, 600	6.25	200,000	100,000	25,000
				SLD6	L6	300, 400, 500, 600	8.75	65,000	35,000	25,000
		Sentron	SHLD6	S2	300, 400, 500, 600	8.75	100,000	65,000	35,000	
			SCLD6	SI	300, 400, 500, 600	8.75	200,000	150,000	100,000	
			NM	M1	600, 700, 800	8.75	65,000	35,000	25,000	
			HM	M2	600, 700, 800	8.75	100,000	65,000	35,000	
800	Thermal Magnetic	Sentron	LM	M3	600, 700, 800	8.75	200,000	100,000	50,000	
			LMXD6	LM	500, 600, 700, 800	8.75	65,000	50,000	25,000	
			LMD6	L1	500, 600, 700, 800	8.75	65,000	50,000	25,000	
			HLMXD6	HK	500, 600, 700, 800	8.75	100,000	65,000	50,000	
			HLMD6	HJ	500, 600, 700, 800	8.75	100,000	65,000	50,000	
			MXD6	MX	500, 600, 700, 800	10.00	65,000	50,000	25,000	
			MD6	MD	500, 600, 700, 800	10.00	65,000	50,000	25,000	
	HMXD6	HR	500, 600, 700, 800	10.00	100,000	65,000	50,000			
	Electronic (Solid state)	VL	Sentron	HMD6	HM	500, 600, 700, 800	10.00	100,000	65,000	50,000
				CMD6	CM	500, 600, 700, 800	10.00	200,000	100,000	65,000
				NM	M1	600, 800	8.75	65,000	35,000	25,000
		Sentron	HM	M2	600, 800	8.75	100,000	65,000	35,000	
			LM	M3	600, 800	8.75	200,000	100,000	50,000	
			SMD6	SM	600, 700, 800	10.00	65,000	50,000	25,000	
SHMD6			S5	600, 700, 800	10.00	100,000	65,000	50,000		
1200	Thermal Magnetic	VL	SCMD6	SO	600, 700, 800	10.00	200,000	100,000	65,000	
			NN	N1	800, 900, 1000, 1200	10.00	65,000	35,000	25,000	
			HN	N2	800, 900, 1000, 1200	10.00	100,000	65,000	35,000	
		Sentron	LN	N3	800, 900, 1000, 1200	10.00	200,000	100,000	65,000	
			NXD6	NX	900, 1000, 1200	10.00	65,000	50,000	25,000	
			ND6	ND	900, 1000, 1200	10.00	65,000	50,000	25,000	
			HNXD6	HT	900, 1000, 1200	10.00	100,000	65,000	50,000	
	Electronic (Solid state)	VL	Sentron	HND6	HN	900, 1000, 1200	10.00	100,000	65,000	50,000
				CND6	Cn	900, 1000, 1200	10.00	200,000	100,000	65,000
				NN	N1	800, 1000, 1200	10.00	65,000	35,000	25,000
		Sentron	HN	N2	800, 1000, 1200	10.00	100,000	65,000	35,000	
			LN	N3	800, 1000, 1200	10.00	200,000	100,000	65,000	
			SND6	SN	800, 1000, 1200	10.00	65,000	50,000	25,000	
			SHND6	AD	800, 1000, 1200	10.00	100,000	65,000	50,000	
SCND6	SR	800, 1000, 1200	10.00	200,000	100,000	65,000				

For inches / millimeters conversion, see Application Data section.

① For 600V, change "F" in position 3 to "G". Price only branch breakers with 600V ratings.  
② For ground fault, see page 11-71.

③ Replace "MS" in catalog number with code letter.  
④ 800 and 1200 ampere switches have "L" class fuse provisions (Type HCP).

# Panelboards

## Power and Distribution

• Revised •  
06/28/16

Selection

### Type P5

### Branch Circuit Breakers<sup>①</sup>

Breaker Frame Rating	Trip Type	Breaker Family	Frame Type	Poles	Trip Amperage	Unit Space Requirements in Inches		Maximum Interruption Rating (KAIC) Volts AC						
						Single	Twin	120	240	480V/277	480	600V/347	600	
100	Thermal Magnetic	General Application	BL <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	10,000	10,000	—	—	—	—	
			BLR	2	15, 20, 30, 40, 50, 60, 70, 80, 90, 100	—	3.75 <sup>②③</sup>	10,000	10,000	—	—	—	—	
			BLH <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	22,000	22,000	—	—	—	—	
			HBL <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	65,000	65,000	—	—	—	—	
			BQD <sup>②</sup>	1, 2, 3	15-50, 60, 70, 80, 90, 100	—	3.75 <sup>②③</sup>	65,000	65,000	14,000	—	—	—	
			BQD6 <sup>②</sup>	1, 2, 3	15-50, 60, 70	—	3.75 <sup>②③</sup>	65,000	65,000	—	—	10,000	—	
	Special Application	Ground Fault Circuit Interrupter	General Application	BL-HID <sup>④</sup>	1, 2	15, 20, 30	—	3.75 <sup>②③</sup>	10,000	10,000	—	—	—	—
				BL-BG <sup>④</sup>	2, 3	15, 20, 30	—	3.75 <sup>②③</sup>	10,000	10,000	—	—	—	—
				BLE-GFCI <sup>④</sup>	1, 2	15, 20, 30, 40, 50, 60	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BLEH-GFCI <sup>④</sup>	1, 2	15, 20, 30, 40, 50, 60	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BLF-GFCI <sup>④</sup>	1, 2	15, 20, 30, 40, 50, 60	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BLHF-GFCI <sup>④</sup>	1, 2	15, 20, 30, 40, 50, 60	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BAF-AFCI <sup>④</sup>	1, 2	15, 20	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BAFH-AFCI <sup>④</sup>	1, 2	15, 20	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
				BAFC-AFCI <sup>④</sup>	1, 2	15, 20	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—
BAFCH-AFCI <sup>④</sup>	1, 2	15, 20	—	3.75 <sup>②</sup>	10,000	10,000	—	—	—	—				
125	Thermal Magnetic	General Application	NGB <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	100,000	25,000	—	14,000	—	
			HGB <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	100,000	35,000	—	14,000	—	
			LGB <sup>②</sup>	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	100,000	65,000	—	14,000	—	
			NEB	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	85,000	—	35,000	—	22,000	
			HEB	1, 2, 3	15-60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	100,000	—	65,000	—	25,000	
			ED4	1, 2, 3	15-50, 60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	65,000	—	18,000	—	—	
			HED4 <sup>④⑤</sup>	1, 2, 3	15-50, 60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	100,000	—	42,000	—	—	
			CED6	2, 3	15-50, 60, 70, 80, 90, 100, 110, 125	—	3.75 <sup>②③</sup>	—	200,000	—	200,000	—	100,000	
150	Electronic (Solid state)	VL	ND	3	60, 100, 150	—	5.00	—	65,000	—	35,000	—	18,000	
			HD	3	60, 100, 150	—	5.00	—	100,000	—	65,000	—	20,000	
			LD	3	60, 100, 150	—	5.00	—	200,000	—	100,000	—	25,000	
225	Thermal Magnetic	General Application	QJ2	2, 3	60-110, 125, 150, 175, 200, 225	—	5.00	—	10,000	—	—	—	—	
			QJH2	2, 3	60-110, 125, 150, 175, 200, 225	—	5.00	—	22,000	—	—	—	—	
			QJ2H	2, 3	60-110, 125, 150, 175, 200, 225	—	5.00	—	42,000	—	—	—	—	
			QR2	2, 3	100, 110, 125, 150, 175, 200, 225	—	5.00	—	10,000	—	—	—	—	
			QRH2	2, 3	100, 110, 125, 150, 175, 200, 225	—	5.00	—	25,000	—	—	—	—	
			HQR2	2, 3	100, 110, 125, 150, 175, 200, 225	—	5.00	—	65,000	—	—	—	—	
			HQR2H	2, 3	100, 110, 125, 150, 175, 200, 225	—	5.00	—	100,000	—	—	—	—	
250	Thermal Magnetic	Sentron	FXD6, FD6	2, 3	70-110, 125, 150, 175, 200, 225, 250	5.00	5.00	—	65,000	—	35,000	—	22,000	
			HFXD6, HFD6	2, 3	70-110, 125, 150, 175, 200, 225, 250	5.00	5.00	—	100,000	—	65,000	—	25,000	
			HHFXD6, HHFD6	2, 3	70-110, 125, 150, 175, 200, 225, 250	5.00	5.00	—	200,000	—	100,000	—	25,000	
			CFD6	3	70-110, 125, 150, 175, 200, 225, 250	—	5.00	—	200,000	—	200,000	—	100,000	
	Electronic (Solid state)	VL	NF	3	100, 150, 250	—	5.00	—	65,000	—	35,000	—	18,000	
			HF	3	100, 150, 250	—	5.00	—	100,000	—	65,000	—	20,000	
			LF	3	100, 150, 250	—	5.00	—	200,000	—	100,000	—	25,000	
400	Thermal Magnetic	Sentron	JXD6, JD6	2, 3	200, 225, 250, 300, 350, 400	8.75	8.75	—	65,000	—	35,000	—	25,000	
			HJXD6, HJD6	2, 3	200, 225, 250, 300, 350, 400	8.75	8.75	—	100,000	—	65,000	—	35,000	
			HHJXD6, HHJD6	2, 3	200, 225, 250, 300, 350, 400	8.75	8.75	—	200,000	—	100,000	—	50,000	
			CJD6	3	200, 225, 250, 300, 350, 400	8.75	—	—	200,000	—	150,000	—	100,000	
	Electronic (Solid state)	VL	NJ	3	250, 400	6.25	6.25	—	65,000	—	35,000	—	25,000	
			HJ	3	250, 400	6.25	6.25	—	100,000	—	65,000	—	25,000	
			LJ	3	250, 400	6.25	6.25	—	200,000	—	100,000	—	25,000	
		Sentron	SJD6	3	200, 300, 400	8.75	—	—	65,000	—	35,000	—	25,000	
			SHJD6	3	200, 300, 400	8.75	—	—	100,000	—	65,000	—	35,000	
			SCJD6	3	200, 300, 400	8.75	—	—	200,000	—	150,000	—	100,000	

For inches / millimeters conversion, see Application Data section.

① Includes housing frame plate with blank cover plate. Provision price includes all necessary mounting

hardware, less circuit breaker, and includes housing frame cover plate with breaker handle opening.

② 1 to 6 poles may be mounted in 3.75" of unit space.

③ Accessories such as shunt trips on three pole breakers require 6.25" of unit space.

④ HED4 1-pole 15-30A = 65,000 IR  
35-100A = 25,000 IR

⑤ HED4 3-Pole = 42,000 IR

⑥ Special 7.5" 2P design to fit G breakers in 7.5" of unit space available in BL family, GB and BQD.

# Panelboards

## Power and Distribution

*Selection*

Type P5

Branch Circuit Breakers<sup>①</sup> (cont.)

PANELBOARDS 11

Breaker Frame Rating	Trip Type	Breaker Family	Frame Type	Poles	Trip Amperage	Unit Space Requirements in Inches		Maximum Interruption Rating (KAIC) Volts AC							
						Single	Twin	120	240	480Y/277	480	600Y/347	600		
						600	Thermal Magnetic	Sentron	LXD6	2, 3	450, 500, 600	8.75	—	—	65,000
LD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75	—	—	65,000			—	35,000	—	25,000			
HLD6, HLD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75	—	—	100,000			—	65,000	—	35,000			
HHLXD6, HHLXD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75	—	—	200,000			—	100,000	—	50,000			
CLD6	3	250, 300, 350, 400, 450, 500, 600	8.75	—	—	200,000			—	150,000	—	100,000			
Electronic (Solid state)	VL	NL	3	400, 600	6.25	—		—	65,000	—	35,000	—	25,000		
		HL	3	400, 600	6.25	—		—	100,000	—	65,000	—	25,000		
		LL	3	400, 600	6.25	—		—	200,000	—	100,000	—	25,000		
	Sentron	SLD6	3	300, 400, 500, 600	8.75	—		—	65,000	—	35,000	—	25,000		
		SHLD6	3	300, 400, 500, 600	8.75	—		—	100,000	—	65,000	—	35,000		
800	Thermal Magnetic	VL	NM	2, 3	600, 700, 800	8.75	—	—	65,000	—	35,000	—	25,000		
			HM	2, 3	600, 700, 800	8.75	—	—	100,000	—	65,000	—	35,000		
			LM	2, 3	600, 700, 800	8.75	—	—	200,000	—	100,000	—	50,000		
		Sentron	MXD6	2, 3	600, 700, 800	10.00	—	—	65,000	—	50,000	—	25,000		
			MD6	2, 3	500, 600, 700, 800	10.00	—	—	65,000	—	50,000	—	25,000		
			HMXD6	2, 3	600, 700, 800	10.00	—	—	100,000	—	65,000	—	50,000		
			HMD6	2, 3	500, 600, 700, 800	10.00	—	—	100,000	—	65,000	—	50,000		
			CMD6	3	600, 700, 800	10.00	—	—	200,000	—	100,000	—	65,000		
			Electronic (Solid state)	VL	NM	3	600, 800	8.75	—	—	65,000	—	35,000	—	25,000
					HM	3	600, 800	8.75	—	—	100,000	—	65,000	—	35,000
	LM	3			600, 800	8.75	—	—	200,000	—	100,000	—	50,000		
	Sentron	SMD6		3	600, 700, 800	10.00	—	—	65,000	—	50,000	—	25,000		
		SHMD6	3	600, 700, 800	10.00	—	—	100,000	—	65,000	—	50,000			
		SCMD6	3	600, 700, 800	10.00	—	—	200,000	—	100,000	—	65,000			
	1200	Thermal Magnetic	VL	NN	2, 3	800, 900, 1000, 1200	10.00	—	—	65,000	—	35,000	—	25,000	
				HN	2, 3	800, 900, 1000, 1200	10.00	—	—	100,000	—	65,000	—	35,000	
				LN	2, 3	800, 900, 1000, 1200	10.00	—	—	200,000	—	100,000	—	65,000	
			Sentron	NXD6	2, 3	900, 1000, 1200	10.00	—	—	65,000	—	50,000	—	25,000	
				ND6	2, 3	800, 900, 1000, 1200	10.00	—	—	65,000	—	50,000	—	25,000	
				HNXD6	2, 3	900, 1000, 1200	10.00	—	—	100,000	—	65,000	—	50,000	
HND6				2, 3	800, 900, 1000, 1200	10.00	—	—	100,000	—	65,000	—	50,000		
CND6				2, 3	900, 1000, 1200	10.00	—	—	200,000	—	100,000	—	65,000		
Electronic (Solid state)				VL	NN	3	800, 1000, 1200	10.00	—	—	65,000	—	35,000	—	25,000
					HN	3	800, 1000, 1200	10.00	—	—	100,000	—	65,000	—	35,000
	LN	3	800, 1000, 1200		10.00	—	—	200,000	—	100,000	—	65,000			
	Sentron	SND6	3	800, 1000, 1200	10.00	—	—	65,000	—	50,000	—	25,000			
SHND6		3	800, 1000, 1200	10.00	—	—	100,000	—	65,000	—	50,000				
SCND6		3	800, 1000, 1200	10.00	—	—	200,000	—	100,000	—	65,000				

For inches / millimeters conversion, see Application Data section.

① Includes housing frame plate with blank cover plate. Provision price includes all necessary mounting hardware, less circuit breaker, and includes housing frame cover plate with breaker handle opening.

# Panelboards

• Revised •  
06/28/16

## Power and Distribution

## Selection/Dimensions

Ampere Rating	Mounting Height (inches)
<b>240V — Twin Mounted</b>	
<b>NEC Fuse Clips<sup>①</sup></b>	
30-30	2½ <sup>②</sup>
30-30	5
30-60	5
60-60	5
60-100	7½
100-100	7½
200-200	10

Ampere Rating	Mounting Height (inches)
<b>240V — Single Mounted</b>	
<b>NEC Fuse Clips<sup>①</sup></b>	
30	7½
60	7½
100	7½
200	10
200	7½
400	15
600	15
800 (HCP)	16¼
1200 (HCP)	16¼

Ampere Rating	Mounting Height (inches)
<b>600V — Twin Mounted</b>	
<b>NEC Fuse Clips<sup>①</sup></b>	
30-30	7½
30-60	7½
60-60	7½
60-100	7½
100-100	7½
200-200	10

Ampere Rating	Mounting Height (inches)
<b>600V — Single Mounted</b>	
<b>NEC Fuse Clips<sup>①</sup></b>	
100	7½
200	10
400	15
400 (HCP)	15
600	15
600	15
800 <sup>③</sup> (HCP)	16¼
1200 <sup>③</sup> (HCP)	16¼

### Branch Breaker Side Gutter Inches (mm)

Reference Letter	Panel Width 38 Inches Dimensions in inches (mm)
A	14.00 (356)
B	13.98 (355)
C	11.62 (295)
D	10.00 (254)
E	7.61 (193)
F	8.75 (222)
G	8.25 (210)
H	10.90 (276)
I	10.90 (276)
J	11.76 (299)
K	7.92 (201)
L	8.00 (203)
M	13.42 (341)
N	12.00 (305)
O	15.50 (393)
P	14.25 (362)
Q	13.42 (341)
R	13.42 (341)
S	10.00 (254)
T	8.00 (203)
U	10.50 (267)
V	10.50 (267)
W	9.30 (236)
X	10.30 (262)
Y	9.30 (236)
Z	10.30 (262)

← A →	BL, BLH, HBL, BQD	BL, BLH, HBL, BDQ	← A →
← B →	NGB, HGB, LGB	NGB, HGB, LGB	← B →
← C →	NEB, HEB	NEB, HEB	← C →
← D →	ED4, ED6	ED4, ED6	← D →
← E →	HED4	HED4	← E →
← F →	CED6	CED6	← F →
← G →	QJ2, QJH2, QJ2H	QJ2, QJH2, QJ2H	← G →
← H →	QR2, QRH2, HQR2, HQR2H	QR2, QRH2, HQR2, HQR2H	← H →
← I →	FD6, FXD6, HFD6, HHFD6	FD6, FXD6, HFD6, HHFD6	← I →
← J →	ND, HD, LD	ND, HD, LD	← J →
← K →	NF, HF, LF	NF, HF, LF	← K →
← L →	CFD		← L →
← M →	JD6, JXD6, HJD6, HHJD6	JD6, JXD6, HJD6, HHJD6	← M →
← N →	NJ, HJ, LJ	NJ, HJ, LJ	← N →
← O →	SJD6, SHJD6, LD6, LXD6, HLD6, HHLD6, SLD6, SHLD6		← O →
← P →	CJD6, SCJD6, CLD6, SCLD6		← P →
← Q →	NJ, HJ, LJ		← Q →
← R →	NL, HL, LL		← R →
← S →	NM, HM, LM		← S →
← T →	NN, HN, LN		← T →
← U →	VB 30 A	VB 30 A	← U →
← V →	VB 30 - 60A	VB 30 - 60 A	← V →
← W →	VB 60 - 100A	VB 60 - 100A	← W →
← X →	VB 200A	VB 200A	← X →
← Y →	VB 100A Single		← Y →
← Z →	VB 200A Single		← Z →
← A →	VB 400 - 600A Single		← A →
← B →	HCP 400 - 1200A Single		← B →

For inches / millimeters conversion, see Application Data section.

① For Class J, R or T fuse clip prices, refer to page 11-71.

② NEC fuse clips only.

③ 800 and 1200 ampere switches have class "L" fuse provisions. (Type HCP).



# Panelboards

## Power and Distribution

*Selection/Dimensions*

Types P5 and SPP/FPP, F2 (12 3/4" deep)

### Connecting Strap Kits<sup>①②③</sup> Circuit Breaker

For use with P5, Sentron Deep or Type S5 Power Panels					
Max Amp Rating	Breaker Family	Breaker Type	Catalog Number	Unit Height (inches)	Mounting
100	General	BL, BQD	<b>SBLBD</b>	3.75	Twin
125	General	NGB, HGB, LGB	<b>SNBD</b>	3.75	Twin
	General	EB	<b>SEBD</b>	3.75	Twin
	General	ED	<b>SE6D</b>	3.75	Twin
	General	CED	<b>SCED</b>	3.75	Twin
150	VL	DG	<b>SDGD</b>	5.00	Twin
225	General	QJ	<b>SQJD</b>	5.00	Twin
	General	QR	<b>SQRD</b> <sup>⑦</sup>	5.00	Twin
250	Sentron	FD	<b>SF6D</b>	5.00	Twin
	VL	FG	<b>SFGD</b>	5.00	Twin
	Sentron	CFD	<b>SCFD</b>	5.00	Single
400	Sentron	JD	<b>SJ1D</b>	8.75	Single
	Sentron	JD	<b>SJ2D</b>	8.75	Twin
	Sentron	SJD	<b>SSJ1D</b>	8.75	Single
	VL	JG	<b>SJG1D</b>	6.25	Single
	VL	JG	<b>SJG2D</b>	6.25	Twin
	Sentron	CJD	<b>SCJD</b>	8.75	Single
	Sentron	SJD	<b>SCJD</b>	8.75	Single
600	Sentron	LD	<b>SL6D</b>	8.75	Single
	Sentron	SLD	<b>SSL6D</b>	8.75	Single
	VL	LG	<b>SLGD</b>	6.25	Single
	Sentron	CLD	<b>SCLD</b>	8.75	Single
	Sentron	SCLD	<b>SSCLD</b>	8.75	Single
800	VL	MG	<b>MG1D</b>	8.75	Single
	Sentron	LMD	<b>SLM1D</b>	8.75	Single
	Sentron	MD	<b>SMND</b>	10.00	Single
	Sentron	SMD	<b>SSMND</b>	10.00	Single
1200	VL	NG	<b>NG1D</b>	10.00	Single
	Sentron	ND	<b>SMND</b>	10.00	Single
	Sentron	SND	<b>SSMND</b>	10.00	Single

### Connecting Strap Kits<sup>③</sup> Fusible

For use with P5, Sentron FPP Deep or Type F2 power panels		
Ampere Rating	Unit Height (inches)	12.75" Deep Box Catalog Number
30-30	2.5	<b>F602D</b>
30-30	5, 7.5	<b>F657D</b>
30-60	5, 7.5	<b>F657D</b>
60-60	5, 7.5	<b>F657D</b>
60-100	5, 7.5	<b>F657D</b>
100-100	5, 7.5	<b>F657D</b>
100	7.5	<b>F657D</b>
200	7.5	<b>F657D</b>
200	10	<b>F671D</b>
200-200	10	<b>F672D</b>
400-600	15	<b>F6150D</b>
800-1200 <sup>④</sup>	16.25	<b>F6162D</b>

### Blank Plates Circuit Breaker and Vacu-Break<sup>①</sup>

For use with P5, Sentron SPP and Type S5 power panels	
Height (inches)	Catalog Number
1.25	<b>6FPB01</b>
2.5	<b>6FPB02</b>
3.75	<b>6FPB03</b>
5.0	<b>6FPB05</b>
10.0	<b>6FPB10</b>

### Filler Plates

For use with P5, Sentron SPP and Type S5 power panels	
Breaker Type	Filler Plate Catalog Number
BL, BLH, HBL, BQD, ED2, ED4, ED6, NGB, HGB, LGB, HED4, HED6	<b>DFFP1</b> <sup>⑥</sup>
NEB, HEB	<b>EBF1</b>

### Cover Plates

For use with P5, Sentron SPP and Type S5 power panels	
Breaker Type	Catalog Number
QR	<b>SQRD</b> <sup>⑧</sup>

For inches / millimeters conversion, see Application Data section.

- ① Normal stock item.
- ② Includes cover plate and mounting hardware, less circuit breaker.

- ③ Also fits Types FCI, FCII, SB1 and SB2 switchboards.
- ④ 800-1200 amp units are HCP switch.
- ⑤ Suitable to replace QF3 in P1 thru P5 Panelboards and Switchboards
- ⑥ To replace a QJ with a QR only a new cover is needed up to 225A
- ⑦ Although QR is rated 250A, it is limited to 225A in panelboard.

**Note:** When a front filler plate is not completely filled with breakers, the openings in the unused space must be closed with filler plates selected from this table.



# Panelboards

## Modifications and Additions

Selection

### Type P5 Panelboards

#### Devices Mounted on Gutter Cover Includes Device, Mounting – Wired or Unwired

Description
One piece front with door
(Depth increases to 14.25")
Hinged Gutter Covers 4 pc front
Toggle Switch — SPST or 3-way
15A, 277V maximum
Pilot Light — General Purpose
Neon or Incandescent
Pushbutton

#### Feed-Thru Lugs

Ampere Rating	Unit Space (inches)
400	10
600	10
800	17.5
1200	17.5

#### Grounding of Panelboards

Ground Bars except for brazed to box are shipped with the panel interior factory mounted.

- Non-Insulated Equipment Ground Bar – Standard
- Copper Non-Insulated Ground Bar
- Al Insulated Equipment Ground Bar
- Cu Insulated Equipment Ground Bar
- Ground Bar Brazed to Box

#### Fuse Clip Provisions (Add to 250 Volts or 600 Volts Unit Prices Per Switch)

Amp Rating	Class J	Class R	Class T
30	•	•	N/A
60	•	•	N/A
100	•	•	•
200 <sup>①</sup>	•	•	•
400	•	•	•
600	•	•	•

• Indicates available

#### Ground Fault on Main Breaker

Description	Amp Rating
Conventional Ground Fault <sup>②</sup> Includes:	
Ground Fault Relay, Ground Sensor, CPT and Shunt Trip	800-1200
Test and Monitor Panel <sup>③</sup>	
Ground Fault add to Sensitrip III breaker price (takes 5" of unit space)	800-1200

#### Time Clocks<sup>④</sup>

Sangamo, Tork or Paragon time clock can be supplied, mounted in panel-board cabinet. For required increase in enclosure dimension, consult local sales office.

Description
Time clock (1- or 2-Pole, Single or Double Throw Contacts; 3-Pole Single Throw)
277V Maximum with Plain Dial
Optional: Astronomical Dial An Omitting Device Reserve Power or Carryover
Space and Mounting Provisions Only

#### Circuit Breaker Accessories Handle Blocking Device Blocks handle in either the "ON" or "OFF" position.

#### Padlocking Device – Padlocks in "OFF" position.

#### Main Bus

Standard main bus and ground bus are tin-plated aluminum. For copper main bus, neutral bus and ground bus, add from the table for each panel.

#### Lugs – For Main Lug Only Panels

Standard main lugs and neutral lugs are tin-plated aluminum, UL listed for use with aluminum/copper cables. Copper only lugs are an option.

Ampere Rating
400 - 1200

#### Shunt Trip on Main and Branches<sup>⑤</sup>

Description
BL, BQD, NGB, HGB, LGB, NEB, HEB (branch only)
QJ2, QJH2, QJ2H, QR2, QRH2, HQR2, HQR2H, ED2, ED4, HED4, HHED6, CED (branch only)
All others to 1200A

#### 100% Rated Main Circuit Breakers

Ampere Rating	Breaker Type
400	JXD6H, HJXD6H
	NJY, HJY, LJY
600	LXD6H, HLXD6H
600 <sup>⑥</sup>	NMY, HMY, LMY
800 <sup>⑦</sup>	NNY, HNY, LNY
	MXD6H, HMXD6U, SMD6, SHMD6, SND6, SHND6, NXD6H, HNXD6H
1200	NNY, HNY, LNY
	NXD6H, HNXDH,

① For use on main lug, main breaker or main switch panels without subfeed breakers.  
② Available in 90" high enclosure only. Unit space is 42½" with Test and Monitor Panel; 45" without Test Monitor Panel.

③ Not available on Sensitrip III.  
④ For required unit space, consult local sales office.  
⑤ Shunt Trip on 100A frame breakers increases mounting height to 6.25" for twin mounting.

⑥ The 600A, 100% rated breaker application requires the use of an 800A frame breaker.  
⑦ The 800A, 100% rated breaker application requires the use of a 1200A frame breaker.

# Panelboards

## Embedded Micro Metering Module™

*Selection*

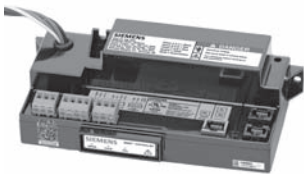
### SEM3 System configured in Panelboards

The Siemens SEM3 system can be configured for factory installation in branch circuit monitoring applications using the Siemens COMPAS configuration tool. This option can lower the installation time of the system for the installer while providing a factory warranted solution.

The SEM3 system can be factory installed in unit space in type P2, P4, & P5 Siemens panel boards. Please note P1 and P3 configurations are not available at this time and the amount of unit space needed varies depending upon the application. Please note that lead time adders will apply and may vary depending upon the configuration of the system.

### SEM3 for use in Siemens Panelboards

#### Available in a NEMA 1, 3R, or 12 rated enclosure



#### Controller

SEM3 controller is mounted in unit space opposite of the feed location specified in COMPAS (i.e., bottom mount for top feed) and will require 3" of unit space. Each controller will be powered by direct tap connection to the panel section bus. Each controller can monitor up to 45 circuits. Applications that require monitoring more than 45 circuits will require additional controllers.



#### Current Transformers (CTs)

Five sizes of CTs are available for use in the P2 panel: 50, 125, 250, 400 & 600 amp. All CTs are pre-mounted to a support bracket that attaches to the base rail of the interior of the panel board. Each bracket supports a maximum of 3 CTs and is designed for the breaker selected (brackets are not interchangeable between breaker frames). Each CT will be attached to a data module that is placed in the meter racks.



#### Meter Racks

Each meter rack requires 3" of unit space. All meter racks will be installed next to the SEM3 controller in unit space. The COMPAS configuration tool will select the appropriate meter rack configuration according to the user's application and will use the 21 space meter rack as a default option where possible. Only one meter rack (regardless of number of positions) can be installed in 3" of unit space.

**NOTE:** Monitoring of 45 circuits will require 9" of unit space: two 21 position racks and one 3 position rack

#### Other Considerations

**Configuration:** Data modules from CTs monitoring a circuit breaker must be mounted adjacent to one another in the meter rack. Any field changes to the factory configuration must take this into account.

**Start-up & Commissioning:** Siemens can provide these services. Contact your local SIEMENS PDS Power Solutions Business Developer for more details.

**Billing Services for sub billing applications:** Billing services are available. Contact your local SIEMENS PDS Power Solutions Business Developer for more details.

# Panelboards

## Embedded Micro Metering Module™

• Revised •  
09/19/14

Selection

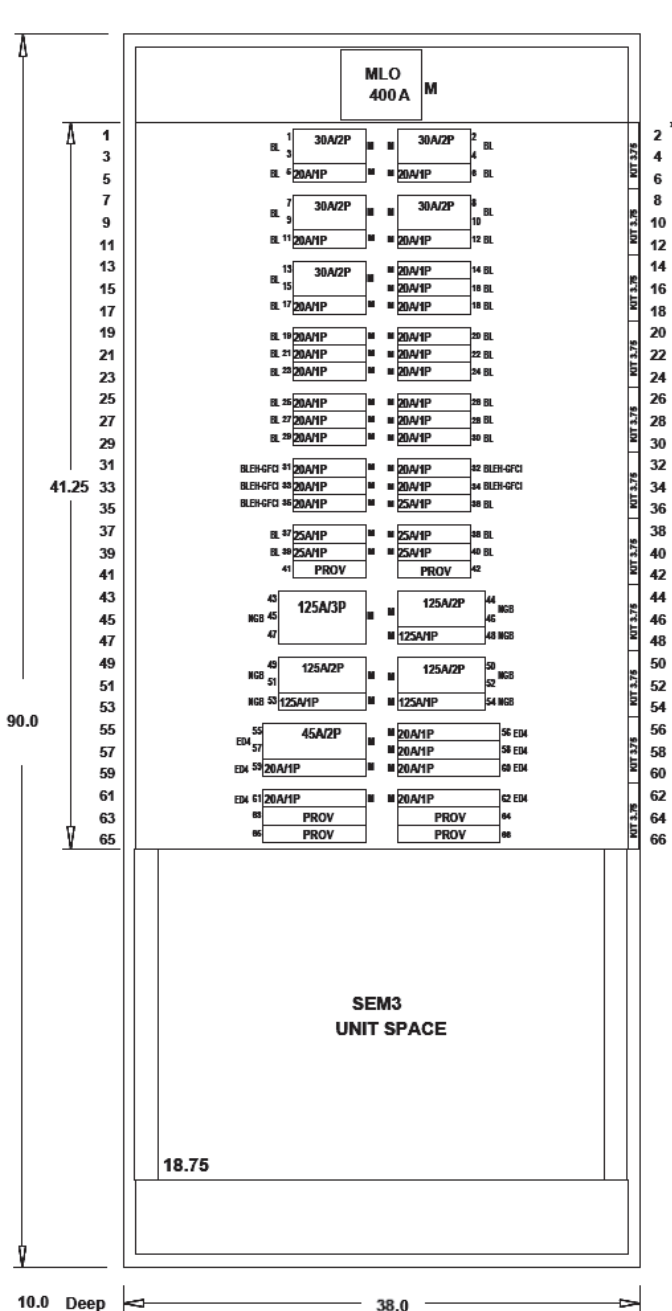
P5 Devices  
Enclosure sizes

11  
PANELBOARDS

### Example P5 Panel with SEM3 Type 1 Enclosure P5 = (38" or 46" Wide x 10" Deep)

Enclosure heights are in 15" increments from 60" thru 90".  
Enclosure heights: 60", 75", 90" (there are optional depths also)

The COMPAS configuration tool can provide actual dimensions based on the configuration. Example below is largest standard P4 enclosure for factory assembled panel - unit space is in 3.75" increments - up to 6 circuits can occupy each 3.75" of unit space.



← 38" std. width for P5 →

**Main Breaker / Main Lug space varies based on selected options**

**Unit space varies based on selected options**

**Note:** All circuits do not have to be monitored by SEM3 - user can select any circuits in this space to be monitored.

Based on smallest branch breakers and a 3-phase main being monitored. There is a maximum of 63 circuits that can be monitored with the configuration shown. Some selections of main breakers and other subfeed options could limit this further.

In this situation there is 37.5" of unit space available - so 60 branch circuits could be monitored. If monitoring the main three additional circuits could be monitored with a total of 63 circuits.

This requires two controllers and three 21 position racks using 18.75" of unit space. - see below -

**SEM3 space varies by number of circuits monitored - this uses unit space.**

- == > 7.5" of space for up to 21 circuits monitored one controller and one 21-pos rack
- == > 11.25" of space for up to 42 circuits monitored one controller and two 21-pos racks
- == > 15" of space for up to 45 circuits monitored one controller and two 21-pos racks plus one 3-pos rack
- == > 18.75" of space for up to 63 circuits monitored two controllers and three 21-pos racks

**Note:** If subfeed space is needed - it will take away from available unit space.

# Panelboards

## Modifications and Additions

*Selection*

Type P5 Panelboards

Vacu-Break Fusible Switches

For Branch Circuit Use with AC Combination Full Voltage Starters <sup>①</sup>

Amp Rating	Horsepower Ratings				Mounting Height in Inches (mm)				Min. Section Width Inches (mm)
	240V AC		480V AC		240V AC		480V AC		
	With NEC Fuse	With Dual-Element Fuse	With NEC Fuse	With Dual-Element Fuse	Twin	Single	Twin	Single	
30-30	3	7.5	—	—	2.50 <sup>Ⓢ</sup> (64)	—	—	—	32 (813)
30-30	3	7.5	5	10	5.00 (127)	—	7.50 (191)	—	32 (813)
30-60	3-7.5	7.5-15	5-15	25	5.00 (127)	—	7.50 (191)	—	32 (813)
60-60	7.5	15	15	25	5.00 (127)	—	7.50 (191)	—	32 (813)
60-100	7.5-15	15-30	15-25	25-50	7.50 (191)	—	7.50 (191)	—	32 (813)
100-100	15	30	25	50	7.50 (191)	—	7.50 (191)	—	32 (813)
100	—	—	25	50	—	—	—	7.50 (191)	32 (813)
200	25	50	50	100	—	10.00 (254)	—	10.00 (254)	32 (813)
200-200	—	50	—	100	10.00 (254)	—	10.00 (254)	—	32 (813)
400	50	100	100	—	—	15.00 (381)	—	15.00 (381)	38 (965)
600	75	100	—	—	—	15.00 (381)	—	15.00 (381)	38 (965)

## Connector Modifications

### Compression Lugs

Style	Amp Rating	Breaker Type	Compression Connectors	Available Unit Space Reduction
MLO	800	N/A	All compression lugs	Deduct 5.0" Unit Space
	1000	N/A	All compression lugs	Deduct 5.0" Unit Space
	1200	N/A	All compression lugs	Deduct 5.0" Unit Space
Main Breaker	800	MD6, HMD6, CMD6, SMD6, SHMD6, SCMD6	(3)#2/0 AWG - 500 Kcmil Cu or Al	0
	1200	ND6, HND6, CND6, SND6, SHND6, SCND6	(4)#250 - 500 Kcmil Cu or Al	0

### Alternate Lugs

Style	Amp Rating	Breaker Type	Compression Connectors	Available Unit Space Reduction
MLO	800	N/A	(3)#3/0 AWG - 750 Kcmil Cu or Al	Deduct 10" Unit Space
	1000	N/A	(4)#3/0 - 600 Kcmil Cu or Al (4)#3/0 AWG - 750 Kcmil Cu or Al	Deduct 10" Unit Space
	1200	N/A	(4)#3/0 AWG - 600 Kcmil Cu or Al (4)#3/0 AWG - 750 Kcmil Cu or Al	Deduct 10" Unit Space

① 100,000 kA at 480V with Class J or Class RK5 fuses.

Ⓢ The 2.50 inch (64mm) high unit is suitable for NEC Class H and K5 fuses only. Class R rejection type fuse holders are not available.

# Panelboards

## Kits and Accessories

*Selection*

### Type P5 Panelboards

#### Enclosures

Description	Catalog number
P5 Type 1 36" W x 12.75" D x 60" H	<b>PB860</b>
P5 Type 1 36" W x 12.75" D x 75" H	<b>PB875</b>
P5 Type 1 36" W x 12.75" D x 90" H	<b>PB890</b>
P5 Type 1 36" W x 14.75" D x 60" H	<b>PBD860</b> <sup>①</sup>
P5 Type 1 36" W x 14.75" D x 75" H	<b>PBD875</b> <sup>①</sup>
P5 Type 1 36" W x 14.75" D x 90" H	<b>PBD890</b> <sup>①</sup>
P5 Type 3R/12 60" H	<b>WP860</b>
P5 Type 3R/12 75" H	<b>WP875</b>
P5 Type 3R/12 90" H	<b>WP890</b>

#### Trims

Description	Catalog number
P5 Std (4 piece trim) vented 60"	<b>P560V</b>
P5 Std (4 piece trim) vented 75"	<b>P575V</b>
P5 Std (4 piece trim) vented 90"	<b>P590V</b>
P5 Std (4 piece trim) unvented 60"	<b>P560NV</b> <sup>②</sup>
P5 Std (4 piece trim) unvented 75"	<b>P575NV</b> <sup>②</sup>
P5 Std (4 piece trim) unvented 90"	<b>P575NV</b> <sup>②</sup>
P5 Std (4 piece trim) vented 60" with hinged gutter covers	<b>P560VHG</b>
P5 Std (4 piece trim) vented 75" with hinged gutter covers	<b>P575VHG</b>
P5 Std (4 piece trim) vented 90" with hinged gutter covers	<b>P590VHG</b>
P5 Std (4 piece trim) unvented 60" with hinged gutter covers	<b>P560NVHG</b>
P5 Std (4 piece trim) unvented 75" with hinged gutter covers	<b>P575NVHG</b>
P5 Std (4 piece trim) unvented 90" with hinged gutter covers	<b>P590NVHG</b>
P5 Std (1 PC Door) vented 60"	<b>P560VD</b> <sup>③</sup>
P5 Std (1 PC Door) vented 75"	<b>P575VD</b> <sup>③</sup>
P5 Std (1 PC Door) vented 90"	<b>P590VD</b> <sup>③</sup>
P5 Std (1 PC Door) unvented 60"	<b>P560NVD</b> <sup>③</sup>
P5 Std (1 PC Door) unvented 75"	<b>P575NVD</b> <sup>③</sup>
P5 Std (1 PC Door) unvented 90"	<b>P590NVD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) vented 60"	<b>P560VDD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) vented 75"	<b>P575VDD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) vented 90"	<b>P590VDD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) unvented 60"	<b>P560NVDD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) unvented 75"	<b>P575NVDD</b> <sup>③</sup>
P5 Std (1 PC Door-in-door) unvented 90"	<b>P590NVDD</b> <sup>③</sup>

#### Flush mounting kits

Description	Catalog number
Flush kit to P5 60" High	<b>F860</b>
Flush kit to P5 75" High	<b>F875</b>
Flush kit to P5 90" High	<b>F890</b>

<sup>①</sup> Required with door over breaker handles.

<sup>③</sup> Requires 14.5" deep box.

<sup>②</sup> Unvented trims require amps per square inch bussing.

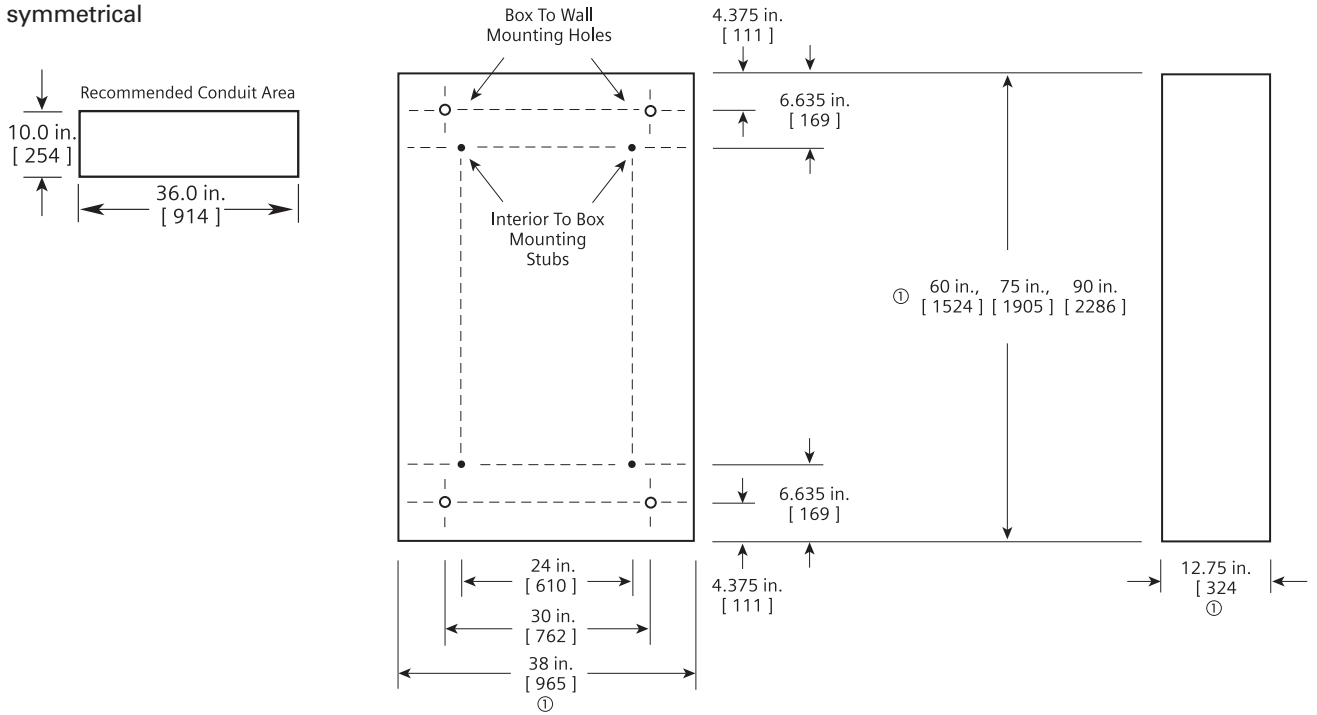
# Panelboards

## Type P5 Panelboards

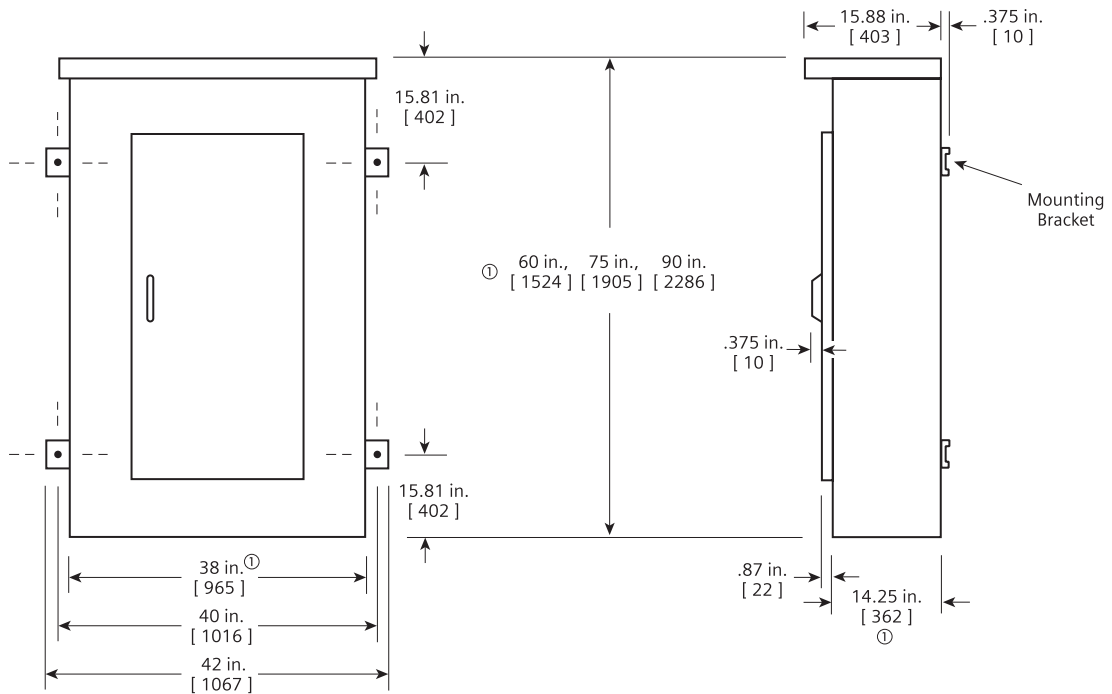
*Dimensions*

### Type 1 Box

Box is symmetrical



### Type 3R and 3R/12 Box



①Dimensions are interior of the box. Add 5/8" to width for absolute dimension. Add 1/8" to height for absolute dimension.  
 Dimensions shown in inches and millimeters [ ].