SIEMENS

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SMP Switchboards

Selection and application guide

www.siemens.ca/powerdistribution

Contents

Sentron® SMP Switchboards

Construction Details

Simplified system design.
A typical SMP switchboard consist of a floor mounted, wall supported service section, and a distribution section. The wireway can also be added where required by the local utility or if additional cable termination space is required.

Wireways are modular to allow flexibility.
The wireway is available in 2 depths to suit customer needs. Wireway has split front doors as standard with optional hinged doors. The lug pads are standard NEMA hole pattern and accept up to 5 mechanical lugs or 6 compression lugs.

90°C rated wireway.

The termination temperature for main incoming cables can be sized at 90°C for bussed pull sections.

Service Entrance Sections house a variety of equipment.

- *Service Entrance Sections.*

Service sections can be fed directly from overhead by cable.

Service entrance sections equipped for bottom feed will accept cable from underground directly into the service section.

- *Utility Metering*

In addition to the main device, the service section contains utility metering provisions. "Cold" metering provisions (CT's on the load side of the main device) are furnished. The CT's are provided by the utility company. The compartment will be built to utility company standards, with hinged doors and provisions for utility metering equipment.

- *User Metering*

The service section provides space for the Siemens Digital Meter with remote display, and it's associated components.

- *Main protective device*

The MCCB is mounted individually so that it can be located quickly in an emergency. SMP switchboards will accommodate different types of main circuit breakers. Selection depends on the characteristics of your individual electrical system.

Distribution Sections have ample wiring room and front accessibility.
Generous top or bottom gutters have been created by locating the bus-link in the top or bottom of the distribution section, so there's ample room to run cables into the distribution section and make connections.

Standard bolted covers allow complete access to load conductors. Future flexibility comes standard in the Siemens SMP switchboard. The distribution section can accommodate any combination of panel mounted devices, including MCCBs and fusible disconnect switches.

Operating temperatures are in accordance with CSA Standards
Bus bars are available in standard tin-finished aluminum or optional silver-finished copper. Standard bus is sized on the basis of heat rise criteria, in accordance with CSA C22.2 #31. All bus bars are sized to limit heat rise to 65°C above an ambient temperature of 40°C.

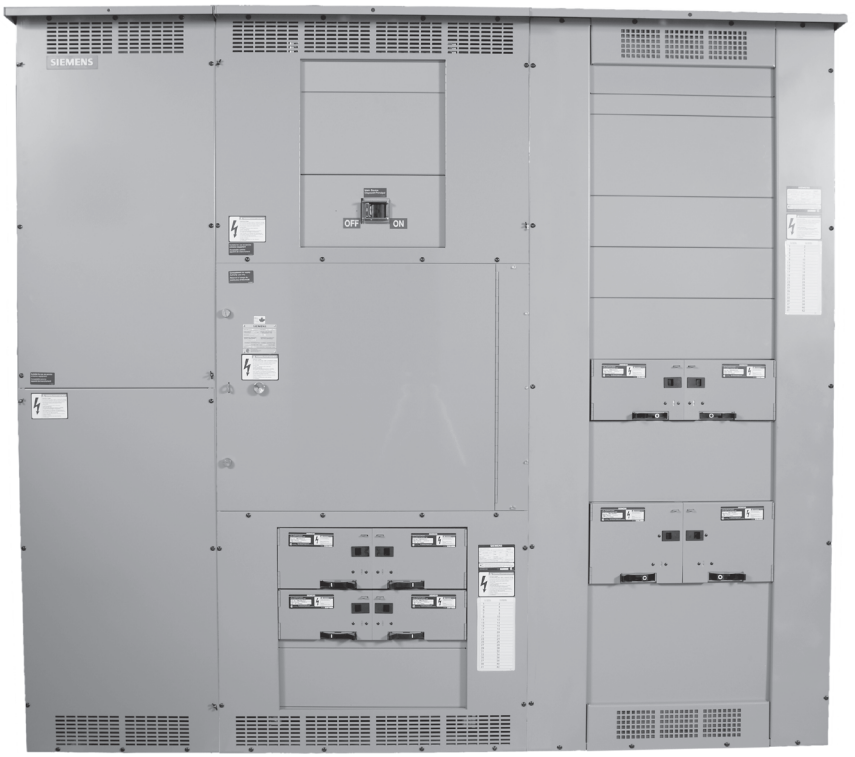
Bus-Link Connections are accessible from the front.

The Bus-Link can be bolted from the front of the switchboard. Each bus-link is attached by grade five bolts to assure solid joints between sections, and to maintain full bus ampacity through the joint.

To make installation and servicing of the bus-link easier, all phase and neutral busses are stacked one above the other.

Cable Terminals

Screw mechanical connectors (lugs) are provided as standard equipment.



Sentron® SMP Switchboards

Power and Distribution

SMP Switchboard Introduction

Whether the design is for a 240V AC, 400 ampere system; a 600V AC, 1200 A ampere system; or something in between, Siemens Sentron Switchboards should be considered. Every aspect of design has been aimed at improving layout convenience, reducing installation costs, and minimizing the impact and cost of system changes. These switchboards provide the space saving construction and service flexibility necessary in systems for light industrial plants, retail strip malls, and commercial buildings.

Service entrance sections of the SMP accepts a wide range of Sentron Molded Case Circuit Breakers as main disconnect devices.

The SMP switchboard is designed for special configurations. It can be equipped with incoming and outgoing cable/conduit connections, supplied with metering and other special features.

The distribution sections of all Sentron Switchboards are designed with improved wiring space and greater accessibility. They're also designed for easier installation and maintenance. Conveniently located bus-link without compromising useful wiring gutter space, and standard bolted gutter covers offer complete access to load conductors. Front accessibility to bus and protective devices makes adding or replacing circuit breakers or switches quick and easy.

SMP Switchboard Features and Ratings

- **Main bus** rated up to 1200 ampere.
- Rear of all sections aligned so that switchboard can be floor mounted and secured against the wall.
- Front connected and front accessible.
- **Main devices** – individually mounted.
  Molded Case Breaker: 400-1200 amps.
- **Branch Devices** – panel mounted.
  Molded Case Breaker: 15–1200 amps fixed.
  Quick-Make Quick-Break Fusible Switch: 30 - 600A

600 Volts AC Maximum
1200 Ampere Mains
1200 Ampere Maximum Branch
CSA Short Circuit Rating —
65,000A IR Maximum

CSA Certified To: CAN/CSA-22.2 No. 31-14

CSA File #LR 153416 (013076)

SMP Specifications (Table 1)

SMP Switchboard	
Enclosure Type	Type 1 Type 2 (dripproof & sprinklerproof) Optional: Dripshield
Dimensions Main or Distribution Wireway	38″ W x 90″ H x 12.75″ Dp 24″ W x 90″ H x 12.75″ Dp or 25.5″ Dp
Volts	600V Max
Amperes	400-1200A
Bus Type	Aluminum (tin plated) Copper (silver finished) optional
Bus Bracing	50 KA 65 KA (optional)
Interrupting Capacity	50 KA 65 KA (optional)
Entry	Cable only (top or bottom)
Main Device	MCCB 400-1200A ▪ 80% Rated ▪ 100% Rated (option)
Branch Devices (Unit Space)	52.5″ in Main with Distribution Section, or 22.5″ in MUD Section, or 60″ in Distribution Section
Metering Devices	Siemens Digital Metering with Remote Display SEM3 Embedded Metering
Other Options	SPD Units Sill Channels (1.5″) Lifting Hooks

Main and Distribution Section Dimensions (Table 2)

Switchboard Type	Access	Dimensions - Inches (mm)		
		H	W	D
SMP	Front	90″ (2286)	38″ (965)	12.75″ (324)

① Only available as a Wireway.

Protective Devices - Molded Case Circuit Breakers

Standard

Breakers are designed for commercial, industrial, institutional and other heavy duty applications. They are rated up to 600V AC and 250V DC. Their interrupting ratings are higher than normal duty breakers.

High Interrupting

Breakers are designed for heavy duty applications where the interrupting requirements exceed the ratings of heavy duty breakers. They are rated up to 600V AC.

Current Limiting

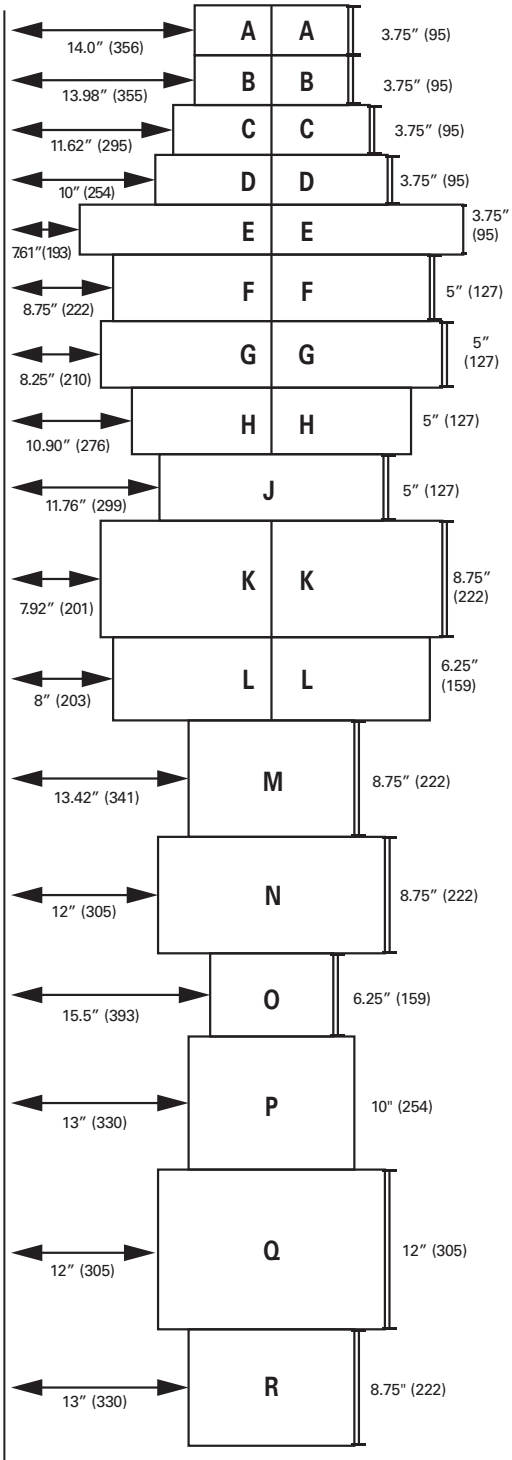
Molded case breakers incorporate the exclusive I-T-E blow-apart interruption principle. They meet the CSA requirements for current-limiting breakers. Current-limiting circuit breakers can limit the let-through I^2t to a value less than the I^2t of one-half cycle wave of the symmetrical prospective current without any fusible elements when operating within their current-limiting range.

Main Breaker Selection (Table 3)

Amperage Rating	Breaker Type	Trip Type	Maximum Interrupting Rating (kA) 240V	480V	600V	Available Trip Values
400	JXD6	Thermal Magnetic	65	35	25	200, 225, 250, 300, 350, 400
	JD6		65	35	25	200, 225, 250, 300, 350, 400
	HJD6		100	65	35	200, 225, 250, 300, 350, 400
	HHJD6		200	100	50	200, 225, 250, 300, 350, 400
	CJD6		200	150	100	200, 225, 250, 300, 350, 400
	SJD6	Electronic (Solid State)	65	35	25	200, 300, 400
	SHJD6		100	65	35	200, 300, 400
	SCJD6		200	150	100	200, 300, 400
600	LXD6	Thermal Magnetic	65	35	25	450, 500, 600
	LD6		65	35	25	250, 300, 350, 400, 450, 500, 600
	HLD6		100	65	35	250, 300, 350, 400, 450, 500, 600
	HHLD6		200	100	50	250, 300, 350, 400, 450, 500, 600
	CLD6		200	150	100	450, 500, 600
	SLD6	Electronic (Solid State)	65	35	25	300, 400, 500, 600
	SHLD6		100	65	35	300, 400, 500, 600
	SCLD6		200	150	100	300, 400, 500, 600
800	MXD6	Thermal Magnetic	65	50	25	500, 600, 700, 800
	MD6		65	50	25	500, 600, 700, 800
	HMD6		100	65	50	500, 600, 700, 800
	CMD6		200	100	65	500, 600, 700, 800
	SMD6	Electronic (Solid State)	65	50	25	600, 700, 800
	SHMD6		100	65	50	600, 700, 800
	SCMD6		200	100	65	600, 700, 800
1200	NXD6	Thermal Magnetic	65	50	25	800, 900, 1000, 1200
	ND6		65	50	25	800, 900, 1000, 1200
	HND6		100	65	50	800, 900, 1000, 1200
	CND6		200	100	65	800, 900, 1000, 1200
	SND6	Electronic (Solid State)	65	50	25	800, 1000, 1200
	SHND6		100	65	50	800, 1000, 1200
	SCND6		200	100	65	800, 1000, 1200

Branch Breaker Gutter Dimensions

For 38"W Distribution Section **(Table 5)**



Branch Circuit Breaker Selection① (Table 4)

Breaker Frame Rating	Trip Type	Breaker Type	Poles	Trip Amperage	Mounting Height Inches (mm)				Max IC Rating (kA)		
					Single	Twin	Gutter⑥		240V	480V	600V
100	Thermal Magnetic	BL	1, 2, 3	15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	—	3.75" (95)②③	A	14" (356)	10	/	/
		BLH	1, 2, 3	15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	—	3.75" (95)②③	A	14" (356)	22	/	/
		HBL	1, 2, 3	15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	—	3.75" (95)②③	A	14" (356)	65	/	/
		BQD6⑤	1, 2, 3	15, 20, 30, 40, 50, 60, 70	—	3.75" (95)②③	A	14" (356)	65	/	10
	Ground Fault Circuit Interrupter	BLE (GFCI)	1, 2	15, 20, 30, 40, 50, 60	—	3.75" (95)②	A	14" (356)	10	/	/
		BLF (GFCI)	1, 2	15, 20, 30, 40, 50, 60	—	3.75" (95)②	A	14" (356)	10	/	/
		BLHF (GFCI)	1, 2	15, 20, 30, 40, 50, 60	—	3.75" (95)②	A	14" (356)	22	/	/
	Arc Fault Circuit Interrupter	BAF (AFCI)	1	15, 20	—	3.75" (95)②	A	14" (356)	10	/	/
		BAFH (AFCI)	1	15, 20	—	3.75" (95)②	A	14" (356)	22	/	/
125	Thermal Magnetic	ED2	1, 2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100	3.75" (95)②③	3.75" (95)②③	D	10" (254)	10	/	/
		ED4	1, 2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)②③	3.75" (95)②③	D	10" (254)	65	18	/
		ED6	1, 2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)②③	3.75" (95)②③	D	10" (254)	100	18	18
		HED4	1, 2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)②③	3.75" (95)②③	D	10" (254)	100	65	30
		CED6	2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)③	3.75" (95)③	E	7.61" (193)	200	200	100
		HEB	2, 3	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	—	3.75" (95)②③	C	11.62 (295)	100	65	25
		NGB	1, 2, 3	15, 20, 25, 30, 40, 50 ,60, 70, 80, 90, 100, 110, 125	—	3.75" (95)②③	B	13.98" (355)	100	25	14
		NGB2	1, 2, 3	15, 20, 25, 30, 40, 50 ,60, 70, 80, 90, 100, 110, 125	—	3.75" (95)②③	B	13.98" (355)	100	25	14
		HGB2	1, 2, 3	15, 20, 25, 30, 40, 50 ,60, 70, 80, 90, 100, 110, 125	—	3.75" (95)②③	B	13.98" (355)	100	35	22
		LGB2	1, 2, 3	15, 20, 25, 30, 40, 50 ,60, 70, 80, 90, 100, 110, 125	—	3.75" (95)②③	B	13.98" (355)	100	65	25
150	Electronic (Solid State)	NDG	3	60, 100, 150	—	5" (127)	H	10.9" (276)	65	35	18
		LDG	3	60, 100, 150	—	5" (127)	H	10.9" (276)	200	100	18
225	Thermal Magnetic	QR2	2, 3	100, 110, 125, 150, 175, 200, 225	5" (127)	5" (127)	F	8.75" (222)	10	/	/
		QRH2	2, 3	100, 110, 125, 150, 175, 200, 225	5" (127)	5" (127)	F	8.75" (222)	25	/	/
		HQR2	2, 3	100, 110, 125, 150, 175, 200, 225	5" (127)	5" (127)	F	8.75" (222)	65	/	/
		HQR2H	2, 3	100, 110, 125, 150, 175, 200, 225	5" (127)	5" (127)	F	8.75" (222)	100	/	/
250	Thermal Magnetic	FXD6, FD6	2, 3	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250	5" (127)	5" (127)	G	8.25" (210)	65	35	22
		HFD6	2, 3	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250	5" (127)	5" (127)	G	8.25" (210)	100	65	25
		CFD6	2, 3	70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250	—	5" (127)	J	11.76" (299)	200	200	100
	Electronic (Solid State)	NFG	3	100, 150, 250	—	5" (127)	H	10.9" (276)	65	35	18
		LFG	3	100, 150, 250	—	5" (127)	H	10.9" (276)	200	100	25
400	Thermal Magnetic	JXD6, JD6	2, 3	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	K	7.92" (201)	65	35	25
		HJD6	2, 3	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	K	7.92" (201)	100	65	35
		HHJD6	2, 3	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	K	7.92" (201)	200	100	50
		CJD6	2, 3	200, 225, 250, 300, 350, 400	8.75" (222)	—	N	12" (305)	200	150	100
	Electronic (Solid State)	SJD6	3	200, 300, 400	8.75" (222)	—	M	13.42" (341)	65	35	25
		SHJD6	3	200, 300, 400	8.75" (222)	—	M	13.42" (341)	100	65	35
		SCJD6	3	200, 300, 400	8.75" (222)	—	N	12" (305)	200	150	100
		NJG	3	250, 400	6.25" (159)	6.25" (159)	L	8" (203)	65	35	25
		LJG	3	250, 400	6.25" (159)	6.25" (159)	L	8" (203)	200	100	25
600	Thermal Magnetic	LXD6	2, 3	450, 500, 600	8.75" (222)	—	M	13.42" (341)	65	35	25
		LD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75" (222)	—	M	13.42" (341)	65	35	25
		HLD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75" (222)	—	M	13.42" (341)	100	65	35
		HHLD6	2, 3	250, 300, 350, 400, 450, 500, 600	8.75" (222)	—	M	13.42" (341)	200	100	50
		CLD6	2, 3	450, 500, 600	8.75" (222)	—	N	12" (305)	200	150	100
	Electronic (Solid State)	SLD6	3	300, 400, 500, 600	8.75" (222)	—	M	13.42" (341)	65	35	25
		SHLD6	3	300, 400, 500, 600	8.75" (222)	—	M	13.42" (341)	100	65	35
		SCLD6	3	300, 400, 500, 600	8.75" (222)	—	N	12" (305)	200	150	100
800	Thermal Magnetic	MXD6	2, 3	500, 600, 700, 800	10" (254)	—	P	13" (330)	65	50	25
		MD6	2, 3	500, 600, 700, 800	10" (254)	—	P	13" (330)	65	50	25
		HMD6	2, 3	500, 600, 700, 800	10" (254)	—	P	13" (330)	100	65	50
		CMD6	2, 3	500, 600, 700, 800	10" (254)	—	P	13" (330)	200	100	65
	Electronic (Solid State)	SMD6	3	600, 700, 800	10" (254)	—	Q	12" (305)	65	50	25
		SHMD6	3	600, 700, 800	10" (254)	—	Q	12" (305)	100	65	50
		SCMD6	3	600, 700, 800	10" (254)	—	Q	12" (305)	200	100	65
1200	Thermal Magnetic	NXD6	2, 3	800, 900, 1000, 1200	10" (254)	—	P	13" (330)	65	50	25
		ND6	2, 3	800, 900, 1000, 1200	10" (254)	—	P	13" (330)	65	50	25
		HND6	2, 3	800, 900, 1000, 1200	10" (254)	—	P	13" (330)	100	65	50
		CND6	2, 3	800, 900, 1000, 1200	10" (254)	—	P	13" (330)	200	100	65
	Electronic (Solid State)	SND6	3	800, 1000, 1200	10" (254)	—	Q	12" (305)	65	50	25
		SHND6	3	800, 1000, 1200	10" (254)	—	Q	12" (305)	100	65	50
		SCND6	3	800, 1000, 1200	10" (254)	—	Q	12" (305)	200	100	65

① Space includes housing frame plate with blank cover plate. Provision 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" (95) of unit space

③ Accessories such as shunt trips on three pole breakers require 6.25" (159) of unit space.

④ Ground fault is not available on branch Sensitrip breakers.

⑤ Also 10kA at 600Y/347 Volts.

⑥ Refer to Table 5 for layout dimensions.

Protective Devices - Fusible Disconnects

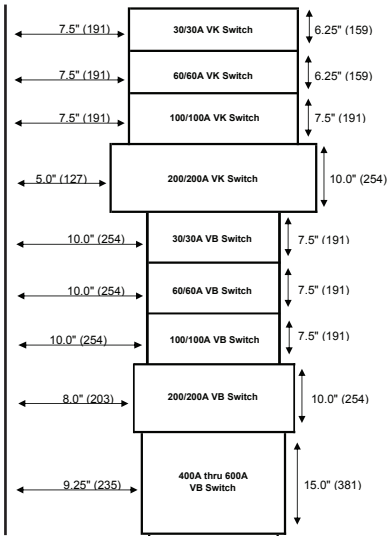
Fuse Selection

The Proper Fuse Type for the Application is Selected Using the Following Parameters:

- Voltage Requirements
- Conductor Ampacity
- Horsepower Requirements
- Maximum Available RMS Fault Current
- CSA Fuse Class

Branch Switch Gutter Dimensions

For 38W Distribution Section **(Table 8)**



Maximum VB HP Ratings (Table 6)③

Amp Rating	Volts			
	3 Phase			Single Phase
	240	480	600	240
30	7.5	15	20	3
60	15	30	50	10
100	30	60	50	15
200	60	125	50	–
400	50	50	50	–
600	50	50	50	–

Maximum VK HP Ratings (Table 9)③

Amp Rating	Volts			
	3 Phase			Single Phase
	240	480	600	240
30	7.5	15	20	3
60	1.5	30	50	10
100	30	50	75	15
200	60	125	150	15

Branch Switches 600V Maximum (Table 11)

Rating Ampere	Max Voltage	Fusing	Mounting Height 38"W
30/30A & 60/60A (VK)⑤	600V	Class J	**6.25" (159)**
100/100A (VK)⑤	600V	Class J	**7.5" (190)**
200/200A (VK)⑤	600V	Class J	**10.0" (254)**
30/30A & 60/60A (VB)	600V	Class J	**7.5" (190)**
100/100A (VB)	600V	Class J	**7.5" (190)**
200A (VB)	600V	Class J	**10.0" (254)**
400A & 600A (VB)	600V	Class J	**15.0" (381)**

Branch Switch Connectors (Table 10)④

Switch Ampere Rating	Wire and Cable Range
30	(1)—#14–#4 AWG (Cu or Al)
60	(1)—#14–#4 AWG (Cu or Al)
100	(1)—#10–#1/0 AWG (Cu or Al)
200	(1)—#6 AWG-350kcmil (Cu or Al)
400	(1)—#1/0 AWG-750 MCM OR (2)—#1/0 AWG-250 MCM (Cu or Al)
600	(1)—#1/0 AWG-750 MCM OR (2)—#1/0 AWG-250 MCM (Cu or Al)

Switch Interrupting Ratings

Switch Type	Interrupting Rating (kA)		
	240V	480V	600V
VB	200	100	100
VK	200	200	200

Gutters (Table 12)

Ampere Rating	End Gutters Minimum - Inches (mm)	Side Gutters Minimum - Inches (mm)
400	12" (305)	7.9" (201)
600	12" (305)	7.9" (201)

Switch Accessories (Table 13)

Fuse Pullers (VK)	Cat. No.
30 or 60 Amp	**FP2**
100 Amp	**FP3**
200 Amp	**FP4**

CSA Fuse Classes (Table 14)

Class		Amperes	Volts (AC)	I^2t, Ip (Let-Thru)	Circuits
H	Standard Code	1-600A	250 and 600V or less —	— —	Less than 10,000A available
K①	Fast Acting (One time)	1-600A	250 and 600V or less	—	Feeder circuits
J	Fast Acting and Time Delay	1-600A	600V or less	Ip and I2t-Low (motor load small %)	Feeder circuits Motor circuits
RK1	Fast Acting and Time Delay	1/10-600A	600V or less 250V or less	I2t-Slightly > J Ip-Slightly > J	Feeder circuits Motor circuits
RK5	Fast Acting and Time Delay	1/10-600A	600V or less 250V or less	I2t- > RK-1 Ip- > RK-1	Feeder circuits Motor circuits
C (FORM II)	Moderate Delay	2-600A	600V or less	I2t- < RK-5 Ip- < RK-5	Motor circuits
T	Fast Acting	1-600A	300 and 600V or less	I2t-Low Ip-Low	Non-motor loads
L	Fast Acting and Time Delay	601-5000A	600V or less	I2t-Low motor loads	Feeder circuits Motor circuits

① Fuse clips do not prohibit the use of Class H type fuse in switch.
② Refer to Siemens for single phase and DC horsepower requirements.
③ Ratings are based on UL test procedure.
④ Connector range applies to VB Switches only.
⑤ Not suitable for use in distribution space in main section.

Special Construction, Additions and Accessories

When required, special constructions or additions to standard Switchboards may be specified for all **factory-assembled** Power and Distribution Switchboards. Listed below are those available for Type SMP Switchboards.

1. Enclosure Type

38" Enclosure Types
Type 1
Type 2 (dripproof & sprinklerproof)
Optional: Dripshield

2. Wireway Options

24"W x 90"H x 12.75" Dp	Hinged Door
	Door Covers
24"W x 90"H x 25.5" Dp	Hinged Door
	Door Covers

3. Painted Finish

Touch-Up Paint (ASA61, Light Grey)
12 oz. aerosol can, Cat. #TUP-61

4. Miscellaneous Accessories

Nameplate - laminated and engraved

5. Bus-Link (One Set Per Panel)

Ampere Rating	Unit Space Occupied in MUD - Inches (mm)
400-1200	Consult Factory

6. Grounding of SMP Switchboard

Non-Insulated Equipment Ground Bus Including Ground Lug Continuous Solid Copper Ground (optional)

7. Main Bus

Standard Main bus and Neutral bus are tin plated aluminum or silver finished copper (option).

8. Lugs

For Main Device and Neutral
For Main Breakers please see SpeedFax section #6 Neutral - please consult factory

9.SPD Modules

Sentron TPS3 05
100KA
150KA
200KA
250KA
300KA
Options: Surge Counter Remote Monitor

10. Circuit Breaker Accessories

Handle Blocking Device
Blocks handle in either the "ON" or "OFF" position. Available for:

Breaker Type	Cat. Number
BL, BLH, HBL, BQ, BQH, HBQ	**ECQL1**
All BQD, GB	**BQDHBD**
All QR	**HPLQR**
All BQD, NGB, NGB2, HGB2, LGB2	**BQDHBD**
All ED	**E2HBL**
All FD	**FD6HB1**
All JD, LD	**JD6HBL**
All MD, ND, PD	**MN6BL**

Padlocking Device — Padlocks in "OFF" position. Available for:

Breaker Type	Cat. Number
BQ, BQH, BL, BLH, HBL	**ECQLD3**
One Pole BL, BLF, BE, BAF	**ECPLD1**
Two-Pole BL, BLF, BE	**ECPLD2**
All QR	**HPLQR**
All BQD, NGB, NGB2, HGB2, LGB2	**BQDPLD**
All ED	**ED2HPL**
All FD	**FD6PL1**
All JD, LD	**JD6HPL**
All MD, ND, PD, RD	**MN6PLD**

Handle Extensions - For replacement (one extension shipped with breaker)

Breaker Type	Cat. Number
All MD, ND, PD	EX11

Ground Fault Sensing Relay Kit Equipment Protection (30 mA)

For Use with Breaker Types	Number of Poles	Catalogue Number Description
ED4, ED6, HED4	1, 2, 3	See breaker section of this catalogue.

Shunt Trip on Main or Branch

Description	Cat. Number
BL, BQD6 (branch only) ED2, ED4, HED4 (branch only) All others through 1200A	See breaker portion of this catalogue

VK Switch For Use With FPP6 Panelboards

30/30	VK23611JP	6.25 (159)
60/60	VK23622JP	6.25 (159)
100/100	VK33633JP	7.5 (90)
200/200	VK73644JP	10 (254)

VB Switch For Use With VB6 Panelboards

30/30	V7E3611JP	7.5(190)
60/60	V7E3622JP	75(190)
100/100	V7E3633JP	7.5(190)
200	V7F3604JP	10(254)
400	V7H3605JP	15(381)
600	V7H3606JP	15(381)

Sentron® SMP Switchboards

Specification

A. Scope
Furnish and install, as shown on the plans, a secondary distribution switchboard, as specified herein, for the system indicated below:
☐ 120/208V ☐ 3-phase ☐ 3-wire
☐ 347/600V ☐ 4-wire
☐ 600V

B. Configuration
The switchboard enclosure shall be of bolted construction:
☐ Type 1 indoor.
☐ Type 1 with dripshield (optional).
☐ Type 2.
Switchboard shall be bolted together to form one metal enclosed rigid switchboard. Switchboard shall include all protective devices and equipment as listed on drawings with necessary interconnections, instrumentation and control wiring.
All groups of control wires leaving the switchboard shall be provided with terminal blocks with suitable numbering strips.
The switchboard shall have space or provisions for future expansion as noted on the plans. Switchboard shall be constructed and certified in accordance with CSA 22.2.31 standards and shall be Siemens type (SMP) or approved equal. Individual sections shall be front accessible, not less than 12.75" (324) deep, and the rear of all sections shall align.
Distribution sections shall be designed to accommodate the intermixing of Molded Case Breakers and Fusible Disconnects in the same distribution interior.

C. Bus Requirements
The bus shall be ☐ tin-finished aluminum ☐ silver-finished copper (option) of sufficient size to limit the temperature rise to 65°C. The bus shall be braced for ☐ 50,000 or ☐ 65,000 (option) amperes symmetrical and supported to withstand mechanical forces exerted during short circuit conditions when directly connected to a power source having the indicated available short circuit current.

D. Incoming Service
☐ Overhead or ☐ Underground Service: Cable Entry
This section shall be bussed and ☐ sealable per local utility requirements. ☐ Screw-type mechanical lugs, ☐ compression lugs to terminate, ☐ aluminum, ☐ copper cable, shall be _____ kcmil, and ___ cables per phase. ☐ Main breaker standard aluminum mechanical lugs suitable for aluminum or copper. (No wireway)

E. Metering Service Section
The service section shall be designed for the system parameters indicated in section "A" above. The metering service section shall have a ☐ Utility Metering compartment per utility requirements.
☐ User metering as indicated below and as shown on plans.
Main (service) section:
Siemens Digital metering with remote display
☐ _____ current transformer(s)
☐ _____ /5 or suitable rating
SEM3 Embedded Metering

Ground fault Protection (3-Phase, 4-Wire)**:**
Furnish and install on the service equipment and/or switchboard a Ground Fault protection system and indication equipment as specified herein and as shown on drawings in accordance with CEC Section 14-102.
All new Ground Fault Protection and Indication equipment shall be factory installed, wired and tested by the switchboard manufacturer.

F. Switchboard SMP Guide Specification
The complete switchboard shall be finished with light grey, ASA-61 paint.
Each switchboard main section shall have a metal nameplate permanently affixed to it, listing the following information:
- Name of manufacturer
- System voltage
- Ampacity
- Type
- Manufacturer's shop order number and date
- Each section of switchboard shall bear a CSA certification mark and a short circuit rating label.

The switchboard shall be per the arrangement below.

F1. Switchboard Type Panel-Mounted, Front Accessible.
Switchboard shall be of Siemens SMP type, or approved equal. Individual sections shall be front accessible, floor mounted rear supported, not less than 12.75" (324) deep, and rear, of all sections shall align. Incoming line termination, main device connection and all bolts used to join current-carrying parts shall be installed so as to permit servicing from the front only so that no rear access is required. The branch devices shall be front removable and panel mounted with line and load side connections front accessible.

G. Main Protective Devices
The main protective device, to be installed in the main device section, shall be as indicated below:

G1. Molded Case Circuit Breaker
Molded case circuit breaker shall be of the quick-make, quick-break, trip-free, ☐ (standard) ☐ (High Interrupting) ☐ (Current Limiting) ☐ (solid state Sensitrip III) type.
It shall be _____ frame ☐ (3-pole) ☐ (240V) ☐ (600V) breaker with a trip current rating of:
☐ 400A, ☐ 600A, ☐ 800A, ☐ 1000A①, ☐ 1200 A① of an interrupting capacity of not less than _____ amperes RMS symmetrical at the system voltage.
The following accessory options are to be included:
☐ Shunt trip
☐ Ground fault relay
☐ Long time (Sensitrip III only)
☐ Long time delay (Sensitrip III only)
☐ Short time (Sensitrip III only)
☐ Short time delay (Sensitrip III only)
☐ Integral ground fault (Sensitrip III only)
☐ Other_____ (list)

H. Branch Protective Devices
(Select as necessary)
All molded case circuit breakers, and fusible disconnect units used as a protective device in a branch circuit will meet the requirements of the appropriate paragraph below

H1. Molded Case Circuit Breaker
Molded case circuit breakers shall be of quick-make, quick-break, trip-free ☐ (thermal magnetic type) ☐ (current limiting) ☐ (solid state) with frame, trip and voltage rating, either ☐ 2-pole or ☐ 3-pole, as indicated on the plans. All breakers shall have an interrupting capacity of not less than _____ amperes RMS symmetrical at the system voltage. All breakers shall be removable from the front of the switchboard without distributing adjacent units. The switchboard shall have space or provisions for future units shown on the plans.

H2. Current Limiting Circuit Breaker
Current limiting circuit breakers shall provide inverse time delay, instantaneous circuit protection, and also limit the let-through I^2t to a value less than I^2t of one-half cycle wave of the symmetrical prospective current without any fusible elements. Breakers shall have an interrupting capacity of not less than _____ ampere RMS symmetrical at the system voltage.

H3. Fusible Disconnect
Fusible disconnects shall be quick-make, quick-break units utilizing the double-break principle of circuit rupturing to minimize arcing and pitting and shall conform to the ratings shown on the plans.
Each disconnect shall have an individual door over the front, equipped with a voidable interlock that prevents the door from being opened when the switch is in the ON position unless the interlock is purposely defeated by activation of the voiding mechanism. All disconnects shall have externally operated handles. Disconnects shall be equipped with ☐ Class J (standard), ☐ Class R rejection type, ☐ Class L (standard), ☐ Class T fuse holders as indicated on the plans suitable for application on system with _____ amperes symmetrical available fault current.

① Ground fault protection required, per CEC section 14-102 when "the current is O 1000A at 600 volts."

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