

Panelboards

Power and Distribution

Selection

Type S5 (SPP6)

**600 Volts AC, 250 Volts DC Maximum
1200 Ampere Mains
1200 Ampere Maximum Branch
UL & CSA Short Circuit Rating —
200,000A IR Maximum**

**Branch Breaker Symmetrical
Interrupting Capacity**

**Based on Underwriters' Test
Procedure**

Meets 1996 NEC wire bending requirement, section 373-6.
CSA - C22.2 No. 0.12

Panelboards

Listed by Underwriters' Laboratories, Inc., under "Panelboards" File #E2269 for interiors and #E4016 for boxes and fronts. Meet Federal Specification W-C375B/Gen. & CSA File #LR93833.

Service

600 Volts AC, 250 Volts DC, Maximum.
1 Phase, 3 Wire; 3 Phase, 3 Wire; or
or 3 Phase, 4 Wire.

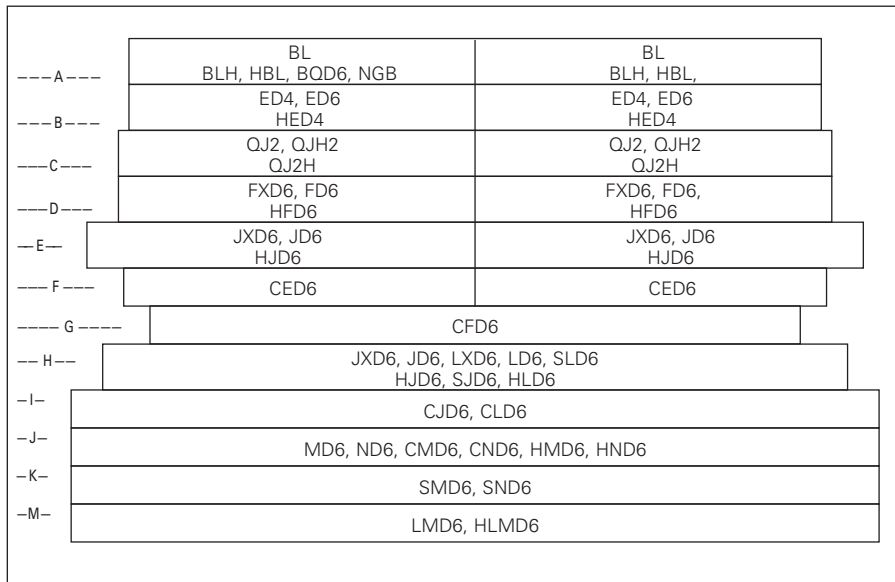
Panelboard Fronts and Doors

Standard panelboards are furnished with 4 piece trim with ventilation. Fronts are fabricated from code gauge steel and finished ASA61.

Main Breakers

All 400A and 1200A frame main breakers are mounted horizontally.

Branch Breaker Side Gutters



Main Lug Connectors

Ampere Rating	Connectors Suitable for Cu or Al
400	(1)-#3/0 AWG-500MCM
400	(2)-#3/0 AWG-250MCM
600	(2)-#3/0 AWG-500MCM
800	(3)-#3/0 AWG-500MCM
1200	(4)-#3/0 AWG-500MCM

End Gutters

Ampere Rating	Main Lug (inches)	Main Breaker (inches)
400/600	15.967	13.0
800/1200	15.967	13.0

Boxes

38" wide, 12.75" deep (Type 1)
38" wide, 14.25" deep (Type 3R/12)

Panelboard Specifications

Maximum Panel Ampere	Unit Space (MLO)	Box Height	120/240Volts 1 Phase, 3 Wire	120/208 Volts 3 Phase, 4 Wire	600 Volts 3 Phase, 3 Wire	347/600 Volts 3 Phase, 4 Wire
400A	30"	60"				
600A	45"	75"				
800A	60"	90"				
1200A	60"	90"				

Integrated Equipment Short Circuit Ratings

The term "Integrated Equipment 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 UL & CSA.

Series ratings must be specified on order at time of entry.

Reference Letter	Panel Width (inches)
	38 (S5)
A	14.0
B	10.0
C	8.75
D	8.25
E	7.925
F	7.615
G	11.769
H	13.425
I	8.956
J	13.0
K	12.0
M	13.0

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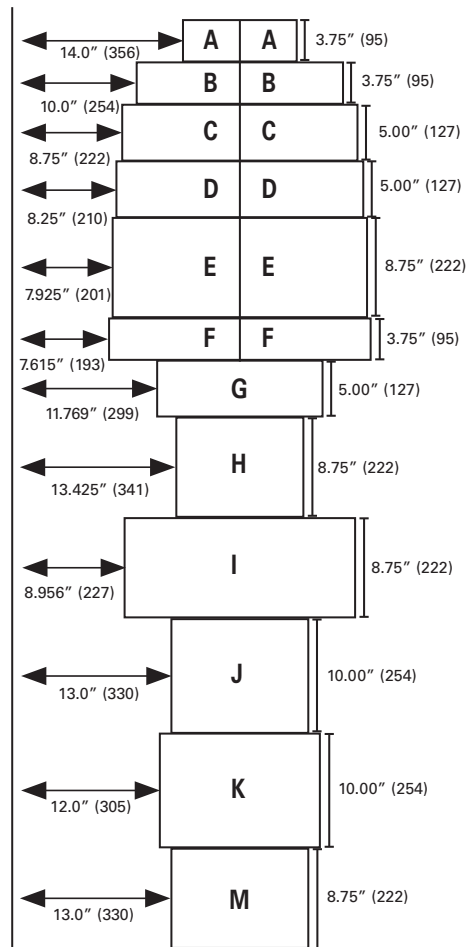
Main Breaker Selection

Ampere Rating	Breaker Type	Maximum Interrupting Rating (KA)			Available Trip Values
		240V	480V	600V	
400	JXD6	65	35	25	200, 225, 250, 300, 350, 400
	JD6	65	35	20	200, 225, 250, 300, 350, 400
	HJD6	100	65	35	200, 225, 250, 300, 350, 400
	CJD6	200	150	100	200, 225, 250, 300, 350, 400
	SJD6	65	35	25	200, 300, 400
600	LXD6	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
	CLD6	200	150	100	450, 500, 600
	SLD6	65	35	25	300, 400, 500, 600
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	65	50	25	600, 700, 800
1200	ND6	65	50	25	800, 900, 1000, 1200
	HND6	100	65	50	800, 900, 1000, 1200
	CND6	200	100	65	900, 1000, 1200
	SND6	65	50	25	900, 1000, 1200

Branch Circuit Breaker Selection^①

Breaker Type	Available Trip Value Ampere Ratings	Mounting Height Inches (mm)			Max IC Rating (KA)		
		Twin	Single	Gutter ^⑥	240V	480V	600V
BL	15, 20, 30, 40, 50, 60, 70, 80, 90, 100	3.75" (95) ^②	—	A	10	—	—
BLF (GFCI)	15, 20, 30, 40, 50, 60	3.75" (95) ^②	—	A	10	—	—
BLE (GFCI)	15, 20, 30	3.75" (95) ^②	—	A	10	—	—
BLH	15, 20, 30, 40, 50, 60, 70, 80, 90, 100	3.75" (95) ^②	—	A	22	—	—
BLH (GFCI)	15, 20, 30, 40, 50, 60	3.75" (95) ^②	—	A	22	—	—
BOD6 ^③	15, 20, 30, 40, 50, 60, 70	3.75" (95) ^{②③}	—	A	65	—	10
ED2	15, 20, 30, 40, 50, 60, 70, 80, 90, 100	3.75" (95) ^{②③}	3.75" (95) ^{②③}	B	10	—	—
ED4	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95) ^{②③}	3.75" (95) ^{②③}	B	65	18	—
ED6	15, 20, 30, 40, 50, 60 70, 80, 90, 100, 110, 125	3.75" (95) ^{②③} 3.75" (95) ^{②③}	3.75" (95) ^{②③} 3.75" (95) ^{②③}	B B	100 100	18 42	18 18
CED6	15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95) ^② 3.75" (95) ^③	3.75" (95) ^② F	F —	200 —	200 100	100 —
QJ2	60, 70, 80, 90, 100, 125, 150, 175, 200, 225	5" (127)	5" (127)	C	10	—	—
QJH2	60, 70, 80, 90, 100, 125, 150, 175, 200, 225	5" (127)	5" (127)	C	22	—	—
QJ2-H	60, 70, 80, 90, 100, 125, 150, 175, 200, 225	5" (127)	5" (127)	C	42	—	—
FXD6	70, 80, 90, 100, 125, 150, 175, 200, 225, 250	5" (127)	5" (127)	D	65	35	—
HFD6	70, 80, 90, 100, 125, 150, 175, 200, 225, 250	5" (127)	5" (127)	D	100	65	—
CFD6	70, 80, 90, 100, 125, 150, 175, 200, 225, 250	—	5" (127)	G	200	200	—
JXD2	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	E	65	—	—
JXD6, JD6	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	E	65	35	25
HJD6	200, 225, 250, 300, 350, 400	8.75" (222)	8.75" (222)	E	100	65	35
CJD6	200, 225, 250, 300, 350, 400	—	8.75" (222)	I	200	150	100
SJD6 ^④	200, 300, 400	—	8.75" (222)	H	65	35	25
SHJD6 ^④	200, 300, 400	—	8.75" (222)	H	100	65	35
SCJD6 ^④	200, 300, 400	—	8.75" (222)	I	200	150	100
LXD6, LD6	450, 500, 600	—	8.75" (222)	H	65	35	25
HLD6	250, 300, 350, 400, 450, 500, 600	—	8.75" (222)	H	100	65	35
CLD6	450, 500, 600	—	8.75" (222)	I	200	150	100
SLD6 ^④	300, 400, 500, 600	—	8.75" (222)	H	65	35	25
SHLD6 ^④	300, 400, 500, 600	—	8.75" (222)	H	100	65	35
SCLD6 ^④	300, 400, 500, 600	—	8.75" (222)	I	200	150	100
LMD6	500, 600, 700, 800	—	8.75" (222)	M	65	50	25
HLMD6	500, 600, 700, 800	—	8.75" (222)	M	100	65	50
MD6	500, 600, 700, 800	—	10" (254)	J	65	35	25
HMD6	500, 600, 700, 800	—	10" (254)	J	100	65	35
CMD6	500, 600, 700, 800	—	10" (254)	J	200	150	100
SMD6 ^④	600, 700, 800	—	10" (254)	K	65	35	25
SHMD6 ^④	600, 700, 800	—	8.75" (222)	H	100	65	50
SCMD6 ^④	500, 600, 800	—	8.75" (222)	I	200	100	65
ND6	800, 900, 1000, 1200	—	10" (254)	J	65	50	25
HND6	800, 900, 1000, 1200	—	10" (254)	J	100	65	35
CND6	800, 900, 1000, 1200	—	10" (254)	J	200	150	100
SND6 ^④	800, 1000, 1200	—	10" (254)	K	65	35	25
SHND6 ^④	800, 900, 1000, 1200	—	8.75" (222)	H	100	65	50
SCND6 ^④	800, 900, 1000, 1200	—	8.75" (222)	I	200	100	65
NGB	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)	—	—	100	—	—
NEB	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)	—	—	85	35	22
HEB	15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 110, 125	3.75" (95)	—	—	100	65	25
NDG	50, 60, 70, 80, 90, 100, 110, 125, 150	5" (127)	—	—	65	35	18
LDG	50, 60, 70, 80, 90, 100, 110, 125, 150	5" (127)	—	—	200	100	25
NFG	100, 110, 125, 150, 175, 200, 225	5" (127)	—	—	65	35	18
LFG	100, 110, 125, 150, 175, 200, 225	5" (127)	—	—	200	100	25
NJG	250, 300, 350, 400	6.25" (159)	6.25" (159)	—	65	35	25

Branch Breaker Gutter Dimensions For 38"W Distribution Section



- 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 600V/347 Volts.
- ⑥ Refer to Table 5 for layout dimensions.

Panelboards

Modifications and Additions

Type S5

When required, special constructions or additions to standard panelboards may be specified for all **factory-assembled** Power and Distribution Panelboards. Below and on the next page are listed many of those available for Type S5 panelboards. In no case do these apply to **Narrow** (Column) Width Lighting Panelboards or **Unassembled** Panelboards.

1. Miscellaneous

NEMA TYPE
Type 1
Type 2 (Drip-proof)
Type 3R
Type 12

2. Painted Finish

Touch-Up Paint (ASA61, Light Gray) 12 oz. aerosol can, Catalog Number TUP61

3. Miscellaneous Accessories

Nameplate — laminated, engraved Tamper-Resistant Screws
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4. Devices Mounted on Gutter Cover — Includes Device, Mounting — Wired or Unwired

Toggle Switch — SPST or 3-way; 15A
Pilot Light — General Purpose, Neon or Incandescent
Pushbutton

5. Feed-Thru Lugs^① (One Set Per Panel)

Ampere Rating	Unit Space (Additional inches)	
	3-Pole	2-Pole
400		MLO
600	Consult Sales	10
800	Consult Sales	17.5
1200		17.5

6. MLO Compression Lugs —

Available as main lugs and neutral lug.

Ampere Rating	Aluminum (Specify Size)	Copper (Specify Size)	Deduct From Available Unit Space (inches)
400			5
600	Consult Sales	Consult Sales	5
800	Office	Office	5
1200			5

7. Grounding of Panelboards^③

Non-Insulated Equipment Ground Bus Including Ground Lug
Insulated Equipment Ground Bus Including Ground Lug

8. Remote Control Switches^{④⑤}

600V AC Ampere Rating	ASCO 920 Mechanically Held ^{⑥⑦}		Siemens CLH Electrically Held ^⑧	
	2-Pole	3-Pole	2-Pole	3-Pole
30	Unit space 20"		Unit space 20"	
60				
75				
100				
150 ^⑨				
200 ^⑨				
225				

9. Increased Capacity Neutral

Ampere Rating Phase	Unit Space (inches)	
	Neutral	
400	600	None
400	800	None
600	1200	None
800	1200	None

10. Circuit Breaker Accessories

Breaker Type

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

BL, BLH, HBL, BQD6, QJ2, QJH2, QJ2-H, NGB
ED4, ED6, HED4, CED6
FXD6, FD6, HFD6, CFD6
JXD6, JD6, HJD6, CJD6, SJD6, LXD6, LD6, HLD6, CLD6, SLD6
MD6, HMD6, CMD6, SMD6, ND6, HND6, CND6, SND6

Selection

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

BL, BLH, HBL, BQD6, QJ2, QJH2, QJ2-H, NGB
ED4, ED6, HED4, CED6
FXD6, FD6, HFD6, CFD6
JXD6, JD6, HJD6, CJD6, SJD6, LXD6, LD6, HLD6, CLD6, SLD6
MD6, HMD6, CMD6, SMD6, ND6, HND6, CND6, SND6

11. Ground Fault Sensing Relay Kit^⑩ Equipment Protection (30 ma)

For Use with Breaker Types	Number of Poles	Description
ED4, ED6, HED4	1, 2, 3	Basic kit Basic kit with bell alarm

12. Main Bus

Standard main bus and ground bus are tin plated aluminum. For copper main bus, neutral bus and ground bus change prefix 'A' to 'C' on catalog number and contact your sales office for pricing.

13. Copper Lugs — For Main Lug Only Panels

Standard main lugs and neutral lugs are tin plated aluminum, UL & CSA listed for use with aluminum/copper cables. For copper lugs in the mains and neutral for use with copper cables only, contact sales.

14. Shunt Trip on Main and Branches

Description ^{⑪⑫⑬⑭}
BL, BQD6, NGB (branch only)
QJ2, QJ2H, QJH2, ED2, ED4, HED4 (branch only)
All others through 600A
800A and 1200A

15. Sentron TPS (TVSS Modules)

160 KA
240 KA
Options Surge Counter Remote Indicator

① For use on main lug, main breaker or main switch panels without subfeed breakers.

② For increase in panelboard height — Consult local sales office.

③ Ground bar not installed in box.

④ For short circuit ratings with remote control switches, consult sales office.

⑤ Available in 90" high enclosure only. Unit space is 42 1/2" with Test and Monitor Panel; 45" without Test and Monitor Panel.

⑥ Not available on Sensitrip III.

⑦ For required unit space — consult local sales office.

⑧ Price does not include control power transformer.

⑨ Price 600 Volt 7 1/2" high units.

Mounting height increases to 6.25" when shunt trip is required.

⑩ Shunt Trip on 100A frame breakers increases mounting height to 6.25" for twin mounting.

⑪ Not CSA approved.

Panelboards

Modifications and Additions Replacements for Circuit Breakers

Selection

Replacement Connecting Strap Guide

The following table may be used to obtain the proper connector kit by measuring the exterior dimensions of the panel. Every attempt has been made to make this table complete and accurate. The table is based on panels produced by ITE, Bulldog and Siemens from 1958 to present. Should any questions arise please contact your Siemens sales office for replacements.

Panelboard				
Tub Width	Depth	Panel Type	Replacement Max Amps	Note
30" - 36" - 42"	9"	OLD CDP	400	MCCB only.
	9.75"	OLD CDP	600	MCCB only.
32" - 38"	13.75"	CDP/VB6	1200A	MCCB series 6 connectors
			600A	"VB" style units only (*)
38"	12.75"	SPP/FPP6	1200A	MCCB series 6 connectors
			600A	"VK" or "VB" style (*)

* If switch unit width is 17" it is a vacubreak. If switch unit width is 23" or 28" it is a "VK" switch.

Connecting Strap For Use With SPP/FPP, S5, F2^④

Breakers	Height Inches (mm)	Series 6 Number
BQ, BQH, HB	3.75" (95)	6EQ6 ^{②③}
BL, BLH, HBL, BQD, BQD6	3.75" (95)	6BL2C ^{②③}
ED2, ED4, ED6, HED4	3.75" (95)	6E62 ^{②③}
CED6	3.75" (95)	6CLE2 ^①
QJ2, QJH2, QJ2H	5" (127)	6QJ2 ^①
FXD6, FD6, HFD6	5" (127)	6F62 ^②
CFD6	5" (127)	6CLF1C ^⑤
JXD2, JXD6, JD2, JD6, HJD6	8.75" (222)	6JJ62 ^①
CJD6, SCJD6	8.75" (222)	6CLJ1C ^⑤
LXD6, LD6, HLD6, SLD6, SHLD6,	8.75" (222)	6LL61C ^③
CLD6	8.75" (222)	6CLL1C ^③
SCLD6	8.75" (222)	6SCL61C ^③
MD6, HMD6, CMD6, SCMD6, SHMD6	10" (254)	6M61C ^⑤
ND6, HND6, CND6, SND6, SHND6, SCND	10" (254)	6N61C ^⑤

Connecting Strap Kits For Use With Circuit Breakers in S5

Breaker Type	Height Inches (mm)	Mounting	Catalogue Number
NGB	3.75" (95)	D	SNBD
NEB, HEB	3.75" (95)	D	SEBD
NDG, HDG, LDG	5" (127)	D	SDGD
NFG, HFG, LFG	5" (127)	D	SFGD
NJG, HJG, LJG	6.25" (159)	D	SJG2D
NJG, HJG, LJG	6.25" (159)	S	SJG1D

① These are aluminum connectors. If copper required is please add suffix C.

② 3.75" (95) plate accommodates six 1-pole breakers.

③ 10" (254) plate accommodates eighteen 1-pole breakers.

④ These connectors are available in copper only.

⑤ Can be used as fillers or in place of circuit breakers, VK or VB Switches.

Blank Plates

For use with Series 6 CDP Panelboards, S5, F2, FCI and FCII Switchboards.	
Height	SPP/FPP/CDP/VB 6
1.25"	6FPB01
2.50"	6FPB02
3.75"	6FPB03
5.00"	6FPB05
10.00"	6FPB10
15.00"	6FPB15

Connecting Strap Kits and Front-Filler Plates^①

For use with NDP-CDP-7, S3

Breakers	Catalogue Number
BQD6 (S3 only)	7 BQD6-2
BL, BLH, HBL,	7 BL-2
QJ2, QJH2, 2 Pole	7 QJ2-1
QJ2, QJH2 3 Pole Single unit, Panel Mount	7 QJ3-1
QJ2, QJH2 3 Pole Double unit, Panel Mount	7 QJ3-2
EC4, ED2, ED4, ED6, HED4, HED6	7 E6-2
Filler 1 Pole	QF3-UL