

Selection and application guide



Integrated Power Systems Switchboards

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Integrated Power Systems Switchboards



Contents

General Product Information	2 - 3
General Layout Information	4
Single Width Configurations	5 - 7
Modules A & B – Panelboards & Distribution Sections	5
Modules A & B – MCCBs & Auxiliary	6
Modules B & C – Transformers	7
Double Width Configurations	8 - 11
Module D – Panelboards, Auxiliary & MCCBs	8
Module E – Panelboards, Auxiliary, Distribution Sections & MCCBs	9
Module F – Transformers	10
Module G – Panelboards (Full Height)	11

Integrated Power Systems Switchboards

General Product Information



Product Description

Siemens integrated power systems (IPS) switchboards integrate multiple pieces of electrical distribution equipment into a single assembly. The design results in:

- Reduced installation time up to 90%
- Reduced footprint up to 50%
- Reduced labor risk for installation

The modular design of the IPS switchboard allows it to be combined with standard service entrance or distribution switchboards. Also, IPS switchboards can be cable or bus connected to existing switchboard lineups. IPS switchboards have a wide range of applications and are commonly used in:

- Commercial construction
- Institutional buildings
- Healthcare facilities
- Industrial electrical distribution

Features & Benefits

Features & Functionality

- 600 volts AC maximum
- 6000 ampere incoming maximum
- All standard switchboard features
- Lighting panelboards
- Distribution transformers
- Half high distribution chassis
- i-3 lighting control
- Individually mounted breakers
- Auxiliary sections for ACCESS power monitoring, surge devices, contactors, relays, time clocks, motor starters & customer equipment

Reduced installation time

IPS switchboards arrive at a jobsite with the components factory installed and wired. The result is significantly reduced installation time leading to lower labor costs for projects.

Reduced Space Requirements

By integrating components that are typically individually mounted, the IPS switchboard can reduce the space requirements for typical electrical equipment installation by up to 40%. This smaller footprint frees up valuable square footage that can be utilized by the building owner for other profitable uses.

Reduced Installation Risk

IPS switchboards are assembled at Siemens manufacturing plants with meticulous attention to details reinforced with strict testing procedures. This focus on quality ensures that problems encountered with traditional installations – such as misinterpretation of drawings or field installation errors are eliminated. Utilizing IPS switchboards eliminates risks, enabling projects to come in on time and on budget.

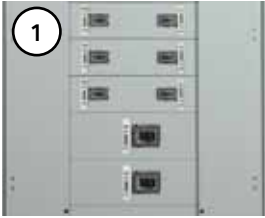
Standards and Certifications

- UL891
- NEMA PB-2
- Seismically qualified
- Mounted panelboards built to UL67 and NEMA PB-1
- Other equipment is UL listed as applicable

Integrated Power Systems Switchboards

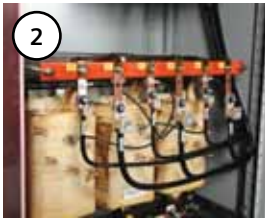
General Product Information

Commonly Mounted Equipment



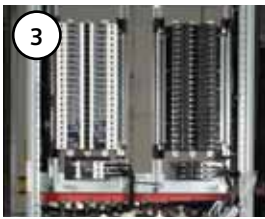
Distribution sections

- Up to 3000A (full height)
- Up to 1200A (half height)



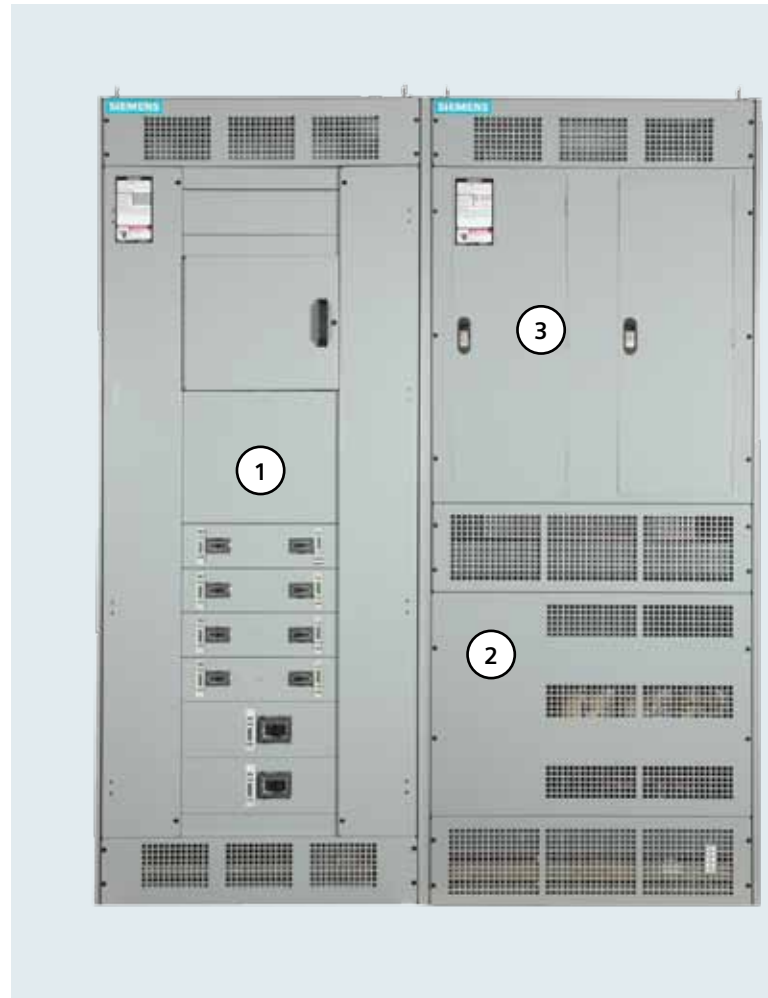
Transformers

- Up to 300KVA (full height)
- Up to 150KVA (half height)



Panelboards

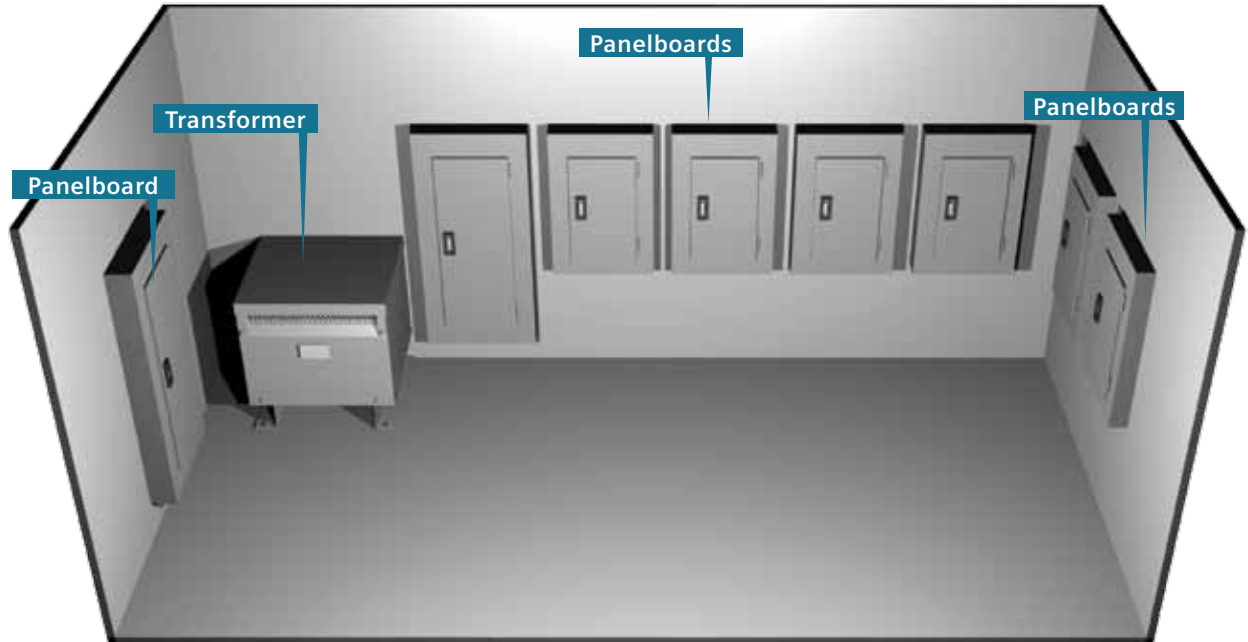
- Up to 800A (full height)
- Up to 600A (half height)



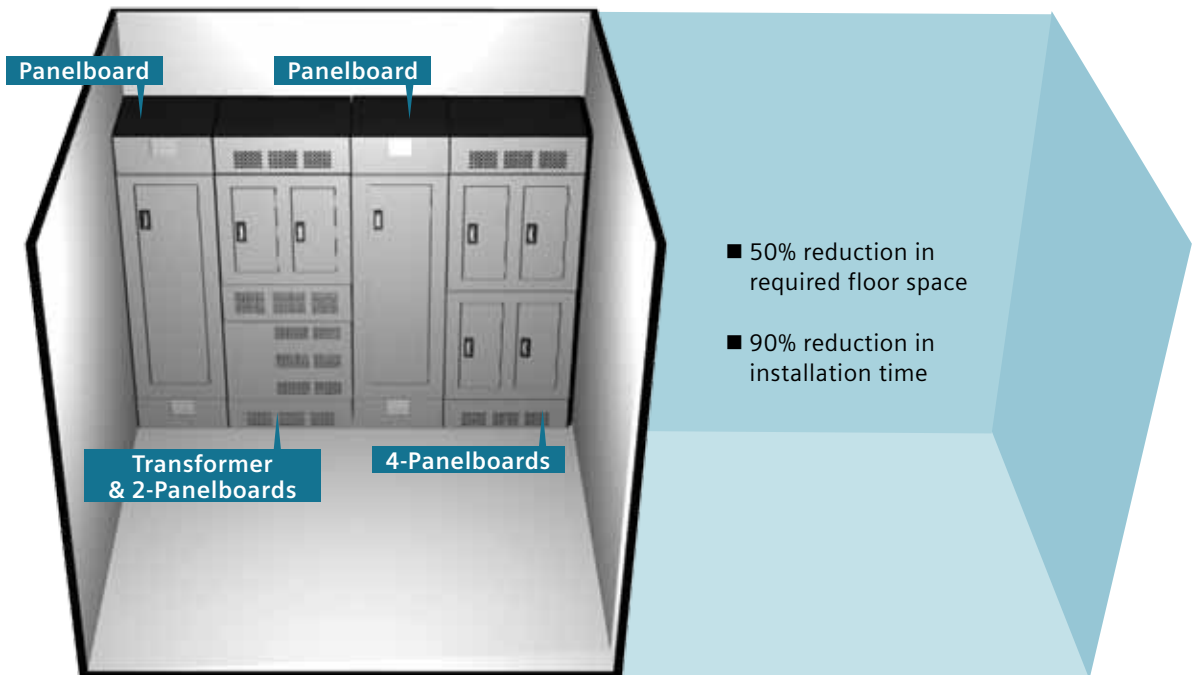
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Optimized electrical room layout

Traditional layout



Integrated power systems layout

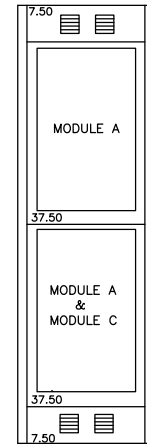
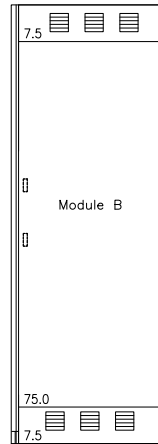


Integrated Power Systems Switchboards

General Layout Information

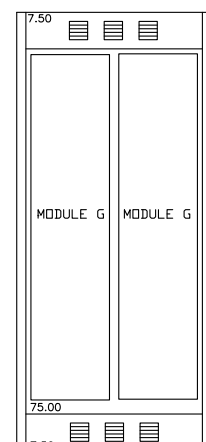
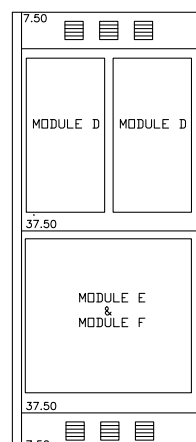
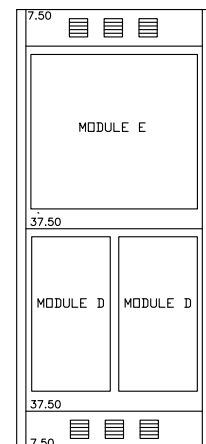
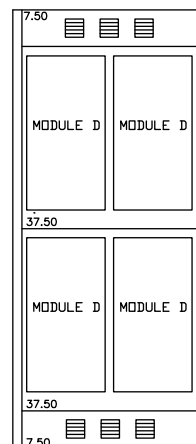
Single Width Configurations

Module	Mounting Equipment	Page
A	P1 & P2 Panelboards Half High Distribution Chassis i-3 Lighting Control Panelboard Auxiliary Compartment Individual MCCB Blank Sections	5 – 6
B	P2 & P3 Panelboards Transformers (225 KVA to 300 KVA) Auxiliary Compartment	5 – 7
C	Transformers (15 KVA to 150 KVA)	7



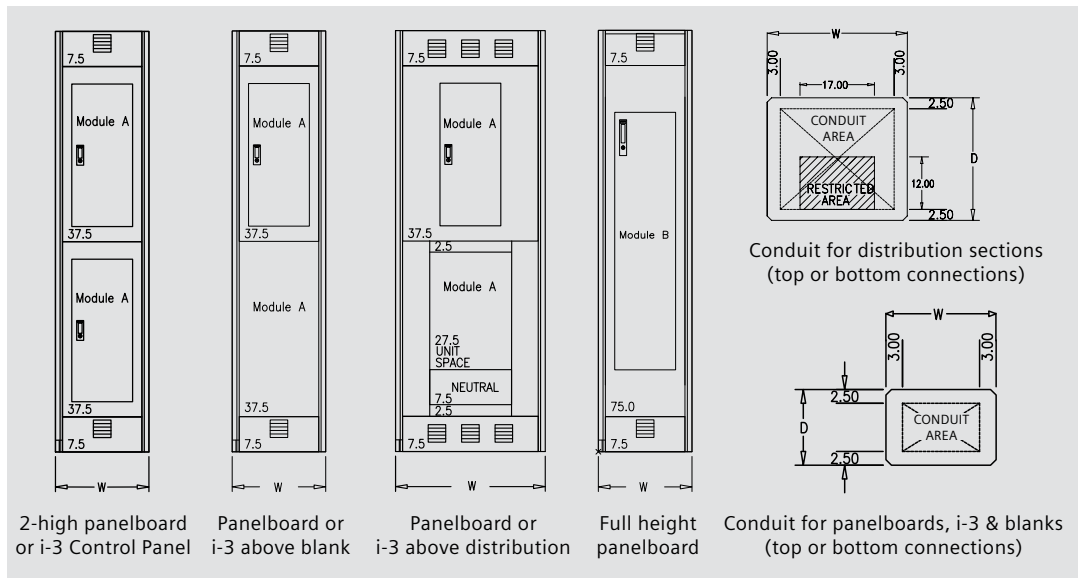
Double Width Configurations

Module	Mounting Equipment	Page
D	P1 & P2 Panelboards i-3 Lighting Control Panelboard Auxiliary Compartment Individual MCCB Blank Sections	9
E	P1 & P2 Panelboards Half-high Distribution Section i-3 Lighting Control Panelboard Auxiliary Compartment Individual MCCB Blank Sections	10
F	Transformers (15 KVA to 150 KVA)	11
G	P2 & P3 Panelboards Auxiliary Compartment	12



Single Width Configurations

Modules A & B – Panelboards & Distribution Sections



Selection Guidelines

1. Select one panelboard, i-3 lighting control panel or distribution section per module
2. In a panelboard in module A reaches unit space greater than the maximum unit space listed for the panelboard then module B will be required.
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for module A or C

Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.)		Depth (D - in.)		Height (in.) ^①	
						Min.	Optional	Min.	Optional		
A	P1 Panelboard	Main Lug Only	250	42	21	20	25, 32, 38, 46	13.75	20, 28, 38	90	
		Main Breaker									
	P2 Panelboard	Main Lug Only	250	54	27						
		Main Breaker	600	42	21						
			225 ^③	54	27						
			250 ^③	42	21						
	i-3 Lighting Control	Main Lug Only	250	42	21						
		Main Breaker									
	Half-High Distribution Chassis	Main Breaker	Main Lug Only	1200	-						27.50
			400 / 600	-	21.25 ^②						
800			-	18.75 ^②							
1200			-	17.50 ^②							
200			-	17.50							
600			-	12.50							
Main HCP Switch	1200	-	11.25								
	Blank Compartment	-	-	-							
B	P2 Panelboard	Main Lug Only	600	90	45						
		Main Breaker	250	90	45						
			400	66	33						
			600	42	21						
	P3 Panelboard	Main Lug Only	250	90	51						
			800	90	45						
		Main Breaker	250	90	45						
			600	66	33						

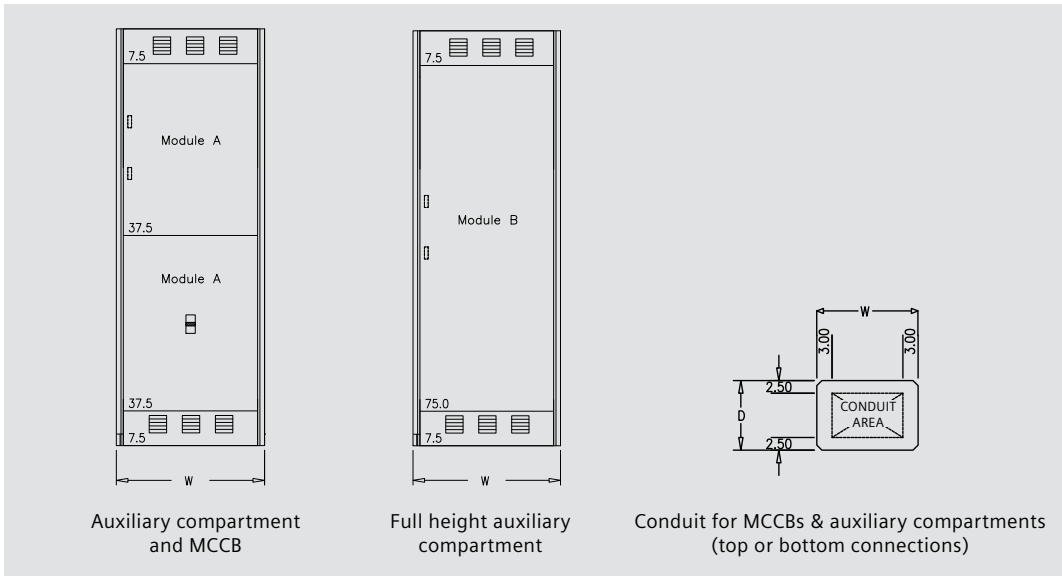
① Optional 70" high is also available

② Unit space based off of VL family of circuit breakers. Sentron circuit breakers are available but may take up additional unit space

③ Requires horizontal mounting, vertical mounting reduces the circuits by 12 and the unit space by 6"

Single Width Configurations

Modules A & B – MCCBs & Auxiliary Compartments



Selection Guidelines

1. Select one individually mounted MCCB or auxiliary compartment per module
2. Blank sections will generate automatically wherever a module is not used
3. Any unused (blank) modules can be filled with other options for module A or C

Module	Mounted Equipment	Device Type	Max. Device Amps	Width (W - in.)		Depth (D - in.)		Height (in.) ^④
				Minimum	Optional	Minimum	Optional	
A	Individual Mount MCCB ^{①②}	NGG	125	20	25, 32, 38, 46	13.75	20, 28, 38	90
		EG						
		FD	250					
		JD	400					
LD		600						
MG		800						
	18" Wide Auxiliary Compartment ^③	-	-	20	25, 32, 38, 46			
	32" Wide Auxiliary Compartment ^③	-	-	32	38, 46			
	Blank Compartment	-	-	20	25, 32, 38, 46			
B	18" Wide Auxiliary Compartment ^②	-	-	20	25, 32, 38, 46			
	32" Wide Auxiliary Compartment ^③	-	-	32	38, 46			

① Cable-in and cable out MCCB

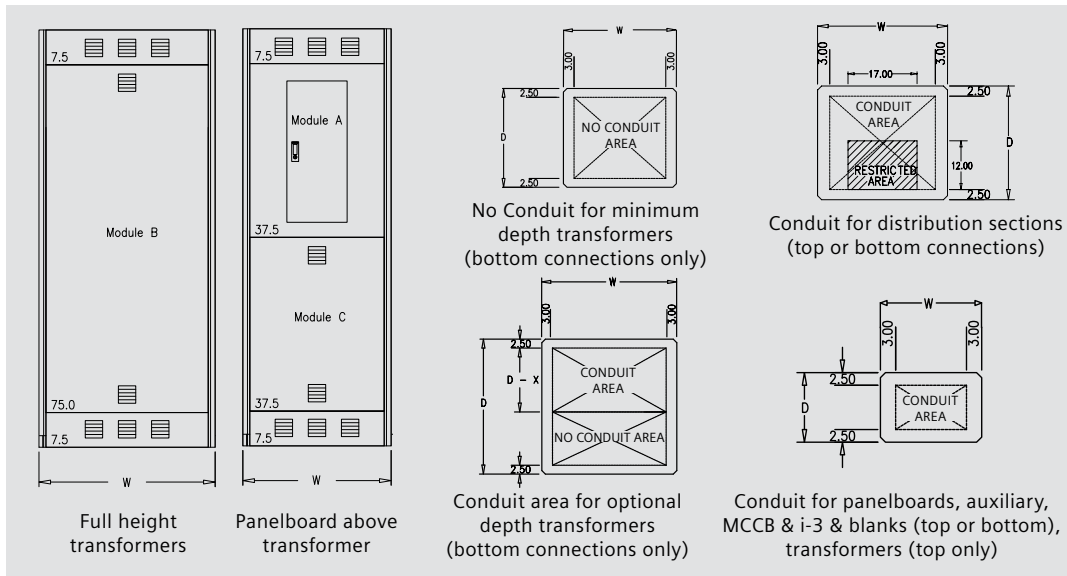
② Thermal magnetic trip unit only

③ Possible uses: surge devices, ACCESS power monitoring, contactors, relays, time clocks, motor starters, customer equipment, HVAC, etc.

④ Optional 70" high is also available

Single Width Configurations

Modules B & C – Transformers



Selection Guidelines

1. Select one transformer per module
2. Transformers can only mount on bottom portion of switchboard (module C)
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for modules A or C

Module	Mounted Equipment	Transformer Rating (KVA)	Width (W - in.)		Depth (D - in.)		Bottom Conduit Calculation Dimension (X - in.)	Height (in.) ^⑤
			Minimum	Optional	Minimum	Optional		
B	Transformer ^{②③}	225	46	-	28 ^①	38, 48, 58	28	90
		300	46	-	38 ^①	48, 58	38	
C	Transformer ^{②③④}	15	25	32, 38, 46	20 ^①	28, 38, 48, 58	20	
		30						
		45						
		75	32	38, 46	28 ^①	38, 48, 58	28	
		112.5						
		150	38	46				
	Blank Compartment	-	20	25, 32, 38, 46	13.75	20, 28, 38, 48, 58	-	

① No conduit area in bottom of switchboard at minimum dimension, add extra depth for bottom fed transformer assemblies

② Transformers are standard 150C rise, Aluminum windings and TP1

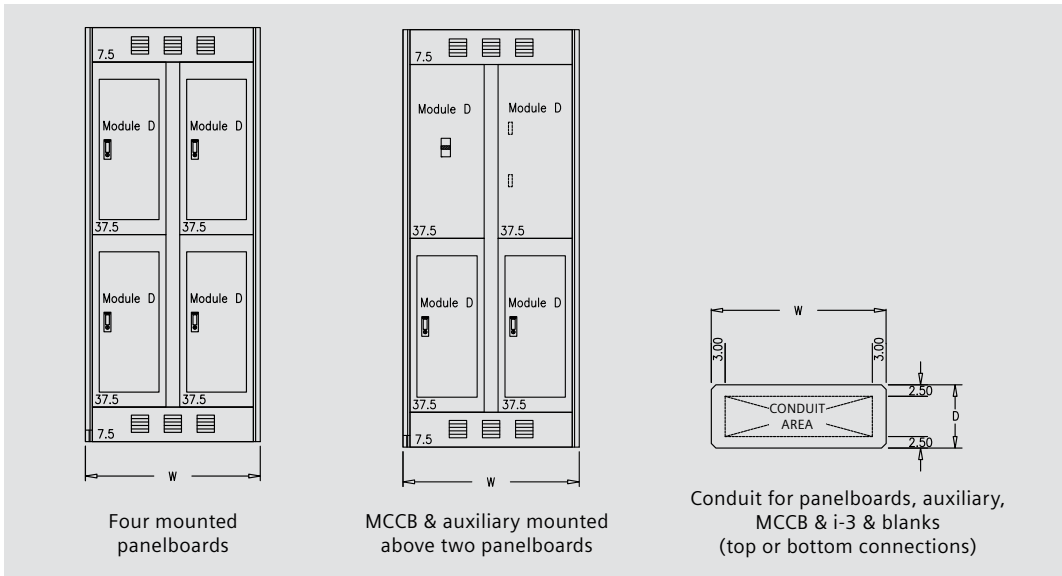
③ Copper windings, 115C of 80C rise, different k-factor and other options are available but may change dimensions

④ Transformer can only mount in bottom half of section, double stacked transformers are not allowed

⑤ Optional 70" high is also available

Double Width Configurations

Module D – Panelboards, MCCBs & Auxiliary



Selection Guidelines

1. Select one panelboard, MCCB, auxiliary compartment or i-3 lighting control panel per module
2. In a panelboard in module A reaches unit space greater than the maximum unit space listed for the panelboard then module B or module G will be required.
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for module D

Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.) For Four Mounted Units		Depth (D - in.)		Height (in.) ^①		
						Min.	Optional	Min.	Optional			
D	P1 Panelboard	Main Lug Only	250	42	21	38	46	13.75	20, 28, 38	90		
		Main Breaker										
	P2 Panelboard	Main Lug Only	250	54	27							
			600	42	21							
		Main Breaker	225 ^④	54	27							
			250 ^④	42	21							
	i-3 Lighting Control	Main Lug Only	250	42	21						46	-
		Main Breaker										
	Individual Mount MCCB ^②	NGG	125	-	-						38	46
		EG										
		FD	250									
		JD	400									
LD		600										
18" Wide Auxiliary Compartment ^③	-	-	-	-	38	46						
	MG	800										
Blank Compartment	-	-	-	-	38	46						

① Optional 70" high is also available

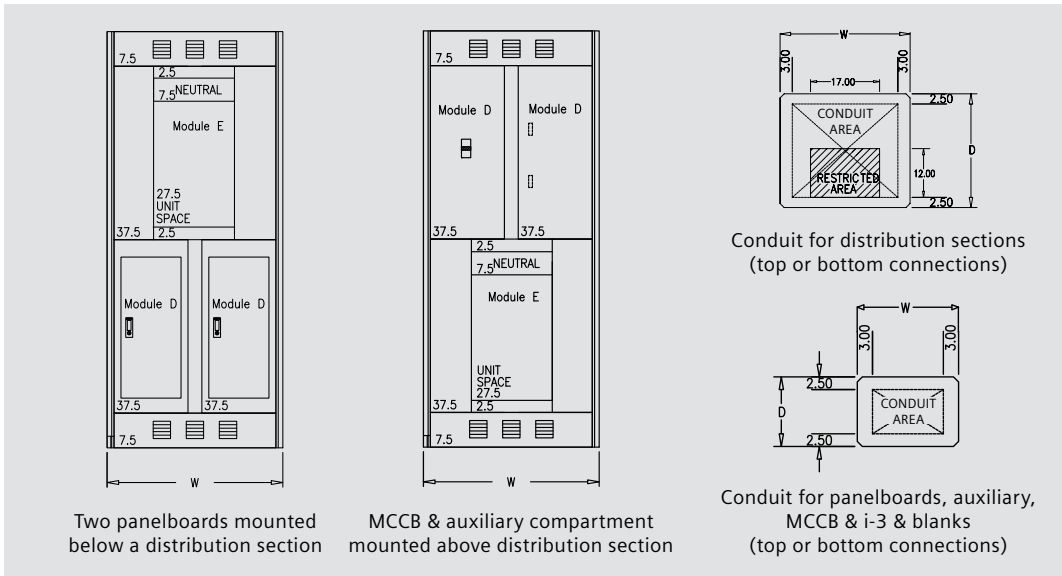
② Cable-in and cable out MCCB. Thermal magnetic trip unit only

③ Possible uses: surge devices, ACCESS power monitoring, contactors, relays, time clocks, motor starters customer equipment, HVAC, etc.

④ Requires horizontal mounting, vertical mounting reduces the circuits by 12 and the unit space by 6"

Double Width Configurations

Module E – Panelboards, Auxiliary, Distribution Sections & MCCBs



Selection Guidelines

1. Select one panelboard, MCCB, auxiliary compartment or i-3 lighting control panel per module
2. In a panelboard in module A reaches unit space greater than the maximum unit space listed for the panelboard then module B will be required.
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for module D

Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.)		Depth (D - in.)		Height (in.) ^①
						Min.	Optional	Min.	Optional	
E	P1 Panelboard	Main Lug Only	250	42	21	38	46	13.75	20, 28, 38	90
		Main Breaker								
	P2 Panelboard	Main Lug Only	250	54	27					
			600	42	21					
		Main Breaker	225 ^④	54	27					
			250 ^④	42	21					
	i-3 Lighting Control	Main Lug Only	250	42	21					
		Main Breaker								
	Half-High Distribution Chassis	Main Lug Only	1200	-	27.5					
			400 / 600		21.25 ^②					
			800		18.75 ^②					
		Main Breaker	1200	-	17.50 ^②					
			200	-	17.50					
			600	-	12.50					
Main VB Switch	1200	-	11.25							
Main HCP Switch	1200	-	11.25							
18" Wide Auxiliary Compartment ^③	-	-	-	-	-	-	-	-	-	
32" Wide Auxiliary Compartment ^③	-	-	-	-	-	-	13.75	20, 28, 38	-	
Blank Compartment	-	-	-	-	-	-	-	-	-	

① Optional 70" high is also available

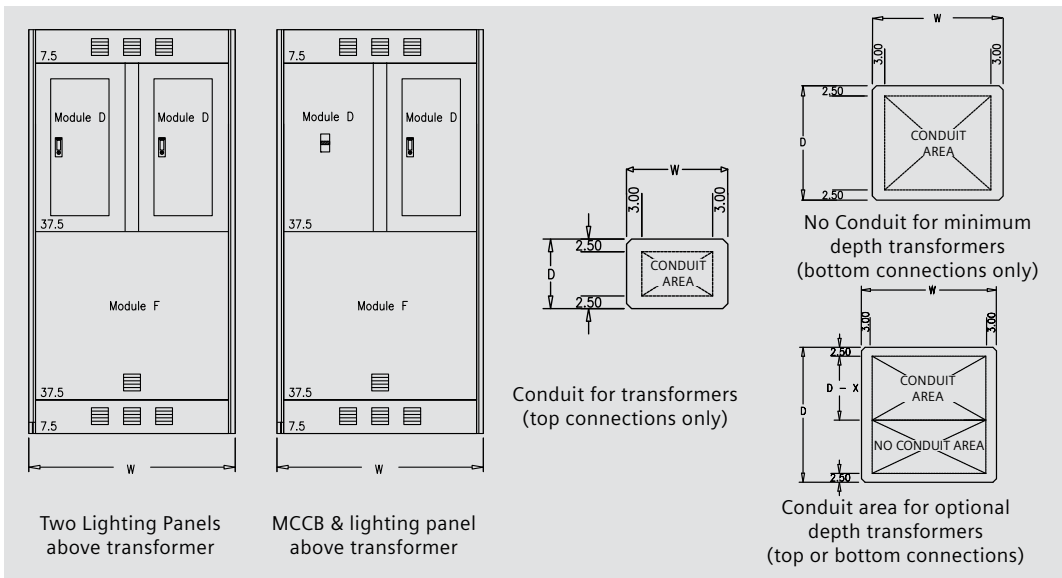
② Unit space is based off of VL family of circuit breakers. Sentron circuit breakers are available but may take up additional unit space

③ Possible uses: surge devices, ACCESS power monitoring, contactors, relays, time clocks, motor starters customer equipment, HVAC, etc.

④ Requires horizontal mounting, vertical mounting reduces the circuits by 12 and the unit space by 6"

Double Width Configurations

Module F – Transformers



Selection Guidelines

1. Select one transformer per module
2. Transformers can only mount on bottom portion of switchboard (module F)
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for modules D or E

Module	Mounted Equipment	Transformer Rating (KVA)	Width (W - in.)		Depth (D - in.)		Bottom Conduit Calculation Dimension (X - in.)	Height (in.) ^⑤
			Minimum	Optional	Minimum	Optional		
F	Transformer ^{②③④}	15	38	46	20 ^①	28, 38, 48, 58	20	90
		30						
		45						
		75	38	46	28 ^①	38, 48, 58	28	
		112.5						
	150	38	46					
Blank Compartment	-	38	25, 32, 38, 46	13.75	20, 28, 38, 48, 58	-		

① No conduit area in bottom of switchboard at minimum dimension, add extra depth for bottom fed transformer assemblies

② Transformers are standard 150C rise, Aluminum windings and TP1

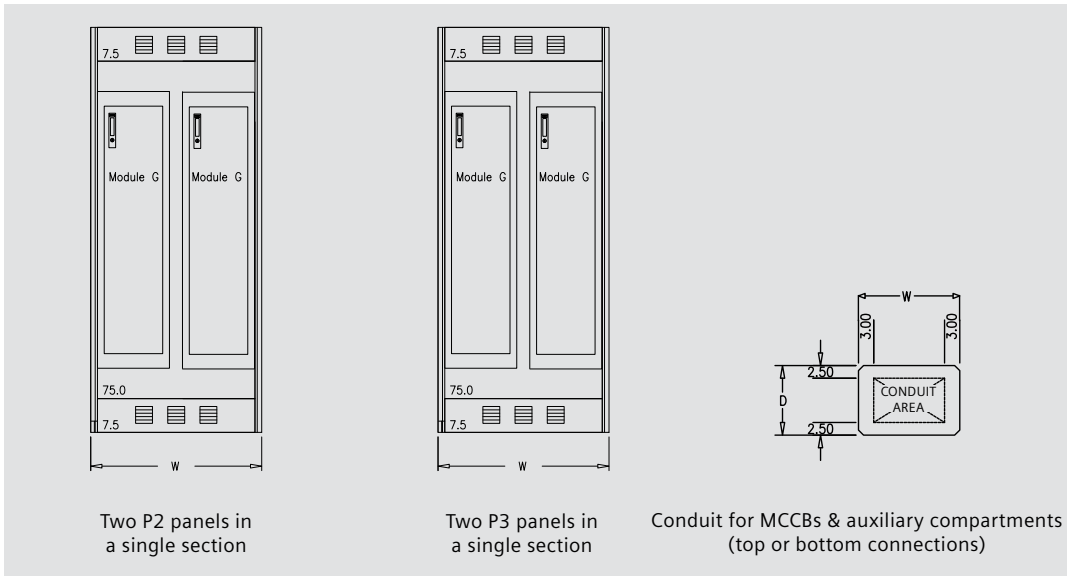
③ Copper windings, 115C of 80C rise, different k-factor and other options are available but may change dimensions

④ Transformer can only mount in bottom half of section, double stacked transformers are not allowed

⑤ Optional 70" high is also available

Double Width Configurations

Module G – Full Height Panelboards



Selection Guidelines

1. Select one panelboard per module
2. Transformers can only mount on bottom portion of switchboard (module F)
3. Blank sections will generate automatically wherever a module is not used
4. Any unused (blank) modules can be filled with other options for modules D or E
5. Any KVA rating greater than 150KVA drives to a full height section (module B)

Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.) For Two Mounted		Depth (D - in.) Min. Optional		Height (in.) ^①
						Min.	Optional	Min.	Optional	
D	P2 Panelboard	Main Lug Only	125	90	45	38	-	13.75	20, 28, 38	90
			250							
			400							
			600							
		Main Breaker	125							
			225							
	P3 Panelboard	Main Lug Only	250	90	51	46	-			
			400							
			600							
			800							
		Main Breaker	250	90	45					
			400	90						
			600							

① Optional 70" high is also available

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