

CHESS CONTROLS INC.

Selection and application guide



Integrated Power Systems Switchboards

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SIEMENS

Integrated Power Systems Switchboards



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CHESS CONTROLS INC

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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 labour 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
- 5000 ampere incoming maximum
- All standard switchboard features
- Lighting panelboards
- Distribution transformers
- Half high distribution chassis
- Individually mounted breakers
- Auxiliary sections for Siemens power monitoring, surge devices, contactors, relays, time clocks, & 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.

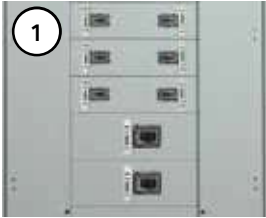
Standards and Certifications

- CSA C22.2 No.31
- Mounted panelboards built to CSA C22.2 No. 29
- Other equipment is CSA listed as applicable

Integrated Power Systems Switchboards

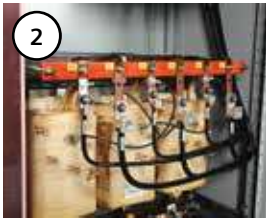
General Product Information

Commonly Mounted Equipment



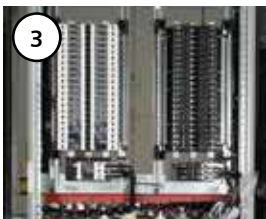
Distribution sections

- Up to 2000A (full height)
- Up to 1200A (half height)



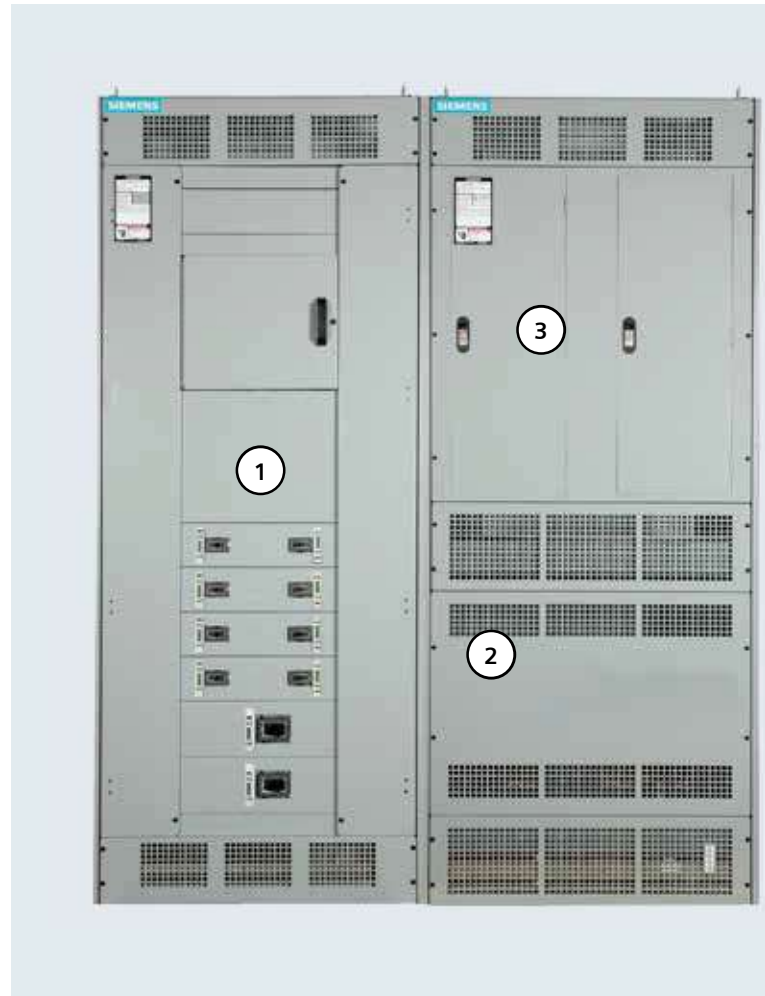
Transformers

- Up to 300KVA (full height)
- Up to 112.5KVA (half height)



Panelboards

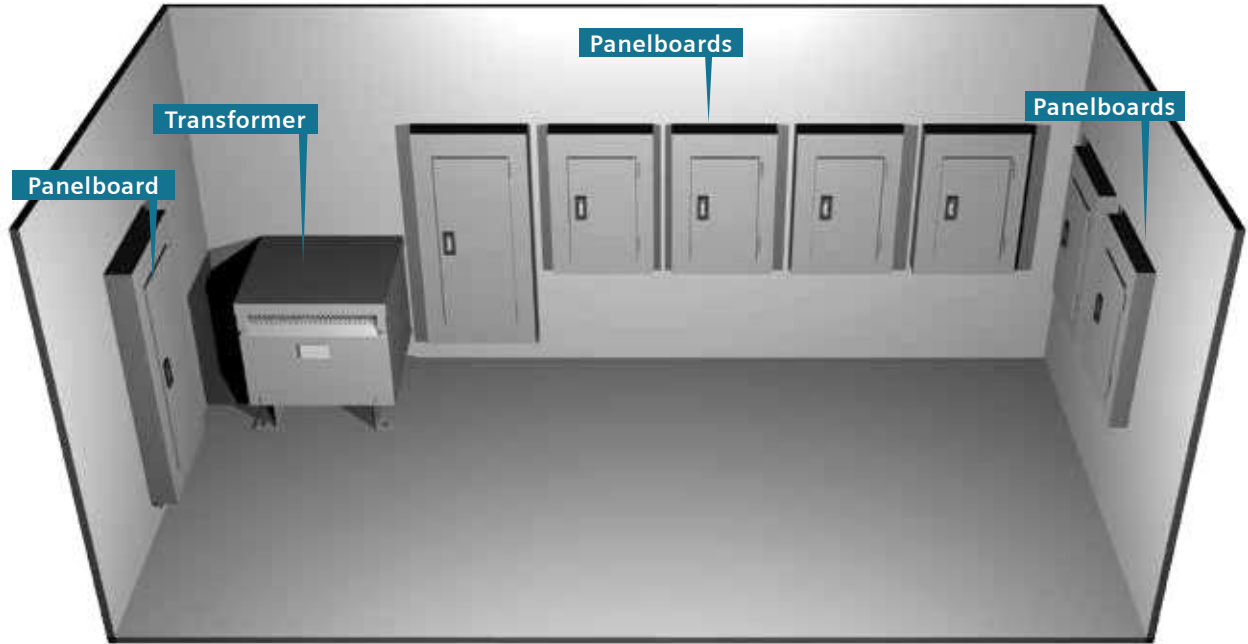
- P1 up to 250A (half height)
- P2 up to 600A (full height)



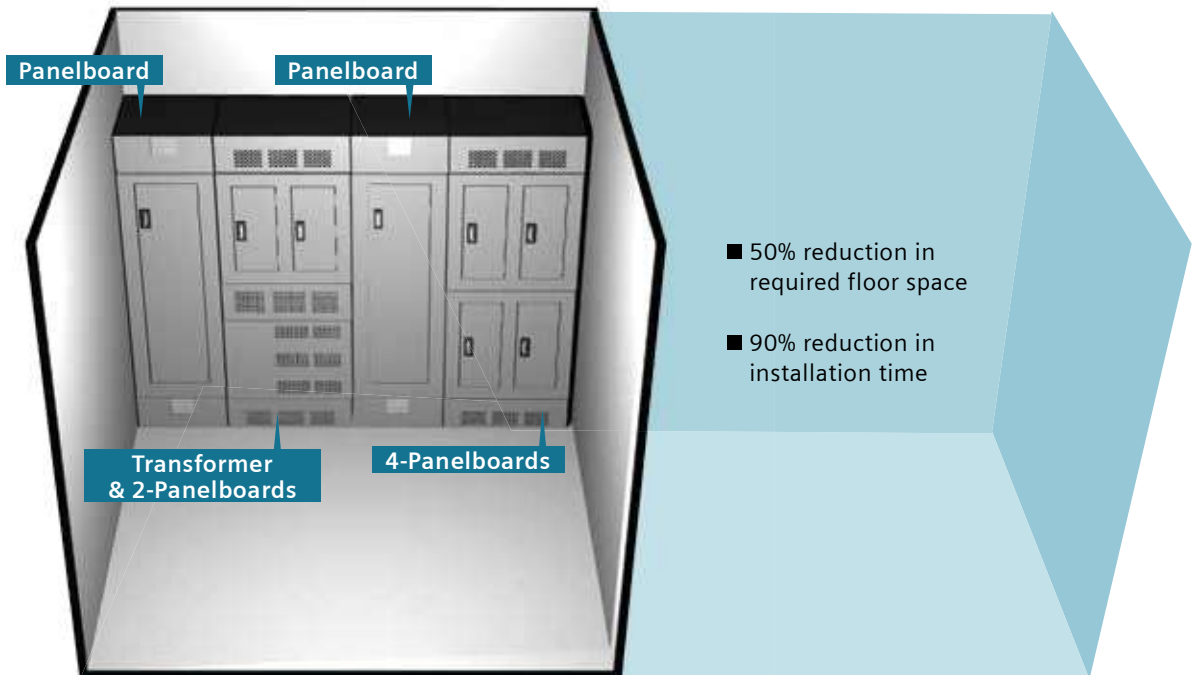
Integrated Power Systems Switchboards

Optimized electrical room layout

Traditional layout



Integrated power systems layout

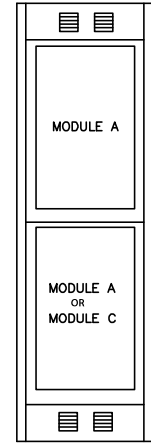
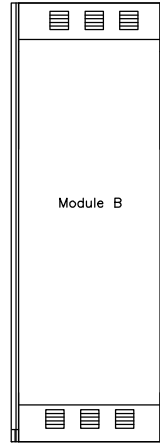


Integrated Power Systems Switchboards

General Layout Information

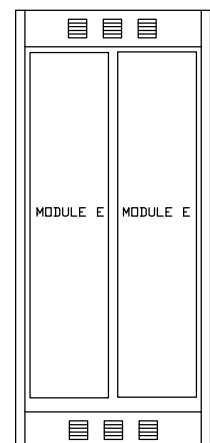
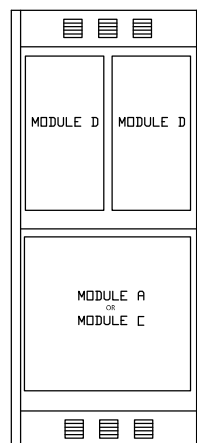
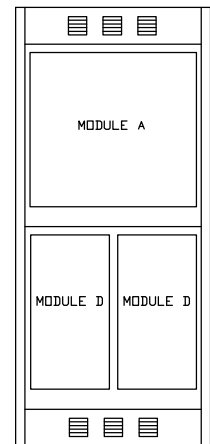
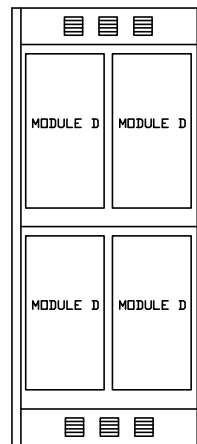
Single Width Configurations

Module	Mounting Equipment	Page
A	P1 or P2 Panelboards Half High Distribution Interior Auxiliary Compartment Individual MCCB Blank Sections	6 – 7
B	Full High Distribution Section Transformers (150 KVA to 300 KVA)	6 – 8
C	Transformers (15 KVA to 112.5 KVA)	8



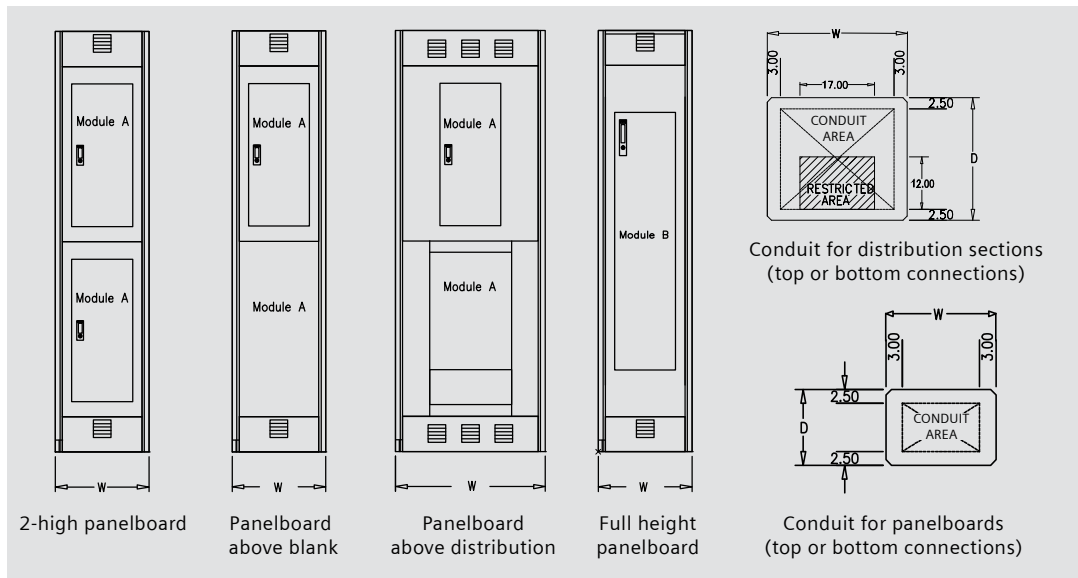
Double Width Configurations

Module	Mounting Equipment	Page
D	P1 or P2 Panelboards Individual MCCB Auxiliary Compartment	9
E	P2 Panelboards	10



Single Width Configurations

Modules A & B – Panelboards, Auxiliary & Distribution Sections



Selection Guidelines

1. Select one panelboard, 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 Auxiliary compartment must be selected wherever a module is not used
4. Any unused (blank) modules can be filled with other options for module A or C

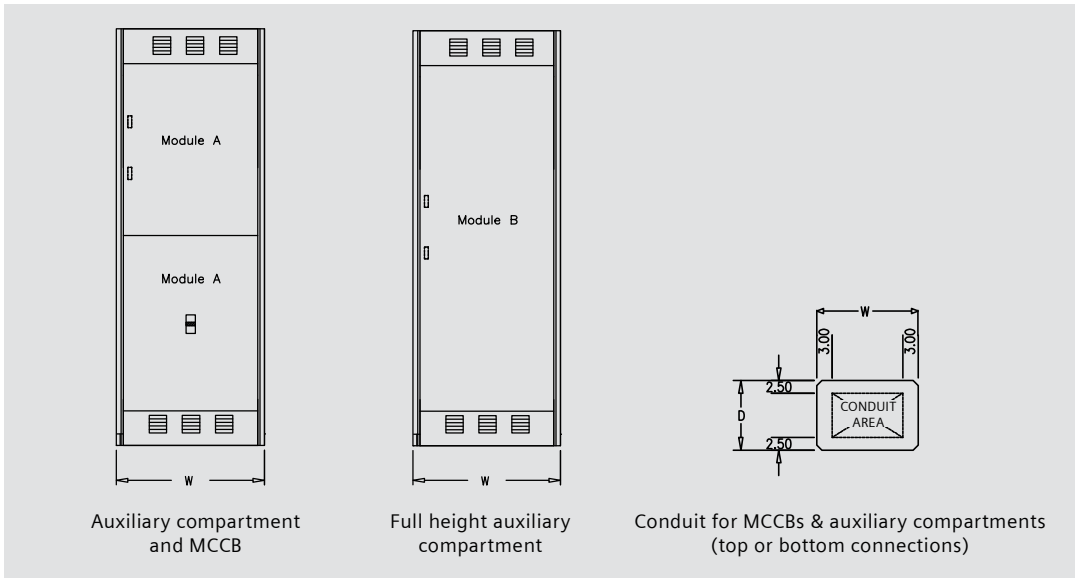
Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.)		Depth (D - in.)		Height (in.)
						Min.	Optional	Min.	Optional	
A	P1 Panelboard	Main Lug Only	250	42	-	24	38, 46	12.75	28, 38	90
			600	30						
	P2 Panelboard	Main Lug Only	125 ^②	42						
		Main Breaker	250 ^②	30						
	Half-High Distribution Chassis	Main Lug Only	1200	-						
Blank Compartment	-	-	-	-	24	38, 46				
B	P2 Panelboard	Main Breaker	600	90	-	24	38, 46	12.75	28, 38	
			250	90						
			400	66						
			600	54						

① Unit space based off of Sentron family of circuit breakers.

② Requires horizontal mounting, vertical mounting reduces the circuits by 12 and the unit space by 6"

Single Width Configurations

Module A – MCCBs & Auxiliary Compartments



Selection Guidelines

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

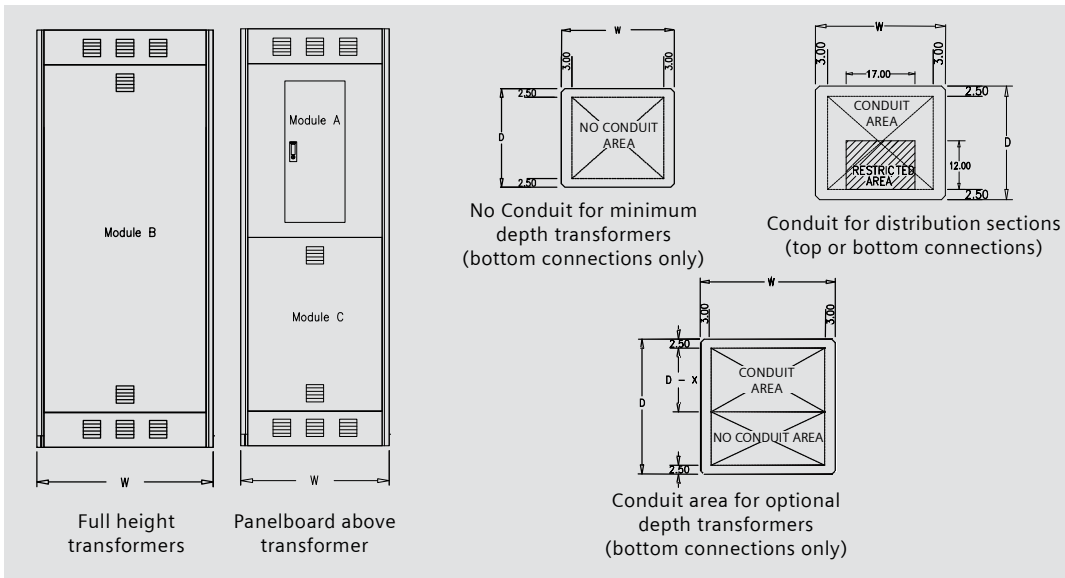
Module	Mounted Equipment	Device Type	Max. Device Amps	Width (W - in.)		Depth (D - in.)		Height (in.)
				Minimum	Optional	Minimum	Optional	
A	Individual Mount MCCB ^①	ED	125	24	38, 46	28	38	90
		FD	250					
		JD	400					
		LD	600					
A	38" Wide Auxiliary Compartment ^②	-	-	38	38	28	38	90
	24" Wide Auxiliary Compartment ^②	-	-	24				
	Blank Compartment	-	-	24				
B	24" Wide Auxiliary Compartment ^②	-	-	24	38	28	38	90
	38" Wide Auxiliary Compartment ^②	-	-	38				

① Cable-in and cable out MCCB

② Possible uses: surge devices, Siemens power monitoring, contactors, relays, time clocks, customer equipment, etc.

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 Auxiliary compartment must be selected wherever a module is not used.

Module	Mounted Equipment	Transformer Rating (KVA)	Width (W - in.)		Depth (D - in.)		Bottom Conduit Calculation Dimension (X - in.)	Height (in.)
			Minimum	Optional	Minimum	Optional		
B	Transformer ^{②③}	150	38	46	28 ^①	38, 48, 58	28	90
		225/300	46	-	28 ^①	38, 48, 58	28	
C	Transformer ^{②③④}	15	24	38, 46	28 ^①	38, 48, 58	28	
		30						
		45	38	46	28 ^①	38, 48, 58	28	
		75						
		112.5						

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

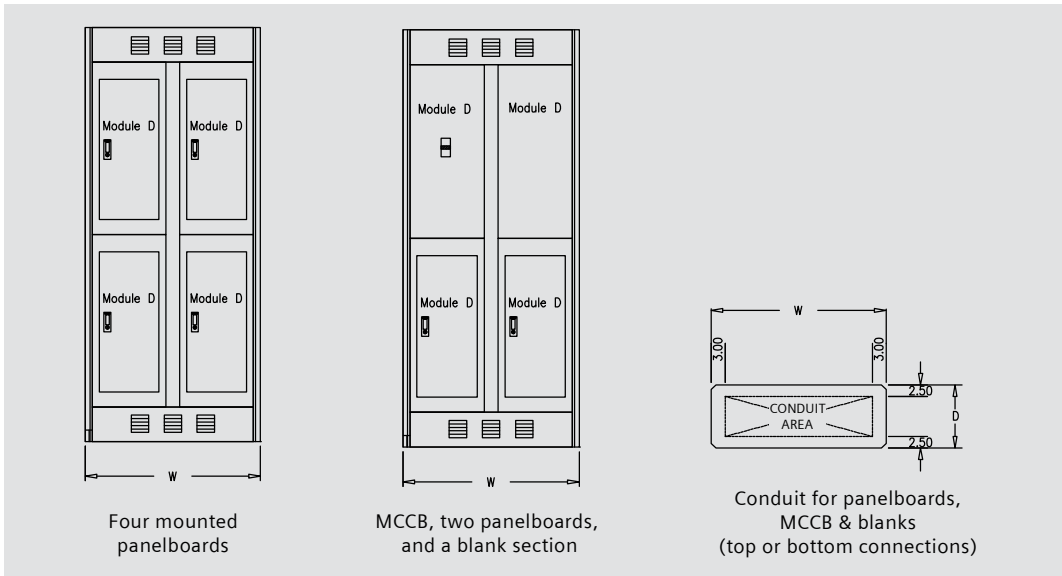
② Transformers are standard 150C rise, Aluminum and Copper windings

③ 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

Double Width Configurations

Module D – Panelboards & MCCBs



Selection Guidelines

1. Select one panelboard, MCCB, auxiliary compartment per module
2. Blank Auxiliary compartment must be selected 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.)
						Min.	Optional	Min.	Optional	
D	P1 Panelboard	Main Lug Only	250	42	-	38	-	12.75	28, 38	90
	P2 Panelboard	Main Lug Only	250	42						
			600	30						
			125 ^③	42						
	Individual Mount MCCB ^①	Main Breaker	250 ^③	30						
			EB	125	-	38	-	28	38	
			FD	250						
			JD	400						
			LD	600						
	MD	800								
18" Wide Auxiliary Compartment ^③	-	-	-	-	-	-	38	-	12.75	28, 38

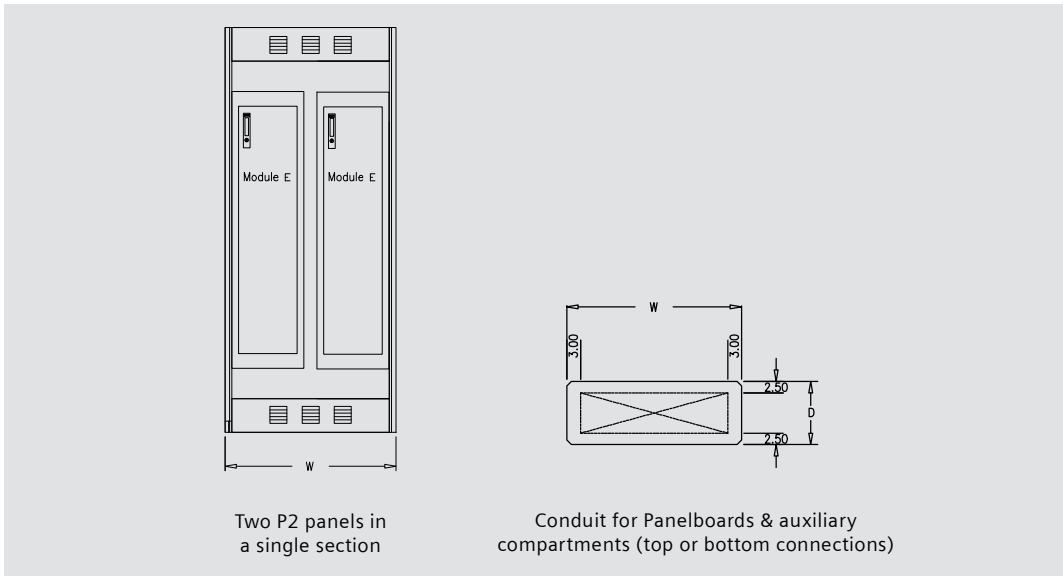
① Cable-in and cable out MCCB. Thermal magnetic trip unit only

② Possible uses: surge devices, ACCESS power monitoring, contactors, relays, time clocks, customer equipment, etc.

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

Double Width Configurations

Module E – Full Height Panelboards



Selection Guidelines

1. Select one panelboard per module
2. Blank Auxiliary compartment must be selected wherever a module is not used.
3. Any unused (blank) modules can be filled with other options for modules D or E

Module	Mounted Equipment	Device Type	Max. Device Amps	Max. Circuits	Max. Unit Space (in.)	Width (W - in.)		Depth (D - in.)		Height (in.)
						For Two Mounted Min.	Optional	Min.	Optional	
E	P2 Panelboard	Main Lug Only	125	90	-	38	-	12.75	28, 38	90
			250							
			400							
			600							
		Main Breaker	125	90						
			250	66						
			400	42						
			600							

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