Introducing Sentron Busway. Take A Good Look At A Brand New Concept In Busway Systems.

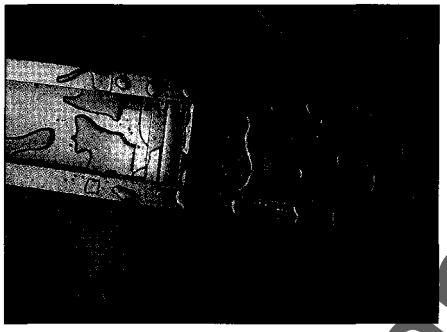
Sentron Gives You Confidence That You'll Make Your Numbers

When we designed Sentron™ Busway, we didn't set out to change an entire industry, we just tried to make busway more profitable for contractors and consultants. What we ended up with is a truly unique, state-of-the-art design that performs like no other and is supported by the best service in the industry. What it all adds up to is an opportunity for you to increase profits.

Features And Benefits

Housing

Simplicity and ease of installation are what Sentron Busway is all about, so we designed it to hang with a minimal amount of hardware—and hassle. Its lightweight aluminum housing is designed to be used as an integral ground. Plus, its bus plugs and cable tap boxes feature the largest wire bending space in the industry as standard, with even more room available as an option at no extra cost.

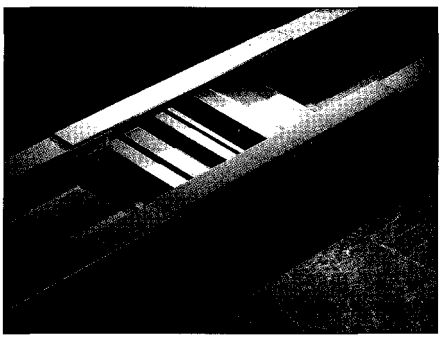


One great advantage of Sentron Busway is how simple it is to waterproof. In fact, the only difference between the assembly of our waterproof joints and our indoor rated joints is the field installation of a simple plastic tab—which makes Sentron one of the least labor intensive busways in the industry. And because the waterproofing is factory-installed, Siemens will stand behind the performance of its design.

To help you finish up particularly difficult jobs, Sentron offers an exclusive, special telescoping busway section that provides ± 6 inches of adjustability.

Joint Stacks

To speed up installation, Sentron Busway joint stacks are designed to come together with unparalleled ease. That's because our joint stacks connect with splice plates that feature a single bolt design and a special, double headed break-off bolt that eliminates the need for torque wrenches. And with ± .625 inches (5/8 inch) of adjustability at each joint as standard, you can expect proper busway layout connections time after time.

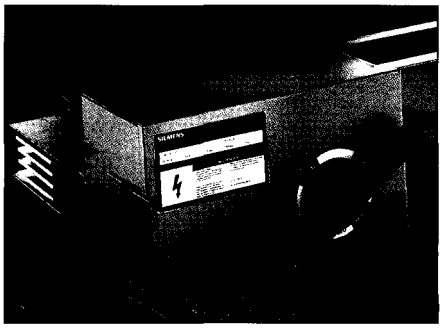


Bus Bars

Sentron Busway sets a new standard in performance across its entire range of available ampacities with a unique, optional 200% neutral design. In addition, Sentron Busway features 6-cycle and 1 second short circuit withstand ratings up to 200kA RMS Sym. Combine that performance with 130°C Class B Mylar® insulation and a housing that serves as a ground conductor, and you get a compact bus system that is an ideal fit for nearly every job.

Bus Plugs

The bus plugs on Sentron Busway are engineered to help meet the widest variety of busway specifications. Regardless of rating, the positive latching feature of Sentron bus plugs — either circuit breaker or visible blade fusible switches — prevents installation and removal of the plug from the bus with the switch in the "On" position. The operating handle can be padlocked in the "Off" position.



Each Sentron Busway plug features a voidable interlock for energized plug testing. Each plug also features a red/green indicator that shows the "On-Off" status of the switching mechanism, which can be seen from a distance of 25 feet. Plug-in outlets are located on two foot centers on both sides of standard plug-in busway.

Contents

Installation Savings Of Up To 30% Compared To Conventional Pipe and Wire

Type

Feeder or Plug-in	
Indoor	IP 40
Drip Proof	IP 43
Spray Proof	IP 54
Feeder Only	
Outdoor	IP 65
Severe Outdoor	IP 66

Capacities

Aluminum
Up to 4,000 amperes
Copper
Up to 5,000 amperes

Conductors

3 phase, 3 wire
3 phase, 4 wire (100% neutral)
3 phase, 4 wire (200% neutral)
Integral aluminum housing ground
Internal ground bus
(Aluminum and Copper)
Isolated ground bus
(Aluminum and Copper)

Short Circuit Ratings

85,000 to 200,000 RMS symmetrical amperes (6 cycles).

Our customer service organization assures smooth transition of your order in an expeditious manner. And should the need ever arise for technical or emergency help, Siemens offers assistance 24 hours a day, seven days a week, 365 days a year. One call to 1-800-241-4453 puts you in contact with a Siemens busway expert who can initiate emergency busway assembly and shipping should the situation warrant.

Clean Power And Harmonics

Available With A 200% Neutral And Isolated Ground

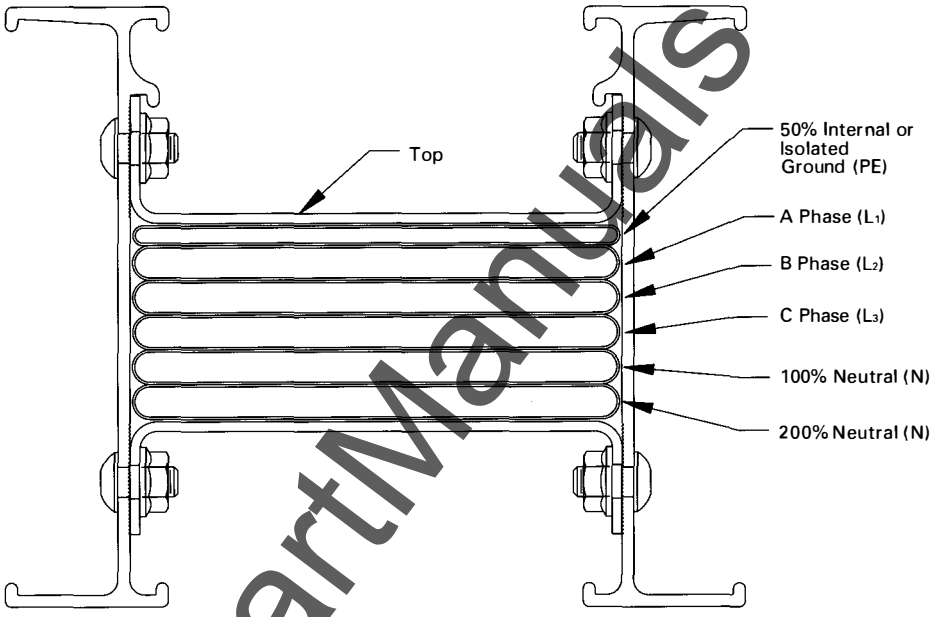
Ground Resistance

Sentron busway is the only busway to feature a wide variety of ground paths to meet your concerns and specifications.

- Integral aluminum housing ground (standard)
- Copper or aluminum internal ground
- Copper or aluminum isolated ground

Bus Bar Width Inches (mm)	DC Resistance Ohms x 10^{-3} Per 100 Ft. at 25°C		
	Integral Housing Ground	50% Internal or Isolated Ground Bus	
		Aluminum	Copper
1.75 (44.5)	1.15	6.77	4.01
2.25 (57.2)	0.93	①	3.11
2.38 (60.5)	0.90	4.96	2.94
2.88 (73.2)	0.86	①	2.42
3.25 (82.6)	0.82	3.62	2.14
3.50 (88.9)	0.80	①	1.99
4.38 (111.3)	0.75	2.68	1.59
4.50 (114.3)	0.74	①	1.54
5.38 (136.7)	0.70	2.18	1.29
6.00 (152.4)	0.65	①	1.16
6.50 (165.1)	0.64	1.80	1.07
8.50 (215.9)	0.53	①	0.82
8.75 (222.3)	0.51	1.34	0.79

① Busway with copper phase bars not available with aluminum internal or isolated ground.



Neutral Harmonics

Sentron Busway is the Industry's first busway to offer a 200% neutral within the bus bar housing.

A sinusoidal voltage applied to a non-linear load will result in a non-sinusoidal current. This non-sinusoidal current is periodic and can be reproduced from a number of sinusoidal component currents, called harmonics. These harmonics cause circulating currents in the delta primaries of your distribution transformers, overheating the unit.

With Siemens Sentron Busway, you can specify a fully rated 200% neutral conductor within the busway itself. Siemens is the only manufacturer to offer this feature.

Why a 200% neutral? It is possible to experience neutral loads of 173% of the phase conductor loading. This is when you need that extra neutral capacity of Sentron Busway to minimize overheating and prolong the life cycle of your power distribution equipment. This system is especially useful with discharge lighting (fluorescent) and computer installations.

Refer to Siemens Technical Publication No. 5.9-1A for Technical Data supporting the use of 200% neutrals in busway.

Performance Data

Water Resistance And Short Circuit Protection

Water Resistance

Sentron busway is the first true busway system to provide levels of protection to guard against entry of water and dust.

Unlike other busway systems, where only the busway is water resistant and not the plug-in units, Sentron busway offers a complete system that is in 100% compliance with both UL and IEC standards and is approved through third party certification.

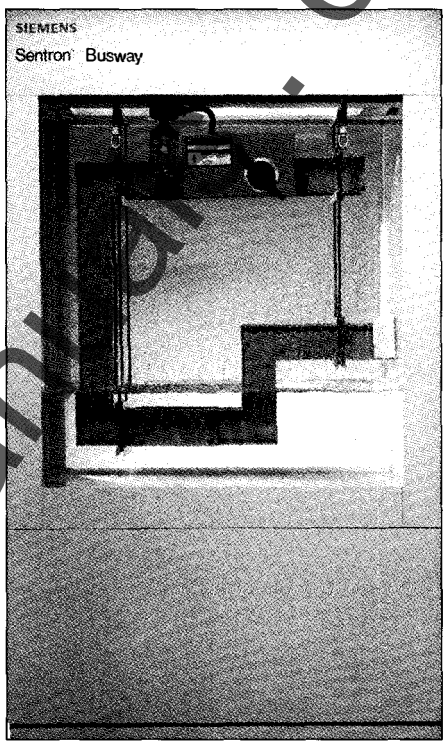
Each of the busway types listed below are approved for all mounting positions. The water resistance protection on Sentron Busway is factory assembled (does not require field assembly) and takes no more labor to install than indoor rated design, unlike competitors' busway.

Levels of Protection Description

Degree of Protection	IEC 529– Degrees of Protection Provided by Enclosures Description
IP 2X	Plug-in outlet protects against access to live parts by 12 mm (.472") test probe, even with cover opened. Finger Safe.
IP 40	Enclosure protects against entry of 1.0 mm (.039") test probe. Indoor (Typical UL designation)
IP 43	Enclosure protects against entry of 1 mm (.039") test probe and dripping water. Drip Proof.
IP 54	Enclosure protects against entry of dust and splashing water. Spray Proof.
IP 65	Enclosure is dust tight and protects against water jets. Outdoor (Typical UL designation)
IP 66	Enclosure is dust tight and protects against powerful water jets. Severe Outdoor.

Busway Type	Degree of Protection				
	IP 40	IP 43	IP 54	IP 65	IP 66
Feeder	X	X	X	X	X
Plug-in*	X	X	X		
Plug-in Units	X	X	X		

* All Sentron plug-in busway is IP 2X rated. (Finger Safe plug-in outlets)



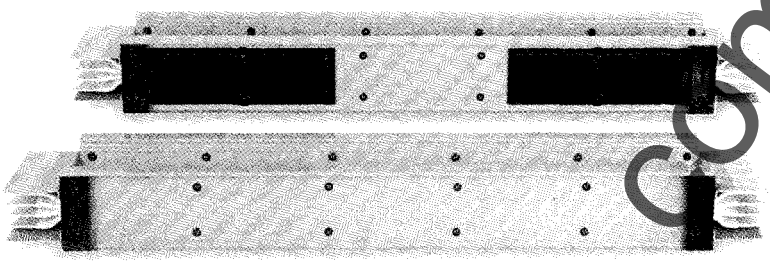
Siemens trade show exhibit shows Sentron Busway partially immersed in water to dramatically demonstrate its ability to resist water ingress. This is not a recommended application for busway. Electrical equipment, including busway, should never be immersed in water.

Short Circuit Protection

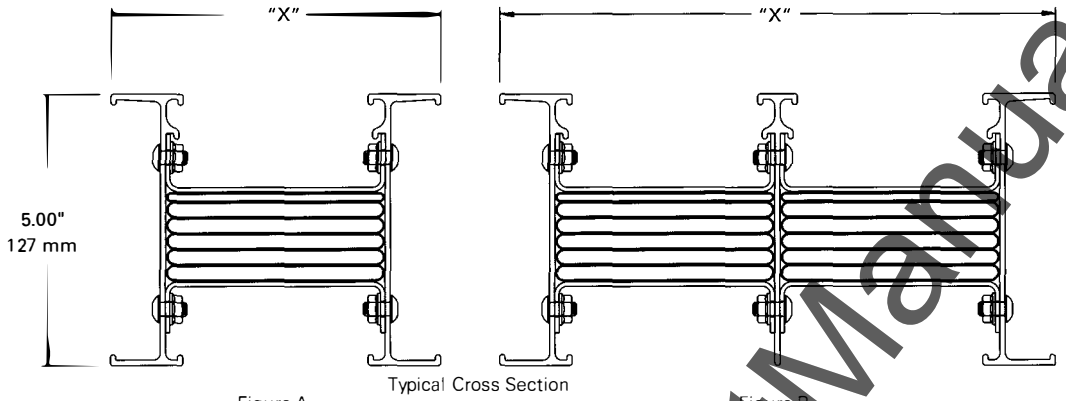
Sentron busway utilizes the strength of the housing design to provide one of the industry's highest levels of short circuit protection. In accordance with both UL and IEC, Sentron busway offers short circuit ratings for six cycle and one second requirements. These ratings are approved through third party certification.

Ampere Rating	6 Cycle RMS Symmetrical (kA)		60 Cycle (1 Second) RMS Symmetrical (kA)	
	Aluminum	Copper	Aluminum	Copper
225	85	85	28	40
400	85	85	28	40
600	85	85	28	40
800	100	85	47	40
1000	100	100	50	50
1200	125	100	60	65
1350	150	100	75	80
1600	150	125	90	95
2000	150	150	110	115
2500	200	150	130	130
3000	200	200	160	175
4000	200	200	200	200
5000		200		200

Dimensions And Weights



Dimensions and Weights
Feeder and Plug-in



Typical Cross Section

Figure A
One Bar Per Pole

Figure B
Two Bars Per Pole

Note: Plug-in busway is available in 4,6,8, and 10 foot lengths.

Feeder Busway is available on ½ inch increments between 1 foot and 10 foot lengths.

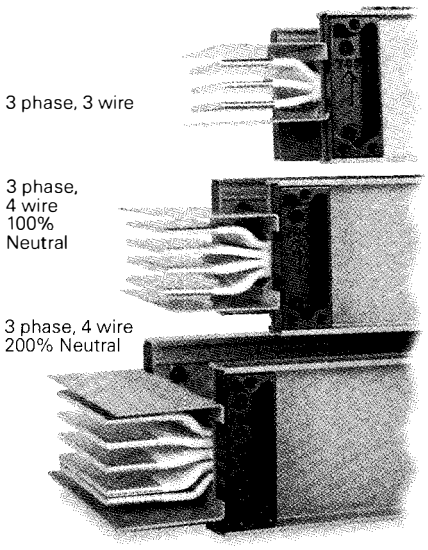
Ampere Rating	Figure	"X" Dimension Inches (mm)	Approximate Weight – Lbs. per foot (kg per meter)					
			3-Wire	3-Wire with Ground	4-Wire 100% Neutral	4-Wire 100% Neutral with Ground	4-Wire 200% Neutral	4-Wire 200% Neutral with Ground
Aluminum								
225	A	3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	6 (9)	6 (10)
400	A	3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	6 (9)	6 (10)
600	A	3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	6 (9)	6 (10)
800	A	4.5 (115)	6 (9)	6 (9)	7 (10)	7 (10)	7 (11)	8 (11)
1000	A	5.4 (137)	7 (10)	7 (11)	8 (12)	8 (12)	9 (13)	9 (14)
1200	A	6.5 (166)	8 (12)	9 (13)	9 (14)	10 (15)	11 (16)	11 (17)
1350	A	7.5 (191)	9 (13)	10 (15)	11 (16)	11 (17)	12 (18)	13 (19)
1600	A	8.6 (219)	10 (15)	11 (17)	12 (18)	13 (19)	14 (21)	15 (22)
2000	A	10.9 (277)	13 (19)	14 (21)	15 (23)	16 (24)	18 (26)	19 (28)
2500	B	13.3 (338)	16 (24)	18 (27)	19 (29)	21 (31)	23 (34)	24 (36)
3000	B	15.3 (389)	18 (27)	20 (30)	22 (33)	24 (36)	26 (39)	28 (41)
4000	B	19.8 (503)	23 (34)	26 (38)	28 (42)	31 (46)	33 (50)	36 (53)
Copper								
225	A	3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
400	A	3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
600	A	3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
800	A	3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
1000	A	4.4 (112)	10 (15)	11 (17)	12 (19)	14 (20)	15 (22)	16 (23)
1200	A	5.0 (128)	12 (18)	14 (20)	15 (22)	16 (24)	18 (26)	19 (29)
1350	A	5.6 (143)	14 (21)	16 (24)	17 (26)	19 (29)	21 (31)	23 (34)
1600	A	6.6 (169)	17 (26)	19 (29)	22 (32)	24 (35)	26 (38)	28 (42)
2000	A	8.1 (207)	22 (32)	25 (37)	28 (41)	30 (45)	33 (50)	36 (54)
2500	A	10.6 (270)	30 (44)	34 (50)	38 (56)	42 (62)	46 (68)	50 (74)
3000	B	11.8 (300)	34 (50)	38 (57)	43 (64)	48 (71)	52 (78)	57 (84)
4000	B	14.8 (376)	43 (54)	49 (73)	55 (82)	61 (91)	67 (100)	73 (109)
5000	B	19.3 (491)	57 (85)	65 (97)	73 (109)	81 (121)	90 (133)	98 (146)

Note: Current density (amps/in²) rated busway available. Consult factory

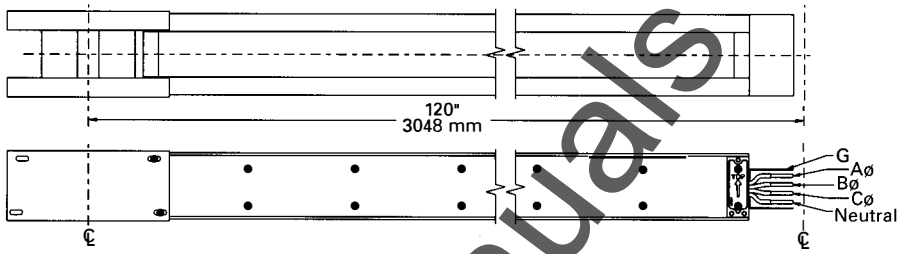
Performance Data

Straight Sections And Measurement Instructions

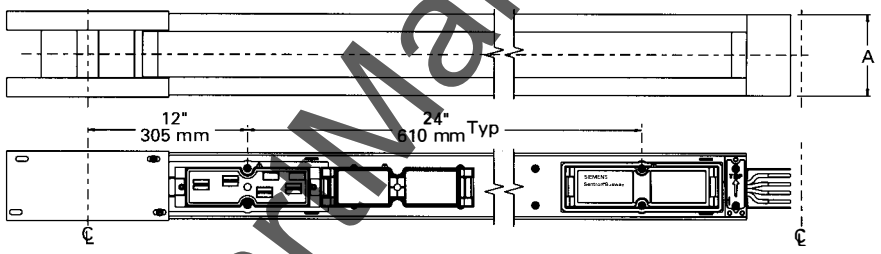
A choice of Sentron busway section lengths satisfies most installation needs. Feeder busway sections are available in ⅛" increments from 1 foot to 10 feet in total length. In addition to the standard 10 foot plug-in sections, lengths of 4, 6, and 8 feet are also available. Every section includes a removeable joint stack.



Standard Bus Bar Configurations



Feeder Busway — Top and Side Views

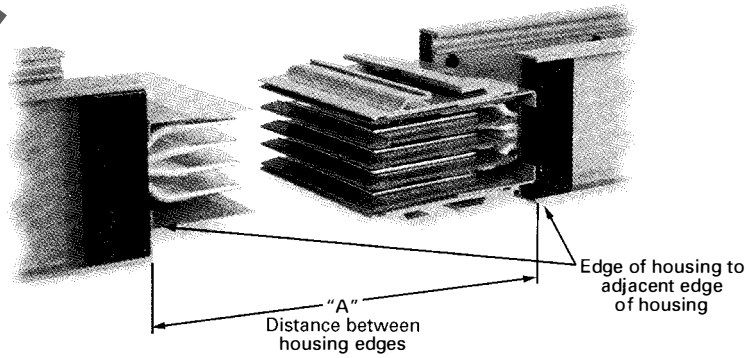


Plug-In Busway — Top and Side Views

Measurement Instructions

To determine the required dimension of the busway fitting to be installed into an opening of busway, simply measure the length "A" as shown. This measurement is from edge to edge of adjacent housings. Now subtract exactly 8¼ inches from your measurement to determine your centerline of joint to centerline of joint measurement. Sentron Busway features the industry's only ±¾" adjustable joint as standard.

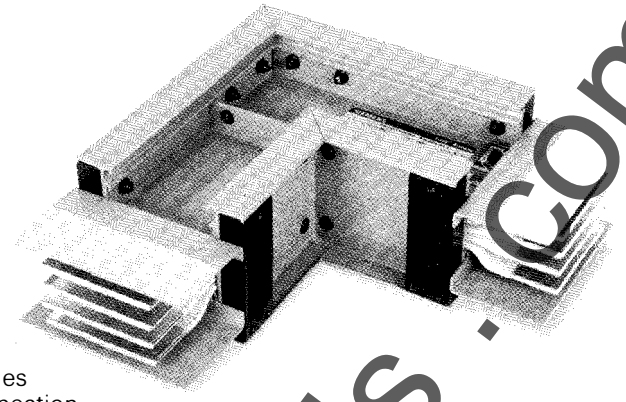
To add even more flexibility into your busway job, use the Sentron Busway Adjustable Straight Length that field adjusts ±6 inches within minutes. Refer to page 16.



The distance from centerline of joint to centerline of joint is:

Distance measured between housing edges −8.25 inches (210 mm)

Elbows And Tees



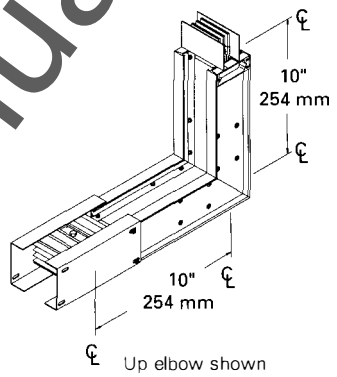
Elbows, Tees and Offsets allow for turns and offsets in the busway to be made in any direction (up, down, left, right). Reference page 5 to determine the direction of required turn. Every section includes a joint stack and joint inspection covers.

Elbows

Ampere Rating	Standard Dimensions (Minimum) X Inches (mm)	Y Inches (mm)	Z Inches (mm)
Aluminum			
225–1350	12 (305)	12 (305)	–
1600–3000	18 (457)	18 (457)	–
4000	24 (610)	24 (610)	–
Copper			
225–2000	12 (305)	12 (305)	–
2500–4000	18 (457)	18 (457)	–
5000	24 (610)	24 (610)	–

Elbows

Up or down elbows (Edgewise)

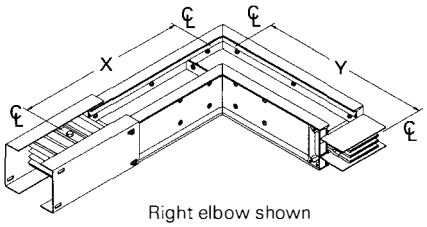


Up elbow shown

Tees

Ampere Rating	Standard Dimensions (Minimum) X Inches (mm)	Y Inches (mm)	Z Inches (mm)
Aluminum			
225–1350	12 (305)	12 (305)	12 (305)
1600–3000	18 (457)	18 (457)	18 (457)
4000	24 (610)	24 (610)	24 (610)
Copper			
225–2000	12 (305)	12 (305)	12 (305)
2500–4000	18 (457)	18 (457)	18 (457)
5000	24 (610)	24 (610)	24 (610)

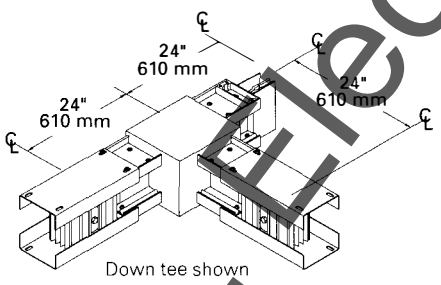
Left or right elbows (Flat)



Right elbow shown

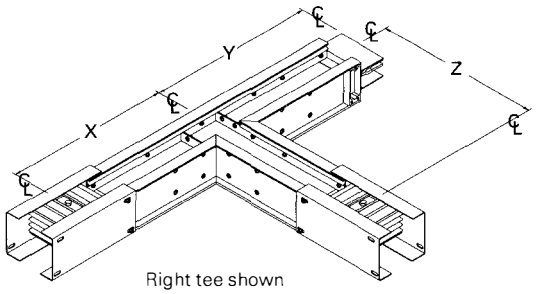
Tees

Up or down tees (Edgewise)



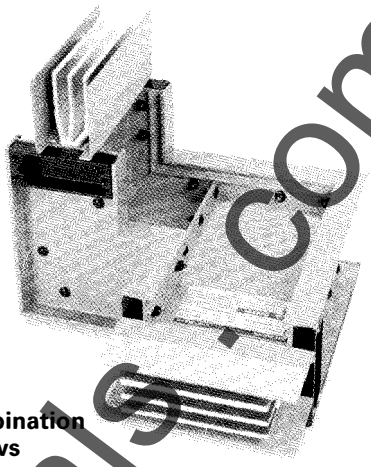
Down tee shown

Left or right tees (Flat)



Right tee shown

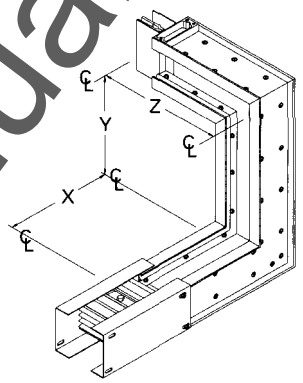
Combination Elbows And Offsets



Combination Elbows

Ampere Rating	Standard Dimensions (Minimum)		
	X	Y	Z
	Inches (mm)	Inches (mm)	Inches (mm)
Aluminum			
225–1350	10 (254)	8 (203)	12 (305)
1600–3000	10 (254)	12 (305)	18 (457)
4000	10 (254)	16 (406)	24 (610)
Copper			
225–2000	10 (254)	8 (203)	12 (305)
2500–4000	10 (254)	12 (305)	18 (457)
5000	10 (254)	16 (406)	24 (610)

Combination Elbows

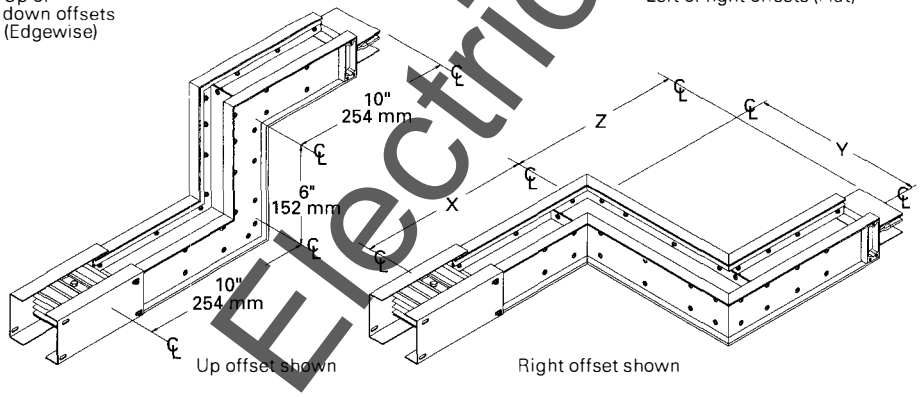


Offsets

Ampere Rating	Standard Dimensions (Minimum)		
	X	Y	Z
	Inches (mm)	Inches (mm)	Inches (mm)
Aluminum			
225–1350	12 (305)	5 (127)	12 (305)
1600–3000	18 (457)	5 (127)	18 (457)
4000	24 (610)	8 (203)	24 (610)
Copper			
225–2000	12 (305)	5 (127)	12 (305)
2500–4000	18 (457)	5 (127)	18 (457)
5000	24 (610)	8 (203)	24 (610)

Offsets

Up or down offsets (Edgewise)



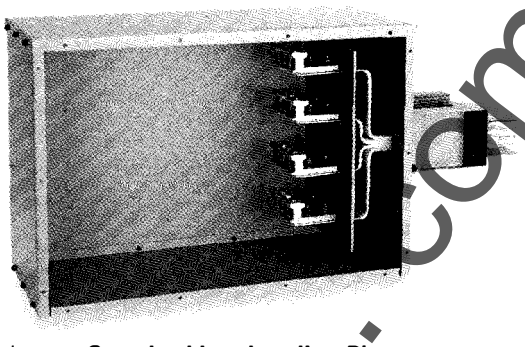
Up offset shown

Left or right offsets (Flat)

Right offset shown

End Cable Tap Boxes

Standard/Extended Wire Bending Space



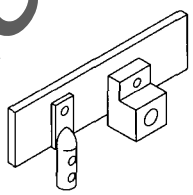
End cable tap boxes can be installed at either end of the busway system. Standard mechanical lugs suitable for aluminum or copper conductors are supplied. No adaptors are needed to field install compression lugs utilizing NEMA hole patterns. Compression lugs are optional.

Sentron Busway cable tap boxes are designed with both standard and extended wire bending space. There's no difference in price and that's a major plus when it comes to installation cost!

Extended wire bending space dimensions are shown in dark shaded areas of table below.

Standard Lug Landing Plates

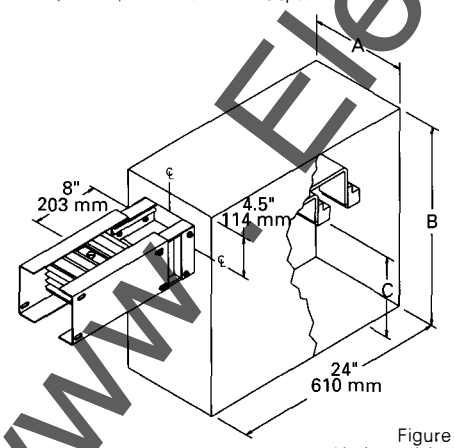
All Sentron cable tap boxes have provisions for both standard mechanical and compression lugs utilizing NEMA hole patterns.



End Cable Tap Box

Ampere Rating		Standard Dimensions						Wire Bend Space C		Cable Lugs Per Phase and Neutral		Ground Lugs①
		Horizontal Applications – Figure A			Vertical Applications – Figure B							
		A	B		A	B						
			Standard	Extended		Standard	Extended	Standard	Extended			
Aluminum	Copper	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Qty.	Size	
225	225	13 (330)	29 (737)	33 (838)	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	①	1
400	400	13 (330)	29 (737)	33 (838)	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	②	1
600	600	13 (330)	29 (737)	33 (838)	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	2	②	1
800	800	13 (330)	29 (737)	33 (838)	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	3	②	1
1000	1000	13 (330)	29 (737)	33 (838)	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	4	②	1
—	1200	13 (330)	32 (813)	36 (914)	13 (330)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
—	1350	13 (330)	32 (813)	36 (914)	13 (330)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1200	—	18 (457)	32 (813)	36 (914)	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1350	—	18 (457)	32 (813)	36 (914)	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1600	1600	18 (457)	32 (813)	36 (914)	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	5	②	1
2000	2000	18 (457)	32 (813)	36 (914)	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	6	②	2
—	2500	18 (457)	32 (813)	36 (914)	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	8	②	2
2500	—	23 (584)	32 (813)	36 (914)	23 (584)	28 (711)	32 (813)	20 (508)	24 (610)	8	②	2
3000	3000	23 (584)	32 (813)	36 (914)	23 (584)	28 (711)	32 (813)	20 (508)	24 (610)	9	②	2
—	4000	23 (584)	32 (813)	36 (914)	23 (584)	28 (711)	32 (813)	20 (508)	24 (610)	12	②	3
4000	—	25 (635)	32 (813)	36 (914)	25 (635)	28 (711)	32 (813)	20 (508)	24 (610)	12	②	3
—	5000	25 (635)	32 (813)	36 (914)	25 (635)	28 (711)	32 (813)	20 (508)	24 (610)	15	②	4

① #6 AWG – 350 MCM, Cu / Al
② #4 AWG – 600 MCM, Cu / Al
* 24" (610 mm) if Isolated Ground is specified



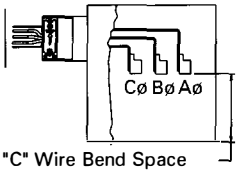
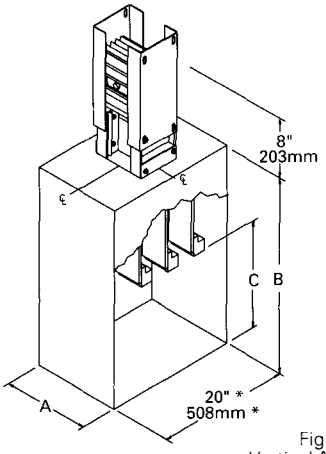


Figure A
Horizontal Applications



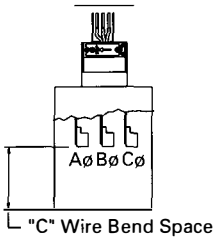
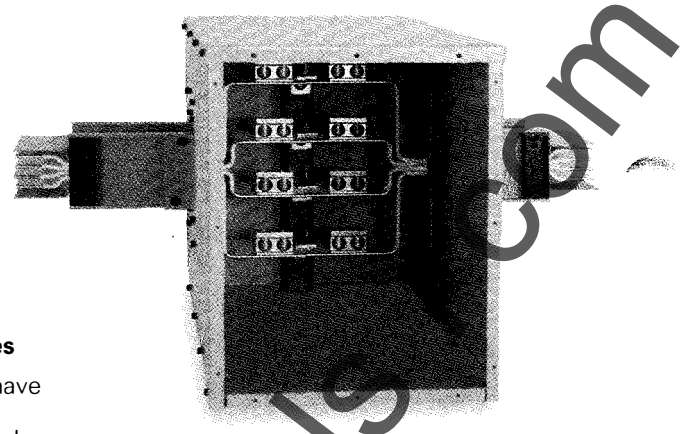


Figure B
Vertical Applications

Product Selection

Center And Plug-In Cable Tap Boxes

Standard/Extended Wire Bending Space



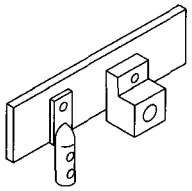
Center cable tap boxes can be installed at either end of the busway system. Standard mechanical lugs suitable for aluminum or copper conductors are supplied. No adaptors are needed to field install compression lugs utilizing NEMA hole patterns. Compression lugs are optional.

Sentron Busway cable tap boxes are designed with both standard and extended wire bending space. There's no difference in price and that's a major plus when it comes to installation cost!

Extended wire bending space dimensions are shown in dark shaded areas of table below.

Standard Lug Landing Plates

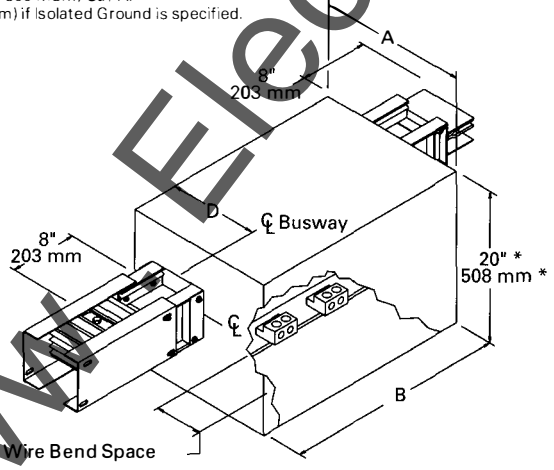
All Sentron cable tap boxes have provisions for both standard mechanical and compression lugs utilizing NEMA hole patterns.

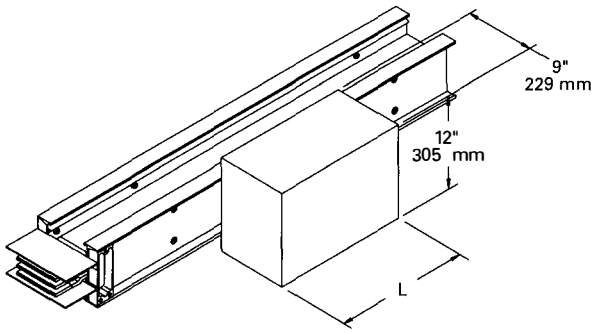


Center Cable Tap Box

Ampere Rating	Dimensions Aluminum A Standard Inches (mm)	A Extended Inches (mm)	B Inches (mm)	D Inches (mm)	Copper A Standard Inches (mm)	A Extended Inches (mm)	B Inches (mm)	D Inches (mm)	Cable Bend Space C Standard Inches (mm)	C Extended Inches (mm)	Cable Lugs Per Phase and Neutral Qty.	Size	Ground Lugs①
225	25 (635)	29 (737)	12 (305)	3.9 (100)	25 (635)	29 (737)	12 (305)	3.9 (100)	17 (432)	21 (533)	1	①	1
400	25 (635)	29 (737)	12 (305)	3.9 (100)	25 (635)	29 (737)	12 (305)	3.9 (100)	17 (432)	21 (533)	1	②	1
600	25 (635)	29 (737)	12 (305)	3.9 (100)	25 (635)	29 (737)	12 (305)	3.9 (100)	17 (432)	21 (533)	2	②	1
800	25 (635)	29 (737)	12 (305)	4.3 (108)	25 (635)	29 (737)	12 (305)	3.9 (100)	17 (432)	21 (533)	3	②	1
1000	25 (635)	29 (737)	12 (305)	4.7 (119)	25 (635)	29 (737)	12 (305)	4.2 (107)	17 (432)	21 (533)	4	②	1
1200	28 (711)	32 (813)	15 (381)	5.3 (134)	28 (711)	32 (813)	15 (381)	4.5 (115)	20 (508)	24 (610)	4	②	1
1350	28 (711)	32 (813)	15 (381)	5.8 (146)	28 (711)	32 (813)	15 (381)	4.8 (122)	20 (508)	24 (610)	4	②	1
1600	28 (711)	32 (813)	15 (381)	6.3 (161)	28 (711)	32 (813)	15 (381)	5.3 (135)	20 (508)	24 (610)	5	②	1
2000	28 (711)	32 (813)	15 (381)	7.4 (189)	28 (711)	32 (813)	15 (381)	6.1 (154)	20 (508)	24 (610)	6	②	1
2500	28 (711)	32 (813)	18 (457)	8.7 (220)	28 (711)	32 (813)	18 (457)	7.3 (186)	20 (508)	24 (610)	8	②	2
3000	28 (711)	32 (813)	18 (457)	9.7 (245)	28 (711)	32 (813)	18 (457)	7.9 (201)	20 (508)	24 (610)	9	②	2
4000	28 (711)	32 (813)	25 (635)	11.9 (303)	28 (711)	32 (813)	25 (635)	9.4 (239)	20 (508)	24 (610)	12	②	3
5000					28 (711)	32 (813)	25 (635)	11.7 (296)	20 (508)	24 (610)	15	②	4

① #6 AWG – 350 MCM, Cu / Al
② #4 AWG – 600 MCM, Cu / Al
* 24" (610 mm) if Isolated Ground is specified.



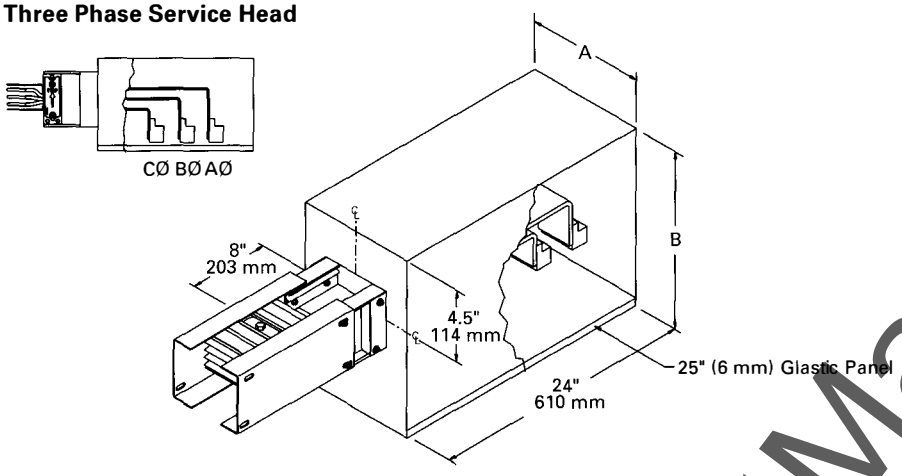


Plug-In Cable Tap Box

Ampere Rating	Wire Bend Space	L Inches (mm)
225	Standard	16 (406)
400	Extended	25 (635)

Single And Three Phase Service Heads

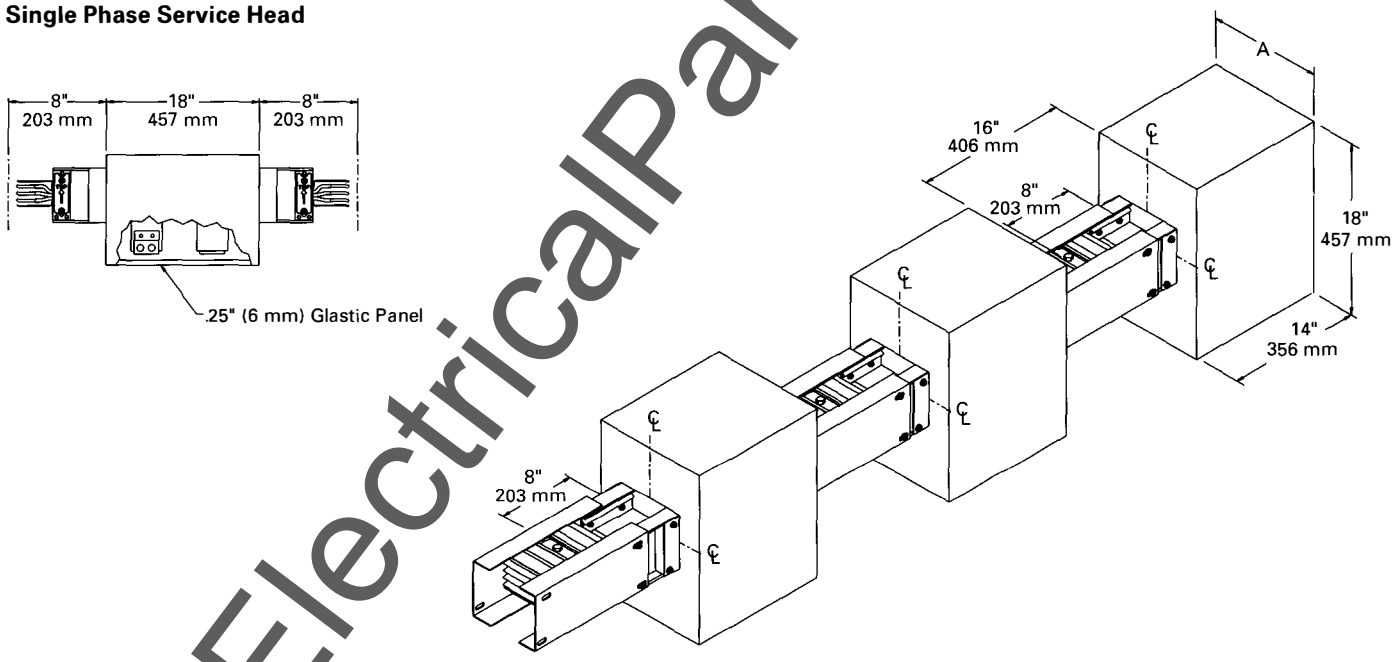
Three Phase Service Head



Ampere Rating	"A" Dimension Aluminum Inches (mm)	"A" Dimension Copper Inches (mm)	Cable Lugs Per Phase & Neutral Qty.	Cable Lugs Per Phase & Neutral Size	Ground Lugs ①
800	13 (330)	13 (330)	3	②	1
1000	13 (330)	13 (330)	4	②	1
1200	18 (457)	13 (330)	4	②	1
1350	18 (457)	13 (330)	5	②	1
1600	18 (457)	18 (457)	6	②	2
2000	18 (457)	18 (457)	8	②	2
2500	23 (584)	18 (457)	8	②	2
3000	23 (584)	23 (584)	9	②	2
4000	25 (635)	23 (584)	12	②	3
5000		25 (635)	15	②	4

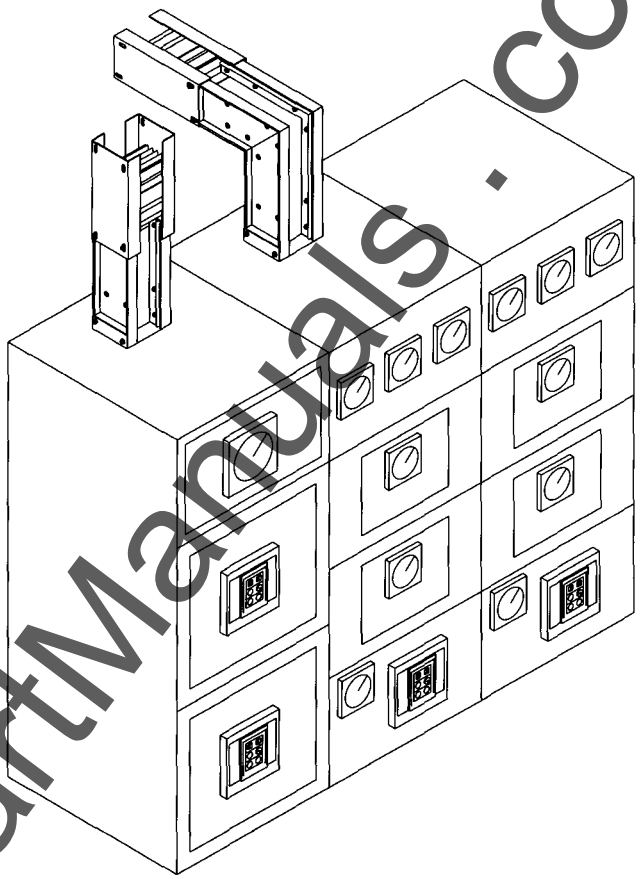
① #6 AWG - 350 MCM, Cu / Al
② #4 AWG - 600 MCM, Cu / Al

Single Phase Service Head



Product Selection

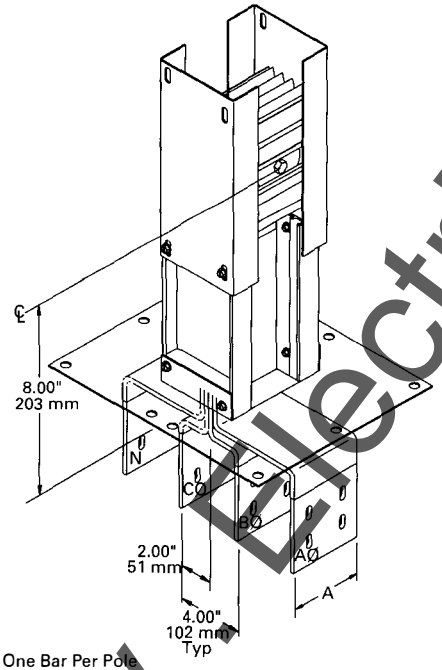
Switchboard, Switchgear, Motor Control Center Stubs And Flanged Ends



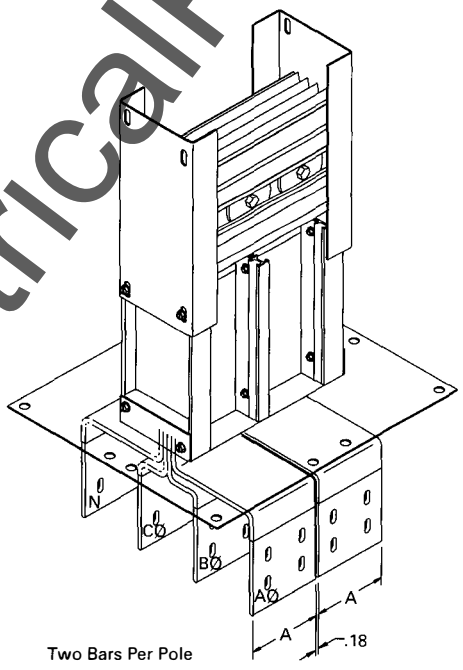
An Industry First!

Sentron busway standard stubs are shipped to the job site already factory connected to the gear. No installation labor costs are associated with Sentron busway stub connections to Siemens switchboards and switchgear.

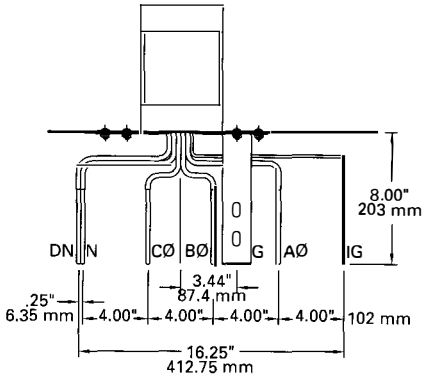
Standard Flanged Ends



One Bar Per Pole

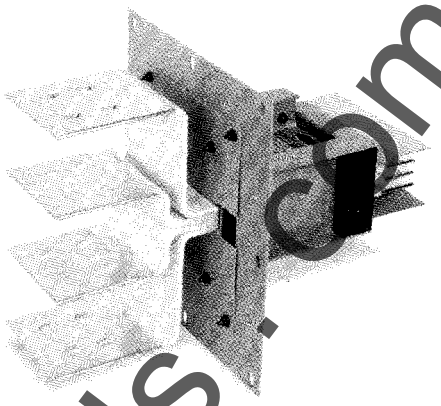


Two Bars Per Pole



Side View

Refer to inside front cover for bus bar width (A) per ampere rating.



Flanged End Cutout and Drilling Pattern

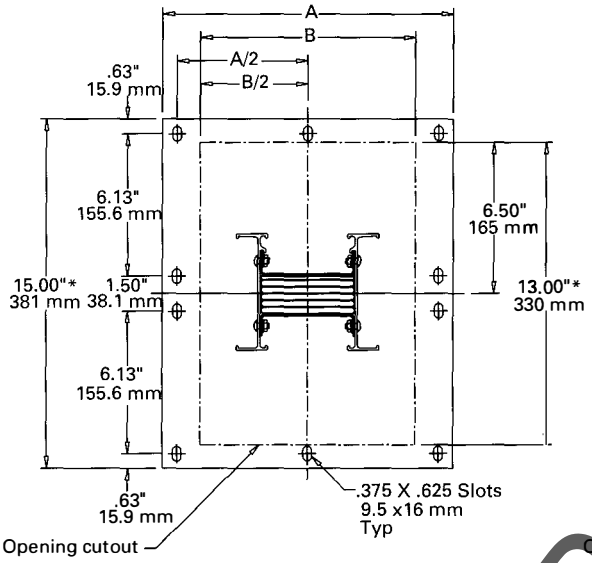


Figure 1

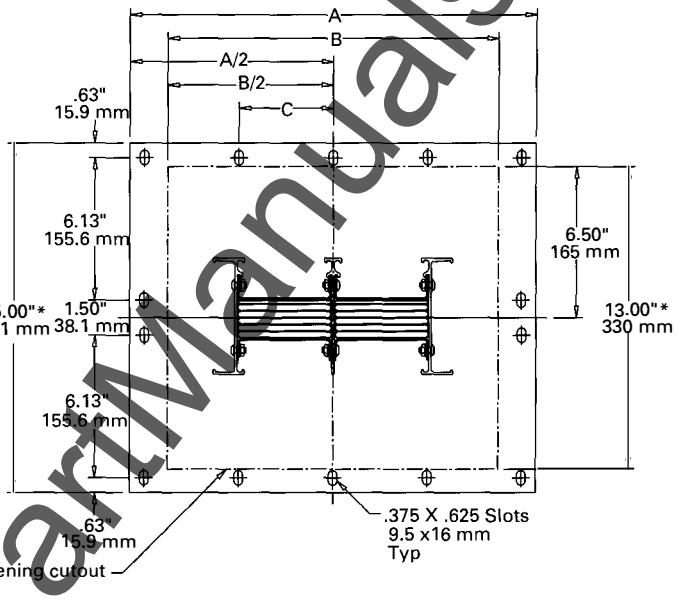


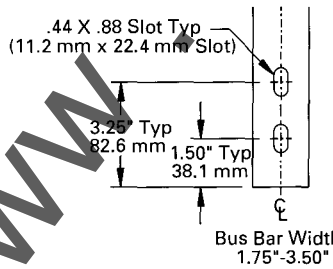
Figure 2

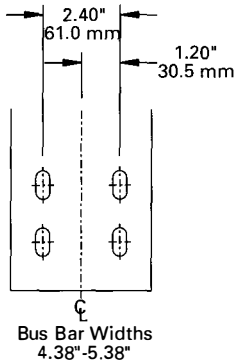
* Add 4.0" (102 mm) for internal or isolated ground.

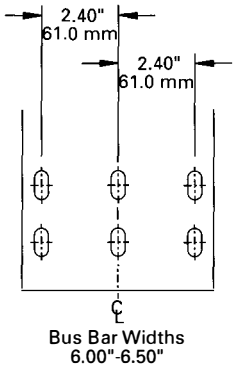
Ampere Rating	Figure	A Inches (mm)	B Inches (mm)	C Inches (mm)
225-1000 AL 225-1350 CU	1	10.0 (254)	8.0 (203)	
1200-2000 AL 1600-2500 CU	1	15.5 (394)	13.5 (343)	
2500-3000 AL 3000-4000 CU	2	20.0 (508)	18.0 (457)	4.5 (114)
4000 AL 5000 CU	2	24.0 (610)	22.0 (559)	5.5 (140)

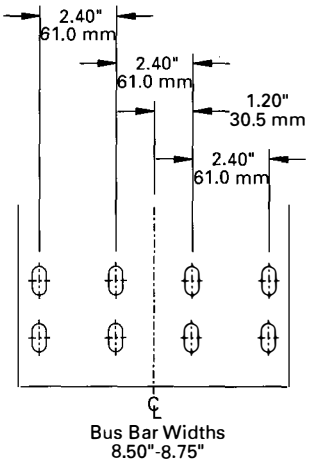
Flanged End Bus Bar Hole Pattern

(Same pattern for 2 bus bars per pole.)
See inside front cover for bus bar width per ampere rating.





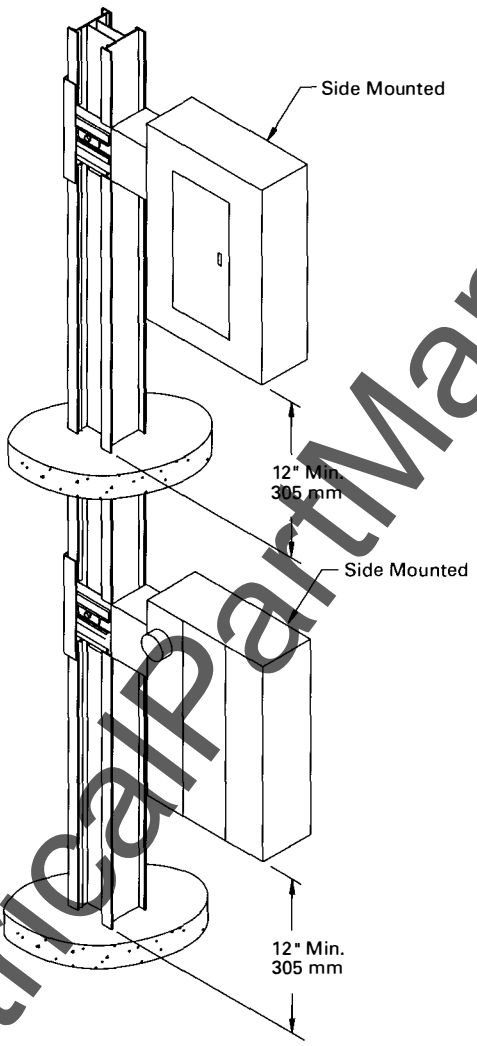


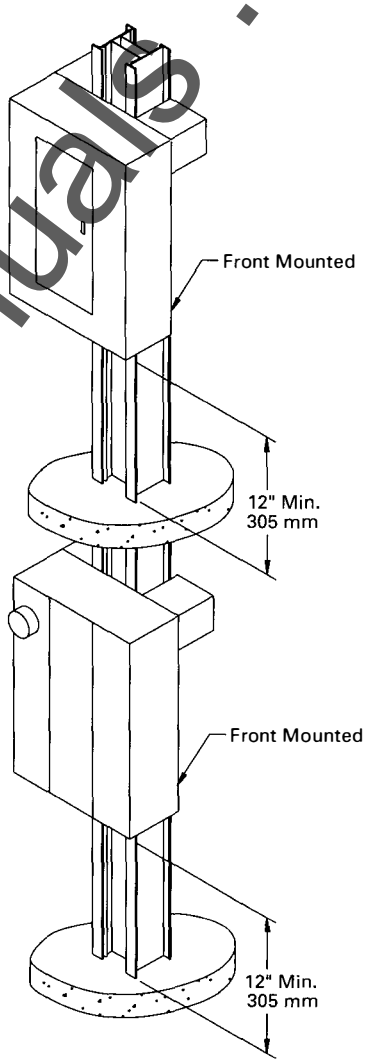


Panelboard And Meter Center Module Busway Adaptors For Risers

Meter Center Modules and Sentron Series Panelboard Adaptors available in either front or side mounted orientations

In riser (vertical) applications, where Sentron Busway ascends vertically through electrical closets, the contractor can now utilize a labor saving busway fitting that intergrally provides both panelboard and meter center connections without having to utilize a plug-in unit to feed wall mounted panelboards and meter centers. To provide optimized flexibility, Sentron Busway offers both front and side mounted fittings, depending on the orientation of your riser within the electrical closet.





Side Mounted Adaptors

A Sentron Busway tap extension is used to connect both the meter center module and the Sentron Series Panelboard. The tap extension, which takes the place of the standard joint connection, extends only 9 inches from the riser itself. These adaptors can extend to either side of the vertically rising busway and are always located at the centerline of the standard joint location.

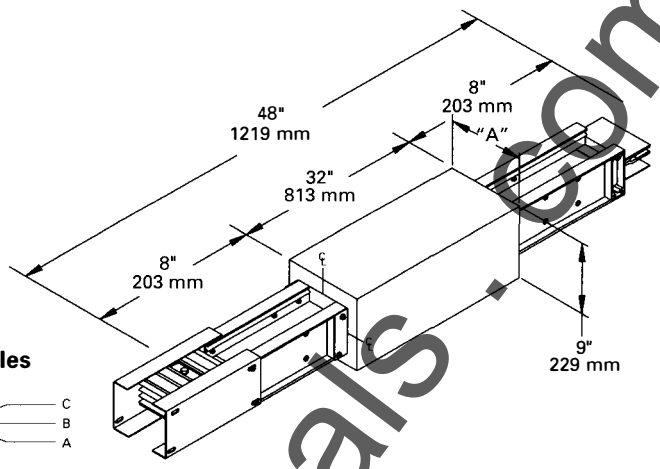
Only a single bolted connection is required to connect the adaptors to the busway. Side mounted adaptors can be ordered through your local Siemens sales representative.

Front Mounted Adaptors

A Sentron Busway tap extension is used to connect both the meter center module and the Sentron Series Panelboard. The tap extension, which takes the place of the standard joint connection, extends into a connector box which feeds the front mounted meter center module and/or the panelboard. These adaptors can be designed to always mount on the side of Sentron Busway facing into the electrical closet for easy operation.

Front mounted adaptors can be ordered through your local Siemens sales representative.

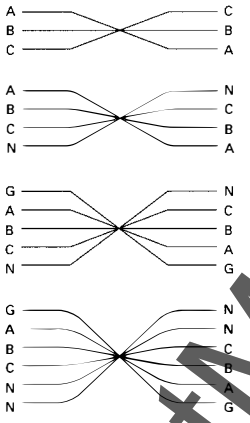
Phase Rotation And Expansion Fittings



Phase Rotation Fitting

Ampere Rating	"A" Dimension	
	Aluminum	Copper
	Inches (mm)	Inches (mm)
225	7.9 (200)	7.9 (200)
400	7.9 (200)	7.9 (200)
600	7.9 (200)	7.9 (200)
800	8.5 (216)	7.9 (200)
1000	9.4 (239)	8.4 (213)
1200	10.5 (267)	9.0 (229)
1350	11.5 (293)	9.6 (245)
1600	12.6 (321)	10.6 (270)
2000	14.9 (376)	12.1 (308)
2500	17.3 (440)	14.6 (372)
3000	19.3 (491)	15.8 (402)
4000	23.8 (605)	18.8 (478)
5000		23.3 (592)

Phase Rotation Examples



International Phasing Equivalent

A Phase = L_1
B Phase = L_2
C Phase = L_3
Neutral = N
Ground = PE

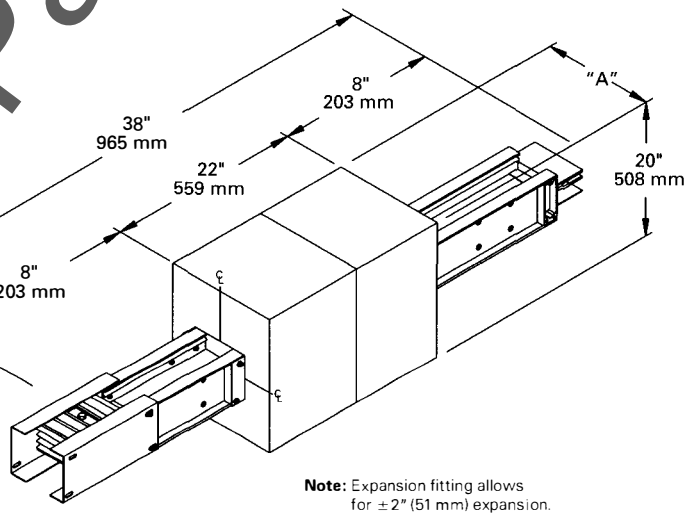
Note: Rotation fittings are also available in phase only or neutral / ground only rotations.

Building Expansion Fitting

Expansion sections for Sentron Busway contain a sliding expansion enclosure that contains flexible connectors. A ±2 inch expansion can be accommodated.

This joint is required when a busway crosses an expansion joint in a building or on long straight runs where:
a) No offsets or elbows are included.
b) Both ends are held fixed, or in a permanent position.

Ampere Rating	"A" Dimension	
	Aluminum	Copper
	Inches (mm)	Inches (mm)
225	13 (330)	13 (330)
400	13 (330)	13 (330)
600	13 (330)	13 (330)
800	13 (330)	13 (330)
1000	13 (330)	13 (330)
1200	18 (457)	13 (330)
1350	18 (457)	13 (330)
1600	18 (457)	18 (457)
2000	18 (457)	18 (457)
2500	23 (584)	18 (457)
3000	23 (584)	23 (584)
4000	25 (635)	23 (584)
5000		25 (635)



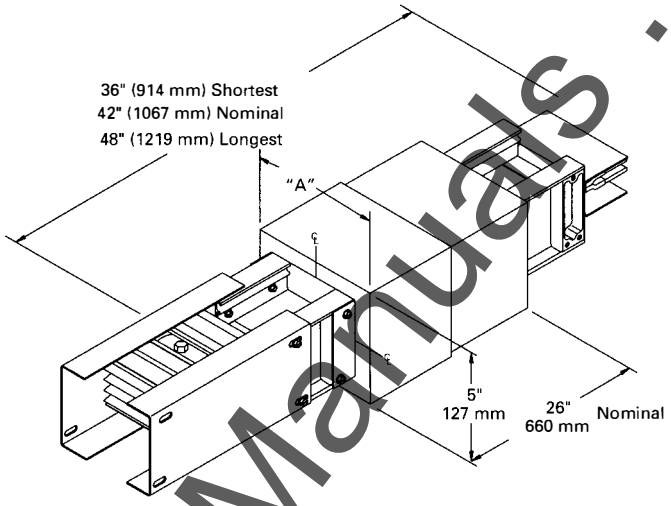
Note: Expansion fitting allows for ±2" (51 mm) expansion.

Adjustable Straight Length Fused Reducers

Adjustable Straight Length ±6 inch Adjustment

The adjustable straight length offers you the confidence that your busway layout will fit without relying on "missing link" programs that ship intentionally left out busway fittings that hold up job completion.

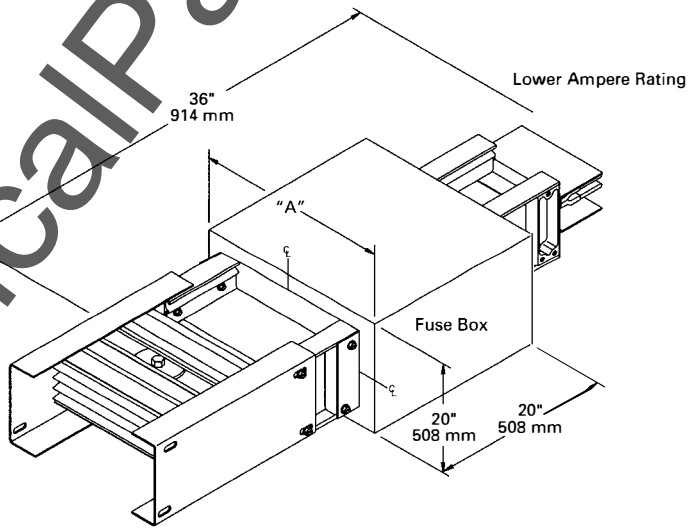
Ampere Rating	"A" Dimension	
	Aluminum	Copper
	Inches (mm)	Inches (mm)
225	6.9 (175)	6.9 (175)
400	6.9 (175)	6.9 (175)
600	6.9 (175)	6.9 (175)
800	7.5 (191)	6.9 (175)
1000	8.4 (213)	7.4 (188)
1200	9.5 (242)	8.0 (204)
1350	10.5 (267)	8.6 (219)
1600	11.6 (296)	9.6 (245)
2000	13.9 (353)	11.1 (283)
2500	16.3 (415)	13.6 (346)
3000	18.3 (465)	14.8 (376)
4000	22.8 (580)	17.8 (453)
5000		22.3 (567)



Reduced Ampacity of Busway

The National Electrical Code, Article 364-11, entitled; "Reduction in Ampacity Size of Busway", requires overcurrent protection where busways are reduced in ampacity. The exception is for industrial applications only. Omission of overcurrent protection shall be permitted at points where busways are reduced in ampacity, provided that the length of the busway having the smaller ampacity does not exceed 50 feet, and has an ampacity of at least 1/3 rating or setting of the overcurrent device next back on the line, and provided that such busway is free from contact with combustible material.

Sentron Busway is available with "Non-Fused" reducer busway fittings. You can order non-fused reducers through your local Siemens sales representative.

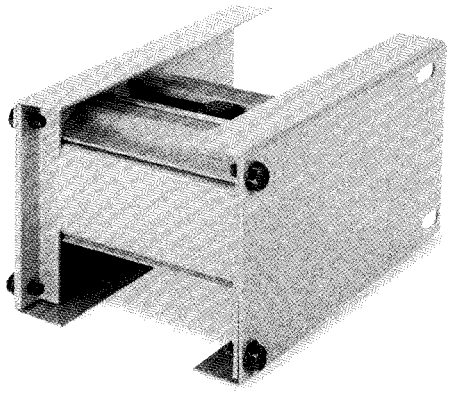


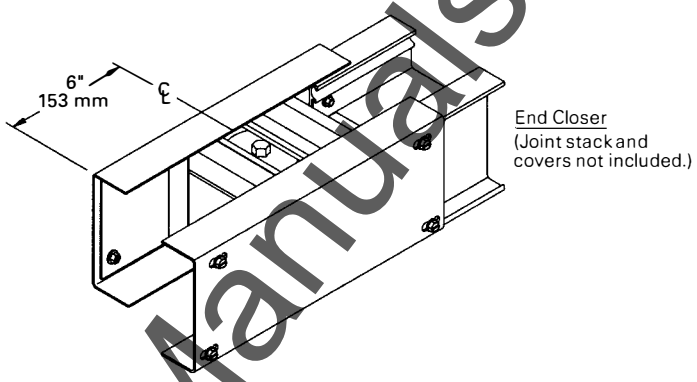
Fused Reducer

Ampere Rating	"A" Dimension	
	Aluminum	Copper
	Inches (mm)	Inches (mm)
1000	11.4 (289)	10.4 (264)
1200	12.5 (318)	11.0 (280)
1350	13.5 (343)	11.6 (296)
1600	14.6 (372)	12.6 (321)
2000	16.9 (429)	14.1 (359)
2500	19.3 (491)	16.6 (423)
3000	21.3 (542)	17.8 (453)
4000	25.8 (656)	20.8 (529)
5000		25.3 (643)

End Closers And Power Take-Off Adaptors

End Closer

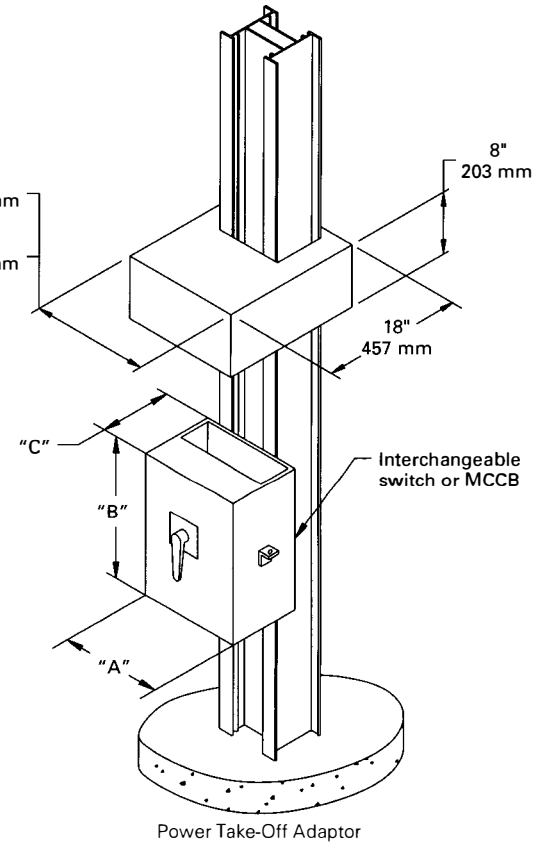




Power Takeoff Adaptor

Now there's an effective way to centrally monitor and control your entire electrical distribution system. The ACCESS™ system referenced in Siemens publication number SG3099 can be integrated with your power take-off fittings, giving you the intelligence you have always wanted in your system. Consult with your local sales office for details.

Description of Unit	Type of Unit	Dimensions A Inches (mm)	B Inches (mm)	C Inches (mm)
Fusible Switch	100–200A Visible Blade	15 (381)	36 (914)	13.0 (330)
	400–600A Visible Blade	24 (610)	44 (1118)	13.0 (330)
	800–1200A Vacu-Break	32 (813)	54 (1372)	13.0 (330)
Molded Case Circuit Breaker	(S)JD6 200–400A (S)LD6 250–600A	15 (381)	30 (762)	8.5 (216)
	(S)MD6 500–800A (S)ND6 900–1200A	15 (381)	40 (1016)	8.5 (216)
	(S)PD6 1200–1600A (S)RD6 1600–2000A	36 (914)	36 (914)	8.5 (216)



Power Take-Off Adaptor

Product Selection

Fire Rated Installations And In-Line Disconnect Cubicles

UL 1479 Fire Rated Installations

Sentron Busway has been tested in accordance with UL 1479 and offers a certified two hour fire rating for gypsum wallboard construction, and a three hour fire rating for concrete slab or block penetrations. These ratings were achieved using standard busway installed with SpecSeal® sealant from Specified Technologies Inc. The SpecSeal® fire stop system provides superior performance at the industry's lowest installed cost.

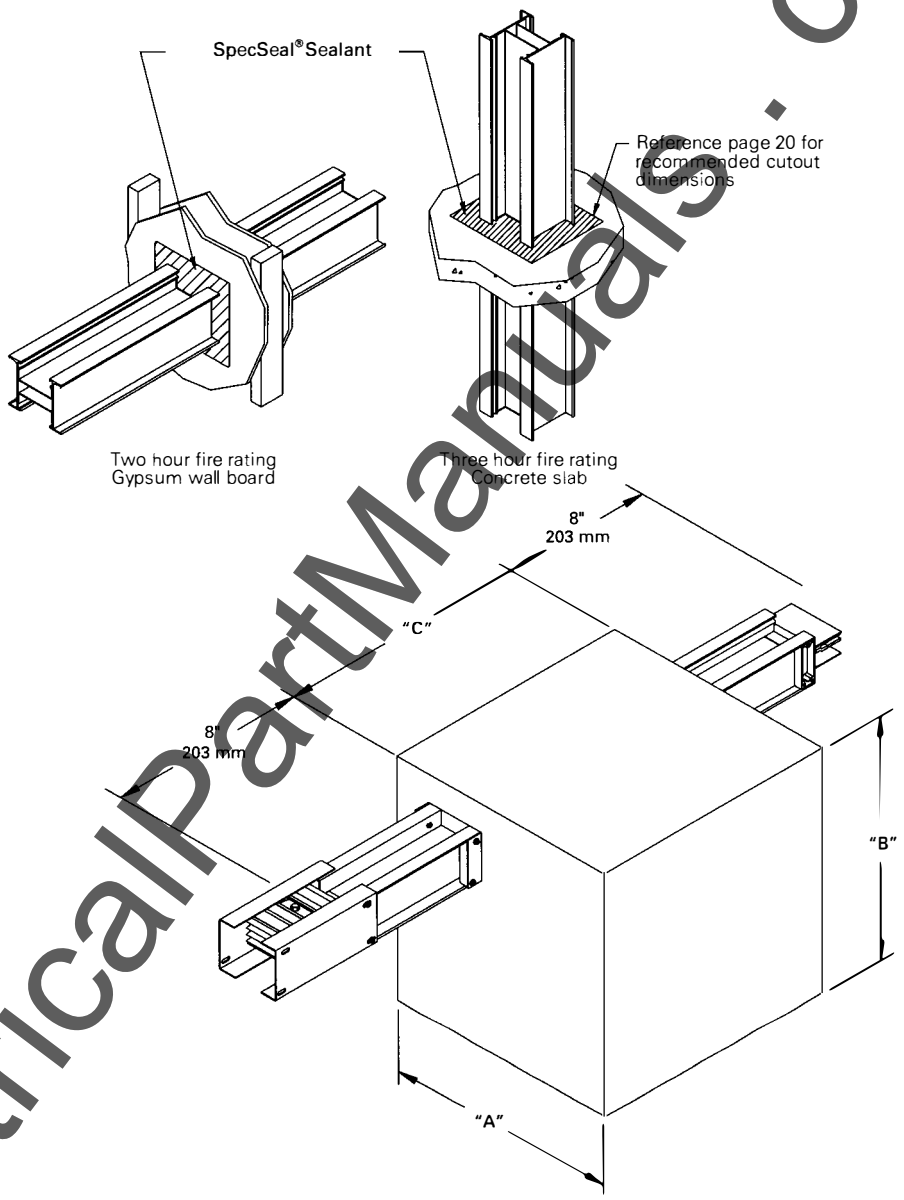
Sentron is the first busway system to achieve a fire rating for gypsum wallboard construction.

Refer to Firestop Material Installation Instructions publication number 5.9-5A for ordering and installation instructions.

In-Line Disconnect Cubicle

Cubicles provide a means of mounting switches or circuit breakers where power enters or leaves a busway system. Cubicles are used where bolted connections are preferred, instead of a plug-in unit, or at ampere ratings exceeding standard plug-in unit ratings. Cubicles can also be modified to accept kirk key interlocks, ground fault detectors, electrical operator devices and high technology intelligent systems such as the Siemens Access System. (Refer to Siemens publication number SG3099 for more information on Access System)

Note: Dimensions listed for cubicles are based on standard cubicle construction using largest ampere rating of busway connection to the cubicle. Should a smaller rating of busway be used (than assumed), Siemens reserves the right to decrease the cubicle size to optimize space requirements. Busway can enter the back, top, bottom or sides of the cubicle.



Description of Unit	Type of Unit	Dimensions A Inches (mm)	B Inches (mm)	C Inches (mm)
Fusible Switch	400–600A FK Visible Blade	36 (914)	28 (711)	28 (711)
	800–1200A Vacu-Break	36 (914)	36 (914)	32 (813)
Molded Case Circuit Breaker	JXD6, JD6, LD6, MD6, ND6	36 (914)	28 (711)	28 (711)
	PD6, RD6	36 (914)	36 (914)	32 (813)
Digital Sentron Series MCCB's	SJD6, SLD6, SMD6, SND6	36 (914)	28 (711)	28 (711)
	SPD6 1600A Frame	36 (914)	36 (914)	32 (813)
Power Circuit Breaker	RL800 (Stationary)	36 (914)	32 (813)	28 (711)
	RL800, RLF800 (Drawout)	48 (1219)	32 (813)	28 (711)
	RL1600, RL2000, RL3200, RL4000 (Stationary)	48 (1219)	36 (914)	32 (813)
	RL1600, RL2000, RLF1600 (Drawout)	48 (1219)	36 (914)	32 (813)
Bolted Pressure Switch	800A	33 (838)	36 (914)	32 (813)
	1200–2500A	37 (940)	40 (1016)	32 (813)
	3000A	37 (940)	40 (1016)	48 (1219)
	4000A	41 (1041)	40 (1016)	48 (1219)

Busway And Plug-In Unit Adaptors

Sentron to XL-X® Busway Adaptors

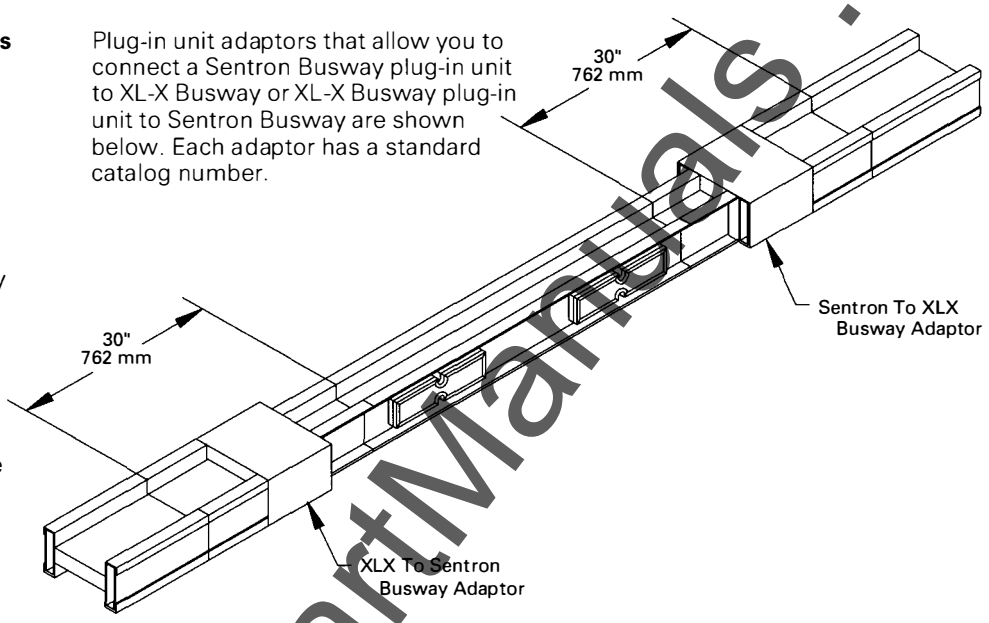
Sentron Busway offers a full line of busway and plug-in unit adaptors to allow total interchangability with existing XL-X® Busway installations.

Busway adaptors are 30″ long and require a full description or catalog number of the type XL-X Busway to which your order of Sentron Busway will connect.

For example:

Amp Rating	2000
Type	Plug-in
Housing Type	Indoor
Service	3 Phase, 4 Wire
Bus Bar	Copper
Catalog Number	R520CP

Plug-in unit adaptors that allow you to connect a Sentron Busway plug-in unit to XL-X Busway or XL-X Busway plug-in unit to Sentron Busway are shown below. Each adaptor has a standard catalog number.



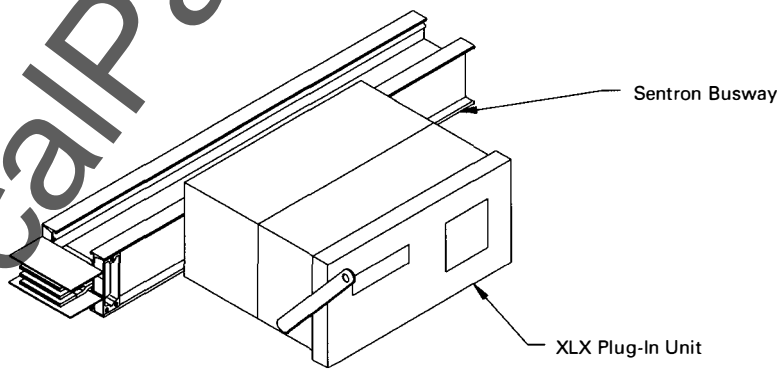
Plug-In Unit Adaptors
XL-X Plug-In Unit to Sentron Busway

Fusible Switch Plugs

Ampere Rating	Catalog Number
30	SXLXF6
60	
100	SXLXF10
200	SXLXF20

Circuit Breaker Plugs

Ampere Rating	Breaker Frame Size	Catalog Number
15-125	ED2, ED4, ED6	SXLXED
70-250	FD6, FXD6	SXLXFD
200-400	JXD2, JD6, JXD6	SXLXJD



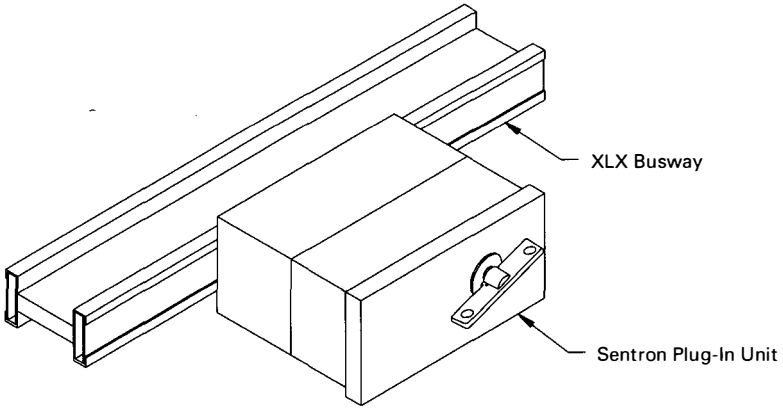
Plug-In Unit Adaptors
Sentron Plug-In Unit to XL-X Busway

Fusible Switch Plugs

Ampere Rating	Catalog Number
30	SXSBF6
60	
100	SXSBF10
200	SXSBF20

Circuit Breaker Plugs

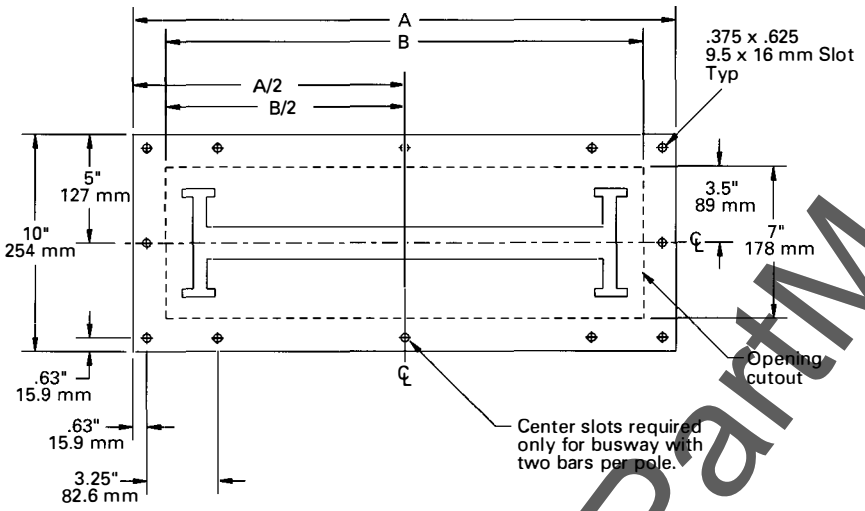
Ampere Rating	Breaker Frame Size	Catalog Number
15-125	ED2, ED4, ED6	SXSBED
70-250	FD6, FXD6	SXSBFD
200-400	JXD2, JD6, JXD6	SXSBJD



Wall Ceiling And Floor Flanges, Maintenance Plug And Tray

Wall, ceiling and floor flanges are designed to close off the area around the busway as it passes through a wall, ceiling or floor. The flange is not intended to provide an air tight seal around the busway. The installer will be responsible for any additional caulking or sealing to meet local codes.

Cutout Information And Dimensions



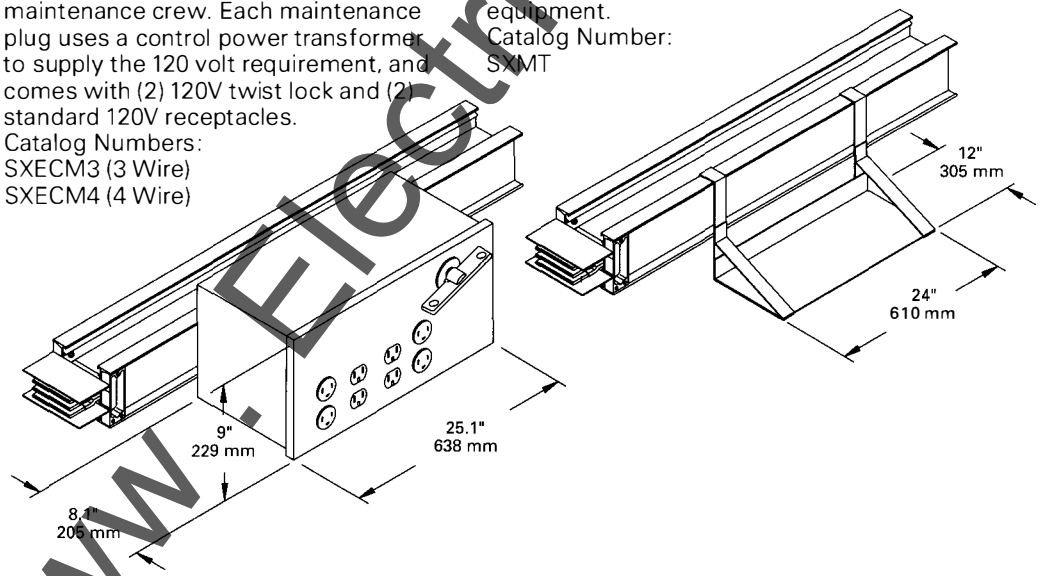
Ampere Rating	"A" Flange Inches (mm)	"B" Cutout Inches (mm)
Aluminum		
225	10 (254)	6 (152)
400	10 (254)	6 (152)
600	10 (254)	6 (152)
800	11 (279)	7 (178)
1000	12 (305)	8 (203)
1200	13 (330)	9 (229)
1350	14 (356)	10 (254)
1600	15 (381)	11 (279)
2000	17 (432)	13 (330)
2500	20 (508)	16 (406)
3000	22 (559)	18 (457)
4000	26 (660)	22 (559)
Copper		
225	10 (254)	6 (152)
400	10 (254)	6 (152)
600	10 (254)	6 (152)
800	10 (254)	6 (152)
1000	11 (279)	7 (178)
1200	12 (305)	8 (203)
1350	12 (305)	8 (203)
1600	13 (330)	9 (229)
2000	15 (381)	11 (279)
2500	17 (432)	13 (330)
3000	18 (457)	14 (356)
4000	21 (533)	17 (432)
5000	26 (660)	22 (559)

Maintenance Plug

The Sentron maintenance plug serves a dual purpose, providing power to installation crew and power to the maintenance crew. Each maintenance plug uses a control power transformer to supply the 120 volt requirement, and comes with (2) 120V twist lock and (2) standard 120V receptacles.
Catalog Numbers:
SXECM3 (3 Wire)
SXECM4 (4 Wire)

Adjustable Maintenance Tray

The Sentron maintenance tray has many uses. Use it for installing plug-in units or to hold your tools and equipment.
Catalog Number:
SXMT



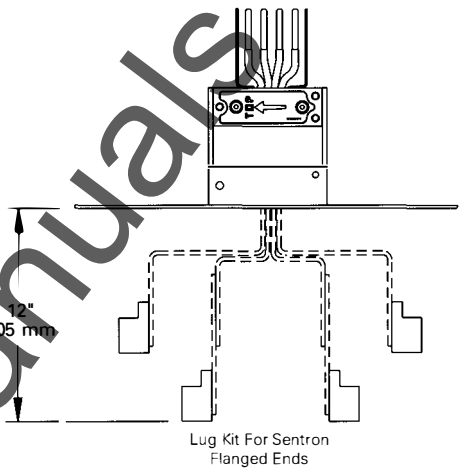
Accessories

Lug Kits And Isolation Joint Stacks

Lug Kit For Sentron Flanged Ends

Sentron Busway Lug Kits are used to provide a means to connect cable to Sentron Busway Flanged Ends. Sentron Busway Lug Kits are comprised of extension plates as required, proper quantity of mechanical wire terminals (per NEC), and mounting hardware.

Parts are shipped separately from the flanged end, but all assembly hardware is shipped in one package, complete with installation instructions.



Lug Kit For Sentron Flanged Ends

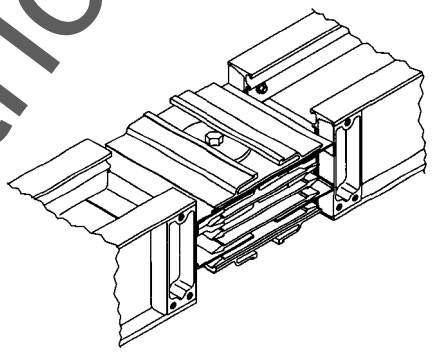
Ampere Rating	Aluminum	Copper	Cable Lugs Per Phase and Neutral		Ground Lugs ①
	Catalog Number	Catalog Number	Quantity	Size	
225	**SXLKA1**	**SXLKC1**	1	①	1
400	**SXLKA2**	**SXLKC2**	1	②	1
600	**SXLKA3**	**SXLKC3**	2	②	1
800	**SXLKA4**	**SXLKC4**	3	②	1
1000	**SXLKA5**	**SXLKC5**	4	②	1
1200	**SXLKA6**	**SXLKC6**	4	②	1
1350	**SXLKA7**	**SXLKC7**	4	②	1
1600	**SXLKA8**	**SXLKC8**	5	②	1
2000	**SXLKA9**	**SXLKC9**	6	②	1
2500	**SXLKA10**	**SXLKC10**	8	②	2
3000	**SXLKA11**	**SXLKC11**	9	②	2
4000	**SXLKA12**	**SXLKC12**	12	②	3
5000		**SXLKC13**	15	②	4

● #6 AWG – 350 MCM, Cu/Al
② #4 AWG – 600 MCM, Cu/Al

Isolation Joint Stack

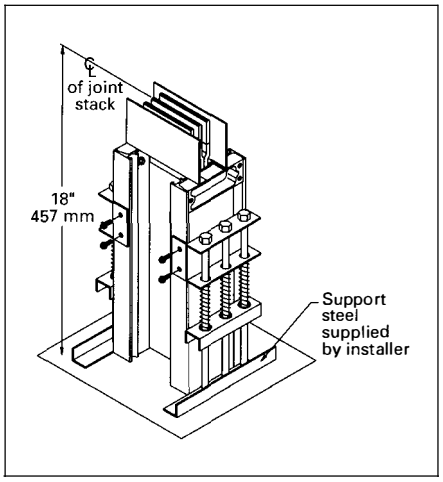
Isolation joint stacks are used to electrically isolate a busway section(s) within a busway run. Isolation joint stacks are constructed exactly the same as the standard joint stack, but utilize insulating connector plates.

For easy visual identification, isolation joint stack assemblies are powder painted with a brilliant yellow color.

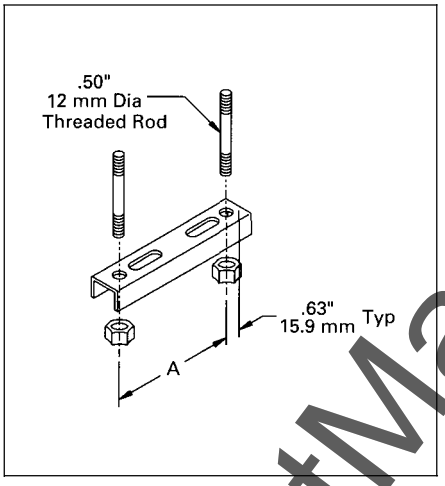


Standard Hangers

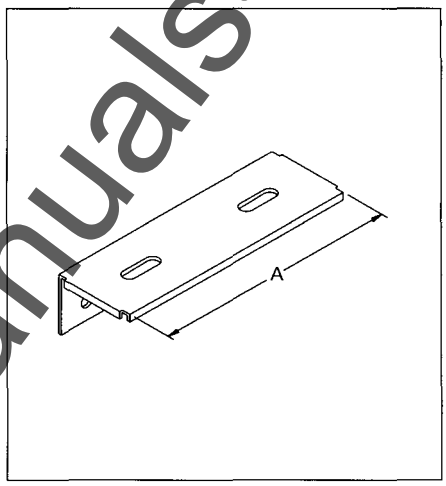
Spring Hanger



Trapeze Hanger



Structural Steel Hanger



Spring Hanger

Ampere Rating		Catalog Number
Aluminum	Copper	
225	225	SXSH1
400	400	
600	600	
800	800	
1000	1000	
1200	1200	
1350	—	
1600	—	
2000	—	
2500	1350	SXSH2
3000	1600	
4000	2000	
—	2500	
—	3000	SXSH3
—	4000	
—	5000	

Spring hangers provide secure mounting of Sentron Busway in riser applications. These hangers counter the weight of the busway on each floor throughout the riser and also compensate for minimal building movement and thermal expansion.

Trapeze Hanger

Ampere Rating		Catalog Number	"A" Dimension
Aluminum	Copper		Inches (mm)
225	225	SXTH1	10 (254)
400	400		
600	600		
800	800		
1000	1000		
1200	1200		
—	1350		
—	1600		
1350	2000	SXTH2	14 (356)
1600	2500		
2000	—		
2500	3000	SXTH3	18.5 (470)
3000	4000		
4000	5000	SXTH4	23 (584)

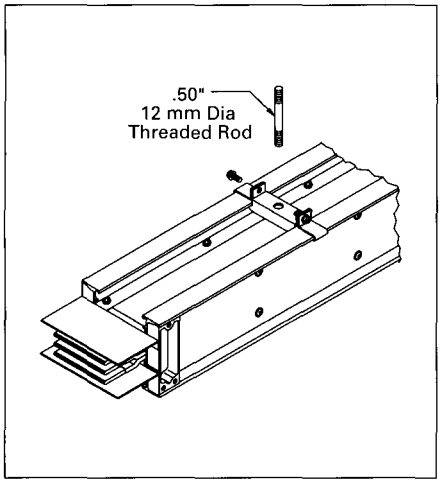
For edgewise busway runs, use Catalog Number SXTH1.

Structural Steel Hanger

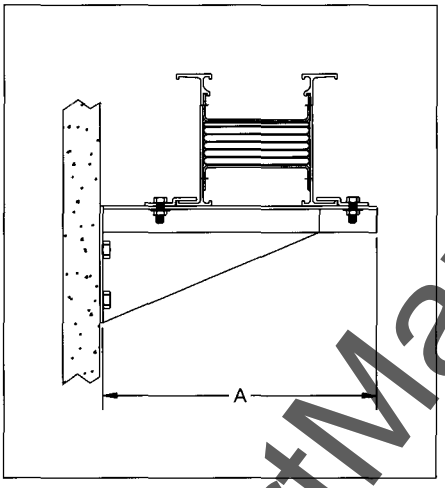
Ampere Rating		Catalog Number	"A" Dimension
Aluminum	Copper		Inches (mm)
225	225	SXSS1	10 (254)
400	400		
600	600		
800	800		
1000	1000		
1200	1200		
—	1350		
—	1600		
1350	2000	SXSS2	14 (356)
1600	2500		
2000	—		
2500	3000	SXSS3	18.5 (470)
3000	4000		
4000	5000	SXSS4	23 (584)

For edgewise busway runs, use Catalog Number SXSS1.

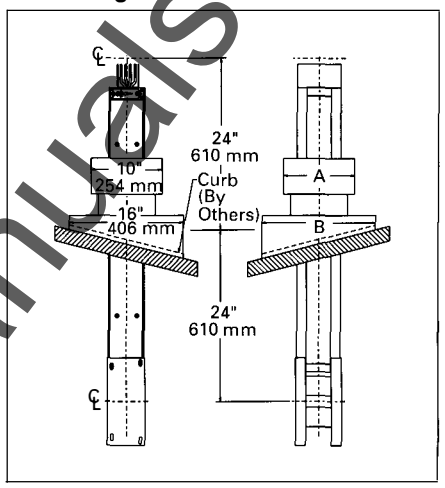
Single Drop Rod Hanger



Wall Mounted Hanger



Roof Flange



Single Drop Rod Hanger

Ampere Rating	Catalog Number
Aluminum	
225	**SXDRA1**
400	
600	
800	**SXDRA2**
1000	**SXDRA3**
1200	**SXDRA4**
1350	**SXDRA5**
1600	**SXDRA6**
2000	**SXDRA7**
Copper	
225	**SXDRC1**
400	
600	
800	
1000	**SXDRC2**
1200	**SXDRC3**
1350	**SXDRC4**
1600	**SXDRC5**
2000	**SXDRC6**
2500	**SXDRC7**

Wall Mounted Hanger

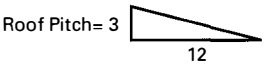
Ampere Rating		Catalog Number	"A" Dimension
Aluminum	Copper		Inches (mm)
225	225	**SXWH1**	10 (254)
400	400		
600	600		
800	800		
1000	1000		
1200	1200		
—	1350		
—	1600		
1350	2000	**SXWH2**	14 (356)
1600	2500		
2000	—		
2500	3000	**SXWH3**	18.5 (470)
3000	4000		
4000	5000	**SXWH4**	23 (584)

For edgewise busway runs, use Catalog Number SXWH1.

Roof Flange

Ampere Rating		"A" Dimensions	"B" Dimension
Aluminum	Copper	Inches (mm)	Inches (mm)
225	225	12 (305)	18 (457)
400	400		
600	600		
800	800		
1000	1000		
1200	1200		
—	1350		
—	1600		
1350	2000	16 (406)	22 (559)
1600	2500		
2000	—		
2500	3000	20.5 (521)	26.5 (673)
3000	4000		
4000	5000	25 (635)	31 (787)

Roof flanges provide a watertight seal when IP65/66 (outdoor) rated busway enters through a roof. For pitched roofs, the pitch or angle of the roof must be given and also shown on the contractor drawings.



Accessories

Plug-In Units

Standard/Extended Gutter (No additional cost)

Sentron Busway plug-in units provide contractors with the lowest installed costs in the industry!

Sentron Busway plug-in units are designed with both standard wire bending space and extended wire bending space. There's no difference in price and that's a major plus when it comes to installation cost!

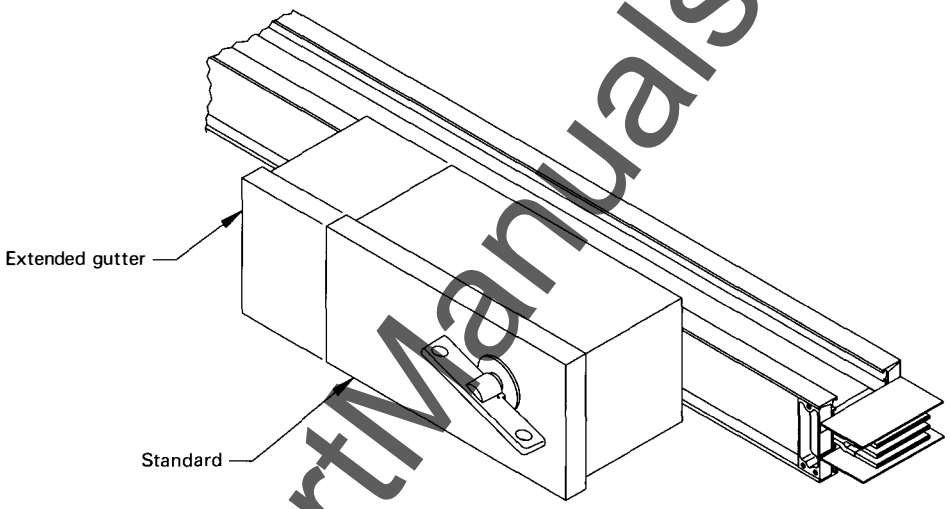
A built-in safety interlock system prevents the insertion or removal of a busway plug in the "On" position, and the "On-Off" indication is also provided with international symbols for easy recognition.

Sentron Busway plug-in units are available with Siemens Sentron molded case circuit breakers and Siemens type visible blade fusible switch with built-in fuse pullers. The front cover handle can be operated by either a hook stick or rope and comes with provisions for padlocking in the "Off" position.

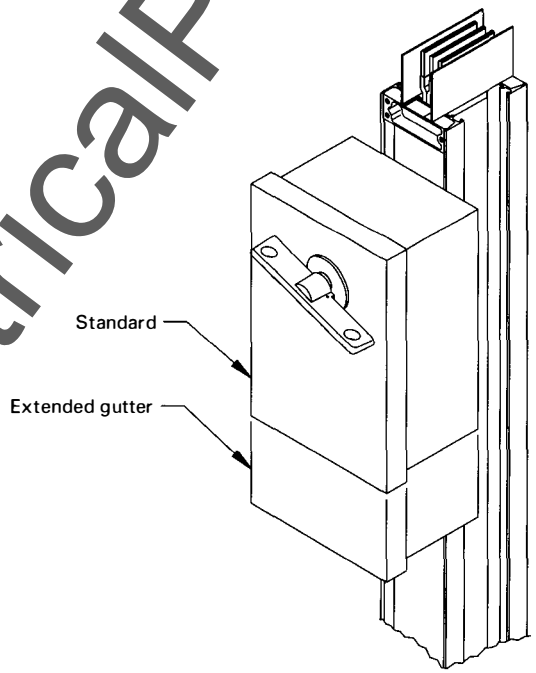
Sentron Busway offers the industry's first true line of IP rated plug-in units. The handles, in addition to the enclosures are water resistant and meet worldwide water resistance standards. Third party certification can be supplied upon request.

The handles on plug-in units are field adaptable to rotate on 90 degree increments to assure that handle actuation and plug indication read right side up all the time regardless of the busway orientation.

Plug-In Units Horizontal Mounting



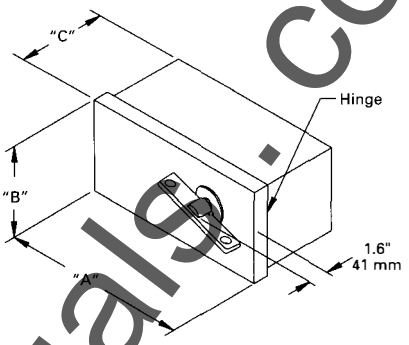
Plug-In Units Vertical Mounting



See page 25 for height, width and depth of standard Sentron busway plugs.

Accessories

Bus Plug Technical And Dimensional Information And Catalog Numbers



Installing plug-in units on plug-in busway is simple with the captive hardware provided. Everything the installer needs is attached to the busway plug-in unit.

Sentron plug-in units come with the following features:

- A voidable cover interlock that prevents opening the cover when the device inside is in the "On" position.
- A plastic molded (steel-reinforced) front cover handle assembly for ease of use and clear visual indication of the position of the switching device.
- Color codes and international "On" and "Off", indication around the handle.
- Third party witnessed IP ratings on the plug-in units.
- Provisions for padlocking and hook stick operation.
- A safety provision that will prevent the insertion or removal of a plug-in unit when turned to the "On" position.
- Positive alignment that assures correct installation of the plug-in unit.
- 90 degree rotation of the front cover handle to assure the handle is always right side up, regardless of orientation of the busway.

Extended wire bending space dimensions are shown in the dark shaded areas of the tables below.

Fusible Bus Plugs – 250V

Ampere Rating	Catalog Number ①		HP Rating		Dimensions A		B	C
	3 Phase, 3 Wire	3 Phase, 4 Wire	1 Phase	3 Phase	Standard Inches (mm)	Extended Inches (mm)	Inches (mm)	Inches (mm)
30	**SXID321**	**SXID421**	3	7.5	14.9 (379)	16.4 (417)	13.6 (345)	7.4 (188)
60	**SXID322**	**SXID422**	10	15	14.9 (379)	16.4 (417)	13.6 (345)	7.4 (188)
100	**SXID323**	**SXID423**	15	30	19.9 (506)	22.5 (571)	14.4 (366)	7.4 (189)
200	**SXID324**	**SXID424**	30	60	22.5 (571)	28.5 (723)	17.8 (451)	7.5 (190)
400	**SXID325**	**SXID425**	50	125	31.0 (787)	39.0 (991)	22.5 (571)	11.0 (279)
600	**SXID326**	**SXID426**	75	200	36.0 (914)	39.0 (991)	25.5 (647)	11.0 (279)

Fusible Bus Plugs – 600V

Ampere Rating	Catalog Number ①		HP Rating		Dimensions A		B	C
	3 Phase, 3 Wire	3 Phase, 4 Wire	1 Phase	3 Phase	Standard Inches (mm)	Extended Inches (mm)	Inches (mm)	Inches (mm)
30	**SXID361**	**SXID461**	10	20	14.9 (379)	16.4 (417)	13.6 (345)	7.4 (188)
60	**SXID362**	**SXID462**	25	50	14.9 (379)	16.4 (417)	13.6 (345)	7.4 (188)
100	**SXID363**	**SXID463**	40	75	19.9 (506)	22.5 (571)	14.4 (366)	7.4 (189)
200	**SXID364**	**SXID464**	50	150	22.5 (571)	28.5 (723)	17.8 (451)	7.5 (190)
400	**SXID365**	**SXID465**	125	350	31.0 (787)	39.0 (991)	22.5 (571)	11.0 (279)
600	**SXID366**	**SXID466**	200	500	36.0 (914)	39.0 (991)	25.5 (647)	11.0 (279)

Circuit Breaker Bus Plugs – Enclosure Only

Ampere Rating	Breaker Frame Size	Catalog Number ①		Dimensions A		B	C
		3 Phase, 3 Wire	3 Phase, 4 Wire	Standard Inches (mm)	Extended Inches (mm)	Inches (mm)	Inches (mm)
15 – 125	ED2, ED4, ED6	**SXEC3125**	**SXEC4125**	12.6 (319)	15.3 (389)	9.0 (228)	8.1 (205)
70 – 250	FD6, FXD6	**SXFC3250**	**SXFC4250**	15.3 (387)	24.3 (616)	11.3 (288)	8.4 (214)
200 – 400	JXD2, JD6, JXD6	**SXJC3400**	**SXJC4400**	19.7 (501)	27.7 (705)	16.8 (425)	8.9 (226)
250 – 600	LD6, LXD6	**SXLC3600**	**SXLC4600**	36.0 (914)	— (—)	16.8 (425)	11.0 (279)
500 – 800	MD6, MXD6	**SXMC3800**	**SXMC4800**	36.0 (914)	— (—)	19.0 (482)	11.0 (279)
30 ②	ED6	**SXECM3**	**SXECM4**	25.1 (638)	— (—)	9.0 (228)	8.1 (205)

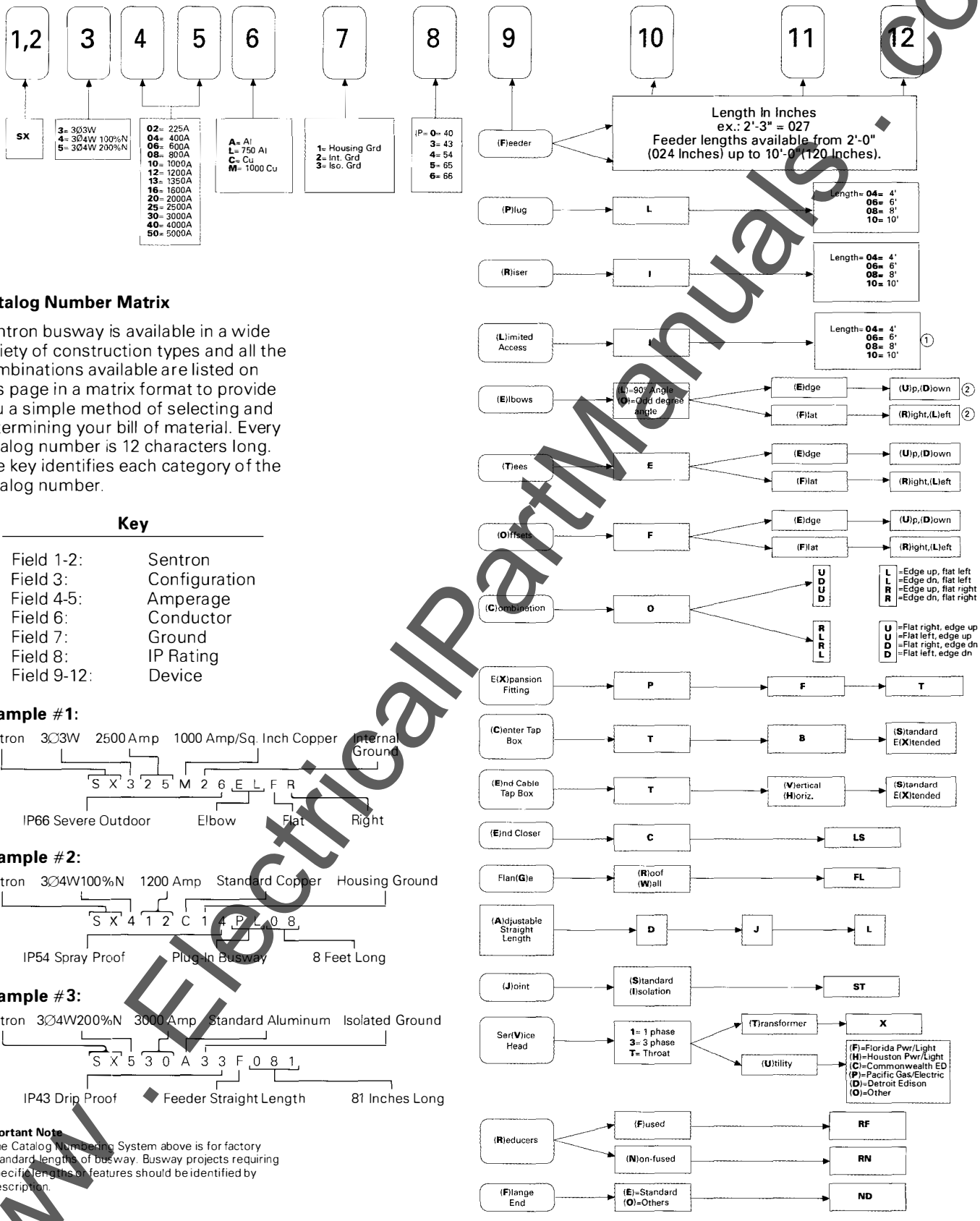
① Standard length IP 40 (Indoor) rated enclosure with integral ground. For alternative ground, IP ratings or extended gutter, add suffix:

Suffix	Enclosure
G	Internal Ground
IG	Isolated Ground
3	IP 43 – Drip Proof
4	IP 54 – Spray Proof
E	Extended Gutter

Example: 100A, 600V, 3 Phase, 4 Wire Fusible Switch Plug – Isolated Ground, IP 43 (Drip Proof) enclosure w/extended gutter:
Catalog Number SXID463IG3E

② Maintenance Plug – breaker installed

Catalog Numbering System



Catalog Number Matrix

Sentron busway is available in a wide variety of construction types and all the combinations available are listed on this page in a matrix format to provide you a simple method of selecting and determining your bill of material. Every catalog number is 12 characters long. The key identifies each category of the catalog number.

Key

Field 1-2:	Sentron
Field 3:	Configuration
Field 4-5:	Amperage
Field 6:	Conductor
Field 7:	Ground
Field 8:	IP Rating
Field 9-12:	Device

Example #1:

Example #2:

Example #3:

Important Note
The Catalog Numbering System above is for factory standard lengths of busway. Busway projects requiring specific lengths or features should be identified by description.

● Refer to page 27 to complete Limited Access catalog number.
② For odd degree angle (other than 90°) specify the degree angle of the turn.

Limited Access Plug-In Busway

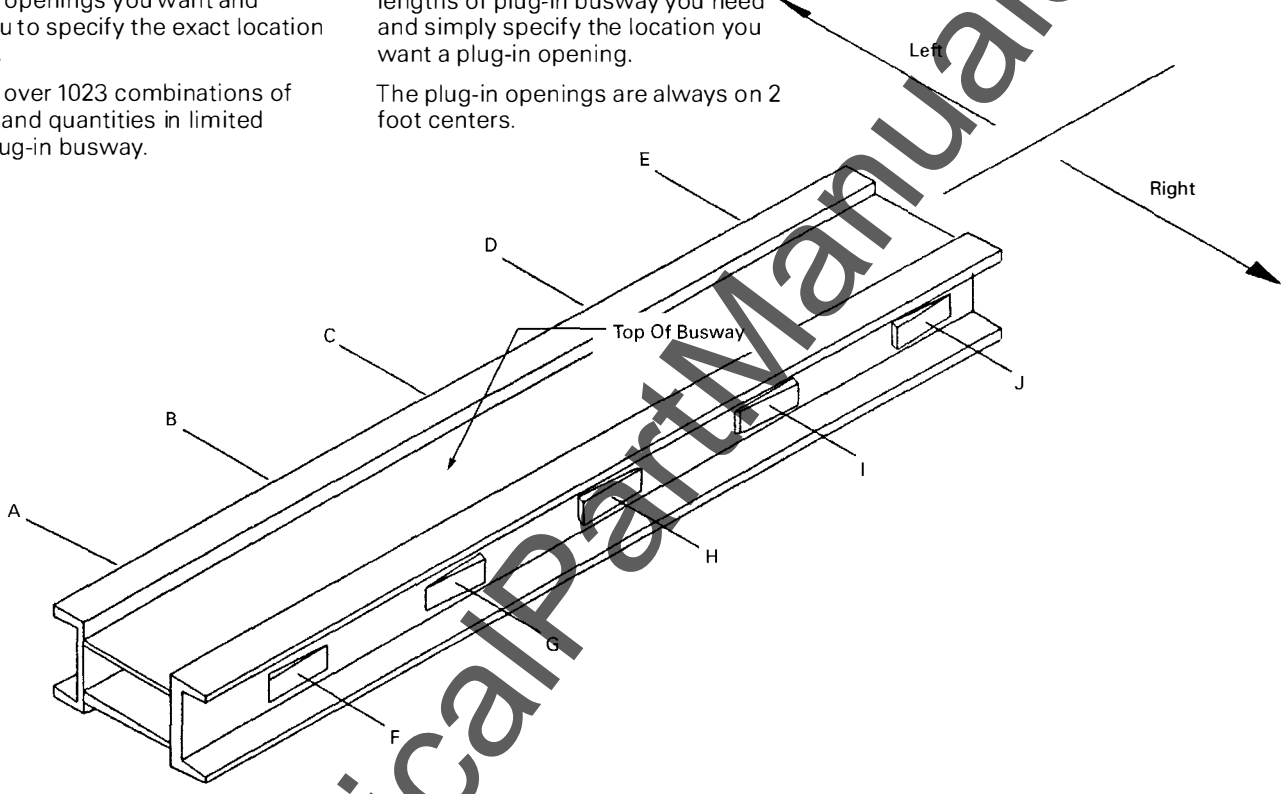
Technical And Ordering Information

Limited access plug-in busway is the industry's first plug-in busway of it's kind! It allows you to limit the number of plug-in openings you want and allows you to specify the exact location you need.

There are over 1023 combinations of locations and quantities in limited access plug-in busway.

To specify the quantity and locations you require, look at the various diagrams to the right for the different lengths of plug-in busway you need and simply specify the location you want a plug-in opening.

The plug-in openings are always on 2 foot centers.

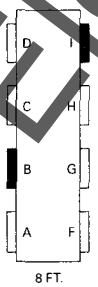


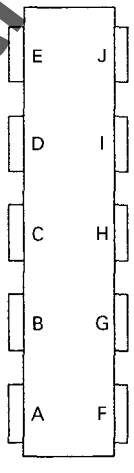
When ordering limited access plug-in busway, specify the required locations with respect to the top of the busway and provide this information to your local Siemens sales representative.

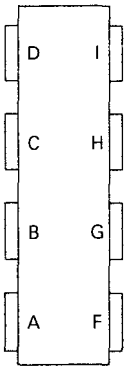
Example:

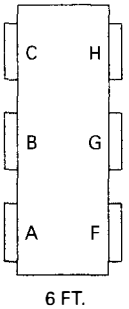
S X 4 1 2 C 1 4 L I 0 8

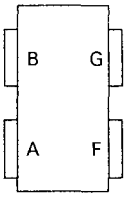
Positions: B, I











Catalog Numbering

Series Rated Combinations

Sentron Series Current-Limiting Circuit Breakers. Superior Protection Against High Prospective Fault Currents — Without Fuses.

A full range of Sentron Series current-limiting circuit breakers are available from 15 to 2000 amperes. Because of soaring energy demands and substantial increases in fault currents, Sentron Series current-limiting circuit breakers are often used in bus plugs for systemwide protection up to 200,000A IR. With Sentron circuit breakers, peak current and energy let-through are significantly reduced — allowing more design flexibility and less stress on system components.

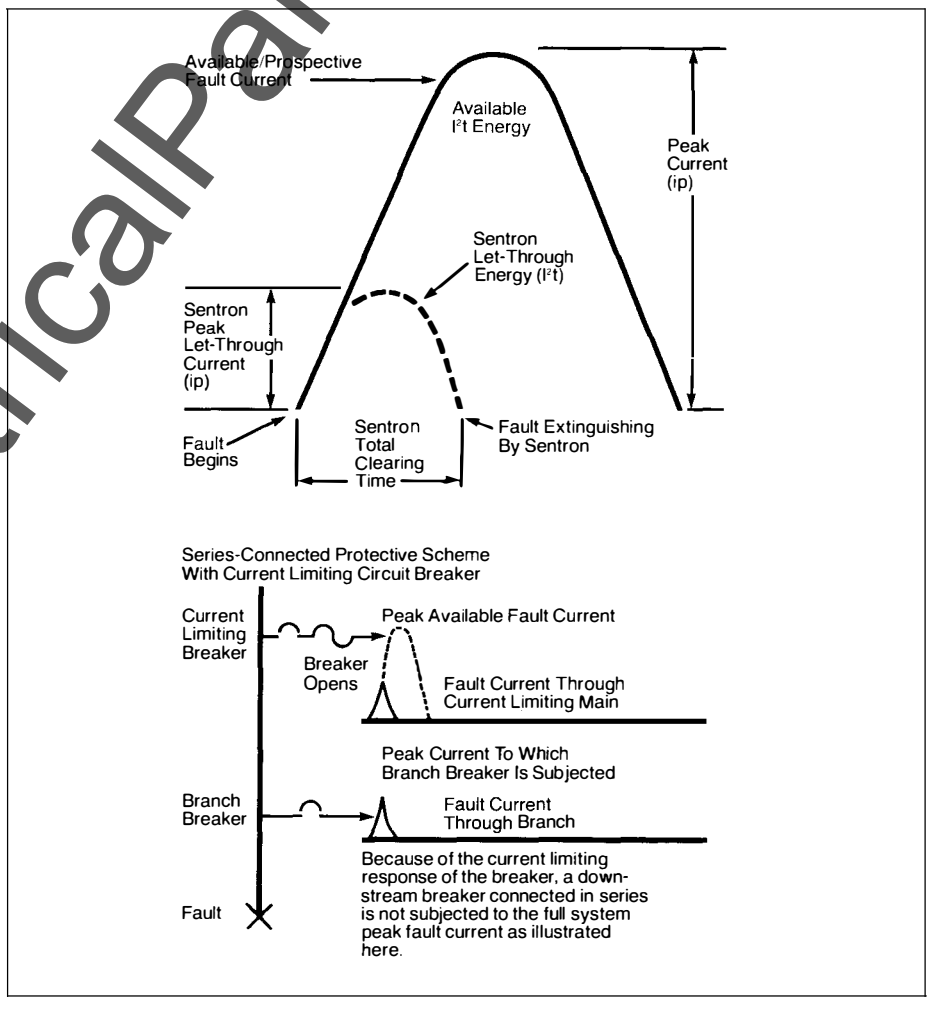
The concept behind using fuseless, current-limiting circuit breakers, like Sentron Series, as a component in a series-connected system is two-fold:

- higher interrupting ratings, and
- increased control over peak current (ip) and energy let-through (I^2t).

A series-connected system is a combination of components, typically circuit breakers, of which some of the downstream breakers may have lower interrupting ratings than system available prospective fault current.

Series Rated Connected Combinations

Voltage AC	Short Circuit Rating	Circuit Breaker Bus Plugs		Approved Downstream Branch Breakers	
		Ampere Rating	Type	Ampere Rating	Type
240	200,000A	15-125	CED6	15-125	QP, BQ, BL, ED4, ED6, HED4, HED6
				15-30	(1-pole) QPF, BQF, BLF
				15-60	(2-pole) QPF, BLF
		70-250	CFD6	15-100	QP, BQ, BL, QPH, BQH, BLH, HQP, HBQ, HBL, ED2
				15-125	ED4, ED6, HED4, HED6
				60-225	QJ2, QJH2, QJ2H
				70-250	FXD6, FD6, HFXD6, HFD6
		200-400	CJD6	100	QPH, BQH, BLH, HQP, HBQ, HBL
				15-125	ED4, ED6
				70-250	FXD6, FD6, HFXD6, HFD6
				200-400	JXD2, JXD6, JD6, HJXD6, HJD6
480	200,000A	15-125	CED6	15-125	ED4, ED6, HED4, HED6
		70-250	CFD6	15-125	ED4, ED6, HED4, HED6
				70-250	FXD6, FD6, HFXD6, HFD6
	150,000A	200-400	CJD6	70-250	HFXD6, HFD6
				200-400	JXD6, JD6, HJXD6, HJD6



Energy Optimization

Sentron busway is the worldwide choice for energy optimization. Features include extremely low reactance due to non-magnetic housing and total intimate contact of bus bars and housing. Voltage drop values are the same for both feeder and plug-in busway. Unlike competitive busway, voltage drop values are the same for indoor, outdoor, and all IP rated busway.

Plus, Sentron Busway is the first busway in the industry supported with utility company rebate programs. Consult your local Siemens sales office for details and availability.

Rated Load	Bus Bar Width x ¼" (6.4 mm) Thick	Ohms x 10^{-3} per 100 Ft. Line-to-Neutral			Voltage Drop – Concentrated Loads Line-to-Line per 100 Ft. at 100% Rated Load, 25°C Ambient							
					Power Factor							
Amps	Inches (mm)	R	X	Z	.3	.4	.5	.6	.7	.8	.9	1.0
Aluminum												
225	1.75 (44.5)	3.91	1.19	4.09	0.90	1.03	1.16	1.28	1.40	1.50	1.57	1.52
400	1.75 (44.5)	4.05	1.19	4.22	1.63	1.88	2.11	2.34	2.55	2.74	2.88	2.81
600	1.75 (44.5)	4.25	1.19	4.41	2.50	2.90	3.28	3.64	3.97	4.27	4.51	4.42
800	2.38 (60.5)	3.10	0.96	3.24	2.56	2.93	3.30	3.64	3.95	4.23	4.44	4.30
1000	3.25 (82.6)	2.25	0.71	2.36	2.34	2.68	3.01	3.32	3.60	3.85	4.04	3.90
1200	4.38 (111.3)	1.70	0.53	1.78	2.12	2.43	2.73	3.01	3.27	3.49	3.66	3.53
1350	5.38 (136.7)	1.38	0.44	1.45	1.95	2.23	2.50	2.76	2.99	3.20	3.35	3.23
1600	6.50 (165.1)	1.14	0.36	1.20	1.90	2.18	2.44	2.69	2.92	3.13	3.28	3.16
2000	8.75 (222.3)	0.84	0.27	0.88	1.78	2.03	2.27	2.50	2.71	2.90	3.03	2.91
2500	(2) 5.50 (139.7)	0.69	0.21	0.72	1.77	2.04	2.29	2.53	2.75	2.94	3.09	2.99
3000	(2) 6.50 (165.1)	0.57	0.19	0.60	1.81	2.07	2.32	2.55	2.76	2.95	3.09	2.96
4000	(2) 8.75 (222.3)	0.42	0.13	0.44	1.75	2.00	2.25	2.48	2.69	2.88	3.02	2.91
Copper												
225	1.75 (44.5)	2.19	1.19	2.49	0.70	0.76	0.83	0.88	0.93	0.96	0.97	0.85
400	1.75 (44.5)	2.22	1.19	2.52	1.25	1.37	1.48	1.58	1.66	1.72	1.74	1.54
600	1.75 (44.5)	2.33	1.19	2.61	1.90	2.10	2.28	2.44	2.57	2.68	2.72	2.42
800	1.75 (44.5)	2.47	1.19	2.74	2.59	2.87	3.13	3.37	3.57	3.72	3.80	3.42
1000	2.25 (57.2)	1.89	0.98	2.13	2.60	2.87	3.11	3.32	3.50	3.64	3.69	3.27
1200	2.88 (73.2)	1.51	0.79	1.70	2.51	2.76	2.99	3.19	3.37	3.49	3.54	3.14
1350	3.50 (88.9)	1.17	0.66	1.34	2.28	2.50	2.69	2.87	3.01	3.11	3.13	2.74
1600	4.50 (114.3)	0.89	0.52	1.03	2.11	2.30	2.48	2.63	2.75	2.84	2.85	2.47
2000	6.00 (152.4)	0.69	0.39	0.79	2.01	2.20	2.37	2.52	2.64	2.73	2.74	2.39
2500	8.50 (215.9)	0.46	0.28	0.54	1.76	1.91	2.05	2.17	2.26	2.32	2.32	1.99
3000	(2) 4.75 (120.7)	0.43	0.25	0.50	1.91	2.09	2.24	2.38	2.49	2.57	2.58	2.23
4000	(2) 6.25 (158.8)	0.34	0.19	0.39	1.98	2.17	2.34	2.48	2.60	2.69	2.70	2.36
5000	(2) 8.50 (215.9)	0.23	0.14	0.27	1.72	1.88	2.01	2.14	2.23	2.30	2.31	1.99

Notes:

1. For plug-in distributed loads, divide voltage drop values by 2.
2. To determine voltage drop line-to-neutral, multiply line-to-line values by .866.
3. Actual voltage drop for different lengths and at loadings less than full rated current can be calculated using the formula:

$$V_d(\text{actual}) = V_d(\text{table}) \times \frac{\text{actual load}}{\text{rated load}} \times \frac{\text{actual length (ft)}}{100 \text{ feet}}$$

4. For 50 Hz, multiply reactance (X) by 0.85 and resistance values do not change. For 400 Hz, multiply reactance by 3.75 and multiply resistance by 1.4. Calculate new voltage drop: V_d = amps load x $\sqrt{3}$(R cos θ + X sin θ) per 100 ft., where cos θ = Power Factor.

SIEMENS

Sentron™ Busway Systems

Selection and Application Guide

Bulletin 5.9-2A

Sentron Busway
Typical Specifications

Typical Specification that will assure that you will get the absolute best busway available.

Electrical contractor shall furnish and install a complete systems of interconnected ( ) Feeder, ( ) Plug-in, ( ) Limited Access or ( ) Riser busway runs of the ratings shown on the plans. Busway shall be designed for use on a ____Ø ____ wire ____ volt system. All work shall be in accordance with local and NEC regulations. Busway sections and plugs shall bear the Underwriters' Laboratories label, proving compliance to UL Standard 857. Any requirement for compliance to IEC standards shall be accompanied by third party certification of compliance and shall represent and include both busway and associated plug-in units. All customer accessible hardware is to be dual rated metric/SAE. The busway shall be Siemens Sentron Busway.

Housing

Busway shall consist of factory assembled sections which are rigid in construction and symmetrical in appearance. Section ends shall be identical. Splice plates shall be furnished at each joint to connect adjacent sections mechanically. Splice plates and busway construction shall form a combined structure sufficiently rigid to be supported on 10 foot centers. Joint integrity shall not be compromised by deforming the busway casing. Busway casing shall have no ventilating openings. Horizontal or vertical hangers shall be provided as required. Feeder, Riser, Limited Access and Plug-in sections shall be interchangeable. Plug-in outlets shall be located every 24 inches and on both sides along the entire length of Plug-in busway. Plug-in outlets shall be located on one side every 24 inches along the entire length of Riser Busway. Plug-in outlets shall be provided at specified locations (on 24 inch centers) on Limited Access busway. This spacing shall be maintained across joints. Each plug-in door shall have provisions for locking and for a utility seal. Plug-in outlets shall meet IEC IP-4X requirements with their doors closed. Plug-in outlets, with their doors opened shall meet IEC IP-2X standards for touch safe construction.

The housing shall be of extruded aluminum painted with polyester urethane powder paint to provide protection against corrosion. All hardware shall be either plated, anodized and/or painted to prevent corrosion.

The busway shall be certified for ( ) IP 40 Indoor, ( ) IP 43 Drip proof, ( ) IP 54 Spray-proof, ( ) IP 65 Outdoor or ( ) IP 66 Severe Outdoor. The maximum operating temperature shall not exceed 55°C rise over a 40°C ambient temperature in any position at its rated ampacity and IP level of protection.

Joints

Electrical joints shall be accomplished through a single bolt joint stack. A two-headed joint bolt shall be utilized to provide a one-time torque indication on installation. The joint bolt shall provide an easily detected visual indication (from a distance of 25 feet) that the bolt has been tightened to the specified torque. Inspection covers shall be provided to permit periodic joint examination without disturbing joint pressure or reducing the busway's ability to be supported on 10 foot centers. It shall be possible to test joint bolt tightness without resorting to insulated wrenches. Joint design shall permit the addition of tap-off devices at the joint without replacing a section of busway. It shall be possible to remove a section of busway from the right side, left side, front or rear without disturbing adjacent sections. Belleville washers shall be used at the joint to uniformly distribute pressure. The joint design shall allow for a minimum adjustment of ±.625 inches in length to allow for installation variations.

Bus Bars

Bus bars shall be fabricated from electrical grade ( ) aluminum ( ) copper, tin-plated along the entire length and shall be capable of withstanding the stress of a ( ) symmetrical ampere fault for a 3 cycle duration. Bus bars shall be insulated with 130°C (NEMA Class B) Mylar* insulation except at joints and plug-in points. Bus spacing shall be held to a minimum to reduce reactance. Provisions shall be included in each section to accommodate the differential expansion between adjacent bars, or between bars and casing. Plug-in busway shall be designed so that each plug-in outlet will compensate for normal busway expansion. The aluminum housing shall serve as a circuit ground conductor.

Optional — A 200% rated neutral shall be provided entirely contained within the busway housing.
Optional — A 50% rated ground conductor shall be provided inside the housing and shall be contacted by a finger on the bus plug.
Optional — An isolated ground conductor shall be provided entirely contained within the busway housing.

Bus Plugs

Bus plugs shall be of the ( ) circuit breaker or ( ) fusible type of the sizes and ratings shown on the plans. Plugs shall be designed so that grounding connections are engaged before phase connections when installing a plug. Plugs shall be designed so that all accessories required to attach the plug to the busway are captive. Plugs shall be of the safety type, so interlocked with the busway housing that they cannot be added or removed unless the switching mechanism is "OFF". The operating handle shall be padlockable "OFF". A voidable cover interlock shall be furnished. Plugs shall be equipped with a red/green indicator which is visible from a distance of 25 feet to indicate the "ON" or "OFF" position of the switching mechanism. The "ON" and "OFF" indication shall also utilize the international symbols for identifying "ON" (I) and "OFF" (O). Fusible plugs shall be visible blade and shall have provisions for class J fuses. They shall meet automotive industry I^2t standards and shall be suitable for use on a circuit having an available fault level of 100,000A. Busway plug-in units shall have the same IEC IP protection rating as specified for the busway.

Fire Rating

The busway system shall be UL listed to meet 2 hour fire ratings for gypsum wallboard construction and 3 hour fire ratings for poured concrete or concrete block construction.

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Bulletin 5.9-2A (New) 12.5M1193SP
Printed in U.S.A.