

Busway Systems

National Electric Code

Technical

I. General Requirements

368.1 Scope. This article covers service-entrance, feeder and branch-circuit busways and associated fittings.

368.2 Definition.

Busway. A grounded metal enclosure containing factory-mounted, bare or insulated conductors, which are usually copper or aluminum bars, rods or tubes.

FPN: For cables, refer to article 370.

II. Installation

368.10 Uses Permitted. Busways shall be permitted to be installed where they are located in accordance with 368.10(A) through (C).

(A) Exposed. Busways shall be permitted to be located in the open where visible, except as permitted in 368.10 (C).

(B) Concealed. Busways shall be permitted to be installed behind access panels, provided the busways are totally enclosed, of non-ventilating-type construction and installed so that the joints between sections and at fittings are accessible for maintenance purposes. Where installed behind access panels, means of access shall be provided and either of the following conditions shall be met:

(1) The space behind the access panels shall not be used for air-handling purposes.

(2) Where the space behind the access panels is used for environmental air, other than ducts and plenums, there shall be no provisions for plug-in connections and the conductors shall be insulated.

(C) Through walls and Floors.

Busways shall be permitted to be installed through walls and floors in accordance with (C)(1) and (C)(2).

(1) **Walls.** Unbroken lengths of busway shall be permitted to be extended through dry walls.

(2) **Floors.** Floor penetrations shall comply with (a) and (b).

(a) Busways shall be permitted to be extended vertically through dry floors if totally enclosed (unventilated) where passing through and for a minimum distance of 1.8m (6ft) above the floor to provide adequate protection from physical damage.

(b) In other than industrial establishments, where a vertical riser penetrates two or more dry floors, a minimum 100mm (4 in) high curb shall be installed around all floor openings for

riser busway to prevent liquids from entering the opening. Electrical equipment shall be located so that it will not be damaged by liquids that are retained by the curb.

FPN: See 300.21 for information concerning the spread of fire or products of combustion.

368.12 Uses Not Permitted.

(A) Physical Damage. Busways shall not be installed where subject to severe physical damage or corrosive vapors.

(B) Hoist ways. Busways shall not be installed in Hoist ways.

(C) Hazardous Locations. Busways shall not be installed in any hazardous (Classified) location, unless specifically approved for such use.

FPN: See 501.10(B)

(D) Wet Locations. Busway shall not be installed outdoors or in wet damp locations unless identified for such use.

(E) Working Platform. Lighting busway and trolley busway shall not be installed less than 2.5 m (8 ft) above the floor or working platform unless provided with a cover identified for the purpose.

368.17 Over current Protection. Over current protection shall be provided in accordance with 368.17(A) through (D).

(A) Rating of over current protection – Feeders. A busway shall be protected against over current in accordance with the allowable current rating of the busway.

Exception No. 1: The applicable provisions of 240.4 shall be permitted.

Exception No. 2: Where used as transformer secondary ties, the provisions of 450.6(A)(3) shall be permitted.

(B) Reduction in Ampacity Size of Busway. Over current protection shall be required where busways are reduced in ampacity.

Exception: For industrial establishments only, omission of over current protection shall be permitted at points where busway are reduced in ampacity, provided that the length of the busway having the smaller ampacity does not exceed 15m(50ft) and has ampacity at least equal to one-third the rating or setting of the over current device next back on the line, and provided that such busway is free from contact with combustible material.

(C) Feeder or Branch Circuits. Where a busway is used as a feeder, devices or plug-in connections for tapping off

feeder or branch circuits from the busway shall contain the over current devices required for the protection of the feeder or branch circuits. The plug-in device shall consist of an externally operable circuit breaker or an externally operable fusible switch. Where such devices are mounted out of reach and contain disconnecting means, suitable means such as ropes, chains or sticks shall be provided for operating the disconnecting means from the floor.

Exception No.1: As permitted in 240.21.

Exception No. 2: For fixed or semi fixed luminaries (light fixtures), where the branch circuit over current device is part of the luminaries (fixture) cord plug on cord-connected luminaries (fixtures).

Exception No.3: Where luminaries (fixtures) without cords are plugged in directly into busway and the over current device is mounted on the luminaries (fixture).

(D) Rating of Over Current Protection – Branch Circuits. A busway used as a branch circuit shall be protected against over current in accordance with 210.20.

368.30 Support. Busways shall be securely supported at intervals not exceeding 1.5 m (5 ft) unless otherwise designed and marked.

368.50 Branches from Busways.

Branches from busways shall be permitted to be made in accordance with 368.56(A), (B) and (C).

(A) General. Branches from busways shall be permitted to use any of the following wiring methods:

- (1) Type AC Armored Cable
- (2) Type MC metal-clad Cable
- (3) Type MI mineral-insulated, metal sheathed cable
- (4) Type IMC intermediate metal conduit
- (5) Type RMC rigid metal conduit
- (6) Type FMC flexible metal conduit
- (7) Type LFMC liquid tight flexible metal conduit
- (8) Type RNC rigid nonmetallic conduit
- (9) Type LFNC liquid tight flexible nonmetallic conduit
- (10) Type EMT electrical metallic tubing
- (11) Type ENT electrical nonmetallic tubing
- (12) Busways
- (13) Strut-type channel raceway
- (14) Surface Metal raceways
- (15) Surface nonmetallic raceways

Busway Systems

National Electric Code

Technical

Where a separate equipment grounding conductor is used, connection of the equipment grounding conductor to the busway shall comply with 250.8 and 250.12.

(B) Cord and Cable Assemblies.

Suitable cord and cable assemblies approved for extra-hard usage and hard usage, and listed bus drop cable shall be permitted as branches from the busway for the connection of portable equipment or the connection of stationary equipment to facilitate their interchange in accordance with 400.7 and 400.8 and the following conditions:

- (1) The cord or cable shall be attached to the building by the approved means.
- (2) The length of the cord or cable from a busway plug-in device to a suitable tension take-up support device shall not exceed 1.8 m (6 ft.).
- (3) The cord and cable shall not be installed as a vertical riser from the tension take-up support device to the equipment served.
- (4) Strain relief cable grips shall be provided for the cord or cable at the busway plug-in device and equipment terminations.

Exception to (B)(2): In industrial establishments only, where the conditions of maintenance and supervision ensure that only qualified persons service the installation, lengths exceeding 1.8 m (6 ft.) shall be permitted between the busway plug-in device and the tension take-up support device where the cord or cable is supported at intervals not exceeding 2.5 m (8 ft.).

(C) Branches from Trolley-Type

Busways. Suitable cord and cable assemblies approved for extra-hard usage or hard-usage and listed bus drop cable shall be permitted as branches from trolley-type busways for the connection of moveable equipment in accordance with 400.7 and 400.8.

368.58 Dead Ends. A dead end of a busway shall be closed.

368.60 Grounding. Busway shall be grounded.

III. Construction

368.120 Marking. Busway shall be marked with the voltage and current rating for which they are designed and with the manufacturers name or trademark in such a manner as to be visible after installation.

IV. Requirements for over 600 Volts, Nominal

368.214 Adjacent and Supporting Structures. Metal enclosed busways shall be installed so that temperature rise from induced circulating currents in any adjacent metallic parts will not be hazardous to personnel or constitute a fire hazard.

368.234 Barriers and Seals.

(A) Vapor Seals. Busway runs that have sections located inside and outside of a building shall have a vapor seal at the building wall to prevent interchange of air between indoor and outdoor sections.

Exception: Vapor seals shall not be required in forced-cooled bus.

(B) Fire Barriers. Fire barriers shall be provided where fire walls, floors and ceilings are penetrated.

FPN: See 300.21 for information concerning the spread of fire or products of combustion.

368.236 Drain Facilities. Drain plugs, filter drains or similar methods shall be provided to remove condensed moisture from low points on a busway run.

368.237 Ventilated Bus Enclosures.

Ventilated busway enclosures shall be installed in accordance with Article 110, Part III and 490.24.

368.238 Terminations and

Connections. Where bus enclosures terminate at machines cooled by flammable gas, seal-off bushings, baffles or other means shall be provided to prevent accumulation of flammable gas in the busway enclosures. All conductor termination and connection hardware shall be accessible for installation, connection and maintenance.

368.239 Switches. Switching devices or disconnecting links provided in the busway run shall have the same momentary rating as the busway. Disconnecting links shall be plainly marked to be removable only when the bus is de-energized. Switching devices that are not load-break shall be interlocked to prevent operation under load and disconnecting link enclosures shall be interlocked to prevent access to energized parts.

368.240 Wiring 600 Volts or Less,

Nominal. Secondary control devices and wiring that are provided as part of the metal-enclosed bus run shall be insulated by fire-retardant barriers from all primary circuit elements with the

exception of short lengths of wire, such as at instrument transformer terminals.

368.244 Expansion Fittings. Flexible or expansion connections shall be provided in long, straight runs of bus to allow for temperature expansion or contraction or where the busway run crosses the building vibration insulation joints.

368.258 Neutral. Neutral bus, where required shall be sized to carry all neutral load current, including harmonic currents and shall have adequate momentary and short circuit rating consistent with system requirements.

368.260 Grounding. Metal-enclosed busway shall be grounded.

368.320 Marking. Each busway run shall be provided with a permanent nameplate on which the following information shall be provided:

- (1) Rated voltage.
- (2) Rated continuous current; if bus is forced-cooled, both the normal forced-cooled rating and the self-cooled (not forced-cooled) rating for the same temperature rise shall be given.
- (3) Rated frequency.
- (4) Rated impulse withstand voltage.
- (5) Rated 60Hz withstand voltage (dry).
- (6) Rated momentary current.
- (7) Manufacturers name or trademark.

FPN: See ANSI C37.23-1987(R1991), Guide for Metal enclosed Bus and Calculating Losses in Isolated-Phase Bus, for construction and testing requirements for metal enclosed bus.

Busway Systems

Sentron Busway Overview

Overview

Sentron Busway for Global Power Distribution Applications

Building on a solid foundation of advanced products for the construction industry, the Siemens Sentron name is recognized worldwide as synonymous with quality and consistent performance. Sentron Busway delivers impressive features and benefits that make it ideal for many types of industrial and construction implementations.

Engineered to ensure the safe and efficient distribution of power in industrial, commercial and institutional environments world-wide, Sentron ampacities range from 225A to 5000A UL and IEC. Thanks to an innovative design, you benefit from labor-saving installation and a flexible, compact bus system that is an ideal fit for most applications. In fact, Sentron Busway is one of the industry's least labor-intensive systems.

Sentron Busway installs with minimal hardware and often costs less than cable and conduit installations. The lightweight aluminum housing acts as an integral ground, joint stacks connect with splice plates featuring a single-bolt design, and bus plugs and cable tap boxes offer the industry's largest wire bending space. An optional 200% neutral within the bus bar housing accommodates harmonics common in today's power systems.

Sentron Busway conductors are insulated with a state-of-the-art epoxy insulation system, which is applied using an electrostatic spray process for optimal insulation integrity.

Exemplifying the spirit of continuing innovation, Sentron Busway is now available with economical and convenient elbow stacks for changing left, right, up or down directions at 90 degrees.

And, of course, Sentron Busway is certified to design standards worldwide, including UL, NEMA, IEC, CSA, VDE and BS.

Siemens Busway Business uses industry leading technology in all its manufacturing processes. From bus bar fabrication to Electrostatic Spray Epoxy insulation, all the processes used in the manufacturing of Siemens Sentron Busway are electronically controlled to provide for consistent, high quality results, making Sentron Busway products best in its class.

Housing

Sentron Busway incorporates an all aluminum housing. This lightweight totally enclosed, non-ventilated housing resists rust and other elements, distributes heat away from the conductors, and provides an excellent ground path. The totally enclosed design also eliminates the need for derating of the system regardless of installation orientation. The housing is covered with an electrostatically applied light gray ANSI 61 polyester urethane powder paint that is scratch resistant and has a 1,000-hour salt spray resistance rating.

Conductors

Sentron Busway conductors have a compact construction and can be configured as 3-phase 3-wire, 3-phase 4-wire or 3-phase 4-wire with 200% neutral. The conductors may be ordered in copper (98% conductivity), 1000A/in² M-Rated Copper, Aluminum (58% conductivity) and 750A/in² L-Rated Aluminum. The optional 200% neutral helps to handle harmonic conditions that may exist. This system is especially useful with discharge lighting (fluorescent) and computer installations. This will help to minimize overheating and prolong the life cycle of your power distribution equipment.

Ground

Sentron Busway offers ground options to meet your specifications: standard integral aluminum housing ground and optional internal grounding bars. An optional isolated ground is also available which is especially useful in applications where a clean ground is needed.

Plating

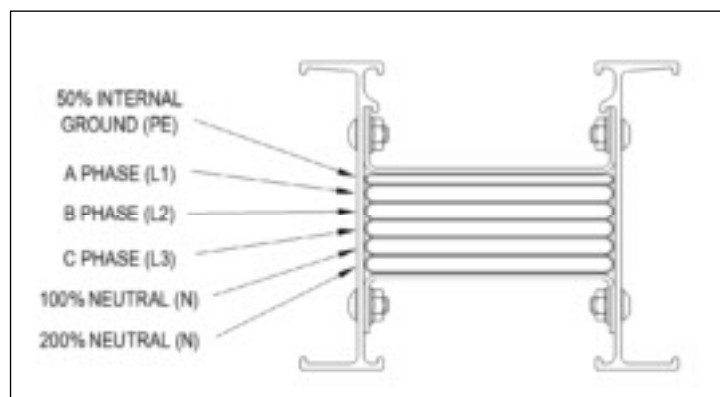
All bus bars are electroplated with tin. This unique tin plating provides excellent conductivity and resists outside elements from attaching to the bars. Optional silver plating is also available.

Insulation

Sentron Busway is insulated with an Epoxy Powder Coating system designed by Siemens Engineers, Epoxy System Engineers and Epoxy Powder Specialists, specifically for Siemens Busway products.

The Siemens exclusive Electrostatic Spray insulation process produces uniform application of Epoxy powder over the entire conductor bar. This is further enhanced by the inline filter process and magnetic separator that helps to eliminate contaminants common to fluidized bed systems. The electrostatic application also provides a better coating consistency than that of the older fluidized bed process. The combination of electrostatic spray and lower oven temperatures produces a consistent coverage with fewer impurities and pinholes in the insulation. The lower oven temperatures reduce the risk of bar annealing, which affects the overall quality of the system.

Sentron Busway insulation is Class B, 130°C Rated. Every bus bar and completed assembly is dielectricly tested to ensure the insulation is free of defects.



Busway Systems

Sentron Busway Overview

Overview

Joint Stack

Each Sentron Busway piece is shipped with a joint stack and joint covers installed at one end of the busway and a shipping end protector at the other end. The joint stacks feature a single bolt design and a special, torque indicating, double headed break-off bolt. This eliminates the need for torque wrenches and assures proper torque at installation of 55 ft.-lbs.(68 N-m). When the proper torque value is achieved, the top bolt head will shear off. Each joint stack allows for +/- .625 inches (15.8mm) adjustability at each joint. Over adjustment is prevented by the joint covers, which will only allow a .625 inch (15.8mm) adjustment when the knockouts on the joint cover are removed. It is possible to remove any joint connection assembly to allow electrical isolation or removal of a busway length without disturbing adjacent busway lengths. Isolation joint stacks are available and used to electrically isolate a busway section(s) within a busway run. For easy visual identification, isolation joint stack assemblies are painted white.

Plug-in Opening

Sentron Busway offer plug-in style busway which feature plug-in openings rated for finger safety to IP2X in accordance with IEC 529 and BS EN 60439-1, -2 and BS EN 60529.

Each plug-in opening has a reversible hinged dead front designed to protect the contact surfaces from dirt, dust or moisture. Gasketing is used where applications require a splash proof (IP55) rating.

IP Ratings

Sentron Busway is available in a variety of IP ratings. Use the chart below to determine the IP rating that best fits your application needs.

Testing

Each piece of Sentron Busway is factory tested before shipping. Tests performed include dielectric tests, which are used to insure integrity of insulation. In addition, Sentron Busway is tested in accordance with both UL and IEC standards. All Sentron Busway is manufactured and inspected in an ISO 9001:2000 registered facility.

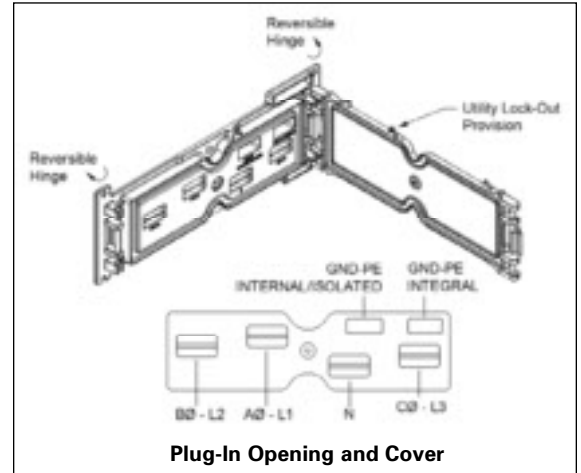
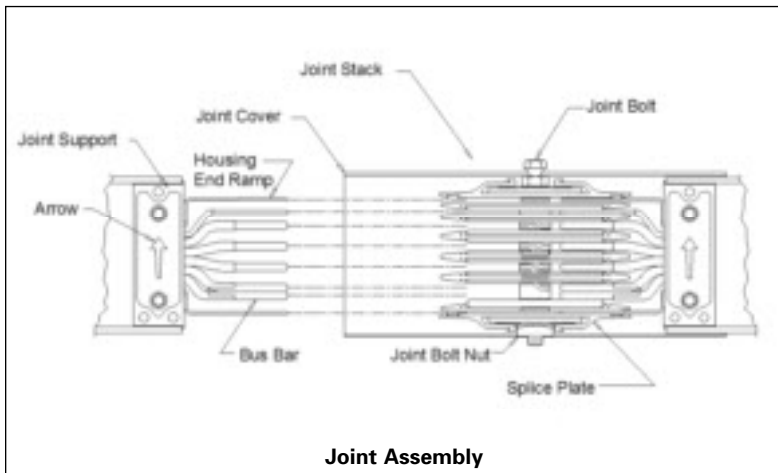
Standards

All Sentron Busway products meet the following standards:

- UL 857
- NEMA BU1
- CSA C22.2
- IEC 439-1(1993), IEC 439-2 (1993), IEC 529 (1989)
- BS EN 60529
- BS EN 60439-1, 60439-2
- UL 1479
- DIN 4102 Parts 9&12
- BS 6387 Parts 11.1 and 11.2

Labor Savings

Using Sentron Busway instead of cable and conduit can create savings of up to 20 - 30% on total installed costs. Sentron busway is lightweight, compact and takes half the time to install as cable and conduit. Siemens Sentron Busway - Cable/Conduit Conversion Software Program will show you side by side comparisons of busway vs. cable/conduit. These comparisons include material costs, labor costs, bill of materials, and technical information between busway and cable/conduit. Contact your local Siemens sales office to find out more information, or visit our web site at www.sea.siemens.com.



Levels of Protection Description

Code	Description	Sentron Busway		Sentron Bus Plugs
		Feeder	Plug-In	
IP 2X	Plug-In outlet protects against access to live parts by .472 in. (12 mm) test probe, even with cover opened. Finger Safe	•	•	•
IP 40	Enclosure protects against entry of .039 in. (1.0 mm) test probe. Indoor (Typical UL Designation)	•	•	•
IP 55	Enclosure protects against entry of dust and water jets. Splash Proof	•	•	•
IP 66	Enclosure is dust tight and protects against powerful water jets. Outdoor (International Only)	•		
NEMA 3R	Enclosure protects against rain, sleet and damage from ice formation. Outdoor - NAFTA	•		

Busway Systems

Sentron Bus Plug Overview

Overview

SENTRON Bus Plugs are engineered with the installer and end user in mind. The installer will benefit from the numerous features, such as factory installed circuit breakers, compact footprint, generous wirebend space, and dual interlocks. The end user will appreciate the visible position indicator, as well as the spring loaded pad lockable latch which prevents access to unauthorized personnel.

SENTRON Bus Plugs are designed with an interlock device to prevent the door from being opened when the disconnect is on. This also prevents the disconnect from being turned on while the door is open. The interlock ensures that the protective device is "OFF" prior to installation or removal of the bus plug. Once the bus plug is properly installed, a spring - loaded, padlock latch provides additional security by preventing unauthorized access to the unit.

Alignment and interlock stabs are features of the Sentron Bus Plugs engineered to prevent improper

installation of the unit. Guide stabs prevent installing the bus plug 180 degrees out of rotation. In addition, the stabs provide vertical support for vertical applications. The bus plug ground stabs are designed to ensure positive contact with both the integral and optional internal busway grounds before the bus plug fingers contact the phase and neutral bars. Sentron Bus Plugs also feature bolt-on mounting to the busway housing for secure attachment.

Sentron Bus Plugs can be configured for horizontal or vertical applications. The following Bus Plugs can be mounted (side by side) five (5) per busway side channel (Total 10 per 10' Section).

- 30-600 SLVBH Fusible (Horizontal)[Ⓞ]
- 30-200 SLVBR Fusible (Riser)[Ⓞ]
- 30-400 Circuit Breaker[Ⓞ]

Sentron SLVB Fusible Bus Plugs feature a direct drive mechanism. The operating handle mounts directly to the switch mechanism for fewer moving parts.

Enclosure Ratings:

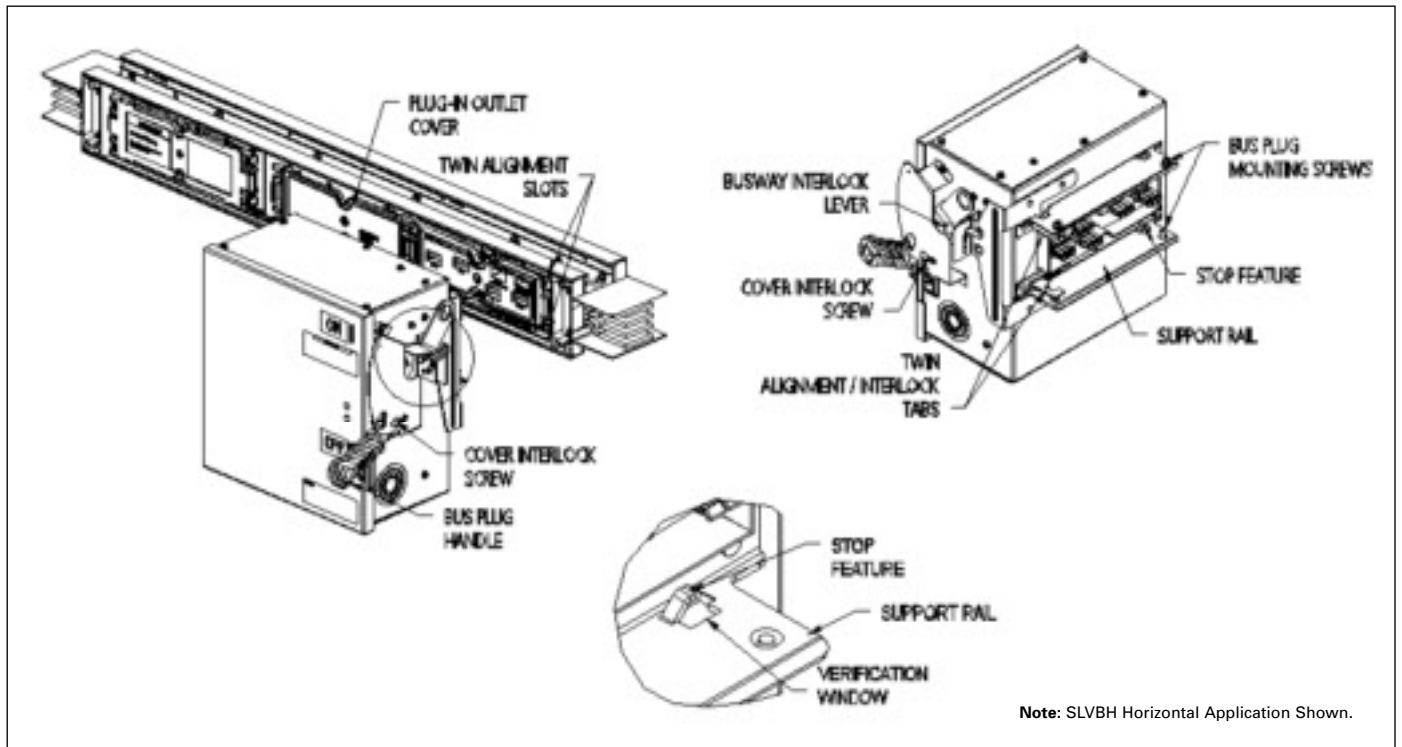
- IP40
- IP55

Conductors:

- 3-phase, 3-wire
- 3-phase, 4-wire
- 3-phase, 4-wire 200% neutral (400A and below)

Grounding:

- Integral (Housing)
- Internal
- Isolated

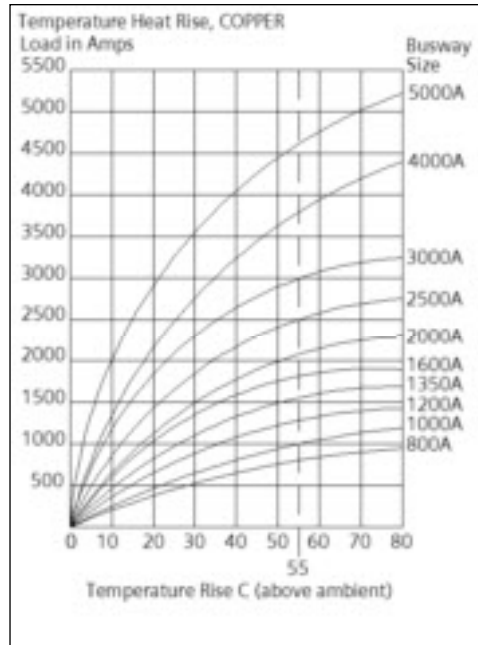
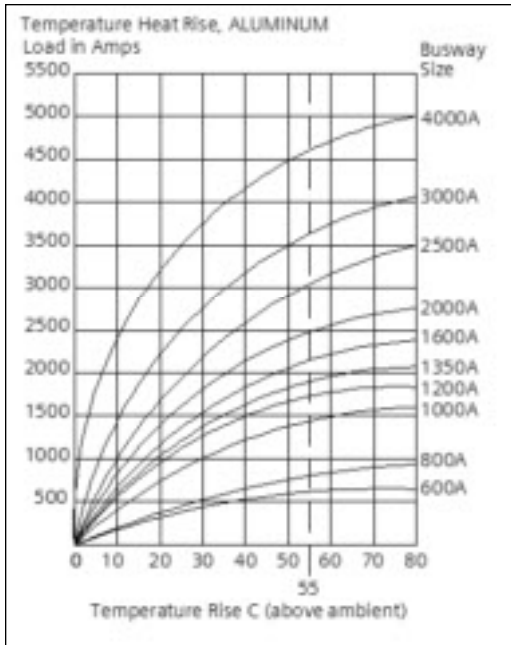


[Ⓞ] Contact Siemens for 200% Neutral Applications.

Busway Systems

Technical Data

Technical



R, X, Z and Ohms, Voltage Drop

Ampere Rating	Bus Bar Width x 0.25 in. (6.4mm) Thick	Ohms x 10.3 per 100 feet			Voltage Drop - Concentrated Loads, Line-to-Line per 100 feet at 100% Rated Load, 35°C Ambient ^⑦							
		Line to Neutral R	X	Z	Power Factor 0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
AL L-Rated^③												
225 —	1.75 (44.5)	3.94	1.13	4.10	0.88	1.02	1.15	1.27	1.39	1.49	1.57	1.54
400 —	1.75 (44.5)	4.08	1.23	4.26	1.66	1.91	2.15	2.38	2.58	2.77	2.91	2.83
600 —	1.75 (44.5)	4.26	1.32	4.46	2.64	3.03	3.40	3.75	4.08	4.37	4.58	4.43
800 400	2.38 (60.5)	3.42	1.06	3.58	2.82	3.24	3.64	4.02	4.36	4.67	4.90	4.74
1000 600	3.25 (82.6)	2.45	0.74	2.56	2.50	2.88	3.24	3.57	3.89	4.17	4.38	4.24
1200 800	4.38 (111.3)	1.86	0.59	1.95	2.32	2.66	2.99	3.29	3.58	3.82	4.01	3.87
1350 1000	5.38 (138.7)	1.39	0.24	1.41	1.50	1.81	2.10	2.39	2.67	2.93	3.17	3.25
1600 1200	6.50 (165.1)	1.21	0.48	1.29	2.19	2.48	2.75	3.00	3.23	3.43	3.56	3.35
2000 1350,1600	8.75 (222.3)	0.91	0.35	0.98	2.11	2.38	2.64	2.87	3.08	3.26	3.37	3.16
2500 2000	(2) 5.63 (143.0)	0.68	0.29	0.74	2.09	2.34	2.57	2.78	2.97	3.12	3.21	2.95
3000 2500	(2) 6.75 (171.5)	0.54	0.28	0.61	2.24	2.47	2.67	2.85	3.01	3.12	3.16	2.80
3200 2000	(2) 7.50 (190.5)	0.48	0.33	0.58	2.53	2.73	2.91	3.06	3.17	3.23	3.20	2.68
4000 3000,3200	(2) 9.00 (228.6)	0.62	0.21	0.51	2.34	2.61	2.85	3.08	3.27	3.43	3.51	3.20
CU M-Rated^③												
225 —	1.75 (44.5)	2.34	1.13	2.60	0.69	0.77	0.84	0.90	0.95	0.99	1.01	0.91
400 —	1.75 (44.5)	2.44	1.13	2.69	1.26	1.40	1.52	1.64	1.74	1.82	1.86	1.69
600 —	1.75 (44.5)	2.58	1.16	2.83	1.96	2.18	2.39	2.58	2.74	2.87	2.94	2.68
800 400	1.75 (44.5)	2.71	1.17	2.95	2.67	2.98	3.28	3.55	3.78	3.97	4.08	3.76
1000 —	2.25 (67.2)	2.12	0.98	2.30	2.58	2.88	3.17	3.44	3.67	3.86	3.98	3.67
1200 600	2.88 (73.2)	1.66	0.77	1.83	2.56	2.85	3.11	3.35	3.56	3.72	3.80	3.45
1350 800	3.50 (88.9)	1.30	0.64	1.45	2.34	2.59	2.82	3.03	3.20	3.33	3.39	3.04
1600 1000	4.50 (114.3)	1.06	0.56	1.20	2.37	2.60	2.66	3.01	3.17	3.29	3.32	2.94
2000 1200,1350 — 1600	6.00 (152.4)	0.77	0.44	0.89	2.27	2.48	2.50	2.83	2.96	3.05	3.07	2.66
2500 2000	8.50 (215.9)	0.55	0.35	0.65	2.15	2.34	2.50	2.64	2.75	2.82	2.81	2.39
3000 —	(2) 4.75 (120.7)	0.49	0.27	0.56	2.07	2.28	2.46	2.62	2.76	2.86	2.89	2.54
3200 —	(2) 5.50 (139.7)	0.44	0.30	0.53	2.33	2.51	2.67	2.80	2.90	2.96	2.93	2.44
4000 2500,3000,3200	(2) 6.50 (165.1)	0.36	0.15	0.39	1.76	1.97	2.17	2.35	2.51	2.63	2.71	2.49
5000 4000	(2) 8.50 (215.9)	0.30	0.21	0.37	2.49	2.69	2.86	3.00	3.11	3.17	3.15	2.63

Notes:

- For plug-in distributed loads, divide voltage drop values by 2.
- To determine voltage drop line-to-neutral, multiply line-to-line values by 0.577.
- Actual voltage drop for different lengths and at loadings less than full rated current can be calculated using the formula:

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

$$V_d = \text{amps load} \times \sqrt{3(R\cos\theta + X\sin\theta)} \text{ per 100 ft, where } \cos\theta = \text{Power Factor.}$$
- For metric conversion R, X, Z values "in Ohms per meters Line to Neutral"

$$R \times .0328$$

$$X \times .0328$$

$$Z \times .0328$$
- For metric conversion "Line to Line per meter at 25° C ambient in mV/A/m" (Vd 32.8) / A Divide Vd by 2 for distributed loads.
- Voltage Drop will decrease in lower ambient temperature. Contact Siemens for Voltage Drop in other ambient conditions.

Busway Systems

Technical Data

Technical

Ground Capacity

Ampere Rating	Bus Bar Width Inches (mm)	Bars per Pole	Min. CSA for Ground Bus per UL 857 Table 14 In2 (mm2)	Sectional Area 50% Internal Ground Bar In2 (mm2)	Integral (Hsg.) Ground In2 (mm2)	Effective Current Carrying Capacity of Housing		Grd. Circuit Characteristics under Fault Conditions Ohms x 103 per 100 ft						
						% of UL Req	% of Phase Bar	Internal Ground			Housing Ground			
						R	X	Z	R	X	Z	R	X	Z
A L-Rated														
225 —	1.75 (44.5)	1	0.08 (53.5)	0.22 (141.1)	2.30 (1485.1)	1333	253		10.267	9.037	4.872	14.200	12.963	5.797
400 —	1.75 (44.5)	1	0.17 (107.1)	0.22 (141.1)	2.30 (1485.1)	667	253		10.267	9.037	4.872	14.200	12.963	5.797
600 —	1.75 (44.5)	1	0.17 (107.1)	0.22 (141.1)	2.30 (1485.1)	667	253		10.267	9.037	4.872	14.200	12.963	5.797
800 400	2.38 (60.5)	1	0.17 (107.1)	0.30 (191.9)	2.40 (1550.1)	688	192		8.063	7.333	3.351	11.150	10.000	4.932
1000 600	3.25 (82.6)	1	0.20 (126.5)	0.41 (262.1)	2.54 (1639.9)	607	147		7.208	6.628	2.833	9.202	8.442	3.662
1200 800	4.38 (111.1)	1	0.23 (146.5)	0.55 (352.8)	2.72 (1756.6)	552	115		6.358	5.852	2.487	7.625	6.926	3.189
1350 1000	5.38 (136.5)	1	0.29 (189.7)	0.67 (433.5)	2.88 (1859.8)	446	9		5.561	5.115	2.182	6.478	5.883	2.713
1600 1200	6.50 (165.1)	1	0.29 (189.7)	0.81 (524.2)	3.06 (1975.4)	467	84		4.837	4.489	1.801	5.687	5.206	2.289
2000 1350,1600	8.75 (222.3)	1	0.35 (227.7)	1.09 (705.6)	3.42 (2207.7)	425	69		3.735	3.467	1.390	4.565	4.267	1.623
2500 2000	5.63 (142.9)	2	0.52 (332.3)	1.41 (907.3)	3.85 (2480.7)	320	59		3.169	2.955	1.145	4.129	3.837	1.526
3000 2500	6.75 (171.5)	2	0.59 (380.0)	1.69 (1088.7)	4.20 (2711.9)	301	53		2.848	2.683	0.954	3.835	3.635	1.221
3200 2000	7.50 (190.5)	2	0.81 (522.6)	1.88 (1209.7)	4.44 (2866.8)	229	51		2.648	2.493	0.894	3.614	3.428	1.144
4000 3000,3200	9.00 (228.6)	2	0.81 (522.6)	2.25 (1451.6)	4.92 (3176.5)	250	50		2.446	2.339	0.715	3.500	3.378	0.916
CU M-Rated														
225 —	1.75 (44.5)	1	0.05 (33.5)	0.22 (141.1)	2.30 (1485.1)	2128	261		7.380	6.330	3.803	11.338	10.083	5.183
400 —	1.75 (44.5)	1	0.11 (67.7)	0.22 (141.1)	2.30 (1485.1)	1054	261		7.380	6.330	3.803	11.338	10.083	5.183
600 —	1.75 (44.5)	1	0.11 (67.7)	0.22 (141.1)	2.30 (1485.1)	1054	261		7.380	6.330	3.803	11.338	10.083	5.183
800 400	1.75 (44.5)	1	0.11 (67.7)	0.22 (141.1)	2.30 (1485.1)	1054	261		7.380	6.330	3.803	11.338	10.083	5.183
1000 —	2.25 (57.2)	1	0.13 (85.2)	0.28 (181.5)	2.38 (1536.7)	860	207		6.715	5.993	3.029	10.194	9.191	4.409
1200 600	2.88 (73.0)	1	0.18 (114.2)	0.36 (231.9)	2.48 (1601.8)	661	166		6.186	5.676	2.460	8.996	8.212	3.674
1350 800	3.50 (88.9)	1	0.24 (152.3)	0.44 (282.3)	2.58 (1665.8)	510	140		5.704	5.267	2.188	8.000	7.492	2.807
1600 1000	4.50 (114.3)	1	0.24 (152.3)	0.56 (362.9)	2.74 (1769.0)	534	113		4.719	4.323	1.893	7.411	6.880	2.756
2000 1200,1350	6.00 (152.4)	1	0.29 (189.7)	0.75 (483.9)	2.98 (1923.8)	457	90		3.507	3.181	1.476	6.422	6.032	2.205
— 1600	6.50 (165.1)	1	0.29 (189.7)	0.81 (524.2)	3.06 (1975.4)	467	84		4.837	4.489	1.801	5.687	5.206	2.289
2500 2000	8.50 (215.9)	1	0.35 (227.7)	1.06 (685.5)	3.38 (2181.9)	421	70		2.294	2.020	1.087	3.072	5.419	1.764
3000 —	4.75 (120.7)	2	0.41 (265.8)	1.19 (766.1)	3.56 (2290.0)	376	66		2.117	1.874	0.984	4.859	4.631	1.470
3200 —	5.50 (139.7)	2	0.59 (380.0)	1.38 (887.1)	3.80 (2453.9)	277	60		1.938	1.691	0.947	4.353	4.129	1.378
4000 2500,3000,3200	6.50 (165.1)	2	0.59 (380.0)	1.63 (1048.4)	4.12 (2660.3)	296	54		1.688	1.500	0.773	3.334	3.060	1.323
5000 4000	8.50 (215.9)	2	0.71 (456.1)	2.13 (1371.0)	4.76 (3073.2)	278	50		1.360	1.218	0.606	1.989	1.783	0.882

Note: Bus bar thickness = .25 in. (6.4mm), Ground bar thickness = .125 in.(3.18mm)

14 BUSWAY SYSTEMS

UL Short Circuit Ratings				UL Series Connected with Fuse			
Ampere Rating	L-Rated	RMS Symmetrical (kA)			Maximum Fuse Size for 200kA RMS Symmetrical Rating		
		6 cycle	1 sec.	3 sec.	Class R	Class J & T	Class L
225 —		85	28	16	600	600 J & T	—
400 —		85	28	16	600	600 J & T	—
600 —		85	28	16	600	600 J & T	—
800 400		100	47	27	—	800 T	1200
1000 600		100	50	29	—	—	3000
1200 800		125	60	35	—	—	3000
1350 1000		150	75	43	—	—	3000
1600 1200		150	90	52	—	—	3000
2000 1350,1600		150	110	64	—	—	5000
2500 2000		200	130	75	—	—	5000
3000 2500		200	160	92	—	—	—
3200 2000		200	160	92	—	—	—
4000 3000,3200		200	200	115	—	—	—
CU M-Rated							
225 —		85	40	23	600	600 J & T	—
400 —		85	40	23	600	600 J & T	—
600 —		85	40	23	600	600 J & T	—
800 400		85	40	23	—	800 T	1600
1000 —		100	50	29	—	—	3000
1200 600		100	65	38	—	—	3000
1350 800		100	80	46	—	—	3000
1600 1000		125	95	55	—	—	4000
2000 1200,1350		150	115	66	—	—	5000
— 1600		150	90	52	—	—	3000
2500 2000		150	130	75	—	—	5000
3000 —		200	175	101	—	—	—
3200 —		200	175	101	—	—	—
4000 2500,3000,3200		200	200	115	—	—	—
5000 4000		200	200	115	—	—	—

Sentron Busway has UL approved Series Ratings. By using the appropriate line side fuse, short circuit ratings can be enhanced to 200kA for lower amperage busway.

Busway Systems

Straight Sections—Plug-In, Riser and Feeder

Selection

Straight Sections

Sentron Busway can be ordered with Aluminum or Copper bus bars. Aluminum bars are available in 225-4000 ampere sections. Copper bars are available in 225-5000 ampere sections. Sentron Busway includes an integral housing ground, and is available with an internal ground bar or an isolated ground bar in all ampere ratings. Sentron Busway housing is a four-piece aluminum design.

Plug-In Sections

Sentron plug-in sections are designed with plug-in openings centered on 24 in. (610mm) intervals, and are located on both sides of the busway for optimum utilization. Plug-in sections are available in standard lengths of 4 ft. (1.22m), 6 ft. (1.83m), 8 ft. (2.44m) and 10 ft. (3.05m). Sentron plug-in sections meet IP40

(indoor) and IP55 (splash proof) requirements. One joint stack assembly is provided with each plug-in section.

Riser Sections

Sentron Riser sections are designed with plug-in openings centered on 24 in. (610mm) intervals on one side of the busway only. This eliminates unusable plug-in outlets in vertical applications. Riser busway is available in standard lengths of 4 ft. (1.22m), 6 ft. (1.83m), 8 ft. (2.44m) and 10 ft. (3.05m). Sentron Riser Busway is available in IP40 (indoor) and IP55 (splash proof). One joint stack assembly is provided with each riser section.

Plug-In Outlet Features

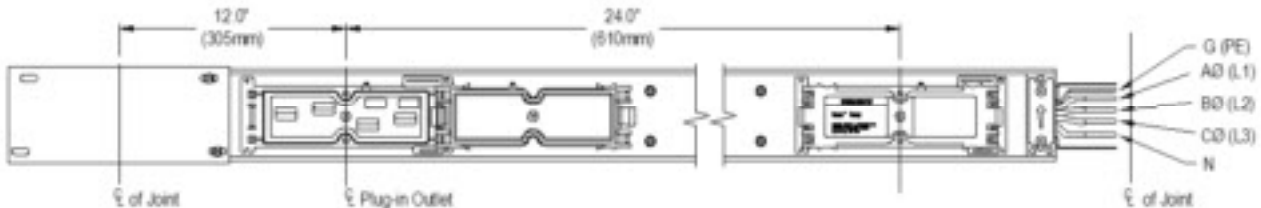
The plug-in outlet molded guard design prevents incidental finger contact with live conductors. Sentron plug-in outlets

are IP 2X rated (with the outlet cover open) which means a .472 in. (12mm) or larger probe is unable to enter a plug-in outlet. The outlet is IP40 Rated with the cover closed and IP55 Rated when configured with gaskets.

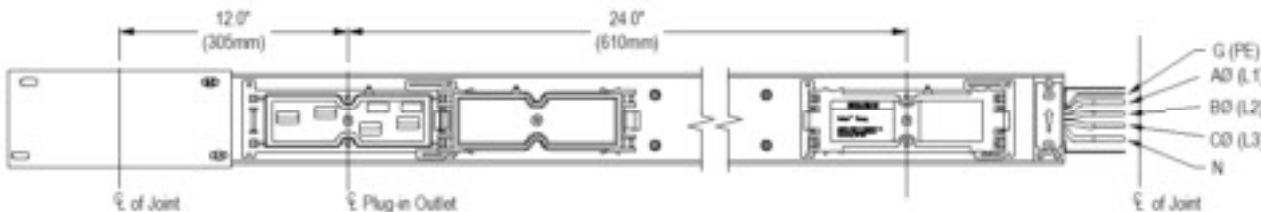
Feeder Sections

Feeder busway carries the current of the busway system from the supply source. Feeder busway does not have plug-in outlets. Sentron Feeder busway is available in custom lengths from 2 ft. (.61m) to 10 ft. (3.05m). Feeder sections are rated as IP40 (Indoor), IP55 (Splash Proof), NEMA 3R (Outdoor), and IP66 (Severe Outdoor). One joint stack assembly is provided with each feeder section.

Standard Plug-In Section (Standard plug-in outlets on both sides on 24 in. centers)
Suffix PL04 (4 ft.), PL06 (6 ft.), PL08 (8 ft.), PL10 (10 ft.)

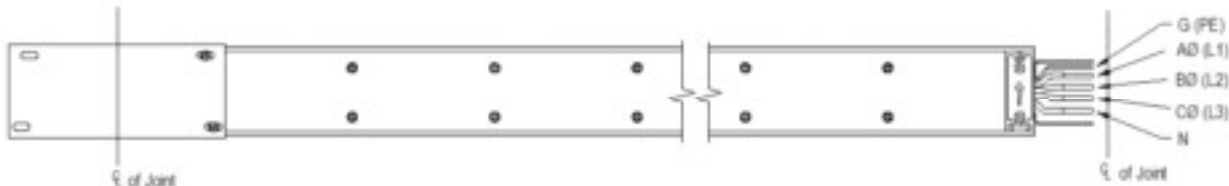


Standard Riser Section (Standard Plug-In outlets on one side on 24 in. centers)
Suffix RI04 (4 ft.), RI06 (6 ft.), RI08 (8 ft.), RI10 (10 ft.)



Standard Feeder Section

Suffix F024 - 120 (last 3 digits = length in Inches, 024=24 in., 120=120 in.)



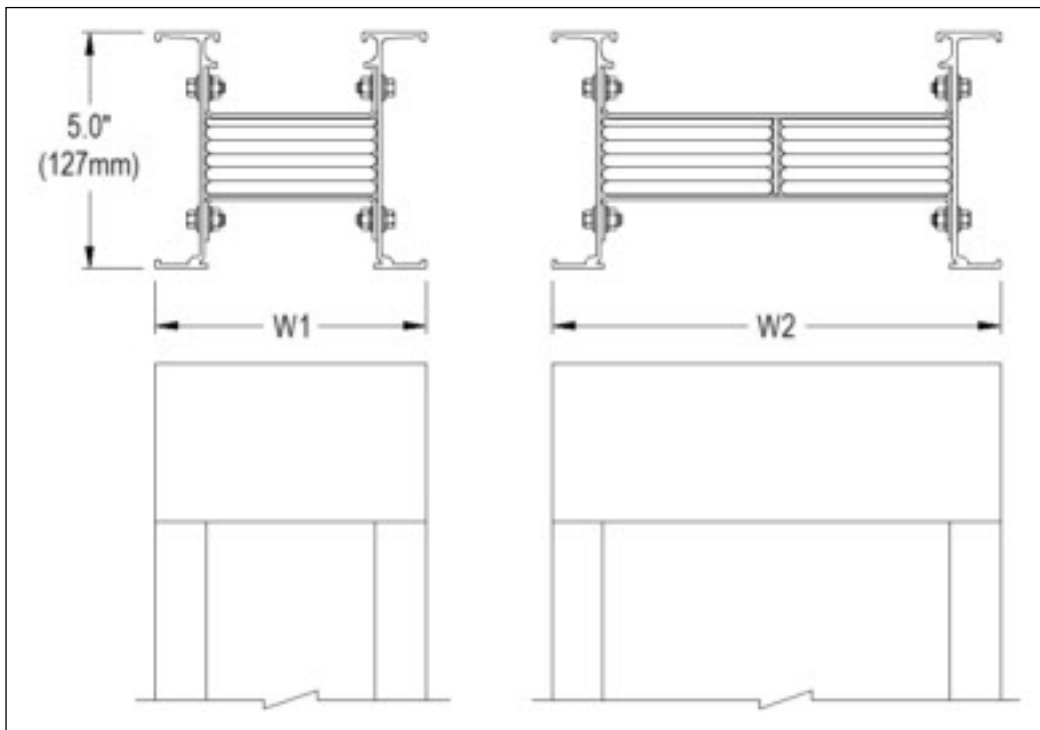
Busway Systems

Selection

Sentron Busway, Widths and Weights

Ampere Rating	Dimension Inches (mm)	Approximate Weight - lbs per ft. (kg per meter)						
		3Ø, 3-Wire	3Ø, 3-Wire with Internal Ground	3Ø, 4-Wire	3Ø, 4-Wire with Internal Ground	3Ø, 4-Wire 200% Neutral	3Ø, 4-Wire 200% Neutral with Internal Ground	
AL	L-Rated							
225	—	"W1" 3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	7 (10)	7 (10)
400	—	"W1" 3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	7 (10)	7 (10)
600	—	"W1" 3.9 (99)	5 (8)	5 (8)	6 (9)	6 (9)	7 (10)	7 (10)
800	400	"W1" 4.6 (117)	6 (9)	6 (9)	7 (10)	7 (10)	7 (11)	8 (11)
1000	600	"W1" 5.4 (137)	7 (10)	7 (11)	8 (12)	8 (12)	9 (13)	9 (14)
1200	800	"W1" 6.6 (168)	8 (12)	9 (13)	9 (14)	10 (15)	11 (16)	11 (17)
1350	1000	"W1" 7.6 (193)	9 (13)	10 (15)	11 (16)	11 (17)	12 (18)	13 (19)
1600	1200	"W1" 8.7 (221)	10 (15)	11 (17)	12 (18)	13 (19)	14 (21)	15 (22)
2000	1250,1600	"W1" 10.9 (277)	13 (19)	14 (21)	15 (23)	16 (24)	18 (26)	19 (28)
2500	2000	"W2" 13.7 (348)	15 (22)	17 (25)	8 (27)	20 (30)	22 (33)	23 (34)
3000	2500	"W2" 15.8 (402)	17 (25)	19 (28)	21 (31)	23 (34)	25 (37)	27 (40)
3200	2000	"W2" 17.3 (439)	18 (27)	20 (30)	23 (34)	25 (37)	27 (40)	29 (43)
4000	3000,3200	"W2" 20.3 (516)	22 (33)	25 (37)	27 (40)	30 (44)	32 (48)	35 (52)
CU	M-Rated							
225	—	"W1" 3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
400	—	"W1" 3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
600	—	"W1" 3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
800	400	"W1" 3.9 (99)	9 (13)	10 (14)	10 (16)	11 (17)	12 (18)	13 (19)
1000	—	"W1" 4.4 (112)	10 (15)	11 (17)	12 (19)	14 (20)	15 (22)	16 (23)
1200	600	"W1" 5.1 (130)	12 (18)	14 (20)	15 (23)	16 (24)	18 (26)	19 (29)
1350	800	"W1" 5.7 (145)	14 (21)	16 (24)	17 (26)	19 (29)	21 (31)	23 (34)
1600	1000	"W1" 6.7 (170)	17 (26)	19 (29)	22 (32)	24 (35)	26 (38)	28 (42)
2000	1200,1350	"W1" 8.2 (208)	22 (32)	25 (37)	28 (41)	30 (45)	33 (50)	36 (54)
—	1600	"W1" 10.9 (277)	13 (19)	14 (21)	5 (23)	16 (24)	18 (26)	19 (28)
2500	2000	"W1" 10.7 (272)	30 (44)	34 (50)	38 (56)	42 (62)	46 (68)	50 (74)
3000	—	"W2" 11.8 (300)	33 (49)	37 (55)	42 (63)	47 (70)	51 (76)	56 (83)
3200	—	"W2" 13.3 (335)	37 (55)	2 (63)	48 (72)	53 (79)	58 (86)	64 (95)
4000	2500,3000,3200	"W2" 15.3 (389)	43 (64)	50 (75)	56 (83)	62 (92)	68 (101)	75 (112)
5000	4000	"W2" 19.3 (491)	56 (83)	4 (95)	72 (107)	80 (119)	89 (132)	97 (145)

14
BUSWAY
SYSTEMS



Busway Systems

Elbows

Selection

Sentron Busway elbows provide a simple, convenient method of changing the direction (left, right, up or down) of a busway run. Two elbow styles are offered: elbow stack and elbow section.

Flatwise Elbow Stacks, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A"
AL	L-Rated	
225	—	1.00 (25)
400	—	1.00 (25)
600	—	1.00 (25)
800	400	1.12 (28)
1000	600	2.00 (51)
1200	800	2.50 (64)
1350	1000	3.00 (76)
1600	1200	3.50 (89)
2000	1350,1600	4.62 (117)
2500	2000	5.75 (146)
3000	2500	7.00 (178)
3200	2000	7.75 (197)
4000	3000,3200	9.35 (237)
CU	M-Rated	
225	—	1.00 (25)
400	—	1.00 (25)
600	—	1.00 (25)
800	400	1.00 (25)
1000	—	1.12 (28)
1200	600	.25 (33)
1350	800	2.00 (50)
1600	1000	2.50 (64)
2000	1200,1350	3.25 (83)
—	1600	4.62 (117)
2500	2000	4.50 (114)
3000	—	5.00 (127)
3200	—	5.75 (146)
4000	2500,3000,3200	6.75 (171)
5000	4000	8.87 (225)

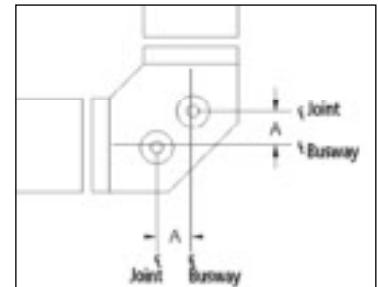
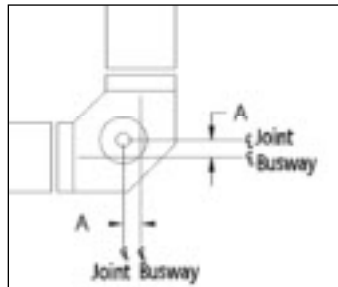
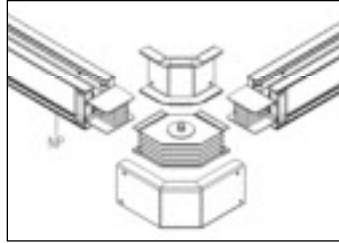
Note: Flatwise elbow stacks can be ordered as either right-hand (ESFR) or left-hand (ESFL) to follow the same nomenclature as an elbow section. The construction is identical and interchangeable.

Flatwise Elbow Stacks

Flatwise elbow stacks are used for left and right directional changes. When the busway system is mounted flatwise in the horizontal plane (bus bars run parallel to the floor).

Flat

Suffix ESFR/ESFL

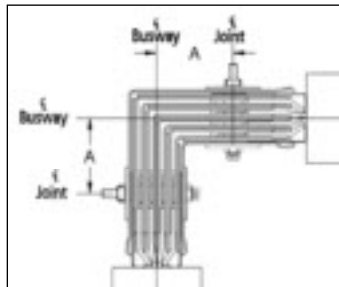


Edgewise Elbow Stacks, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A"
AL	L-Rated	
225	—	4.25 (108)
400	—	4.25 (108)
600	—	4.25 (108)
800	400	4.25 (108)
1000	600	4.25 (108)
1200	800	4.25 (108)
1350	1000	4.25 (108)
1600	1200	4.25 (108)
2000	1350,1600	4.25 (108)
2500	2000	4.25 (108)
3000	2500	4.25 (108)
3200	2000	4.25 (108)
CU	M-Rated	
225	—	4.25 (108)
400	—	4.25 (108)
600	—	4.25 (108)
800	400	4.25 (108)
1000	—	4.25 (108)
1200	600	4.25 (108)
1350	800	4.25 (108)
1600	1000	4.25 (108)
2000	1200,1350	4.25 (108)
—	1600	4.25 (108)
2500	2000	4.25 (108)
3000	—	4.25 (108)
3200	—	4.25 (108)
4000	2500,3000,3200	4.25 (108)
5000	4000	4.25 (108)

Note: Edge up and edge down elbow stacks are not interchangeable.

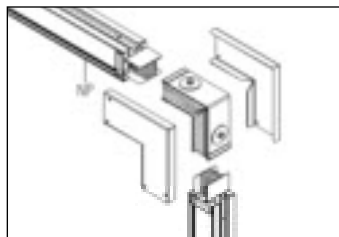
Edgewise Elbow Stacks

Edgewise elbow stacks create up and down directional changes. The "A" phase is on the inside of the bend for edge up elbow stacks. The "A" phase is on the outside of the bend for edge down elbow stacks.



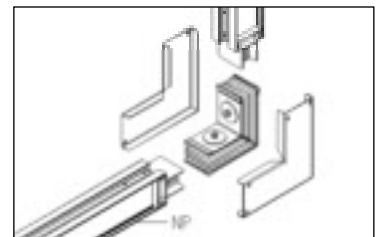
Edge Down

Suffix ESED



Edge Up

Suffix ESEU



Busway Systems

Elbows

Selection

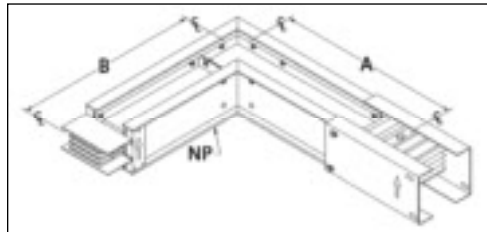
Flatwise Elbow Sections, Dimensions (standard/min.)			
Ampere Rating		Dimensions Inches (mm)	
		"A"	"B"
AL	L-Rated		
225	—	12 (305)	12 (305)
400	—	12 (305)	12 (305)
600	—	12 (305)	12 (305)
800	400	12 (305)	12 (305)
1000	600	12(305)	12 (305)
1200	800	12 (305)	12 (305)
1350	1000	12 (305)	12 (305)
1600	1200	18 (457)	18 (457)
2000	1350,1600	18 (457)	18 (457)
2500	2000	18 (457)	18 (457)
3000	2500	18 (457)	18 (457)
3200	2000	18 (457)	18 (457)
4000	3000,3200	24 (610)	24 (610)
CU	M-Rated		
225	—	12 (305)	12 (305)
400	—	12 (305)	12 (305)
600	—	12 (305)	12 (305)
800	400	12 (305)	12 (305)
1000	—	12 (305)	12 (305)
1200	600	12 (305)	12 (305)
1350	800	12 (305)	12 (305)
1600	1000	12 (305)	12 (305)
2000	1200,1350	12 (305)	12 (305)
—	1600	12 (305)	12 (305)
2500	2000	12 (305)	12 (305)
3000	—	12 (305)	12 (305)
3200	—	12 (305)	12 (305)
4000	2500,3000,3200	12 (305)	12 (305)
5000	4000	12 (305)	12 (305)

Flatwise Elbow Sections

Flatwise elbow sections are used for left and right directional changes when the busway system is mounted in the horizontal plane (bus bars run parallel to the floor). The joint stack assembly may be moved to the opposite leg to change the orientation from left to right/right to left.

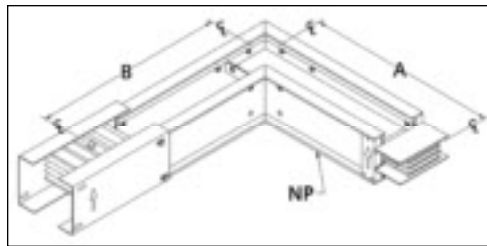
Flat Left

Suffix ELEF



Flat Right

Suffix ELFR



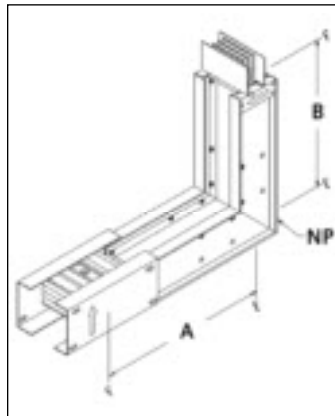
Edgewise Elbow Sections, Dimensions (standard/min.)			
Ampere Rating		Dimensions Inches (mm)	
		"A"	"B"
AL	L-Rated		
225	—	10 (254)	10 (254)
400	—	10 (254)	10 (254)
600	—	10 (254)	10 (254)
800	400	10 (254)	10 (254)
1000	600	10 (254)	10 (254)
1200	800	10 (254)	10 (254)
1350	1000	10 (254)	10 (254)
1600	1200	10 (254)	10 (254)
2000	1350,1600	10 (254)	10 (254)
2500	2000	10 (254)	10 (254)
3000	2500	10 (254)	10 (254)
3200	2000	10 (254)	10 (254)
4000	3000,3200	10 (254)	10 (254)
CU	M-Rated		
225	—	10 (254)	10 (254)
400	—	10 (254)	10 (254)
600	—	10 (254)	10 (254)
800	400	10 (254)	10 (254)
1000	—	10 (254)	10 (254)
1200	600	10 (254)	10 (254)
1350	800	10 (254)	10 (254)
1600	1000	10 (254)	10 (254)
2000	1200,1350	10 (254)	10 (254)
—	1600	10 (254)	10 (254)
2500	2000	10 (254)	10 (254)
3000	—	10 (254)	10 (254)
3200	—	10 (254)	10 (254)
4000	2500,3000,3200	10 (254)	10 (254)
5000	4000	10 (254)	10 (254)

Edgewise Elbow Sections

Edgewise elbow sections create up and down directional changes. The "A" phase bus bar lies on the inside of the bend for edge up elbows. The "A" phase bus bar lies on the outside of the bend for edge down elbows. The joint stack assembly on edgewise elbows can not be moved in order to change orientation from up to down/down to up. Sentron Busway elbow sections are shipped with a joint stack assembly on one end for direct connection to the busway system.

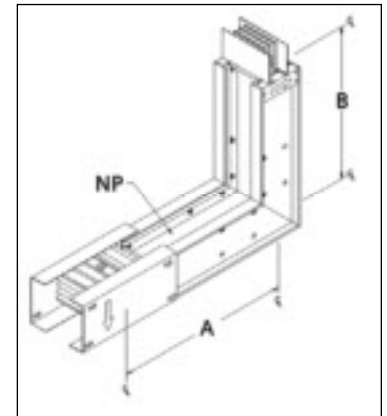
Edge Up

Suffix ELEU



Edge Down

Suffix ELED



Note : Odd angle elbow flatwise and edgewise elbow sections are available for angles 95° - 175° in 5° increments.

Busway Systems

Offsets

Selection

Offsets can be utilized to solve difficult contour problems and save space. In applications where space does not allow for two connected elbows, a single offset can bypass an obstruction. All offsets are supplied with one joint stack assembly.

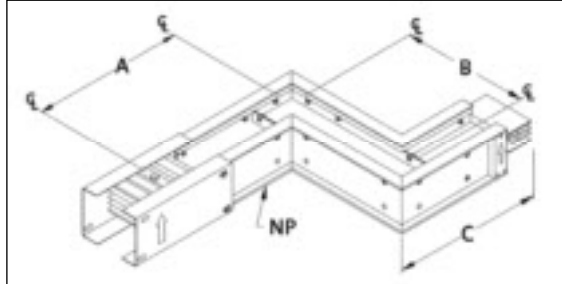
Flatwise Offsets, Dimensions (standard/min.)				
Ampere Rating		Dimensions Inches (mm)		
		"A"	"B"	"C"
AL	L-Rated			
225	—	12 (305)	5 (127)	12 (305)
400	—	12 (305)	5 (127)	12 (305)
600	—	12 (305)	5 (127)	12 (305)
800	400	12 (305)	5 (127)	12 (305)
1000	600	12 (305)	5 (127)	12 (305)
1200	800	12 (305)	5 (127)	12 (305)
1350	1000	12 (305)	5 (127)	12 (305)
1600	1200	18 (457)	5 (127)	18 (457)
2000	1350,1600	18 (457)	5 (127)	18 (457)
2500	2000	18 (457)	5 (127)	18 (457)
3000	2500	18 (457)	5 (127)	18 (457)
3200	2000	18 (457)	5 (127)	18 (457)
4000	3000,3200	24 (610)	8 (203)	24 (610)
CU	M-Rated			
225	—	12 (305)	5 (127)	12 (305)
400	—	12 (305)	5 (127)	12 (305)
600	—	12 (305)	5 (127)	12 (305)
800	400	12 (305)	5 (127)	12 (305)
1000	—	12 (305)	5 (127)	12 (305)
1200	600	12 (305)	5 (127)	12 (305)
1350	800	12 (305)	5 (127)	12 (305)
1600	1000	12 (305)	5 (127)	12 (305)
2000	1200,1350	12 (305)	5 (127)	12 (305)
—	1600			
2500	2000	18 (457)	5 (127)	18 (457)
3000	—	18 (457)	5 (127)	18 (457)
3200	—	18 (457)	5 (127)	18 (457)
4000	2500,3000,3200	18 (457)	5 (127)	18 (457)
5000	4000	24 (610)	8 (203)	24 (610)

Edgewise Offsets, Dimensions (standard/min.)				
Ampere Rating		Dimensions Inches (mm)		
		"A"	"B"	"C"
AL	L-Rated			
225	—	10 (254)	6 (152)	10 (254)
400	—	10 (254)	6 (152)	10 (254)
600	—	10 (254)	6 (152)	10 (254)
800	400	10 (254)	6 (152)	10 (254)
1000	600	10 (254)	6 (152)	10 (254)
1200	800	10 (254)	6 (152)	10 (254)
1350	1000	10 (254)	6 (152)	10 (254)
1600	1200	10 (254)	6 (152)	10 (254)
2000	1350,1600	10 (254)	6 (152)	10 (254)
2500	2000	10 (254)	6 (152)	10 (254)
3000	2500	10 (254)	6 (152)	10 (254)
3200	2000	10 (254)	6 (152)	10 (254)
4000	3000,3200	10 (254)	6 (152)	10 (254)
CU	M-Rated			
225	—	10 (254)	6 (152)	10 (254)
400	—	10 (254)	6 (152)	10 (254)
600	—	10 (254)	6 (152)	10 (254)
800	400	10 (254)	6 (152)	10 (254)
1000	—	10 (254)	6 (152)	10 (254)
1200	600	10 (254)	6 (152)	10 (254)
1350	800	10 (254)	6 (152)	10 (254)
1600	1000	10 (254)	6 (152)	10 (254)
2000	1200,1350	10 (254)	6 (152)	10 (254)
—	1600			
2500	2000	10 (254)	6 (152)	10 (254)
3000	—	10 (254)	6 (152)	10 (254)
3200	—	10 (254)	6 (152)	10 (254)
4000	2500,3000,3200	10 (254)	6 (152)	10 (254)
5000	4000	10 (254)	6 (152)	10 (254)

*Note: Leg Dimensions A and C have been reversed from prior publications.

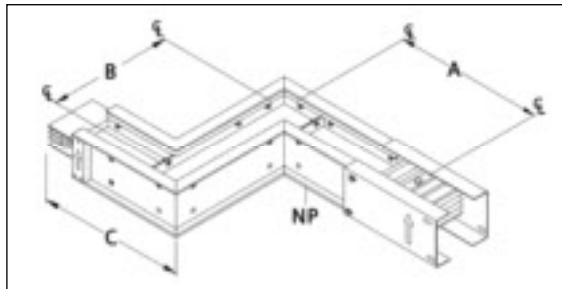
Flat Right

Suffix OFFR



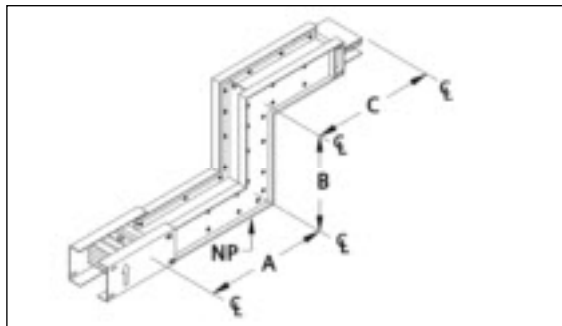
Flat Left

Suffix OFFL



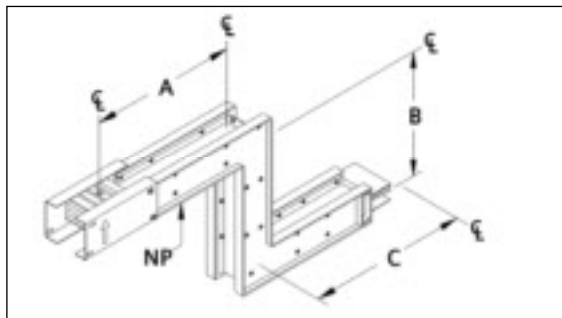
Edge Up

Suffix OFEU



Edge Down

Suffix OFED



Busway Systems

Combinations

Combinations are used to create edge to flat and flat to edge changes in the busway run. One joint stack assembly is shipped with combination.

See drawings for minimum dimensions. Consult Busway Order Service for information on custom lengths.

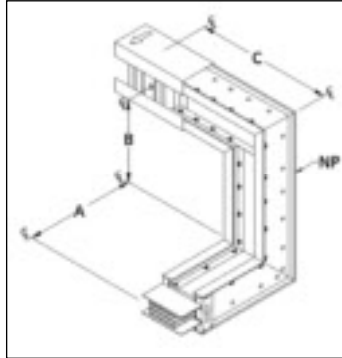
Combinations, Dimensions (standard/min.)		Dimensions Inches (mm)		
Ampere Rating		*"A"	"B"	"C"
AL	L-Rated			
225	—	10 (254)	8 (203)	12 (305)
400	—	10 (254)	8 (203)	12 (305)
600	—	10 (254)	8 (203)	12 (305)
800	400	10 (254)	8 (203)	12 (305)
1000	600	10 (254)	8 (203)	12 (305)
1200	800	10 (254)	8 (203)	12 (305)
1350	1000	10 (254)	8 (203)	12 (305)
1600	1200	10 (254)	12 (305)	18 (457)
2000	1350,1600	10 (254)	12 (305)	18 (457)
2500	2000	10 (254)	12 (305)	18 (457)
3000	2500	10 (254)	12 (305)	18 (457)
3200	2000	10 (254)	12 (305)	18 (457)
4000	3000,3200	10 (254)	16 (406)	24 (610)
CU	M-Rated			
225	—	10 (254)	8 (203)	12 (305)
400	—	10 (254)	8 (203)	12 (305)
600	—	10 (254)	8 (203)	12 (305)
800	400	10 (254)	8 (203)	12 (305)
1000	—	10 (254)	8 (203)	12 (305)
1200	600	10 (254)	8 (203)	12 (305)
1350	800	10 (254)	8 (203)	12 (305)
1600	1000	10 (254)	8 (203)	12 (305)
2000	1200,1350	10 (254)	8 (203)	12 (305)
—	1600	10 (254)	12 (305)	18 (457)
2500	2000	10 (254)	12 (305)	18 (457)
3000	—	10 (254)	12 (305)	18 (457)
3200	—	10 (254)	12 (305)	18 (457)
4000	2500,3000,3200	10 (254)	12 (305)	18 (457)
5000	4000	10 (254)	16 (406)	24 (610)

*Note: Leg Dimensions A and C have been reversed from prior publications.

Selection

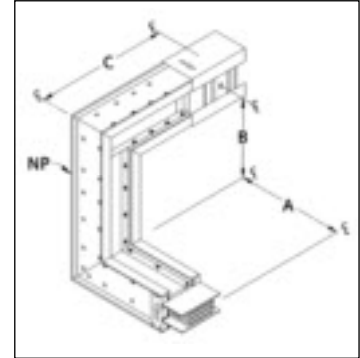
Flat Right - Edge Up

Suffix CORU



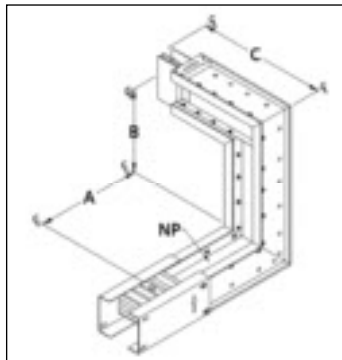
Flat Left - Edge Up

Suffix COLU



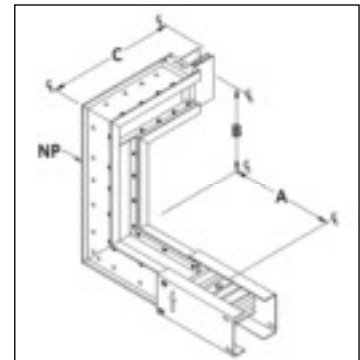
Edge Up - Flat Left

Suffix COUL



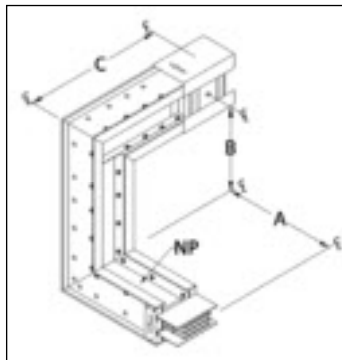
Edge Up - Flat Right

Suffix COUR



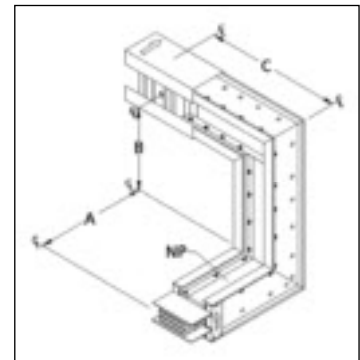
Flat Right - Edge Down

Suffix CORD



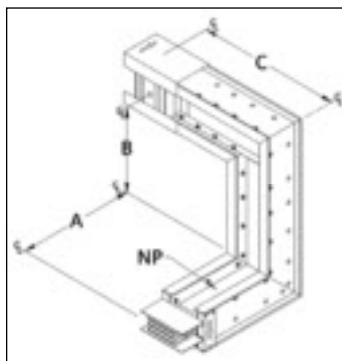
Flat Left - Edge Down

Suffix COLD



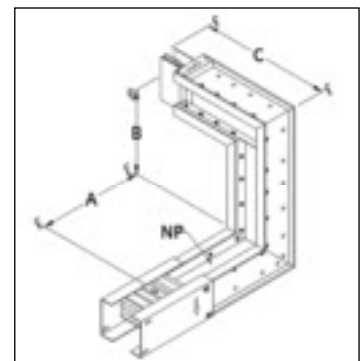
Edge Down - Flat Left

Suffix CODL



Edge Down - Flat Right

Suffix CODR



Busway Systems

Tees

Selection

Tees are used to simplify directional and plane orientation changes in a busway system. Tees can make 90° bends left or right, and up and down along the busway run. All tees are supplied with two joint stack assemblies.

Flatwise Tees, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A", "B", "C"
AL	L-Rated	
225	—	12 (305)
400	—	12 (305)
600	—	12 (305)
800	400	12 (305)
1000	600	12 (305)
1200	800	12 (305)
1350	1000	12 (305)
1600	1200	18 (457)
2000	1350,1600	18 (457)
2500	2000	18 (457)
3000	2500	18 (457)
3200	2000	18 (457)
4000	3000,3200	24 (610)
CU	M-Rated	
225	—	12 (305)
400	—	12 (305)
600	—	12 (305)
800	400	12 (305)
1000	—	12 (305)
1200	600	12 (305)
1350	800	12 (305)
1600	1000	12 (305)
2000	1200,1350	12 (305)
—	1600	18 (457)
2500	2000	18 (457)
3000	—	18 (457)
3200	—	18 (457)
4000	2500,3000,3200	18 (457)
5000	4000	24 (610)

Edgewise Tees, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "D"
AL	L-Rated	
225	—	13 (330)
400	—	13 (330)
600	—	13 (330)
800	400	13 (330)
1000	600	13 (330)
1200	800	18 (457)
1350	1000	18 (457)
1600	1200	18 (457)
2000	1350,1600	18 (457)
2500	2000	27 (686)
3000	2500	27 (686)
3200	2000	27 (686)
4000	3000,3200	29 (737)
CU	M-Rated	
225	—	13 (330)
400	—	13 (330)
600	—	13 (330)
800	400	13 (330)
1000	—	13 (330)
1200	600	13 (330)
1350	800	13 (330)
1600	1000	18 (457)
2000	1200,1350	18 (457)
—	1600	18 (457)
2500	2000	18 (457)
3000	—	27 (686)
3200	—	27 (686)
4000	2500,3000,3200	27 (686)
5000	4000	29 (737)

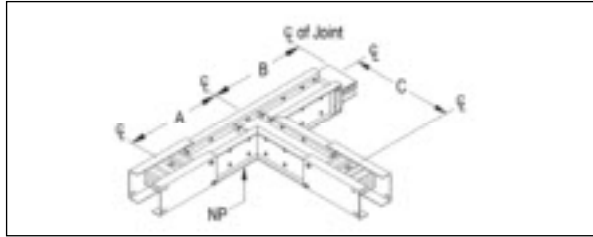
① 12.0" (305mm) For Isolated Ground.

Flatwise Tees

Flatwise tees are used to create left and right branches.

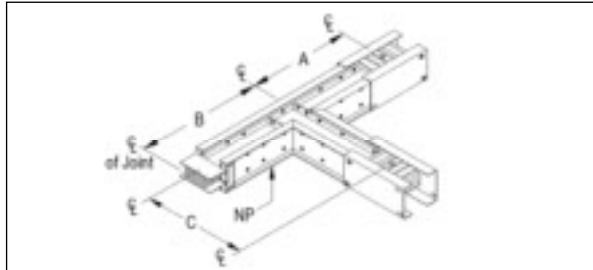
Flat Right

Suffix TEFR



Flat Left

Suffix TEFL

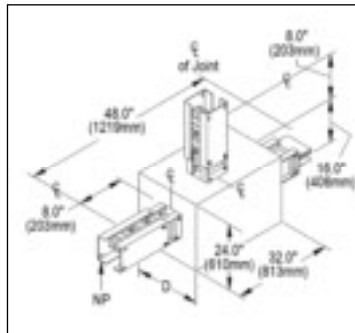


Edgewise Tees

Edgewise tees are used to create branches that stem up or down from the busway run.

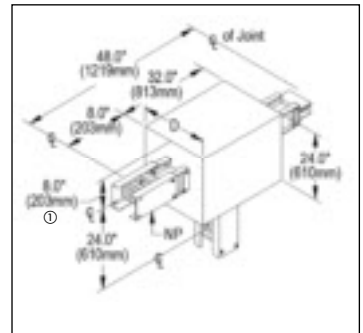
Edge Up

Suffix TEEU



Edge Down

Suffix TEED



Busway Systems

End Tap Boxes

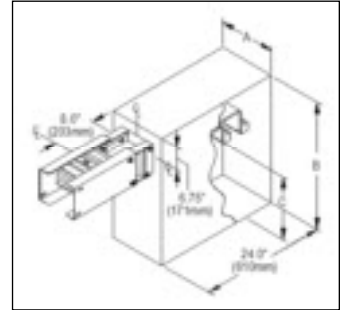
Selection

End tap boxes are non-fusible devices used to connect cable and conduit to the end of a busway run or where busway runs connect without the need for over-current protection. End tap boxes may be installed at the end or beginning of a run. Vertical end tap boxes and horizontal end tap boxes can be installed in both horizontal and vertical applications. Extended end tap boxes are available if the application requires additional wire bending space. One joint stack assembly is shipped with each end tap box.

Standard and Extended Horizontal End Tap Boxes, Dimensions								
Ampere Rating	Dimensions Inches (mm)			Wire Bend Space		Cable Lugs Per Phase & Neutral		Ground Lugs ^①
	"A"	"B" Std.	"B" Ext.	"C" Std.	"C" Ext.	Qty.	Size	
AL L-Rated								
225 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	1	①	1
400 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	1	②	1
600 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	2	②	1
800 400	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	3	②	1
1000 600	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	4	②	1
1200 800	18 (457)	32 (813)	37 (940)	20 (508)	24 (610)	4	②	1
1350 1000	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	4	②	1
1600 1200	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	6	②	2
2000 1350,1600	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	6	②	2
2500 2000	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	8	②	2
3000 2500	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	9	②	2
3200 2000	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	9	②	2
4000 3000,3200	29 (737)	33 (838)	37 (940)	20 (508)	24 (610)	12	②	3
CU M-Rated								
225 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	1	①	1
400 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	1	②	1
600 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	2	②	1
800 400	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	3	②	1
1000 —	13 (330)	30 (762)	34 (863)	17 (432)	21 (533)	4	②	1
1200 600	13 (330)	33 (838)	37 (940)	20 (508)	24 (610)	4	②	1
1350 800	13 (330)	33 (838)	37 (940)	20 (508)	24 (610)	4	②	1
1600 1000	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	5	②	1
2000 1200,1350	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	6	②	2
— 1600	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	5	②	1
2500 2000	18 (457)	33 (838)	37 (940)	20 (508)	24 (610)	8	②	2
3000 —	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	9	②	2
3200 —	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	9	②	2
4000 2500,3000,3200	27 (686)	33 (838)	37 (940)	20 (508)	24 (610)	12	②	3
5000 4000	29 (737)	33 (838)	37 (940)	20 (508)	24 (610)	15	②	4

Horizontal End Tap Box

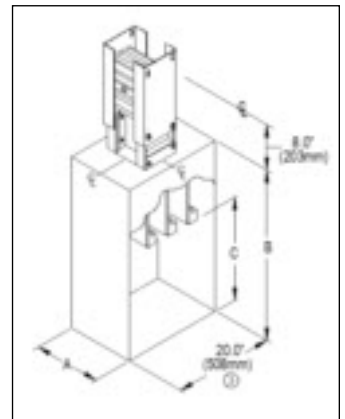
Suffix ETHS (Standard)
Suffix ETHX (Extended)



Standard and Extended Vertical End Tap Boxes, Dimensions								
Ampere Rating	Dimensions Inches (mm)			Wire Bend Space		Cable Lugs Per Phase & Neutral		Ground Lugs ^①
	"A"	"B" Std.	"B" Ext.	"C" Std.	"C" Ext.	Qty.	Size	
AL L-Rated								
225 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	①	1
400 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	②	1
600 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	2	②	1
800 400	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	3	②	1
1000 600	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	4	②	1
1200 800	18 (457)	32 (813)	32 (813)	20 (508)	24 (610)	4	②	1
1350 1000	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1600 1200	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	6	②	2
2000 1350,1600	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	6	②	2
2500 2000	27 (686)	28 (711)	32 (813)	20 (508)	24 (610)	8	②	2
3000 2500	27 (686)	28 (711)	32 (813)	20 (508)	24 (610)	9	②	2
3200 2000	29 (737)	28 (711)	32 (813)	20 (508)	24 (610)	9	②	2
4000 3000,3200	29 (737)	28 (711)	32 (813)	20 (508)	24 (610)	12	②	3
CU M-Rated								
225 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	①	1
400 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	1	②	1
600 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	2	②	1
800 400	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	3	②	1
1000 —	13 (330)	25 (635)	29 (737)	17 (432)	21 (533)	4	②	1
1200 600	13 (330)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1350 800	13 (330)	28 (711)	32 (813)	20 (508)	24 (610)	4	②	1
1600 1000	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	5	②	1
2000 1200,1350	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	6	②	2
— 1600	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	5	②	1
2500 2000	18 (457)	28 (711)	32 (813)	20 (508)	24 (610)	8	②	2
3000 —	27 (686)	28 (711)	32 (813)	20 (508)	24 (610)	9	②	2
3200 —	27 (686)	28 (711)	32 (813)	20 (508)	24 (610)	9	②	2
4000 2500,3000,3200	27 (686)	28 (711)	32 (813)	20 (508)	24 (610)	12	②	3
5000 4000	29 (737)	28 (711)	32 (813)	20 (508)	24 (610)	15	②	4

Vertical End Tap Box

Suffix ETVS (Standard)
Suffix ETVX (Extended)



① #6 AWG -350 kcmil, Cu/Al.

② #4 AWG -600 kcmil, Cu/Al.

③ 24.0" (610mm) for isolated ground.

Busway Systems

Center Tap Boxes

Selection

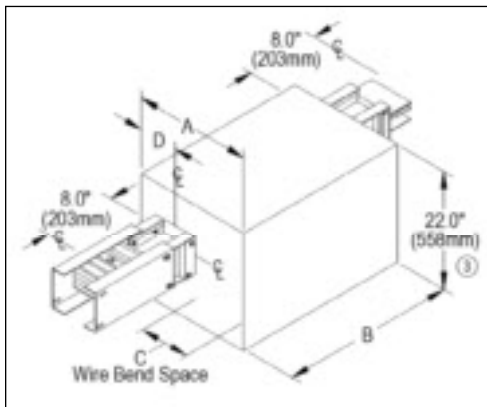
Center tap boxes are non-fusible devices utilized to feed to or take off power from the busway run. When loads served by the busway run do not require over-current protection, center tap boxes may be used. If the application requires additional wiring bending space, extended center tap boxes are available. One joint stack assembly is provided with each center tap box.

Standard and Extended Center End Tap Boxes, Dimensions										
Ampere Rating	Dimensions Inches (mm)			Wire Bend Space			Cable Lugs Per Phase & Neutral		Ground Lugs ^①	
	"A" Std.	"B"	"D"	"A" Ext.	"C" Std.	"C" Ext.	Qty.	Size		
AL L-Rated										
225 —	25 (635)	16 (406)	3.9 (99)	29 (737)	17 (432)	21 (533)	1	①	1	
225 —	25 (635)	16 (406)	3.9 (99)	29 (737)	17 (432)	21 (533)	1	②	1	
400 —	25 (635)	16 (406)	3.9 (99)	29 (737)	17 (432)	21 (533)	1	③	1	
600 —	25 (635)	16 (406)	3.9 (99)	29 (737)	17 (432)	21 (533)	2	④	1	
800 400	25 (635)	16 (406)	4.2 (107)	29 (737)	17 (432)	21 (533)	3	⑤	1	
1000 600	25 (635)	16 (406)	4.6 (117)	29 (737)	17 (432)	21 (533)	4	⑥	1	
1200 800	29 (737)	16 (406)	5.2 (132)	33 (838)	20 (508)	24 (610)	4	⑦	1	
1350 1000	29 (737)	16 (406)	5.7 (145)	33 (838)	20 (508)	24 (610)	4	⑧	1	
1600 1200	33 (838)	20 (508)	6.3 (160)	37 (940)	20 (508)	24 (610)	5	⑨	1	
2000 1350,1600	33 (838)	20 (508)	7.4 (188)	37 (940)	20 (508)	24 (610)	6	⑩	2	
2500 2000	37 (940)	24 (610)	8.7 (221)	41 (1041)	20 (508)	24 (610)	8	⑪	2	
3000 2500	37 (940)	24 (610)	9.7 (246)	41 (1041)	20 (508)	24 (610)	9	⑫	2	
3200 2000	37 (940)	24 (610)	9.7 (246)	41 (1041)	20 (508)	24 (610)	9	⑬	2	
4000 3000,3200	45 (1143)	28 (711)	11.9 (302)	49 (1245)	20 (508)	24 (610)	12	⑭	3	
CU M-Rated										
225 —	25 (635)	30 (762)	3.9 (99)	29 (737)	17 (432)	21 (533)	1	⑮	1	
400 —	25 (635)	30 (762)	3.9 (99)	29 (737)	17 (432)	21 (533)	1	⑯	1	
600 —	25 (635)	30 (762)	3.9 (99)	29 (737)	17 (432)	21 (533)	2	⑰	1	
800 400	25 (635)	30 (762)	4.2 (107)	29 (737)	17 (432)	21 (533)	3	⑱	1	
1000 —	25 (635)	30 (762)	4.2 (107)	29 (737)	18 (457)	22 (559)	4	⑲	1	
1200 600	29 (737)	33 (838)	4.5 (114)	33 (838)	22 (559)	26 (660)	4	⑳	1	
1350 800	29 (737)	33 (838)	4.8 (122)	33 (838)	21 (533)	25 (635)	4	㉑	1	
1600 1000	29 (737)	20 (508)	5.3 (135)	33 (838)	21 (533)	25 (635)	5	㉒	1	
2000 1200,1350	29 (737)	20 (508)	6.1 (155)	33 (838)	20 (508)	24 (610)	6	㉓	2	
— 1600	33 (838)	20 (508)	6.3 (160)	37 (940)	20 (508)	24 (610)	5	㉔	1	
2500 2000	33 (838)	24 (610)	7.3 (185)	37 (940)	23 (584)	17 (432)	8	㉕	2	
3000 —	33 (838)	24 (610)	7.9 (201)	37 (940)	20 (508)	24 (610)	9	㉖	2	
3200 —	33 (838)	24 (610)	7.9 (201)	37 (940)	20 (508)	24 (610)	9	㉗	2	
4000 2500,3000,3200	37 (940)	28 (711)	9.4 (239)	41 (1041)	20 (508)	24 (610)	12	㉘	3	
5000 4000	40(1016)	34 (863)	11.7(297)	44 (1118)	19 (483)	23 (584)	15	㉙	4	

Center Tap Box

Suffix CTBS (Standard)

Suffix CTBX (Extended)



① #6 AWG -350 kcmil, Cu/Al.
 ② #4 AWG -600 kcmil, Cu/Al.
 ③ 24.0" (610mm) for isolated ground.

Busway Systems

In-Line Disconnect Cubicles and Expansion Fittings

Selection

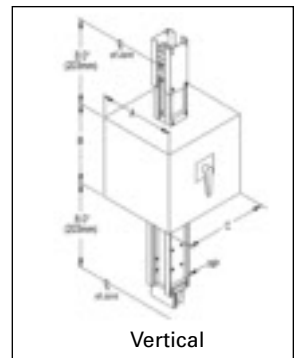
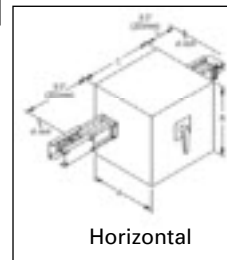
In-Line Disconnect Cubicle, Dimensions				
Description of Unit	Type of Disconnect	Dimensions Inches (mm)		
		"A"	"B"	"C"
Fusible Switch	400-600A FK Visible Blade 800-1200A Vacu-Break	36 (914)	28 (711)	28 (711)
		36 (914)	36 (914)	32 (813)
Molded Case Circuit Breaker	JD6, LD6, MD6, ND6 PD6, RD6	36 (914)	28 (711)	28 (711)
		36 (914)	36 (914)	32 (813)
Digital Sentron Series MCCB's	SJD6, SLD6, SMD6, SND6 SPD6 1600A Frame	36 (914)	28 (711)	28 (711)
		36 (914)	36 (914)	32 (813)
Power Circuit Breaker	200-5000A WL	48 (1219)	36 (914)	32 (813)
Bolted Pressure Switch	800A 1200-2500A 3000A 4000A	33 (838)	36 (914)	32 (813)
		37 (940)	40 (1016)	32 (813)
		37 (940)	40 (1016)	48 (1219)
		41 (1041)	40 (1016)	48 (1219)
ACCESS-compatible				

Note: Consult your local Siemens sales office for details on WL breakers.

In-Line Disconnect Cubicles

Cubicles provide a means of mounting switches or circuit breakers where power feeds to or pulls from the busway system. When bolted connections are preferred, cubicles may be used in place of plug-in units. Cubicles can also be used at ampere ratings that exceed standard plug-in unit ratings. Modifications to cubicles can be made in order to accommodate key inter-locks, ground fault detector systems and power monitoring systems.

In-Line Disconnect Cubicle



Expansion Fittings, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A"
AL	L-Rated	
225	—	13 (330)
400	—	13 (330)
600	—	13 (330)
800	400	13 (330)
1000	600	13 (330)
1200	800	18 (457)
1350	1000	18 (457)
1600	1200	18 (457)
2000	1350,1600	18 (457)
2500	2000	23 (584)
3000	2500	23 (584)
3200	2000	23 (584)
4000	3000,3200	25 (635)
CU	M-Rated	
225	—	13 (330)
400	—	13 (330)
600	—	13 (330)
800	400	13 (330)
1000	—	13 (330)
1200	600	13 (330)
1350	800	13 (330)
1600	1000	18 (457)
2000	1200,1350	18 (457)
—	1600	18 (457)
2500	2000	18 (457)
3000	—	23 (584)
3200	—	23 (584)
4000	2500,3000,3200	23 (584)
5000	4000	25 (635)

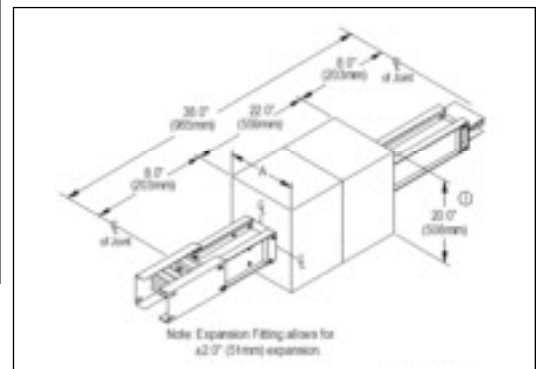
Expansion Fittings

Expansion fittings accommodate for expansion and contraction of a busway run and building movement. Expansion fittings typically are installed in the center of long busway runs, and at the beginning of riser runs to minimize stress on the lower most device or where a busway run crosses an expansion joint of a building.

Expansion Fittings are recommended when the run exceeds 200 ft. (608m). Expansion fittings allow for a +/- 2 in. (50.8mm) movement along the length of the busway system.

Expansion Fitting

Suffix XPFT



© 24.0" (610mm) for isolated ground.

Busway Systems

Reducers and Phase Rotation Fittings

Selection

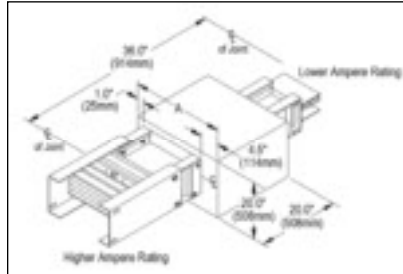
Fused Reducers, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A"
AL	L-Rated	
225	—	11.4 (289)
400	—	11.4 (289)
600	—	11.4 (289)
800	400	11.4 (289)
1000	600	11.4 (289)
1200	800	12.5 (318)
1350	1000	13.5 (343)
1600	1200	14.6 (372)
2000	1350,1600	16.9 (429)
2500	2000	19.6 (498)
3000	2500	21.3 (541)
3200	2000	22.9 (582)
4000	3000,3200	31.5 (800)
CU	M-Rated	
225	—	10.4 (264)
400	—	10.4 (264)
600	—	10.4 (264)
800	400	10.4 (264)
1000	—	10.4 (264)
1200	600	11.0 (280)
1350	800	11.6 (296)
1600	1000	12.6 (321)
2000	1200,1350	14.1 (359)
—	1600	14.6 (372)
2500	2000	16.6 (423)
3000	—	17.9 (455)
3200	—	18.9 (480)
4000	2500,3000,3200	20.9 (531)
5000	4000	31.5 (800)

Fused Reducers

The National Electric Code requires over current protection when busway systems are reduced in ampacity. A fused reducer is used to reduce the allowable ampere rating in those sections of the busway that do not require a higher rating (i.e. at branch circuit junctures).

Fused Reducer

Suffix RFRF



Non-Fused Reducers

Non-fused reducers are used in conjunction with the following exception to the Fused Reducer in the National Electric Code: "For industrial establishments only, omission of over current 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 ft. and has an ampacity of at least equal to one-third the rating or setting of the over current device next back on the line, and provided that such busway is free from contact with combustible material." Special joint stack connections are provided for non-fused reducer connections. Consult factory for specific design guidelines.

Phase Rotation Fittings, Dimensions (standard/min.)		
Ampere Rating		Dimensions Inches (mm) "A"
AL	L-Rated	
225	—	7.9 (200)
400	—	7.9 (200)
600	—	7.9 (200)
800	400	8.5 (216)
1000	600	9.4 (239)
1200	800	10.5 (267)
1350	1000	11.5 (293)
1600	1200	12.6 (321)
2000	1350,1600	14.9 (376)
2500	2000	17.6 (447)
3000	2500	19.8 (503)
3200	2000	21.3 (541)
4000	3000,3200	24.3 (617)
CU	M-Rated	
225	—	7.9 (200)
400	—	7.9 (200)
600	—	7.9 (200)
800	400	7.9 (200)
1000	—	8.4 (213)
1200	600	9.0 (229)
1350	800	9.6 (245)
1600	1000	10.6 (270)
2000	1200,1350	12.1 (372)
—	1600	12.6 (321)
2500	2000	14.6 (200)
3000	—	15.8 (402)
3200	—	17.3 (439)
4000	2500,3000,3200	19.3 (490)
5000	4000	23.3 (592)

Phase-Rotation Fittings

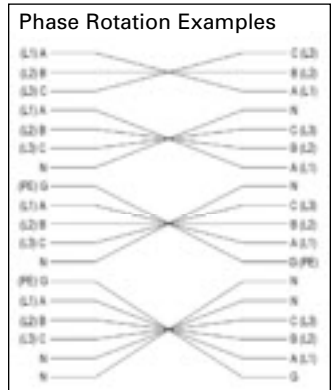
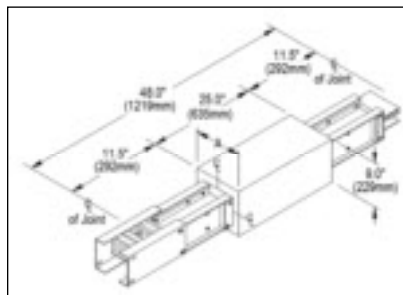
Phase-rotation fittings can be used when the application requires a phase rotation in the power supply. Phase rotation fittings can be ordered for "phase and ground", "phase only" and "ground only" rotations.

Phase Rotation Fitting

Suffix TRPG, Phase and Ground

TRPO, Phase Only

TRGO, Ground Only



Busway Systems

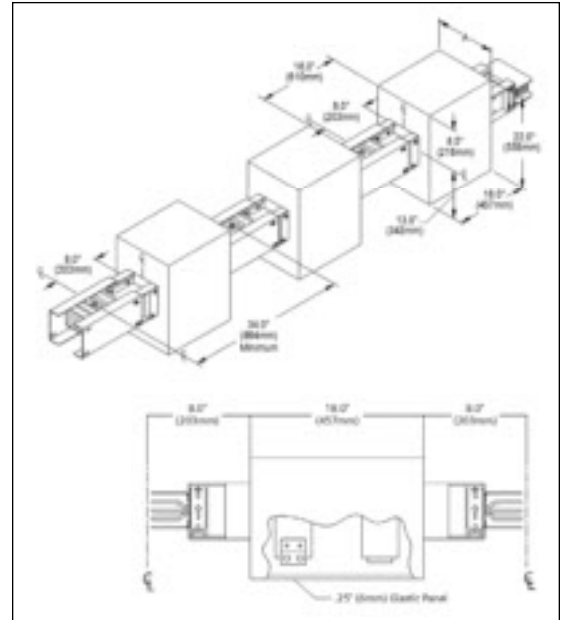
Service Heads

Selection

Service Heads are used to connect busway to a service entrance. In the Sentron Busway line, 3 single-phase service heads and 3-phase service head connections are available. The standard service entrance connection is the 3-phase service head which consists of one service head for all three phases. 3 single-phase service heads consist of three heads – one for each phase and may be used to meet the requirements of certain applications. To ensure ease of installation of incoming cables, both types of Sentron service heads are constructed so that the lugs face the Glastic bottom of the box. The Glastic bottom provides insulation and protection to the incoming cables.

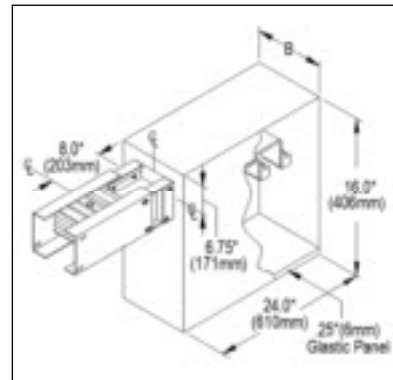
Single-Phase Service Heads, Dimensions (standard/min.)						
Ampere Rating		Dimensions Inches (mm)		Cable Lugs per Phase and Neutral		Ground Lugs ^①
		Single-Phase "A"		Qty.	Size	
AL L-Rated						
225		13 (330)		1	①	1
400	225	13 (330)		1	②	1
600	—	13 (330)		2	②	1
800	400	13 (330)		3	②	1
1000	600	13 (330)		4	②	1
1200	800	18 (457)		4	②	1
1350	1000	18 (457)		4	②	1
1600	1200	18 (457)		5	②	1
2000	1350,1600	20 (508)		6	②	2
2500	2000	27 (686)		8	②	2
3000	2500	29 (737)		9	②	2
3200	2000	29 (737)		9	②	2
4000	3000,3200	29 (737)		12	②	3
CU M-Rated						
225		13 (330)		1	①	1
400		13 (330)		1	②	1
600		13 (330)		2	②	1
800	400	13 (330)		3	②	1
1000	—	13 (330)		4	②	1
1200	600	13 (330)		4	②	1
1350	800	13 (330)		4	②	1
1600	1000	18 (457)		5	②	1
2000	1200,1350	20 (508)		6	②	2
—	1600	18 (457)		5	②	1
2500	2000	20 (508)		8	②	2
3000	—	27 (686)		9	②	2
3200	—	27 (686)		9	②	2
4000	2500,3000,3200	27 (686)		12	②	3
5000	4000	29 (737)		15	②	4

Three Single-Phase Service Heads Suffix V1TX



Three-Phase Service Heads, Dimensions (standard/min.)						
Ampere Rating		Dimensions Inches (mm)		Cable Lugs per Phase and Neutral		Ground Lugs ^①
		Three-Phase "B"		Qty.	Size	
AL L-Rated						
225		13 (330)		1	①	1
400	225	13 (330)		1	②	1
600	—	13 (330)		2	②	1
800	400	13 (330)		3	②	1
1000	600	13 (330)		4	②	1
1200	800	18 (457)		4	②	1
1350	1000	18 (457)		4	②	1
1600	1200	18 (457)		5	②	1
2000	1350,1600	18 (457)		6	②	2
2500	2000	27 (686)		8	②	2
3000	2500	27 (686)		9	②	2
3200	2000	27 (686)		9	②	2
4000	3000,3200	29 (737)		12	②	3
CU M-Rated						
225		13 (330)		1	①	1
400		13 (330)		1	②	1
600		13 (330)		2	②	1
800	400	13 (330)		3	②	1
1000	—	13 (330)		4	②	1
1200	600	13 (330)		4	②	1
1350	800	13 (330)		4	②	1
1600	1000	18 (457)		5	②	1
2000	1200,1350	18 (457)		6	②	2
—	1600	18 (457)		5	②	1
2500	2000	18 (457)		8	②	2
3000	—	27 (686)		9	②	2
3200	—	27 (686)		9	②	2
4000	2500,3000,3200	27 (686)		12	②	3
5000	4000	29 (737)		15	②	4

Three-Phase Service Head Suffix V3TX



① #6 AWG - 350 kcmil, Cu / Al.

② #4 AWG - 600 kcmil, Cu / Al.

Busway Systems

Hangers

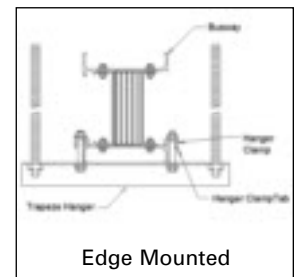
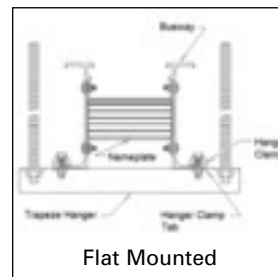
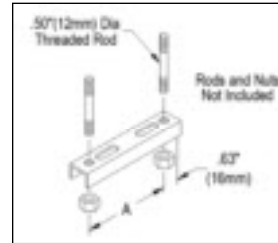
Selection

Trapeze Hanger, Dimensions and Catalog Numbers			
Ampere Rating		"A" Dimensions Inches (mm)	Flat Mounted Catalog Number ^①
AL	L-Rated		
225	—	10.0 (254)	SXTH1
400	—	10.0 (254)	SXTH1
600	—	10.0 (254)	SXTH1
800	400	10.0 (254)	SXTH1
1000	600	10.0 (254)	SXTH1
1200	800	10.0 (254)	SXTH1
1350	1000	13.5 (343)	SXTH2
1600	1200	13.5 (343)	SXTH2
2000	1350,1600	13.5 (343)	SXTH2
2500	2000	13.5 (343)	SXTH3
3000	2500	13.5 (343)	SXTH3
3200	2000	13.5 (343)	SXTH3
4000	3000,3200	23.0 (584)	SXTH4
CU	M-Rated		
225	—	10.0 (254)	SXTH1
400	—	10.0 (254)	SXTH1
600	—	10.0 (254)	SXTH1
800	400	10.0 (254)	SXTH1
1000	—	10.0 (254)	SXTH1
1200	600	10.0 (254)	SXTH1
1350	800	10.0 (254)	SXTH1
1600	1000	10.0 (254)	SXTH1
2000	1200,1350	13.5 (343)	SXTH2
—	1600	13.5 (343)	SXTH2
2500	2000	13.5 (343)	SXTH2
3000	—	18.5 (470)	SXTH3
3200	—	18.5 (470)	SXTH3
4000	2500,3000,3200	18.5 (470)	SXTH3
5000	4000	23.0 (584)	SXTH4

① Use SXTH1 for Edge Mounted.

Trapeze Hanger

A complete offering of hangers is available to support Sentron Busway in both vertical and horizontal applications. Standard trapeze hangers support Sentron Busway in horizontal applications on 10 ft. (3.05m) centers. Additional hangers may be used if structural requirements mandate their use. The contractor must supply drop rods to complete assembly for trapeze hangers.



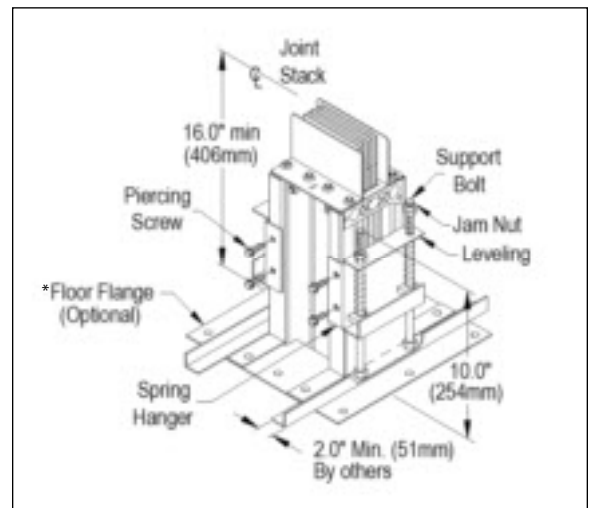
Flat Mounted

Edge Mounted

Spring Hanger, Catalog Numbers						
Ampere Rating		Catalog Assembly floor to ceiling height				
		10ft.	12 ft.	14 ft.	16 ft.	18 ft.
AL	L-Rated					
225	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
400	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
600	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
800	400	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1000	600	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1200	800	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1350	1000	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1600	1200	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
2000	1350,1600	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
2500	2000	SXSH4	SXSH4	SXSH4	SXSH6	SXSH6
3000	2500	SXSH4	SXSH6	SXSH6	SXSH6	SXSH6
3200	2000	SXSH4	SXSH6	SXSH6	SXSH6	SXSH6
4000	3000,3200	SXSH4	SXSH6	SXSH6	SXSH6	SXSH8
CU	M-Rated					
225	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
400	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
600	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
800	400	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1000	—	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1200	600	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
1350	800	SXSH4	SXSH4	SXSH4	SXSH6	SXSH6
1600	1000	SXSH4	SXSH4	SXSH6	SXSH6	SXSH6
2000	1200,1350	SXSH6	SXSH6	SXSH6	SXSH6	SXSH8
—	1600	SXSH4	SXSH4	SXSH4	SXSH4	SXSH4
2500	2000	SXSH2	SXSH6	SXSH8	SXSH8	SXSH8
3000	—	SXSH6	SXSH8	SXSH8	SXSH10	SXSH10
3200	—	SXSH6	SXSH8	SXSH8	SXSH10	SXSH12
4000	2500,3000,3200	SXSH6	SXSH8	SXSH10	SXSH12	SXSH12
5000	4000	SXSH6	SXSH10	SXSH12	SXSH14	SXSH14

Spring Hanger

Spring hangers and floor support hangers must be used to provide secure mounting of the busway run in vertical applications. Spring hangers support the weight of the busway on each floor and also compensate for minimal building movement and thermal expansion. Maximum distance between spring hangers may not exceed 16 ft. (4.88m). When ordering 18 ft. (5.49m) floor to ceiling height assemblies, intermediate support hangers are necessary.



*Note: Flanges do not offer support to the busway. Flanges provide a means of covering the hole created in the existing structure.

Busway Systems

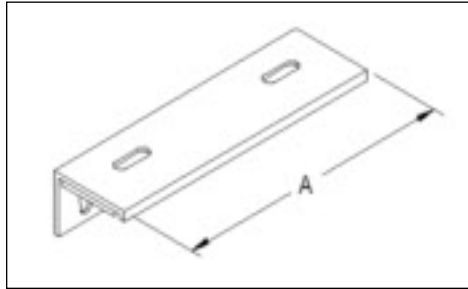
Hangers

Selection

Structural Steel Hanger, Dimensions and Catalog Numbers			
Ampere Rating		"A" Dimensions Inches (mm)	Catalog Number
AL	L-Rated		
225	—	10.0 (254)	SXSS1
400	—	10.0 (254)	SXSS1
600	—	10.0 (254)	SXSS1
800	400	10.0 (254)	SXSS1
1000	600	10.0 (254)	SXSS1
1200	800	10.0 (254)	SXSS1
1350	1000	13.5 (343)	SXSS2
1600	1200	13.5 (343)	SXSS2
2000	1350,1600	13.5 (343)	SXSS2
2500	2000	18.5 (470)	SXSS3
3000	2500	18.5 (470)	SXSS3
3200	2000	18.5 (470)	SXSS3
4000	3000,3200	23.0 (584)	SXSS4
CU	M-Rated		
225	—	10.0 (254)	SXSS1
400	—	10.0 (254)	SXSS1
600	—	10.0 (254)	SXSS1
800	400	10.0 (254)	SXSS1
1000	—	10.0 (254)	SXSS1
1200	600	10.0 (254)	SXSS1
1350	800	10.0 (254)	SXSS1
1600	1000	10.0 (254)	SXSS1
2000	1200,1350	13.5 (343)	SXSS2
—	1600	13.5 (343)	SXSS2
2500	2000	13.5 (343)	SXSS2
3000	—	13.5 (343)	SXSS2
3200	—	13.5 (343)	SXSS2
4000	2500,3000,3200	13.5 (343)	SXSS2
5000	4000	23.0 (584)	SXSS4

Structural Steel Hanger

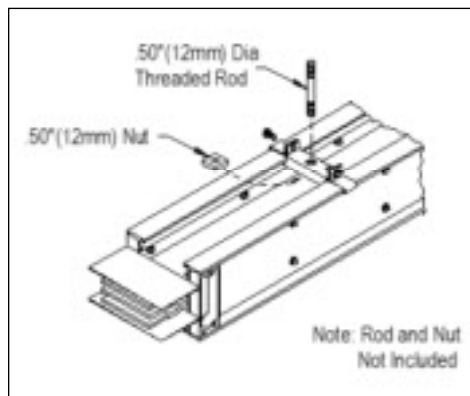
A complete offering of hangers is available to support Sentron Busway in both vertical and horizontal applications. Structural Steel hangers support Sentron Busway in horizontal applications on 10 ft. (3.05m) centers. Additional hangers may be used if structural requirements mandate their use.



Single Drop Rod Hanger, Catalog Numbers		
Ampere Rating		Catalog Number
AL	L-Rated	
225	—	—
400	—	—
600	—	SXDRA1
800	400	SXDRA2
1000	600	SXDRA3
1200	800	SXDRA4
1350	1000	SXDRA5
1600	1200	SXDRA6
2000	1350,1600	SXDRA7
2500	2000	—
3000	2500	—
3200	2000	—
4000	3000,3200	—
CU	M-Rated	
225	—	—
400	—	—
600	—	—
800	400	SXDRC1
1000	—	SXDRC2
1200	600	SXDRC3
1350	800	SXDRC4
1600	1000	SXDRC5
2000	1200,1350	SXDRC6
—	1600	SXDRC8
2500	2000	SXDRC7
3000	—	—
3200	—	—
4000	2500,3000,3200	—
5000	4000	—

Single Drop Rod Hanger

A complete offering of hangers is available to support Sentron Busway in both vertical and horizontal applications. Single drop rod hangers support Sentron Busway in horizontal applications on 10 ft. (3.05m) centers. Additional hangers may be used if structural requirements mandate their use. The contractor must supply drop rods to complete assembly for single drop rod hangers.



Busway Systems

Hangers and End Closers

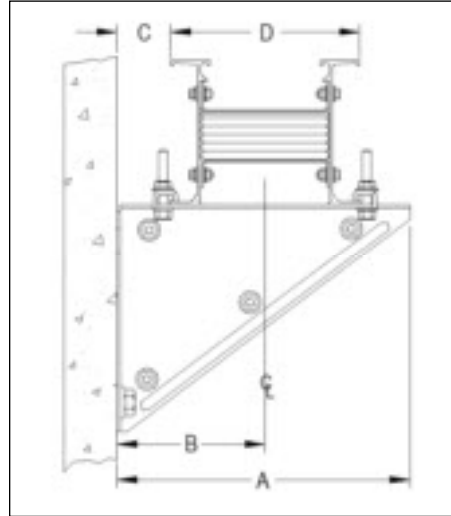
Selection

Wall Mounted Hanger, Dimensions and Catalog Numbers					
Ampere Rating		Dimensions Inches (mm)			Catalog Number
		"A"	"B"	"C"	
AL	L-Rated				
225	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
400	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
600	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
800	400	12.3 (311)	6.1 (156)	3.8 (97)	SXWH1
1000	600	12.3 (311)	6.1 (156)	3.8 (97)	SXWH1
1200	800	12.3 (311)	6.1 (156)	2.8 (72)	SXWH1
1350	1000	16.3 (413)	8.1 (206)	4.4 (111)	SXWH2
1600	1200	16.3 (413)	8.1 (206)	3.9 (98)	SXWH2
2000	1350,1600	16.3 (413)	8.1 (206)	2.8 (70)	SXWH2
2500	2000	20.8 (527)	10.4 (264)	3.6 (92)	SXWH3
3000	2500	20.8 (527)	10.4 (264)	2.5 (64)	SXWH3
3200	2000	20.8 (527)	10.4 (264)	1.8 (46)	SXWH3
4000	3000,3200	25.3 (641)	12.6 (321)	2.5 (64)	SXWH4
CU	M-Rated				
225	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
400	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
600	—	12.3 (311)	6.1 (156)	4.2 (107)	SXWH1
800	400	12.3 (311)	6.1 (156)	3.8 (97)	SXWH1
1000	—	12.3 (311)	6.1 (156)	3.8 (97)	SXWH1
1200	600	12.3 (311)	6.1 (156)	2.8 (72)	SXWH1
1350	800	12.3 (311)	6.1 (156)	2.8 (72)	SXWH1
1600	1000	12.3 (311)	6.1 (156)	2.8 (72)	SXWH1
2000	1200,1350	16.3 (413)	8.1 (206)	4.4 (111)	SXWH2
—	1600	16.3 (413)	8.1 (206)	3.9 (98)	SXWH2
2500	2000	16.3 (413)	8.1 (206)	2.8 (70)	SXWH2
3000	—	20.8 (527)	10.4 (264)	3.6 (92)	SXWH3
3200	—	20.8 (527)	10.4 (264)	2.5 (64)	SXWH3
4000	2500,3000,3200	20.8 (527)	10.4 (264)	1.8 (46)	SXWH3
5000	4000	25.3 (641)	12.6 (321)	2.5 (64)	SXWH4

Wall Mounted Hanger

Wall Mounted Hangers are used for horizontal applications close to a wall. The busway can be mounted either edgewise or flatwise to the wall.

Wall Mounted Hanger ensures the minimum clearance between the wall and the busway run.



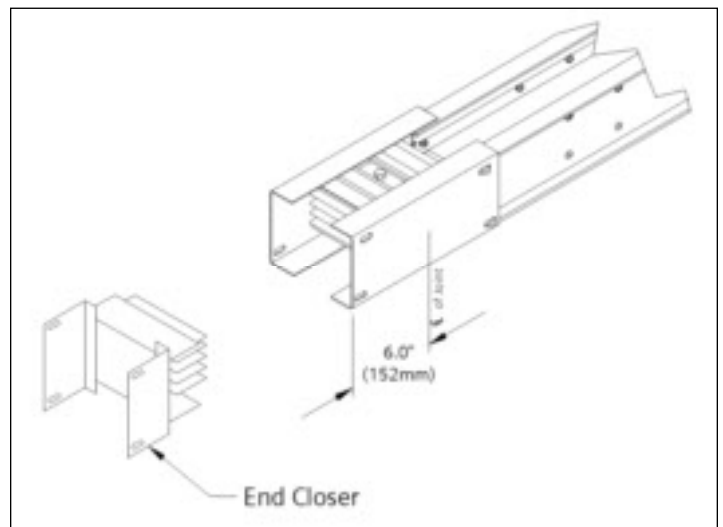
End Closers

End closers safely terminate a busway run and protect the bus bar ends. End closers may be removed easily in order to extend a busway run. End closers are shipped with Glastic insulation pieces, however, joint stacks and inspection covers are not included.

End Closers

(Joint stack and covers not included)

Suffix ECLS



Busway Systems

Roof and Wall Flanges

Selection

Roof, wall and floor flanges are available for Sentron Busway. When the busway run passes through a roof, wall or ceiling, a flange should be used. Flanges do not offer support to the busway. Flanges provide a means of covering the hole created in the existing structure. Additional sealant may be required to meet fire codes and all other local requirements. No caulking or gasketing is provided with Sentron flanges.

Roof Flanges, Dimensions			
Ampere Rating		Dimensions Inches (mm)	
		"A"	"B"
AL	L-Rated		
225	—	12 (305)	18 (457)
400	—	12 (305)	18 (457)
600	—	12 (305)	18 (457)
800	400	12 (305)	18 (457)
1000	600	12 (305)	18 (457)
1200	800	12 (305)	18 (457)
1350	1000	16 (406)	22 (559)
1600	1200	16 (406)	22 (559)
2000	1350,1600	16 (406)	22 (559)
2500	2000	20.5 (521)	22 (559)
3000	2500	20.5 (521)	26.5 (673)
3200	2000	20.5 (521)	26.5 (673)
4000	3000,3200	25 (635)	31 (787)
CU	M-Rated		
225	—	12 (305)	18 (457)
400	—	12 (305)	18 (457)
600	—	12 (305)	18 (457)
800	400	12 (305)	18 (457)
1000	—	12 (305)	18 (457)
1200	600	12 (305)	18 (457)
1350	800	12 (305)	18 (457)
1600	1000	12 (305)	18 (457)
2000	1200,1350	16 (406)	22 (559)
—	1600	16 (406)	22 (559)
2500	2000	16 (406)	22 (559)
3000	—	20.5 (521)	26.5 (673)
3200	—	20.5 (521)	26.5 (673)
4000	2500,3000,3200	20.5 (521)	26.5 (673)
5000	4000	25 (635)	31 (787)

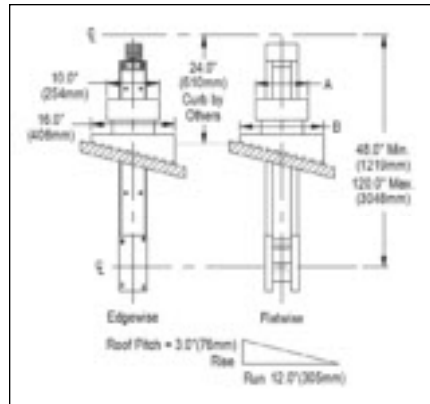
Wall, Ceiling and Floor Flanges, Dimensions			
Ampere Rating		Dimensions Inches (mm)	
		"A"	"B"
AL	L-Rated		
225	—	11 (279)	7 (178)
400	—	11 (279)	7 (178)
600	—	11 (279)	7 (178)
800	400	11 (279)	7 (178)
1000	600	12 (305)	8 (203)
1200	800	13 (330)	9 (229)
1350	1000	14 (356)	10 (254)
1600	1200	15 (381)	11 (279)
2000	1350,1600	17 (432)	13 (330)
2500	2000	20 (508)	16 (406)
3000	2500	22 (559)	18 (457)
3200	2000	24 (610)	20 (508)
4000	3000,3200	26 (660)	22 (559)
CU	M-Rated		
225	—	10 (254)	6 (152)
400	—	10 (254)	6 (152)
600	—	10 (254)	6 (152)
800	400	10 (254)	6 (152)
1000	—	11 (279)	7 (178)
1200	600	12 (305)	8 (203)
1350	800	12 (305)	8 (203)
1600	1000	13 (330)	9 (229)
2000	1200,1350	15 (381)	11 (279)
—	1600	15 (381)	11 (279)
2500	2000	17 (432)	13 (330)
3000	—	18 (457)	14 (356)
3200	—	19 (483)	15 (381)
4000	2500,3000,3200	21 (533)	17 (432)
5000	4000	26 (660)	22 (559)

Roof Flanges

Roof flanges are available for Sentron Busway. When the busway run passes through a roof, a flange should be used. Flanges do not offer support to the busway. Flanges provide a means of covering the hole created in the existing structure. Additional sealant may be required to meet fire codes and all other local requirements. No caulking or gasketing is provided with Sentron flanges. Roof flanges provide a watertight seal for use with NEMA 3R and IP66 rated busway. Roof pitch must be indicated on drawings when ordering roof flanges.

Roof Flanges

Suffix GRFL

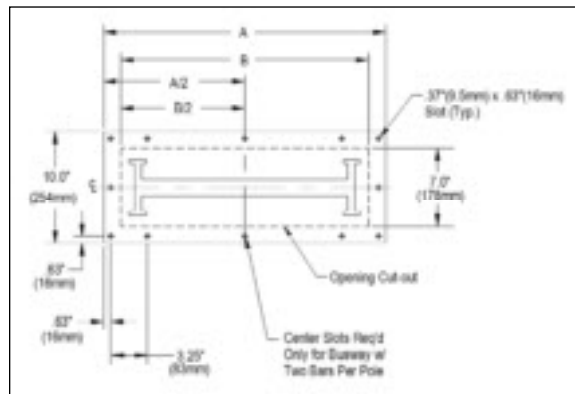


Wall, Ceiling and Floor Flanges

Wall/Floor flanges are available for Sentron Busway. When the busway run passes through a wall or ceiling, a flange should be used. Flanges do not offer support to the busway. Flanges provide a means of covering the hole created in the existing structure. Additional sealant may be required to meet fire codes and all other local requirements. No caulking or gasketing is provided with Sentron flanges.

Wall, Ceiling and Floor Flanges

Suffix GWFL



Busway Systems

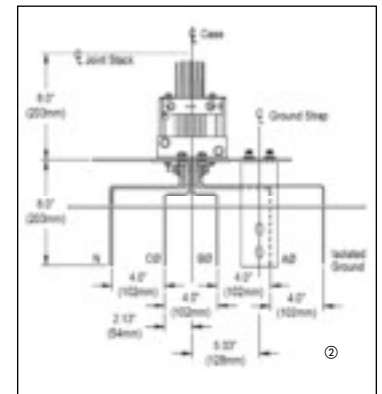
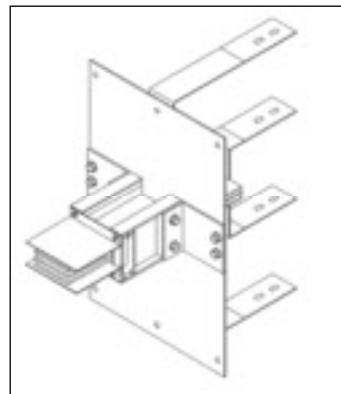
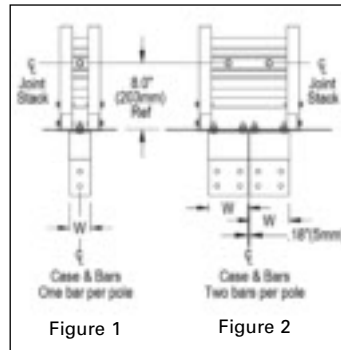
Flanged Ends

Selection

Flanged ends provide a direct connection to low voltage switchgear, switchboards, motor control centers, large power panels, and other electrical distribution equipment. Flanged ends are shipped with one joint stack assembly. The switchgear manufacturer supplies lugs and mounting hardware. See illustration for flanged end drilling patterns.

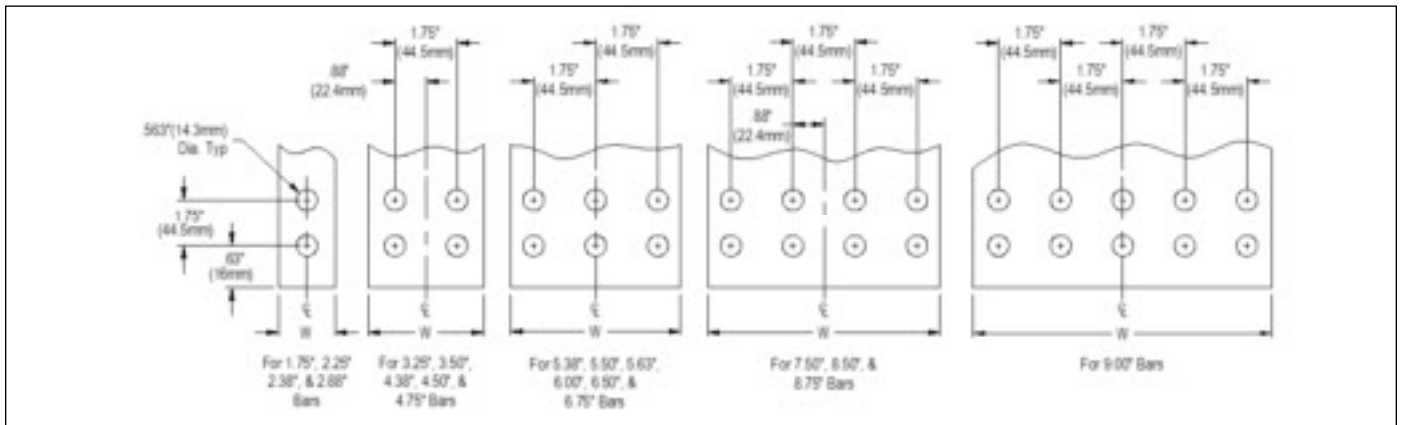
Flanged End, Dimensions		Dimensions Inches (mm)	
Ampere Rating		"W"	Fig. No.
AL	L-Rated		
225	—	1.75 (44.4)	1
400	—	1.75 (44.4)	1
600	—	1.75 (44.4)	1
800	400	2.38 (60.5)	1
1000	600	3.25 (82.6)	1
1200	800	4.38 (111.3)	1
1350	1000	5.38 (136.7)	1
1600	1200	6.50 (165.1)	1
2000	1350,1600	8.75 (222.3)	1
2500	2000	5.63 (143.0)	2
3000	2500	6.75 (171.5)	2
3200	2000	6.75 (171.5)	2
4000	3000,3200	9.00 (228.6)	2
CU	M-Rated		
225	—	1.75 (44.4)	1
400	—	1.75 (44.4)	1
600	—	1.75 (44.4)	1
800	400	1.75 (44.4)	1
1000	—	2.25 (57.2)	1
1200	600	2.88 (73.2)	1
1350	800	3.50 (88.9)	1
1600	1000	4.50 (114.3)	1
2000	1200,1350	6.00 (152.4)	1
—	1600	6.50 (165.1)	1
2500	2000	8.50 (215.9)	1
3000	—	4.75 (120.7)	2
3200	—	5.50 (139.7)	2
4000	2500,3000,3200	6.50 (165.1)	2
5000	4000	8.50 (215.9)	2

Flanged End Suffix FRND



Flanged End Bus Bar Drilling Pattern (NEMA)Ⓞ

(Same pattern for 2 bus bars per pole, see figure 2 above.)



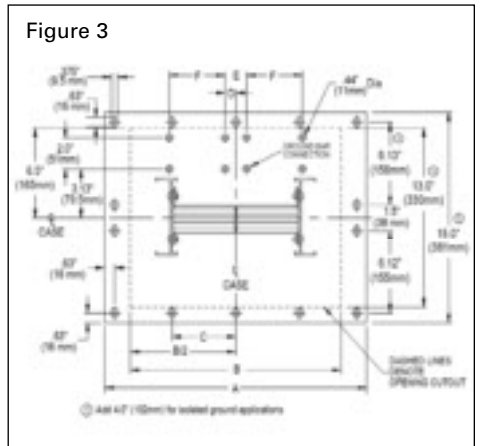
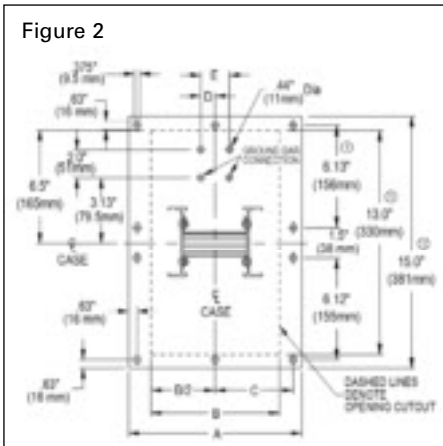
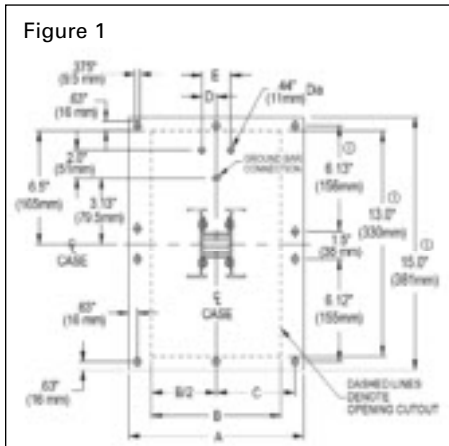
Ⓞ Other drilling patterns are available and must be specified at order entry.
 Ⓜ See Figures 4, 5 and 6 on page 14-43.

Busway Systems

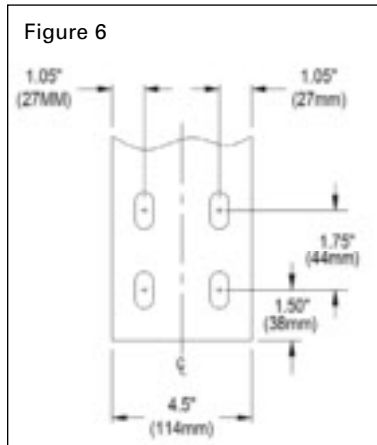
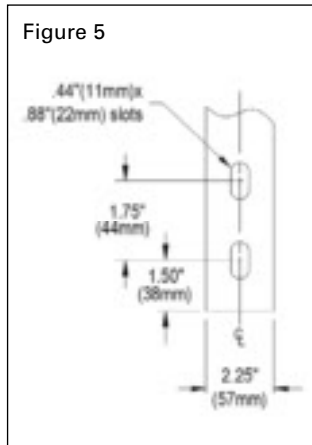
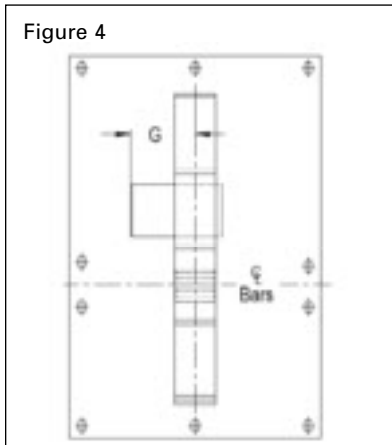
Flanged Ends

Selection

Flanged End, Dimensions (standard/min.)											
Ampere Rating		Dimensions Inches (mm)									
		Ref. Bar Width	Fig. No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	Fig. No.
AL	L-Rated										
225	—	2.38 (60.5)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.94 (49)	3.88 (99)	—	6.00 (152)	4, 5
400	—	2.38 (60.5)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.94 (49)	3.88 (99)	—	6.00 (152)	4, 5
600	—	2.38 (60.5)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.94 (49)	3.88 (99)	—	6.00 (152)	4, 5
800	400	2.38 (60.5)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.94 (49)	3.88 (99)	—	6.00 (152)	4, 5
1000	600	3.25 (82.6)	2	10.0 (254)	8.00 (203)	4.38 (111)	1.94 (49)	2.06 (52)	—	6.00 (152)	4, 6
1200	800	4.38 (111.3)	2	15.50 (395)	13.50 (343)	7.13 (181)	1.60 (41)	3.19 (81)	—	8.50 (216)	4, 6
1350	1000	5.38 (136.7)	2	15.50 (395)	13.50 (343)	7.13 (181)	2.10 (53)	4.19 (106)	—	8.50 (216)	4, 6
1600	1200	6.50 (165.1)	2	15.50 (395)	13.50 (343)	7.13 (181)	2.66 (67)	5.31 (135)	—	8.50 (216)	4, 6
2000	1350,1600	8.75 (222.3)	2	15.50 (395)	13.50 (343)	7.13 (181)	3.78 (96)	7.56 (192)	—	8.50 (216)	4, 6
2500	2000	5.63 (143.0)	3	20.0 (508)	18.00 (457)	4.50 (114)	0.68 (17)	1.37 (36)	4.44 (113)	13.25 (337)	4, 6
3000	2500	6.75 (171.5)	3	20.0 (508)	18.00 (457)	4.50 (114)	0.68 (17)	1.37 (36)	5.56 (141)	13.25 (337)	4, 6
3200	2000	7.50 (190.5)	3	24.0 (610)	22.0 (569)	5.50 (140)	0.68 (17)	1.37 (36)	6.32 (161)	13.25 (337)	4, 6
4000	3000,3200	9.00 (228.6)	3	24.0 (610)	22.0 (569)	5.50 (140)	0.68 (17)	1.37 (36)	7.81 (198)	14.25 (362)	4, 6
CU	M-Rated										
225	—	1.75 (44.4)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.63 (41)	3.25 (83)	—	6.00 (152)	4, 5
400	—	1.75 (44.4)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.63 (41)	3.25 (83)	—	6.00 (152)	4, 5
600	—	1.75 (44.4)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.63 (41)	3.25 (83)	—	6.00 (152)	4, 5
800	400	1.75 (44.4)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.63 (41)	3.25 (83)	—	6.00 (152)	4, 5
1000	—	2.25 (57.2)	1	10.0 (254)	8.00 (203)	4.38 (111)	1.88 (48)	3.75 (95)	—	6.00 (152)	4, 5
1200	600	2.88 (73.2)	2	10.0 (254)	8.00 (203)	4.38 (111)	0.85 (21)	1.69 (43)	—	6.00 (152)	4, 6
1350	800	3.50 (88.9)	2	10.0 (254)	8.00 (203)	4.38 (111)	1.16 (29)	2.31 (59)	—	6.00 (152)	4, 6
1600	1000	4.50 (114.3)	2	15.50 (395)	13.50 (343)	7.13 (181)	1.66 (42)	3.31 (84)	—	8.50 (216)	4, 6
2000	1200,1350	6.00 (152.4)	2	15.50 (395)	13.50 (343)	7.13 (181)	2.41 (62)	4.81 (122)	—	8.50 (216)	4, 6
—	1600	6.50 (165.1)	2	15.50 (395)	13.50 (343)	7.13 (181)	2.66 (67)	5.31 (135)	—	8.50 (216)	4, 6
2500	2000	8.50 (215.9)	1	15.50 (395)	13.50 (343)	7.13 (181)	3.66 (93)	7.31 (186)	—	8.50 (216)	4, 6
3000	—	4.75 (120.7)	3	20.0 (508)	18.00 (457)	4.50 (114)	0.68 (17)	1.37 (36)	3.56 (90)	13.25 (337)	4, 6
3200	—	5.50 (139.7)	3	20.0 (508)	18.00 (457)	4.50 (114)	0.68 (17)	1.37 (36)	4.32 (110)	13.25 (337)	4, 6
4000	2500,3000,3200	6.50 (165.1)	3	20.0 (508)	18.00 (457)	4.50 (114)	0.68 (17)	1.37 (36)	5.31 (135)	13.25 (337)	4, 6
5000	4000	8.50 (215.9)	3	24.0 (610)	22.00 (569)	5.50 (140)	0.68 (17)	1.37 (36)	7.31 (186)	14.25 (362)	4, 6



Integral and Internal Ground Strap Drilling Detail



Busway Systems

Panelboards and Meter Center Modules

Selection

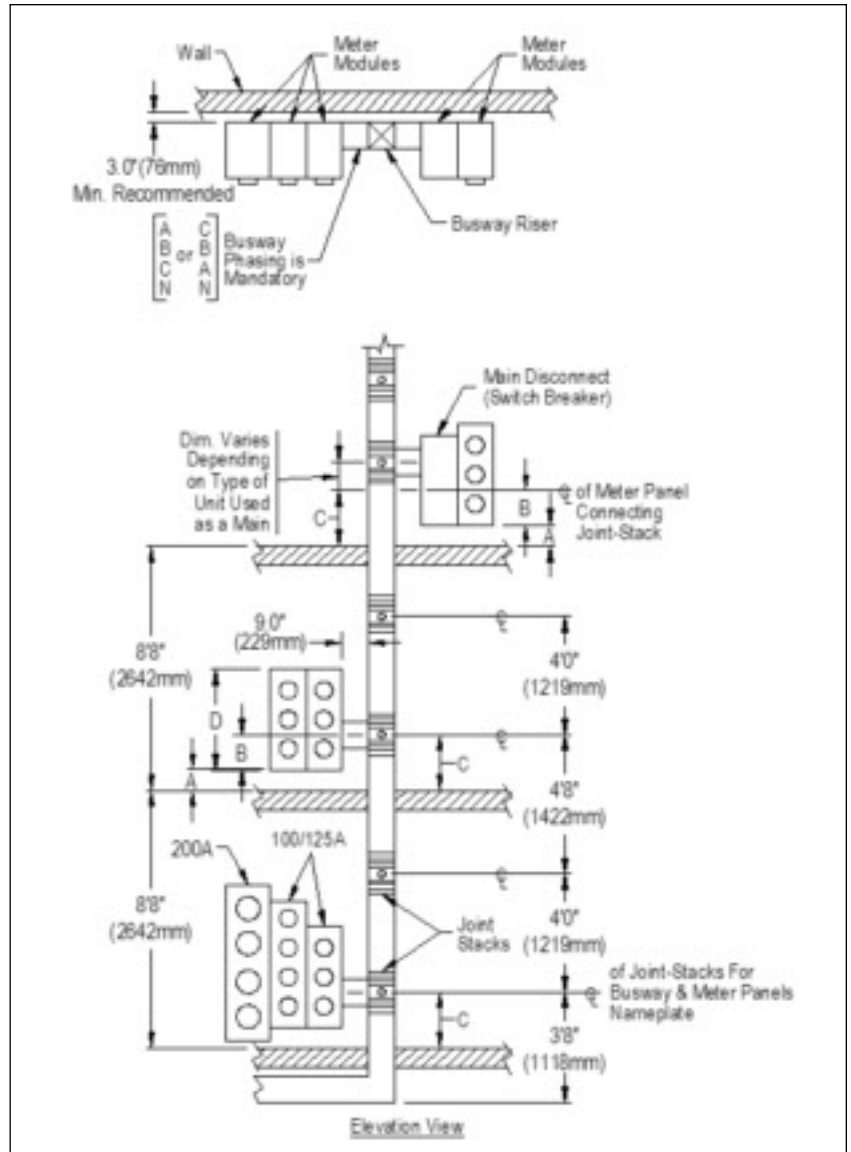
Meter center modules provide a quick and convenient method of connecting to metering devices for both commercial and industrial applications.

Meter center modules connect at the side of a busway run to special joint stacks; these special joints can be added to existing busway to accommodate meter center module connections. When using multiple metering stacks, main disconnects are available if the system reaches the 6 circuit rule (see metering bulletin for further information).

Dimensional Data Required

Dimensions Inches (mm)

- "A" Distance between floor and bottom of meter center as required by the customer.
- "B" Dimension from bottom of meter center to centerline of meter center joint connection stack:
100-125A Panel, B = 16.5 (419)
200A Panel, B = 22.0 (559)
- "C" Equals "A" plus "B", Minimum 16.0 (406)
- "D" Individual meter center height. Consult Modular Metering application information.



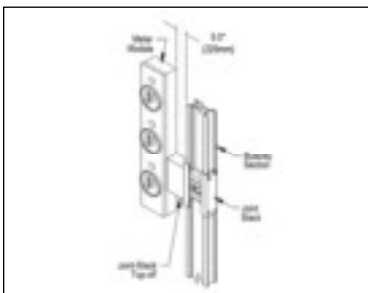
Meter Center Cubicles

Meter center cubicles provide a quick and convenient method of connecting to metering devices for both commercial and industrial applications and have the main disconnect circuit breaker factory installed.

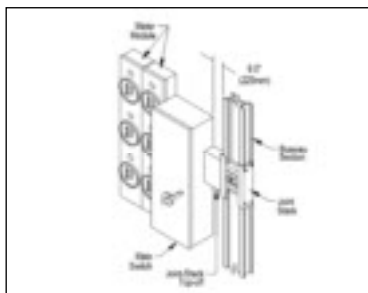
Having the main disconnect built into the device reduces the required space on the right and left side of the busway. Meter center modules connect at the side of the cubicle frame box using an SBJ4 stack. Meter center cubicles are available for 600 – 1200 Amp (L, M and N Frames). They are available with flexible meter center connections, left side, right side or both. (When ordering a meter center cubicle a SBJ4 stack must be ordered separately.)

Molded Case Circuit Breaker Cubicles with Meter Tap Stack Provisions Dimensions, Inches (mm)											
Ampere Rating		Busway Width W	L Frame Breaker (250-600A)			M Frame Breaker (250-600A)			N Frame Breaker (800-1200A)		
			A	B	C	A	B	C	A	B	C
AL	L-Rated										
225	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
400	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
600	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
800	400	4.6 (117)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1000	600	5.4 (137)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1200	800	6.6 (168)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1350	1000	7.6 (193)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1600	1200	8.7 (221)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
2000	1350,1600	10.9 (277)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
2500	2000	13.7 (348)	32 (813)	24 (610)	23.5 (597)	37 (940)	26 (660)	23.5 (597)	37 (940)	26 (660) 23.5 (597)	
3000	2500	15.8 (401)	32 (813)	24 (610)	23.5 (597)	37 (940)	26 (660)	23.5 (597)	37 (940)	26 (660) 23.5 (597)	
3200	2000	17.3 (439)	32 (813)	24 (610)	23.5 (597)	37 (940)	26 (660)	28 (711)	37 (940)	26 (660) 28 (711)	
4000	3000,3200	20.3 (516)	32 (813)	24 (610)	28 (711)	37 (940)	26 (660)	28 (711)	37 (940)	26 (660) 28 (711)	
4000	3000,3200	20.3 (516)	32 (813)	24 (610)	28 (711)	37 (940)	26 (660)	28 (711)	37 (940)	26 (660) 28 (711)	
CU	M-Rated										
225	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
400	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
600	—	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
800	400	3.9 (99)	32 (813)	24 (620)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1000	—	4.4 (112)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1200	600	5.1 (130)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1350	800	5.7 (145)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
1600	1000	6.7 (170)	32 (813)	24 (610)	16 (406)	37 (940)	26 (660)	16 (406)	37 (940)	26 (660) 16 (406)	
2000	1200,1350	8.2 (208)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
—	1600	8.7 (221)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
2500	2000	10.7 (272)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
3000	—	11.8 (300)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	20 (490)	37 (940)	26 (660) 20 (490)	
3200	—	13.3 (335)	32 (813)	24 (610)	20 (490)	37 (940)	26 (660)	23.5 (597)	37 (940)	26 (660) 23.5 (597)	
4000	2500,3000,3200	15.3 (389)	32 (813)	24 (610)	23.5 (597)	37 (940)	26 (660)	23.5 (597)	37 (940)	26 (660) 23.5 (597)	
5000	4000	19.3 (491)	32 (813)	24 (610)	28 (711)	37 (940)	26 (660)	28 (711)	37 (940)	26 (660) 28 (711)	

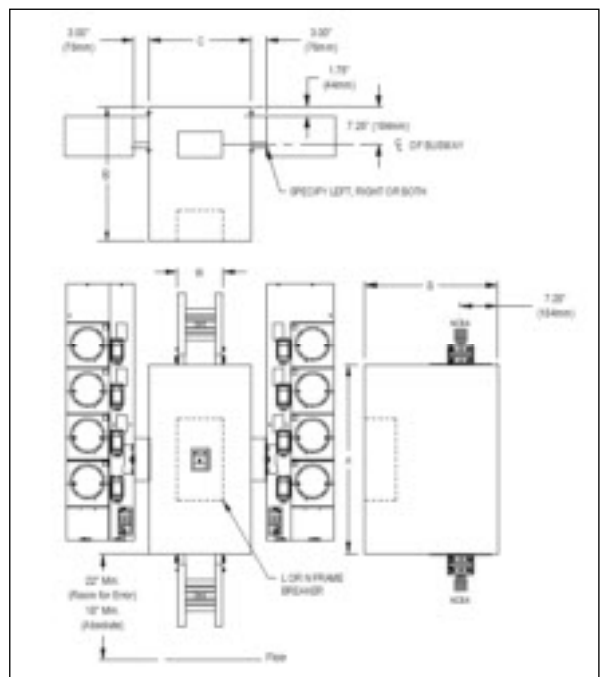
Meter Center Module



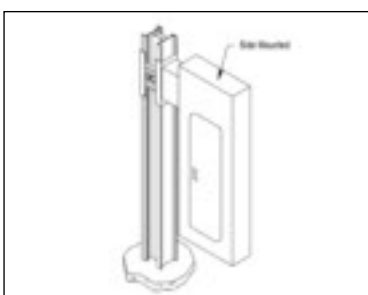
Main Disconnect Meter Module



Meter Center Cubicle



Side Mount Panelboard



Busway Systems

Installation and Application Information

Selection

Installation

In preparation for installation of your busway systems, it is important to familiarize yourself with the following installation publications:

- General Instructions For Handling, Installation, Operation and Maintenance of Busway Rated 600 volts or less (NEMA Standards Publication BU1)
- Storage, Installation and Maintenance Instructions for Sentron Busway (31-9918-01)

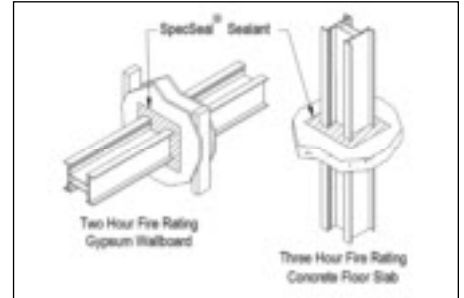
These publications should be read through thoroughly and used as reference during installation to ensure proper installation procedures. All

equipment should be inspected upon delivery. If the busway is not installed immediately, it should be stored in a clean, dry location. Factory supplied record drawings as well as installation tools should be accessible in preparation for installation.

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.



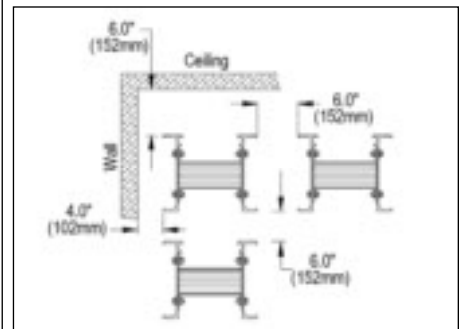
Measuring

Critical to the success of any busway installation is the layout and the accurate measuring of the busway. First and foremost:

Select a route for your busway that will require the fewest fittings and the maximum number of 10' (3.05m) sections. It is important that the busway system be designed to meet the requirements of the National Electric Code for Busway. There are a number of techniques that may be used to ensure an accurate measurement before purchasing and installing the busway. The following tools will be required during layout and measuring:

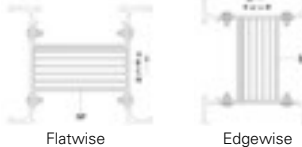
- 100' (30.48m) tape measure
- Measuring Stick
- Chalkline
- Plumb Bob
- Marker

(A laser distance measuring device may be used to speed the measuring process).



Minimal Clearances

Minimum clearances for installing feeder busway are shown. Additional clearance may be required for plug-in devices larger than 100A fusible and 250A circuit breaker.

SIEMENS	
Busway Order Entry Checklist	
Note: Submit one checklist for each busway run.	
Date Submitted: _____	
Purchase Order #: _____	
Project Name: _____	
Submitted By: _____	
Sales Engineer: _____	
_____ Released _____ Hold for Release	
Run Designation: _____	
Busway Catalog #: _____	
Service: _____ Phase _____ Wire _____ Volts _____ Amps	
Conductor: _____ Cu _____ Al _____ "M" Rated _____ "L" Rated	
Neutral: _____ None _____ 100% _____ 200%	
Ground: _____ Case _____ Internal _____ Isolated	
IP Rating _____ IP40 (Indoor)	
_____ IP55 (Splash Proof)	
_____ NEMA 3R (Outdoor)	
Shipping Instructions: _____ Ship complete _____ Ship partial	
Special Shipping Requirements: _____	
Ship not before date: _____	
Drawing Requirements: _____ Approval drawings _____ # copies:	
_____ Record drawings _____ # copies:	
A) Engineering Information	
Check applicable information and be sure it is shown on accompanying drawing.	
1. _____ Drawing Attached (Required)	11. _____ Riser Bus
2. _____ Estimate Sheets Attached (Required)	a) _____ Load side of bus plug (top or bottom)
3. _____ Dimensions from walls, column lines, etc.	b) _____ Required distance from floor to top of panel/plugs
4. _____ Wall, floor, roof thickness and pitch	c) _____ Meter Bank (center line of tap stack)
5. _____ Floor Elevations	d) _____ Barriers and/or floor supports
_____ Floor to floor	12. _____ Transformer Connections
_____ Floor to ceiling	a) _____ Standard XFMR Service Heads
6. _____ Wall Locations	_____ 1-three phase
7. _____ Equipment Pads shown: Height _____	_____ 3-single phase
8. _____ Existing busway to be extended	b) Special drawing required
a) _____ Phasing	_____ Dimensions between phases
b) _____ Nameplate Informatio	_____ LV spade detail including drilling and thickness
c) _____ Match to competitor: Call the factory	_____ Dimension of the LV spade from tank wall
9. _____ Social Switchboard Connection: Provide Details	_____ Throat opening and hole pattern (if any)
10. _____ Phase transpositions: Provide phasing on drawing.	13. _____ Utility Vault Connection Utility Type: _____
	_____ Drawing Attached
	14. End Cable Tap Box
	_____ Horizontal
	_____ Vertical
	_____ Standard Lugs
	_____ Special Lug Requirements
	No. _____ Size _____ per phase & neutral
	No. _____ Size _____ per ground
	15. _____ Busway Mounting position in reference to floor:
	
	Flatwise Edgewise
B) Specifications (Check or fill appropriate blanks)	
1. _____ Standard busway meets specifications	
2. _____ Exception to specifications	
a) Short circuit withstand _____ Ampere Symmetrical	
b) Voltage Drop Requirement _____	
c) Temperature-rise requirement _____	
d) Current density requirement _____	
e) Special Paint: Provide paint chip _____	
f) Other: _____	
Exception to electrical specifications: Call the factory.	
Other Notes: _____	

Busway Systems

Siemens Sentron Busway Quick Reference

General

Siemens Sentron Busway Quick Reference

Critical Dimensions:

Busway that passes through a wall, ceiling or floor:

- centerline of a joint to the wall, ceiling or floor = 7 in. min.
- centerline of a joint (above a floor support) to a floor = 16 in. min.
- joints cannot be positioned inside a wall, ceiling or floor (joints must be accessible for maintenance)

Feeder Busway clearances:

- from the top of the busway to a ceiling/floor/wall or other busway = 6 in. min.
- from the side of the busway to a ceiling/floor/wall or other busway = 4 in. min.

Plug-in Busway clearances:

- plug-in busway clearances depend on the configuration of bus plugs (see bus plug clearance charts in the Sentron Selection and Application Guide)
- otherwise, clearances for feeder busway apply
- note orientation of the operating handle and provide clearance for access & operation

Feeder Busway length:

- minimum length = 14.38 in.
- maximum length = 10 ft.

Plug-in & Riser length:

- available only in 4, 6, 8 and 10 ft. lengths

Flat Elbow section:

- maximum leg length = 4 ft.
- minimum leg length: Varies according to amperage and bus bar material

Edge Elbow section:

- maximum length = 4 ft.
- minimum leg length = 10 in.

Combination and Offset Elbows:

- maximum leg lengths = 4 ft.
- minimum leg length = 2.50 in. + (case size x .5)

Critical Details:

- Busway DRAWINGS must include all relevant dimensions
- CENTERLINE dimensions are expected (please note any dimensions that are not center line dimensions)
- WALLS and FLOORS must be located (wall & floor thickness must be included)
- Locate the FRONT of all switchboards and provide the phasing of any existing boards (advise if any PADs are located under boards)
- When using RISER plug-in busway please note the desired direction of the load side of bus plugs (G, A, B, C, N from left to right will position the load side to the bottom and "UP is On" handle operation)
- TRANSFORMER THROAT connections require complete details
- Horizontal plug-in busway must be oriented with the A phase on top (bolt head on top)
- In-Line Disconnect CUBICLES are engineered to order. The FRONT of the cubicle must be specified

Outdoor Busway:

- Route busway to minimize outdoor busway run length
- Avoid installing busway near exhaust pipes that may generate steam or caustic vapors