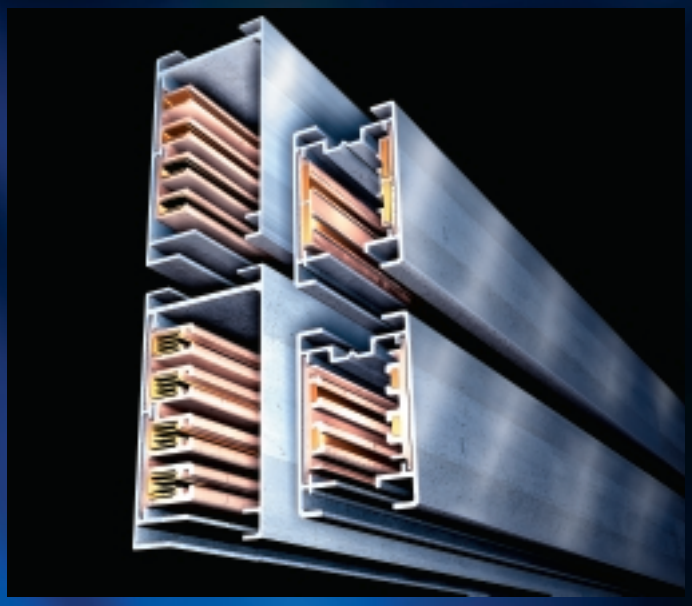
STARLINE
TRACK BUSWAY
A DIVISION OF UNIVERSAL ELECTRIC CORPORATION



Busway Series
B60, B100C, B100, B160, B225

Products, Components and Accessories

UNIVERSAL
ELECTRIC CORPORATION

www.uecorp.com

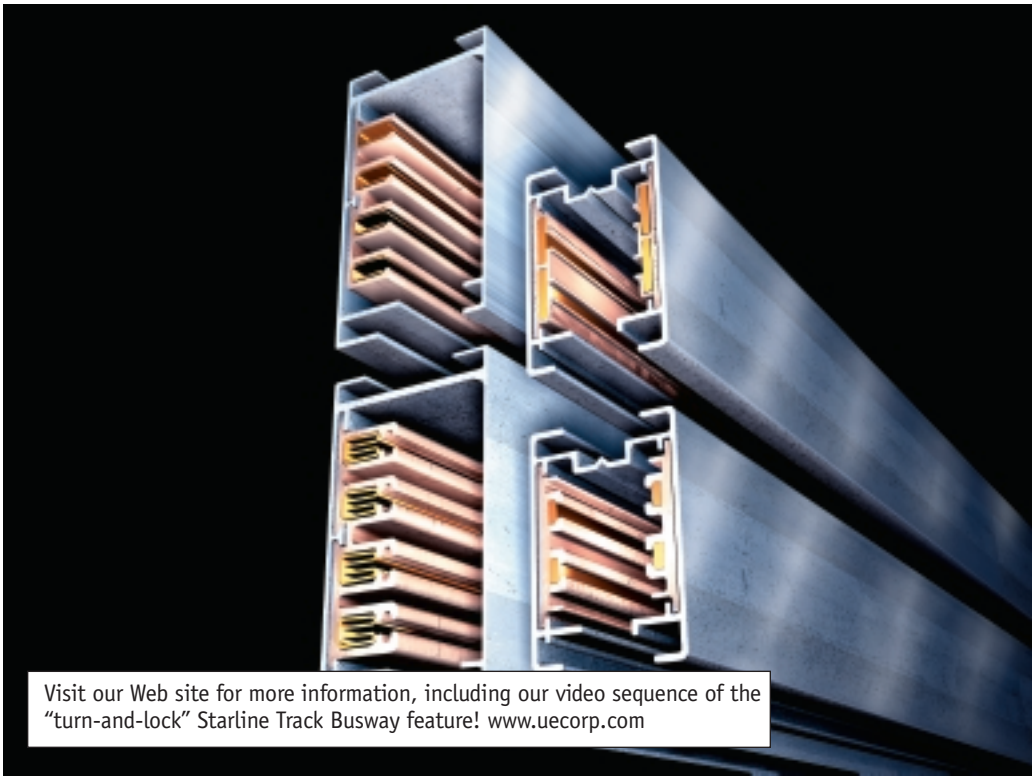
Contents

Starline Plug-In Busway System

The Busway Solution

Features

- Extruded aluminum housing that is rugged and attractive
- Solid copper conductors — not aluminum
- Continuous access slot in housing for plug-in units
- Continuous insulation around bus bars
- Standard lengths of 5, 10 and 20 feet
- Support spacing 10 feet
- Can be rod or cable suspended, ceiling surface mounted or recessed in a drop ceiling
- 100% capacity ground standard or isolated
- 100% and 200% capacity neutral sizes available
- UL and CUL listed. Meets UL standard 857, Busways and Associated Fittings. Complies with Article 364 of National Electrical Code.
- 60, 100, 160 and 225 ampere continuous, 300, 600 or 480Y/277 volts, 2, 3 or 4 pole, with ground, 200% neutral, 60 and 400 Hertz
- Compact
- Lightweight — about half the weight of steel enclosed busway
- Variety of plug-in units
- All plug-in units are polarized
- Electrical connection is not made until twist plug is fully inserted and rotated
- Suitable for feeder or branch circuit applications
- Easily extended, removed or relocated
- Snap-in closure strip closes plug-in slot



Visit our Web site for more information, including our video sequence of the "turn-and-lock" Starline Track Busway feature! www.uecorp.com

General Information

Starline Track Busway is the simple, versatile, fast and economical solution for supplying power to electrical loads. The busway can be tapped at any location with a variety of plug-in units. Eliminated are panel boards, long runs of conduit and wire and expensive installation costs. The UL/CUL listed busway is for indoor use as a feeder or branch circuit as covered in Article 364 — Busways of the National Electrical Code.

A continuous slot on the bottom of the busway housing permits insertion of plug-in units. The busway is available in 2, 3 or 4 poles and rated at 60, 100, 160 and 225 amperes, 300 and 600 volts. The extruded aluminum housing is approved as 100% capacity ground. The solid copper conductors are continuously encapsulated in insulation and comply with the latest UL requirements for protection against accidental contact of live electrical parts. Standard lengths are 5, 10 and 20 feet. Standard 20 foot sections mean faster installation and fewer splices in the conductor. A busway section weighs about half the weight of a steel enclosed busway.

The housing is compact, yet rugged enough to be supported at 10 foot intervals.

The extruded aluminum housing has a modern attractive appearance not found in steel enclosed busways. Busway improves the appearance of every application. The electrical conductors are available only in copper for better conductivity.

Track Busway is the best way!

No more conduit and wire!
See page 36 for details.

-Continued

General Starline Track Busway Information

Continued-

Standard ells and accessories complete the installation. Plug-in units include the economical outlet box, circuit breaker, fuses and terminal blocks. The polarized electrical connection is made by inserting the plug head into the slot of the busway. Electrical connection is made when the box is rotated. Power feed options include end or top-feed boxes as well as power feed plug-in units.

Applications

Starline Track Busway Systems are ideal for a wide variety of uses. Because the sizes are smaller than most busway systems, they meet the needs and budgets of applications where larger busway systems are not normally used. In addition, Starline Track Busway is also ideal for branch busway lines coming off of larger feeder busway systems.

Popular Applications Include:

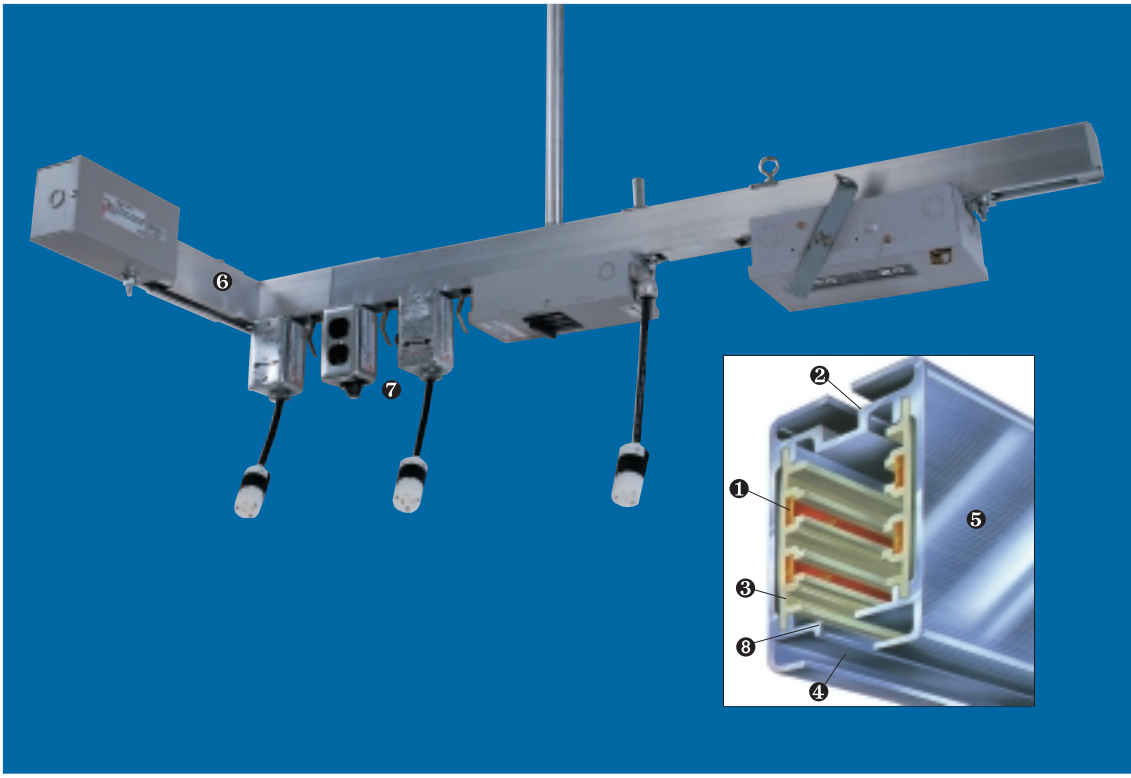
- Electronics manufacturing
- Work stations power supply
- Machine shops/factories: machine power supply
- Production/assembly lines
- Sewing machines
- Factory lighting
- Commercial/retail lighting
- School shops/Vo-Tech centers
- Lab equipment power supply
- Clean room power supply
- Office environment: built into drop ceilings; use with plug-in poles
- Branch busways from larger feeder busway systems

Starline Track Busway is ideal for supplying power to all kinds of electrical loads, such as production equipment, machine tools, sewing machines, appliances, etc.

Continuous Access Busway, Turn-and-Lock Plug-in Units

Install busway plug-in units in seconds, with no tools, with the “turn-and-lock” feature shown above. Insert plug-in unit into continuous access slot of energized busway section, turn 90 degrees, and unit is installed. Some units also use mounting bolts. Units may be removed without turning off power to the busway.

B60 Plug-in Busway Series



❶ Solid Copper Conductors
Copper rather than aluminum is standard since copper is universally acknowledged as the best choice. 60 amps, 300 and 600 volt ratings — 2, 3 or 4 pole, 10,000 amp short circuit rating.

❷ Continuous Mounting Channel
Continuous mounting channel does not require exact spacing of supports. Hanger spacing up to 10 feet apart.

❸ Continuous Insulator
The busway insulator is continuous and complies with the UL "Finger Safe Probe" standard. Other busbar systems place an insulator spacer at 12 to 18 inch intervals only. The B60 Busway insulator and copper can also be supplied and inserted into the busway run in one piece.

❹ Continuous Access Slot
The continuous access slot allows the plug-in units to be attached to the busway at any location. They can be as close together or as far apart as desired.

❺ Extruded Aluminum Housing
Housing design combines strength, lightweight and clean appearance. The lightweight housing, about half the weight of steel-enclosed busway, makes 20 feet sections not only possible but practical. The aluminum enclosure is superior for 400 Hertz systems.

❻ Ground Conductor
The extruded aluminum housing is 100% capacity ground. There is no need to purchase and install special ground kits for the plug-in units. This is standard equipment, not an extra.

❼ Plug-in Units
Many types of plug-in units are available. These include the outlet box, fused, receptacle, terminal block, and circuit breaker plugs. They can be installed at any location along the busway run by simply inserting the plug head and rotating 90 degrees.

❽ Polarizing Lip
The aluminum housing has a polarizing lip on one side of the access slot. This prevents "backwards" installation of plug-in units. All busway sections are installed with the polarizing lip on the same side.

Voltage Drop:
Length of busway for a one volt drop in the line to line voltage for a distributed load of 60 amperes:

Three phase, .8 PF	45 feet
Single phase	40 feet

Elevated Temperature Operation:

Ambient Temp.	Amp Rating Multiplier
40°C / 104°F	1.00
45°C / 113°F	0.95
50°C / 122°F	0.90
55°C / 131°F	0.85
60°C / 140°F	0.80
65°C / 149°F	0.74
70°C / 158°F	0.67

B60 Busway Parts

B60 Busway Sections

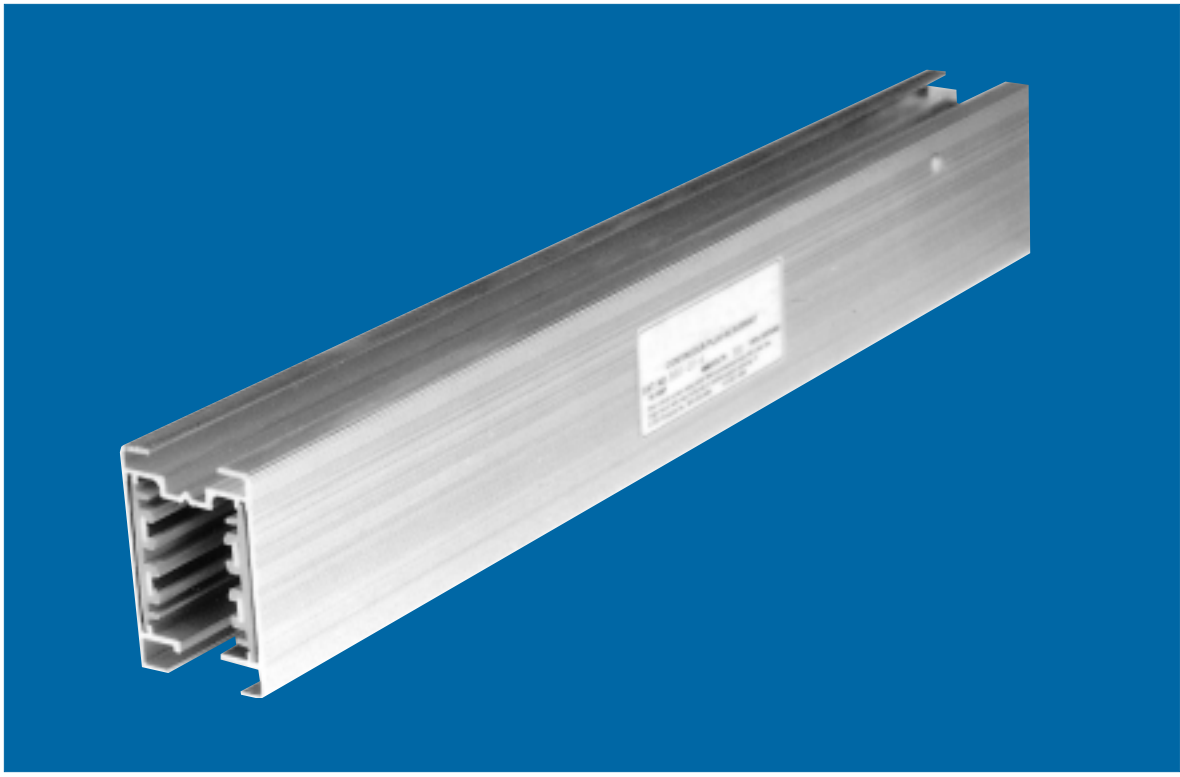
Standard busway sections come in 20, 10 and 5 foot lengths. The system meets the requirements of Underwriters Laboratories Inc. UL857 Standard. Rated at 60 amps continuous duty, 600, 300 and 480Y/277 volt styles. The solid aluminum housing is approved as a 100% capacity ground. Sections are available in 2, 3 and 4 pole with ground. Short circuit current rating at 10,000 amps. UL listed.

Power feed to the busway sections may be wired to match standard wire color coding of the plug-in units. This is especially helpful when single phase loads are to be tapped off of four pole busway, to obtain a balanced load. See chart.

Busway sections can be supplied in painted colors to match job requirements. Consult the distributor or factory for more information. Also see page 37, "Starline Track Busway Layout Guidelines."

Continuous Busway

B60 systems can also be provided with continuous rolls of insulator and busbars with no joints. Rolls of pre-assembled insulator with busbars are cut and shipped for the specific length of the busway run. Standard lengths are up to 200 feet long. Consult factory about longer continuous runs. Insert the insulator/busbars into the housing at one end of the busway run, and push it in. See illustration at right.



Plug-in Busway Sections

Catalog #	Description	Length	Weight
B60-5-2	60 amp, 2 pole ground	5 feet	5.0 lbs
B60-10-2	60 amp, 2 pole ground	10 feet	10.0 lbs
B60-20-2	60 amp, 2 pole ground	20 feet	20.0 lbs
B60-5-3	60 amp, 3 pole ground	5 feet	6.0 lbs
B60-10-3	60 amp, 3 pole ground	10 feet	12.0 lbs
B60-20-3	60 amp, 3 pole ground	20 feet	24.0 lbs
B60-5-4	60 amp, 4 pole ground	5 feet	6.2 lbs
B60-10-4	60 amp, 4 pole ground	10 feet	12.5 lbs
B60-20-4	60 amp, 4 pole ground	20 feet	25.0 lbs
B60-xxC-4	60 amp, continuous, 4 pole ground		
B60-xxC-3	60 amp, continuous, 3 pole ground		
B60-xxC-2	60 amp, continuous, 2 pole ground		

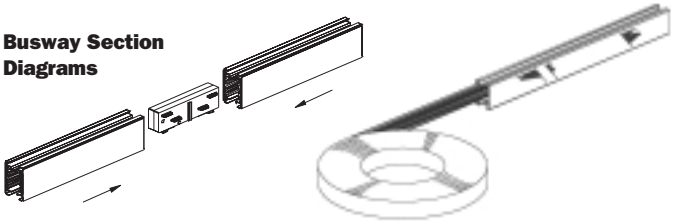
xx = total length of busway run, up to 200 feet standard.

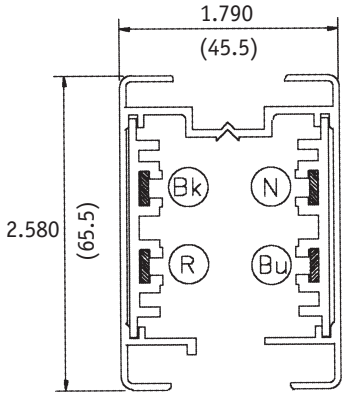
Above catalog numbers are for the 300 volt rated system.
For 600 volt rated system, add "-600" to the catalog number.

Typical Busbar Configuration

Legend	Color	With poles
N	white or yellow	2, 3 & 4
Ø	blue	2, 3 & 4
Ø	black	3 & 4
Ø	red	4
ground	housing	

Busway Section Diagrams



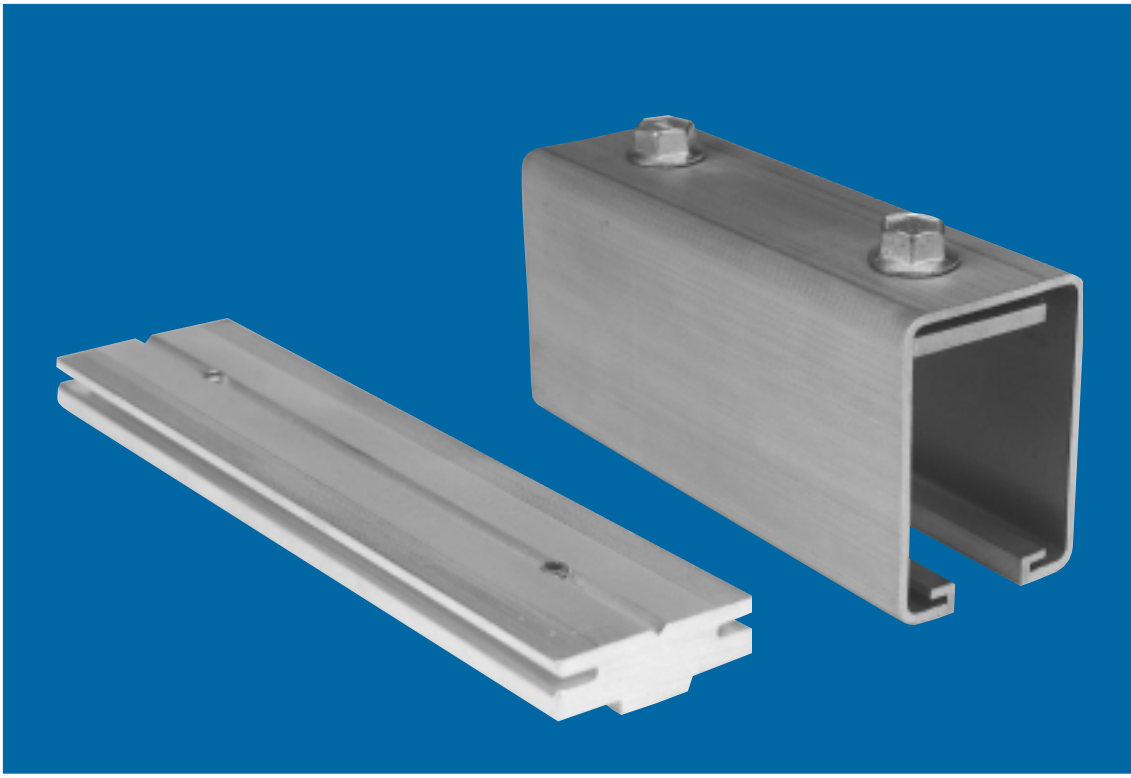


B60 Busway Parts

Housing Coupler

Sections of B60 Busway are joined mechanically by means of a housing coupler. The standard housing coupler, design type HC-2, is comprised of an extruded aluminum plate. Insert the coupler into the top cavity of the end of the sections to be joined. Tighten the bolts to complete the installation.

Design type HC-1 telescopes over the busway housing and also covers the ends of the sections to be joined. Secure the coupler by tightening the two bolts on the top.

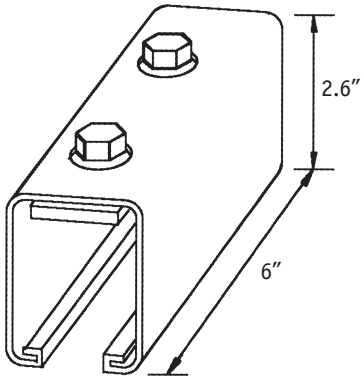


Housing Coupler Designs

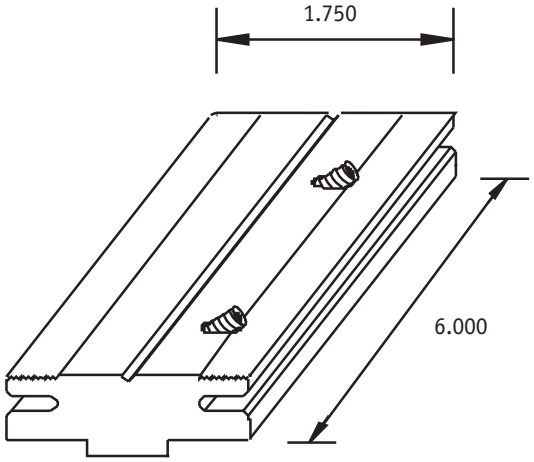
Catalog #	Description	Weight
HC-1	coupler, wrap around	0.4 lb
HC-2	coupler, plate	0.8 lb

Housing Coupler Diagrams

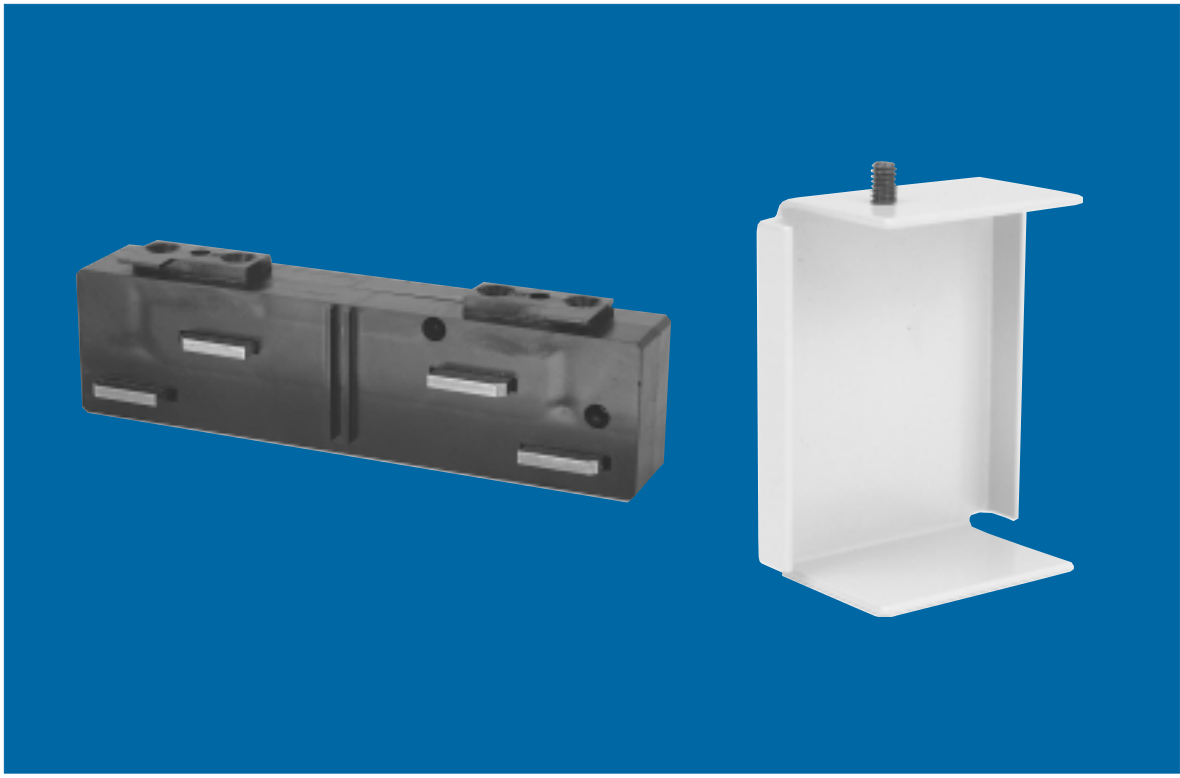
HC-1



HC-2



B60 Busway Parts



Bus Connector

Sections of B60 Busway are joined electrically by means of a busbar connector. This is shown in the figure to the right. Bus connectors are available in 2, 3 and 4 pole configurations, and have a voltage rating of 600 volts. The connector is installed by inserting it in each end of the sections to be joined, then tightening the compression screws to make a reliable busbar connection. The same bus connectors are used for the B100C series, and are UL listed for 100 amps.

End Caps

The end cap is used to close off the open ends of the busway run. It is made of steel and inserts into the end of a busway section. The end cap is secured to the housing with a set screw.

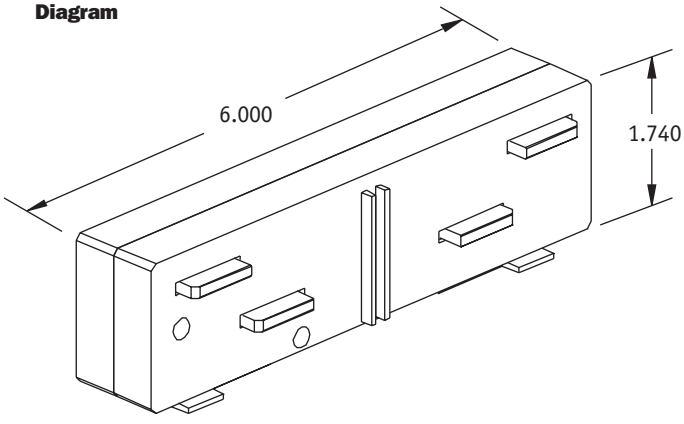
Bus Connector

Catalog #	Description	Weight
BC-2	connector, 2 pole	0.3 lb
BC-3	connector, 3 pole	0.3 lb
BC-4	connector, 4 pole	0.4 lb

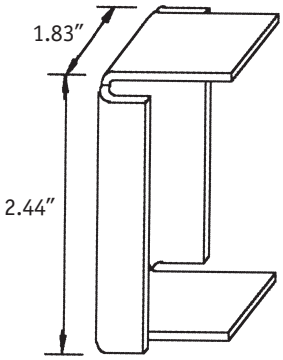
End Cap Design

Catalog #	Description	Weight
EC60	end cap	0.2 lb

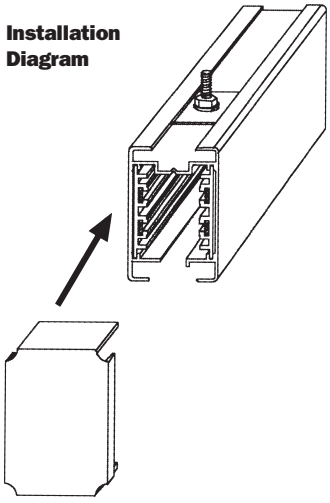
Bus Connector Diagram



End Cap Diagram



Installation Diagram



B60 Busway Parts

Hangers

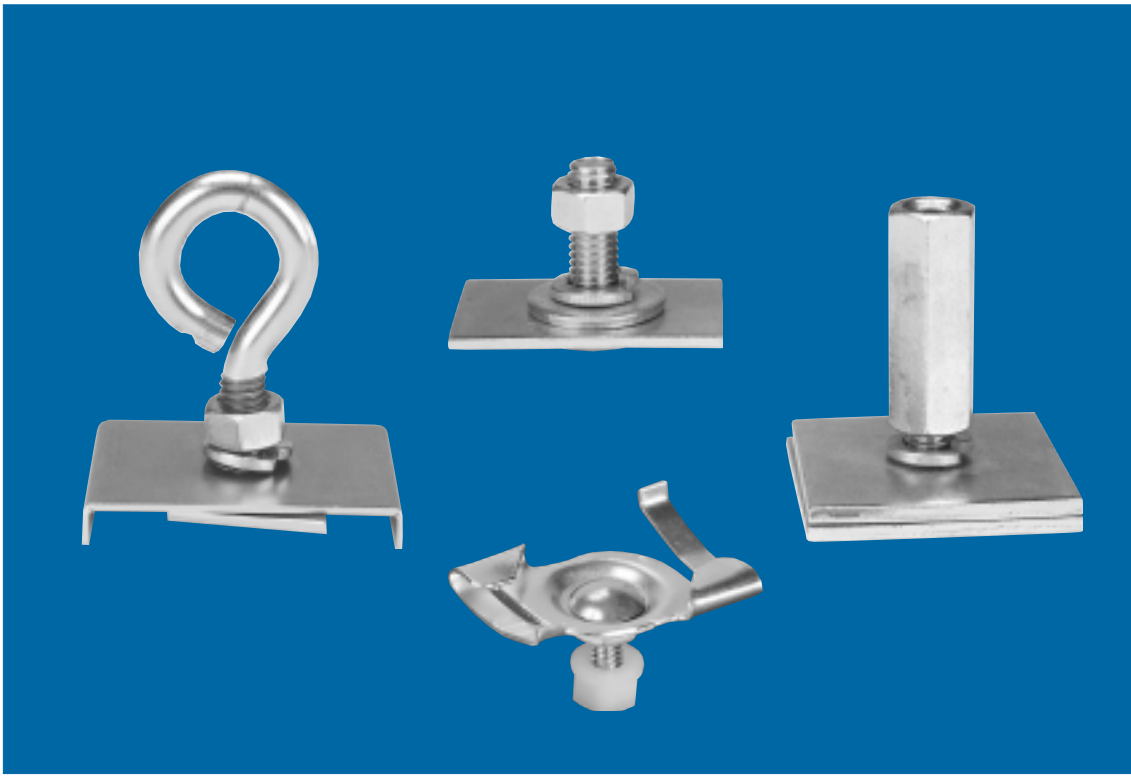
B60 Busway features the convenience of a continuous hanger access slot. This allows hanger support anywhere along the busway run. Typical hanger support spacing is 10 feet maximum.

The **standard hanger**, type THB-3 fits in the mounting slot in the top of the busway. It has a 3/8 - 16 by 1 inch stud for rigid mount. It can be inserted in the middle of a busway section, with its twist-in design.

Type RHB-3 is designed for fastening to all thread rods. A 3/8 inch rod coupler, lock washer and square cinch plate are added to the standard hanger.

The **weight hook ring**, catalog number WHR-1, can be used as a hanger for suspending the busway from chains or cables. It is also used to hang loads up to 50 pounds under the busway, such as light fixtures, tools, and balancers. It can be attached to the top or bottom channel of the busway housing. The ACH-1 and ACH-2 aircraft cable hanger assembly includes a B100 hanger plate, and an easy grip clamp assembly for steel cable. Cable is not included.

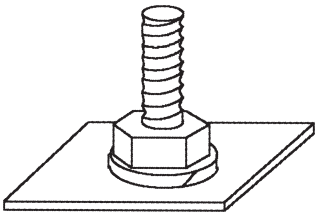
The **T-bar hanger clip** is used to mount the busway system to the inverted T-bar of a drop ceiling, just below the ceiling tiles. The clip locks onto the T-bar and the busway fastens to the stud on the clip. The T-bar must be adequately anchored to the building. Not recommended for heavy loads.



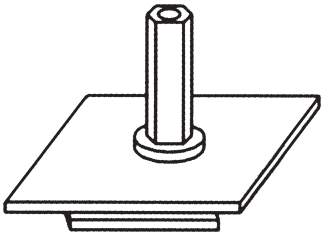
Hanger Designs

Catalog #	Description	Weight
THB-3	twist-in hanger	0.2 lb
RHB-3	rod mount hanger	0.3 lb
WHR-1	weight hook ring	0.2 lb
THB-4	T-bar mounting hanger	0.1 lb
ACH-1	cable suspension hanger assembly, 1/16" cable	0.3 lb
ACH-2	cable suspension assembly, 3/32" cable	0.3 lb
THB-1/4	hanger with 1/4" stud	0.2 lb

THB-3



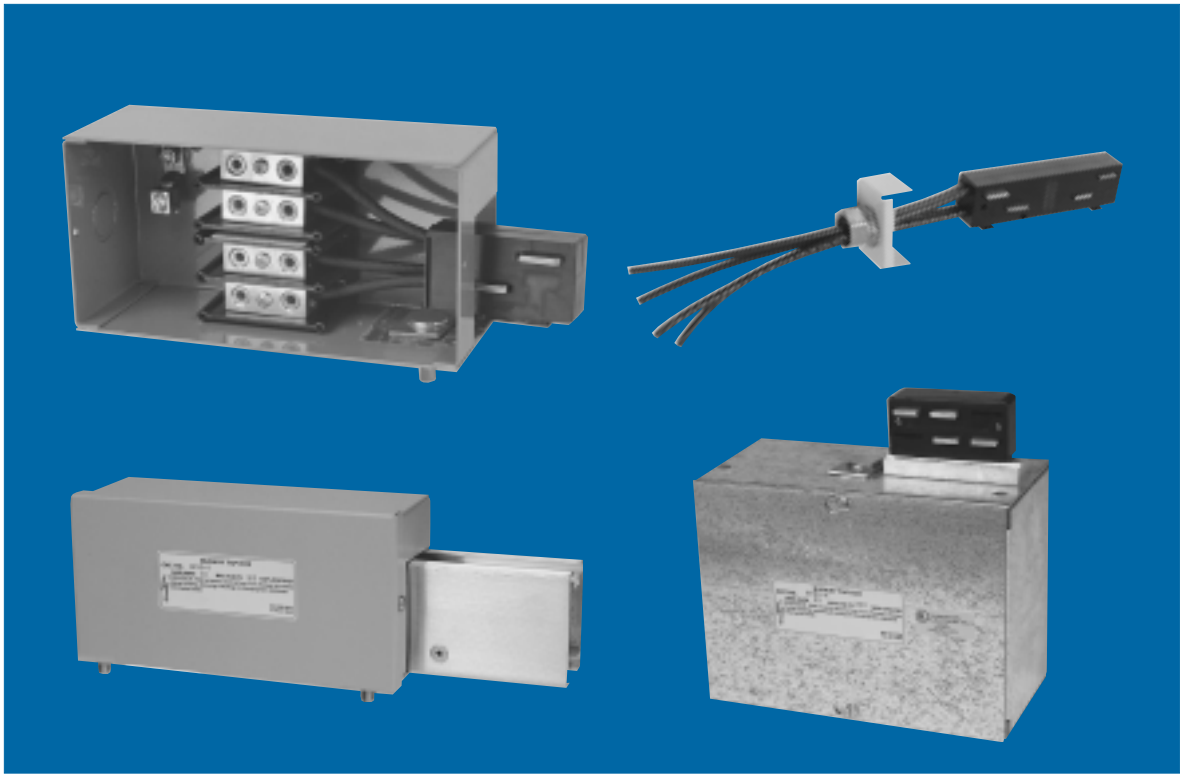
RHB-3



ACH-1

WHR-1

B60 Power Feed Units



End Power Feed Connector
Standard power supply to the Starline Track Busway is with the end power feed connector unit. It consists of a steel junction box with removable side, a power feed connector to insert into the busway run, and terminal block in the box for field connections. The unit is bolted to the first section of the busway run. UL listed at 600 volts.

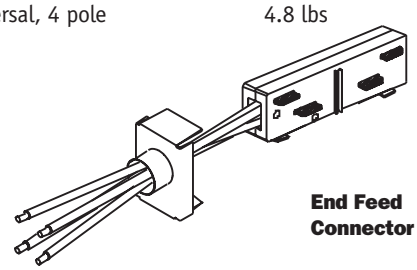
End Power Feed
This is the same as the above unit, except it has a six inch section of busway feeding into one end of the box. A bus connector and housing coupler (not included) is used to connect it to the busway run. 600 volt rating. UL listed.

Universal Power Feed
The universal power feed is designed to be installed anywhere along the run of the busway. Insert the power feed head into the busway run where desired during installation, and secure it with a hanger bolt (supplied). A terminal block is provided in the box for field connections. Power cord is fed in from under unit. 600 volt rated. UL listed at 60 amps.

End Feed Connector
This design of power feed is used primarily in applications where aesthetic appearance is important. Wire leads are preassembled to the connector unit and eliminate the junction box on the busway. Twenty-four inch wire length is standard, but any length can be supplied.

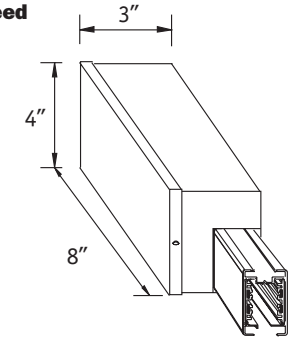
Power Feed Designs

Catalog #	Description	Weight
EPF60-2	end power feed, 2 pole	3.3 lbs
EPF60-3	end power feed, 3 pole	3.3 lbs
EPF60-4	end power feed, 4 pole	3.5 lbs
EF60-2	end feed, 2 pole	3.3 lbs
EF60-3	end feed, 3 pole	3.3 lbs
EF60-4	end feed, 4 pole	3.5 lbs
EFC60-2	end feed connector, 2 pole	2.0 lbs
EFC60-3	end feed connector, 3 pole	2.0 lbs
EFC60-4	end feed connector, 4 pole	2.3 lbs
PF60-2	universal, 2 pole	4.5 lbs
PF60-3	universal, 3 pole	4.7 lbs
PF60-4	universal, 4 pole	4.8 lbs

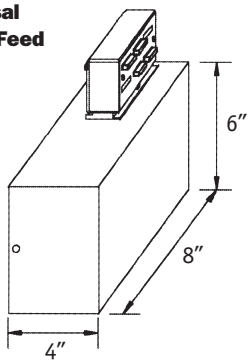


End Feed Connector

End Power Feed



Universal Power Feed



B60 Busway Series

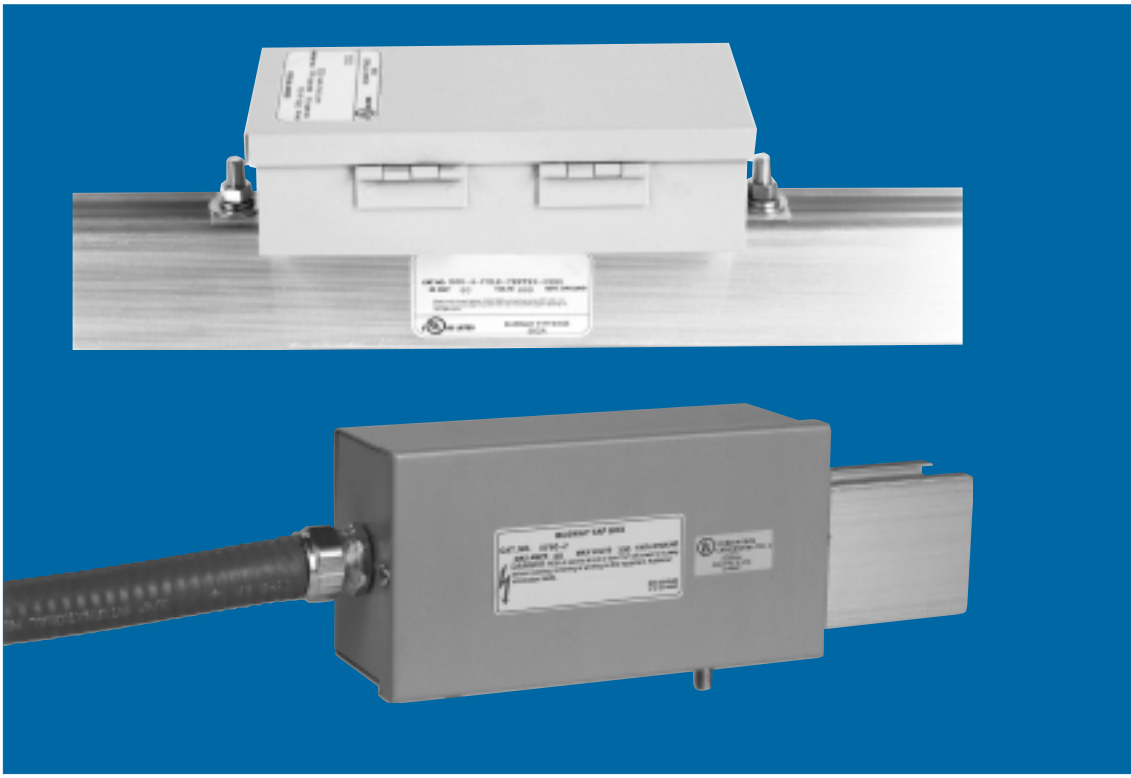
B60 Power Feed Units

Center Feed Section
The center feed section is used to supply power in the middle of a busway run. CF60 series consists of a 2-foot section of busway, with a junction box connected to the top of the busway and a 60A rated terminal block inside.

For aesthetic applications, the PW60 series center feed 2-foot section without the junction box is available. A 1 inch conduit size access hole is in top for others to run wires to the connection lugs inside the busway section. 1 inch conduit mounting adapter included. Busbar connectors and housing couplers (not included) are used to connect center feed sections to adjacent sections. UL listed.

The universal power feed is another type of center feed, see page 8.

End Power Feed with Adapter to Trunk Busway
Starline Track Busways are ideal as branch busway runs, to reduce the overall cost of busway. This unit provides the components needed to connect a trunk busway tap box to the Starline end feed assembly and 4 feet of flexible conduit and cable, 60A rated. See page 37 for more details.

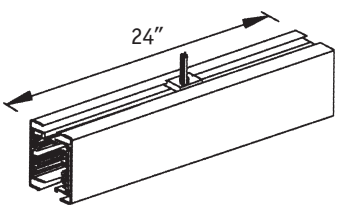


Center Feed Units

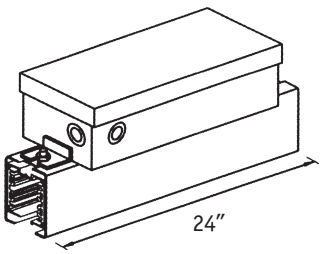
Catalog #	Description	Weight
CF60-4	center feed, with box, 4 pole	5.0 lbs
CF60-3	center feed, with box, 3 pole	5.0 lbs
CF60-2	center feed, with box, 2 pole	4.8 lbs
B60-X-4PW	center feed, without box, 4 pole	2.0 lbs
B60-X-3PW	center feed, without box, 3 pole	2.0 lbs
B60-X-2PW	center feed, without box, 2 pole	2.0 lbs
PFA60-4	power feed & adapter, 60A, 4 pole/ground	4.5 lbs

X = Busway section length.

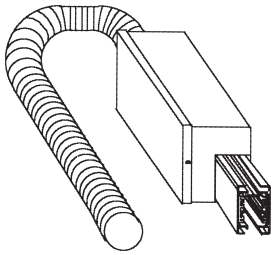
Center Feed without Box



Center Feed with Box



End Power Feed with Adapter Designs



Starline Track Busway Ells and Tees

Ells

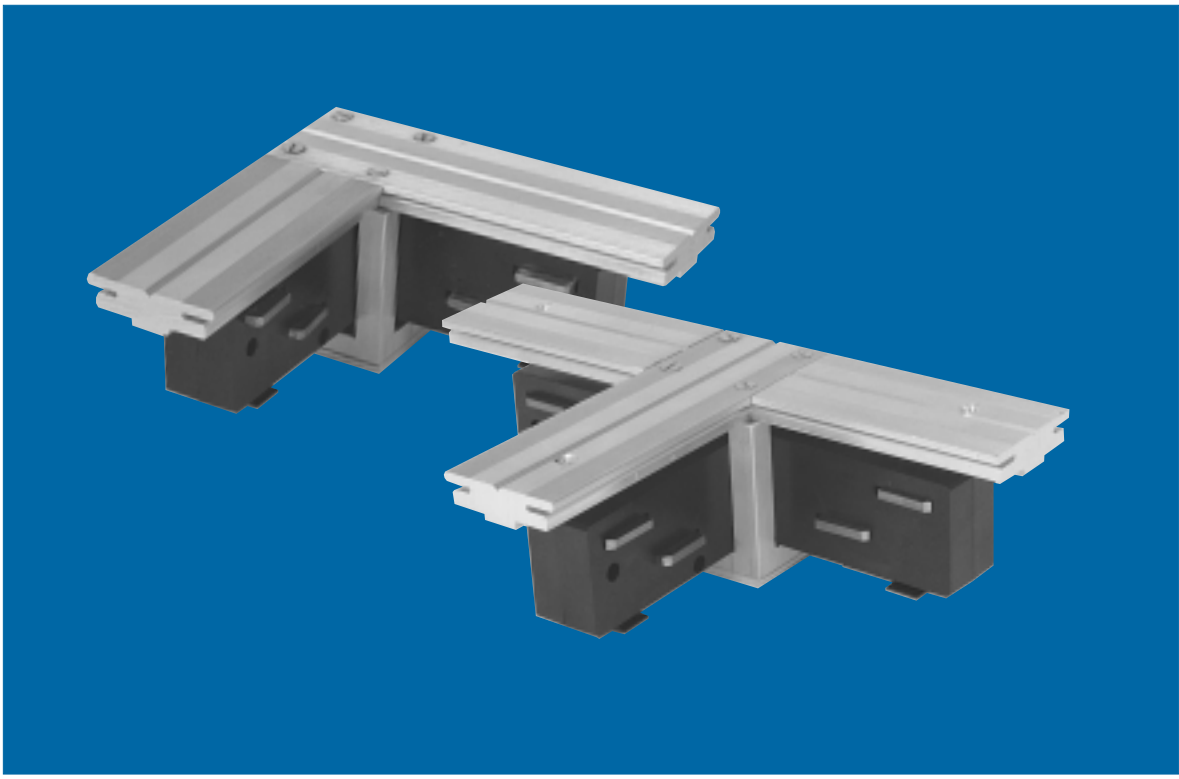
Ells are used for making a 90 degree turn in the busway. Each ell consists of two power connectors wired together, and a corner box assembly. Insert the connectors into standard busway sections at the corner, and slide them onto the corner box top plates. For vertical ells, consult factory.

Tees

Tees operate similarly to ells, however, it is important to specify correct wiring to the branch run. Specify internal or external polarizing lip, left or right tee. See diagrams.

Crossovers

Crosses are typically used for gridwork designs. They operate similar to the tees, however, special design requirements apply. See page 37, layout guidelines. Consult the distributor or factory for more information.

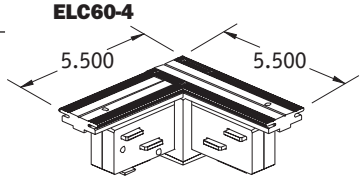


On projects requiring multiple Tees or Ells, contact factory for assistance at 800-333-3490

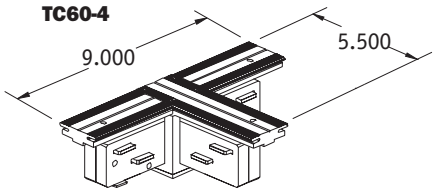
Ell and Tee Designs

Catalog #	Description	Weight
EL60-2-IH, EH	ell connector, 2 pole internal, external	0.5 lb
EL60-3-IH, EH	ell connector, 3 pole internal, external	0.5 lb
EL60-4-IH, EH	ell connector, 4 pole internal, external	0.5 lb
BT60-4IR	tee, 4 pole, internal right	1.0 lb
BT60-4IL	tee, 4 pole, internal left	1.0 lb
BT60-4ER	tee, 4 pole, external right	1.0 lb
BT60-4EL	tee, 4 pole, external left	1.0 lb

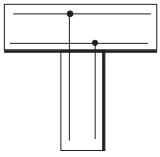
ELC60-4



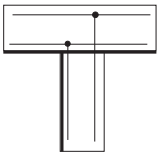
TC60-4



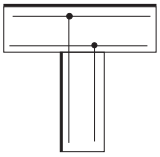
BT60-4-IR Internal Right



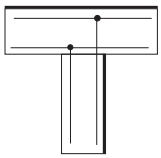
BT60-4-IL Internal Left



BT60-4-EL External Left



BT60-4-ER External Right



B60 Plug-in Units

Starjacks

Plug-in units are used to tap off the power from the busway, for electrical loads. The simplest design of plug-in units are called Starjacks.

All Starline Track Busway plug-in units have a special plug head which inserts into the busway continuous slot, and twists 90 degrees to make electrical connection. All plug-in units are polarized to inhibit reverse installation, and come with a bolt-on mounting tab and a twist lock clip which provides the ground connection for the box and the load.

Outlet Box Starjack

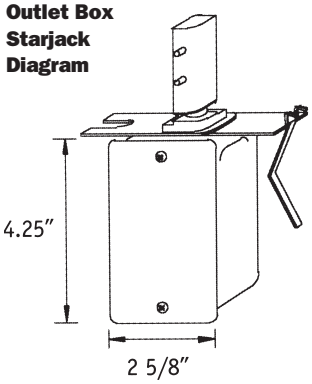
Outlet box Starjacks include a junction box, available in 15 or 30 amps, and 300 or 600 volts. A screw cover, ground lug, wire nuts and cord grip are included. UL listed.

Duplex Receptacle Starjack

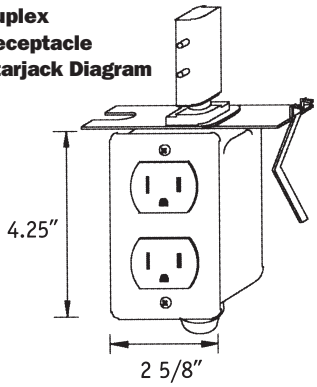
The duplex receptacle Starjack is the same as the outlet box Starjack, except it also features a 110 volt, 15 or 20 amp rated duplex receptacle, and includes a 15 amp fuse and holder. UL listed.

Fuses are available for Starjacks as an option. Fuseholders are for class CC fuses, (i.e. Bussman type KTK-R or Littelfuse type KLK-R) UL listed for branch circuit protections. Fuse dimensions are 13/32" diameter by 1-1/2". Order fuses separately.

Outlet Box Starjack Diagram



Duplex Receptacle Starjack Diagram



Starjack Designs

Catalog #	Description	Weight
OB60-15-2	outlet box Starjack, 15A, 2 pole	1.0 lb
OB60-15-3	outlet box Starjack, 15A, 3 pole	1.1 lbs
OB60-15-4	outlet box Starjack, 15A, 4 pole	1.3 lbs
OB60-30-2	outlet box Starjack, 30A, 2 pole	1.1 lbs
OB60-30-3	outlet box Starjack, 30A, 3 pole	1.2 lbs
OB60-30-4	outlet box Starjack, 30A, 4 pole	1.3 lbs
DRF60-A	fused duplex receptacle Starjack, blue phase A	1.4 lbs
DRF60-B	fused duplex receptacle Starjack, black phase B	1.4 lbs
DRF60-C	fused duplex receptacle Starjack, blue phase C	1.4 lbs

*Add "-1F, -2F or -3F" for 1, 2 or 3 fuses in outlet box unit catalog number.

*Outlet box units 300 volts rated. For 600 volts, add "-600" to catalog number.

*Standard DRF units are 15 amp. Add "-20" for 20 amp receptacle.

B60 Plug-in Units

Starjack with Circuit Breaker
Starjacks with circuit breaker consist of a full-sized junction box with a hinged lid, plug head and an externally operable circuit breaker. Insert the plug head in the busway and rotate 90 degrees to make electrical connections. The units are normally supplied with the breakers installed, or can be supplied without them, for customer to install onto snap-on mounting plate. Optional receptacles can be added to standard circuit breaker units, as shown on right.

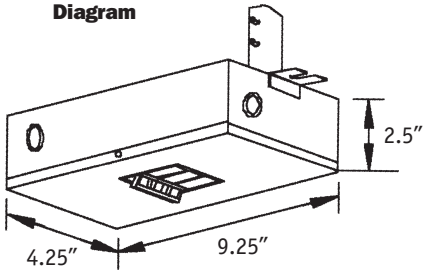
Circuit breakers can be 15 to 30 amps (specify the rating), 250 volt max or 480 volt max, 1, 2 or 3 pole units. Units with multiple circuit breakers are available and are UL listed. For ratings over 30 amps, and multiple circuit breakers, consult factory. Units have copper grounding lug in the box, fits up to #6 wire, mounting tabs and 2 hangers to secure unit to the busway. Units have 1/2 inch and 3/4 inch conduit knockouts on 3 sides. UL listed.

Circuit Breaker Plug-in Units

Catalog #	Description	Weight
CB60-WW-1-3	3 pole plug, 1 pole breaker, 250V max	3.3 lbs
CB60-WW-2-3	3 pole plug, 2 pole breaker, 250V max	3.7 lbs
CB60-WW-3-3	3 pole plug, 3 pole breaker, 250V max	4.2 lbs
CB60-WW-1-4	4 pole plug, 1 pole breaker, 250V max	3.3 lbs
CB60-WW-2-4	4 pole plug, 2 pole breaker, 250V max	3.7 lbs
CB60-WW-3-4	4 pole plug, 3 pole breaker, 250V max	4.2 lbs
CB60-WW-3-3-480	3 pole plug, 3 pole breaker, 480V max	4.0 lbs
CB60-WW-3-4-480	4 pole plug, 3 pole breaker, 480V max	4.2 lbs

WW=Specify the ampere rating, 15 to 30 amps.

Starjack with Circuit Breaker Diagram



B60 Plug-in Units

Starjack with Fuse Block

Starjacks with internal fuse block consist of a full-sized junction box with a hinged lid, and a plug head. Insert the plug head in the busway slot and rotate 90 degrees to make electrical connection.

A Class CC, 3 pole phenolic fuse block is mounted in the box. 600 volts max, 30 amp max For ratings over 30A, consult factory. Fuses not included in units, but can be ordered separately. See page 35.

All units include a copper grounding lug, mounting tabs and 2 hangers to secure unit to the busway. Units have 1/2 inch and 3/4 inch conduit knockouts on 3 sides. UL listed.

Fused Starjack with External Disconnect

Starjacks with internal fuse block consist of a full-sized junction box with a hinged lid, plug head and an externally operable disconnect switch. Rocker handle disconnects circuit before box can be opened. Insert the plug head in the busway slot and rotate 90 degrees to make electrical connection.

A Class H, 3 pole phenolic fuse block is mounted in the box. 600 volts max, 30 amps max. For ratings over 30A, consult factory. Fuses not included in units, but can be ordered separately. See page 35.

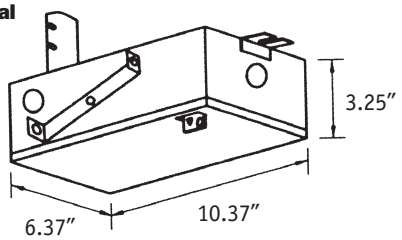
Fused Starjacks without the external disconnect assembly are available, but external disconnect units are recommended.

All units include a copper grounding lug, mounting tabs and 2 hangers to secure unit to the busway. Units have 1/2 inch and 3/4 inch conduit knockouts on 3 sides. UL listed.

Fused Plug-in Units

Catalog #	Description	Weight
FD60-30-3-250-4	fuse block unit, 3 pole, 30A, 250V, ext handle	5.2 lbs
FD60-30-4-250-4	fuse block unit, 3 pole + 4W, 30A, 250V, ext handle	5.2 lbs

Fused Starjack with External Disconnect



B60 Lighting Busway Components

Internal Plug

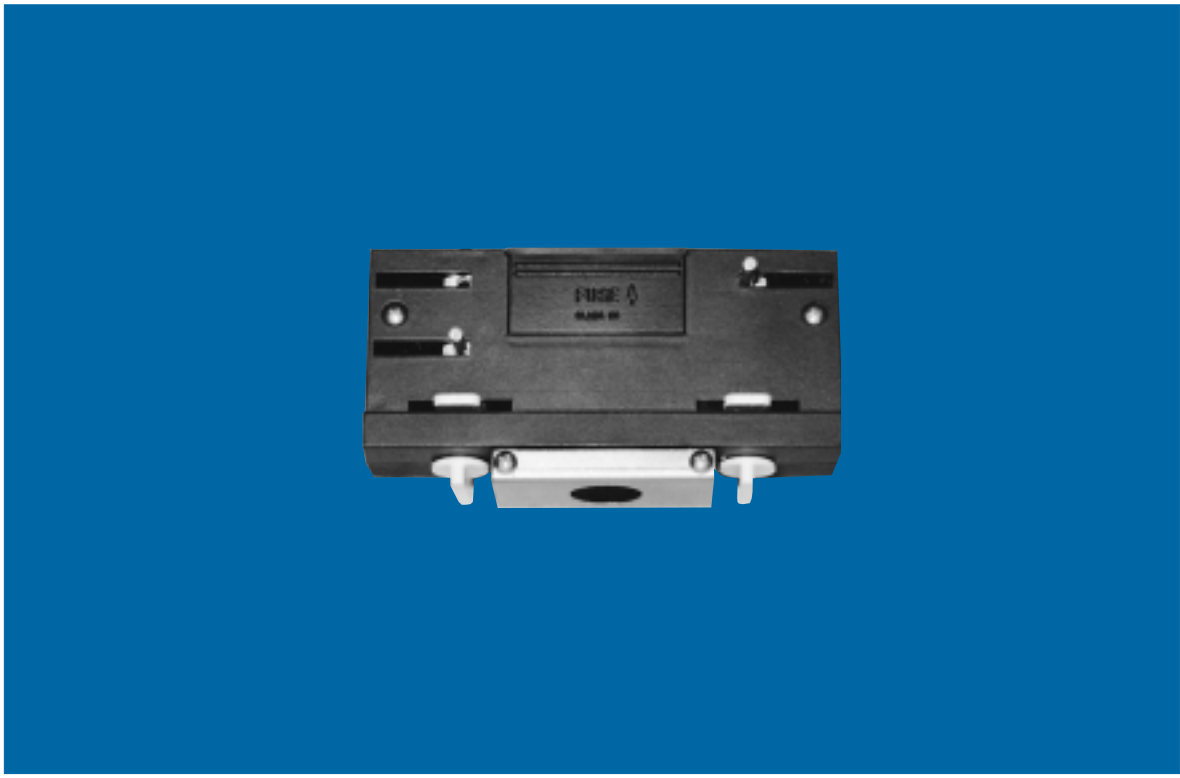
The internal plug is ideal for applications where the plug should not be visible, such as light fixtures and retail/commercial areas. It fits inside the Starline Track Busway section, and is energized by turning the two circuit selectors 90 degrees. A mounting plate with a 1/4 inch conduit size opening is for fixture connection. Small unit is rated 13A, (for 16 AWG wires) 300V max, single phase, with or without optional fusible feature (class CC fuse not included) and wire nuts. For ballast or fixture applications, 200°C high temperature wire is available.

The internal plug is also available rated at 25A max, (for 12 AWG wires) 300V single phase, with optional fusible feature and has mini junction box and larger wire nuts. Optional 15A receptacle available in mini box.

The internal plug can also be supplied with a 3 meter SJO cord attached, and no mini box, rated at 15A (14/3 SJO), or 20A (12/3 SJO). Units are available with basic cord grip or wire mesh cord grip. UL listed.

Busway Light Fixtures

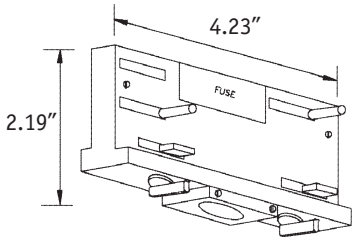
Several standard busway light fixtures are available, including low bay, high bay, fluorescents and floods. Consult factory. See page 7 for details on ACH-1 cable suspension assembly.

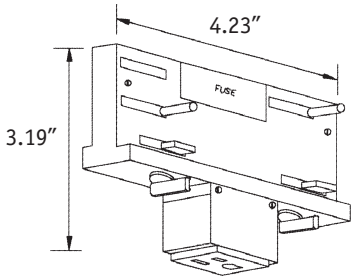


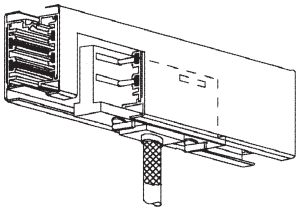
Internal Plug Designs

Catalog #	Description	Weight
IP60-A	internal plug, unfused, phase blue	0.5 lb
IP60-B	internal plug, unfused, phase black	0.5 lb
IP60-C	internal plug, unfused, phase red	0.5 lb
IP60-S	internal plug, unfused, selectable to phase blue or red	0.5 lb

Add “F” to above catalog numbers for fusible option.
Add “H” to above catalog numbers for a strain relief in mounting plate.
Add “MB” to above catalog numbers for a 25A unit with mini box.
Add “C15” to above catalog numbers for a 15A cord attached, 3M.
Add “C20” to above catalog numbers for a 20A cord attached, 3M.
Add “L10” to above catalog numbers for high temperature fixture wire.
Add “R” to above catalog numbers for built-in receptacle.







B100C Busway Series

B100C Plug-in Busway Series

B100C series plug-in busway combines the compact size of the B60 series with 100 amp rated conductors. The result is a compact 100 amp busway system with the cost efficiency of the 60 amp system. Plug-in units from the B60 series are used, which also provide greater cost efficiency.

B100C Busway Sections

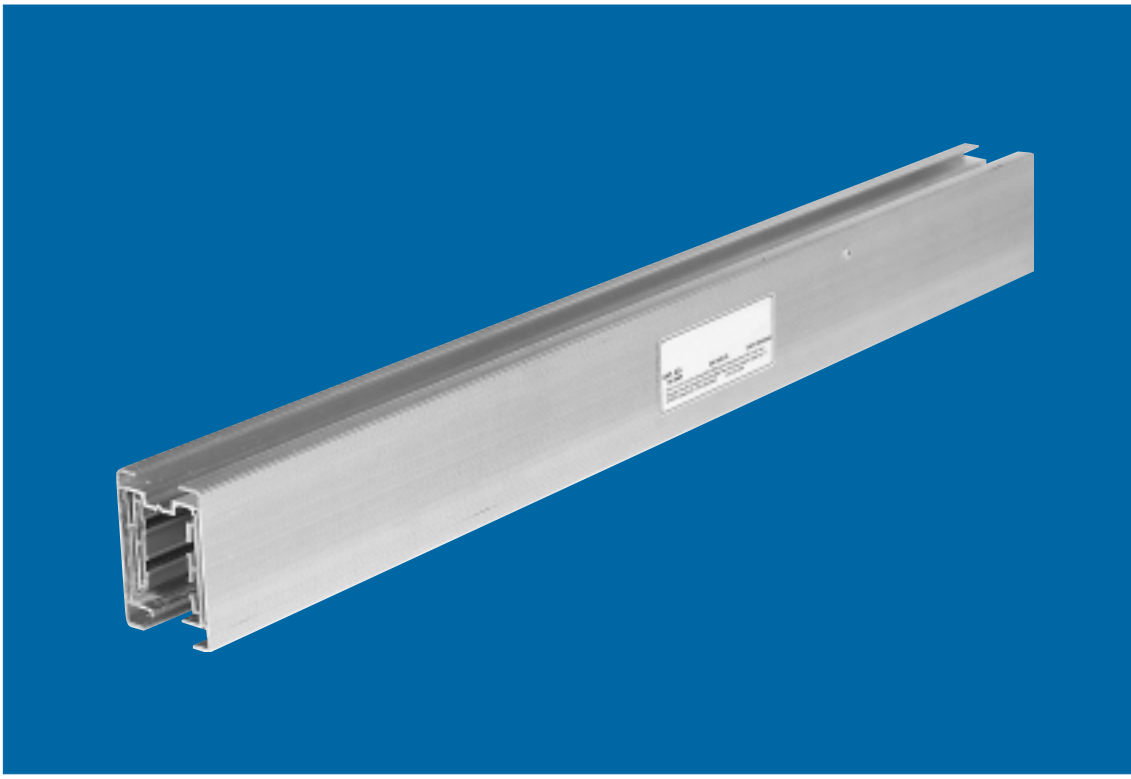
The B100C busway sections are rated at 100 amps, 600 volts, 2, 3 or 4 pole with ground. All the standard design features of the B60 Busway series are included: copper conductors, aluminum housing, continuous plug-in access slot, insulator and mounting channel, etc. The key difference is the larger copper busbars, which have a rating of 100 amps. UL listed.

B100C Busway Parts

The B60 series housing couplers, bus connectors, end caps, hangers, closure strip and related parts (except power feeds) are used for the B100C series. See pages 5-7. The bus connectors are UL listed at 100 amps.

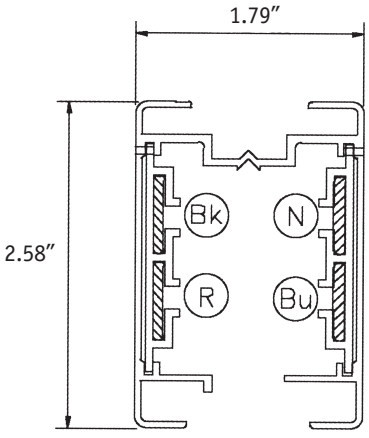
B100C Plug-in Units

All plug-in units in the B60 series may be used with the B100C series, including outlet box, receptacle, fuse block, circuit breaker and terminal block plug-in units, as well as the Internal Plug. Refer to the B60 section of this catalog for selections. See pages 11-14. UL listings on the B60 plug-in units apply to the B100C series as well. If plug-in units over 30 amps are required, use the B100 series Starline Track Busway.



Plug-in Busway Sections

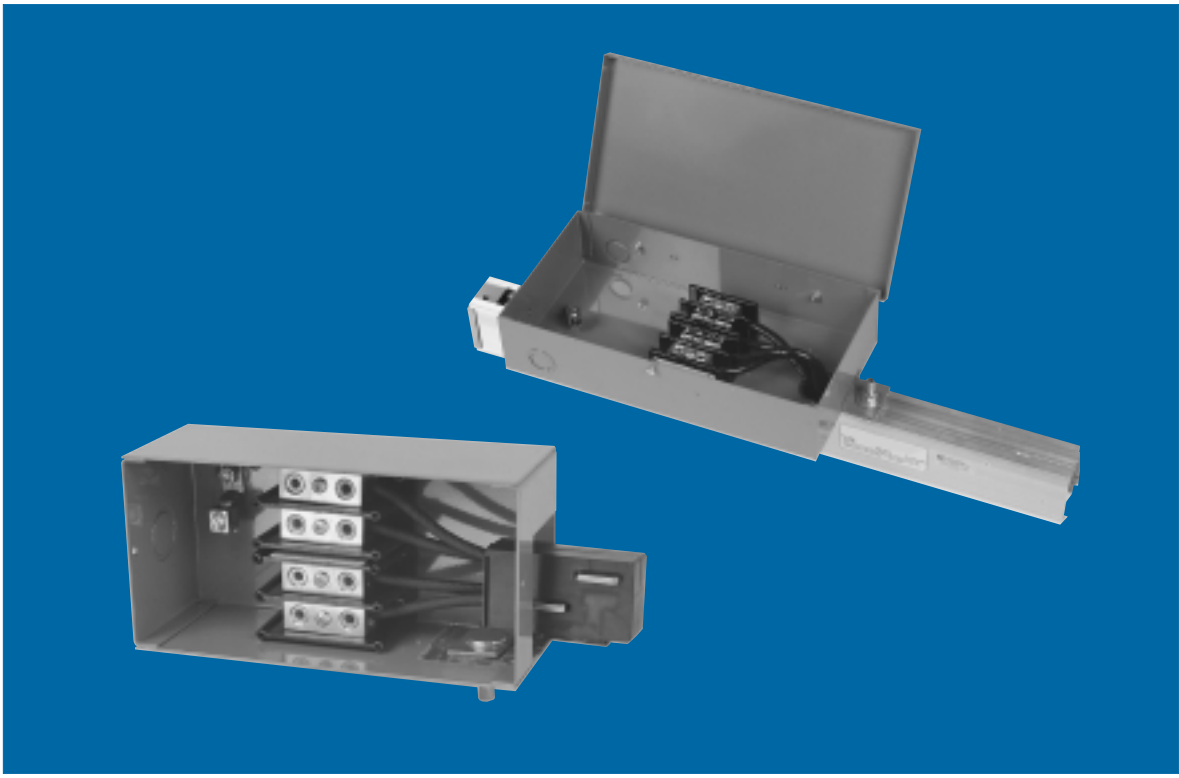
Catalog #	Description	Length	Weight
B100C-5-2	100 amp, 2 pole ground	5 feet	6.4 lbs
B100C-10-2	100 amp, 2 pole ground	10 feet	13.0 lbs
B100C-20-2	100 amp, 2 pole ground	20 feet	26.0 lbs
B100C-5-3	100 amp, 3 pole ground	5 feet	7.0 lbs
B100C-10-3	100 amp, 3 pole ground	10 feet	14.0 lbs
B100C-20-3	100 amp, 3 pole ground	20 feet	28.0 lbs
B100C-5-4	100 amp, 4 pole ground	5 feet	8.0 lbs
B100C-10-4	100 amp, 4 pole ground	10 feet	16.0 lbs
B100C-20-4	100 amp, 4 pole ground	20 feet	32.0 lbs



Typical Busbar Configuration

Legend	Color	With Poles
N	white/yellow	2, 3, & 4
Ø	blue	2, 3, & 4
Ø	black	3 & 4
Ø	red	4
ground	housing	

B100C Power Feed Series



End Power Feed

The end feed power supply consists of a steel junction box, a 100 amp, 600 volt terminal block, ground lug, and busbar connector assembly. Insert the connector into the end of the busway run, fit the busway into the power feed box, and secure it with the hanger clamp. UL listed.

Top Feed

The top feed unit is for use when power supply comes from above, or in the middle of a busway run when a box out the end of the busway is not wanted. A junction box with 100 amp terminals and ground lug is connected to the top of a two foot piece of busway. The same busway connections as the end feed are required. UL listed.

End Power Feed With Adapter to Trunk Busway

Starline Track Busways are ideal for branch busway circuits to reduce the overall cost of a busway. An end power feed unit with a four foot piece of 100 amp rated flex conduit is provided to connect to a tap box for a larger trunk busway run. Similar to units shown on page 9.

Ells, Tees and Custom Work

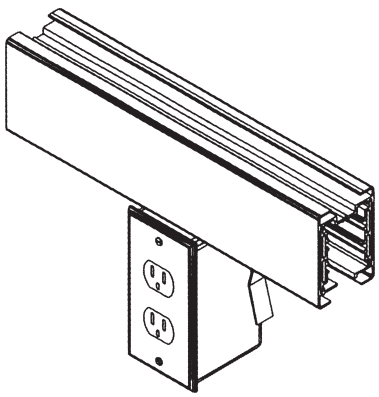
An ell can be used for left or right turns but specify if the polarizing lip is on the inside or outside, see page 10. Tees and crossovers have more than one configuration, — details are available from factory. Custom designed and built layouts can be provided by supplying a layout drawing.

B100C Power Feed Designs

Catalog #	Description	Weight
EPF100C-2	end feed, 100 amp 2 pole	3.5 lbs
EPF100C-3	end feed, 100 amp 3 pole	4.0 lbs
EPF100C-4	end feed, 100 amp 4 pole	4.0 lbs
TF100C-2	top feed, 100 amp 2 pole	8.0 lbs
TF100C-3	top feed, 100 amp 3 pole	8.5 lbs
TF100C-4	top feed, 100 amp 4 pole	8.5 lbs
EL100C-2-x	elbow, 100 amp 2 pole	1.1 lbs
EL100C-3-x	elbow, 100 amp 3 pole	1.5 lbs
EL100C-4-x	elbow, 100 amp 4 pole	1.5 lbs

"x" = IH for internal or EH for external polarizing lip on housing.
Tees and crossovers: consult factory for catalog number and design.

Use B60 Busway Series parts and plug-in units, on pages 5 to 14.



B100 Busway Series

B100 Plug-in Busway Series Design

❶ Solid Copper Conductors
Copper is a better conductor than aluminum, and a better electrical performer. System rated at 100 amps, 600 volts, 3 or 4 pole with ground. Busbars are channel shaped, and plug-in units have a compression fit into them.

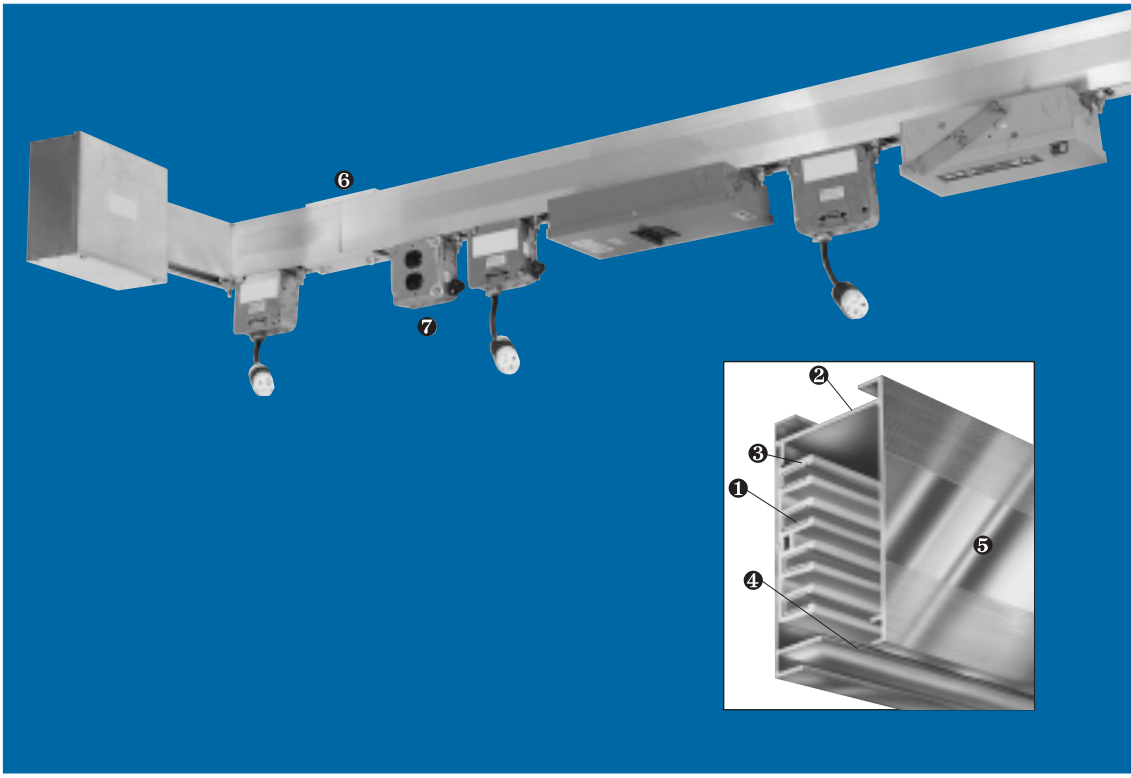
❷ Continuous Mounting Channel
Exact spacing of hangers not required. Hanger spacing up to 10 feet apart.

❸ Continuous Insulator
The busway insulator is continuous rather than 12 to 18 inches apart like other systems. The design complies with the UL "Finger Safe Probe" standard.

❹ Continuous Access Slot
Plug-in units can be attached to the busway at any location and density. Other systems limited to one plug-in unit every 2 feet or more.

❺ Extruded Aluminum Housing
Housing design combines strength, lightweight and pleasing appearance. About half the weight of steel enclosed busway. Aluminum housing is superior for 400 Hertz systems.

❻ Ground Conductor
The extruded aluminum housing is 100% capacity ground. No ground kits needed for the plug-in units.



❼ Plug-in Units
Many types of plug-in units are available, including units with outlet box, in-line fuses, fuse blocks, terminal blocks, and circuit breakers. They can be installed anywhere along the busway run by simply inserting the plug head and rotating 90 degrees. Units are polarized to inhibit incorrect installation.

Voltage Drop:
Length of busway for a one volt drop in the line to line voltage for a distributed load of 100 amperes:

Three phase, .8 PF	62 feet
Single phase	53 feet

Elevated Temperature Operation:

Ambient Temp.	Amp Rating Multiplier
40°C / 104°F	1.00
45°C / 113°F	0.95
50°C / 122°F	0.90
55°C / 131°F	0.85
60°C / 140°F	0.80
65°C / 149°F	0.74
70°C / 158°F	0.67

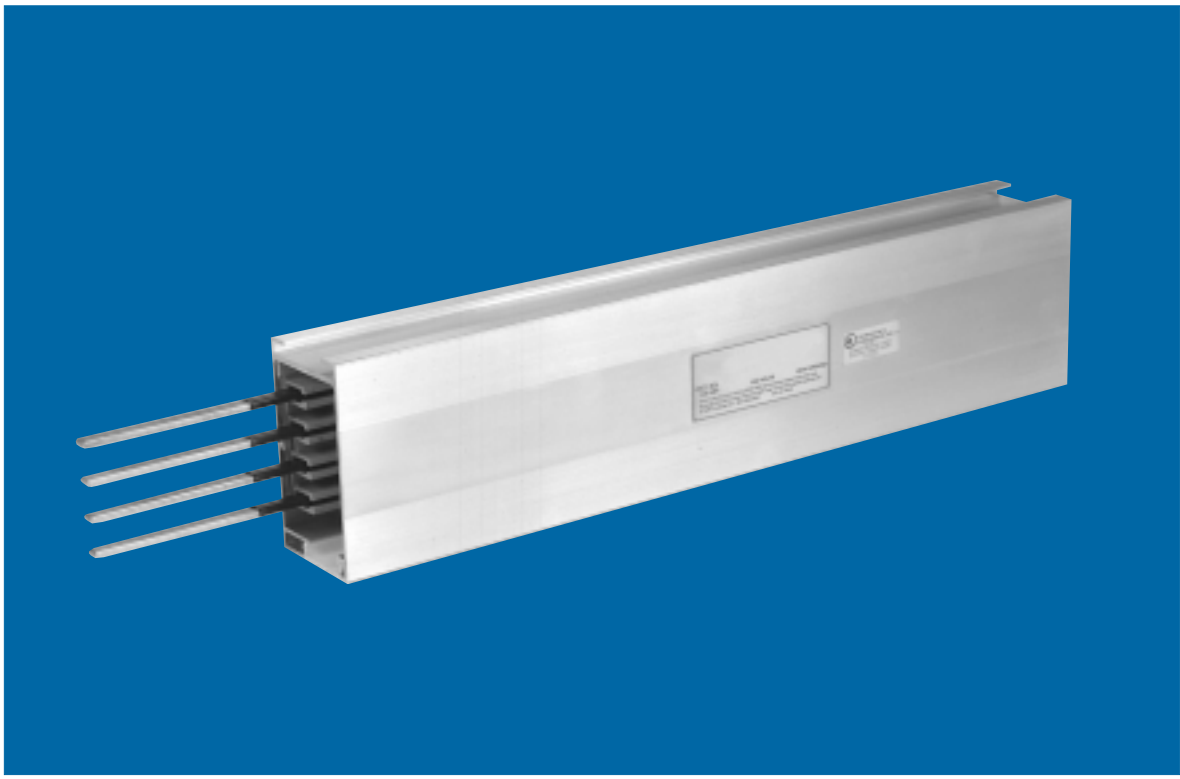
B100 Plug-in Busway Sections

Standard busway sections come in 20, 10 and 5 foot lengths. The busbars are solid copper, and have a channel configuration. The sections include the busbars protruding at one end, which fit into the busbar channel of the next section. A special installation tool is used with each system, to push the sections together. The stabs of the plug-in units push into the busbar channel for a solid electrical connection. Housing couplers join adjacent busway sections, ordered separately. The busway sections have continuous insulator for the full length of the section, providing superior short-circuit protection, and a finger-safe design.

Rated at 100 amps, 600 volts, 50/60 Hertz. It is also ideal for 400 Hertz applications. The aluminum housing is approved as a 100% capacity ground. Sections are available in 3 and 4 pole with ground. Short circuit current rating at 10,000 amps. UL and CUL listed.

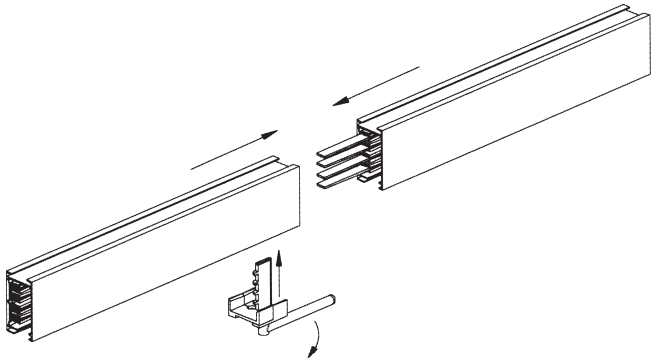
Power feed to the busway system should be wired to match the wire color coding of the plug-in units, especially when single phase loads are to be tapped off of four pole busway. See chart at right.

Neutral Sizing with Harmonics: When the load on the busway creates significant harmonic currents, consideration must be given to the rating of the neutral conductor(s). See page 26 for Starline Track Busway with 200% neutral and isolated ground bars.



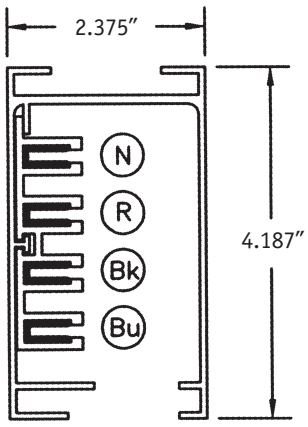
Plug-in Busway Sections

Catalog #	Description	Length	Weight
B100-3PG-5	100 amp, 3 pole/ground	5 feet	12.5 lbs
B100-3PG-10	100 amp, 3 pole/ground	10 feet	25.0 lbs
B100-3PG-20	100 amp, 3 pole/ground	20 feet	50.0 lbs
B100-4PG-5	100 amp, 4 pole/ground	5 feet	13.0 lbs
B100-4PG-10	100 amp, 4 pole/ground	10 feet	26.0 lbs
B100-4PG-20	100 amp, 4 pole/ground	20 feet	52.0 lbs



Typical Busbar Wiring

Legend	Color	With poles
N	white or yellow	3 & 4
R	red	3 & 4
Bk	black	3 & 4
Bu	blue	4
ground	housing	



B100 Busway Parts

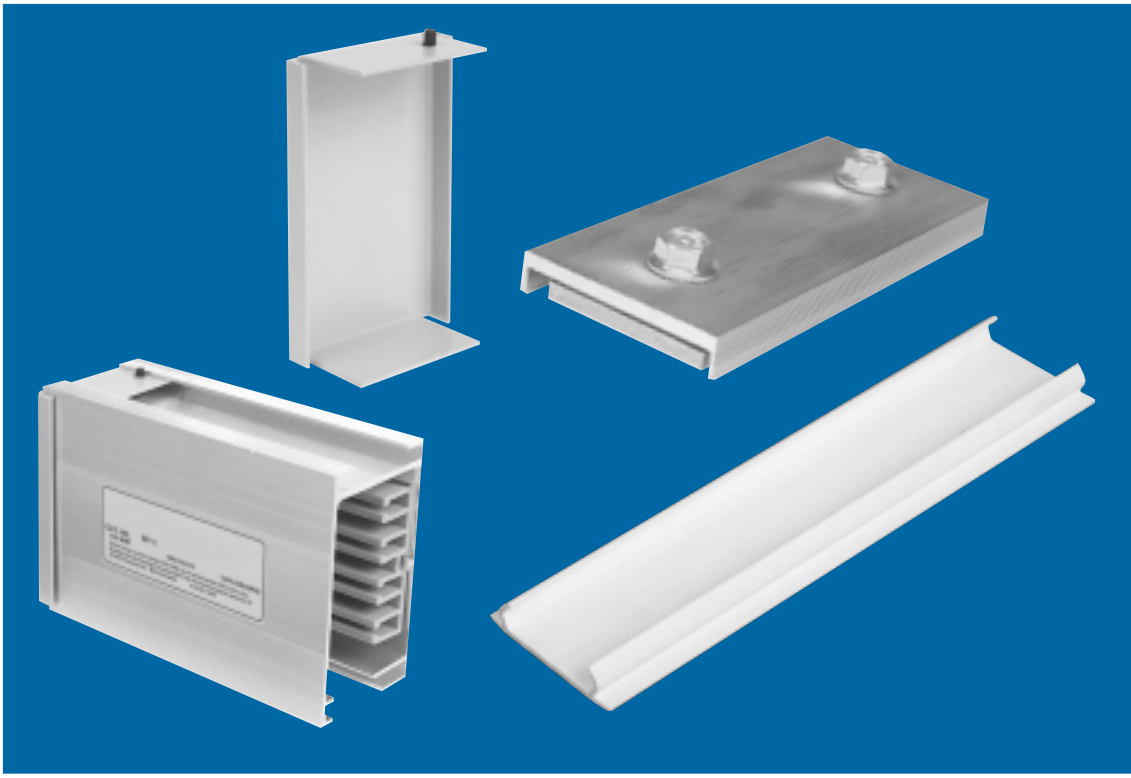
Housing Coupler
The standard housing coupler is used to join adjacent busway sections mechanically. Supplied in pairs, for top and bottom of housing positions. Order one pair per busway section.

End Piece
The end piece is a 6 inch piece of housing and insulator, and end cap. It is used to cover the protruding copper busbar connector blades at the end of a run. Some runs do not require an end piece, if the protruding blades are used for the end feed power connections.

End Cap
The end cap closes off the open ends of a busway run. It inserts into the end of the last busway section, and is secured in place with a set screw.

Closure Strip
The closure strip is an optional item, used to close the continuous access slot of the busway. It is made of white rigid PVC and snaps into place. It is required for safety only when busway is mounted less than 8 feet above the floor. It may be used for aesthetic purposes, for keeping dust and dirt from entering the busway, or as an added safety measure. It comes in 20 foot max pieces, and can be cut in the field, to be installed between the plug-in units.

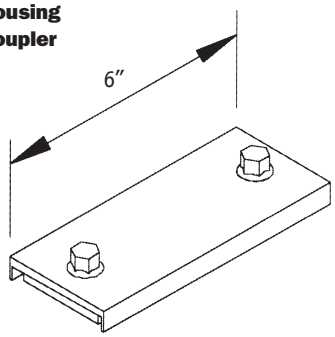
Other Busway Accessories
Other accessories for B100 Series are available, including cord grips, cord assemblies, receptacle boxes, plugs, fittings, fuses, brackets, etc. See page 35 for details.



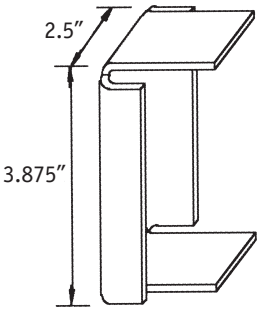
Busway Parts Designs

Catalog #	Description	Weight
BHC-1	housing coupler, pair	0.2 lb
EP-1	end piece, for B100	1.0 lb
EC-1	end cap, for B100	0.1 lb
CS-1	closure strip, for B100	0.1 lb/feet
B100IT	installation tool	2.5 lbs

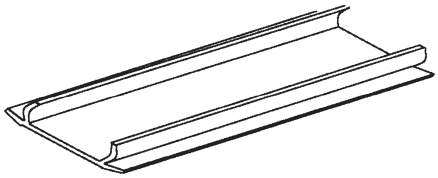
Housing Coupler



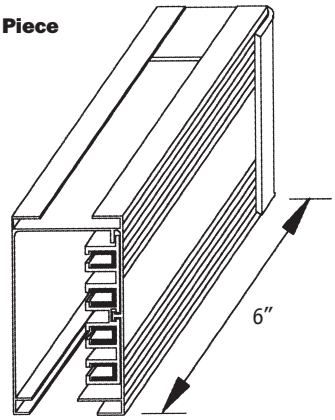
End Cap Diagram



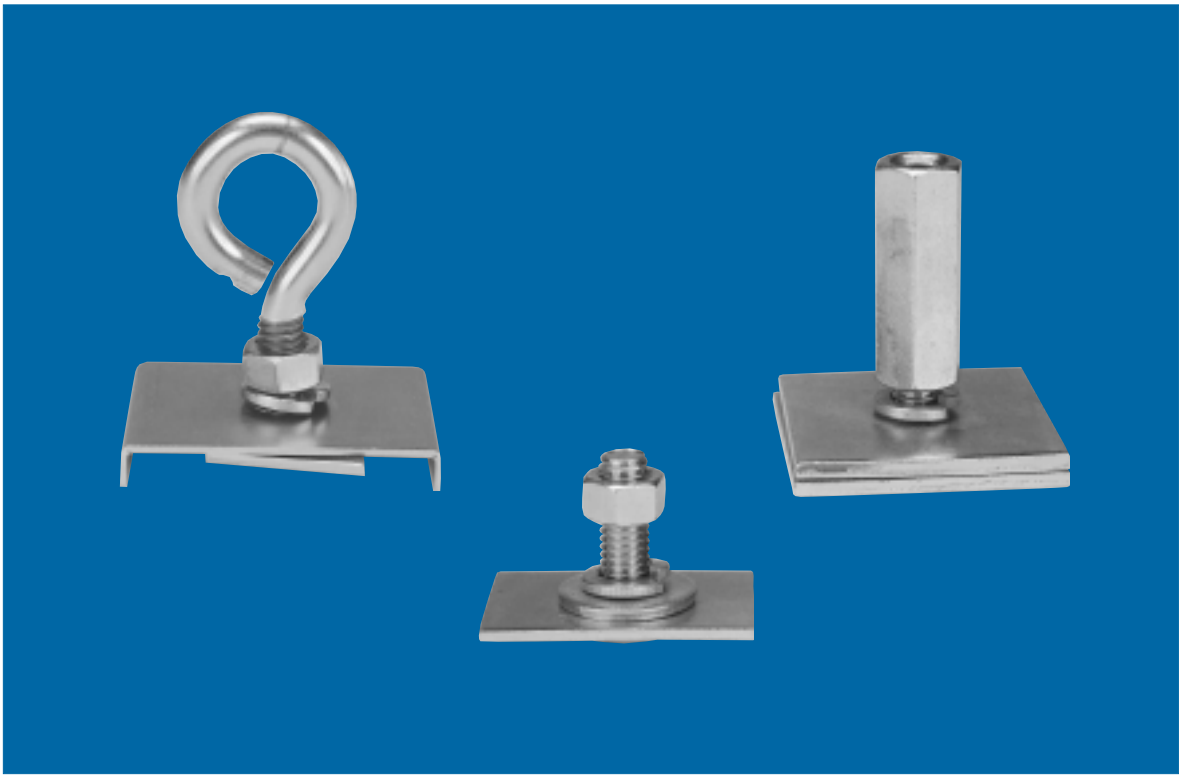
Closure Strip



End Piece



B100 Busway Parts



Hangers

B100 Busway features the convenience of a continuous hanger support anywhere along the busway run. Slide the hanger into the busway mounting channel into position. Typical hanger support spacing is 10 feet max.

Standard hanger designs include type BH-1 which has a 3/8 inch x 1 inch stud for rigid mount. Type BRH-1 has a rod coupling nut assembly added to the hanger for 3/8 inch rod mount.

The weight hook ring, type WHR-2 can be used as a hanger for suspending the busway from chains or wires, or to hang loads up to 50 pounds under the busway, such as light fixtures, tools, and balancers.

Cable Suspension

B100 Starline Track Busway can be suspended below a ceiling or trusses with steel cables. The ACH-1 aircraft cable hanger device includes a hanger plate, and has an easy grip feature for steel cable. Cable not included. The WHR-1 may also be used for hanging the system.

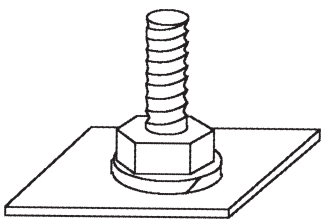
Safety Cable Loop

This assembly provides backup protection to heavy loads suspended from the busway, such as light fixtures or tools, as a backup safety feature. The cable loops over the busway loosely.

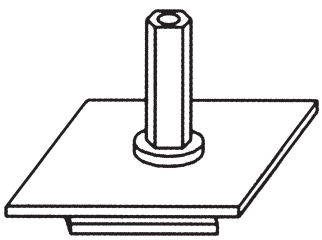
Hanger Designs

Catalog #	Description	Weight
BH-1	standard hanger	0.2 lb
BRH-1	rod mount hanger	0.3 lb
WHR-2	weight hook ring	0.2 lb
ACH-1	cable suspension hanger assembly	0.3 lb
SCL-1	safety cable loop	0.2 lb

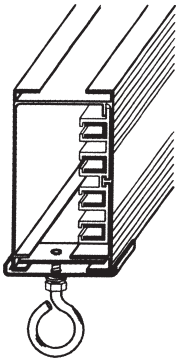
BH-1



BRH-1



WHR-2



B100 Busway Parts

End Power Feed Units
Standard power supply to the B100 Busway consists of a steel junction box, 10 inch x 8 inch x 4 inch with removable side, lugs and shrink tubing. The power feed box fits over the male end of the first busway section and is secured to it with two hangers, included. UL listed.

Top Feed Units
The top feed power supply is used to supply power from above the busway run, when a box at the end or below a busway run is not wanted. A power feed box is connected to a two-foot piece of busway, which is positioned at the end of a busway run. A terminal block in the power feed box is supplied for up to 2/0 wire connections. UL listed.

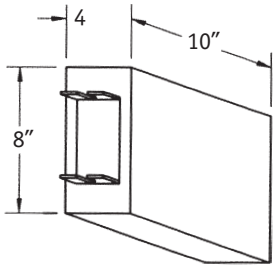
Bottom Feed Units
Power feed connections can be made from below the busway, using the 100 amp terminal block plug-in unit shown on page 25. The wire connections in the box are made to the incoming power supply wires.

End Power Feed with Adapter to Trunk Busway
Starline Track Busways are ideal as branch busway runs, to reduce the overall cost of busway. This unit provides the components needed to connect a trunk busway tap box to the Starline power feed box. It includes the Starline end feed assembly, 4 feet of flexible conduit and 100 amp rated cables. See page 9 for illustration.

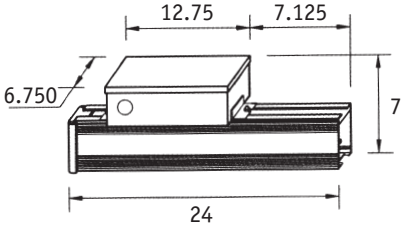
Power Feed Designs

Catalog #	Description	Weight
EF100-3	end feed, 100A, 3 pole/ground	6.0 lbs
EF100-4	end feed, 100A, 4 pole/ground	6.0 lbs
TF100-3	top feed, 100A, 3 pole/ground	12.5 lbs
TF100-4	top feed, 100A, 4 pole/ground	12.5 lbs
PFA100-4	power feed & adapter, 100A, 4 pole/ground	8.0 lbs

End Power Feed



Top Feed Units



End Power Feed with Adapter

B100 Ells and Tees

Ells

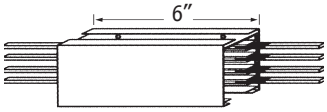
Ells are used for making a 90 degree turn in the busway. Horizontal and vertical ells are available. Specify if the ell is a left or right ell, up or down, according to which way the orientation of the internal busbars assemble. See illustration below. Plug-in units cannot be plugged into an ell. UL listed.

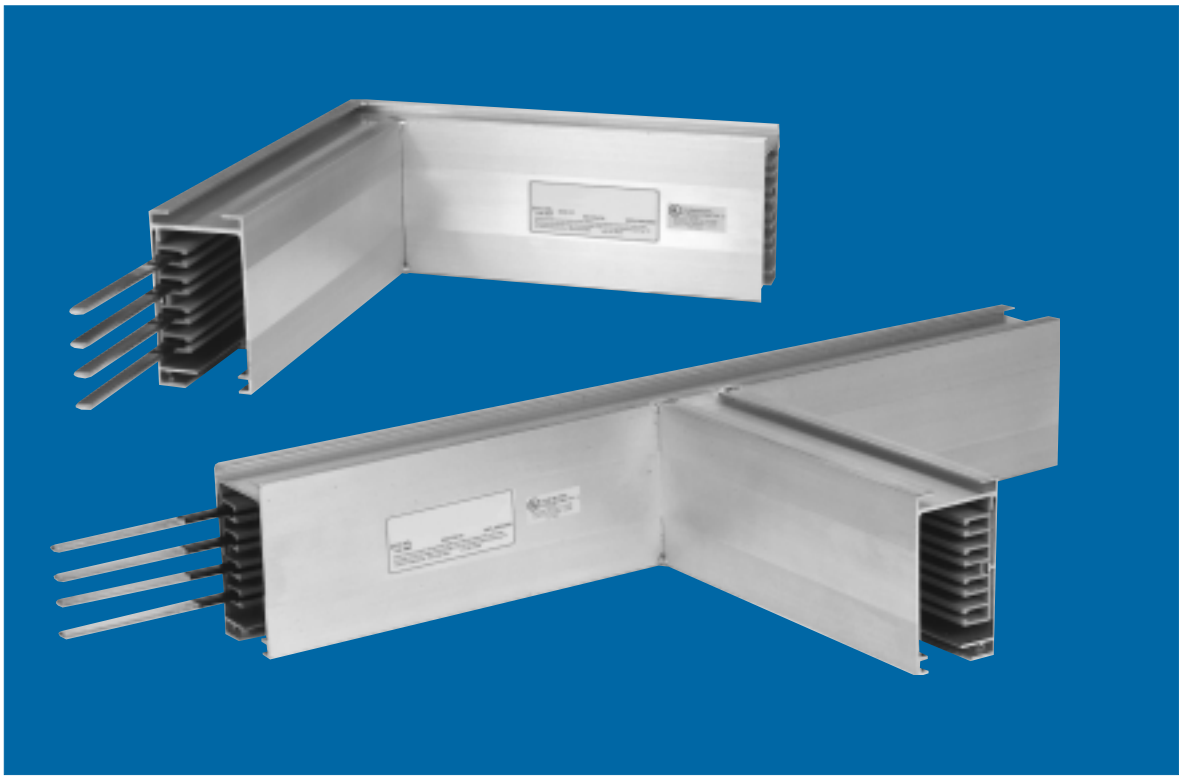
Tees

Tees are used for creating a branch in a busway system. They operate similarly to ells. When laying out a system, specify the correct busbar orientation of the tee. Indicate right or left, external or internal busbars. External tees are preferred. See illustration below. UL listed.

Male-Male Adapter

The male-male adapter is used to change the gender of a tee, ell or busway section to construct a particular configuration. It may also be used when locating a power feed at the female end of a busway section. UL listed.

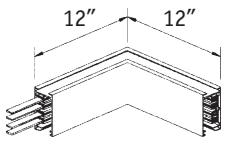




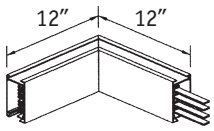
Ell and Tee Designs

Catalog #	Description	Weight
EL3-L	ell, horiz, 3 pole, left	5.5 lbs
EL3-R	ell, horiz, 3 pole, right	5.5 lbs
EL4-L	ell, horiz, 4 pole, left	5.5 lbs
EL4-R	ell, horiz, 4 pole, right	5.5 lbs
EL4-U	ell, up, 4 pole	5.5 lbs
EL4-D	ell, down, 4 pole	5.5 lbs
BT3-ER	tee, 3 pole, external right	8.0 lbs
BT3-EL	tee, 3 pole, external left	8.0 lbs
BT4-ER	tee, 4 pole, external right	8.0 lbs
BT4-EL	tee, 4 pole, external left	8.0 lbs
BT4-IR	tee, 4 pole, internal right	8.0 lbs
BT4-IL	tee, 4 pole, internal left	8.0 lbs

Right Ell



Left Ell

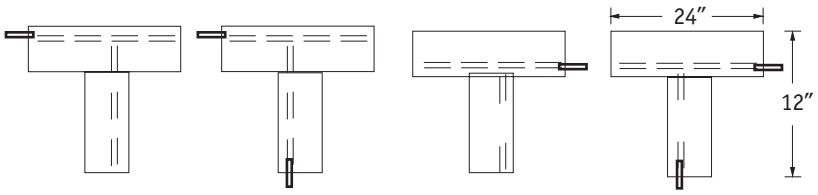


BTx-ER External Right

BTx-EL External Left

BTx-IR Internal Right

BTx-IL Internal Left



B100 Busway Plug-in Units

Plug-in units are used to tap off the power from the busway. The plug-in units have a special plug head which inserts into the busway continuous slot, and twists 90 degrees to make electrical connection. The copper contact blades fit into the busbar channel for a compression connection.

All plug-in units are polarized, and have mounting tabs and two bolt-on hangers to secure the unit to the busway.

Outlet Box Plug-in Unit
Outlet box plug-in unit is the most economical unit, and consists of the plug head mounted on a junction box. It is available in 40 amps with a 4 inch square box, or 60 amps with a 4 11/16 inch square box. One, two or three external fuse holders, type CC, 30A max, may be added, with 4 11/16 inch box. Order fuses separately. Direct wire connections to the load or a drop cord assembly are made in the box. A screw-on cover and wire nuts are included. UL listed.

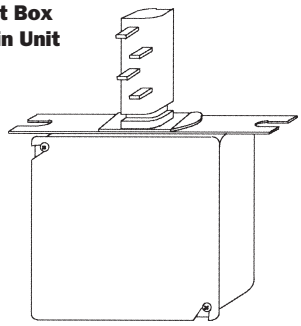
Fused & Unfused Duplex Receptacle Units
These units are similar to the outlet box unit, with an added duplex receptacle in a standard 4 inch square box, rated at 15A, 125 V max. An external fuse assembly with a 15 amp type CC Fuse (included) is provided, or unfused receptacle units are also available. 20 amp receptacles, and several NEMA configurations are also available upon request. Standard models are UL listed.

Plug-in Units Designs

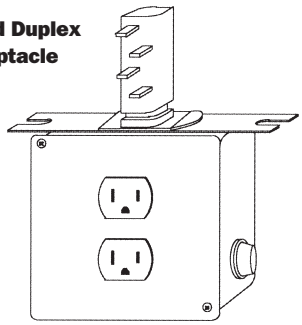
Catalog #	Description	Weight
OB100-40-3	outlet box unit, 40A, 3 pole	1.2 lbs
OB100-40-4	outlet box unit, 40A, 4 pole	1.5 lbs
OB100-60-3	outlet box unit, 60A, 3 pole	1.5 lbs
OB100-60-4	outlet box unit, 60A, 4 pole	1.8 lbs
DRF100-15-3	duplex receptacle unit, 15A, fused, for 3 pole	2.0 lbs
DRF100-15-4	duplex receptacle unit, 15A, fused, for 4 pole	2.2 lbs

Add "-1F, -2F or -3F" to the catalog number of the OB unit to add 1, 2 or 3 external fuse holders. Order type CC fuses separately.

Outlet Box Plug-in Unit



Fused Duplex Receptacle Unit



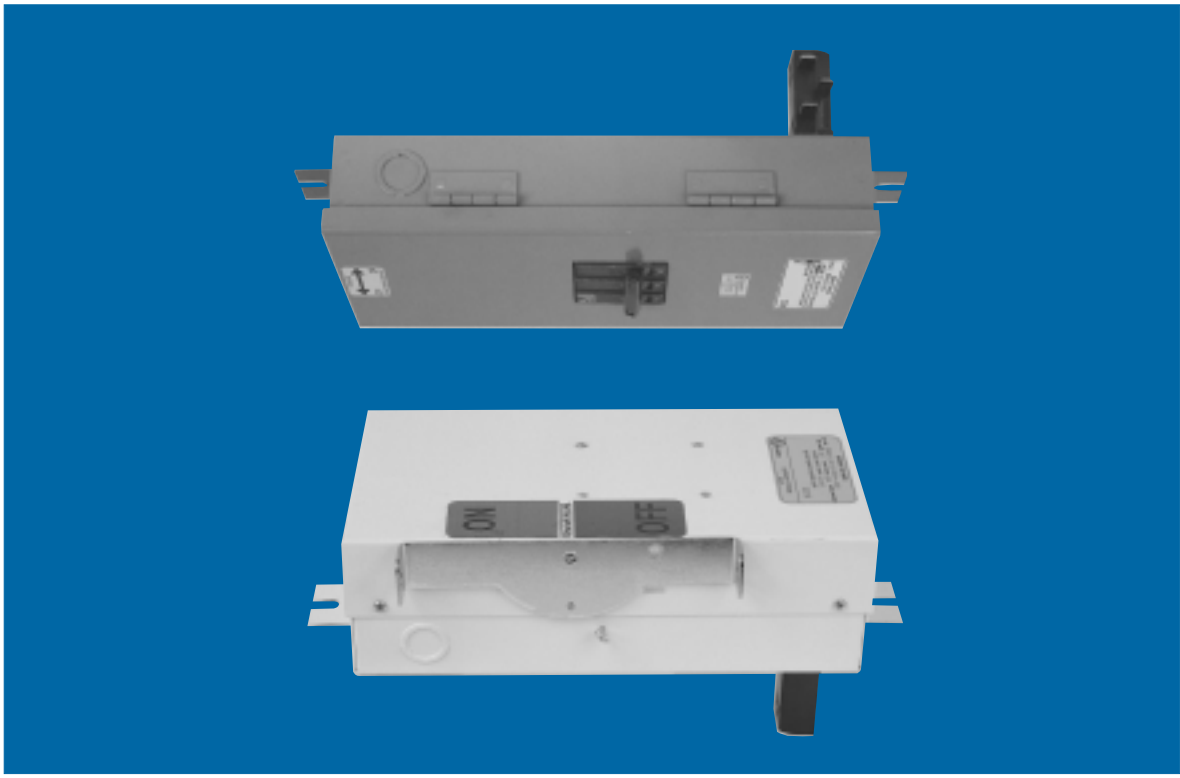
Circuit Breaker Plug-in Units

Plug-in units with circuit breaker consist of a full-sized junction box with a hinged lid, plug head, and externally operable circuit breaker. Insert the plug head in the busway and rotate 90 degrees to make electrical connection. The units are normally supplied with the breaker installed, or can be supplied without them with a snap-on mounting plate.

Circuit breakers are available from 15 to 100 amps, 250 or 480 volt max, 1, 2 and 3 pole. Units with multiple circuit breakers are available and are UL listed. All units include a copper grounding lug for up to #6 wire, mounting tabs and two hangers to secure unit to the busway. 4 pole unit also includes a neutral wire and wire nut, or neutral block over 40 amps. UL listed.

Circuit Breaker with External Disconnect

A Starline plug-in unit externally operable disconnect switch is available with all circuit breaker units. Rocker handle disconnects circuit breaker before box can be opened. UL listed.



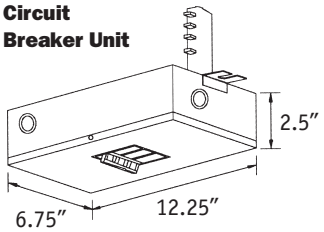
Circuit Breaker Plug-in Units

Catalog #	Description	Weight
CB100-XX-1-250-3	250V, 1 pole, for 3 pole busway	5.5 lbs
CB100-XX-2-250-3	250V, 2 pole, for 3 pole busway	6.0 lbs
CB100-XX-3-250-3	250V, 3 pole, for 3 pole busway	6.5 lbs
CB100-XX-1-250-4	250V, 1 pole, for 4 pole busway	5.5 lbs
CB100-XX-2-250-4	250V, 2 pole, for 4 pole busway	6.0 lbs
CB100-XX-3-250-4	250V, 3 pole, for 4 pole busway	6.5 lbs

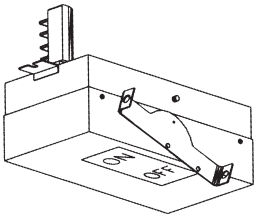
"XX" = Specify the desired ampere rating of the circuit breaker. Change "250" to "480" on above items for 480 volt max circuit breakers. To order without the breaker, omit the second "B" in the catalog number.

Add "-DIS" to above catalog number for an externally operable version.

Circuit Breaker Unit



Circuit Breaker Unit with Disconnect



Fuse Block Plug-in Units

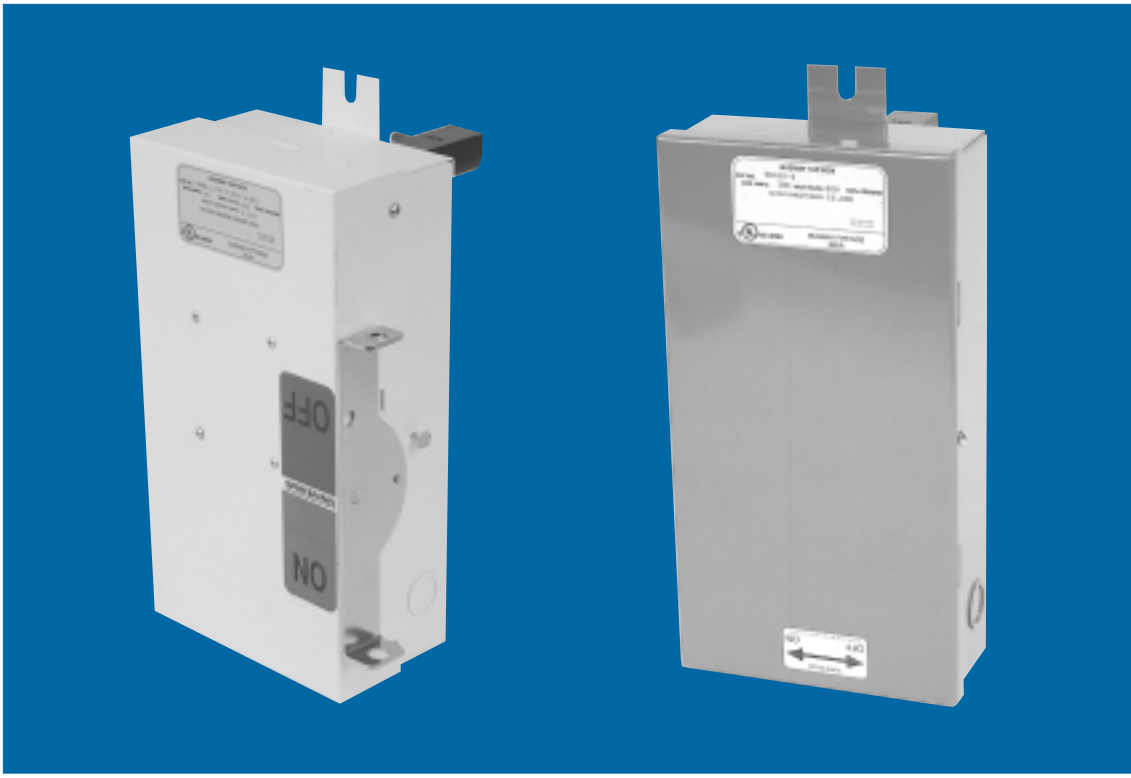
Plug-in units with an internal fuse block consist of a full-sized junction box with hinged lid, and a plug head. Insert the plug head in the busway slot and rotate 90 degrees to make electrical connection.

Units are available in 30, 60 and 100 amp max fuse block sizes, and in 250 or 600 volt max ratings. A Class H, 3 pole phenolic fuse block is mounted in the box. Fuses are not included, but can be ordered as a separate item. See page 35.

All units include a copper grounding lug, mounting tabs, and two hangers to secure unit to the busway. Four pole units also include a neutral wire, with wire nut, or a neutral block over 40 amps. Units have 1/2 inch and 3/4 inch conduit knockouts on 3 sides. UL listed.

Fused Starjack with External Disconnect
A similar fused unit is available with the added feature of an externally operable disconnect switch. Rocker handle disconnects circuit before box can be opened. UL listed.

Terminal Block Units
Plug-in units with a 3 or 4 pole insulated terminal block are available, in a full-sized wiring box with hinged lid. These units include a 40 or 100 amp max, 3 pole terminal block and copper ground lug. Four pole unit also includes a neutral wire and wire nut, or neutral block over 40 amps. UL listed.

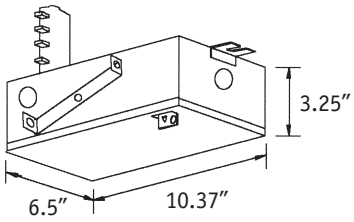


Fused and Terminal Block Plug-in Units

Catalog #	Description	Weight
FD100-30-3-250-3	fused disconnect unit, 30A, 250V, 3 pole	5.5 lbs
FD100-30-3-250-4	fused disconnect unit, 30A, 250V, 4 pole	5.5 lbs
FD100-60-3-250-3	fused disconnect unit, 60A, 250V, 3 pole	5.5 lbs
FD100-60-3-250-4	fused disconnect unit, 60A, 250V, 4 pole	5.8 lbs
TB100-40-3	terminal block unit, 40A, 600V max, 3 pole	5.5 lbs
TB100-100-3	terminal block unit, 100A, 600V max, 3 pole	6.0 lbs

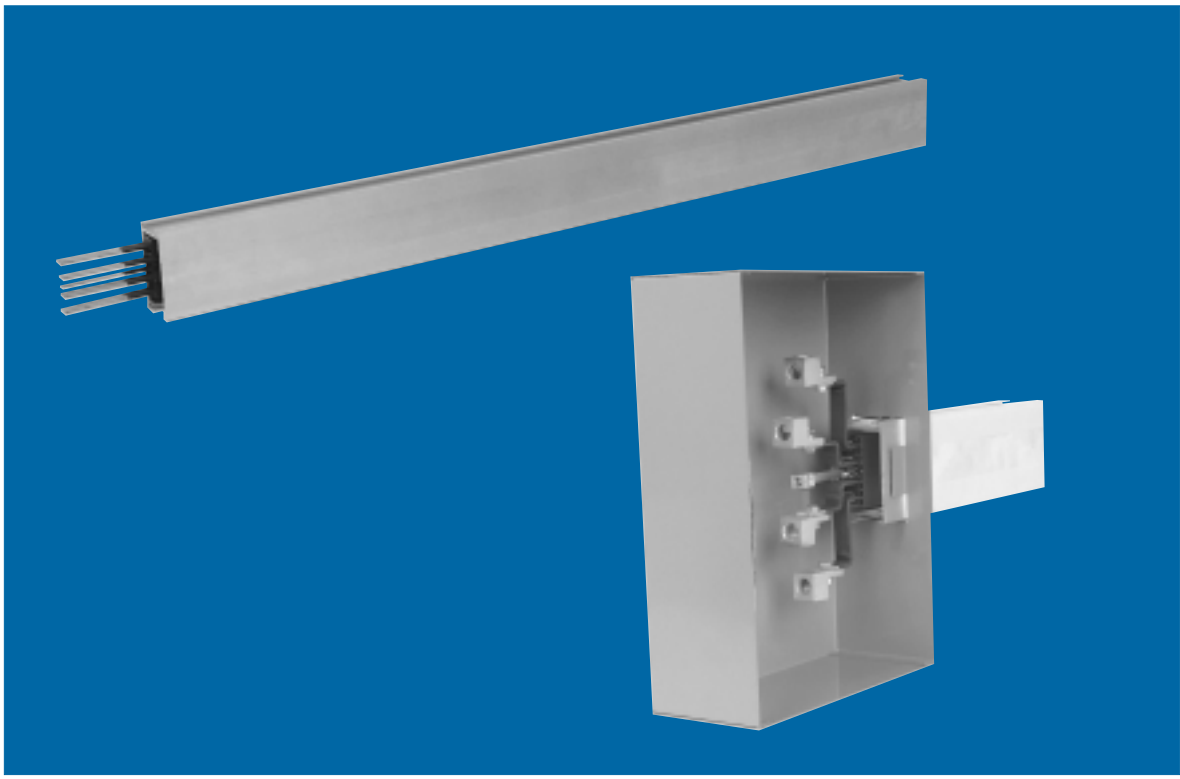
Change “300” to “600” on above FD units for 600 volts max rated units.

Fused Starjack with External Disconnect



200% Neutral, Isolated Ground

Starline Track Busway is available with a 200% rated neutral busbar, as well as an isolated ground busbar. High tech and electronics applications usually have these electrical requirements to handle potential harmonic loads and sensitive grounding needs. Available in 100 amp busway with 200 amp neutral, 600V. Optional 100 amp isolated ground busbar is 300 volts rating standard, with 600 volts rating available. 22,000 amp short circuit rating. The B225 installation tool is used to install the B100N busway sections. UL pending.



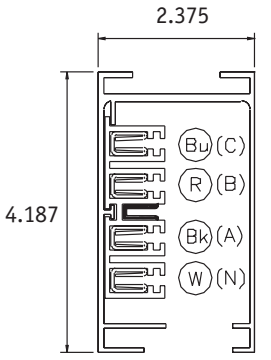
Power Feed Units
Power feed units with oversized neutral connections are used with this series. A fifth busbar connector is added for the isolated ground bar. UL pending.

Other Busway Parts
Use the same housing couplers, end pieces, end caps, hangers, closure strip, etc. as the B100 system. See pages 19 - 20 for selection details.

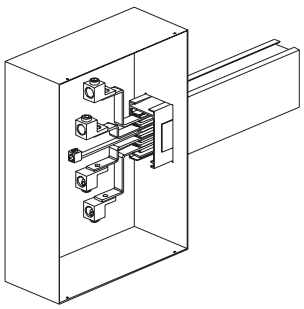
Ells and Tees
The B100N and B100NG busway series has ells and tees available. The design, description and catalog numbers are the same as the B100 series, shown on page 22, except for the fifth busbar added, and the letters "N" or "NG" are added to the catalog numbers.

Busway Components Designs

Catalog #	Description	Length	Weight
B100N-4PG-5	100 amp/200% neutral Busway	5 feet	14.0 lbs
B100N-4PG-10	100 amp/200% neutral Busway	10 feet	28.0 lbs
B100N-4PG-20	100 amp/200% neutral Busway	20 feet	56.0 lbs
B100NG-4PG-5-300	100 amp/200%N/isol ground	5 feet	15.0 lbs
B100NG-4PG-10-300	100 amp/200%N/isol ground	10 feet	30.0 lbs
B100NG-4PG-20-300	100 amp/200%N/isol ground	20 feet	59.0 lbs
EF100NG-4-300	end power feed, 200%N/isol ground		17.0 lbs
B225IT	installation tool		1.0 lb



End Power Feed

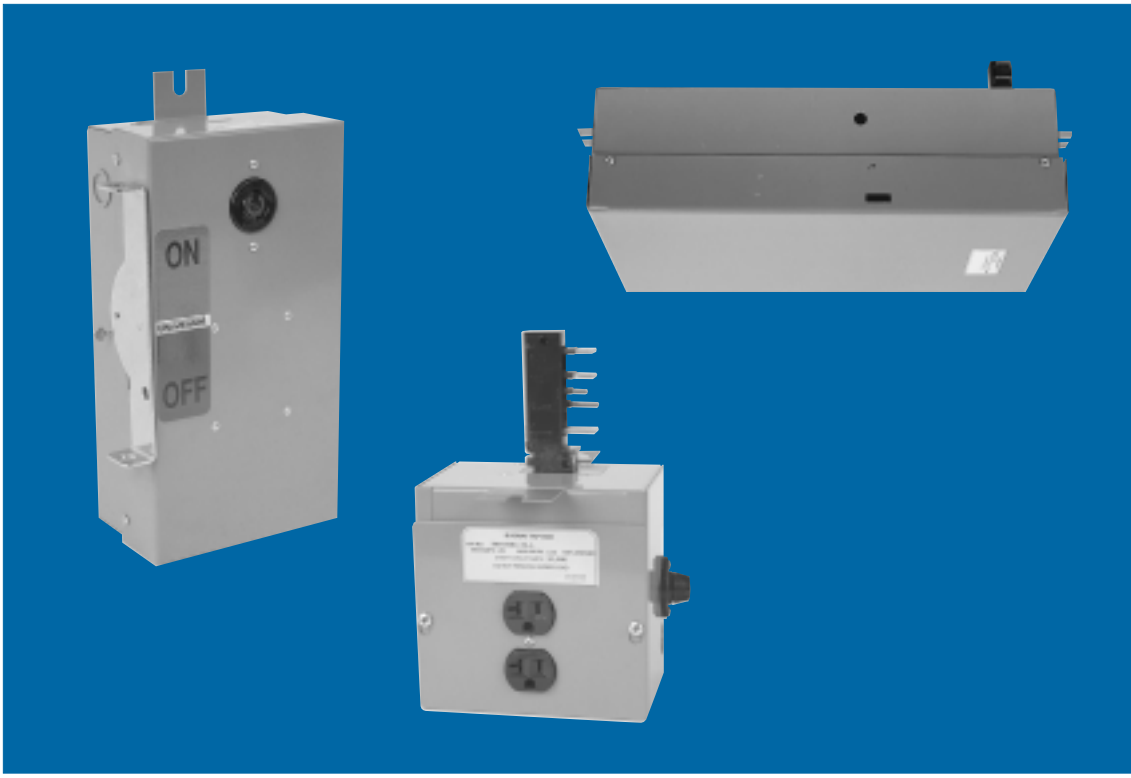


B100N Busway Series

Plug-in Units

For the 100 amp busway with 200% neutral, use the B225 Series plug-in units, see pages 32 - 34. The phase load on each unit must not exceed 100 amps, and the unit must be properly rated for the expected neutral load.

Special plug-in units must be used with the 100 amp busway with 200% neutral and isolated ground busbar. They include a fifth stab for the isolated ground. See illustration. Outlet box units, fused units, receptacle units and circuit breaker units are available, similar to the B225 series. 4 pole circuit breakers are available when specified. Some of those units are listed to the right. UL pending.

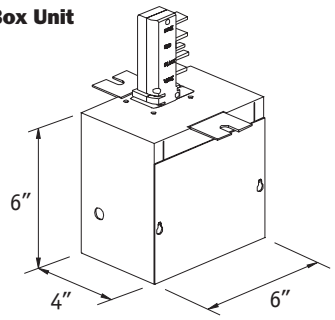


Plug-in Units Designs

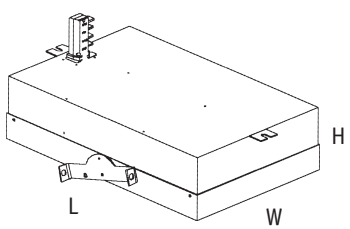
Catalog #	Description	Weight
OB100NG-30-4	outlet box unit, 4 Pole, N, gnd, 30 amp	4.2 lbs
OB100NG-60-4	outlet box unit, 4 Pole, N, gnd, 60 amp	4.2 lbs
DRF100NG-X	fused receptacle unit, 15A	4.3 lbs
CB100NG-aa-3-240-4	circuit breaker unit, 240V max, 3 pole	
CB100NG-aa-3-480-4	circuit breaker unit, 480V max, 3 pole	

X = A, B or C for phase bar wiring.
aa = See page 33 for amp ratings to 100 amps and box dims.

Outlet Box Unit

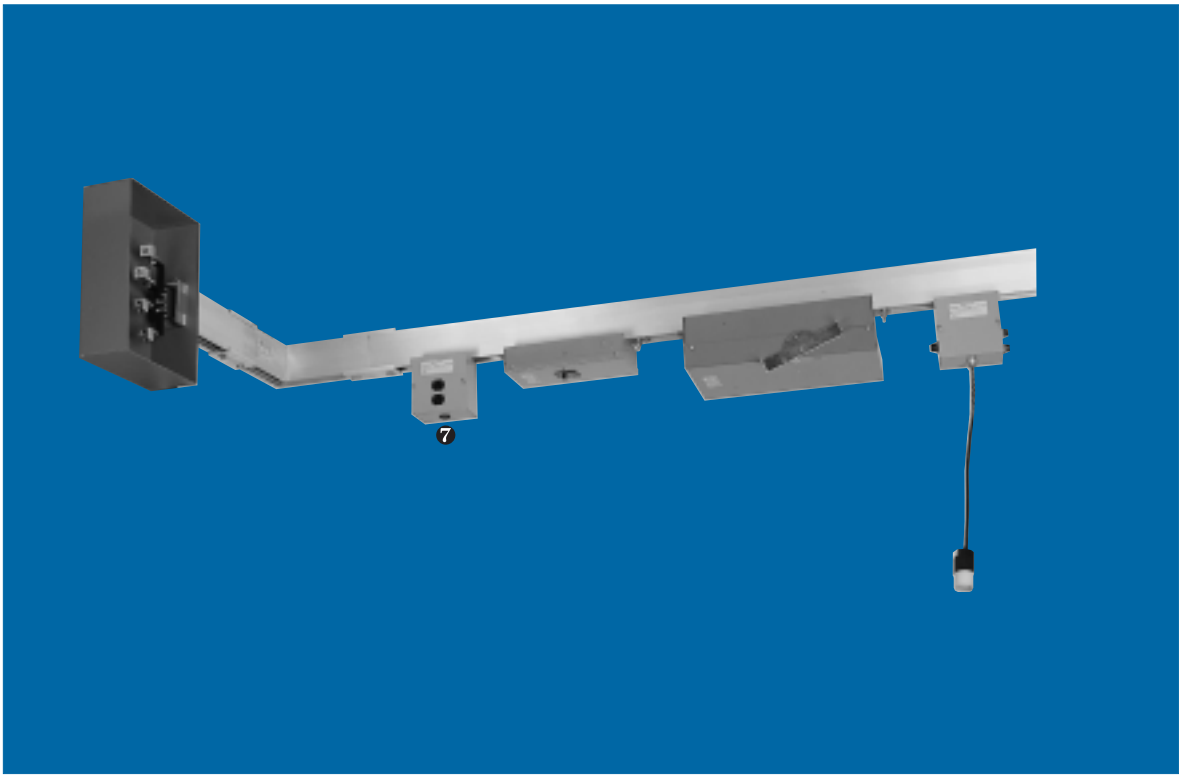


Circuit Breaker Unit



B225 and B160 Plug-in Busway Series Design

The Starline Track Busway Series is available in 225 and 160 amp ratings, with the B225 Busway Series. The design combines Starline's features and flexibility with greater cost efficiency than conventional busway systems. It is available in 3 or 4 pole, 600 volts maximum, and the aluminum housing is approved as a 100% capacity ground. It is UL listed, and CUL listed for Canada, 22,000 amps short circuit rating, and passes the UL "Finger Safe Probe" and grounding standards.



1. Copper Busbars
All busbars are hard temper solid copper. Patent pending busbar shape allows a compression fit electrical connection of adjacent busway straight sections, as well as the turn-and-lock plug-in units. No bolts or screws are required.

2. Continuous Insulator
The busbar insulator is continuous and has slots for insertion of the plug-in-unit stabs.

3. Extruded Aluminum Housing
The housing design combines strength, lightweight and pleasing appearance. It is about half the weight of steel enclosed busway. Aluminum housing is superior for 400 Hertz power systems.

4. Ground Conductor
The aluminum housing is a 100% capacity ground conductor. No grounding kits needed for plug-in units.

5. Continuous Mounting Channel
Exact spacing of hangers not required. Hanger spacing is up to 10 feet apart.

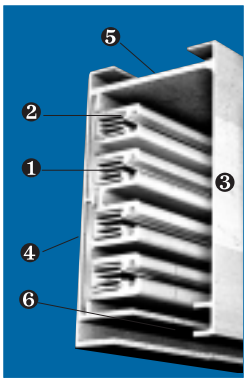
6. Continuous Access Slot
Plug-in units can be attached to the busway at any location and density, and is easily done with the turn-and-lock feature. Simply insert the unit into the busway slot, turn 90 degrees and the electrical connection is complete.

7. Plug-In Units
Plug-in units for the B225 and B160 busways include fused disconnect, circuit breaker and terminal block units. The outlet box unit for direct wiring and fused receptacle units are similar to the B60 and B100 Series.

Voltage Drop
Length of busway for a one volt drop in the line to line voltage for a distributed load of 225 amperes:

B160 three phase, .8 PF	69 feet
B160 single phase, .8 PF	59 feet
B225 three phase, .8 PF	49 feet
B225 single phase, .8 PF	42 feet

B225 perspective illustration



B225 and B160 Busway Sections

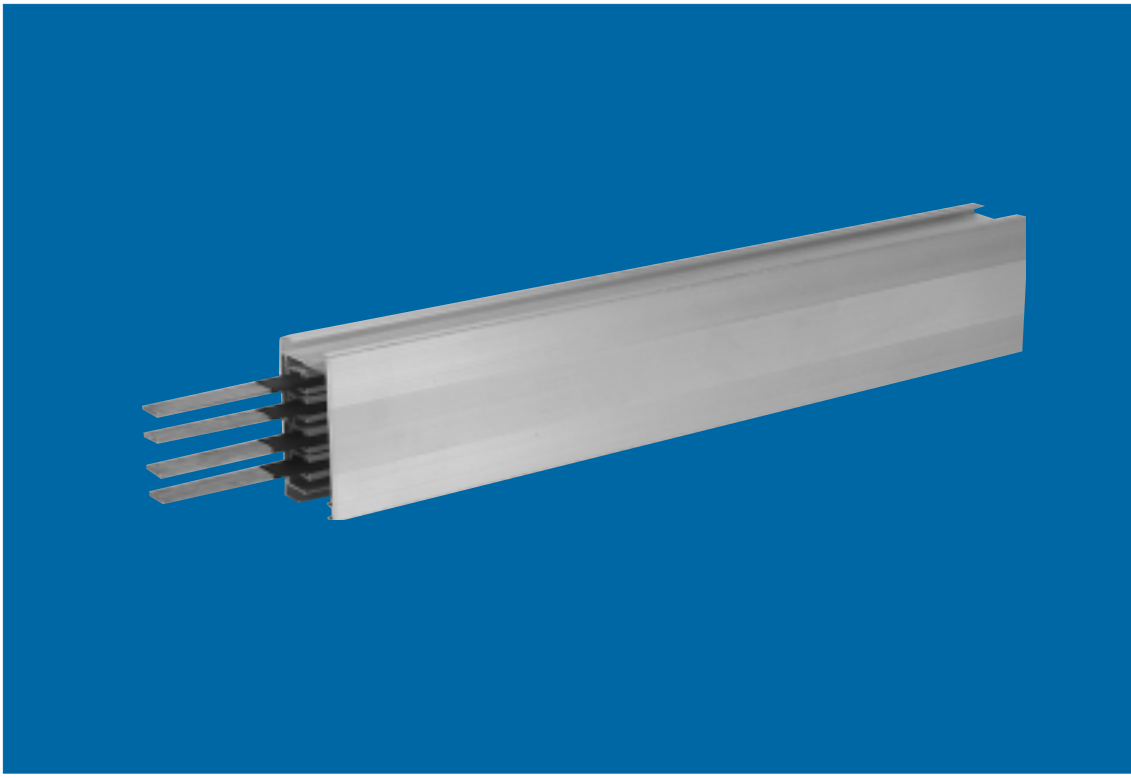
Starline Track Busway sections come in 20, 10 and 5 foot standard lengths. The 160 and 225 amp busbars are hard temper solid copper, and have a channel configuration. The 225 amp rated busbars are tin plated. The sections include the busbars and coupling cover (patent pending) protruding at one end, which fit into the end of the next section. To connect busway sections together, use the B225 Installation Tool, see page 30, to push the protruding busbars into the busbar channel of the next section. Housing couplers ordered separately, join adjacent busway sections.

The busway sections have continuous insulator for the full length of the section. They provide industry standard clearances and are finger safe.

Rated at 600 volts max, 50/60 Hertz, and is ideal for 400 Hertz application. The aluminum housing is approved as a 100% capacity ground. Sections are available in 3 phase 3 wire and 3 phase 4 wire with ground. UL and CUL listed.

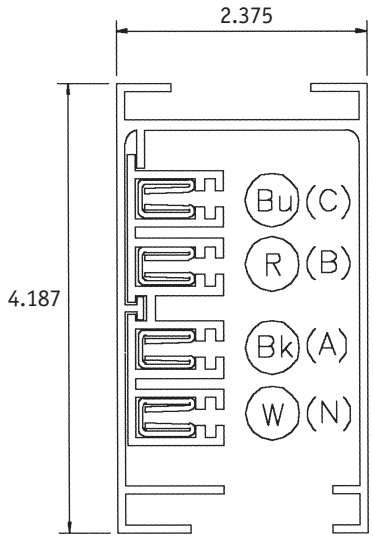
Power feed to the busway system should be wired to match the wire color coding of the plug-in units, as shown in the chart at far right.

Neutral Sizing
When the load on the busway creates significant harmonic currents, or has single phase tap off of a 3 phase primary, consideration must be given to the ampere rating of the neutral conductor(s).



Plug-in Busway Sections

Catalog #	Description	Length	Weight
B225-3PG-5	225 amp busway, 3 pole/ground	5 feet	16.0 lbs
B225-3PG-10	225 amp busway, 3 pole/ground	10 feet	29.0 lbs
B225-3PG-20	225 amp busway, 3 pole/ground	20 feet	57.0 lbs
B225-4PG-5	225 amp busway, 4 pole/ground	5 feet	17.0 lbs
B225-4PG-10	225 amp busway, 4 pole/ground	10 feet	33.0 lbs
B225-4PG-20	225 amp busway, 4 pole/ground	20 feet	64.0 lbs
B160-3PG-5	160 amp busway, 3 pole/ground	5 feet	16.0 lbs
B160-3PG-10	160 amp busway, 3 pole/ground	10 feet	29.0 lbs
B160-3PG-20	160 amp busway, 3 pole/ground	20 feet	57.0 lbs
B160-4PG-5	160 amp busway, 4 pole/ground	5 feet	17.0 lbs
B160-4PG-10	160 amp busway, 4 pole/ground	10 feet	33.0 lbs
B160-4PG-20	160 amp busway, 4 pole/ground	20 feet	64.0 lbs
B225G-4PG-10-300	225 amp busway, 4 pole/isol.gd.	10 feet	35.0 lbs
B225G-4PG-20-300	225 amp busway, 4 pole/isol.gd.	20 feet	68.0 lbs



B225 and B160 Busway Parts

Housing Coupler
Used to join adjacent busway sections mechanically. Supplied in pairs, for top and bottom of housing positions. Specify one pair per busway section.

End Piece
6 inch piece of housing with insulator, and end cap. Use only if the protruding busbar blades are exposed at the end of a busway run.

End Cap
The end cap closes off the end of a busway run. It fits around the end of the busway section, and is secured in place with a set screw.

Hangers
All hangers, weight hook rings, cable loops, etc. shown on page 20 for the B100 series are also used for the B225 series. Select from that list.

Installation Tool
Used during installation to make the electrical compression connection of the busbars in adjacent sections. Deposit on item is refunded when tool is returned. One tool is typically needed per project.

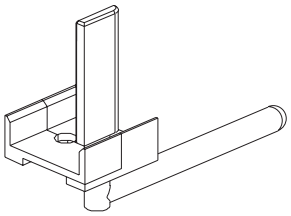
Closure Strip
The closure strip is an optional item for aesthetic purposes. See page 19 for more details.

Busway Parts Designs

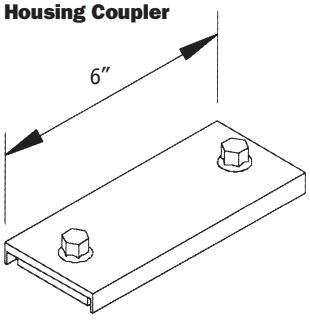
Catalog #	Description	Weight
BHC-1	housing coupler, pair	0.2 lb
B225IT	busbar installation Tool	2.5 lbs
EP-2	end piece, for B225/B160	1.2 lbs
EC-1	end cap, for B225/B160	0.1 lb
CS-1	closure strip	0.1 lb/feet

Use hangers as shown on page 20 for this series.

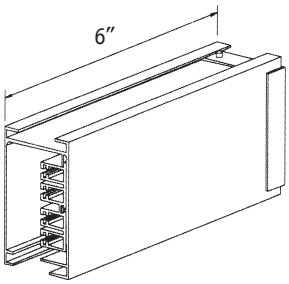
Installation Tool



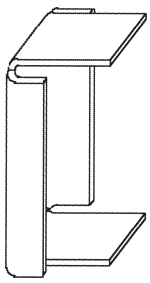
Housing Coupler



End Piece



End Cap



B225 and B160 Busway Parts

End Power Feed Units

The standard end feed units for B225 and B160 connect to the male end of a busway run. They consist of a 12 inch x 16 inch x 5 inch steel junction box, with removable side, connected to a 1 foot piece of busway. The busbars in the unit have wire connection lugs, ground lug and insulated shrink tubing included, for wire sizes up to 300 MCM. End feed units for connection to the female end of a busway run are also available. UL and CUL listed.

Ells and Tees

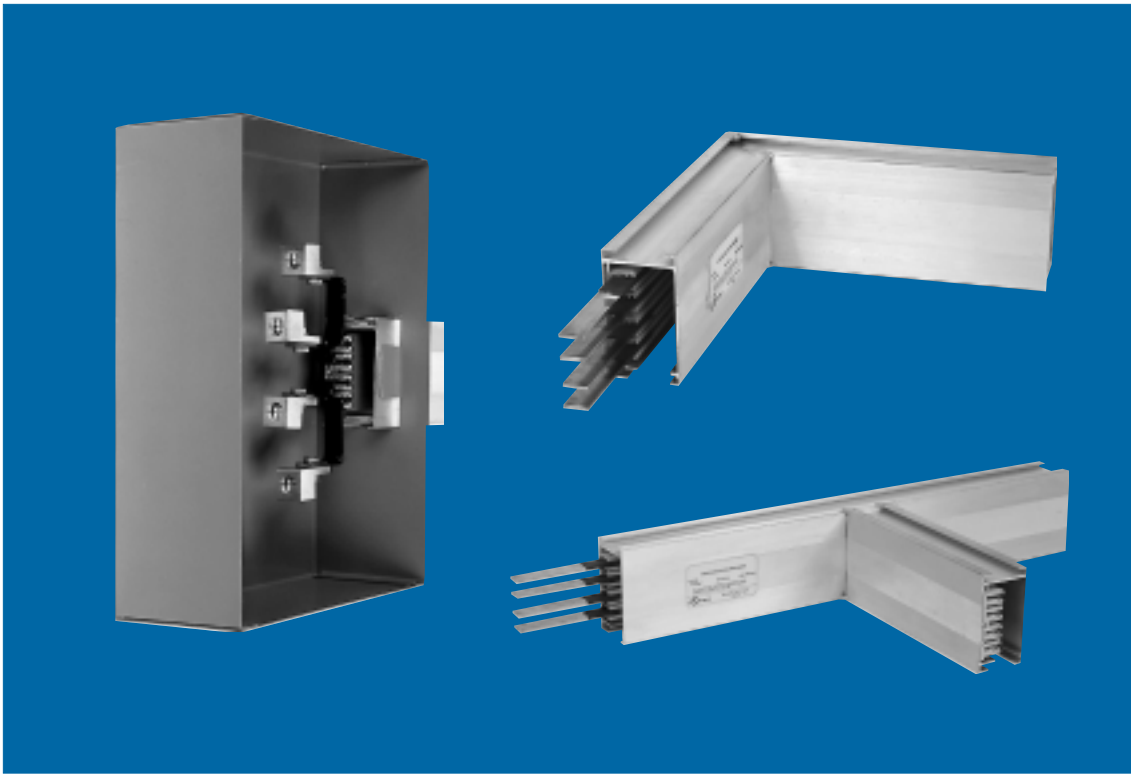
Ells and tees must specify if they are left or right. Tees must also specify the orientation of the busbars, either internal or external, according to the illustration below. External tees are preferred. Plug-in units can not be plugged into an ell or tee. UL and CUL listed.

Male-Male Adapter

Used to connect two female ends together, for busway sections, tees, or for connecting an end feed at the female end of a busway run (not shown).

Other Busway Parts

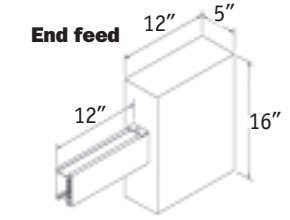
Other accessories and busway sections are available, as well as custom designing. Consult factory with a project layout, or special requirements.
See page 35 and 37 for more details.

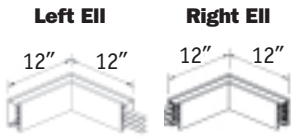


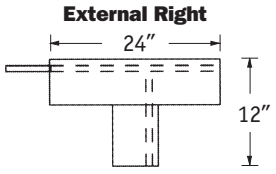
Components Designs

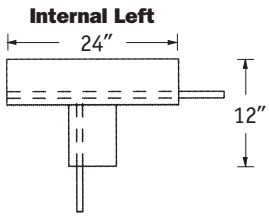
Catalog #	Description	Weight
EF225-4	end feed, 225A, 4 pole/ground	16.5 lbs
EF225-3	end feed, 225A, 3 pole/ground	16.0 lbs
EF225-4M	end feed, 225A, 4 pole/ground with male busway end	16.5 lbs
EF225-3M	end feed, 225A, 3 pole/ground with male busway end	16.0 lbs
EF160-4	end feed, 160A, 4 pole/ground	16.5 lbs
EF160-3	end feed, 160A, 3 pole/ground	16.0 lbs
EF160-4M	end feed, 160A, 4 pole/ground with male busway end	16.5 lbs
EF160-3M	end feed, 160A, 3 pole/ground with male busway end	16.0 lbs
EL225-4-L	Busway ell, 225A, 4 pole left	8.0 lbs
EL225-4-R	Busway ell, 225A, 4 pole right	8.0 lbs
EL225-3-L	Busway ell, 225A, 3 pole left	6.6 lbs
EL225-3-R	Busway ell, 225A, 3 pole right	6.6 lbs
T225-4-IL	Busway tee, 225A, 4 pole internal left	9.2 lbs
T225-4-EL	Busway tee, 225A, 4 pole external left	9.2 lbs
T225-4-IR	Busway tee, 225A, 4 pole internal right	9.2 lbs
T225-4-ER	Busway tee, 225A, 4 pole external right	9.2 lbs

*For 160 amp ells and tees, change “225” to “160” in catalog number.









B225 and B160 Plug-in Units

Starline plug-in units are used to tap off the power from the busway. The plug head inserts in the busway slot, and a 90 degrees, turn-and-lock motion makes the electrical connection. The copper contact stabs fit into the busbar channel for a compression connection. Mounting tabs and two bolt-on hangers secure the unit to the busway. Most plug-in units listed are usable on both the 225 and 160 amp busways.

Outlet Box and Fused Receptacle Plug-in Units

The outlet box plug-in unit is the most economical, comprised of a 6 inch x 6 inch x 4 inch box with knockouts for direct wire and ground connections. Outlet box units are 30 or 60A, 600V rated. Up to 3 type CC external fuse holders can be added, with a 30 amp maximum rating. A 20A, 125V max rated duplex receptacle unit with a fuse and holder mentioned above is included in the fused receptacle plug-in unit. Receptacle plug-in units with a circuit breaker are also available with a 30A maximum rating. Other NEMA configurations are available upon request. Standard models are UL and CUL listed.

Terminal Block Units

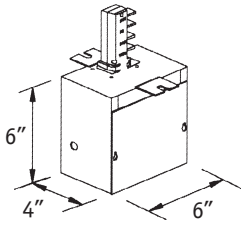
Plug-in units with a 3 or 4 pole insulated terminal block, rated at 100, 160 or 225 amps are used for direct wire tap off, or for a center power feed-in. All units include a ground lug, and 4 pole units also have a neutral block. 100A box dimensions are 12.5 inch x 6.5 inch x 2.5 inch. 160 and 225A box dimensions

Plug-in Units Designs

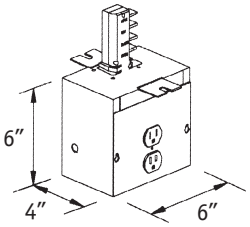
Catalog #	Description	Weight
OB225-30-4	outlet box unit, 30A, 4 pole*	4.2 lbs
OB225-30-3	outlet box unit, 30A, 3 pole*	4.0 lbs
OB225-60-4	outlet box unit, 60A, 4 pole	4.2 lbs
OB225-60-3	outlet box unit, 60A, 3 pole	4.0 lbs
DRF225-20-4	fused receptacle unit, 20A	4.3 lbs
DRB225-20-4	receptacle unit with 20A breaker	5.0 lbs
TB225-100-4	terminal block unit, 100A, 600V, 4 pole	16.0 lbs
TB225-160-4	terminal block unit, 160A, 600V, 4 pole	17.0 lbs
TB225-225-4	terminal block unit, 225A, 600V, 4 pole	17.0 lbs

*Add "-1F, -2F or -3F" to catalog number to add fuse holders.
*Add "-1B, -2B or -3B" to catalog number to add standard circuit breaker.

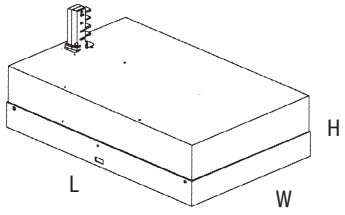
Outlet Box Unit



Fused Receptacle Unit



Terminal Block Unit

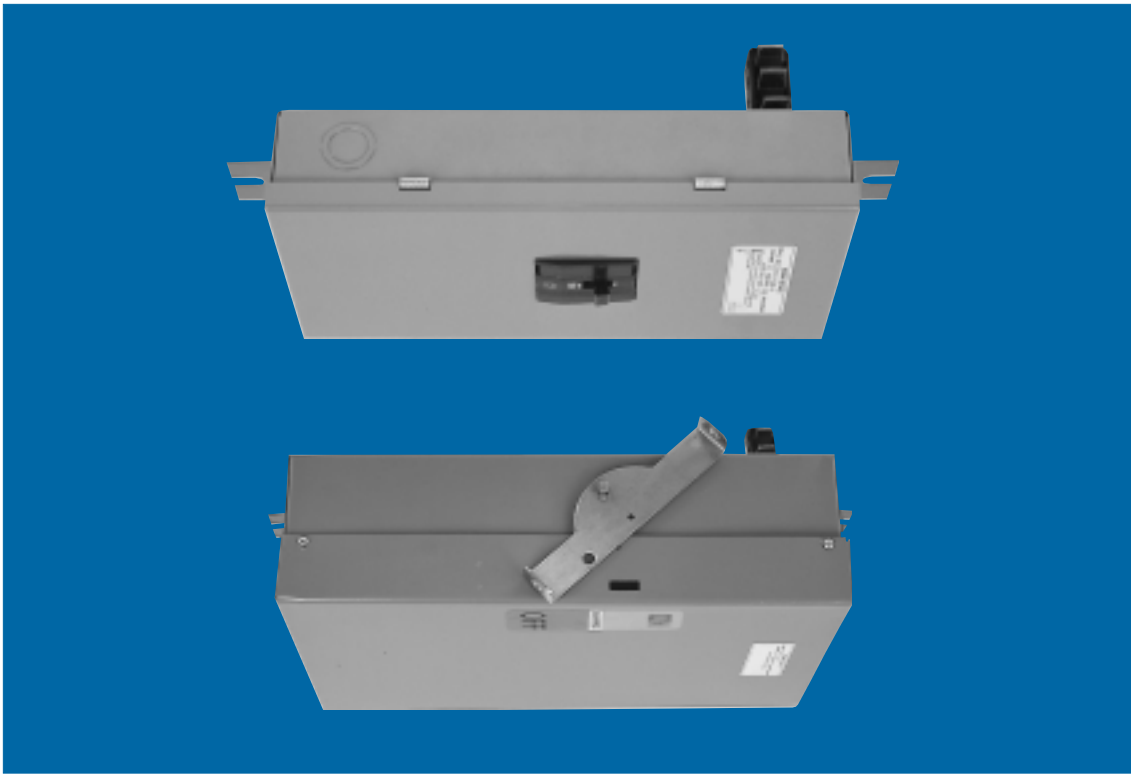


B225 Busway Series

Circuit Breaker Plug-in Units

Circuit breaker plug-in units for Starline B225 and B160 busway systems come in a variety of ratings. Basic specifications for these units should include amp and voltage rating, number of poles for the breaker and the busway system, standard (10K AIC) or high interrupting capacity (shown below). Units up to 160 amps are usable on B225 and B160 busways. All circuit breakers are mounted internally, and have an externally operable disconnect mechanism, except the 240V standard type unit, which has a front operable circuit breaker. UL and CUL listed.

The most common configurations are listed below. Consult factory for additional listings. Drop cord assemblies can also be supplied as needed. See page 35.

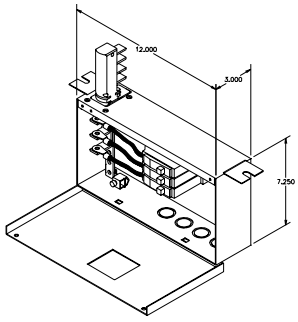


Circuit Breaker Plug-in Units Designs

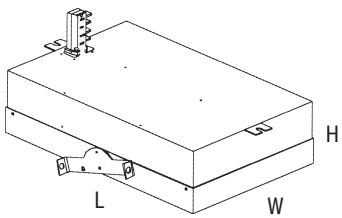
Catalog #	Description	Weight
CB225S-aa-y-240-4	240V 10K AIC w/breaker, 4 pole busway	6.3 lbs
CB225S-aa-y-240-3	240V 10K AIC w/breaker, 3 pole busway	6.3 lbs
CB225HS-aa-y-240-4	240V 22K AIC w/breaker, 4 pole busway	8.0 lbs
CB225HS-aa-y-240-3	240V 22K AIC w/breaker, 3 pole busway	8.0 lbs
CBP225HS-100-3-240-4	240V 22K AIC w/circuit breaker base only	8.2 lbs
CB225-cc-1-277-4	1 pole 277V breaker, 4 pole Busway	19.0 lbs
CB225-cc-1-277-3	1 pole 277V breaker, 3 pole Busway	19.0 lbs
CB225H-dd-1-277-4	1 pole 277V 22K AIC, 4 pole Busway	19.0 lbs
CB225H-dd-1-277-3	1 pole 277V 22K AIC, 3 pole Busway	19.0 lbs
CB225-dd-2-480-4	2 pole 480V breaker, 4 pole Busway	20.0 lbs
CB225-dd-2-480-3	2 pole 480V breaker, 3 pole Busway	20.0 lbs
CB225H-ee-2-480-4	2 pole 480V 22K AIC 4 pole Busway	29.0 lbs
CB225H-ee-2-480-3	2 pole 480V 22K AIC 3 pole Busway	29.0 lbs
CB225-dd-3-480-4	3 pole 480V breaker, 4 pole Busway	21.3 lbs
CB225-dd-3-480-3	3 pole 480V breaker, 3 pole Busway	21.3 lbs
CB225H-ee-3-480-4	3 pole 600V 22K AIC 4 pole Busway	29.5 lbs
CB225H-ee-3-480-3	3 pole 600V 22K AIC 3 pole Busway	29.5 lbs

Ratings & Box Dims:	Length	Width	Height
aa=10 to 100 amp circuit breaker	12.00 inch	6.00 inch	4.0 inch
cc=15 to 100 amp circuit breaker	18.00 inch	11.25 inch	5.0 inch
dd=15 to 150 amp circuit breaker	18.00 inch	11.25 inch	5.0 inch
ee=15 to 150 amp circuit breaker, and	18.00 inch	11.25 inch	5.0 inch
175 to 225 amp circuit breaker	21.25 inch	13.50 inch	5.5 inch
y=1, 2 or 3 pole circuit breaker			

Front Operable Unit



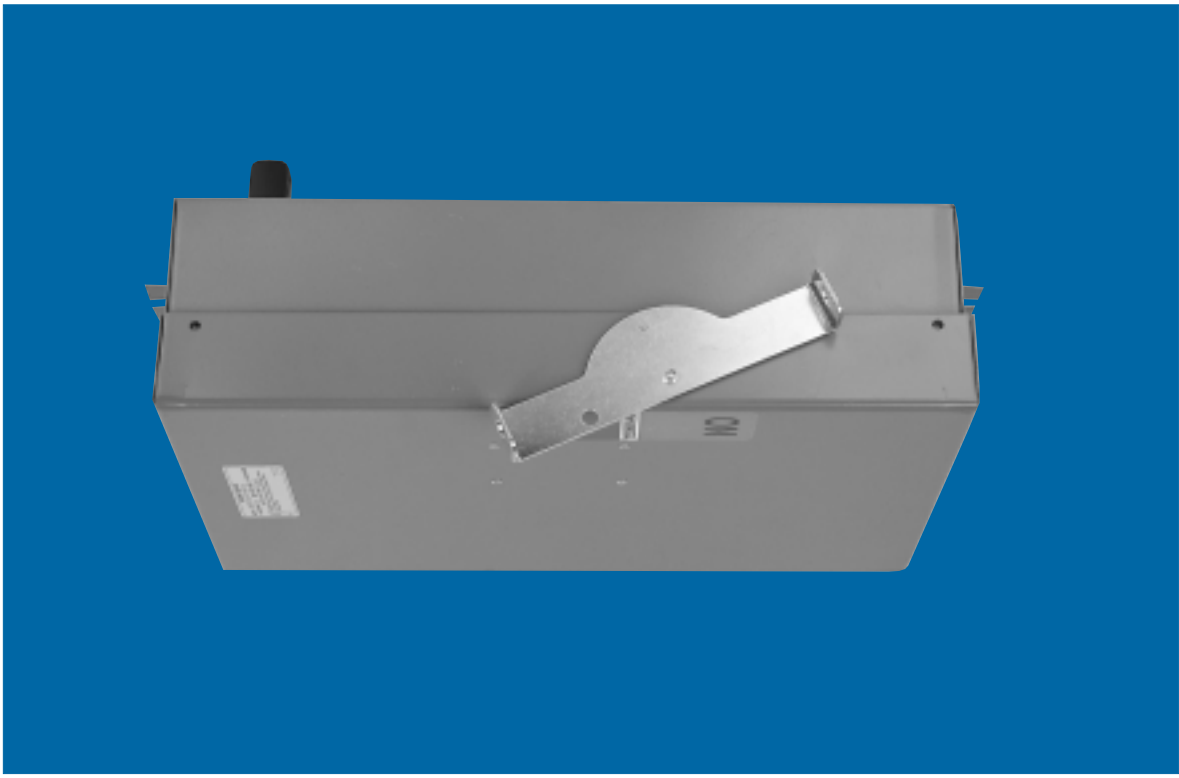
Floor Operable Unit



Fused Disconnect Plug-in Units

Fused disconnect plug-in units for Starline B225 Series are available in several sizes. The units are 600 volt max rated, and 30, 60, 100 and 200 amp max, fuse block sizes. Standard fuse blocks take class J fuses. The 100 and 200 amp units will also accept adapters for class T fuses. Fuses are not included, but can be ordered separately. See page 35.

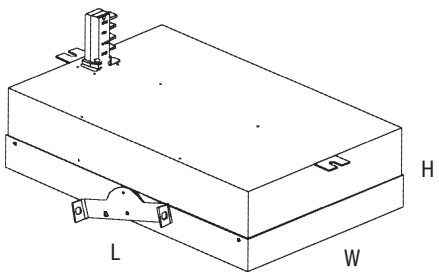
The external disconnect mechanism is floor operable with chains or a stick. All units include two mounting bolts, a ground lug, and 4 pole units also include a neutral connection. Knockouts are provided on two sides. Drop cord assemblies are also available as needed. See page 35. UL and CUL listed.



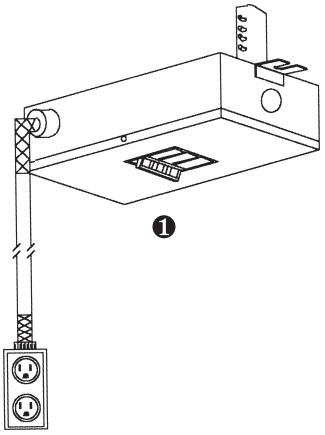
Fused Disconnect Unit Designs

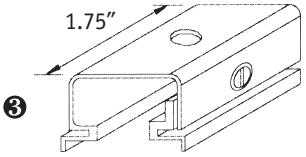
Catalog #	Description	Weight	Length	Width	Height
FD225-30-600-3	fused disconnect unit, 30A, 600V max 3 pole	16.0 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-30-600-4	fused disconnect unit, 30A, 600V max 4 pole	16.5 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-60-600-3	fused disconnect unit, 60A 600V max 3 pole	17.5 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-60-600-4	fused disconnect unit, 60A 600V max 4 pole	18.0 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-100-600-3	fused disconnect unit, 100A 600V max 3 pole	18.5 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-100-600-4	fused disconnect unit, 100A 600V max 4 pole	19.0 lbs	18.00 inch	11.25 inch	5.0 inch
FD225-200-600-3	fused disconnect unit, 200A 600V max 3 pole	40.0 lbs	21.25 inch	13.50 inch	8.0 inch
FD225-200-600-4	fused disconnect unit, 200A 600V max 4 pole	40.7 lbs	21.25 inch	13.50 inch	8.0 inch

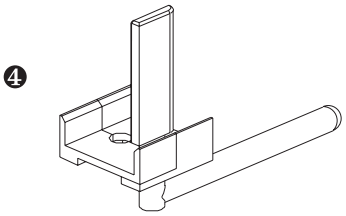
Fused Disconnect Unit

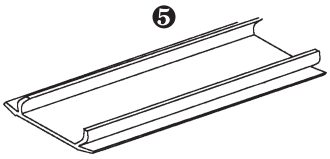


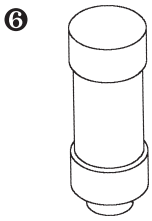
Busway Accessories

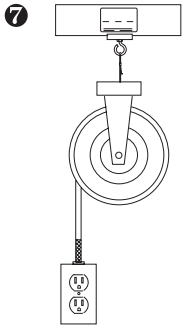


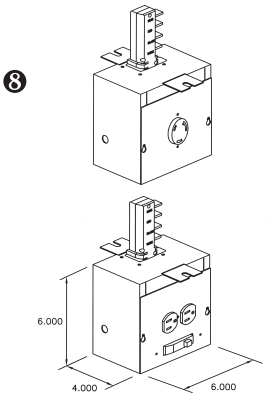












❶ Cord Drop Accessories

A wide variety of drop cord assemblies for the plug-in units can be made-to-order by the factory, with various fittings, boxes, devices, NEMA configurations, cord lengths, colors, etc. Consult distributor or factory for the design and prices. Catalog ordering information shown below.

❷ The Wire Mesh Cord Grip

is for use on Starjacks, for maximum strain relief to drop cord. Connects to bottom of Starjack box.

❸ Surface Mount to Ceiling

The surface mount clip can be used to mount a busway system directly to a ceiling surface. Screw clip to surface, and connect busway to clip.

❹ Installation Tool

Used during installation to make the electrical compression connection of the busbars in adjacent sections. Deposit on item is refunded when tool is returned. One tool is typically needed per project.

❺ Closure Strip

The closure strip is used to close the continuous access slot of the busway. It is made of white, rigid plastic, and snaps into place. It is required for safety only when busway is mounted less than 8 feet above the floor. It may be used for aesthetic purposes, for keeping dust and dirt from entering the busway, or as an added safety measure. It is easily cut in the field to be installed around the plug-in units.

❻ Fuses

Fuses are available for the Starjacks with fuse holders or fuse blocks, type OB60, DRF and FP Series. Fuses are Class CC or Class H, depending on the plug-in unit. Class J fuse is used with the B225 busway series fused disconnect units. Specify the ampere rating desired.

❼ Cord Reel Unit

A plug-in unit with a cord reel attached is available in several sizes. See the distributor or consult factory for choices.

❽ Receptacle Plug-In Units

A wide variety of NEMA receptacles may be pre-installed in plug-in units. Consult distributor or factory for design and price.

Drop Cord Ordering Information

Drop cord unit catalog numbers must contain the following specifications:

DC60 - 15 - L520C - 4

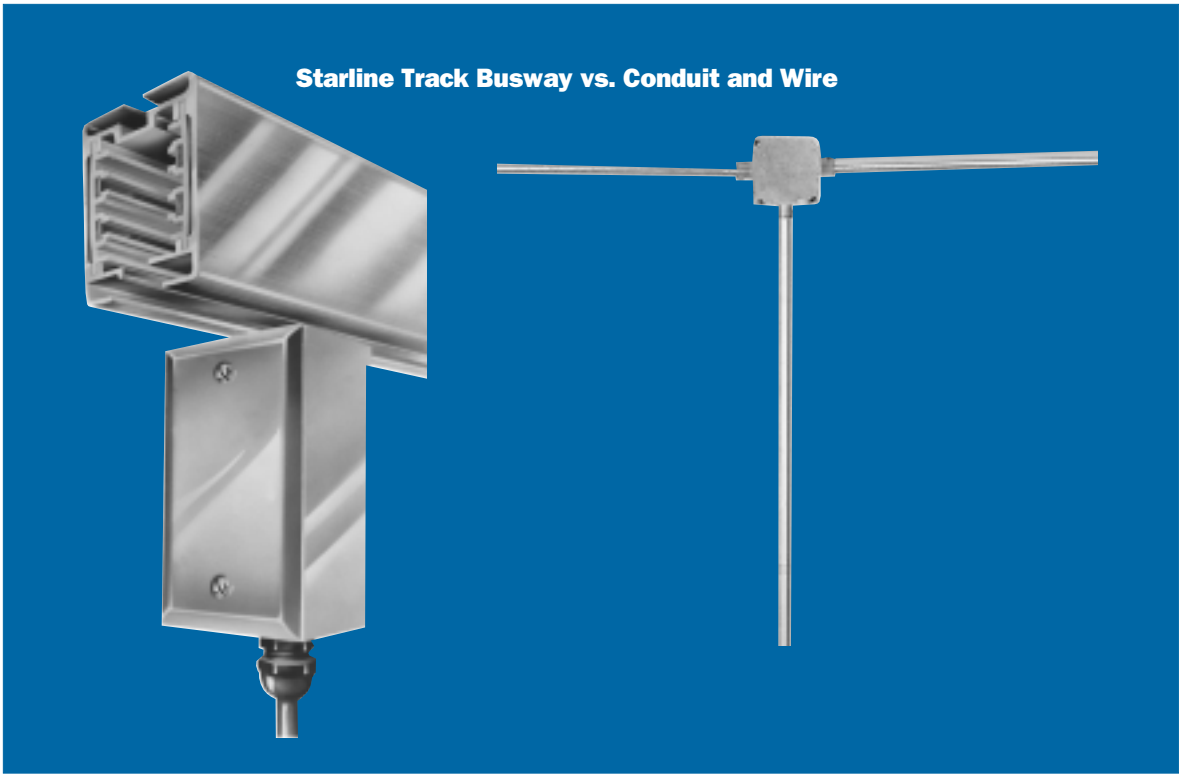
- DC60 — Busway size (60, 100 or 225)
- 15 — Length of cord (1 to 25 feet standard)
- L520C — NEMA configuration of unit
- 4 — Number of poles in busway
- C — Style C=cord connector; R=receptacle D=duplex; Q=quad receptacle

Busway Accessories Designs

Catalog #	Description	Weight
SJG-1/2	wire mesh grip, 1/2″, .43″-.54″ diameter cable	0.1 lb
SJG-3/4	wire mesh grip, 3/4″, .54″-.73″ diameter cable	0.2 lb
MC60-R	rod mount clip for 3/8″ rod	0.1 lb
CS-60	closure strip, B60	0.1 lb/feet
F-CC-##	class CC fuse, ## = amp rating (1-30)	
F-H-##	class H fuse, ## = amp rating (1-100)	
F-J-##	class J fuse, ## = amp rating (10-200)	
SM60-1	mounting bracket for holding ceiling tiles	0.2 lb
B100IT	installation tool for B100	1.0 lb
OB225-L630-4	plug-in receptacle with fuse	4.3 lb

Compare: Why Busway is Better

The following comparisons show the advantages of using Starline Track Busway Systems instead of conduit and wire.



1. **Lower installed cost,** especially when there are numerous pieces of equipment and electrical loads to connect. Starline Track Busway installs faster than conduit and wire, saving on the labor cost. The low material cost of Starline Track Busway is comparable to conduit and wire material costs, and is much lower priced than larger, conventional busway products. Each plug-in unit can be wired on the ground, and plugged in easily overhead. Conduit can require overhead wire pulling, stripping and connecting. The savings increase dramatically as the number of connected loads increases.

2. **Easy to add equipment.** Adding more machines after the initial installation is easily done by adding a plug-in unit. Plug it into the continuous access slot closest to where needed, in seconds. You need not worry about running a new run of conduit and wire, or whether your panel board has space for another circuit breaker.

3. **Easy to relocate equipment.** Relocating or removing a machine is much easier with Starline Track Busway. Simply twist and remove the plug-in unit, move the machine, and plug it back into the nearest busway location. Usually removed wire and conduit has to be scrapped, and a new run must be put up, at much greater expense.

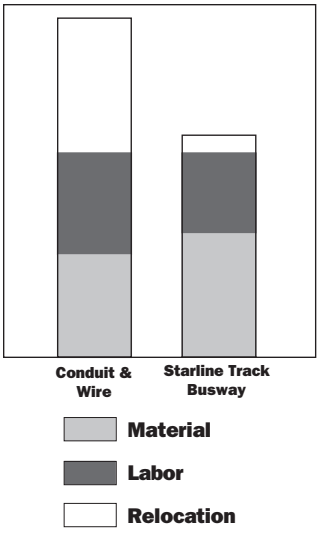
4. **Busway is reusable.** For changing plant layouts, busway can be easily disassembled and reinstalled as needed, normally with no wasted parts. Conduit and wire usually has to be scrapped.

5. **Better appearance.** Starline Track Busways have a pleasing appearance, with its aluminum satin finish, and is very compact, so as to be hardly noticeable. Plug-in units are also very compact.

6. **Lightweight.** Starline Track Busway Systems are lightweight, with its aluminum housing sections. This makes it easier and faster to handle, with less weight to suspend from ceilings.

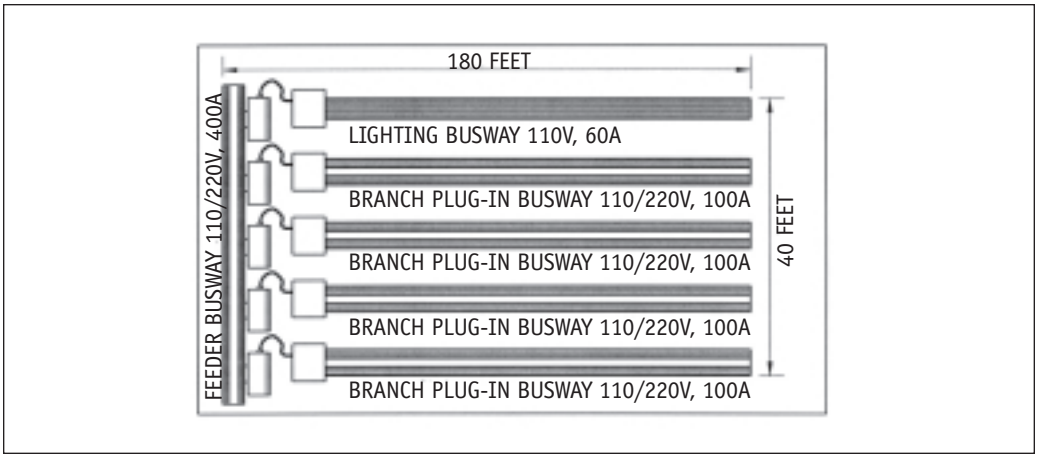
When the comparisons are made, it is easy to see why Starline Track Busway Systems have so much more to offer.

Installed Cost



Starline and Trunk Busways Combination

Starline Track Busways make significant savings possible, as branch busway runs, coming off of larger-sized feeder busway. The cost of the Starline Track Busway sections and plug-in units are much lower, and all the features of busway are gained. See typical illustration at right, which shows 100 and 60 amp Starline Track Busway runs coming off of a 400 amp feeder busway run, made by others, and available from the distributor or Universal. See page 38 for more information.

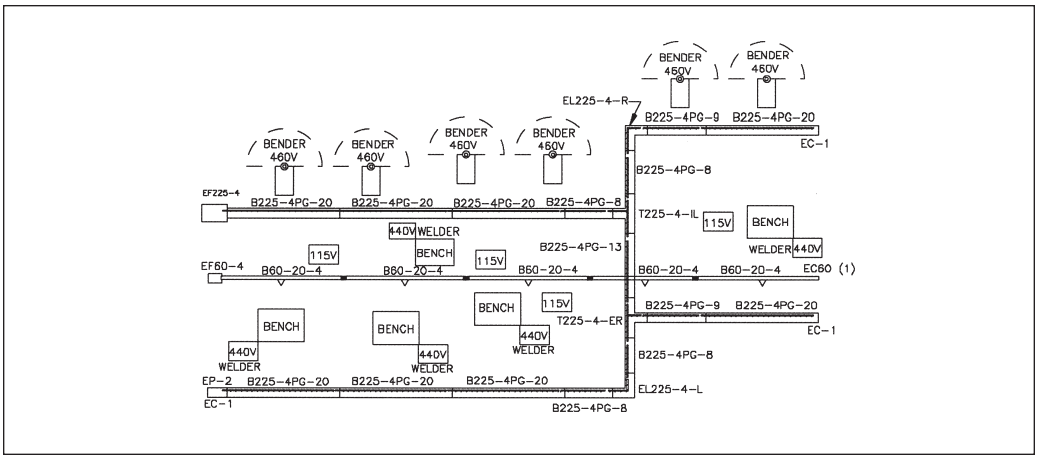


Starline Track Busway Layout Guidelines

Starline Track Busway systems can be custom built for special projects, according to the specifications provided by the designer.

The illustration to the right shows an actual job where a Starline Track Busway layout was designed according to the customer's existing floor plan. Attention must be given to which side the busbars are located in the busway section, relative to the male and female ends of each section, as well as the left, right, external and internal orientation of the ells and tees.

Grids, special angles, lengths of busway section, power feeds, special circuit routing diagram, painting the busway, etc. can be provided by the factory. See page 41 for a custom retail store layout example.



Equipment List

6 bending machines, 440V, 3Ø, 39A
12 drops for general use, 110V
5 tube welders, 440V, 3Ø, 15A
5 work benches

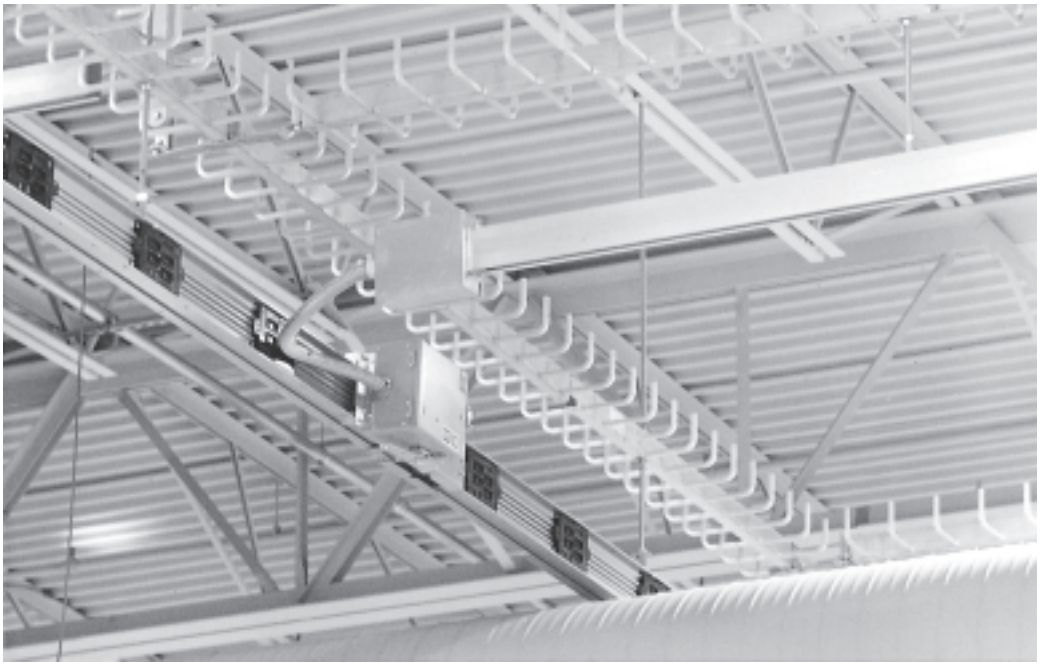
Bill of Material

8	B225-4PG-20 Busway 225A, 20 feet
2	B225-4PG-10 Busway 225A, 10 feet
1	B225-4PG-5 Busway 225A, 5 feet
1	EL225-4-R Busway ell
1	EL225-4-L Busway ell
1	T225-4-IL Busway tee, left
1	T225-4-ER Busway tee, right
1	EF225-4 end feed assembly
26	BRH-1 hangers
18	BHC-1 housing couplers
2	EC-1 end cap
2	EP-2 end piece
5	CB225-15-3-480-4 plug-in units, with 15A, 3P circuit breaker & 14 feet drop cord
6	CB225-40-3-480-4 plug-in units, with 40A, 3P circuit breaker & 14 feet drop cord
5	B60-20-4 Busway 60A, 20 feet
4	BC-4 Busbar connector
4	HC-2 housing coupler
12	RHB-3 hanger
1	EC-60 end cap
1	EF-60-4 end feed
12	OB60-30-2 plug-in units, 110V 30A, with 14 feet drop cord

Starline and Trunk Busways

Continued-

Photo shows an electronics manufacturer using Starline Track Busways as branch busways from a larger trunk busway system. The end feed with adapter includes a 4 foot flex conduit section which is connected to the fused plug-in unit of the larger busway.



25 Foot Tap Rule Savings with Starline Track Busway

The National Electrical Code (NEC) Article 240-21, section 2, "25 Foot tap rule" makes significant savings possible in many applications. The economical outlet box unit can be used in lieu of a fused or circuit breaker plug-in unit, where all the following conditions are met.

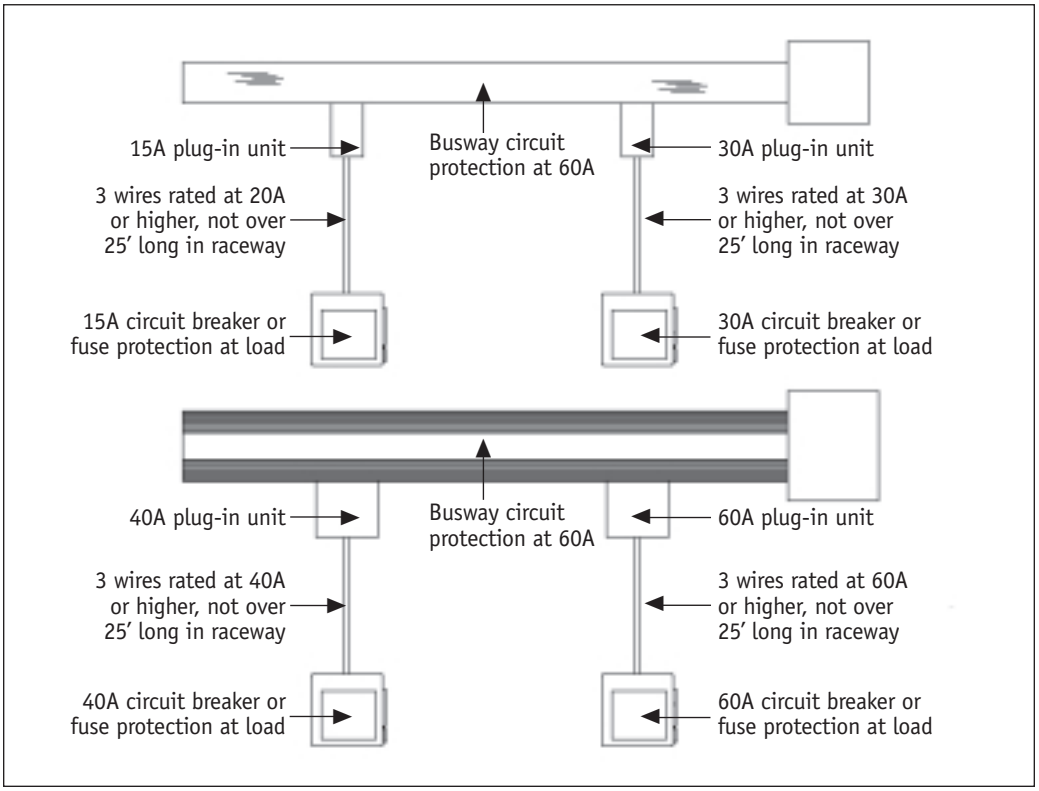
a. The length of the tap conductors does not exceed 25 feet.

b. The ampacity of the tap conductors is not less than 1/3 that of the feeder conductor or overcurrent protection from which they are tapped.

c. The tap conductors terminate with single circuit breaker or a single set of fuses that will limit the load to the ampacity of the tap conductors.

d. The tap conductors are suitably protected from physical damage and are enclosed in a raceway.

Starline technical people are available to discuss implementation of the 25 foot tap rule and its cost savings with you.



Starline Track Busway for the Lighting Industry

Starline Track Busways are used as lighting track in retail stores, grocery stores, convention centers, museums, commercial buildings, warehouses, factories, over assembly lines, and many other applications.

The 4 pole Starline Track Busway at 120/208 volts can run 3 circuits. The 60 amp Starline Track Busway can supply up to 7200 watts per circuit, or the 100 amp system up to 12000 watts. 277 volt lighting is also ideal for Starline.

Select lighting manufacturers use Starline Track Busway for their projects which require larger track capacities. Because Starline is approved as a busway system, it does not have the limitations of track lighting.

The Starline internal plug is wired directly to the light fixture (see top photo), or it may be wired in the field. Outlet box plug-in units are also convenient for connecting fixtures (see top left photo). The busway is strong enough to hang the fixtures from using the weight hook rings. Power drops to other electrical requirements are done from the same busway.

Starline Track Busway can be painted to match color theme requirements (see lower photo). Grids and special lighting system designs can also be accommodated, such as those shown on page 41. Consult the distributor or factory technical support for custom design assistance.

Busway Applications

Workstation Power Supply

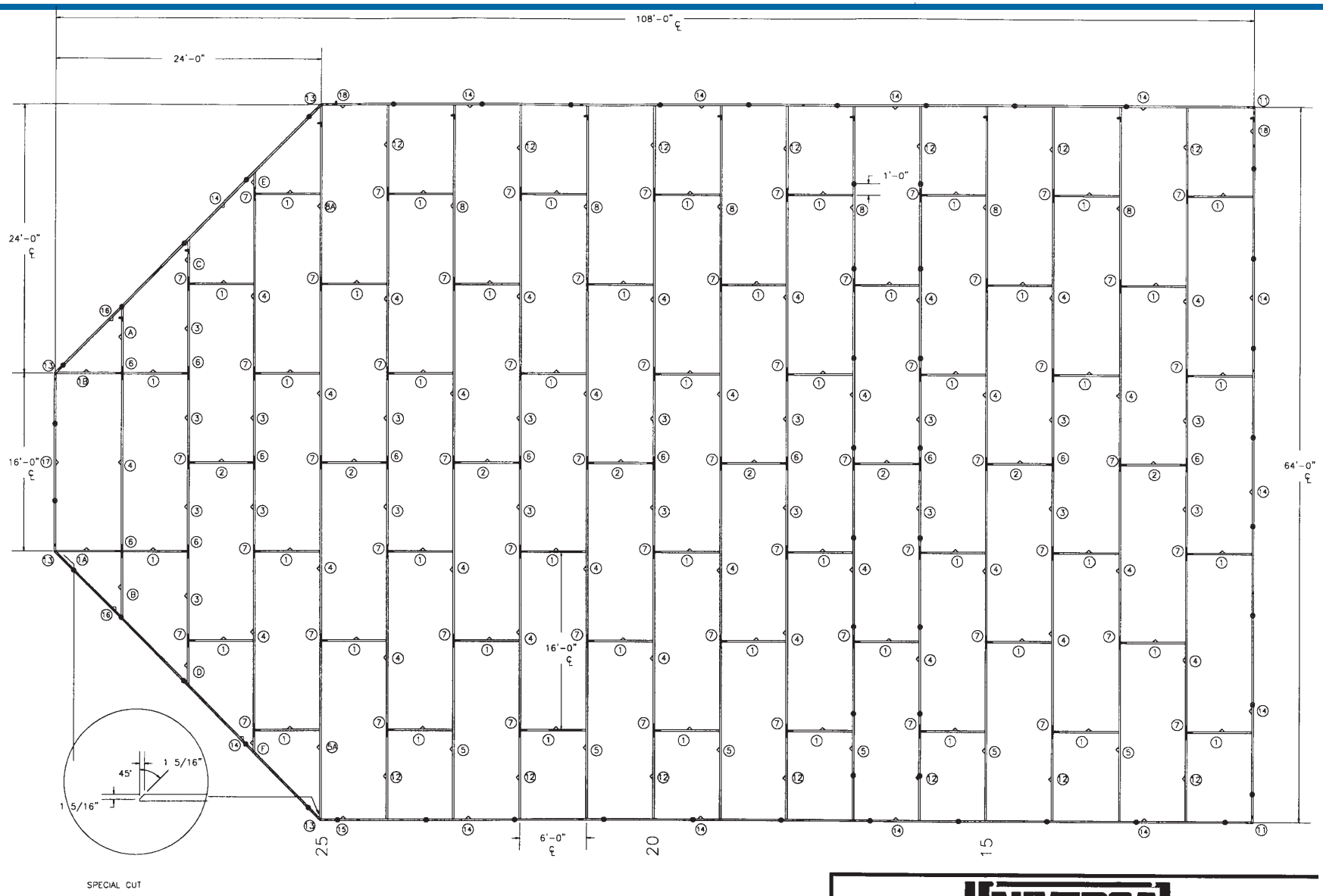
Hundreds of work stations, benches and testing equipment tables use Starline Track Busway for power supply at this electronics manufacturer. The flexibility of Starline for easy relocation or addition of the work stations results in more efficient production in the factory. Several stations are typically interconnected to a single drop cord from the busway overhead.

Data Center Power Distribution

This is one of six data centers for a telecommunications company, using Starline Track Busway. Reliability is an absolute requirement, with no equipment downtime tolerated. The patented continuous pressure design of the plug-in units to the busbars, and redundant busway runs, provide the level of uptime demanded by the owner of the facility.

Drop Cords

Bottom photo shows a typical drop cord assembly on a plug-in unit. The factory can supply custom cord sets conveniently and efficiently. Eliminate running new conduit runs, or a network of conduit outlet boxes throughout the building. More details about drop cords and other accessories are on page 35.



REMARKS	BY	DATE	REV
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RETAIL STORE LAYOUT

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EJS	7/6/98	174-0019-2
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Starline Track Busway for Data Centers and Mission Critical Industries

Facility managers and consulting engineers around the world are turning to Starline Track Busway for power distribution to computers, servers and other equipment, where even a slight break in the power supply could result in major revenue losses. Absolute reliability is the most critical need, 24 x 7 x 365. Typical applications are in ISPs, ASPs, computer co-location facilities, e-businesses and the Internet, financial and investment institutions, telecommunications, large corporate computer centers, and emerging technology applications. Key needs are reliability, ability to add power units without busway shutdown, and high density of plug-in units.

Power Monitoring systems are also available, to monitor power usage, and other functions. The system is built into the busway system, and is customized for user needs. Call factory for more details.

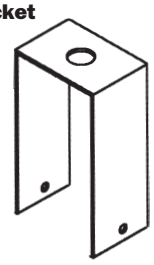
Busway for Office, Retail and Labs

Starline Track Busway is ideal for offices, food and retail stores, engineering labs, schools and university labs and shops, clean rooms, commercial kitchens, etc. Recess the busway into a drop ceiling using the brackets shown. The closure strip gives a hidden appearance, but gives easy-access power overhead. The busway runs can also be flush mounted under a drop ceiling using the T-bar hanger (see page 7). Painted busway runs can be provided, to give a pleasing appearance. Consult factory for details.

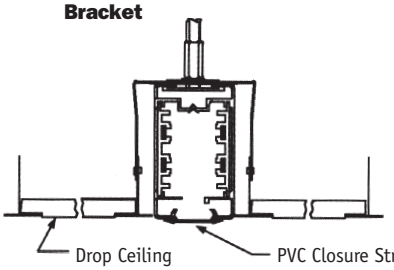
Engineering lab with Starline Track Busway recessed in ceiling over its workbenches and tables.

Office areas use surface mount Starline Track Busway with Universal's power poles plugged into busway.

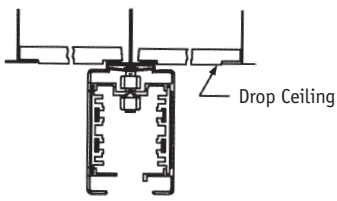
Drop Ceiling Bracket



Recessed Mount Bracket



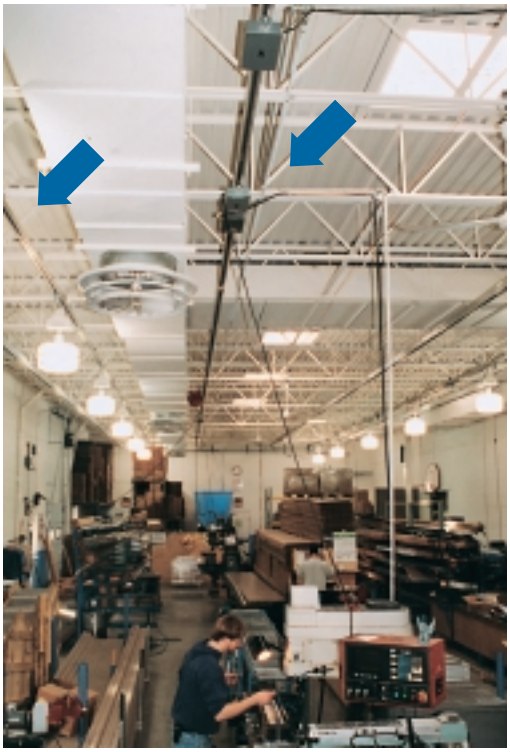
Surface Mount Bracket

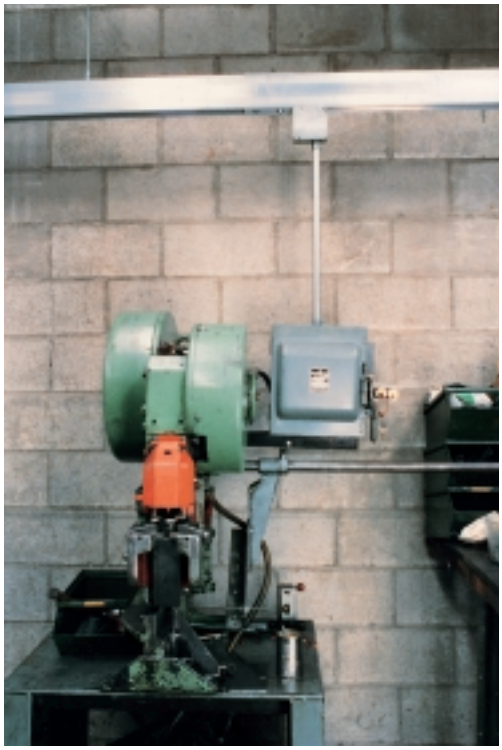


Application Illustrations

Right: Manufacturing company uses B100 Starline Track Busway for power supply to its machines, tools and electrical accessories. Moving and adding machines is simple, fast and a minimal cost. Rows of low bay lights are also powered by B60 Busway.

Far Right: A typical production machine plugged into Starline Track Busway. When production requirements change, relocating machines such as this is fast and easy. Using the 25 foot tap rule, see page 38, a low cost plug-in unit can be used, since there are fuses in the machine's control box.





Right: Starline Track Busways are ideal for commercial and retail applications such as this grocery store chain. The busway is painted to match the lighting and ceiling, and has a pleasing appearance for lighting and power supply to coolers, freezers, heating units, etc.

Application Illustrations

Automotive industry uses Starline Track Busways above the automobile assembly lines, for supplying power to lights, electrical accessories, fans, tools, video displays, etc. Other plants also use it for low and high bay lighting. Plugging in the receptacle units is as easy as insert and twist. Position the connections wherever desired.

Electronics industry manufacturer uses Starline for power distribution throughout several plants, for power drops to work stations, testing equipment, etc. Over 16,000 feet of 100 and 60 amp busway were installed in this plant, and over 1000 plug-in units. Photo shows one of the production floor areas. This area has over 80 runs of Starline, ranging from 47 to 160 feet long per run, with two mezzanines on the right using runs of Starline recessed in drop ceilings. Production can be changed, and Starline Track Busway drops quickly relocated to the new setup.

Garment Industry uses Starline Track Busway for sewing machines and related equipment. Starline is the modern, economical choice of the garment industry.

Starline Track Busway Systems Electrical busway system shall conform to the following design specifications. Material and installation shall comply with National Electric Code, and shall be UL listed.

Busway Sections: Busway sections shall be made of extruded aluminum housings containing solid copper busbars. Aluminum busbars shall not be permitted.

Busbars shall have an electrical rating of:

60 amps (B60 Series)

100 amps (B100 and B100C Series)

160 amps (B160 Series)

225 amps (B225 Series) continuous duty, 600 volts or less.

The housing shall be acceptable as a 100% capacity ground circuit, and shall provide a polarizing feature to avoid incorrect installation of plug-in units. Busbars shall be enclosed in a continuous insulator, with openings sufficient for the plug-in units to make contact.

Where required, a 200% capacity neutral busbar shall be provided. Where required, an isolated ground busbar shall be provided, and a ground contact on each plug-in unit.

Busway section lengths shall be 20, 10 or 5 foot lengths, and special lengths where specified in the system layout. 2, 3, or 4 busbars shall be provided, to meet the electrical service requirements. A continuous access slot for the plug-in units shall be provided in the busway sections, such that the design of the openings in the busway and insulator pass the UL hypothetical finger probe test.

Busbar Connections: (B60 and B100C Series): Busbar connectors shall be provided, which insert into the ends of adjacent busway sections. Busbar connectors shall be copper, shall make contact with busbars, and be tightened by set screws to make reliable connections.

(B100, B160, B225 Series): Busbar connectors shall be provided, consisting of copper stabs protruding from one end of each busway section. The stabs shall insert into the opposite end of the next section, and use a tool provided by the manufacturer to make a compression fit into the busbar channel for a reliable connection.

Housing Couplers: Housing couplers shall be provided with adequate mechanical strength so that busway and couplers will support up to 100 pounds per 10 foot interval, with 10 foot hanger spacing. Housing couplers shall be secured in place with bolts provided.

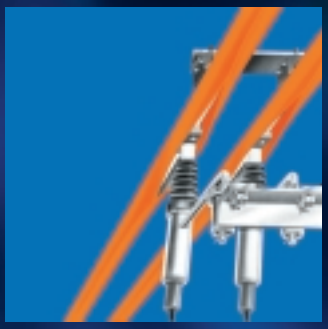
Accessories: Standard hanger spacing shall be 10 feet maximum. Hanging method shall be ceiling mount, rod mount or cable suspension mount, as required. Power feed connections with junction boxes, end caps, ells, tees and special fittings shall be provided to complete the system as needed.

Plug-In Units: Busway plug-in units shall be of the types and electrical ratings indicated, with UL listing where applicable. Units shall consist of a plug head assembly designed to fit into the access slot of the busway sections, and rotate 90 degrees to make the electrical connection. Units shall be polarized, to avoid incorrect installation. Each plug stab shall have wire color coding indicated on the unit. A grounded junction box shall be provided on the plug-in unit. Direct wire connections, fusing, circuit breakers or other circuit protection devices, shall be provided as required. The units shall have locking clips or bolt-on tabs to secure units to the busway.

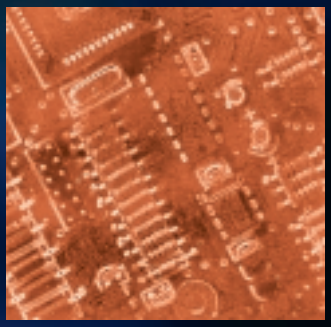
Cord grips and fittings, drop cord assemblies, and other electrical devices are to be furnished according to specifications.

Other fine products from Universal:

Tri-Bar/Four-Bar



Span-Guard



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