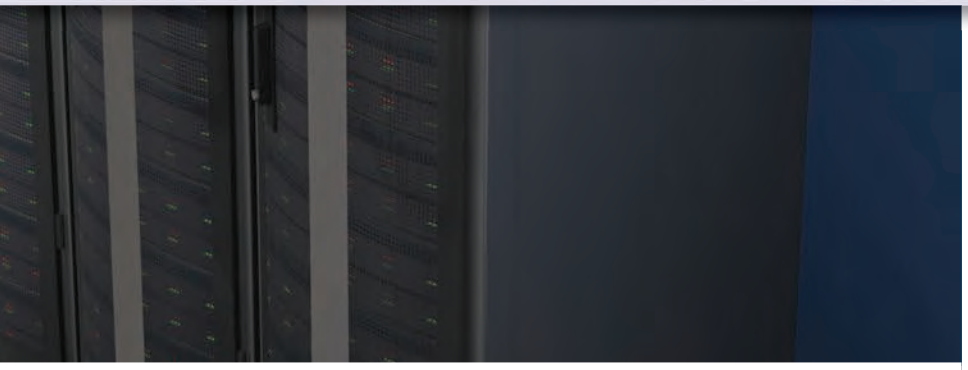
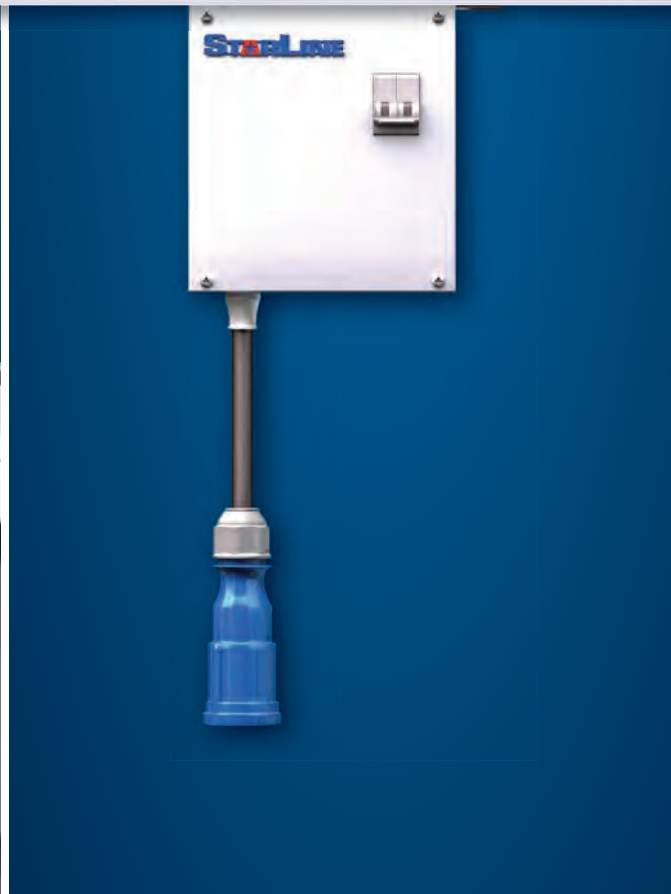
STARLINE®
TRACK BUSWAY

Product Selection Guide





SELECTION GUIDE INTRODUCTION

UNIVERSAL Electric Corporation (UEC) is the leader in electrical power distribution in the mission critical, commercial and light industrial industries with **STARLINE® Track Busway**. It was designed to meet the rugged specification of the UL857, Busway and Associated Fittings, with the flexible features of track lighting – and is comprised of 6 physical sizes with 11 different electrical system configurations. Systems run from 40 Amp to 800 Amp with isolated ground.

It is the simple, versatile, fast and economical solution for supplying power to electrical loads and is unique because the busway can be instantly tapped at any location, with a variety of plug-in units.

This Product Selection Guide was developed to help the design engineer understand and consider all of the options available with **STARLINE Track Busway** when designing a system.

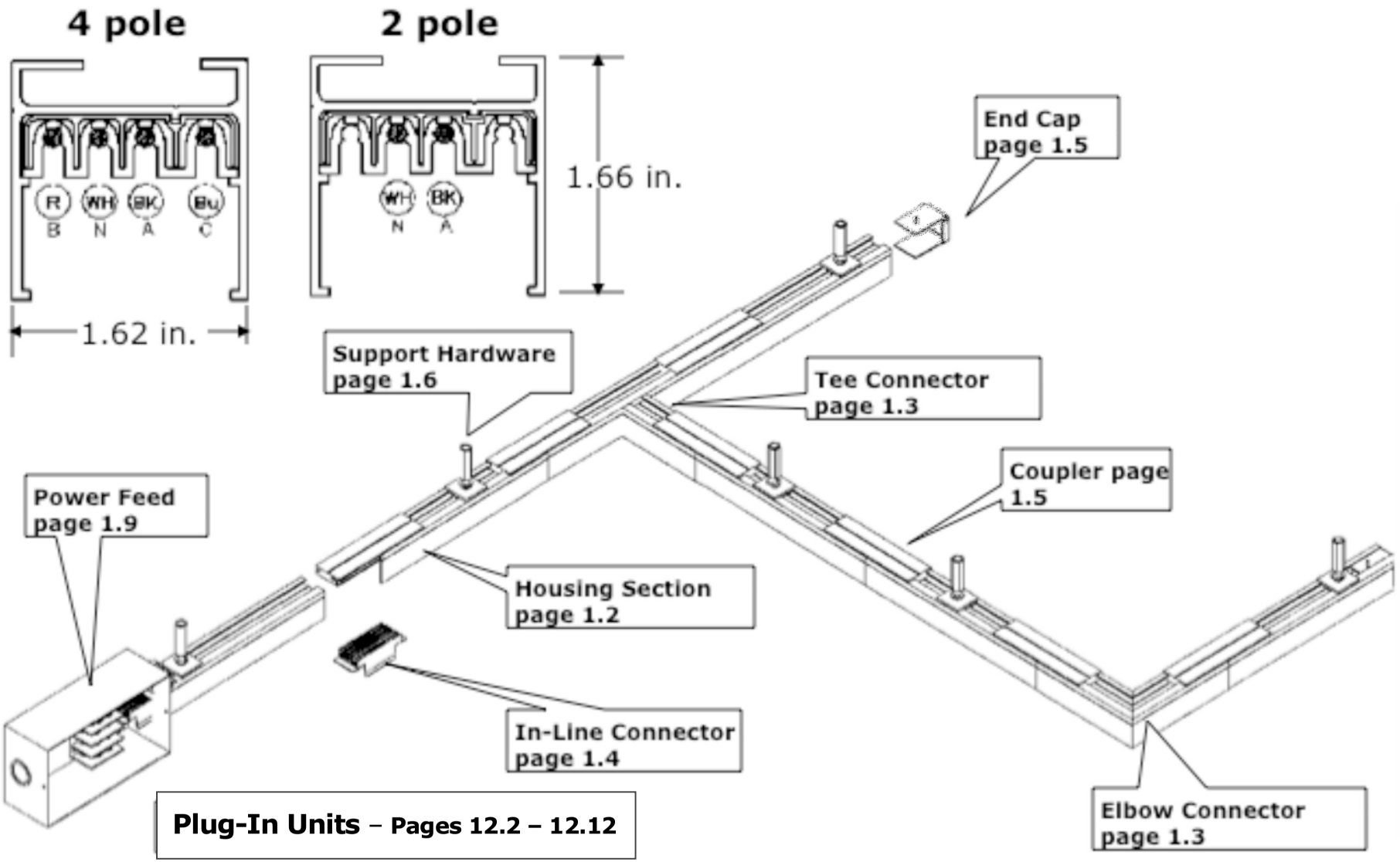
This guide is all-inclusive; however, **UEC** excels at collaborating with design engineers to provide solutions for any application. If you have a need that is not found in this guide, please contact us at **1-800-245-6378** or email us at info@uecorp.com. We will be happy to answer your questions over the telephone or schedule a visit with one of our local representatives.

This guide can also be downloaded *free* by visiting www.StarlinePower.com.

STARLINE® TRACK BUSWAY

TABLE OF CONTENTS

Compact B40/50/60 Amp System to 480 Volts

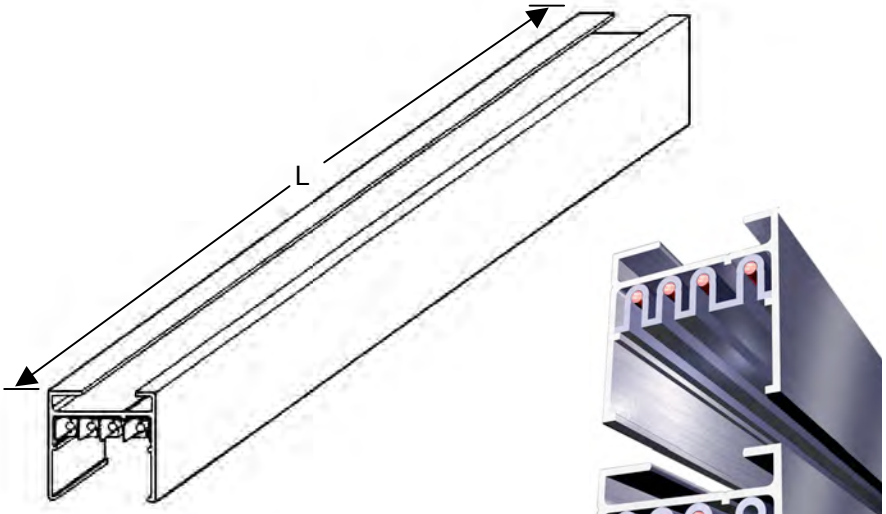


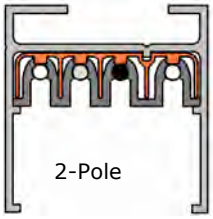
Plug-In Units – **Pages 12.2 – 12.12**

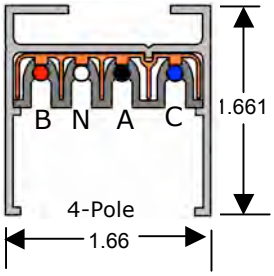
Compact Series
40, 50, 60 Amp

HOUSING SECTIONS

Each Track Busway housing section consists of extruded aluminum housing with an insulated strip containing copper conductors mounted on the top interior wall. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing section has an open access slot over its entire length for the insertion of snap-in plug-in units. Configurations include 2 and 4-pole varieties, rated at 40/50/60 Amp continuous duty, 480/277 Volts max. Housing sections are connected together using snap-in, in-line connectors and plate type housing couplers. Sections are supported every 10 ft max. (Support Hardware, Page 1.6) and can support 75lbs hanging weight between vertical supports. Four-pole Busway is normally used in 3-phase/4-wire power systems. Four-pole Busway may be used for 2 independent single-phase circuits at different voltages. Sections can be factory cut to any length.







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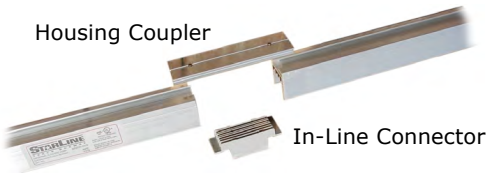


Catalog Number Sequence
B(XX)–(L)–(P)

- **Number of Poles 2 or 4**
- **Length 5, 10 or 20 ft**
- **System Size 40, 50, 60 Amp**

"C" Indicates compact

Catalog Number Selection

Catalog No.	Description	Length	Weight
B40-5-2 or 4 B40-10-2 or 4 B4-20-2 or 4	40 Amp, 2 or 4 pole 40 Amp, 2 or 4 pole 40 Amp, 2 or 4 pole	5 ft 10 ft 20 ft	3.5/4 lbs 7/8 lbs 13/15 lbs
B50-5-2 or 4 B50-10-2 or 4 B50-20-2 or 4	50 Amp, 2 or 4 pole 50 Amp, 2 or 4 pole 50 Amp, 2 or 4 pole	5 ft 10 ft 20 ft	3.5/4 lbs 7/8 lbs 13/15 lbs
B60C-5-2 or 4 B60C-10-2 or 4 B60C-20-2 or 4	60 Amp, 2 or 4 pole 60 Amp, 2 or 4 pole 60 Amp, 2 or 4 pole	5 ft 10 ft 20 ft	4/4.5 lbs 8/9 lbs 15/17 lbs

Compact Series
40, 50, 60 Amp

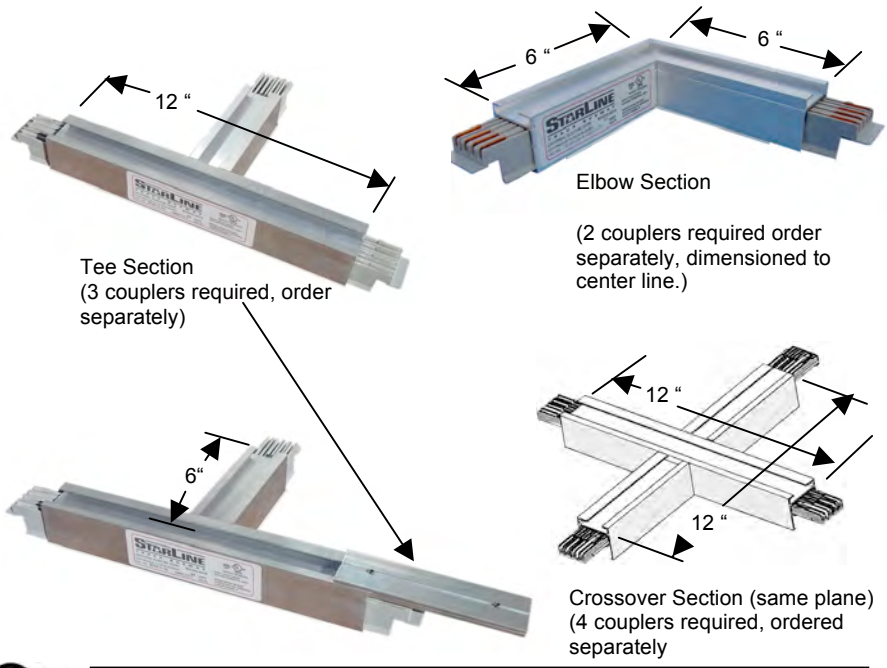
ELBOW & TEE SECTIONS

Elbow Connector
Factory pre-assembled elbow sections are used for making a 90-degree turn. Elbows are connected to busway sections electrically by means of built-in bus connectors. Connectors are installed by "snapping" into position with housing section butted together. Connectors are polarized to prevent phase mismatch. Housings are then mechanically joined via couplers, ordered separately.

Refer to LAYOUT for polarization issues before making final selection.

Tee Connector
Similar to Elbow Connectors, Tee Connectors are used for connecting branch housing sections at 90 degrees to the main run. Refer to LAYOUT for polarization issues before making final selection.

Crossover
Typically used for grid designs Four (4) couplers (ordered separately) are required. Refer to LAYOUT.



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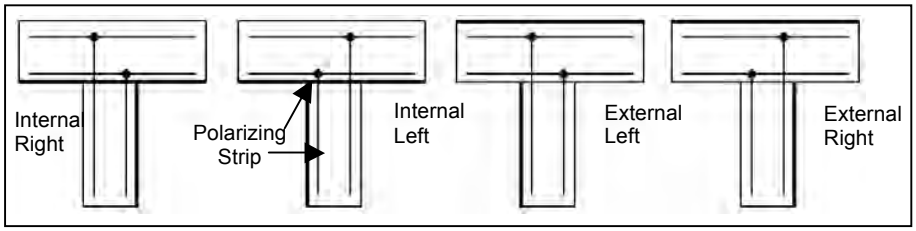
NOTE: Elbow, Tee and Crossover sections can connect only to adjoining straight housing sections



Please refer to LAYOUT prior to final product selection

Catalog Number Sequence

(XX)(AA)–(P)–(DIR)

- **Direction** — **Refer to LAYOUT**
- **System Poles**
- **System Size**
- **Connector Type**
  - **EL = Elbow**
  - **BT = Busway Tee**
  - **X = Crossover**

Catalog Number Selection

Catalog No.	Description	Weight
EL40-2-(IH or EH)	Elbow Connector, 40 Amp, 2 Pole	0.5 lb
EL40-4-(IH or EH)	Elbow Connector, 40 Amp, 4 Pole	0.5 lb
EL50-2-(IH or EH)	Elbow Connector, 50 Amp, 2 Pole	0.5 lb
EL50-4-(IH or EH)	Elbow Connector, 50 Amp, 4 Pole	0.5 lb
EL60C-2-(IH or EH)	Elbow Connector, 60 Amp, 2 Pole	0.5 lb
EL60C-4-(IH or EH)	Elbow Connector, 60 Amp, 4 Pole	0.5 lb
BT40-4IR	Tee Connector, 4 Pole, Internal Right	1.0 lb
BT50-4IL	Tee Connector, 4 Pole, Internal Left	1.0 lb
BT60C-4ER	Tee Connector, 4 Pole, External Right	1.0 lb
BT60C-4EL	Tee Connector, 4 Pole, External Left	1.0 lb
X40- (2 or 4)	Crossover, 40 Amp 2 or 4-pole	1.5 lbs
X50- (2 or 4)	Crossover, 50 Amp 2 or 4-pole	1.5 lbs
X60C- (2 or 4)	Crossover, 60 Amp 2 or 4-pole	1.5 lbs

Compact Series
40, 50, 60 Amp

IN-LINE BUS CONNECTORS

In-Line Connector

Sections of busway are joined electrically by means of an in-line connector. The connector is installed by "snapping" into position with housing section butted together. All in-line bus connectors are polarized to prevent phase mismatch. Housings are mechanically joined via a housing coupler, ordered separately. The mechanical coupler also acts as 100% ground connection.

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Catalog Number Sequence

BC(AA)–(P)

- **System Poles**
- **System Size**
- **BC = In-Line Connector**

Catalog Number Selection

Catalog No.	Description	Weight
BC40-2	In-Line Connector, 2 Pole, 40A max	0.1 lb
BC40-4	In-Line Connector, 4 Pole, 40A max	0.1 lb
BC50-2	In-Line Connector, 2 Pole, 50A max	0.1 lb
BC50-4	In-Line Connector, 4 Pole, 50A max	0.1 lb
BC60C-2	In-Line Connector, 2 Pole, 60A max	0.1 lb
BC60C-4	In-Line Connector, 4 Pole, 60A max	0.1 lb

Compact Series
40, 50, 60 Amp

STARLINE® TRACK BUSWAY

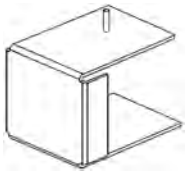
CONNECTION ACCESSORIES

END CAP

Used for insulating the female end of busway.

PART NUMBER
EC50

WEIGHT
0.2 lb



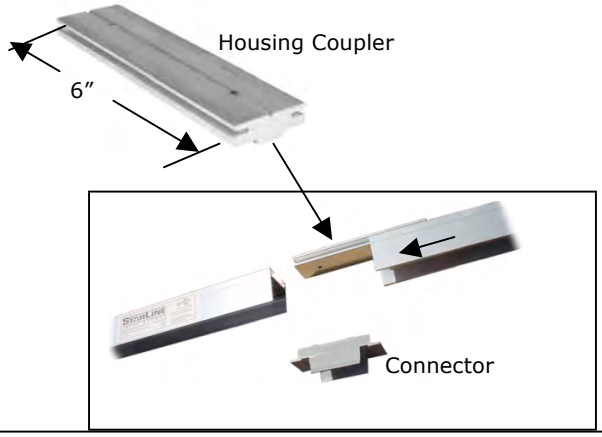
HOUSING COUPLERS

Plate Type

For concealed connecting busway sections. One required per connection.

PART NUMBER
HC50-2

WEIGHT
0.8 lb



CLOSURE STRIP

Made of white, rigid PVC, the closure strip is used to close the continuous access slot of the busway. 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 to length in the field to be installed between plug-in units.

PART NUMBER
CS50

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Compact Series
40, 50, 60 Amp

SUPPORT HARDWARE

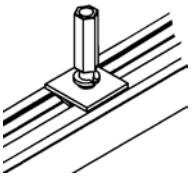
Threaded Rod Hanger

For mounting to 3/8-16 threaded rod. Can be inserted anywhere along full access top slot of Busway. Hanger support spacing is every 10 ft maximum.

PART NUMBER
RHB-3

WEIGHT
0.3 lb

RHB-3 Threaded Rod Hanger



Every 10 ft.

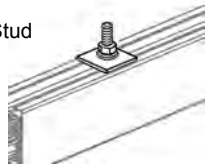
Standard

For mounting to strut or other flat surfaces. Twist-in design allows inserting anywhere along top full access slot. Hanger support is every 10 ft maximum.

PART NUMBER
THB-3 3/8"
THB-1/4 ¼"

WEIGHT
0.2 lb

THB-3 Standard Hanger



Every 10 ft

Cable

For mounting to 1/16' or 3/32" aircraft cable with easy grip clamp assembly. Cable is not included. Hanger support is every 10 ft maximum.

PART NUMBER
ACH-1 1/16" cable
ACH-2 3/32" Cable

WEIGHT
0.2 lb

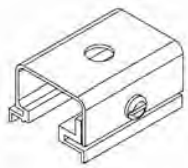
ACH-(X)
Cable Suspension Assembly

T-Bar Suspended Ceiling

For mounting to inverted T-bar. Clip locks onto T-bar and Busway connected to stud on clip. T-bar mounting with surface clip. 5 ft. max spacing

PART NUMBER
THB-5

WEIGHT
0.1 lb

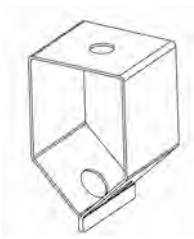


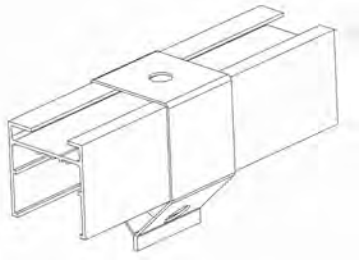
Weight Hook Adapter

Can be used as a hanger to suspend Busway from chains or cables. Can also be used to hang loads up to 50 lbs under the Busway, such as light fixtures, tools and balancers.

PART NUMBER
WHR-50

WEIGHT
0.2 lb





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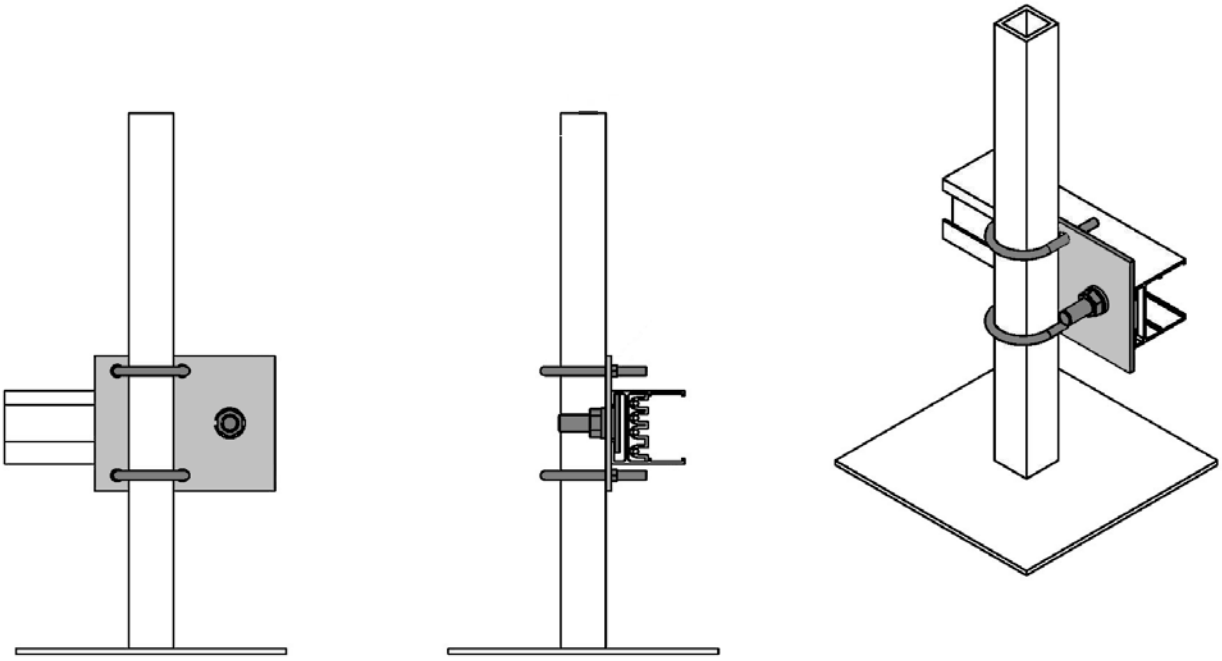
STARLINE® TRACK BUSWAY

RAISED ACCESS FLOOR

For B40/50/60C Systems SIDE MOUNT

RFB50-2



Vertical Support by others

Compact Series
40, 50, 60 Amp

FOR CEILING MOUNT

Surface Mount

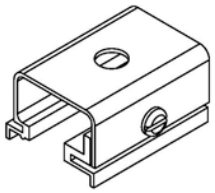
For mounting to surface. Comes with 7/32 in. hole

For Rod Mounting, comes with 3/8 in. hole

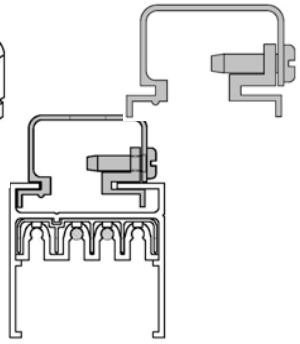
PART NUMBER

MC40-S Surface
MC40-R Rod

MC40-S or R



cross section



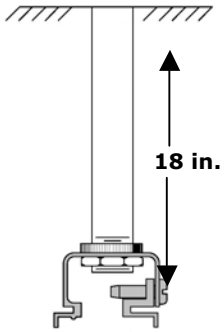
mounted to busway

Pendant Mount

Kit, complete with 18 in. Pendant

PART NUMBER
MC40-P

MC40-P



Compact Series
40, 50, 60 Amp

POWER FEED UNITS

End Power Feed (EF)
Consists of a steel junction box with a removable side, a connector to insert into the Busway run and terminal block for field connections. Unit is bolted to first Busway section. Rated at 480/277 Volts.

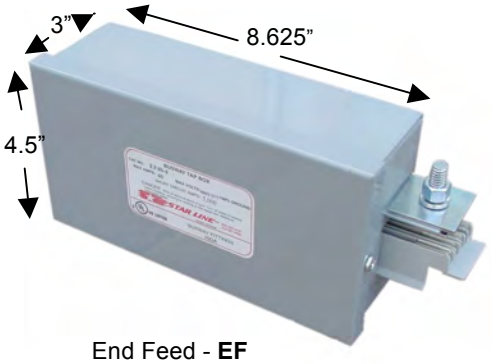
End Feed Connector (EFC)
Provide an inconspicuous means for connecting power. Consists of a 1 ft. section of Busway with connector mounted inside and wire lead exiting through end cap. A 1" conduit mounting adapter is included. Ordered separately, a Housing Coupler is used to connect to Busway section.

Center Feed (CF)
Consists of a 2 ft. section of Busway with connectors at both ends to connect to adjacent Busway sections and junction box mounted on top with terminal block for field connection.

Pendant Wired (PW)
Consists of 1 ft. Busway section with 1" conduit size access hole for access to connection leads inside Busway. 1" conduit mounting adapter included.

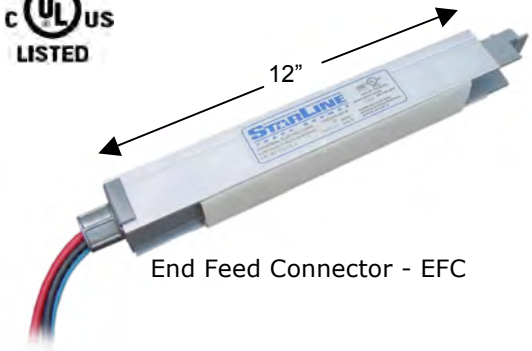
Catalog Number Sequence
(XX)(AA)–(X)

- **Poles 2 or 4**
- **System Size**
- **EF** End Feed
- **EFC** End Feed Concealed
- **CF** Center Feed
- **PW** Pendant Wired



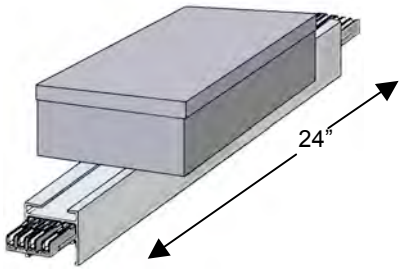
End Feed - **EF**

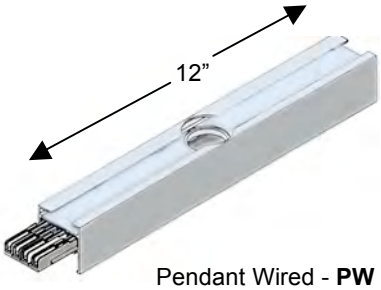

End Feed installed



End Feed Connector - EFC


End Feed Connector Installed





Pendant Wired - **PW**

Catalog Number Selection

Catalog No.	Description	Weight
EF40-X	End Feed, 40 Amp	3.3 lbs
EF50-X	End Feed, 50 Amp	3.3 lbs
EF60C-X	End Feed, 60 Amp	3.3 lbs
EFC40-X	End Feed, Concealed, 40 Amp	2 lbs
EFC50-X	End Feed, Concealed, 50 Amp	2 lbs
EFC60C-X	End Feed, Concealed, 60 Amp	2 lbs
CFB40-X	Center Feed, 40 Amp	5 lbs
CFB50-X	Center Feed, 50 Amp	5 lbs
CFB60C-X	Center Feed, 60 Amp	5 lbs
PW40-X	Pendant Wired, 40 Amp	2 lbs
PW50-X	Pendant Wired, 50 Amp	2 lbs
PW60C-X	Pendant Wired, 60 Amp	2 lbs

STARLINE® TRACK BUSWAY

SUSPENDED CEILING

Busway sections (shown in red) are available in 20, 10 and 5 ft lengths for three standard drop or suspended ceiling configurations.

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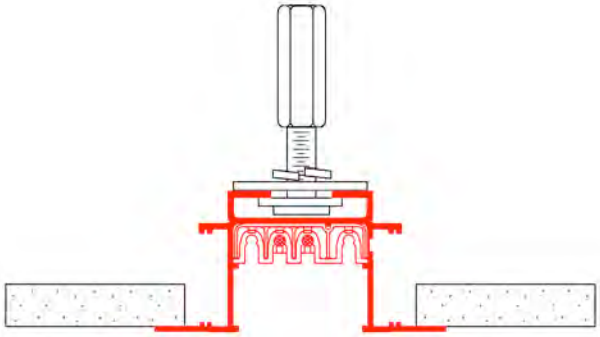
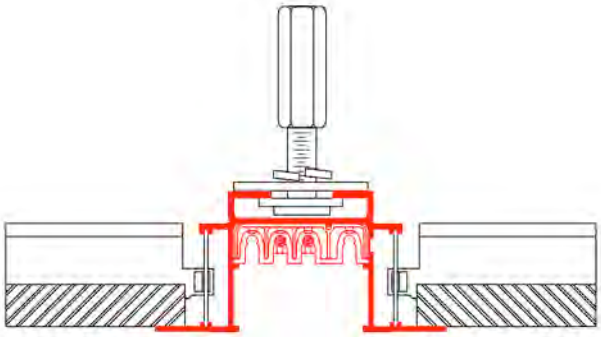
NOTE: Add "R" for recessed to basic housing part number. Example: B50R-20-4 for a 20 ft section of B50 with 4-pole housing.

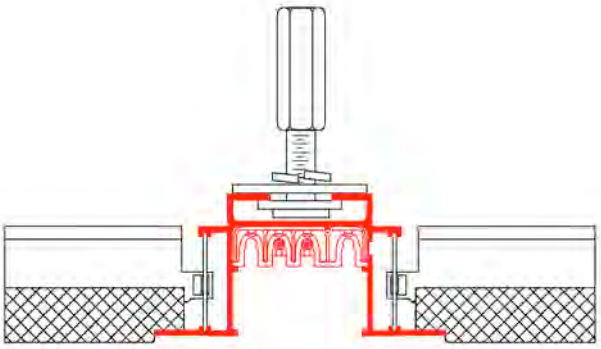
Dry Wall



Standard Tile



Regular Tile

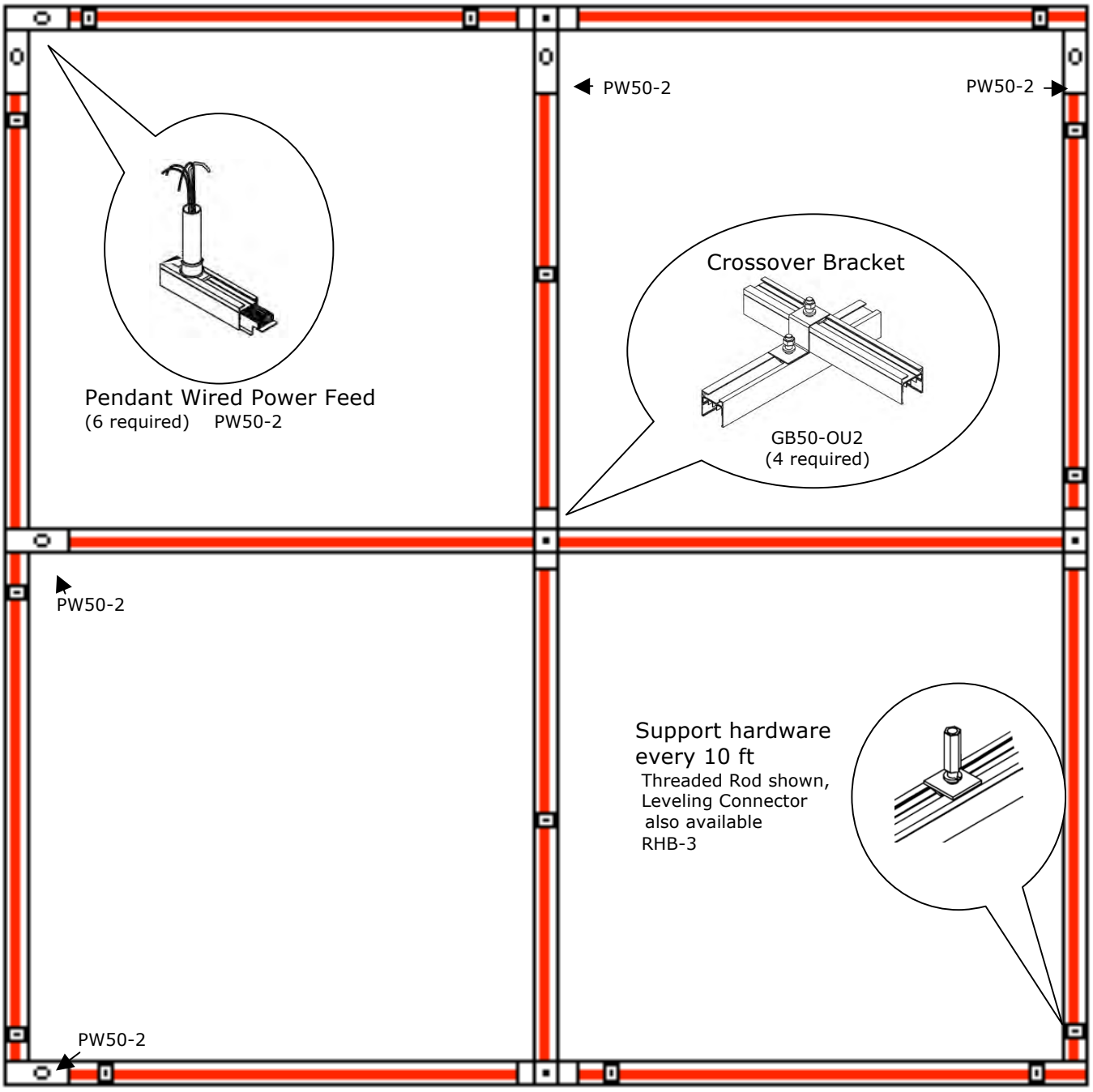


STARLINE® TRACK BUSWAY

GRID LAYOUT

IT IS HIGHLY RECOMMENDED THAT YOU REQUEST THE ASSISTANCE OF YOUR LOCAL STARLINE APPLICATIONS SPECIALIST TO ASSIST IN GRID LAYOUT. FOR A MODEST FEE, FINAL LAYOUT AND BILLS OF MATERIAL CAN BE PROVIDED WITH THE ASSISTANCE OF OUR ENGINEERING DEPARTMENT.

TWO PLANE EXAMPLE **Electrical path in both directions**



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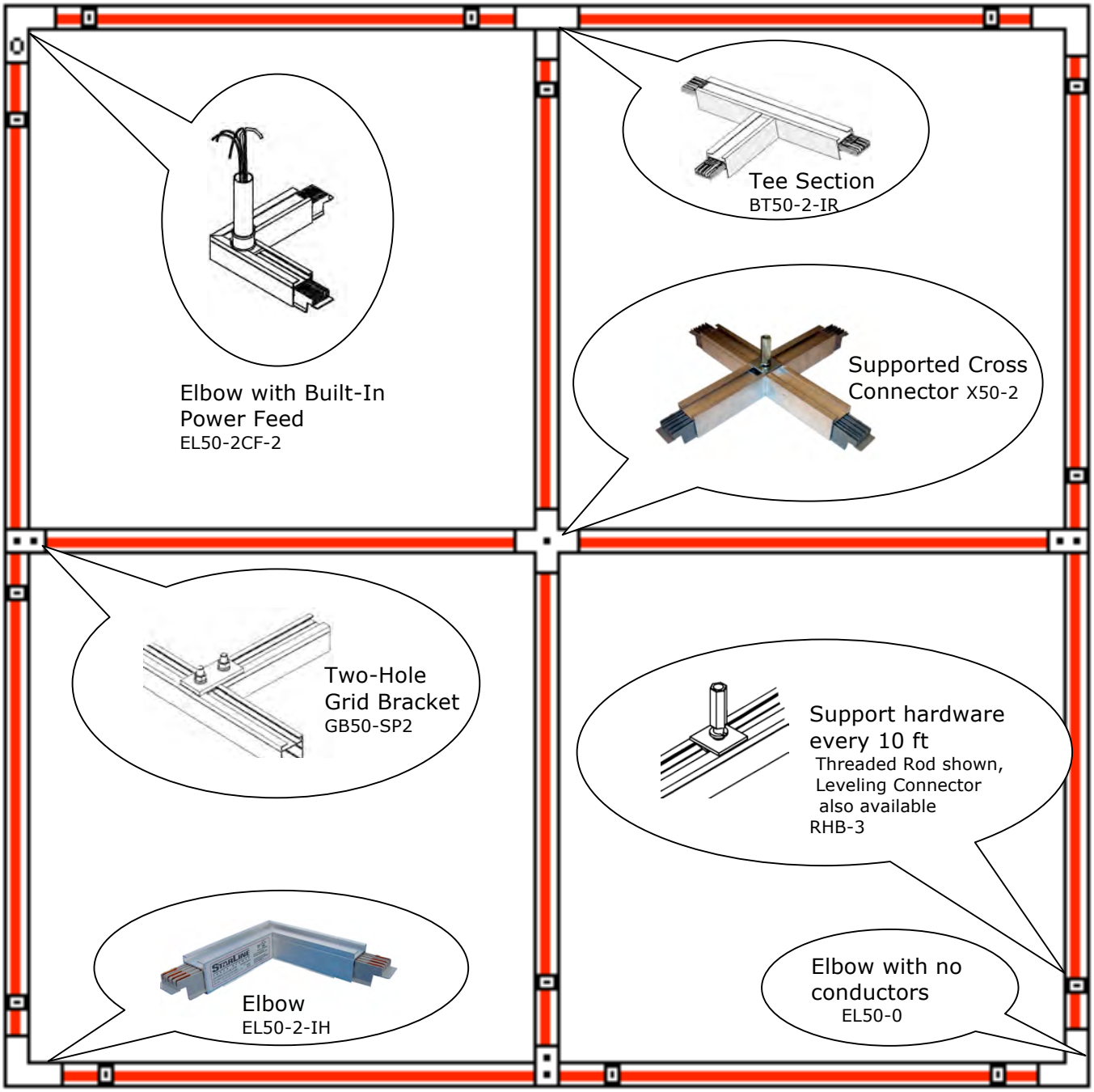
ONE PLANE EXAMPLE **Electrical path in both directions**

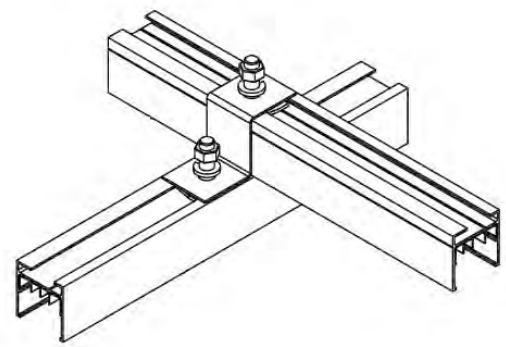


Compact Series
40, 50, 60 Amp

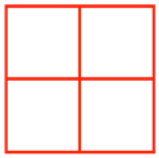
GRID LAYOUT SUPPORT

TWO PLANE (OVER-UNDER)

The most economical method for providing single, two or three phase power in both directions. Use simple straight runs with power feeds from either end.

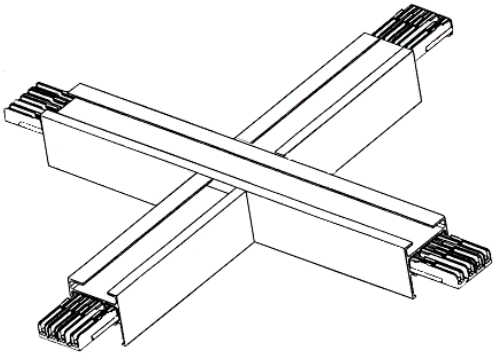


Electrical Path



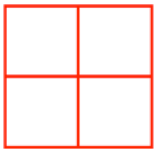
SINGLE PLANE (Open Ceiling)

Can provide single, two-phase or three-phase power on the same plane over the entire grid layout (in both directions) or in one direction only. Ideal for isolating assigned grid sections.



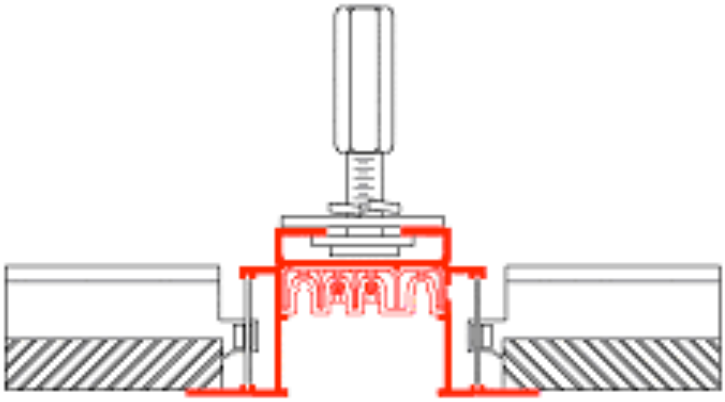
Electrical Path

OR



SINGLE PLANE (Drop Ceiling)

T-Bar ceiling extrusion is designed to replace the main runner of T-Bar ceilings. Extrusion allows for hardware, joining hardware and t-bar clips and accepts cross-t's of the acoustical tile system. Use in SINGLE PLANE applications by substituting the standard B40, B50 or B60C housing with the designation "R" as in B40R. All other components remain the same.



STARLINE® TRACK BUSWAY

GRID CONNECTORS ELBOWS

IT IS HIGHLY RECOMMENDED THAT YOU REQUEST THE ASSISTANCE OF YOUR LOCAL STARLINE APPLICATIONS SPECIALIST TO ASSIST IN GRID LAYOUT. FOR A MODEST FEE, FINAL LAYOUT AND BILLS OF MATERIAL CAN BE PROVIDED WITH THE ASSISTANCE OF OUR ENGINEERING DEPARTMENT. SELECTION OF THE PROPER GRID CONNECTORS IS CRITICAL AS ALL SECTIONS OF STARLINE TRACK BUSWAY ARE POLARIZED TO PREVENT PHASE MISMATCH.

Catalog Number Sequence for Elbow Sections used in Grid Layouts

(XX)(XX)-(X)- (XX)

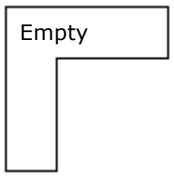
Direction
EL = External Left
ER = External Right
IL = Internal Left
ER = External Right
IH = Internal Horizontal (Elbows)
EH = External Horizontal (Elbows)

No of Poles (0, 2 or 4)

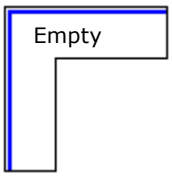
System Size (40, 50 or 60C)

Component (Tee, Elbow or Cross) (BT, EL OR X)

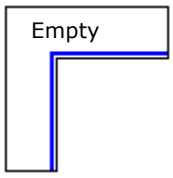
ELBOWS **Electrical Path in Thin Line** **Polarizing Strip in Heavy Line**



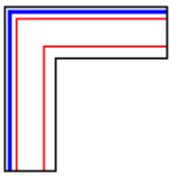
EL50-0
(used for ALL SYSTEMS)



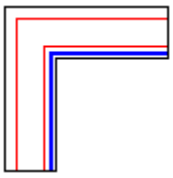
EL50-0-EH



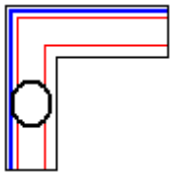
EL50-0-IH



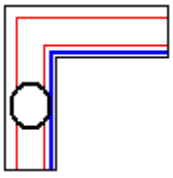
EL(XX)-(X)-EH



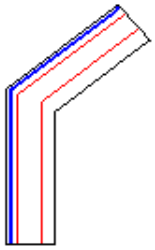
EL(XX)-(X)-IH



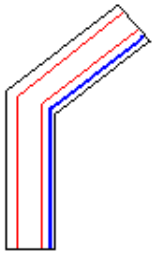
EL(XX)-(X)CF-EH



EL(XX)-(X)CF-IH



EL(XX)-(X)-EH-45



EL(XX)-(X)-IH-45

STARLINE® TRACK BUSWAY

GRID CONNECTORS TEES

IT IS HIGHLY RECOMMENDED THAT YOU REQUEST THE ASSISTANCE OF YOUR LOCAL STARLINE APPLICATIONS SPECIALIST TO ASSIST IN GRID LAYOUT. FOR A MODEST FEE, FINAL LAYOUT AND BILLS OF MATERIAL CAN BE PROVIDED WITH THE ASSISTANCE OF OUR ENGINEERING DEPARTMENT. SELECTION OF THE PROPER GRID CONNECTORS IS CRITICAL AS ALL SECTIONS OF STARLINE TRACK BUSWAY ARE POLARIZED TO PREVENT PHASE MISMATCH.

Catalog Number Sequence for Tee Sections used in Grid Layouts

(XX)(XX)-(X)-(XX)/(XX) → **RH = Right Hand, LH = Left Hand**

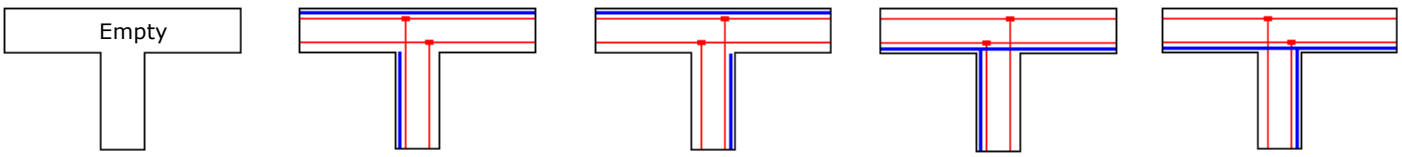
Direction
EL = External Left
ER = External Right
IL = Internal Left
ER = External Right
IH = Internal Horizontal (Elbows)
EH = External Horizontal (Elbows)

No of Poles (0, 2 or 4)

System Size (40, 50 or 60C)

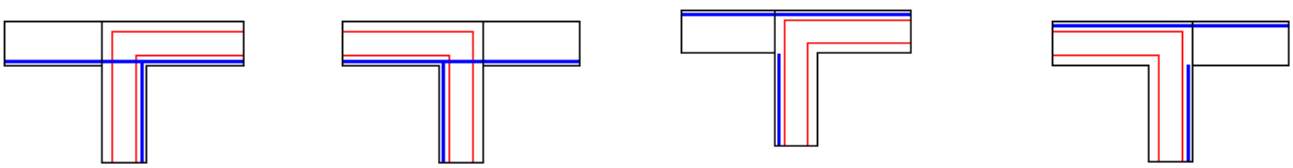
Component (Tee, Elbow or Cross) (BT, EL OR X)

TEE's Electrical Path in Thin Line **Polarizing Strip in Heavy Line**



BT50-0
Used for ALL SIZES

BT(XX)-(X)-EL **BT(XX)-(X)-ER** **BT(XX)-(X)-IL** **BT(XX)-(X)-IR**



BT(XX)-(X)-IH/RH **BT(XX)-(X)-IH/LH** **BT(XX)-(X)-EH/RH** **BT(XX)-(X)-EH/LH**

STARLINE® TRACK BUSWAY

GRID CONNECTORS CROSSES

IT IS HIGHLY RECOMMENDED THAT YOU REQUEST THE ASSISTANCE OF YOUR LOCAL STARLINE APPLICATIONS SPECIALIST TO ASSIST IN GRID LAYOUT. FOR A MODEST FEE, FINAL LAYOUT AND BILLS OF MATERIAL CAN BE PROVIDED WITH THE ASSISTANCE OF OUR ENGINEERING DEPARTMENT. SELECTION OF THE PROPER GRID CONNECTORS IS CRITICAL AS ALL SECTIONS OF STARLINE TRACK BUSWAY ARE POLARIZED TO PREVENT PHASE MISMATCH.

Catalog Number Sequence for Cross Sections used in Grid Layouts

(XX)(XX)-(X)- (XX)

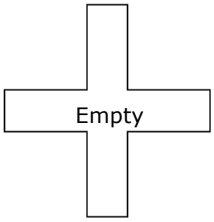
Direction
EL = External Left
ER = External Right
IL = Internal Left
ER = External Right
IH = Internal Horizontal (Elbows)
EH = External Horizontal (Elbows)

No of Poles (0, 2 or 4)

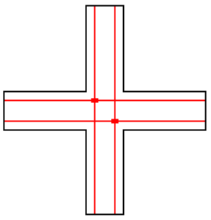
System Size (40, 50 or 60C)

Component (Tee, Elbow or Cross) (BT, EL or X)

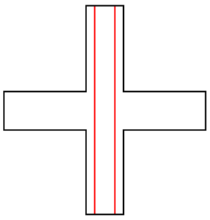
ELBOWS **Electrical Path in thin line** **Polarizing Stripe in heavy line**



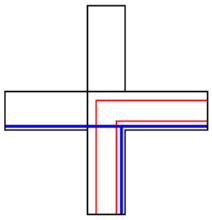
X50-0
(used for ALL SYSTEMS)



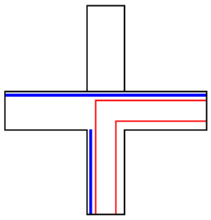
X(XX)-(X)



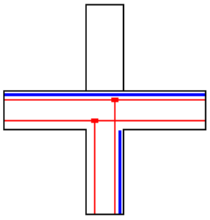
X(XX)-(X)-STR



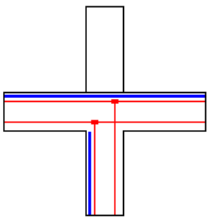
X(XX)-(X)-IH



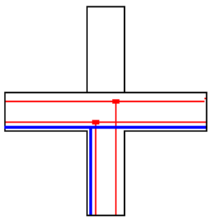
X(XX)-(X)-EH



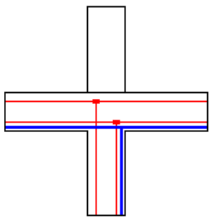
X(XX)-(X)-ER



X(XX)-(X)-EL



X(XX)-(X)-IL



X(XX)-(X)-IR

STARLINE® TRACK BUSWAY

GENERAL LAYOUT TIPS

- Try to keep all runs as straight as possible because tees, elbows and crosses are added cost. With grid or any other bi-directional applications, there is a choice of two-plane with each direction on a separate plane or using cross sections if single-plane is required. Single-plane applications can provide power in both directions as well as parallel runs. Please refer to GRID LAYOUT for more detail.

- Standard Busway lengths are available in 20, 10 and 5-foot increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 feet, it is highly recommend to keep all layout runs in increments of 5 feet. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3, 4, 6ft, etc, it can become cumbersome at the job site to determine which length goes with which run. By staying with 5-foot increments, this condition is minimized.

- Determine location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B40	40 Amps	39 feet	45 feet
B50	50 Amps	31 feet	36 feet
B60C	60 Amps	39 feet	46 feet

- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for the suggested STARLINE specification form.

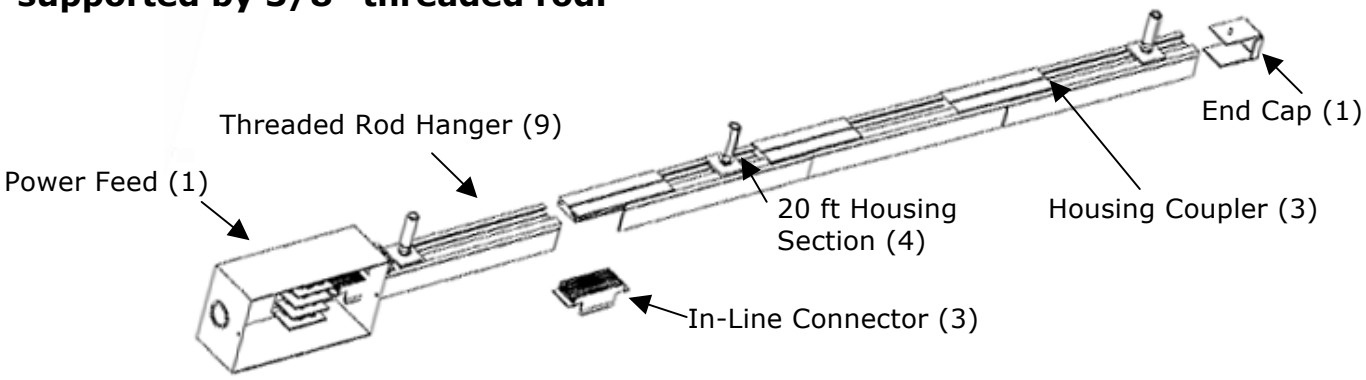
- Understand component relationship before specifying or ordering specific Tee or Elbow Sections. Refer to Component Relationship for details.

STARLINE® TRACK BUSWAY

SAMPLE TAKE-OFF

Description:

Straight run, 50 Amp system, 80 feet long, 4-pole with End Feed and supported by 3/8" threaded rod.

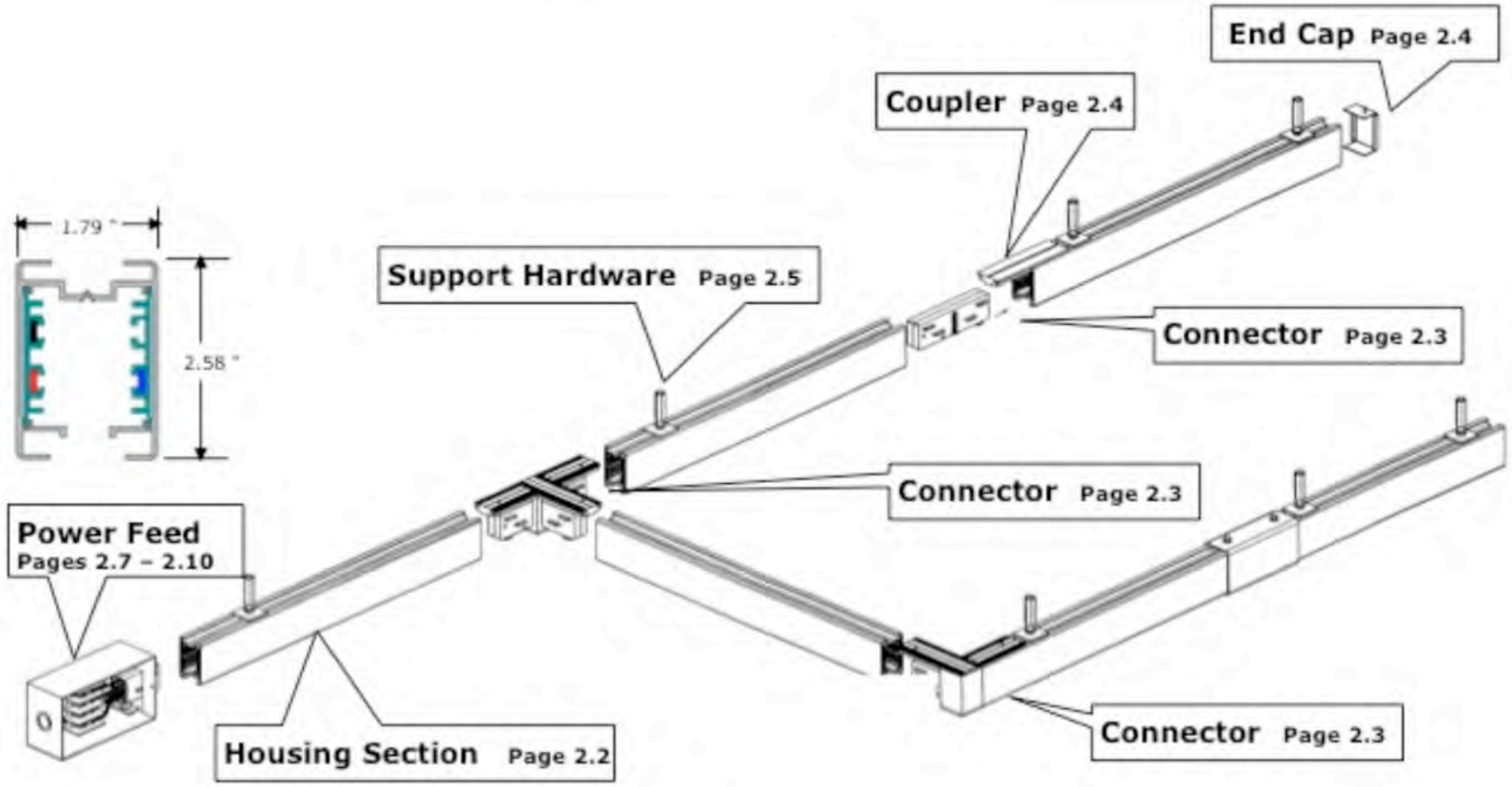


BILL OF MATERIAL:

QTY	PART NO.	DESCRIPTION
4	B50-20-4	Housing Section, 20 Feet, 4-Pole
3	BC50-4	In-Line Connector, 4-Pole
3	HC50-2	Housing Coupler, Plate Type
1	EC50	End Cap
9	RHB-3	3/8" Threaded Rod Hanger
1	EF50-4	End Power Feed, 4-Pole

STARLINE® TRACK BUSWAY

Standard B60 Amp System to 600 Volts



Accessories – Closure Strip page 2.4

Weight Hook page 2.5

Plug-in Units page 12.13a – 12.13b

STARLINE® TRACK BUSWAY

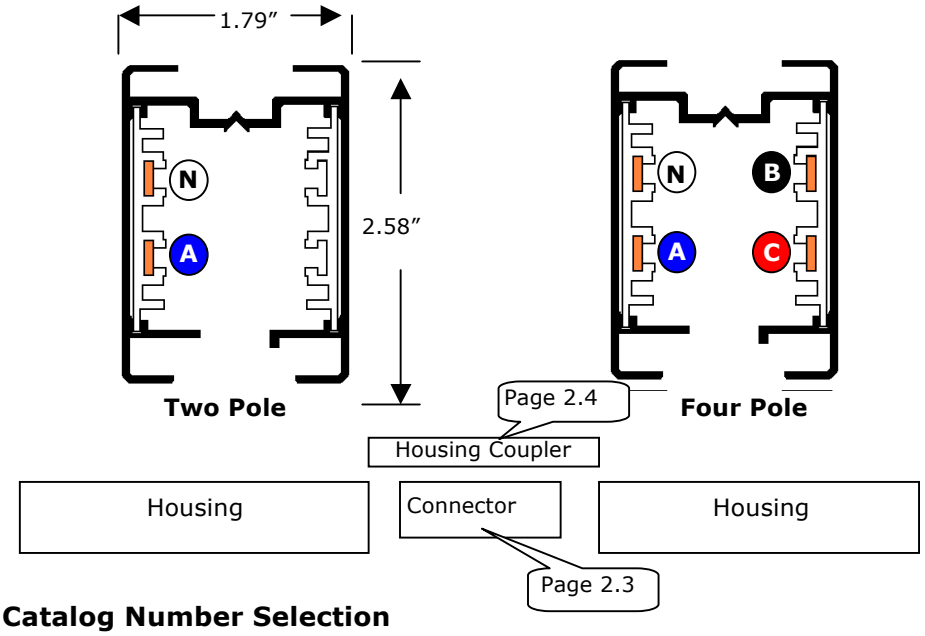
HOUSING SECTIONS

Track Busway housings consist of an extruded aluminum outer shell with PVC insulated copper conductor strips mounted on the two opposite interior side walls. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 2, 3 and 4 pole varieties in both 300 and 600 Volt designs. Track Busway housing are connected together using plug-in connectors and plate or wrap around type Housing Couplers (Page 2.6).

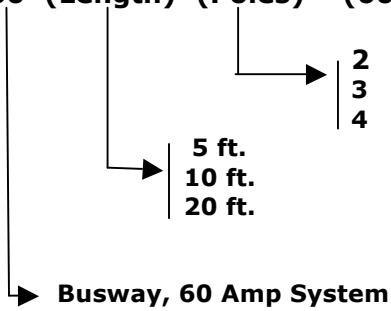
MATERIAL: Extruded Aluminum
RATINGS: 100% Ground Path
60 Amp, 300 Volt
60 Amp, 600 Volt
LENGTH: 5 Ft, 10 Ft , 20 Ft.

VOLTAGE DROP: distributed load
Single Phase 37ft (.8PF)
Three Phase 43ft (.8PF)

c UL us LISTED



Catalog Number Sequence
B60–(Length)–(Poles) – (600)



Catalog Number Selection
For 300 Volt Applications – Shown
For 600 Volt Applications – add "-600" to catalog number

Length	TWO POLE	lbs	FOUR POLE	lbs
5 ft	B60 – 5 - 2	5	B60 – 5 - 4	6.2
10 ft	B60 –10 - 2	10	B60 –10 – 4	12.5
20 ft	B60 – 20 - 2	20	B60 – 20 - 4	25

NOTES: Busway sections CANNOT be cut on site. Although Busway sections come in standard lengths of 5, 10 & 20 feet, factory cut lengths between 1 and 19 feet can be ordered. Consult factory for price and delivery.

STARLINE® TRACK BUSWAY

CONNECTORS

In-Line Connector

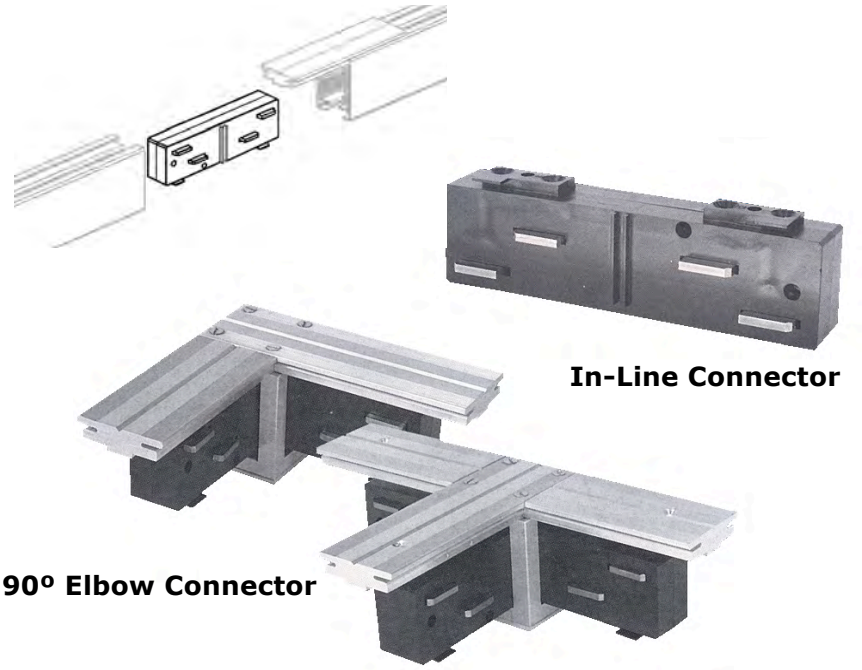
Sections of 60 Amp Busway are joined electrically by means of an in-line connector. The connector is installed by inserting in each end of the housing sections to be joined. Hex head compression screws are tightened to make a reliable contact to bus connection. All in-line connectors are polarized to prevent phase mismatch.

Elbow Connector

Factory pre-assembled, elbow connectors are used for making a 90-degree turn for 60 Amp Compact systems. Refer LAYOUT for polarization issues before making final selection.

Tee Connector

Similar to Elbow Connectors, Tee Connectors are used for connecting branch housing sections at 90 degrees to the main run. Refer LAYOUT for polarization issues before making final selection.

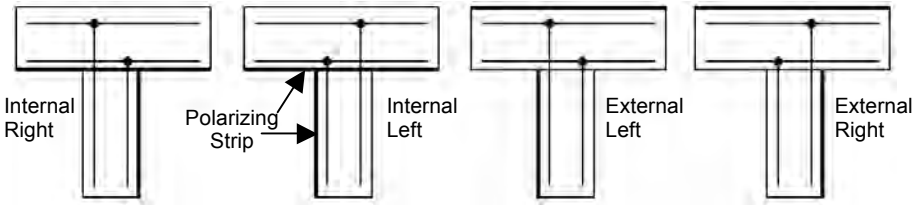


In-Line Connector

90º Elbow Connector

Tee Connector

c UL us



Please refer to LAYOUT prior to final product selection

Catalog Number Sequence (XX)–(P)–(Polarize)

- **IH= Internal**
- **EH= External**
- **IR= Internal Right**
- **IL= Internal Left**
- **ER= External Right**
- **EL= External Left**

Number of System Poles

- **BC= Busway Connector**
- **EL = Elbow**
- **BT = Busway Tee**

Catalog Number Selection

Catalog No.	Connector Type	Weight
BC-2	In-Line, 2-Pole	0.3 lb
BC-(3P3PH or 3P1PH)	In-Line, 3-Pole	0.3 lb
BC-4	In-Line, 4-Pole	0.4 lb
EL60-2-(IH or EH)	Elbow, 2-Pole	0.5 lb
EL60-(3P3PH or 3P1PH)	Elbow, 4-Pole	0.5 lb
BT60-4IR	Tee, 4-Pole, Internal Right	1.0 lb
BT60-4IL	Tee, 4-Pole, Internal Left	1.0lb
BT60-4ER	Tee, 4-Pole, External Right	1.0lb
BT60-4EL	Tee, 4-Pole, External Left	1.0lb

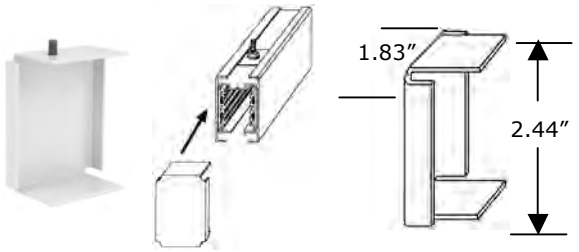
STARLINE® TRACK BUSWAY

CONNECTION ACCESSORIES

END CAP

For insulating female end of Busway.

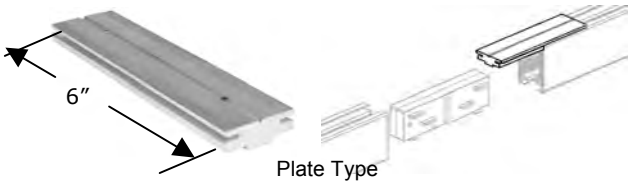
PART NUMBER
EC60
WEIGHT
0.2 lb



HOUSING COUPLER

Plate Type
For concealed connecting Busway sections. One required.

PART NUMBER
HC-2
WEIGHT
0.8 lb



CLOSURE STRIP

Made of white, rigid PVC, the closure strip is used to close the continuous access slot of the Busway. 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 to length in the field to be installed around plug-in units.

PART NUMBER
CS60

c UL us LISTED

STARLINE® TRACK BUSWAY

SUPPORT HARDWARE

Threaded Rod

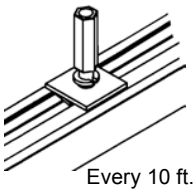
For mounting to 3/8-16 threaded rod. Can be inserted anywhere along full access top slot of Busway. Typical hanger support spacing every 10 ft maximum.

PART NUMBER

RHB-3

WEIGHT 0.3 lb

RHB-3 Threaded Rod Hanger



Every 10 ft.

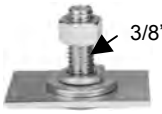
Standard

For mounting to strut or other flat surfaces. Twist-in design allows inserting anywhere along top full access slot.

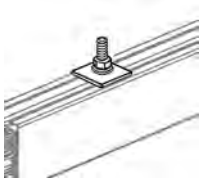
PART NUMBER

THB-3 3/8"
THB-1/4 ¼"

WEIGHT 0.2 lb



THB-3 Standard Hanger



Cable

For mounting to 1/16' or 3/32" aircraft cable with easy grip clamp assembly. Cable is not included.

PART NUMBER

ACH-1 1/16" cable
ACH-2 3/32" Cable

WEIGHT 0.2 lb

ACH-(X)
Cable Suspension Assembly

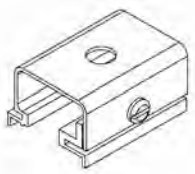
T-Bar Suspended Ceiling

For mounting to inverted T-bar. Clip locks onto T-bar and Busway connected to stud on clip. T-bar mounting with surface clip.

PART NUMBER

THB-4

WEIGHT 0.1 lb



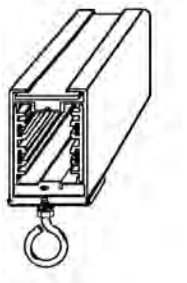
Weight Hook

Can be used as a hanger to suspend Busway from chains or cables. Can also be used to hang loads up to 50 lbs under the Busway, such as light fixtures, tools and balancers.

PART NUMBER

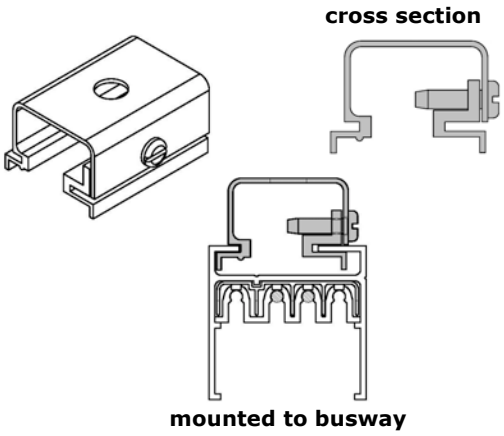
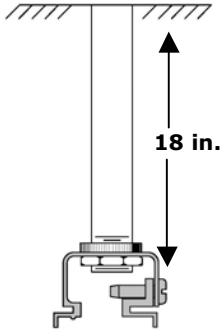
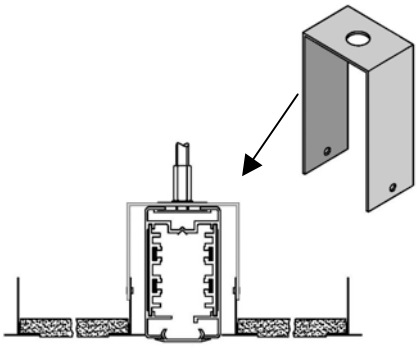
WHR-1

WEIGHT 0.2 lb.



STARLINE® TRACK BUSWAY

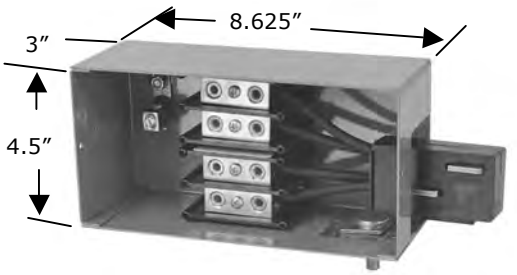
CEILING MOUNT

Surface Mount **For surface mounting - Comes with 3/8 in. hole** **For rod mounting - Comes with 7/16 in. hole**	**PART NUMBER** **MC60-S** Surface **MC60-R** Rod	
Pendant Mount Kit **"P" 9/16 in. hole** **Pendants are supplied by others.**	**PART NUMBER** **MC60-P**	
Recessed Mount	**PART NUMBER** **RM60-1**	

STARLINE® TRACK BUSWAY

POWER END FEED UNITS.
Supplying power to END of Busway

With Built-In Connector Consists of a steel junction box with removable side, a terminal block for field connections and an in-line connector already terminated to one side of terminal block. The unit is inserted into the Busway and held in position via bolted connection to Busway.



With Built-In Connector - **EPF** Series

c UL us LISTED

Catalog Number Sequence
(EPF)60-(P)

- **Number of Poles 2, 3 or 4**
- **System Amperage**

Catalog Number Selection

Catalog No.	Illustration	Weight
EPF60-2	A with 2-pole	3.3 lbs
EPF60-(3P3PH or 3P1PH)	A with 3-pole	3.3 lbs
EPF60-4	A with 4-pole	3.5 lbs

STARLINE® TRACK BUSWAY

POWER TOP FEED UNITS.
Supplying power to TOP of Busway

Top CENTER Feed

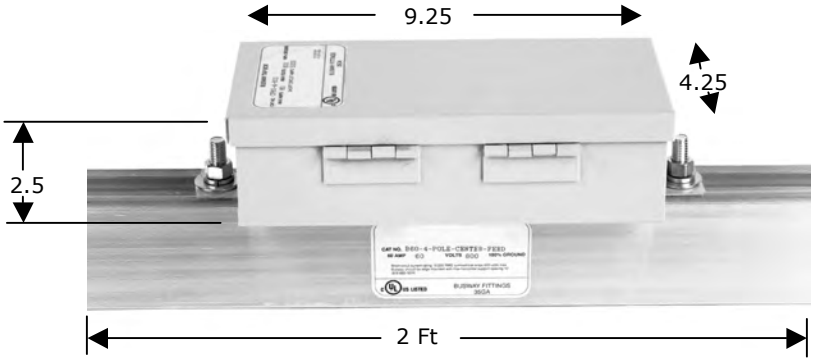
Used for supplying power anywhere along the top of a Busway run. Consists of a two-foot section of Busway, and a junction box with 60A rated terminal bock.

Concealed applications can be supplied without a junction box, in any length up to 20 feet. A 1in conduit access hole is cut in top of the 2 ft busway for field connection of supply wires to connection lugs inside of Busway section.

Two in-line connectors and housing couplers (supplied separately) are used to connect two adjacent busway sections.

Top END Feed

Same as top center feed, except box is connected to top end section of Busway. An in-line connector and housing coupler (supplied separately) is used to connect the busway run.



D. for Top Center Feed - **CFB** Series

E. for Top End Feed - **TF** Series

c UL us LISTED

Catalog Number Sequence
(XXX)60-(P)PW

- **Without Junction Box**
- **Number of Poles 2, 3 or 4**
- **System Amperage**
- **Series Type**

Catalog Number Selection

Catalog No.	Illustration	Weight
CFB60-2	D. with 2-Pole	4.8 lbs
CFB60-3	D. with 3-Pole	5 lbs
CFB60-4	D. with 4-Pole	5 lbs
TF60-2	E. with 2-Pole	4.8 lbs
TF60-3	E. with 3-Pole	5 lbs
TF60-4	E. with 4-Pole	5 lbs
CF60-2	D. without box 2-Pole	2 lbs
CF60-3	D. without box 3-Pole	2 lbs
CF60-4	D. without box 4-Pole	2 lbs
B60-x-yPW	D. without box, 4-pole	2 lbs

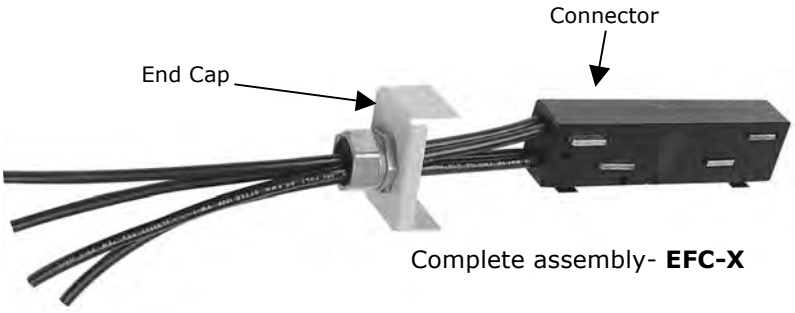
plus Busway "x" = Length of Busway, "y" = 2, 3, 4-P Busway

STARLINE® TRACK BUSWAY

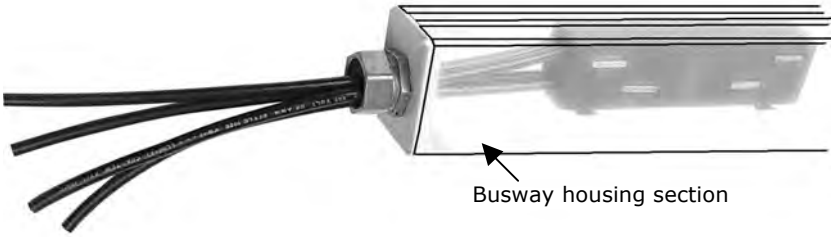
CONCEALED POWER FEED
Supplying power to END of Busway

Concealed Power Feed

This design of power feed has a built in connector and is used primarily in applications where aesthetic appearance is important - such as retail. Wire leads are preassembled to the connector and eliminate the junction box on the Busway. Twenty-four inch wire length is standard, but any length can be supplied.



Complete assembly- **EFC-X**



c UL us LISTED

Catalog Number Sequence
EFC60-(P)

- **Number of Poles 2, 3 or 4**
- **System Amperage**
- **End Feed Concealed**

Catalog Number Selection

Catalog No.	Illustration	Weight
EFC60-2	2-pole	2 lbs
EFC60-(3P3PH or 3P1PH)	3-pole	2 lbs
EFC60-4	4-pole	2 lbs

STARLINE® TRACK BUSWAY

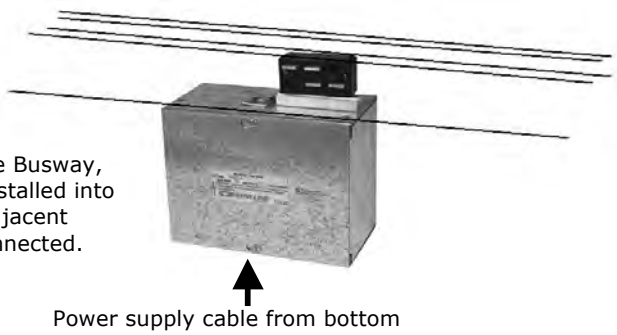
UNIVERSAL POWER FEED

Supplying power to BOTTOM of Busway

Universal Power Feed

A Universal Power Feed is designed to be installed anywhere along the full-access opening of a Busway run. Insert the Power Feed connector into the Busway run where desired and secure with a hanger bolt (supplied). The Universal Power Feed unit must be completely installed in the selected Busway housing before the adjacent housing section can be installed. A terminal block is provided in the box for field terminations. Power supply cable is fed in from under the unit.

Universal Power Feed **PF** Series



When installing BELOW the Busway, the power feed must be installed into selected housing before adjacent housing section can be connected.

Power supply cable from bottom

c UL us LISTED

Catalog Number Sequence

PF60- (X)

- **Number of Poles 2, 3 or 4**
- **System Amperage**
- **Series Type**

Catalog Number Selection

Catalog No.		Weight
PF60-2	2-Pole	4.5 lbs
PF60-(3P3PH or 3P1PH)	3-Pole	4.7 lbs
PF60-4	4-Pole	4.8 lbs

STARLINE® TRACK BUSWAY

GENERAL LAYOUT TIPS

- Try to keep all runs as straight as possible as tees and elbows are added cost.
- Standard Busway lengths are available in 20, 10 and 5-foot increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 feet, it is highly recommend to keep all layout runs in increments of 5 feet. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3, 4, 6ft, etc it can become cumbersome at the job site to determine which length goes with which run. By staying with 5-foot increments, this condition is minimized.
- Determine location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B60 (standard)	60 Amps	37 FT	43 FT

- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for both the suggested short and long form STARLINE specifications.
- Printed Installation drawings are supplied with each system shipment. CAD files of these drawings are also available by contacting your local STARLINE Applications Engineer.

STARLINE® TRACK BUSWAY

COMPONENT RELATIONSHIP

When ordering material, it is important to understand the relationship between various components. Examples:

- Each housing section requires a connector and coupler. Determine the total number of housing sections (regardless of length) as this becomes the number of In-Line Connectors (BC) and Housing Couplers (HC) that will be needed.
- Add one extra In-Line Connector (BC) and Housing Coupler (HC) for each Tee Connector.
- No need to add extra Connectors and Housing Couplers for Elbow Connectors, as they are already part of your housing count.
- If using an “EF” style Power Feed, order an In-Line Connector (BC) and Housing Coupler (HC) for each Power Feed.
- General support hardware rule to follow:

$$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

10 equal 10 ft spacing and 10% extra is recommended for job site changes.

- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.
- Before specifying or ordering elbow or tee connectors, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

- Try to keep all runs as straight as possible as tees and elbows are added cost.

- Standard Busway lengths are available in 20, 10 and 5-foot increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 feet, it is highly recommend to keep all layout runs in increments of 5 feet. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3, 4, 6ft, etc it can become cumbersome at the job site to determine which length goes with which run. By staying with 5-foot increments, this condition is minimized.

- Determine location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B60 (standard)	60 Amps	37 FT	43 FT

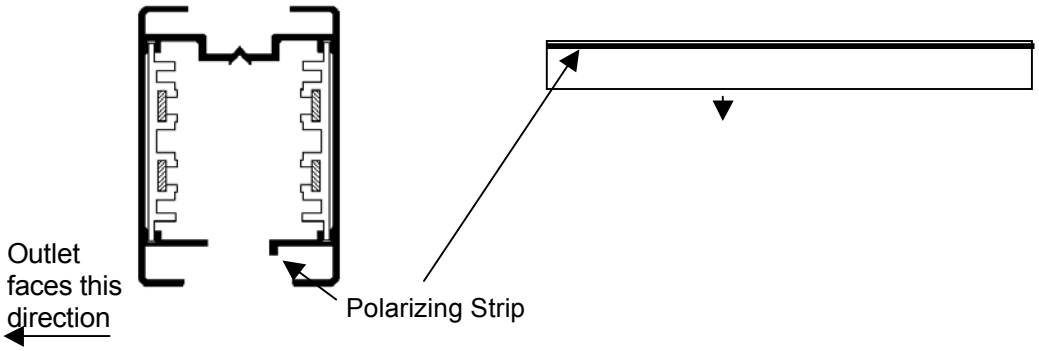
- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for both the suggested short and long form STARLINE specifications.

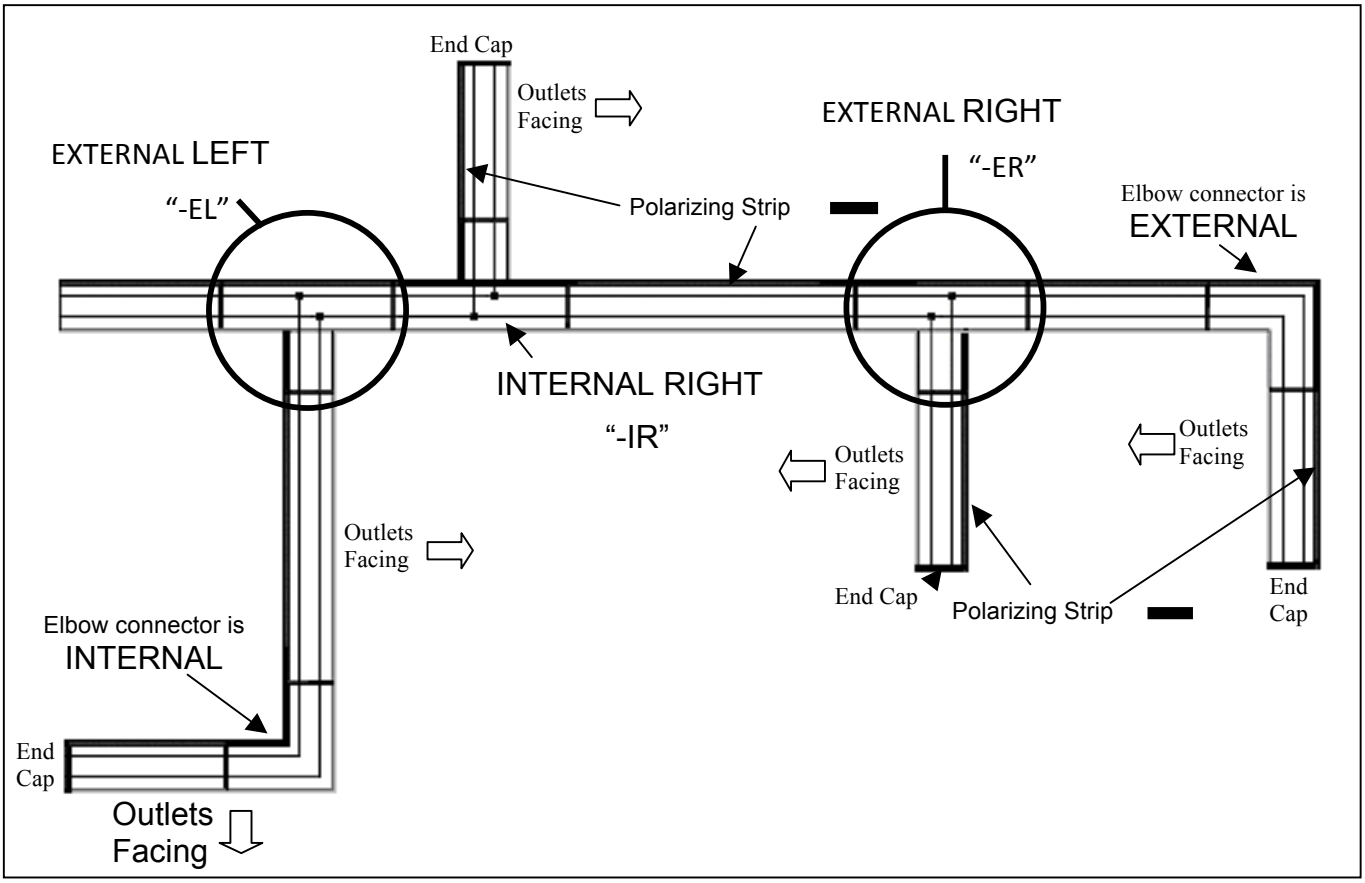
Printed Installation drawings are supplied with each system shipment. CAD files of these drawings are also available by contacting your local STARLINE Applications Engineer.

STARLINE TRACK BUSWAY

POLARITY CONCERNS

STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation, consider that they will always face away from the polarizing strip.



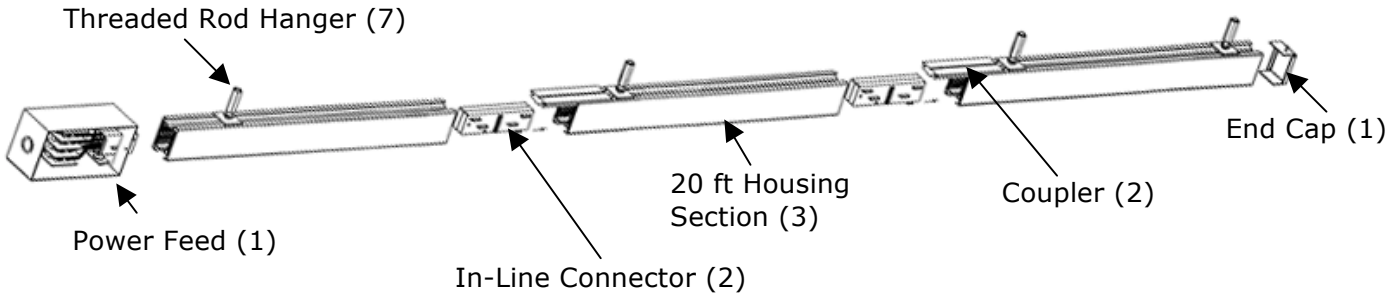


STARLINE® TRACK BUSWAY

SAMPLE TAKE-OFF

Description:

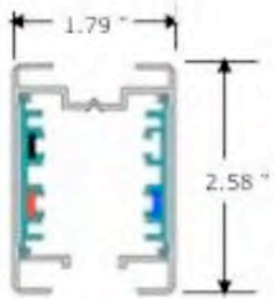
Straight run, 60 feet long, 4-pole with End Feed and supported by 3/8” threaded rod.

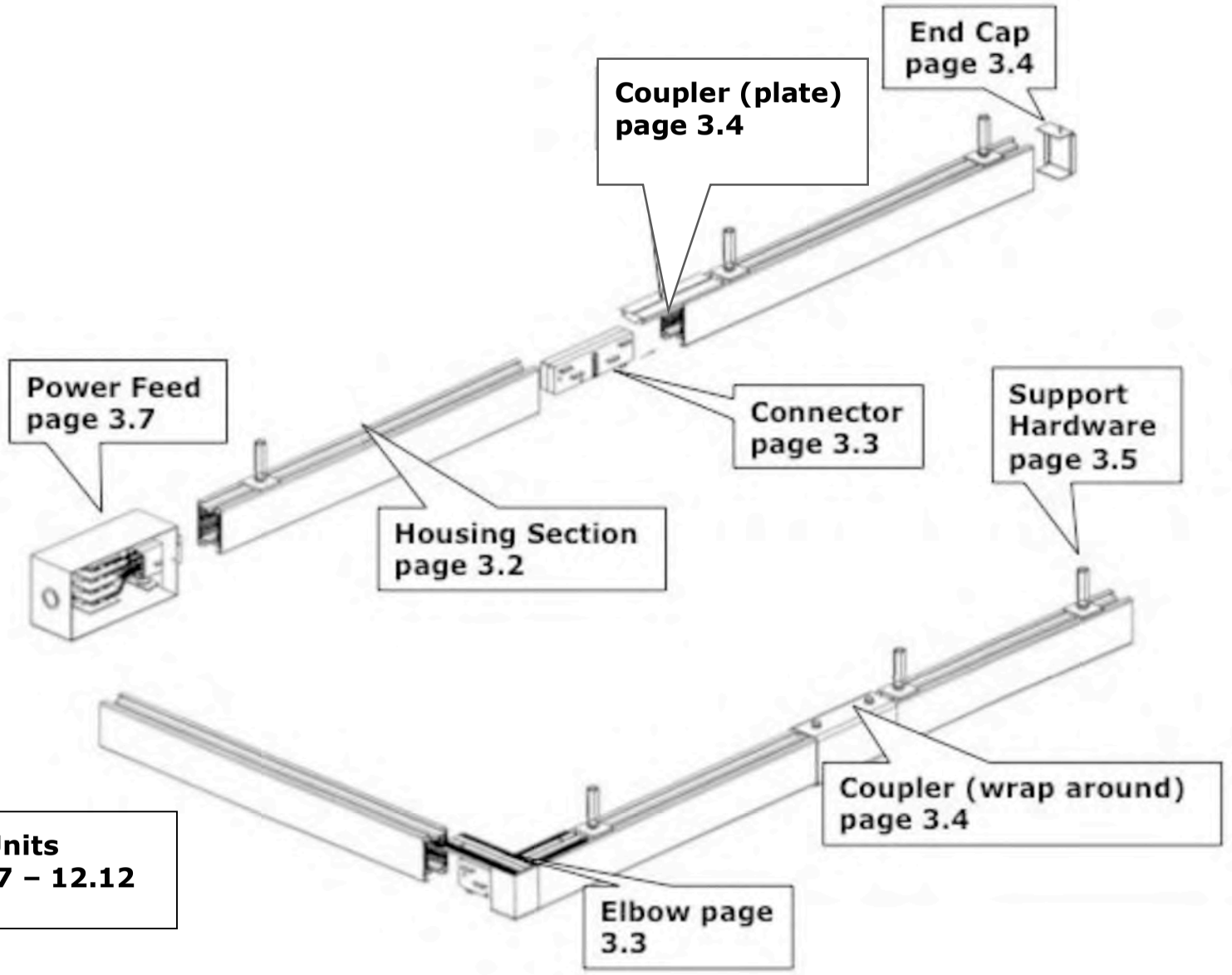


BILL OF MATERIAL

QTY	PART NUMBER	DESCRIPTION
3	B60-20-4	Housing Section, 20 feet, 4-Pole
2	BC-4	In-Line Connector, 4-Pole
2	HC-2	Housing Coupler, plate type
1	EC60	End Cap
7	RHB-3	3/8” Threaded Rod Hanger
1	EPF60-4	End Power Feed, 4-Pole

Compact 100 Amp System to 300 Volts





Plug-in Units page 12.7 – 12.12

STARLINE® TRACK BUSWAY

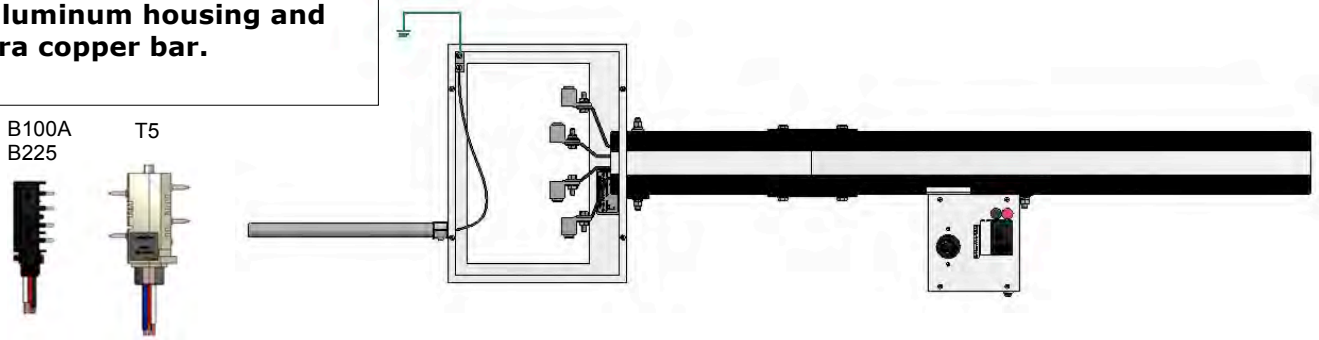
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

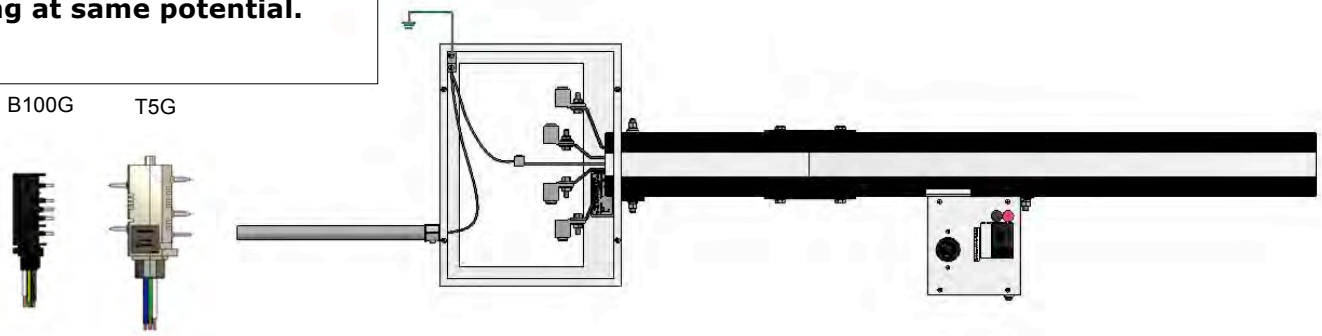


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

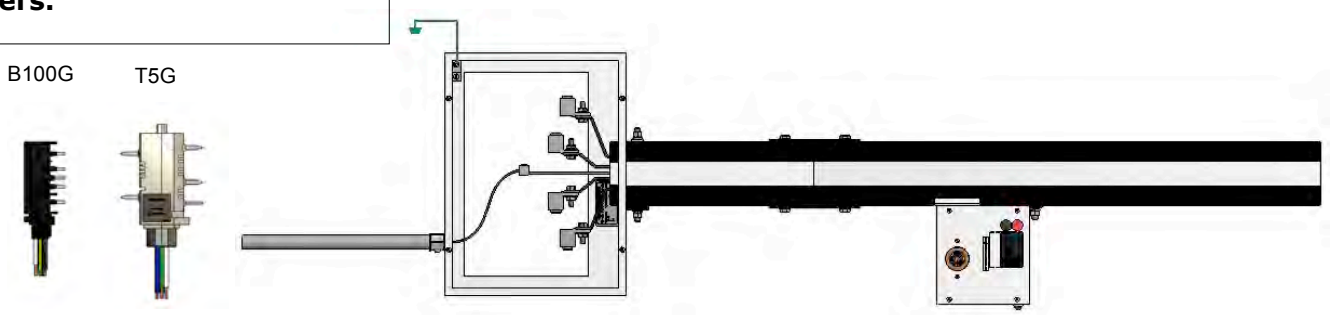


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



STARLINE® TRACK BUSWAY

HOUSING SECTION

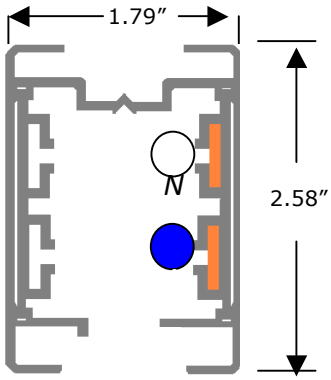
Track Busway housings consist of an extruded aluminum outer shell with PVC insulated copper conductor strips mounted on the two opposite interior side walls. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each section of housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 2 and 4-pole varieties to 600 Volt designs. Track Busway housings are connected together using plug-in connectors and plate or wrap around type housing couplers.

MATERIAL: Extruded Aluminum
RATINGS: 100% Ground Path
100 Amp, 600 Volt

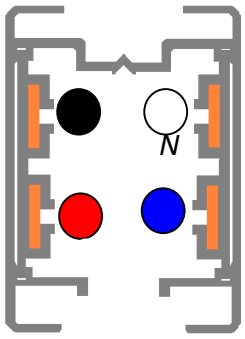
LENGTH: 5 Ft, 10 Ft , 20 Ft.

VOLTAGE DROP: distributed load
Single Phase 55ft (.8PF)
Three Phase 64ft (.8PF)

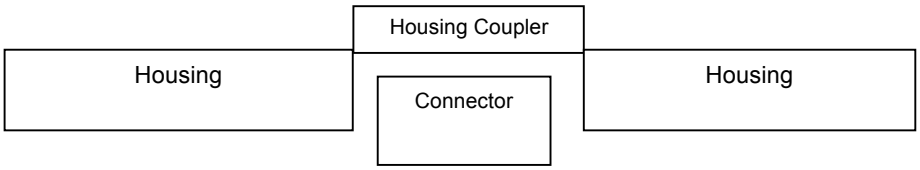
c UL us LISTED



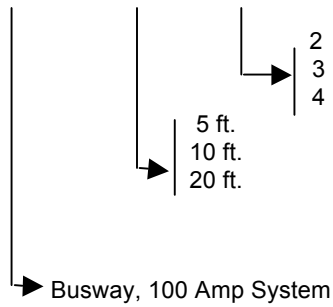
Two Pole



Four Pole



Catalog Number Sequence
B100C–(Length)–(Poles)



2 pole	2 pole	lbs	4 pole	lbs
5 ft	B100C – 5 - 2	6.4	B100C – 5 - 4	8
10 ft	B100C –10 - 2	13	B100C –10 – 4	16
20 ft	B100C – 20 - 2	26	B100C – 20 - 4	32

NOTES: Busway sections CANNOT be cut on site. Although Busway sections come in standard lengths of 5, 10 & 20 feet, factory cut lengths between 1 and 19 feet can be ordered. Consult factory for price and delivery.

STARLINE® TRACK BUSWAY

CONNECTORS

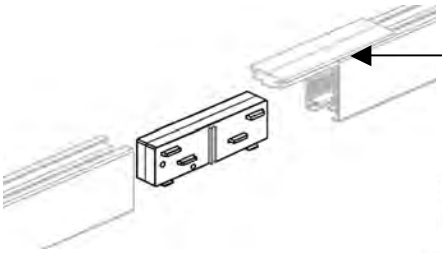
In-Line Connector

Sections of 100 Amp Compact Busway are joined electrically by means of an in-line connector. The connector is installed by inserting it into each end of the housing sections to be joined. Hex head compression screws are tightened to make a reliable contact to bus connection. All in-line connectors are polarized to prevent phase mismatch. Housing Coupler HC-1 or HC-2 ORDERED SEPARATELY.

Elbow Connector

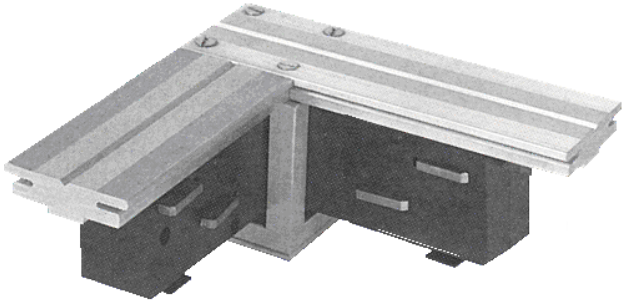
Factory pre-assembled, elbow connectors are used for making a 90-degree turn for 100 Amp Compact systems. Refer LAYOUT for polarization issues before making final selection.

(NO TEES AVAILABLE FOR B100C SYSTEMS)



Housing Coupler
ORDERED SEPARATELY
For In-Line Connector

In-Line Connector



Elbow Connector

Catalog Number Sequence
(XX)–(P)–(Polarize)

- **IH= Internal**
  EH= External
- **Number of System Poles**
- **BC= Busway Connector**
  EL = Elbow

Catalog Number Selection

Catalog No.	Connector Type	Weight
BC-2	In-Line, 2-Pole	0.3 lb
BC-(3P3PH or 3P1PH)	In-Line, 3-Pole	0.3 lb
BC-4	In-Line, 4-Pole	0.4 lb
EL100C-2-(IH or EH)	Elbow, 2-Pole	0.5 lb
EL100C-3-(IH or EH)	Elbow, 3-Pole	0.5 lb
EL100C-4-(IH or EH)	Elbow, 4-Pole	0.5 lb

STARLINE® TRACK BUSWAY

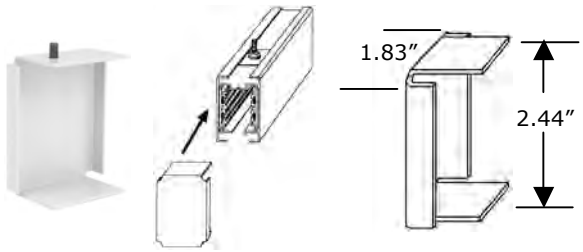
CONNECTION ACCESSORIES

END CAP

For insulating female end of Busway.

PART NUMBER
EC60

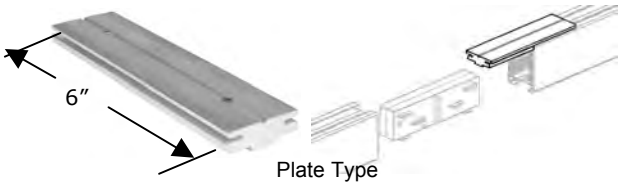
WEIGHT
0.2 lb



HOUSING COUPLER

Plate Type
For concealed connecting Busway sections. One required.

PART NUMBER
HC-2
WEIGHT
0.8 lb



CLOSURE STRIP

Made of white, rigid PVC, the closure strip is used to close the continuous access slot of the Busway. 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 to length in the field to be installed around plug-in units.

PART NUMBER
CS60

c UL us LISTED

STARLINE® TRACK BUSWAY

c UL us LISTED

SUPPORT HARDWARE

Threaded Rod

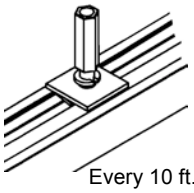
For mounting to 3/8-16 threaded rod. Can be inserted anywhere along full access top slot of Busway. Typical hanger support spacing every 10 ft maximum.

PART NUMBER

RHB-3

WEIGHT 0.3 lb

RHB-3 Threaded Rod Hanger



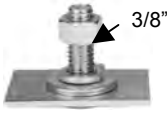
Standard

For mounting to strut or other flat surfaces. Twist-in design allows inserting anywhere along top full access slot.

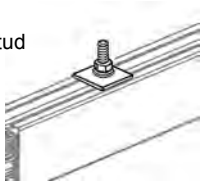
PART NUMBER

THB-3 3/8"
THB-1/4 ¼"

WEIGHT 0.2 lb



THB-3 Standard Hanger



Cable

For mounting to 1/16' or 3/32" aircraft cable with easy grip clamp assembly. Cable is not included.

PART NUMBER

ACH-1 1/16" cable
ACH-2 3/32" Cable

WEIGHT 0.2 lb

ACH-(X)
Cable Suspension Assembly

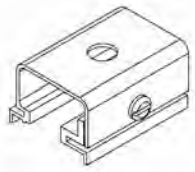
T-Bar Suspended Ceiling

For mounting to inverted T-bar. Clip locks onto T-bar and Busway connected to stud on clip. T-bar mounting with surface clip.

PART NUMBER

THB-4

WEIGHT 0.1 lb



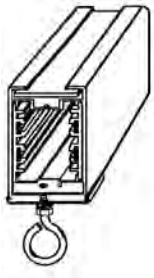
Weight Hook

Can be used as a hanger to suspend Busway from chains or cables. Can also be used to hang loads up to 50 lbs under the Busway, such as light fixtures, tools and balancers.

PART NUMBER

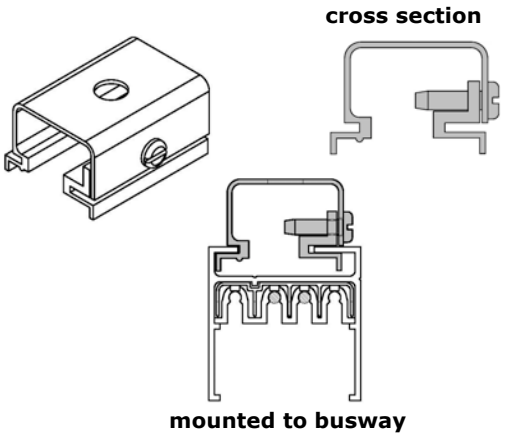
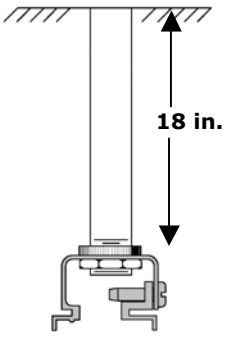
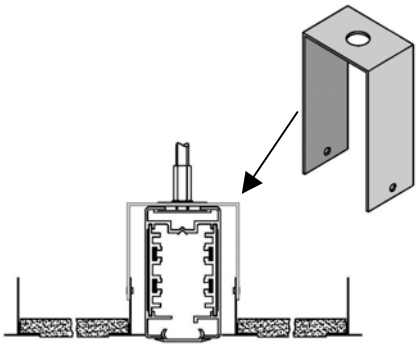
WHR-1

WEIGHT 0.2 lb.



STARLINE® TRACK BUSWAY

CEILING MOUNT

Surface Mount **For mounting to surface. Comes with 3/8 in. hole**	**PART NUMBER** **MC60-S** Surface **MC60-R** Rod	
T-Bar Suspended Ceiling **For mounting to inverted T-bar. Clip locks onto T-bar and Busway connected to stud on clip. T-bar mounting with surface clip.**	**PART NUMBER** **THB-4**	
Pendant MountKit **complete with 18 in. Pendant**	**PART NUMBER** **MC60-P**	
Recessed Mount	**PART NUMBER** **RM60-1**	

STARLINE® TRACK BUSWAY

POWER FEED UNITS
Supplying power to END or CENTER of Busway

With built-in connector

This unit consists of a steel junction box with a removable side, a terminal block for field connections and an in-line connector already terminated to one side of terminal block. The unit is inserted into the Busway and held in position via bolted connection to Busway.

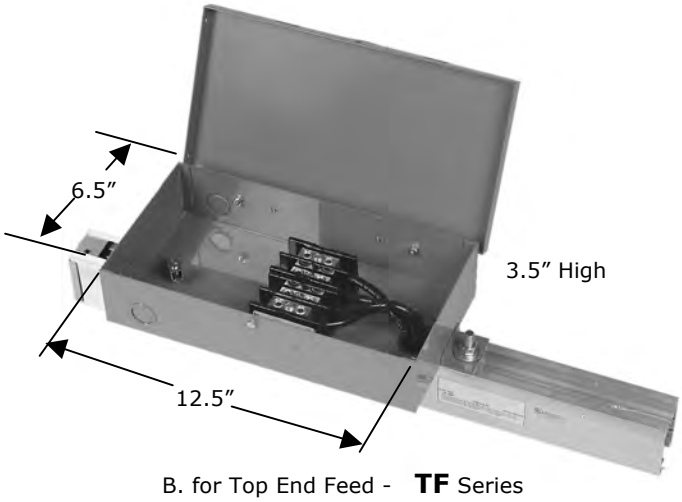
Top END Feed

This unit is connected to the top end section of Busway. An in-line, tee or elbow connector and housing coupler (supplied separately) is used to connect to the Busway run.

Top CENTER Feed

This unit is the same unit as an End Feed, however it is located in the center of a 2 ft section of Busway.

A. With Built-In Connector - **EPF** Series



B. for Top End Feed - **TF** Series

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Catalog Number Sequence
(XXX)100C-(P)

- **Number of Poles 2, 3 or 4**
- **System Amperage**
- **Series Type**

Catalog Number Selection

Catalog No.	Illustration	Weight
EPF100C-2	**A with 2-pole**	**3.3 lbs**
EPF100C-(3P3PH or 3P1PH)	**A with 3-pole**	**3.3 lbs**
EPF100C-4	**A with 4-pole**	**3.5 lbs**
TF100C-2	**B with 2-pole**	**4.8 lbs**
TF100C-(3P3PH or 3P1PH)	**B with 3-pole**	**5 lbs**
TF100C-4	**B with 4-pole**	**5 lbs**
CFB100C-2	**B with 2-pole**	**4.8 lbs**
CFB100C-(3P3PH or 3P1PH)	**B with 3-pole**	**5 lbs**
CFB100C-4	**B with 4-pole**	**5 lbs**

STARLINE® TRACK BUSWAY

GENERAL LAYOUT TIPS

- Try to keep all runs as straight as possible as tees and elbows are added cost.
- Standard Busway lengths are available in 20, 10 and 5-foot increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 feet, it is highly recommend to keep all layout runs in increments of 5 feet. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3, 4, 6ft, etc it can become cumbersome at the job site to determine which length goes with which run. By staying with 5-foot increments, this condition is minimized.
- Determine location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B100C (compact)	100 Amps	55 FT	64 FT

- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for both the suggested short and long form STARLINE specifications.
- Printed Installation drawings are supplied with each system shipment. CAD files of these drawings are also available by contacting your local STARLINE Applications Engineer.

STARLINE® TRACK BUSWAY

COMPONENT RELATIONSHIP

When ordering material it is important to understand the relationship between various components. Examples:

- Each housing section requires a connector and coupler. Determine the total number of housing sections (regardless of length) as this becomes the number of In-Line Connectors (BC) and Housing Couplers (HC) that will be needed.

- Add one extra In-Line Connector (BC) and Housing Coupler (HC) for each Tee Connector.

- No need to add extra Connectors and Housing Couplers for Elbow Connectors, as they are already part of your housing count.

- If using an "EF" style Power Feed, order an In-Line Connector (BC) and Housing Coupler (HC) for each Power Feed.

- General support hardware rule to follow:

$$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

10 equal 10 ft spacing and 10% extra is recommended for job site changes.

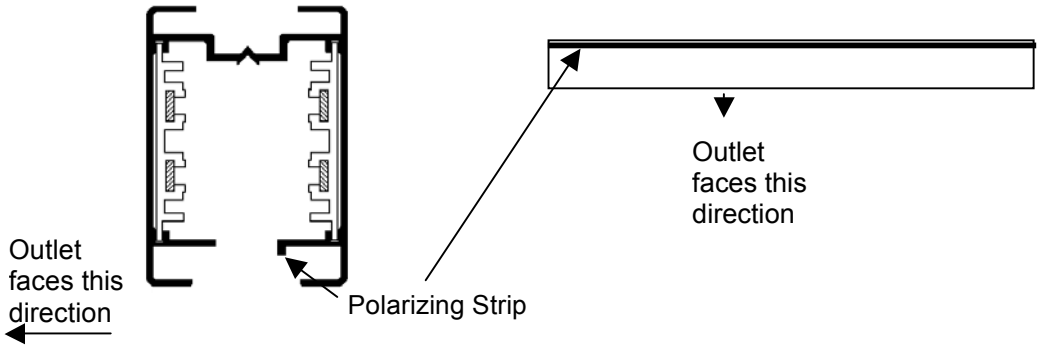
- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.

- Before specifying or ordering elbow or tee connectors, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

STARLINE TRACK BUSWAY

POLARITY CONCERNS

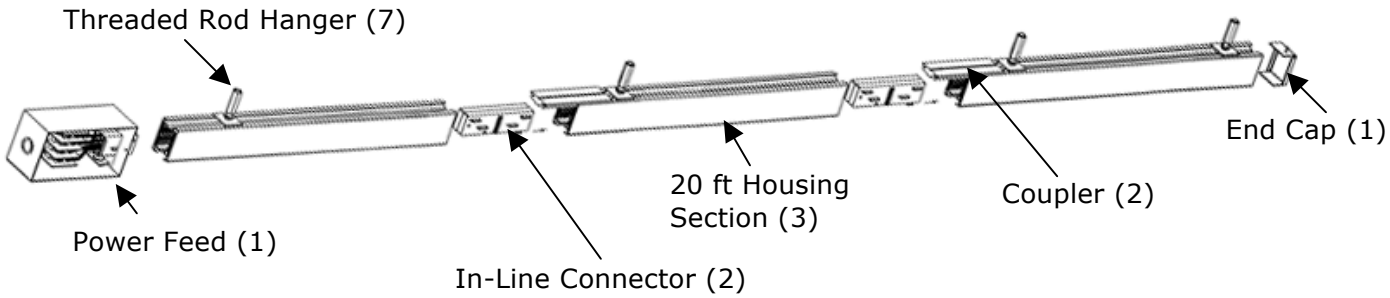
STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation consider that they will always face away from the polarizing strip.



STARLINE® TRACK BUSWAY

SAMPLE TAKE-OFF

Description:

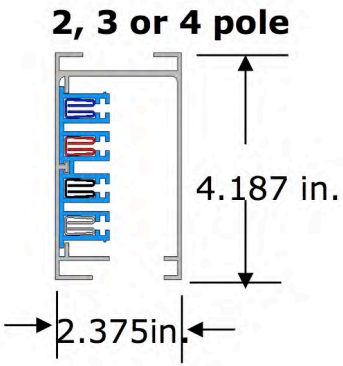


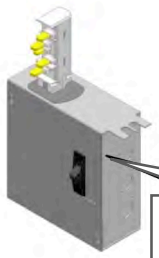
BILL OF MATERIAL:

QTY	PART NO.	DESCRIPTION
3	B100C-20-4	Housing Section, 20 Feet, 4-Pole
2	BC-4	In-Line Connector, 4-Pole
2	HC-2	Housing Coupler, Plate Type
1	EC60	End Cap (Same as B60)
7	RHB-3	3/8” Threaded Rod Hanger
1	EPF100C-4	End Power Feed, 4-Pole

Standard B100A Amp System to 600 Volts

STARLINE® TRACK BUSWAY





Plug-In Units
Pages 12.14 – 12.34

Accessories – Closure Strip page 4.5
Weight Hook page 4.6

Ground Options

STARLINE® TRACK BUSWAY

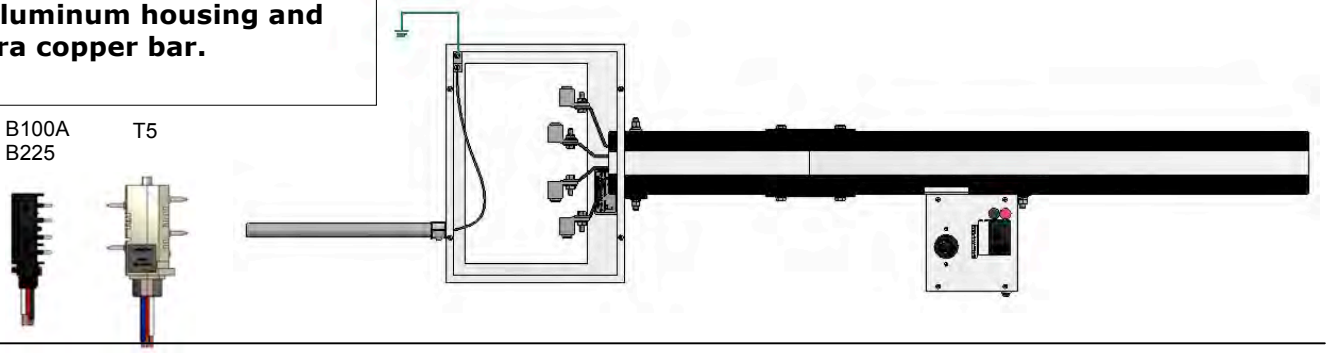
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

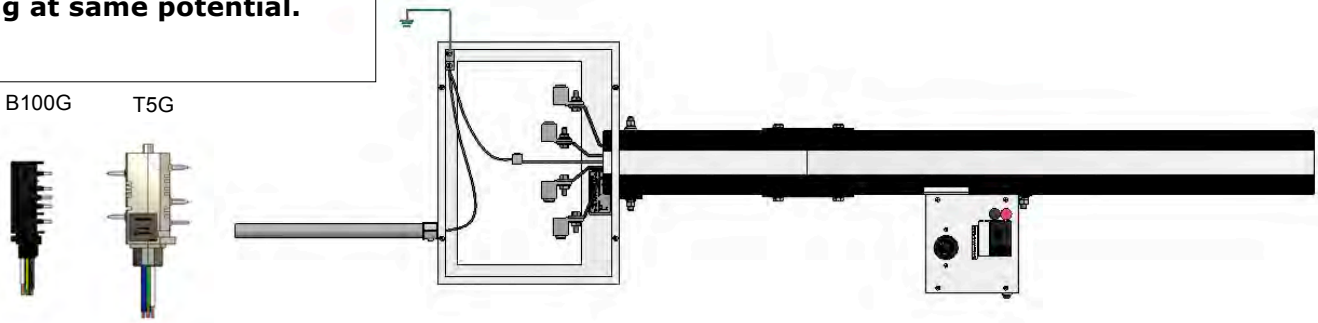


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

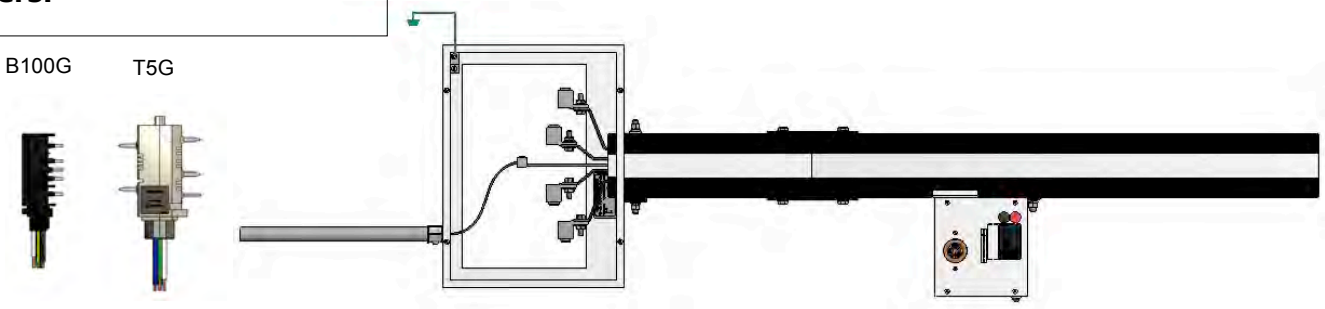


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



STARLINE® TRACK BUSWAY

HOUSING SECTIONS

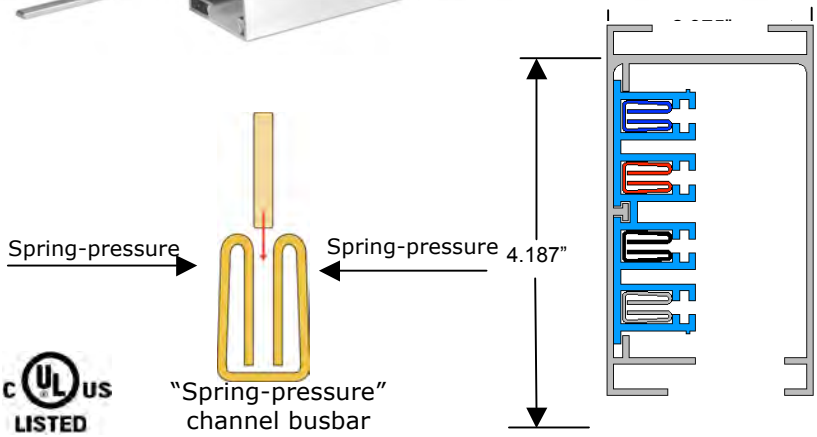
Track Busway housing section consists of an extruded aluminum shell with channel type solid copper busbars contained in a full length PVC insulator mounted on one side on the interior wall. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations includes 2, 3 and 4 pole, 600 Volt. Each housing section has male stabs protruding at one end which fit into the channels of the adjoining section. An installation tool (Page 4.12) is used to force the stabs into the busbar channels for a solid spring-tempered electrical connection.

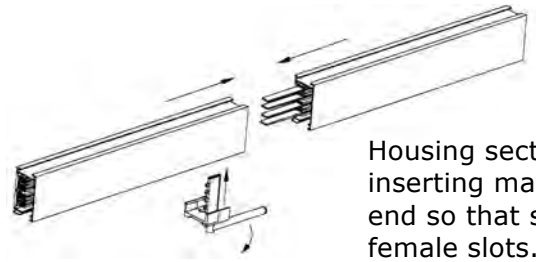
MATERIAL: Extruded Aluminum

RATINGS: 100% Ground Path
100 Amp, 600 Volt

LENGTH: 5 Ft, 10 Ft, 20 Ft.

VOLTAGE DROP: distributed load
Single Phase 54ft (.8PF)
Three Phase 62ft (.8PF)





Housing sections are joined by inserting male end into open female end so that stabs are parallel to female slots. Installation tool is then rotated to force stabs into slots.

Catalog Number Sequence

B100A–(X)PG–(L)

- **Length** — **5, 10 or 20** — **or custom length**
- **No. of Poles**
- **System size**

Catalog Number Selection

Catalog No.	Description	Length	Weight
B100A-3PG-5	100 amp, 3 pole	5 ft	12.5lbs
B100A-3PG-10	100 amp, 3 pole	10 ft	25 lbs
B100A-3PG-20	100 amp, 3 pole	20 ft	50 lbs
B100A-4PG-5	100 amp, 4 pole	5 ft	13 lbs
B100A-4PG-10	100 amp, 4 pole	10 ft	26 lbs
B100A-4PG-20	100 amp, 4 pole	20 ft	52 lbs

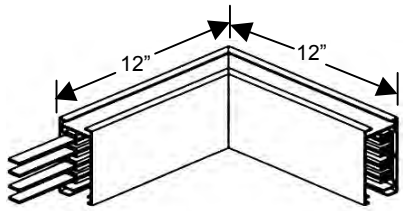
STARLINE® TRACK BUSWAY

ELBOW SECTIONS

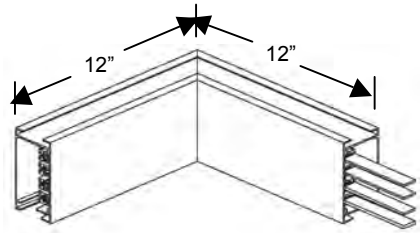
Elbow Section

Elbows are used for making a 90 degree in a Busway run. Horizontal and vertical elbows are available. Specify right or left elbow according to the orientation of the busbars in the Busway sections to be connected. Refer to Layout B100A for detail. Elbow sections are connected to adjacent Busway sections using Installation Tool B100AIT, Page 4.12. Coupler set BHC-1, Page 4.5 (ordered separately) is used to mechanically connect top and bottom of Tee section to adjacent Busway.

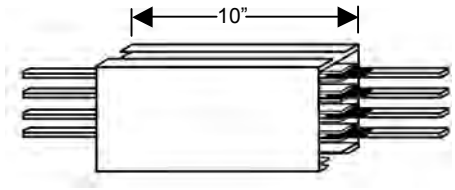
Horizontal Elbow



Right Elbow - EL100A-4-R



Left Elbow - EL100A-4-L



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Male to Male Adapter - AD100A-4

Catalog Number Sequence

EL100A- (P)–(X)

- (X) → **Direction Left or Right**
- (P) → **Number of System Poles**
- EL100A → **Elbow**

Catalog Number Selection

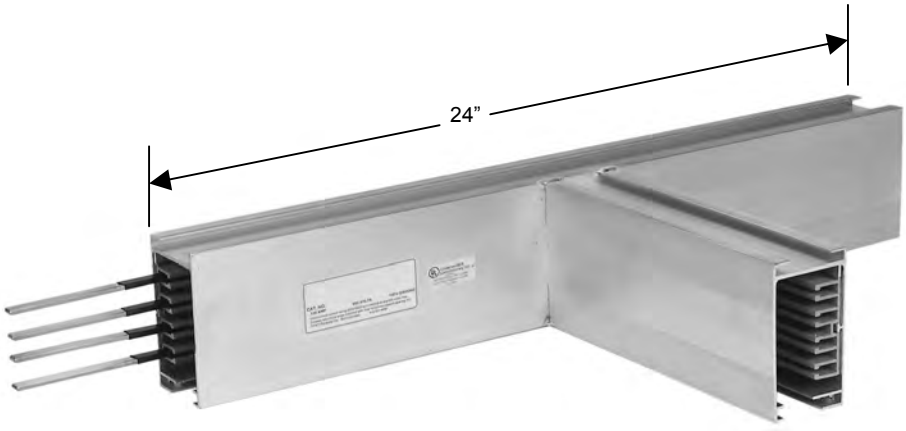
Catalog No.	Description	Weight
EL100A-3-L	Elbow, horizontal, 3-pole, left	5.5 lbs
EL100A-3-R	Elbow, horizontal, 3-pole, right	5.5 lbs
EL100A-4-L	Elbow, horizontal, 4-pole, left	5.5 lbs
EL100A-4-R	Elbow, horizontal, 4-pole, right	5.5 lbs
AD100A-4	Male to Male Adapter, 4-pole	

STARLINE® TRACK BUSWAY

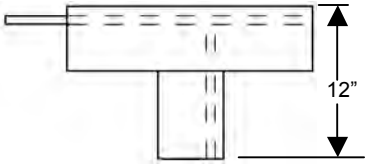
TEE SECTIONS

Tee Section

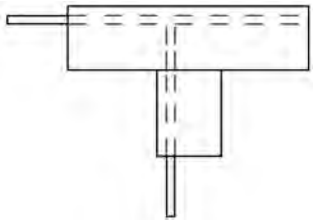
Tee sections are used for creating a 90 degree branch leg in a Busway run. When laying out a system, specify the correct busbar orientation of the tee. Indicate right or left, external or internal busbars. External tees are preferred. Refer to Layout B100A for further detail. Tee sections are connected to adjacent Busway sections using Installation Tool B100AIT. Coupler set BHC-1 (ordered separately) is used to mechanically connect top and bottom of Tee section to adjacent Busway.



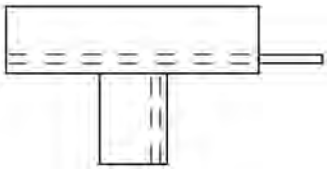
External Right
T100A-(X)-ER



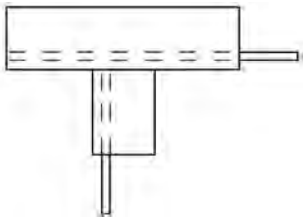
External Left
T100A-(X)-EL



Internal Right
T100A-X)-IR



Internal Left
T100A-(X)-IL



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Catalog Number Sequence

BT100A-(P)–(XX)

- **Direction: External or Internal Right or Left**
- **Number of System Poles**
- **Tee**

Catalog Number Selection

Catalog No.	Description	Weight
T100A-3-ER	Tee, 3-pole, External Right	8 lbs
T100A-3-EL	Tee, 3-pole, External Left	8 lbs
T100A-4-ER	Tee, 4-pole, External Right	8 lbs
T100A-4-EL	Tee, 4-pole, External Left	8 lbs
T100A-4-IR	Tee, 4-pole, Internal Right	8 lbs
T100A-4-IL	Tee, 4-pole, Internal Left	8 lbs

STARLINE® TRACK BUSWAY

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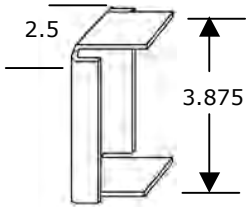
CONNECTION ACCESSORIES

END CAP
For covering the female end of B100A Busway. End Piece (EP) is used to cover male end.

PART NUMBER
EC-1

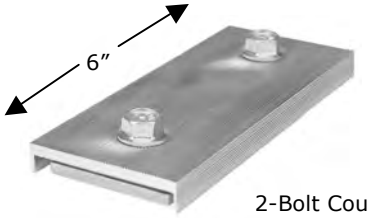
WEIGHT 0.2 lb



HOUSING COUPLERS
For connecting adjacent Busway sections and/or end piece. One pair required. BHC-1 consists of two, 2-bolt couplers per set; one for the top and one for the bottom.

PART NUMBER
BHC-1

WEIGHT 0.8 lb



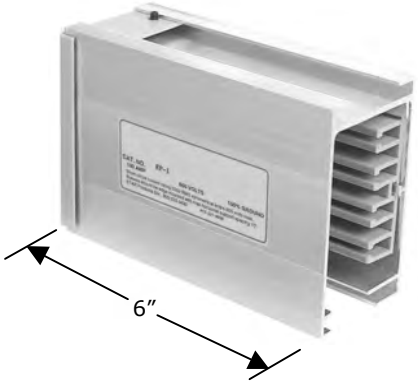
2-Bolt Coupler on top and bottom

END PIECE
The end piece is a 6 in. section of Busway housing and insulator and end cap. It is used to cover the protruding copper busbar connector blades at the male end of a Busway run. End Cap (EC) is used to cover female end.

BHC-1 IS ALSO REQUIRED

PART NUMBER
EP-2

WEIGHT 0.8 lb



OPTIONAL CLOSURE STRIP
Snaps into bottom access slot of B100A housing sections. Normally shipped in 10 ft lengths and can be field cut to fit exact desired length.

PART NUMBER
CS-1 - PVC

CS-1-AL - Aluminum

CUT LENGTH = 10ft

STARLINE® TRACK BUSWAY

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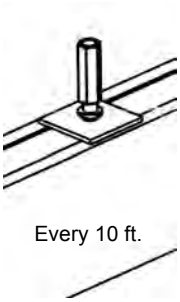
SUPPORT HARDWARE

Threaded Rod
For mounting to 3/8-16 threaded rod. Can be inserted anywhere along full access top slot of Busway. Hanger support spacing every 10 ft maximum.

PART NUMBER
BRH-1

WEIGHT
0.3 lb



Standard
For mounting to strut or other flat surfaces. Twist-in design allows inserting anywhere along top full access slot.

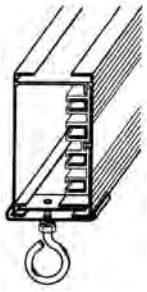
PART NUMBER
BH-1

WEIGHT
0.2 lb

Weight Hook
Can be used as a hanger to suspend Busway from chains or cables. Can also be used to hang loads up to 100 lbs under the Busway, such as light fixtures, tools and balancers

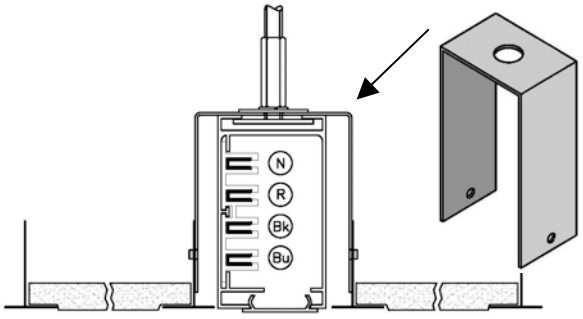
PART NUMBER
WHR-2

WEIGHT
0.2 lb.



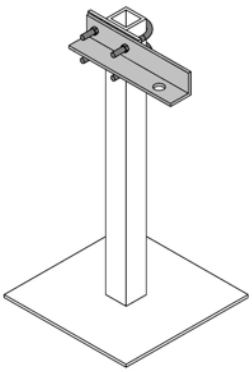
Recessed Suspended Ceilings

PART NUMBER
RM100-1



Raised Access Floor

PART NUMBER
RFB-1



STARLINE® TRACK BUSWAY

POWER FEED UNITS

Supplying power to TOP of Busway

TOP Feed / Center Feed

The Top Feed Power unit comes as a completely pre-wired steel box to the top of a 30" section of Busway. A connection lug is located inside the box for field termination of supply power cable up to 1/0. This unit is then connected to the male end of an adjoining Busway section using an Installation Tool and set of Housing Couplers (ordered separately). CENTER Feed similar.

END Feed

The standard End Feed consists of a steel junction box with removable side, box lugs and shrink tubing. The power feed box slips over the male end of the first Busway section and secured in place with mounting studs(supplied). Power supply cable is then terminated to each of the male Busway stabs using the box lugs.

BOTTOM Feed

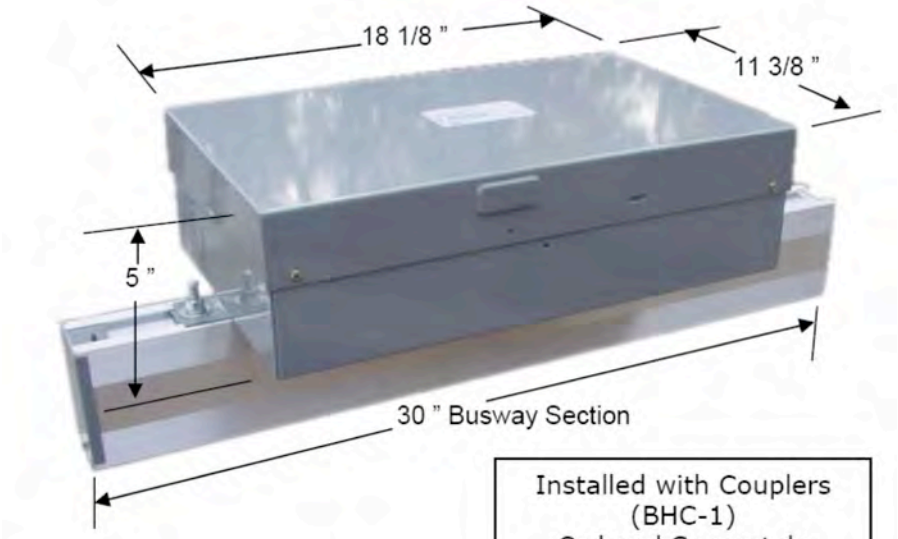
Bottom feed can be made by using a 100Amp Terminal Bock plug-in unit inserted and mounted below the Busway.

Catalog Number Sequence

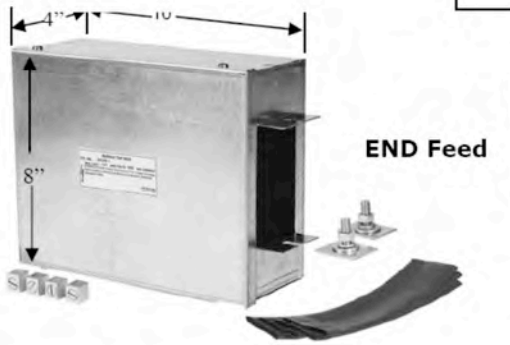
(XX)100A–(P)

Number of System Poles

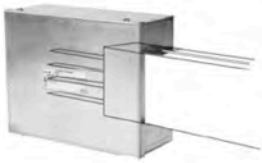
EF= End Feed
TF =Top Feed
CF =Center Feed



Installed with Couplers (BHC-1) Ordered Separately



END Feed



BOTTOM Feed
Using Terminal Block

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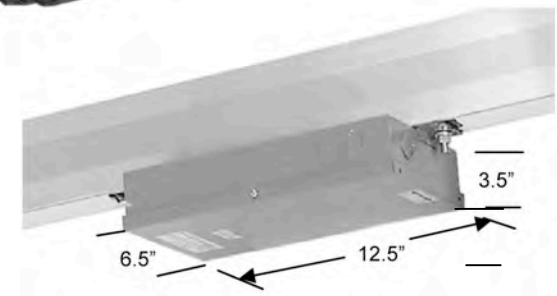


Catalog Number Selection

Catalog No.	Description	Weight
EF100A-3	End Feed, 3-Pole	6 lbs
EF100A-4	End Feed, 4-Pole	6 lbs
TF100A-3	Top Feed, 3-Pole	12.5 lbs
TF100A-4	Top Feed, 4-Pole	12.5 lbs
CF100A-3	Center Feed, 3-Pole	12.5 lbs
CF100A-4	Center Feed, 4-Pole	12.5 lbs
TB100A-100-3	Terminal Block, 100A, 3-pole	6.5 lbs
TB100A-100-4	Terminal Block, 100A, 4-pole	6.5 lbs
PFA100A-4	End Feed , 4-pole with ft flex For connection to trunk busway	8 lb

STARLINE® TRACK BUSWAY

GENERAL LAYOUT TIPS

- Try to keep all runs as straight as possible as tees and elbows are added cost.
- Standard Busway lengths are available in 20, 10 and 5-foot increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 feet, it is highly recommend to keep all layout runs in increments of 5 feet. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3, 4, 6ft, etc it can become cumbersome at the job site to determine which length goes with which run. By staying with 5-foot increments, this condition is minimized.
- Determine location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B100A (all systems)	100 Amps	54 FT	62 FT

- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for the suggested STARLINE specifications.
- Understand component relationship before specifying or ordering specific Tee or Elbow Sections. Refer to Component Relationship for details.

STARLINE® TRACK BUSWAY

COMPONENT RELATIONSHIP

When ordering material it is important to understand the relationship between various components. Examples:

- Each housing section requires a coupler set. Determine the total number of housing sections (regardless of length) as this becomes the number of Housing Couplers (BHC) that will be needed. Part No BHC-1 contains a set (two).
- One BHC-1 Housing Coupler set is required for each end of all L's and T's.
- If this is your first installation, you will need to order Installation Tool B100AIT.
- General support hardware rule to follow:

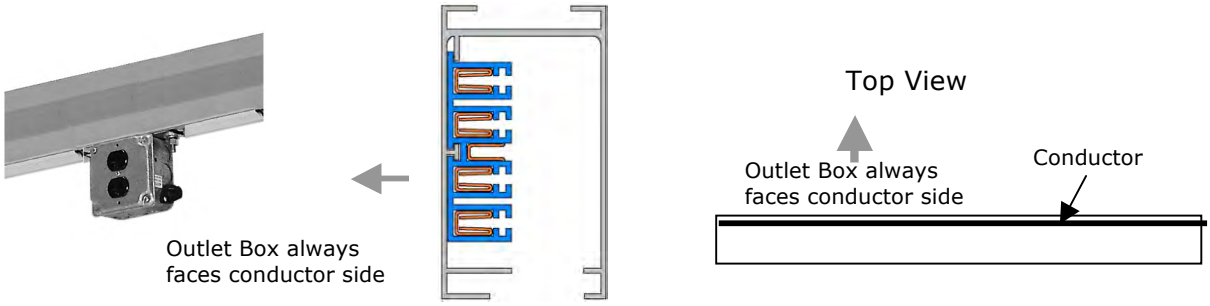
  $$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

  10 equal 10 ft spacing and 10% extra is recommended for job site changes.
- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.
- Before specifying or ordering elbow or tee sections, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

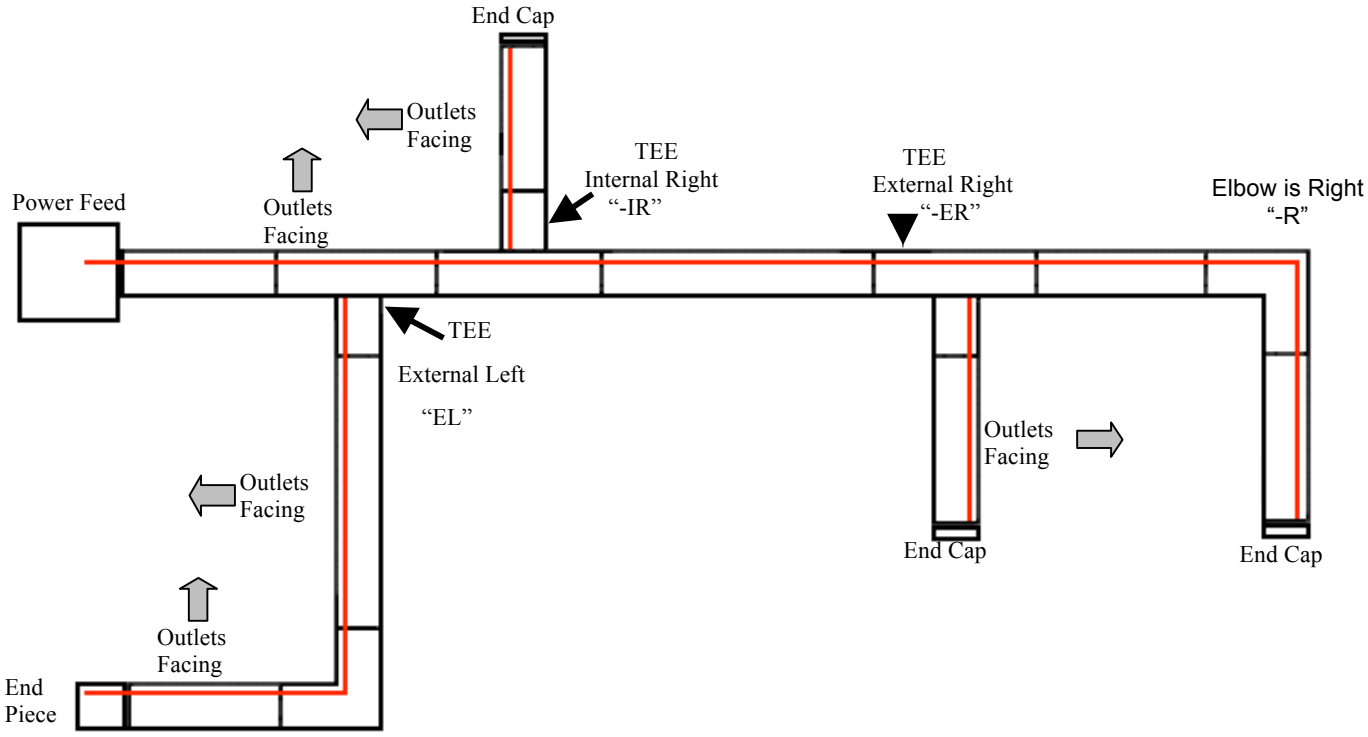
STARLINE TRACK BUSWAY

POLARITY CONCERNS

STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation consider that they will always face the conductor side. Certain plug-in units are 'reversible', designated by 'R', to face devices away from the conductor side.

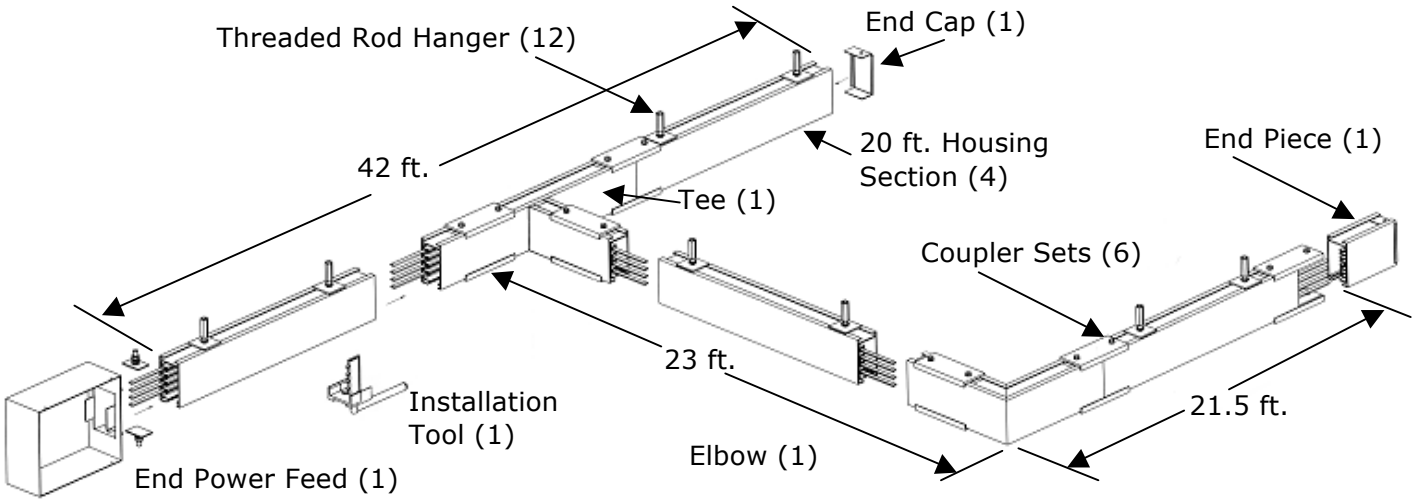


Tee's and Elbow Section are specified according to desired polarity



STARLINE® TRACK BUSWAY

SAMPLE TAKE-OFF



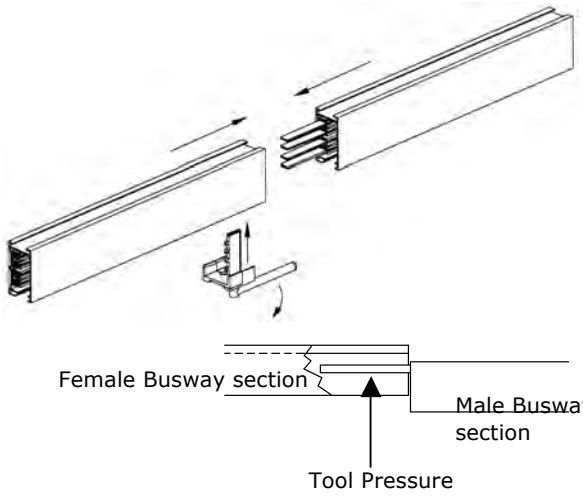
BILL OF MATERIAL:

QTY	PART NO.	DESCRIPTION
4	B100A-4PG-20	Housing Section, 20 feet, 4-Pole
1	EP-2	End Piece
6	BHC-1	Housing Coupler (pair)
1	EC-1	End Cap
12	BRH-1	3/8” Threaded Rod Hanger
1	T100A-4-EL	Tee, External Left -refer to Page 4.4
1	EL100A-4-R	Elbow, Right - refer to Page 4.3
1	B100AIT	Installation Tool

STARLINE® TRACK BUSWAY

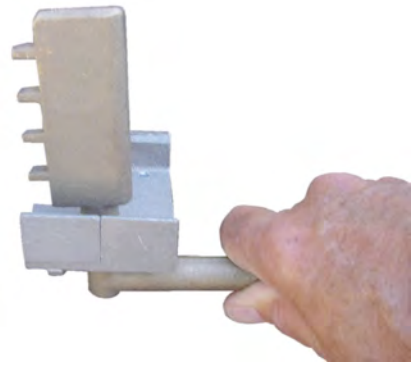
INSTALLATION TOOL

Used to connect two adjacent sections of Busway. Busway sections are first offset and butted together so that male stabs line up parallel to female busbar conductors. Installation tool is then inserted into joined intersection and rotated 90º forcing stabs into m-shaped female conductors making a spring-loaded, secure electrical connection. Mechanical Couplers (BHC) are then positioned over joined sections and tightened.



For B100A
PART NUMBER

B100AIT
Weight 2.5 lbs



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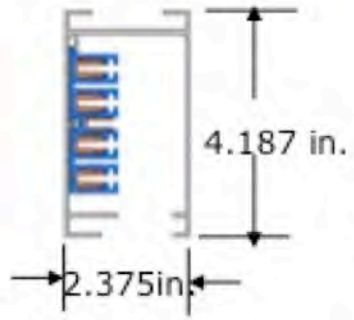
STARLINE® TRACK BUSWAY

B100N Amp System to 600 Volt

200% NEUTRAL

3 or 4 pole



Accessories – Closure Strip page 5.7
Weight Hook page 4.6

Plug-In Units
page 12.14 – 12.34

Ground Options

STARLINE® TRACK BUSWAY

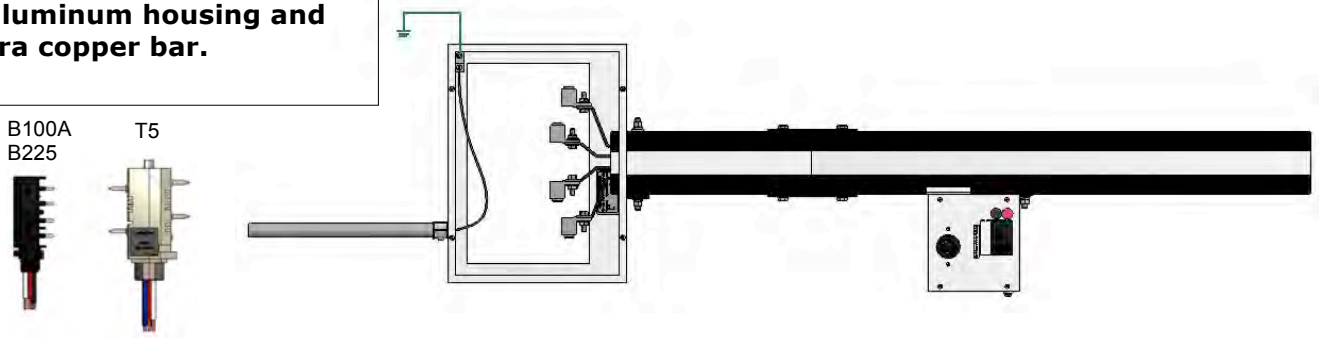
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

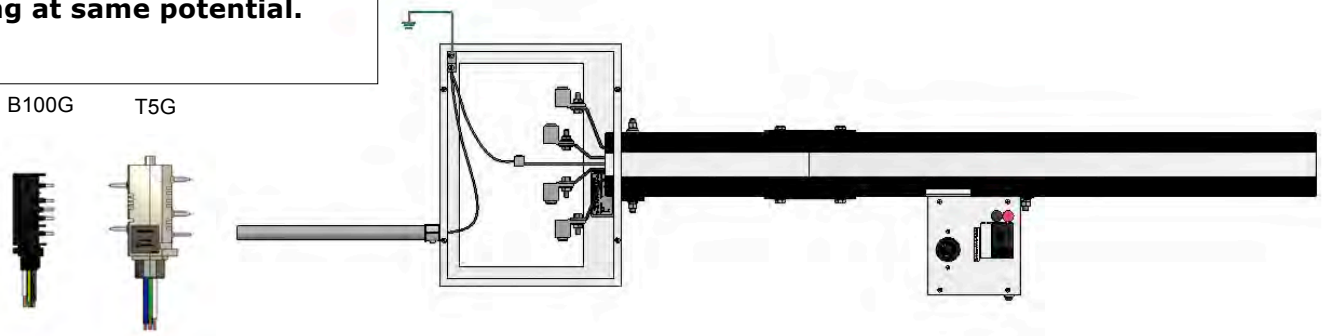


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

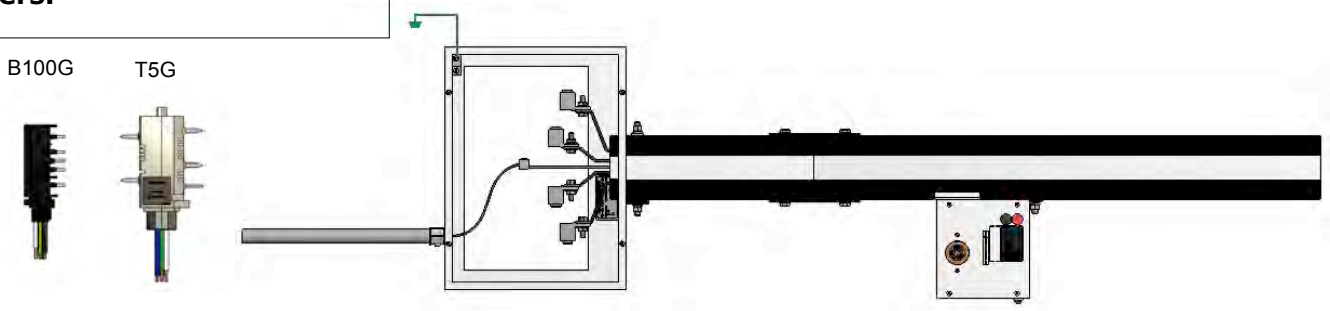


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



100 Amp
200% Neutral

STARLINE® TRACK BUSWAY

HOUSING SECTIONS

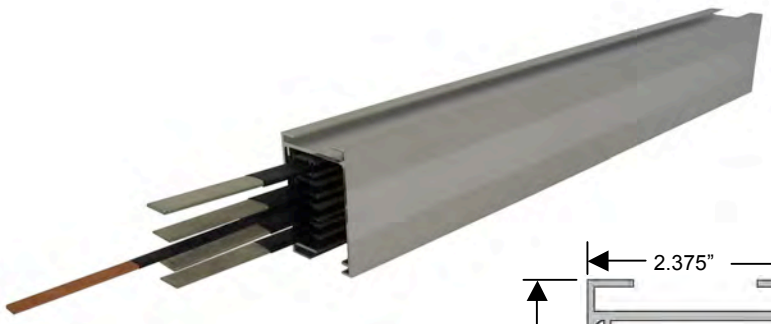
Track Busway housing section consists of an extruded aluminum shell with "spring-pressure" type copper channel busbars contained in a full length PVC insulator mounted on one side on the interior wall. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 2, 3 and 4-pole varieties with 600 Volt maximum rating. Each housing section has male stabs protruding at one end which fit into the channels of the adjoining section. An installation tool is used to force the stabs into the busbar channels for a solid spring-tempered electrical connection.

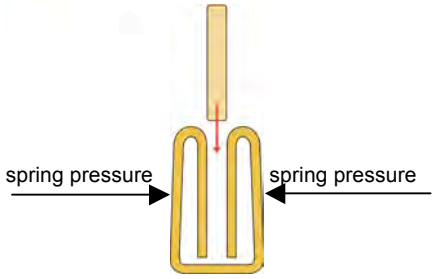
MATERIAL: Extruded Aluminum

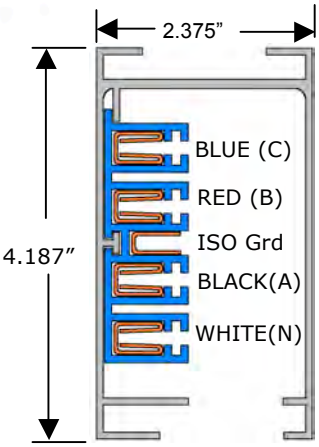
RATINGS: 100% Ground Path
100 Amp, 600 Volt
200 Amp Neutral

LENGTH: 5 Ft, 10 ft, 20 Ft.

VOLTAGE DROP: Distributed load
Single Phase 40 ft (.8PF)
Three Phase 45 ft (.8PF)







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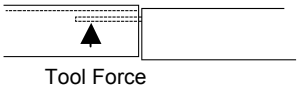
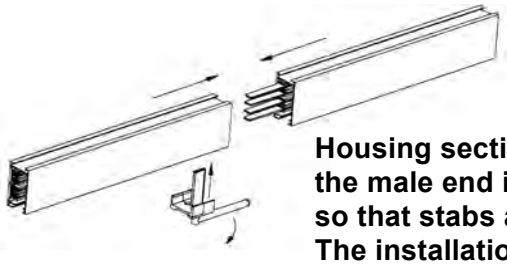
"Spring-pressure" channel busbar
U.S. Pat. 6,039,584





Housing sections are joined by inserting the male end into the open female end so that stabs are parallel to female slots. The installation tool is then rotated to force stabs into slots.

Catalog Number Sequence
B100NG–(X)PG–(L)

- Length: 5, 10 or 20 or custom length
- No. of Poles (3 or 4)
- System size

Catalog Number Selection

Catalog No.	Description	Length	Weight
B100N-3PG-5	100 Amp, 3-pole	5 feet	16 lbs
B100N-3PG-10	100 Amp, 3-pole	10 feet	29 lbs
B100N-3PG-20	100 Amp, 3-pole	20 feet	57 lbs
B100N-4PG-5	100 Amp, 4-pole	5 feet	17 lbs
B100N-4PG-10	100 Amp, 4-pole	10 feet	33 lbs
B100N-4PG-20	100 Amp, 4-pole	20 feet	64 lbs

100 Amp
200% NEUTRAL

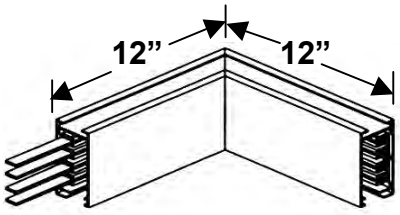
ELBOW SECTIONS

Elbow Section

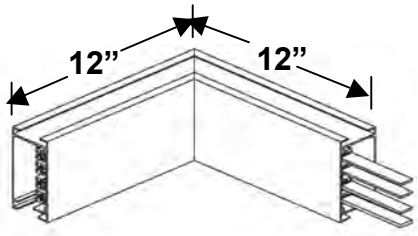
Elbows are used for making a 90 degree in a Busway run. Specify right or left elbow, according to the orientation of the busbars in the Busway sections to be connected. Refer to POLARITY for detail.

Coupler set BHC-2 (CONNECTION ACCESSORIES ordered separately) is used to mechanically connect top and bottom of Elbow section to adjacent Busway.

Horizontal Elbow



Right Elbow



Left Elbow

Installed with couplers ***(ORDERED SEPARATELY)***

c UL us LISTED

Catalog Number Sequence
EL100N-(P)–(X)

- **Direction** Right or Left
- **Number of System Poles**
- **System Size**

Catalog Number Selection

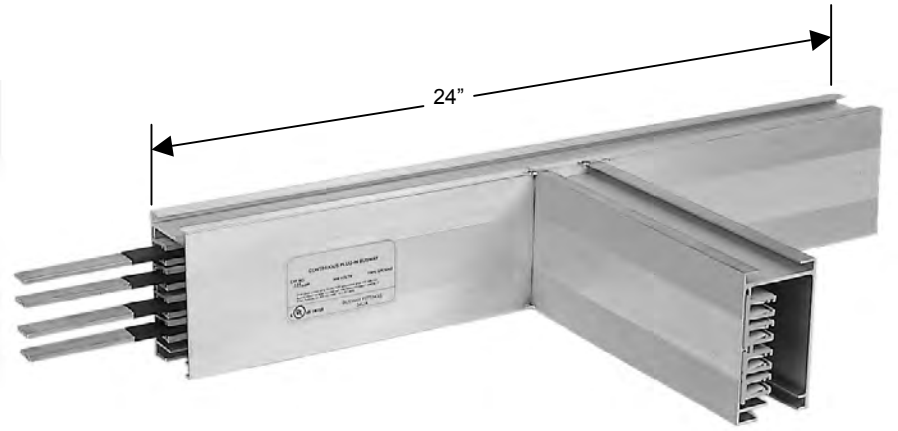
Catalog No.	Description	Weight
EL100N-3-L	Elbow, horizontal, 3-pole, left	5.6 lbs
EL100N-3-R	Elbow, horizontal, 3-pole, right	5.6 lbs
EL100N-4-L	Elbow, horizontal, 4-pole, left	5.6 lbs
EL100N-4-R	Elbow, horizontal, 4-pole, right	5.6 lbs

100 Amp
200% Neutral

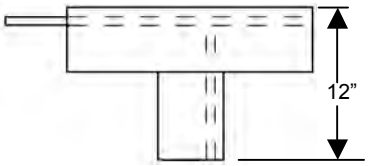
TEE SECTIONS

Tee Section

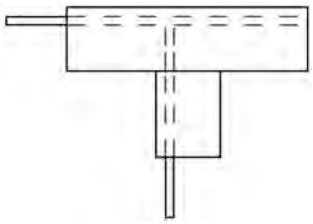
Tee sections are used for creating a 90 degree branch leg in a Busway run. When laying out a system, specify the correct busbar orientation of the tee. Indicate right or left, external or internal busbars. External tees are preferred. Refer to LAYOUT for further detail. Tee sections are connected to adjacent Busway sections using an installation tool B225IT. A housing coupler set BHC-2 (ordered separately) is used to mechanically connect the top and bottom of tee sections to adjacent Busway.



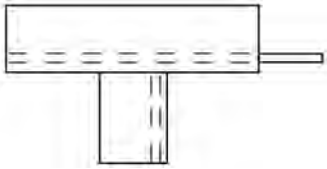
External Right
-ER



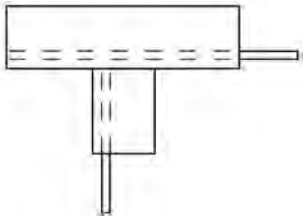
External Left
-EL



Internal Right
-IR



Internal Left
-IL



c UL us
LISTED

Catalog Number Sequence

T100N- (P)–(XX)

- **Direction** — External or Internal, Right or Left
- **System Poles**
- **System Size**
- **Tee**

Catalog Number Selection

Catalog No.	Description	Weight
T100N-4-IL	Tee, 4-pole, Internal Left	9.2 lbs
T100N-4-EL	Tee, 4-pole, External Left	9.2 lbs
T100N-4-IR	Tee, 4-pole, Internal Right	9.2 lbs
T100N-4-ER	Tee, 4-pole, External Right	9.2 lbs

100 Amp
200% Neutral

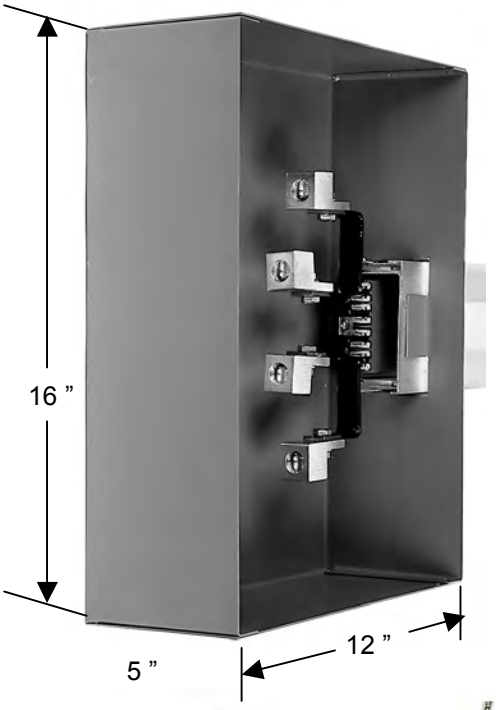
END POWER FEED UNITS
Supplying power to END of Busway

End Power Feed Units

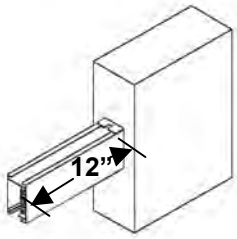
Standard End Power Feed units connect to the male end of the Busway. Factory assembled unit consists of a 12 X 16 X 5 in. steel junction box, with removable side, connected to a 1 ft section of Busway. The assembly includes connection lugs, a ground lug and shrink tubing for wires up to 300 MCM. End feed units for connection to female Busway ends are also available.

End Power Feed units are connected to adjacent Busway sections using Installation Tool B225IT and Housing Coupler Set BHC-2 (ordered separately).

Special need power feed units for confined spaces as found in Mission Critical Data Centers can also be designed and fabricated requiring minimum quantities.



Installed with couplers



Assembled with 1 ft of Busway

Data Center custom units can also be fabricated with minimum quantities

c UL us LISTED

Catalog Number Sequence
EF100N–(P)

- **System Poles**
- **System size**
- **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF100N-4	End Feed, 4-Pole	17 lbs
EF100N-3	End Feed, 3-Pole	16.5 lbs
EF100N-4M	End Feed, 4-Pole male Busway end	17 lbs
EF100N-3M	End Feed, 3-Pole male Busway end	17 lbs

100 Amp
200% Neutral

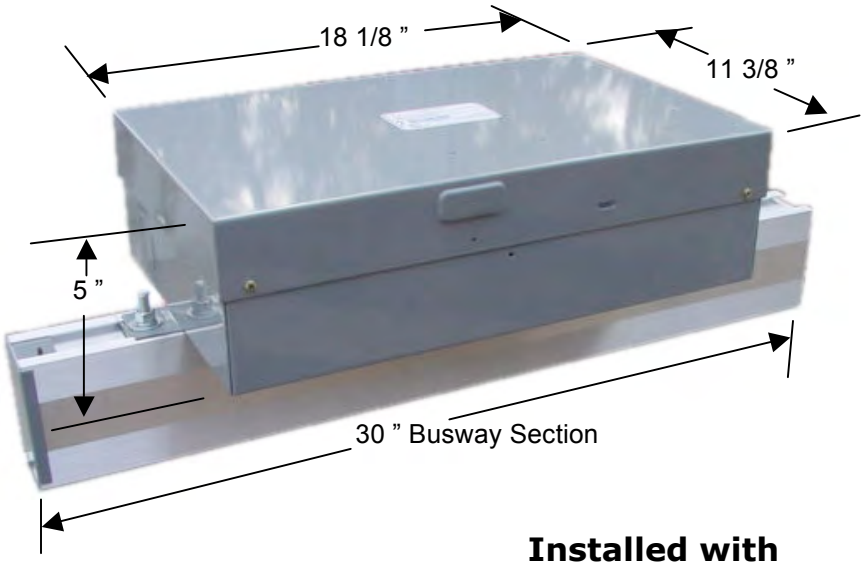
TOP POWER FEED
Supplying power to TOP of Busway

Top Power Feed Units

Standard Top Power Feed units connect to the top of the Busway. Factory assembled unit consists of a 18.125 X 11.375 X 5 in. steel junction box, with removable top, mounted on top of a 30 in. section of Busway.

Top Feed Power units can be on the end of the Busway run by connecting to adjacent Busway sections using Installation Tool B225IT (Page 8.10) and Coupler Set BHC-2 (Page 8.8).

Center Feed unit can also be used as top power supply point anywhere along Busway run by connecting to adjacent Busway sections at both ends.



Installed with Couplers (BHC-2)
Ordered Separately

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Catalog Number Sequence
TF225–(P)

- **(P)** → **System Poles**
- **225** → **System(100N, 160 or 225)**
- **TF** → **Top Feed**

Catalog Number Selection

Catalog No.	Description	Weight
TF100N-4*	End Feed, 4-Pole	16.5 lbs
TF100N-3	End Feed, 3-Pole	16 lbs
CFB100N-4	Center Feed, 4-Pole	

Substitute “100NG” for B100NG system

STARLINE® TRACK BUSWAY

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CONNECTION ACCESSORIES

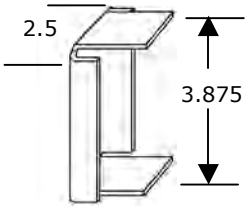
END CAP

For covering the female end of B100 Busway. End Piece (EP) is used to cover male end.

PART NUMBER

EC-1

WEIGHT 0.2 lb



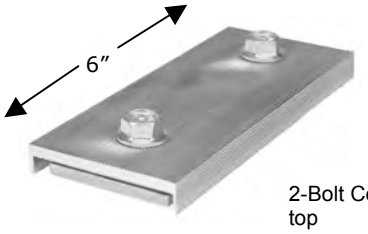
HOUSING COUPLERS

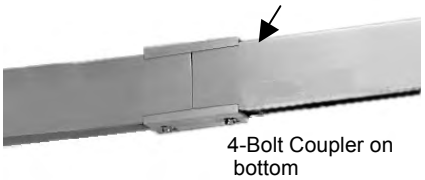
Connects adjacent Busway sections and/or end piece. One pair required. BHC-1 consists of two, 2-bolt couplers per set; one for the top and one for the bottom.

PART NUMBER

BHC-2

WEIGHT 0.8 lb





END PIECE

The end piece is a 6 in. section of Busway housing, insulator and an end cap.
It is used to cover the protruding copper busbar connector blades at the male end of a Busway run. An end Cap (EC) is used to cover female end.

BHC-2 ALSO REQUIRED

PART NUMBER

EP-2

WEIGHT 0.8 lb

OPTIONAL CLOSURE STRIP

Snaps into bottom access slot of B100 housing sections. Normally shipped in 10 ft lengths and can be field cut to fit exact desired length.

PART NUMBER

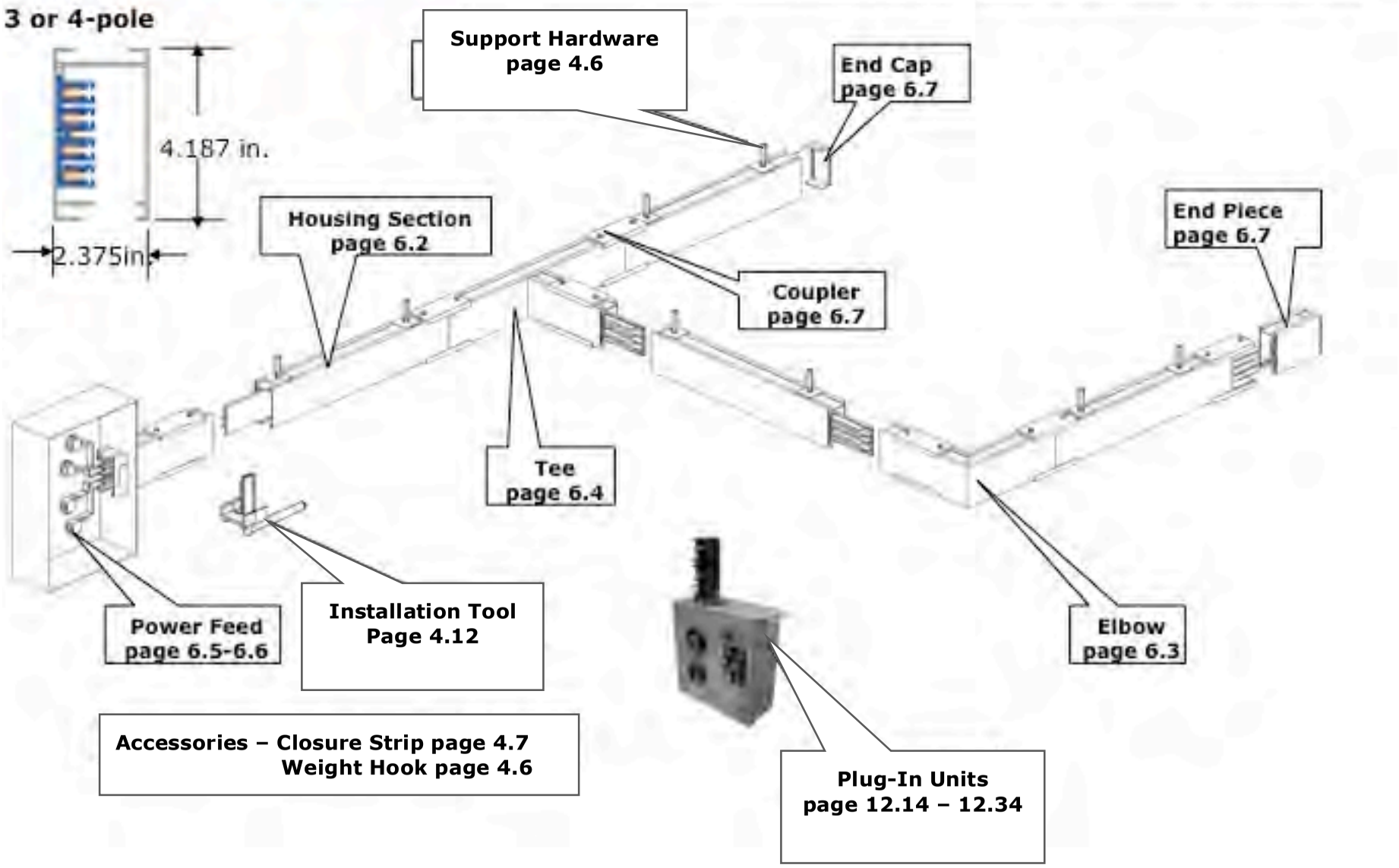
CS-1 - PVC
CS-1-AL - Aluminum

CUT LENGTH = 10 ft

STARLINE® TRACK BUSWAY

B100G/B100NG 100Amp Systems

ISOLATED GROUND with 100% or 200% Neutral



STARLINE® TRACK BUSWAY

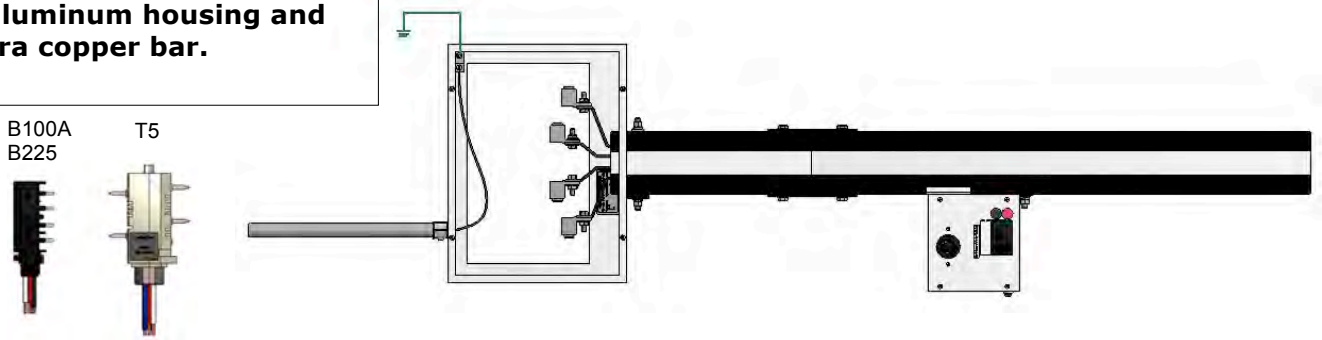
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

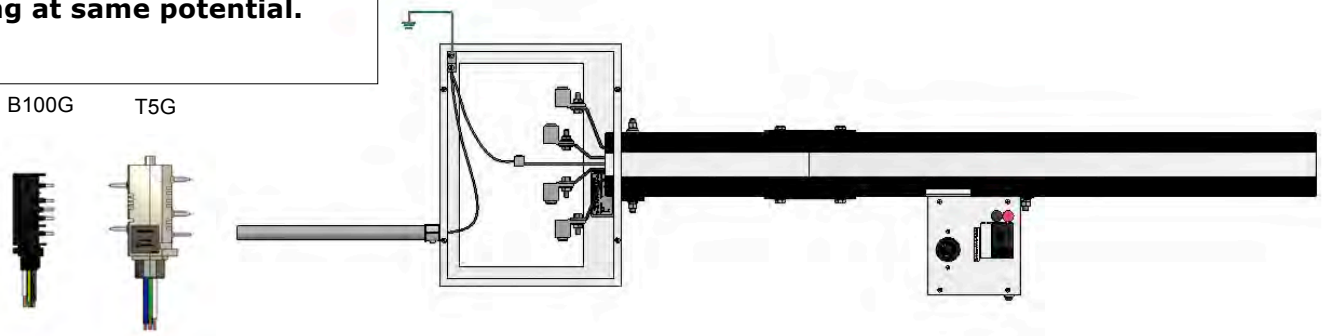


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

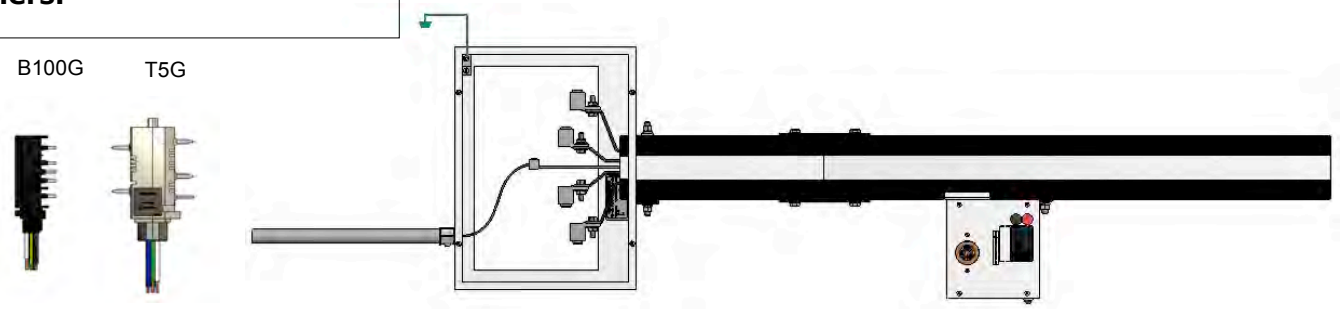


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G

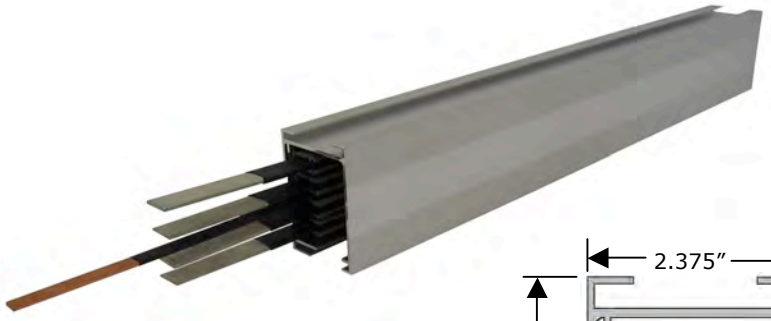


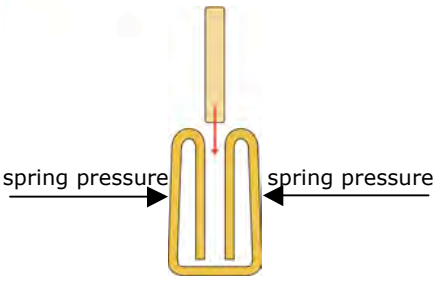
100 Amp
Isolated Ground

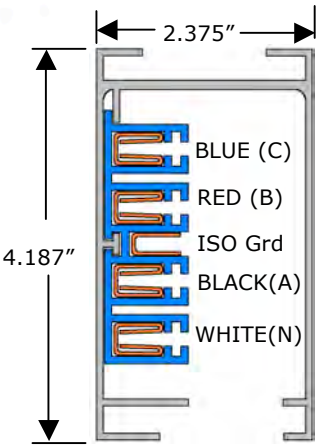
HOUSING SECTIONS

Track Busway housing section consists of an extruded aluminum shell with "spring-pressure" type copper channel busbars contained in a full length PVC insulator mounted on one side on the interior wall. Center conductor acts as 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 3 and 4-pole varieties with 300 (standard) or 600 Volt maximum rating. Each housing section has male stabs protruding at one end which fit into the channels of the adjoining section. An installation tool is used to force the stabs into the busbar channels for a solid "spring-loaded" electrical connection.

MATERIAL:	**Extruded Aluminum**
RATINGS:	**100% Ground Path** **100 Amp, 300 Volt**
B100NG:	**200 Amp Neutral**
B100G:	**100 Amp Neutral**
LENGTH:	**5 Ft, 10 ft, 20 Ft.**
VOLTAGE DROP:	**Distributed load** **Single Phase** **54ft (.8PF)** **Three Phase** **62ft (.8PF)**







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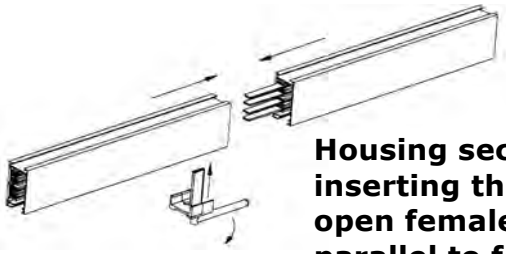
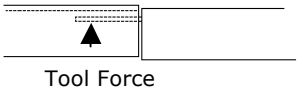
"Spring-pressure" channel busbar
U.S. Pat. 6,039,584





Housing sections are joined by inserting the male end into the open female end so that stabs are parallel to female slots. The installation tool is then rotated to force stabs into slots.

Catalog Number Sequence
B100NG–(X)PG–(L)-300

- **Length**
  5, 10 or 20 or custom length
- **No. of Poles (3 or4)**
- **System size:**
  B100G: 100% neutral
  B100NG: 200% neutral

Catalog Number Selection

Catalog No.	Description	Length	Weight
B100G-4PG-5-300	100A/IsoGnd,4-pole	5 ft	17 lbs
B100G-4PG-10-300	100A/IsoGnd,4-pole	10 ft	30 lbs
B100G-4PG-20-300	100A/IsoGnd,4-pole	20 ft	58 lbs
B100NG-4PG-5-300	100A/IsoGnd,200%N	5 ft	18 lbs
B100NG-4PG-10-300	100A/IsoGnd,200%N	10 ft	34 lbs
B100NG-4PG-20-300	100A/IsoGnd,200%N	20 ft	65 lbs

100 Amp
200% NEUTRAL, ISOLATED GROUND

STARLINE® TRACK BUSWAY

ELBOW SECTIONS

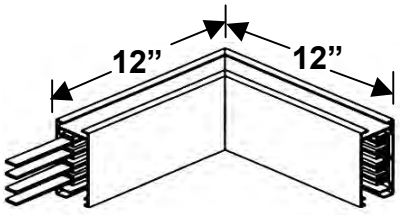
Elbow Section

Elbows are used for making a 90 degree angle in a Busway run. Specify right or left elbow, according to the orientation of the busbars in the Busway sections to be connected. Refer to POLARITY for detail.

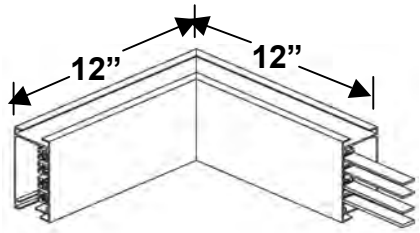
Housing Coupler set BHC-2 (CONNECTION ACCESSORIES ordered separately) is used to mechanically connect top and bottom of Elbow section to adjacent Busway.

IMPORTANT NOTE: Elbows for 300Volt rated systems have 12 in. legs ("X"). Elbows for 600 Volt rated systems have 18 in. legs.

Horizontal Elbow



Right Elbow



Left Elbow

Installed with couplers
(ORDERED SEPARATELY)

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Catalog Number Sequence

EL100NG-(P)–(X)- 300

- 300 → Voltage (standard 300 Max. 600)
- (X) → Direction Right or Left
- (P) → Number of System Poles
- EL100NG → System Size

Catalog Number Selection

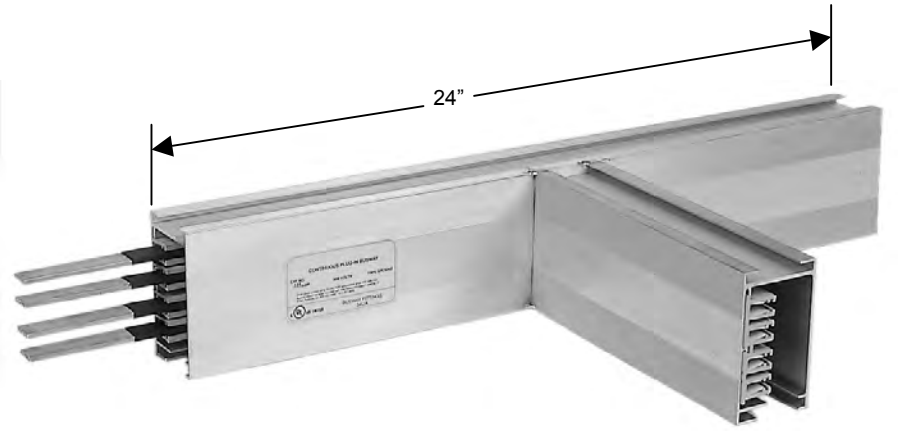
Catalog No.	Description	Weight
EL100NG-3-L	Elbow, horizontal, 3-pole, left	5.6 lbs
EL100NG-3-R	Elbow, horizontal, 3-pole, right	5.6 lbs
EL100NG-4-L	Elbow, horizontal, 4-pole, left	5.6 lbs
EL100NG-4-R	Elbow, horizontal, 4-pole, right	5.6 lbs

100 Amp
200% Neutral, Isolated Ground

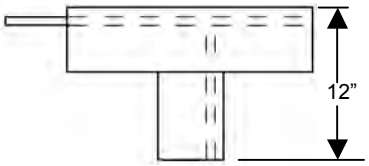
TEE SECTIONS for 300 VOLT ONLY

Tee Section

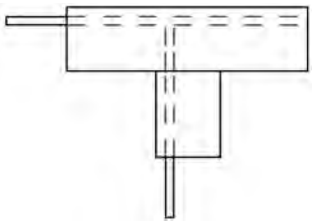
Tee sections are used for creating a 90 degree branch leg in a Busway run. When laying out a system, specify the correct busbar orientation of the tee. Indicate right or left, external or internal busbars. External tees are preferred. Refer to LAYOUT for further detail. Tee sections are connected to adjacent Busway sections using an installation tool B225IT. A housing coupler set BHC-2 (ordered separately) is used to mechanically connect the top and bottom of tee sections to adjacent Busway.



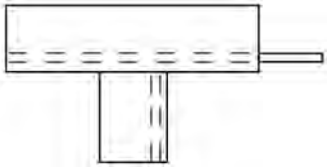
External Right
-ER



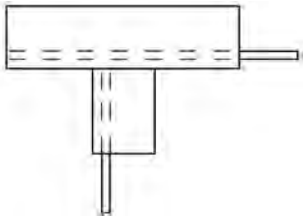
External Left
-EL



Internal Right
-IR



Internal Left
-IL



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LISTED

Catalog Number Sequence

T100NG- (P)–(XX)

- **Direction** — External or Internal, Right or Left
- **System Poles**
- **System Size**
- **Tee**

Catalog Number Selection

Catalog No.	Description	Weight
T100NG-4-IL-300	Tee, 4-pole, Internal Left	9.2 lbs
T100NG-4-EL-300	Tee, 4-pole, External Left	9.2 lbs
T100NG-4-IR-300	Tee, 4-pole, Internal Right	9.2 lbs
T100NG-4-ER-300	Tee, 4-pole, External Right	9.2 lbs

100 Amp
200% Neutral & Isolated Ground

STARLINE® TRACK BUSWAY

POWER FEED UNITS
Supplying power to END of Busway

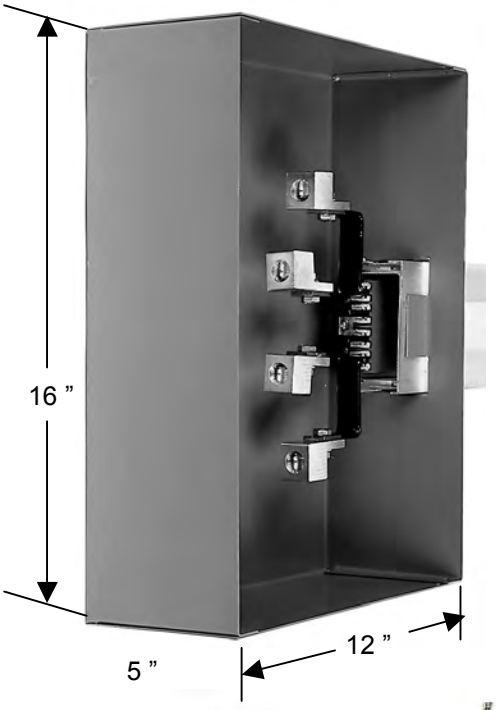
End Power Feed Units

Standard End Power Feed units connect to the male end of the Busway. Factory assembled unit consists of a 12 X 16 X 5 in. steel junction box, with removable side, connected to a 1 ft section of Busway. It includes connection lugs, ground lugs and shrink tubing for wires up to 300 MCM. Units for connection to female Busway ends are also available.

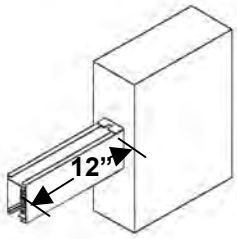
End Power Feed units are connected to adjacent Busway sections using Installation Tool B225IT and Housing Coupler Set BHC-2 (ordered separately).

IMPORTANT NOTE: Power feed Units for 300Volt rated systems have 12 in. Busway Sections ("X"). Busway Sections for 600 Volt rated systems have 18 in. legs.

Special need power feed units for confined spaces as found in Mission Critical Data Centers can also be designed and fabricated, minimum quantities required.



Installed with couplers



Assembled with 1 ft of Busway

Data Center custom units can also be fabricated with minimum quantities

c UL us LISTED

Catalog Number Sequence
EF100NG–(P)-300

- End Feed
- System size
- System Poles

Catalog Number Selection

Catalog No.	Description	Weight
EF100NG-4-300	End Feed, 4-Pole	17 lbs
EF100NG-3-300	End Feed, 3-Pole	16.5 lbs
EF100NG-4M-300	End Feed, 4-Pole male end	17 lbs
EF100NG-3M-300	End Feed, 3-Pole male end	17 lbs

100 Amp
200% Neutral & Isolated Ground

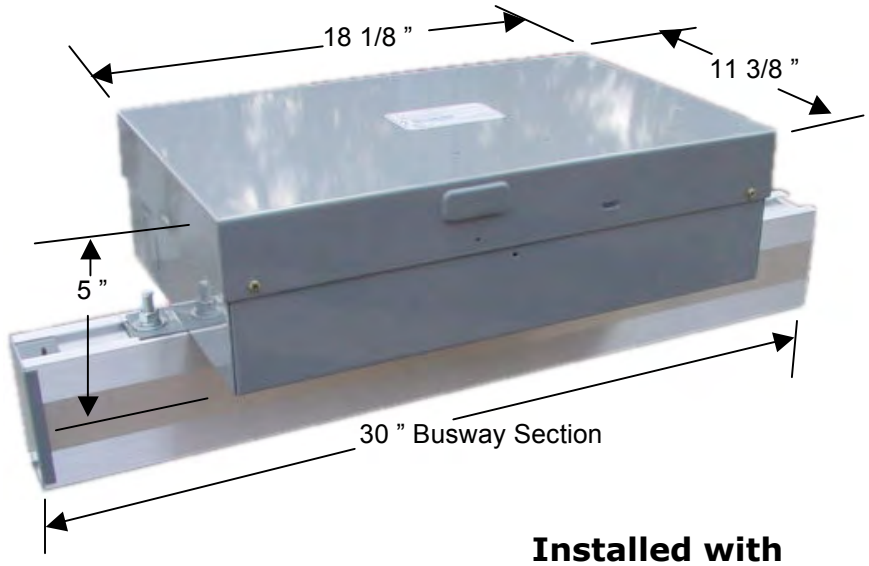
TOP POWER FEED
Supplying power to TOP of Busway

Top Power Feed Units

Standard Top Power Feed units connect to the top of the Busway. Factory assembled unit consists of a 18.125 X 11.375 X 5 in. steel junction box, with removable top, mounted on top of a 30 in. section of Busway.

Top Feed Power units can be on the end of Busway run by connecting to adjacent Busway sections using Installation Tool B225IT and Housing Coupler Set BHC-2.

Center Feed unit can also be used as top power supply point anywhere along Busway run by connecting to adjacent Busway sections at both ends.



Installed with Couplers (BHC-2)
Ordered Separately

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Catalog Number Sequence
TF100NG–(P)

- **System Poles**
- **System(100N, 160 or 225)**
- **Top Feed**

Catalog Number Selection

Catalog No.	Description	Weight
TF100NG-4-300	End Feed, 4-Pole	16.5 lbs
CFB100NG-4-300	Center Feed, 4-Pole	20 lbs

(mounted on top of 30 in. Busway Section)

STARLINE® TRACK BUSWAY

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CONNECTION ACCESSORIES

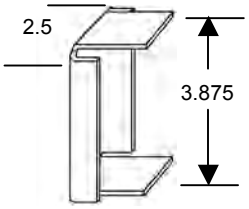
END CAP

For covering the female end of B100 Busway. End Piece (EP) is used to cover male end.

PART NUMBER

EC-1

WEIGHT 0.2 lb



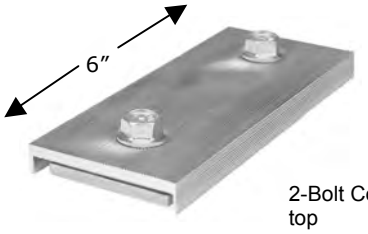
HOUSING COUPLERS

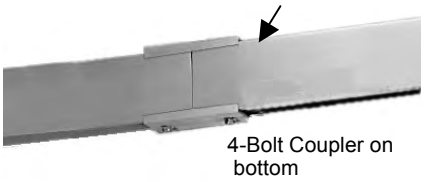
For connecting adjacent Busway sections and/or end piece. One pair required. BHC-1 consists of two, 2-bolt couplers per set; one for the top and one for the bottom.

PART NUMBER

BHC-2

WEIGHT 0.8 lb





END PIECE

The end piece is a 6 in. section of Busway housing, insulator and an end cap. It is used to cover the protruding copper busbar connector blades at the male end of a Busway run. End Cap (EC) is used to cover female end.

BHC-2 ALSO REQUIRED

PART NUMBER

EP-2

WEIGHT 0.8 lb

OPTIONAL CLOSURE STRIP

Snaps into bottom access slot of B100 housing sections. Normally shipped in 10 ft lengths and can be field cut to fit exact desired length.

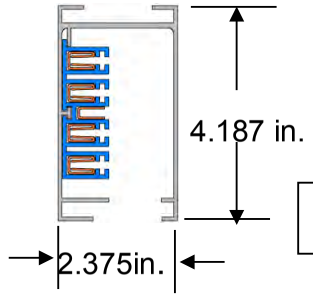
PART NUMBER

CS-1 - PVC
CS-1AL - Aluminum

CUT LENGTH = 10ft

225 Amp System

3 or 4 pole



Accessories – Closure Strip page 7.8
Weight Hook page 7.9

Plug-In Units page 12.14 – 12.34

STARLINE® TRACK BUSWAY

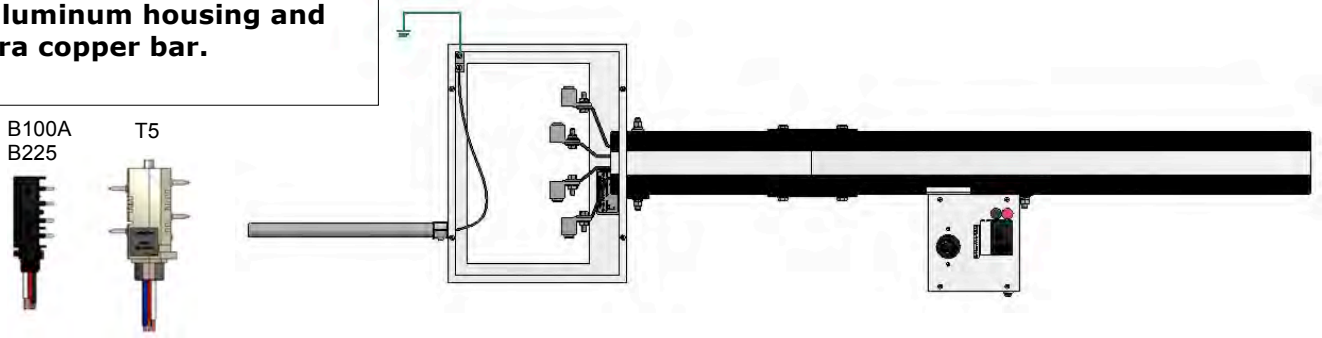
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

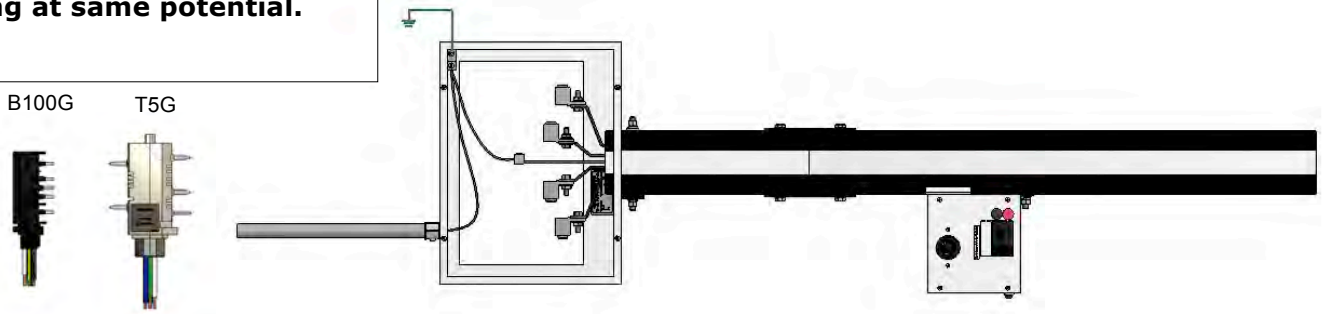


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

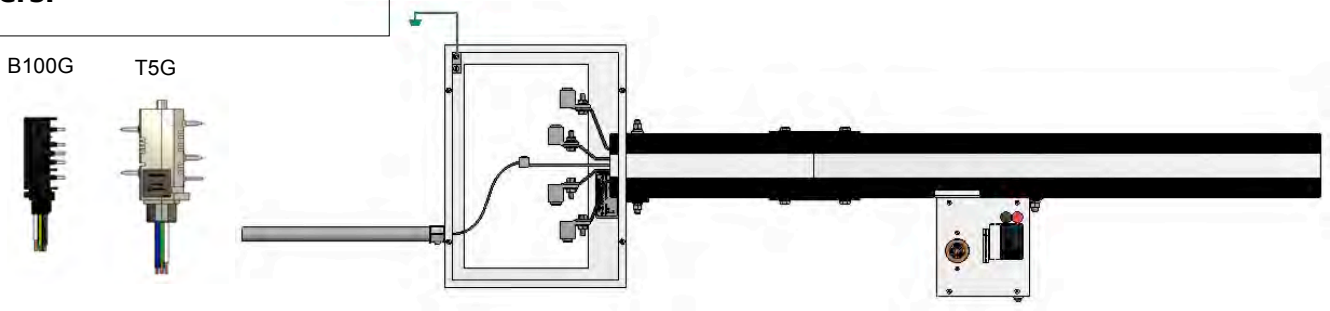


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



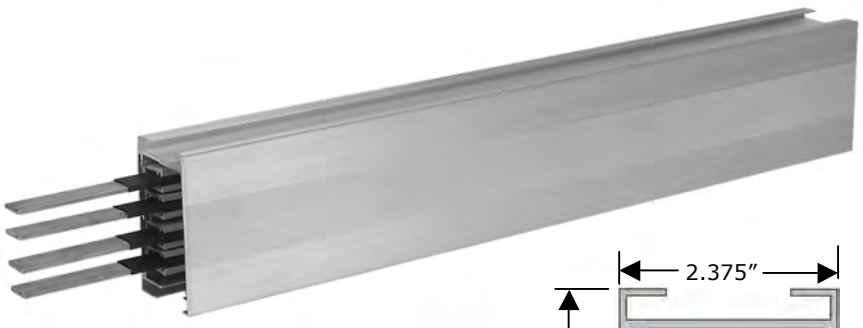
STARLINE® TRACK BUSWAY

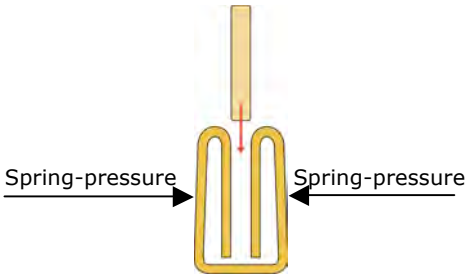
HOUSING SECTION

Track Busway housing section consists of an extruded aluminum shell with "spring - pressure" type copper channel busbars contained in a full length PVC insulator mounted on one side on the interior wall. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 3 and 4-pole varieties with 600 Volt maximum rating. (B225G 300 volt) Each housing section has male stabs protruding at one end which fit into the channels of the adjoining section. Female-Female construction without male blades is available for some applications. Specify 'FF' suffix. Installation tool is used to force the stabs into the busbar channels for a solid spring-tempered electrical connection.

RATINGS: 225 Amp, 600 Volt

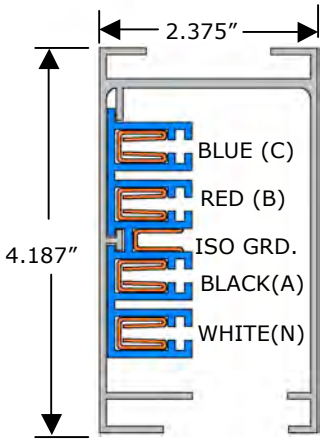
LENGTH: 5, 10, 20 Ft.





"Spring-pressure" channel busbar

US Pat.# 6,039,584



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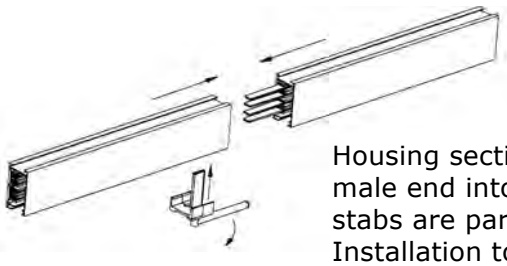
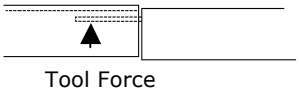




Housing sections are joined by inserting male end into open female end so that stabs are parallel to female slots. Installation tool is then rotated to force stabs into slots.

Catalog Number Sequence
B225–(X)PG–(L)(FF)

- **Length 5, 10 or 20 or custom length**
- **No. of Poles**
- **System size**

Catalog Number Selection

Catalog No.	Description	Length	Weight
B225-3PG-5	225 Amp, 3-pole	5 ft	16 lbs
B225-3PG-10	225 Amp, 3-pole	10 ft	29 lbs
B225-3PG-20	225 Amp, 3-pole	20 ft	57 lbs
B225-4PG-5	225 Amp, 4-pole	5 ft	17 lbs
B225-4PG-10	225 Amp, 4-pole	10 ft	33 lbs
B225-4PG-20	225 Amp, 4-pole	20 ft	64 lbs

STARLINE® TRACK BUSWAY

ELBOW SECTIONS

Elbow Section

Elbows are used for making a 90 degree in a Busway run. Specify right or left elbow, according to the orientation of the busbars in the Busway sections to be connected. Refer to POLARITY for detail.

Coupler set BHC-2

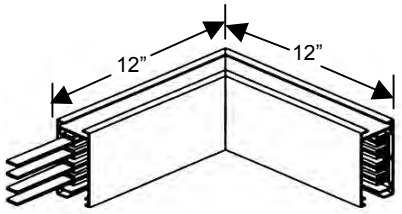
CONNECTION ACCESSORIES

(ordered separately) are used to mechanically connect top and bottom of Tee section to adjacent Busway

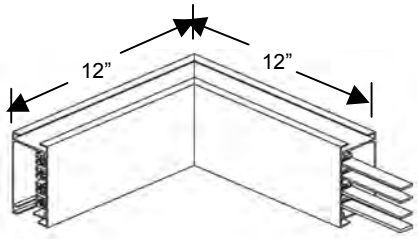
Male To Male Adapter

Used for connecting two Busway sections with female ends. Coupler set BHC-2 is used at each end to connect adjacent Busway sections.

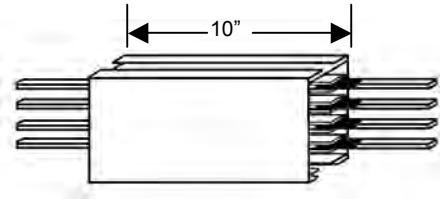
Horizontal Elbow



Right Elbow



Left Elbow



Male To Male Adapter
AD225-4

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Installed with couplers
(ORDERED SEPARATELY)

Catalog Number Sequence
EL 225-(P)–(X)

- Direction Right or Left
- Number of System Poles
- Elbow

Catalog Number Selection

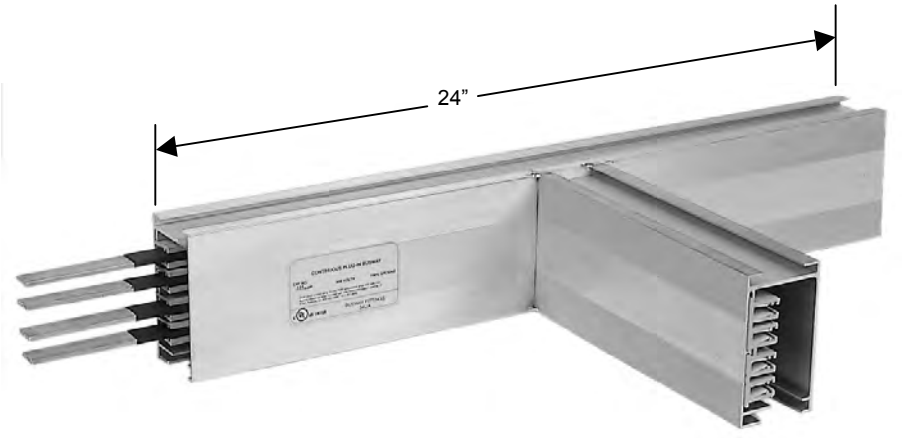
Catalog No.	Description	Weight
EL225-3-L	Elbow, horizontal, 3-pole, left	5.5 lbs
EL225-3-R	Elbow, horizontal, 3-pole, right	5.5 lbs
EL225-4-L	Elbow, horizontal, 4-pole, left	5.5 lbs
EL225-4-R	Elbow, horizontal, 4-pole, right	5.5 lbs

STARLINE® TRACK BUSWAY

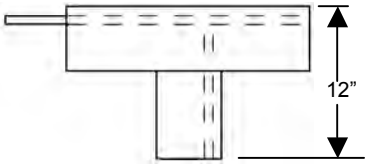
TEE SECTION

Tee Section

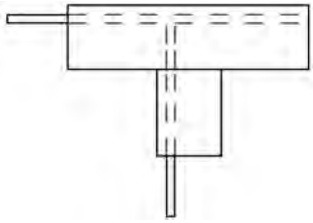
Tee sections are used for creating a 90 degree branch leg in a Busway run. When laying out a system, specify the correct busbar orientation of the tee. Indicate right or left, external or internal busbars. External tees are preferred. Tee sections are connected to adjacent Busway sections using an installation tool B225IT page 8.10 Coupler set BHC-2 (Page 8.8 ordered separately) is used to mechanically connect top and bottom of Tee section to adjacent Busway.



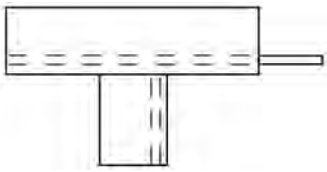
External Right
-ER



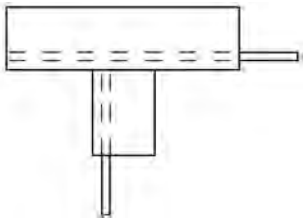
External Left
-EL



Internal Right
-IR



Internal Left
-IL



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Catalog Number Sequence

T225- (P)–(XX)

- **Direction** — External or Internal, Right or Left
- **System Poles**
- **System Size**
- **Tee**

Catalog Number Selection

Catalog No.	Description	Weight
T225-4-IL	Tee, 4-pole, Internal Left	9.2 lbs
T225-4-EL	Tee, 4-pole, External Left	9.2 lbs
T225-4-IR	Tee, 4-pole, Internal Right	9.2 lbs
T225-4-ER	Tee, 4-pole, External Right	9.2 lbs

STARLINE® TRACK BUSWAY

END POWER FEED UNITS

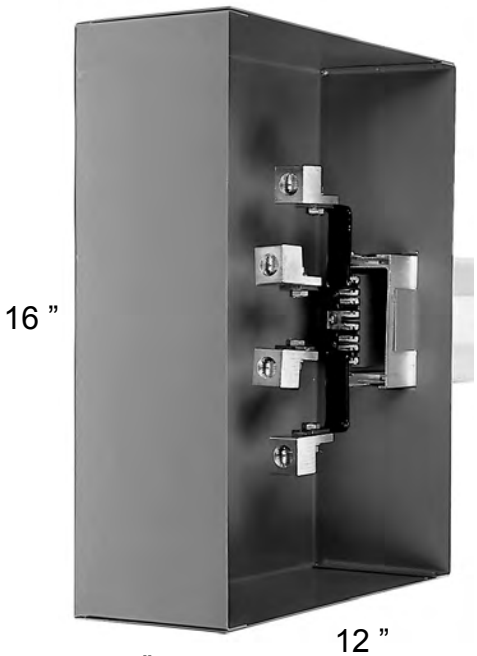
Supplying power to END of Busway

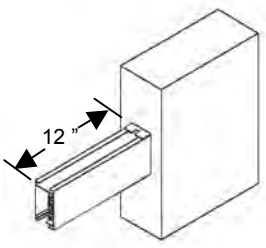
End Power Feed Units

Standard End Power Feed units connect to the male end of the Busway. Factory assembled unit consists of a 12 X 16 X 5 in. steel junction box, with a removable side, connected to a 1 ft section of Busway. The assembly includes connection lugs, a ground lug and shrink tubing for wires up to 300 MCM. End feed units for connection to female Busway ends are also available.

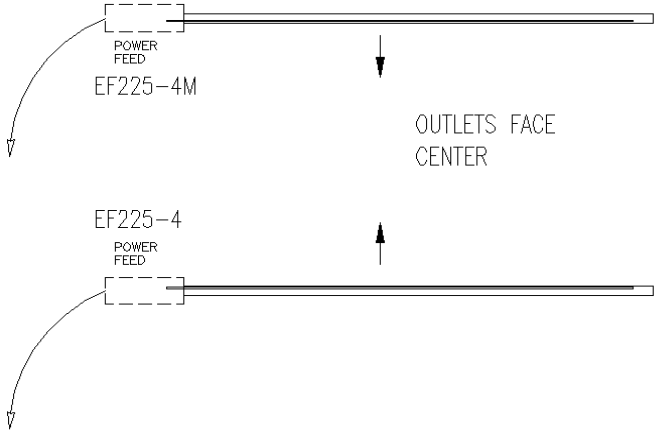
End Power Feed units are connected to adjacent Busway sections using an Installation Tool B225IT and Housing Coupler Set BHC-2 (Ordered Separately).

Special need power feed units for confined spaces as found in Mission Critical Data Centers can also be designed and fabricated, minimum quantities required.





Assembled with 1 ft of Busway



c UL us LISTED

Catalog Number Sequence

EF225–(P)

- (P) → System Poles
- 225 → System size
- EF → End Feed

Catalog Number Selection

Catalog No.	Description	Weight
EF225-4	End Feed, 4-Pole	16.5 lbs
EF225-3	End Feed, 3-Pole	16 lbs
EF225-4M	End Feed, 4-Pole male Busway	16.5 lbs
EF225-3M	End Feed, 3-Pole male Busway	16.5 lbs

STARLINE® TRACK BUSWAY

TOP POWER FEED

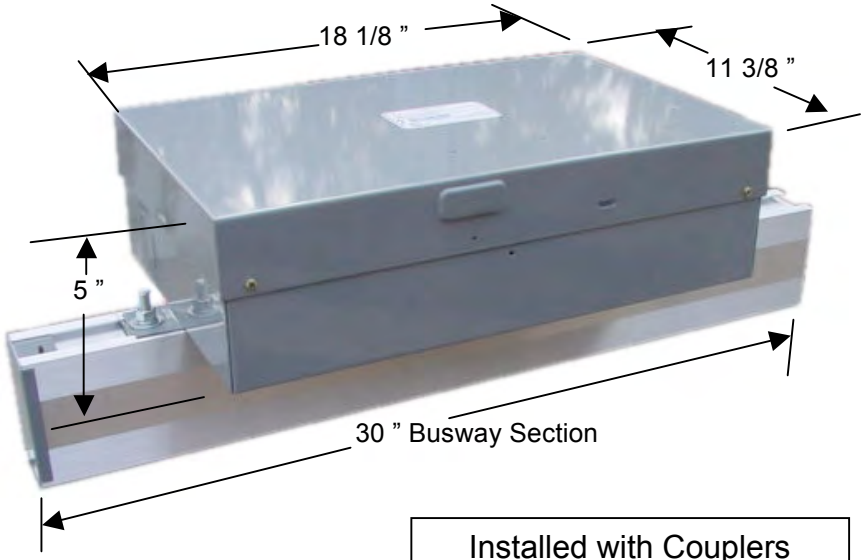
Supplying power to TOP of Busway

Top Power Feed Units

Standard Top Power Feed units connect to the top of the Busway. Factory assembled unit consists of an 18.125 X 11.375 X 5 in. steel junction box, with a removable top mounted on top of a 30 inch section of Busway.

Top Feed Power units can be on the end of a Busway run by connecting to adjacent Busway sections using an Installation Tool B225IT (Page 8.10)and Coupler Set BHC-2 (Page 8.8).

A Center Feed unit can also be used as a top power supply point anywhere along the Busway run by connecting to an adjacent Busway section at both ends.



Installed with Couplers
(BHC-2)
Ordered Separately

c UL us LISTED

Catalog Number Sequence

TF 225 –(P)

- **System Poles**
- **System**
- **Top Feed**

Catalog Number Selection

Catalog No.	Description	Weight
TF225-4*	End Feed, 4-Pole	16.5 lbs
TF225-3	End Feed, 3-Pole	16 lbs
CFB225-4	Center Feed, 4-Pole	20 lbs

225 Amp

Same units to be used in both B225 and B225G systems

STARLINE® TRACK BUSWAY

DUAL NEUTRAL CENTER POWER FEED

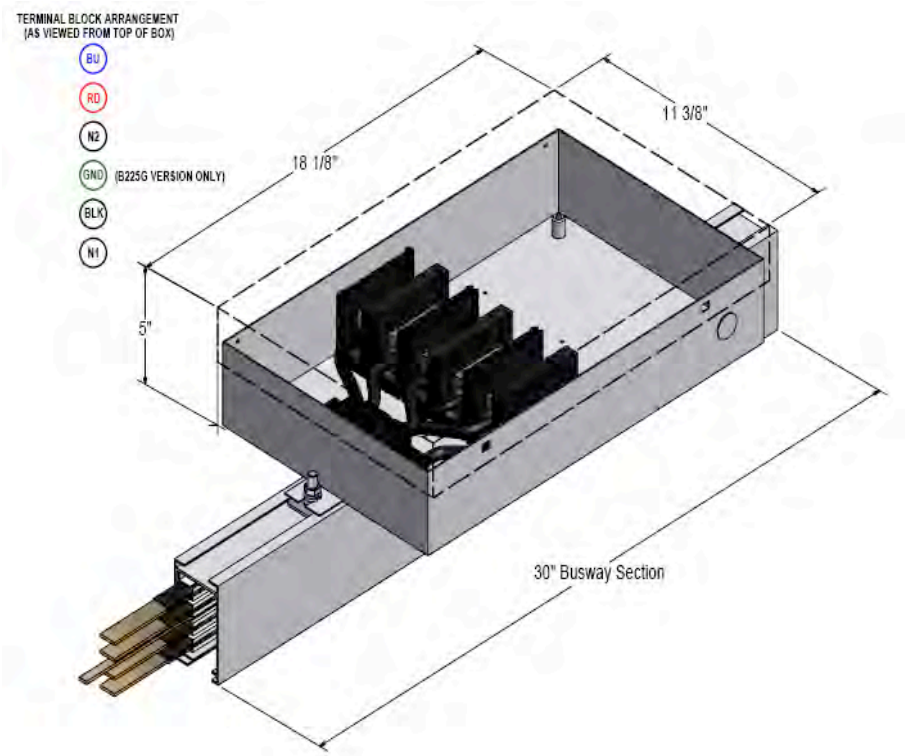
Dual Neutral Center Feed

Standard Dual Neutral Center Feed units connect power at the top of the Busway at any point along a busway run. Factory assembled units consists of a 18.125 x 11.375 x 5 in. steel junction box, with a removable top, mounted on top of a 30 inch section of Busway. Dual Neutral Center Feed units can be connected between adjacent Busway sections using the B225IT Installation Tool and Coupler Set BHC-2.
Weight: 23 pounds.

Optional Double Lug Terminal Blocks available which facilitates daisy-chaining power supplies. 'M' versions reverse position of conduit KO's for easier field wiring.

Refer to Application Briefs section for further information on Dual Neutral Center Feeds

The Top Feed can take up to 250 MCM wire for standard units and 4/0 for Double Lug versions. A 2.5" knockout is provided.



Shown with Lid removed (all dimensions include lid)

Installed with Couplers (BHC-2) Ordered Separately

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Catalog Number Sequence
(CF)225(G)-(P)-2N-(DL)

- Double Lug (Option)
- Dual Neutral
- Number of Poles
- System (225 or 225G)
- Center Feed

Catalog Number Selection

Catalog No.	Description
CF225-4-2N	Center Feed / Dbl Neutral
CF225G-4-2N	Iso. Gnd Ctr Feed / Dbl Neutral
CF225-4M-2N	Center Feed/Dbl Neutral/Reverse KO
CF225G-4M-2N	Iso. Gnd Ctr Feed/Dbl Neutral/Reverse KO
CF225-4-2N-DL	Center Feed / Dbl Neutral / Double Lug
CF225G-4-2N-DL	Iso Gnd Ctr Feed / Dbl Neutral / Dual Lug
CF225-4M-2N-DL	Center Feed/ Dbl Neutral /Reverse KO/Dual Lug
CF225G-4M-2N-DL	Iso Gnd Ctr Feed/Reverse KO/Dbl Neutral Double Lug

Weight: 23 pounds

STARLINE® TRACK BUSWAY

c UL us LISTED

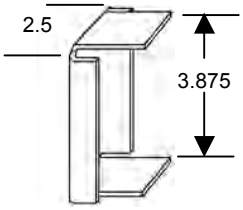
CONNECTION ACCESSORIES

END CAP

For covering the female end of B100 or B225 Busway. End Piece (EP) is used to cover male end.

PART NUMBER
EC-1

WEIGHT 0.2 lb

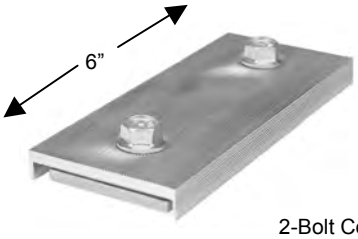


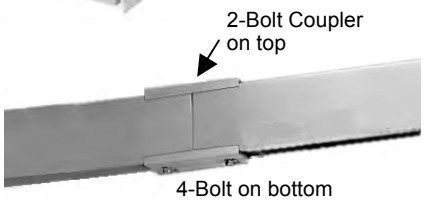
HOUSING COUPLERS

For connecting adjacent Busway sections and/or end piece. One pair required. consists of 2-bolt for the top and one 4-bolt for the bottom.

PART NUMBER
BHC-2

WEIGHT 0.8 lb





END PIECE

The end piece is a 6 in. section of Busway housing and insulator and end cap. It is used to cover the protruding copper busbar connector blades at the male end of a Busway run. End Cap (EC) is used to cover female end.

BHC-1 ALSO REQUIRED

PART NUMBER
EP-2

WEIGHT 1 lb

OPTIONAL CLOSURE STRIP

Snaps into bottom access slot of busway housing. Normally shipped in 20 ft lengths and can be field cut to fit exact desired length.

PART NUMBER
CS-1 - PVC

CS-1AL - Aluminum

MAXIMUM CUT LENGTH = 20ft

STARLINE® TRACK BUSWAY

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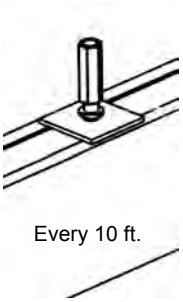
SUPPORT HARDWARE

Threaded Rod
For mounting to 3/8-16 threaded rod. Can be inserted anywhere along full access top slot of Busway. Hanger support spacing every 10 ft maximum.

PART NUMBER
BRH-1

WEIGHT
0.3 lb



Standard

For mounting to strut or other flat surfaces. Twist-in design allows inserting anywhere along top full access slot.

PART NUMBER
BH-1

WEIGHT
0.2 lb

Weight Hook

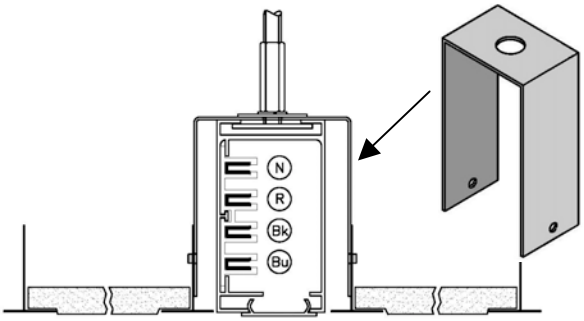
Can be used as a hanger to suspend Busway from chains or cables. Can also be used to hang loads up to 100 lbs under the Busway, such as light fixtures, tools and balancers

PART NUMBER
WHR-2

WEIGHT
0.2 lb.

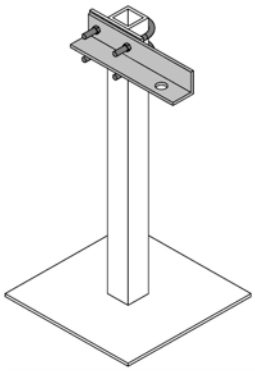
Recessed Suspended Ceilings

PART NUMBER
RM100-1



Raised Access Floor

PART NUMBER
RFB-1



STARLINE® TRACK BUSWAY

INSTALLATION TOOLS

Installation Tool

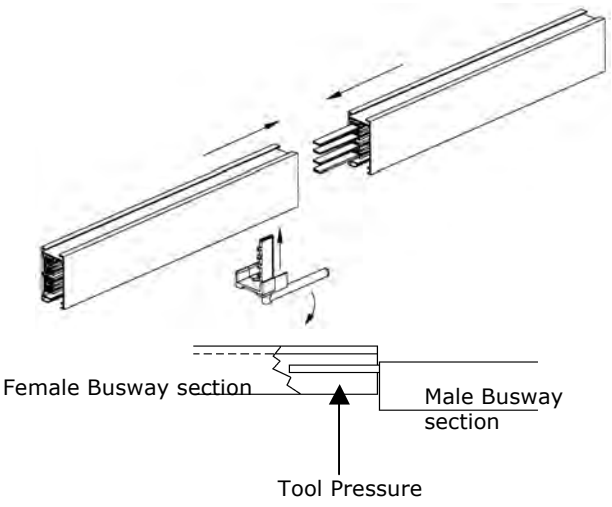
Used to connect two adjacent sections of Busway.

Busway sections are first offset and butted together so that male stabs line up parallel to female busbar conductors. Installation tool is then inserted into joined intersection and rotated 90° forcing stabs into u-shaped female conductors making a spring-loaded, secure electrical connection. Housing Couplers (BHC) are then positioned over joined sections and tightened.

FOR B100N, B100NG, B160, B225 & B225G Systems

Weight 2.5 lb

PART NUMBER B225IT



STARLINE® TRACK BUSWAY

GENERAL LAYOUT TIPS

- ALL COMPONENTS except Housing, Tee, Elbow Sections and Power Feeds are the same and are interchangeable for B100N (double neutral), B160 and B225 Amp Systems. Substitute either "100N" or "160" for "225" for all Housing, Tee, Elbow Sections and Power Feed units.

- Try to keep all runs as straight as possible as tees and elbows are added cost.

- Standard Busway lengths are available in 20, 10 and 5 ft increments. Although the factory can cut individual STARLINE Track Busway sections to any length under 20 ft, it is highly recommend to keep all layout runs in increments of 5 ft. This recommendation is based on our experience with economics and simplifying job site installation. If housing sections are cut to 3ft, 4ft, 6 ft, etc. It can become cumbersome at the job site to determine which length goes with which run. By staying with 5 ft increments, this condition is minimized.

- Determine the location of power feeds based on relation to power source, existing feeders and voltage drop concerns for longer runs.

LENGTH OF BUSWAY FOR A ONE VOLT DROP IN LINE TO LINE VOLTAGE

SYSTEM DESIGNATION	DISTRIBUTED LOAD	VOLTAGE DROP @ 0.8 PF Single Phase	VOLTAGE DROP @ 0.8 PF Three Phase
B225 (all systems)	225 Amp	40 FT	47 FT

- There is no need to be concerned with the specific detail and total count of support hardware, connectors and end caps as your local STARLINE Track Busway Applications Engineer will assist during the quotation process. Refer to SPECIFICATIONS for the suggested STARLINE specifications.

- Understand component relationship before specifying or ordering specific Tee or Elbow Sections. Refer to Component Relationship for details.

STARLINE® TRACK BUSWAY

COMPONENT RELATIONSHIP

When ordering material, it is important to understand the relationship between various components. Examples:

- ALL COMPONENTS except Housing, Tee, Elbow Sections and Power Feeds are the same and are interchangeable for B100N (double neutral), B160 and B225 Amp Systems. Substitute either "100N" or "160" for "225" for all Housing, Tee, Elbow Sections and Power Feed units.

- Each housing section requires a coupler set. Determine the total number of housing sections (regardless of length) as this becomes the number of Couplers (BHC) that will be needed.
  Part No BHC-2 contains a set (upper and lower).

- One BHC-1 Housing Coupler set is required for each end of all L's and T's.

- If this is your first installation for B100N, B100NG, B160 or B225 systems, you will need to order Installation Tool B225IT.

- General support hardware rule to follow:

$$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

10 equal 10 ft spacing and 10% extra is recommended for job site changes.

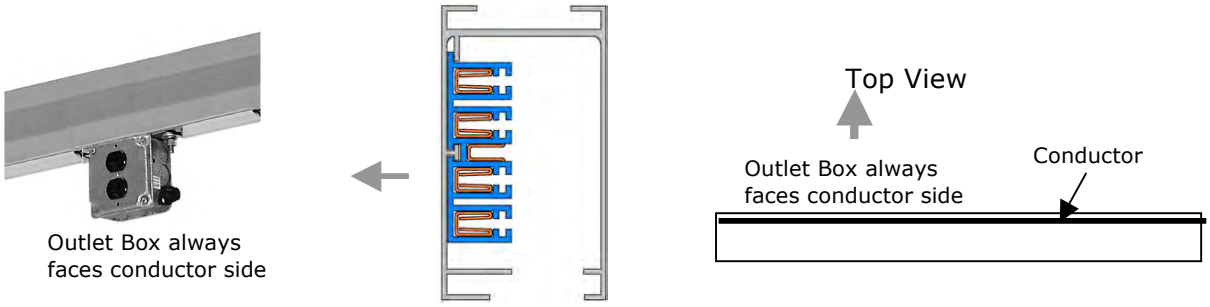
- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.

- Before specifying or ordering elbow or tee sections, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

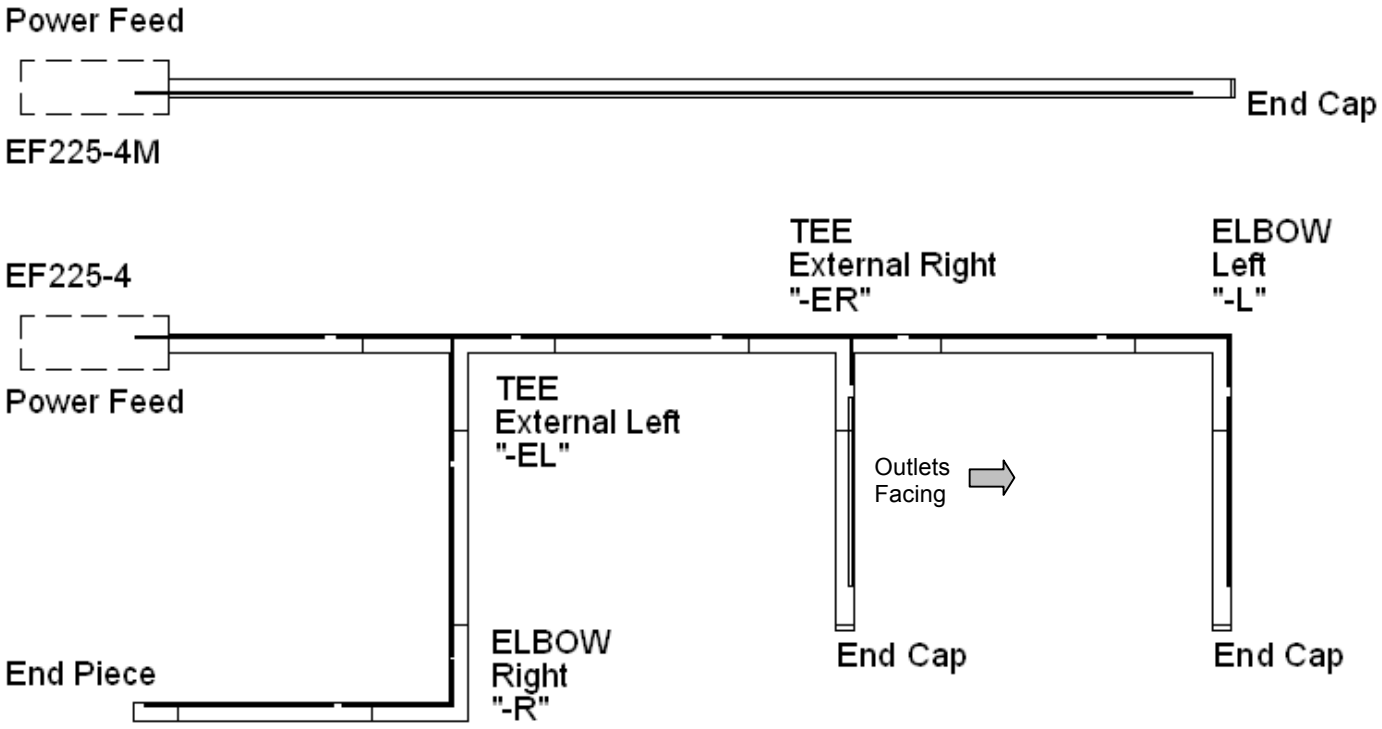
STARLINE TRACK BUSWAY

POLARITY CONCERNS

STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation, consider that they will always face the conductor side. Certain plug-in units are 'reversible', designated by 'R', to face devices away from the conductor side.

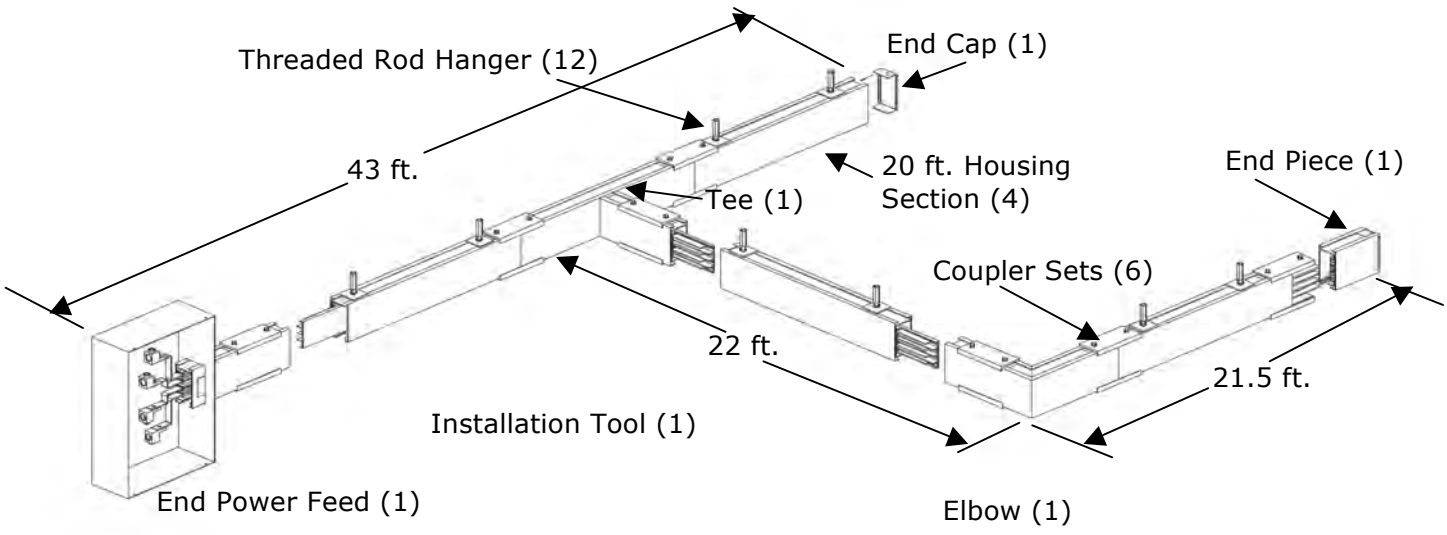


Tee's and Elbow Sections are specified according to desired polarity



STARLINE® TRACK BUSWAY

SAMPLE TAKE-OFF



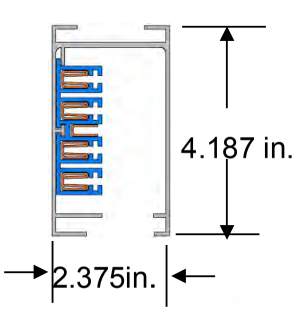
BILL OF MATERIAL:

QTY	PART NO.	DESCRIPTION
4	B225-4PG-20	Housing Section, 20 feet long, 4-Pole
1	EP-2	End Piece (over male end, 6 in. long)
7	BHC-2	Housing Coupler set – required for each Housing, Power Feed, Elbow (2), Tee (3) and End Piece (1)
1	EC-1	End Cap (over female end)
12	RHB-3	3/8" Threaded Rod Hanger (required every 10 ft)
1	T225-4-EL	Tee, External Left (24" x 12")
1	EL225-4-R	Elbow, Right (12" x 12")
1	B225IT	Installation Tool

STARLINE® TRACK BUSWAY

B225G (Isolated Ground) Amp System to 300 Volt

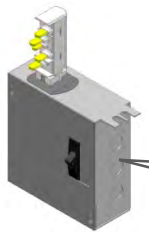
3 or 4 pole with isolated ground



IMPORTANT NOTE:

Elbows are 18 in. per side unlike the norm 12 in.

Accessories – Closure Strip page 8.5
Weight Hook page 7.9



Plug-In Units page 12.14 – 12.34

STARLINE® TRACK BUSWAY

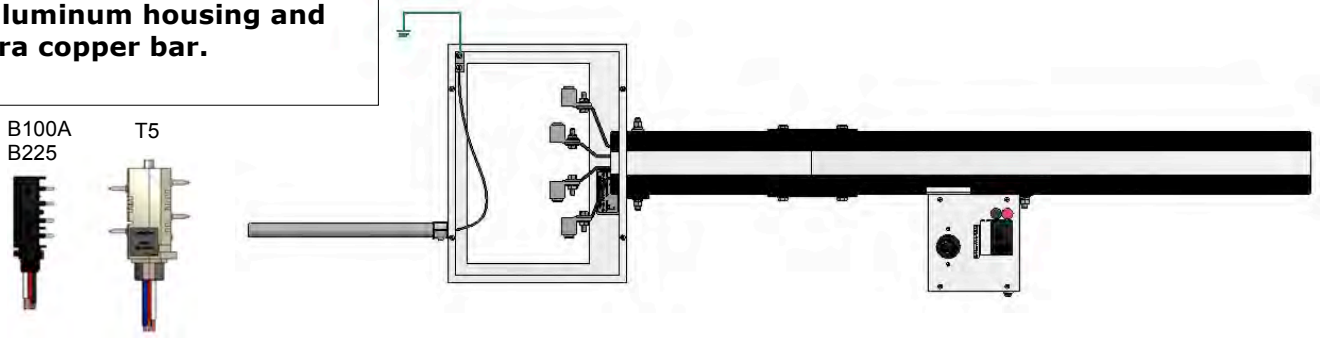
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

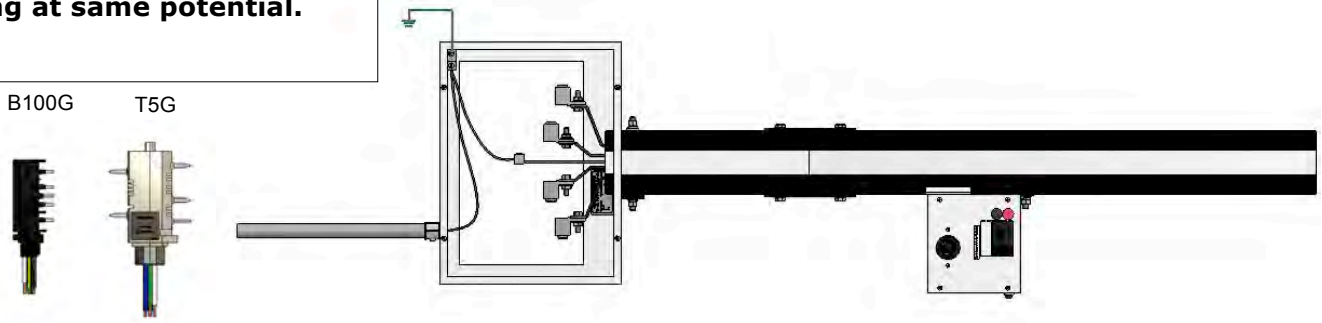


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

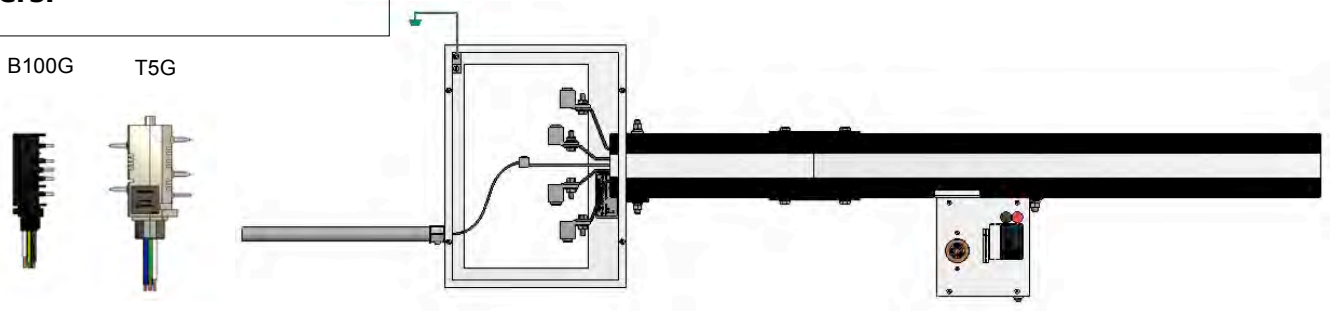


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



225 Amp Isolated Ground

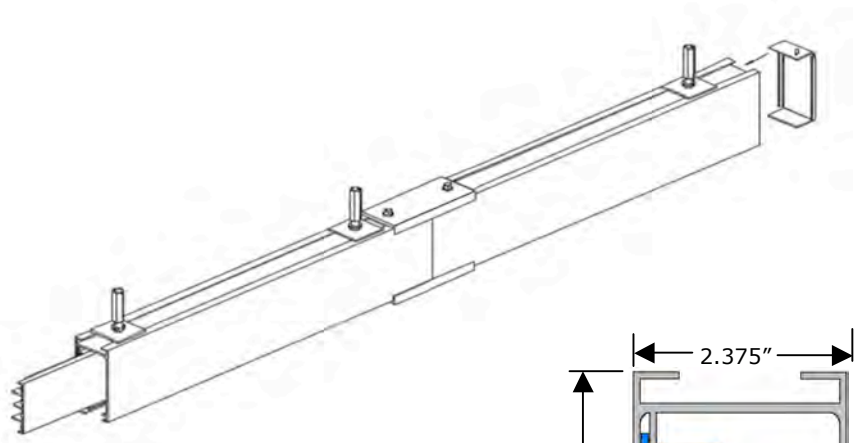
HOUSING SECTIONS

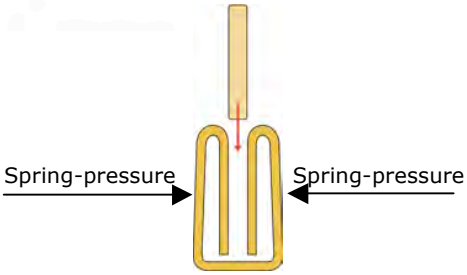
Housing Section

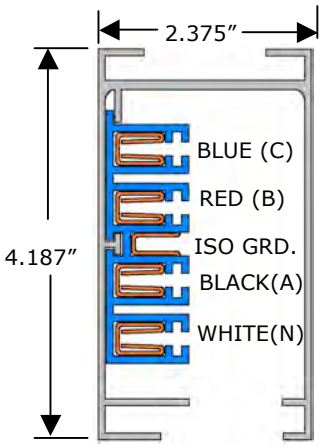
Track Busway housing section consists of an extruded aluminum shell with "spring -pressure" type copper channel busbars contained in a full length PVC insulator mounted on one side on the interior wall. The center conductor acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has an open access slot over its entire length for the insertion of plug-in units. Each housing section has male stabs protruding at one end which fit into the channels of the adjoining section. Female-Female construction without male blades is available for some applications. Specify 'FF' suffix. Installation tool is used to force the stabs into the busbar channels for a solid spring-tempered electrical connection.

RATINGS: **225 Amp, 300 Volt**

LENGTH: **5 Ft, 10 Ft , 20 Ft.**

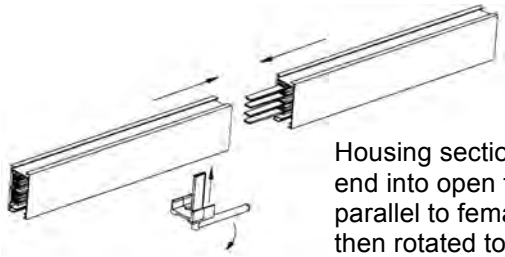


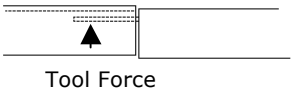




"Spring-pressure" channel busbar

US Pat.# 6,039,584





Housing sections are joined by inserting male end into open female end so that stabs are parallel to female slots. Installation tool is then rotated to force stabs into slots.

Catalog Number Sequence

B225G–(X)PG–(L)(FF)

- **Length** 5, 10 or 20 or custom length
- **No. of Poles**
- **System size**

Catalog Number Selection

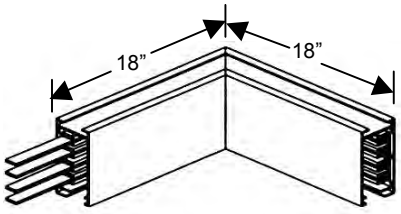
Catalog No.	Description	Length	Weight
B225G-4PG-5	225 Amp, 4-pole, Iso Grd	5 ft	17.5 lbs
B225G-4PG-10	225 Amp, 4-pole, Iso Grd	10 ft	34 lbs
B225G-4PG-20	225 Amp, 4-pole, Iso Grd	20 ft	65.5 lbs

225 Amp
Isolated Ground

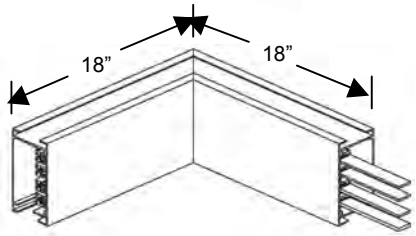
ELBOW SECTION

Elbow Section

Elbows are used for making a 90 degree angle in a Busway run. Specify right or left elbow, according to the orientation of the busbars in the Busway sections to be connected. Tee sections are connected to adjacent Busway sections using an Installation Tool B225IT. A Housing Coupler set BHC-2 is used to mechanically connect the top and bottom of a Tee section to an adjacent Busway.



Right Elbow



Left Elbow

Installed with couplers

(ORDERED SEPARATELY)

c UL us LISTED

Catalog Number Sequence

EL225G-(P)–(X)

- **Direction Right, Left, Up, Down**
- **Number of System Poles**
- **Elbow**

Catalog Number Selection

Catalog No.	Description	Weight
EL225G-4-L	Elbow, horizontal, 4-pole, left	6 lbs
EL225G-4-R	Elbow, horizontal, 4-pole, right	6 lbs

NOTE: ALL 300 Volt Rated, legs are 18 in.

225 Amp
Isolated Ground

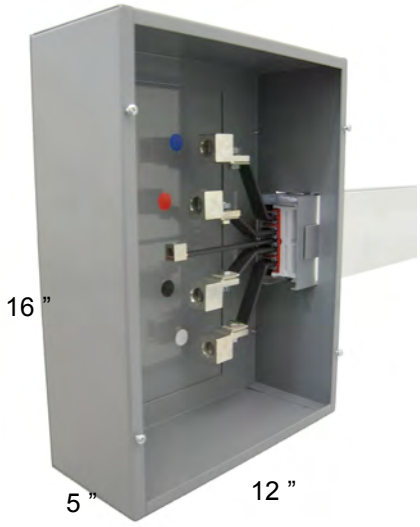
POWER FEED UNITS
Supplying power to END of Busway

End Power Feed Units

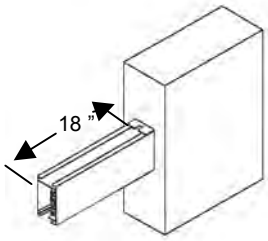
Standard End Power Feed units connect to the male end of the Busway. Factory assembled unit consists of a 12 X 16 X 5 in. steel junction box, with a removable side, connected to an 18" section of Busway. The assembly includes connection lugs, a ground lug and shrink tubing for wires up to 300 MCM. End feed units for connection to female Busway ends are also available.

End Power Feed units are connected to an adjacent Busway sections using an Installation Tool B225IT (Page 8.10) and a Housing Coupler Set BHC-2(Page 8.8).

Special need power feed units for confined spaces as found in Mission Critical Data Centers can also be designed and fabricated, minimum quantities required.



Installed with couplers



Assembled Unit with 18" Busway stub

Data Center custom units can also be fabricated with minimum quantities

c UL us LISTED

Catalog Number Sequence

EF225G–(P)

- **System Poles**
- **System size**
- **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF225G-4	End Feed, 4-Pole	16.5 lbs
EF225G-3	End Feed, 3-Pole	16 lbs
EF225G-4M	End Feed, 4-Pole male	17 lbs
EF225G-3M	End Feed, 3-Pole male	16.5 lbs

225 Amp Isolated Ground

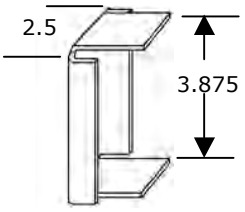
STARLINE® TRACK BUSWAY

c UL us LISTED

CONNECTED ACCESSORIES

PART NUMBER
EC-1

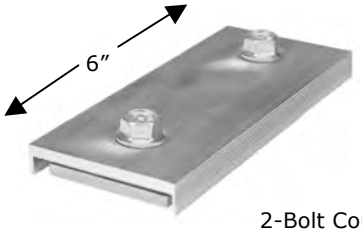
WEIGHT 0.2 lb

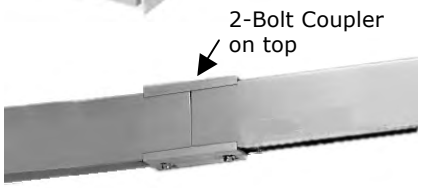


HOUSING COUPLERS
For connecting adjacent Busway sections and/or end piece. One pair required. consists of 2-bolt for the top and one 4-bolt for the bottom.

PART NUMBER
BHC-2

WEIGHT 0.8 lb





END PIECE
The end piece is a 9 in. section of Busway housing and insulator and end cap. It is used to cover the protruding copper busbar connector blades at the male end of a Busway run. End Cap (EC) is used to cover female end.

BHC-1 ALSO REQUIRED

PART NUMBER
EP-225G

WEIGHT 1 lb

OPTIONAL CLOSURE STRIP
Snaps into bottom access slot of busway housing. Normally shipped in 20 ft lengths and can be field cut to fit exact desired length.

PART NUMBER
CS-1 - PVC

CS-1AL - Aluminum

MAXIMUM CUT LENGTH = 20ft

STARLINE® TRACK BUSWAY

PLUG-IN SELECTION

Same Units to be used in ALL B100A, B100N, B160 and B225 systems

Similar Units to be used in ALL B100G, B100NG, and B225G systems

Basic Part Number Nomenclature

Although there are many custom units available, the units shown below are considered standard

(Style)(System)(Enclosure) – (Device) – (Busway Poles) – (Options)

2 or 4
DG for Dedicated Ground

NEMA

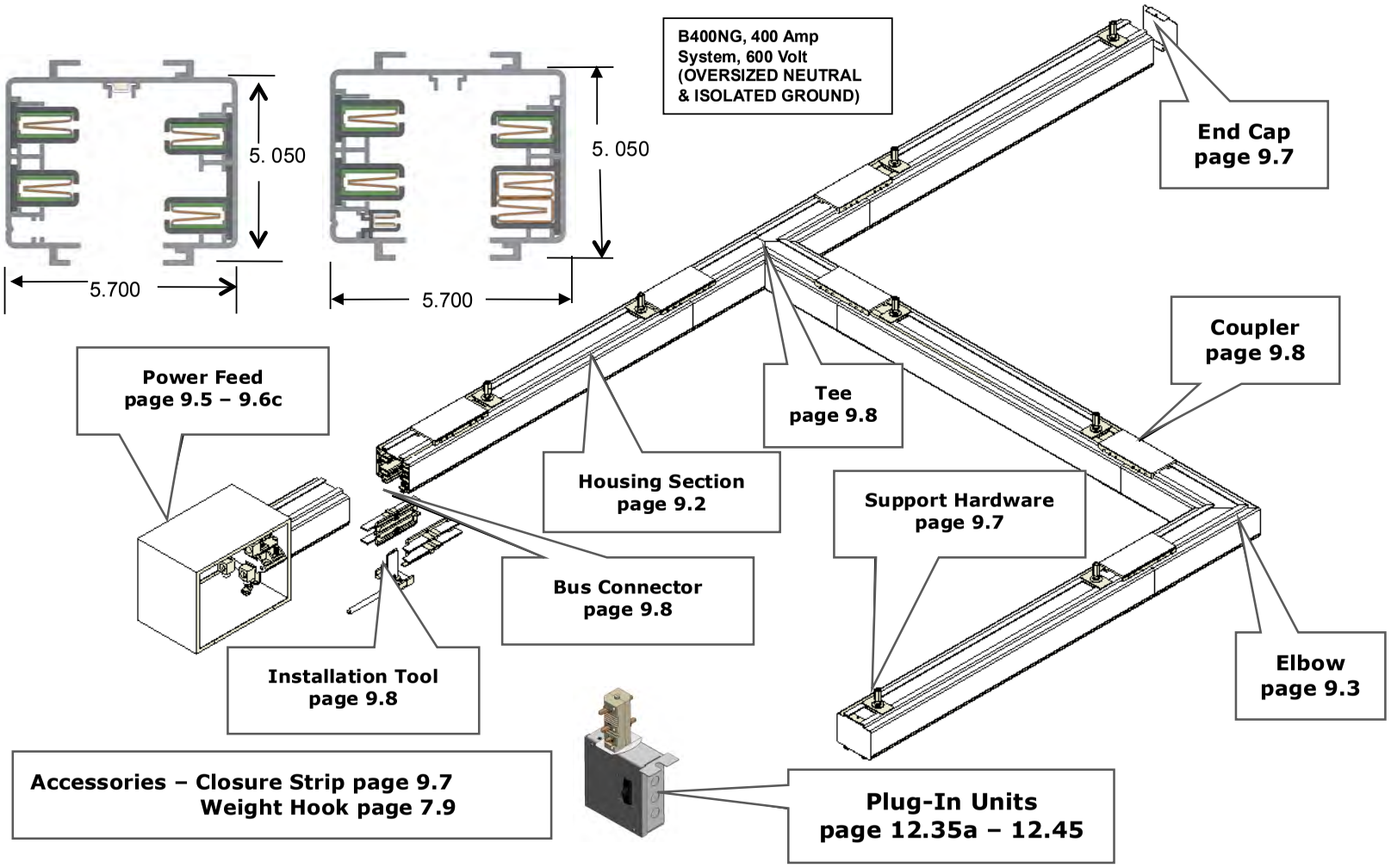
See Enclosure Reference, pages 11.11 & 11.12

System Size (100A, 100N, 160, 225)
(100G, 100NG, 225G)

DRF - Duplex Receptacle, fused
OB - Fusible Outlet Box
CB - Circuit Breaker
DC - Fusible Drop Cord
CBDC - Circuit Breaker Drop Cord
FD - Fused Disconnect

Standard B250T5, B250 System, 600 Volts

3 or 4 pole with/without Isolated ground



STARLINE® TRACK BUSWAY

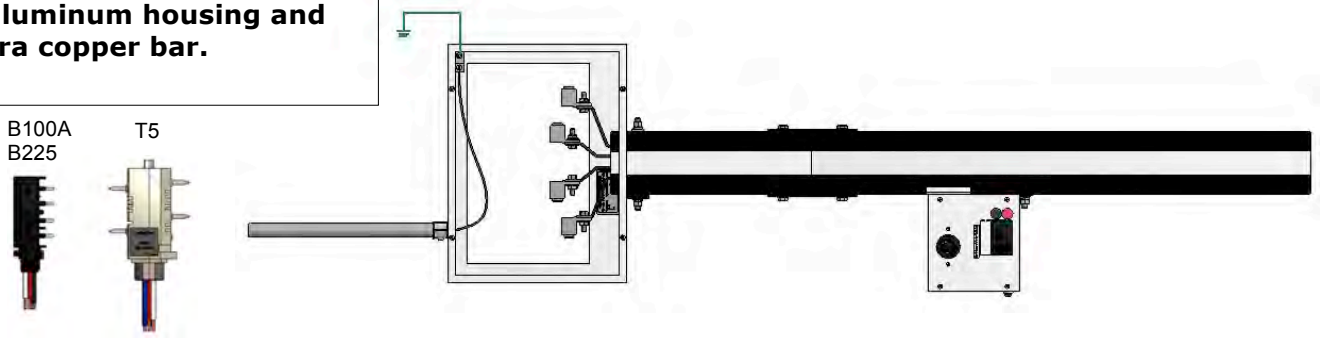
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

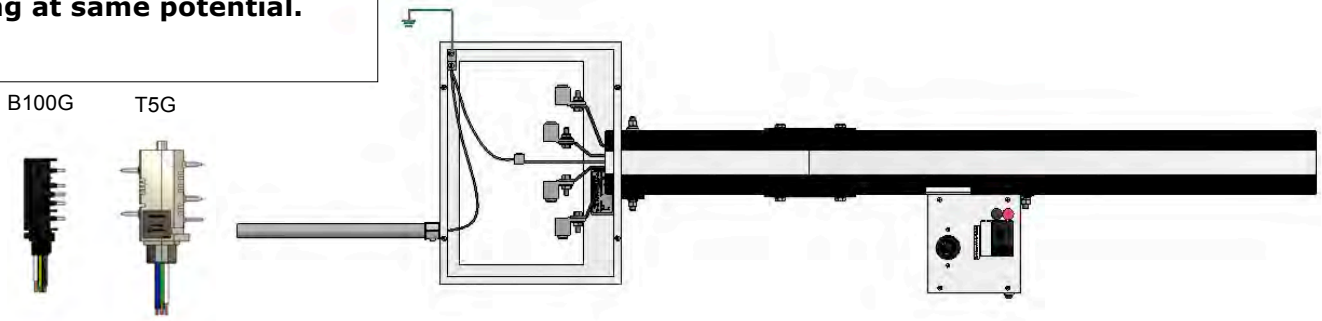


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

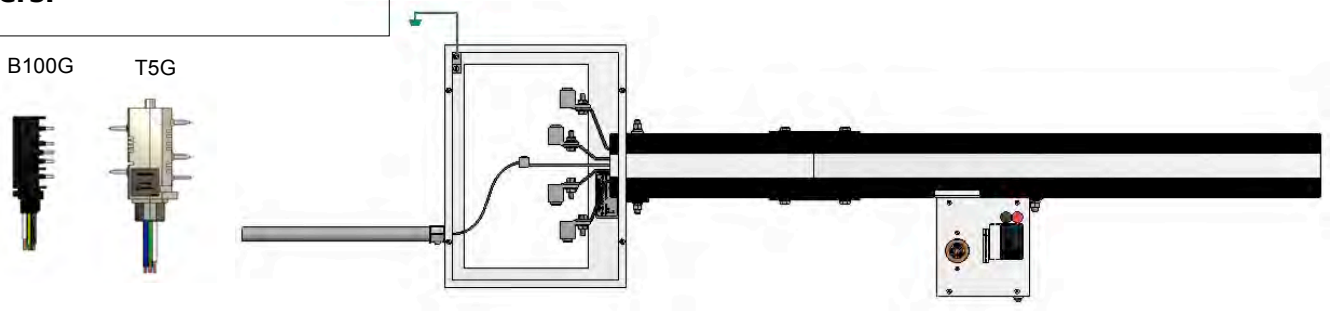


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G

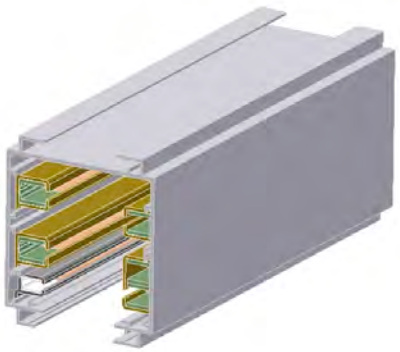


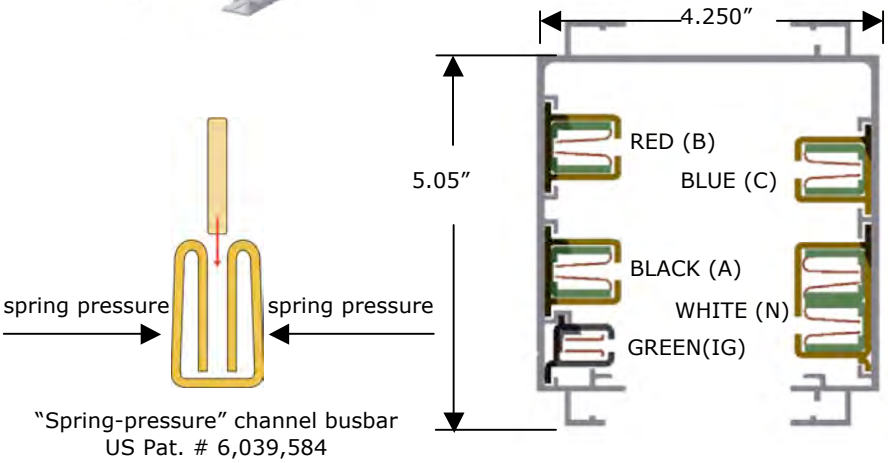
B250T5, B250T5N, B250T5G, B250T5NG Systems

HOUSING SECTION

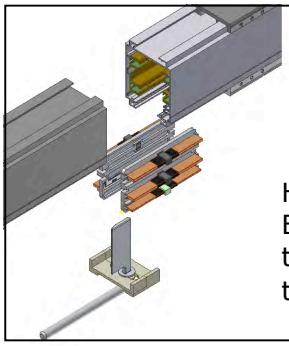
Track Busway housing section consists of an extruded aluminum shell with "spring-pressure" type copper channel busbars contained in a full length halogen-free insulator mounted on the interior walls. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has a continuous access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 3 or 4-pole varieties, optional isolated ground, optional oversize (200%) neutral. The housing sections join together using Bus connectors which fit into the channels of the adjoining section. An Installation tool is used to force the blades into the busbar channels for a solid "spring-pressure" electrical connection.

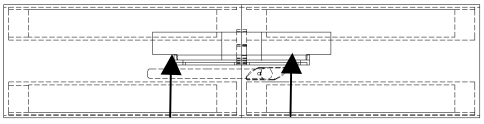
MATERIAL: Extruded Aluminum
RATINGS: 100% Ground Path
250 Amps
B250T5/B250T5G
600 Volt
B250T5N/B250T5NG
600 Volt
LENGTH: 10 Ft, 20 Ft.
VOLTAGE DROP:
distributed load, .8PF
Single Phase 49ft per Volt
Three Phase 58 ft per Volt





"Spring-pressure" channel busbar
US Pat. # 6,039,584





Tool Force

Housing sections are joined by inserting the Bus connector which fits into the channels of the adjoining section. The installation tool is then rotated to force blades into slots.

Catalog Number Sequence
B250T5–(X)PG–(L)

- (L) → Length: 10 or 20, or custom length
- (X)PG → No. of Poles (3 or4)
- B250T5 → System size = 250T5
  - G - isolated ground
  - NG - IG & Oversize Neutral

Catalog Number Selction

Catalog No.	Description	Length	Weight
B250T5-4PG-10	250A, 4-pole	10 ft	41.0 lbs
B250T5-4PG-20	250A, 4-pole	20 ft	82.0 lbs
B250T5G-4PG-10	250A, 4P/iso. Gnd	10 ft	46.0 lbs
B250T5G-4PG-20	250A, 4P/iso. Gnd	20 ft	92.0 lbs
B250T5N-4PG10	250A, 4P/ 200%N	10 ft	47.0 lbs
B250T5N-4PG-20	250A, 4P/ 200%N	20 ft	94.0 lbs
B250T5NG-4PG-10	250A, 4P/IG/200%N	10 ft	51.0 lbs
B250T5NG-4PG-20	250A, 4P/IG/200%N	20 ft	102.0 lbs

B250T5, B250T5N, B250T5G, B250T5NG Systems

ELBOW SECTIONS

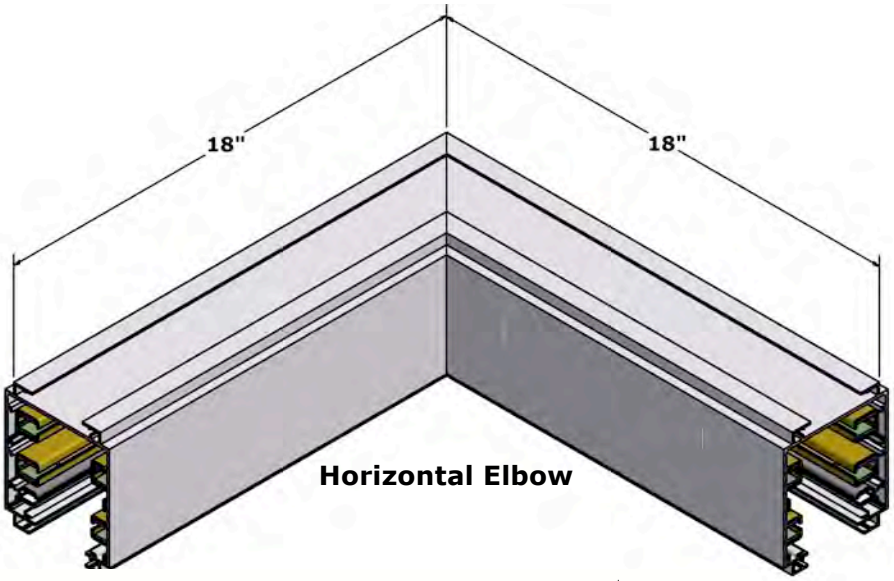
Elbow Section

An Elbow is used for making a horizontal 90 degree change of direction in a Busway run. Specify right or left elbow, according to the orientation of the polarizing stripe in the Busway sections to be connected.

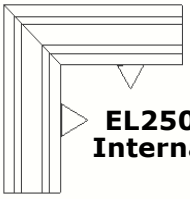
CONNECTION ACCESSORIES:

(Ordered Separately)

Joint Kit (JK250T5 series) is used to make mechanical and electrical connections to adjacent Busway sections.



Horizontal Elbow



EL250T5-4-L
Internal Elbow

EL250T5-4-R
External Elbow

Installed with couplers

Catalog Number Sequence
EL 250T5-(P)–(X)

- **Direction** — Right, Left
- **Number of Poles (3 OR 4)**
- **System size = 250**
  G – isolated ground
  NG – IG & 200% Neutral
- **Elbow**

Catalog Number Selection

Catalog No.	Description	Weight
EL250T5-4-L	Elbow, 4-pole, left	13.0 lbs
EL250T5-4-R	Elbow, 4-pole, right	13.0 lbs
EL250T5G-4-L	Elbow, 4-pole/IG, left	13.5 lbs
EL250T5G-4-R	Elbow, 4-pole/IG, right	13.5 lbs
EL250T5N-4-L	Elbow, 4-pole/200% N, left	14.0 lbs
EL250T5N-4-R	Elbow, 4-pole/200% N, right	14.0 lbs
EL250T5NG-4-L	Elbow, 4-pole/IG/200% N, left	14.5 lbs
EL250T5NG-4-R	Elbow, 4-pole/IG/200% N, right	14.5 lbs

B250T5, B250T5N, B250T5G, B250T5NG Systems

STARLINE® TRACK BUSWAY

TEE SECTION

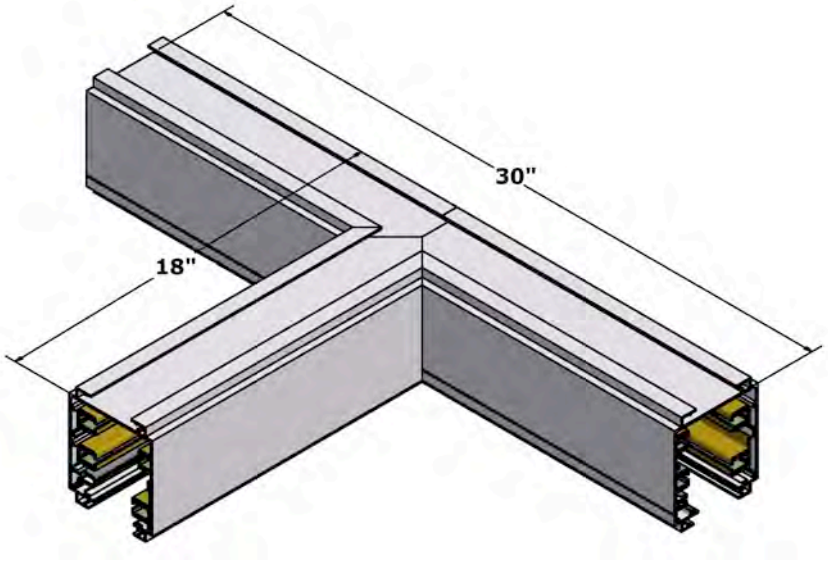
Tee Section

A Tee is used for making a horizontal 90 degree branch leg in a Busway run. Specify internal, external, right, or left tee, according to the orientation of the polarizing stripe in the Busway sections to be connected.

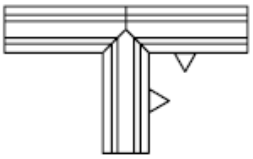
CONNECTION ACCESSORIES:

(Ordered Separately)

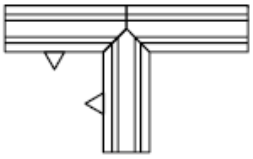
Joint Kit (JK250T5 series) is used to make mechanical and electrical connections to adjacent Busway sections.



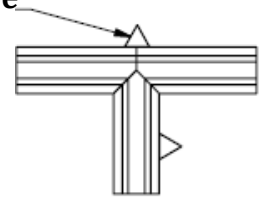
Internal Right -IR



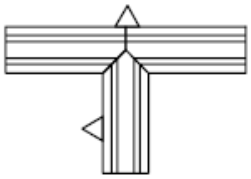
Internal Left -IL



External Right -ER



External Left -EL



Polarizing Stripe

Catalog Number Sequence

T250T5- (P)–(XX)

- **Direction** — External or Internal Right or Left
- **No. of Poles (3 or 4)**
- **System size = 250**
  G – isolated ground
  NG – IG & 200% Neutral
- **Tee**

Catalog Number Selection *(standard B250T5 shown)*

Catalog No.	Description	Weight
T250T5-4-IL	Tee, 4-pole, Internal Left	19.5 lbs
T250T5-4-EL	Tee, 4-pole, External Left	19.5 lbs
T250T5-4-IR	Tee, 4-pole, Internal Right	19.5 lbs
T250T5-4-ER	Tee, 4-pole, External Right	19.5 lbs

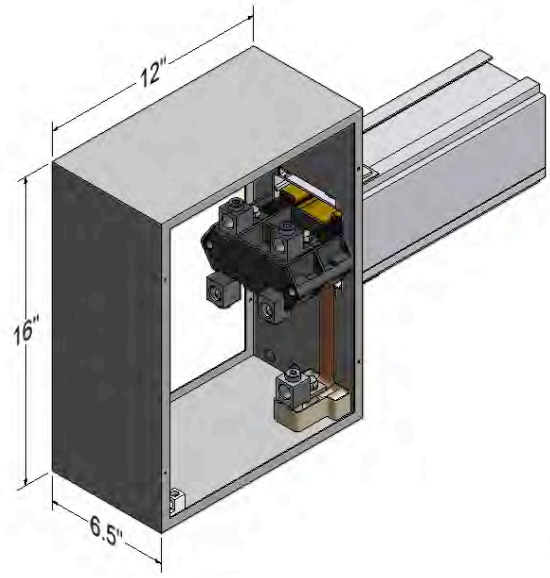
B250T5, B250T5N, B250T5G, B250T5NG Systems

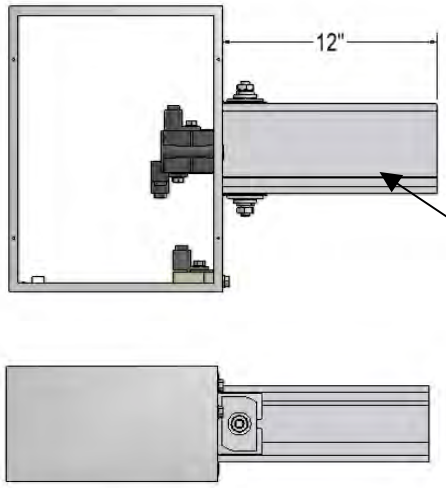
END POWER FEED UNITS
Supplying power to END of Busway

Standard End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 12 X 16 X 6.5 in. steel junction box, with removable sides, connected to a 1 foot section of Busway. The assembly includes connection lugs and a ground lug for wires up to 300 MCM. Reverse End feed units for connection to opposite end of busway section (polarizing stripe faces to right as viewed from end of unit).

End Power Feed units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).

Special need power feed units for confined spaces as might be found in Mission Critical Data Centers can also be designed and fabricated, requiring minimum quantities.





Assembled with 1 ft of Busway

Polarizing Stripe
(Reversed Version Shown)

Catalog Number Sequence
EF250T5–(P)(R)

- (R) → Reverse
- (P) → System Poles
- 250 → System size = 250
  G – isolated ground
  NG – G & 200% Neutral
- EF → End Feed

Catalog Number Selection

Catalog No.	Description	Weight
EF250T5-4	End Feed, 4-Pole	17.5lbs
EF250T5-4R	End Feed, 4-Pole	17.5 lbs
EF250T5G-4	End Feed, 4-Pole/IG	18 lbs
EF250T5G-4R	End Feed, 4-Pole/IG	18 lbs
EF250T5N-4	End Feed, 4-Pole/200% N	19 lbs
EF250T5N-4R	End Feed, 4-Pole/200% N	19 lbs
EF250T5NG-4	End Feed, 4-Pole/IG/200% N	19.5 lbs
EF250T5NG-4R	End Feed, 4-Pole/IG/200% N	19.5 lbs

B250T5, B250T5N, B250T5G, B250T5NG Systems

FUSED POWER FEED UNITS

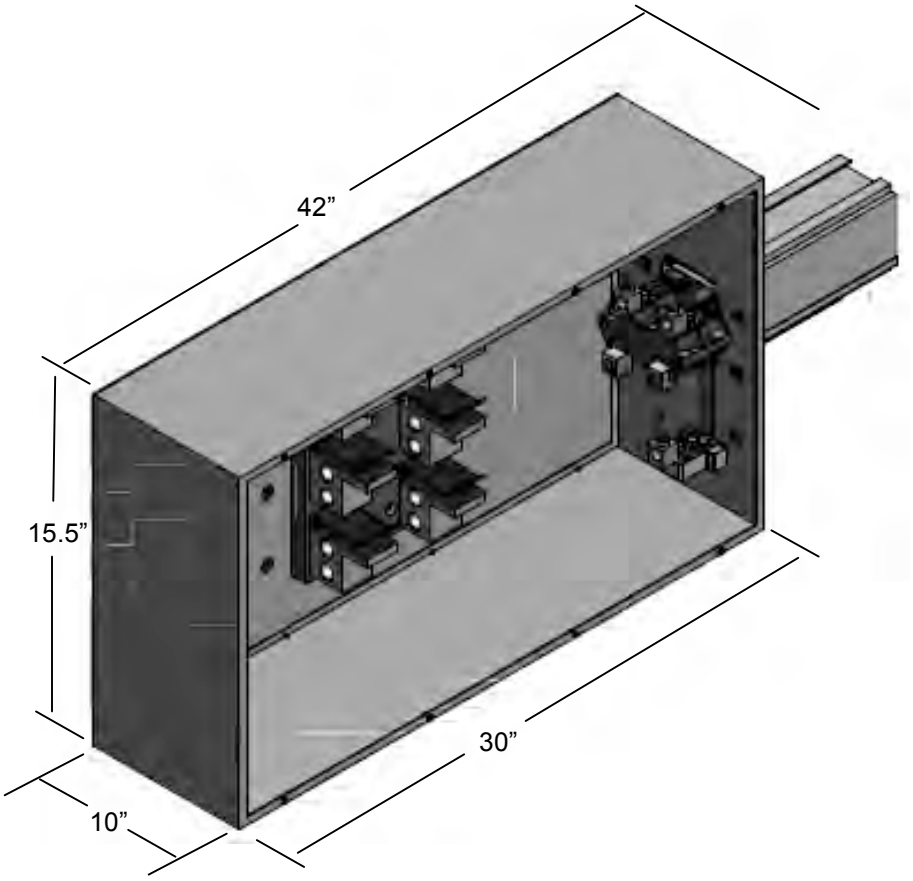
Supplying power to END of Busway

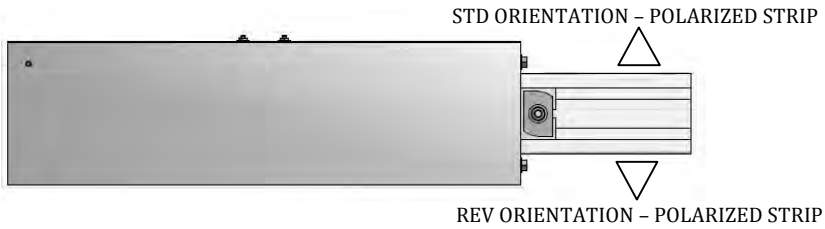
Fused Power Feed Units

Fused End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 30 X 15.5 X 10 in. steel junction box, with a removable side, connected to a 1 foot section of Busway. The assembly includes 300MCM wire connections from the fuse base. Customers are required to provide the appropriate sized Class-J fuses.

The end feed box is sized such that one or two 4" conduits can be installed in the end of the box.

Fused End Power units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).





Catalog Number Sequence
EF250T5–(P)R-FUSED

- **Orientation**
  Blank – Standard
  R – Reversed
- **System Poles**
- **System size = 250**
  G – isolated ground
  NG – IG & 200% Neutral
- **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF250T5-4-FUSED	Top Feed, 4-Pole	82.0 lbs
EF250T5-4R-FUSED	Top Feed, 4-Pole	82.0 lbs
EF250T5G-4-FUSED	Top Feed, 4-Pole/IG	84.0 lbs
EF250T5G-4R-FUSED	Top Feed, 4-Pole/IG	84.0 lbs
EF250T5N-4-FUSED	Top Feed, 4-Pole/200% N	88.0 lbs
EF250T5N-4R-FUSED	Top Feed, 4-Pole/200% N	88.0 lbs
EF250T5NG-4-FUSED	Top Feed, 4-Pole/IG/200% N	90.0 lbs
EF250T5NG-4R-FUSED	Top Feed, 4-Pole/IG/200% N	90.0 lbs

B250T5, B250T5N, B250T5G, B250T5NG Systems

STARLINE® TRACK BUSWAY

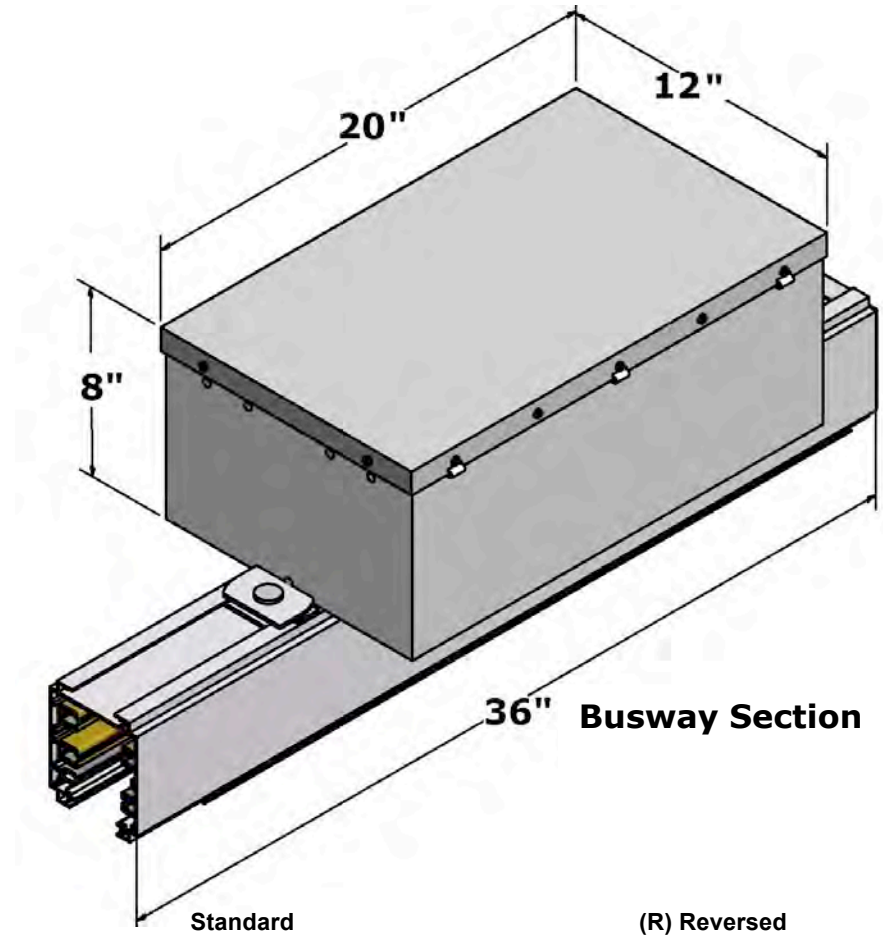
TOP POWER FEED
Supplying power to TOP of Busway

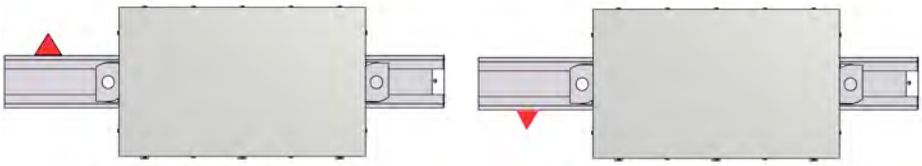
Top Power Feed Units

Standard Top Power Feed units supply power from the topside of the Busway. Factory assembled unit consists of a 20 X 12 X 8 in. steel junction box, with hinged cover, mounted on top of a 36 inch section of Busway.

Top Feed Power units can be positioned at end or anywhere along a busway run. Connections to adjoining busway sections are made by the standard means, requiring couplers and bus connectors which are sold separately.

Top Feed unit can also be used as top power supply point anywhere along Busway run by connecting to adjacent Busway sections at both ends.





Standard | (R) Reversed

Hinged side | Hinged side

Catalog Number Sequence
TF250T5–(P)

- System Poles
- System size = 250
  G – isolated ground
  NG – IG & 200% Neutral
- Top Feed

Catalog Number Selection

Catalog No.	Description	Weight
TF250T5-4	Top Feed, 4-Pole	42.0 lbs
TF250T5-4R	Top Feed, 4-Pole	42.0 lbs
TF250T5G-4	Top Feed, 4-Pole/IG	43.5 lbs
TF250T5G-4R	Top Feed, 4-Pole/IG	43.5 lbs
TF250T5N-4	Top Feed, 4-Pole/200% N	44.0 lbs
TF250T5N-4R	Top Feed, 4-Pole/200% N	44.0 lbs
TF250T5NG-4	Top Feed, 4-Pole/IG/200% N	45.5 lbs
TF250T5NG-4R	Top Feed, 4-Pole/IG/200% N	45.5 lbs

B250T5, B250T5N, B250T5G, B250T5NG Systems

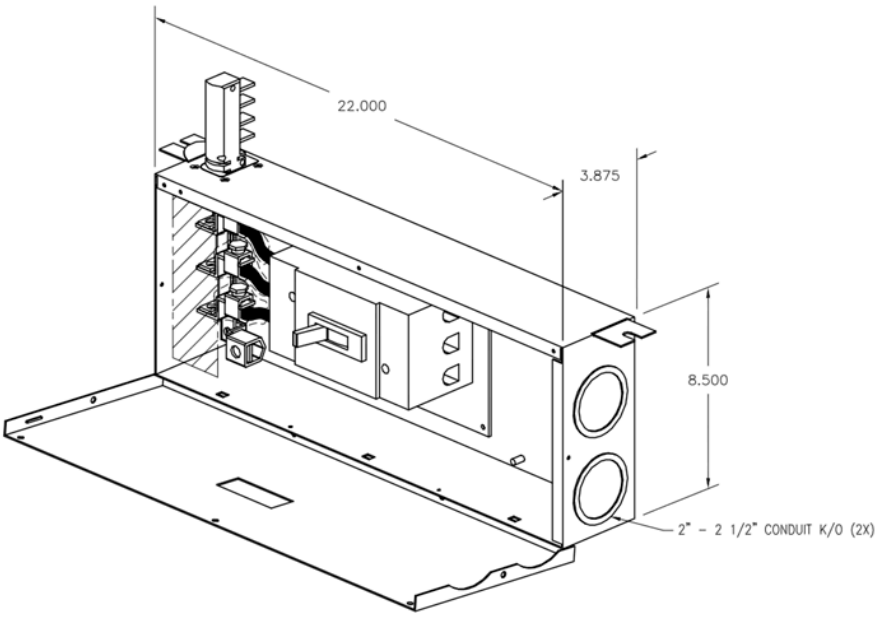
CIRCUIT BREAKER FEED UNIT

Circuit Breaker Feed Unit

Unit consists of an E26 enclosure, hinged lid, 225A 240V Square D circuit breaker, and plug head. Insert plug head into the busway and turn 90 degrees to make electrical connection. Unit is held in position by inserting the supplied bolt hangers in mounting tabs on either side of the unit.

Boxes have (4) 2 ½" knockouts, two on the side, and two on the bottom. See images below for location of knockouts.

All units include a copper ground lug for copper wire size ranging from #8 to #2.



Catalog Number Selection

Catalog No.	Description
CB225HS-225-300-4-PFS	Power Feed Unit, E26, 225A, 240V, 4-Pole, 22kAIC
CB225HSR-225-300-4-PFS	Power Feed Unit Reverse, E26, 225A, 240V, 4-Pole, 22kAIC

B250T5, B250T5N, B250T5G, B250T5NG Systems

TERMINAL BLOCK FEED UNIT

Terminal Block Feed Unit

Unit consists of an E26 enclosure, hinged lid, terminal blocks, and plug head. Insert plug head into the busway and turn 90 degrees to make electrical connection. Unit is held in position by inserting the supplied bolt hangers in mounting tabs on either side of the unit.

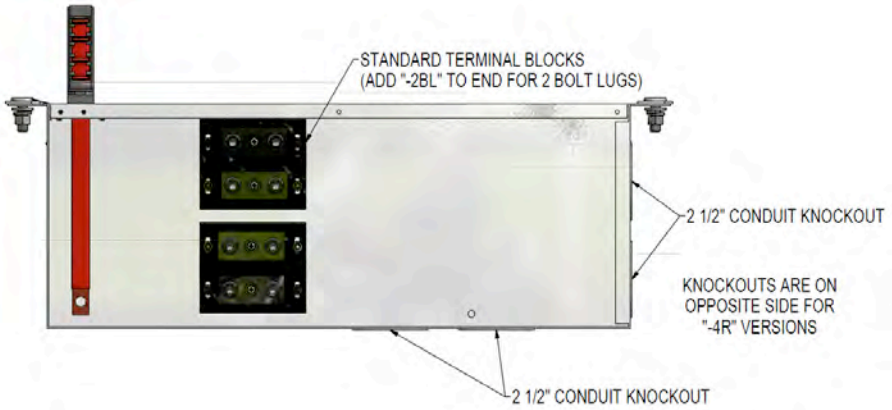
Boxes have (4) 2 ½" knockouts, two on the side, and two on the bottom. See images below for location of knockouts.

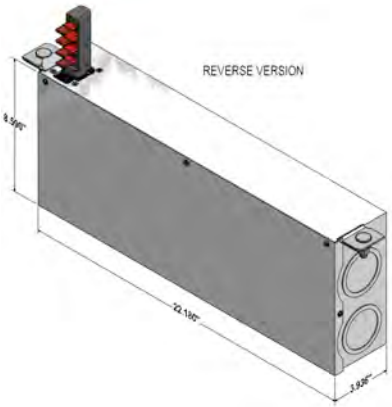
All units include a copper ground lug for copper wire size ranging from #8 to #2.

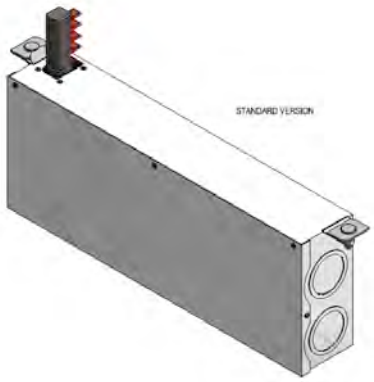
Standard and reverse paddle units include terminal blocks for wire size ranging from 350mcm to #6.

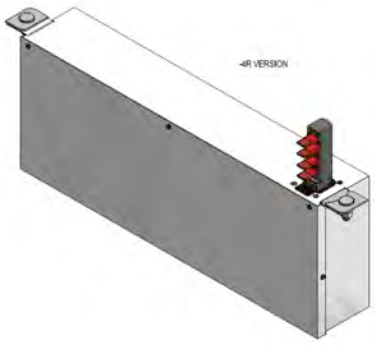
2BL units have terminal blocks with ½-13x1 3/8" studs spaced 1 ¾" apart.

Units are rated to 225A and 600V.









Catalog Number Selection

Catalog No.	Description
TB225E26-225-4	Terminal Block, E26, 225A, 600V, 4-Pole
TB225E26-225-4-2BL	Terminal Block, E26, 225A, 600V, 4-Pole, 2 bolt lug
TB225E26R-225-4	Reverse Paddle Terminal Block, E26, 225A, 600V, 4-Pole
TB225E26R-225-4R	Reverse Paddle Terminal Block, Reverse Knockouts, E26, 225A, 600V, 4-Pole
TB225E26R-225-4-2BL	Reverse Paddle Terminal Block, E26, 225A, 600V, 4-Pole, 2 bolt lug
TB225E26R-225-4R-2BL	Reverse Paddle Terminal Block, Reverse Knockouts E26, 225A, 600V, 4-Pole, 2 bolt lug

B250T5, B250T5N, B250T5G, B250T5NG Systems

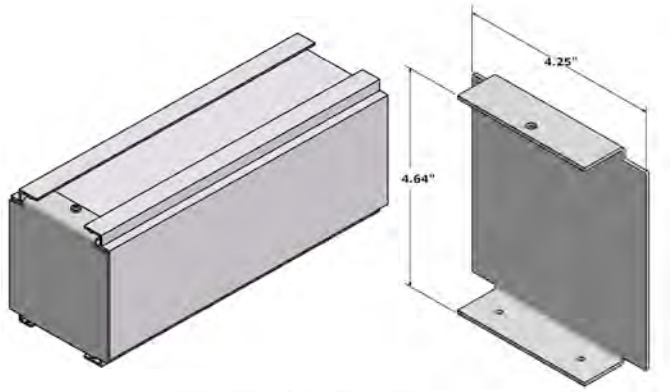
CONNECTION ACCESSORIES

END CAP

For covering the end of B250 Busway run.

PART NUMBER
EC250T5

WEIGHT
0.4 lb.



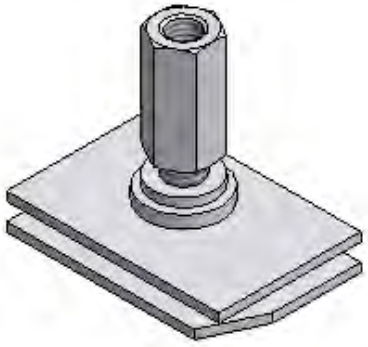
HANGER BOLTS

Threaded Rod (BRHT5-1)
For mounting to 1/2-13 threaded rod. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

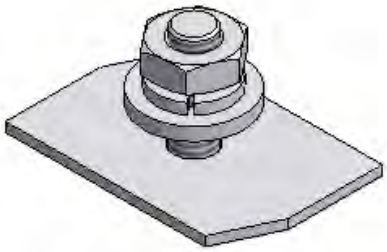
Standard (BHT5-1) For mounting to strut or other flat surfaces. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

PART NUMBER
BRHT5-1
BHT5-1

WEIGHT
1 lb.



BRHT5-1



BHT5-1

OPTIONAL CLOSURE STRIP

Snaps into bottom access slot of B250T5 housing sections. Normally shipped in 10 ft lengths.

PART NUMBER
CST5-1

WEIGHT

0.3 lb/ft.

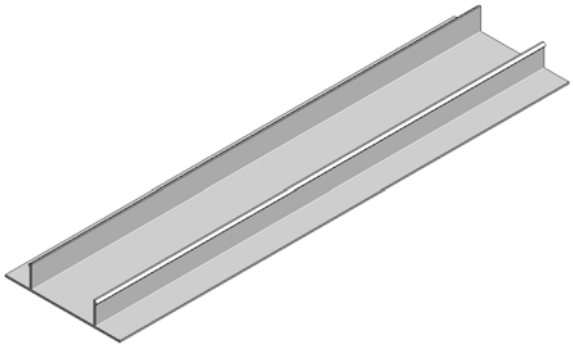
ALUMINUM CLOSURE STRIP

Affixes with an adhesive backing to access slot of B250T5 housing sections. Normally shipped in 10 ft lengths.

PART NUMBER
CST5-1-AL

WEIGHT

0.4 lb/ft.



B250T5, B250T5N, B250T5G, B250T5NG Systems

JOINT KIT / INSTALLATION TOOLS

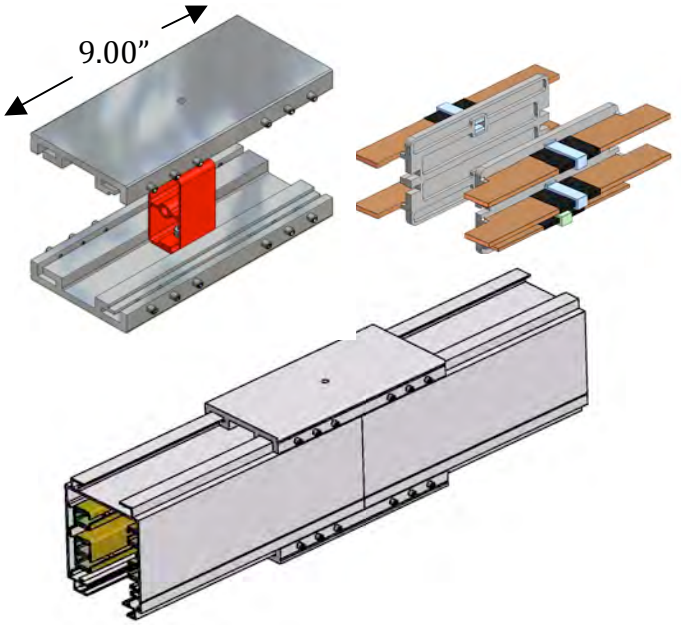
JOINT KIT
For connection of adjacent Busway sections. One Kit required at each joint. Each Kit is comprised of a housing coupler pair and bus connector set. Specify configuration to match busway configuration.

HOUSING COUPLER: consists of two, 12-screw couplers- one for the top and one for the bottom.

BUS CONNECTOR: Copper blades secured to insulating mounting plate. Left and Right set, makes electrical connection between sections.

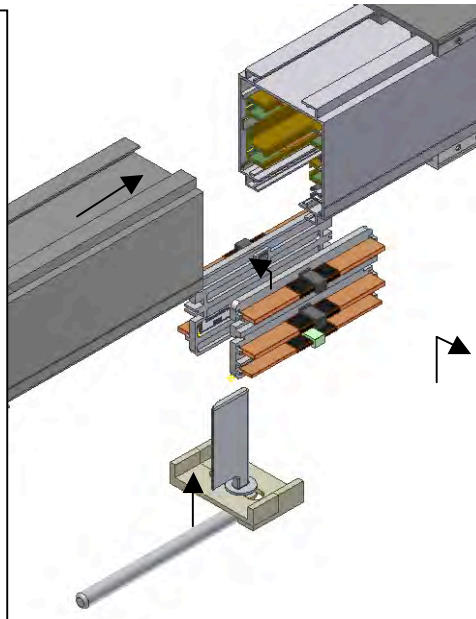
PART NUMBER
JK250T5-1
JK250T5G-1
JK250T5N-1
JK250T5NG-1

WEIGHT
4 lbs.

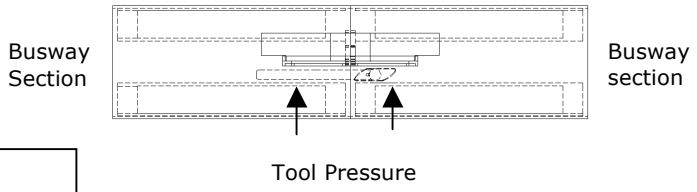


Used to install the ‘bus connector’ electrical joint between two adjacent sections of Busway. A ‘Joint Kit’, comprised of two housing couplers and a bus connector set are required at every joint.

Busway sections are butted together and the top housing coupler is installed. The Bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90º forcing stabs into u-shaped female conductors making a spring-loaded, secure electrical connection. Housing Coupler is positioned over the bottom joint and tightened.



INSTALLATION TOOL



For Standard B400ITT5 & B250ITT5
Installation Tool PART NUMBER T5IT Weight 3.1 lbs.

B250T5, B250T5N, B250T5G, B250T5NG Systems

COMPONENT RELATIONSHIP

When ordering material it is important to understand the relationship between various components. Examples:

- B250T5 uses the "T5" series of plug-in units. These plugs are compatible with other Starline T5series busway systems (B400T5 and B800T5).
-
- ALL COMPONENTS except Housing, Tee, Elbow Sections and Power Feeds are the same and are interchangeable for B250T5, B250T5N (double neutral), B250T5G and B250T5NG Amp Systems. Substitute either "250T5" or 250T5N" or "250T5G" or "250T5NG" for all Housing, Tee, Elbow Sections and Power Feed units.

- Each housing section requires a joint kit. Determine the total number of housing sections (regardless of length) as this becomes the number of Joint Kits (JK250T5 series) that will be needed.
    - Add one extra Joint Kit for each Tee Section.
    - No need to add extra Joint Kits for Elbow Sections, as they are already part of your housing count.

- If this is your first installation for either B250T5, B250T5N, B250T5G or B250T5NG systems, you will need to order Installation Tool T5IT.

- General support hardware rule to follow:

$$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

10 equal 10 ft spacing and 10% extra is recommended for job site changes.

- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.

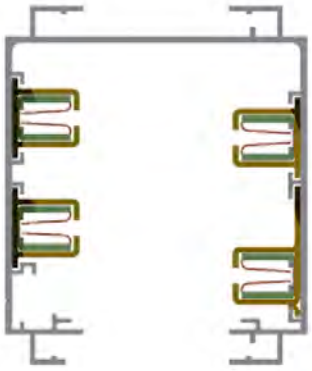
- Before specifying or ordering elbow or tee sections, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

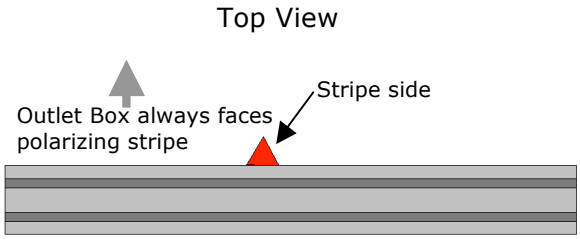
B250T5, B250T5N, B250T5G, B250T5NG Systems

POLARITY CONCERNS

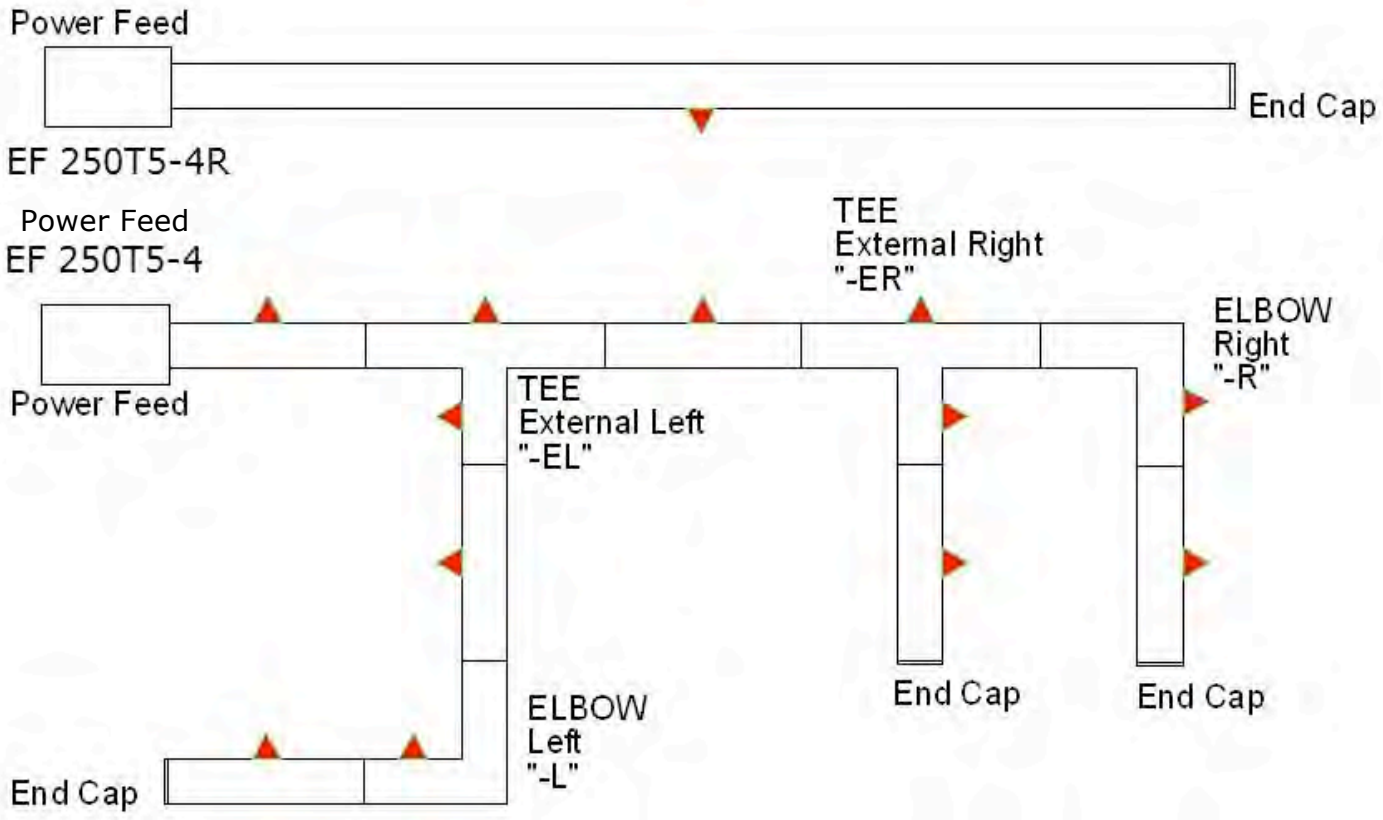
STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation consider that they will always face the conductor side. Certain plug-in units are 'reversible', designated by 'R', to face devices away from the conductor side.

Outlet Box always faces polarizing stripe



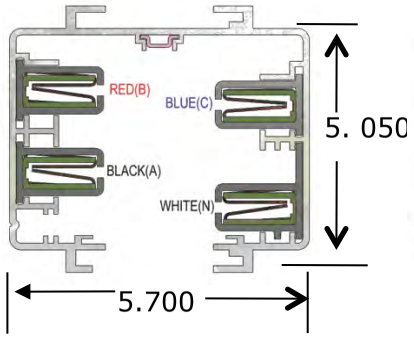


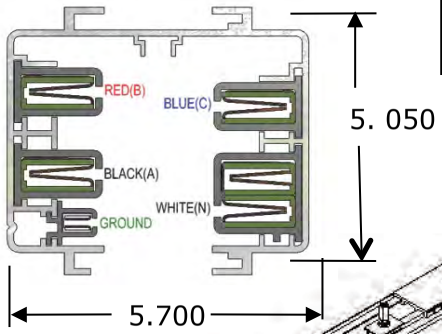
Tee's and Elbow Sections are specified according to desired polarity



Standard B400, 400 Amp System, 600 Volts

3 or 4 pole with/without Isolated ground





B400NG, 400 Amp System, 600 Volt (OVERSIZED NEUTRAL & ISOLATED GROUND)

End Cap page 10.7

Coupler page 10.8

Power Feed page 10.5-10.6

Tee page 10.4

Housing Section page 10.2

Support Hardware page 10.7

Bus Connector page 10.8

Elbow page 10.3

Installation Tool page 10.8

Plug-In Units page 12.35 – 12.45

Accessories – Closure Strip page 10.7
Weight Hook page 7.9

Ground Options

STARLINE® TRACK BUSWAY

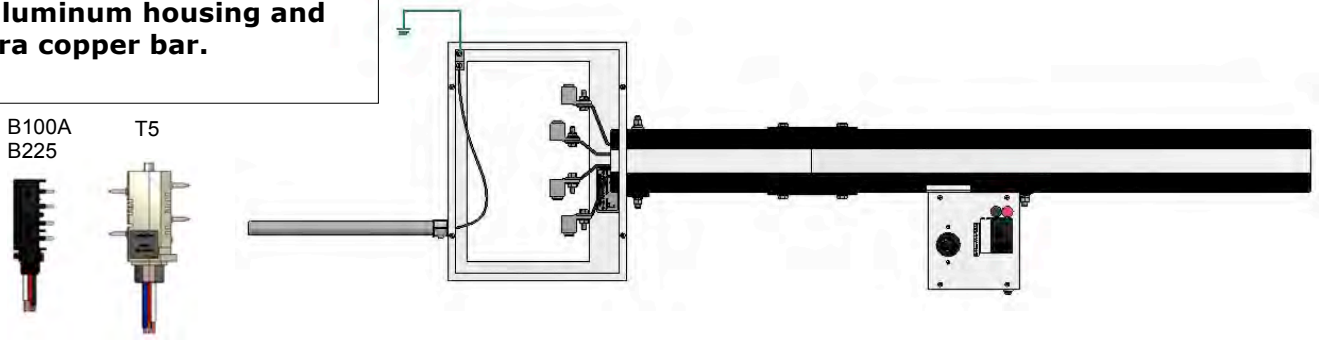
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

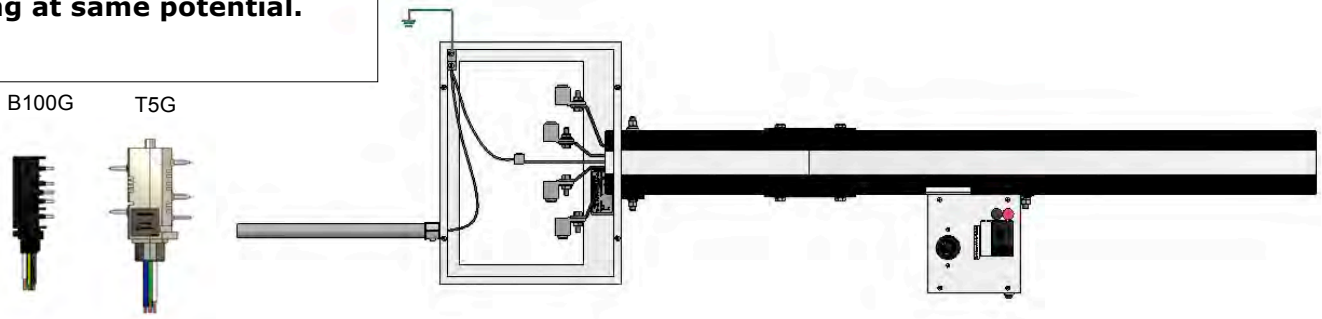


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

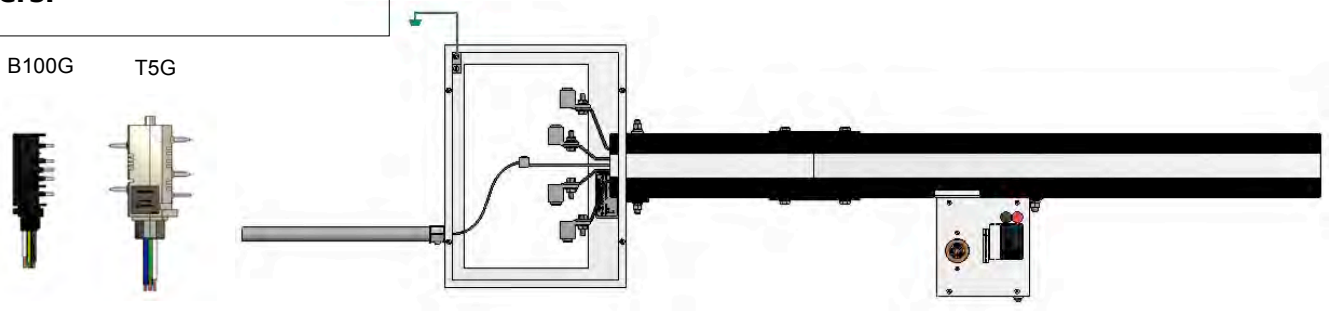


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



B400T5, B400T5N, B400T5G, B400T5NG Systems

STARLINE® TRACK BUSWAY

HOUSING SECTION

Track Busway housing section consists of an extruded aluminum shell with "spring-pressure" type copper channel busbars contained in a full length PVC insulator mounted on the interior walls. The aluminum extrusion acts as a 100% ground path meeting UL 857 Standard and complies with applicable paragraphs of Section 250 of the NEC. Each housing has a continuous access slot over its entire length for the insertion of turn-n-lock plug-in units. Housing configurations include 3 or 4-pole varieties, optional isolated ground, optional oversize neutral. The housing sections join together using Bus connectors which fit into the channels of the adjoining section. An Installation tool is used to force the blades into the busbar channels for a solid "spring-pressure" electrical connection.

MATERIAL: Extruded Aluminum

RATINGS: 100% Ground Path

400 Amps

B400T5/B400G 600 Volt

B400N/B400NG 480 Volt

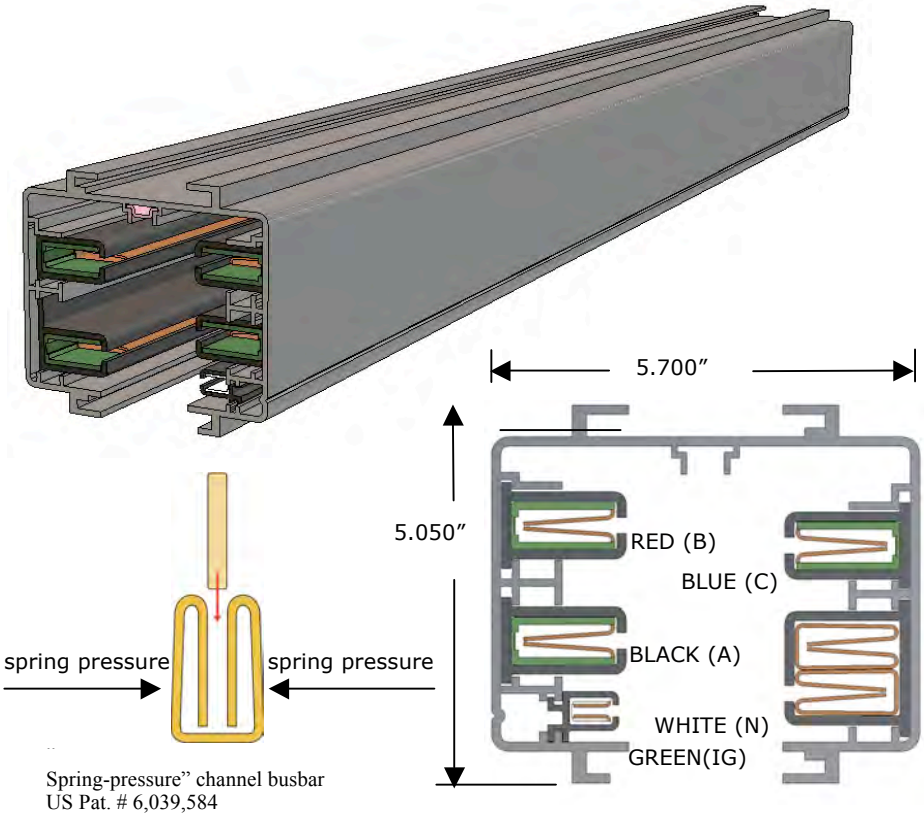
LENGTH: 5 Ft, 10 Ft.

VOLTAGE DROP:

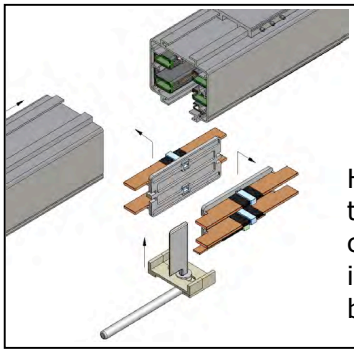
distributed load, .8PF

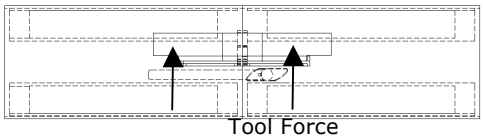
Single Phase 49ft per Volt

Three Phase 58 ft per Volt



Spring-pressure" channel busbar
US Pat. # 6,039,584





Housing sections are joined by inserting the Bus connector which fits into the channels of the adjoining section. The installation tool is then rotated to force blades into slots.

Catalog Number Sequence

B400T5–(X)PG–(L)

- (L) Length: 5 or 10 or custom length
- (X) Number of Poles
- System size = 400
- G – isolated ground
- NG – IG & 200% Neutral

Catalog Number Selection

Catalog No.	Description	Length	Weight
B400T5-4PG-5	400A, 4-pole	5 ft	47.5 lbs
B400T5-4PG-10	400A, 4-pole	10 ft	95.0 lbs
B400T5G-4PG-5	400A, 4P/iso. Gnd	5 ft	50.0 lbs
B400T5G-4PG-10	400A, 4P/iso. Gnd	10 ft	100.0 lbs
B400T5N-4PG-5	400A, 4P/ 200%N	5 ft	55.0 lbs
B400T5N-4PG-10	400A, 4P/ 200%N	10 ft	110.0 lbs
B400T5NG-4PG-5	400A, 4P/IG/200%N	5 ft	60.0 lbs
B400T5NG-4PG-10	400A, 4P/IG/200%N	10 ft	120.0 lbs

B400T5, B400T5N, B400T5G, B400T5NG Systems

ELBOW SECTION

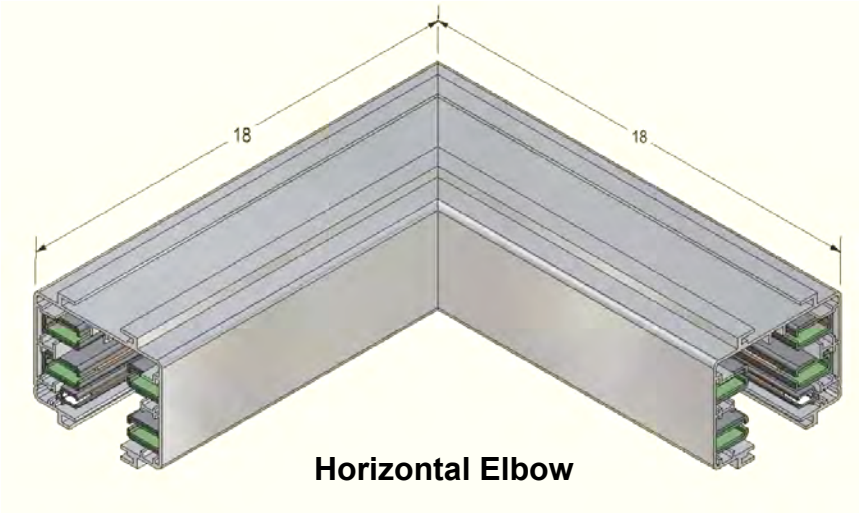
Elbow Section

An Elbow is used for making a horizontal 90 degree change of direction in a Busway run. Specify right or left elbow, according to the orientation of the polarizing stripe in the Busway sections to be connected.

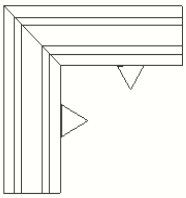
CONNECTION ACCESSORIES:

(Ordered Separately)

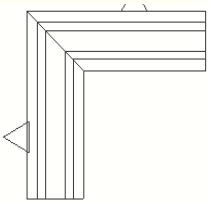
Joint Kit (JK400T5 series) is used to make mechanical and electrical connections to adjacent Busway sections.



Horizontal Elbow



EL400-4-L
Horizontal Elbow



EL400-4-R
Horizontal Elbow

Installed with couplers

Catalog Number Sequence
EL 400T5-(P)–(X)

- **Direction Right, Left**
- **Number of Poles (3 OR 4)**
- **System size = 400**
  G – isolated ground
  NG – IG & 200% Neutral
- **Elbow**

Catalog Number Selection

Catalog No.	Description	Weight
EL400T5-4-L	Elbow, 4-pole, left	28.0 lbs
EL400T5-4-R	Elbow, 4-pole, right	28.0 lbs
EL400T5G-4-L	Elbow, 4-pole/IG, left	28.0 lbs
EL400T5G-4-R	Elbow, 4-pole/IG, right	28.0 lbs
EL400T5N-4-L	Elbow, 4-pole/200% N, left	28.0 lbs
EL400T5N-4-R	Elbow, 4-pole/200% N, right	28.0 lbs
EL400T5NG-4-L	Elbow, 4-pole/IG/200% N, left	28.0 lbs
EL400T5NG-4-R	Elbow, 4-pole/IG/200% N, right	28.0 lbs

B400T5, B400T5N, B400T5G, B400T5NG Systems

TEE SECTION

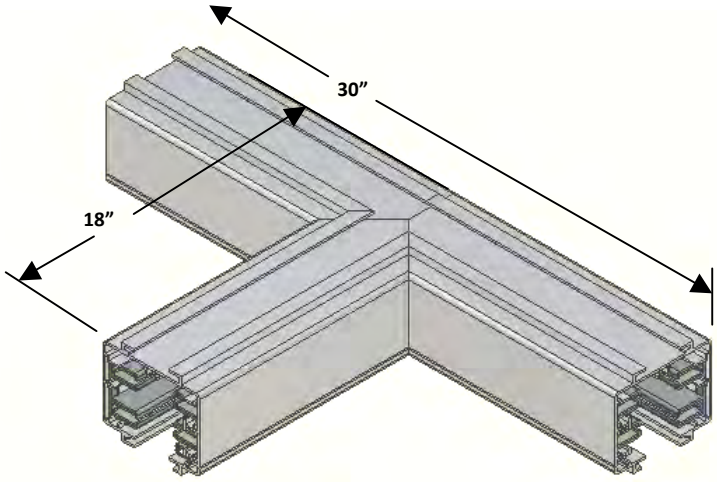
Tee Section

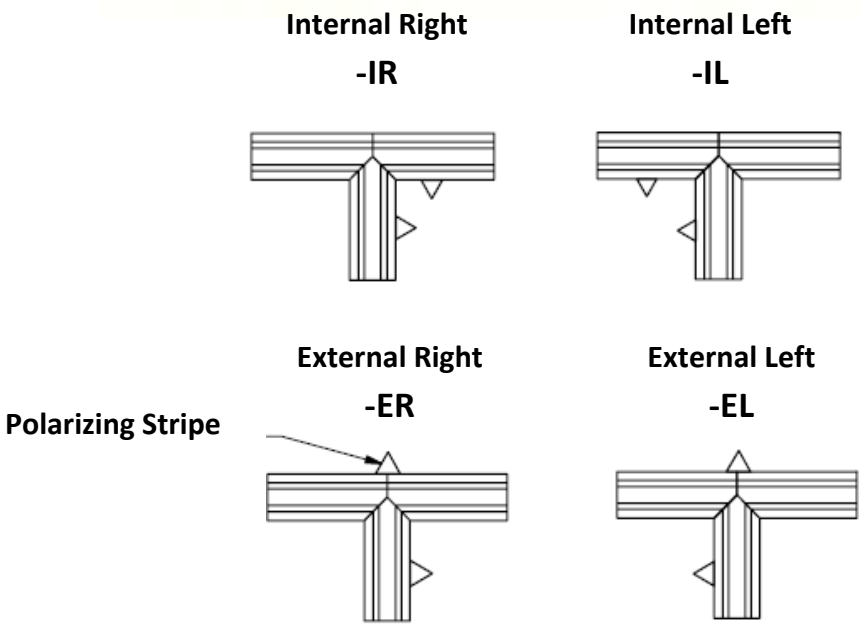
A Tee is used for making a horizontal 90 degree branch leg in a Busway run. Specify internal, external, right, or left tee, according to the orientation of the polarizing stripe in the Busway sections to be connected.

CONNECTION ACCESSORIES:

(Ordered Separately)

A Joint Kit (JK400T5 series) is used to make mechanical and electrical connections to adjacent Busway sections.





Catalog Number Sequence
T400T5- (P)–(XX)

- **Direction External or Internal Right or Left**
- **No. of Poles (3 or 4)**
- **System size = 400**
  G – isolated ground
  NG – IG & 200% Neutral
- **Tee**

Catalog Number Selection *(standard B400 shown)*

Catalog No.	Description	Weight
T400T5-4-IL	Tee, 4-pole, Internal Left	42.0 lbs
T400T5-4-EL	Tee, 4-pole, External Left	42.0 lbs
T400T5-4-IR	Tee, 4-pole, Internal Right	42.0 lbs
T400T5-4-ER	Tee, 4-pole, External Right	42.0 lbs

B400T5, B400T5N, B400T5G, B400T5NG Systems

END POWER FEED UNITS
Supplying power to END of Busway

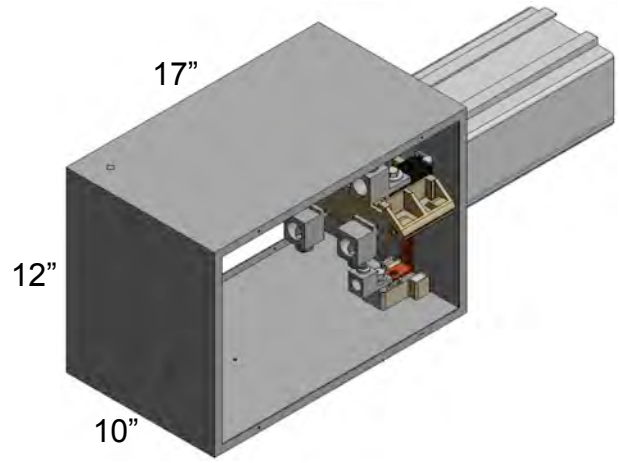
Standard End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 12 x 17 x 10 in. steel junction box, with removable sides, connected to a 1 ft section of Busway. The assembly includes connection lugs and a ground lug for wires up to 600 MCM.

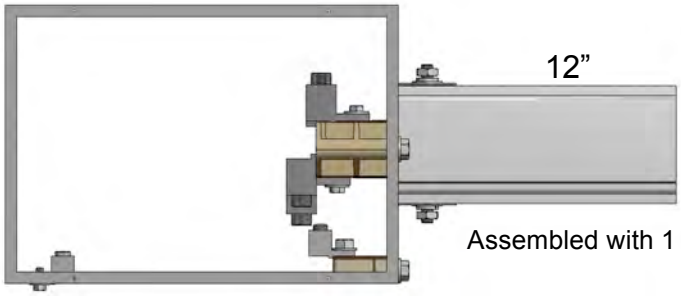
Reverse End Feed units for connection opposite end of Busway section (polarizing stripe faces to right as viewed from end of unit).

Junction box is sized such that one or two 4 in. conduits can be installed in end of box.

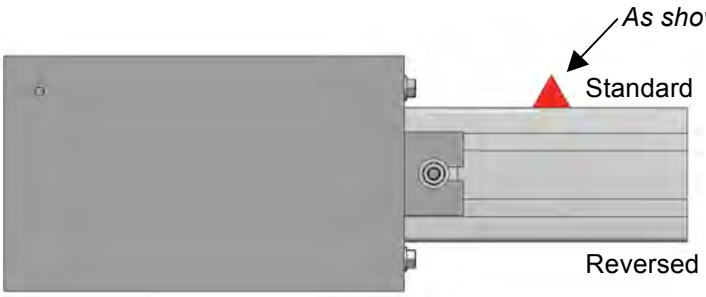
End Power Feed units are connected to adjacent Busway sections using Housing Coupler and Bus Connector (sold separately).

Special Need Power Feed units for confined spaces as might be found in Mission Critical Data Centers can also be designed and fabricated, requiring minimum quantities.





Assembled with 1 foot of Busway



Catalog Number Sequence
EF400–(P)(R)

- **Reverse**
- **System Poles**
- **System size = 400**
  G – isolated ground
  NG – IG & 200% Neutral
- **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF400T5-4	End Feed, 4-Pole	31.5 lbs
EF400T5-4R	End Feed, 4-Pole	31.5 lbs
EF400T5G-4	End Feed, 4-Pole/IG	32.0 lbs
EF400T5G-4R	End Feed, 4-Pole/IG	32.0 lbs
EF400T5N-4	End Feed, 4-Pole/200% N	33.0 lbs
EF400T5N-4R	End Feed, 4-Pole/200% N	33.0 lbs
EF400T5NG-4	End Feed, 4-Pole/IG/200% N	33.5 lbs
EF400T5NG-4R	End Feed, 4-Pole/IG/200% N	33.5 lbs

B400T5, B400T5N, B400T5G, B400T5NG Systems

FUSED POWER FEED UNITS

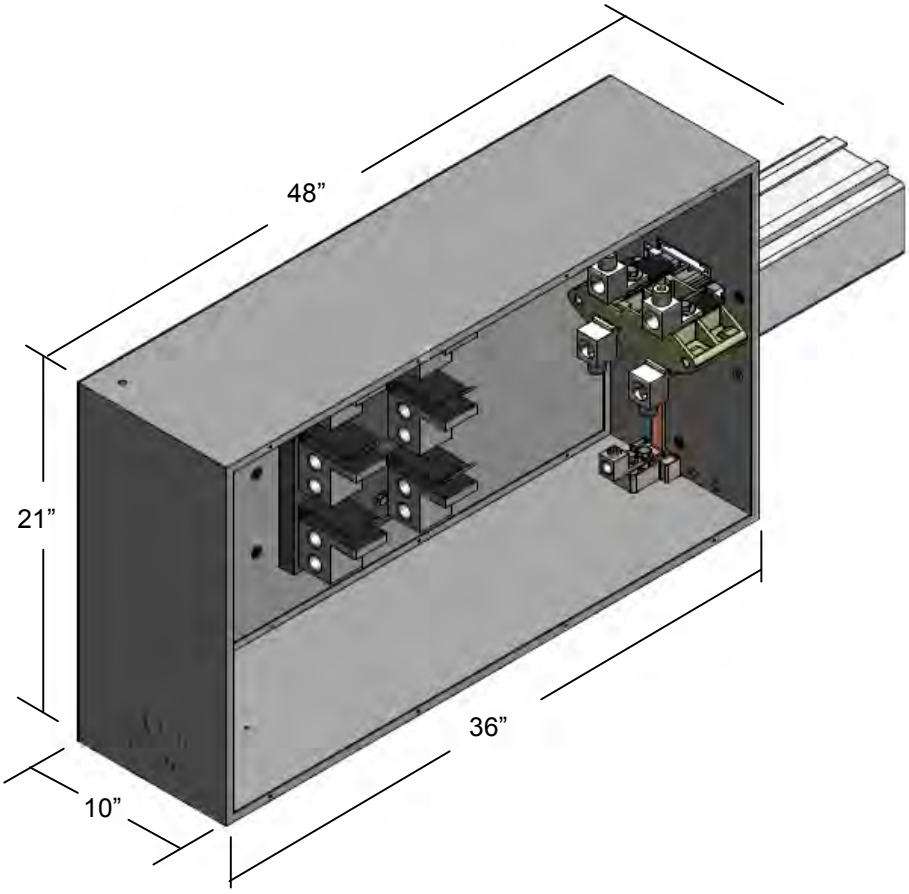
Supplying power to END of Busway

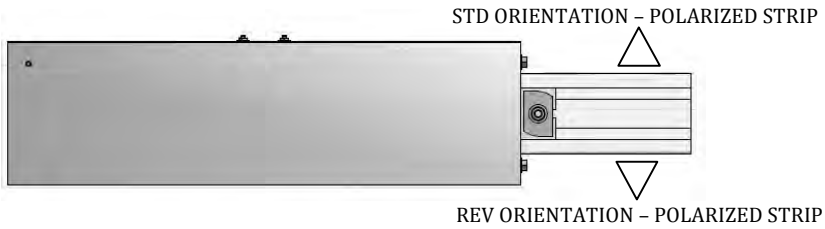
Fused Power Feed Units

Fused End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 36 X 21 X 10 in. steel junction box, with a removable side, connected to a 1 foot section of Busway. The assembly includes 600MCM wire connections from the fuse base. Customers are required to provide the appropriate sized Class-J fuses.

The end feed box is sized such that one or two 4" conduits can be installed in the end of the box.

Fused End Power units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).





Catalog Number Sequence

EF400T5–(P)R-FUSED

- **Orientation**
  - **Blank – Standard**
  - **R – Reversed**
- **System Poles**
- **System size = 400**
  - **G – isolated ground**
  - **NG – IG & 200% Neutral**
- **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF400T5-4-FUSED	Top Feed, 4-Pole	82.0 lbs
EF400T5-4R-FUSED	Top Feed, 4-Pole	82.0 lbs
EF400T5G-4-FUSED	Top Feed, 4-Pole/IG	84.0 lbs
EF400T5G-4R-FUSED	Top Feed, 4-Pole/IG	84.0 lbs
EF400T5N-4-FUSED	Top Feed, 4-Pole/200% N	88.0 lbs
EF400T5N-4R-FUSED	Top Feed, 4-Pole/200% N	88.0 lbs
EF400T5NG-4-FUSED	Top Feed, 4-Pole/IG/200% N	90.0 lbs
EF400T5NG-4R-FUSED	Top Feed, 4-Pole/IG/200% N	90.0 lbs

B400, B400N, B400G, B400NG Systems

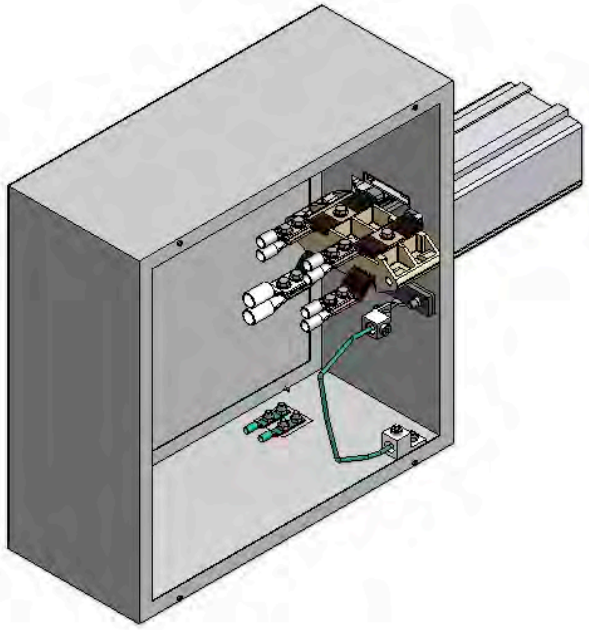
STARLINE® TRACK BUSWAY

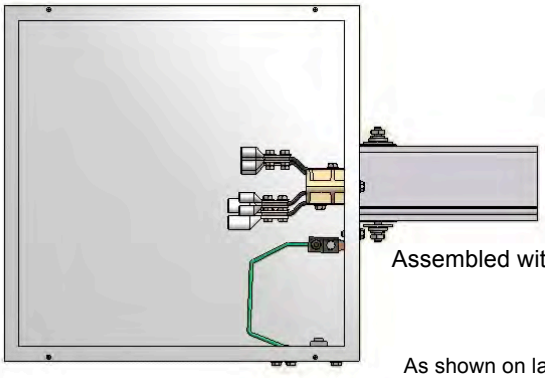
END POWER FEED UNITS-2 BOLT LUG
Supplying power to END of Busway

End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 24 X 24 X 10 in. steel junction box, with removable sides, connected to a 1 foot section of Busway. The assembly provides landings for standard 2 bolt (1" centers, 3/8" bolt) crimp connection lugs for wires up to 700MCM. Crimp connection lugs are not included. Reverse End feed units for connection to opposite end of busway section (polarizing stripe faces to right as viewed from end of unit).

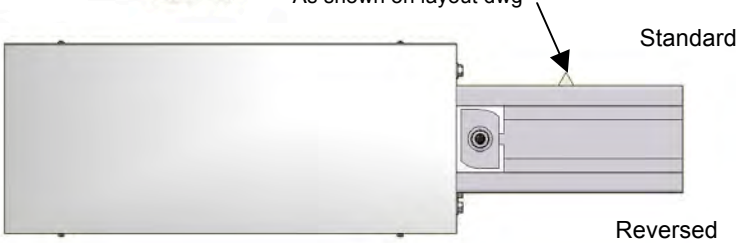
Two Lugs per busbar can be used for parallel conductor feed arrangements.

End Power Feed units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).





Assembled with 1 ft of Busway



Catalog Number Sequence
EF400L–(P)(R)-2BL

- (P) → Two bolt lug
- (R) → Reverse
- System Poles
- Large Box
- System size = 400
  G – isolated ground
  NG – IG & 150% Neutral
- End Feed

Catalog Number Selection

Catalog No.	Description	Weight
EF400L-4-2BL	End Feed, 4-Pole	35.5 lb
EF400L-4R-2BL	End Feed, 4-Pole	35.5 lb
EF400GL-4-2BL	End Feed, 4-Pole/IG	36 lb
EF400GL-4R-2BL	End Feed, 4-Pole/IG	36 lb
EF400NL-4-2BL	End Feed, 4-Pole/150% N	37 lb
EF400NL-4R-2BL	End Feed, 4-Pole/150% N	37 lb
EF400NGL-4-2BL	End Feed, 4-Pole/IG/150% N	37.5 lb
EF400NGL-4R-2BL	End Feed, 4-Pole/IG/150% N	37.5 lb

B400T5, B400T5N, B400T5G, B400T5NG Systems

STARLINE® TRACK BUSWAY

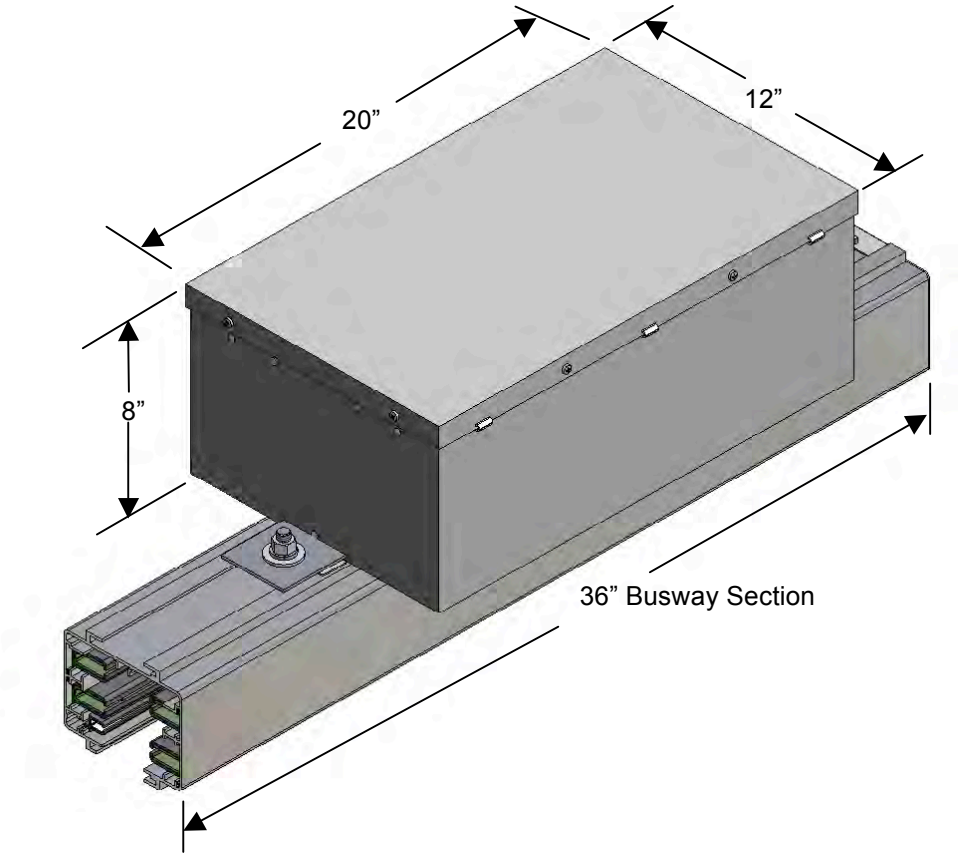
TOP POWER FEED
Supplying power to TOP of Busway

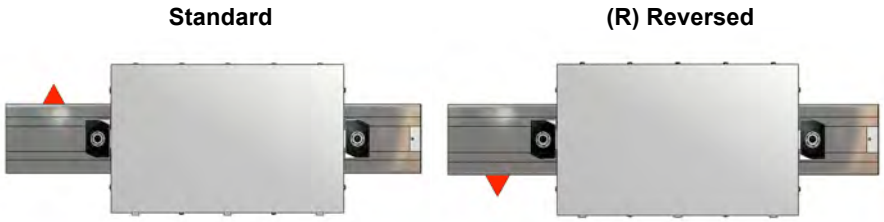
Top Power Feed Units

Standard Top Power Feed units supply power from the topside of the Busway. Factory assembled unit consists of a 20 X 12 X 8 in. steel junction box, with hinged cover, mounted on top of a 36 inch section of Busway.

Top Feed Power units can be positioned at end or anywhere along a busway run. Connections to adjoining busway sections are made by the standard means, requiring couplers and bus connectors which are sold separately.

Top Feed unit can also be used as top power supply point anywhere along Busway run by connecting to adjacent Busway sections at both ends.





Catalog Number Sequence
TF400T5–(P)

- (P) → System Poles
- 400 → System size = 400
  - G – isolated ground
  - NG – IG & 200% Neutral
- T5 → Top Feed

Catalog Number Selection

Catalog No.	Description	Weight
TF400T5-4	Top Feed, 4-Pole	46.5 lbs
TF400T5-4R	Top Feed, 4-Pole	46.5 lbs
TF400T5G-4	Top Feed, 4-Pole/IG	46.5 lbs
TF400T5G-4R	Top Feed, 4-Pole/IG	46.5 lbs
TF400T5N-4	Top Feed, 4-Pole/200% N	50.0 lbs
TF400T5N-4R	Top Feed, 4-Pole/200% N	50.0 lbs
TF400T5NG-4	Top Feed, 4-Pole/IG/200% N	50.0 lbs
TF400T5NG-4R	Top Feed, 4-Pole/IG/200% N	50.0 lbs

B400T5, B400T5N, B400T5G, B400T5NG Systems

STARLINE® TRACK BUSWAY

CONNECTION ACCESSORIES

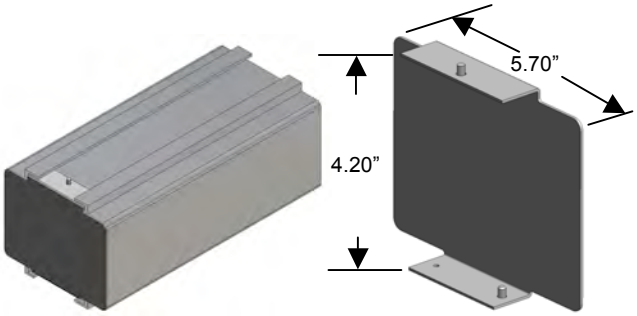
END CAP

For covering the end of B400T5 Busway run.

PART NUMBER
EC400T5

WEIGHT

0.4 lb/ft.



HANGER BOLTS

Threaded Rod (BRH400-1)

For mounting to 1/2-13 threaded rod. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

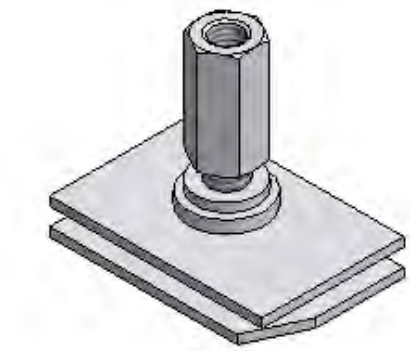
Standard (BHT5-1)

For mounting to strut or other flat surfaces. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

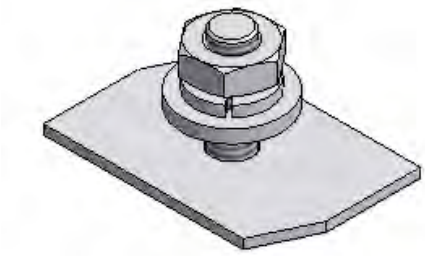
PART NUMBER
BRHT5-1
BHT5-1

WEIGHT

1lb/ft.



BRHT5-1



BHT5-1

OPTIONAL CLOSURE STRIP

Snaps into bottom access slot of B400T5 housing sections. Normally shipped in 10 ft lengths.

PART NUMBER
CST5-1

WEIGHT

0.3 lb/ft.

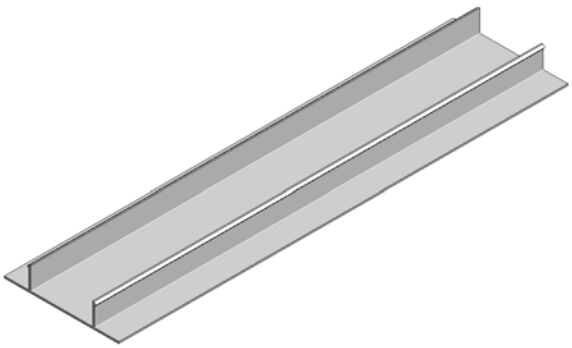
ALUMINUM CLOSURE STRIP

Affixes with an adhesive backing to access slot of B400T5 housing sections. Normally shipped in 10 ft lengths.

PART NUMBER
CST5-1-AL

WEIGHT

0.4 lb/ft.



B400T5, B400T5N, B400T5G, B400T5NG Systems

JOINT KIT / INSTALLATION TOOL

JOINT KIT
For connection of adjacent Busway sections. One Kit required at each joint. Each Kit is comprised of a housing coupler pair and bus connector set. Specify configuration to match busway configuration.

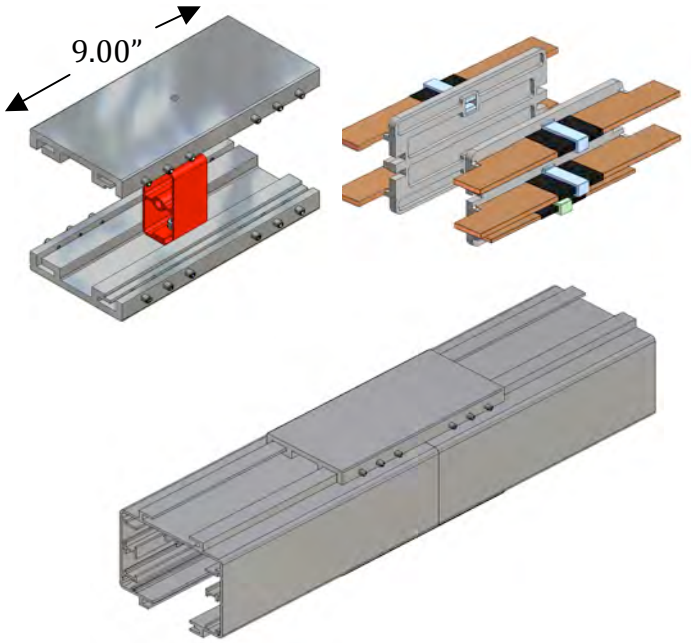
HOUSING COUPLER:

consists of two, 12-screw couplers- one for the top and one for the bottom.

BUS CONNECTOR: Copper blades secured to insulating mounting plate. Left and Right set, makes electrical connection between sections.

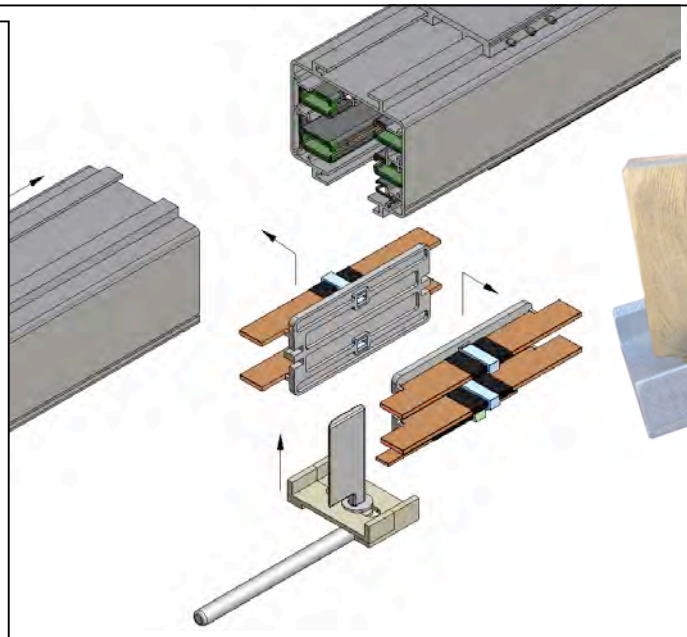
PART NUMBER
JK400T5-1
JK400T5G-1
JK400T5N-1
JK400T5NG-1

WEIGHT
4 lbs.

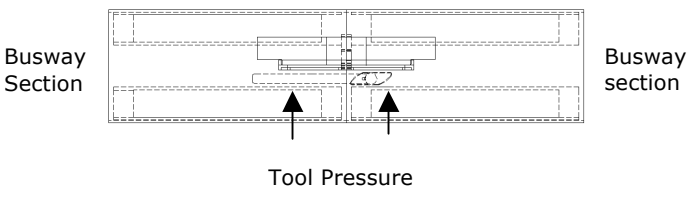


Used to install the ‘bus connector’ electrical joint between two adjacent sections of Busway. A ‘Joint Kit’, comprised of two housing couplers and a bus connector set are required at every joint.

Busway sections are butted together and the top housing coupler is installed. The Bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90º forcing stabs into u-shaped female conductors making a spring-loaded, secure electrical connection. Housing Coupler is positioned over the bottom joint and tightened.



INSTALLATION TOOL



Installation Tool	**PART NUMBER** **BT5IT** **Weight 3.1 lbs.**

STARLINE® TRACK BUSWAY

COMPONENT RELATIONSHIP

When ordering material it is important to understand the relationship between various components. Examples:

- ALL COMPONENTS except Housing, Tee, Elbow Sections and Power Feeds are the same and are interchangeable for B400T5, B400T5N (double neutral), B400T5G and B400T5NG Amp Systems. Substitute either "400T5" or 400T5N" or "400T5G" or "400T5NG" for all Housing, Tee, Elbow Sections and Power Feed units.

- Each housing section requires a joint kit. Determine the total number of housing sections (regardless of length) as this becomes the number of Joint Kits (JK400 series) that will be needed.
  - Add one extra Joint Kit for each Tee Section.
  - No need to add extra Joint Kits for Elbow Sections, as they are already part of your housing count.

- If this is your first installation for either B400T5, B400T5N, B400T5G or B400T5NG systems, you will need to order Installation Tool B400T5IT.

- General support hardware rule to follow:

$$\frac{\text{Total System Length}}{10} + 0.10\ (10\%) = \text{Support Hardware Qty}$$

10 equal 10 ft spacing and 10% extra is recommended for job site changes.

- Total Power Feeds and End Caps can be determined by counting the total number of unconnected runs.

- Before specifying or ordering elbow or tee sections, it is important to understand polarity and the relationship to direction of outlets. Please refer to POLARITY CONCERNS for more detail.

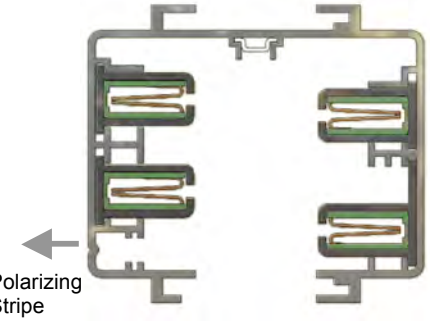
B400T5, B400T5N, B400T5G, B400T5NG Systems

STARLINE TRACK BUSWAY

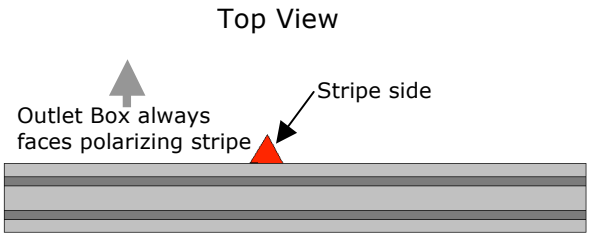
POLARITY CONCERNS

STARLINE utilizes a unique polarizing method to prevent mismatched components from being inadvertently connected to each other. The system is designed to prevent cross phasing during installation. It is particularly important to understand this design concept prior to ordering and/or installing some components. For example, if the face direction of a STARLINE plug-in unit is important in your installation consider that they will always face the conductor side. Certain plug-in units are 'reversible', designated by 'R', to face devices away from the conductor side.

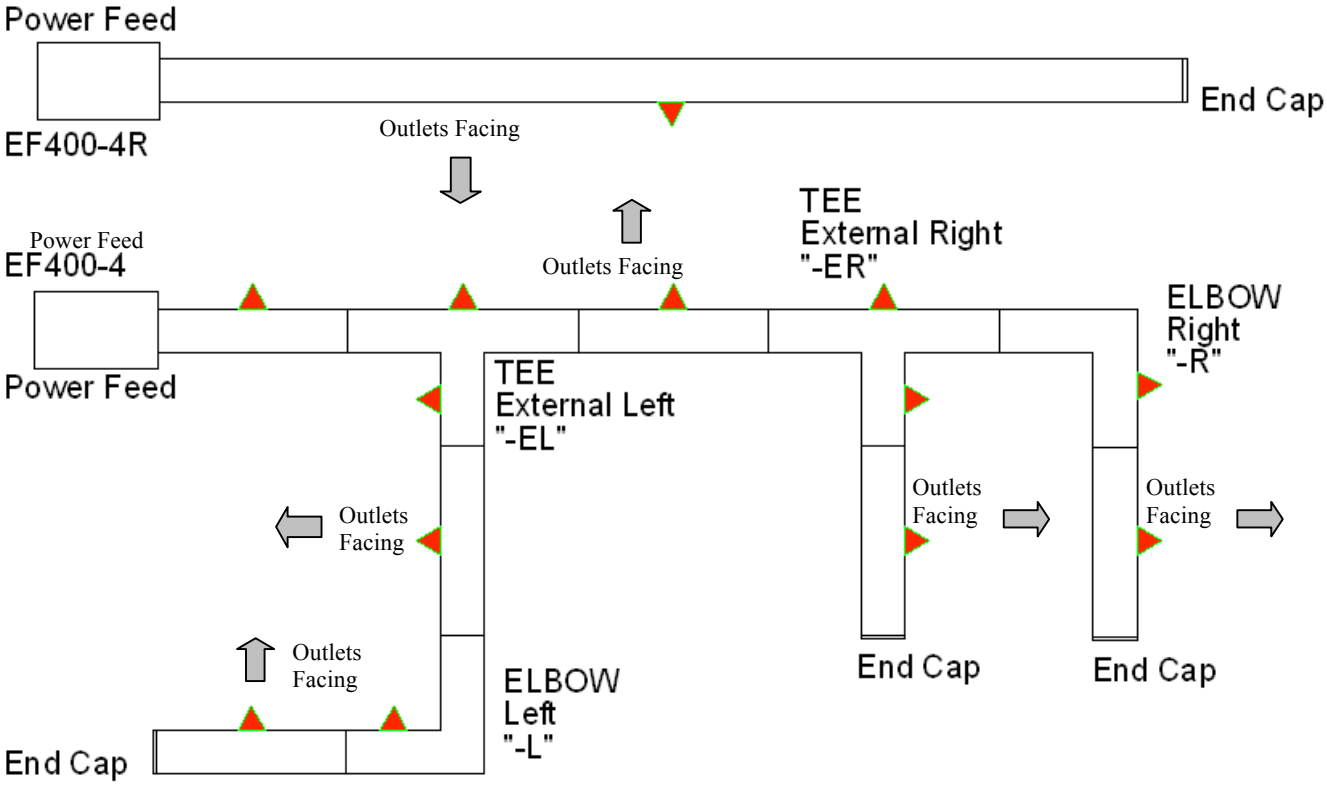
Outlet Box always faces polarizing stripe



Polarizing Stripe

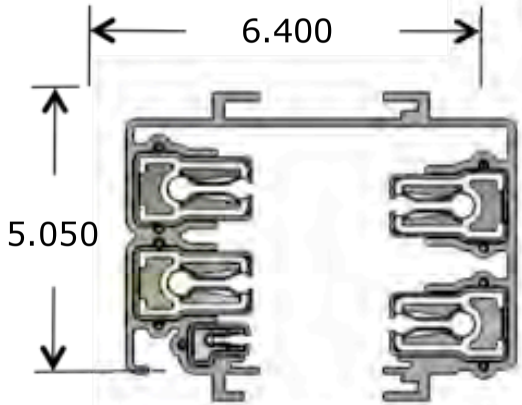


Tee's and Elbow Sections are specified according to desired polarity

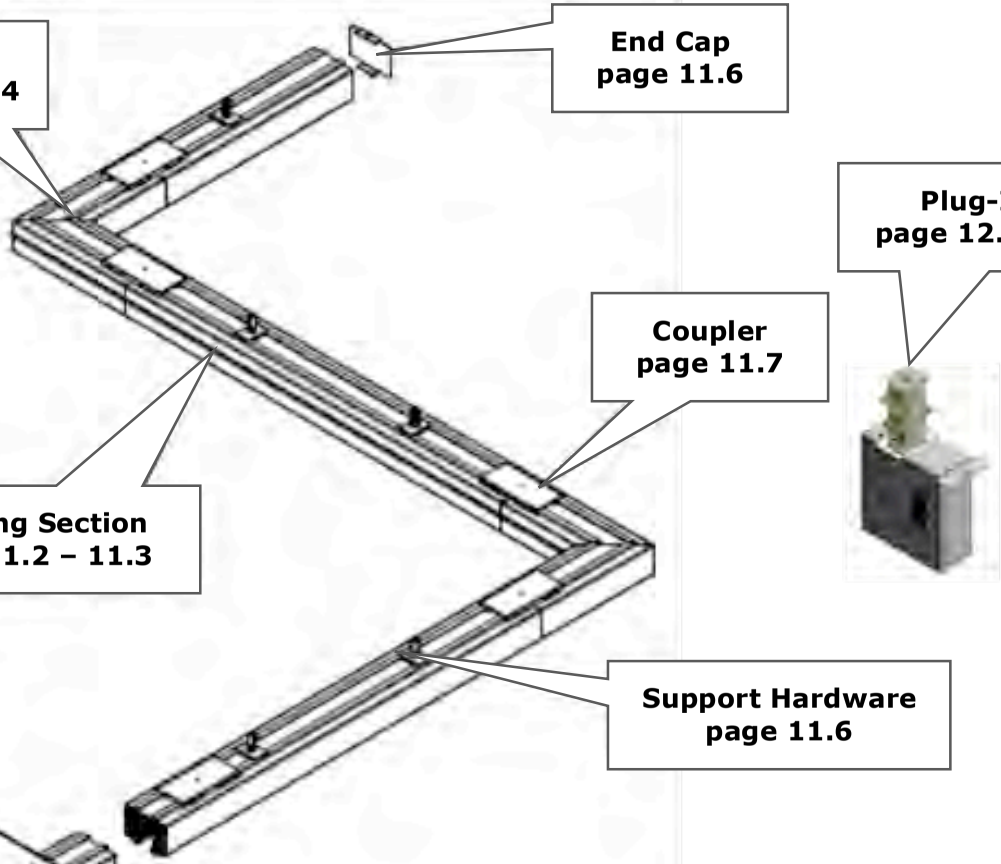


Standard B800T5, 800 Amp System, 600 Volts

3 or 4 pole with/without Isolated ground



B800T5GCA, 800 Amp System, 600 Volt w/ Isolated Ground



Elbow page 11.4

End Cap page 11.6

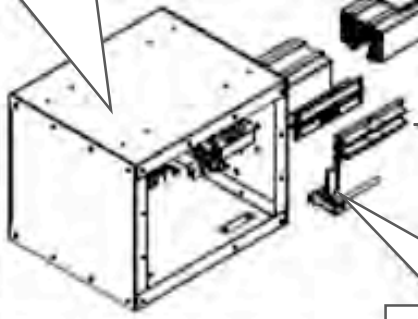
Plug-In Units page 12.35 – 12.45

Coupler page 11.7

Housing Section page 11.2 – 11.3

Support Hardware page 11.6

Power Feed page 11.5a – 11.5b



Bus Connector page 11.7

Accessories
Access Shutter page 11.8
Closure Strip page 7.9
Weight Hook 7.9

Installation Tool page 11.7

Ground Options

STARLINE® TRACK BUSWAY

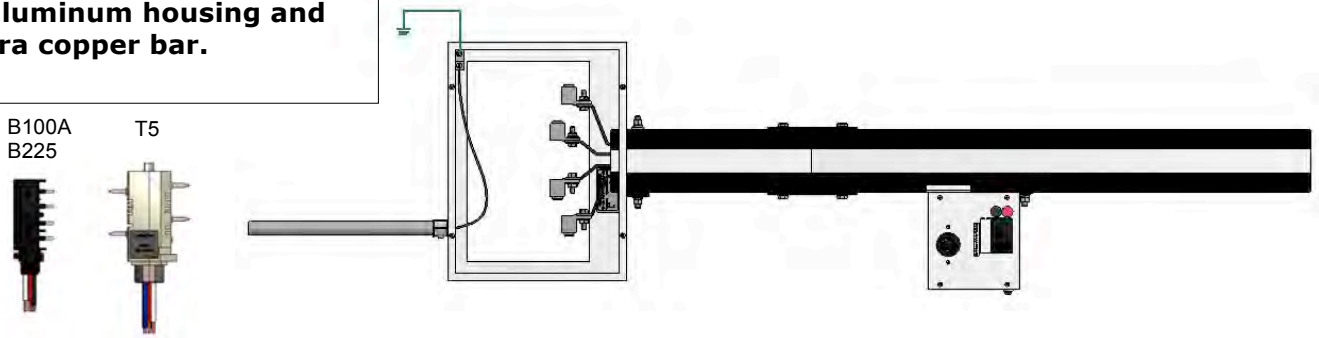
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

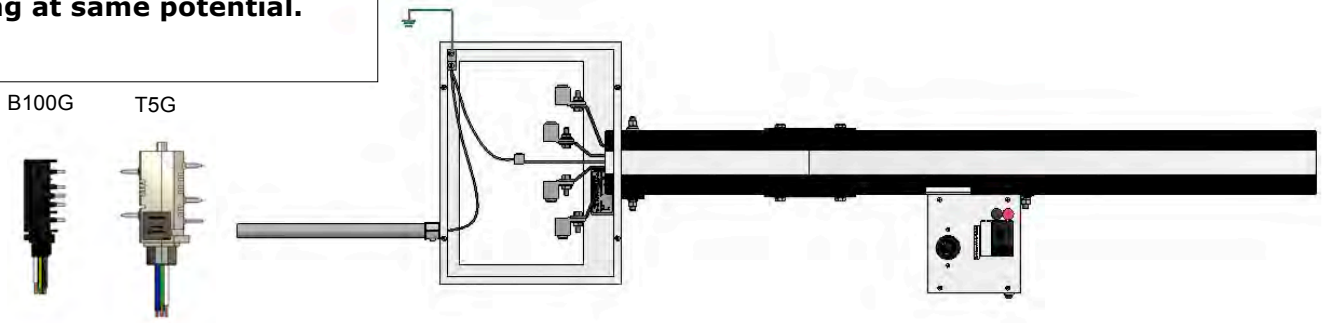


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

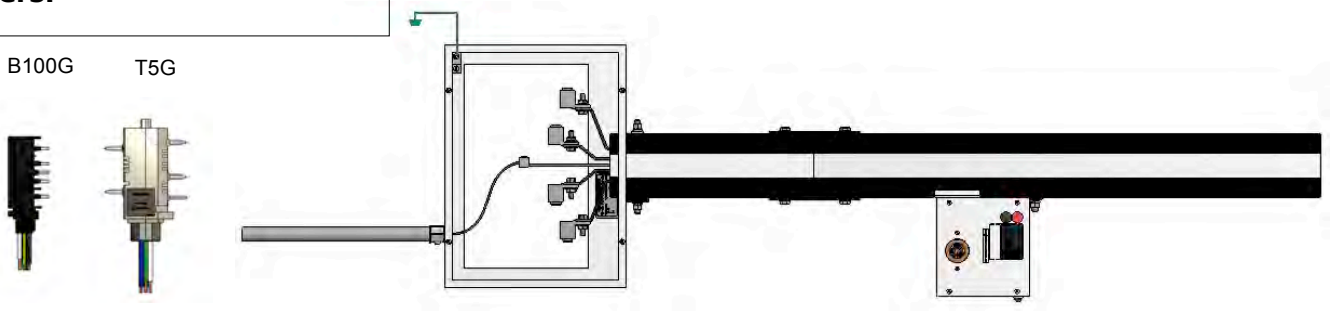


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G

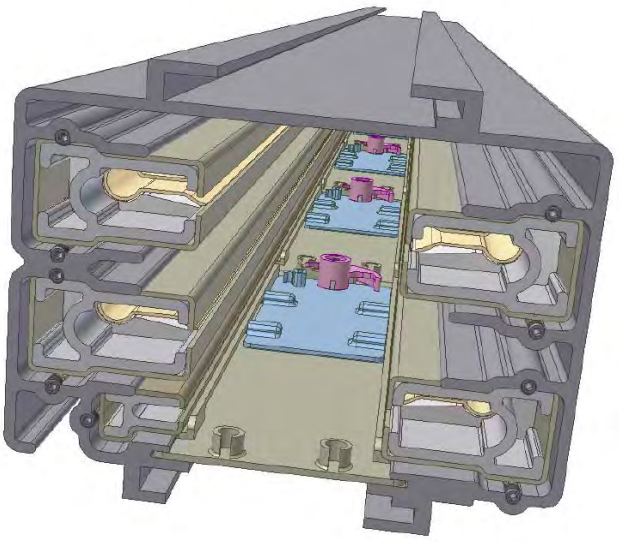


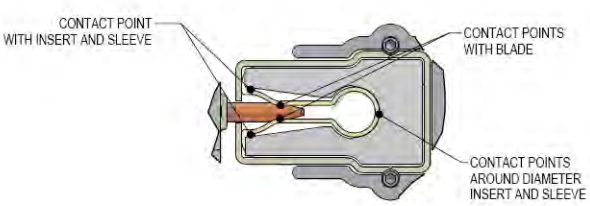
STARLINE® TRACK BUSWAY

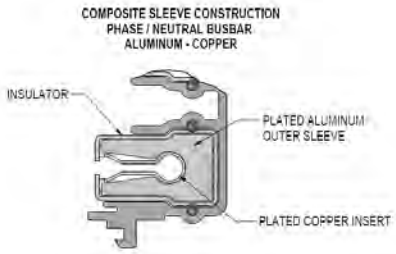
HOUSING SECTIONS

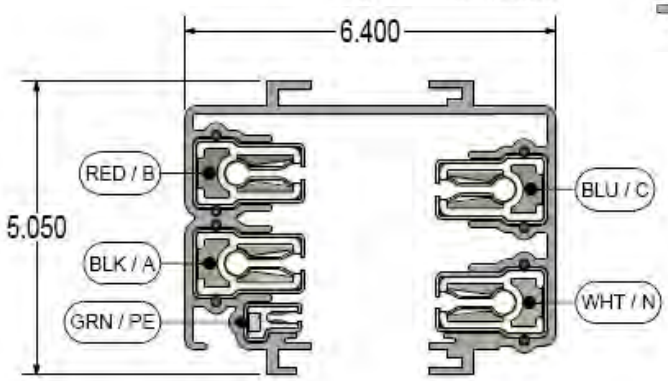
Track Busway housing section consists of an extruded aluminum shell with composite copper-aluminum busbar channels contained in a full length, halogen free insulator mounted on the interior walls. The enclosure provides a 100% ground path, meeting UL 857 Standard and Section 250 of the NEC. Plug-In Versions designated type "S" provides access shutters on 10" centers its entire length for the insertion of plug-in units. Housing configurations include 3 or 4 pole varieties, with optional isolated ground. The housing sections join together using Bus connectors which fit into the channels of the adjoining section for a solid electrical connection.

MATERIAL: Extruded Aluminum
CONDUCTOR: Composite Cu/Al
RATINGS: 100% Ground Path
800 Amps
600 Volt
LENGTH: 5 Ft, 10 Ft, Max 10 Ft.









Catalog Number Sequence
B800T5CA(G)S–(X)PG–(L)

- **Length**
  5 or 10
  or Custom Length
- **No. of Poles (3 or4)**
- **System Size=800 / CuAL**
- **G – Isolated Ground**

Catalog Number Selection

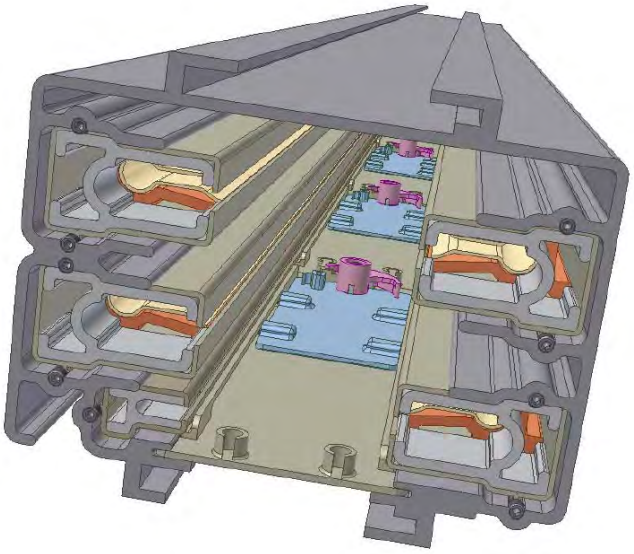
Catalog No.	Description	Length	Weight
B800T5CAS-4PG-5	800A, Plug-In Access 4P	5 ft	58.0 lbs
B800T5CAS-4PG-10	800A, Plug-In Access 4P	10 ft	115.0 lbs
B800T5CAGS-4PG-5	800A, Plug-In Access 4P/IG	5 ft	68.0 lbs
B800T5CAGS-4PG-10	800A, Plug-In Access 4P/IG	10 ft	136.0 lbs

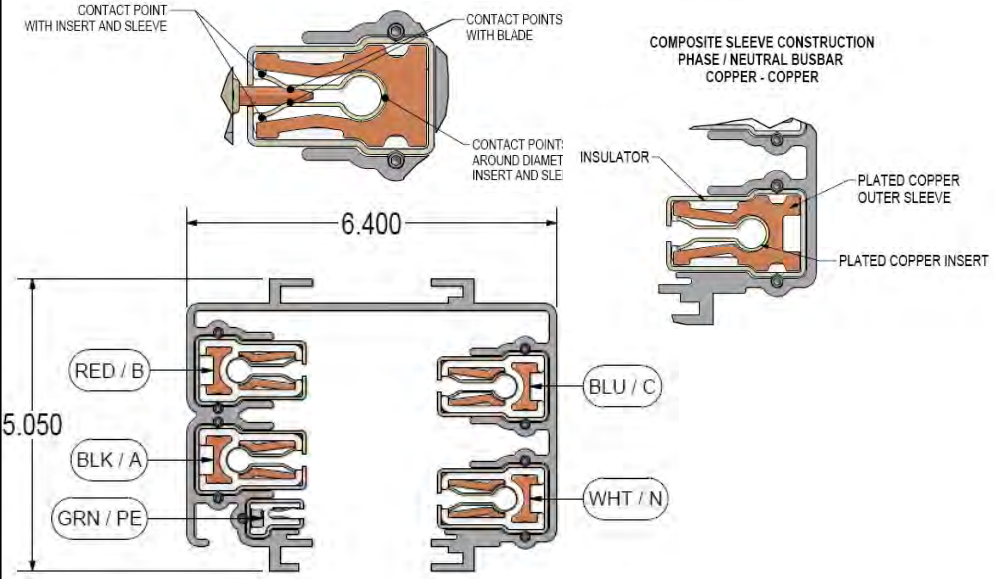
STARLINE® TRACK BUSWAY

HOUSING SECTIONS

Track Busway housing section consists of an extruded aluminum shell with copper busbar channels contained in a full length halogen free insulator, mounted on the interior walls. The enclosure provides a 100% ground path meeting UL 857 Standard and Section 250 of the NEC. Plug-In Versions designated type "S" provides access shutters on 10" centers its entire length for the insertion of plug-in units. Housing configurations include 3 or 4 pole varieties, with optional isolated ground. The housing sections join together using Bus connectors which fit into the channels of the adjoining section for a solid electrical connection.

MATERIAL: Extruded Aluminum
CONDUCTOR: Copper
RATINGS: 100% Ground Path
800 Amps
600 Volt
LENGTH: 5 Ft, 10 Ft, Max 12 Ft.





Catalog Number Sequence
B800T5CC(G)S–(X)PG–(L)

- **Length**
  5 or 10
  or Custom Length
- **No. of Poles (3 or 4)**
- **System Size = 800 / CU**
  G – Isolated Ground

Catalog Number Selection

Catalog No.	Description	Length	Weight
B800T5CCS-4PG-5	800A, Plug-In Access 4P	5 ft	98.0 lbs
B800T5CCS-4PG-10	800A, Plug-In Access 4P	10 ft	196.0 lbs
B800T5CCGS-4PG-5	800A, Plug-In Access 4P/IG	5 ft	103.0 lbs
B800T5CCGS-4PG-10	800A, Plug-In Access 4P/IG	10 ft	205.0 lbs

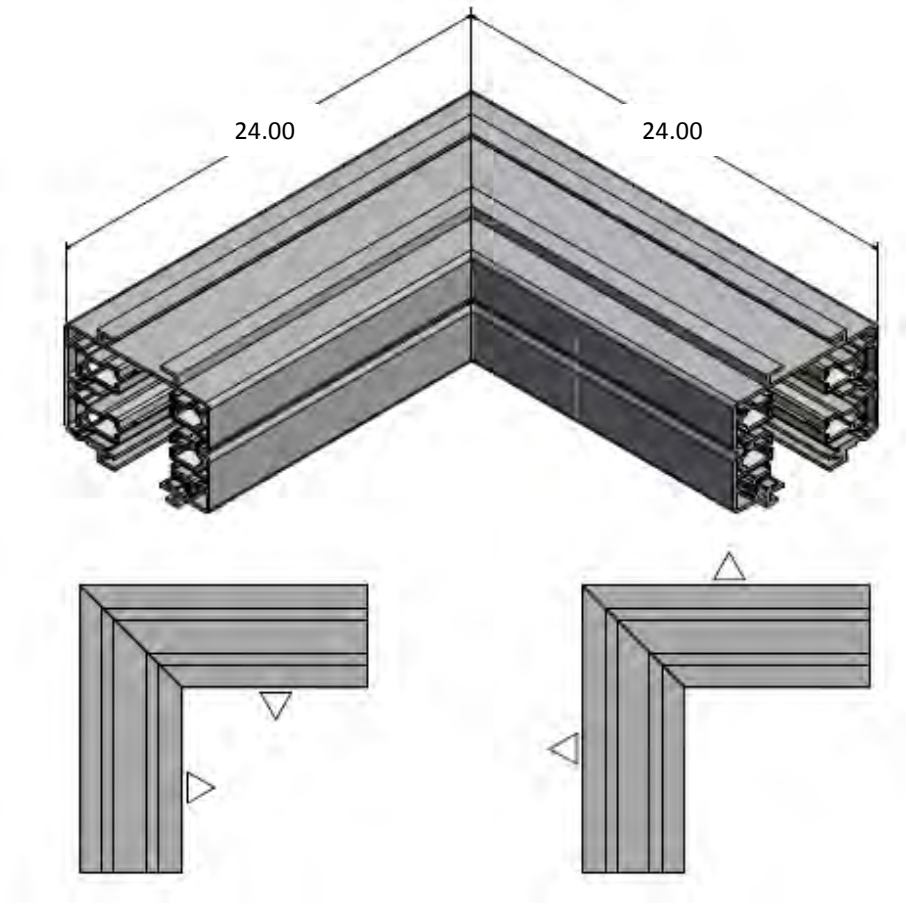
STARLINE® TRACK BUSWAY

HORIZONTAL ELBOW SECTIONS

Elbow Section
An Elbow is used for making a horizontal 90 degree change of direction in a Busway run. Specify right or left elbow, according to the orientation of the polarizing stripe in the Busway sections to be connected.

CONNECTION ACCESSORIES:
(Ordered Separately)

Joint Kit (JK800 series) is used to make mechanical and electrical connections to adjacent Busway sections.



EL800-4-L
Internal Elbow

EL800-4-R
External Elbow

Catalog Number Sequence
EL800-(P)–(X)

- **Direction Right, Left**
- **No. of Poles (3 OR 4)**
- **System size = 800**
  G – Isolated Ground
- **Elbow**

Catalog Number Selection

Catalog No.	Description	Weight
EL800T5-4-L	Elbow, 4-pole, left	28.0 lbs
EL800T5-4-R	Elbow, 4-pole, right	28.0 lbs
EL800T5G-4-L	Elbow, 4-pole/IG, left	30.0 lbs
EL800T5G-4-R	Elbow, 4-pole/IG, right	30.0 lbs

STARLINE® TRACK BUSWAY

END POWER FEED UNITS

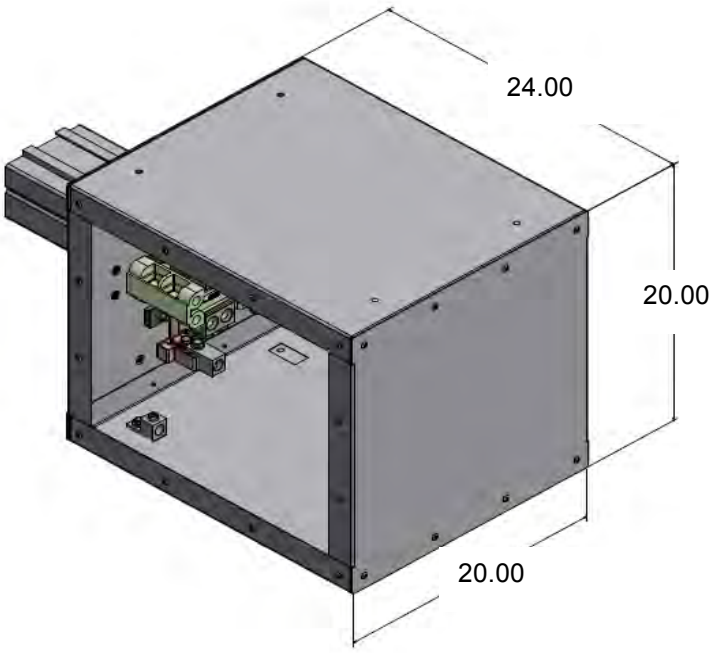
Supplying power to end of Busway

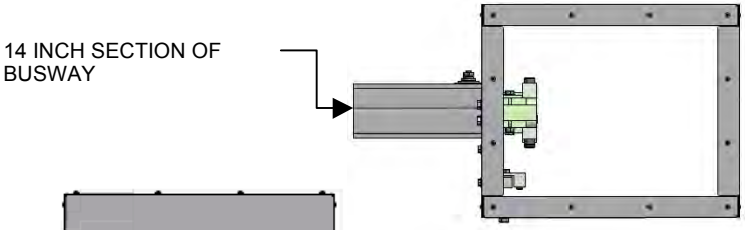
Standard End Power Feed units connect to the end of any busway section. Factory assembled unit consists of a 24 X 20 X 20 in. steel junction box, with removable sides, connected to a 1 foot section of busway. The assembly includes ground lugs for wires up to 350MCM and connection lugs that can handle up to (2) 600MCM wires (CU) or (2) 600MCM wires (AL). Reverse End feed units for connection to opposite end of busway section (polarizing stripe faces to right as viewed from end of unit).

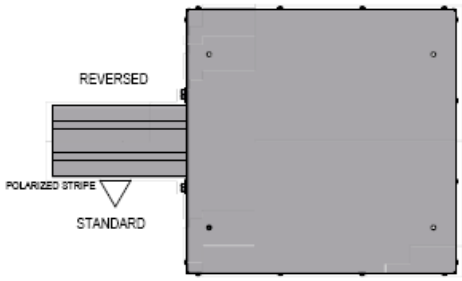
Junction box is sized such that one or two 4" conduits can be installed in end of box.

End Power Feed units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).

Special need power feed units for confined spaces as might be found in Mission Critical Data Centers can also be designed and fabricated, requiring minimum quantities.







Catalog Number Sequence

EF800T5–(P)(R)

- **(R)** → **Reverse**
- **(P)** → **System Poles**
- **800T5** → **System size = 800T5**
  - **G – Isolated Ground**
  - **NG – IG**
- **EF** → **End Feed**

Catalog Number Selection

Catalog No.	Description	Weight
EF800T5-4	End Feed, 4-Pole	31.5 lbs
EF800T5-4R	End Feed, 4-Pole / Rev	31.5 lbs
EF800GT5-4	End Feed, 4-Pole/IG	32.0 lbs
EF800GT5-4R	End Feed, 4-Pole/IG / Rev	32.0 lbs

B800T5 Series Systems

STARLINE® TRACK BUSWAY

CENTER POWER FEED UNITS

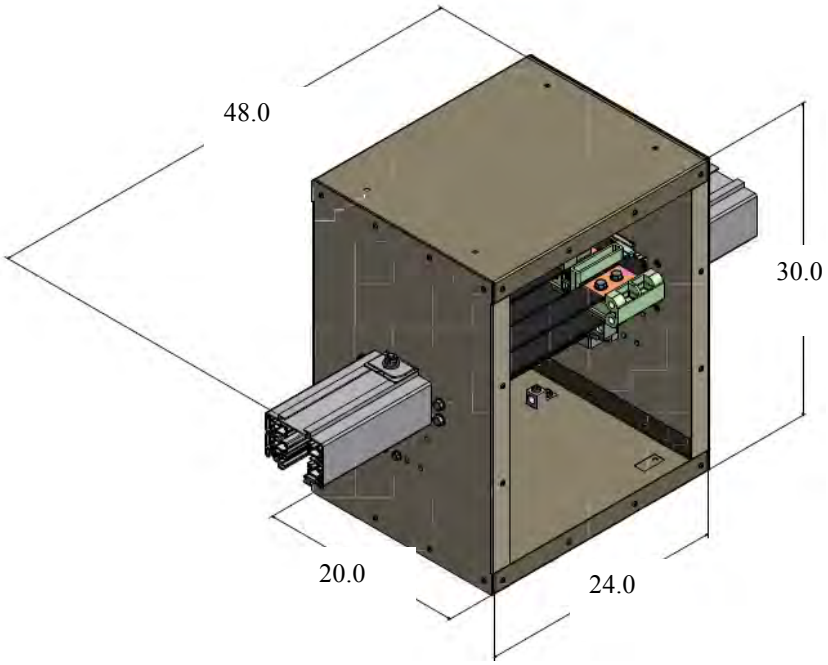
Supplying power to center of Busway

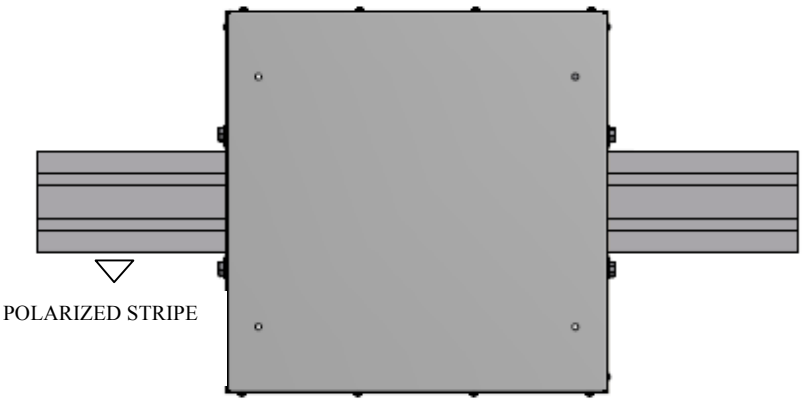
Center Power Feed unit connects between adjacent busway sections to provide power in the center of a busway run. Factory assembled unit consists of a 24 X 20 X 30 in. steel junction box, with removable sides, connected to two 1 foot sections of busway. The assembly includes ground lugs for wires up to 600 MCM and connection lugs that can handle up to (2) 600 MCM wires (CU) or (3) 600 MCM wires (AL).

Junction box is sized such that one or two 4" conduits can be installed in end of box.

Center Power Feed units are connected to adjacent Busway sections using Housing Coupler and bus connector (sold separately).

Special need power feed units for confined spaces as might be found in Mission Critical Data Centers can also be designed and fabricated, requiring minimum quantities.





Catalog Number Sequence
CF800T5(X)–(P)

- **System Poles**
- **System size = 800T5**
  G – Isolated Ground
- **Center Feed**

Catalog Number Selection

Catalog No.	Description	Weight
CF800T5-4	Ctr Feed, 4-Pole	31.5 lb
CF800GT5-4	Ctr Feed, 4-Pole/IG	32.0 lb

STARLINE® TRACK BUSWAY

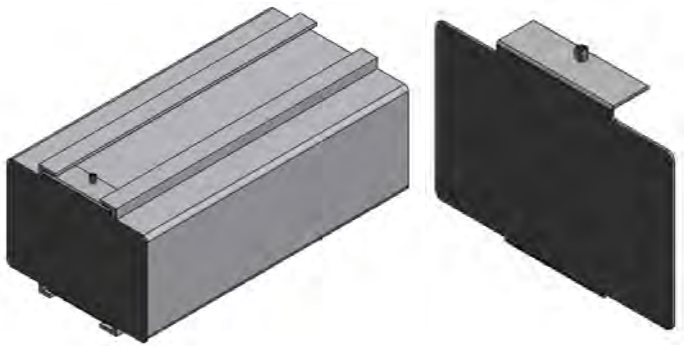
Connection Accessories

END CAP

For covering the end of B800 Busway run.

PART NUMBER
EC800T5

WEIGHT
0.4 lb.



HANGER BOLTS

Threaded Rod (BRHT5-1)

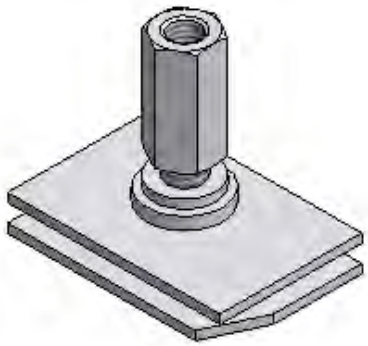
For mounting to 1/2-13 threaded rod. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

Standard (BHT5-1)

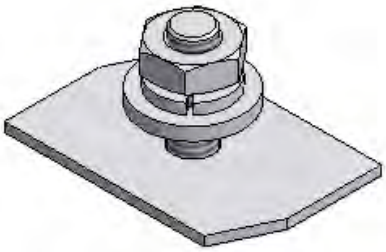
For mounting to strut or other flat surfaces. Twist-in design. Can be inserted anywhere along the full access slot on the top of the Busway. Maximum hanger support spacing is every 10ft.

PART NUMBER
BRHT5-1
BHT5-1

WEIGHT
1 lb.



BRHT5-1



BHT5-1

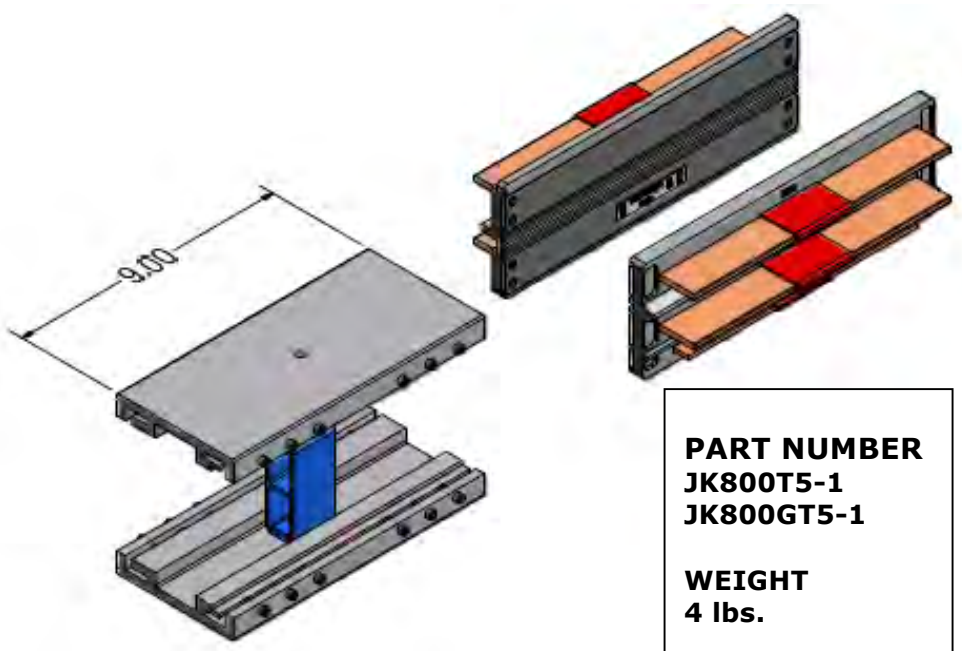
JOINT KIT/INSTALLATION TOOL

JOINT KIT

For connection of adjacent Busway sections. One Kit required at each joint. Each Kit is comprised of a housing coupler pair and bus connector set. Specify configuration to match busway configuration.

HOUSING COUPLER:
Consists of two, 12-screw couplers- one for the top and one for the bottom.

BUS CONNECTOR:
Silver plated copper blades secured to insulating mounting plate. Left and Right set, makes electrical connection between sections.

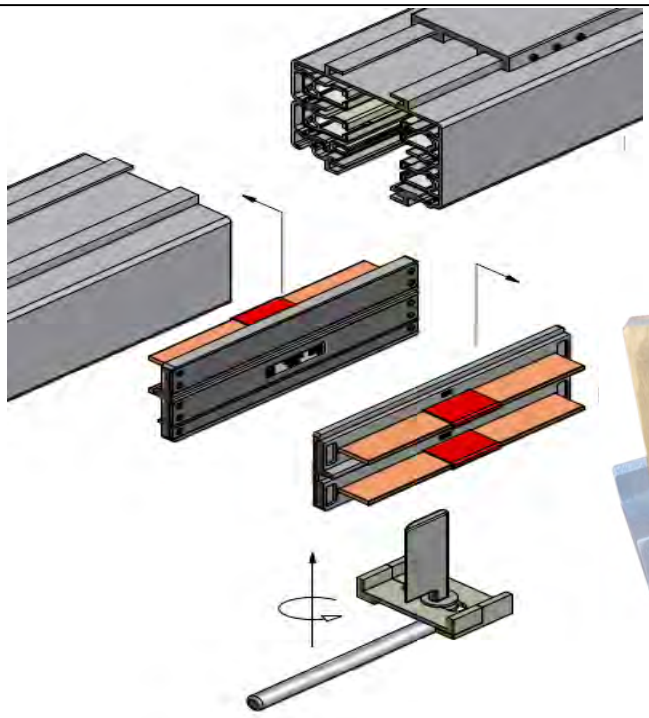


PART NUMBER
JK800T5-1
JK800GT5-1

WEIGHT
4 lbs.

INSTALLATION TOOL

Used to install the 'bus connector' electrical joint between two adjacent sections of Busway. A 'Joint Kit', comprised of two housing couplers and a bus connector set are required at every joint.
Busway sections are butted together and the top housing coupler is installed. The Bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90° forcing stabs into u-shaped female conductors making a secure electrical connection. Housing Coupler is positioned over the bottom joint and tightened.



INSTALLATION TOOL

Installation Tool

PART NUMBER
BT5IT
Weight 3.1 lbs.

STARLINE® TRACK BUSWAY

Access Shutter

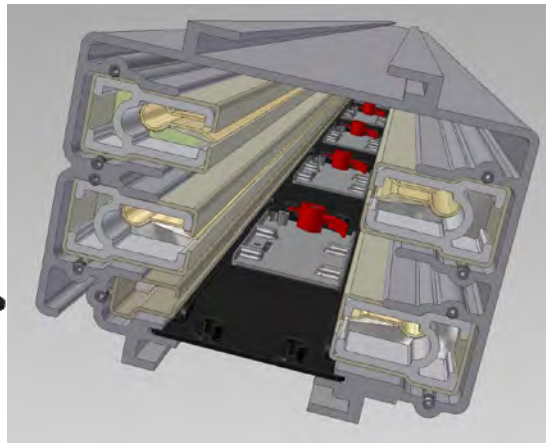
Access Shutter

UL Standards in the US require that 800 amp busway systems be provided with discrete plug-in ports. Therefore, B800 busway sections are provided with factory installed shutters as shown in the illustrations. The shutter incorporates a sliding door, lockable in the closed position. The door is easily unlocked and slides to the open position to accept a plug-in unit. Standard spacing of shutters is 10" on center, which maximizes the number of openings per the chart below.

Access Shutters per Section

Length	# Shutters
10′	10
9′	9
8′	7
7′	6
6′	5
5′	4
4′	3
2′	1
1′	N/A

Spacers can be added between access shutters to optimize spacing for specific plug-in unit sizes. Please consult factory for further details.

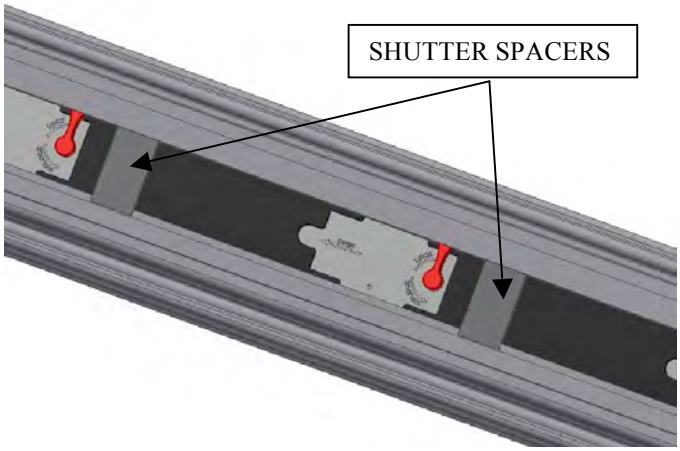


CLOSED LOCKED POSITION

UNLOCKED POSITION

SLIDE TO OPEN

OPENED – READY FOR PLUG-IN UNIT TO BE INSERTED



Plug-in Units

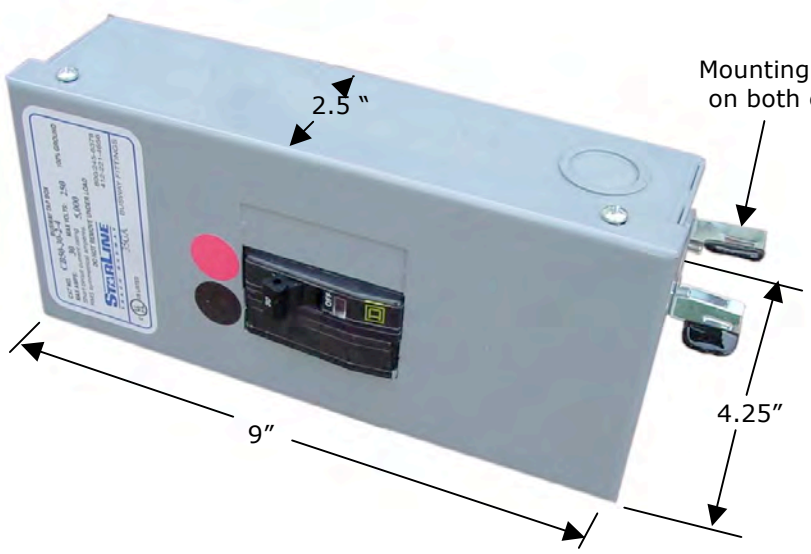
Table of Contents

Compact Series
40, 50, 60 Amp

CIRCUIT BREAKER PLUG-IN

Circuit Breaker

This plug-in consists of a full-size junction box with hinged lid, plug head and an externally operated circuit breaker. The circuit breaker plug-in is inserted into the busway until mounting clips "snap" into place. The units are normally supplied with breakers installed. Units can be supplied with mounting plate only to allow installation of snap-on breakers in the field. Optional factory-installed receptacles can be added. Circuit breakers can be 15 to 30 amps, 240 volts, and 1, 2 or 3 poles. Units with UL Listed multiple breakers are available. Units include copper grounding lug in the box that fits up to #6 wire, mounting tabs and mounting hardware to secure unit to Busway. Units have ½" and ¾" conduit knockouts on 3 sides.



Circuit Breaker installed on STARLINE

c UL us LISTED

Catalog Number Sequence

CB50–(ww)–(p)-240-(P)

- **CB=Circuit Breaker**
- **Amp rating 15 to 30**
- **Breaker**
- **System Poles Max Voltage**

Catalog Number Selection

Catalog Number	Description	Weight
CB50-ww-1-240-2	1-pole Circuit Breaker, 2-pole Busway	3.3 lbs
CB50-ww-1-240-4	1-pole Circuit Breaker, 4-pole Busway	3.3 lbs
CB50-ww-2-240-4	2-pole Circuit Breaker, 4-pole Busway	3.3 lbs
CB50-ww-3-240-4	3-pole Circuit Breaker, 4-pole Busway	4.2 lbs

"**ww**" = specify the ampere rating, 15 to 30 amps.

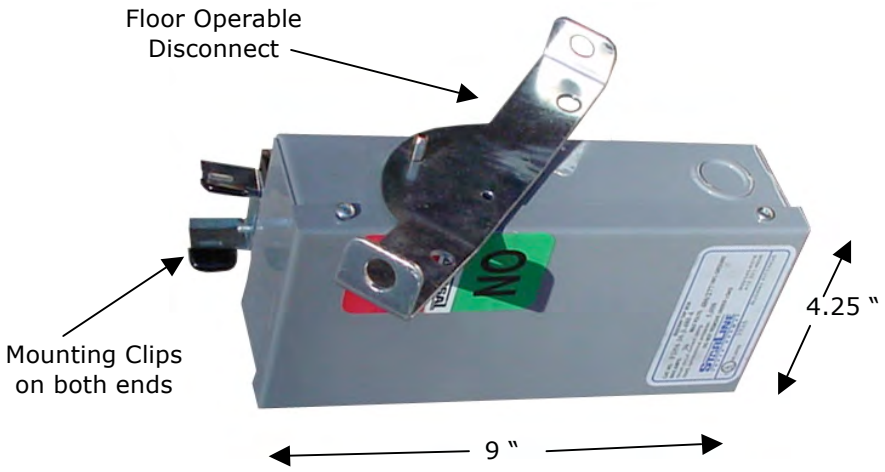
Compact Series
40, 50, 60 Amp

STARLINE TRACK BUSWAY

FUSED DISCONNECT PLUG-IN

Fused Disconnect

Units provide a 3-pole fuse block for Class CC fuses (ordered separately) with an external floor operable disconnect. The disconnect mechanism is floor operable with chains or a stick. Unit is rated at 30 Amps, 480/277 Volts.



Fused Disconnect installed on STARLINE

c UL us LISTED

Catalog Number Sequence

FD50–(ww)–(p)-480-(P)

- **System Poles**
- **Voltage rating**
- **Disconnect Poles**
- **Amp rating 30**
- **Fused Disconnect**

Catalog Number Selection

Catalog No.	Description	Weight
FD50-30-3-480-4	Fused Disconnect, 30A, 3P, 480V for 4-pole Busway	4.2 lbs

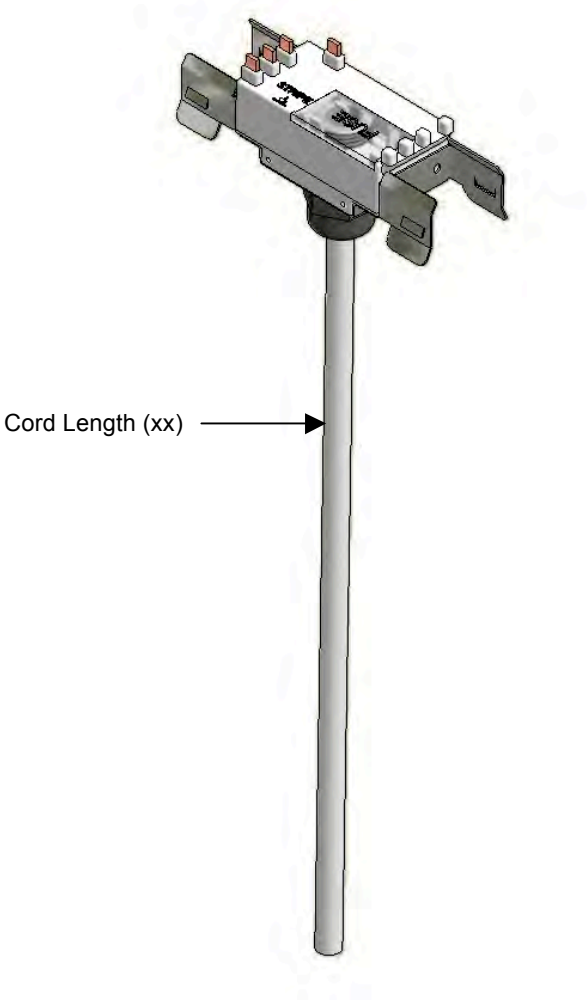
Compact Series
40, 50, 60 Amp

IP50 with CORD SET

IP50 Cord Set
Shipped assembled complete from the factory based on part number selection including cord, fuses, 10' length, and no wiring device. SJO cord is used in all assemblies.

The internal plug-in is ideal for applications where the plug head should not be visible such as light fixtures and retail/commercial areas. This Internal Plug "clicks" into the busway section and provides a mounting plate for light fixture connection. The unit inserts into the busway's continuous slot and snaps into place, making the mechanical, electrical and grounding connections. Units are polarized to inhibit reverse installation.

Internal plugs are available in ratings of 15 and 30 amps, 480/277 volts, fusible or non-fusible. The 15 amp version utilizes high temperature wire for ballast and fixture applications. A ground wire is also included with 15 amp fused units. Ground through the mounting plate for 30 amp internal plugs.



Catalog Number Sequence
IP50-(zF)–Czz

- Cord set Up to 30 amps
- With fuse (z=A, B or C)
- For all 40, 50 & 60C
- Internal Plug

Catalog Number Examples

Catalog No.	Description
IP50-AF-C15-5	15A drop cord set, A phase fused, 10ft. cord, for 4-pole system
IP50-BF-C20-2	20A drop cord set, B phase fused, 10ft. cord, for 4-pole system
IP50-CF-C30	30A drop cord set, C phase fused 10ft. cord, for 4-pole system

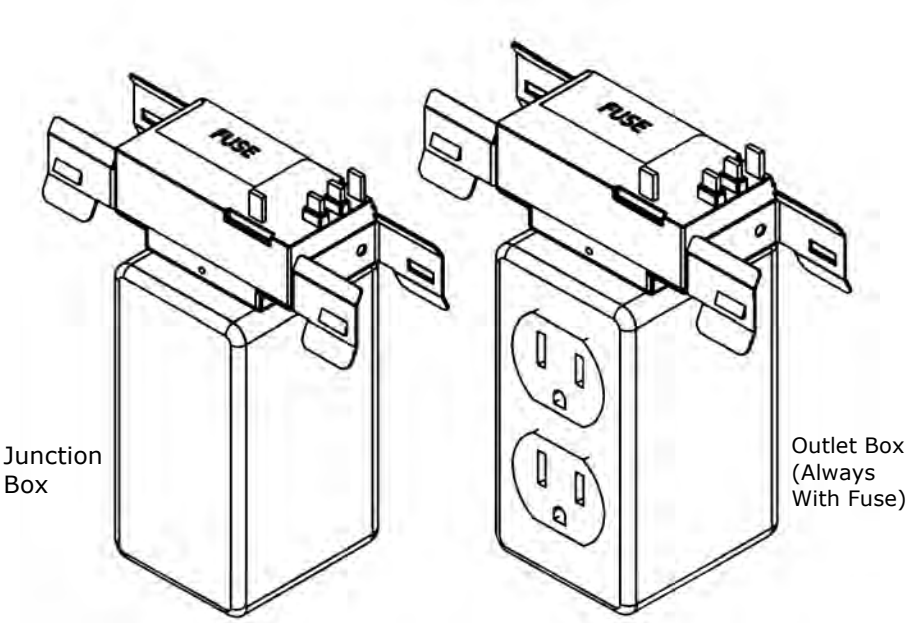
Compact Series
40, 50, 60 Amp

POWER PLUG-IN UNITS

Outlet Plug-In units are used to tap off power from the Busway. All plug-in units are equipped with a special plug head called a "Starjack" which "snaps" into the Busway continuous slot to make the spring-loaded connection. The installer simply inserts the unit into the Busway until a "clicking" sound is heard on each side of the connector. The snap-in connector provides ground connection for the box and load. All plug-in units are polarized to inhibit reverse installation.

A. Junction Box
Standard unit consists of J-box with connector, cover, ground lug and wire nuts. Optional Class CC fuseholders are available.

B. Outlet Box
Standard unit consists of J-box with connector, NEMA 5-15 or 5-20 duplex receptacles, Class CC fuse and fuseholder. Other NEMA configurations are also available.



Junction Box

Outlet Box (Always With Fuse)

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Catalog Number Sequence
(XXX)–(A)–(P)-xF

- **No. of fuses**
- **Number of Poles**
- **Amp Rating**
- **OB Outlet Box**
  DRF Duplex Receptacle

Catalog Number Selection

Catalog No.	Description	Weight
OB50-30-2	Junction Box, 30A, 2-pole*	1.2 lbs
OB50-30-4	Junction Box, 30A, 4-pole*	1.2 lbs
OB50-30-4-xF	Junction Box, 30A, 4-pole*	1.3 lbs
DRF50-20-A	Duplex, 20A, 2-pole, A-phase*	1.4 lbs
DRF50-20-B	Duplex, 20A, 2-pole, B-phase*	1.4 lbs
DRF50-20-C	Duplex, 20A, 2-pole, C-phase*	1.4 lbs

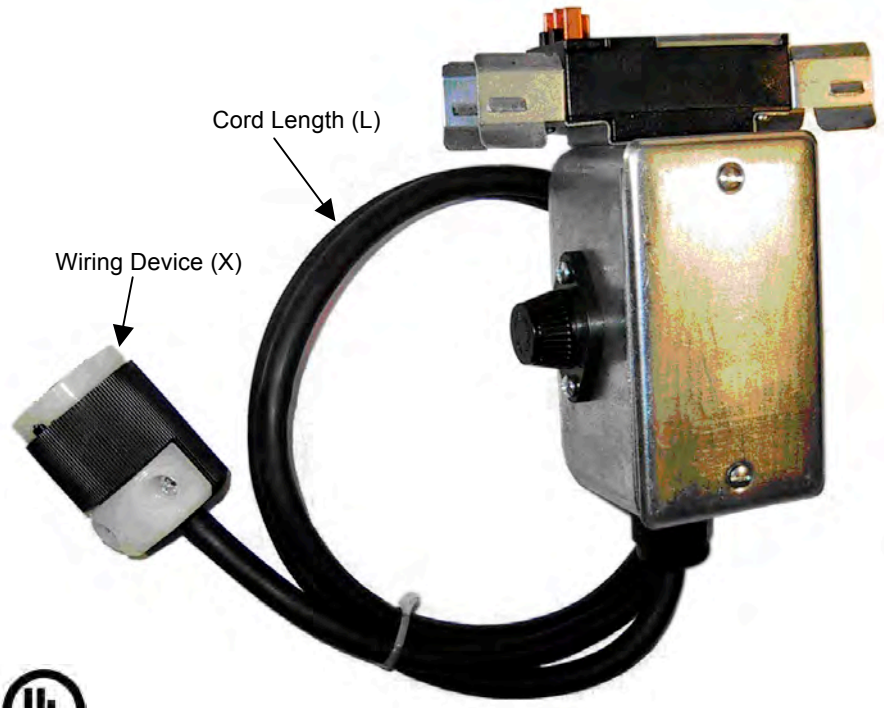
*** used in 40, 50 & 60C systems**
'x' = 1, 2 or 3 fuse holders

Compact Series
40, 50, 60 Amp

DROP CORD PLUG-IN

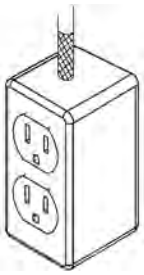
Drop Cord Assembly

Shipped assembled complete from the factory based on part number selection including cord, fuses, and wiring device. Drop Cord assemblies with connectors body type (C) wiring device include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both end of the cord. SJO cord is used in all assemblies.

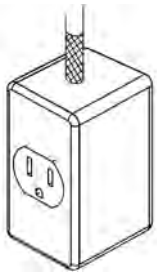


Wiring Device (X)

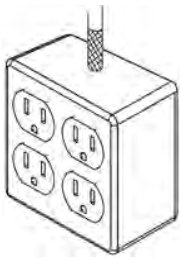
C - Connector



D - Duplex



R – Single Receptacle



Q - Quad

Catalog Number Sequence
DC50-(L)–(NEMA)(X) –(Y)

- **Poles**
- **End Effecter**
  - **C – Connector**
  - **D – Duplex**
  - **R – Single**
  - **Q – Quad**
  - **Receptacle**
- **NEMA Configuration**
- **Cord Length**
- **For 40, 50 & 60C Systems**
- **Drop Cord**

Catalog Number Examples

Catalog No.	Description
DC50-10-520D-4	10 ft drop cord with NEMA 5-20 duplex on end, for 4-pole system
DC50-15-L520C-2	15 ft drop cord with NEMA L5-20 (locking type) connector on end for 2-pole system
DC50-8-L630R-4	8 ft drop cord with NEMA L6-30 (locking type) single receptacle (J-Box) on end for 4-pole system

60 to 100 Amp Compact
Same Units used in both Systems

STARLINE® TRACK BUSWAY

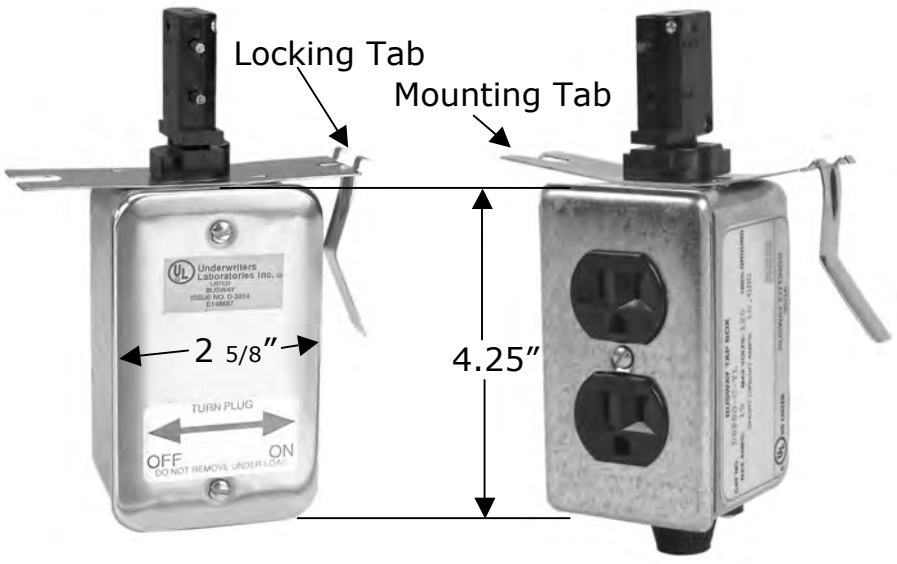
OUTLET PLUG-IN UNITS

Outlet Plug-In units are used to tap off power from the Busway. All plug-in units are equipped with a special plug head called a "Starjack" which inserts into the Busway's continuous slot and turns 90 degrees to make the spring-loaded connection. The installer squeezes the locking tab, inserts the unit into the Busway, turns 90 degrees, and releases the locking tab. Both the locking and the bolt-on mounting tab provide ground connection for the box and load. All plug-in units are polarized to inhibit reverse installation.

A. Junction Box
Standard unit consists of J-box with Starjack, cover, ground lug and wire nuts. Optional Class CC fuseholders available.

B. Receptacle Unit
Standard unit consists of J-box with Starjack, NEMA 5-15 or 5-20 duplex, Class CC fuse and fuseholder. Other NEMA configurations available.

Elbow Connector
Factory pre-assembled, elbow connectors are used for making a 90-degree turn. Refer to Section 8 LAYOUT for polarization issues before making final selection.



A. Junction Box **OB** Series

B. Outlet Box **DRF** Series

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Catalog Number Sequence
(XX)60–(AA)-(P)

- **No. of Poles**
- **Outlet Amp**
- **System Size**
- **OB** Outlet Box
- **DRF** Duplex Receptacle, Fused

Catalog Number Selection (Typical)

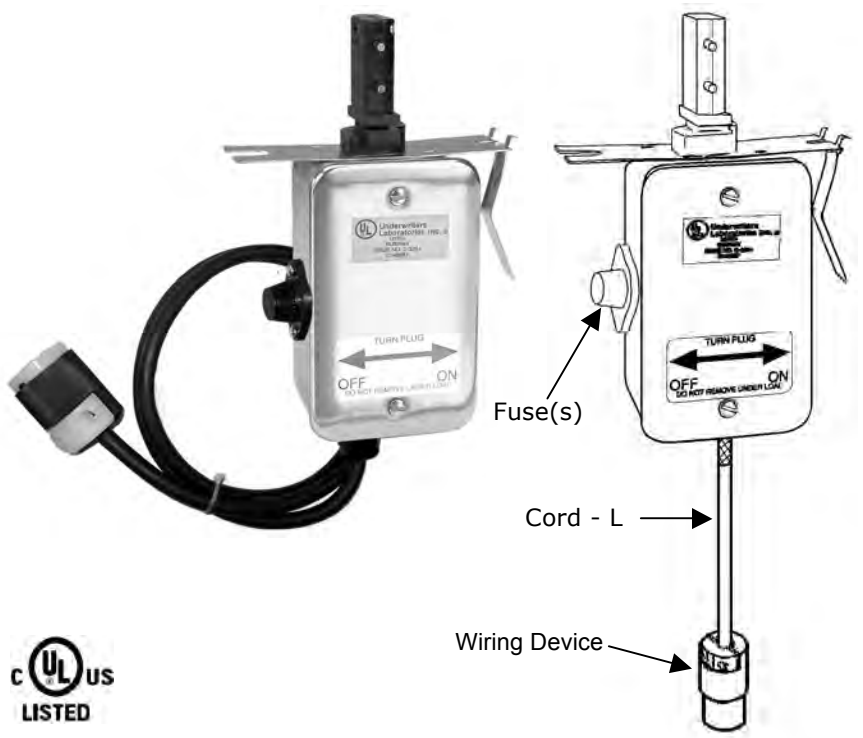
Catalog No.	Description	Weight
OB60-L515-4	Outlet box with L5-15 Recpt/w fuse	1.4lbs
OB60-L520-4	Outlet box with L5-20 Recpt/w fuse	1.4lbs
OB60-L615-4	Outlet box with L6-15 Recpt/w fuse	1.4lbs
OB60-L620-4	Outlet box with L6-20 Recpt/w fuse	1.4lbs
OB60-L630-4	Outlet box with L6-30 Recpt/w fuse	1.4lbs
OB60-(15 or 30)-2	Outlet box, 15 or 30 Amp, 2-pole	1.1lbs
OB60-(15 or 30)-4	Outlet box, 15 or 30 Amp, 4-pole	1.3lbs
(add –1F, -2F, -3F for 1, 2 or 3 fuses)		
DRF60-(A,B or C)	Duplex Outlet NEMA 5-15	1.4lbs
(outlet box 300 volt rated, for 600 volt, add "-600" to number)		
(DRF units are 15 amp. Add "-20" for 20 amp receptacle)		

60 to 100 Amp Compact
Same Units used in both Systems

DROP CORD PLUG-IN UNITS

Drop Cord Assembly

Shipped assembled complete from the factory based on part number selection including cord, fuses, and wiring device. Drop Cord assemblies with connector type (C) wiring device include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both end of cord. SJO cord is used in all assemblies. Instead of normal fuse type circuit protection, 30 Amp max. circuit breakers can be provided using only E12 or CB60 enclosures. Other NEMA configurations available.



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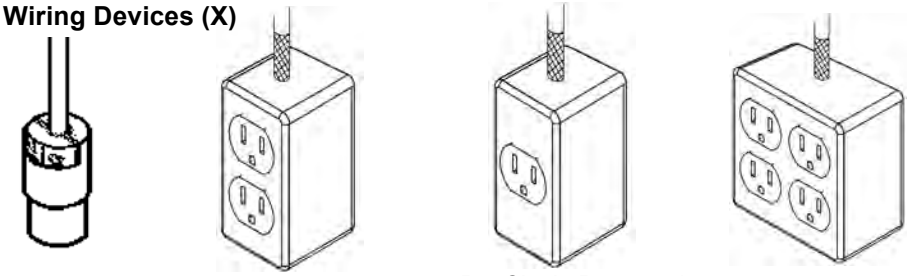
Wiring Devices (X)



C - Connector **D** - Duplex **R** – Single Receptacle **Q** - Quad

Catalog Number Sequence

DC60-(L)–(NEMA)(X) –(Y)

- **Poles**
- **Wiring Device**
  - **C – Connector**
  - **D – Duplex**
  - **R – Single Recept**
  - **Q- Quad**
- **NEMA Configuration**
- **Cord Length**
- **System Size**
- **Drop Cord**

Catalog Number Examples

Catalog No.	**Description**
DC60-10-520D-4	10 ft Drop Cord with NEMA 5-20 Duplex on end, for 4-pole system
DC60-15-L520C-2	15 ft Drop Cord with NEMA L5-20 (locking type) Connector on end, for 2-pole system
DC60-8-L630R-4	8 ft Drop Cord with NEMA L6-30 (locking type) single Receptacle (J-Box) on end, for 4-pole system

60 to 100 Amp Compact
Same Units used in both Systems

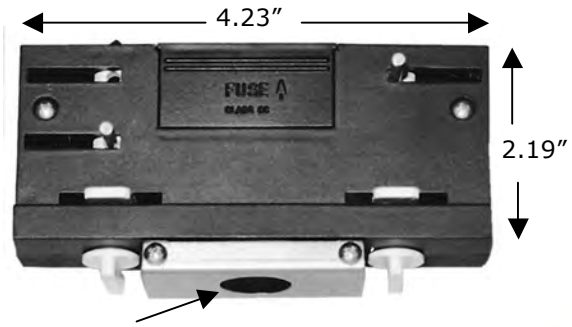
STARLINE® TRACK BUSWAY

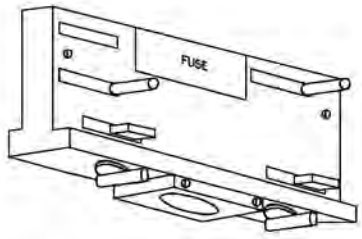
INTERNAL PLUG-IN UNITS

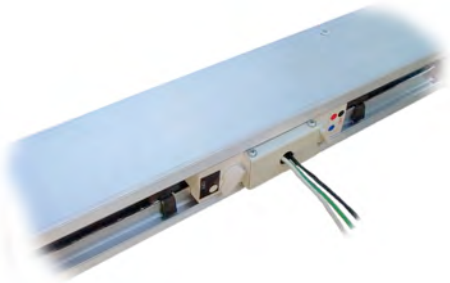
Ideal for applications where the plug head should not be visible such as light fixtures and retail/commercial areas. The unit inserts anywhere along the continuous slot in the STARLINE Track Busway and is energized by turning the two circuit selectors 90 degrees. A mounting plate with a 1/4in. conduit size opening is used for fixture connection. Small unit is rated 13A (for 16AWG wire), 300V max, single phase, fusible, (Class CC fuse not included) and wire nuts. For ballast or fixture applications, 200ºC high temperature wire is available.

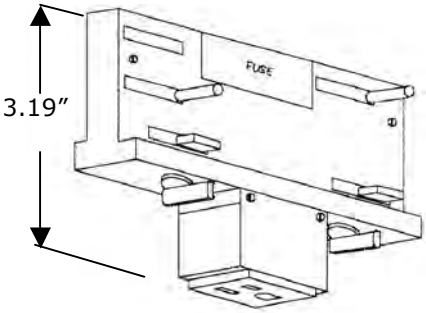
Internal plugs are also available in ratings of 25A, 300 volt, fusible or non-fusible. The 20 amp version utilizes high temperature wire for ballast and fixture applications.

Unit 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.

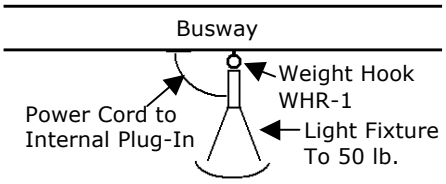








With Optional 15A Receptacle “R”



Common Use for Internal Plug-In

c UL us LISTED

Catalog Number Selection

Catalog No.	Description	Weight
IP60-AF	Fused, Blue phase	0.5 lb
IP60-BF	Fused, Black phase	0.5 lb
IP60-CF	Fused, Red phase	0.5 lb
IP60-SF	Fused, selectable to blue or red phase	0.5 lb

* Add “H” for strain relief in mounting plate
“MB” for 25A with mini box
“C15” for 15A cord, 3M
“C20” for 20A cord, 3M
“L10” for high temperature fixture wire
“R” for built-in receptacle

Catalog Number Sequence

IP60–(X)F

- **phase**
- **Internal Plug-in for B60**

60 to 100 Amp Compact
Same Units used in both Systems

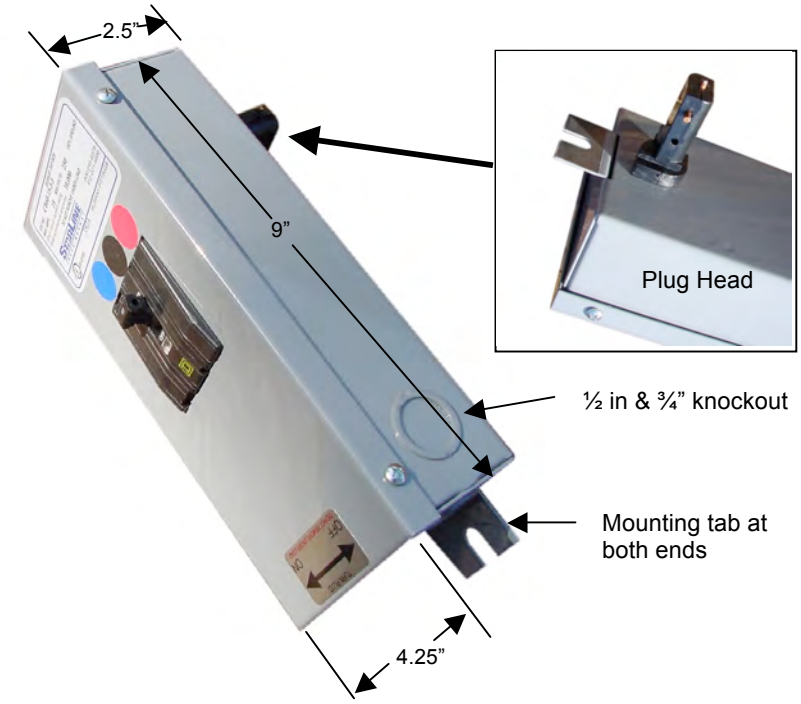
STARLINE® TRACK BUSWAY

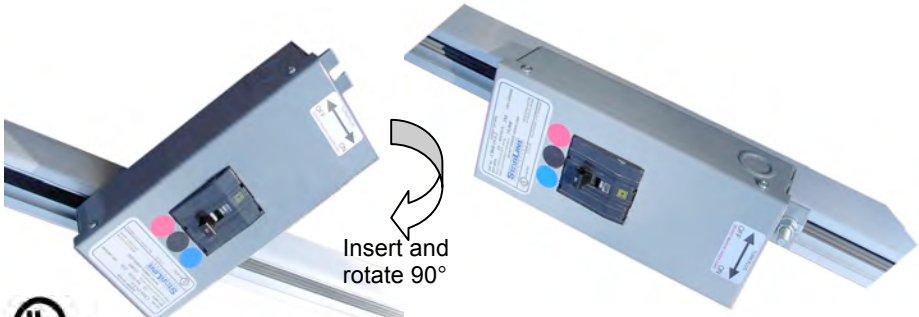
CIRCUIT BREAKER PLUG-IN UNITS

Circuit Breaker

Consists of a full-size junction box with hinged lid, plug head and an externally operated circuit breaker. Insert the plug head into the Busway and rotate 90 degrees to make electrical connections. The units are normally supplied with breakers installed. Units can be supplied with mounting plate only to allow installation of breakers in the field. Optional factory-installed receptacles can be added.

Circuit breakers can be 15 to 30 amps, 250 to 480 volt max, and 1, 2 or 3 pole units. Units with UL Listed multiple breakers are available. For rating over 30 amps and multiple circuit breakers, consult factory. Units include copper grounding lug in the box that fits up to #6 wire, mounting tabs and mounting hardware to secure unit to Busway. UL Listed





c UL us LISTED

Catalog Number Sequence

CB60–(WW)–(P)-(P)

- (P) System Poles
- (P) Breaker Poles
- (WW) Breaker Rating 15 to 30 Amp
- 60 System Size 60 Amp
- CB Circuit Breaker

Catalog Number Selection

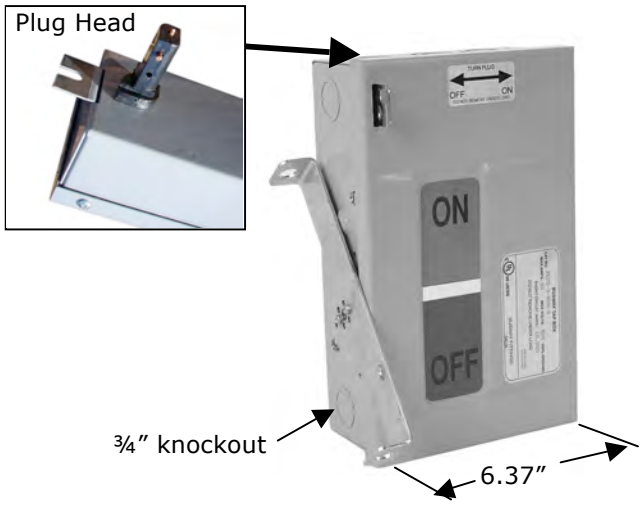
Catalog No.	Description	Weight
CB60-WW-1-4	4 pole system, 1 pole breaker, 120 volt max	3.3 lbs
CB60-WW-2-4	4 pole system, 2 pole breaker, 240 volt max	3.7 lbs
CB60-WW-3-480-4	3 pole breaker on 4 pole system, 480 volt max	

60 to 100 Amp Compact
Same Units used in both Systems

FUSED/DISCONNECT PLUG-IN

Fused Disconnect – FD

Consists of a full-size junction box with hinged lid, internal fuse block, plug-head and an externally operable disconnect switch. Rocker handle disconnects circuit before box can be opened. Phenolic fuse block is 3-pole, Class RK, 250 or 600 volt and 30 Amp max. All units include a copper grounding lug, mounting tabs and mounting hardware to secure unit to Busway. UL Listed.



External Disconnect - **FD**

Insert and rotate 90°

Connected Position

c UL us LISTED

Catalog Number Sequence

FD60–(WW)–(P)–(YYY)-(P)

- **Poles**
- **Voltage**
- **Fuse Poles**
- **Block Rating 30 Amp Max**
- **System Size – 60 Amp**
- **FD = Fused Disconnect**

Catalog Number Examples

Catalog No.	Description	Weight
FD60-30-4-250-4	Fused Disconnect unit, 3-pole +4W, 30A, 250V, 4-pole system	5.2 lbs

60 to 100 Amp Compact
Same Units used in both Systems

COMMERCIAL PLUG-IN

"Commercial" aluminum Outlet plug-in units are used to tap off power from the Busway. All Commercial plug-in units are equipped with the plug head which inserts into the Busway continuous slot and turns 90 degrees to make the spring-loaded connection. The installer simply inserts the unit into the Busway, turns 90 degrees. The bolt-on mounting tab provides ground connection for the box and load. All plug-in units are polarized to inhibit reverse installation.

Standard unit consists of a brushed aluminum box with Starjack. Available with NEMA 5-15 , 5-20 Duplex or L5-30, L6-20, L6-30 receptalce. Class CC fuse and fuseholder(s).

c UL us LISTED

Catalog Number Sequence
OB60E22–(NEMA)-(P)

- **No. of Poles**
- **NEMA device**
- **Enclosure**
- **System Size**
- **Outlet Box**

Catalog Number Selection
Limited to 120/240Volt, 15, 20 or 30 Amp

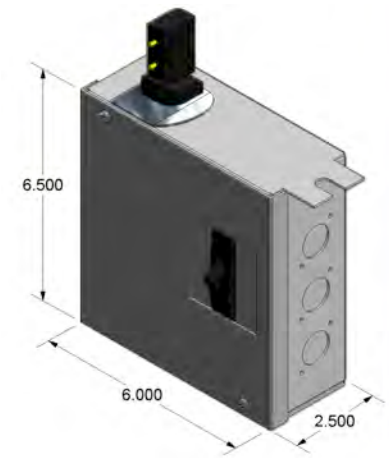
Catalog No.	Description	Weight
OB60E22-515D-4	Outlet box , 5-15 Duplex/w fuse	1.4 lbs
OB60E22-520D-4	Outlet box, 5-20 Duplex/w fuse	1.4 lbs
OB60E22-L620-4	Unit w/L6-20 Recept w/2 fuses	1.4 lbs

STARLINE® TRACK BUSWAY

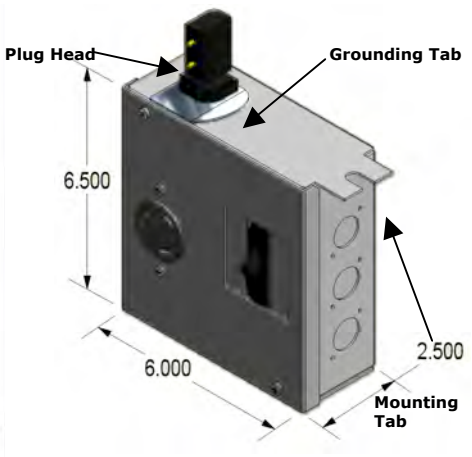
E12 ENCLOSURE
CIRCUIT BREAKER APPLICATIONS

Used to tap off power from the Busway with a wide variety of device configurations. PREFERRED enclosure for CB units & OB units with breakers.

- **PREFERRED enclosure for single or multiple Drop Cords**
- **Limited to 3 breaker positions.**
- **Possible combination:**
  - **NEMA L21-30 with three breaker positions.**
  - **Double Duplex with 2 breakers**
  - **Two Drop Cord Assemblies**
- **Consult factory for possible combinations.**
- **Maximum ratings of 30 amps, 240V, 10,000 AIC.**
- **Locked into position with a single bolt on mounting tab.**



CB Junction Box



NEMA L5-20 Shown

Normal position, breaker faces Busway label side	Rear position, must be ordered from factory

Catalog Number Sequence
CB60E12-(NEMA)-(P)

- **System Poles**
- **Wiring Device via NEMA**
- **Enclosure**
- **System Size**
- **Circuit Breaker**

Part Number Examples, Page 12.15

STARLINE® TRACK BUSWAY

E12 ENCLOSURE
CIRCUIT BREAKER PROTECTIN E12 ENCLOSURE

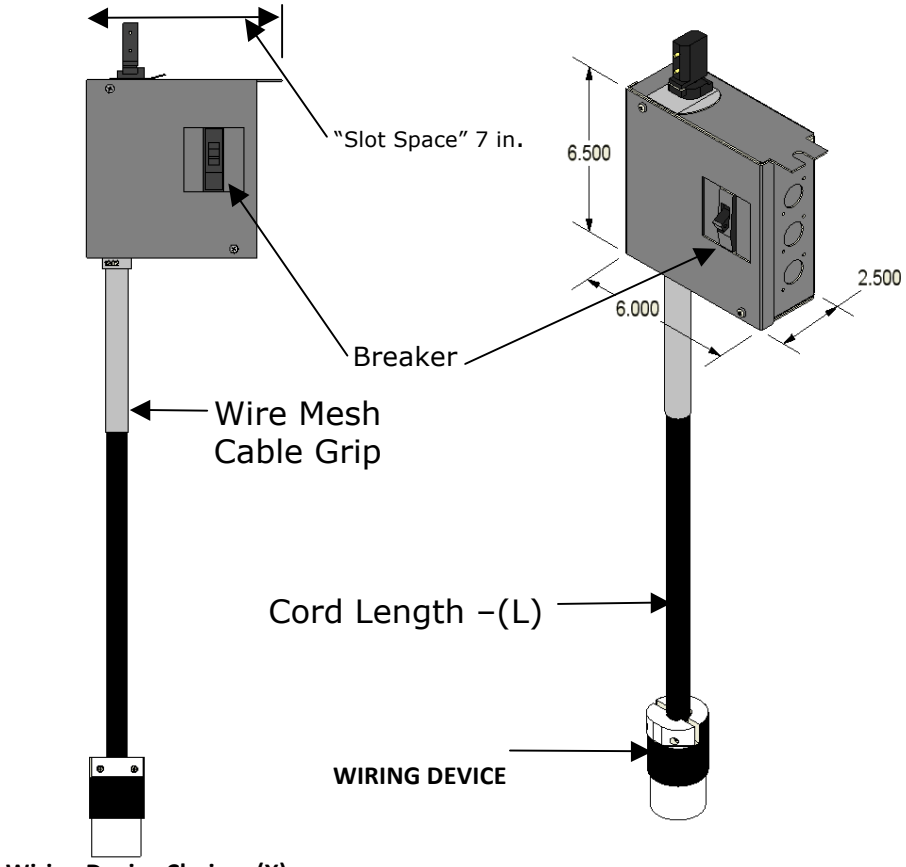
Drop Cord Assembly

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

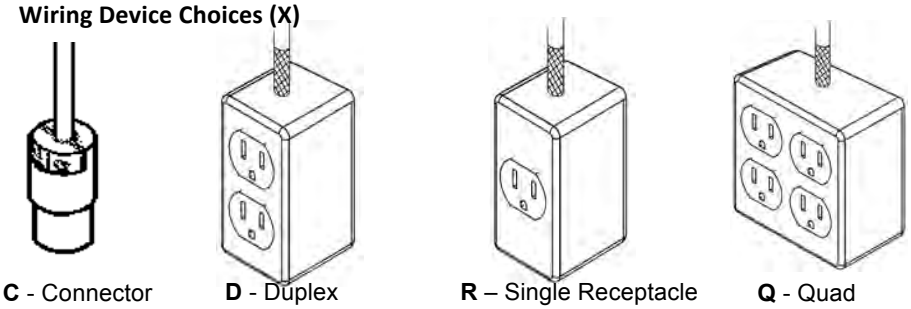
Shipped assembled complete from the factory based on part number selection including cord, breaker(s), and end effecter. Drop Cord assemblies with connector (C) end effecter include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

E12 General Use

- **PREFERRED enclosure for single or multiple Drop Cords (up to three)**
- **Limited to 3 breaker positions.**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)



C - Connector | **D** - Duplex | **R** – Single Receptacle | **Q** - Quad

Catalog Number Sequence

CBDC 60 E12-(L)–(NEMA)(X)–(Y)

- **Number of Poles**
- **Wiring Device, "C" – Connector, "D" – Duplex, "R" –Single Receptacle, "Q"-Quad**
- **NEMA Configuration**
- **Cord Length 1 to 25 ft**
- **Enclosure**
- **System Size 60A**
- **Drop Cord**
- **Circuit Breaker**

STARLINE® TRACK BUSWAY

PLUG-IN SELECTION

Units for use with B100A, B100N, and B225 systems

Units for use with B100G, B100NG, and B225G systems

Outlet Units Pages 12.18-12.22

Drop Cords Pages 12.23-12.24

Circuit Breakers Page 12.25-12.28

Circuit Breakers Page 12.29

Fused Disconnects Page 12.30-12.32

Terminal Blocks Page 12.33-12.34

STARLINE® TRACK BUSWAY

PLUG-IN SELECTION

Same Units to be used in ALL B100A, B100N, and B225 systems
Similar Units to be used in ALL B100G, B100NG, and B225G systems

Basic Part Number Nomenclature
Although there are many custom units available, the units shown below are considered standard

(Style)(System)(Enclosure) – (Device) - (Busway Poles) – (Options)

2 or 4
DG for 'Dedicated Ground'

NEMA

See Enclosure Reference, pages 10.11 & 10.12

System Size (100A, 100N, 225)
(100G, 100NG, 225G)

DRF -	**Duplex Receptacle, fused**
OB -	**Fusible Outlet Box**
CB -	**Circuit Breaker**
DC -	**Fusible Drop Cord**
CBDC -	**Circuit Breaker Drop Cord**
FD -	**Fused Disconnect**

STARLINE® TRACK BUSWAY

100, 225 Amp Plug-Ins

B100, B225 SYSTEMS

Next-generation, custom engineered enclosure that features a stylish exterior combined with a spacious interior and customizable body length to accommodate a wide variety of applications. The E90-Series enclosure is designed to tap off power from the busway. The option is available to have a reverse paddle such that the enclosure faces in the opposite direction when in the busway.

- **Configurable unit length for multiple circuit breaker pole positions.**
- **Locks into position using a single, easy access bolt**
- **Maximum rating of 22kA at 480V for B100, 22kA at 240V for B225**
- **Consult factory for possible combinations***

E90 ENCLOSURE
Circuit Breaker Applications

Model Shown:
CBM225E92-(2)L530-4

Enclosure Lengths
(Please consult factory for proper sizing)

E91 – 6.00”
E92 – 8.00”
E93 – 10.00”
E94 – 12.00”
E95 – 13.00”
E96 – 15.00”
E97 – 18.00”

Catalog Number Sequence

CB [M] [DC] 225 (G) (H) E 9 x – [L] - (NEMA) (w) – 4

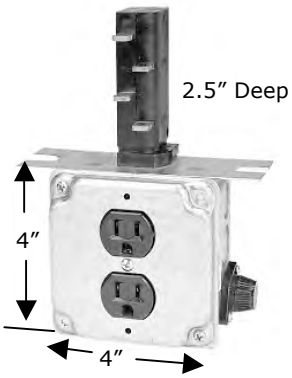
- **CB** – Circuit Breaker
- **[M]** – (Multiple CB)
- **[DC]** – (Drop Cord)
- **(G)** – Isolated Ground
- **(H)** – High-Interrupt Rating
- **E 9 x** – Enclosure* 1 *through* 7
- **[L]** – Length of Drop Cord (Feet)
- **(NEMA)** – Wiring Device *(NEMA or IEC 309)*
- **(w)** – Device
  - **C** – Connector
  - **D** – Duplex
  - **R** – Single Receptacle
  - **Q** – Quad
- **4** – Poles

ENCLOSURE REFERENCE

STARLINE® TRACK BUSWAY

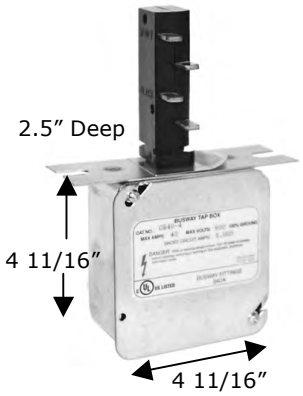
B100A, B100N, B225, B100G
B100NG, B225G Systems Only

E2



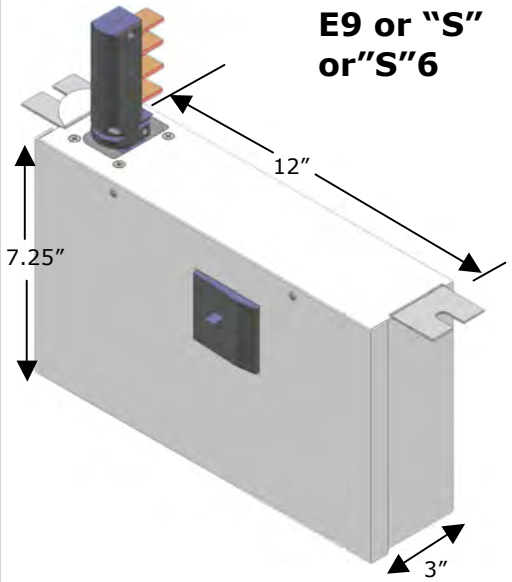
- Standard for all single fuse applications
- **SLOT SPACE 6 5/8”**

E3



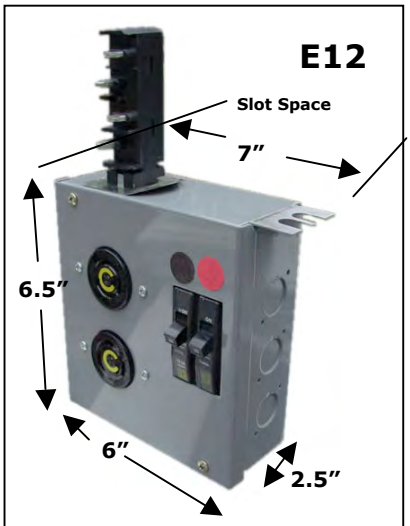
- Standard for two & three fuse applications
- **SLOT SPACE 6 5/8”**

E9 or “S” or”S”6



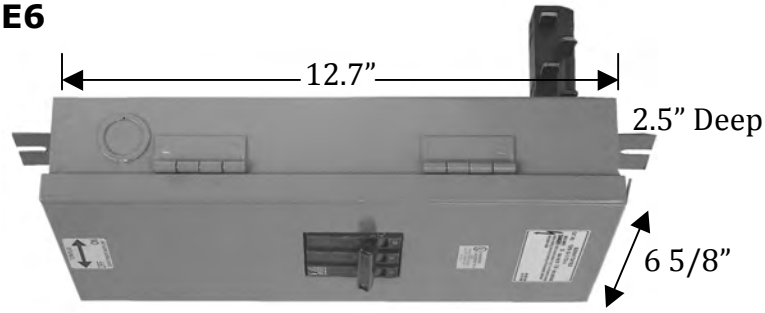
- Can be used for four or more breaker positions in one unit.
- Used as a “Mini-Panel” for multiple outlets.
- Connector stab faces away from face. Can be ordered with connector stab facing front. IMPORTANT for layout considerations.
- **SLOT SPACE 15”** Consider using two E12 enclosures for less slot space

E12



- PREFERRED Outlet Box or Drop Cord for Breaker applications up to 3 positions & 60 Amp/240V
- Connector stab is field reversible.
- **SLOT SPACE 7”**

E6



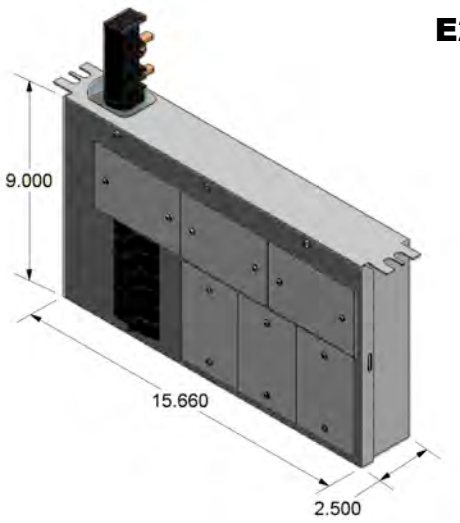
- Default Unit for Circuit Breakers
- Connector Stab CANNOT be reversed.
- **SLOT SPACE 16”**

ENCLOSURE REFERENCE

STARLINE® TRACK BUSWAY

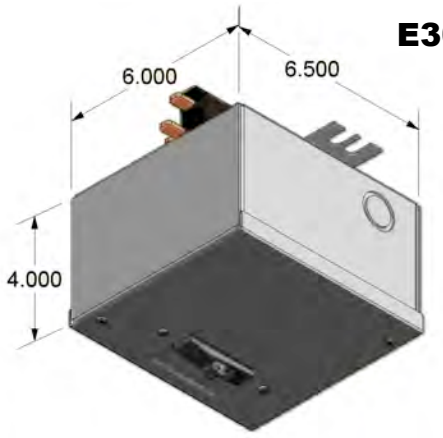
B100A, B100N, B225, B100G
B100NG, B225G Systems Only

E25



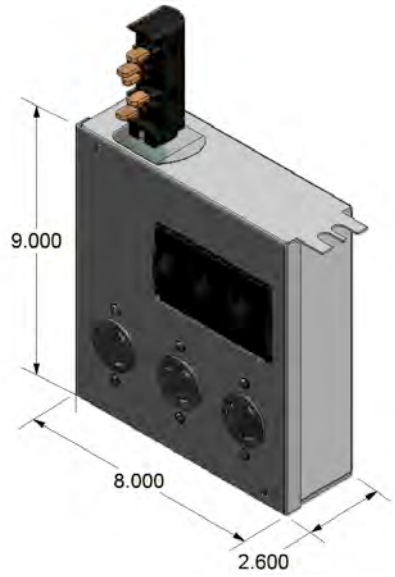
- Can be used for six or more breaker positions in one unit.
- Used as a "Mini-Panel" for multiple outlets.
- Connector stab is field reversable
- **SLOT SPACE 16.5"**. Consider using two E12 enclosures for less slot space

E30



- Down facing Outlet Box or Drop Cord for Breaker applications up to 3 positions & 60 Amp/240V
- Connector stab is field reversible.
- **SLOT SPACE 7"**

E28



- PREFERRED Outlet Box or Drop Cord for Breaker applications up to 7 positions & 60 Amp/240V
- Connector stab is field reversible.
- **SLOT SPACE 9"**

STARLINE® TRACK BUSWAY

E2 & E3 ENCLOSURES
FUSE APPLICATIONS

Plug-in units are used to tap off power from the Busway. All plug-in units are equipped with a plug head and grounding tab which inserts into the busway's continuous slot and turns 90 degrees to make the spring-loaded connection. The installer simply inserts the unit into the Busway, becomes automatically grounded and turns 90 degrees. Unit is locked into position with bolt-on mounting tabs. All plug-in units are polarized to inhibit reverse installation. Refer to layout for further explanation.

OB Junction Box

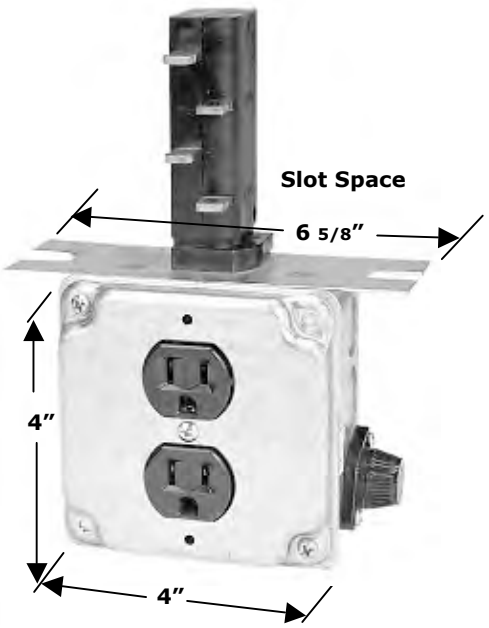
Standard unit consists of a 4" or 4-11/16" square junction box with plug-head. Optional Class CC fuse holders are available. 300V max volts for systems >100 amps, 600V max for 100 amp systems.

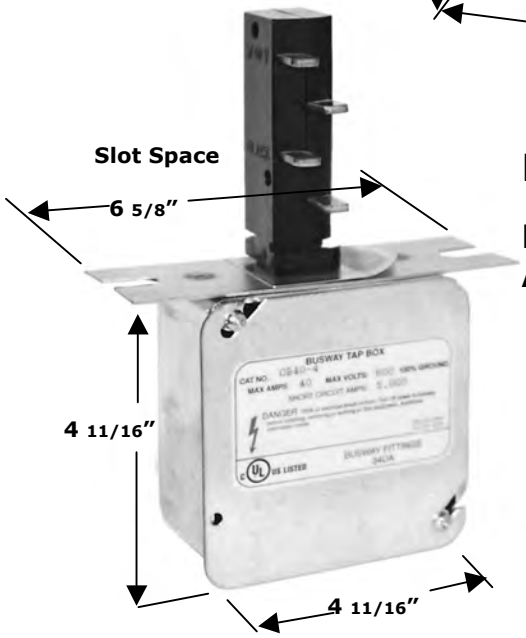
Duplex Receptacle Unit

Standard unit consists of box with plug-head, NEMA 5-15, 5-20 duplex, Class CC fuse and fuse holder.

E2

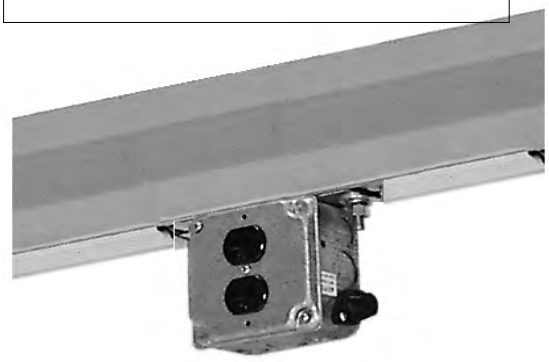
For SINGLE FUSE Applications ONLY





E3

For 2 or 3 FUSE Applications ONLY



E2 & E3 enclosures face parallel to busway on conductor side

Common Catalog Number Selection

Catalog No.	Description
OB100NE2-515D-4	Outlet Box, Duplex, NEMA 5-15
OB225E2-520D-4	Outlet Box, Duplex, NEMA 5-20
OB100AE3-520Q-4Q	Outlet Box, Quad, NEMA 5-20
OB225E3-520Q-4-2F	Outlet Box, Quad, NEMA 5-20, 2 Fuses

100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

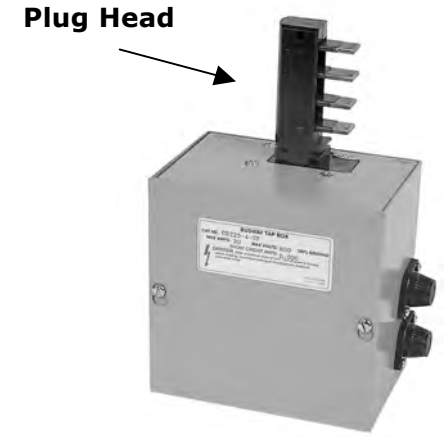
STARLINE® TRACK BUSWAY

E4 FOR 480 VOLT

Plug-in units are used to tap off power from the Busway. All plug-in units are equipped with a plug head and grounding tab which inserts into the Busway continuous slot and turns 90 degrees to make the spring-loaded connection. The installer simply inserts the unit into the Busway. Unit is locked into position with bolt-on mounting tabs. All plug-in units are polarized to inhibit reverse installation.

OB Junction Box, E4

Rated to 600 volts for 160 and 225 amp systems. Standard unit consists of a 6 x 6 x4 in. box with plug-head, cover, ground lug and wire nuts. Uses Class CC fuseholders.



OB Junction Box
(shown with two fuses)

Standard perpendicular facing outlet

c UL us LISTED

Catalog Number Sequence
OB225-(XXXX)–(P)

- **Number of System Poles**
- **NEMA Config.**
- **System Size, 160 or 225**
- **Outlet Box**
  - **BC= Busway Connector**
  - **EL = Elbow**
  - **BT = Busway Tee**

Common Catalog Number Selection

Catalog No.	Description	Weight
OB225-30-4*	Outlet Box, 30 Amp, 4-pole	4 lbs
OB225-30-3*	Outlet Box, 30 Amp, 3-pole	4 lbs
OB225-60-4	Outlet Box, 60 Amp, 4-pole	4.2 lbs
OB225-60-3	Outlet Box, 60 Amp, 3-pole	4.2 lbs
OB225-30-4-3F	Outlet Box, 30A, 3 Fuseholders	4 lbs

* - add"-1F, -2F or 3F for Class CC fuseholders. Order Class CC fuses separately

100, 225 Amp

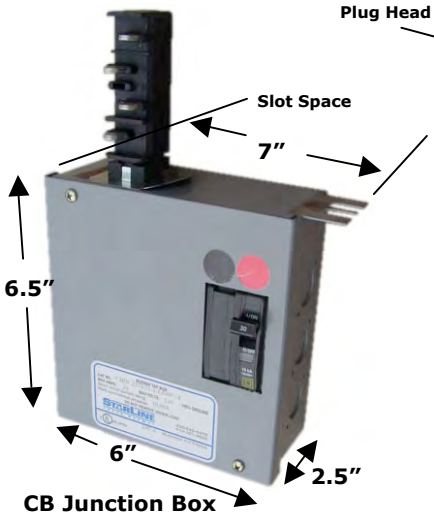
B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

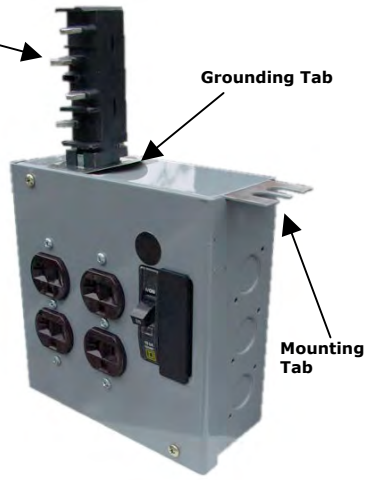
E12 ENCLOSURES
CIRCUIT BREAKER APPLICATIONS

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

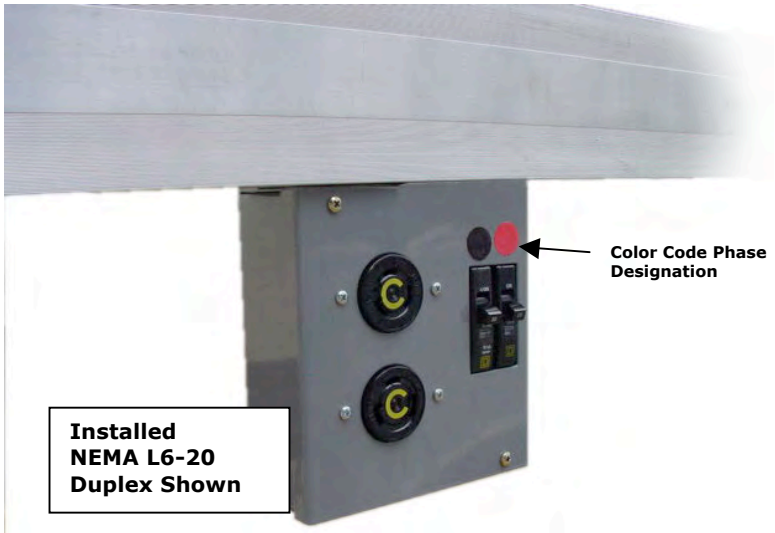
- **PREFERRED enclosure for CB units & OB units with breakers.**
- **PREFERRED enclosure for single or multiple drop cords**
- **Limited to 3 breaker positions.**
- **Possible combination:**
  - **NEMA L21-30 with three breaker positions**
  - **Double duplex with 2 breakers**
  - **Two drop cord assemblies**
- **Consult factory for possible combinations.**
- **Maximum ratings of 60 amps, 240V, 22,000 AIC. ("H")**
- **Locked into position with a single bolt on mounting tab.**



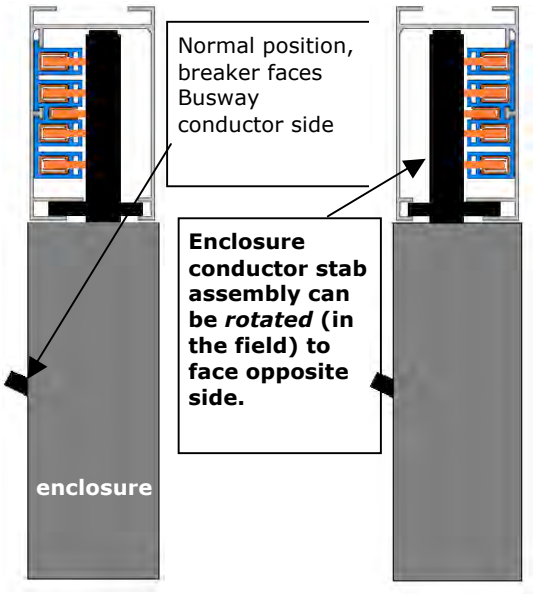
CB Junction Box



NEMA 5-20 Quad Shown



Installed NEMA L6-20 Duplex Shown



Catalog Number Sequence
CB(sys)(H)E12-(NEMA)-(P)

- **System Poles**
- **Wiring Device via NEMA**
- **Enclosure**
- **ONLY for 22,000kAIC rating**
- **System Size**
- **Circuit Breaker**

Part Number Examples, Page 11.16-17

CATALOG NUMBER	FUSES		WIRING DEVISES	
	NUMBER	AMPERAGE	NEMA	QTY
OB225E12-30-4	NONE	30	NONE	
OB225E12-515D-4	1	15	5-15 DUPLEX	1
OB225E12-L515-4	1	15	L5-15 SINGLE	1
OB225E12-L515D-4	1	15	L5-15 DUPLEX	1
OB225E12-(3)L515-4	1	15	L5-15 SINGLE	3
OB225E12-520D-4	1	20	5-20 DUPLEX	1
OB225E12-520Q-4	1	20	5-20 DUPLEX	2
OB225E12-520Q-4-2F	2	20	5-20 DUPLEX	2
OB225E12-L520-4	1	20	L5-20 SINGLE	1
OB225E12-L520D-4	1	20	L5-20 DUPLEX	1
OB225E12-(3)L520-4	1	20	L5-20 SINGLE	3
OB225E12-L520-L620-4	3	20	L5-20 SINGLE L6-20 SINGLE	1 1
OB225E12-L530-4	1	30	L5-30 SINGLE	1
OB225E12-(3)L530-4	1	30	L5-30 SINGLE	3
OB225E12-L620-4	2	20	L6-20 SINGLE	1
OB225E12-L630-4	2	30	L6-30 SINGLE	1
OB225E12-L1530-4	3	30	L15-30 SINGLE	1

PART NUMBER EXAMPLES

CATALOG NUMBER	CIRCUIT BREAKER(S) Number	Amperage	Poles	WIRING DEVICE NEMA	QTY
CB225E12-15-1-240-4	1	15	1	NONE	
CB225E12-15-2-240-4	1	15	2	NONE	
CB225E12-15-3-240-4	1	15	3	NONE	
CB225E12-20-1-240-4	1	20	1	NONE	
CB225E12-20-2-240-4	1	20	2	NONE	
CB225E12-20-3-240-4	1	20	3	NONE	
CB225E12-30-1-240-4	1	30	1	NONE	
CB225E12-30-2-240-4	1	30	2	NONE	
CB225E12-30-3-240-4	1	30	3	NONE	
CBM225E12-1/20-3-240-4	3	20	1	NONE	
CB225E12-515D-4	1	15	1	5-15 Duplex	1
CB225E12-520D-4	1	20	1	5-20 Duplex	1
CB225E12-520Q-4	1	20	1	5-20 Duplex	2
CB225E12-L515-4	1	15	1	L5-15 Single	1
CB225E12-L515D-4	1	15	1	L5-15 Duplex	1
CB225E12-(3)L515-4	1	15	1	L5-15 Single	3
CB225E12-L520-4	1	20	1	L5-20 Single	1
CB225E12-L520D-4	1	20	1	L5-20 Single	2
CB225E12-(3)L520-4	1	20	1	L5-20 Single	3
CB225E12-L530-4	1	30	1	L5-30 Single	1
CB225E12-(3)L530-4	1	30	1	L5-30 Single	3
CB225E12-L620-4	1	20	2	L6-20 Single	1
CB225E12-L630-4	1	30	2	L6-30 Single	1
CBM225E12-L520-L620-4	1 1	20 20	1 2	L5-20 Single L6-20 Single	1 1
CB225E12-L1530-4	1	30	3	L15-30 Single	1
CB225E12-L2130-4	1	30	3	L21-30 Single	1

100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

DROP CORD PLUG-IN

CIRCUIT BREAKERS PROTECTION E12 ENCLOSURE

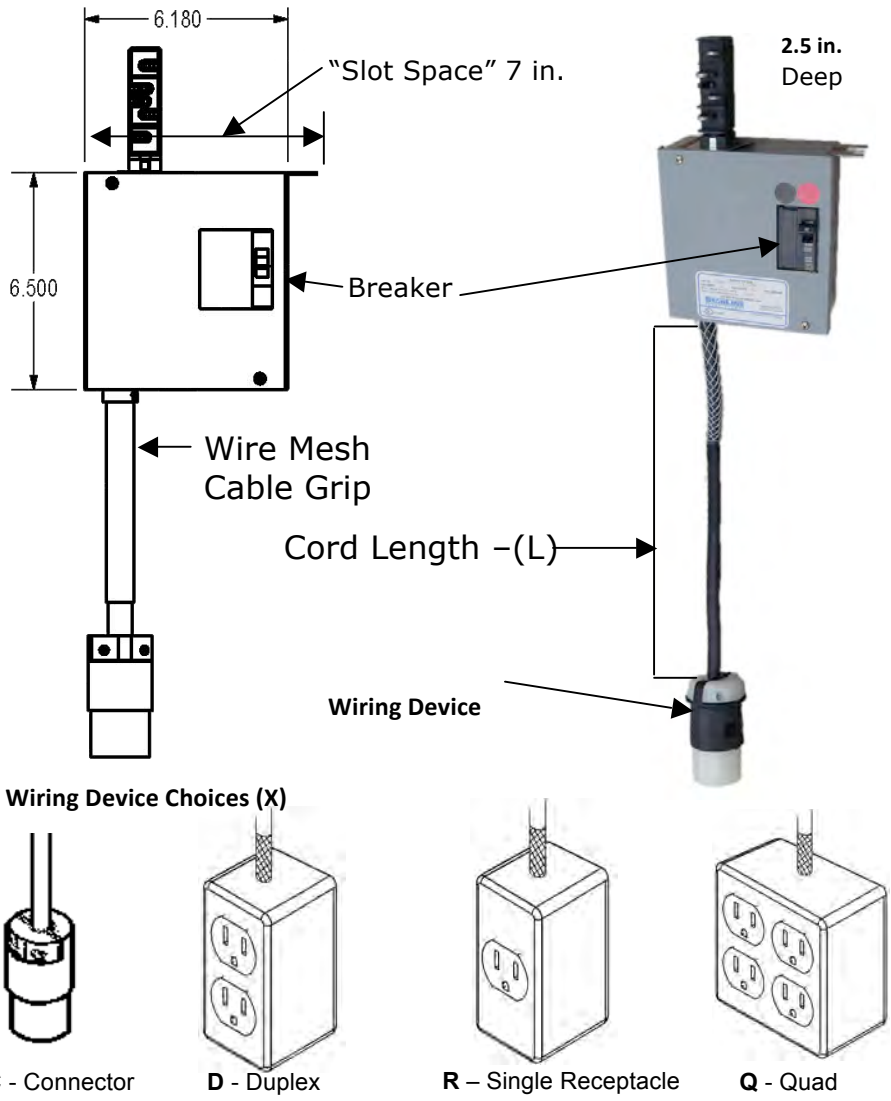
Drop Cord Assembly

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

Shipped assembled complete from the factory based on part number selection including cord, breaker(s). Drop cord assemblies with connector (C) include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

E12 General Use

- **PREFERRED enclosure for single or multiple Drop Cords (up to three)**
- **Limited to 3 breaker positions.**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)

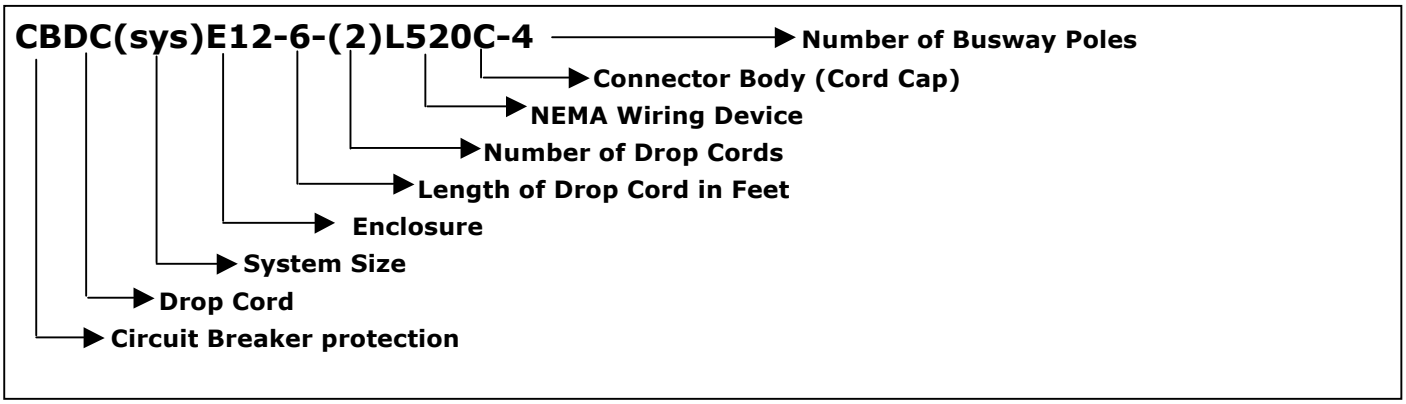
C - Connector | **D** - Duplex | **R** – Single Receptacle | **Q** - Quad

Catalog Number Sequence

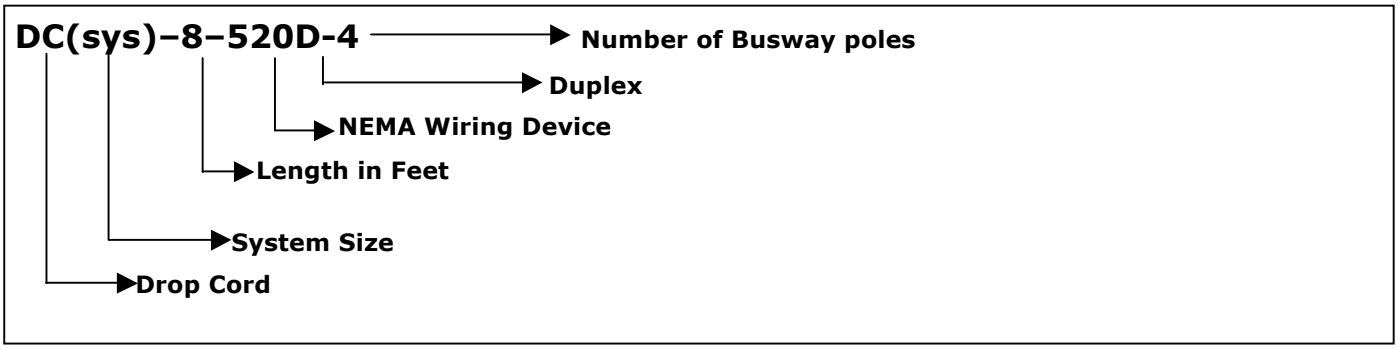
CBDC(sys) E12-(L)–(NEMA)(X)–(Y)

- **Number of Poles**
- **Wiring Device**, "C" – Connector, "D" – Duplex, "R" –Single Receptacle, "Q"-Quad
- **NEMA Configuration**
- **Cord Length** 1 to 25 ft
- **Enclosure**
- **System Size** 100A, 100N, 225, 100G, 100NG, 225G
- **Drop Cord**
- **Circuit Breaker**

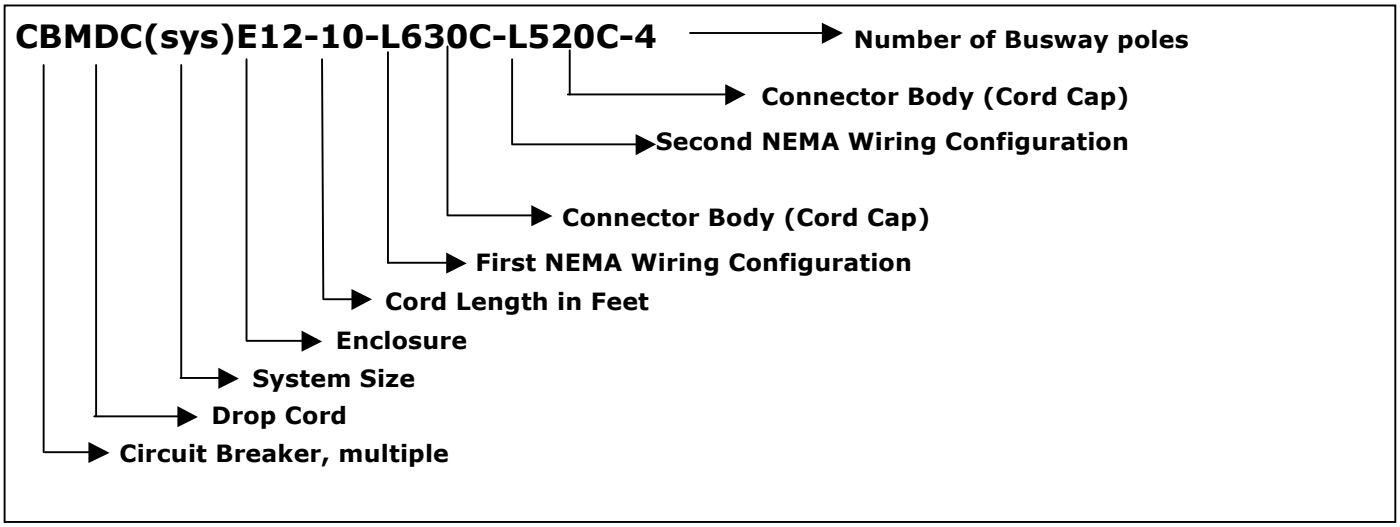
For B225 System, *Circuit Breaker protection* with two (2), 6 ft Drop Cords, NEMA L5-20 Connectors (Cord Caps)



For B100N, a single, 8 ft Drop Cord with 5-20 Duplex, *fuse protection*



For B225 System, *Circuit Breaker protection* with one 10 ft Drop Cord with NEMA L6-30 Connector and one 10 ft Drop Cord with L5-20 Connector



100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

E25 CIRCUIT BREAKER PLUG-IN

VERTICAL (FRONT OPERABLE) TYPE

Vertical Circuit Breaker

Basic circuit breaker is front operable and comes with a circuit breaker base that will accommodate 1 thru 6-pole circuit breakers up to 240 volt. Basic unit is rated for 10kAIC with some breaker options for 22kAIC. Selection information for these units should include amp rating, number of breaker poles and Busway system poles. Units are very versatile and can also be ordered with various outlet configurations. Refer to 100 Amp Drop Cords for selection information.

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Catalog Number Sequence

CBM(sys)E25–(NEMA)(y)-(P)

- **(P) System Poles**
- **(y) Wiring Device**
- **(NEMA) NEMA Configuration**
- **(sys) System Size**
- **CBM Circuit Breaker, multiple**

Catalog Number Selection

Catalog No.	Description	Weight
CBM225E25-(x)-(NEMA) (y)-4	240V, 10kAIC, 4-pole Busway	12 lbs
CBM225HE25-(x)-(NEMA) (y)-4	240V, 22kAIC, 4-pole Busway	12 lbs

x=length of cord

NEMA= NEMA Configuration

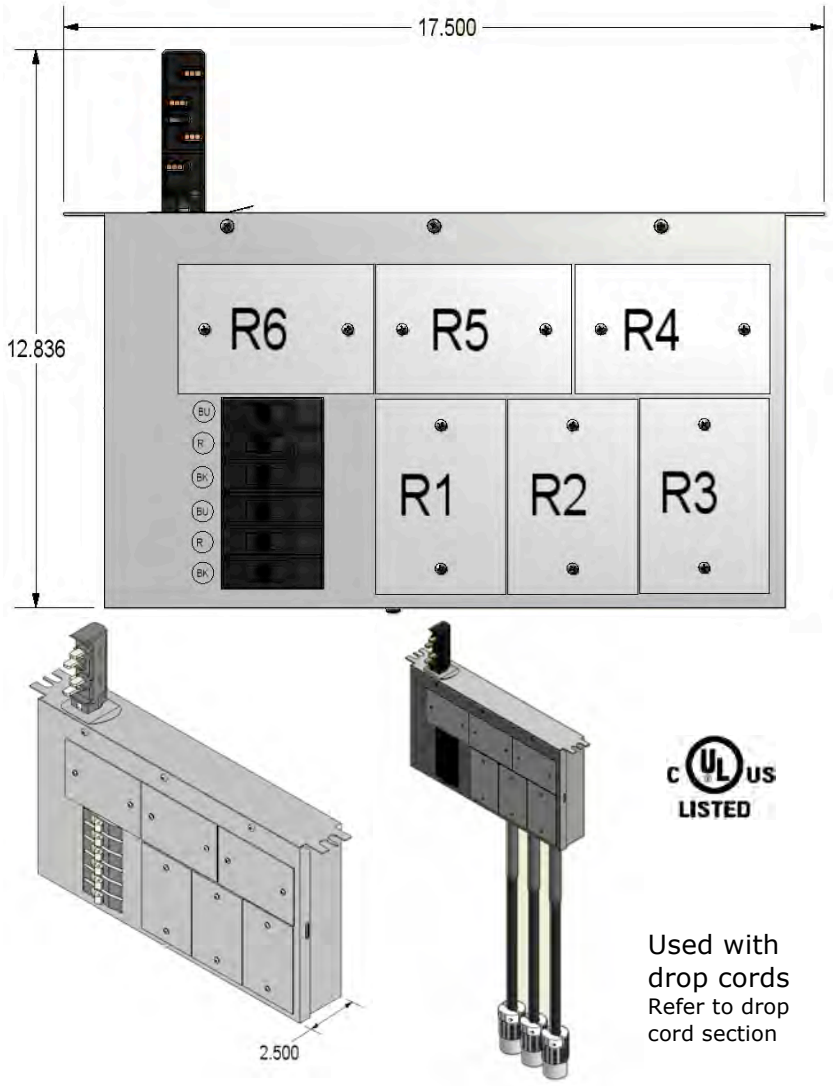
"D" – Duplex, "R" – Single Receptacle, "Q" - Quad

100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

E25 CIRCUIT BREAKER PLUG-IN DROP CORD UNITS

Vertical Circuit Breaker
Basic circuit breaker is front operable and comes with circuit breaker base that will accommodate 1, thru 6-pole circuit breakers up to 240 volt. Basic unit is rated for 10kAIC with some breaker options for 22kAIC. Selection information for these units should include amp rating, number of breaker poles and Busway system poles. Units are very versatile and can also be ordered with various outlet and drop cord configurations. Refer to Drop Cord Units for selection information.



Used with drop cords
Refer to drop cord section

Catalog Number Sequence

CBM(sys)E25–(aa)–(y)-240-(P)

- (P) System Poles
- (y) Voltage
- (aa) Breaker Poles 1 thru 6
- (sys) Breaker Rating
  aa= 15to 60 amp 10kAIC
  cc = 15to 60 amp 22kAIC
- E25 System Size
- CBM Circuit Breaker, multiple

CBMDC225E25–(X)–(NEMA)(w)-4

- (w) Wiring device
- (NEMA) NEMA configuration
- (X) Cord length

Typical Catalog Number Selection

Catalog No.	Description	Weight
CBF225E25-60-6-240-4	240V, 10kAIC, 3/4-pole Busway	12 lbs
CBM225E25-p/aa-x-240-4	240V, 10kAIC, 3/4-pole Busway	12 lbs
CBM225AE25-p/cc-x-240-4	240V, 22kAIC, 3/4-pole Busway	12 lbs
CBMDC225AE25-X-L620C-4	240V, 22kAIC, 3/4-pole Busway	12 lbs

p=no. of poles, aa=15-60 Amp, 10kAIC, cc=15-60 Amp, 22kAIC

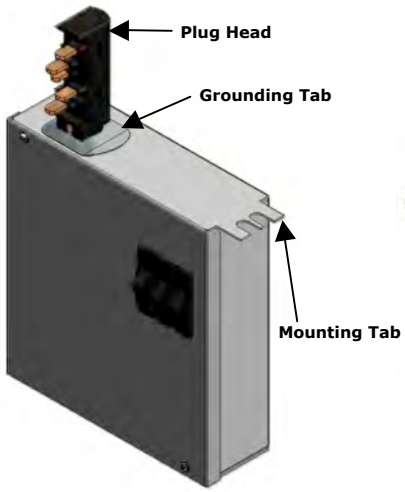
x=total number of poles, 1-6, X=length of cord

STARLINE® TRACK BUSWAY

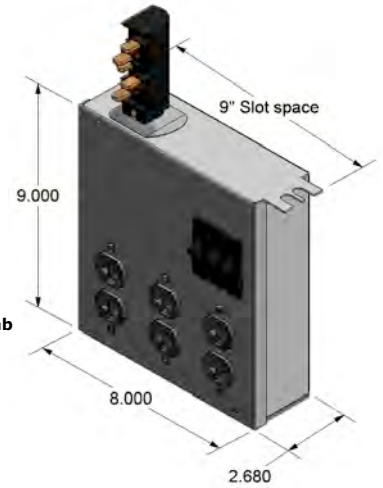
E28 ENCLOSURE
CIRCUIT BREAKER APPLICATIONS

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

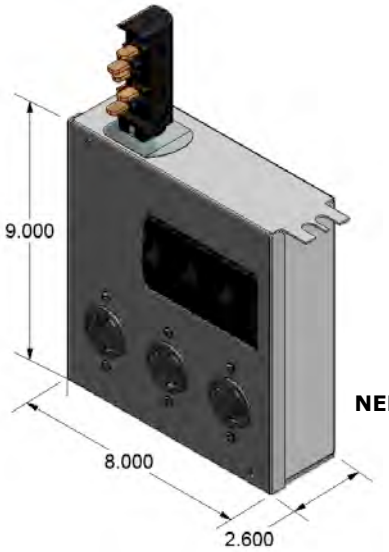
- **Use only where E12 is insufficient**
- **Capable to 7 breaker positions and four receptacles**
- **Possible combination:**
  - (3)NEMA L6-20 and one 5-20 duplex
  - (3) NEMA L6-30
- **Consult factory for possible combinations.**
- **Maximum ratings of 100 total amps, 240V, 22,000 AIC. ("H")**
- **Locked into position with a single bolt on mounting tab.**



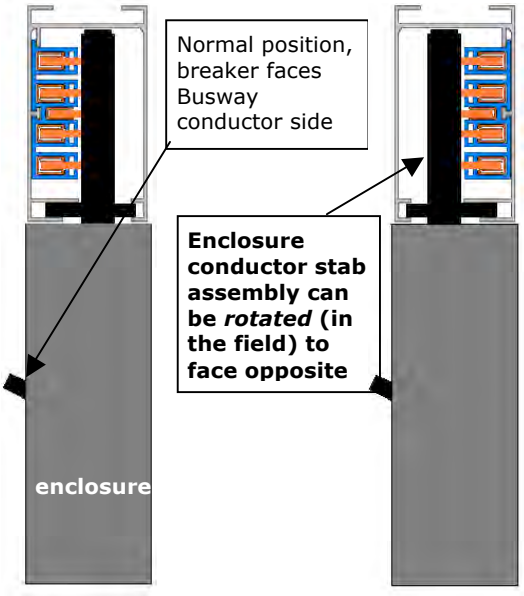
CB Junction Box



NEMA (3) 5-20D Shown



NEMA L6-20 (3) Shown



Catalog Number Sequence
CB* (H)E28-(NEMA)-(P)**

- **CB*** → Circuit Breaker**
- **(H) → System Size, 100A,100N,100G,100NG, 225, 225G**
- **E28 → ONLY for 22,000kAIC rating**
- **(NEMA) → Enclosure**
- **(P) → Wiring Device via NEMA**
- **System Poles**

100, 225 Amp

B100A, B100N, B225; B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

DROP CORD PLUG-IN E28
CIRCUIT BREAKER PROTECTION E28
ENCLOSURE

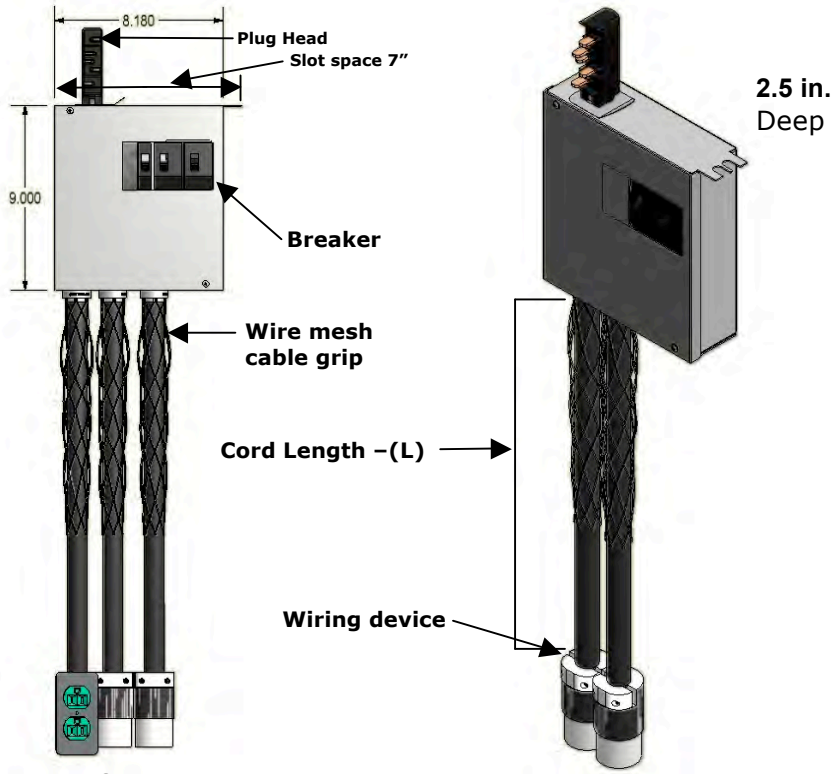
Drop Cord Assembly

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

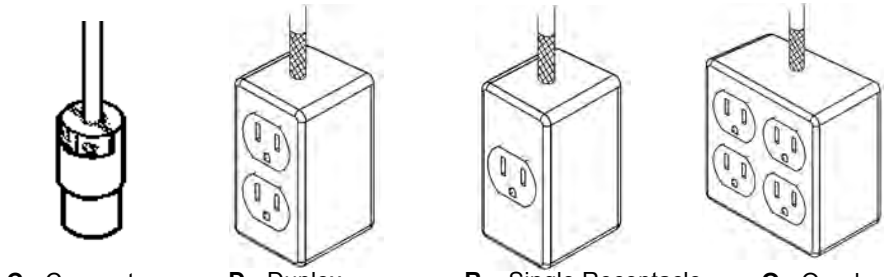
Shipped assembled complete from the factory based on part number selection including cord, breaker(s). Drop cord assemblies with connector (C) include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

E28 General Use

- **Use where E12 in insufficient.**
- **Capable to 7 breaker positions. Drop Cords (up to three)**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)



C - Connector **D** - Duplex **R** – Single Receptacle **Q** - Quad

Catalog Number Sequence

CBDC* (H)E28-(L)-(NEMA)(X)-(P)**

- **System Poles**
- **Wiring Device, "C"-connector, "D"-Duplex, "R"-single receptacle, "Q"-quad**
- **Nema Configuration**
- **Cord length 1 to 25ft**
- **Enclosure**
- **System Size, 100A,100N,100G,100NG, 225, 225G, 'H'ONLY for 22,000kAIC rating**
- **Drop cord**
- **Circuit Breaker**

100, 160, 225 Amp

B100A, B100N, B160, B225; B100G, B100NG, B225G

DROP CORD PLUG-IN E37 415V or 480V
CIRCUIT BREAKER PROTECTION E37 ENCLOSURE

Drop Cord Assembly

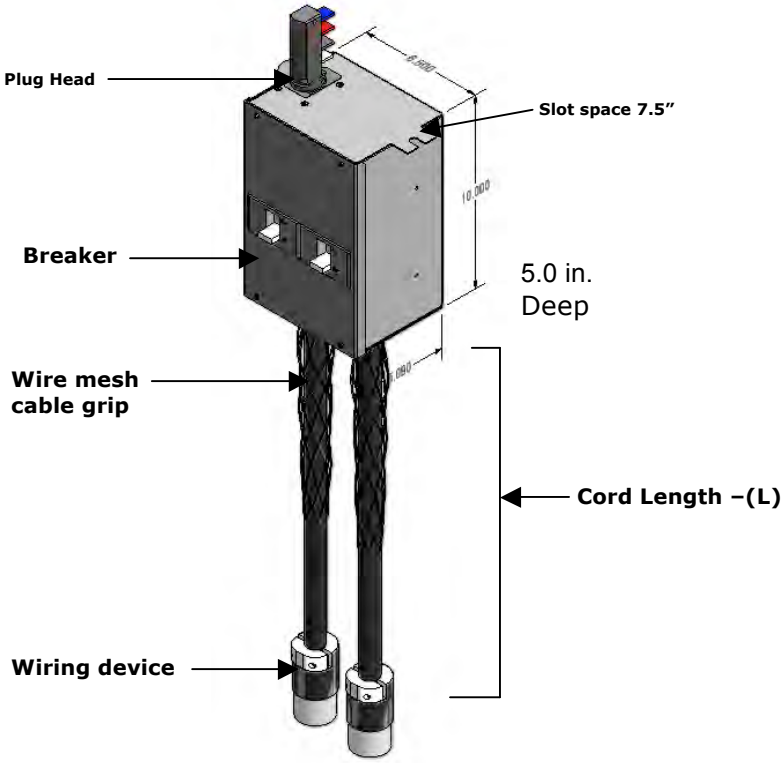
Used to tap off power from the Busway with a wide variety of device (End Effecter) configurations. Plug head is not reversible to face in opposite direction.

Shipped assembled complete from the factory based on part number selection including cord, breaker(s), and end effecter. Drop cord assemblies with connector (C) end effecter includes a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

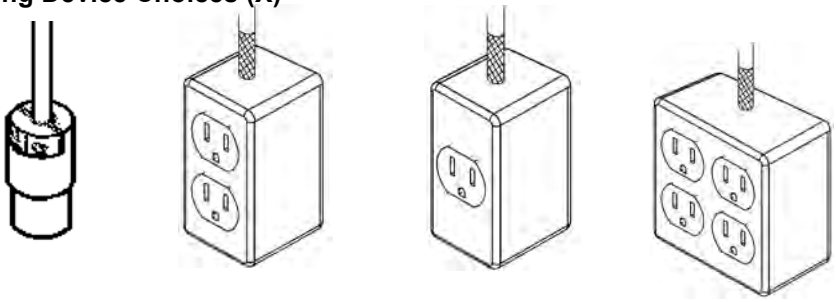
****This box faces the opposite of the E12 and E28 standard. ****

E37 General Use

- **Use where 480V or 415V is needed.**
- **Capable to 6 breaker positions. Drop Cords (up to two)**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)



C - Connector **D** - Duplex **R** – Single Receptacle **Q** - Quad

Catalog Number Sequence

CBDC* (H)E37-(L)-(NEMA)(X)-(P)**

- **System Poles**
- **Wiring Device**, "C"-connector, "D"-Duplex, "R"-single receptacle, "Q"-quad
- **Wiring Devices NEMA or IEC 309**
- **Cord length 1 to 25ft**
- **Enclosure**
- **System Size, 100A,100N,100G,100NG,160,225, 225G, 'H' ONLY for 22,000k AIC rating**
- **Drop cord**
- **Circuit Breaker**

100, 225 Amp

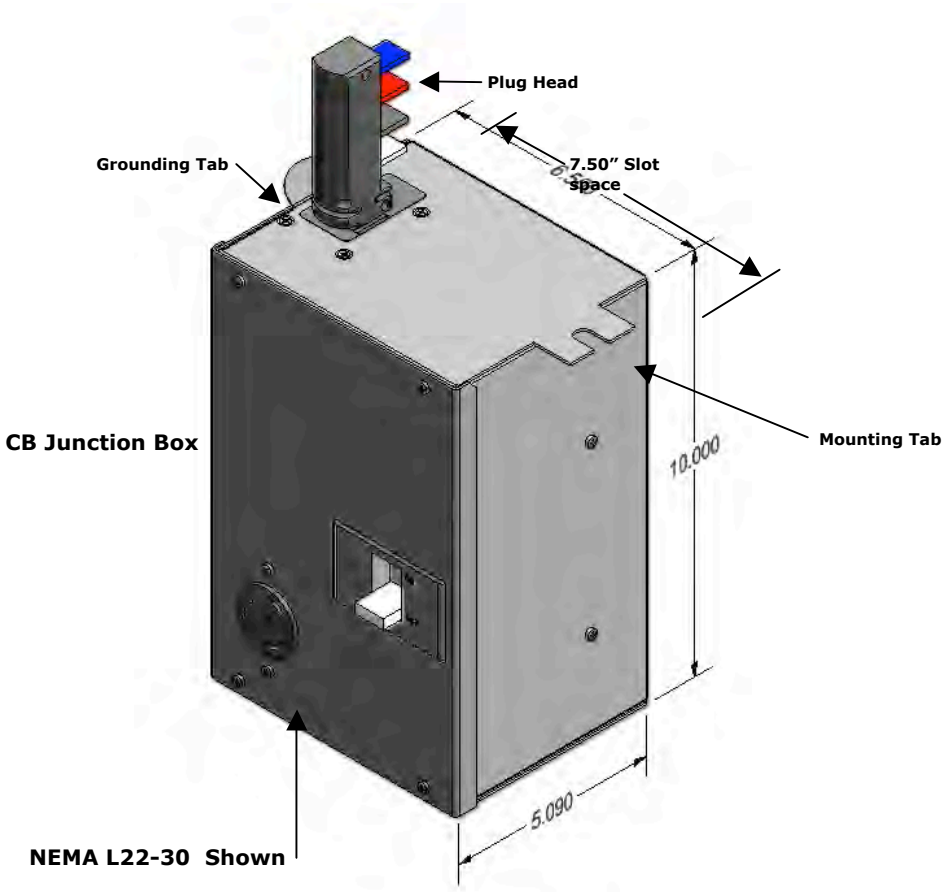
B100A, B100N, B225; B100G, B100NG

STARLINE® TRACK BUSWAY

E37 ENCLOSURE 415V or 480V
CIRCUIT BREAKER APPLICATIONS

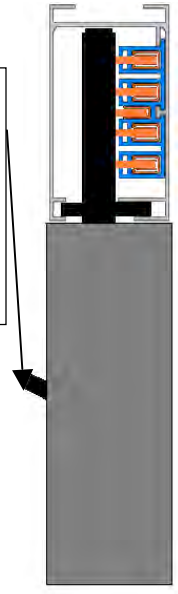
Used to tap off power from the Busway with a wide variety of device configurations. Plug head is not reversible to face in opposite direction.

- **PREFERRED enclosure for Circuit breaker units up to 60A/480V or 415V**
- **Capable to 3 breaker positions and three receptacles**
- **Example Combination:**
  - (1) NEMA L22-30
  - (3) NEMA L7-30
- **Consult factory for possible combinations.**
- **Maximum ratings of 225 total amps, 415V, 22,000 AIC. ("H")**
- **Locked into position with a single bolt on mounting tab.**



Breaker faces away from Busway conductor side.

This box faces the opposite of the E12 and E28 standard



Catalog Number Sequence
CB* (H)E37-(NEMA)-(P)**

- **System Poles**
- **Wiring Devices NEMA or IEC 309**
- **Enclosure**
- **ONLY for 22,000kAIC rating**
- **System Size,100A,100N,100G,100NG,160,225,225G**
- **Circuit Breaker**

100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

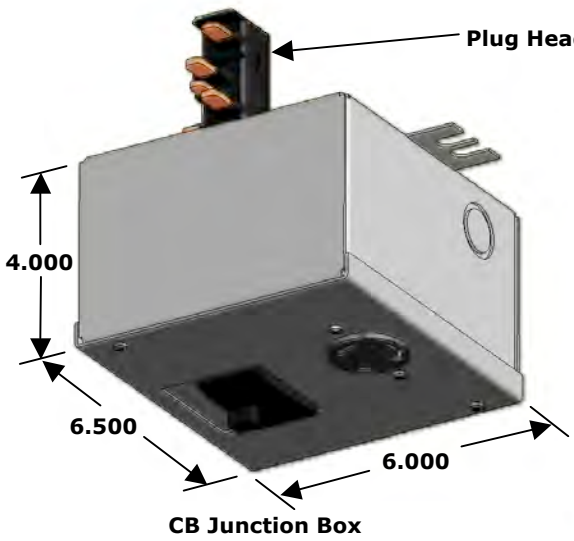
E30 ENCLOSURE

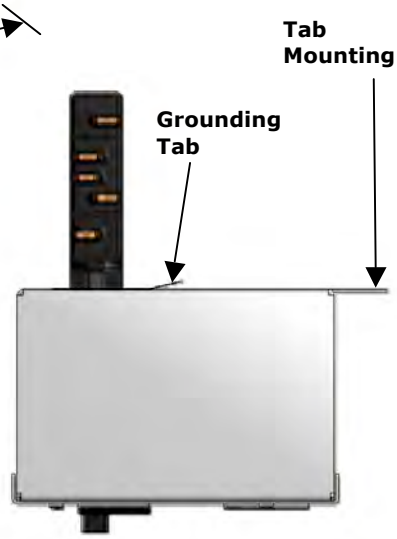
CIRCUIT BREAKER APPLICATIONS

Used to tap off power from the Busway for Circuit Breaker applications. Downward facing circuit breaker operation, device access.

PREFERRED enclosure for CB units & OB units with breakers.

- **Use where access from below is essential**
- **Limited to 3 breaker positions**
- **Variety of drop cords or receptacles available.**
- **Consult factory for possible combinations.**
- **Maximum ratings of 60 amps, 240V, 22,000 AIC. ("H")**
- **Locked into position with a single bolt on mounting tab.**





Catalog Number Sequence

CB(sys)(H)E30-(aa)-(y)-240-(P)

- **(P) → System Poles**
- **240 → Voltage**
- **(y) → 1, 2 or 3 Breaker Poles**
- **(aa) → Breaker Amperage**
- **E30 → Enclosure**
- **H → ONLY for 22,000kAIC rating**
- **CB(sys) → Circuit Breaker Unit**

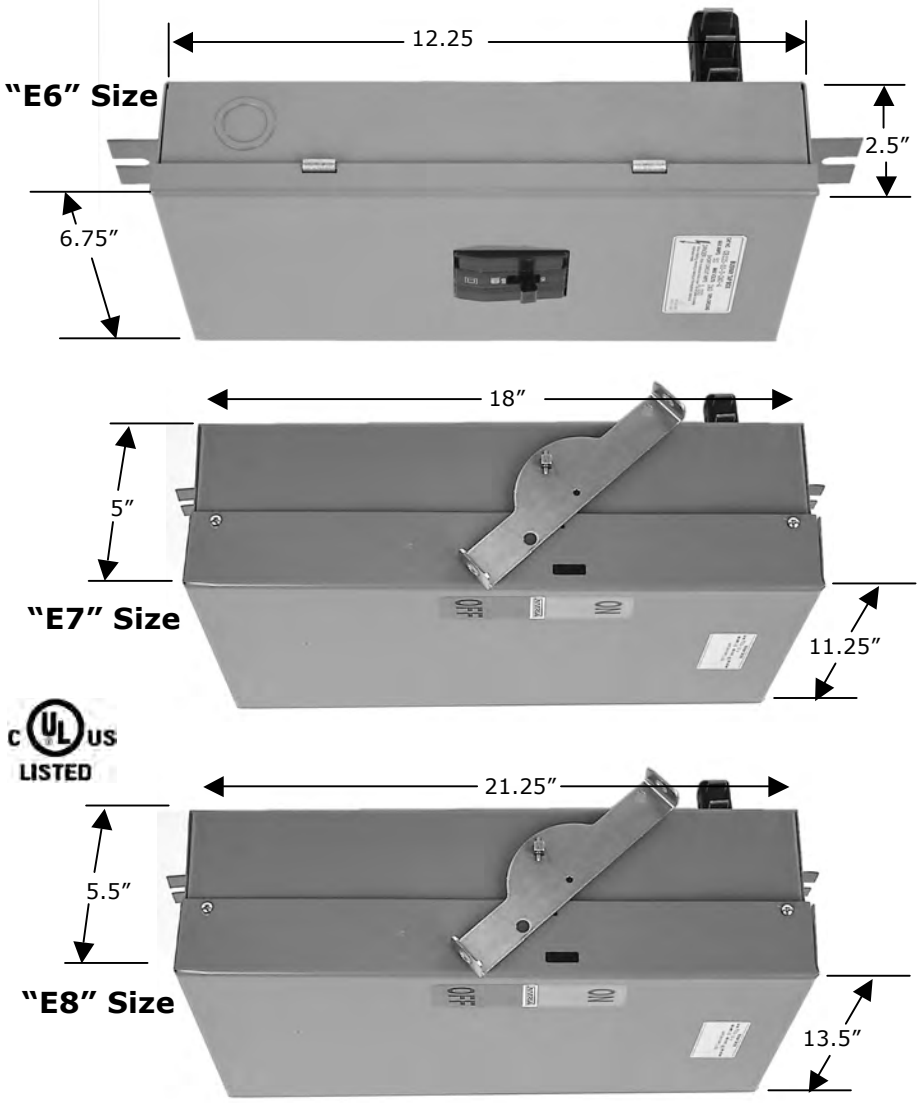
100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

Circuit Breaker Plug-In
E6, E7, E8 Enclosures

Basic circuit breaker plug-in faces downward and is available in a wide variety of ratings. Consult factory for assistance. Selection information for these units should include amp rating, voltage rating, number of breaker poles and Busway system poles. All circuit breakers are mounted internally. A floor operable external discount is also available with 240V units. Enclosure size varies with required ratings. Units can also be ordered with various drop cord configurations. This is the default circuit breaker enclosure unless specified otherwise.



Catalog Number Sequence
CB(sys)E6–(aa)–(y)-(vvv)-(P)

- **System Poles**
- **Voltage**
  - **240**
  - **277**
  - **480**
  - **600**
- **Breaker Poles**
  - **1, 2 or 3**
- **Breaker Rating**
  - **aa = 10 to 100 amp**
  - **cc = 15 to 100 amp**
  - **dd = 15 to 150 amp**
  - **ee = 15 to 225 amp**
- **System Size**
- **Circuit Breaker**

Typical Catalog No.	Number Selection Description	Weight
CB225E6-aa-y-240-4	240 Volt for 4-pole Busway	8 lbs
CB225E7-dd-1-277-4	1-Pole/277 Volt/4-pole Busway	19 lbs
CB225E7-dd-1-277-3	1-Pole/277 Volt/3-pole Busway	19 lbs
CB225E7-dd-3-480-4	3-Pole/480 Volt for 4-pole Busway	20 lbs
CB225E8-ee-3-600-4	3-Pole/600 Volt for 4-pole Busway	29 lbs

Add "DIS" suffix for Floor Operated Disconnect for 240V Units
Disconnect standard for ALL other units

100, 60, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

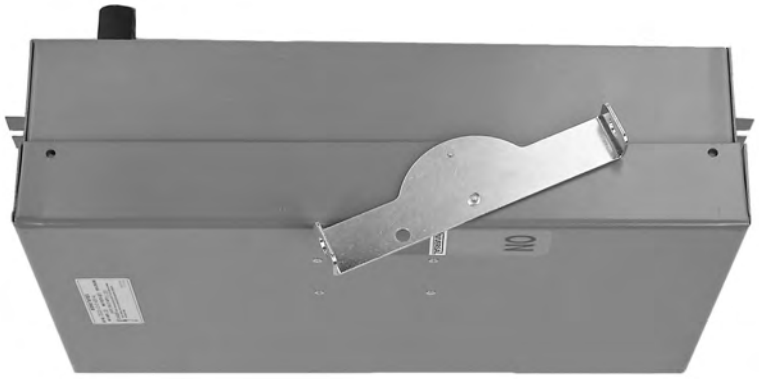
STARLINE® TRACK BUSWAY

FUSED DISCONNECT PLUG-IN

Fused Disconnect

Standard units include J-box, plug head, removable lid, fuse blocks rated at 30, 60, 100 or 200 Amp max, a floor operable disconnect rated at 300 or 600V. 240V and 100 series 600V fuse blocks take Class RL fuses. 160/225 series 600V take Class J Fuses. Fuses are not included and may be ordered separately.

All units include two mounting bolts and a ground lug. All 4-pole units include a neutral connection. Knockouts are provided on two sides. Drop cord assemblies are also available as needed.



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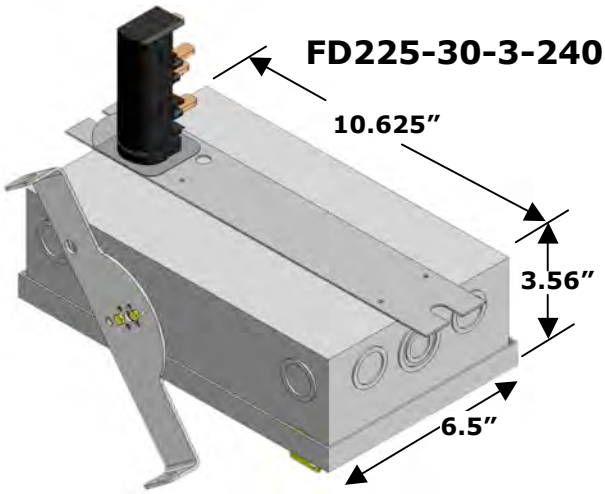
Catalog Number Sequence
FD(sys)–(XX)–(X)–(XXX)–(P)

- **Busway System Poles**
- **Voltage Rating (300 or 600V Max)**
- **Number of Disconnect Poles**
- **Fuse Block Size: 30, 60, 100 or 200Amp**
- **System size (100A, 100N, 225, 100G, 100NG, 225G)**
- **Fused Disconnect**

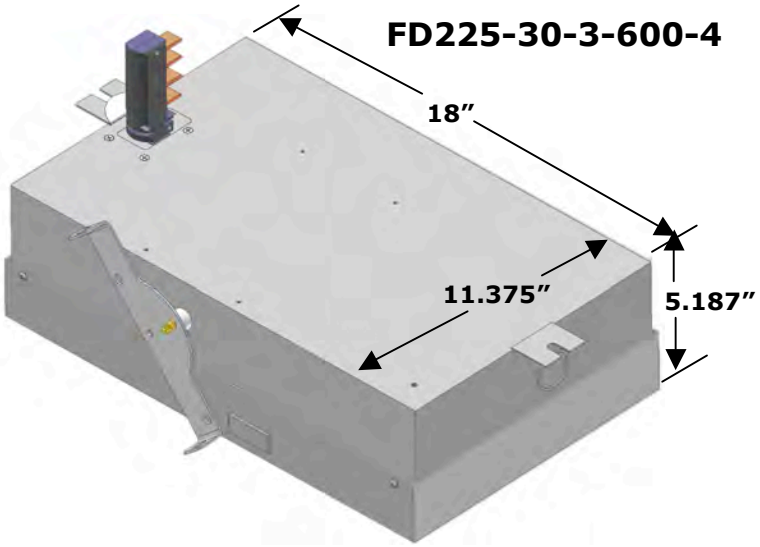
Part Numbers & Dimensions, Next 2 Pages

FUSED DISCONNECT PLUG-IN

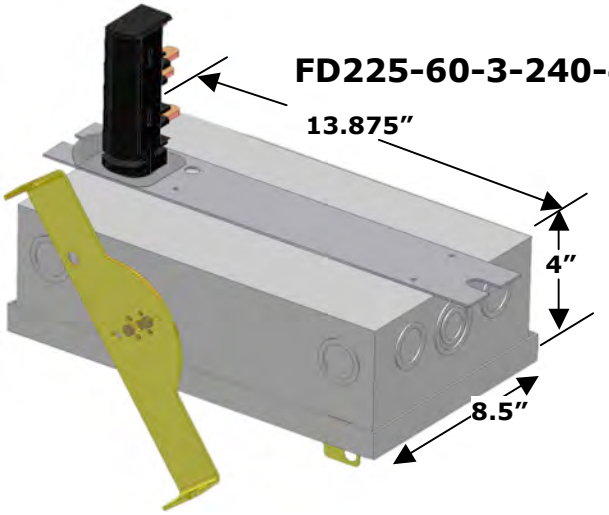
FD225-30-3-240-4



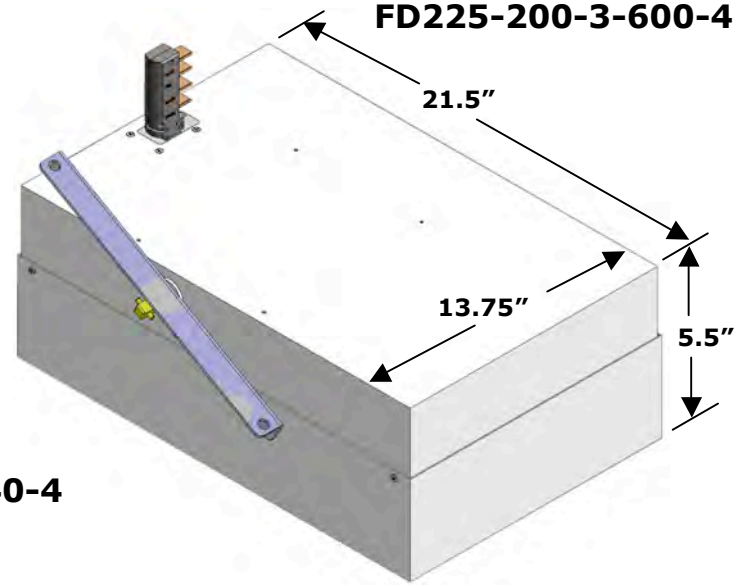
FD225-30-3-600-4



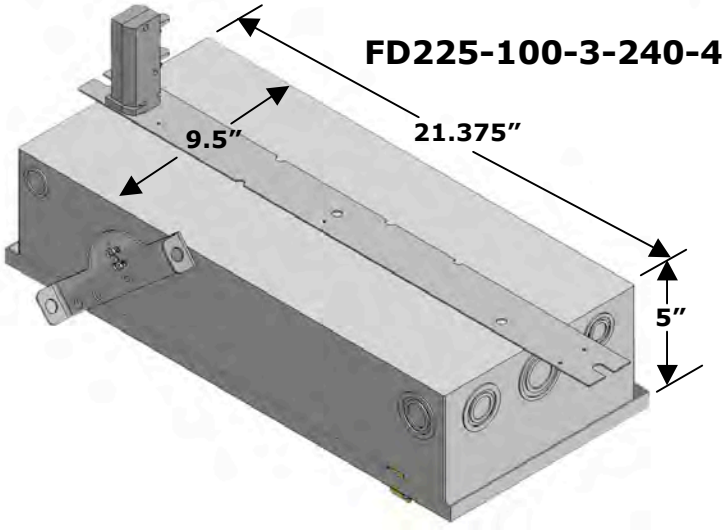
FD225-60-3-240-4



FD225-200-3-600-4



FD225-100-3-240-4

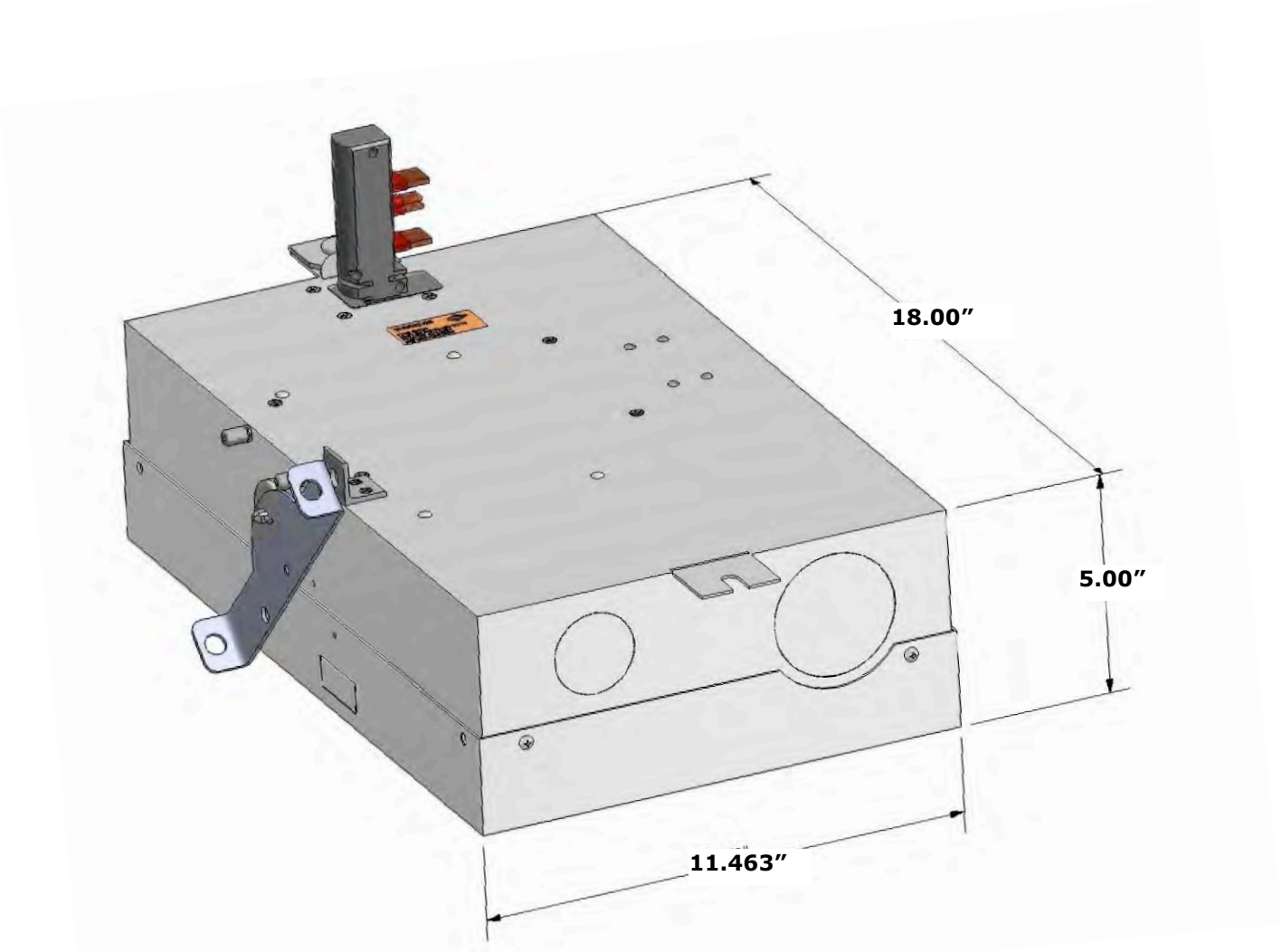


100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

FUSED DISCONNECT PLUG-IN



FD225-30-3-600-4
FD225-60-3-600-4
FD225-100-3-600-4

100, 225 Amp

B100A, B100N, B225, B100G, B100NG, B225G

STARLINE® TRACK BUSWAY

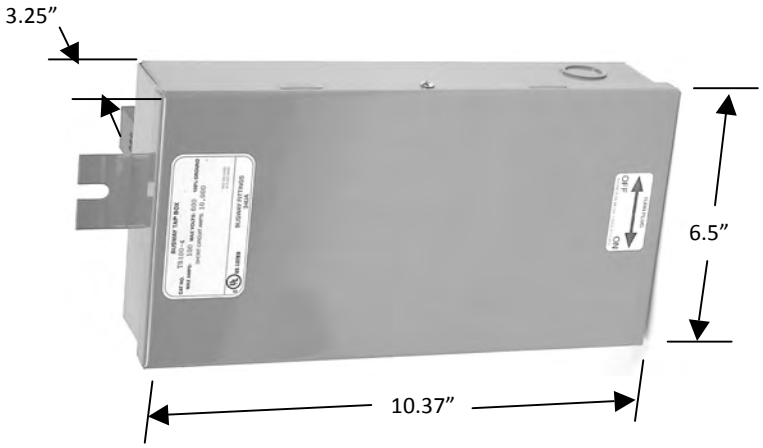
TERMINAL BLOCK PLUG-IN

Terminal Block – TB

Consist of a full-sized junction box with hinged lid, terminal block, and plug head. Insert plug head in the Busway, rotate 90 degrees to make electrical connection. Held in position by inserting bolt hangers (supplied) in mounting tabs on either side of unit.

All units include a copper grounding lug for up to #6AWG. 4-pole unit includes neutral wire and wire nut or neutral block over 40 Amps. Units have ½ in. and ¾ in. conduit knockouts on 3 sides.

Rated to 40A or 100A/600V for 100A systems; Rated to 100A/300V for systems over 100A. Refer to page 11.28 for larger units.



TB – Terminal Block

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Catalog Number Sequence

TB(sys)–(XX)–(P)

- **Busway Poles**
- **Amp Rating**
- **System Size(all sizes)**
- **TB - Terminal Block**

Catalog Number Selection

Catalog No.	Description	Weight
TB100A-40-3	Terminal Block, 40A, 600V, 3-pole	5.5 lbs
TB225- 100-3	Terminal Block, 100A, 600V, 3-pole	6.0 lbs

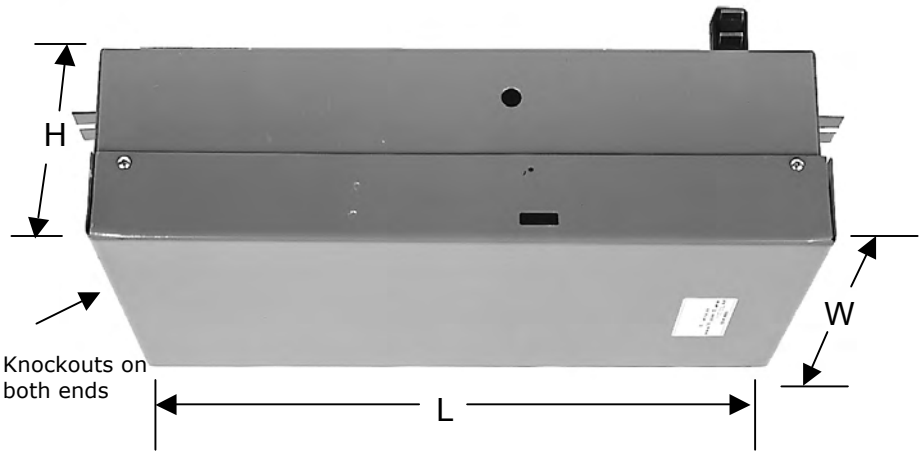
100NG, 225 Amp

B100N, B100NG, B225 Systems

TERMINAL BLOCK PLUG-IN

Terminal Block

Plug-In units with a 3 or 4-pole insulated terminal block, rated at 100 Amps with 200% neutral and 225 Amps are used for direct wire tap off, or for a bottom power feed. All units include a ground block. All 4-pole units include a neutral block rated at 225 Amps. Units are NOT available for B225G systems.



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Catalog Number Sequence

TB(sys)–100–(P)

- **(P)** → **System Poles**
- **100** → **Block Size**
- **(sys)** → **System size (100N, 100NG or 225 ONLY)**
- **TB** → **Terminal Block**

Catalog Number Selection

Catalog No.	Description	Weight	Size		
			L	W	H
TB100NG-100-4	100A/200%N, 300V,4P	16 lbs	12.5″	6.75″	3.5″
TB225-225-4	225A, 600V, 4-pole	17 lbs	18″	11.25″	5″

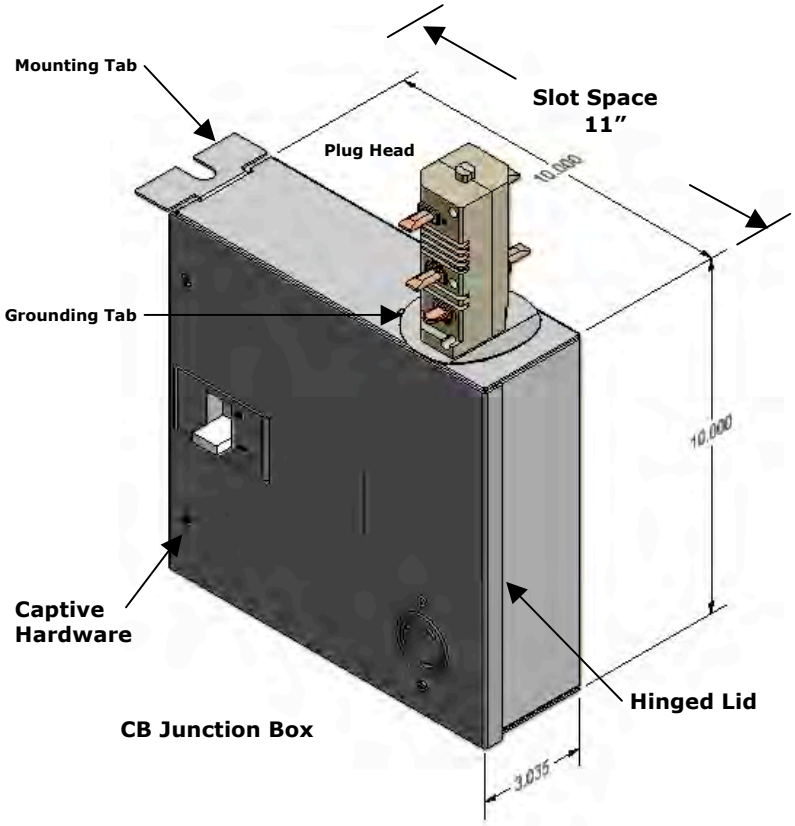
T5 Series Plug-Ins

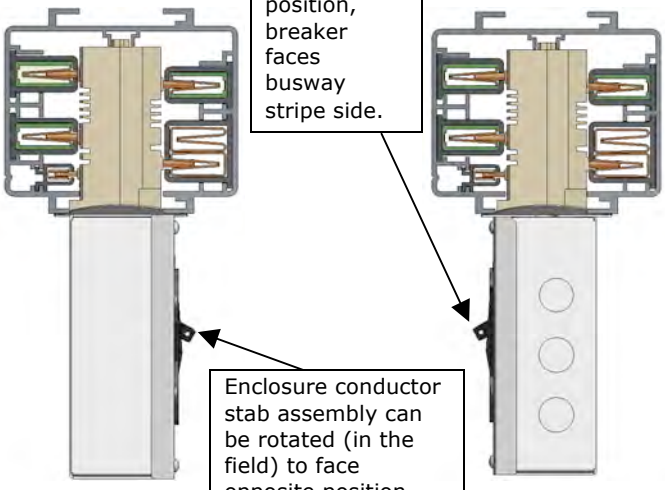
STARLINE® TRACK BUSWAY

E36 ENCLOSURE 415V or 480V
Circuit Breaker Applications

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

- **PREFERRED enclosure for Circuit breaker units up to 100A/480V or 415V**
- **PREFERRED enclosure for single or multiple 415 or 480V receptacles**
- **Capable of up to 6 breaker positions.**
- **Consult factory for possible combinations.**
- **Maximum ratings of 100 amps, 480V, 22,000 AIC. ("H") typical**
- **Locked into position with a single bolt on mounting tab.**





Catalog Number Sequence
CB*(H)E36-(NEMA)- (P)**

- **System Poles**
- **Wiring Devices NEMA or IEC 309**
- **Enclosure**
- **ONLY for 22,000 AIC rating**
- **System 400, 400G, 400N, 400NG**
- **Circuit Breaker**

STARLINE® TRACK BUSWAY

DROP CORD PLUG-IN 415V or 480V
E36 ENCLOSURE CIRCUIT BREAKER DROP CORD APPLICATIONS

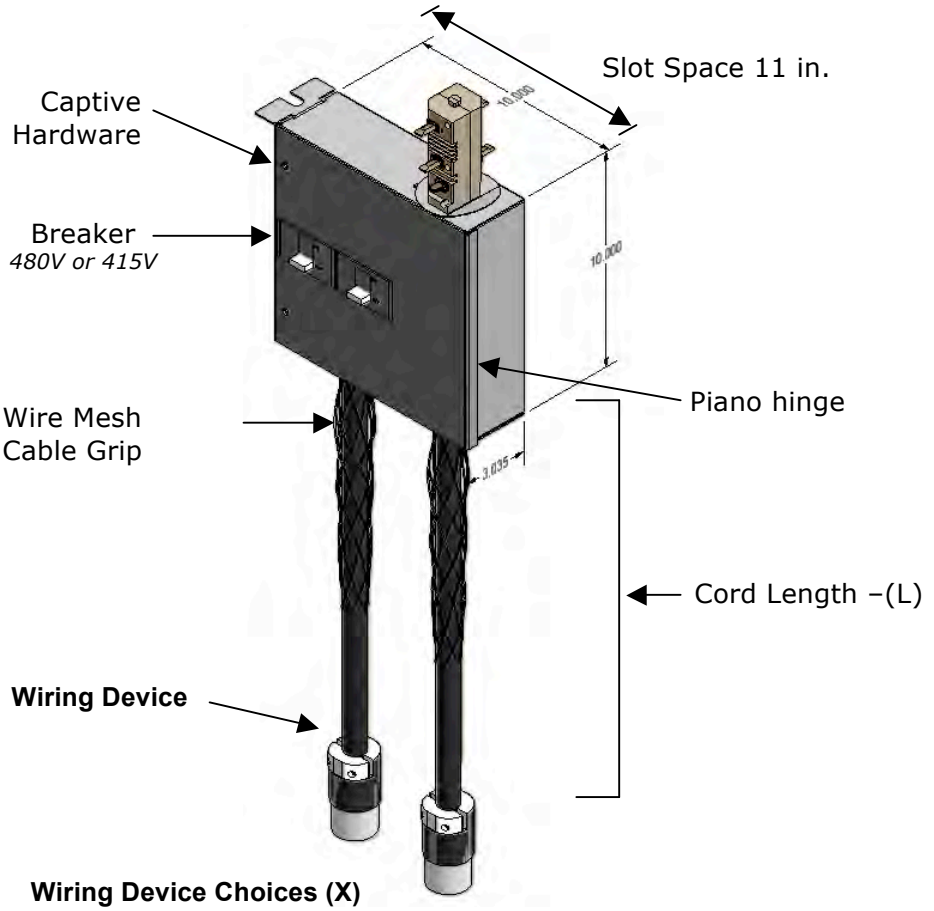
Drop Cord Assembly

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

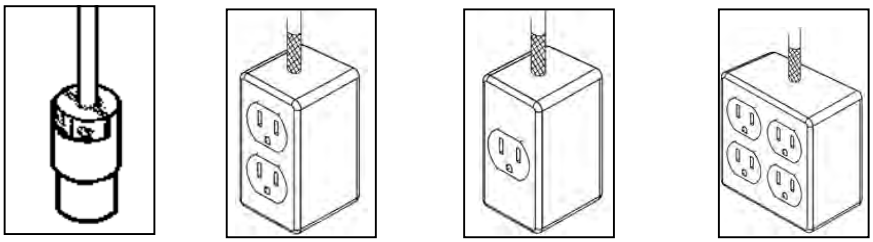
Shipped assembled complete from the factory based on part number selection including cord, breaker(s). Drop Cord assemblies with connectors (C) include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

E36 General Use

- **PREFERRED enclosure for single or multiple Drop Cords (two cords max) up to 100A/480V or 415V.**
- **6 breaker positions.**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)



C - Connector | **D** - Duplex | **R** – Single Receptacle | **Q** - Quad

Catalog Number Sequence

CBDCT5 (sys) E36-(L)–(NEMA)(X)–(Y)

- **Number of Poles**
- **Wiring Device, "C" – Connector, "D" – Duplex, "R" –Single Receptacle, "Q"-Quad**
- **Wiring Devices NEMA or IEC 309**
- **Cord Length 1 to 25 ft**
- **Enclosure**
- **System Size B400T5, B400T5N, B400T5G or B400T5NG**
- **Drop Cord**
- **Circuit Breaker**

T5 Series Plug-Ins

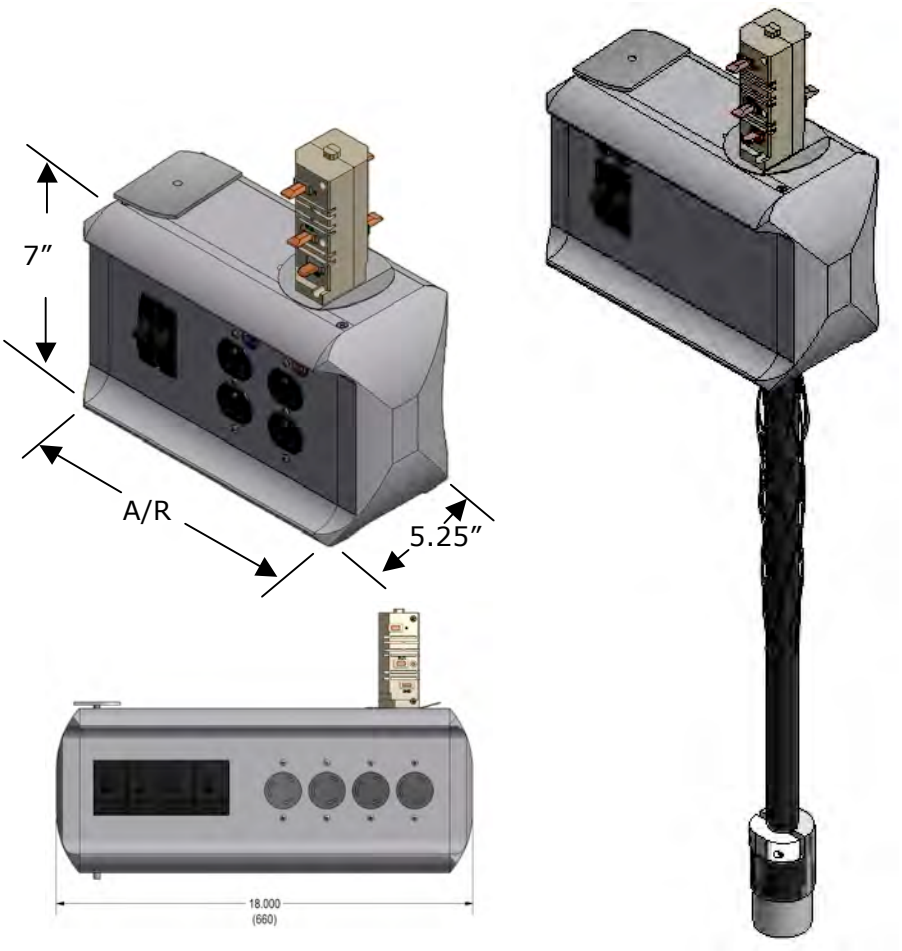
B250T5, B400T5, B800T5 SYSTEMS

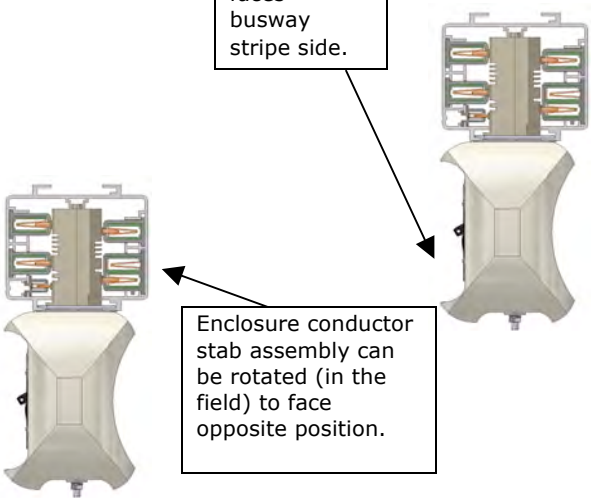
STARLINE® TRACK BUSWAY

E40 ENCLOSURE
Circuit Breaker Applications

Premium engineered unit that combines style with versatility. Designed to tap off power from the busway. Compatible with all 'T5' busway systems. Plug head is reversible to face in opposite direction.

- **Provides multiple circuit breaker pole positions by adjusting unit length.**
- **Breakers are factory installed to internal DIN rail.**
- **Consult factory for possible combinations.**
- **Maximum ratings of 125 total amps, 240V**
- **Locks into position with a single bolt on mounting tab.**





Normal position, breaker faces busway stripe side.

Enclosure conductor stab assembly can be rotated (in the field) to face opposite position.

Catalog Number Sequence
CBT5(G)(H)E4x-(NEMA)- (P)

- **System Poles**
- **Wiring Devices NEMA or IEC 309**
- **Enclosure**
- **T5 or T5G System**
- **Circuit Breaker NEMA or IEC frame**

T5 Series Plug-Ins

B250T5, B400T5, B800T5 SYSTEMS

Next-generation, custom engineered enclosure that features a stylish exterior combined with a spacious interior and customizable body length to accommodate a wide variety of applications. The E50-Series enclosure is designed to tap off power from the busway and is compatible with all "T5" systems. The option is available to have a reverse T5 Paddle such that the enclosure faces in the opposite direction when in the busway.

- **Configurable unit length for multiple circuit breaker pole positions.**
- **Locks easily and quickly into position using a "no tooling" latching mechanism**
- **Maximum rating of 35kA at 480V**
- **Consult factory for possible combinations***

E50 ENCLOSURE
Circuit Breaker Applications

Model Shown:
CBMT5E53-(2)520D-(2)L630-4

T5 Paddle
(Standard Orientation, Reverse option available)

Latching Mechanism
(No tooling install)

Enclosure Lengths
(Please consult factory for proper sizing)

E51 – 6.14"
E52 – 8.14"
E53 – 10.14"
E54 – 12.14"
E55 – 13.14"
E56 – 15.14"
E57 – 18.14"

Catalog Number Sequence

CB [M] [DC] T5 (G) (H) E 5 x – [L] - (NEMA) (w) – (P)

- **CB** – Circuit Breaker
- **[M]** – (Multiple CB)
- **[DC]** – (Drop Cord)
- **(G)** – Isolated Ground
- **(H)** – High-Interrupt Rating
- **E 5 x** – Enclosure* 1 *through* 7
- **[L]** – Length of Drop Cord (Feet)
- **(NEMA)** – Wiring Device *(NEMA or IEC 309)*
- **(w)** – Device
  - **C** – Connector
  - **D** – Duplex
  - **R** – Single Receptacle
  - **Q** – Quad
- **(P)** – Poles

100, 225 Amp Plug-Ins

B100, B225 SYSTEMS

Next-generation, custom engineered enclosure that features a stylish exterior combined with a spacious interior and customizable body length to accommodate a wide variety of applications. The E50-Series enclosure is designed to tap off power from the busway. The option is available to have a reverse paddle such that the enclosure faces in the opposite direction when in the busway.

- **Configurable unit length for multiple circuit breaker pole positions.**
- **Locks into position using a single, easy access bolt**
- **Maximum rating of 35kA at 480V for B100, 35kA at 240V for B225**
- **Consult factory for possible combinations***

E50 ENCLOSURE
Circuit Breaker Applications

Model Shown:
CBM225E53-(2)520D-(2)L630-4

225 Paddle
(Standard Orientation, Reverse option available)

Easy Access Bolt

Enclosure Lengths
(Please consult factory for proper sizing)

E51 – 6.00”
E52 – 8.00”
E53 – 10.00”
E54 – 12.00”
E55 – 13.00”
E56 – 15.00”
E57 – 18.00”

Catalog Number Sequence

CB [M] [DC] 225 (G) (H) E 5 x – [L] - (NEMA) (w) – 4

- **CB** → **Circuit Breaker**
- **[M]** → (Multiple CB)
- **[DC]** → (Drop Cord)
- **(G)** → **Isolated Ground**
- **(H)** → **High-Interrupt Rating**
- **E 5 x** → **Enclosure*** **1** *through* **7**
- **[L]** → **Length of Drop Cord (Feet)**
- **(NEMA)** → **Wiring Device** *(NEMA or IEC 309)*
- **(w)** → **Device**
  - **C** – Connector
  - **D** – Duplex
  - **R** – Single Receptacle
  - **Q** – Quad
- **4** → **Poles**

T5 Series Plug-Ins

B250T5, B400T5, B800T5 SYSTEMS

Next-generation, custom engineered enclosure that features a stylish exterior combined with a spacious interior and customizable body length to accommodate a wide variety of applications. The E90-Series enclosure is designed to tap off power from the busway and is compatible with all "T5" systems. The option is available to have a reverse T5 Paddle such that the enclosure faces in the opposite direction when in the busway.

- **Configurable unit length for multiple circuit breaker pole positions.**
- **Locks easily and quickly into position using a "no tooling" latching mechanism**
- **Maximum rating of 22kA at 480V**
- **Consult factory for possible combinations***

E90 ENCLOSURE
Circuit Breaker Applications

Model Shown:
CBMT5E92-(2)L530-4

T5 Paddle
(Standard Orientation, Reverse option available)

Latching Mechanism
(No tooling install)

Enclosure Lengths
(Please consult factory for proper sizing)

E91 – 6.14"
E92 – 8.14"
E93 – 10.14"
E94 – 12.14"
E95 – 13.14"
E96 – 15.14"
E97 – 18.14"

Catalog Number Sequence

CB [M] [DC] T5 (G) (H) E 9 x – [L] - (NEMA) (w) – 4

- **CB** – Circuit Breaker
- **[M]** – (Multiple CB)
- **[DC]** – (Drop Cord)
- **(G)** – Isolated Ground
- **(H)** – High-Interrupt Rating
- **E 9 x** – Enclosure* 1 *through* 7
- **[L]** – Length of Drop Cord (Feet)
- **(NEMA)** – Wiring Device *(NEMA or IEC 309)*
- **(w)** – Device
  - **C** – Connector
  - **D** – Duplex
  - **R** – Single Receptacle
  - **Q** – Quad
- **4** – Poles

STARLINE® TRACK BUSWAY

DROP CORD PLUG-IN
E12 ENCLOSURE CIRCUIT BREAKER DROP CORD APPLICATIONS

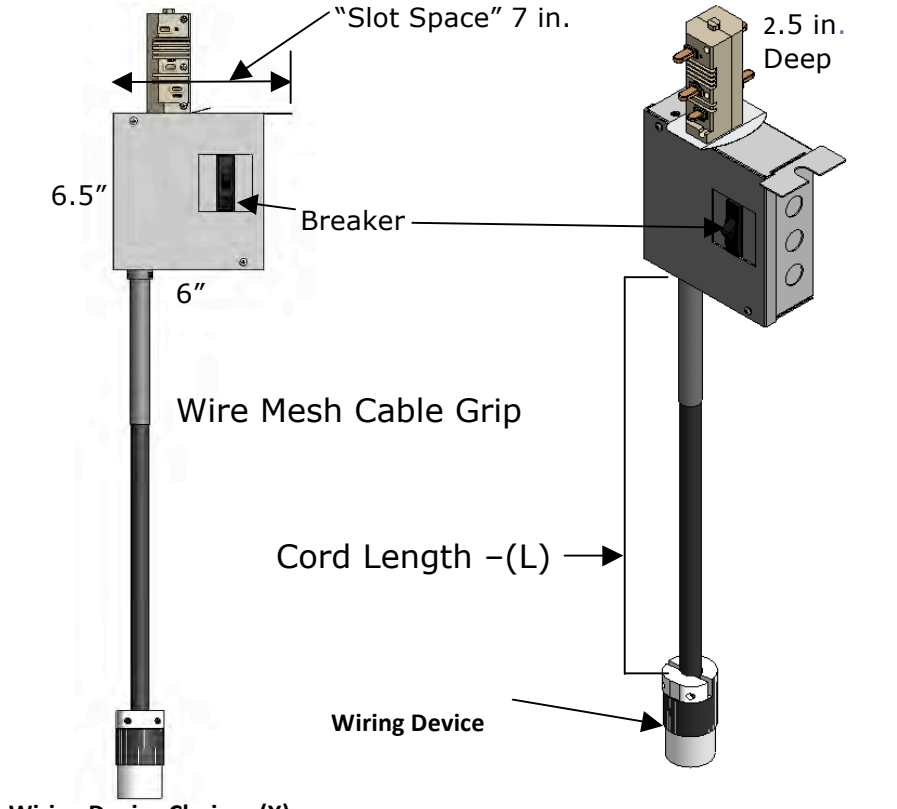
Drop Cord Assembly

Used to tap off power from the Busway with a wide variety of device configurations. Plug head is reversible to face in opposite direction.

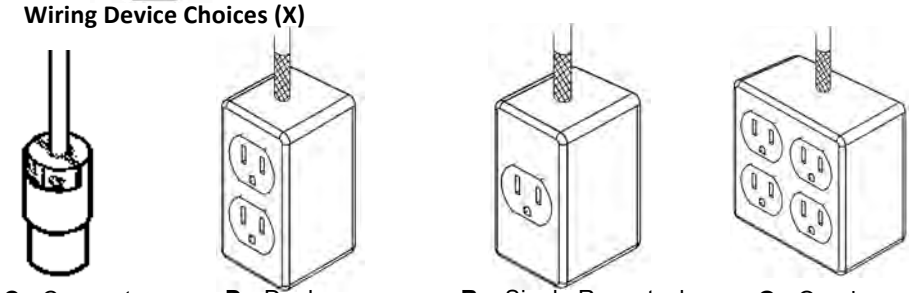
Shipped assembled complete from the factory based on part number selection including cord, breaker(s), and device. Drop Cord assemblies with connectors (C) include a wire mesh cord grip at outlet of plug-in box. All other assemblies include wire mesh cord grips at both ends of cord.

E12 General Use

- **PREFERRED enclosure for single or multiple Drop Cords (up to three)**
- **Limited to 3 breaker positions.**
- **Consult factory for possible combinations.**



Wiring Device Choices (X)



C - Connector | **D** - Duplex | **R** – Single Receptacle | **Q** - Quad

Catalog Number Sequence

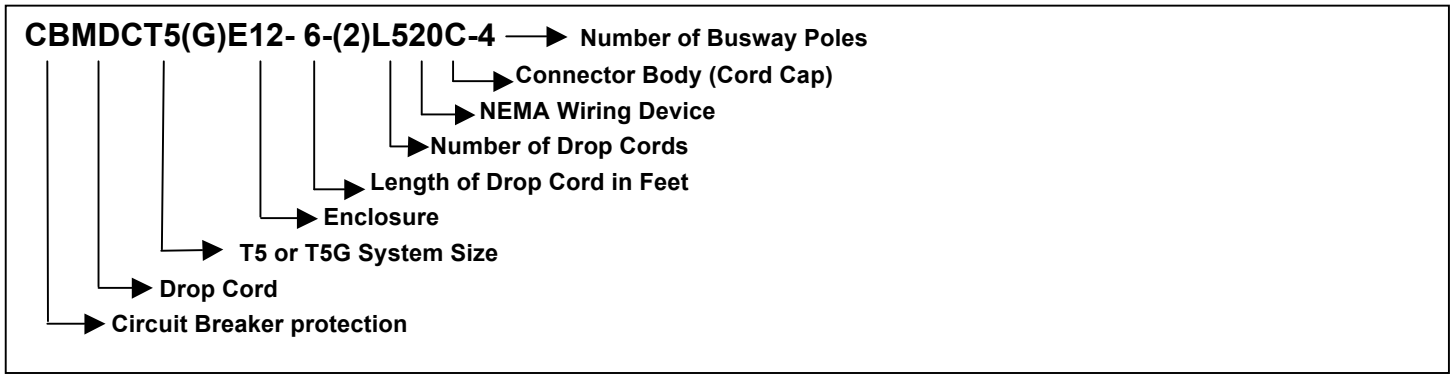
CBDCT5(G)E12-(L)–(NEMA)(X)–(Y)

- **Number of Poles**
- **Wiring Device, "C" – Connector, "D" – Duplex, "R" –Single Receptacle, "Q"-Quad**
- **NEMA Configuration**
- **Cord Length 1 to 25 ft**
- **Enclosure**
- **T5 or T5G System Size**
- **Drop Cord**
- **Circuit Breaker**

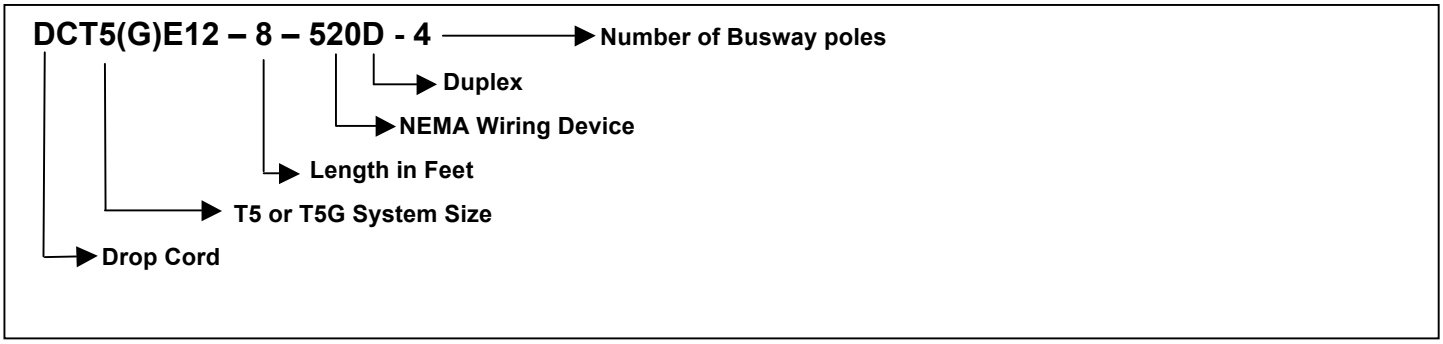
STARLINE® TRACK BUSWAY

DROP CORD SELECTION
PART NUMBER EXAMPLES

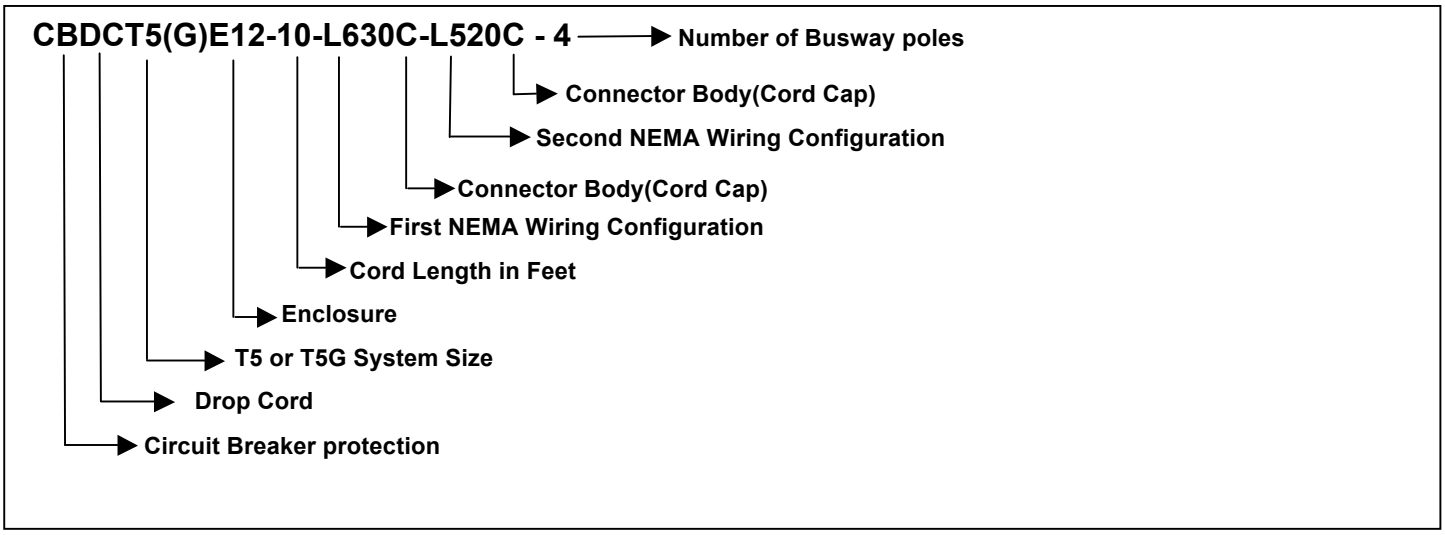
For any T5 System, *Circuit Breaker protection* with two(2), 6 ft Drop Cords, NEMA L5-20 Connectors (Cord Caps)



For any T5 System, a single, 8 ft Drop Cord with 5-20 Duplex, *fuse protection*



For any T5 System, *Circuit Breaker protection* with one 10 ft Drop Cord with NEMA L6-30 Connector and one 10 ft Drop Cord with L5-20 Connector



T5 Series Plug-Ins

B250T5, B400T5, B800T5 SYSTEMS

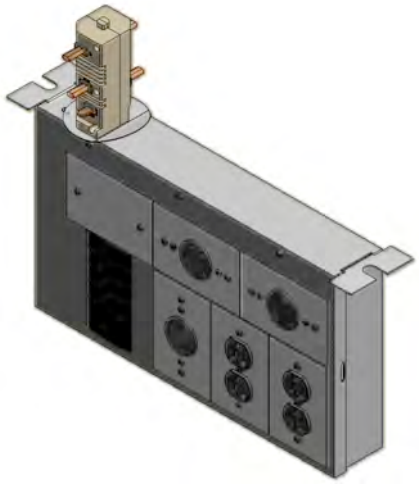
STARLINE® TRACK BUSWAY

E25 CIRCUIT BREAKER PLUG-IN

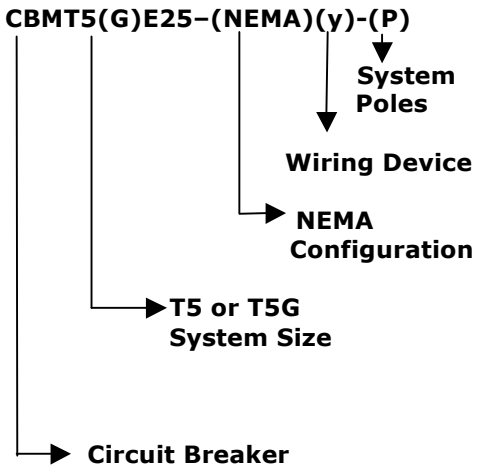
VERTICAL (Front Operable Type)

Vertical Circuit Breaker

Basic circuit breaker is front operable and comes with circuit breaker base that will accommodate up to 6-circuit breaker poles, 240 volts, 125 total amps. Basic unit is rated for 10kAIC with some breaker options for 22kAIC. Selection information for these units should include amp rating, number of breaker poles and Busway system poles. Units are very versatile and can also be ordered with various outlet configurations.



Catalog Number Sequence



Typical Catalog Number Selection

Catalog No.	Description	Weight
CBMT5E25-(x)-(NEMA) (y)-4	240V, 10kAIC, 4-pole Busway	12 lbs
CBMT5HE25-(x)-(NEMA) (y)-4	240V, 22kAIC, 4-pole Busway	12 lbs
CBMT5GE25-(x)-(NEMA) (y)-4DG	240V, Ded.Gnd.4P Busway	12 lbs

x=length of cord

NEMA= Nema Configuration

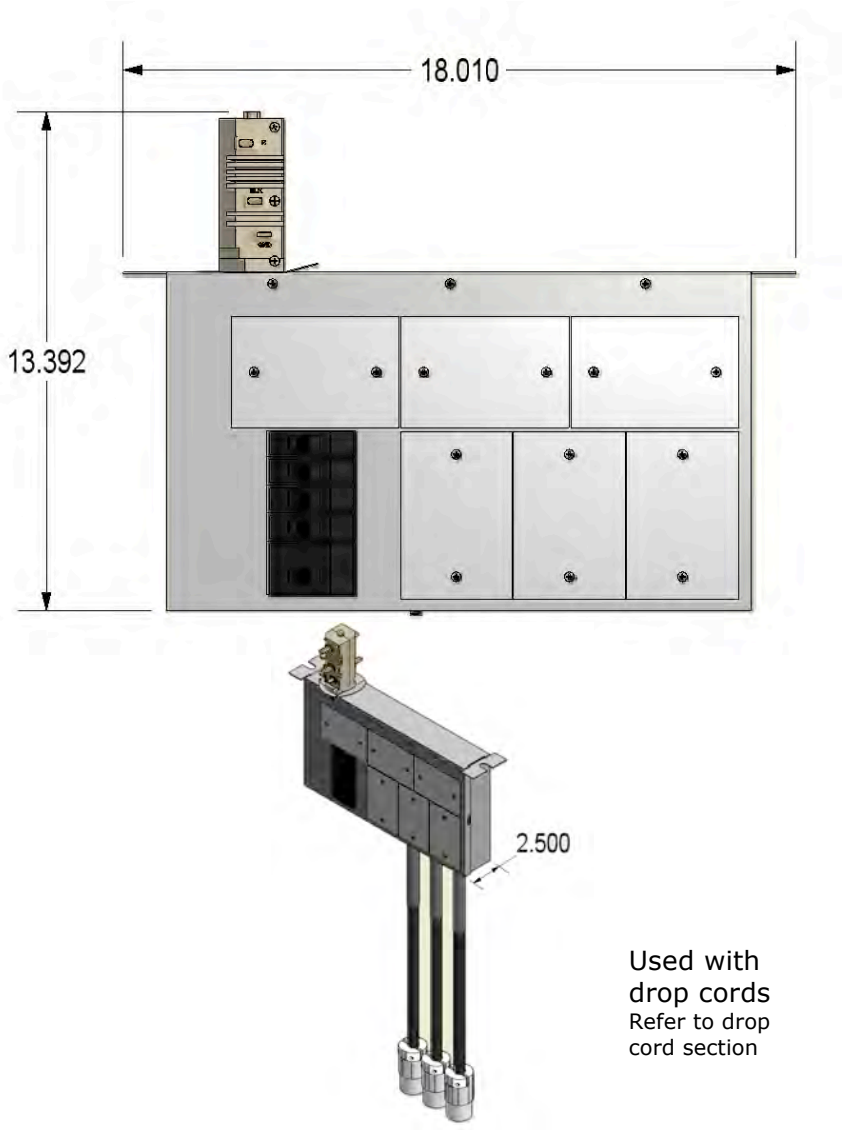
Y= "D" – Duplex, "R" – Single Receptacle, "Q" - Quad

STARLINE® TRACK BUSWAY

E25 CIRCUIT BREAKER PLUG-IN
DROP CORD UNITS

Vertical Circuit Breaker

Basic circuit breaker is front operable and comes with circuit breaker base that will accommodate up to 6 circuit breaker poles, 240 volt, 125 total amps. Basic unit is rated for 10kAIC with some breaker options for 22kAIC. Selection information for these units should include amp rating, number of breaker poles and Busway system poles. Units are very versatile and can also be ordered with various outlet and drop cord configurations. Refer to Drop Cord Units for selection information.



Used with drop cords
Refer to drop cord section

Catalog Number Sequence

CBDCT5(G)E25–(aa)–(y)-240-4

- **System Poles**
- **Voltage**
- **Breaker Poles** 1 thru 6
- **Breaker Rating**
  aa= 15to 60 amp 10kAIC
  cc = 15to 60 amp 22kAIC
- **Circuit Breaker & T5 or T5G System Size**

CBMDCT5E25–(X)–(NEMA)(w)-4

- **Wiring device**
- **NEMA configuration**
- **Cord length**

Standard Catalog Number Selection

**can be adjusted according to your system needs*

Catalog No.	Description	Weight
CBFT5E25-60-6-240-4	240V, 10kAIC, 3/4-pole Busway	12 lbs
CBMT5E25-p/aa-x-240-4	240V, 10kAIC, 3/4-pole Busway	12 lbs
CBMT5HE25-p/cc-x-240-4	240V, 22kAIC, 3/4-pole Busway	12 lbs
CBMDCT5HE25-X-L620C-4	240V, 22kAIC, 3/4-pole Busway	12 lbs

p=no. of poles, aa=15-60 Amp, 10kAIC, cc=15-60 Amp, 22kAIC

x=total number of poles, 1-6, X=length of cord

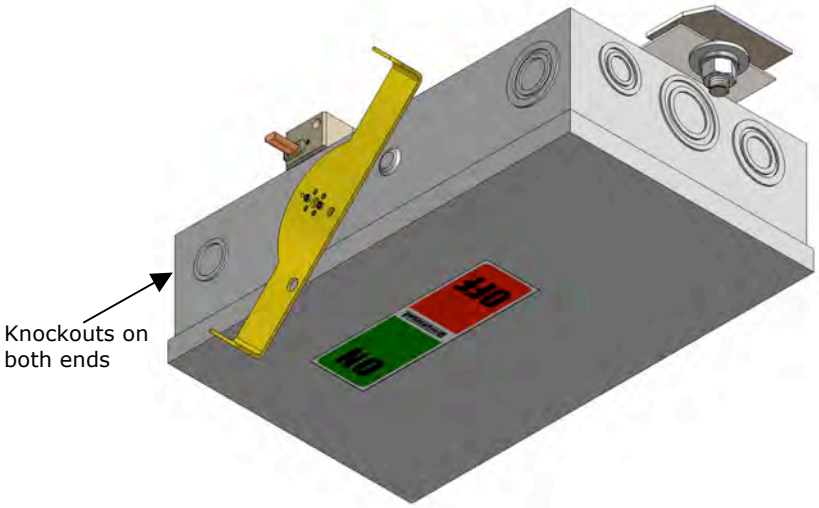
STARLINE® TRACK BUSWAY

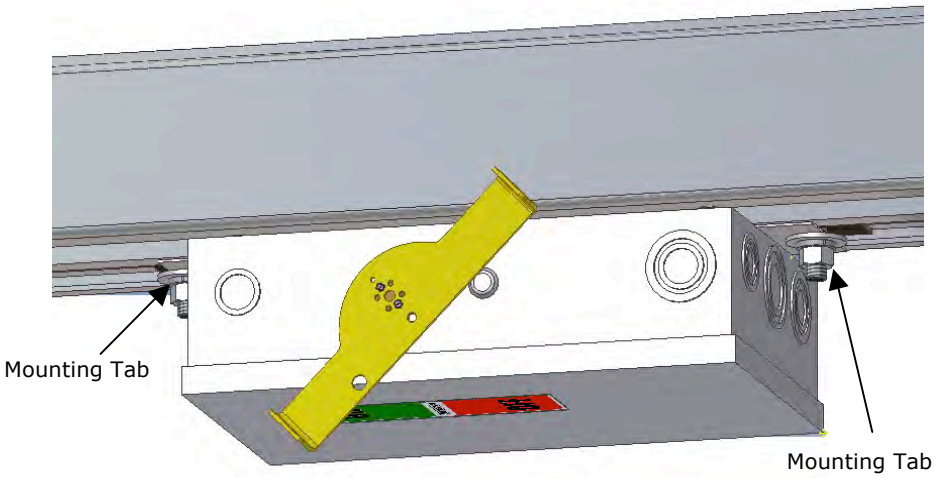
FUSED DISCONNECT PLUG-IN

Fused Disconnect

Standard units include J-box, plug head, hinged cover, fuse blocks rated at 30, 60, or 100 Amp max, 250VAC or 600 VAC max, and a floor operable disconnect mechanism. All units require Class RK Fuses. Fuses are not included and may be ordered separately.

All units include two mounting bolts and a ground lug. All 4-pole units include a neutral connection. Knockouts are provided on two sides. Drop cord assemblies are also available as needed.



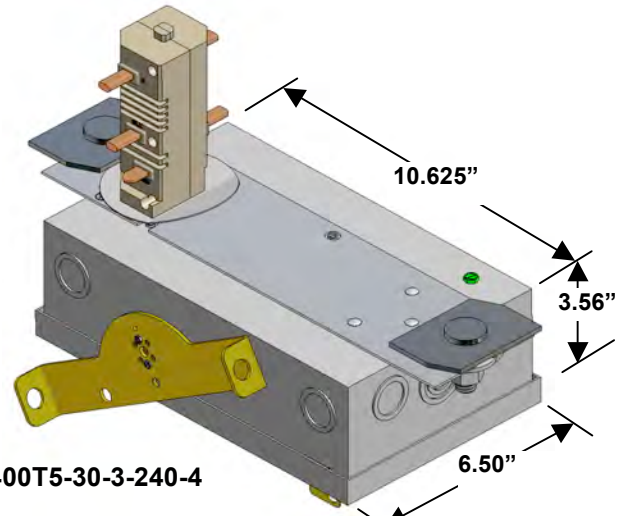


Catalog Number Sequence
FDT5(G)–(XX) –3- (XXX)- (P)

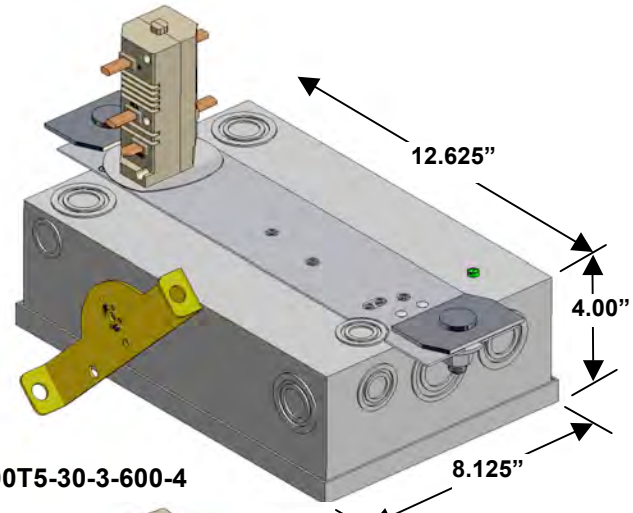
- **(P) → Busway System Poles**
- **(XXX) → Voltage Rating (240 or 600)**
- **3 → All units are 3 Pole units**
- **(XX) → Fuse Block Size: 30, 60, or 100 Amp**
- **T5 or T5G → T5 or T5G System size**
- **FD → Fused Disconnect**

STARLINE® TRACK BUSWAY

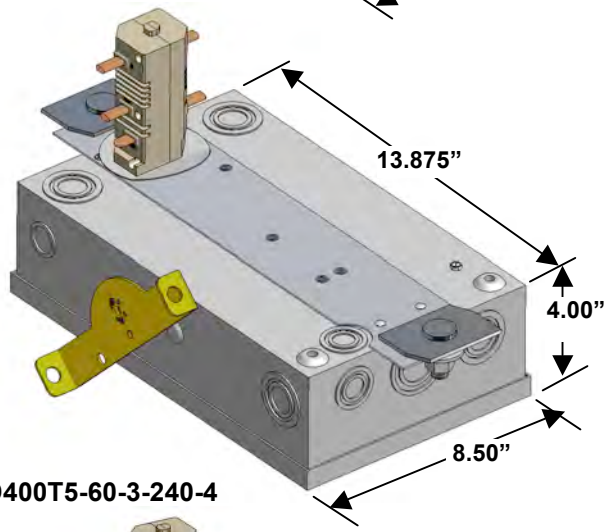
FUSED DISCONNECT PLUG-IN



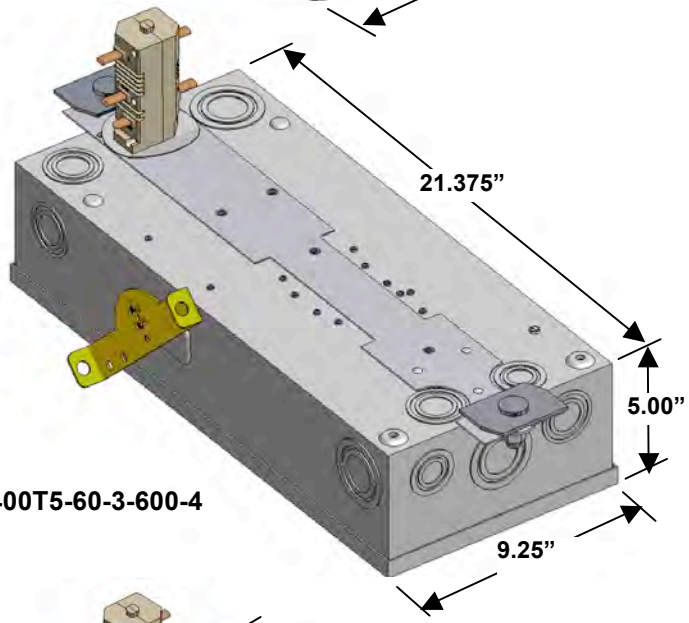
FD400T5-30-3-240-4



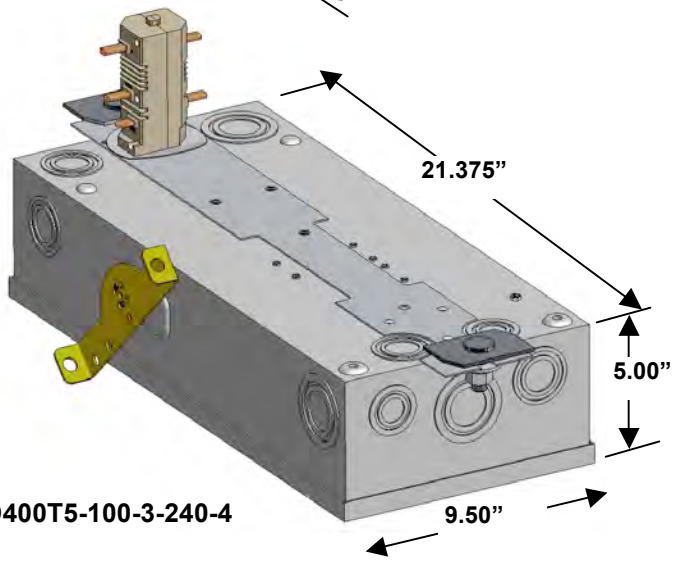
FD400T5-30-3-600-4



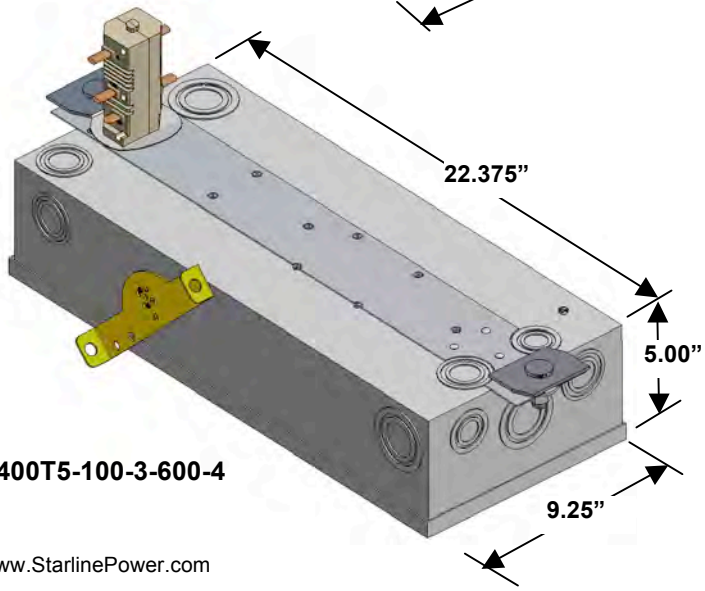
FD400T5-60-3-240-4



FD400T5-60-3-600-4



FD400T5-100-3-240-4



FD400T5-100-3-600-4

T5 Series Plug-Ins

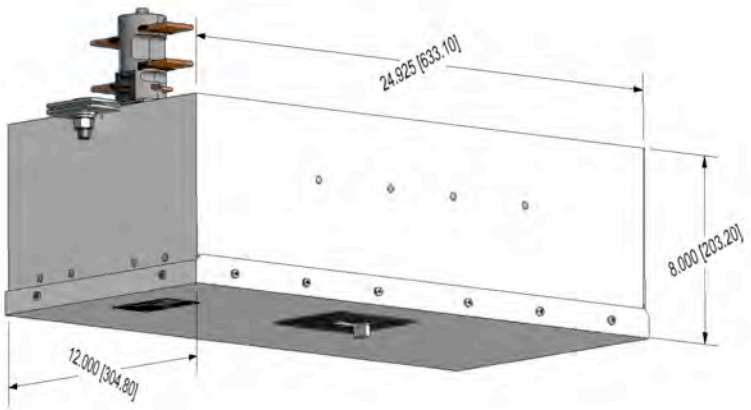
B250T5, B400T5, B800T5 SYSTEMS

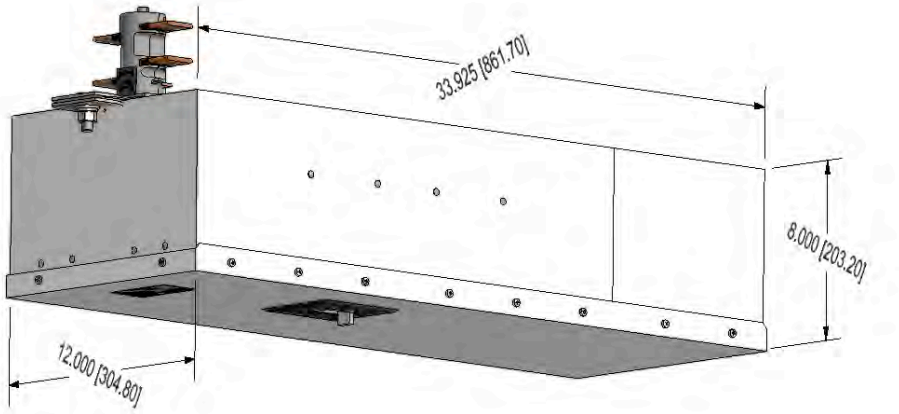
STARLINE® TRACK BUSWAY

CIRCUIT BREAKER PLUG-IN HORIZONTAL (Down Facing) TYPE

Horizontal Circuit Breaker

Basic circuit breaker plug-in faces downward and is available in a wide variety of ratings: 480 volts up to 400 amps or 600 Volts up to 150 amps. Selection information for these units should include amp rating, voltage rating, number of breaker poles and Busway system poles. All circuit breakers are mounted internally. Units can also be ordered with various drop cord configurations. Refer to 400 Amp Drop Cords for selection information. Specify (H) for high AIC ratings of 22k/240V, 22k/480V or 18k/600V. Specify (VH) for high AIC ratings of 35k/480V.





Catalog Number Sequence

CBT5(G)((V)H)E27–aa–y-vvv-P

- **System Poles**
- **Voltage**
  - **240**
  - **277**
  - **480**
  - **600**
- **Breaker Poles**
  - **1, 2 or 3**
- **Breaker Rating**
  - **aa=225A/240V max**
  - **bb=150A/600V max**
  - **cc=250A/480V max**
  - **dd=400A/480V max**
- **ONLY for 22,000k AIC rating**
- **T5 or T5G System Size**

Catalog Number Selection

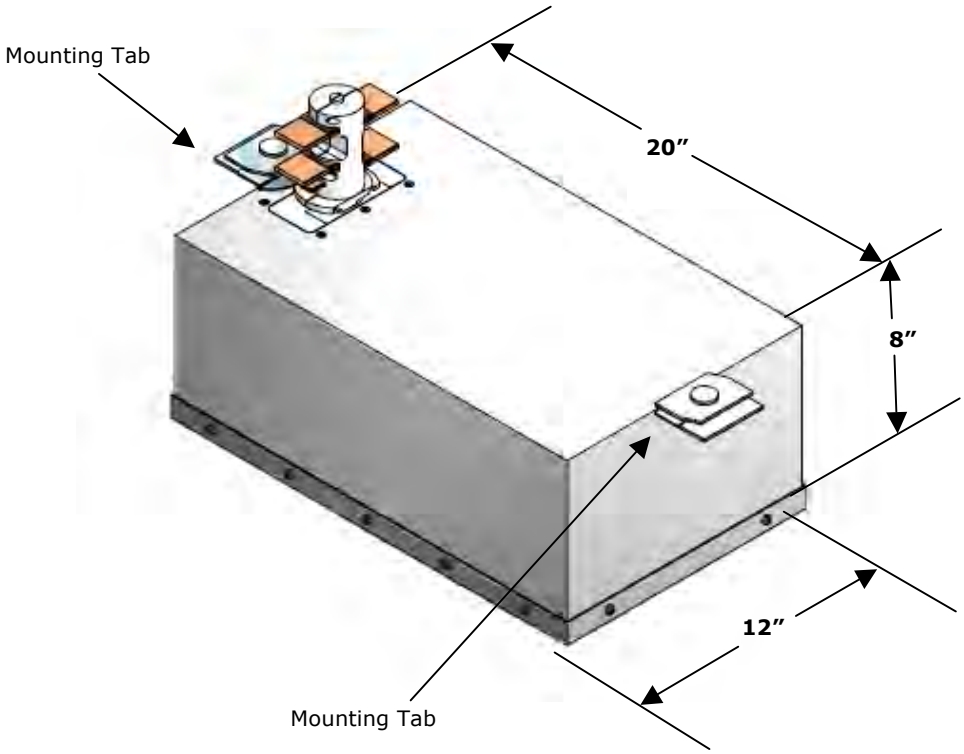
Catalog No.	Description	Weight
CBT5E27-100-3-240-4	100A/240V/3 pole	31 lbs
CBT5E27-20-1-277-4	20A/277V/1 pole	31 lbs
CBT5HE27-30-3-480-4	30A/480V/3 pole/22kAIC	32 lbs
CB250T5HE27-250-3-480-4	250A/480V/3 pole/35kAIC	33 lbs
CB400T5VHE27-400-3-480-4	400A/480V/3 pole/35kAIC	35 lbs
CBT5HE27-20-3-600-4	20A/600V/3 pole/18kAIC	32 lbs

STARLINE® TRACK BUSWAY

TERMINAL BLOCK PLUG-IN

Terminal Block

Plug-In units with mechanical lugs rated up to 400 Amps are used for direct wire tap off, or for a bottom power feed. All units include a ground lug. Isolated ground units include an isolated lug for this conductor.



Catalog Number Sequence

TBxxxT5(G)–xxx-4–*(R = reverse)*

System Poles

T5 System size
Amps, 250 or 400
G – isolated ground
NG – IG & 150% N

Terminal Block
(TB250 or TB400)

Catalog Number Selection

Catalog No.	Description	Weight
TBxxxT5-xxx-4	4-Pole	25 lbs
TBxxxT5-xxx-4R	4-Pole	25lbs
TBxxxT5G-xxx-4	4-Pole/IG	25 lbs
TBxxxT5G-xxx-4R	4-Pole/IG	25 lbs
TBxxxT5N-xxx-4	4-Pole/oversized N	25 lbs
TBxxxT5N-xxx-4R	4-Pole/oversized N	25 lbs
TBxxxT5NG-xxx-4	4-Pole/IG/oversized N	25 lbs
TBxxxT5NG-xxx-4R	4-Pole/IG/oversized N	25 lbs

STARLINE TRACK BUSWAY

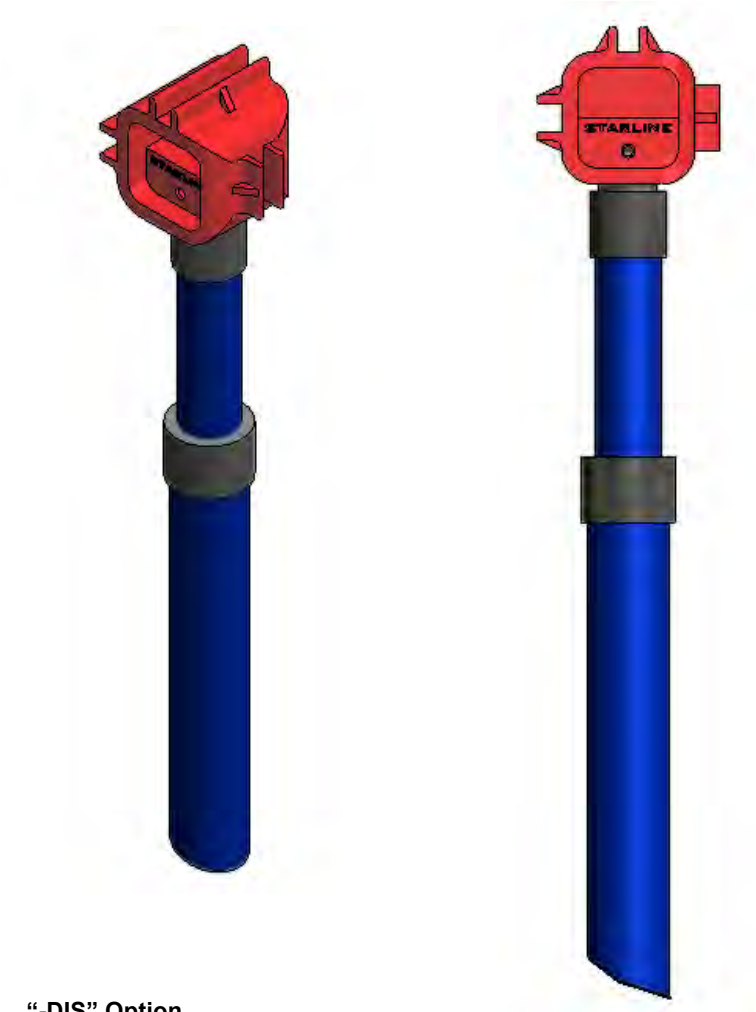
CIRCUIT BREAKER OPERATING STICKS

Circuit breaker units may be operated from the floor by use of an Operating Stick. Operating Sticks are fully insulated for safety and work on circuit breakers mounted in every orientation. Select from two lengths depending on the installation height. Standard stick length is 12 feet and the long stick is 23 feet.

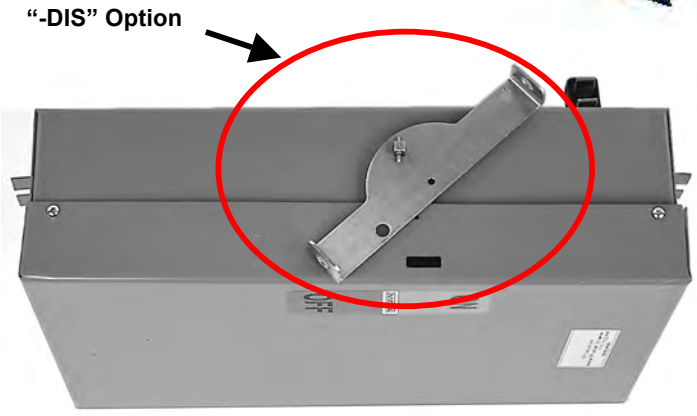
Catalog Numbers:

CBOS-V

CBOS-V-23



"-DIS" OPTION
Also available for most circuit breaker plug-in units is an operating handle. This rocker arm style handle may be easily operated by means of a hook stick or chains. Specify the '-DIS' option at end of selected Part Number.



CRITICAL POWER MONITORING
M41/M43/M45/M47 DETAILS

The Starline Critical Power Monitor (CPM) is a distributed data acquisition system that enables current and power monitoring in busway systems. Each phase and neutral can be monitored independently. The CPM may be incorporated at a power feed point or directly into a plug-in unit.

CURRENT TRANSFORMERS:
Current transformers (CT's) are supplied with the unit for installation onto the customer-supplied feeder cables. Sense leads from the CT's connect to the Meter.

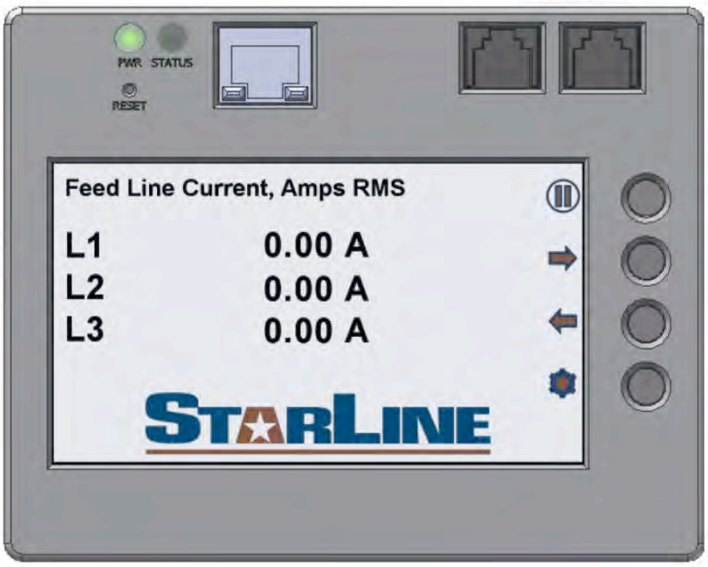
METER MODULES:
Each unit is calibrated for accuracy and is within 0.5% to meet ANSI Revenue Grade Standards.

CPM– ENHANCED PACKAGE (M41/M43/M45/M47):
Provides current and voltage inputs, monitoring current, voltage, power, power factor, frequency, apparent power, energy kWh, reactive power, neutral current, power min. and max.

DISPLAY:
The bright, 4.9" LCD reports basic power measurements and alarms. Display buttons provide configuration and direct control to the active display screen. Large format display is easily readable at a distance and wide viewing angle.

COMMUNICATION:
Ethernet and Modbus RTU ports are standard. Ethernet port provides an embedded web (HTTP) Interface & supports SNMP. Wi-Fi interface is optional, providing true versatility in the busway environment.

ALARMS:
When the defined alarm threshold is exceeded, a warning corresponding to that channel will turn ON and send an SNMP trap or an email to the user.



Critical Power Monitor with the (optional) 4.9" Display

Critical Power Monitor (No Display)

The Critical Power Monitor can be used to manage and maximize power distribution within a three phase power system. It can be employed as a component to help balance three phase power distribution between each phase. This increases efficiency by reducing the power factor and enables a user to fully analyze the power supplied to them.

POWER FEED MONITORING
The CPM, incorporated in or near the power feed unit, provides load monitoring of the entire run of busway. These are used in conjunction with BMS systems to ensure busway is not overloaded as well as for general power management. Typically uses the CPM unit with display.

BRANCH CIRCUIT MONITORING
The CPM, incorporated into a plug-in unit, monitors individual branch circuits. These units are used in conjunction with BMS system for power management and revenue purposes at the rack or circuit level. The CPM is capable of monitoring the entire unit or monitoring up to 4 individual devices, limited to 6 solid core Current Transformers (CTs).

BUILDING MANAGEMENT INTERFACE
The Starline CPM is easily interfaced with BMS/BCIM systems. Many BMS/BCIM systems offer drivers for use with the Starline CPM. Contact your BMS/BCIM supplier or Starline Engineering for more information.

POWER FEED UNIT WITH CPM

B100/B225 Power Feed Units

End Feed with Installed Critical Power Monitor
B100/B225

Standard End Power Feed units connect to the male end of the busway. Factory assembled unit consists of a 12" x 16" x 7.62" steel junction box, with removable sides, connected to a 1 foot section of busway. The assembly includes connection lugs, a ground lug, and shrink tubing for wires up to 300 MCM.

Integral CPM installed in the End Feed provides power monitoring and alarm capabilities. Nuisance tripping may be avoided using the current information to protect against overloading phases. The monitors also assist in the continuous challenge to balance the three phase loads. An automated email will be sent at 80% of full load as a warning to the user. This level may be changed in the field using the embedded webpage.

See Power Monitoring pages for more details.

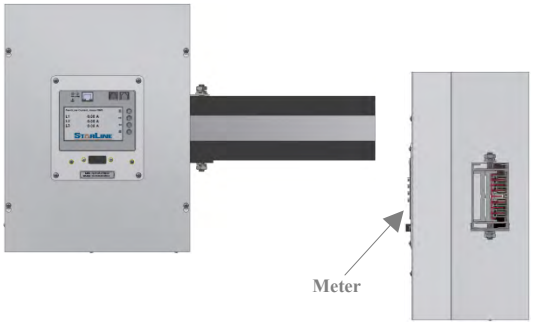
STANDARD END FEED

EFxxx-4-RT-MyyD-zzz

EFxxxN-4-RT-MyyD-zzz

EFxxxG-4-RT-MyyD-zzz

EFxxxNG-4-RT-MyyD-zzz



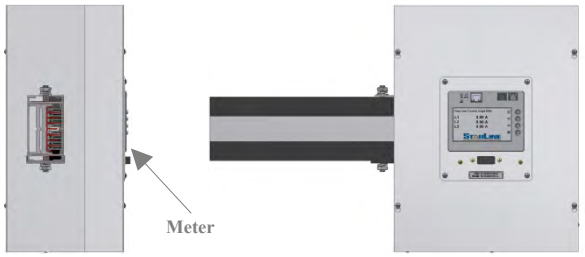
STANDARD 'LEFT LID' END FEED

EFxxx-4-L-MyyD-zzz

EFxxxN-4-L-MyyD-zzz

EFxxxG-4-L-MyyD-zzz

EFxxxNG-4-L-MyyD-zzz



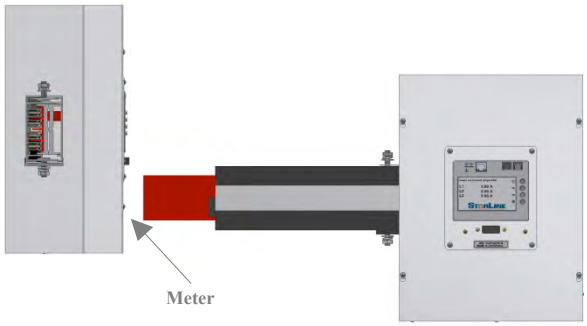
MALE END FEED

EFxxx-4M-L-MyyD-zzz

EFxxxN-4M-L-MyyD-zzz

EFxxxG-4M-L-MyyD-zzz

EFxxxNG-4M-L-MyyD-zzz



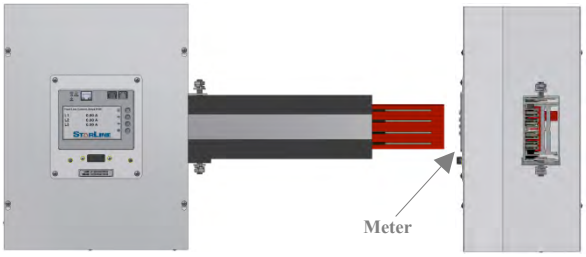
MALE 'RIGHT LID' END FEED

EFxxx-4M-RT-MyyD-zzz

EFxxxN-4M-RT-MyyD-zzz

EFxxxG-4M-RT-MyyD-zzz

EFxxxNG-4M-RT-MyyD-zzz



Catalog Number Sequence

EF xxx (N) (G) – 4 (L/M/MR) – M yy (D) (N) - zzz

- **EF** → **End Feed**
- **xxx** → **System**: 100, 225
- **(N)** → **Double Neutral (100 System Only)**
- **(G)** → **Isolated Ground**
- **4 (L/M/MR)** → **Orientation** *(See Above)*
- **M yy** → **Meter Release**
  - **41** – WiFi, Low Voltage
  - **43** – Low Voltage
  - **45** – WiFi, High Voltage
  - **47** – High Voltage
- **(D)** → **4.9" Display**
- **(N)** → **CT Measured Neutral**
- **zzz** → **System Configuration**
  - **LLD** - Line to Line, Delta
  - **LLY** - Line to Line, Wye
  - **LNY** - Line to Neutral, Wye

High Voltage Criteria:

Delta System: ≥400V
Wye System: ≥480V

POWER FEED UNIT WITH CPM

B250/B400/B800 Power Feed Units

End Feed with Installed Critical Power Monitor
B250/B400/B800

Standard End Power Feed units connect to the end of a Busway section. Factory assembled unit consists of a steel junction box with removable sides and is connected to a small section of busway. Reverse End Feed units for connection to opposite end of busway are also available. (For Frame specific information, see B250T5/ B400T5/B800T5 pages.)

Integral CPM installed in the End Feed provides power monitoring and alarm capabilities. Nuisance tripping may be avoided using the current information to protect against overloading phases. The monitors also assist in the continuous challenge to balance the three phase loads. An automated email will be sent at 80% of full load as a warning to the user. This level may be changed in the field using the embedded webpage.

See Power Monitoring pages for more details.

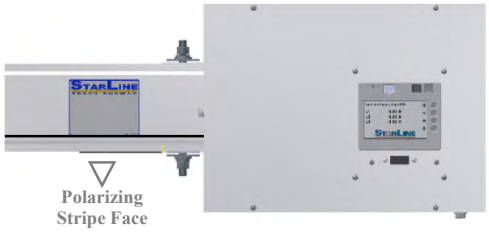
T5 STANDARD END FEED

EFxxxT5-4-L-MyyD-zzz

EFxxxT5N-4-L-MyyD-zzz

EFxxxT5G-4-L-MyyD-zzz

EFxxxT5NG-4-L-MyyD-zzz



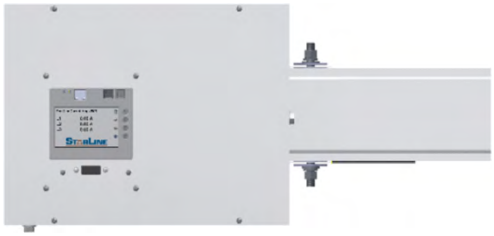
T5 STANDARD 'RIGHT LID' END FEED

EFxxxT5-4-RT-MyyD-zzz

EFxxxT5N-4-RT-MyyD-zzz

EFxxxT5G-4-RT-MyyD-zzz

EFxxxT5NG-4-RT-MyyD-zzz



T5 REVERSED END FEED

EFxxxT5-4R-RT-MyyD-zzz

EFxxxT5N-4R-RT-MyyD-zzz

EFxxxT5G-4R-RT-MyyD-zzz

EFxxxT5NG-4R-RT-MyyD-zzz

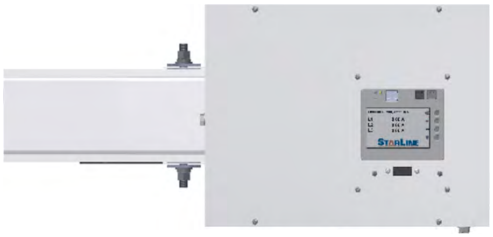
T5 REVERSED 'LEFT LID' END FEED

EFxxxT5-4R-L-MyyD-zzz

EFxxxT5N-4R-L-MyyD-zzz

EFxxxT5G-4R-L-MyyD-zzz

EFxxxT5NG-4R-L-MyyD-zzz



Catalog Number Sequence

EF xxx T5 (N) (G) – 4 (R) (- L/RT) – M yy (D) (N) - ZZZ

- **EF** → **End Feed**
- **xxx** → **System**: 250, 400, 800
- **(N)** → **Double Neutral** (Excludes 800 System)
- **(G)** → **Isolated Ground**
- **(R)** → **Reversed** *(See Above)*
- **(- L/RT)** → **Orientation** *(See Above)*
- **M** → **Meter Release**: **41** – WiFi, Low Voltage; **43** – Low Voltage; **45** – WiFi, High Voltage; **47** – High Voltage
- **yy** → **4.9" Display**
- **(D)** → **CT Measured Neutral**
- **(N)** → **CT Measured Neutral**
- **ZZZ** → **System Configuration**: **LLD** - Line to Line, Delta; **LLY** - Line to Line, Wye; **LNY** - Line to Neutral, Wye

High Voltage Criteria:

Delta System: ≥400V
Wye System: ≥480V

OUTLET BOX UNIT WITH CPM

Power Feed Current Monitoring

Outlet Box with Installed Critical Power Monitor

The CPM plug-in unit is installed within close proximity to the busway Power Feed. Current Transformers (CT) are installed around the feed wires and then cabled to the Outlet Box using factory provided 20 foot leads.

The CPM provides power monitoring of the busway run. The optional, 4.9" LCD screen displays the current level, voltage, and alarm status for each phase and neutral. Nuisance tripping may be avoided using the current information to protect against overloading phases. The monitors also assist in the continuous challenge to balance the three phase loads. An automated email will be sent at 80% of full load as a warning to the user. This level may be changed in the field using the embedded webpage.

Networking:

Ethernet
RS-485
Wi-Fi (Optional)

Protocols:

Web Interface
Modbus RTU
SNMP
Telnet
Modbus TCP/IP

Model Shown:
OB225-4-M41D-LLD

Knock-Out for easy CT Wiring access

Catalog Number Sequence

OB xxx [T5] (G) – 4 (R) – M yy (D) (N) - ZZZ

System
100
225
250
400
800
Outlet Box

Isolated Ground

Reversed Paddle Head

Meter Release
41 – WiFi, Low Voltage
43 – Low Voltage
45 – WiFi, High Voltage
47 – High Voltage

4.9" Display

CT Measured Neutral

System Configuration
LLD - Line to Line, Delta
LLY - Line to Line, Wye
LNY - Line to Neutral, Wye

High Voltage Criteria:

Delta System: ≥400V
Wye System: ≥480V

CIRCUIT BREAKER UNIT WITH CPM

Branch Circuit Monitoring

Circuit Breaker Unit with Installed Critical Power Monitor

MONITORING:
The Branch Circuit Monitoring unit has the capability of monitoring the current of the entire unit (M-Meter)or monitoring up to 4 individual devices (V-Meter), limited to 6 solid core Current Transformers (CTs).

DISPLAY:
The optional, bright, 4.9" LCD reports basic power measurements and alarms. Display buttons provide configuration and direct control to the active display screen. Large format display is easily readable at a distance.

COMMUNICATIONS :
Ethernet and Modbus RTU ports are standard. Ethernet port provides an embedded web (HTTP) Interface & supports SNMP. Wi-Fi interface is optional, providing true versatility in the busway environment.

ALARMS:
When the defined alarm threshold is exceeded, a warning corresponding to that channel will turn ON and send an SNMP trap or an email to the user.

See Power Monitoring pages for more details.

Example:

CBT5GE60-520D-M41D

Example:

CBDCT5HGE94-1-L2230-M47

High Voltage Criteria:

Delta System: ≥400V
Wye System: ≥480V

Catalog Number Sequence

CB [M] [DC] xxx (G) (H) E yy – [L] - (NEMA) (w) - (M/V) zz (D) (N)

- **CB** – **Circuit Breaker**
- **[M]** – **(Multiple CB)**
- **[DC]** – **(Drop Cord)**
- **xxx** – **System***: 100, 225, T5
- **(G)** – **(Isolated Ground)**
- **(H)** – **(High-Interrupt Rating)**
- **E yy** – **Enclosure**: **50** – *See E50 Enclosure; **60** – CPM Specific Box; **90** – *See E90 Enclosure
- **[L]** – **Length of Drop Cord** (Feet)
- **(NEMA)** – **Wiring Device** *(NEMA or IEC 309)*
- **(w)** – **Meter Release**: **41** – WiFi, Low Voltage; **43** – Low Voltage; **45** – WiFi, High Voltage; **47** – High Voltage
- **(M/V)** – **Monitoring**: **M** – Plug; **V** – Individual Devices (2 to 4)
- **zz** – **Display Device**: **C** – Connector; **D** – Duplex; **R** – Single Receptacle; **Q** – Quad
- **(D)** – **CT Measured Neutral**
- **(N)**

***T5 System includes 250, 400, 800**

OUTLET BOX UNIT FOR POWER FEED CURRENT MONITORING

Outlet Box with Installed M6, M7 or M9 Power Monitor

An E9 plug-in unit is installed within close proximity of the Busway power feed. Current Transformers (CT) are installed around the feed wires and then cabled to the Outlet Box. Split Core CTs are also available.

M6- ENHANCED PACKAGE 1

Provides voltage, average voltage, current, average current, active power, power factor and kWh measurements.

M7- ENHANCED PACKAGE 2

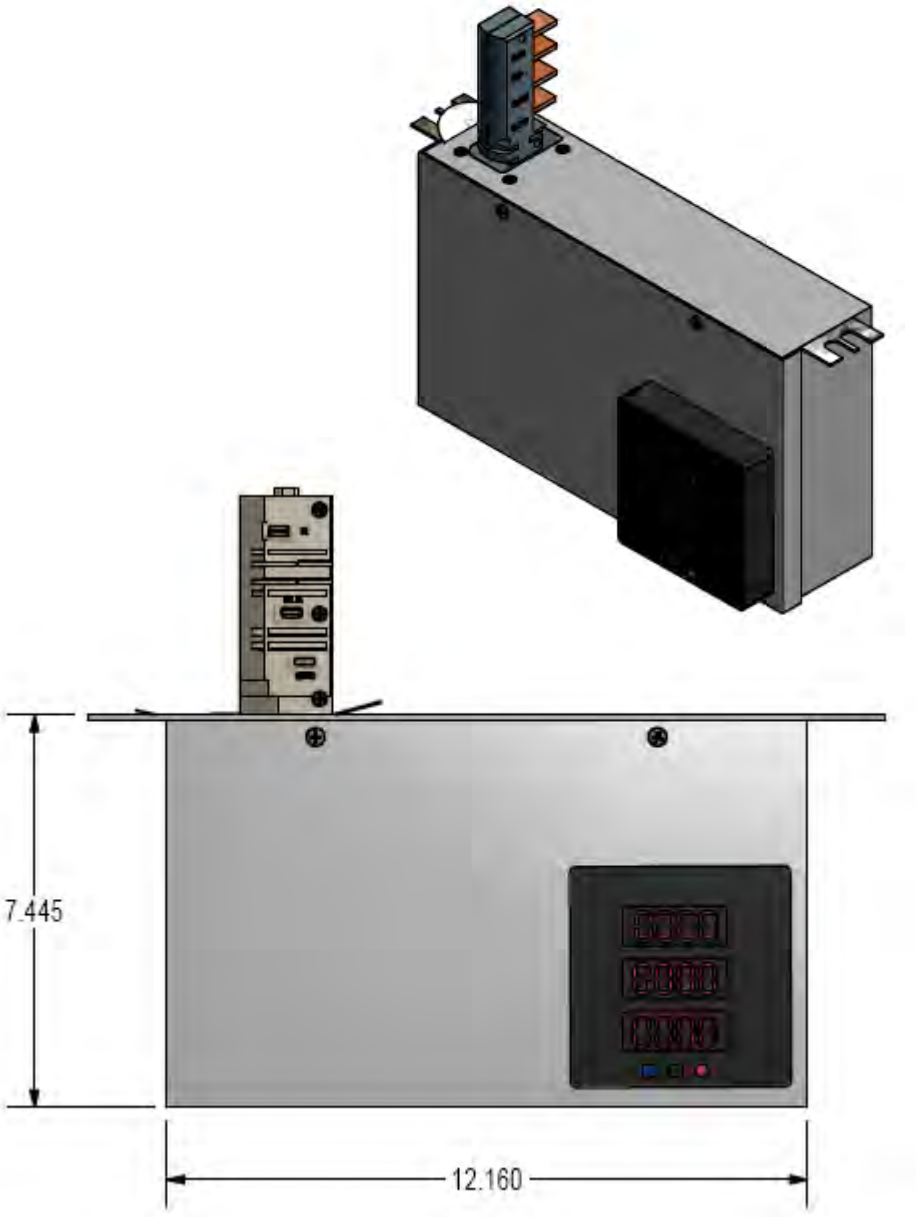
In addition to the M6 measurements the M7 provides Reactive and Apparent power, Per phase power and THD.

M9 - Provides measurement equal to the M7.

DISPLAY
The bright LED display, displays all basic power measurements.

COMMUNICATION

M6/M7 Modbus RTU (Serial Cable)
M9 Modbus TCP (Ethernet Cable)



Catalog No.	Description
OB100AE9R-M6DR100/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 100A
OB100NE9R-M7DR100/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 100A/ ENH PK 2
OB225E9R-M6DR225/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 225A/ENH PK 1
OB225GE9R-M7DR225/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 225A/ ENH PKG 2
OB225Ex-M9DR225/3	CURRENT MONITOR M9 PLUG-IN, PWR QLTY w/RS-485, 225A
OB250T5E9-M6DR250/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 250A/ENH PK 1
OB400T5E9-M7DR400/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/RS-485, 400A/ ENH PK 2
OB400T5EX-M9DR400/3	CURRENT MONITOR M9 PLUG-IN, PWR QLTY w/RS-485, 400A/

X= contact factory for enclosure dimensions

M6/M7 MONITORING DETAILS

The M6/M7 can be installed into an end feed unit to monitor an entire run of busway.

M6- ENHANCED PACKAGE 1
Provides voltage, average voltage, current, average current, active power, power factor and kWh measurements.

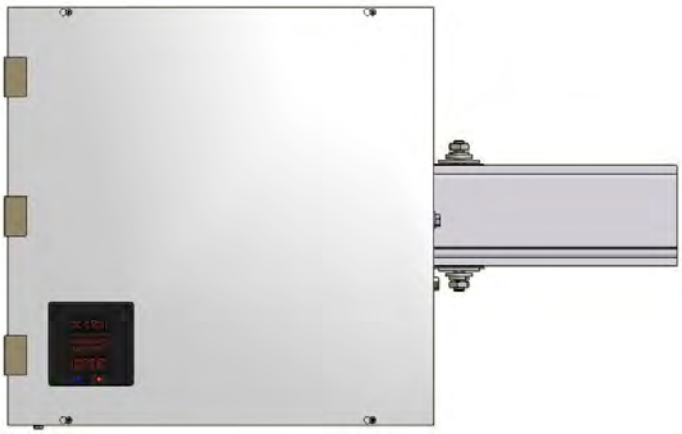
M7- ENHANCED PACKAGE 2
In addition to the M6 measurements the M7 provides Reactive and Apparent power, per phase power and THD. Nuisance tripping may be avoided by using the current information to protect against overloading phases. The monitors also assist in the continuous challenge to balance the three phase loads which helps to gain efficiency.

Display

The bright LED display, displays all basic power measurements.

COMMUNICATION

RS-485 PORT
Modbus RTU for integration with energy management systems.



Catalog Number Selection

Catalog No.	Description
EF225-4L-MxDR225/3	End Feed w/Meter, RS-485, 225A, Left Lid
EF225-4-MxDR225/3	End Feed w/Meter, RS-485, 225A, Standard
EF225-4M-MxDR225/3	End Feed w/Meter, RS-485, 225A, Male
EF225-4MR-MxDR225/3	End Feed w/Meter, RS-485, 225A, Right Lid
EF400-4-MxDR400/3	End Feed w/Meter, RS-485, 400A, Standard
EF400-4L-MxDr400/3	End Feed w/Meter, RS-485, 400A, Left Lid
EF400-4R-MxDR400/3	End Feed w/Meter, RS-485, 400A, Reverse
EF400-4RT-MxDR400/3	End Feed w/Meter, RS-485, 400A, Right Lid

-Replace 'Mx' with 'M6' for standard package and 'M7' for enhanced package.

M22 BRANCH CIRCUIT MONITORING FOR CIRCUIT BREAKER UNIT

BRANCH CIRCUIT MONITORING

M22 meter incorporated into each plug-in unit monitors individual branch circuits. Used in conjunction with BMS system for general power management and revenue purposes at the rack or circuit level.

M22 meter with RS-485 ports communicates using the Modbus RTU protocol.

M22 meter (DTS 310) accepts voltage inputs directly up to 300Vac L-N / 120-480Vac L-L or through PTs (potential transformers) for higher voltages.

The M22 provides metering of current, voltage, power, and energy

SOFTWARE

Download the latest version of the software from the website. See QSG for link and details.

COMMUNICATION

Modbus RTU (RS-485, 2-Wire)

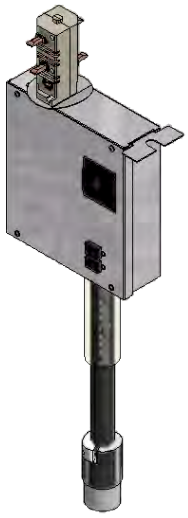
PORTS

(2) RJ-11 (RTU)

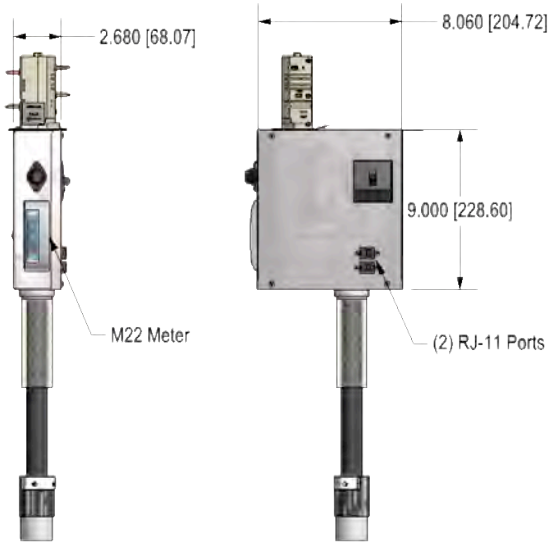
GATEWAY*

Use gateways to convert Modbus RTU to SNMP.

* Check with factory for gateway details.



MODBUS RTU, Daisy-Chain : 32 device limit



Catalog No.	Description
CB100NHE28-L1530-4-M22R30/3	CKT. BKR. UNIT W/RECEPTS – L1530, 22K
CBM225GE28-(2)L630-4-M22R30/2	CKT. BKR. UNIT W/RECEPTS - (2) L630
CBM225GE25-(4)L630-4-M22R30/4	CKT. BKR. UNIT W/RECEPTS - (4) L630
CB400NGHE28-L1530-4-M22R30/3	CKT. BKR. UNIT W/RECEPTS – L1530
CBDC225E28-X-L2130C-4-M22R30/3	CKT. BKR. DROP CORD UNIT W/CONN BODY - L2130C

M25 BRANCH CIRCUIT MONITORING FOR CIRCUIT BREAKER UNIT

BRANCH CIRCUIT MONITORING

M25 meter incorporated into each plug-in unit monitors individual branch circuits. Used in conjunction with BMS system for general power management and revenue purposes at the rack or circuit level.

M25 meter communicates using Modbus TCP/IP available through the RJ-45 jack.

M25 meter (DTS 310) accepts voltage inputs directly up to 300Vac L-N / 120-480Vac L-L or through PTs (potential transformers) for higher voltages.

The M25 provides metering of current, voltage, power, and energy.

SOFTWARE

Download the latest version of the software from the website. See QSG for link and details.

COMMUNICATION

Modbus TCP/IP (Ethernet)

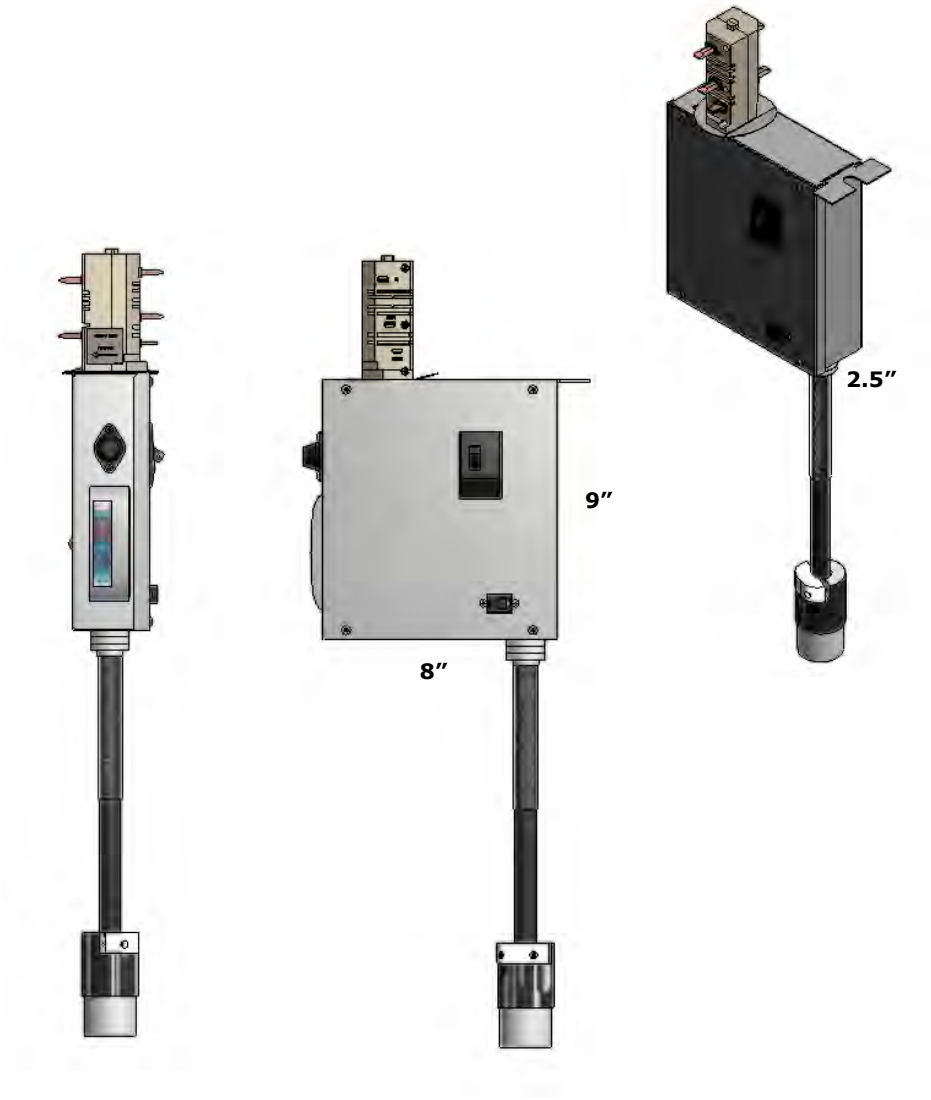
PORTS

(1) RJ-45 Ethernet (TCP/IP)

GATEWAY*

Use gateways to convert Modbus TCP/IP to SNMP.

* Check with factory for gateway details.



Catalog No.	Description
CB100NHE28-L1530-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS – L1530, 22K
CBM225GE28-(2)L630-4-M25R30/2	CKT. BKR. UNIT W/RECEPTS - (2) L630
CBM225GE25-(4)L630-4-M25R30/4	CKT. BKR. UNIT W/RECEPTS - (4) L630
CB400NGHE28-L1530-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS – L1530
CBDC225E28-X-L2130C-4-M25R30/3	CKT. BKR. DROP CORD UNIT W/CONN BODY - L2130C

POWER FEED UNIT with M9 Monitor

End Feed with Installed M9 Power Monitor

Standard End Power Feed units connect to the end of the Busway. Factory assembled unit consists of a steel junction box, with removable sides, connected to a section of Busway. The

Integral M9s installed in the End Feed provide power monitoring. Nuisance tripping may be avoided using the current information to protect against overloading phases. The monitors also assist in continuous challenge to balance the three phase loads.

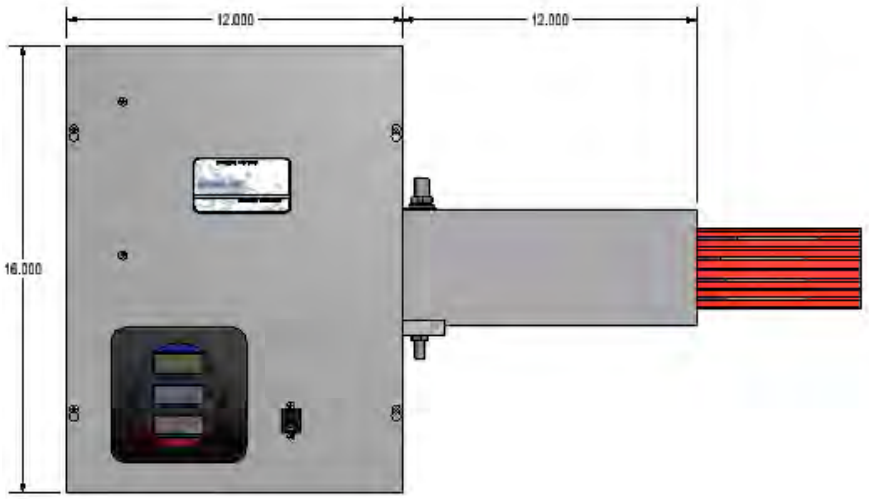
M9 - Provides voltage, current, power, power factor, and energy.

COMMUNICATION

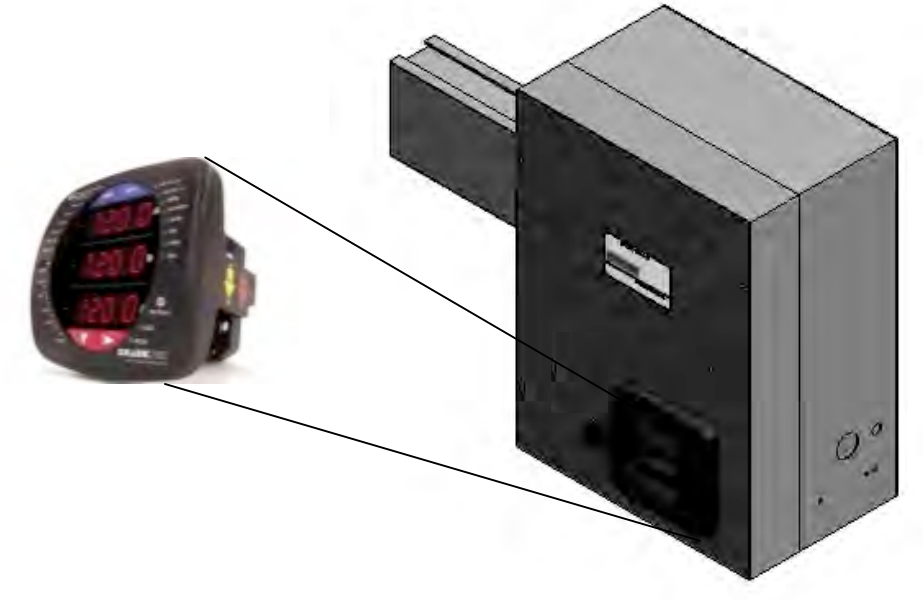
M9 Modbus TCP

Lids are field reversible to allow the display to be placed on either side of the enclosure.

Contact sales for End Feed enclosure dimensions, and catalog numbers.



M9
99



OUTLET BOX UNIT FOR POWER FEED CURRENT MONITORING

Outlet Box with Installed M26 Power Monitor

An E63 plug-in unit is installed within close proximity of the Busway power feed. Current Transformers (CT) are installed around the feed wires and then cabled to the Outlet Box. Split Core CTs are also available.
M26 meter provides 3 voltage measurement and 4 current measurement inputs; active power, apparent power, reactive power, power factor, effective energy, reactive energy and total harmonic distortion (THD) are also the measured parameters.
Harmonic analysis up to the 40th order is available.

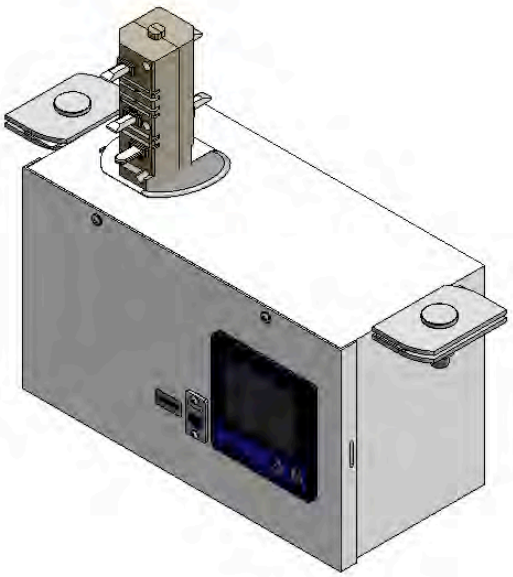
MEMORY

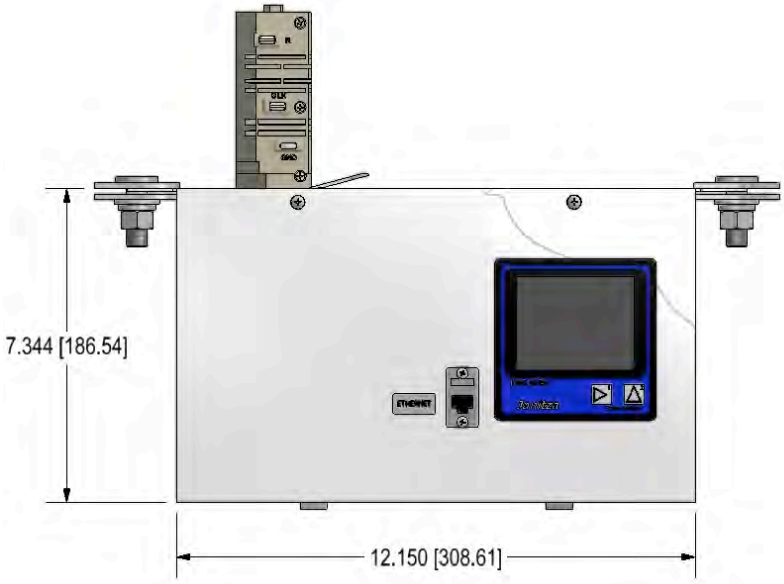
256 MB of flash memory

DISPLAY
LCD display with backlight, displays all basic power measurements.

INTERFACES:
RS485, Ethernet (RJ 45)

PROTOCOLS:
Modbus RTU, Modbus Gateway, TCP/IP, SNMP, Webserver/e-mail





Catalog No.	Description
OB250T5E63-M26DR250/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/ETHERNET, 250A
OB400T5E63-M26DR400/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/ ETHERNET, 400A
OB800T5E63-M26DR800/3	CURRENT MONITOR PLUG-IN, PWR QLTY w/ ETHERNET, 800A

M25 BRANCH CIRCUIT MONITORING FOR CIRCUIT BREAKER UNIT

Branching Circuit Monitor

M25 meter incorporated into each plug-in unit monitors individual branch circuits. Used in conjunction with BMS system for general power management and revenue purposes at the rack or circuit level.

M25 meter communications using a mesh network to the gateway and then Modbus TCP/IP or SNMP to the BMS.

M25 meter accepts voltage inputs directly up to 250Vac L-N/250 Vac L-L.

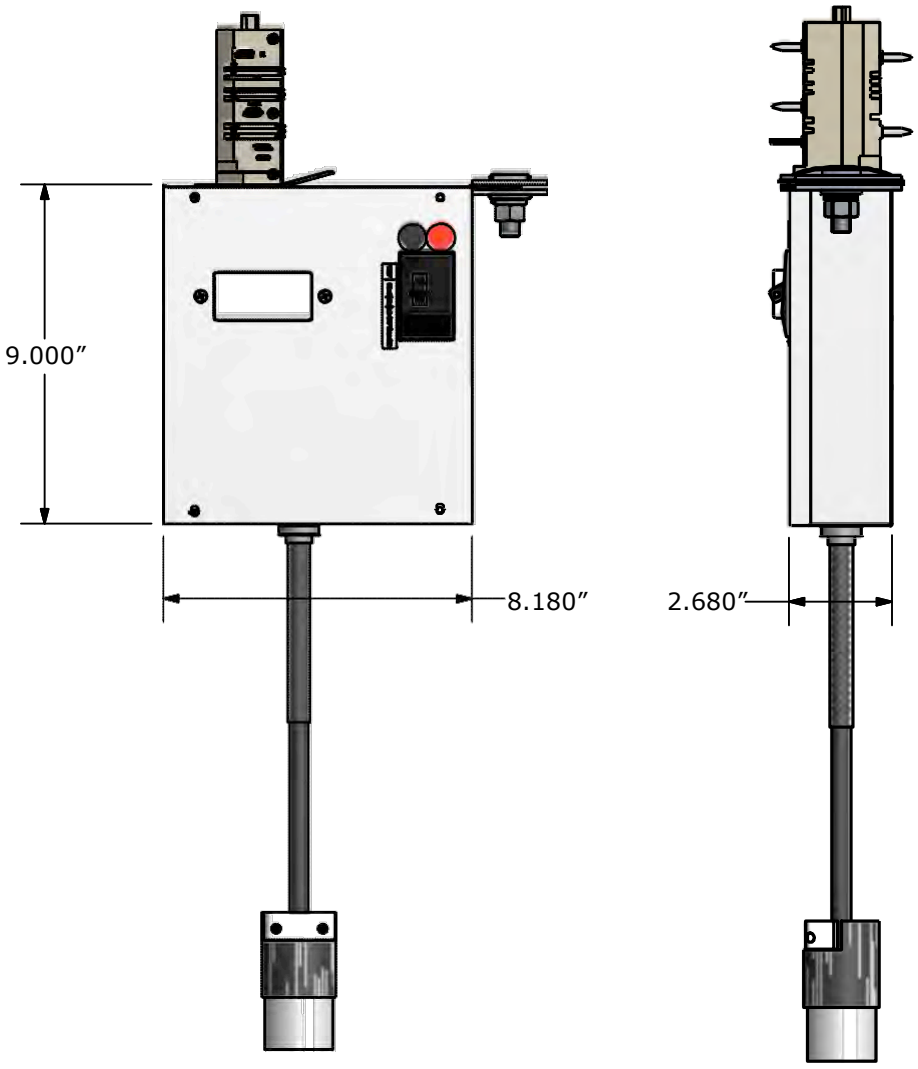
The M25 provides metering of current, voltage, power, and energy, apparent power and frequency.

SOFTWARE
Download the latest version of the software from the website. See QSG for link and details.

COMMUNICATION
ModubsTCP/IP & SNMP (Ethernet)

GATEWAY*
The gateway is to be purchased directly from Packet Power.

*Check with your local rep for details.



Catalog Number	Description
CB100NHE28-L1530-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS – L1530, 22K
CBM225GE28-(2)L630-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS - (2) L630
CBM225GE25-(4)L630-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS - (4) L630
CB400NGHE28-L1530-4-M25R30/3	CKT. BKR. UNIT W/RECEPTS – L1530
CBDC225E28-X-L2130C-4-M25R30/3	CKT.BKR. DROP CORD UNIT W/CONN BODY – L2130C

STARLINE® TRACK BUSWAY

CLEAN ROOMS

AIRBORNE PARTICULATE CLEANLINESS CLASSES

The Statistically allowable number of particles per cubic foot of air according to Federal Standards 209E,measured particle size in micrometers (M)

Class Name	0.1M	0.2M	0.3M	0.5M	5M
1 (M 1.5)	35	7.5	3	1	N/A
10 (M 2.5)	350	75	30	10	N/A
100 (M 3.5)	N/A	750	300	100	N/A
1000 (M 4.5)	N/A	N/A	N/A	1,000	7
10000 (M 5.5)	N/A	N/A	N/A	10,000	70
100000 (M 6.5)	N/A	N/A	N/A	100,000	700

We have never done any formal clean room testing for applications in clean rooms, i.e. to see which class we would fall into. We know that some customers have installed STARLINE in clean rooms, probably in the Class 1000 or higher applications.

STARLINE® TRACK BUSWAY

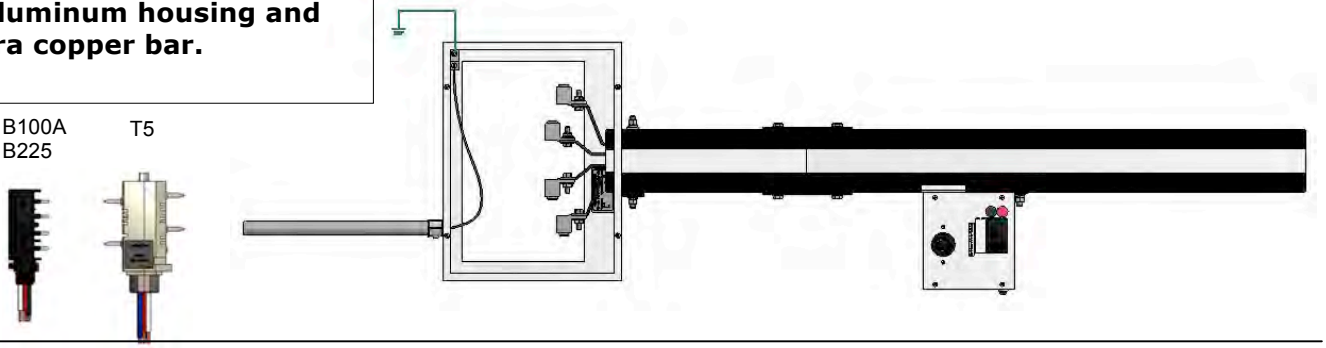
FAQ CASE GROUND, DEDICATED GROUND, ISOLATED GROUND

CASE GROUND

Uses aluminum housing and no extra copper bar.

B100A
B225

T5

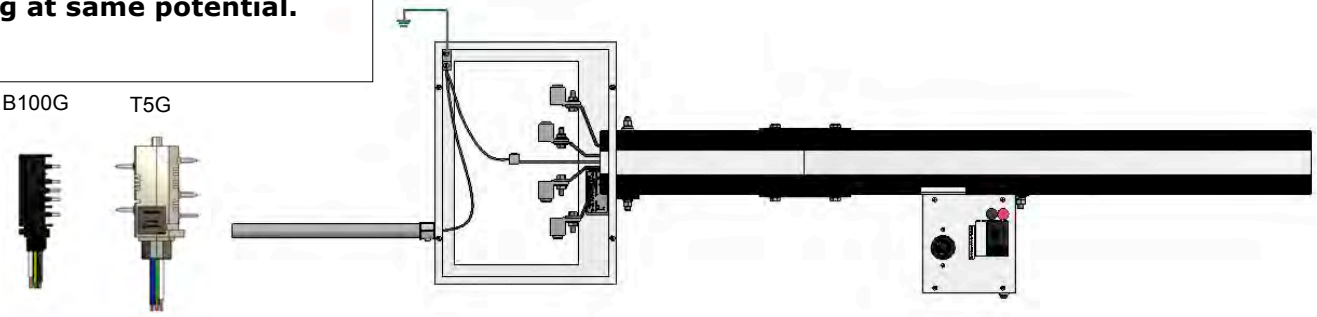


DEDICATED GROUND

Extra bar in busway for ground. Everything tied together inside plugs. Bar and housing at same potential.

B100G

T5G

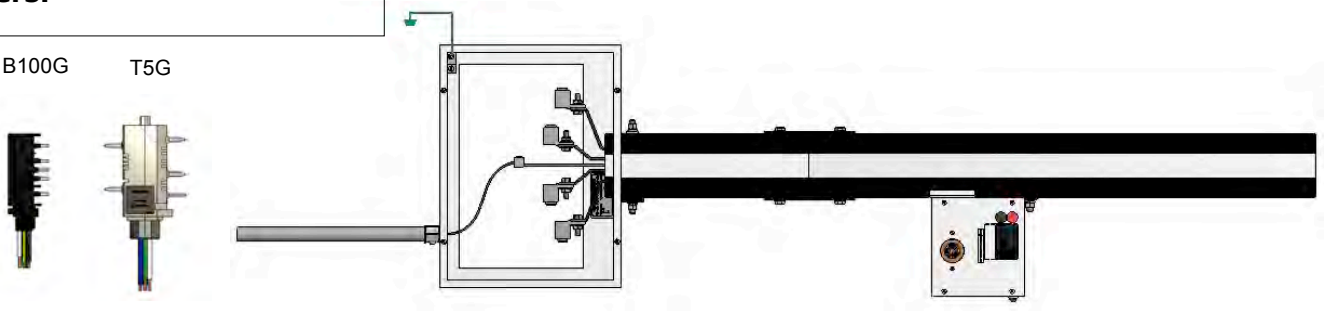


ISOLATED GROUND

Orange receptacles in plugs. Case ground isolated from copper ground bar. Isolated ground carried back to panel by others.

B100G

T5G



FEED	PHASE LUG	NEUTRAL LUG	GROUND LUG (enclosure)	GROUND LUG (iso ground)
EF225 EF225G	300MCM 300MCM	300MCM 300MCM	2./0. 2./0.	N/A CA-75
EF250T5 EF250T5N EF250T5G EF250T5NG	300MCM 300MCM 300MCM 300MCM	300MCM 600MCM/(2)250MCM 300MCM 600MCM/(2)250MCM	2./0. 2./0. 2./0. 2./0.	N/A N/A 300MCM 300MCM
EF250T5L (large box) EF250T5NL (large box) EF250T5GL (large box) EF250T5NGL (large box)	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	2./0. 2./0. 2./0. 2./0.	N/A N/A 300MCM 300MCM
EF400T5 EF400T5N EF400T5G EF400T5NG	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	600MCM/(2)250MCM (2)600MCM 600MCM/(2)250MCM (2)600MCM	350MCM 350MCM 350MCM 350MCM	N/A N/A 300MCM 300MCM
EF800 (CC & CA) EF800G (CC & CA)	(2)600MCM (2)600MCM	(2)600MCM (2)600MCM	350MCM 350MCM	N/A 350MCM
TF225 CF225	350MCM 350MCM	350MCM 350MCM	2./0. 2./0.	N/A N/A
TF225G CF225G	350MCM 350MCM	350MCM 350MCM	2./0. 2./0.	CA-90 CA-90
TF250T5 TF250T5N TF250T5G TF250T5NG	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	2./0. 2./0. 2./0. 2./0.	N/A N/A 2./0. 2./0.
TF400T5 TF400T5N TF400T5G TF400T5NG	600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM 600MCM/(2)250MCM	600MCM/(2)250MCM (2)600MCM 600MCM/(2)250MCM (2)600MCM	350MCM 350MCM 350MCM 350MCM	 2./0. 2./0.
EF250T5G-4-FUSED EF400T5G-4-FUSED	500MCM (2)500MCM	300MCM 600MCM/(2)250MCM	2./0. 350MCM	300MCM 300MCM

STARLINE TRACK BUSWAY

DC CURRENT

STARLINE Track Busway may be used in DC applications. This is becoming increasingly common with the advent of DC power distribution in data centers. DC circuits typically require (+) and (-) conductors. A single DC circuit may be accomplished with two-pole busway. Alternately, four-pole busway may be used to accomplish two independent DC circuits. In two circuit DC applications, the ampere rating of the busway is derated as shown below. The ratings for DC applications are as follows:

STARLINE BUSWAY RATING – DC CURRENT Maximum Voltage: 600 Volts, DC

Single Circuit – Two-Pole			
System:	**B60**	**B100**	**B225**
Max Current DC:	***60 Amps***	***100 Amps***	***225 Amps***

Two Circuit – Four-Pole			
System:	**B60**	**B100**	**B225**
Max Current DC:	***50 Amps***	***90 Amps***	***200 Amps***

PLUG-IN UNITS

Circuit Breaker Plug-In Units normally rated for AC applications may be used in DC applications with the following ratings:

- 250VAC rated units are rated for 48VDC, 5,000 AIC.
- 480VAC rated units, single-pole are rated for 125VDC, 22,000 AIC maximum
- 480VAC rated units, two-pole are rated for 250VDC, 22,000 AIC maximum

Fused Plug-In Units for DC applications require use of an appropriately rated fuse. Fuses are not typically included with STARLINE Fused Plug-In Units, and therefore selection of such a fuse is the responsibility of the customer. Fused outlet box units accept a class CC fuse. FD225 units accept a class J fuse. FD60 and FD100 units are not DC rated. The following fuses are listed by the manufacturer as having DC ratings. Consult manufacturers catalog for specific details.

- Bussmann LP-CC series: Class CC fuse, 20,000 AIC, 150 VDC, 30A maximum
- Bussmann LPJ_SP series: Class J fuse, 20,000 AIC, 300VDC
- Gould AJT series: Class J fuse, 100kAIC, 500 VDC.

VOLTAGE DROP

The length of busway for a one volt drop in the line to line voltage for a distributed load is:

- B60, 50 amp distributed load: 37 feet per volt
- B100, 90 amp distributed load: 53 feet per volt

STARLINE® TRACK BUSWAY

FREQUENTLY ASKED QUESIONS

1. **Can you have isolated ground?**

   Yes – On our 100A, 225A and 400A versions we can add a fifth copper bar rated at 100% capacity ground. The product types are B100G, B100NG, B225G, B400G and B400NG.

   The 40, 50, 60, and 100C products do not have available an isolated ground.

2. **Is this product UL listed for use under a raised access floor?**

   There is not such UL standard for busway under raised access floor. However, the National Electric Code addresses this issue. A busway can only be used underfloor if there is an access panel at each place a tap off exists under the floor. And the access panel must be labeled to indicate that a tap was below it and labeled that no item should be placed on top of the panel.

   We have only done a few projects with busway used under raised floor. The typical configuration in a data center is overhead. Refer to Application Brief on this topic.

3. **How do you keep people from adding too many drops and overloading the circuit?**

   STARLINE Track Busway is no different from any other busway or panelboard. Anyone could mount 14 - 3 pole 100A circuit breakers in a 225A main panel if they wanted to. It is typical that the addition of a circuit to STARLINE is done by a qualified person who is familiar with the electrical system at the facility. They are expected to know the load on the bus through routine sampling over time.

   However, for those who want protection against this issue, we have developed a product called Bus Run Monitor. This product installs in the busway slot and includes 3 CTs that are installed in an end feed unit. Bus Run Monitor has an optional warning light, warning buzzer, or form C contacts to notify facility personnel of a current draw over the preset limit. The preset can be selected at 60-90% of the bus capacity.

   We believe this is a valid concern but in practice STARLINE Track Busway trips have been extremely rare.

4. **What is the torque on the connection of the drop boxes?**

   Measuring the exact torque on the connection is difficult at best. What we prefer to do is to test the temperature rise on the drop box stab. A poor connection is indicated by a high temperature at the connection point. In every case STARLINE was designed to provide excess copper surface area at every point of connection in the system. This includes the bus connectors and all of the drop box stabs. The tested results, as done by UL, is that all of our connection points have a lower temperature rise than the main copper busbars.

STARLINE® TRACK BUSWAY

FREQUENTLY ASKED QUESTIONS

5. How do you identify Phase A, B, or C device on the power drop boxes?

Each drop box carries a round color code label either black, red, or blue. The color code is determined by the part number as ordered by the customer such as DRF60-AF which is a duplex receptacle fused for our 60 amp system with A phase having the fuse. If the customer has no preference, we typically ship 1/3 of the drop boxes wired to each individual phase.

6. How do you know what phase you are plugged into, and how do you allocate the drops so they are balanced across all three phases?

Answer 5 addresses the first half of this question. The answer to the second half is the same as any power distribution system. The electrical designer does the balancing.

7. Are the duplex outlets prewired for phase A, B, or C?

Yes, by specifying the part number.

However, in cases where the color code is not specifed via the part number, we will automatically divide the quantity in thirds and properly color code into red, blue and black.

We can also supply units that are not phase specific. This way the end user can wire the phase required at his site to keep inventory levels as low as possible. It’s up to the customer.

STARLINE® TRACK BUSWAY

PLENUMS & SUSPENDED CEILINGS

Note: The suitability of any busway application is governed by the National Electric Code and ultimately interpreted by a local electrical inspector. The following information is an interpretation of the Code and does not imply any guarantee that a local inspector will concur. It is the responsibility of the system designer to ensure that the local electrical inspector will allow busway to be used in a manner that the customer intends.

By definition, a Plenum is "a compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system" (NEC 1996). This definition is not intended to apply to space above a suspended ceiling used for environmental air, which is treated separately.

Article 300-22 treats the subject of wiring methods in Ducts, Plenums, and other air-handling spaces. This article does not permit the use of busway as a wiring method in a Plenum.

Article 300-22(c) treats the subject of wiring methods in other air-handling spaces. The space above a suspended ceiling may be such a space. It is possible that this space is used for handling environmental air (e.g. cold air return). If so, this Article permits the use of busway in this space so long as it is "totally enclosed nonventilated insulated busway having no provisions for plug-in connections". Our track busway meets this requirement when used with an aluminum closure strip. B60 busway systems should use the HC-2 style of housing coupler to allow the closure strip to totally enclose the access slot at the housing joints. The restriction here is on the use of plug-in units. It is subject to interpretation whether a plug-in unit with closure strip abutting both sides is an acceptable wiring method. We have at least one customer doing this, but do not have significant experience with this method.

Article 368-4 treats the subject of permitted uses of busways.

368-4(a) Use Permitted. Busways shall be installed only where they are located in the open and are visible.

Exception: Totally enclosed, nonventilating-type busways, installed so that the joints between sections and at fittings are accessible for maintenance purposes, shall be permitted to be installed behind panels where means of access are provided, and:

a. The space behind the access panels is not used for air-handling purposes; or
b. The space behind the access panels is used for environmental air, other than ducts and plenums, in which case there shall be no provisions for plug-in connections, and the conductors shall be insulated.

It is our interpretation of this Article in combination with **Article 300-22,** that a suspended ceiling is a type of "access panel" construction. Therefore, a busway may be used above a drop ceiling if it is installed in accordance with Article 364. If this space is not being used for any air-handling purpose, plug-in fittings may be installed if done so in accordance with Article 368. As with air-handling spaces, an aluminum closure strip on the busway must be used; B60 systems should use the HC-2 style of housing coupler.

STARLINE® TRACK BUSWAY

RAISED ACCESS FLOORS (IT Rooms)

Note: The suitability of any busway application is governed by the National Electric Code and ultimately interpreted by a local electrical inspector. The following information is an interpretation of the Code and does not imply any guarantee that a local inspector will concur. It is the responsibility of the system designer to ensure that the local electrical inspector will allow busway to be used in a manner that the customer intends.

Article 368 governs the use of busway.

Article 368-4 defines the permitted uses of busway.

a) Busway shall be permitted to be installed where they are located as follows:

(1) Located in the open and are visible, or
(2) Installed behind access panels, provided the busways are totally enclosed, of the non-ventilating-type construction, and installed so that the joints between sections and at fittings are accessable for maintenance purposes. Where installed behind access panels, means of access shall be provided, and the following conditions shall be met:
(a) The space behind the access panel shall not be used for air handling purposes, or
(b) Where the space behind the access panels is used for environmental air, other than ducts or plenums, there shall be no provisions for plug-in connections, and the conductors shall be insulated.

Article 645 – Information Technology Equipment

Article 645 covers the equipment, power-supply wiring, equipment interconnect wiring, and grounding of information technology equipment and systems, including terminal units in an information technology equipment room.

This article spells out specific requirements such as:

a) A disconnect means for all electronic equipment.
b) A disconnect means for the HVAC equipment.
c) The control of these disconnect means shall be readily accessible at the principal exit doors.
d) A separate HVAC system from the rest of the building.

STARLINE® TRACK BUSWAY

RAISED ACCESS FLOORS (IT Rooms)

Because the Code does not explicitly approve Busway for use under raised floors, it is incumbent upon the end user to seek and obtain prior approval from the local Electrical Inspector having jurisdiction in this matter. The following are important factors to consider for meeting the intent of the National Electric Code when using Starline Track Busway in IT Equipment Rooms under a raised floor:

a) The tiles used in a raised floor meet the definition of "Access Panel".
b) Floor tiles used for access to busway plug-in units must not be obstructed by other equipment.
c) Starline Track Busway, sizes B100 & B225, have a unique "maintenance free" joint design.
d) When used with closure strip, Starline Track Busway is totally enclosed, non-ventilated busway.
e) The copper bus bars reside in a UL Tested "Finger Safe" insulator.
f) The IT equipment room will be occupied only by those personnel needed for the maintenance and functional operation of the installed information technology equipment.
g) The HVAC system in an IT equipment room must be separate from the rest of the building per 645-2 (b).
h) The disconnect means for the busway should not be beneath the raised floor and should be housed in an appropriate panelboard or switchboard.
i) The use of busway in IT Equipment Rooms greatly reduces the complexity of power wiring and has been shown to reduce circuit breaker trips during equipment changeovers.

IT Rooms are special applications that have many safeguards against fire. The use of busway enhances these safeguards by minimizing power cables underneath the floor; minimizing wiring errors, eliminating the need to remove unused whips, and minimizing time spent underfloor adding cables.

Officially, Universal Electric cannot unequivocally authorize the use of busway under a raised floor. If under floor is the preferred method, the user must obtain prior approval from the Electrical Inspector having jurisdiction in this matter. We welcome feedback and insights from anyone. Interested persons may contact Steve Ross at 1-800-245-6378.

STARLINE® TRACK BUSWAY

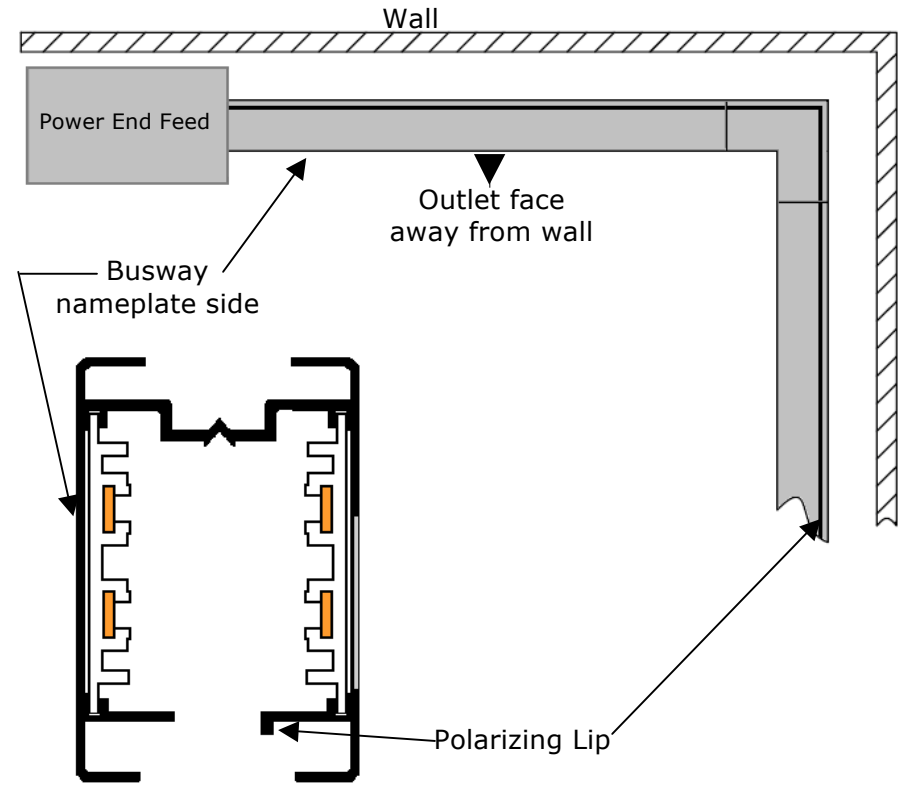
WALL MOUNTING
B60 or B100C SYSTEMS

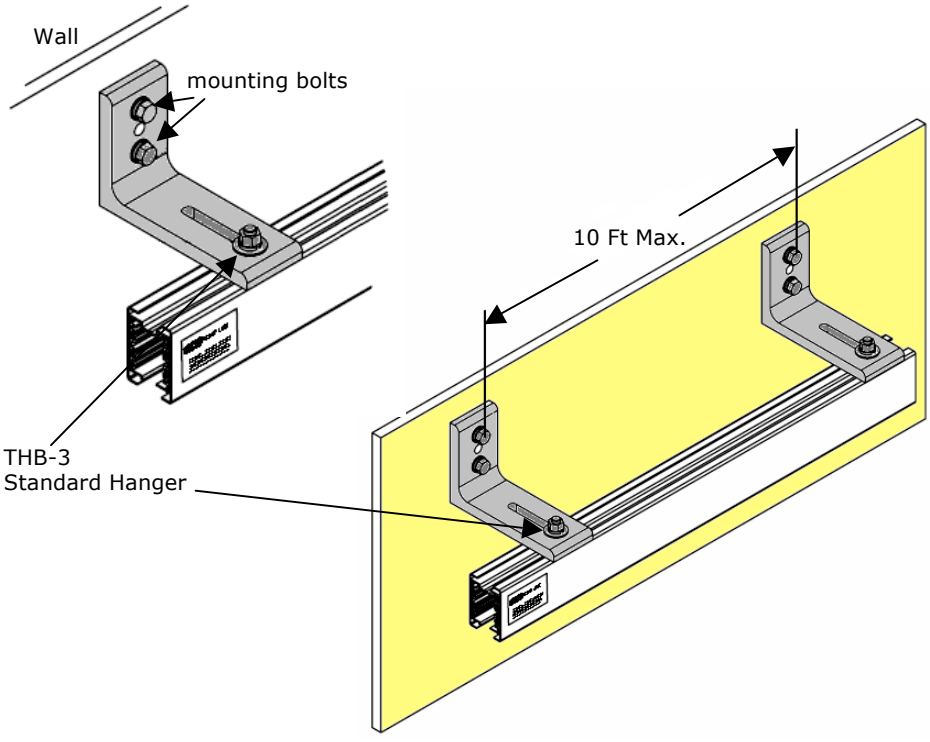
Polarizing lip orientation is vital to the proper installation of STARLINE Track Busway. The polarization lip should face the wall when using fuse protected outlet boxes or drop cord plug-in units. This insures that outlets will always face away from the wall. When using circuit breaker or fused disconnect plug-in units, the polarization lip should face *away* from the wall. The polarization lip is always located on the opposite of the Busway name plate.

Using (2) 5/16 bolts, mount the short leg of the mounting bracket to the wall/surface *(Note: use appropriate bolt for wall/surface type).*

Ensure that the bracket is mounted securely enough to support the weight of the Busway and any anticipated plug-in units (*maximum allowable weight is 100 lbs between mounting supports*).

Use Standard Hanger, part no. THB-3, to connect the long leg of the wall bracket to the Busway top slot. Space the brackets no more than 10 feet on center.

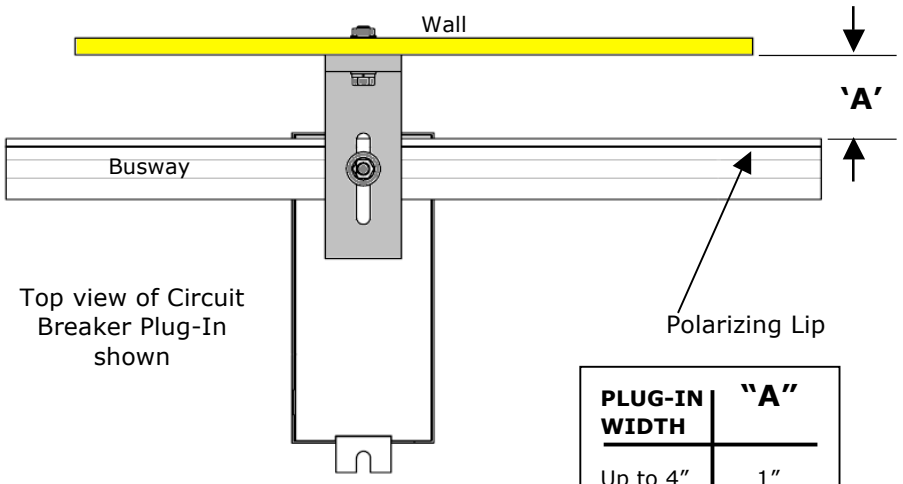




STARLINE® TRACK BUSWAY

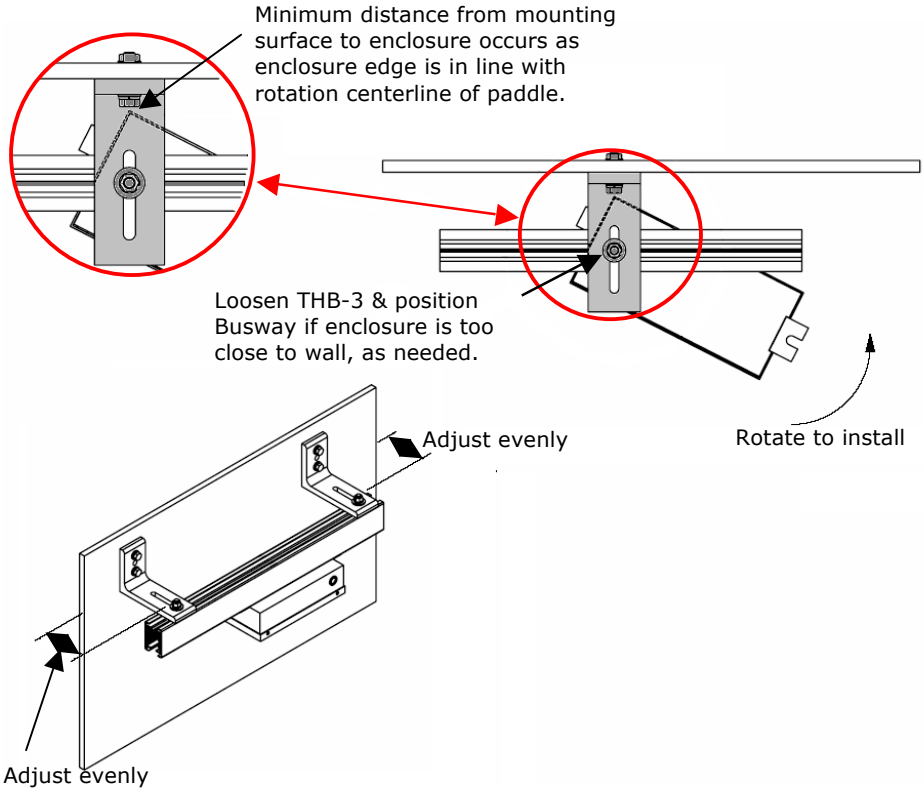
WALL MOUNTING
B60 or B100C SYSTEMS

To properly position the Busway at the minimum distance away from the wall, first select the largest plug-in unit to be used with the system. Using the table as a reference, find the distance of "A" to position the Busway from the wall. Position the Busway and secure into place by tightening the THB-3 hanger bolts.



PLUG-IN WIDTH	"A"
Up to 4"	1"
4 " & Up	3"

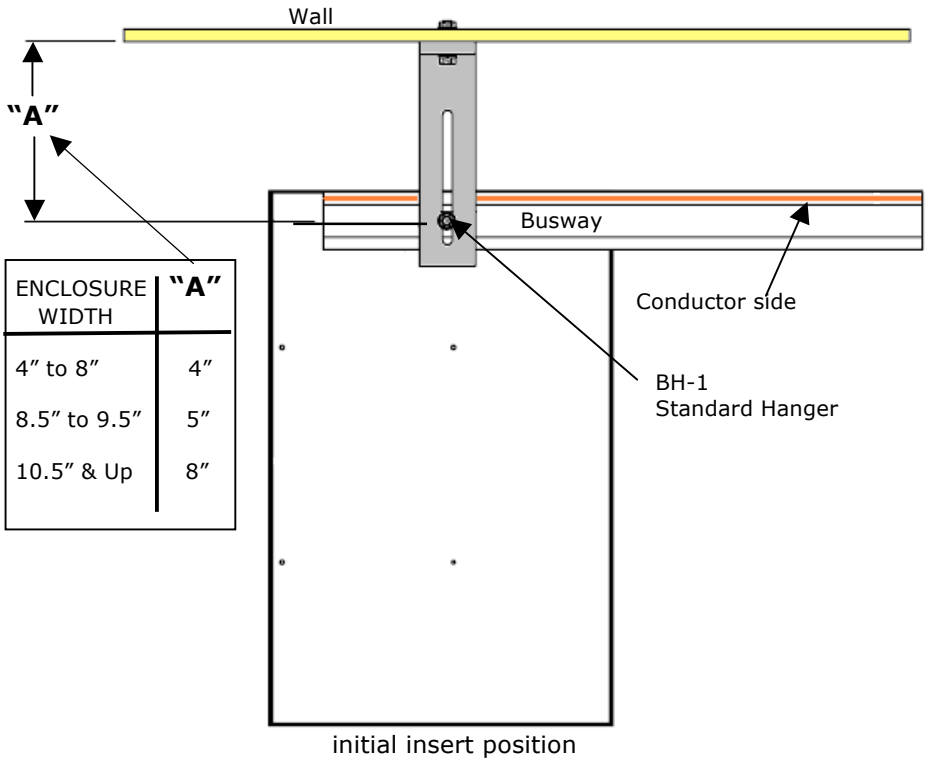
If a plug-in unit (enclosure) does interfere with the wall, loosen all hanger bolts and move the Busway slightly to allow the plug-in unit to rotate freely into its final position. Ensure that the Busway sections are adjusted from wall evenly to avoid any 'kinking' of Busway section joints.



STARLINE® TRACK BUSWAY

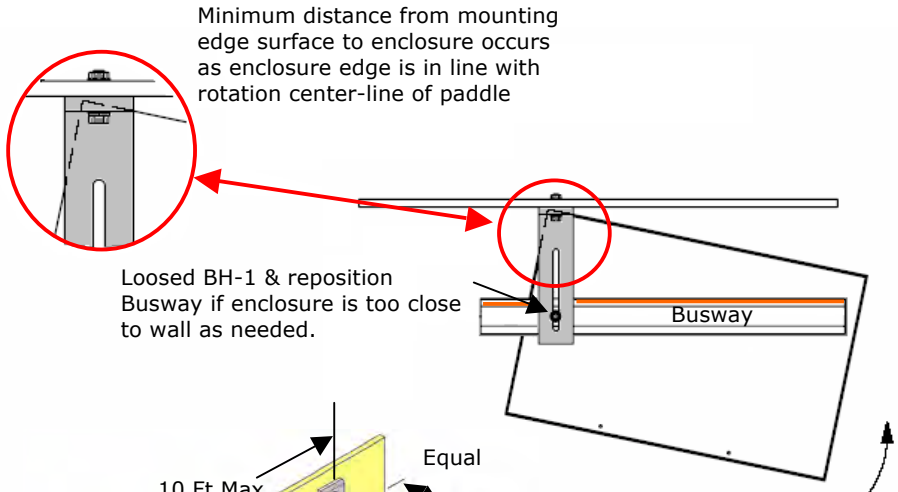
WALL MOUNTING B100/B100NG/B225 SYSTEMS

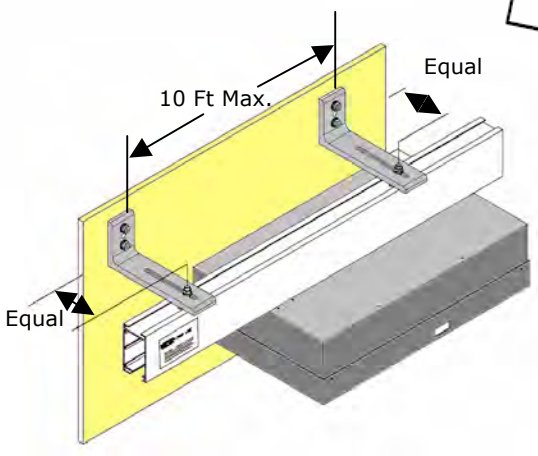
To properly position Busway at the minimum distance from wall, first select the largest plug-in unit to be used with the system. Using the provided table as a reference, find the distance (A) to position the Busway from the wall. Position the Busway and secure into place by tightening the BH-1 hanger.



ENCLOSURE WIDTH	"A"
4" to 8"	4"
8.5" to 9.5"	5"
10.5" & Up	8"

If a plug-in unit does interfere with the wall, loosen all hanger bolts and move the Busway slightly to allow the plug-in unit to rotate into its final resting position. Ensure that the Busway sections are adjusted evenly to avoid any 'kinking' of Busway section joints.



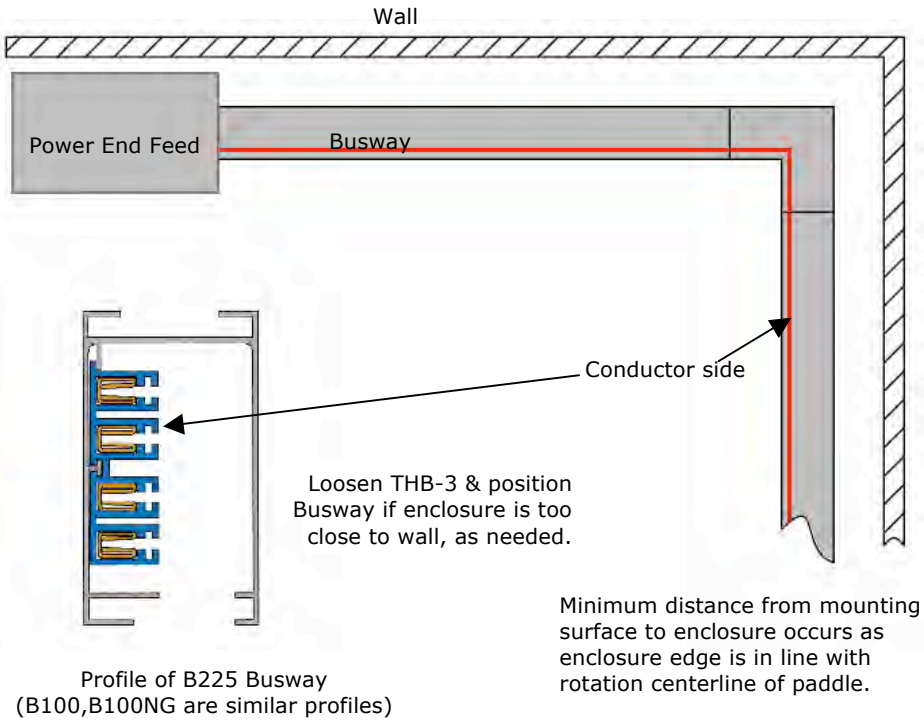


STARLINE® TRACK BUSWAY

WALL MOUNTING B100/B100N/B100NG, B160/B225 & B225G SYSTEMS

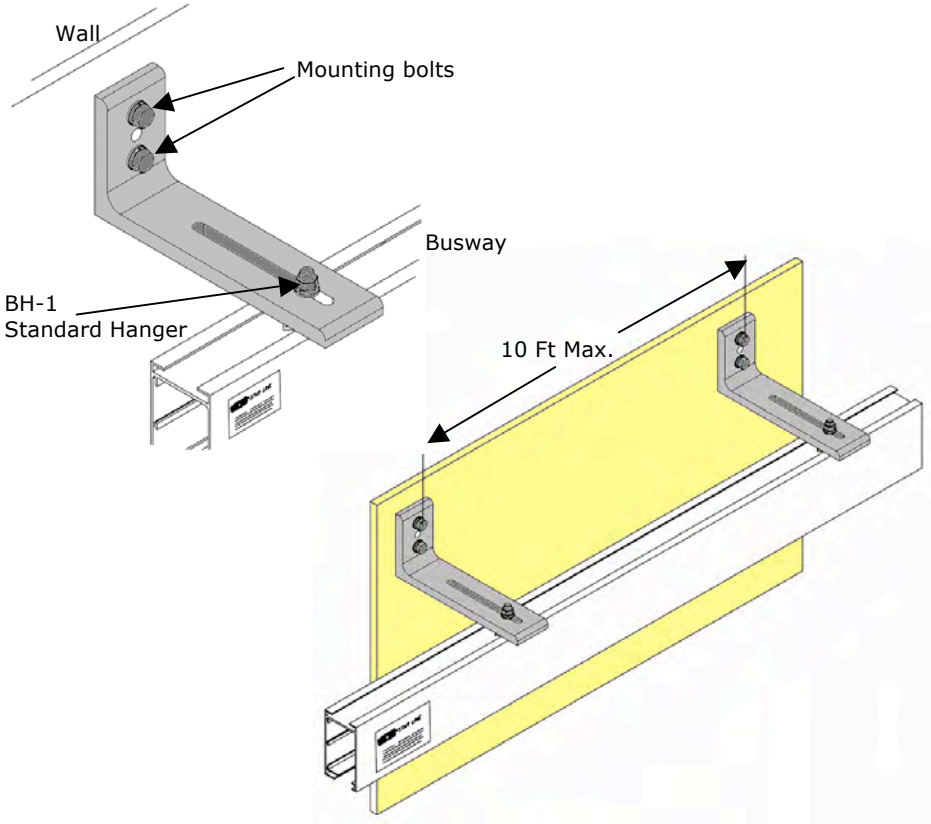
Busway Plug-In Units face toward the conductor side (with the exception of the E9 or "S" enclosure). When installing the Busway along a wall, care should be taken to make sure the Busway conductor side faces *away* from the wall.

***NOTE*: Care should be taken when ordering plug-in units with the Busway conductors facing the wall, some plug-in units will have receptacles or breakers facing the wall. Consult Product Selection Guide to ensure plug-in units selected will face the desired direction.**



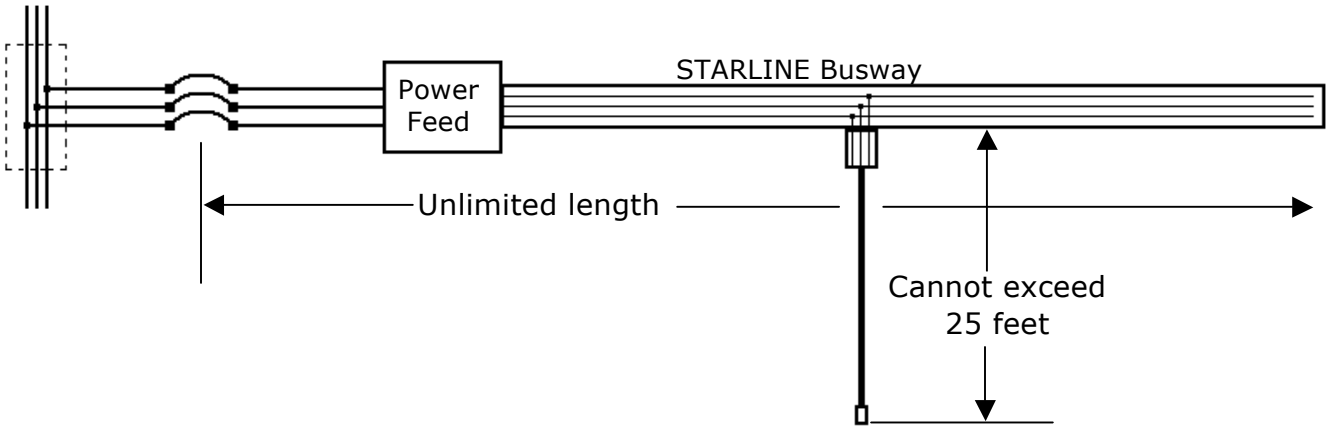
Profile of B225 Busway
(B100,B100NG are similar profiles)

Using (2) 5/16 bolts, mount the short leg of the mounting bracket to your wall/surface (Note: use appropriate bolt type for type of wall/surface. Ensure that the bracket is mounted securely enough to support the weight of the Busway and any anticipated plug-in units (*maximum allowable weight is 100 lbs between mounting supports*). Space the brackets no more than 10 feet on center.



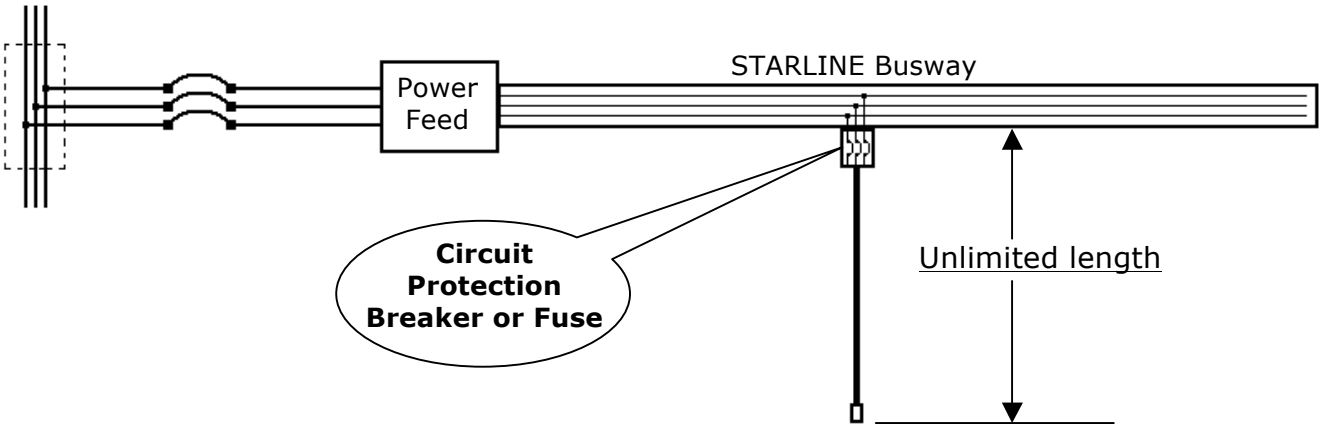
25 Foot TAP RULE NEC Article 240-21, Section 2

Condition No. 1- With circuit protection (ONLY) ahead of Power Feed



Condition No. 2 - With circuit protection at Drop Cord tap

A GREAT ADVANTAGE of STARLINE!



STARLINE® TRACK BUSWAY

225 AMP WITH 200% NEUTRAL

In certain applications, it is necessary to have a 200% rated neutral. Harmonic currents generated by electronic loads create a neutral current that may approach twice that of the phase currents. For 100 amp applications, Starline Track Busway offers a 100 amp rated busway with a 200% rated neutral for this purpose. For 225 amp applications, Starline Track Busway offers a power feed unit with a dual neutral connection for achieving a 225 amp rated system with two, independent 225 amp rated neutrals. In essence, the busway system provides 225 amps per phase with 200% neutral capacity.

Dual Neutral Center Feed

Power feeds to a busway system are typically located at the end of the busway system runs, but may be located at any point on the run. A power feed at some intermediate point on the run is called a 'Center Feed'. In many cases, the center feed is used so that the power tap to the busway can be located at a point convenient for the feeder cable home run. The dual neutral center feed is located at the center of a run and takes advantage of the distributed loads typical in busway applications.

Figure 1 shows a traditional busway application in a data center. An end power feed provides

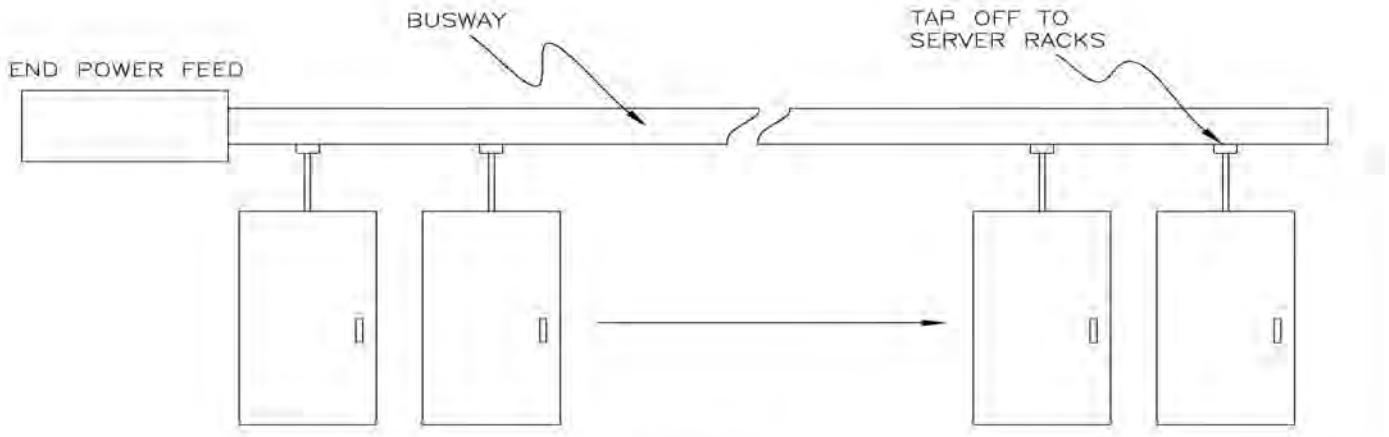


FIGURE 1:
TRADITIONAL BUSWAY APPLICATION IN A DATA CENTER

power to a series of racks. Racks are evenly spaced, and the load is more or less evenly distributed along the length of the busway. The busway phase and neutral ratings are 225 amps maximum.

STARLINE® TRACK BUSWAY

225 Amp with 200% Neutral

Figure 2 shows the same busway application with the dual neutral center feed. The dual neutral center feed electrically separates the neutral busbar into two circuits. The dual neutral circuits feed the busway in opposite directions. Figure 3 shows the electrical schematic for the dual neutral power feed unit. As can be seen, the neutral busbar is divided in two, and electrically isolated in the center, thereby provided two, independent neutral circuits. Separate terminal block connections are provided for each neutral feed. Three phase connections and an isolated ground (optional) connection are provided in the normal manner.

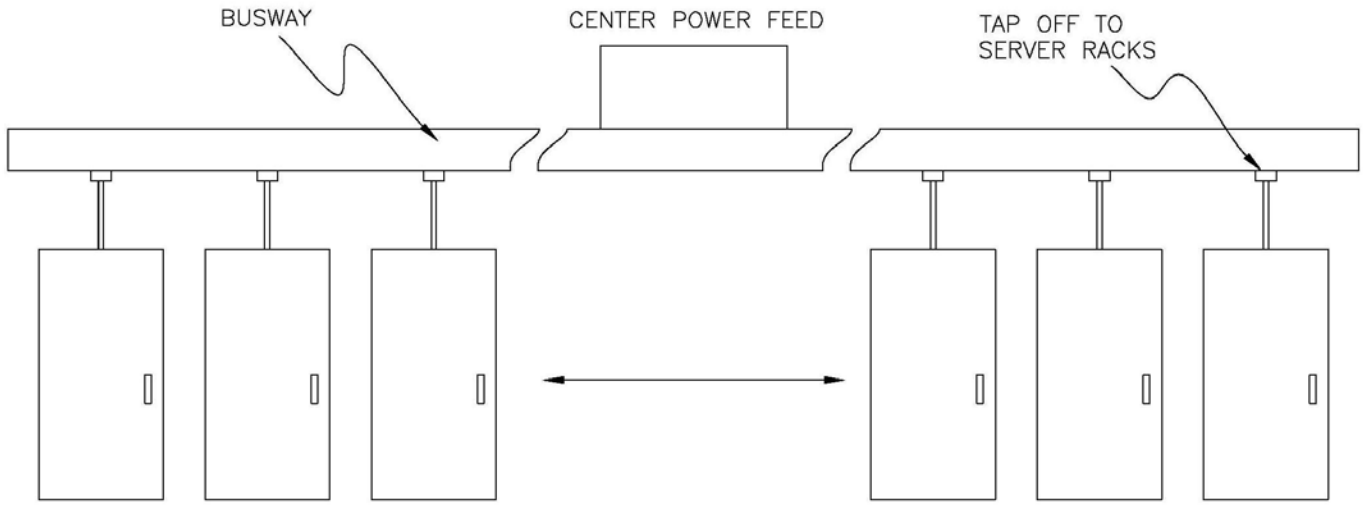
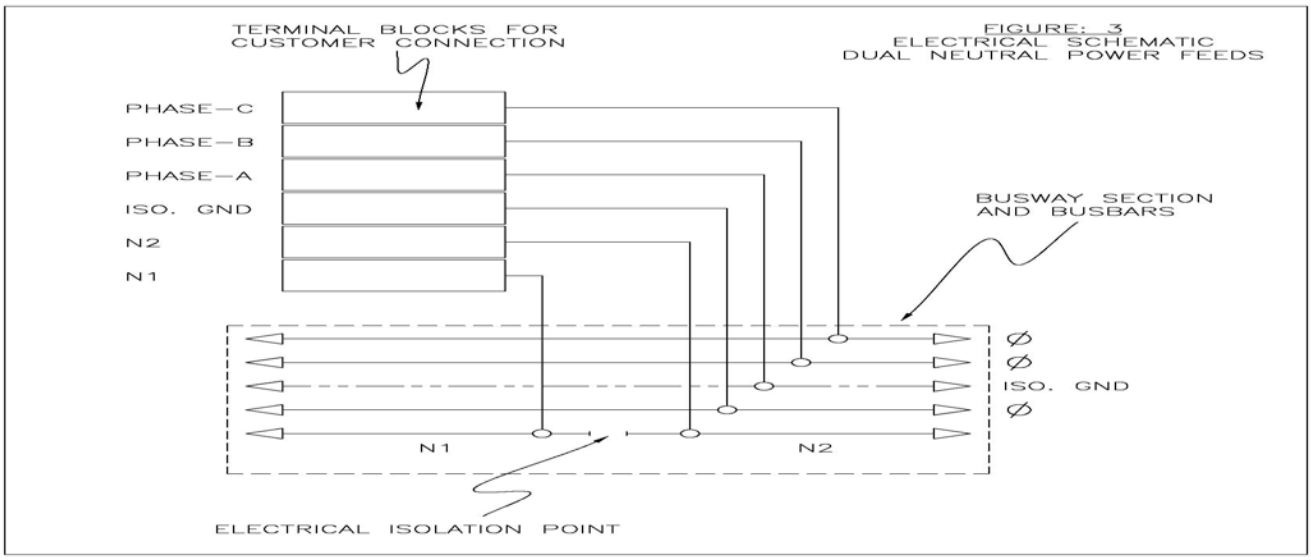


FIGURE 2:
BUSWAY APPLICATION WITH DUAL NEUTRAL CENTER FEED

STARLINE® TRACK BUSWAY

225 Amp with 200% Neutral



Refer again to Figure 2. The system is capable of a total of 225 amps per phase across the entire system length. More importantly, the system is capable of 225 amps neutral current to the left of the power feed, and another 225 amps neutral current to the right of the power feed. The end result is that with a single power feed point and therefore a single conduit home run, the busway system provides 225 amps per phase and 450 amps neutral capacity.

Features

- **Single power feed point**
- **System rated for 225 amps per phase**
- **System rated for 450 amps neutral current**
- **Compatible with all Starline B225 and B100NG (isolated ground) plug-in units.**
- **Cost –efficient double neutral system**

STARLINE® TRACK BUSWAY

Neutral Sizing - 400 Amp Systems

In certain applications, a customer may want the safeguard of a neutral conductor rated at more than 100% of the phase conductors. For 400 amp applications, Starline Track Busway offers a Busway system with an oversized neutral busbar. The rating of the oversized neutral is 150% of a 400 amp phase that is protected by an 80% rated circuit breaker. Thereby a neutral capacity of 480 amps is achieved. This supplies the customer with 160 amps of additional capacity on the neutral conductor compared to the maximum phase current.

Why Oversized Neutral?

There is a concern that with a 3-phase, 4-wire, wye-connected system with nonlinear loads, the neutral may need to carry more than the system's rated full-load current. According to a NEC report on non-linear loads, in certain instances the neutral conductor current will exceed 100% but will rarely exceed 125% of the rated full-load current. This report can be seen in the 2005 NEC Handbook, NEC article 310.15 (B) 4. To cover the majority of applications, the B400N system was tested and certified with a neutral rating of 150% of the phase current, with the assumption that the phases are protected with an 80% circuit breaker.

400 Amps (Phase) x 80% (System Protection Breaker) = 320 Amps (Full Load Phase Current)

320 Amps (Full Load Phase Current) x 150% (Oversized Neutral Rating) = 480 Amps (Full Load Neutral Current)

The System

B400N and B400NG System contain all of the features of the standard B400T5 and B400G systems plus an oversized neutral busbar. This busbar doubles the amount of copper for the neutral in a Busway section. Oversized neutral end feeds are supplied with a double lug for the neutral. The customer will be able to connect to the neutral with two 250MCM wires. All other connections have a single wire entry. The maximum voltage rating for the B400N/B400NG system is 277Y / 480 volts. The oversized neutral Busway system uses all of the same hardware, plug–in units and accessories as the standard B400T5 system uses.

Nomenclature

B400N	**400A Busway Section with oversized neutral**
B400NG	**400A Busway Section with oversized neutral and isolated ground**
EF400N	**400A End Feed with oversized neutral**
EF400NG	**400A End Feed with oversized neutral and isolated ground**
JK400N-1	**400A Jointer Kit with oversized neutral**
JK400NG-1	**400A Jointer Kit with oversized neutral and isolated ground**

STARLINE® TRACK BUSWAY

Neutral Sizing 400 Amp Systems

NEC article 310.15 (B) 4

During the 1996 *NEC* cycle, a task group composed of interested parties was created to recommend to the National Electric Code Committee the direction its standard should take to improve the safeguarding of persons and property from conditions that can be introduced by nonlinear loads.

This group was designated the NEC Correlating Committee Ad Hoc Subcommittee on Nonlinear Loads. The scope of the subcommittee was as follows:

1. To study the effects of electrical loads producing substantial current distortion upon electrical systems distribution components including but not limited to

- **a. Distribution transformers, current transformers, and others**
- **b. Switchboards and panelboards**
- **c. Phase and neutral feeder conductors**
- **d. Phase and neutral branch-circuit conductors**
- **e. Proximate data and communications conductors**

2. To study harmful effects, if any, to the system components from overheating resulting from these load characteristics.
3. To make recommendations for methods to minimize the harmful effects of nonlinear loads considering all means, including compensating methods at load sources.
4. To prepare proposals, if necessary, to amend the 1996 *National Electric Code*, where amelioration to fire safety may be achieved.

The subcommittee reviewed technical literature and electrical theory on the fundamental nature of harmonic distortion, as well as the requirements in and proposals for the 1993 *NEC* regarding nonlinear loads. The subcommittee concluded that, while nonlinear loads can cause undesirable operational effects, including additional heating, no significant threat to person and property had been substantiated.

The subcommittee agreed with the existing *Code* text regarding nonlinear loads. However, the subcommittee submitted many proposals for the 1996 *NEC*, including a definition of *nonlinear load*, revised test reflecting that definition, fine print notes calling attention to the effects of nonlinear loads, and proposals permitting the paralleling of neutral conductors in existing installations under engineering supervision.

As part of the subcommittee's final report, nine proposals for changes to the 1993 *NEC* were submitted. All were accepted without modification as changes in the 1996 *NEC*. Also included in this report and now pertinent to 310.15(B)(4)(c) in the 2002 *NEC* is the following discussion.

Should Neutral Conductors Be Oversized?

There is concern that, because the theoretical maximum neutral current is 1.73 times the balanced phased conductor current, a potential exists for neutral conductor overheating in 3-phase, 4-wire, wye-connected power systems. The subcommittee acknowledged this theoretical basis, although a review of documented information could not identify fires attributed to the use of nonlinear loads.

STARLINE® TRACK BUSWAY

Neutral Sizing 400 Amp Systems

The subcommittee reviewed all available data regarding measurements of circuits that contain nonlinear loads. The data was obtained from consultants, equipment manufacturers, and testing laboratories, and included hundreds of feeder and branch circuits involving 3-phase, 4-wire, wye-connected systems with nonlinear loads. The data revealed that many circuits had neutral conductor current greater than the phase conductor current, and approximately 5 percent of all circuits reported had neutral conductor current exceeding 125 percent of the highest phase conductor current.

One documented survey with data collected in 1988 from 146 three-phase computer power system sites determined that 3.4 percent of the sites had neutral current in excess of the rated system full-load current.

According to 384-16(C) of the 1993 *NEC* [for the 2005 *NEC*, refer to 210.19(A)(1) and 215.2(A)(1)], the total continuous load on any overcurrent device located in a panelboard should not exceed 80 percent of its rating (the exception being assemblies listed for continuous operation at 100 percent of its rating). Because the neutral conductor is usually not connected to an overcurrent device, derating for continuous operation is not necessary. Therefore, neutral conductor ampacity is usually 125 percent of the maximum continuous current allowed by the overcurrent device.

Also important for gathering electrically measured data from existing installations is the measurement of nonsinusoidal voltages and currents.

Measurement of Nonsinusoidal Voltages and Currents

The measurement of nonsinusoidal voltages and currents may require instruments different from the conventional matters used to measure sinusoidal waveforms. Many voltage and current meters respond only to the peak value of a waveform and indicate a value that is equivalent to the rms value of a sinusoidal waveform. For a sinusoidal waveform, the rms value will be 70.7 percent of the peak value. Meters of this type are known as "average responding meters" and will give a true indication only if the waveform being measured is sinusoidal. Both analog and digital meters may be average responding instruments. Voltages and currents that are nonsinusoidal, such as those with harmonic frequencies, cannot be accurately measured using an average responding meter. Only a meter that measures "true rms" can be used to correctly measure the rms value of a nonsinusoidal waveform.

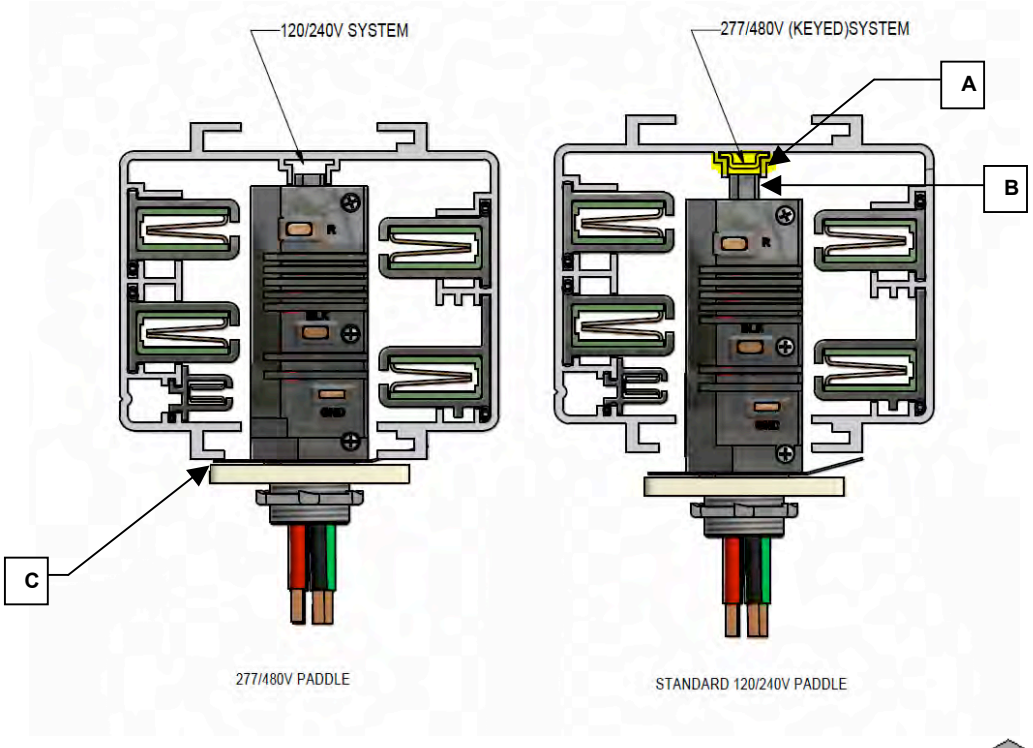
Exhibit 310.5 shows an example of a clamp-on ammeter that uses true rms measurements. Exhibit 310.6 shows an example of a portable diagnostic analyzer used for more sophisticated power measurements, including measuring harmonic distortion.

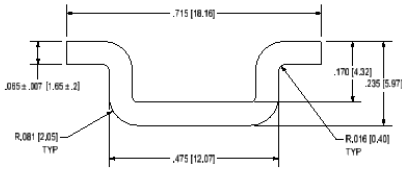
STARLINE® TRACK BUSWAY

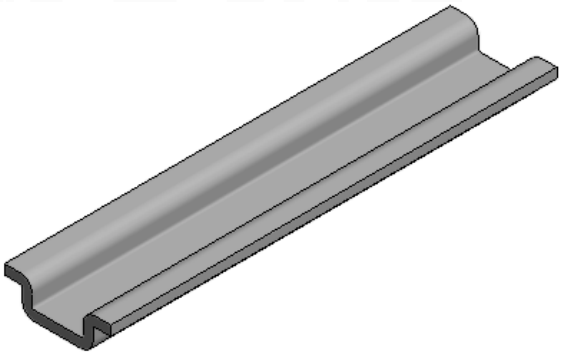
T5 Paddle System Limiting Strip

In certain applications, busway systems of various voltages are run parallel to one another that utilize the same T5 paddle on their plug-in units. This presents the possibility of installing a plug-in unit rated at a lower voltage into a higher voltage system, thereby creating an unsafe operating condition.

In order to combat this potentially unsafe condition, Universal Electric Corporation has designed the Limiting Strip. The Limiting Strip is inserted into a keyed channel (see A below) in the busway housing that is energized at a higher voltage. By installing the Limiting Strip into the busway, the standard 120/240V T5 paddle (See B below), which has an extended boss, cannot be fully inserted due to the now limited clearance. Conversely, the 277/480V Type 'K' paddle has a short boss and can be installed in the busway containing the Limiting Strip. It can also be inserted into the lower voltage busway, but that will generally not create an unsafe operating condtion. Again, utilizing the Limiting Strip prevents improperly installing a lower rated paddle into the higher voltage system. As with any plug-in unit installation, the installer must ensure that the paddle is fully seated in the busway before installation (See C below).







Section 16121
Busway System

B40, B50, B60C

STARLINE® TRACK BUSWAY

1.01 SUMMARY

A. This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast, and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.

1.02 STANDARDS AND CERTIFICATION

A. The BUSWAY shall be designed and manufactured to the follow standards:

1. Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.
4. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
5. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
6. CUL Listing
7. National Electric Code (NEC) – Article 368 – Busways
8. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
9. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).
10. NFPA 70 – National Fire Protection Agency

1.03 SYSTEM DESCRIPTION

A. Electrical Requirement

B40, B50 or B60C Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 257-7800

Voltage: All track sections and fittings rated at 480Y/277 volts

Frequency: 60 Hz

Ampacity: 40A, 50A or 60A

Neutral Ampacity: 40A, 50A or 60A

Conductors: Qty. 4 (Phase A,B,C and Neutral) option with 2 conductors

Grounding: Aluminum Housing

B. Environmental

Indoor, Low Impedance System

Ambient Operating Temperature:
- 40°C / 104°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. Submittals shall be in accordance with specified procedures. Submit shop drawing and product data for record purposes prior to shipment.

B. Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include breaker, fused plug-in and cable schedule (if applicable), including cable lengths and plug-in schedules.

C. Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.

D. Indicate special receiving and handling procedures.

E. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Busway manufacturer shall guarantee the entire system against defective material and workmanship for a period of one (1) year from date of shipment.

1.06 COMPONENTS

A. Frame and Enclosure
1. Extruded Aluminum housing designed to be light weight and act as a 100% ground. Housings to be 5, 10, or 20 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units. This opening shall pass UL's hypothetical finger probe test.
2. All conductors shall be made of copper and sized to handle 100% of it's rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated form the housing.

B. Plug-in Units
1. Plug-in units shall be polarized to avoid incorrect installation.
2. Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.
3. Plug-in units shall have snap clips to secure units to the busway.
4. Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.
5. Internal Plug – low profile, mounted internally in housing, inserts into continuous slot and snaps into place. This hold unit in place, for usage on 2P or 4Pole Busway; 15 Amp internal plug for lighting; 15, or 30 Amp for power drop usage.

1.07 INSTALLATION

A. Busway Sections – The B40, B50 or B60C, 40A, 50A or 60 ampere runs will consist of lengths as shown on the drawings.

B. Hanging of the Busway – Using supplied 'Rod Mount Hangers', the RHB-3 busway will be hung from the ceiling using all-thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the busway to the all-thread. The maximum spacing is 10 ft on center for the hangers. The height of the busway shall be coordinated with the Architect.

C. Connecting Sections of Busway – At a junction of Busway sections, the installer will insert a Bus Connector (BC40-4,BC50-4 or BC60C-4) into the end of housing. Position next housing onto this connector and join (2) sections together using the housing coupler, HC40-2, HC50-2 or HC60C-2.

D. End of runs – end caps EC40, EC50 OR EC60C will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Busway housing to prevent dust and debris from gathering in the Busway (if applicable).

F. WHR40-2 - Weight Ring – used to support high bay fixtures; 50 lb maximum supporting weight can be suspended on housing. Powered or unpowered weight units and signage can be supported.

G. ACH-1 – Aircraft Cable Hanger Suspension – fit 1/16" cable, maximum support internal, 10 ft centers.

Supply as manufactured by Universal Electric Corporation; 168 Georgetown Road, Canonsburg, PA 15317 (800) 245-6378; (724) 597-7800; fax (724) 961-2221.
No known equal.

END OF SECTION

Section 16121
Busway System

B60

1.01 SUMMARY

A. **This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast, and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.**

1.02 STANDARDS AND CERTIFICATION

A. **The BUSWAY shall be designed and manufactured to the follow standards:**

1. **Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).**
2. **Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.**
3. **Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.**
4. **Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.**
5. **Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.**
6. **CUL Listing**
7. **National Electric Code (NEC) – Article 368 – Busways**
8. **NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches**
9. **NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).**
10. **NFPA 70 – National Fire Protection Agency**

1.03 SYSTEM DESCRIPTION

A. **Electrical Requirement**

B60 Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 597-7800

Voltage: 120/208V, 300V or 600V

Frequency: 60 Hz

Ampacity: 60 A

Neutral Ampacity: 60 A

Conductors: Qty. 4 (Phase A,B,C and Neutral)

Grounding: Aluminum Casing

B. **Environmental**

Indoor, Low Impedance System

Ambient Operating Temperature:
- 40°C / 104°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. **Submittals shall be in accordance with specified procedures. Submit shop drawing and product data for record purposes prior to shipment.**

B. **Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include breaker, fused plug-in and cable schedule (if applicable), including cable lengths and plug-in schedules.**

C. **Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.**

D. Indicate special receiving and handling procedures.

E. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Busway manufacturer shall guarantee the entire system against defective material and workmanship for a period of one (1) year from date of shipment.

1.06 COMPONENTS

A. Frame and Enclosure
1. Extruded Aluminum housing designed to be light weight and act as a 100% ground. Housings to be 5, 10, or 20 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units. This opening shall pass UL's hypothetical finger probe test.
2. All conductors shall be made of copper and sized to handle 100% of it's rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated form the housing.

B. Plug-in Units
1. Plug-in units shall be polarized to avoid incorrect installation.
2. Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.
3. Plug-in units shall have locking clips or bolt-on tabs to secure units to the busway.
4. Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.
5. Internal Plug – low profile, mounted internally in housing, two selectors rotate to hold to hold unit in place, for usage on 1P, 2P or 3Pole Busway; 13A unit for lighting; 15, 20, or 25 Amp for power drop usage (cord available, if required).

1.07 INSTALLATION

A. Busway Sections – The B60-ampere and runs will consist of lengths as shown on the drawings.

B. Hanging of the Busway – Using supplied 'Rod Mount Hangers', the RHB-3 busway will be hung from the ceiling using all thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the busway to the all thread. The maximum spacing is 10 ft on center for the hangers. The height of the busway shall be coordinated with the Architect.

C. Connecting Sections of Busway – At a junction of Busway sections, the installer will insert a Bus Connector (BC-4) into the end of housing. Position next housing onto this connector and join (2) sections together.

D. End of runs – End pieces and end caps will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Busway housing to prevent dust and debris from gathering in the Busway (if applicable).

F. WHR-1 - Weight Ring – used to support high bay fixtures; 50 lb maximum supporting weight can be suspended on housing. Powered or unpowered weight units and signage can be supported.

G. ACH-1 – Aircraft Cable Hanger Suspension – fit 1/16" cable, maximum support internal, 10 ft centers.

Supply as manufactured by Universal Electric Corporation, 168 Georgetown Rd, Canonsburg, PA 15317; (800) 245-6378; (724) 597-7800; fax (724) 916-2221. No known equal.

END OF SECTION

Section 16468

STARLINE® TRACK BUSWAY

B100A, B100N, B100NG, B225, B225G

1.01 SUMMARY

A. This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Track Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.

1.02 STANDARDS AND CERTIFICATION

A. The Track Busway shall be designed and manufactured to the following standards:

1. Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.
4. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
5. CUL Listing
6. National Electric Code (NEC) – Article 364 – Busways
7. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
8. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).
9. NFPA 70 – National Fire Protection Agency

1.03 SYSTEM DESCRIPTION

A. Electrical Requirements
STARLINE Track Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 597-7800

Voltage: 120/208 V, 300V or 600V
Frequency: 60 Hz
Ampacity: 100A /225 A
Neutral Ampacity: 225 A
Conductors: Qty 4 (Phases A, B, C and Neutral)
Grounding: Aluminum Casing

System Designation:

System	Amperage	Neutral	Iso Ground
B100A	100	100	No
B100N	100	200	No
B100NG	100	200	Yes
B225	225	225	No
B225G	225	225	Yes

B. Environmental
Indoor, Low Impedance System
Ambient Operating Temperature:
- 40°C / 140°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. Submittals shall be in accordance with specified procedures. Submit shop drawing and product data for record purposes prior to shipment.

B. Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include circuit breaker, fused plug-in, and cable schedule (if applicable), including cable lengths and plug-in schedules.

C. Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.

D. Indicate special receiving and handling procedures.

E. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Track Busway manufacturer shell guarantees the entire system against defective material and workmanship for a period of one (1) year from date on shipment.

1.06 COMPONENTS

A. Frame and Enclosure:

1. **Extruded Aluminum housing certified to serve as a 100% ground. Housings to be 5, 10 or 20 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units anywhere along its length. This opening shall pass UL's hypothetical finger probe test.**
2. **All conductors shall be made of copper and sized to handle 100% of its rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated from the housing.**

B. Plug-in Units

1. **Plug-in units shall be polarized to avoid incorrect installation.**
2. **Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.**
3. **Plug-in units shall have locking clips or bolt-on tabs to secure units to the busway.**
4. **Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.**

1.07 INSTALLATION

A. Track Busway Sections – The runs will consist of lengths as shown on the drawings.

B. Hanging of the Track Busway – Using supplied 'Rod Mount Hangers' the busway will be hung from the ceiling using all thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the track busway to the all thread. The maximum spacing is 10 ft on center for the hangers. The height of the track busway shall be coordinated with the Architect.

C. Connecting Sections of Track Busway – At a junction of Track Busway sections, the installer will install the top housing coupler; the bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90 deg. Forcing stabs into u-shaped female conductors. Housing coupler is positioned over the bottom joint and tightened. A manufacturer supplied tool will assist in joining sections together.

D. End of Runs – End caps will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Track Busway housing to prevent dust and debris from gathering in the Track Busway (if applicable).

Supply as manufactured by Universal Electric Corporation; 168 Georgetown Rd; Canonsburg, PA 15317; (800) 245-6378; (724) 597-7800; fax (724) 916-2221. No known equal.

END OF SECTION

Section 16121
Track Busway System

B250T5, B250T5G, B250T5N, B250T5NG

1.01 SUMMARY

A. This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Track Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.

1.02 STANDARDS AND CERTIFICATION

A. The Track Busway shall be designed and manufactured to the following standards:

1. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelfth edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).
4. ETL Certified (US/Canada) to UL857
5. National Electric Code (NEC) – Article 368 – Busways
6. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
7. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).
8. NFPA 70 – National Fire Protection Agency

1.03 SYSTEM DESCRIPTION

A. Electrical Requirements

STARLINE Track Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 597-7800

Voltage: 600V AC and DC

Frequency: 50/60 Hz

Ampacity: 250A

Neutral Ampacity: 250A or 500A

Conductors: 3 Phase conductors, 1 Neutral Conductor Solid Copper, Tin Plated

Grounding: Aluminum Casing

System Designation:

System	Amperage	Neutral	Iso Ground
B250T5	250	250	No
B250T5G	250	250	Yes
B250T5N	250	500	No
B250T5NG	250	500	Yes

B. Environmental

Indoor, Low Impedance System

Ambient Operating Temperature:
- 40°C / 104°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include circuit breaker, fused plug-in, and cable schedule (if applicable), including cable lengths and plug-in schedules.

B. Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.

C. Indicate special receiving and handling procedures.

D. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Track Busway manufacturer shall guarantee the entire system against defective material and workmanship for a period of one (1) year from date of shipment.

1.06 COMPONENTS

A. Frame and Enclosure:
1. Extruded Aluminum housing designed to act as a 100% ground. Housings to be 5, 10 or 15 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units anywhere along its length. This opening shall pass UL's hypothetical finger probe test.
2. All conductors shall be made of copper and sized to handle 100% of its rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated from the housing.

B. Plug-in Units
1. Plug-in units shall be polarized to avoid incorrect installation.
2. Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.
3. Plug-in units shall have locking clips or bolt-on tabs to secure units to the busway.
4. Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.

1.07 INSTALLATION

A. Track Busway Sections – The runs will consist of lengths as shown on the drawings.

B. Hanging of the Track Busway – Using supplied 'Rod Mount Hangers' the busway will be hung from the ceiling using all thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the track busway to the all thread. The maximum spacing is 10 ft on center for the hangers. The height of the track busway shall be coordinated with the Architect.

C. Connecting Sections of Track Busway – At a junction of Track Busway sections, the installer will install the top housing coupler; the bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90 deg. Forcing stabs into u-shaped female conductors. Housing coupler is positioned over the bottom joint and tightened. A manufacturer supplied tool will assist in joining sections together.

D. End of Runs – End caps will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Track Busway housing to prevent dust and debris from gathering in the Track Busway (if applicable).

Supply as manufactured by Universal Electric Corporation; 168 Georgetown Rd; Canonsburg, PA 15317; (800) 245-6378; (724) 597-7800; fax (724) 916-2221. No known equal.

END OF SECTION

Section 16468
Track Busway System

STARLINE® TRACK BUSWAY

B400, B400N, B400G, B400NG

1.01 SUMMARY

A. This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Track Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.

1.02 STANDARDS AND CERTIFICATION

A. The Track Busway shall be designed and manufactured to the following standards:

1. Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.
4. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelvth edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
5. ETL Classified (US/Canada) to UL857
6. National Electric Code (NEC) – Article 368 – Busways
7. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
8. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).
9. NFPA 70 – National Fire Protection Agency

1.03 SYSTEM DESCRIPTION

A. Electrical Requirements

STARLINE Track Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 597-7800

Voltage: 600V (B400N-480V)

Frequency: 60 Hz

Ampacity: 400A

Neutral Ampacity: 400A or 800A

Conductors: Qty 4 (Phases A, B, C and Neutral)

Grounding: Aluminum Casing

System Designation:

System	Amperage	Neutral	Iso Ground
B400	400	400	No
B400N	400	800	No
B400G	400	400	Yes
B400NG	400	800	Yes

B. Environmental

Indoor, Low Impedance System
Ambient Operating Temperature:
- 40°C / 104°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. Submittals shall be in accordance with specified procedures. Submit shop drawing and product data for record purposes prior to shipment.

B. Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include circuit breaker, fused plug-in, and cable schedule (if applicable), including cable lengths and plug-in schedules.

C. Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.

D. Indicate special receiving and handling procedures.

E. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Track Busway manufacturer shall guarantee the entire system against defective material and workmanship for a period of one (1) year from date of shipment.

1.06 COMPONENTS

A. Frame and Enclosure:

1. **Extruded Aluminum housing designed to act as a 100% ground. Housings to be 5 or 10 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units anywhere along its length. This opening shall pass UL's hypothetical finger probe test.**
2. **All conductors shall be made of copper and sized to handle 100% of it's rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated from the housing.**

B. Plug-in Units

1. **Plug-in units shall be polarized to avoid incorrect installation.**
2. **Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.**
3. **Plug-in units shall have locking clips or bolt-on tabs to secure units to the busway.**
4. **Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.**

1.07 INSTALLATION

A. Track Busway Sections – The runs will consist of lengths as shown on the drawings.

B. Hanging of the Track Busway – Using supplied 'Rod Mount Hangers' the busway will be hung from the ceiling using all thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the track busway to the all thread. The maximum spacing is 10 ft on center for the hangers. The height of the track busway shall be coordinated with the Architect.

C. Connecting Sections of Track Busway – At a junction of Track Busway sections, the installer will install the top housing coupler; the bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90 deg. Forcing stabs into u-shaped female conductors. Housing coupler is positioned over the bottom joint and tightened. A manufacturer supplied tool will assist in joining sections together.

D. End of Runs – End caps will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Track Busway housing to prevent dust and debris from gathering in the Track Busway (if applicable).

Supply as manufactured by Universal Electric Corporation; 168 Georgetown Rd; Canonsburg, PA 15317; (800) 245-6378; (724) 597-7800; fax (724) 916-2221. No known equal.

END OF SECTION

Section 16468
Track Busway System

STARLINE® TRACK BUSWAY

B800T5CG, B800T5GCC, B800T5CA, B800T5GCA

1.01 SUMMARY

A. This specification covers the electrical characteristics and general requirements for a track busway system, hereafter referred to as (Track Busway). The system shall be designed primarily for overhead distribution of electrical power. Supporting designated work areas and equipment. Once installed the Busway will provide a simple, versatile, fast and economic means of distributing power. Loads fed from a variety of plug-in units can be easily added or removed without shutting power down to the busway.

1.02 STANDARDS AND CERTIFICATION

A. The Track Busway shall be designed and manufactured to the following standards:

1. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busways that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelfth edition of UL 857, and the second edition of NMX-J-148-1998-ANCE.
2. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999.
3. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busways), IEC 60439-2: 2000.Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC).
4. ETL Certified (US/Canada) to UL857
5. National Electric Code (NEC) – Article 368 – Busways
6. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
7. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC).
8. NFPA 70 – National Fire Protection Agency

1.03 SYSTEM DESCRIPTION

A. Electrical Requirements

STARLINE Track Busway

Manufactured by:
Universal Electric Corp.
168 Georgetown Rd.
Canonsburg, PA 15317
(724) 597-7800

Voltage: 600V AC and DC

Frequency: 50/60 Hz

Ampacity: 800A

Neutral Ampacity: 800A

Conductors: 3 Phase conductors, 1 Neutral Conductor

Copper: Solid Copper, Nickel Plated

Composite: Continuous nickel plated Copper contact surface within nickel plated aluminum busbar

Grounding: Aluminum Casing

System Designation:

System	Amperage	Neutral	Iso Ground
B800T5CC	800	800	No
B800T5GCC	800	800	Yes
B800T5CA	800	800	No
B800T5GCA	800	800	Yes

B. Environmental

Indoor, Low Impedance System

Ambient Operating Temperature:
- 40°C / 104°F
- 60°C / 140°F (0.8 Amp Rating Multiplier)

1.04 SUBMITTALS

A. Submittals shall be in accordance with specified procedures. Submit shop drawing and product data for record purposes prior to shipment.

B. Indicate construction details, including dimensions, weights, clearances, major component layout, power details. Include circuit breaker, fused plug-in, and cable schedule (if applicable), including cable lengths and plug-in schedules.

C. Include connection diagram for external wiring, and details of conduit and wiring connections and terminations.

D. Indicate special receiving and handling procedures.

E. Provide electrical characteristics and connection requirements for the system and accessories.

1.05 WARRANTY

A. The Track Busway manufacturer shall guarantee the entire system against defective material and workmanship for a period of one (1) year from date of shipment.

STARLINE® TRACK BUSWAY

B800T5CG, B800T5GCC, B800T5CA, B800T5GCA

1.06 COMPONENTS

A. Frame and Enclosure:

1. **Extruded Aluminum housing certified to serve as a 100% ground. Housings to be 5 or 10 ft standard length. This housing should be properly extruded with slots to receive rod mount hangers to hang from a ceiling. This housing should be open on the bottom to accept plug-in units anywhere along its length. This opening shall pass UL's hypothetical finger probe test.**
2. **All conductors shall be made of copper or composite copper/aluminum and sized to handle 100% of it's rating continuously with ambient temperatures below 40°C / 104°F. The conductors shall be electrically isolated from the housing.**

B. Plug-in Units

1. **Plug-in units shall be polarized to avoid incorrect installation.**
2. **Plug-in units shall use [{circuit breakers} {fuses}] for branch circuit protection.**
3. **Plug-in units shall have locking clips or bolt-on tabs to secure units to the busway.**
4. **Plug-in units that include drop cords shall be manufactured with cord grips and receptacles as specified in the drawings.**

1.07 INSTALLATION

A. Track Busway Sections – The runs will consist of lengths as shown on the drawings.

B. Hanging of the Track Busway – Using supplied 'Rod Mount Hangers' the busway will be hung from the ceiling using all thread. The installing contractor shall be responsible for the connections on the ceiling end. The supplied Rod Mount Hangers will connect the track busway to the all thread. The maximum spacing is 10 ft on center for the hangers. The height of the track busway shall be coordinated with the Architect.

C. Connecting Sections of Track Busway – At a junction of Track Busway sections, the installer will install the top housing coupler; the bus connector is inserted, centered and seated in the slot of the Busway. The installation tool is inserted into jointed intersection and rotated 90 deg. Forcing stabs into u-shaped female conductors. Housing coupler is positioned over the bottom joint and tightened. A manufacturer supplied tool will assist in joining sections together.

D. End of Runs – End caps will be provided to install at the ends of each run.

E. Closure Strip – The closure strip can be cut and fitted to cover the bottom opening of the Track Busway housing to prevent dust and debris from gathering in the Track Busway (if applicable).

Supply as manufactured by Universal Electric Corporation; 168 Georgetown Rd; Canonsburg, PA 15317; (800) 245-6378; (724) 597-7800; fax (724) 916-2221. No known equal.

END OF SECTION

Busway Short Circuit Ratings

System	SCCR
B40/B50/B60C	5,000
B60	10,000
B100C	10,000
B100A, N, G, NG	22,000
B225, G	22,000*
B250T5, N, G, NG	22,000
B400T5, N, G, NG	35,000*
B800CA	50,000*
B800CC	35,000*

***Short circuit rating can be increased when the busway is protected by factory specified overcurrent devices. Contact the factory for details.**

UNIVERSAL ELECTRIC CORPORATION™

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STARLINE®

Universal Electric Corporation (UEC), the manufacturer of STARLINE, has been a leader in power distribution since 1924. The company's founders led the way for many new technologies in the power distribution equipment industry. Today, this family tradition of innovation continues to pave the way for safer, more innovative and more reliable electrical power distribution systems. Other UEC products include STARLINE Plug-In Raceway and U-S Safety Trolley. Visit www.StarlinePower.com for your Flexible Power Solutions.

For installation details, RS Means Electrical Estimating cost comparisons, and actual case histories of projects where savings with STARLINE have been documented, contact UEC's Customer Service Department at 1-800-245-6378 or +1 724-597-7800.

Most STARLINE systems and most standard components are UL, CE or ETL listed.

F0000009 5/2014