

# U-S SAFETY TROLLEY

## Product Selection Guide



**SPECS & INTRODUCTION****Specs**

U-S Safety Trolley systems have been tested and authorized by 3rd party global safety consulting and certification companies to conform to the following standards:

**Spanguard**

CSA C22.2 No. 33 - Class No 9041 01  
CRANES AND HOISTS-Electrical Safety  
Only

**Tri-Bar / Four-Bar**

Tested according UL 508, UL 857 and  
CSA C22.2 No. 33

CSA CWW.2#27 - Class No 9041 01  
CRANES AND HOISTS-Electrical Safety  
Only

**Introduction**

In the 1960's, traditional wiring methods used in the mobile electrification applications were unsafe, and the cause of numerous injuries and fatalities. The company recognized the need to bring safety to the overhead crane electrification industry and related electrical equipment by envisioning a safe, unique, and more reliable mobile electrification design: U-S Safety Trolley.

After 50 years, electrical joints in mobile electrification systems continue to be the number one cause of crane failure, high maintenance costs, and costly downtime. To reduce these threats, all four U-S Safety Trolley system solutions – SpanGuard, Tri-Bar/Four-Bar, PowerGlide and TightWire - share a unique, innovative design with an insulated, jointless continuous conductor bar which enables seamless mobile electrification to today's industrial and manufacturing sectors.

The following, all-inclusive Product Selector Guide was developed to assist end users and integrators to become familiar with all U-S Safety Trolley system components, and to understand the application that best suits their needs. However, if you require any assistance please contact us at **(800)245-6378**. We will be happy to help you or schedule a visit with one of our local representatives.

Lastly, please keep in mind that this is a working document. U-S Safety Trolley reserves the right to update its information at any given time. To download the latest version of this guide, please visit our website or go to **[downloads.starlinepower.com/usst](https://downloads.starlinepower.com/usst)**.

We invite you to learn more about our strong commitment to developing innovative products, and how we can deliver safe, reliable power to your facility.

Thank you for choosing U-S Safety Trolley as your mobile electrification solution.

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## SYSTEM SIZING

### System Sizing Calculation

Calculation of motor loads can be found in NEC 610.14(E). Below are two examples of sizing the system to your crane loads:

1. For a single crane operating on its own conductor system, use the nameplate full-load ampere rating of the largest motor or group of motors for any single crane function, plus 50% of the nameplate full-load ampere rating of the next largest motor or group of motors.

Example:  
 Hoist =  $75A \times 1 = 75A$   
 Bridge =  $30A \times .5 = 15A$   
 Total = 90A

2. For multiple cranes operating on the same conductor system, use the same method for a single crane for each crane. Add the results and multiply by the appropriate demand factor from Table 610.14(E).

Example:

Crane #1  
 Hoist =  $75A \times 1 = 75A$   
 Bridge =  $30A \times .5 = 15A$   
 Total = 90A

Crane #2  
 Hoist =  $37A \times 1 = 37A$   
 Bridge =  $22A \times .5 = 11A$   
 Total = 48A

Total for both cranes = 138A  
 Demand Factor for 2 cranes = 0.95  
 Total amperage required = 131.1A

TABLE 610.14(E)	
Number of Cranes or Hoists	Demand Factor
2	0.95
3	0.91
4	0.87
5	0.84
6	0.81
7	0.78

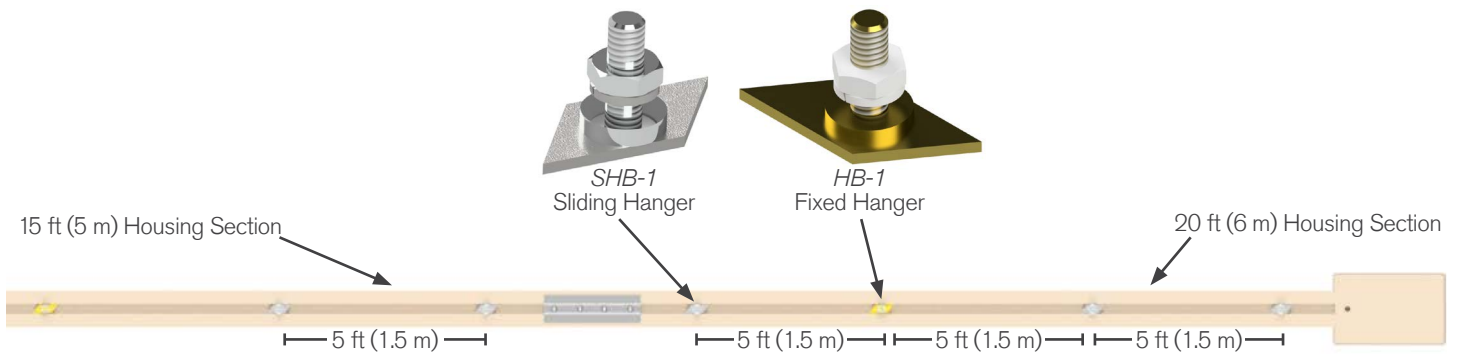
**TEMP RANGE AND EXPANSION**

**Temperature Range and Expansion**

Tri-Bar & Four-Bar systems are recommended for temperatures from 0°F (-18°C) to 130°F (54°C). For extreme temperature conditions, consult factory. Where there are variations in temperature of over 20°F (-7°C), expansion of the conductor must be considered. A 20 foot (6 meter) section of housing will expand about 1/4 in (6.3 mm) per 50°F (10°C). On crane bridges and runways install an HB-1 hanger bolt near the center of each 20 foot (6 meter) section of housing and use sliding hanger bolts SHB-1 at all other locations.

There must be a space between each plastic housing to provide for expansion. The approximate opening between 20 foot (6 meter) sections for an application with 30° (-1°C) to 100°F (38°C) temperature range:

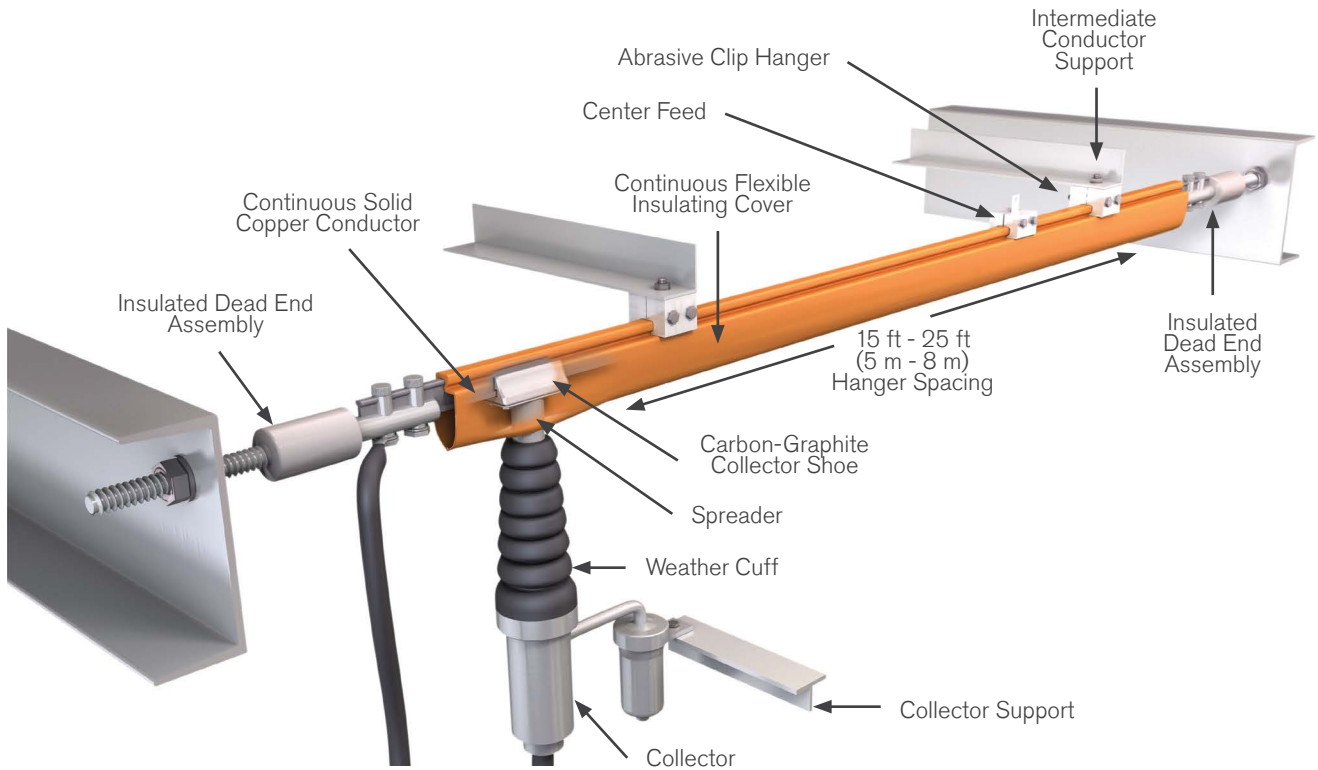
100°F (38°C)	0
65°F (18°C)	3/16 inch
30°F (-1°C)	3/8 inch



QTY (1) Fixed Hanger Bolt (HB-1) per housing section.  
Space Sliding Hanger Bolts (SHB-1) 5 ft (1.5 m) feet apart.



**SYSTEM LAYOUT DRAWING**



**100, 200, 300 & 400 Amp Collector**

Spring-loaded collectors use a carbon-graphite shoe, making them more reliable and less costly to maintain than wheel-based trolley systems. The collectors automatically compensate for vertical and horizontal misalignments between the trolley electrification bars and the crane runway.



**CONDUCTOR/COVER**



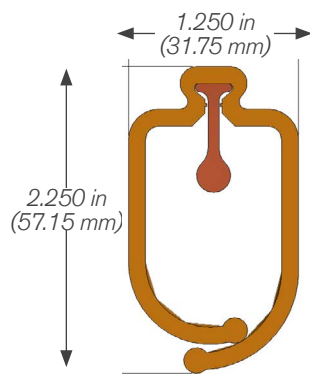
250A-SPNG-STD

Span-Guard consist of a flexible, extruded cover and copper conductor. The flexible cover acts as an insulator to prevent the end user from contact with any live conductors. Span-Guard has a range of ratings, from 250A to 520A at 600V AC/DC and can handle a wide range of temperatures. The cover and conductor can be supplied in continuous lengths up to 2000 ft (610 m) long.

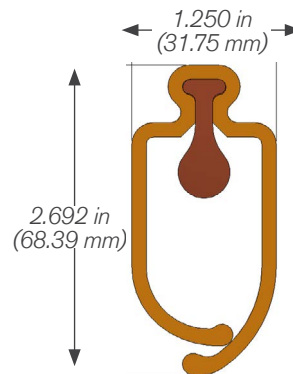
**CONDUCTOR AND FLEXIBLE COVER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
250A-SPNG-STD	250 Amp – Solid Copper with Pre-Assembled Cover	1 ft (0.3 m)	0.7 lbs (0.30 kg)
250A-SPNG-LT	250 Amp – Solid Copper with Pre-Assembled Low Temperature Cover	1 ft (0.3 m)	0.7 lbs (0.30 kg)
250A-COPPER	250 Amp – Solid Copper – Conductor Only	1 ft (0.3 m)	0.5 lbs (0.23 kg)
250A-COVER-STD	250 Amp - Standard Cover Only	1 ft (0.3 m)	0.2 lbs (0.09 kg)
250A-COVER-LT	250 Amp - Low Temperature Cover Only	1 ft (0.3 m)	0.2 lbs (0.09 kg)
520A-SPNG-STD	520 Amp – Solid Copper with Pre-Assembled Cover	1 ft (0.3 m)	1.5 lbs (0.68 kg)
520A-SPNG-LT	520 Amp – Solid Copper with Pre-Assembled Low Temperature Cover	1 ft (0.3 m)	1.5 lbs (0.68 kg)
520A-COPPER	520 Amp – Solid Copper – Conductor Only	1 ft (0.3 m)	1.1 lbs (0.50 kg)
520A-COVER-STD	520 Amp - Standard Cover Only	1 ft (0.3 m)	0.4 lbs (0.18 kg)
520A-COVER-LT	520 Amp - Low Temperature Cover Only	1 ft (0.3 m)	0.4 lbs (0.18 kg)

Low Temperature (LT) is rated from -30°F (-34°C) to 160°F (-71°C). LT is also recommended where mild acids are present.



250A Conductor



520A Conductor



**DEAD END ASSEMBLY/FEEDS**



DE-250



DE-520

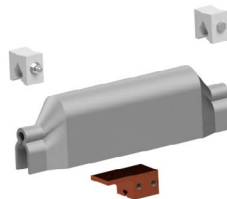
The Dead End Assembly begins and ends each run of Span-Guard. The copper conductor is inserted into the Dead End and clamped using the (2) u-bolts supplied. The Dead End Assembly allows for safe mounting and it is used for final tensioning of the system. For harsh or acidic environments, stainless steel options are available.

**INSULATED DEAD END ASSEMBLY**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
DE-250	250 Amp Conductor Dead End Assembly	ea	1.5 lbs (0.68 kg)
DE-250SS	250 Amp Conductor Dead End Assembly Stainless Steel	ea	1.5 lbs (0.68 kg)
DE-520	520 Amp Conductor Dead End Assembly	ea	4.0 lbs (1.8 kg)
DE-520SS	520 Amp Conductor Dead End Assembly Stainless Steel	ea	4.0 lbs (1.8 kg)



CF-250



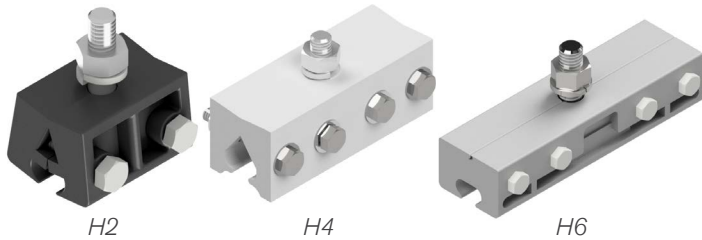
CF-520

Center Feeds provide power to each Span-Guard run and can be installed anywhere on the run. The feeds consist of a copper lug, insulated cover and shrink tube to insulate the copper stab after installation of the supply cable.

**CENTER FEED**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
CF-250	250 Amp Conductor Center Feed	ea	0.6 lbs (0.27 kg)
CF-250SS	250 Amp Conductor Center Feed Stainless Steel	ea	0.6 lbs (0.27 kg)
CF-520	520 Amp Conductor Center Feed	ea	1.0 lbs (0.45 kg)
CF-520SS	520 Amp Conductor Center Feed Stainless Steel	ea	1.0 lbs (0.45 kg)

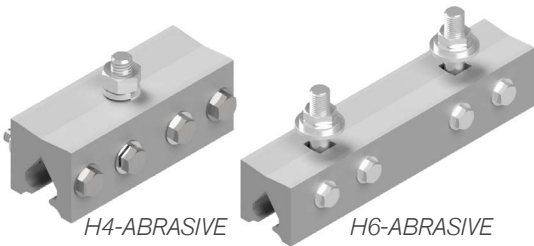
**HANGERS**



The insulated hangers' unique design is meant to grip but not squeeze the conductor and cover in order to allow for thermal expansion. This design eliminates the need for any expansion zones. Hangers should be utilized at every support, roughly every 15 to 25 ft (5 to 8 m). H2 and H4 hangers use a 3/8-16 bolt for mounting to supports, while the H6 uses a 1/2-13 bolt. For areas where harsh chemicals may come in contact with the system, acidic environment hangers are available.

**INSULATED HANGER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
H2	250 Amp Conductor Hanger	ea	0.3 lbs (0.14 kg)
H2SS	250 Amp Conductor Stainless Steel Hardware / Acid Atmosphere	ea	0.3 lbs (0.14 kg)
H2SS-GND	250 Amp Conductor Stainless Steel Hardware / Acid Atmosphere / Green Color	ea	0.3 lbs (0.14 kg)
H4	250 Amp Conductor Hanger	ea	0.5 lbs (0.23 kg)
H6	520 Amp Conductor Hanger	ea	0.7 lbs (0.32 kg)
H6SS	520 Amp Conductor Stainless Steel Hardware / Acid Atmosphere	ea	0.7 lbs (0.32 kg)
H6SS-GND	520 Amp Conductor Stainless Steel Hardware / Acid Atmosphere (Green)	ea	0.7 lbs (0.32 kg)
WIND CLIP	250 Amp/520 Amp Wind Clip	ea	0.2 lbs (0.09 kg)



Abrasive hangers are mounted where the crane or equipment travels the most. The purpose of these hangers is to file the top of the collector shoe as it wears, to insure the collector rides smoothly along the conductor rail.

**ABRASIVE HANGER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
H4-ABRASIVE	250 Amp Conductor Abrasive Hanger	ea	0.3 lbs (0.14 kg)
H4SS-ABRASIVE	250 Amp Conductor Abrasive Hanger Stainless Steel	ea	0.3 lbs (0.14 kg)
H6-ABRASIVE	520 Amp Conductor Abrasive Hanger	ea	0.5 lbs (0.23 kg)
H6SS-ABRASIVE	520 Amp Conductor Abrasive Hanger Stainless Steel	ea	0.5 lbs (0.23 kg)

**COLLECTOR AND COLLECTOR SHOES**

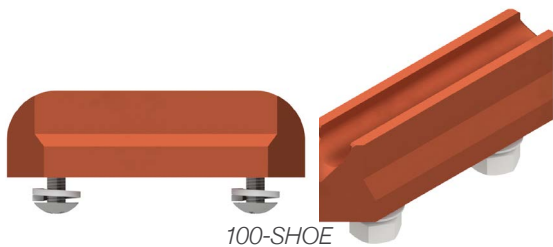


Collectors pick up power from each of the Span-Guard runs and deliver it to the moving equipment. The collectors are spring loaded and can travel 6 in (152 mm) vertically or horizontally to make up for any misalignment and easy installation. All collectors come standard with a 20 in (508 mm) cord, with custom lengths available upon request. Options for stainless steel are also available.

**COLLECTOR**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
C100-WC1	100 Amp Collector – Use with 250 Amp Conductor	ea	3.0 lbs (1.4 kg)
C100SS-WC1	100 Amp Collector – Stainless Steel, Use with 250 Amp Conductor	ea	3.0 lbs (1.4 kg)
C100HSS-WC1	100 Amp Collector – Stainless Steel, Heated Collector, Use with 250 Amp Conductor	ea	3.2 lbs (1.5 kg)
C200-WC1	200 Amp Collector – Use with 250 Amp Conductor	ea	3.2 lbs (1.5 kg)
C200SS-WC1	200 Amp Collector – Stainless Steel, Use with 250 Amp Conductor	ea	3.2 lbs (1.5 kg)
C300-WC2	300 Amp Collector - Use with 520 Amp Conductor	ea	7.6 lbs (3.4 kg)
C300SS-WC2	300 Amp Collector - Stainless Steel, Use with 520 Amp Conductor	ea	7.6 lbs (3.4 kg)
C400-WC2	400 Amp Collector – Use with 520 Amp Conductor	ea	7.8 lbs (3.5 kg)
C400SS-WC2	400 Amp Collector - Stainless Steel, Use with 520 Amp Conductor	ea	7.8 lbs (3.5 kg)

*For custom barrel and arm lengths, consult with the factory.*



Collector Shoes come pre-installed on Span-Guard Collectors, but can also be ordered separately as replacement shoes. The shoes ride back and forth along the conductor to transfer electricity from the conductor to the equipment below. Shoes are made of copper/graphite and require no lubricant.

**COLLECTOR SHOE**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
100-SHOE	100 Amp Collector Shoe - Use with 250 Amp Conductor	ea	0.25 lbs (0.11 kg)
100-SHOE-HEATED	100 Amp Collector Shoe - Heated - Use with 250 Amp Conductor	ea	0.35 lbs (0.16 kg)
200-SHOE	200 Amp Collector Shoe - Use with 250 Amp Conductor	ea	0.35 lbs (0.16 kg)
400-SHOE	300/400 Amp Collector Shoe - Use with 520 Amp Conductor	ea	0.70 lbs (0.32 kg)

**SUPPORTS**

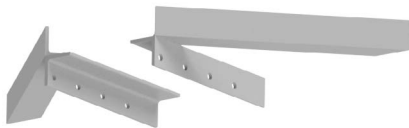


INT-SPT-250

*Intermediate Supports are predrilled from the factory to accommodate proper spacing for the conductors. The supports are to be welded in place every 15 to 25 ft (5 to 8 m) for proper support of the Span-Guard system.*

**INTERMEDIATE CONDUCTOR SUPPORT**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
INT-SPT-250	250 Amp Conductor Intermediate Conductor Support	ea	2.4 lbs (1.1 kg)
INT-SPT-520	520 Amp Conductor Intermediate Conductor Support	ea	3.7 lbs (1.7 kg)



END-SPT-250

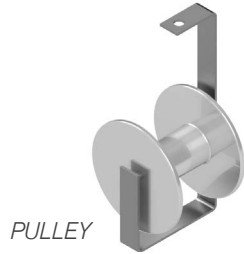
*End Supports are predrilled from the factory to accommodate proper spacing for the conductors, and should be installed at both ends of a run of Span-Guard. End Supports are supplied as a pair (2 come with each order), and are welded in place.*

**END SUPPORT**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
END-SPT-250	250 Amp Conductor End Support	pair	25 lbs (11 kg)
END-SPT-520	520 Amp Conductor End Support	pair	40 lbs (18 kg)

**DEPOSIT ITEMS**

*\*\*Deposit items are for temporary use only and can be returned to the factory for a full refund.*

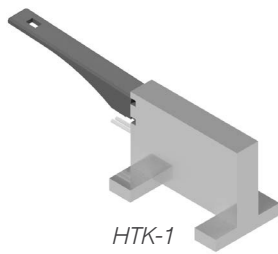


PULLEY

*Pulleys are used for installation only and are mounted on the outer hole of each intermediate support. The pulleys help guide the Span-Guard during the installation process and are taken down once installation is complete.*

**\*\*INSTALLATION CABLE PULLEY**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
PULLEY	Span-Guard Installation Pulley	ea	3.5 lbs (1.6 kg)



HTK-1

*The heating tool kit is used to splice two pieces of cover together. The two cover ends are pressed against each side of the heating element, and then vulcanized together to create one continuous piece.*

**\*\*HEATING TOOL**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
HTK-1	Heating Tool Kit	ea	2.4 lbs (1.1 kg)



GRIP

*The cable grip is used to hold and grip the Span-Guard while tensioning the system.*

**\*\*CABLE GRIP**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
GRIP	Cable Grip	ea	2.6 lbs (1.2 kg)

**DEPOSIT ITEMS/SYSTEM MODIFICATIONS**

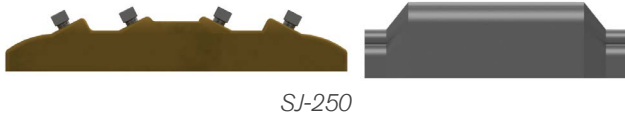
*\*\*Deposit items are for temporary use only and can be returned to the factory for a full refund.*



*A reel is provided for easy shipment and installation.*

**\*\*REEL (SHIPPING)**

CATALOG NUMBER	REEL CAPACITY		UNIT	WEIGHT
	250 Amp Conductor and Cover Length	520 Amp Conductor and Cover Length		
REEL-20 (20" Reel)	0-1200 ft (0-365 m)	0-900 ft (0-274 m)	ea	200 lbs (91 kg)
REEL-30 (30" Reel)	1201-1800 ft (366-549 m)	901-1300 ft (275-396 m)	ea	260 lbs (118 kg)

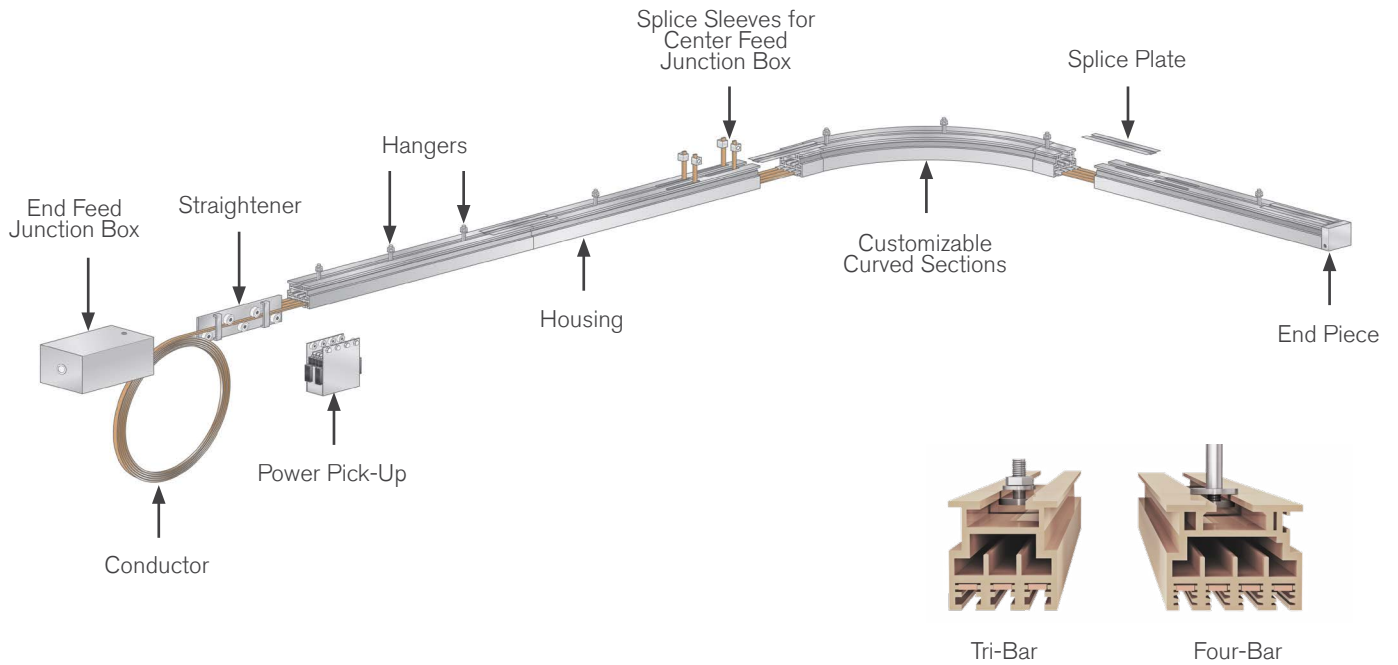


*Splice joints are utilized to extend an existing runway, repairs, or to create a maintenance isolated zone. They join two pieces of conductor/cover together to form one continuous piece. Typically used where systems exceeds 2000 ft (610 m).*

**SPLICE JOINT**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
SJ-250	250 Amp Conductor Splice Joint	ea	1.6 lbs (0.73 kg)
SJ-500	520 Amp Conductor Splice Joint	ea	1.7 lbs (0.77 kg)
H7DEA-250	250 Amp Conductor for Isolation or Maintenance Bays	ea	2 lbs (0.90 kg)
H7DEA-520	520 Amp Conductor for Isolation or Maintenance Bays	ea	2 lbs (0.90 kg)

**SYSTEM LAYOUT DRAWING**



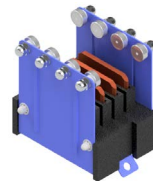
**35, 70 & 125 Amp Collectors**

The spring loaded durable design is optimal for moving trolleys.



**15 & 30 Amp Power Pickups**

This self-supported design has a built-in internal wiring box area. The unit rolls on bearings captive on the track.



**STRAIGHT HOUSING/CONDUCTOR**

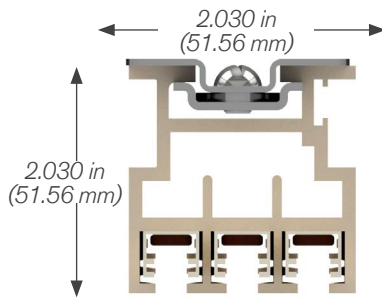


FBHS-XX

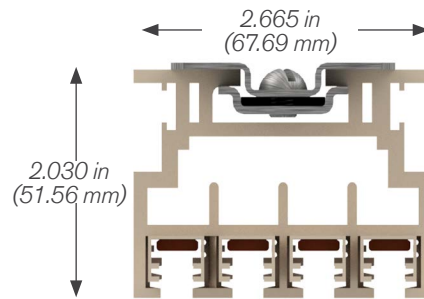
*Housings are supplied in 20 ft (6 m) lengths, with the last section cut as required for the correct total system length. Custom lengths are available upon request.*

**INSULATED HOUSING**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
TBHS-XX	Tri-Bar Housing Straight XX=Length	1 ft (0.3 m)	1.1 lbs (0.50 kg)
FBHS-XX	Four-Bar Housing Straight XX=Length	1 ft (0.3 m)	1.6 lbs (0.73 kg)



Tri-Bar Housing



Four-Bar Housing



100C

*The Tri-Bar/Four-Bar jointless conductor is available in either 100 or 125 amp copper and comes supplied on a reel. The conductor is fed through the housing channels after the housing structure has been installed, and secured in place.*

**CONDUCTOR**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
100C	100 Amp Copper Conductor	1 ft (0.3 m)	0.14 lbs (0.06 kg)
125C	125 Amp Copper Conductor	1 ft (0.3 m)	0.22 lbs (0.10 kg)



**CURVED HOUSING**



Custom curved housing sections can be supplied in radii as small as 18 in (457 mm). Curves can be formed to any angle or configuration. Copper is pre-installed inside the curve and ready for field assembly.

**CURVED HOUSING**

SYSTEM	PRODUCT TYPE	CURVE	AMPS	INSIDE RADIUS	ARC	POLARIZATION	ORIENTATION
U	FB	C	125	072	180	IN	1

<b>SYSTEM</b>	<b>U</b> Universal
<b>PRODUCT TYPE</b>	<b>TB</b> Tri-Bar   <b>FB</b> Four-Bar
<b>CURVE</b>	<b>C</b> Curve
<b>AMPS</b>	<b>100</b> 100 Amps   <b>125</b> 125 Amps
<b>INSIDE RADIUS</b>	<b>XXX</b> Inches
<b>ARC</b>	<b>XXX</b> Degrees
<b>POLARIZATION</b>	<b>INT</b> Internal   <b>EXT</b> External   <b>TOP</b> Top   <b>BOT</b> Bottom
<b>ORIENTATION</b>	<b>1</b> Bars Face Down   <b>2</b> Bars Face Out   <b>3</b> Bars Face In



UFBC125-072-90-INT1



UFBC125-072-180-TOP2

**POWER FEEDS AND END PIECE**



*End Feeds and Center Feeds provide power to the entire Tri-Bar/Four-Bar system. The Junction Box is used to enclose the End Feed or Center Feed connections. The metal box has a removable side with bolts that fasten it to the system. The appropriate hardware—nuts, washers, lugs, shrink tube, etc.—is also provided.*

**END FEED AND CENTER FEED**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
EF-3	Tri-Bar End Feed	ea	3 lbs (1.4 kg)
CF-3	Tri-Bar Center Feed	ea	7 lbs (3.2 kg)
EF-4	Four-Bar End Feed	ea	3 lbs (1.4 kg)
CF-4	Four-Bar Center Feed	ea	7 lbs (3.2 kg)

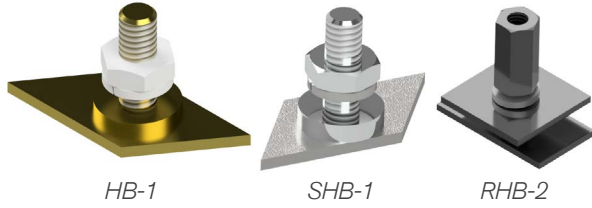


*End Pieces are installed at the end of every Tri-Bar/Four-Bar run to insulate the conductors and end the run.*

**END PIECE**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
EP-3	Tri-Bar End Piece	1 ft (0.3 m)	1 lbs (0.45 kg)
EP-4	Four-Bar End Piece	1 ft (0.3 m)	1 lbs (0.45 kg)

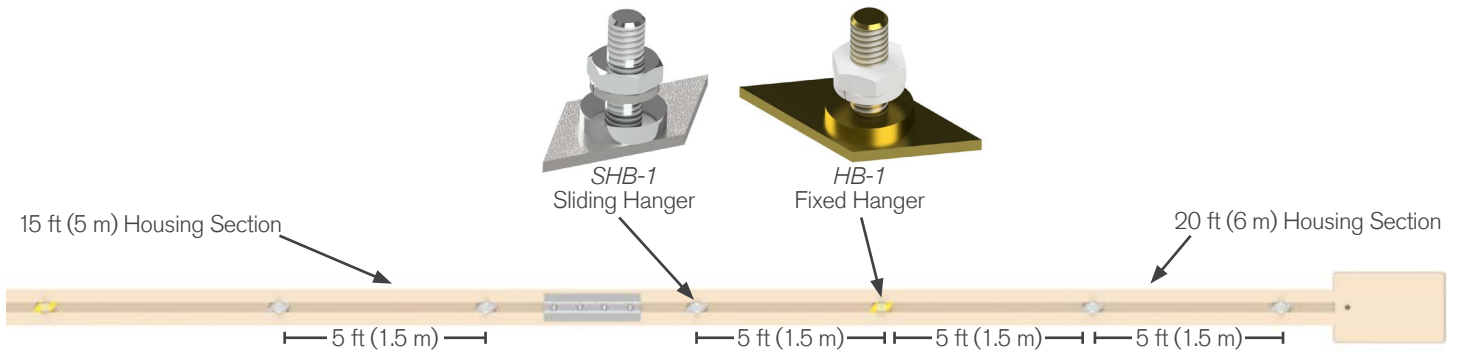
**HANGERS/MOUNTING SUPPORTS**



Hangers are used to support the system every 5 ft (1.5 m). A variety of hangers are available, including types that twist-in or slide in from the end, threaded rod coupler hangers, beam clamps and ceiling bracket hangers.

**HANGER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
HB-1	Fixed Hanger, Twist-In, 5/16" Stud	ea	0.1 lbs (0.04 kg)
SHB-1	Sliding Hanger, Twist-In, 5/16" Stud	ea	0.1 lbs (0.04 kg)
HB-2	Fixed Hanger, 2 in (51 mm) Long, 5/16" Stud	ea	0.1 lbs (0.04 kg)
SHB-2	Sliding Hanger, 2 in (51 mm) Long, 5/16" Stud	ea	0.1 lbs (0.04 kg)
RHB-2	Rod Mount Hanger, For 3/8" All-Thread	ea	0.2 lbs (0.09 kg)
BHB-2	Fixed Hanger and Beam Clamp	ea	0.2 lbs (0.09 kg)
BSHB-2	Sliding Hanger and Beam Clamp	ea	0.2 lbs (0.09 kg)



QTY (1) Fixed Hanger Bolt (HB-1) per housing section.  
Space Sliding Hanger Bolts (SHB-1) 5 ft (1.5 m) feet apart.

**COLLECTOR/POWER PICKUP**



C70-4

The Supported Collector mounts to the equipment using a 1 in (25 mm) square bar. It can account for 4 in (102 mm) horizontal and 4.5 in (114 mm) vertical misalignment, and is available in either a 3 or 4 shoe configuration.

**SUPPORTED COLLECTOR**

CATALOG NUMBER	PRODUCT DESCRIPTION	RATING	WEIGHT
C35-3	35 Amp Tri-Bar Collector	35A	3 lbs (1.4 kg)
C70-3	70 Amp Tri-Bar Collector	70A	3 lbs (1.4 kg)
C125-3	125 Amp Tri-Bar Collector	125A	3 lbs (1.4 kg)
C35-4	35 Amp Four-Bar Collector	35A	4 lbs (1.8 kg)
C70-4	70 Amp Four-Bar Collector	70A	4 lbs (1.8 kg)
C125-4	125 Amp Four-Bar Collector	125A	4 lbs (1.8 kg)



PP3-30-4PD

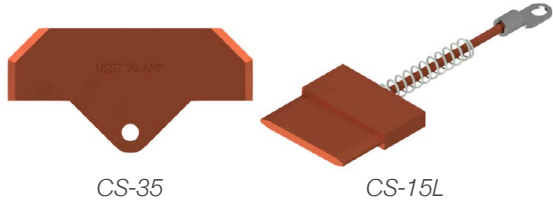
The Power Pickup is a self-supported collector that uses roller bearings to maneuver the track. An internal wiring box is built into the unit and variations of Power Pickups are available for many different needs. Power Pickups include collector shoes.

**POWER PICKUP**

CATALOG NUMBER	PRODUCT DESCRIPTION	RATING	WEIGHT
PP3-15-3PD	15 Amp Tri-Bar Power Pickup (Deep Box)	15A	1.5 lbs (0.68 kg)
PP3-30-3PD	30 Amp Tri-Bar Power Pickup (Deep Box)	30A	1.5 lbs (0.68 kg)
PP4-15-4PD	15 Amp Four-Bar Power Pickup (Deep Box)	15A	2 lbs (0.90 kg)
PP4-30-4PD	30 Amp Four-Bar Power Pickup (Deep Box)	30A	2 lbs (0.90 kg)
PP4-15-4PDG	15 Amp Four-Bar/Ground Power Pickup (Deep Box)	15A	2.3 lbs (1 kg)
PP4-30-4PDG	30 Amp Four-Bar/Ground Power Pickup (Deep Box)	30A	2.3 lbs (1 kg)
PP4-15-4P	15 Amp Four-Bar Power Pickup (Standard Depth)	15A	2.1 lbs (0.95 kg)
PP4-30-4P	30 Amp Four-Bar Power Pickup (Standard Depth)	30A	2.1 lbs (0.95 kg)
PP4-30-4PD-3F	Fused Power Pick-Up with (3) 30 Amp Class CC Fuse Holders (Fuses not included)	30A	2.4 lbs (1.1 kg)
PP4-30-4W-4PD	Pre-Wired Power Pick-Up with 10AWG/4-Wire SO Cord, 5 ft (1.5 m) in Length	30A	6.1 lbs (2.8 kg)

All Tri-Bar/Four-Bar Power Pickups are all 600V max.

**REPLACEMENT COLLECTOR SHOES**



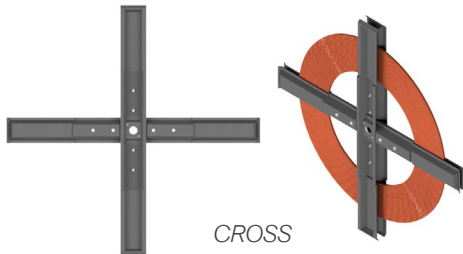
Collector Shoes come pre-installed on both the Supported Collector and Power Pickup, but can also be ordered separately as replacement shoes. The shoes ride back and forth along the conductor to transfer electricity from the conductor to the crane, or other pieces of equipment being supported. Shoes are made of copper graphite and require no lubricant.

**COLLECTOR SHOE**

CATALOG NUMBER	PRODUCT DESCRIPTION	RATING
CS-15L	15 Amp Power Pickup Collector Shoe Left	15A
CS-15R	15 Amp Power Pickup Collector Shoe Right	15A
CS-35	35/70 Amp Collector Shoe Left	35/70A
CS-125	125 Amp Collector Shoe Left	125A

**DEPOSIT ITEMS**

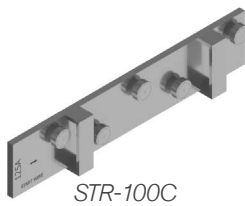
*\*\*Deposit items are for temporary use only and can be returned to the factory for a full refund.*



*Any copper conductor 300 ft (91 m) and over, requires a shipping cross. Each cross can hold up to 750 ft (229 m) of 100 amp copper and 625 ft (191 m) of 125 amp copper.*

**\*\*SHIPPING CROSS**

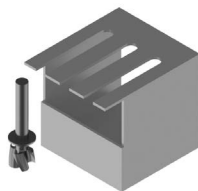
CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
CROSS	Shipping Cross	ea	4 lbs (1.8 kg)



*The Straightener Tool is used to straighten copper conductors before they are inserted into the Tri-Bar/Four-Bar housing. The Straightener Tool can help with any installation, but is highly recommended to be used for installations of 100 ft (30 m) or more of conductor.*

**\*\*STRAIGHTENER TOOL**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
STR-100C	100 Amp Copper Straightener Tool	ea	0.6 lbs (0.27 kg)
STR-125C	125 Amp Copper Straightener Tool	ea	0.6 lbs (0.27 kg)



*Used only for field cutting when joining and repairing two damaged sections.*

RBG-3

**\*\*ROUTER BIT GUIDE**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
RBG-3	Tri-Bar Housing Router Bit and Guide	ea	0.3 lbs (0.14 kg)
RBG-4	Four-Bar Housing Router Bit and Guide	ea	0.4 lbs (0.18 kg)

**SPLICE SECTION/ACCESSORIES**



SS-4

*Splice Sections are used to extend a system or repair a damaged section. They are supplied in 2 ft (0.6 m) sections, or can be installed in longer sections if requested.*

**SPLICE SECTION**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
SS-3	Tri-Bar Splice Section	1 ft (0.3 m)	3 lbs (1.4 kg)
SS-4	Four-Bar Splice Section	1 ft (0.3 m)	4 lbs (1.8 kg)



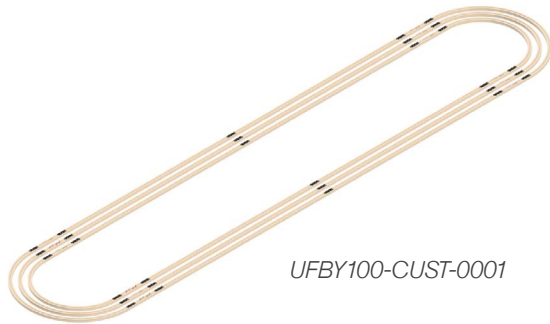
PY-1

*Additional spare parts and special requirements are available. Consult factory for details.*

**ACCESSORIES**

CATALOG NUMBER	PRODUCT DESCRIPTION
EG-3	Tri-Bar Entrance Guide Attaches to End of Housing When Power Pickup is to Enter/Exit Continually
EG-4	Four-Bar Entrance Guide Attaches to End of Housing When Power Pickup is to Enter/Exit Continually
PY-1	Pulling Yoke
SP-1	Splice Plate
IS-1	Insulator Sleeve (for repair sections only)

**CUSTOM SYSTEMS**



UFBY100-CUST-0001

Custom systems are available upon request. Typical systems include ovals, curves and other monorail variations. A full set of engineered drawings are supplied to ensure an accurate fitting system everytime.

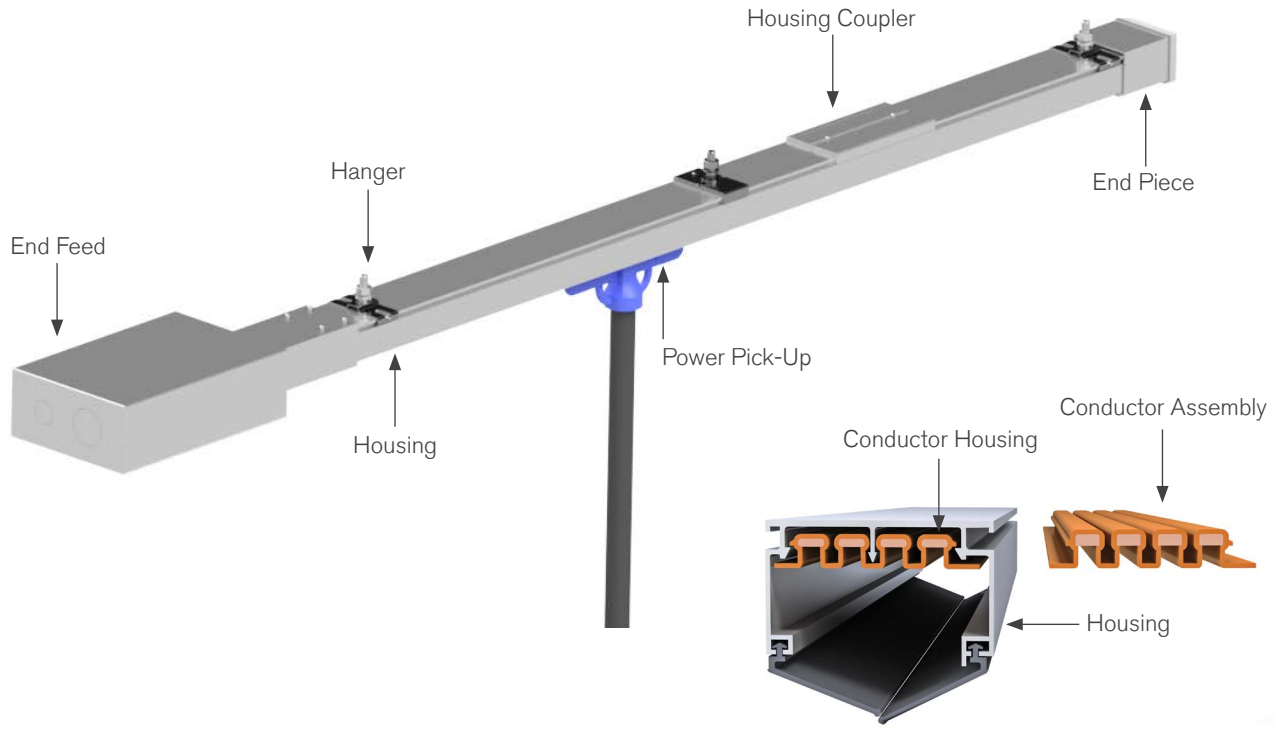
**CUSTOM SYSTEMS**

SYSTEM	PRODUCT TYPE	SYSTEM	AMPS		CUSTOMER		VARIATION
U	FB	Y	100	-	CUST	-	0001

<b>SYSTEM</b>	<b>U</b>	Universal					
<b>PRODUCT TYPE</b>	<b>TB</b>	Tri-Bar		<b>FB</b>	Four-Bar		
<b>SYSTEM</b>	<b>Y</b>	System					
<b>AMPS</b>	<b>100</b>	100 Amps		<b>125</b>	125 Amps		
<b>CUSTOMER</b>	<b>XXXX</b>	Each customer is assigned a custom code					
<b>VARIATION</b>	<b>0001</b>	Variation					

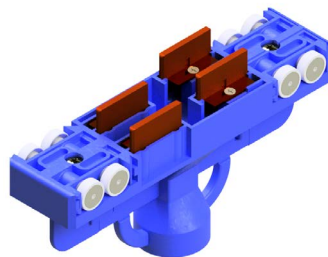


**SYSTEM LAYOUT DRAWING**

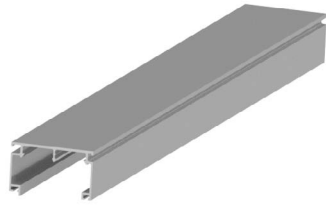


**20 & 30 Amp Collector**

This patented trolley design has retractable wheels that allow it to be easily installed anywhere along the housing. It makes installation and maintenance of the collectors hassle free.



**HOUSING AND CONDUCTOR**



PG90-20-4

*Housings are supplied in 20 ft (6 m) lengths, with the last section cut as required for the correct total system length.*

**HOUSING**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
PG90-20-4	PowerGlide Housing, 20 ft length	1 ft (0.3 m)	0.7 lbs (0.32 kg)



TW90-X-4

*The PowerGlide jointless conductor is available in 90 amp copper and comes supplied in a reel. The conductor is pressed into the housing prior to installation.*

**INSULATED COPPER CONDUCTOR**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
TW90-X-4	PowerGlide Insulator and Conductors, X = length of conductor	1 ft (0.3 m)	0.8 lbs (0.36 kg)



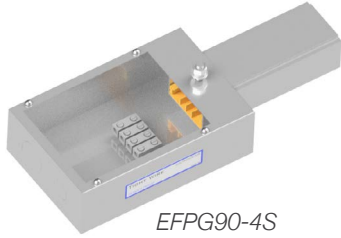
HCPG-2

*Housing Couplers are used to mechanically connect housing sections. They are polarized, slide over each housing joint and are secured with set screws. A Housing Coupler is needed at every housing joint.*

**HOUSING COUPLER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
HCPG-2	Housing Coupler	ea	0.4 lbs (0.18 kg)

**POWER FEEDS AND HANGERS**

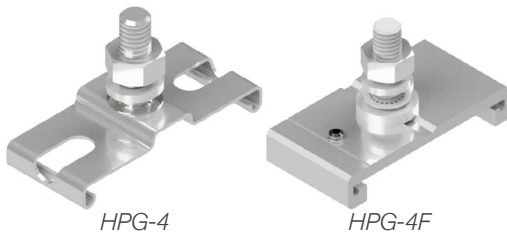


EFG90-4S

The End Feed is designed to make power connections of 90 amps max. at the end of the PowerGlide system. This power feed comes with lugs, bolts and shrink wrap for landing and insulating incoming cables.

**END FEED**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
EFG90-4S	End Feed 4-Pole, Standard - 200 ft (61 m) or less	ea	6 lbs (2.7 kg)
EFG90-4L	End Feed 4-Pole, Long - Over 200 ft (61 m)	ea	6 lbs (2.7 kg)



HPG-4

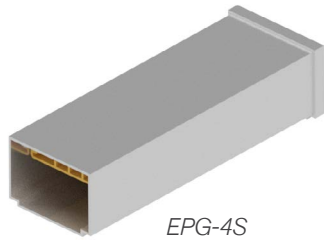
HPG-4F

Hangers are used to support the housing sections. Two different hangers are offered: a sliding hanger and a fixed hanger. One fixed hanger is required at each end of the system. Sliding hanger bolts are used at the other support points, approximately 5 ft (1.5 m) apart, for expansion.

**HANGER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
HPG-4	PowerGlide Sliding Hanger	ea	0.1 lbs (0.05 kg)
HPG-4F	PowerGlide Fixed Hanger	ea	0.1 lbs (0.05 kg)

**END PIECE AND COLLECTOR**

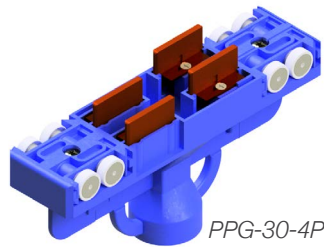


EPG-4S

*An End Piece is used to insulate the open end of a system. One is required for any system with an End Feed.*

**END PIECE**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
EPG-4S	End Piece for systems 200 ft (60 m) or less	ea	0.2 lbs (0.09 kg)
EPG-4L	End Piece for systems over 200 ft (60 m)	ea	0.2 lbs (0.09 kg)



PPG-30-4P

*PowerGlide Power Pickups are used to tap power from the conductor bars. The Power Pickup travels inside the housing, and is easily pulled by a chain or cable. Power Pickups are rugged and reliable, and can be connected in parallel to gain higher ampacity.*

**POWER PICKUP**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
PPG-30-4P	Power Pickup, 30 Amp, 3 ft (0.9 m) Cord	ea	2 lbs (0.90 kg)
PPG-30-4P-CS	Closure Strip Power Pickup, 30 Amp, 3 ft (0.9 m) Cord	ea	2 lbs (0.90 kg)
PPG-SHOE-G01	30 Amp Replacement Shoe	ea	0.5 lbs (0.23 kg)

## INSTALLATION ITEMS AND ACCESSORIES

*\*\*Deposit items are for temporary use only and can be returned to the factory for a full refund.*



PGIT-1

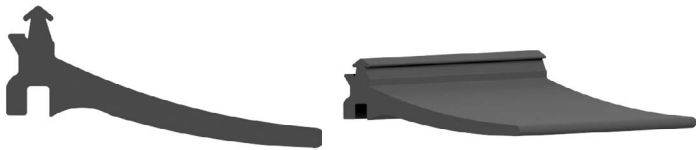


TWST-1

*Installation tools will help during the installation of PowerGlide. Some items are available as a deposit item.*

### \*\*INSTALLATION TOOLS

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT
PGIT-1	Insulator Installation Tool	ea
CSIT	Closure Strip Installation Tool	ea
TWST-1	Stripping Tool	ea



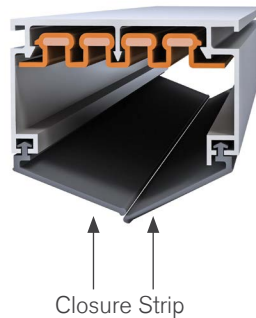
CSPG-1

*Closure Strip is an optional accessory used to keep moisture and dirt/contaminants out of the PowerGlide housing. It is shipped in coils and gets inserted into the slots of the housing extrusion. 2 ft (0.6 m) of strip is required for every 1 ft (0.3 m) of track.*

### CLOSURE STRIP

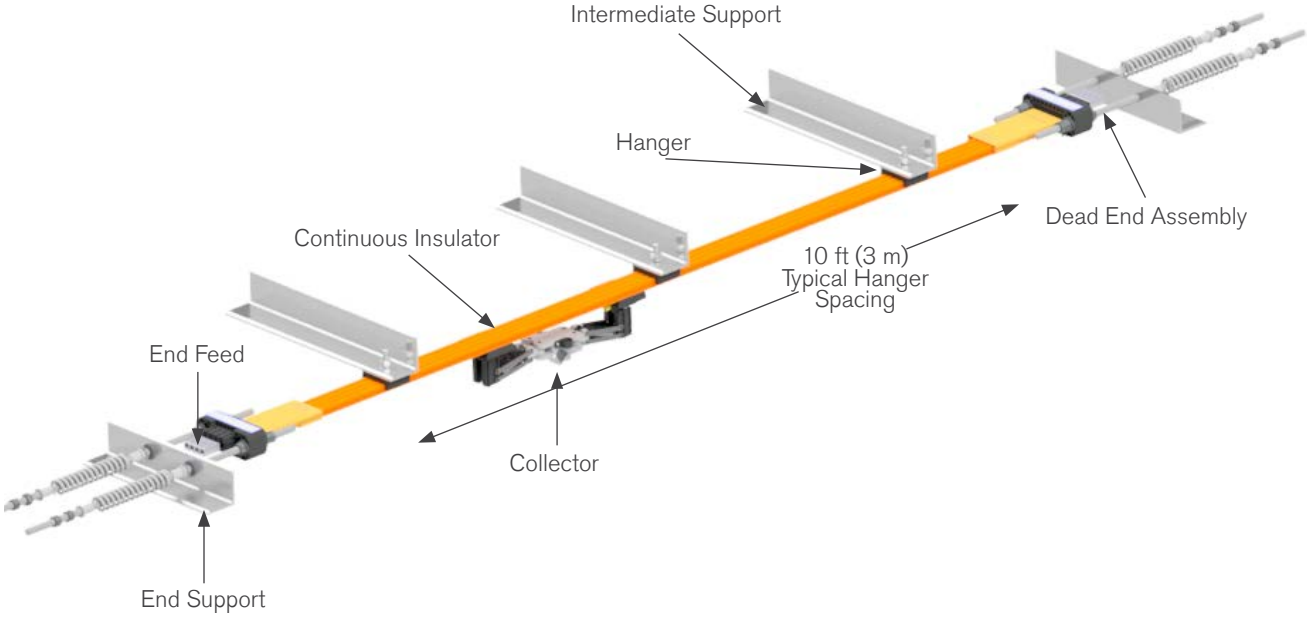
CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
CSPG-1	PowerGlide Closure Strip	1 ft (0.3 m)	0.2 lbs (0.09 kg)

*2 ft (0.6 m) of closure strip is required for each 1 ft (0.3 m) of track.  
Example: 100 ft (30 m) of track = 200 ft (60 m) of closure strip needed.*



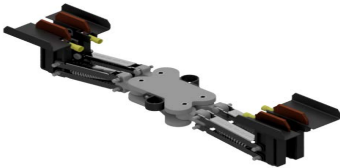


**SYSTEM LAYOUT DRAWING**

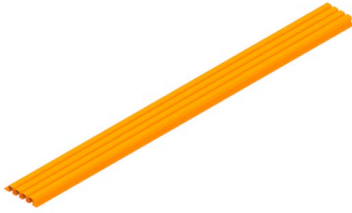


**40 Amp Collector**

This collector features spring loaded arms for reliable connection. The rugged design is built to accommodate misalignments.



**CONDUCTOR/INSULATOR AND FEEDS**



The TightWire jointless conductor is available in 90 amp copper and comes supplied in a reel. This can be supplied in continuous lengths up to 500 ft (152 m).

TW90-X-4

**INSULATED COPPER CONDUCTOR**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
TW90-X-4	TightWire Conductor and Insulator, X = length of conductor	1 ft (0.3 m)	0.8 lbs (0.36 kg)



Dead End Assemblies are installed at each end of a TightWire run, and are used to apply and maintain tension on the system. Power is fed to each phase on the dead end and insulated. Two (2) are required per system.

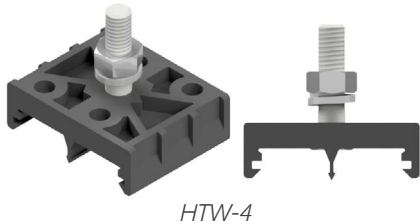
DET-90-4S

**DEAD END ASSEMBLY**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
DET-90-4S	Dead End Assembly - For Systems 200 ft (61 m) or Less	ea	4 lbs (1.8 kg)
DET-90-4L	Dead End Assembly - For Systems Over 200 ft (61 m)	ea	4 lbs (1.8 kg)



**HANGERS/MOUNTING SUPPORTS**



*Hangers are used to support the system. They snap on, providing a mounting stud. Mount on 10 ft (3 m) centers maximum.*

HTW-4

**HANGER**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
HTW-4	Used to Support Conductor Assembly	ea	0.2 lbs (0.09 kg)



*End Supports are also predrilled from the factory to accommodate proper spacing for the conductors, and should be installed at both ends of a run of TightWire. End Supports are supplied as a pair (2 come with each order), and are to be welded on only.*

EST-1

**END SUPPORT**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
EST-1	End support, comes as a pair	ea	25 lbs (11 kg)



*Intermediate Supports are predrilled from the factory to accommodate proper spacing for the conductors. The supports are available in either a weld on or bolt on style, and are to be mounted on 10 ft (3 m) centers.*

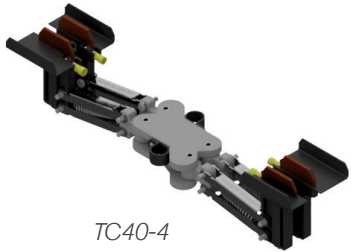
IST-1

**INTERMEDIATE SUPPORT**

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
IST-1	Weld on intermediate support	ea	7 lbs (3.2 kg)
IST-2	Bolt on intermediate support	ea	7 lbs (3.2 kg)

## COLLECTOR AND DEPOSIT ITEMS

*\*\*Deposit items are for temporary use only and can be returned to the factory for a full refund.*

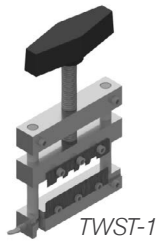


TC40-4

*TightWire collectors are used to tap power from the conductor bars. Collectors are rugged and reliable, and are available in 3 or 4 shoe assemblies. The base mounts to a standard 1 in (25 mm) square bar.*

### COLLECTOR

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
TC40-4	40 Amp Collector - 4 Pole	ea	1.85 lbs (0.8 kg)
TC40-3	40 Amp Collector - 3 Pole	ea	1.55 lbs (0.7 kg)
TC40-SHOE-GO1	40 Amp Collector Replacement Shoe	ea	0.1 lbs (0.04 kg)



TWST-1

*The Stripping Tool is used to precisely and easily cut insulation at splices and dead ends.*

### \*\*STRIPPING TOOL

CATALOG NUMBER	PRODUCT DESCRIPTION	UNIT	WEIGHT
TWST-1	Stripping Tool	ea	3.2 lbs (1.4 kg)

**U-S SAFETY TROLLEY SERVICES**

**U-S SAFETY TROLLEY TECHNICAL SERVICES**

**Startup and System Certification**

Our factory trained and certified technicians will inspect and validate each installation confirming our high factory standards, ensuring its ongoing reliability and compliance with facility safety requirements of CMAA (Crane Manufacturer's Association of America). Upon successful certification, the product's manufacturer's warranty will be extended by one year.

**Engineering Studies**

Our Professional Engineers will provide comprehensive facility electrical studies and recommend corrective actions, confirming your systems reliability and compliance with government and safety requirements. Engineering studies advocates compliance to NFPA 70E not only for work safety, but also equipment productivity. An arc flash accident can render equipment unusable and place the facility in a costly downtime mode. Basic compliance is established through conducting an Arc Flash Risk Analysis.

**On-Site Installation Support**

Our factory trained and certified technicians will provide comprehensive on-site installation support to ensure your project's success. On-site support aims to speed up your installation process and eliminate the learning curve associated with new products.

**On-Site Product Training**

Our factory trained and certified technicians will provide a comprehensive system training course curriculum confirming our high factory standards while ensuring the products ongoing reliability and compliance with facility safety requirements and teach how to safely operate and maintain U-S Safety Trolley products.

**Extended Warranty**

Ensure that your equipment investment is always covered. Select from an Extended Factory Warranty or Enhanced Service Plans to meet your organizational requirements.

Choice of Extended Warranty or Enhanced Service Plans	Extended Warranty 1 Year	Enhanced Service Plan 2, 4, 6, 8, 10 Years
24/7 emergency technical support hotline	X	X
Repair or replacement of defective parts throughout life of service agreement	X	X
One (1) scheduled preventative maintenance site visit every 2nd year		X
Inspection of all collectors		X
Comprehensive inspection of entire Trolley electrification system		X
Summary test reports and documentation		X
Free replacement of consumable parts at time of visit		X
Consumable parts offered at discounted rates	X	
On-site support to repair or replace damaged conductors		X
Inspection and replacement of worn abrasive clips (if applicable)		X
Retorque all end connections to manufacturers specifications		X
Cleaning of all system conductors and insulator via abrasive shoe		X

Starline, the manufacturer of U-S Safety Trolley, 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. Visit [www.USSafetyTrolley.com](http://www.USSafetyTrolley.com) for your flexible power solutions.



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