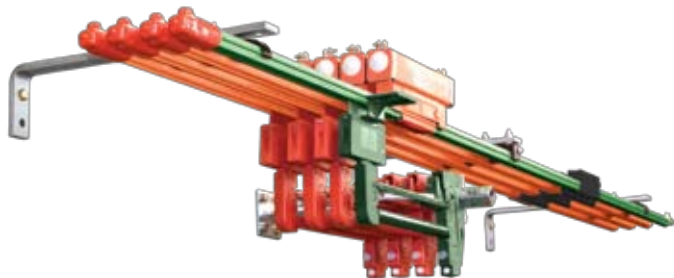


Safe-Lec 2 Overview & Design Features



Safe-Lec 2™ - The “next generation” in electrification for overhead cranes and other moving equipment. This modern system delivers safe, reliable power in a rugged, easy-to-install package. **UL Listed.**



Safe-Lec 2 is ideal for:

- Small to medium cranes
- Monorails
- Conveyor systems
- Material Handling Equipment
- Moderately curved systems
- Amusement rides

Ampacity range:

60A, 100A, 125A, 160A, 200A, 250A, 315A, & 400A capacities up to 600 volts maximum.

Maximum Speed:

1200 ft/min

Options:

Heater wire systems (Pg. 26), stainless steel hardware, green bonding (ground) conductor covers, black “UV resistant” outdoor covers, curved systems to a minimum of 60” radius (curved at our factory).



Safe-Lec 2 Features:

- Positive shoe tracking and superior conductivity. Long-wearing shoe is guided by the V-contact in the rail.
- Robust collector arm articulates to help maintain contact.
- IP2 “finger safe” operation; no live parts exposed.
- Secure, bolted splice joints pre-installed on conductors for superior electrical connection. Won't pull apart over time. Includes one-piece snap-on cover.
- Integrated collector cables; won't snag on moving equipment.
- Peaked insulating covers to shed dust and water. The same cover profile fits all bar styles; fewer parts to stock.

Safe-Lec 2 Installs Quickly:

- Less expense and shorter crane downtime.
- Requires fewer splice joints; 14' 9" (4.5m) rail lengths versus 10' for most other systems.
- Includes pre-installed splice joints on one end of bar.
- Uses multi-pole hanger; multiple bars snap into the same hanger and hanger mounts with a single bolt.
- Requires fewer expansion joints; up to 492' (150m) without an expansion section.
- Is easy to install and align with slotted hanger brackets.
- Is easy to wire; power wires connect to lug at base of collector. Requires no in-line splices or connectors.



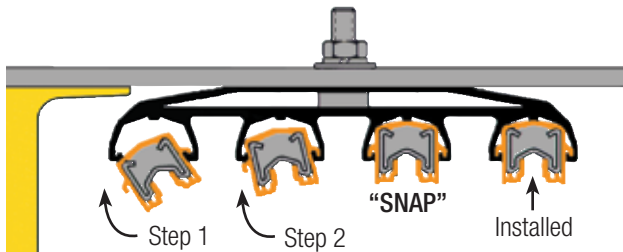
Safe-Lec 2 Overview & Design Features

Here are several specific reasons why Safe-Lec 2 is superior to a traditional (and now outmoded) 8-Bar system. And we should know . . . we invented 8-Bar over 50 years ago!

Safe-Lec 2

Quicker and less costly Installation

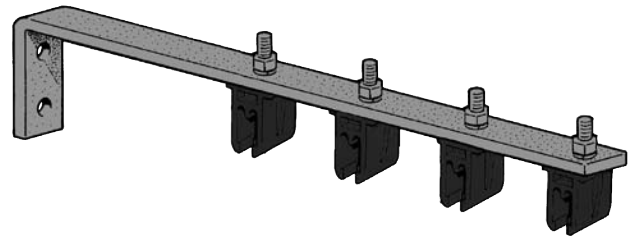
- 14.76 ft (4.50m) bar lengths; fewer joints
- Multiple pole hangers; a “snap” to install



- Wires connect into lug integrated in the collector arm

8-Bar

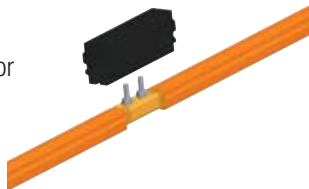
- 10 ft (3.05m) bar lengths; more splices required
- Hangers hold only one bar each



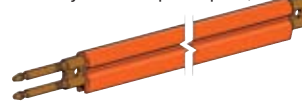
- Wires must be spliced to collector pigtails

More secure splice joint

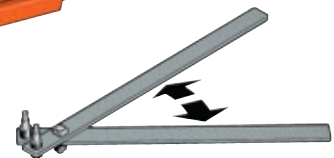
- Bolted joints
- No special tools required
- No need for “joint keepers” or “joint repair kits”, etc



- Pinned joint can pull apart; requires special parts



- Special tool required



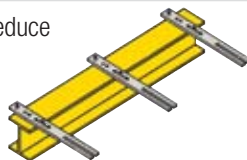
Fewer expansion sections required

- Safe-Lec 2 can go 492 ft (150m) before an expansion is required

- 8-Bar can only go 300 ft before an expansion section is required (or 200 ft for copper bar)

Easier system alignment

- Slotted brackets are available to reduce hole alignment problems
- System alignments are easy!



- Brackets have round holes, so alignment must be perfect
- Harder to make system alignment adjustments



Superior Collector Shoe Tracking

- Shoe is guided by the V-contact in the metal bar
- Collector arm articulates to accommodate mild system misalignments

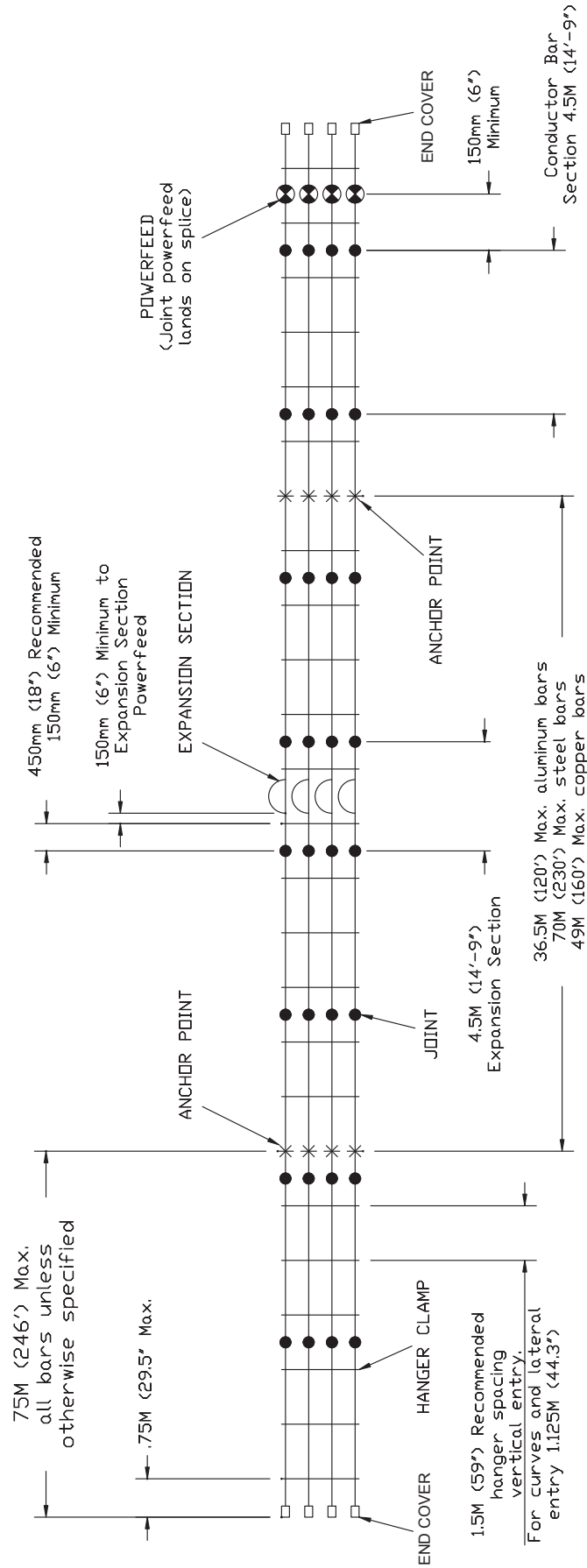


- Shoe is guided by the plastic cover
- Accurate system alignment is much more critical

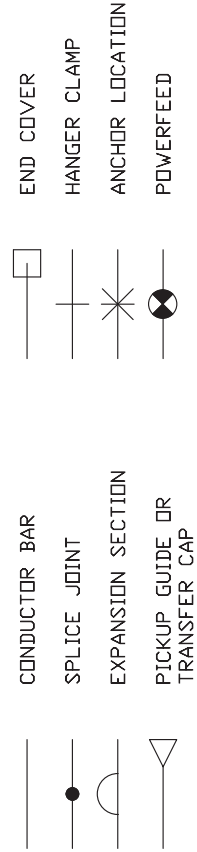


Typical 4-Bar Safe-Lec 2 System

EXAMPLE OF 4 CONDUCTOR RUNWAY SAFELEC 2 (3 PHASE + 1 GROUND)



NOTES: Maximum length without expansions:
150M (492'), use anchor clamp at center



Minimum Conductor Spacing	All styles of conductor hangers 1.7" (43 mm)
---------------------------------	--

Electrical Ratings for Safe-Lec 2

Voltage Drop Calculations

Volt drop calculation ΔU :

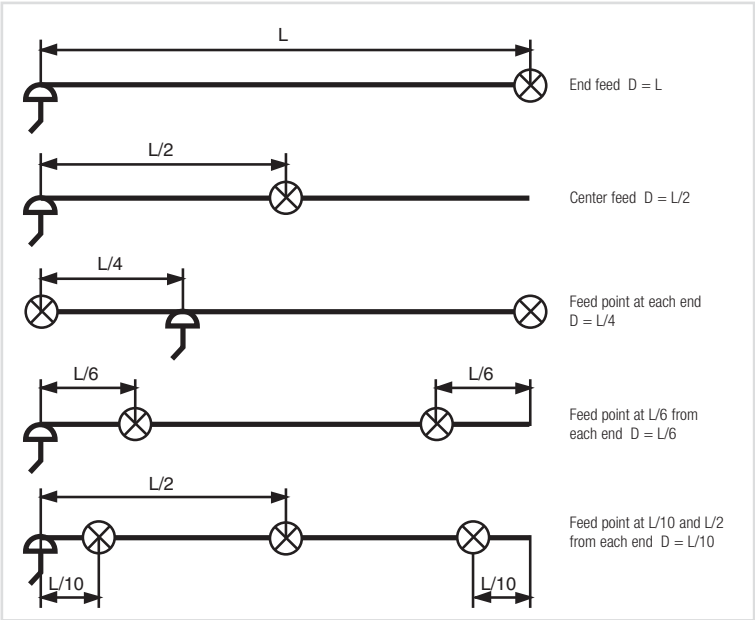
3-Phase AC $\Delta U = 3 \times I \times D \times Z$
Single Phase AC $\Delta U = 2 \times I \times D \times Z$
Continuous current DC $\Delta U = 2 \times I \times D \times R$

$$\Delta U\% = (\Delta U \times 100) / U$$

Where:

ΔU : voltage drop in Volts
 $\Delta U\%$: voltage drop in % of nominal voltage
U: nominal supply voltage in volts
I: maximum current in amps
D: see opposite diagram (in meters)
R: resistance in ohms per meter (see Pg. 13)
Z: impedance in ohms per meter (see Pg. 13)

See Appendix I and Appendix II for more information about voltage drop.



Current Rating

The maximum allowable continuous current rating of the conductor bar depends on the Duty Factor “K” of the cranes and the maximum ambient temperature Ta. Allowable current (I) is calculated using the following formula:

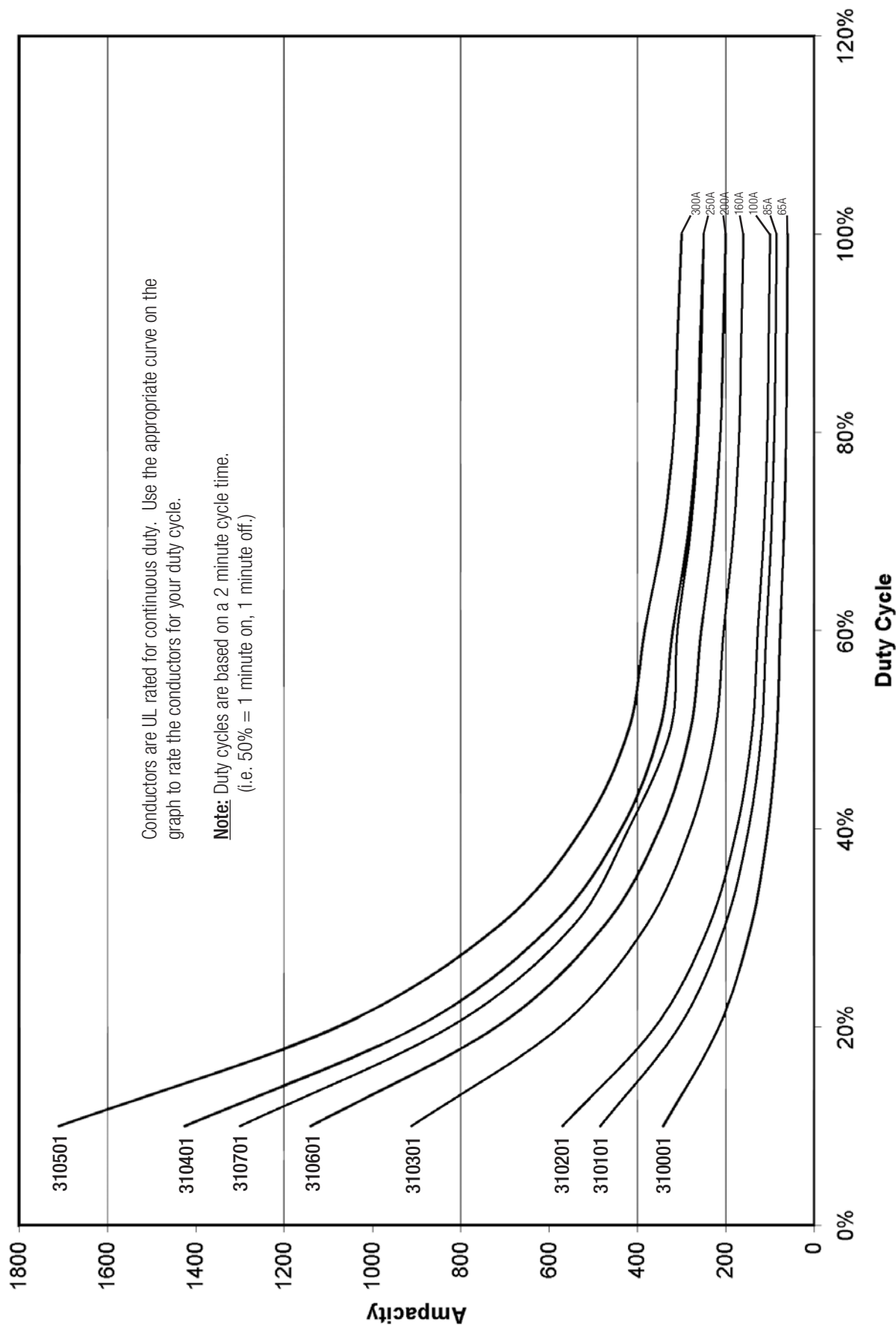
$$I_{\text{allowable}} = \text{Nominal Current} \times K$$

		Factor “K”				
<div>Duty</div> <div>Ta</div>		100%	80%	60%	40%	20%
Standard Cover	77°F (25°C)	1.000	1.118	1.291	1.581	2.236
	95°F (35°C)	0.905	1.011	1.168	1.430	2.023
	113°F (45°C)	0.798	0.892	1.030	1.261	1.784
	130°F (55°C)	0.674	0.754	0.870	1.066	1.508
Medium Heat Cover	150°F (65°C)	0.775	0.866	1.000	1.225	1.732
	167°F (75°C)	0.707	0.791	0.913	1.118	1.581
	185°F (85°C)	0.632	0.707	0.816	1.000	1.414

For UL rated capacities, see graph on Pg. 12

Safe-Lec 2 Electrical Ratings

Conductor De-rating



Safe-Lec 2 Specifications

The appropriate conductor bar can be chosen only when all the relevant factors are known. Please refer to the Data Sheet on Pg. 6, and to Appendices I through IV at the back of this catalog. Also, please consult Conductix-Wampfler sales if you have any questions about the suitability of this product to your application.

Safe-Lec 2 Conductor Bar

	Galvanized Steel			Copper			Aluminum / Stainless Steel		
Nominal Current	60A	100A	125A	160A	250A	400A	200A	315A	400A
Cross Sectional Area	50mm ²	63mm ²	93mm ²	50mm ²	63mm ²	93mm ²	104mm ²	120mm ²	156mm ²
Maximum System Voltage AC or DC (Per UL listing) *	600V	600V	600V	600V	600V	600V	600V	600V	600V
Resistance R (for DC) at 20° C (Ω/m)	0.003584	0.002867	0.001933	0.000342	0.000274	0.000184	0.000301	0.000261	0.000199
Impedance Z (for AC) at 20° C (Ω/m)	0.003604	0.002891	0.001968	0.000364	0.000300	0.000221	0.000325	0.000288	0.000234
Maximum Allowable Ambient Temperature for 100% Duty Cycle	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C
Bar Length	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m
Support Pitch	Standard	1500mm	1500mm	1500mm	1500mm	1500mm	1500mm	1500mm	1500mm
Lateral		1125mm	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm
Minimum Pitch Centers Standard		43mm	43mm	43mm	43mm	43mm	43mm	43mm	43mm
Expansion Sections (Not required for runs less than)		150m	150m	150m	150m	150m	150m	150m	150m
Minimum Bending Radius (Horizontal only, bent at factory)		1.5m	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m

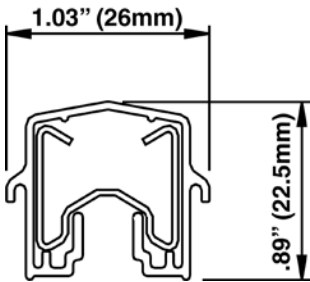
* Contact Conductix-Wampfler for other voltages

Safe-Lec 2 Conductor Bar Covers

	Standard (Orange or Green)	UV Stable (Black)	Medium Heat (Red)
Material	PVC	PVC	Polycarbonate
Dielectric Strength	180 kv/cm	180 kv/cm	240 kv/cm
Surface Resistivity	10 ¹¹ Ω	10 ¹¹ Ω	>10 ¹⁴ Ω
Volume Resistivity	>10 ¹⁵ Ω/cm	>10 ¹⁵ Ω/cm	>10 ¹⁶ Ω/cm
Vicat Softening Temperature Never expose PVC cover to temperatures in excess of 176° F (80° C)	160°F (71.1°C)	160°F (71.1°C)	250°F (121.1°C)
Flame Test	Self extinguishing	Self extinguishing	Self extinguishing
Oxygen Index	54%	54%	24%
Specific Density	1.5 g/cm ³	1.5 g/cm ³	1.15 g/cm ³

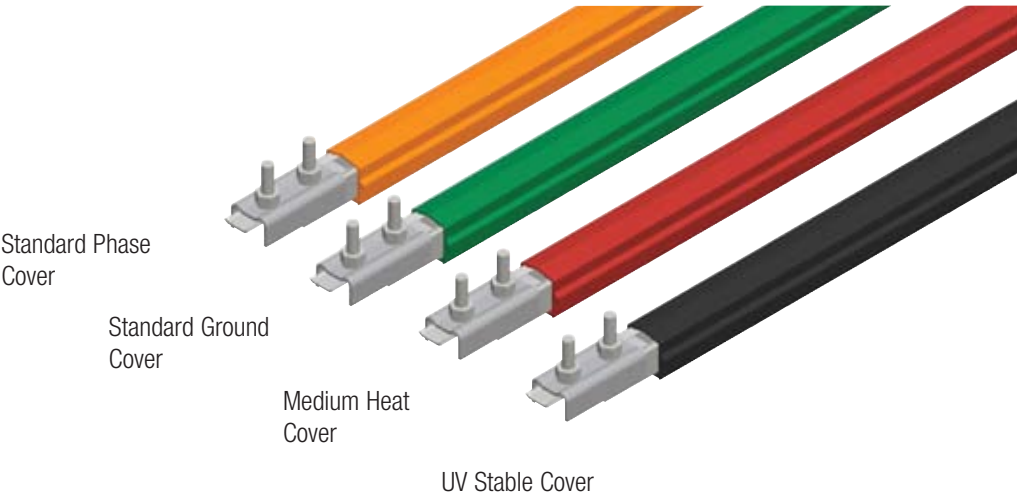
Safe-Lec 2 Galvanized Steel Bar

Galvanized Steel Conductor Bars with Splice Installed

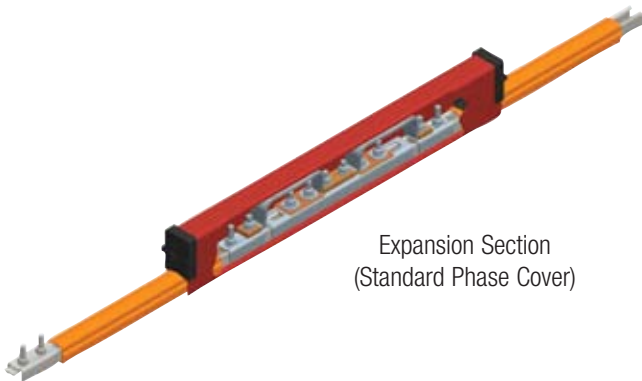


Bar Length: 14.76' (4.5m)

COVER TYPE	CURRENT RATING		
	60A	100A	125A
Standard Phase Cover (Orange)	310001-J	310101-J	310201-J
Standard Ground Cover (Green)	310002-J	310102-J	310202-J
Medium Heat Cover (Red)	310003-J	310103-J	310203-J
UV Stable (Black)	310001B-J	310101B-J	310201C-J
Wt lb (kg)	5.3 (2.4)	6.2 (2.8)	8.6 (3.9)



Expansion Sections with Splice Installed

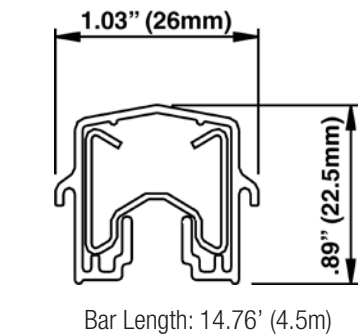


Expansion Sections are used at all structural expansion joints and for systems longer than 492 ft (150m) to allow for thermal expansion / contraction of the bar. The maximum gap of the Expansion Section is 2.0" (50 mm). The Expansion Section is 14' 9" (4.5 m) long and is installed in place of one length of conductor bar.

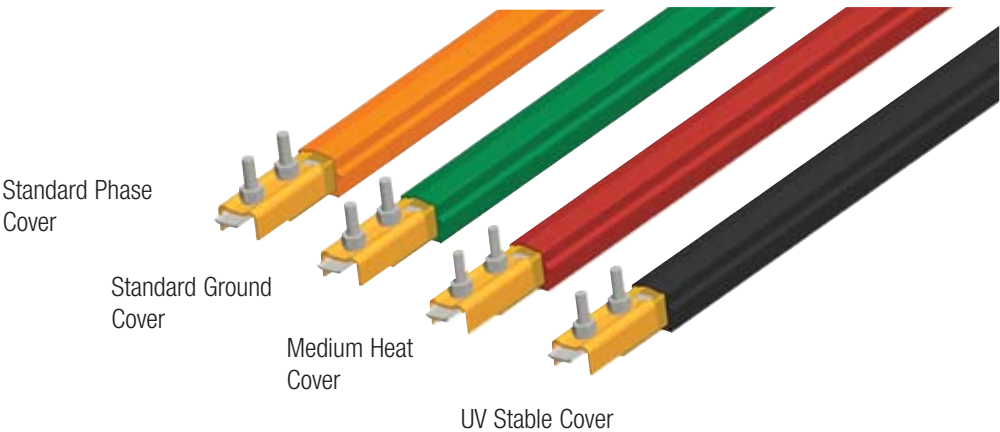
COVER TYPE	CURRENT RATING		
	60A	100A	125A
Standard Phase Cover (Orange)	310007-J	310107-J	310207-J
Standard Ground Cover (Green)	310008-J	310108-J	310208-J
Medium Heat Cover (Red)	310009-J	310109-J	310209-J
UV Stable (Black)	39129-J	39130-J	39131-J
Wt lb (kg)	7.1 (3.2)	7.5 (3.4)	9.5 (4.3)

Safe-Lec 2 Copper Bar

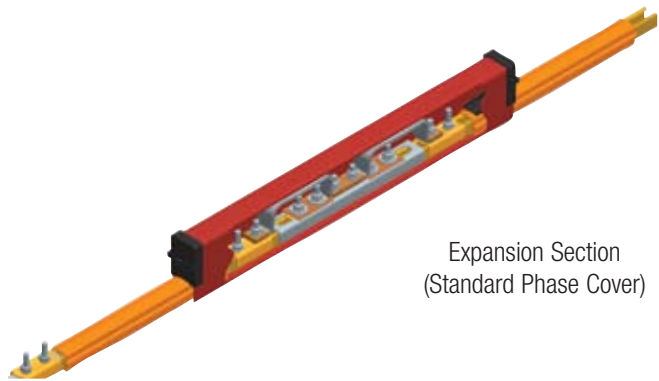
Copper Conductor Bars with Splice Installed



COVER TYPE	CURRENT RATING		
	160A	250A	400A
Standard Phase Cover (Orange)	310301-J	310401-J	310501-J
Standard Ground Cover (Green)	310302-J	310402-J	310502-J
Medium Heat Cover (Red)	310303-J	310403-J	310503-J
UV Stable (Black)	310301B-J	310401B-J	310501B-J
Wt lb (kg)	6.2 (2.8)	6.8 (3.1)	10.0 (4.5)



Expansion Sections with Splice Installed

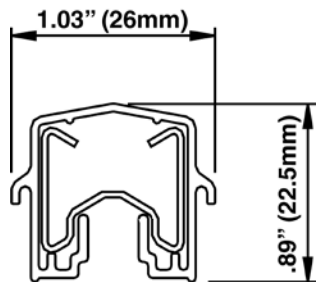


Expansion Sections are used at all structural expansion joints and for systems longer than 492 ft. (150m) to allow for thermal expansion / contraction of the bar. The maximum gap of the Expansion Section is 2.0" (50 mm). The Expansion Section is 14' 9" (4.5 m) long and is installed in place of one length of conductor bar.

COVER TYPE	CURRENT RATING		
	160A	250A	400A
Standard Phase Cover (Orange)	310307-J	310407-J	310507-J
Standard Ground Cover (Green)	310308-J	310408-J	310508-J
Medium Heat Cover (Red)	310309-J	310409-J	310509-J
UV Stable (Black)	39132-J	39133-J	39134-J
Wt lb (kg)	7.5 (3.4)	8.9 (4.0)	10.6 (4.8)

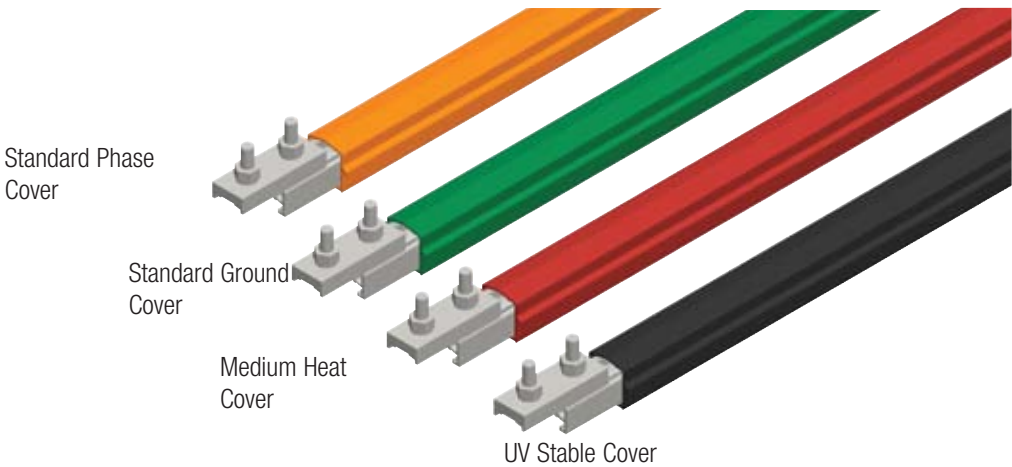
Safe-Lec 2 Aluminum / Stainless Bar

Aluminum / Stainless Steel Conductor Bars with Splice Installed



Bar Length: 14.76' (4.5m)

COVER TYPE	CURRENT RATING		
	200A	315A	400A
Standard Phase Cover (Orange)	310601-J	310701-J	399101-J
Standard Ground Cover (Green)	310602-J	310702-J	399102-J
Medium Heat Cover (Red)	310603-J	310703-J	399103-J
UV Stable (Black)	310601B-J	310701B-J	399101B-J
Wt lb (kg)	4.9 (2.2)	5.1 (2.3)	5.8 (2.6)



Expansion Sections with Splice Installed



Expansion Sections are used at all structural expansion joints and for systems longer than 492 ft. (150m) to allow for thermal expansion / contraction of the bar. The maximum gap of the Expansion Section is 2.0" (50 mm). The Expansion Section is 14' 9" (4.5 m) long and is installed in place of one length of conductor bar.

COVER TYPE	CURRENT RATING		
	200A	315A	400A
Standard Phase Cover (Orange)	310607-J	310707-J	399107-J
Standard Ground Cover (Green)	310608-J	310708-J	399108-J
Medium Heat Cover (Red)	310609-J	310709-J	399109-J
UV Stable (Black)	39135-J	39136-J	399107B-J
Wt lb (kg)	7.3 (3.3)	7.8 (3.5)	8.6 (3.9)

Safe-Lec 2 Joints & Power Feeds

Splice Joints



Steel Joint 310872



Copper Joint 310873



Aluminum Joint 310874



Heavy Duty Copper Joint 399549

One splice joint is included with bar part numbers ending with “-J” (see Pgs. 14-16)

TYPE	Part No.	Wt lb (kg)
Steel	310872	0.11 (0.049)
Copper	310873	0.10 (0.044)
Aluminum	310874	0.07 (0.032)
Heavy Duty Copper	399549	0.44 (0.200)

Joint Covers



Standard Phase Joint Cover
310850B



Heavy Duty Joint Cover
399541 (used with 399549)

Must be ordered separately - one per splice joint.

TYPE	Part No.	Wt lb (kg)
Standard Cover (UV Black)	310850B	.06 (0.027)
Heavy Duty Cover	399541	.06 (0.027)
Medium Heat Cover (Red)	310855	.06 (0.027)

Joint Compound



Joint compound is applied to the contact surfaces at every joint on aluminum systems. One tube is included with every aluminum/stainless bar system at a nominal cost and is sufficient for over 300 connections (equal to a 1000 foot long system with four phases).

Part No.	Wt lb (kg)
15629	.50 (0.225)

Joint Power Feeds

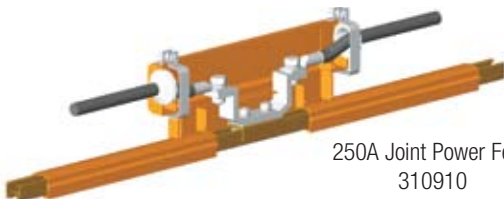


60A Joint Power Feed
310034B

The Joint Power Feed is usually installed on top of a splice joint. Cable lugs are customer supplied.

CURRENT RATING

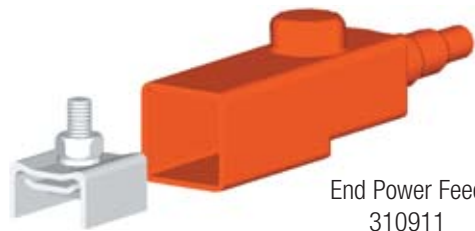
TYPE	Up to 60A	Up to 250A	Up to 400A
Standard Cover (UV Black)	310034B	-	-
Standard Cover (Orange)	-	310910B	310912
Medium Heat Cover (Red)	310066	310913	310915
No. of Cable Connections	1	2	2
Max. Cable Size	8 AWG (10mm ²)	#3/0 (95mm ²)	300kcmil (150mm ²)
Wt lb (kg)	0.07 (0.03)	0.55 (0.25)	0.66 (0.30)



250A Joint Power Feed
310910

Safe-Lec 2 Hanger Clamps

End Power Feed



The End Power Feed is installed in place of an end cover. Maximum cable connection size: 6 AWG (16mm²). These are suitable for 60A to 100A Galvanized Steel Bar only.

Part No.	Wt lb (kg)
310911	0.09 (0.037)

Hanger Clamps Standard

Maximum support bracket spacing is 59.1" (1.5m) Hardware is plated steel unless noted otherwise.



Single Pole Hanger
310824



Two Pole Hanger
310882



Three Pole Hanger
310861



Four Pole Hanger, Standard Mount
310821 (plated hardware)
39768 (stainless steel hardware)

TYPE	Mounting Orientation		Acetyl (Black) 160° Max.	Polycarbonate (Red) 250° Max.	Stainless Steel	Wt lb (kg)
	Standard	Lateral				
Single Pole	X	X	310824	310829	-	0.07 (0.03)
Two Pole	X	X	310882	310899	-	0.09 (0.04)
Three Pole	X	X	310861	310871	-	0.11 (0.05)
Four Pole	X		310821	310857	39768	0.13 (0.06)
Four Pole		X	310835	310859	50120	0.18 (0.08)
Single Pole	X	X	-	-	399416B	0.15 (0.17)



Stainless Steel Hanger
399416B



Four Pole Hanger, Lateral Mount
310835 (plated hardware)
50120 (stainless steel hardware)

Safe-Lec 2 Hanger / Anchor Clamps

Hanger Clamps With Insulator

In particularly dusty, humid, or outdoor environments, hangers with insulators should be used. Two-Part Hangers are ideal for installation where conductor bar must be repeatedly installed and removed.



Single Pole Hanger
310918

TYPE	Material	Max. Temp	Part No.	Wt lb (kg)
Single Pole	Acetyl (Black)	160° F	310918	0.22 (0.10)
Single Pole	Polycarbonate (Red)	250° F	310834	0.22 (0.10)
Single Pole	Stainless Steel	250° F	38779	0.24 (0.11)
Single Pole, Two-Part	Acetyl (Black)	160° F	399544	0.18 (0.08)
Two Pole, Two-Part	Acetyl (Black)	160° F	399627	0.40 (0.18)



Single Pole Hanger
310834



Stainless Steel Hanger
38779



Two-Part Single Pole
Hanger
399544



Two-Part Two Pole
Hanger
399627

Anchor Clamps

Anchor points are usually situated in the middle of a conductor system. Additional anchor points are required for systems with expansion sections.



Anchor Clamp
310832 (plated hdwe)
310833 (stainless steel hdwe)

TYPE	Max. Temp	Part No. Plated Steel Hdwe	Part No. Stainless Steel Hdwe	Wt lb (kg)
Standard	250° F	310832	310833	0.14 (0.06)
With Insulator	250° F	310969	38780	0.27 (0.12)
Without Top Bolt (Two req'd per anchor point)	250° F	310831	38220	0.11 (0.05)



Anchor Clamp, with Insulator
310969 (plated hdwe)
38780 (stainless steel hdwe)



Anchor Clamp, without Top Bolt
310831 (plated hdwe)
38220 (stainless steel hdwe)

Safe-Lec 2 End Caps & Pick Up Guides

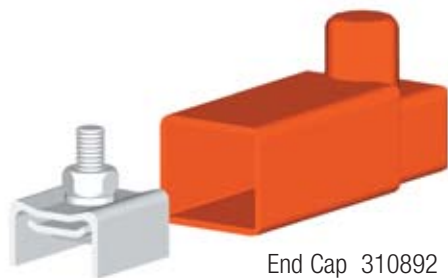
End Caps

End Caps are insulated covers installed at the ends of the conductor system. Transfer Caps transfer the collectors across switch gaps up to 0.40" (10mm) wide.

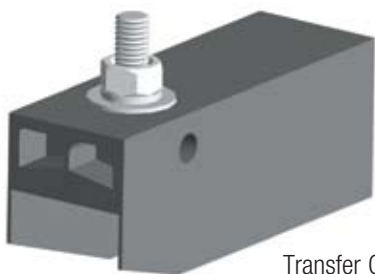
Transfer Cap Tolerances

Vertical tolerance $\pm 0.20"$ (5mm)

Horizontal tolerance $\pm 0.08"$ (2mm)



End Cap 310892



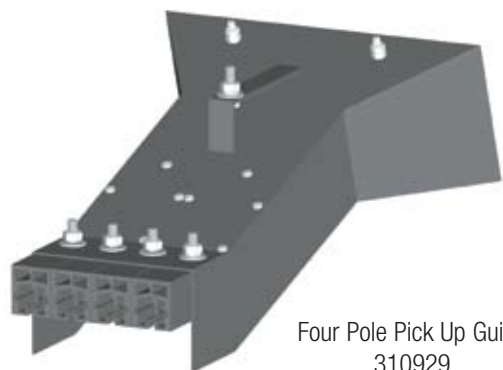
Transfer Cap 310951

TYPE	Material	Part No.	Wt lb (kg)
End Cap Steel / Copper Bar	PVC	310892	0.09 (0.04)
End Cap Aluminum Bar	PVC	310893	0.05 (0.02)
Transfer Cap	Polycarbonate	310951	0.22 (0.10)

Pick Up Guides

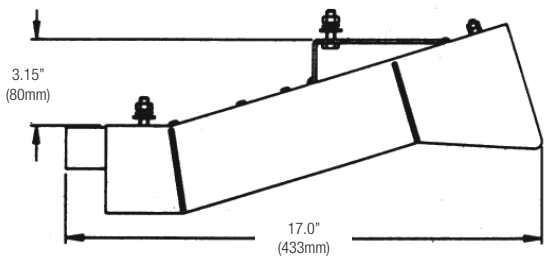
Pick-up Guides are used on discontinuous systems to guide collectors on and off the conductors. Special collectors are required for systems where pick up guides are fitted - see Pg. 22. Guide housing is black painted steel. Guide surfaces are PVC. Molded guides are Polycarbonate.

Not recommended for lateral mounting



Four Pole Pick Up Guide
310929

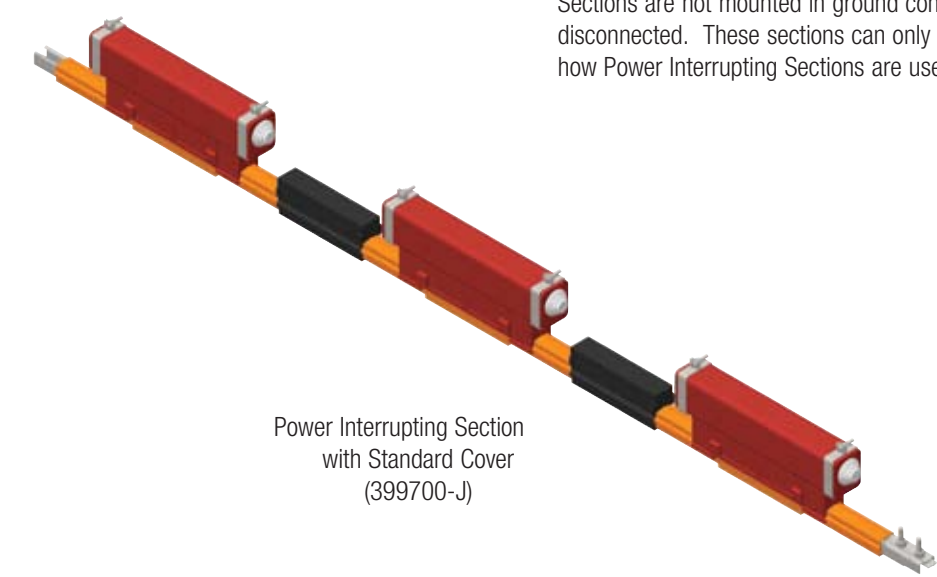
TYPE	Part No.	Wt lb (kg)
Single Pole	310920	2.8 (1.27)
Three Pole	399502	4.8 (2.16)
Four Pole	310929	5.6 (2.54)



Safe-Lec 2 Power Interrupting Sections

Power Interrupting Sections with Splice Installed

Power Interrupting Sections provide a dead or safe zone between adjacent, separately powered zones of the system. Each section is 14' - 9" (4.5m) long and is installed in place of one length of conductor bar. It is recommended that Power Interrupting Sections are not mounted in ground conductors so that the ground is never disconnected. These sections can only be used in dry, clean conditions. For details on how Power Interrupting Sections are used, see Appendix IV, Pgs. 63-64.



Power Interrupting Section
with Standard Cover
(399700-J)

Galvanized Steel Bar

COVER TYPE	CURRENT RATING		
	60A	100A	125A
Standard Phase (Orange)	399700-J	399700-J	399700-J
Medium Heat (Red)	399702-J	399702-J	399702-J
UV Stable (Black)	399701-J	399701-J	399701-J
Wt lb (kg)	9.3 (4.19)	9.3 (4.19)	9.3 (4.19)

Copper Bar

COVER TYPE	CURRENT RATING		
	160A	250A	400A
Standard Phase (Orange)	399703-J	399703-J	399706-J
Medium Heat (Red)	399705-J	399705-J	399708-J
UV Stable (Black)	399704-J	399704-J	399707-J
Wt lb (kg)	7.5 (3.42)	7.5 (3.42)	10.4 (4.68)

Aluminum / Stainless Steel Bar

COVER TYPE	CURRENT RATING		
	200A	315A	400A
Standard Phase (Orange)	399709-J	399712-J	399715-J
Medium Heat (Red)	399711-J	399714-J	399717-J
UV Stable (Black)	399710-J	399713-J	399716-J
Wt lb (kg)	5.3 (2.4)	5.8 (2.6)	6.5 (2.9)

Safe-Lec 2 Collectors & Shoes

Safe-Lec 2 “V-Contact” Collectors articulate to accurately track in the conductor bar groove for superior conductivity. Includes long-wearing copper graphite shoe (in holder) and shunt wires as noted below. The green “ground” (earth) collectors are available without “deflector”, or with either right-hand or left-hand deflector. Deflectors prevent the ground collector from coming in contact with adjacent phase collectors. For recommendations about choosing collectors see Appendix I, Pg. 57.

50A Collectors



Collector shoe shunt wire is integrated into the arm. Incoming cable is connected to the terminal lug at the base of the collector (maximum 6 AWG).

TYPE	Part No.	Wt lb (kg)
Phase (Red)	399360	0.84 (0.38)
Ground, w/o Deflector	399380	0.84 (0.38)
Ground, with RH Deflector	399373	0.84 (0.38)
Ground, with LH Deflector	399372	0.84 (0.38)

100A Collectors



Collector shoe shunt wire is integrated into the arm. Incoming cable is connected to the terminal lug at the base of the collector (maximum 2 AWG).

TYPE	Part No.	Wt lb (kg)
Phase (Red)	310990	1.77 (0.80)
Ground, w/o Deflector	399355	1.77 (0.80)
Ground, with RH Deflector	399340	1.77 (0.80)
Ground, with LH Deflector	399352	1.77 (0.80)

Collectors used with Pick-up Guides Only, See Pg. 20.

Phase (Red)	310988	1.77 (0.80)
Ground	399358	1.77 (0.80)

250A Collectors



Two 2 AWG cables, 42” long, are connected to the collector shoe. Incoming cables splice directly to the shunt wires.

Type-Color	Part No.	Wt lb (kg)
Phase (Black)	34956	1.80 (0.80)

Collector Shoe & Holder



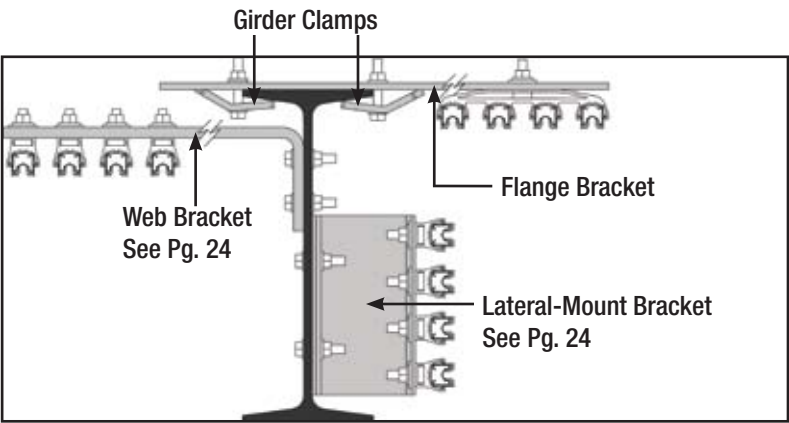
50A / 100A Collector
Shoe and Holder
310993



250A Collector Shoe
and Holder
35289

Current Rating	50A & 100A Phase (Red)	50A & 100A Ground (Green)	50A & 100A with Deflector (Green)	250A
Part No.	310993	399357	399356	35289
Wt lb (kg)	0.13 (0.06)	0.13 (0.06)	0.22 (0.10)	0.62 (0.28)

Safe-Lec 2 Conductor Flange Brackets

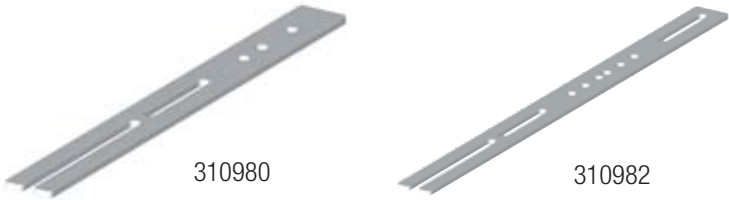


Example Bracket Installations

The various mounting brackets shown on this page and Pg. 24 are used to mount Safe-Lec 2 in many different configurations to suit the application. The diagram shown at the left illustrates how the various brackets are mounted to the I-beam.

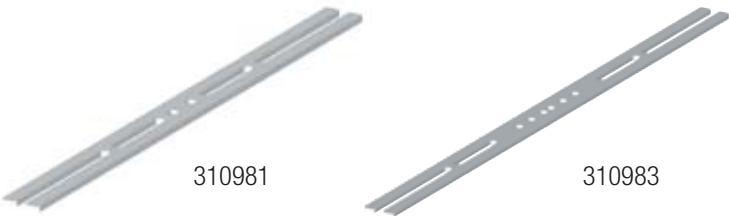
All brackets are zinc plated unless noted otherwise.

Single-sided Flange Brackets



For Beam Flange:	Part No.	Wt lb (kg)
3.15" to 6.10" (80 to 155 mm)	310980	1.46 (0.66)
6.10" to 12.01" (155 to 305 mm)	310982	1.90 (0.86)

Double-sided Flange Brackets



For Beam Flange:	Part No.	Wt lb (kg)
3.15" to 7.28" (80 to 185 mm)	310981	1.85 (0.84)
7.28" to 12.01" (185 to 305 mm)	310983	2.38 (1.08)

Girder Clamp



Two required with each flange bracket.

Part No.	Wt lb (kg)
51142	0.18 (0.08)

Safe-Lec 2 Conductor Web and Collector Brackets

Web Brackets

For mounting conductors horizontally to the web of the I-Beam. See drawing at the top of Pg. 23,



310984

Length	Part No.	Wt lb (kg)
10.23 (260)	310984	1.37 (0.62)
10.50 (267)	36198	0.99 (0.45)
10.50 (267) - Stainless Steel	39948	0.99 (0.45)
15.75 (400)	36197	2.10 (0.95)



36198
39948 (stainless steel)



36197

Lateral Mount Bracket

For mounting conductors laterally to the web of the I-Beam. See drawing at the top of Pg. 23,



Part No.	Wt lb (kg)
399517	1.61 (0.73)

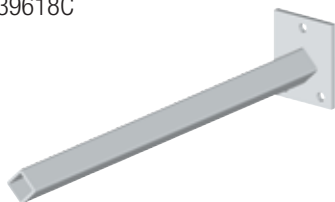
Collector Brackets

For mounting collectors to the moving vehicle.

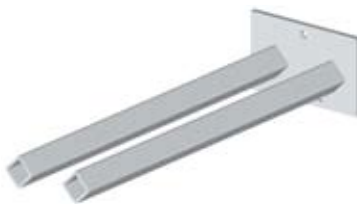


Single Post Collector Bracket
39618C

TYPE	For	Post Size in. (mm)	Part No.	Wt lb (kg)
Single Post	50A Collectors	0.50 (13)	39618C	0.80 (0.36)
Double Post	50A Collectors	0.50 (13)	39050	1.60 (0.72)
Single Post	100A and 250A Collectors	1.00 (25)	39617	1.94 (0.88)
Double Post	100A and 250A Collectors	1.00 (25)	37863	4.06 (1.84)



Single Post Collector Bracket
39617

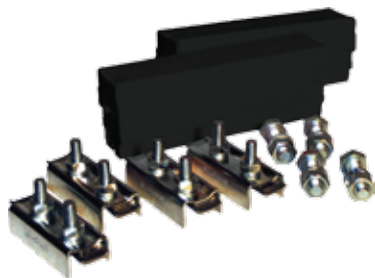


Double Post Collector Bracket
37863 (1.00", 25 mm posts), 39050 (0.50", 13 mm posts)

Safe-Lec 2 Splice Hardware Kits

When you're 40 feet in the air, small parts will unavoidably fall to the floor. Conductix-Wampfler now provides the spare parts that you need to make your installation easier. These parts are included with every Safe-Lec 2 system and are available using the information below.

For 60, 100, and 125 Amp Systems



Includes:

- 4 Steel Splice Assemblies
- 2 Splice Covers
- 4 Bolts, Nuts, and Washers for the Bar Hangers

Description	Part No.
Hardware Kit, 60, 100, or 125 Amp	37906

For 160, 250, and 400 Amp Systems

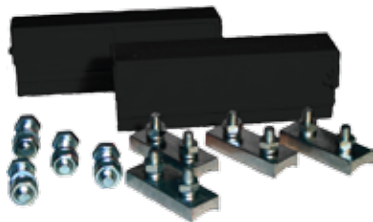


Includes:

- 4 Copper Splice Assemblies
- 2 Splice Covers
- 4 Bolts, Nuts, and Washers for the Bar Hangers

Description	Part No.
Hardware Kit, 160, 250, or 400 Amp	37907

For 200 and 315 Amp Systems



Includes:

- 4 Aluminum Splice Assemblies
- 2 Splice Covers
- 4 Bolts, Nuts and Washers for the bar hangers

Description	Part No.
Hardware Kit, 160, 250, or 400 Amp	37908

Safe-Lec 2 Heater Wire

Heater Wire System

A heater wire system is recommended for outdoor applications where frost and ice buildup may occur. The thermostatic control box will automatically energize the heater wire system at temperatures of 35°F (1.66°C) and below. Heater wires are pre-installed in each section of bar.

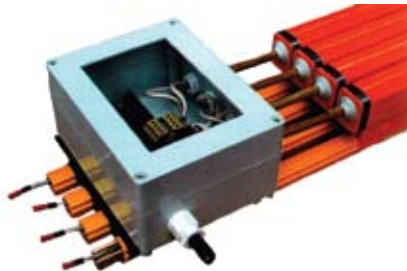


Heater Wire (Male/Female)

Heater Wire Connection

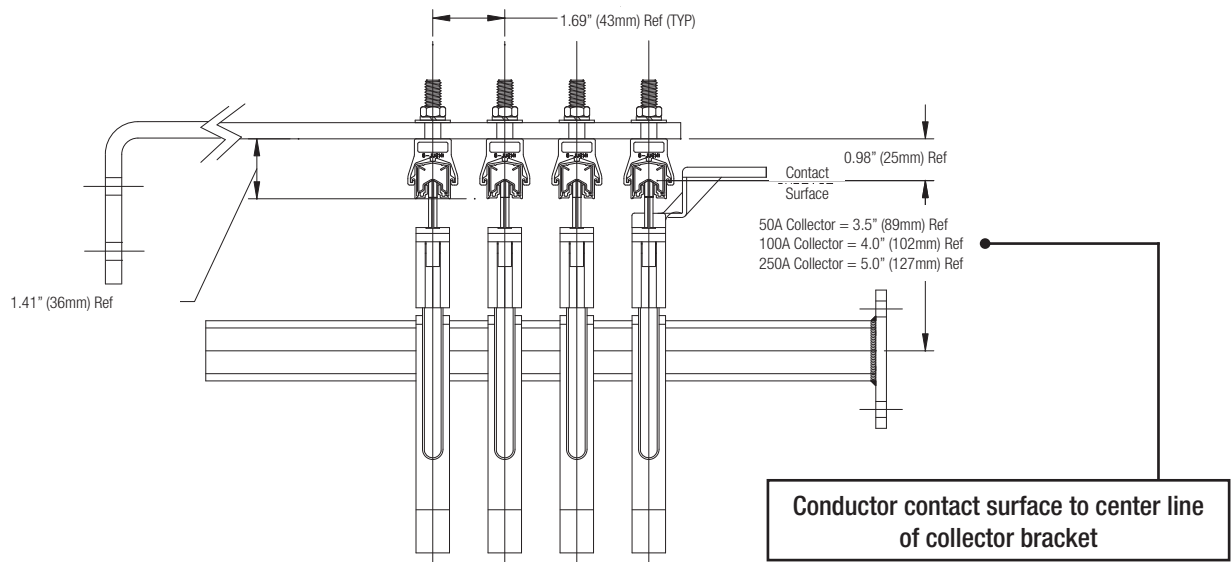


Main Connection Box

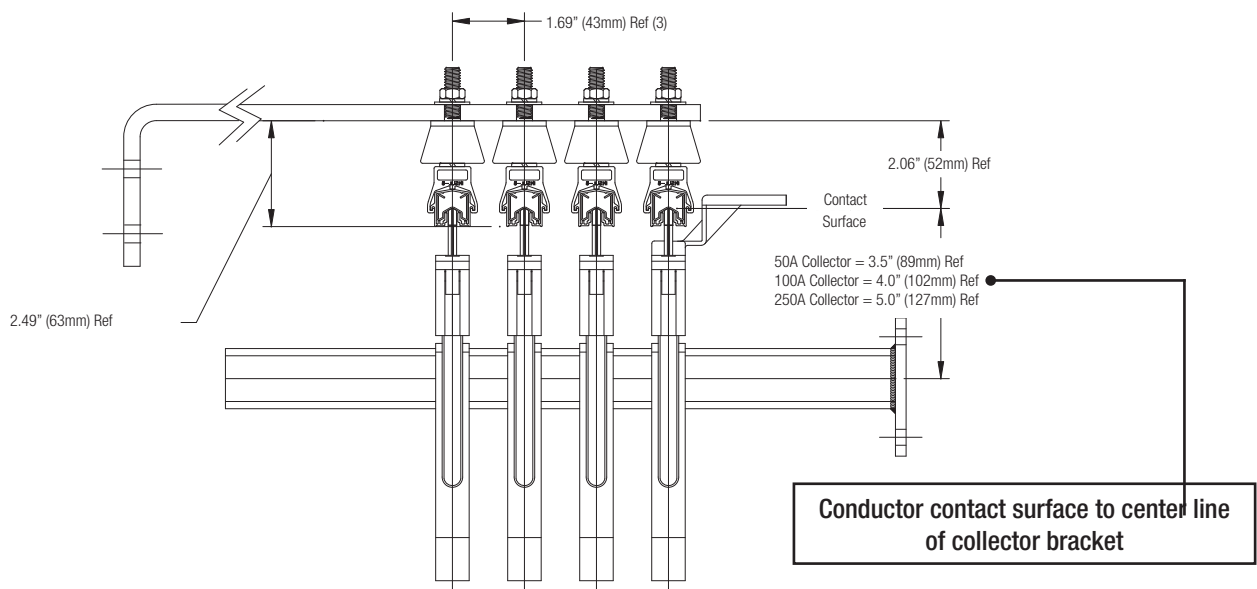


Safe-Lec 2 Installed Dimensions

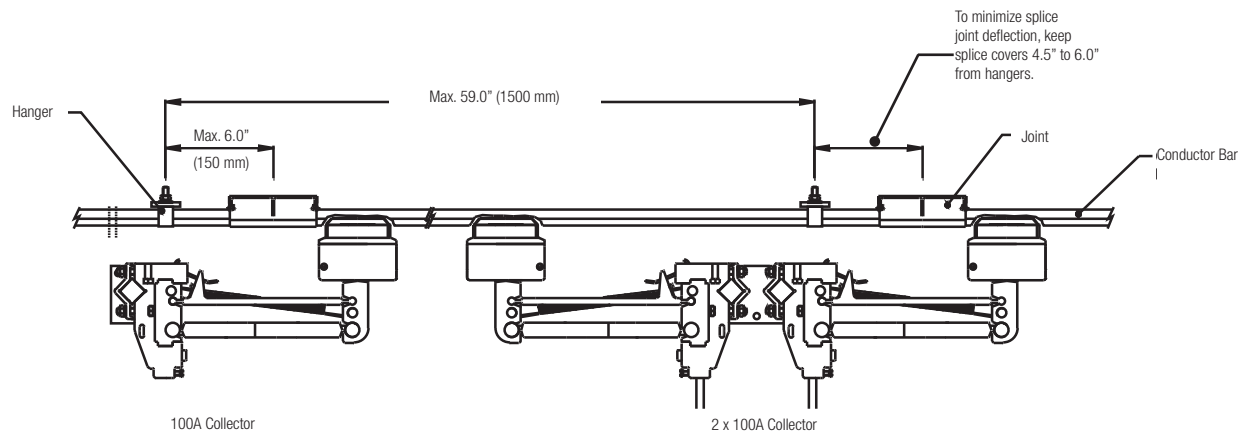
End View - Standard Hanger Clamps



End View - Hanger Clamps with Insulator

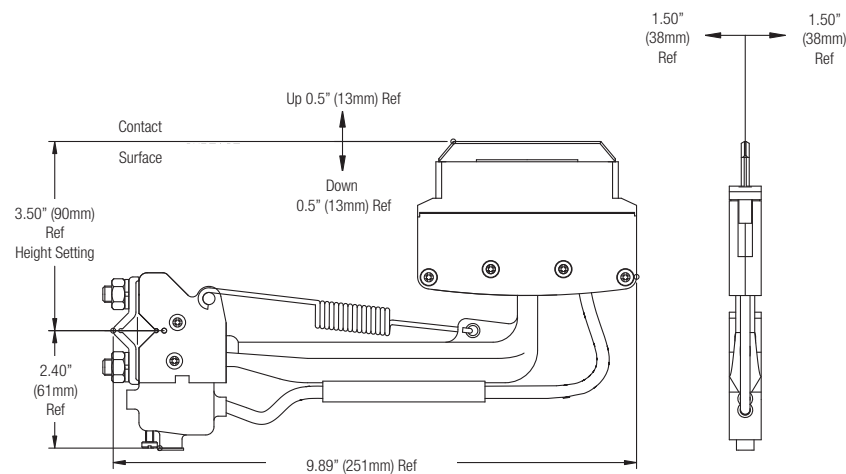


Side View

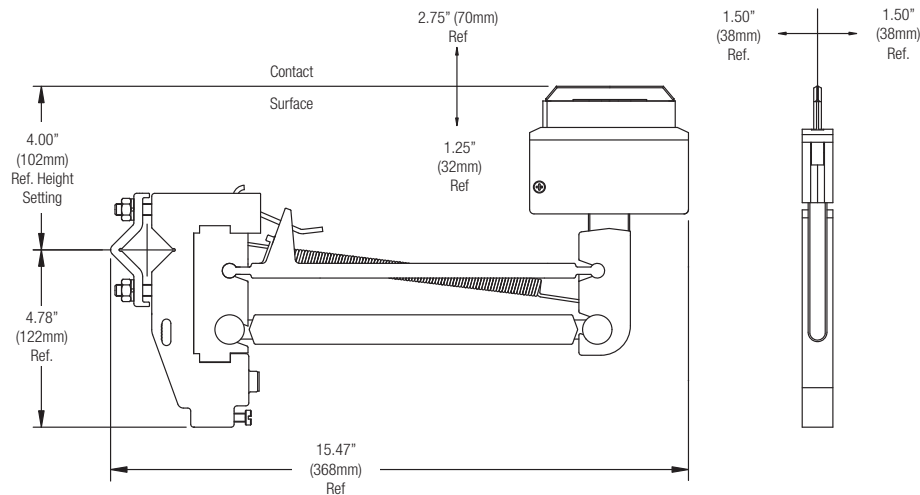


Safe-Lec 2 Collector Dimensions

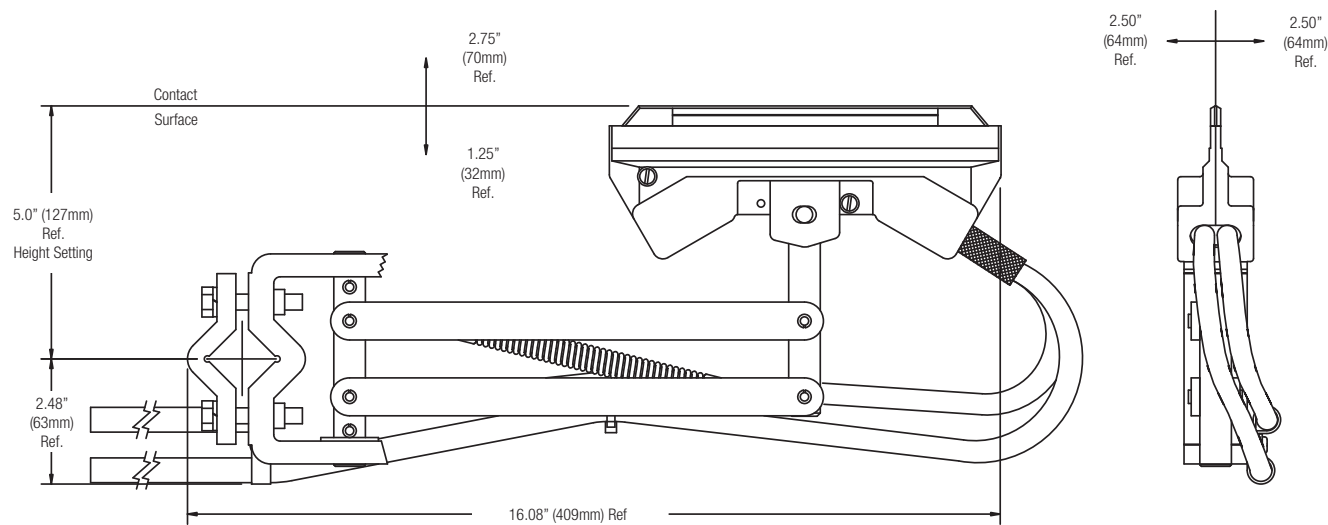
50A Collector (399360)



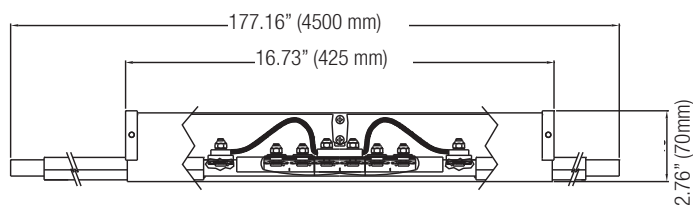
100A Collector (310990 / 399355)



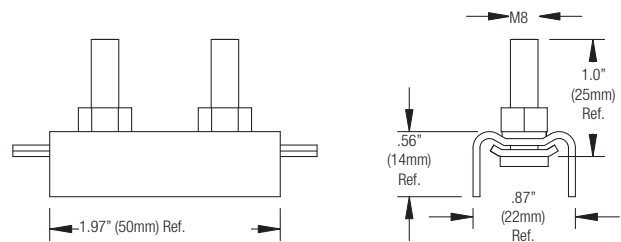
250A Collector (34956)



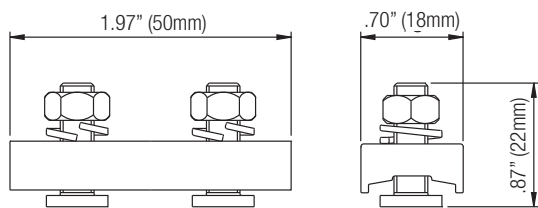
Safe-Lec 2 Component Dimensions



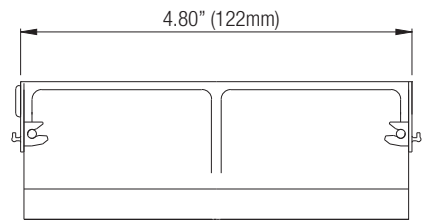
Expansion Section
(Typical)



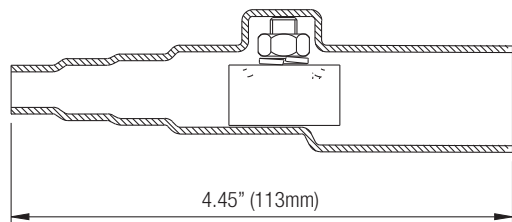
Steel Joint / Copper
(310872) / (310873)



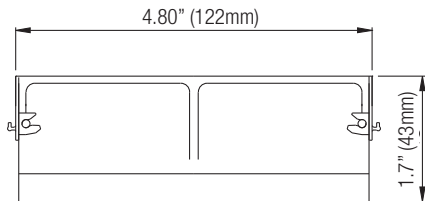
Aluminum Joint
(310874)



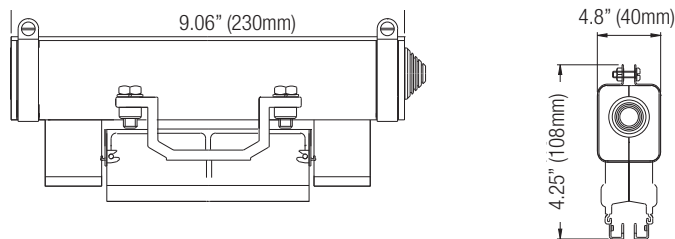
Standard Phase Cover
(310850B)



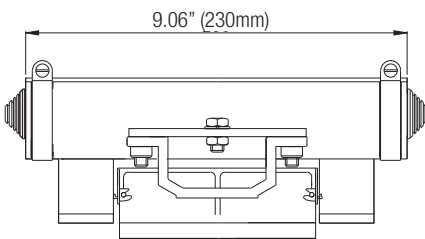
End Power Feed
(310911)



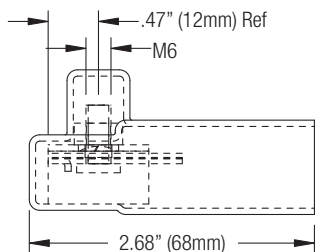
60A Joint Power feed
(310034B)



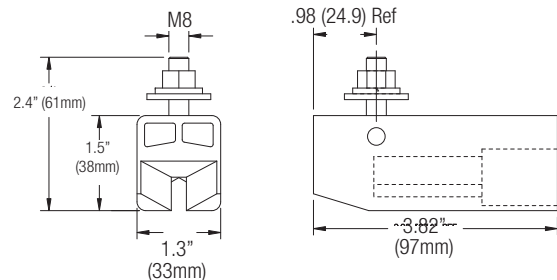
250A Joint Power feed
(310910B)



400A Joint Power feed
(310912)

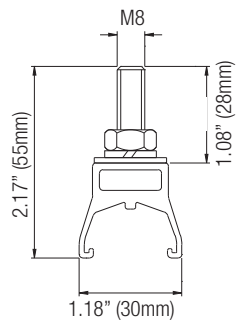


End Cap
for Aluminum Bar
(310892)

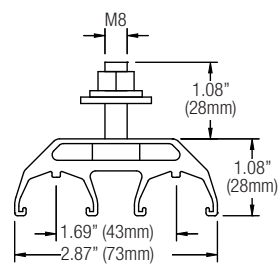


Transfer End Cap
(310951)

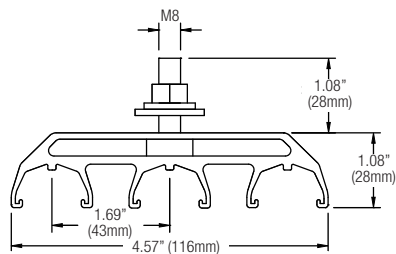
Safe-Lec 2 Component Dimensions



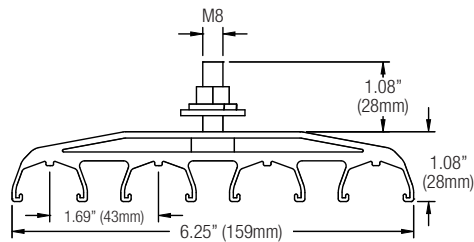
Single Pole
Hanger Clamp
Standard Mount
(310824)



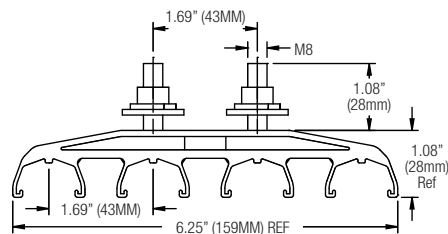
Two Pole
Hanger Clamp
Standard Mount
(310882)



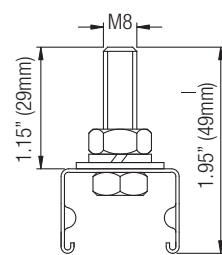
Three Pole
Hanger Clamp
Standard Mount
(310861)



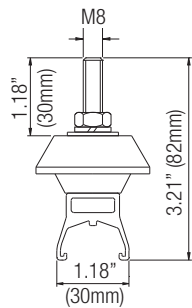
Four Pole
Hanger Clamp
Standard Mount
(310821)



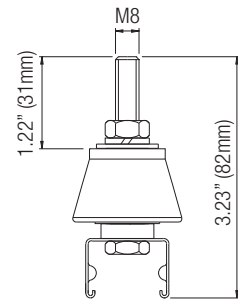
Four Pole
Hanger Clamp
Lateral Mount
(310835)



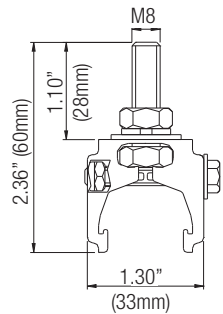
Stainless Steel
Hanger Clamp
(399416B)



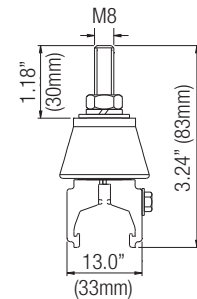
Single Pole
Hanger Clamp
with Insulator
(310918)



Stainless Steel
Hanger Clamp
with Insulator
(38779)



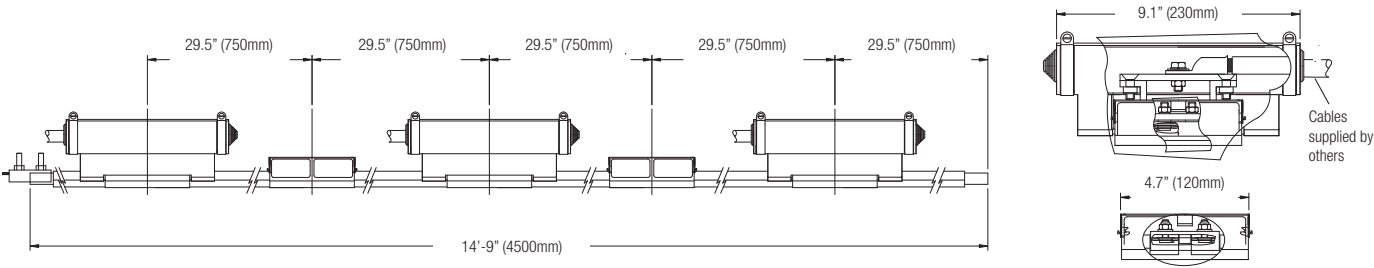
Anchor Clamp
(310832)



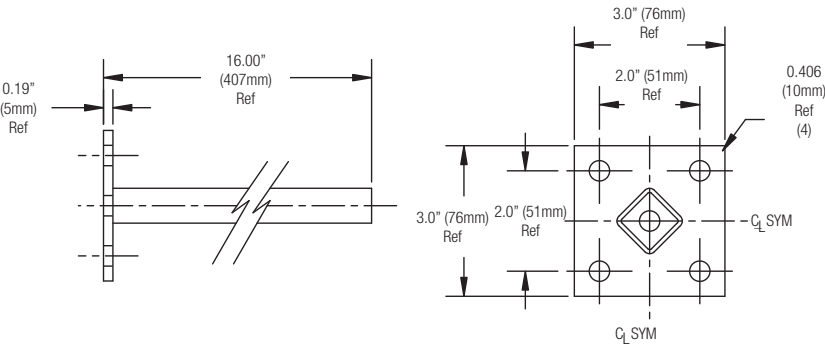
Anchor Clamp
With Insulator
(310969)

Safe-Lec 2 Component Dimensions

Power Interrupting Section (Typical)

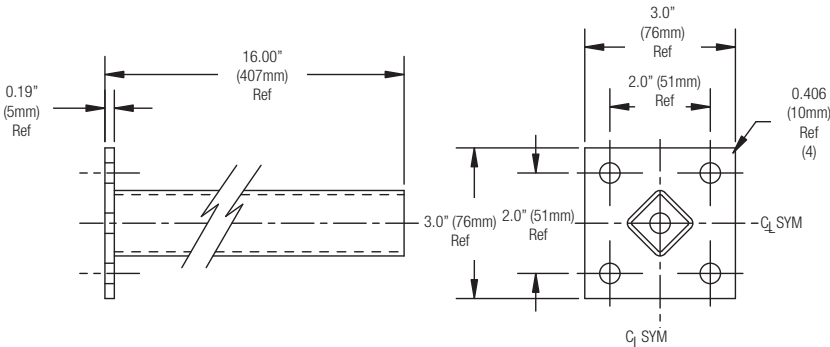


Single Collector Bracket, 0.51" (13mm) square (39618C)



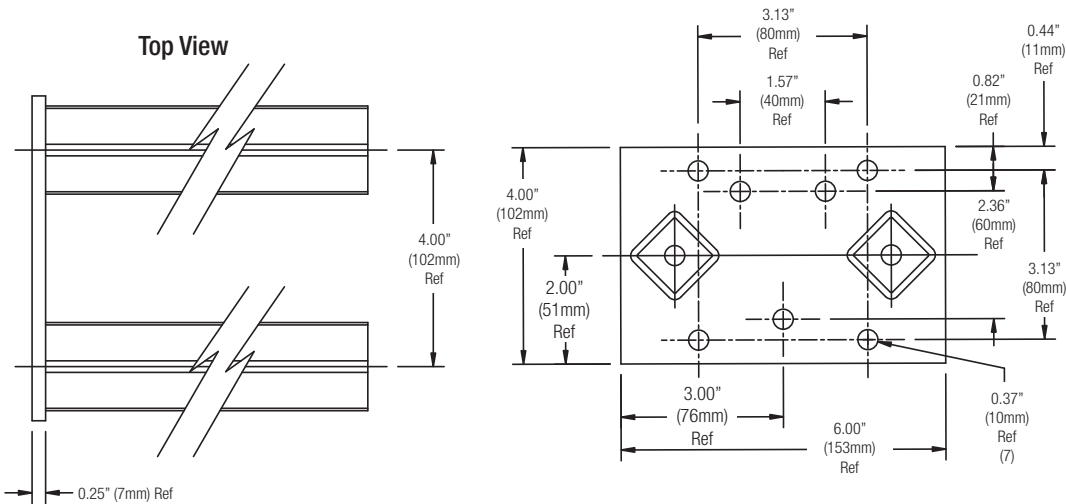
Used only with 50A Collectors

Single Collector Bracket, 0.99" (25mm) square (39617)



Used with 100A and 250A Collectors

Dual Collector Bracket, 0.99" (25mm) square (37863)

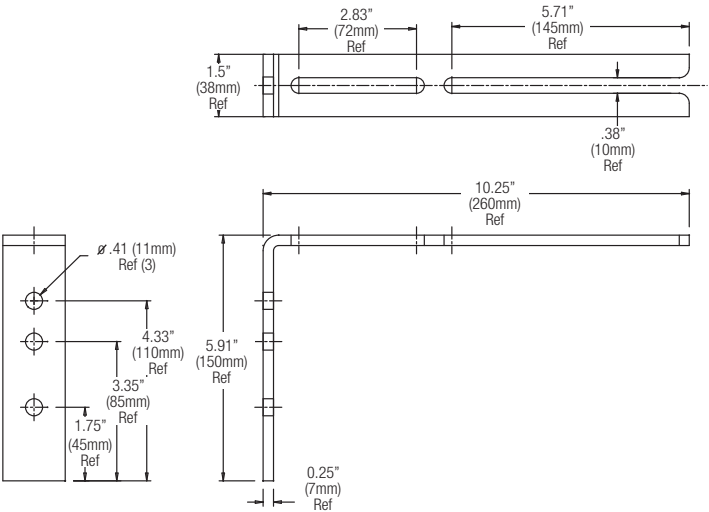


Used with 100A and 250A Collectors

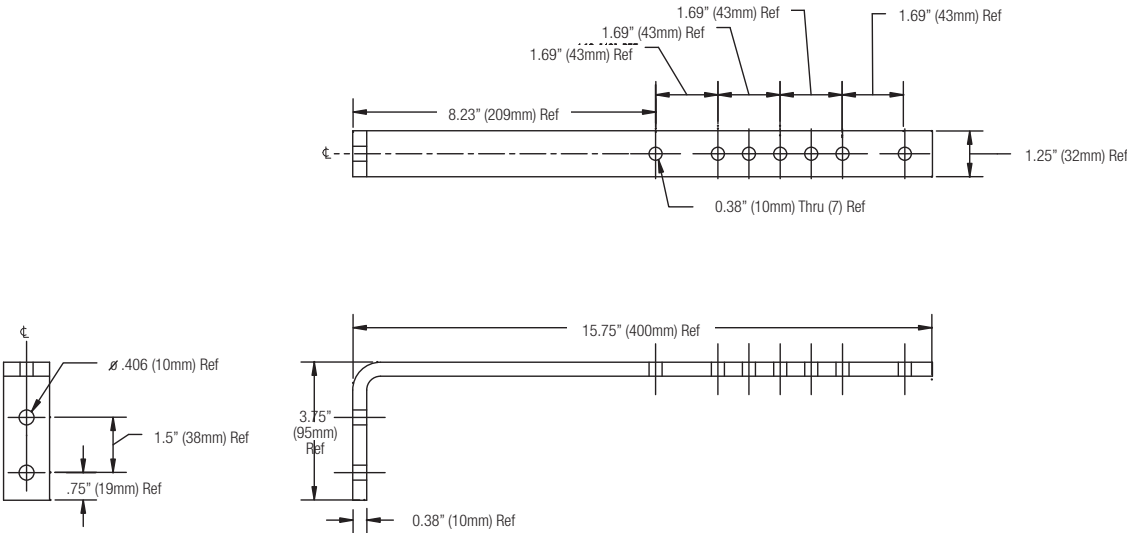
(For the 50A Dual Post Collector Bracket 39050, contact the Factory)

Safe-Lec 2 Bracket Dimensions

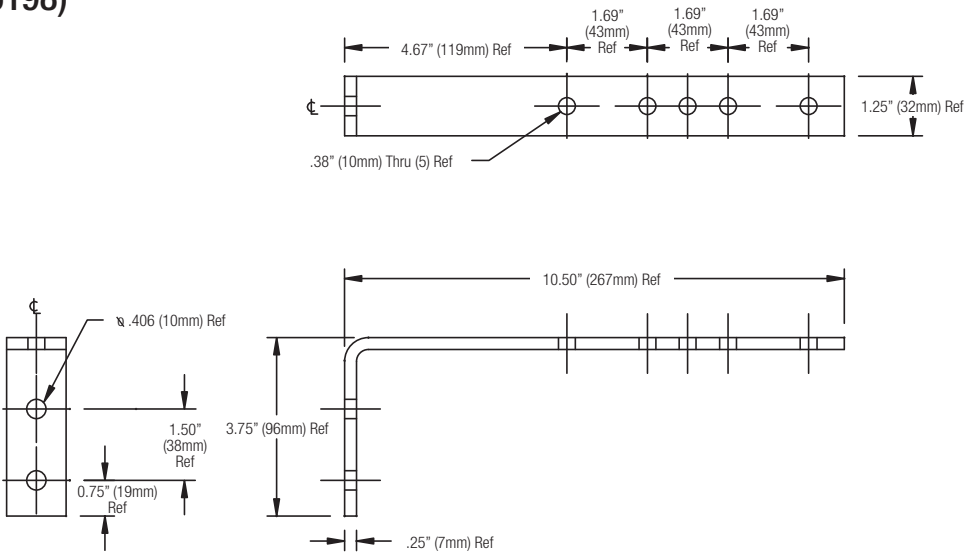
Web Bracket (310984)



Web Bracket (36197)

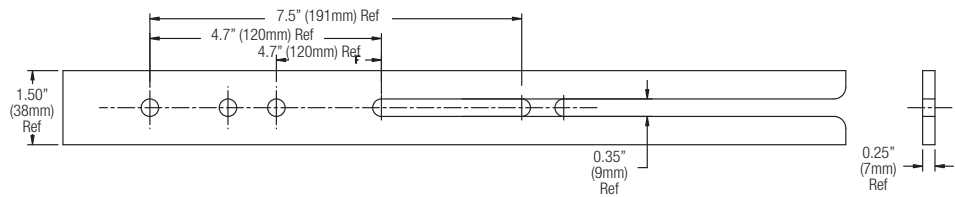


Web Bracket (36198)

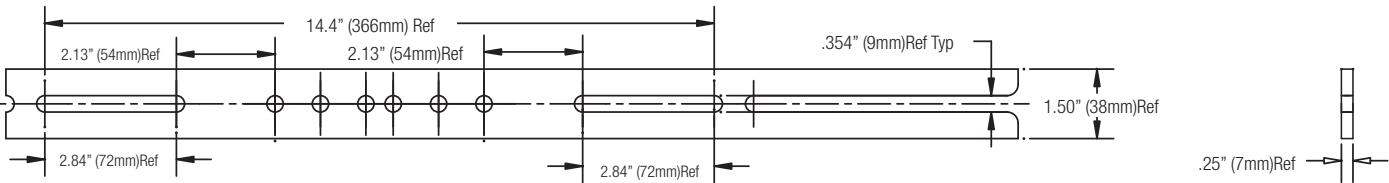


Safe-Lec 2 Bracket Dimensions

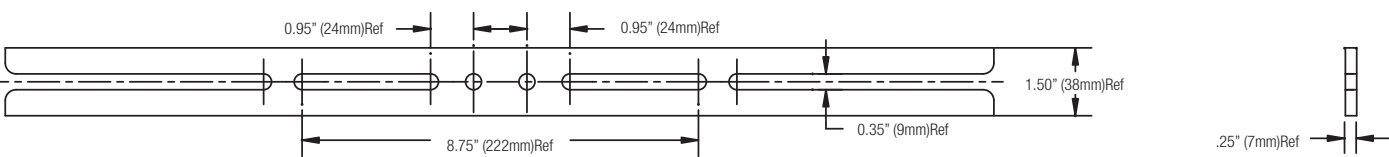
Single Sided Flange Bracket - Fits beam widths up to 7" (310980)



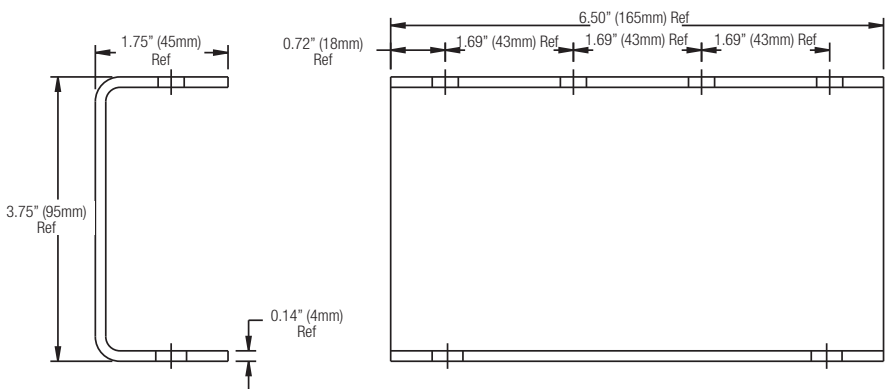
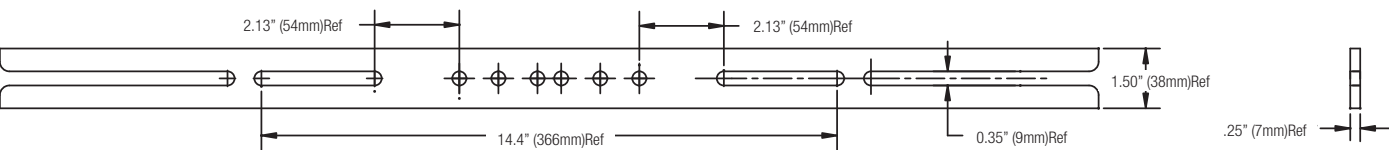
Single Sided Flange Bracket - Fits beam widths up to 14" (310982)



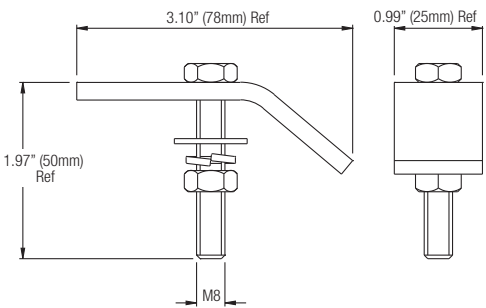
Double Sided Flange Bracket - Fits beam widths up to 8" (310981)



Double Sided Flange Bracket - Fits beam widths up to 14" (310983)



Lateral Web Bracket (399517)



Girder Clamp (51142)