

Insul-8 Mobile Electrification

◆ Cable & Hose Reels ◆ Conductor Bar ◆ Festoon ◆ Pendants ◆
◆ Radio Controls ◆ Slip Rings ◆

Solutions From A Single Source

Side Contact Conductor Bar Systems



For the Electrification of:

- Cranes
- Monorails
- Automated Storage and Retrieval Systems



www.insul-8.com

About Insul-8

The History behind Insul-8 Corporation



Since our inception in 1902, Insul-8 Corporation's parent company, Delachaux S.A., has been a leading international presence in the business of providing mobile electrification. As the Delachaux arm in North and South America, Insul-8 Corporation (formerly sister companies Insul-8 and Industrial Electric Reels, Inc. - a.k.a. IER) carries on this tradition of innovation and excellence. Insul-8 and IER became part of the Delachaux Group in 1975 and officially became one company on December 31, 1996. Each company has its own rich history.

You'll find Insul-8 products in use everywhere from irrigation systems and manufacturing plants in the heartland of the United States to public transportation systems in Malaysia.

Industrial Electric Reels, Inc., began in 1924 with the founding of Industrial Electric Works (IEW), an electrical contractor based in Omaha, Nebraska. After World War II, IEW began the manufacture of electric cable reeling equipment and started IER as an operating division in 1948. IER's first cable reel, the hand rewind Series 102 PORT-O-REEL, was quickly followed by light-duty spring retractable cable reels. IER pioneered the development of cable reeling devices and slip rings. Soon the business expanded to larger, custom built motor driven reels and custom engineered slip rings. IER's reputation spread as a quality manufacturer of reels running the gamut from small commercial duty reels to large custom built reels for the most demanding applications such as container cranes, stacker/reclaimers and bulk material ship loaders and unloaders.

Insul-8 Corporation has been a pioneer in providing safety-covered metal conductor systems for the material handling industry since 1944. Insul-8 was the first company to design and produce a stainless steel capped aluminum conductor and the only manufacturer of such a product for almost 20 years. Today, there are over 20 million meters (nearly 12,500 miles) of Insul-8 contact conductors and tens of thousands of collecting devices throughout the world. Every major port in the United States currently uses Insul-8's aluminum/stainless steel contact conductors on container cranes due to the dependability of the bar under the most severe conditions. Insul-8's festoon systems range from the smallest box-track systems to our most rugged Heavy-Duty Festoon. Insul-8's festoons are known for their safe and efficient operation in which large numbers of conductors can be handled in minimum space.

Insul-8 has been in the business of supplying power from stationary sources to mobile systems for 60 years. Insul-8's cable reels, slip rings, conductor bar, festoon systems, pendants and radio controls are used in a wide variety of applications ranging from material handling and mass transit systems to water treatment plants and performing arts theaters.

As it has been for the last 60 years and always will be, "conducting" business will continue to be our only business.

In December 1997, after a nine month endeavor, Insul-8 Corporation became ISO 9001 certified for the design and manufacture of our entire line of mobile electrification products in both of our U.S.A. plants in Omaha, Nebraska, and Harlan, Iowa.

- ◆ cable and hose reels ◆ conductor bar systems ◆ cable festoon systems ◆
- ◆ slip rings ◆ pendant stations ◆ radio controls ◆

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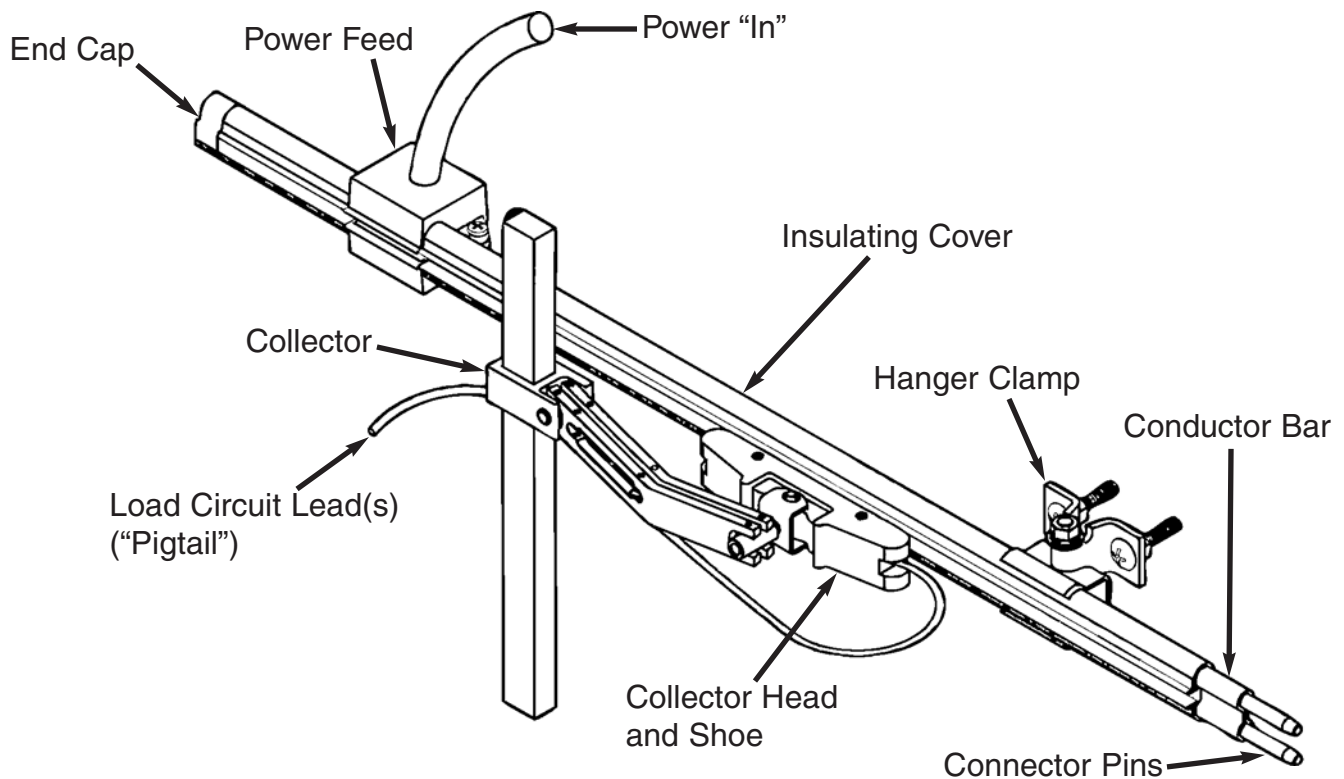
Specifications may change without notice. All products F.O.B. Omaha, NE, or Harlan, IA, unless otherwise specified.

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Side Contact Basics

Basic Side Contact Components and Definitions



1. Conductor Bar

The Supply of incoming power

2. Powerfeed

Attachment for incoming power

3. Collector

Collects the incoming power and forwards to machine

4. Hangers

Supports the conductor bar, may also be used as an anchor to direct movement due to expansion and contraction

5. End Cover

Safety protection at the end of the conductor system

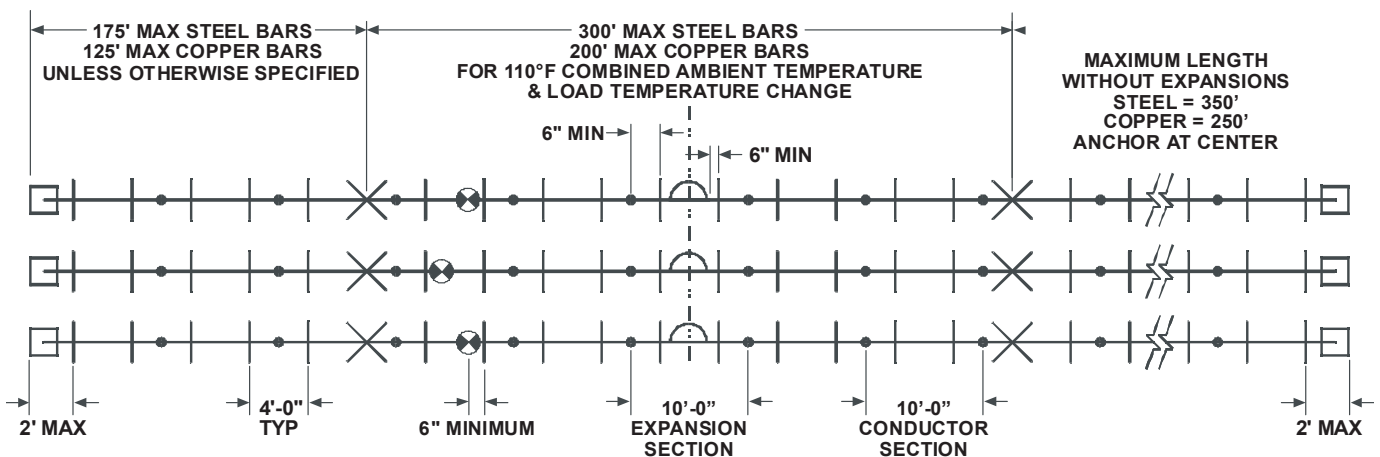
Selecting Your System

How to Select the Right System for Your Application

To assist you in selecting a Side Contact system, answer the following questions.
Fax us this page and we'll provide a quote and qualified customer support.

1. Type of system (Runway, Bridge, Monorail, Other): _____
2. Length of system (In Feet): _____
3. Number of Conductors: _____
4. Number of vehicles (Cranes etc.): _____
5. Voltage: _____ AC _____ DC _____
6. Amperage required for each vehicle: _____
7. Total ampacity required: _____
8. Indoor environment: _____
9. Ambient temperature range (if other than -10°F to + 160°F): _____°F. to _____°F.
10. Atmosphere: ☐ Dry ☐ Wet ☐ Dusty ☐ Dirty
☐ Corrosive ☐ Nuclear ☐ Other
11. Special Concerns: _____

If your system requires curves, please refer to pg. 13.



INSTALLATIONS THAT INCLUDE CURVED SECTIONS REQUIRE SPECIAL CONSIDERATION. PLEASE CONTACT THE FACTORY FOR ASSISTANCE.

END COVER		HANGER	
POWERFEED		SPLICE JOINT	
EXPANSION SECTION		ANCHOR POINT	

Don't see what you need? Call us!

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Quick Pick Selection


Pick Your System

The following components make up all standard conductor bar systems used on cranes, monorails, conveyors, and other mobile electrification applications.


1. Conductor bar amperage required?
2. Hanger clamps to support the bar. *(see pages 9 & 10)*
3. Powerfeeds to bring power to the bar. *(see page 8)*
4. End caps to insulate the bar at the exposed ends. *(see page 7)*
5. Collectors to conduct the power from the electrified bar to the motors that are used to power the crane, hoist, etc.


Notes: A connector tool is included free with the complete system.
Expansion sections are required to compensate for thermal expansion.

Stainless Steel 40 Amp.

40 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	24273	7.0 lbs.	24298	6.6 lbs.
	Bar Section	5'	24274	3.5 lbs.	24299	3.3 lbs.
	Expansion Section	10'	24277	7.0 lbs.	24302	10.3 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		11295	0.03 lbs.	11295	0.03 lbs.


Galvanized Steel 90 and 110 Amp.

90 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	24275	4.5 lbs.	24300	4.5 lbs.
	Bar Section	5'	24276	3.5 lbs.	24301	3.3 lbs.
	Expansion Section	10'	24278	7.0 lbs.	24303	6.7 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		24424	0.03 lbs.	24424	0.03 lbs.


110 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	11223	7.0 lbs.	11239	6.6 lbs.
	Bar Section	5'	11224	3.5 lbs.	11240	3.3 lbs.
	Expansion Section	10'	11255	10.0 lbs.	11259	10.3 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		11295	0.03 lbs.	11295	0.03 lbs.

Quick Pick Selection


Stainless Clad Copper 250 Amp.

250 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	11227	7.0 lbs.	11243	6.6 lbs.
	Bar Section	5'	11228	3.5 lbs.	11244	3.3 lbs.
	Expansion Section	10'	11256	11.0 lbs.	11260	10.3 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		11295	0.03 lbs.	11295	0.03 lbs.

Copper Steel Laminate 250 Amp.

250 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	11231	7.0 lbs.	11247	6.6 lbs.
	Bar Section	5'	11232	3.5 lbs.	11248	3.3 lbs.
	Expansion Section	10'	11257	11.0 lbs.	11261	10.3 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		11295	0.03 lbs.	11295	0.03 lbs.

Electrolytic Copper 350 Amp.

350 Amp	Description		W / Rigid PVC Cover -10°F. to +160°F.		W / Medium Heat Cover -25°F. to +250°F.	
 with connector pins	Part	Length	Part #	Approx. Wt.	Part #	Approx. Wt.
	Bar Section	10'	11235	7.0 lbs.	11251	6.6 lbs.
	Bar Section	5'	11236	3.5 lbs.	11252	3.3 lbs.
	Expansion Section	10'	11258	11.0 lbs.	11262	10.3 lbs.
	Powerfeed		11289	0.34 lbs.	11289	0.34 lbs.
	End Cover		11295	0.03 lbs.	11295	0.03 lbs.

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Side Contact Components

Conductor Bar

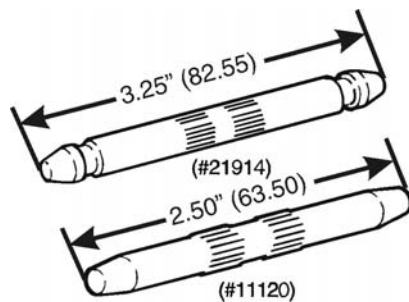
The conductors are available in five different ampere capacities. Two insulating covers are available. Conductor includes cover, joint cover and connector pins. Copper and Laminated bar also include Joint Keepers.



For proper selection of side contact bar, see quick pick selection (pages 5 & 6)

Connector Pins

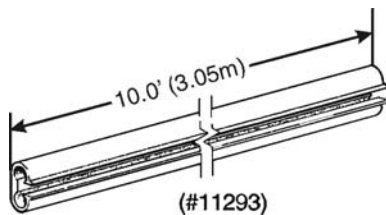
Used to join the conductor bar sections together.



Part #	Description	Approx. Weight
11120	Galvanized steel for 110 amp.	0.80 lbs.
11121	Copper for 250 and 350 amp.	0.80 lbs.
21914	Galvanized steel for 90 amp.	0.80 lbs.
24196	Stainless steel for 40 amp.	0.80 lbs.

Insulating Cover

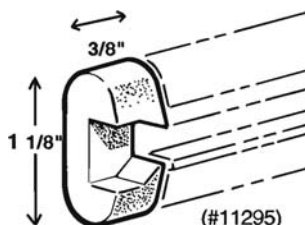
Available in PVC or Lexan cover. The cover is designed for indoor use.



Part #	Description	Approx. Weight
11293	Rigid PVC to 160°F.	1.5 lbs.
11294	Medium Heat to 250°F.	1.5 lbs.

End Cover

Used to close the end of the conductors to cover exposed conductor and avoid accidental contact.



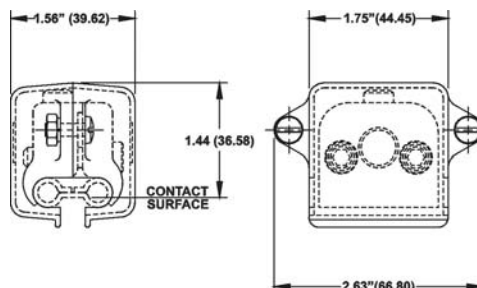
Part #	Description	Approx. Weight
11295	For 40, 110, 250 and 350 amp.	0.03 lbs.
24424	For 90 amp.	0.03 lbs.

Side Contact Components

Powerfeed

Fully insulated simple clamp type is easily installed anywhere on the system for in coming power to the conductor rails.

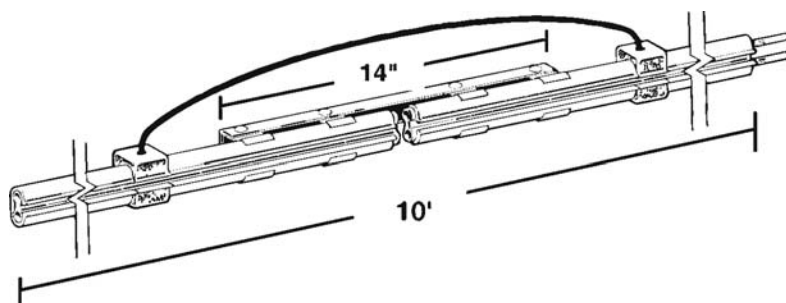
Part #	Description	Approx. Weight
11289	Complete Assembly Clamp & Case	0.34 lbs.
11290	Powerfeed case with hardware	0.20 lbs.
11291	Clamp Assembly	0.10 lbs.



Expansion Section

To compensate for thermal expansion. Powerfeeds are flexible jumpers that are factory installed to meet electrical and mechanical requirements of each system.

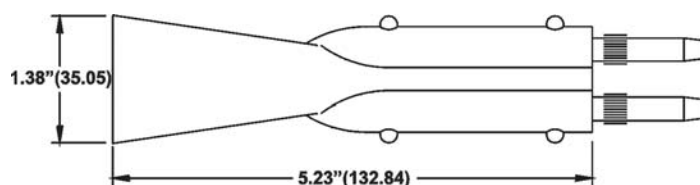
For proper selection of side contact bar see quick pick selection (pgs. 5 & 6)



Pick-up Guides

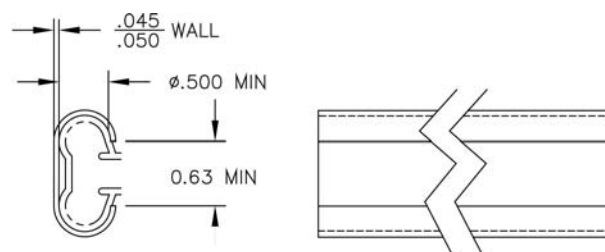
Used at the end of conductors to retrack the collectors. For use on discontinuous circuits **Requires use of self-centering collectors.**

Part #	Description	Approx. Weight
11292	For all systems (except 90 amp.)	1.25 lbs.



Joint Cover

Part #	Description	Approx. Weight
17715	Joint Cover	0.02 lbs.



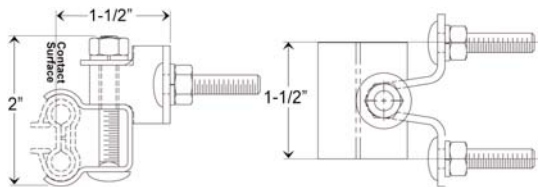
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Hanger Clamp & Bracket Assemblies

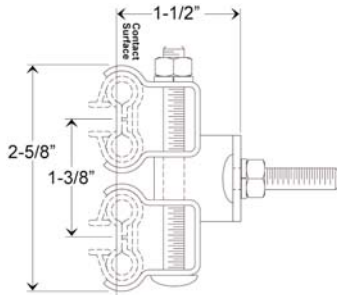
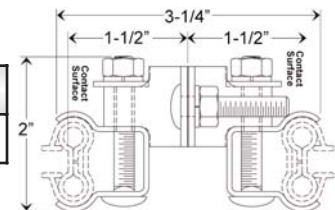
Hanger Clamp & Bracket Assemblies

Provides a simple method for installing side contact conductors on conveyors, monorails, bridges, crane runways and switches. They support, secure and separate the insulated conductors uniformly. They are designed for easy installation in minimum time. Hanger clamps are all stainless steel with $\frac{1}{4}$ " zinc plated hardware. Consult factory for any configurations not shown.



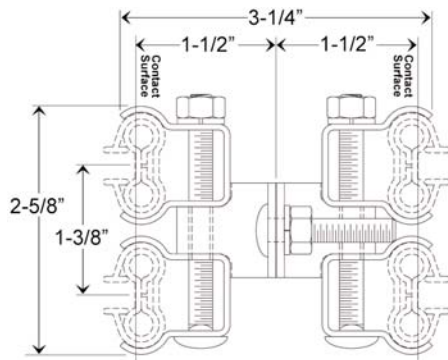
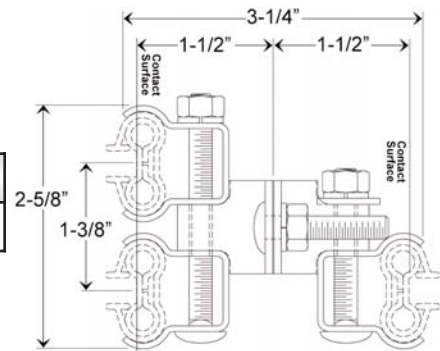
Part #	Description
11263	1/0

Part #	Description
11265	1/1



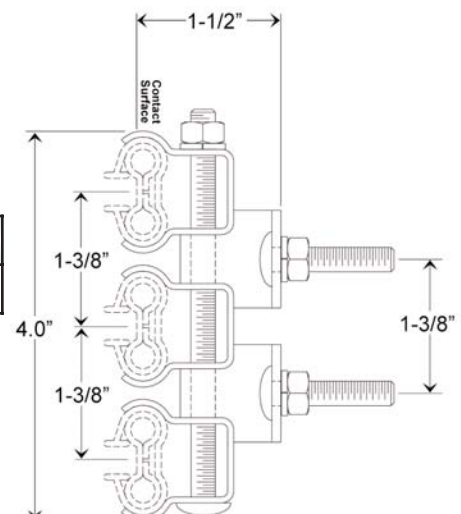
Part #	Description
11264	2/0

Part #	Description
11266	2/1



Part #	Description
11267	2/2

Part #	Description
31844	3/0



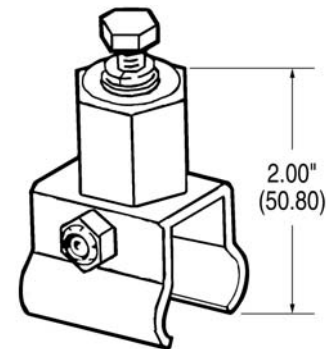
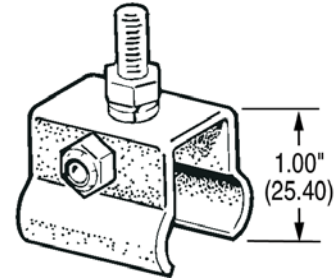
Hanger Clamps & Brackets

Single Conductor Hangers

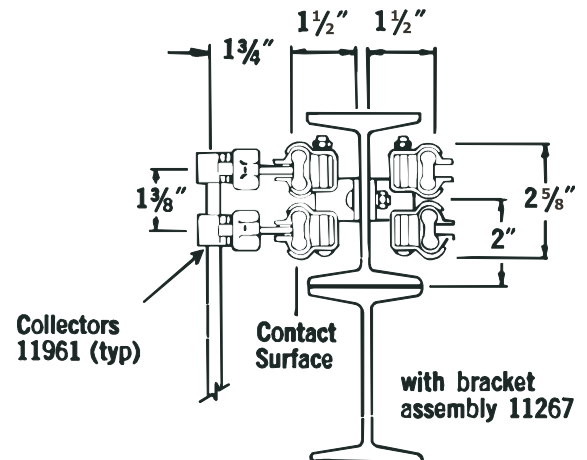
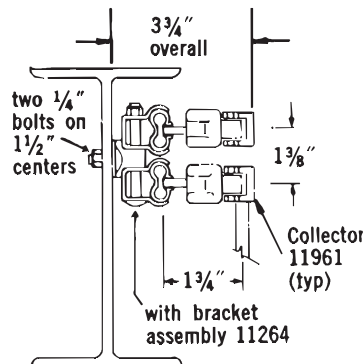
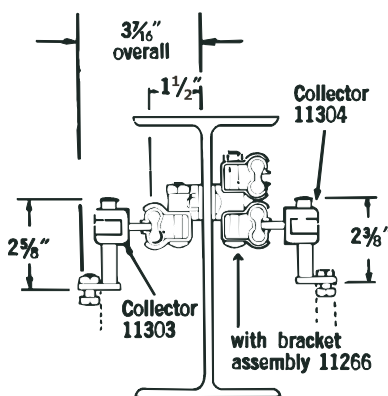
Standard hanger spacing: every 4 feet for straight runs, every 3 feet for curves.

Part #	Description
27927	Stainless Steel hanger 1/4" zinc plated hardware.
27926	Stainless Steel hanger 1/4" stainless steel hardware.

Part #	Description
17690	Stainless Steel hanger with Insulator 1/4" stainless steel hardware



Typical Mounting Arrangements



Note: Trolleys on which collectors are mounted must be stabilized, particularly in systems involving discontinuous circuits. An acceptable method uses guide rollers on the edge of the track flange.

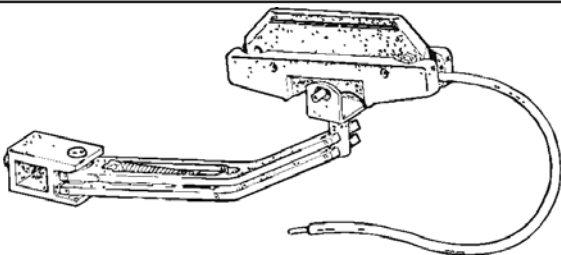
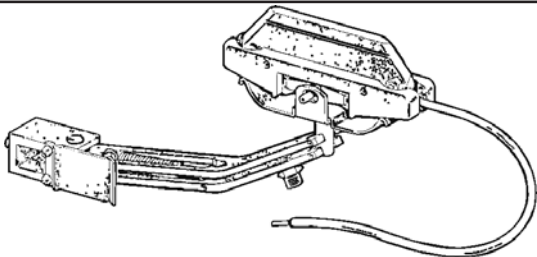
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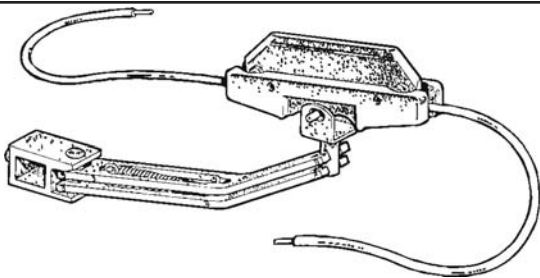
Collectors

Sliding shoe type collectors are available in a variety of capacities and mountings to meet all requirements

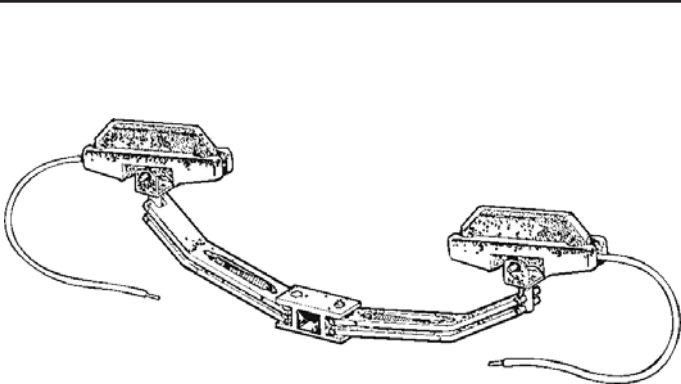
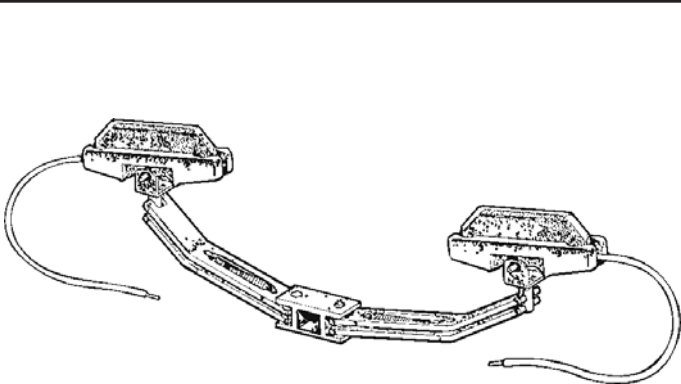
“M” Head, “L” Base Type, 40 Amp.

	Part #	Description
	11961	For continuous conveyor, monorail systems and crane bridges. Operates through horizontal curves at a minimum radii of 9” and vertical curves to minimum of 8”
	Part #	Description
	12295	Self-centering for discontinuous systems equipped with pickup guide 11292

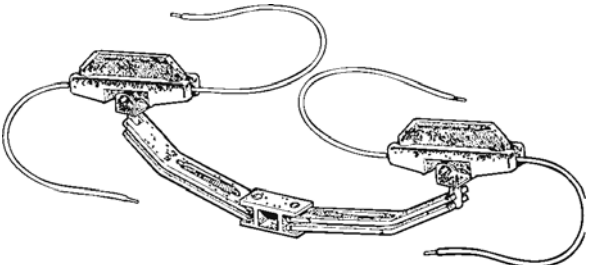
“M” Head, “L” Base Type, 80 Amp.

	Part #	Description
	11517	Same as 11961, with additional pigtail for extra ampacity
	11518	Same as 12295, with additional pigtail for extra ampacity.

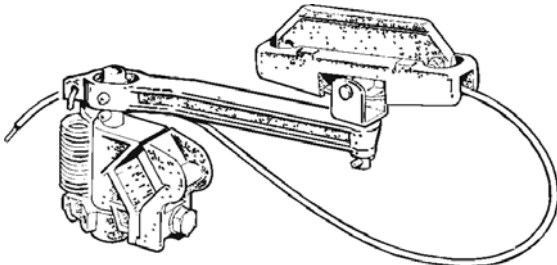
“M” Head, “L” Base Type, Tandem 80 Amp.

	Part #	Description
	11955	Continuous systems that require 80 amp capacity. Operates through horizontal curves to minimum radii of 24” and vertical curves to minimum radii of 8”
	Part #	Description
	11954	Self-centering tandem. For discontinued systems that require 80 amp capacity. Operates through horizontal curves to minimum radii of 24” and vertical curves to minimum radii of 8”

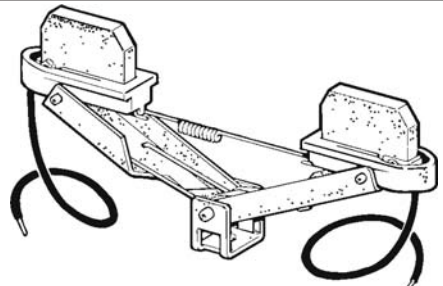
"M" Head, "L" Base Type, Tandem 160 Amp.

Part #	Description	
11519	Same as 11955, with additional pigtail for extra ampacity.	
15046	Same as 11954 with additional pigtail for extra ampacity.	

"M" Head, "H" Base Type, 40 Amp.

Part #	Description	
12304	To be used when the bar / collector interface is vertical.	
12306	Same as 12304, except collector is supplied with a counter weight for lateral mount.	

"G" Head, "T" Base Type, 40 Amp.

Part #	Description	
11957	Tandem head and short pivot base assures continuous contact through short radius curves. Stainless steel hardware adds strength and corrosion resistance.	

Slip Rings, Curves, Collector Parts

Slip Rings

Conductor Bar	Ring Description	Part #
Galvanized Steel (110 Amp)	9" to 34" 2-180° pieces	23642
Stainless Clad Copper Laminate (250 Amp)		23643
Copper Steel Laminate (250 Amp)		23644
Rolled Copper (350 Amp)		23645
Galvanized Steel (110 Amp)	34.5" to 51" 3-120° pieces	23646
Stainless Clad Copper Laminate (250 Amp)		23647
Copper Steel Laminate (250 Amp)		23648
Rolled Copper (350 Amp)		23649
Galvanized Steel (110 Amp)	51.1" to 69" 4-190° pieces	23650
Stainless Clad Copper Laminate (250 Amp)		23651
Copper Steel Laminate (250 Amp)		23652
Rolled Copper (350 Amp)		26353

Curves

(Horizontal or Vertical) with standard 6" tangents of each end. The systems are specially designed for curves, switches, interlocks, gaps, and continuous control circuits. They are readily adaptable to all operating conditions. Both conductor bar and insulating cover are sufficiently flexible to permit bending to any desired radius. *Hanger spacing is every 3 feet on curves.*

Conductor Bar	Cover	Minimum Radius	Maximum Length	Part #
Galvanized Steel (110 Amp)	PVC	9"	10'	11226
Stainless Clad Copper Laminate (250 Amp)	PVC	9"	10'	11230
Copper Steel Laminate (250 Amp)	PVC	9"	10'	11234
Rolled Copper (350 Amp)	PVC	9"	10'	11238
Galvanized Steel (110 Amp)	Medium Heat	57"	10'	11242
Stainless Clad Copper Laminate (250 Amp)	Medium Heat	57"	10'	11246
Copper Steel Laminate (250 Amp)	Medium Heat	57"	10'	11250
Rolled Copper (350 Amp)	Medium Heat	57"	10'	11254

Information required for curves:

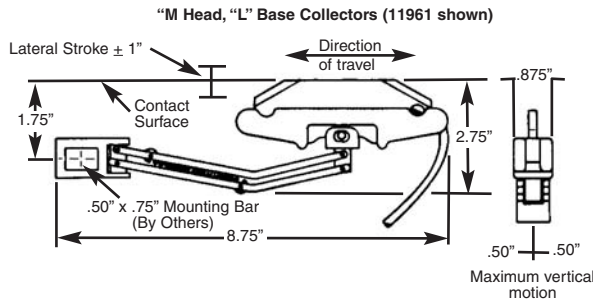
1. Radius of each conductor bar.
2. Secify angle
3. Specify inside or outside contact
4. Specify tangents in other than 6' standard

Collector Parts

Part #	Item Description
15065	Head assembly for "G" head collector 11957
11306	Head assembly for "M" head, "K" and "R" base collectors
12296	Head assembly for "M" head, "H" base collectors
11930	Head assembly for "M" head, "L" base collectors
11307	Case only, for "M" head, "H", "K" and "R" base collectors
11300	Case only, for "M" head, "L" base collectors
14104	Contact shoe (sintered copper graphite) for all "M" head collectors
14135	Cast iron shoe

Collectors

Collectors should not be used as power switching devices as the resultant arcing may cause rapid deterioration of both contact shoes and conductor bars. Ampere capacity of conductor bars, powerfeeds, jumpers etc., should be the same as specified for the system. Consult factory for systems using tandem mounted collectors and special requirements.



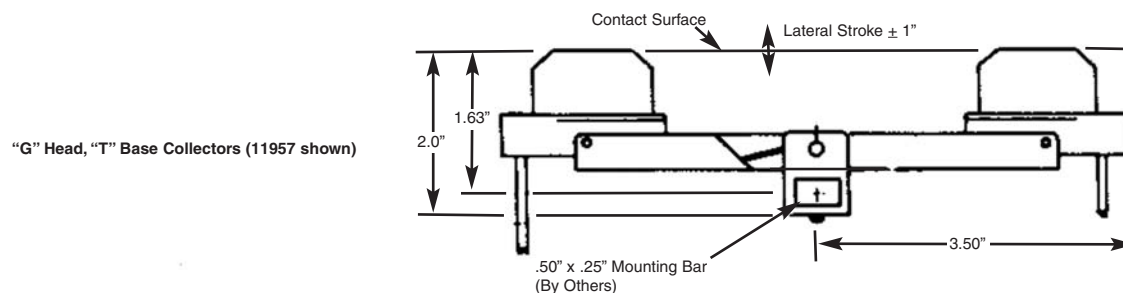
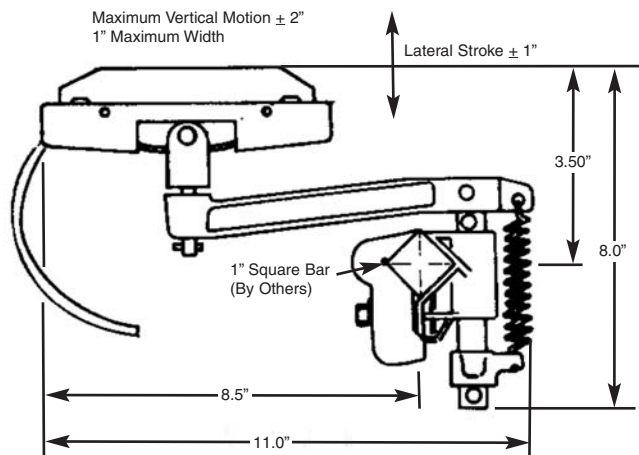
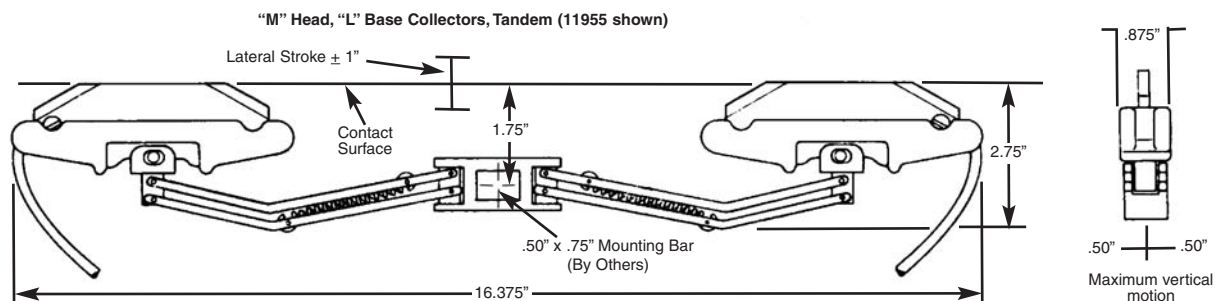
Mechanically Discontinuous Systems:
Only the self-centering collectors should be used:

Horizontal Curves (Internal or external)

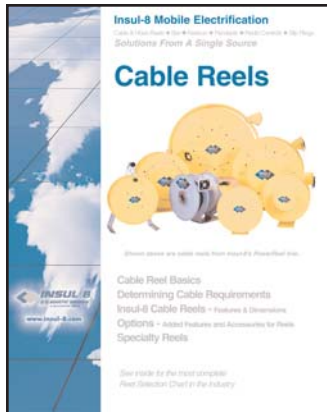
"M" head, "L" base - 9" minimum radius

"M" head, "L" base, tandem - 24" minimum radius

Contact Shoe Pressure: All collectors: 4-6 lbs.



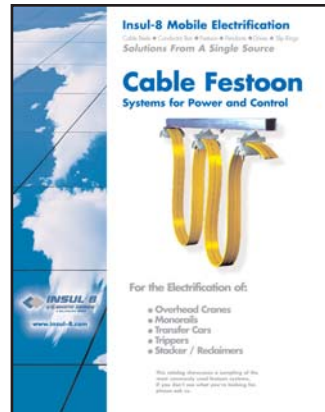
Don't see what you need? Call us!



SPRING DRIVEN
REELS



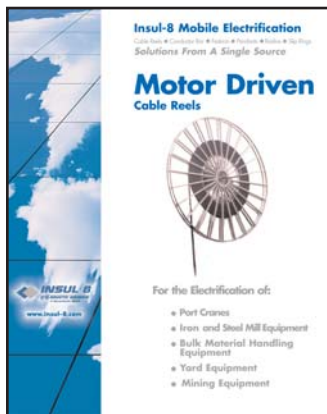
CONDUCTOR BAR



FESTOON



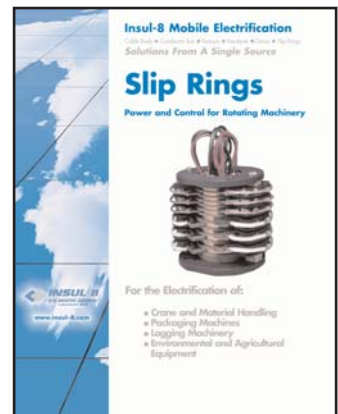
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CANADA

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St. Jerome, Quebec J7Y 4B5

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Fax: (514) 432-6985

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San Nicolas de los Garza,
N.L. C.P. 66477

Phone: (81) 1090-9013

Fax: (81) 1090-9014

e-mail: mexico@insul-8.com

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Dandenong, Victoria 3175

Phone: (3) 9706 88 44

Fax: (3) 794 92 98

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