

SAFELEC

INSULATED CONDUCTOR BARS
60 up to 800 Amp



- Finger safe up to IP2
- 60 to 800 Amp conductors in Standard or Medium Heat cover
- Cover shaped to shed water and dust
- Horizontal conductors with contact from underside
- Bar length: 4.5 metres
- Systems up to 150 metres without expansion sections
- Reduced and simple maintenance



SAFELEC ____

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SAFELEC INSULATED CONDUCTOR BARS

CONDUCTIX supplies electrical power feed systems for moving machinery. Easy to install and maintain, **the SAFELEC range** ensures a high level of reliability. It has been designed to meet the safety standards demanded in industry.

Advantages of conductor bars:

- Ability to feed several moving machines from the same conductor system
 - Suitable for high amperage
 - Feed points can be placed at any location
 - Compactness
 - Long system length possible
 - Suitable for both indoor and outdoor use

Range of application:

Workshop cranes, iron and steel industry, railways, leisure industry, mines etc.

SAFELEC features:

- Easy installation, reduced and simple maintenance
 - Protection degree IP2, finger safe
- Insulating covers shaped to shed water and dust
- Standard PVC cover for normal temperatures
- Medium Heat cover available for high ambient temperatures
- Expansion sections not required for runs less than 150 m
 - Max travel speed: 200 m/min

SAFELEC complies with the following international standards: NFC 20-010, NFC 63-010, NFC 32-070, VDE 0470, BSEN 60529, DIN 53438

TYPICAL APPLICATIONS



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SELECTION OF CONDUCTORS

Volt drop calculation ΔU :

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

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

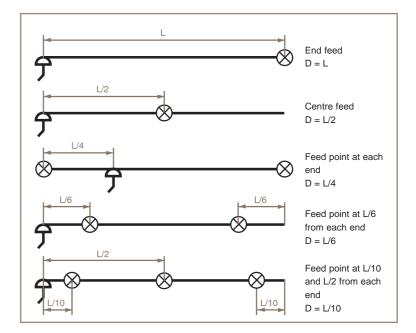
Where:

 ΔU : volt drop in Volts

ΔU%: volt drop in % of nominal voltage Un: nominal supply voltage in Volts

I: maximum current in Amps D: see opposite diagram

R: resistance in Ohms per metre Z: impedance in Ohms per metre



TECHNICAL DATA

FACTOR "K"							
	Duty	100%	80%	60%	40%	20%	
	25°C	1.000	1.118	1.291	1.581	2.236	
Standard	35°C	0.905	1.011	1.168	1.430	2.023	
cover	45°C	0.798	0.892	1.030	1.261	1.784	
	55°C	0.674	0.754	0.870	1.066	1.508	
Madiana Hari	65°C	0.775	0.866	1.000	1.225	1.732	
Medium Heat cover	75°C	0.707	0.791	0.913	1.118	1.581	
	85°C	0.632	0.707	0.816	1.000	1.414	

The maximum permissible continuous current rating of the conductor bar depends on the duty factor of the cranes and the maximum ambient temperature Ta. It can be established using the following formula:

I _{allowable} = nominal current x K





SAFELEC 2 TECHNICAL DATA

CONDUCTOR BAR COVER	STANDARD	MEDIUM HEAT
Material	PVC	BAYBLEND
Dielectric strength	180 KV/cm	240 KV/cm
Surface resistivity	$10^{11}\Omega$	> 10 ¹⁴Ω
Volume resistivity	>10¹⁵Ω/cm	>10 ¹⁶ Ω/cm
Maximum operating temperature *	80°C	120ºC
Minimum operating temperature	-20°C	-20°C
Flame-test	Self extinguishing	Self extinguishing
Oxygen index	54%	24%
Specific density	1.5 g/cm ³	1.15 g/cm ³

^{*} See Table on Page 4

CONDUCTOR BAR	GALV	ANISED S	STEEL		COPPER			LUMINIUN NLESS S	
Nominal current	60A	100A	125A	160A	250A	400A	200A	315A	400A
Cross sectional area	50mm ²	63mm ²	93mm²	50mm²	63mm²	93mm²	104mm²	120mm²	156mm²
Maximum system voltage									
(AC) (contact Insul-8 for other voltages)	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
(DC) (contact Insul-8 for other voltages)	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
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	1500mm
Lateral	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm	1125mm
Minimum pitch centres Standard	43mm	43mm	43mm	43mm	43mm	43mm	43mm	43mm	43mm
Lateral	60mm	60mm	60mm	60mm	60mm	60mm	60mm	60mm	60mm
Expansion sections: not required for runs less than	150m	150m	150m	150m	150m	150m	150m	150m	150m
Minimum bending radius: (horizontal only)	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m	1.5m

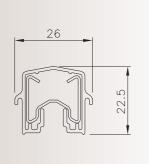
An accurate choice of conductors can be made when all the following information is known:

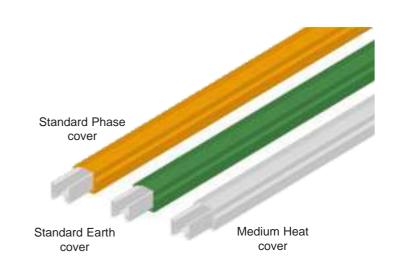
- The type of current: single or three phase AC; continuous (DC)
- The maximum current power and duty cycle
- The allowable volt drop for the machines being supplied
- The ambient temperature
- Environment (dusty, coastal, humid, acidic etc.)



GALVANISED STEEL CONDUCTOR BARS

CURRENT RATING	60A	100A	125A
Standard Phase cover (orange)	310001	310101	310201
Standard Earth cover (green)	310002	310102	310202
Medium Heat cover Phase (grey) Earth	310003 310056	310103 310156	310203 310256
Weight (Kg)	2.34	2.76	3.76





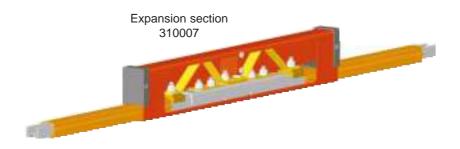
EXPANSION SECTIONS

CURRENT RATING	60A	100A	125A
Standard Phase cover (orange)	310007	310107	310207
Standard Earth cover (green)	310008	310108	310208
Medium Heat cover Phase (grey) Earth	310009 310058	310109 310158	310209 310258
Weight (Kg)	3.06	3.32	4.20

Expansion sections are required on all systems over 150m long.

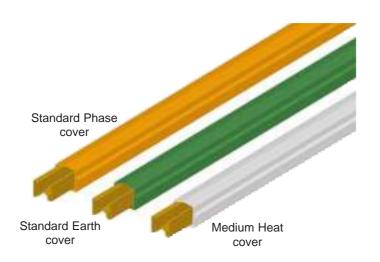
The maximum gap of the expansion section is 50mm.

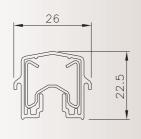
The expansion section is 4.5m long and is installed in place of one length of conductor bar.



COPPER CONDUCTOR BARS

CURRENT RATING	160A	250A	400A
Standard Phase cover (orange)	310301	310401	310501
Standard Earth cover (green)	310302	310402	310502
Medium Heat cover Phase (grey) Earth	310303 310356	310403 310456	310503 310556
Weight (Kg)	2.76	3.04	4.40





EXPANSION SECTIONS

CURRENT RATING	160A	250A	400A
Standard Phase cover (orange)	310307	310407	310507
Standard Earth cover (green)	310308	310408	310508
Medium Heat cover Phase (grey) Earth	310309 310358	310409 310458	310509 310558
Weight (Kg)	3.28	3.86	4.74



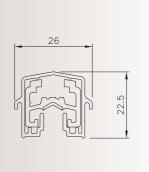
Expansion sections are required on all systems over 150m long.

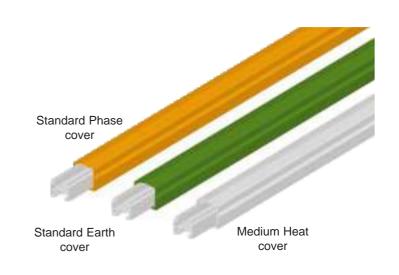
The maximum gap of the expansion section is 50mm.

The expansion section is 4.5m long and is installed in place of one length of conductor bar.

ALUMINIUM / STAINLESS STEEL CONDUCTOR BARS

CURRENT RATING	200A	315A	400A
Standard Phase cover (orange)	310601	310701	399101
Standard Earth cover (green)	310602	310702	399102
Medium Heat cover Phase (grey) Earth	310603 310656	310703 310756	399103 399156
Weight (Kg)	2.12	2.18	2.50





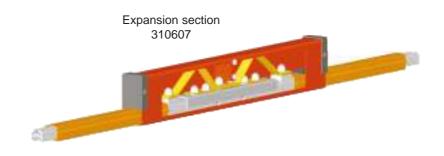
EXPANSION SECTIONS

CURRENT RATING	200A	315A	400A
Standard Phase cover (orange)	310607	310707	399107
Standard Earth cover (green)	310608	310708	399108
Medium Heat cover Phase (grey) Earth	310609 310658	310709 310758	399109 399158
Weight (Kg)	3.23	3.43	3.80

Expansion sections are required on all systems over 150m long.

The maximum gap of the expansion section is 50mm.

The expansion section is 4.5m long and is installed in place of one length of conductor bar.



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JOINTS

JOINT		Weight (Kg)
Steel	310872	0.049
Copper	310873	0.044
Aluminium	310874	0.032
Heavy Duty Copper	399549	0.2

JOINT COVER	
Standard Phase cover (orange)	310850
Standard Earth cover (green)	310851
Heavy Duty cover	399541
Medium Heat cover black green	310855 310856
Weight (Kg)	0.027





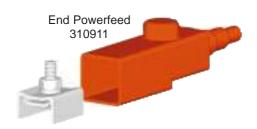


JOINTING COMPOUND	Weight (Kg)
310932	0.225

JOINTING COMPOUND

Jointing compound should be applied to the contact surfaces of the joint and bar at every joint on copper and aluminium systems. One tube is sufficient for over 300 connections.

POWERFEEDS: END POWERFEED



UP TO 100A	Weight (Kg)
310911	0.037

Powerfeed installed in place of an end cover.

Maximum cable connection size: 16mm²

POWERFEEDS: JOINT POWERFEED

CURRENT RATING	UP TO 60A	UP TO 250A	UP TO 400A
Standard cover (orange)	310034	310910	310912
Medium Heat cover (red)	310066	310913	310915
Weight (Kg)	0.028	0.25	0.30

Powerfeed for connection of one or two flexible cables.

310910 has single cable connection.

310912 has double cable connection.

Powerfeed is usually installed in place of a joint.

Maximum cable connection size:

60A – 10mm² 250A – 95mm² 400A – 150mm²

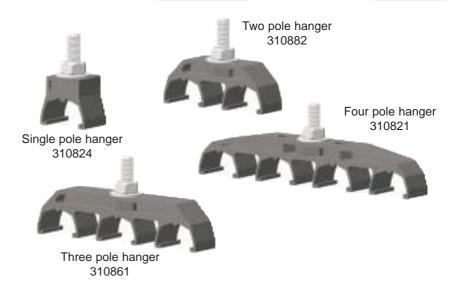


HANGER CLAMPS: STANDARD MOUNT

	STANDARD (BLACK)	POLYCARBONATE (RED)	WEIGHT (Kg)
Single pole	310824	310829	0.03
Single pole with stainless steel fasteners	310919		0.03
Two pole	310882	310899	0.04
Three pole	310861	310871	0.05
Four pole	310821	310857	0.057

Standard hangers are acetyl.

Maximum support spacing is 1.5m.

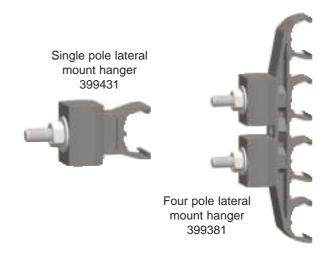


HANGER CLAMPS: LATERAL MOUNT

	STANDARD (BLACK)	POLYCARBONATE (RED)	WEIGHT (Kg)
Single pole	399431	399434	0.05
Two pole	399432	399435	0.06
Three pole	399433	399436	0.07
Four pole	399381	399382	0.12
Four pole (without spacer)	310835	310859	0.08

Lateral mount hangers are supplied with 20mm spacers to provide clearance for joint covers.

Maximum support spacing is 1.125m.



HANGER CLAMPS: WITH INSULATOR

			WEIGHT (Kg)
Single pole	(Black)	310918	0.10
Single pole	(Red)	310834	0.10
Single pole	Stainless steel	310827	0.106
Single pole	Two part	399544	0.08
Two pole	Two part	399627	0.174





Single pole two part hanger 399544



In particularly dusty or humid environments, hangers with insulator should be used.

ANCHOR CLAMPS

WEIGHT (Kg) Standard 310832 0.06 With stainless steel fasteners 399667 0.06 With insulator 310969 0.12 Lateral mount 399383 0.10 Without top bolt 310831 0.05 (two required per anchor point)







Anchor clamp without top bolt 310831

		WEIGHT (Kg)
Heavy duty anchor	399546	0.48



Anchor points are usually situated in the middle of a conductor system.

Additional anchor points are required for systems with expansion sections.

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END CAPS

		WEIGHT (Kg)
Steel / copper bar	310892	0.04
Aluminium bar	310893	0.02
Transfer cap	310951	0.10





Transfer caps are suitable for air gaps up to 10mm.

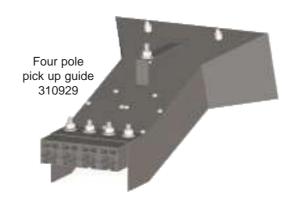
Vertical tolerance ± 5mm

Horizontal tolerance ± 2mm

PICK UP GUIDES

		WEIGHT (Kg)
Single pole	310920	1.27
Two pole	399532	1.72
Three pole	399502	2.16
Four pole	310929	2.54

Special collectors are required for systems where pick up guides are fitted.





ISOLATION SECTIONS

GALVANISED STEEL BAR

CURRENT RATING	60A	100A	125A
Standard Phase cover (orange)	310025	310125	310225
Standard Earth cover (green)	310026	310126	310226
Medium Heat cover phase (grey) earth	310027 310064	310127 310164	310227 310264
Weight (Kg)	2.71	3.16	4.19

Isolation section 310025

Isolation sections provide electrical separation between adjacent sections of conductor bar.

Only for use in dry, clean conditions.

The Isolation section is 4.5m long and is installed in place of one length of conductor bar.

It is recommended that Isolation sections are not fitted in earth conductors.

COPPER BAR

CURRENT RATING	160A	250A	400A
Standard Phase cover (orange)	310325	310425	310525
Standard Earth cover (green)	310326	310426	310526
Medium Heat cover phase (grey) earth	310327 310364	310427 310464	310527 310564
Weight (Kg)	2.97	3.42	4.68

Isolation section 310325

ALUMINIUM / STAINLESS STEEL BAR

CURRENT RATING	200A	315A	400A
Standard Phase cover (orange)	310625	310725	399125
Standard Earth cover (green)	310626	310726	399126
Medium Heat cover phase (grey) earth	310627 310664	310727 310764	399127 399128
Weight (Kg)	2.4	2.6	2.9

Isolation section 310625

COLLECTORS

CURRENT RATING	50A	100A	250A
Phase	399360	310990	34956
Phase with stainless steel fastener		399675	
Earth - without deflector	399380	399355	
Earth - right hand	399373	399340	
Earth - left hand	399372	399352	
Weight (Kg)	0.38	0.8	2.00

50A and 100A collectors are supplied without cable.

Stranded cable terminal clamps are included.

250A collectors are supplied with 2 x 1m 35mm² cable.

250A collectors only suitable for use on 400A bar



COLLECTOR SHOE + HOLDER

CURRENT RATING	50A + 100A Phase - red	50A + 100A Earth - green	250A
Code	310993	399357	35289
Weight (Kg)	0.06	0.06	0.28

The copper graphite shoe ensures electrical continuity, a smooth contact with the conductor bar and a good resistance to wear.





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COLLECTOR BRACKET

	13mm SQUARE	Weight (Kg)	25mm SQUARE	Weight (Kg)
Single	310994	0.36	310991	0.88
Double	310898	0.74	310992	1.84



Double collector bracket 310898

Double collector bracket 310992

13mm square, 200mm long for use with 50A collector.

25mm square, 400mm long for use with 100A and 250A collectors.

BRACKETS: SINGLE SIDED BRACKET

	WEIGHT (Kg)
310980	0.66
310982	0.86



310980 - to suit beam flange 80-155mm.

310982 - to suit beam flange 155-305mm.

BRACKETS: DOUBLE SIDED BRACKET

	WEIGHT (Kg)
310981	0.84
310983	1.08



310981 - to suit beam flange 80-185mm.

310983 - to suit beam flange 185-305mm.

BRACKETS: WEB BRACKET

	WEIGHT (Kg)
310984	0.62



BRACKETS: GIRDER CLAMP

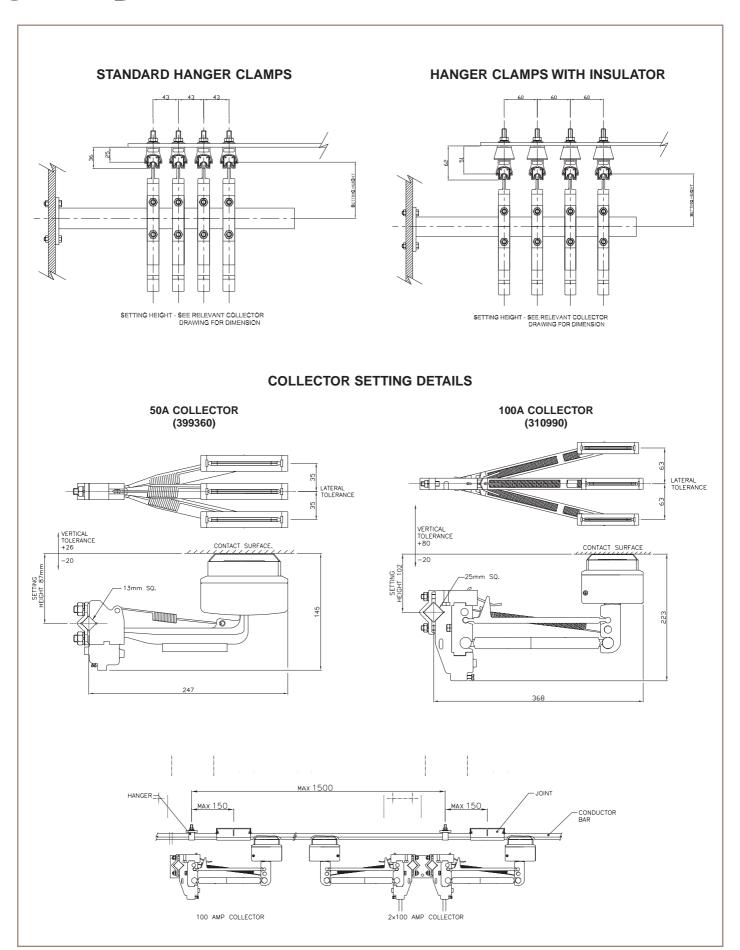
	WEIGHT (Kg)
310985	0.08





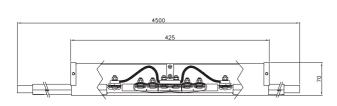
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SYSTEM DIMENSIONS

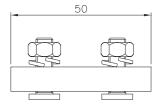


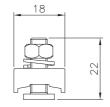


COMPONENT DIMENSIONS

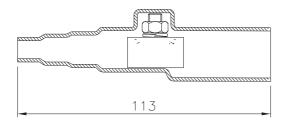


60A EXPANSION SECTION - Standard Phase Cover (310007)

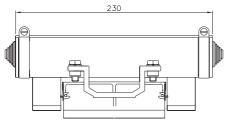




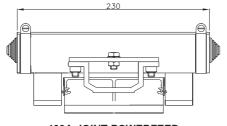
ALUMINIUM JOINT (310874)



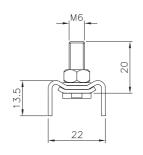
END POWERFEED (310911)



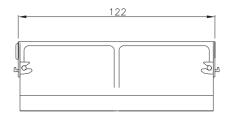
250A JOINT POWERFEED (310910)



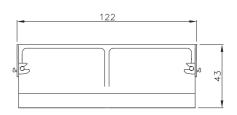
400A JOINT POWERFEED (310912)



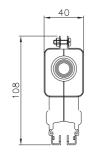
STEEL JOINT (310872)



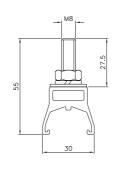
STANDARD PHASE COVER (310850)



60A JOINT POWERFEED (310034)

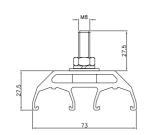


250A JOINT POWERFEED (310910)

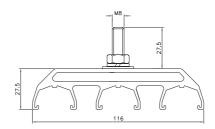


SINGLE POLE HANGER CLAMP Standard Mount (310824)

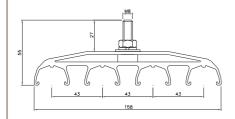
COMPONENT DIMENSIONS (Continued)



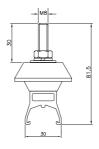
TWO POLE HANGER CLAMP **Standard Mount** (310882)



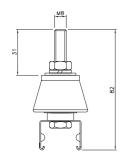
THREE POLE HANGER CLAMP **Standard Mount** (310861)



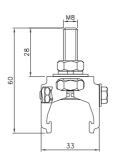
FOUR POLE HANGER CLAMP **Standard Mount** (310821)



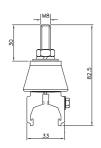
SINGLE POLE HANGER CLAMP with Insulator (310918)



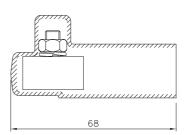
STAINLESS STEEL **HANGER CLAMP** with Insulator (310827)



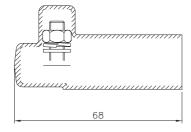
ANCHOR CLAMP (310832)



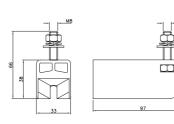
ANCHOR CLAMP With Insulator (310969)



END CAP for Steel / Copper Bar (310892)



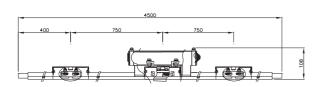
END CAP for Aluminium Bar (310893)



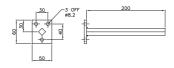
TRANSFER END CAP (310951)



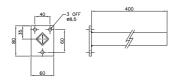
COMPONENT DIMENSIONS (Continued)



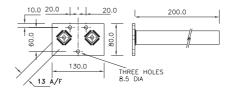
ISOLATION SECTION Standard Phase Cover (310025)



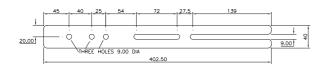
SINGLE COLLECTOR BRACKET 13mm square (310994)



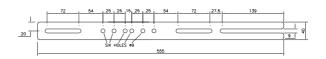
SINGLE COLLECTOR BRACKET 25mm square (310991)



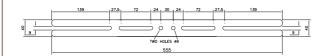
DOUBLE COLLECTOR BRACKET 13mm square (310898)



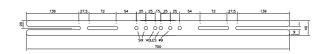
SINGLE SIDED BRACKET (310980)



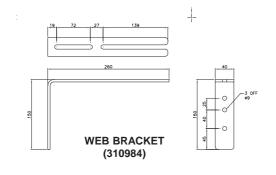
SINGLE SIDED BRACKET (310982)

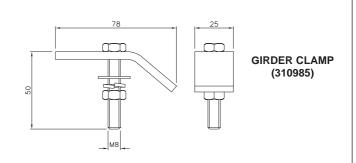


DOUBLE SIDED BRACKET (310981)



DOUBLE SIDED BRACKET (310983)







SAFELEC 3 TECHNICAL DATA

CONDUCTOR BAR COVER	STANDARD	MEDIUM HEAT
Material	PVC	BAYBLEND
Dielectric strength	180 KV/cm	240 KV/cm
Surface resistivity	10 ¹¹ Ω	> 10 ¹⁴Ω
Volume resistivity	>10¹⁵Ω/cm	>10¹6Ω/cm
Maximum operating temperature *	80°C	120°C
Minimum operating temperature	-20°C	-20°C
Flame-test	Self extinguishing	Self extinguishing
Oxygen index	54%	24%
Specific density	1.5 g/cm ³	1.15 g/cm ³

^{*} See Table on Page 4

CONDUCTOR BAR	COPPER		ALUMINIUM / STAINLESS STEEL
Nominal current	500A	800A	630A
Cross sectional area	115mm ²	171mm ²	277mm ²
Maximum system voltage (AC) (contact Insul-8 for other voltages) (DC) (contact Insul-8 for other voltages)	1000V 1000V	1000V 1000V	1000V 1000V
Resistance R (for DC) at 20°C (Ω/m)	0.000149	0.000100	0.000113
Impedance Z (for AC) at 20°C (Ω/m)	0.000189	0.000154	0.000162
Maximum allowable ambient temperature for 100% duty cycle	25°C	25°C	25°C
Bar length	4.5m	4.5m	4.5m
Support pitch Standard	1500mm	1500mm	1500mm
Minimum pitch centres Standard	60mm	60mm	60mm
Expansion sections: not required for runs less than	150m	150m	150m
Minimum bending radius: (horizontal only)	1.5m	1.5m	1.5m

Railway Shore Supply



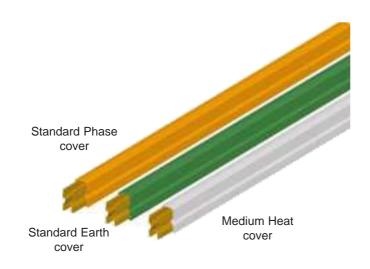
Electric Mining Vehicles

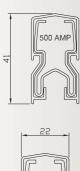




COPPER CONDUCTOR BARS

CURRENT RATING	500A	800A
Standard Phase cover (orange)	319201	319401
Standard Earth cover (green)	319202	319402
Medium Heat cover Phase (grey) Earth	319203 319204	319403 319404
Weight (Kg)	5.40	7.65







EXPANSION SECTIONS

CURRENT RATING	500A	800A
Standard Phase cover (orange)	319207	319407
Standard Earth cover (green)	319208	319408
Medium Heat cover Phase (grey) Earth	319209 319210	319409 319410
Weight (Kg)	7.40	10.15



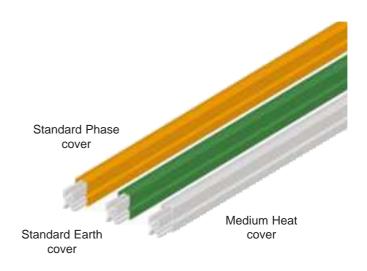
Expansion sections are required on all systems over 150m long.

The maximum gap of the expansion section is 50mm.

The expansion section is 4.5m long and is installed in place of one length of conductor bar.

ALUMINIUM / STAINLESS STEEL CONDUCTOR BARS

CURRENT RATING	630A
Standard Phase cover (orange)	319301
Standard Earth cover (green)	319302
Medium Heat cover Phase (grey) Earth	319303 319304
Weight (Kg)	4.23



EXPANSION SECTIONS

CURRENT RATING	630A
Standard Phase cover (orange)	319307
Standard Earth cover (green)	319308
Medium Heat cover Phase (grey) Earth	319309 319310
Weight (Kg)	6.50

Expansion sections are required on all systems over 150m long.

The maximum gap of the expansion section is 50mm.

The expansion section is 4.5m long and is installed in place of one length of conductor bar.



SAFELEC

JOINTS

JOINT		Weight (Kg)
Copper (up to 800A)	319874	0.25
Aluminium	319873	0.08

JOINT COVER	
Standard Phase cover (orange)	319850
Standard Earth cover (green)	319851
Medium Heat cover grey	319472 319473
Weight (Kg)	0.04







JOINTING COMPOUND	Weight (Kg)
310932	0.225

JOINTING COMPOUND

Jointing compound should be applied to the contact surfaces of the joint and bar at every joint on copper and aluminium systems. One tube is sufficient for over 300 connections.

POWERFEEDS: JOINT POWERFEED

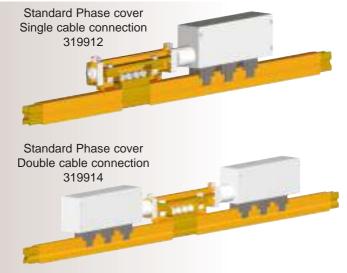
POWERFEED	
Standard cover (orange)	319909
Medium Heat cover (red)	319870
Weight (Kg)	0.30

Powerfeed has cable connection for maximum 2 x 50mm² cables.



Joint Powerfeed

POWERFEED SECTIONS



COPPER BAR

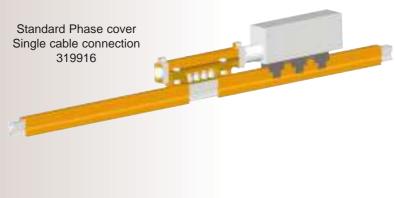
SINGLE CABLE CONNECTION	500A
Standard Phase cover (orange)	319912
Standard Earth cover (green)	319913
Medium Heat Phase cover (grey)	319926
Medium Heat Earth cover (grey)	319927
Weight (Kg)	6.56

DOUBLE CABLE CONNECTION	500A	800A
Standard Phase cover (orange)	319914	319910
Standard Earth cover (green)	319915	319911
Medium Heat Phase cover (grey)	319928	319468
Medium Heat Earth cover (grey)	319929	319469
Weight (Kg)	8.0	10.25

Powerfeed sections are 4.5m long and should be fitted in place of a length of conductor bar.

Suitable for connection of 1 or 2 cables up to 50mm²

ALUMINIUM / STAINLESS STEEL BAR



SINGLE CABLE CONNECTION	630A
Standard Phase cover (orange)	319916
Standard Earth cover (green)	319917
Medium Heat Phase cover (grey)	319930
Medium Heat Earth cover (grey)	319931
Weight (Kg)	5.39

Standard Phase cover	
Double cable connection	
319918	
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DOUBLE CABLE CONNECTION	630A
Standard Phase cover (orange)	319918
Standard Earth cover (green)	319919
Medium Heat Phase cover (grey)	319932
Medium Heat Earth cover (grey)	319934
Weight (Kg)	6.83

HANGER CLAMPS: STANDARD MOUNT

	STANDARD (BLACK)	POLYCARBONATE (RED)	STAINLESS STEEL WITH ZINC PLATED HARDWARE
Single pole	319821	319829	319826
Weight	0.027	0.030	0.070



Single pole hanger 319821



Stainless steel hanger 319826

Standard hangers are acetyl.

Maximum support spacing is 1.5m.

HANGER CLAMPS: WITH INSULATOR

			WEIGHT (Kg)
Single pole	(Black)	319834	0.10
Single pole	(Red)	319839	0.10
Single pole	Stainless steel	319827	0.106
Single pole	Two part	319833	0.08
Two pole	Two part	319838	0.174



Stainless steel hanger with insulator 319827



Single pole two part hanger 319833





In particularly dusty or humid environments, hangers with insulator should be used.

Standard 319832 0.06 With insulator 319964 0.12 Without top bolt (two required per anchor point) 319963 0.05



Anchor clamp with insulator 319964



Anchor clamp without top bolt 319963

ANCHOR CLAMPS

Anchor points are usually situated in the middle of a conductor system.

Additional anchor points are required for systems with expansion sections.

SAFELEC

END CAPS





ISOLATION SECTIONS

COPPER BAR

CURRENT RATING	500A	800A
Standard Phase cover (orange)	319012	319425
Standard Earth cover (green)	319013	319426
Medium Heat cover phase (grey) earth	319015 319016	319431 319432
Weight (Kg)	2.97	3.42





Isolation sections provide electrical separation between adjacent sections of conductor bar.

Only for use in dry, clean conditions.

The Isolation section is 4.5m long and is installed in place of one length of conductor bar.

It is recommended that Isolation sections are not fitted in earth conductors.

ALUMINIUM / STAINLESS STEEL BAR

CURRENT RATING	630A
Standard Phase cover (orange)	319311
Standard Earth cover (green)	319312
Medium Heat cover phase (grey) earth	319313 319314
Weight (Kg)	2.4

Isolation section 319311



COLLECTORS

CURRENT RATING	100A	250A
Phase	310990	34956
Earth - without deflector	399355	
Earth - right hand	399340	
Earth - left hand	399352	
Weight (Kg)	0.8	2.00





100A collectors are supplied without cable.

Stranded cable terminal clamps are included.

250A collectors are supplied with 2 x 1m 35mm² cable.

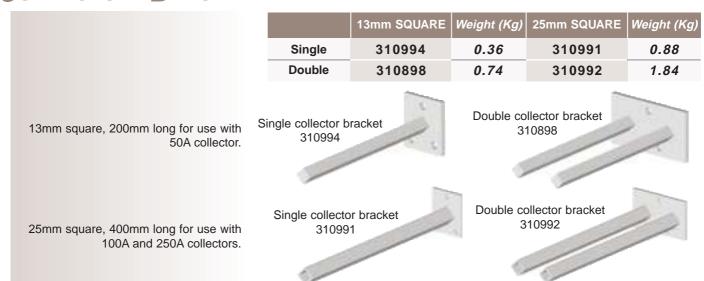
COLLECTOR SHOE + HOLDER

CURRENT RATING	50A + 100A Phase - red	50A + 100A Earth - green	250A
Code	310993	399357	35289
Weight (Kg)	0.06	0.06	0.28



The copper graphite shoe ensures electrical continuity, a smooth contact with the conductor bar and a good resistance to wear.

COLLECTOR BRACKET



BRACKETS: SINGLE SIDED BRACKET

		WEIGHT (Kg)
319980 - to suit beam flange 80-155mm.	319980	0.66
319982 - to suit beam flange 155-305mm.	319982	0.86
9		

(g) 66 86 319982

BRACKETS: DOUBLE SIDED BRACKET

		WEIGHT (Kg)	319981
319981 - to suit beam flange 80-185mm.	319981	0.84	
319983 - to suit beam flange 185-305mm.	319983	1.08	155
		4	319983

BRACKETS: WEB BRACKET

	WEIGHT (Kg)
319984	0.62



319980

BRACKETS: GIRDER CLAMP

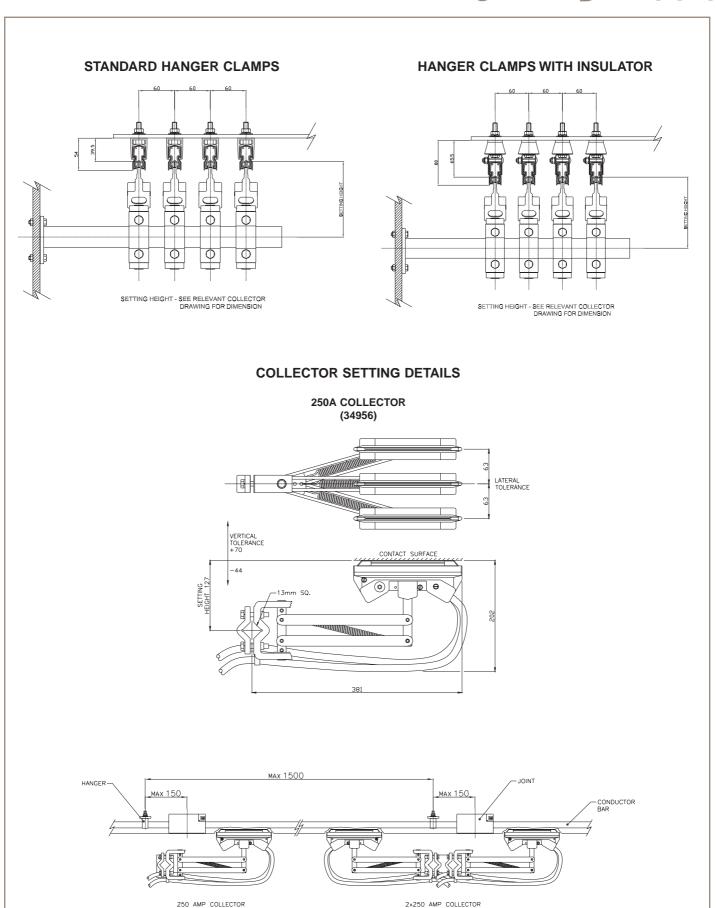
	WEIGHT (Kg)
310985	0.08





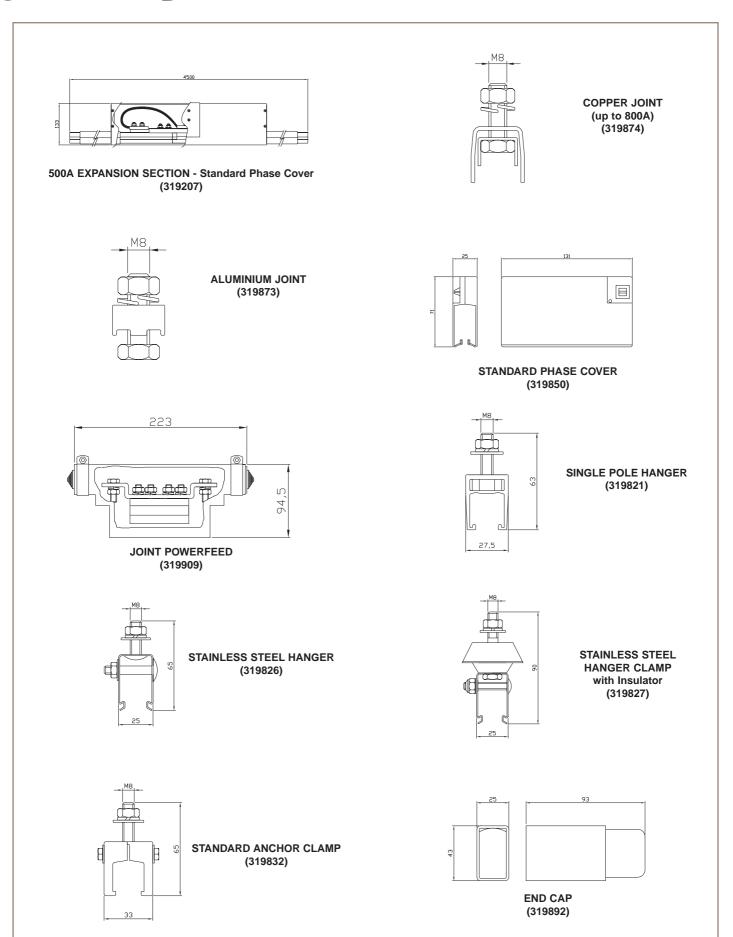


SYSTEM DIMENSIONS





COMPONENT DIMENSIONS





V BAR TECHNICAL DATA

For use in applications where regular disconnection and reconnection of current collectors is required: for example in mining and quarrying.

The specially designed profile of the insulating cover guides the collector shoe onto the sliding surface of the conductor bar, providing greater tolerance and allowing the collectors to be correctly located without direct access to the bar.

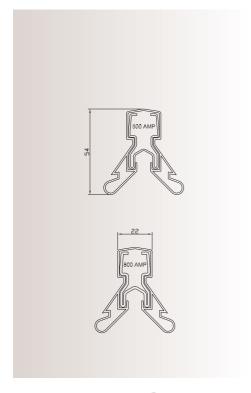
CONDUCTOR BAR COVER	STANDARD	MEDIUM HEAT
Material	PVC	BAYBLEND
Dielectric strength	180 KV/cm	240 KV/cm
Surface resistivity	10 ¹¹ Ω	> 10 ¹⁴Ω
Volume resistivity	>10 ¹⁵ Ω/cm	>10 ¹⁶ Ω/cm
Maximum operating temperature *	80°C	120ºC
Minimum operating temperature	-20°C	-20°C
Flame-test	Self extinguishing	Self extinguishing
Oxygen index	54%	24%
Specific density	1.5 g/cm ³	1.15 g/cm ³

^{*} See Table on Page 4

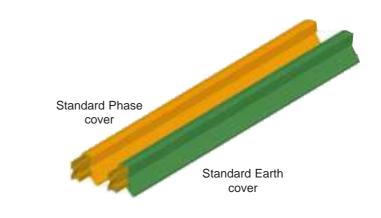
CONDUCTOR BAR	COPPER		ALUMINIUM / STAINLESS STEEL
Nominal current	500A	800A	630A
Cross sectional area	115mm²	171mm²	277mm ²
Maximum system voltage (AC) (contact Insul-8 for other voltages) (DC) (contact Insul-8 for other voltages)	1000V 1000V	1000V 1000V	1000V 1000V
Resistance R (for DC) at 20°C (Ω/m)	0.000149	0.000100	0.000113
Impedance Z (for AC) at 20°C (Ω/m)	0.000189	0.000154	0.000162
Maximum allowable ambient temperature for 100% duty cycle	25°C	25°C	25°C
Bar length	6m	6m	6m
Support pitch Standard	1500mm	1500mm	1500mm
Lateral	1125mm	1125mm	1125mm
Minimum pitch centres Standard	70mm	70mm	70mm
Lateral	70mm	70mm	70mm
Expansion sections: not required for runs less than	150m	150m	150m
Minimum bending radius: (horizontal only)	1.5m	1.5m	1.5m



COPPER CONDUCTOR BARS



CURRENT RATING	500A	800A
Standard Phase cover (orange)	319250	319451
Standard Earth cover (green)	319869	319452
Weight (Kg)	6.33	8.55



EXPANSION SECTIONS

Expansion sections are required on all systems over 150m long.

The maximum gap of the expansion section is 50mm.

The expansion section is 1.5m long.

CURRENT RATING	500A	800A
Standard Phase cover (orange)	319257	319457
Standard Earth cover (green)	319258	319458
Weight (Kg)	8.93	11.15



ISOLATION SECTIONS

Isolation sections provide electrical separation between adjacent sections of conductor bar.

Only for use in dry, clean conditions.

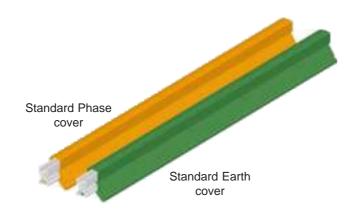
It is recommended that Isolation sections are not fitted in earth conductors.

CURRENT RATING	500A	800A
Standard Phase cover (orange)	319253	319453
Weight (Kg)	7.3	9.55



ALUMINIUM / STAINLESS STEEL CONDUCTOR BARS

CURRENT RATING	630A
Standard Phase cover (orange)	319351
Standard Earth cover (green)	319352
Weight (Kg)	5.13



EXPANSION SECTIONS

CURRENT RATING	630A
Standard Phase cover (orange)	319357
Standard Earth cover (green)	319358
Weight (Kg)	7.73



CURRENT RATING	630A
Standard Phase cover (orange)	319353
Weight (Kg)	6.1

Expansion sections are required on all systems over 150m long.

The maximum gap of the expansion section is 50mm.

The expansion section is 1.5m long.

ISOLATION SECTIONS

Isolation sections provide electrical separation between adjacent sections of conductor bar.

Only for use in dry, clean conditions.

It is recommended that Isolation sections are not fitted in earth conductors.



JOINTS



JOINT		Weight (Kg)
Copper 500/800A	319885	0.25
Aluminium	319873	6.08

JOINT COVER	
Standard cover	319840
Weight (Kg)	0.168





POWERFEEDS: JOINT POWERFEED

POWERFEED	
Standard cover (black)	319845
Weight (Kg)	0.16

HANGER CLAMPS: WITH INSULATOR



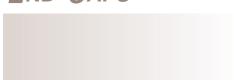
			WEIGHT (Kg)
Single pole	Two part	319844	0.114

ANCHOR CLAMPS



		WEIGHT (Kg)
Heavy duty anchor	319843	0.7

END CAPS



		WEIGHT (Kg)
Transfer end cap	319846	0.08

SAFELEC

COLLECTORS

CURRENT RATING	100A	250A
Phase	310990	34956
Earth - without deflector	399355	
Earth - right hand	399340	
Earth - left hand	399352	
Weight (Kg)	0.8	2.00





100A collectors are supplied without cable.

Stranded cable terminal clamps are included.

250A collectors are supplied with 2 x 1m 35mm² cable.

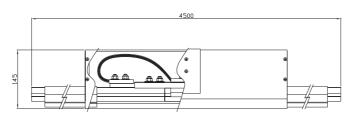
COLLECTOR SHOE + HOLDER

CURRENT RATING	50A + 100A Phase - red	50A + 100A Earth - green	250A
Code	310993	399357	35289
Weight (Kg)	0.06	0.06	0.28

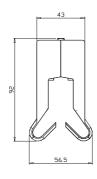


The copper graphite shoe ensures electrical continuity, a smooth contact with the conductor bar and a good resistance to wear.

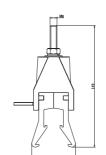
COMPONENT DIMENSIONS



800A EXPANSION SECTION Standard Phase Cover (319457)







SINGLE POLE TWO PART HANGER (319844)

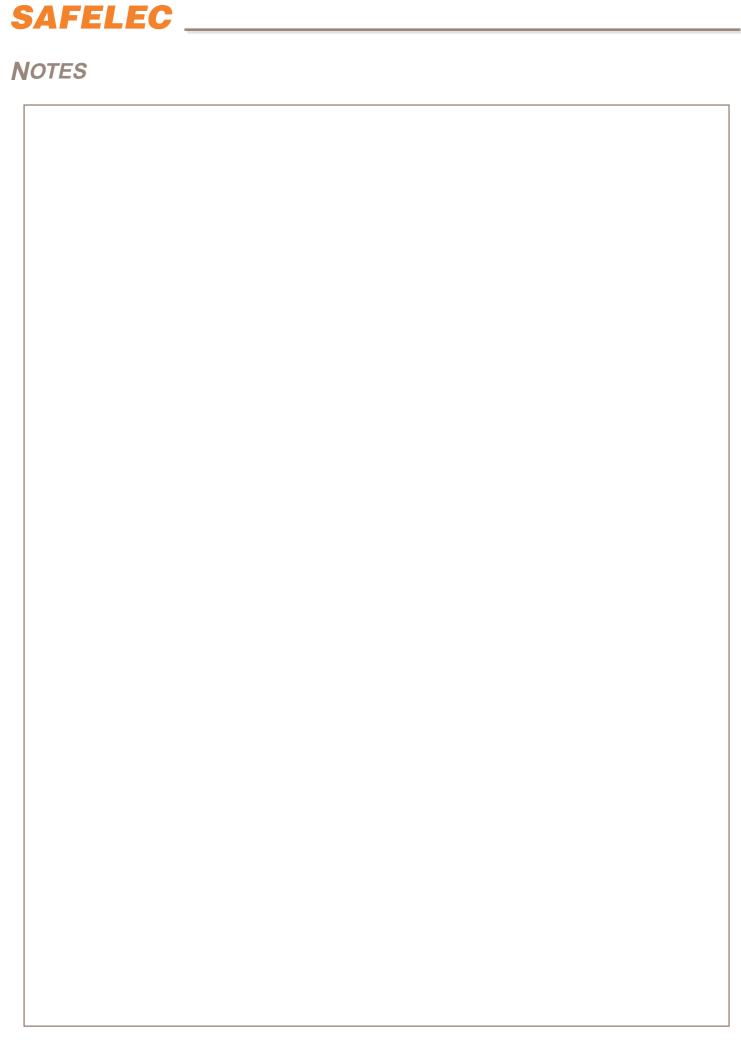
ALL OTHER COMPONENT DIMENSIONS AS SAFELEC 3



NOTES

1		



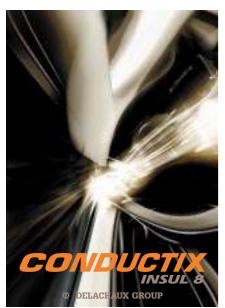






NOTES





POWER AND DATA TRANSFER

HEADQUARTERS

DELACHAUX S.A.

119 Avenue Louis Roche -BP152 92231 Gennevilliers Cedex FRANCE

Tel: +33 (0) 1 46 88 15 00 Fax: +33 (0) 1 46 88 15 01 www.delachaux.fr delachomgt@delachaux.fr

CONDUCTIX OPERATIONS

119 Avenue Louis Roche -BP152 92231 Gennevilliers Cedex FRANCE

Tel: +33 (0) 1 46 88 15 13 Fax: +33 (0) 1 46 88 15 10 conductix@delachaux.fr www.conductix.com

CONDUCTIX Worldwide

AUSTRALIA

CONDUCTIX Pty. Ltd... (Insul-8)

Dandenong

Tel: + (61) 3 97 06 88 44 Fax: + (61) 3 97 94 92 98 info@conductix.com.au www.conductix.com.au

BENELUX

CONDUCTIX Benelux

Brussels

Tel: + (32) (0) 2 469 25 60 Fax: + (32) (0) 2 469 29 35 info@conductix.be www.conductix.be

CANADA

CONDUCTIX Corp. (Insul-8)

St. Jerome Tel: (450) 565-9900 Fax: (450) 432-6985 infocanada@conductix.us www.conductix.ca

CHINA

CONDUCTIX Ltd.. (Han-Fa)

Wuhan

Tel: + (86) 27 83 49 99 88 Fax: + (86) 27 83 49 99 89 info@conductix.cn

FRANCE

CONDUCTIX (Delachaux)

Belley

Tel: + 33 (0) 4 79 42 50 00 Fax: + 33 (0) 4 79 42 50 05

Gennevilliers

Tel: + 33 (0) 1 46 88 15 23 Fax: + 33 (0) 1 46 88 15 21 infoconductix@conductix.fr www.conductix.fr

GERMANY / AUSTRIA

CONDUCTIX GmbH

Offenbach / Main Tel: + (49) 69 98 40 23 0 Fax: + (49) 69 98 40 23 99 info@conductix.de www.conductix.de

ITALY

CONDUCTIX Srl (Comes)

Milan

Tel: +39 (0) 39 607 431 Fax: +39 (0) 39 607 43292

Turin

Tel: + 39 (0) 11 45 09 007 Fax: + 39 (0) 11 42 41 008 info@conductix.it www.conductix.it

MEXICO

CONDUCTIX S.de R.L. de C.V. (Insul-8)

Monterrey

Tel: + (52) 811 090 9013 Fax: + (52) 811 090 9014 infomexico@conductix.us www.conductix.com.mx

SOUTHEAST ASIA

CONDUCTIX Singapore

Singapore

Tel: + (65) 6329 6405 Fax: + (65) 6329 9699 info@conductix.com.sg www.conductix.com

UNITED KINGDOM

CONDUCTIX Ltd.. (Insul-8)

Salford

Tel: + (44) 161 848 01 61 Fax: + (44) 161 873 70 17 info@conductix.co.uk www.conductix.co.uk

UNITED STATES

CONDUCTIX, Inc. (Insul-8)

Omaha, NE

Tel: + (1) 800 521 4888 + (1) 402 339 9300 Fax: + (1) 800 780 8329 + (1) 402 339 9627

Harlan, IA

Tel: + (1) 402 339 9300 Fax: + (1) 402 339 9627 info@conductix.us www.conductix.us

Countries where we are also represented :

Algeria, Argentina, Austria, Bahrain, Bolivia, Brazil, Bulgaria, Cameroon, Chile, China, Colombia, Congo, Ivory Coast, Croatia, Czech Republic, Denmark, U.A.E., Ecuador, Egypt, Finland, Gabon, Greece, Guatemala, Guinea, Honduras, Hungary, Indonesia, India, Iraq, Iran, Ireland, Israel, Japan, Jordan, Korea, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Mauritania, Mexico, Morocco, Netherlands, New Zealand, Niger, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russia, Saudi Arabia, Senegal, Slovakia, South Africa, Spain, Sweden, Switzerland, Syria, Thailand, Taiwan, Tunisia, Turkey, Uruguay, Venezuela, Vietnam...