

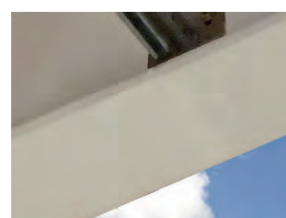
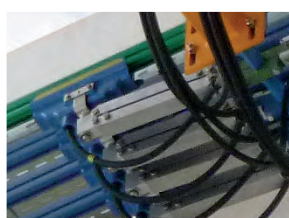


AKAPP-STEMMANN

A **Wabtec** company

Conductor Line Systems

Survey



AKAPP PRODUCTS

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Index

PAGE	SECTION	THEME
002	Index	
003	Company	AKAPP-STEMMANN Our solutions move you further...
004	Conductor line systems	The safest mode of power and data transmission
005		Conductor line and plant systems
006	SCL	AKAPP Conductor Line
007		SCL components and technical data
008	SACL	AKAPP Aluminium Conductor Line
009		SACL components and technical data
010	SICL	AKAPP Individually Insulated Conductor Line
011		SICL type overview and technical data
012	SOCL	AKAPP Open Conductor Line
013		SOCL type overview and technical data
014	Conductor line channels	Low floor channels / box-type conductor lines
015	Special applications	Industrial Wireless LAN / Power Rail Booster
016		Your way to optimal reliability!

AKAPP-STEMMANN



Our solutions move you further...

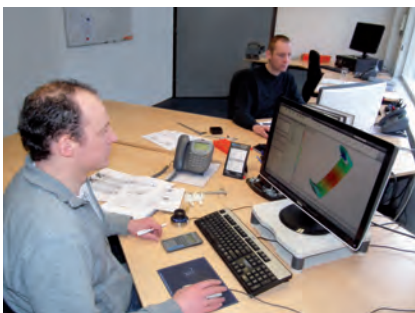
Since 1953 AKAPP-STEMMANN has been the specialist in developing and creating flexible power supply for movable equipment. We advise and design solutions for a wide variety of applications such as cranes, AS/RS industry, assembling plants, blast-furnace applications, concrete factories, production machines and many more.

AKAPP-STEMMANN: the world-wide supplier.

The AKAPP-STEMMANN head office is situated in Ede, the Netherlands. World-wide AKAPP-STEMMANN is represented in more than 65 countries, which ensures you short delivery times, a world-wide availability of components and technical support.

Naturally we communicate by means of the most modern equipment. Solutions can therefore be sent within seconds to almost every corner of the world. Speaking of efficiency.

AKAPP-STEMMANN: flexible all the way ...



AKAPP-STEMMANN: flexible all the way ...

For product improvement and development we use the most modern design technologies and testing facilities. This ensures the best possible solutions technically as well as economically for your projects. Flexibility in solutions for applications and tailor made installations make us your specialist. Quick and very accurate.

And of course, compliant to ISO 9001 and SCC/VCA accreditations.

AKAPP-STEMMANN: in good company!

We are part of the American Wabtec Corporation, a leading supplier of value-added, technology based products and services for rail, transit and other global industries.

We offer you continuity as your partner in business, with affiliated companies in e.g. Germany, Great-Britain, USA, Australia, China and more.

The safest mode of power and data transmission



Applications of our conductor line systems

Optimal power supply and uninterrupted data communication are the pillars of modern production. AKAPP conductor lines guarantee both, effectively and safely.

Efficient work processes are often only made possible by flexibly connected current collectors/data adapters along the lines.

Using solid components and sophisticated system technology, we ensure the right power is available at all times – precisely where it is needed. Data connections for computerised processes are permanently stable and remain uninterrupted.

Our conductor line systems also increase safety for people and the environment. Particularly when manually transporting power- and data lines within the work area is obstructive or even hazardous.

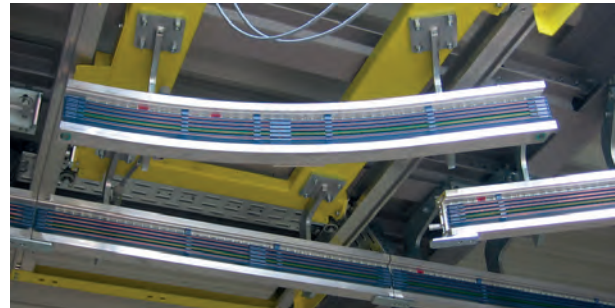
All conductor lines are planned by us as complete systems. We carry out the projects on site, including suspension, control cabinets and all other necessary components – even in underground conductor line channels if necessary.

The design and quality of our conductor line systems guarantee easy assembly and low-maintenance operation.

Conductor line and plant systems

We manufacture conductor lines for every purpose, with closed or open structure, i.e. with or without protective insulation against manual contact.

The design, material and number of poles can be varied depending on area of use and purpose and tailored to our customers' requirements.



COMPACT CONDUCTOR LINES

Compact conductor line systems are distinguished by their installation-friendly design and connection technology. As a result, these systems can be easily expanded or modified. They correspond to protection class IP23.



INDIVIDUALLY INSULATED CONDUCTOR LINES

Individually insulated conductor lines are suitable for use in buildings, workshops and outdoor facilities. The comprehensive individual insulation of the current carrying elements ensures full safe protection against accidental contact in areas that are within easy reach (protection class IP23).



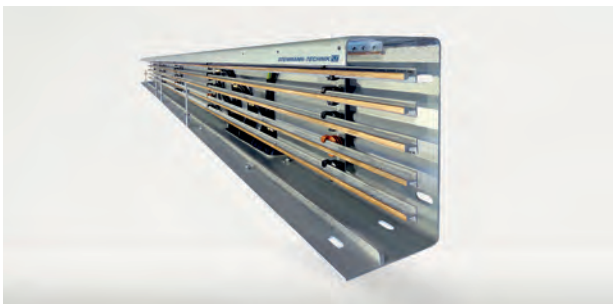
OPEN CONDUCTOR LINES

Open conductor lines are created for heavy industry and port operations. Robustly built and designed for high voltage, they work effectively in extreme environments as well as outdoors.



CONDUCTOR LINE CHANNELS / BOX-TYPE CONDUCTOR LINES

Conductor line channels and box-type conductor lines are used in crane and port operations. Special covers and lifting devices allow for an easy drive over and optimal protection against accidental contact along the conductor lines.



AKAPP Conductor Line

Applications of our SCL conductor line systems

Our compact conductor lines of the SCL series are made of impact resistant plastic and feature an innovative connection technology.

The installation-friendly, preassembled system is characterized by a high stiffness at low weight and compact dimensions. It can expand and offers inspection possibilities at all joints - eliminating the need for additional expansion joints.

All straight sections can be easily replaced if necessary. The sliding contacts can be connected and fixed using a solid bolt embedded in the system - it does not require loose mounting components. Feedings are carried out variable within or at the end of the conductor line.

The main power line is integrated, safe from damages, within the current collector trolleys.

The enclosed conductor system is designed for currents up to 240 A and depending on the application is equipped with up to 7 conductors.

Accidental contact with live components is almost impossible thanks to the narrow openings in the casing profile. Our SCL conductor lines are used without further safety measures in areas that are within easy reach.

Additional sealing lips provide effective protection against dirt and moisture.

Components and technical data

We offer our SCL series in prefabricated 4-meter lengths. In addition to the conductor bar with collecting trolleys, mounting systems for wall or ceiling installation, power supply feeds, etc. a comprehensive range of accessories is available.

APPLICATIONS

- Overhead and bridge cranes
- High bay storage, conveyor technology
- Monorail tracks
- Transport systems
- Data transmission systems
- Production lines, workshop equipment
- Stand-alone applications

SYSTEM COMPONENTS

- Straight sections up to 4000 mm length
- Curved sections from ≥ 800 mm curve radius
- Sliding and fixed point suspensions
- C-rail traverses
- Centre/end feedings
- End/terminating caps
- Current collecting trolleys 20 A / 40 A / 100 A
- Entry/transfer funnels
- Fork attachment/towing arm for free transfer sections



SCL current collecting trolley, 7 poles / 40 A

TECHNICAL DATA FOR CONDUCTOR BAR

Housing material	PVC						
Standard length	4000 mm						
Number of conductors	max. 7						
Suspension distance	1000 mm / 2000 mm						
Voltage U_N	24 to 690 V AC						
Current capacity (100% ED at 35°C), max.	40 A	64 A	78 A	100 A	140 A	180 A	240 A
Conductor bar cross-section	5 mm ²	10 mm ²	15 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²
Ambient / housing temperature	- 30 °C to + 70 °C						
Travel speed	depending on the application, up to 300 m/min						
Protection class (DIN VDE 0470 T.1/EN 60529)	IP23 / IP24 (with sealing lip)						
Smallest curve radius	≥ 800 mm horizontal / ≥ 1500 mm vertical						
Fire protection equipment	UL94 / V0 (not halogen free)						

AKAPP Aluminium Conductor Line



Applications of our SACL conductor line systems

The compact conductor lines of our SACL series are made of a high quality aluminium housing and are designed for applications with high thermal and mechanical requirements.

Due to the individual insulators, the space saving system provides high electrical safety and ensures easy accessibility with its dual-panel housing. The narrow openings and the light and compact aluminium profiles offer maximum protection against accidental contact with the live electrical components and are corrosion resistant.

The prefabricated components allow easy installation of the entire conductor line system including the command- or pulse-encoders in a semi- or fully automated control system.

Our SACL-conductor line system is designed for currents up to 280 A. With respect to the application, we produce 4-, 5- or 7-pole versions with conductor bar cross sections of 10 - 70 mm².

Feedings are carried out either as a centre feeding from the standard profiles with 1000 mm length or as end feedings by special terminal boxes.

The current collecting trolleys are designed, like the rest of SACL conductor line system, for applications in harsh environments such as outdoor applications, in marine environments or areas with contact with chemicals.

Components and technical data

We offer our SACL series in preassembled 4-meter lengths and 1-meter lengths for centre feeding. In addition to the conductor bar with current collecting trolleys, mounting systems for installations in indoor and outdoor areas, etc. a comprehensive range of accessories is available.

APPLICATIONS

Especially for areas with high thermal and mechanical requirements

Overhead and bridge cranes

High bay storage, conveyor technology

Monorail tracks

Transport systems

Data transmission systems

Production lines, workshop equipment

Stand-alone applications

SYSTEM COMPONENTS

Straight sections up to 4000 mm length

Curved sections from ≥ 900 mm curve radius

Sliding and fixed point suspensions

C-rail traverses

Centre / end feedings

End / terminating caps

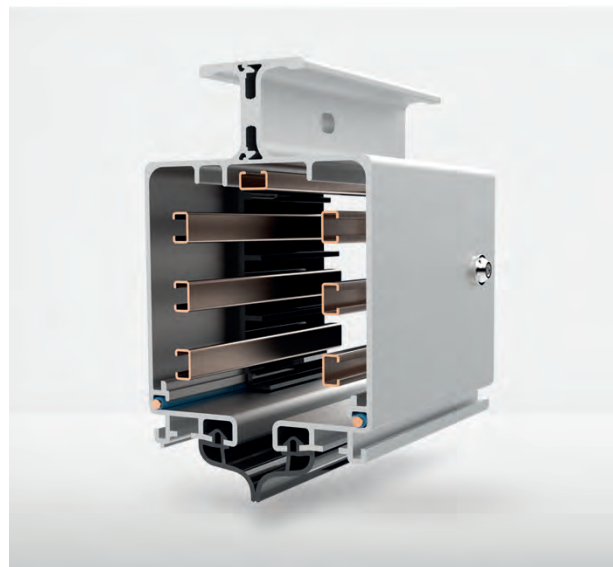
Current collecting trolleys 20 A / 40 A

Entry / transfer funnels

Fork attachment / towing arm for free transfer sections



SACL 4-7 poles, current collecting trolley

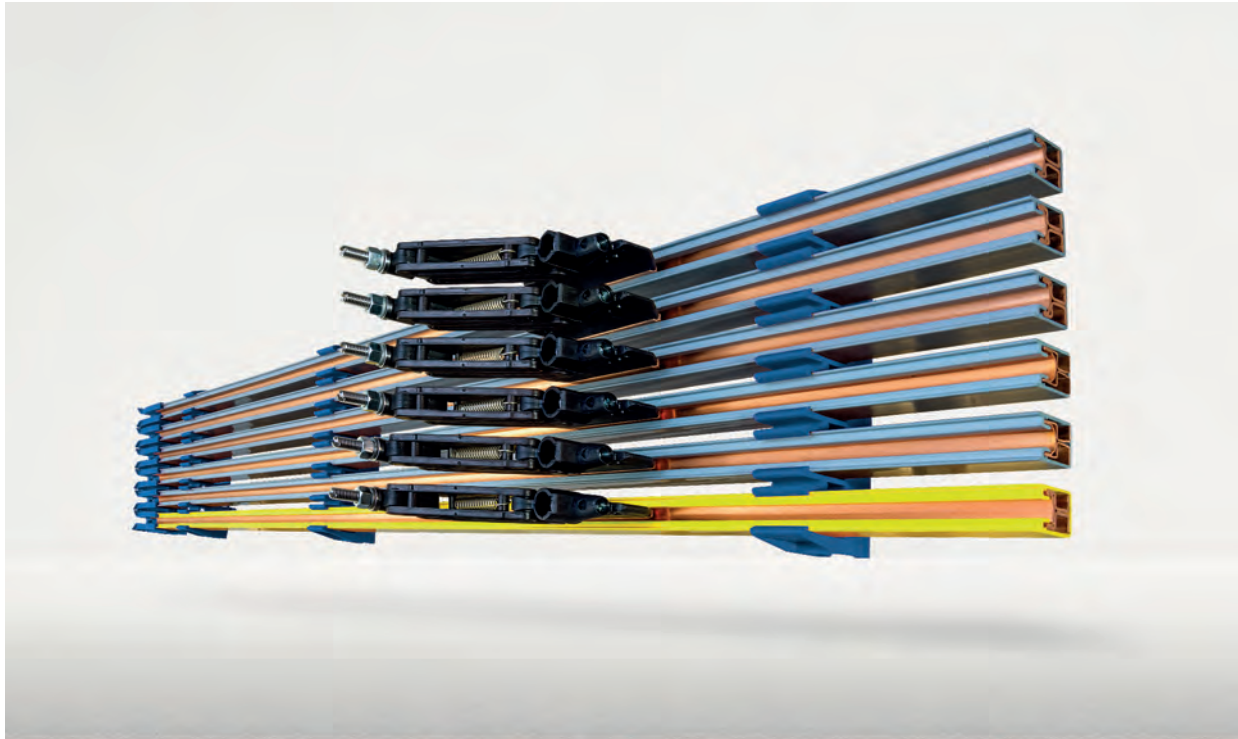


SACL 4-7 poles, conductor bar incl. sealing lip and heating wire

TECHNICAL DATA FOR CONDUCTOR BAR

Housing material	Aluminium					
Standard length	4000 mm / 1000 mm feeding profile					
Number of conductors	4-5 poles / 4-7 poles					
Suspension distance	2000 mm (30, 50 and 70 mm ²) / 3000 mm (10, 16 and 20 mm ²)					
Voltage U _N	24 to 690 V AC					
Current capacity (100% ED at 35°C), max.	60 A	80 A	100 A	140 A	200 A	280 A
Conductor bar cross-section	10 mm ²	16 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²
Ambient / housing temperature	- 30 °C to +100 °C (short-term 140 °C)					
Travel speed	depending on the application, up to 200 m/min					
Protection class (DIN VDE 0470 T.1/EN 60529)	IP23					
Smallest curve radius	≥ 1200 mm (depending on the conductor line type smaller curve radius possible)					
Fire protection equipment	UL94 / V0					

AKAPP Individually Insulated Conductor Line



Applications of our SICL conductor line systems

Our product range of individually insulated conductor lines consists of the types SICL10, SICL20, SICL25 and SICL40.

It is a contact-protected, plastic-coated conductor line system for indoor and outdoor applications according to VDE0100.

The conductor line bars and curve pieces offer the possibility of an arrangement having variable centre distances in both the horizontal and vertical alignment.

It is possible to create curved shapes, using special bending techniques and connecting pieces. Quick release systems allow for easy assembly and disassembly.

Our SICL conductor line system offers the possibility of data transmission, as well as options for connection of heat conductors against icing.

Depending on the type of conductor line the respective conductor line is used for currents up to 2200 A and is designed in any number side by side according to application.

The current collectors of our SICL conductor line systems are available as a stand-alone current collector or pre-mounted on a console as a multi-pole model. We can also provide all current collectors with a reverse-polarity protected PE.

SICL conductor line systems are used in applications including cranes, eRTGs, transportation facilities or shuttle systems in warehouse logistics.

Type overview and technical data

Current collectors, fastening systems for installations in indoor and outdoor use, power feeds, etc. complete our SICL-conductor line system.

APPLICATIONS

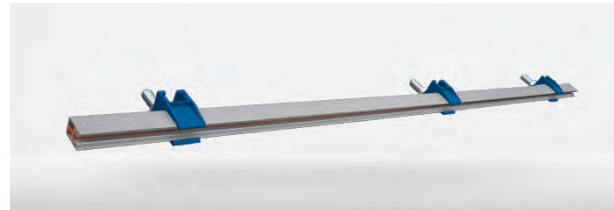
- Overhead and bridge cranes
- High bay storage, conveyor technology
- Monorail tracks
- Transport systems
- Data transmission systems
- Production lines, workshop equipment
- Electrification of RTGs

SYSTEM COMPONENTS

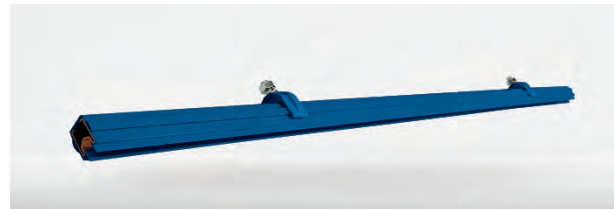
- Straight sections up to 6000 mm length
- Curved sections from ≥ 300 mm curve radius
- Sliding and fixed point suspensions
- C-rail traverses
- Centre / end feedings
- End / terminating caps
- Current collecting trolleys
- Entry / transfer funnels
- Fork attachment / towing arm for free transfer sections



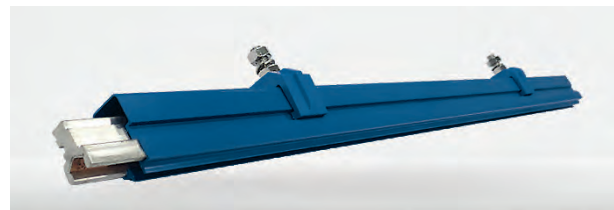
SICL10



SICL20



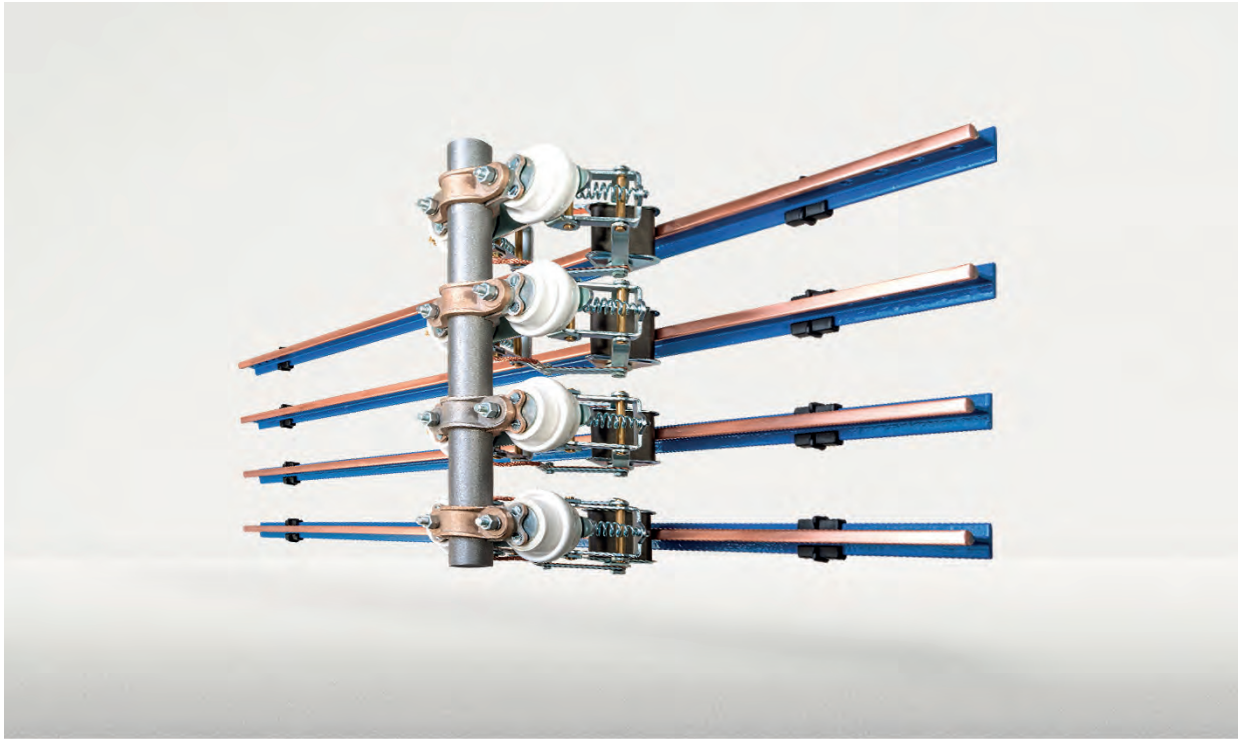
SICL25



SICL40

TECHNICAL DATA FOR CONDUCTOR BAR TYPES

Conductor bar type	SICL10	SICL20	SICL25	SICL40
Housing material	PVC	PVC	PVC	PVC
Standard length	6000 mm	6000 mm	6000 mm	6000 mm
Number of conductors	unlimited	unlimited	unlimited	unlimited
Suspension distance	max. 800 mm	max. 1000 mm	max. 1500 mm	max. 2500 mm
Voltage U_N	690 V	690 V	1000 V	1000 V
Current capacity (100% ED at 35°C)	max. 100 A	max. 200 A	max. 550 A	max. 2200 A
Conductor bar cross-section	25 mm ²	max. 50 mm ²	max. 200 mm ²	max. 900 mm ²
Conductor material	copper, stainless steel	copper	copper, alu-copper, alu-stainless steel	copper, alu-copper, alu-stainless steel
Ambient / housing temperature	- 30°C to +90°C	- 30°C to +90°C	- 30°C to +90°C	- 30°C to +90°C
Travel speed	400 m/min	400 m/min	600 m/min	600 m/min
Protection class (DIN VDE 0470 T.1/EN 60529)	IP23	IP23	IP23	IP23
Smallest curve radius, vertikal/horizontal	> 300 mm	> 500 mm	> 1500 mm	> 2500 mm
Application area	indoor	in-/outdoor	in-/outdoor	in-/outdoor
Fire protection equipment	UL94 / V0	UL94 / V0	UL94 / V0	UL94 / V0

AKAPP Open Conductor Line

Applications of our open conductor line systems

Our product range for open conductor lines consists of the types F20/A20, F35/A35 and F45/A45 and additional VC solid copper types. The conductor line bars are used in harsh environmental conditions with high dirt exposure and temperatures as well as extremely high performance of power transmission. Due to the robust characteristics of our conductor line bars, they are used among others in steel mills, shipyards and port facilities.

Depending on the requirements, designs in all copper, different copper-steel and copper-aluminium compounds are available.

In the port operations, our conductor line bars are used in conductor line channels or box-type conductor lines.

Depending on the implementation, the respective conductor line bar is designed for currents up to 2160 A. Depending on the application it is equipped with special insulators, and is approved for voltages up to 10 kV.

The current collectors of our open conductor line system are available as single or double current collectors. Using spring pressure systems, they are laid from above, below or laterally on the conductor bar.

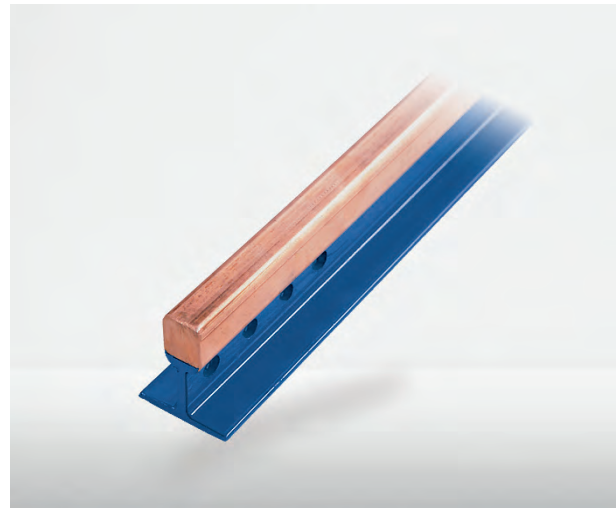
Type overview and technical data

APPLICATIONS

- Overhead cranes
- Smelting works
- Shipyards
- Harbour facilities
- Low floor channels
- Box-type conductor lines

SYSTEM COMPONENTS

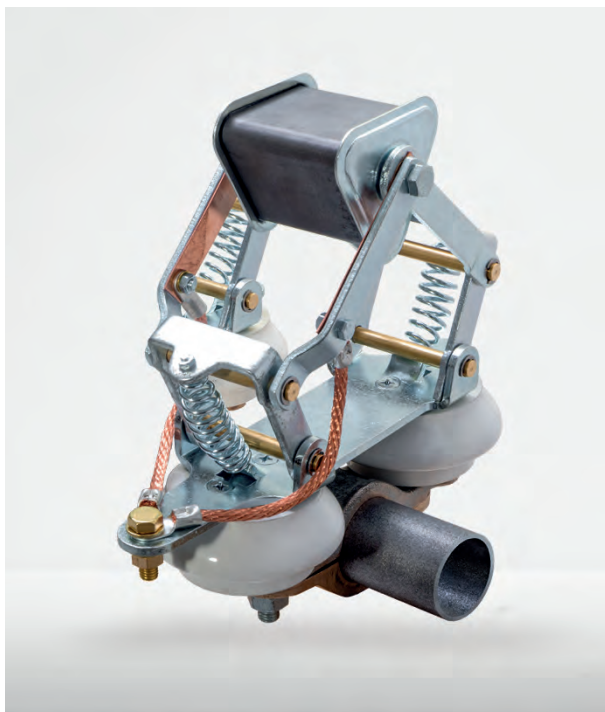
- Straight sections up to 7000 mm length
- Insulators
- Current collectors



SOCL F type

TECHNICAL DATA FOR CONDUCTOR BAR TYPES

Conductor bar type		F20 / A20	F35 / A35	F45 / A45	VC 25 - VC 60
Standard length		7000 mm	7000 mm	7000 mm	7000 mm
Suspension distance		1500 mm	2000 mm	2500 mm	2500 mm
Voltage U_N		1000 V	1000 V	1000 V	1000 V
Current capacity (100% ED at 35°C)		max. 560 A	max. 920 A	max. 1550 A	max. 2150 A
Conductor bar cross-section, max.		100 mm ²	200 mm ²	600 mm ²	1200 mm ²
Conductor material	F types	steel-copper	steel-copper	steel-copper	material copper
	A types	alu-copper	alu-copper	alu-copper	
Ambient temperature		- 30°C to +130°C	- 30°C to +130°C	- 30°C to +130°C	- 30°C to +130°C
Application area		in-/outdoor	in-/outdoor	in-/outdoor	in-/outdoor

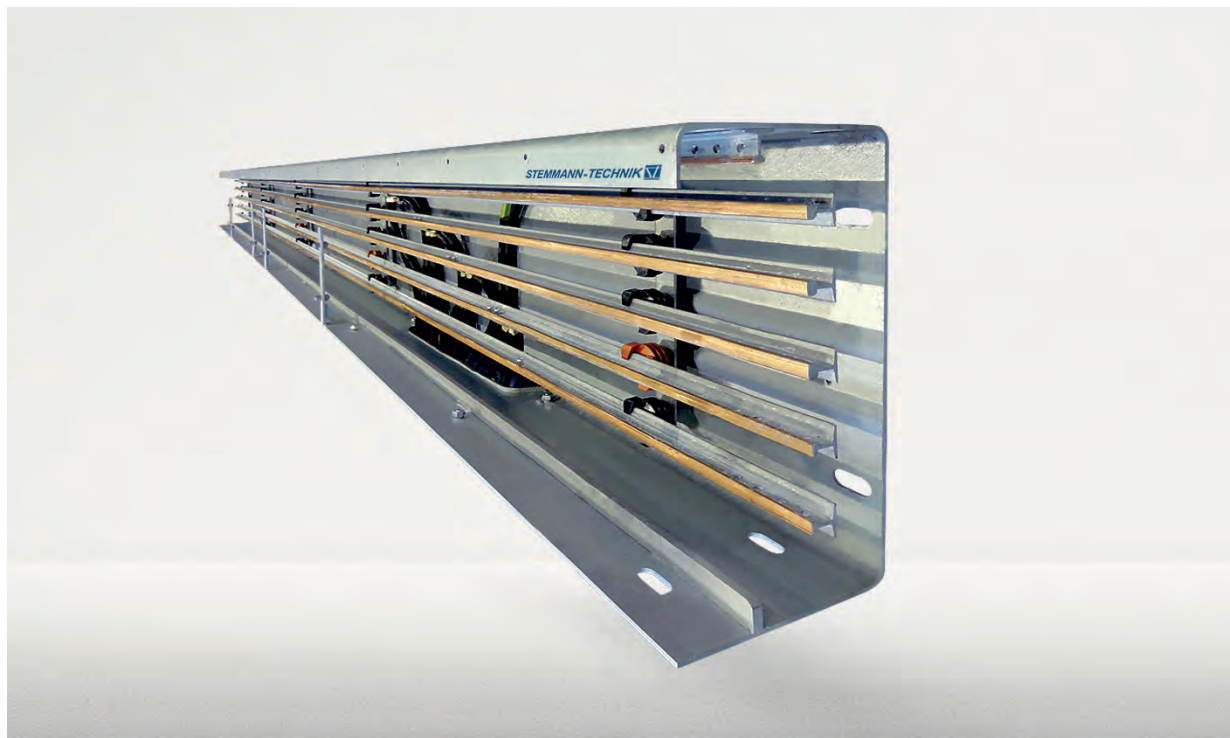


Single current collector PKR80



Dubble current collector

Conductor Line Channels / Box-Type Conductor Lines



Applications of our conductor line channels and box-type conductor lines

We produce and assemble conductor line- and underfloor ducts and box-type conductor lines for crane and port operations.

Our systems are equipped with special covers and lifting devices, assuring a good drive over and touch protection of the installed conductor line bars and cables. The lighter box-type conductor line systems are used for mounting on walls, poles or beams. Heavy models are used as guard rail on docks and shipyards.

All components such as plate lifting devices, metal and rubber covers, current collecting trolleys or -arms, feeders, etc. are manufactured and installed by us. If requested our service team will carry out maintenance works for your systems.

SYSTEM COMPONENTS

Edge protection corner
Cover plates
Traverses
Conductor lines
Plate lifting devices
Box-type channels, heavy models
Box-type channels, light models
Current collecting trolleys
Carriers

Industrial Wireless LAN (IWLAN)

The automation of hoists and conveying systems requires a transmission of increasing amounts of data. In particular, due to constant changes in the industry there is a constantly growing demand for wireless data transmission capabilities.

In cooperation with Siemens AG, we provide a wireless LAN system for open or closed conductor lines, slip ring assemblies or special applications. This system achieves maximum flexibility in challenging radio communication environments for industrial data transmission.

SYSTEM ADVANTAGES

- Maximum reliability due to controlled and defined radio field
- Contact-free data transmission and therefore wear-free, with low maintenance
- Flexible application possibilities
- Cost savings by means of substitution of conductor lines and trailing cables



Industrial Wireless LAN System

Power Rail Booster

The SIMATIC® Power Rail Booster is used as a component in electrical PROFIBUS networks. It allows the transfer of the PROFIBUS-DP signal via our conductor line systems. Because the protocol is not changed, all PROFIBUS services are possible.

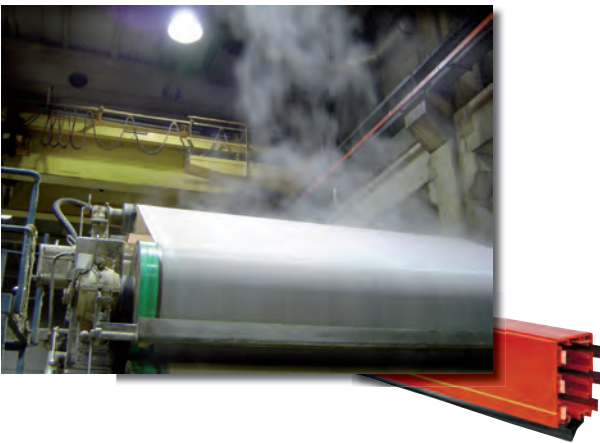
The Power Rail Booster used for signal amplification allows for simple installation without load resistors and makes it possible to implement cost-effective concepts using standard components.

APPLICATIONS

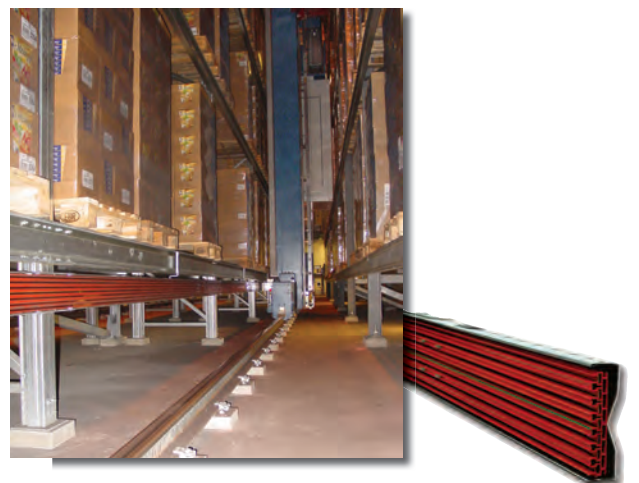
- Monorail overhead conveyors
- Transfer trolleys
- Crane systems
- EMC stressed cable channels
- High-bay storage or bay conveyor systems



Power Rail Booster System



AKAPP-STEMMANN is a world-wide market leader with our made to order conductor bar systems. We offer you the best possible solution for almost any application in whatever the circumstances. We welcome your inquiries!



More information on our products can be found in our brochures, that we are happy to send you on request. You can also visit our website www.akapp.com, where you can find more relevant information, download brochures and make online inquiries; fast and easy!

Your way to optimal reliability!