

Third Rail Current Collectors



TRANSIT APPLICATIONS



STEMMANN-TECHNIK

QUALITY MADE IN GERMANY

Systems for lokal traffic, tram and metro

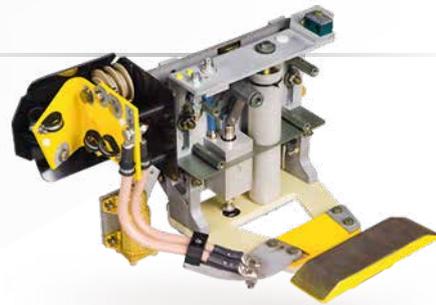
We are specialised in customised innovative solutions in the field of third rail current collectors for suburban rail, metros and rapid transit rail.

Thanks to its large cross-section, the third rail can transmit high current densities. It is always used when an overhead wire for roof-mounted pantographs cannot or should not be installed.

The maximum vehicle speed with third rail current collectors is approximately 120 km/h. Deployment and retraction can take place manually or by remote control, i.e. through mechanical or pneumatic systems. The contact to the conductor rail can be made from the top or the bottom or even from the side.

Our third rail current collectors are in everyday use in local rail networks of the big cities regions and metropolitan areas.

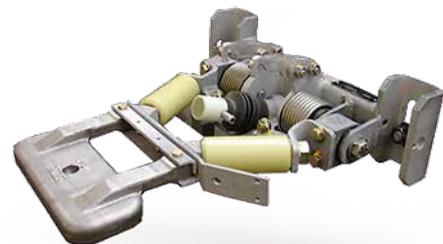
We develop a perfect system for every vehicle type, for every vehicle model and railway network. We realise individual customizations for any application professionally and in time.



Top Running Systems ■

Bottom Running Systems ■

Side Running Systems ■



Pneumatic systems

are powered by compressed air. The deployment and retraction to the conductor rail and attachment of the current collector is controlled or initiated centrally from the driver's cabin.

Inductive or mechanical proximity switches are used for detecting the shoe position.

Pneumatic systems can also be actuated with insulated hand levers using the emergency function.

Mechanical systems

Mechanical systems are operated manually. The deployment and retraction of the current collector to the rail conductor is done individually – with the help of an insulated hand lever.

Special solutions

If maintenance vehicles or multi-system vehicles are to be supplied with energy via the third rail, there is often a requirement for new ideas and design solutions.

Our team of experts jointly develops solutions with a high degree of innovation. We have extensive project experience with the most varied vehicle types and requirements, even with limited space.



Special solution, Metro Vienna

EXAMPLES FOR SPECIAL SOLUTIONS

Current collector designs in which the swinging link can be swung out of the minimum clearance outline

Current collector with electric motor drive for a hybrid tram car

Current collector with hydraulic actuation

Current collector with integrated collector shoe cover

Special solutions for maintenance vehicles

Components for 3rd rail current collectors

Supplementary to our third rail current collectors, we also supply optional accessories and safety components that are required, depending on the specification.

Short-circuit terminals

Pneumatic short-circuit terminals are safety devices that are operated from the driver's cabin (remote-controlled). They can generate a short-circuit between current-carrying rails and the running rail, as a result of which the respective rail section gets cut off from the electric supply.

The short-circuit terminal is activated when there is an immediate danger, for example, if there are people on the tracks. At the same time, it serves as an additional safety device if passengers have to be evacuated, or after the operator has cut off the electric supply. By using the short-circuit terminal, the running rail can be prevented from being switched on again too early or unintentionally.

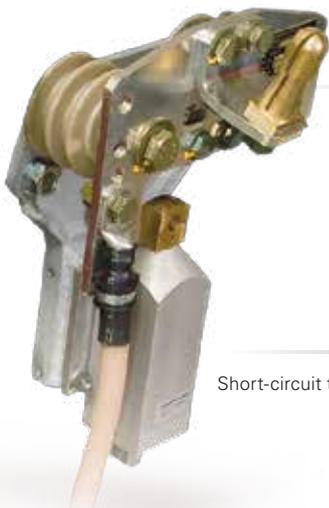
Fuse boxes

Fuse boxes for third rail current collectors serve to protect the electrical system of the vehicles. Selected fuses ensure safe vehicle operation in the overload range or in case of a short-circuit. We carry out the calculations and design of the fuses and supply fuse boxes in plastic or stainless steel versions, depending on the customer specifications and space conditions.

Connection terminals

The connection terminal joins the cable connection of the current collector within the circuit of the vehicle. It is designed according to customer requirements and can also accommodate connections for a fuse box or short circuiter. The insulated connection to the bogie frame is provided by means of standard insulators. Covering hoods prevent direct contact with electrified parts and increase the safety of the maintenance personnel.

The connection terminal can also be used as a Stinger terminal. In this case, a Stinger pin is fitted so that it can be connected to the counter-contact in the depot. Stinger terminals serve for providing energy to parked vehicles in the maintenance area, e.g. for charging the battery or other maintenance work that is to be carried out at the vehicle voltage.



Short-circuit terminal



Fuse box

SYSTEM COMPONENTS

Short-circuit terminals

Fuse boxes

Connection terminals

Hand levers

Protective hoods



Connection terminal

Hand levers

We manufacture insulated hand levers in close co-operation with the vehicle manufacturers. The dimensions and actuation functions are adapted to the conditions in the depot and to the route. Furthermore, we also have solutions for actuation from the vehicle (e.g. through the passenger door).

Protective hoods

Protective hoods for third rail current collectors are used by preference in maintenance and depot deployments. They serve as protection from electrified parts and have a pure safety function.

For example a protective hood is put on in the vehicle depot on the current collector to cover the live parts and thus protect maintenance or cleaning personnel from touching the parts accidentally.

Collecting shoe covers and other protective covers can be supplied for all third rail current collector systems.



Corporate headquarters and manufacturing facility
Schüttorf, Germany

We are one of the world's leading manufacturers of energy and data transfer components and systems in industrial and transport technology.

Drawing on our 100 years of engineering and practical research, we manufacture high quality products required all over the world, and create special, innovative, customised solutions.

A fundamental key to our success is our understanding of the importance of high quality in all areas of the company, ranging from customer-oriented advice to long-term service.

We guarantee high quality by upholding international standards and guidelines.

Since 2014 we belong to the Wabtec Corporation, a global provider of technologies, products and services in the field of railway and industrial engineering.

Through the integration of Faiveley Transport to the Wabtec Corporation in 2016 we are an important part of one of the largest public rail equipment companies in the world with more than 20,000 employees around the globe.

With know-how, product diversity and forward-looking innovations we are your excellent choice in the field of industrial and transit technology.

STEMMANN-TECHNIK
DIN EN ISO 9001:2008

TRANSIT APPLICATIONS



ROOF-MOUNTED PANTOGRAPHS



3rd RAIL CURRENT COLLECTORS



frost® GROUND CONTACTS



STINGER SYSTEMS

INDUSTRY APPLICATIONS



CABLE REELS



SLIP RING ASSEMBLIES



FESTOON SYSTEMS



CONDUCTOR LINES

CHARGING SOLUTIONS



ChargingPANTO®



ChargingREEL



ChargingSTINGER



FerryCHARGER

ONSHORE POWER SUPPLY



FOR CRUISE SHIPS



FOR CONTAINER VESSELS

