



## Perfect Current Transmission for Railway Technology



Schunk Kohlenstofftechnik GmbH  
Schunk Bahn- und Industrietechnik GmbH



# Innovation and Reliability

## The World's Leading Rail Companies Depend on Schunk

Schunk has been developing and manufacturing top quality products for railway technology for more than 90 years. Schunk products such as carbon brushes, brush holders, brush rockers, grounding contacts and electrical contacts, as well as collector strips, pantographs and third rail systems are used worldwide by renown producers and operators of:

- High speed trains
- Long-distance and light trains
- Various other kinds of electrical trams and traction vehicles

## Member of the Schunk Group – an International Technology Group

Schunk Industry and Mass Transit Technology (Industrial Engineering and Railway Technology) is part of the international Schunk Group.

The Schunk Group employs more than 7,900 people worldwide and has annual sales of 810 million Euro. Our customers profit from the group's know-how, for example in materials development.

Schunk Industry and Mass Transit Technology consists of the following companies:

- Schunk Kohlenstofftechnik GmbH (Schunk Carbon Technology)
- Hoffmann Elektrokohle AG (Electrical Carbon)
- Schunk Bahn- und Industrietechnik GmbH, Salzburg
- Schunk Bahn- und Industrietechnik GmbH, Wettenberg

Schunk has more than 30 production sites worldwide in the fields of industrial engineering and railway technology.



*Schunk components can be found in high speed trains throughout the world (ICE, TGV, ETR 500)*

## One of the Market Leaders for Grounding Contacts

Schunk is one of the market leaders for grounding contacts and has the suitable radial- and axle end-contacts in its product line for all applications. Our carbon-carbon grounding contact revolutionized the technology of grounding contacts and introduced new dimensions for maintenance intervals. Our grounding contacts are used around the world and nearly all train manufacturers are numbered among our customers.

## Global Leader for Collector Strips

Schunk produces carbon collector strips using the time proven clamp, solder and bonding technique. All collector strips are characterized by their high degree of operational reliability.

Outstanding temperature resistance, stable performance throughout the usable lifetime, resilience to corrosion and excellent emergency-running properties are also standard features as is the reliable current collection under extreme environmental conditions. In addition to the exceptional electrical load capacity and the long durability of our collector strips, Schunk's customers appreciate their ease of maintenance and environmental friendliness. Here also we demonstrate innovation, through the multiplex use of components, low noise sliding contacts and lead free metal impregnation.

## Highest Quality Pantographs

Schunk has demonstrated its innovative talent in recent years with rapid advances in technology. Developments such as the air-bellow drive, individually suspended pan heads, self-insulated third rail pantographs and the optimization of current collection under high speed conditions in general, are new revolutionary concepts for railway companies.

We have successfully conveyed our experience from high speed trains to the areas of light trains and trams.



Conventional and carbon-carbon grounding contacts

# Schunk Innovation



Progress and reliability: Schunk grounding contacts



Integral collector strip with carbon coated run-off horn



Pantograph with the highest degree of lateral rigidity, individually suspended collector strips and hydraulic frame damping



Pantograph for third rail systems, self insulated, with maintenance-free bearings

# Proven Technology for Long Distance Trains

## Schunk Expertise in Materials – Carbon and Graphite

Schunk has been making carbon brushes for railway vehicles for several decades. Sliding contacts, in the form of carbon brushes, are an important element of current transmission. Due to their special qualities, our carbon based materials have also excelled in this area. What is particularly impressive about Schunk carbon brushes is their wear resiliency, their collector saving operation and their commutation properties.



*One of the most proven locomotives of the German Rail service (BR111). With collector strips, traction-motor carbon brushes, brush holders and grounding contacts from Schunk*



### **We're also Your Partner for Carbon Brushes in the Future**

Modern traction vehicles are equipped with brushless motors, however the percentage of motors with carbon brushes is still so high that even investments in new materials are worth-while. After all, the average usable life expectancy of traction vehicle is 30 years. The high market share that our carbon brushes enjoy is in no small degree due to our competent technical advising and the ambitious implementation of customer demands into new materials. With Schunk you can be sure that you will continue to have a dependable partner and supplier at your side.

### **The largest Product Range on the Market for Traction Brushholders**

Although the number of direct current and mixed current traction motors being built today is decreasing, there is still a very large number of such motors in use worldwide. Schunk manufactures some 700 different train brush holder systems as well as complete brush rockers. With this product portfolio we cover the wide range of systems being used today.

### **Extensive Production Knowledge**

Due to our extensive know-how and our high quality standards, we have earned an outstanding reputation with train designers and railway companies alike, and are considered to be one of the leading suppliers in the world for the parts we manufacture. The leading manufacturers of transit vehicles as well as hundreds of both long distance and light rail companies around the world number among our customers.



*Twin carbon brushes for traction motors of German Railways*

# Schunk Precision



*Schunk makes some 700 different precision traction brush holders for new motors, servicing and maintenance*

# Dependable Partner in the Field of Light Rail



*Runs like clockwork. Schunk carbon brushes and brush holders guarantee the best electric contact, high temperature and heat shock resistance and good mechanical qualities*

## Development together with Train Manufacturers

Together with train manufacturers, we have been guaranteeing the highest reliability through the consistent use of uncompromising quality standards for 90 years. Among our particular strengths as an OEM supplier are rapid goal and application oriented development in our own application lab, development joint ventures, ultra modern production technology and sample production under serial production conditions.

## Schunk keeps Things Moving

Schunk's manifold products are present everywhere where current transmission is needed for light trains. In urban and suburban trams, metros and trolley buses around the world, Schunk products keep things moving. From traditional carbon brushes to innovations for third rail systems.

## Big Trend in the Big Cities

The worsening congestion of automobile traffic in the big cities of Europe, America and especially Asia can only be remedied by an intensive expansion of light-rail bound public transport facilities. As a leading supplier, Schunk is a key player in this growing market. With a wealth of new ideas, with new materials and with a lot of success. Tests are being conducted in various large cities with innovative Schunk products. Among other things, the Transrapid in Shanghai runs on Schunk track segments.

## Schunk Power



*High performance: twin train carbon brushes with extractors*



*Powerful current transmission. Collector strips for third rails*



**Your Global Partner for all  
Railway Products**

If you plan projects in the areas of rail bound vehicles and trolley buses, where carbon brushes, carbon brush holders, grounding contacts, make-and-break contacts, collector strips, current collectors, pantographs and third rail systems are required, then you should contact us by all means. We'll advise you - worldwide with the know-how of more than 90 years of railway technology, with experience from researching, developing and manufacturing products for reliable rail operation and with the expertise of an international technology group.

Welcome to Schunk

*Trams with Schunk  
pantographs,  
collector strips and  
grounding contacts*

*Contactor sets for  
electrical control  
systems*



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