



Carbon Technology

Press Release

Ideal solutions for electric bus charging

Schunk Carbon Technology presents inverted pantographs

As a developer and supplier of the trend-setting Schunk Smart Charging system for electric buses, Schunk Carbon Technology will be presenting this revolutionary product and other developments at Busworld, the world's largest specialized trade show for public-transport and travel buses in Kortrijk, Belgium. Inverted current collectors, which are integrated into the infrastructure of bus stops and depots, are among the innovations to be exhibited. The company is bringing its many years of experience in the field of current-collector design for the rail sector to the street and is opening up new market segments with great potential.

Heuchelheim, 10 October 2015 – With its path-breaking Schunk Smart Charging system, Schunk Carbon Technology is a driving force behind the worldwide dynamic development of electrical mobility. This system guarantees the sustainable, reliable and rapid charging of the batteries installed in electric buses. Schunk offers two solutions for electric current transfer in this area: pantographs and inverted pantographs. These solutions are based on the company's decades of experience and expertise in the development of pantograph systems for railways and optimally fulfill a wide range of customer requirements.

Inverted pantograph

"Our new inverted pantographs, in particular, are precisely tailored to meet our customers' needs," stated project director Timo Staubach. This "reversed" pantograph is not mounted onto a bus roof, but rather is integrated into the existing infrastructure, e.g. in the roadway mast of the

Media Contact

Dr. Neill Busse
Press Officer
Schunk Group
Rodheimer Straße 59
35452 Heuchelheim
Germany
Phone +49 641 608 2285
Fax +49 641 608 28 1759
neill.busse@schunk-
group.com
www.schunk-group.com

holding station, bus station or depot. The current collector automatically extends as soon as the bus stops underneath it and docks with the corresponding contact on the bus roof. This contact system features an open interface which is compatible with existing interfaces on the roof of the bus. Schunk also offers newly developed contact interfaces for these types of pantographs for better utilization of the installation space on bus roofs and to allow integration into the battery system. The half-scissor design gives the pantograph a wide working range and enables both conventional public-transport buses and double-decker buses to be charged at the same bus stop. Other applications, such as use with garbage trucks and special vehicles at ports and airports, are also conceivable.

On-board pantograph

Schunk on-board pantographs (mounted on buses) also feature a specially-developed four- or five-pin contact head. At the charging station this head docks with the contact hood attached to a retaining mast completely automatically. While parking and tilting toward the passenger entrance side of the vehicle ("kneeling") the vehicle, the rocking design of the pantograph compensates for angle tolerances and deviations. Thanks to this special design, the contact pressure against the charging station is maintained without interruption during all phases, regardless of the position. Pulse charging at bus stops lasts no more than 15 seconds thanks to a very high electric current transfer capacity (1,000 A). So-called opportunity charging is also feasible with this system. Here, 500 – 600 A can be transferred within a few minutes. This enables the use of smaller batteries, which allows bus operators to achieve significant savings.

Schunk is able to customize a wide variety of contact units to the desired charging strategies and individual customer needs for any situation.

Schunk Smart Charging is already being successfully used in many cities in Germany and beyond.

The biennial Busworld trade show will be held from October 16th – 21st, 2015 in Kortrijk, Belgium. Schunk Carbon Technology will be located at Stand 211 in Hall 2.

Schunk Group

The Schunk Group is an internationally operating technology company with over 8,000 employees in 29 countries. The company offers a broad spectrum of products and services in the fields of carbon technology and ceramics, environment simulation and air conditioning technology, sintered metal and ultrasonic welding. Turnover of the Schunk Group was around €990m in 2014. The Schunk Group has bundled its expertise in the development, manufacture and application of carbon and ceramic solutions in the Schunk Carbon Technology Division.