

SLS 104 Pantograph Expands Working Range and Enables Fast Charging

Schunk Transit Systems showcases next-generation roof-mounted pantograph for e-buses at Busworld Europe

BRUSSELS, October 4, 2025. Schunk Transit Systems has developed a new roof-mounted system that combines the strengths of its proven SLS 102 and SLS 103 predecessors, designed to meet the future demands of battery-electric buses. The lightweight, low-maintenance SLS 104 can extend higher despite a smaller footprint, offering an expanded working range compared to standard systems. Its higher contact force allows for greater charging capacity, while its smart electric drive enables quiet, low-wear docking with charging infrastructure. The SLS 104 will make its public debut at Busworld Europe 2025 in Brussels.

Comprehensive “Schunk Smart Charging” portfolio

Battery-electric buses are steadily replacing diesel-powered vehicles in public transportation, now accounting for 30 percent of the European market. Under the “Schunk Smart Charging” brand, Schunk Transit Systems offers a wide range of fast and reliable charging solutions, whether on-route at bus stops or overnight in depots. The portfolio includes roof-mounted pantographs that connect to the charging station from the bus, inverted systems integrated into the charging infrastructure, and specialized automated depot charging solutions.

The existing SLS 102 and SLS 103 roof-mounted systems have proven themselves in over a decade of service, with some 8,000 units in operation worldwide, often in large fleet applications. The SLS 102 is known for its lightweight and simple design, while the SLS 103 offers greater reach and a significantly larger working range, made possible by a swiveling contact head with an additional drive system.

SLS 104: Bringing the best of both worlds

The SLS 104 incorporates development expertise and operational experience from both earlier models. “This new design combines the advantages of both systems in a single unit,” says Timo Staubach, Head of SBA Battery Driven Vehicles. The pantograph’s installation height and length have been reduced compared to the SLS 102, while the pivot point has been positioned as high as possible on the base frame. A mechanical parallel guide keeps the contact head upright, eliminating the need for a separate drive to fold and unfold it. “This allows us to make contact earlier and over a longer working range, especially useful in depots with varying vehicle and canopy heights, or when the contact hood is positioned close to the pantograph,” Staubach explains.

With a maximum extension height of 2,000 mm, the SLS 104 sits between the SLS 102 and SLS 103, covering all common market requirements. The always-upright, lower-profile contact head doubles the working range from 300 mm to 600 mm, matching the flexibility of the SLS 103.

More contact force, more charging power

An optimized spring drive generates a higher upward contact force, compensating for movement caused by passengers entering or exiting the vehicle. This also allows higher charging power. Today,



the system transfers 500–600 amperes continuously, enough for current needs. For future demands, the SLS 104 can be configured to deliver up to 1,000 amperes continuously.

Smart drive for smooth operation

The SLS 104's smart drive uses sensors to adjust extension speed to the surroundings. The pantograph rises quickly, then slows just before making contact with the charging hood. It also decelerates before returning to its resting position, reducing both wear and noise inside and outside the vehicle. Custom speed profiles can be preconfigured at the factory.

Maintenance-friendly and infrastructure-compatible

The redesigned components are more accessible, making the SLS 104 easier to service and extending maintenance intervals. Operators can continue using their existing charging infrastructure, as the new pantograph is fully compatible with SLS 102 and SLS 103 stations and meets all relevant standards, including EN 50696 and upcoming IEC 63407.

See it at Busworld Europe 2025

Schunk Transit Systems will present the SLS 104 at Busworld Europe in Brussels, October 4–9, 2025. Hall 6, Booth 634.

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