Directory

Rolling Stock

Stäubli

Powering the Rails: Discover Stäubli's EvoTrak lite for Medium Power Applications

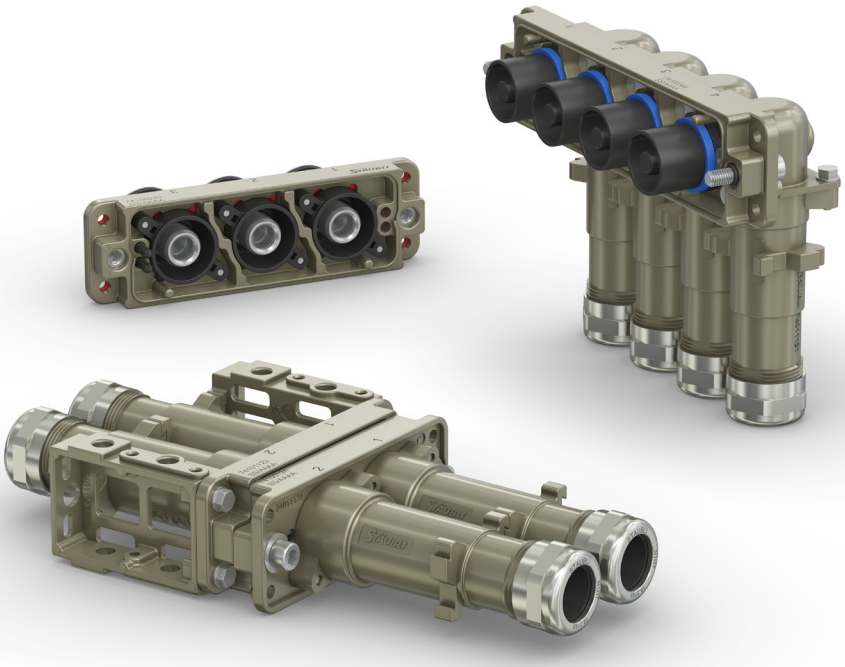
With a total length of approximately 1.2 million kilometres, the international rail network is a pivotal element of the global transportation system.

It supports both domestic passenger travel and light freight transport, playing a significant role in efforts to protect the climate. Rail-bound transport, with its relatively low CO2 emissions, is regarded as an eco-friendly alternative to motorised road transport, contributing substantially to the reduction of greenhouse gas emissions.

Nevertheless, there are significant challenges to address for applications within the medium traction current range. Continuous operation demands the utmost reliability to minimise downtime and sustain eco-friendly operations. Moreover, the development of low-maintenance systems, enhancement of energy efficiency and resilience to environmental factors are critical in meeting more stringent safety regulations. These demands necessitate innovative technical solutions and specialised engineering knowledge.

1. Committee Work – Always at the Cutting Edge of Technology and Regulations

Stäubli is deeply committed to maintaining the highest standards of innovation and compliance by actively participating in key national and international committees. In Switzerland, our participation in the TK9 committee of Electro Suisse ensures that we remain at the forefront of norms and standards for electrical and electronic applications in railways, contributing to the development of key proposals and resolutions. On a global scale, our experts play a vital role in influential organisations such as CENELEC, IEC and ISO, where they participate in critical discussions and initiatives



EvoTrak lite from Stäubli

related to electrical equipment, grounding and battery systems. This proactive involvement ensures that our products not only meet but exceed the latest regulatory requirements and industry standards, reinforcing our commitment to excellence and innovation.

2. Stäubli's EvoTrak lite

This committee work is an important pillar for the further development of Stäubli railroad application products, such as EvoTrak lite. This connector from Stäubli has been developed following the railroad standard IEC62847. It is also certified in accordance with EN 45545-2, EN 61373 cat.B and according to other railways standards.

The EvoTrak lite is a modular metal connector whose compact design makes it particularly suitable for the limited space available for components in passenger transportation. This modular connector is available in different configurations from 1 to 4 poles in straight and angled versions. In addition, it utilises patented technology specifically for shielded cable applications, which removes the necessity for specialised EMC cable glands.

Stäubli connector solutions are characterised by exceptional reliability and robustness. The proven MULTILAM contact technology guarantees a firm connection across all contact surfaces while maintaining uniform contact resistance. As a result, it provides increased reliability and safety even under severe conditions, such as electrical stress, temperature changes, significant mechanical stress, temperature fluctuations, as well as vibration and shock.

During the development of EvoTrak and to respond to new PMM (permanent magnet motor), pole segregation technology was used, which is particularly important when using reverse currents in new generation PMM to reduce energy consumption. In the worst-case scenario, a short circuit in the traction cable could lead to a fire in the train and damage a large part of the traction system. EvoTrak lite, on the other hand, conducts the current directly to the earthing connections of the carriage body via its separate pole connections in the event of a short circuit, thus preventing the arc from spreading further. This ensures that the system is effectively and safely earthed along the entire drive chain. In the event of a short circuit, the return current is interrupted, and the traction chain is protected. The connector acts like a fuse that protects the overhead line and prevents major damage to the train itself.

Find out more by visiting **www.staubli.com**.

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RAILWAY MODULAR CONNECTORS

EvoTrak – the real modularity

EvoTrak family

Simplifying and unifying your traction chain connections

Experience seamless connectivity across your entire traction chain with the EvoTrak family. Stäubli's compact and flexible modular solutions ensure a consistent connection philosophy.

Whether your application requires 1 to 4 poles, straight or angled design components or receptacles, EvoTrak is configurable to meet your specific needs. In addition, EvoTrak not only meets all relevant standards but also undergoes rigorous testing beyond railway requirements, ensuring sustainable reliability.