

Stäubli

The EvoTrak Family from Stäubli – High-Performance Connectors for Limited Space



The EvoTrak family: MPC and EvoTrak lite

The railway industry faces an array of challenges, particularly in the realm of maintenance and component assembly.

As passenger numbers on trains continue to rise, the available space for essential components that ensure travel comfort is becoming increasingly constrained. This compact design of modern trains means there is increasingly limited room for the installation and maintenance of vital systems. Further, there is a high expectation for service availability with zero tolerance for disruptions. This necessitates rapid and preventive replacements for certain types of equipment. As a result, mechanical and electrical components must feature a more compact and lightweight design.

Recognising these challenges, Stäubli has developed the EvoTrak family, offering space-saving components specifically designed for the railway industry.

These connectors are highly advantageous for the railway sector, thanks to their easy-to-use plug-in connections as opposed to traditional junction box connections. These plug-in connections provide enhanced security and save time, ultimately reducing costs (total cost of ownership, TCO).

1. EvoTrak lite – The Lightweight and Compact Solution

The modularity of this connector ensures that components can be easily configured and adapted to meet specific requirements. It is primarily intended for integration along the traction chain, including auxiliary interface power supplies for systems such as batteries, converters and transformer interfaces, but also for other sub-system interfaces such as HVAC for example. Additionally, EvoTrak lite is ideal for car-to-car solutions, car-to-bogie interfaces and motor connections, making it a critical component in the optimised operation of rail vehicles.

The connector is available in several versions, including straight, angled and panel configurations, catering to diverse installation needs. The angled design, in particular, offers tremendous advantages for challenging implementations, especially in hard-to-reach areas. With its ability to provide a perfect connection under difficult circumstances, the angled version is indispensable for ensuring reliable performance and operational efficiency. Its streamlined design facilitates easier installation and maintenance, contributing further to reduced downtime and improved efficiency.

One of the outstanding features of EvoTrak lite is its efficient phase segregation, which is particularly important when dealing with permanent magnet motors (PMM). This segregation contributes to the reliability and performance of the motor connections, ensuring smooth operation. Safety and protection are paramount with EvoTrak lite, offering 360° shielding and an IP2X solution. EvoTrak lite can handle voltage applications up to 1500V (OV3-PD3) and supports a wide range of cable sizes from 10mm² to 70mm². This versatility allows it to meet different power and connectivity requirements.

2. EvoTrak MPC – Streamlined Power Connectivity

The second connector in the EvoTrak family is the EvoTrak Modular Power Connector (MPC), a versatile and robust solution designed to connect all on-board power applications in rail vehicles. This innovative connector system simplifies the complexity of power connections by using the same system for every power

connection, ensuring a streamlined and consistent approach. The EvoTrak MPC can be used across a wide range of rail vehicles, including regional trains, high-speed trains, metros, tramways and locomotives. It is suitable for various on-board power applications, such as roof or undercarriage gangway connections, traction converter and battery outputs, as well as car body to bogie and car body to engine connections.

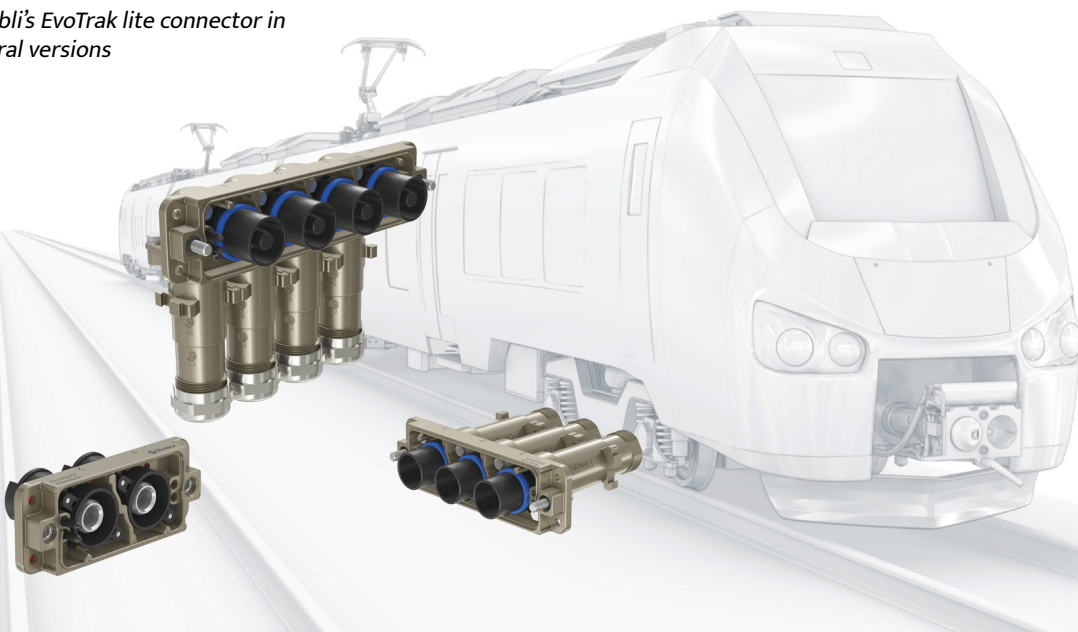
One of the main benefits of the EvoTrak MPC is its ease and speed of installation and maintenance. The modular design allows for quick installation and easy service, reducing downtime and increasing operational efficiency. Moreover, the connector can be customised to meet specific customer requirements. Key features of the EvoTrak MPC include its ability to handle high-voltage (3000V) and high-current applications (up to 700A). The connector offers a range of options to meet specific requirements, such as DCO (dynamic cable option), connection aids (PFO), shielding, marking/coding and a dedicated design for modularity.

A notable success story highlighting the effectiveness of EvoTrak MPC is its implementation on most well-known train manufactures platforms. EvoTrak MPC has played a pivotal role in ensuring reliable and efficient power connections, enhancing the overall performance of these trains.

Find out more by visiting www.staubli.com.

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Stäubli's EvoTrak lite connector in several versions





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.

