

 Directory

< Rolling Stock & Works Vehicles

STÄUBLI

Is Your Train Safely and Comfortably Connected?

Modular Power Connectors for the Entire Traction Chain



The MPC allows for speedy handling and contact reliability during maintenance periods, which brings the entire train back into operation and back on the rails faster

Rail operators are aware that expectations of service availability are high. There is no tolerance for accepting disruptions.

Providing a comfortable and reliable transport service is key to attracting passengers. This includes electrical connectors that are space-saving and lightweight in design without sacrificing performance. Instead of using multiple single-pole connectors, operators benefit more from using multi-pole connectors.

Rail companies and passengers expect smooth operations on the railways. Trains should run day and night and on schedule. They are subject to extreme weather conditions and the highest mechanical stresses. Reliable, lightweight and easy-to-use Stäubli connectors help minimise vehicle downtime and equipment maintenance needs. As an industry partner and key supplier in the international railway sector for more than 30 years, Stäubli Electrical Connectors has a comprehensive insight into the

challenges of the market.

Along the Entire Traction Chain

Essential electrical connections in trains are applications along the entire traction chain, such as motor connections between cars, converters and all subsystems. The universal, compact and modular Stäubli Modular Power Connector (MPC) is a product solution that increases process efficiency throughout the entire life-cycle



The Modular Power Connector (MPC)

of the train from installation to maintenance work. When replacing engines and motors, the quick section separation makes the train ready for use again more quickly. Regarding the planning and wiring of the traction chain, there are good reasons to use modular multi-pole connectors instead of several single-pole connectors or junction boxes.

Modular multi-pole connectors save space:

On modern trains, there is less and less space available. Therefore, it is advantageous to propose a solution that is precisely adapted to the number of cables to be managed.

Time saved during operation reduces total cost of ownership (TCO):

The installation or disassembly of two, three and four-pole connectors takes less time than installing many one-pole connectors. This is true for initial installation by the supplier or harness manufacturer and the OEM, as well as for commercial use by the final operator.

The design time of the train is also reduced by integrating one model compared to multiple models, taking into account all interfaces

that are in place on a traction chain.

Real Modularity

The MPC is an internationally recognised product for railway applications. The modular system allows application-specific connectors to be configured. Different standard modules can be stacked next to each other and easily set up so they can also be positioned vertically. Due to the different contact diameters and cable cross-sections, which range from 10 to 240mm², various insulating bodies are available, all of which can be combined. Optional coding prevents reverse polarity.

Stäubli engineers have developed the MPC for railway applications in harsh environments. The connector is vibration and shock-tested according to EN 61373 (bogie mounting validated) and corrosion resistant (240h salt spray test according to EN 60068-2-112). When connected, it is also IP66, IP67 and IP69K-rated. The electrical contacts are of high quality and, in addition to a long service life, ensure more than 500 plug-in cycles without affecting the electrical values. The MULTILAM technology guarantees efficient power transmission with constant contact force and low transition resistance. The connection is as reliable as it is low-maintenance due to the self-cleaning effect.

Tested and Proven Quality

The MPC modular connector meets the requirements of the railway market by fulfilling the most stringent railway standards such as

EN 50467. The high-performance materials used enable compliance with the EN 45545-2 fire and smoke standard. To ensure operation in harsh environments such as brake dust, dew, rain and salt spray, it meets IEC 60512-11, IEC 61984-11, EN 60068-2-11 and ASTM B117 standards.

Since 2015, the Stäubli Electrical Connectors Competence Centre for Railway Technology has operated its own test laboratory in France. Here, products are subjected to rigorous testing over an area of 956m². The highlight of the lab is a test stand for shock and vibration tests in combination with thermal loads. In the salt spray chamber, Stäubli engineers can examine the behaviour of connectors on rail vehicles under environmental influences on a realistic simulator.

The Stäubli Railway Competence Centre with its specific test laboratory recently successfully obtained recertification according to the latest IRIS (ISO/TS 22163) standard. Stäubli products therefore guarantee the highest quality throughout the entire supply chain of the railway industry.

Visit Stäubli at InnoTrans

At this year's InnoTrans in Berlin, Stäubli Electrical Connectors will present its latest product developments for the railway industry.

Visitors to Stäubli (Hall 12 / Booth 350) can obtain first-hand information about the future industry standard for light rail vehicles.



YOUR RAILWAY PARTNER

Connections: a key link in the railway power chain

As an industry partner and **key supplier** in the international railway sector for more than 30 years, we have a clear insight into your challenges and expectations, such as service continuity, extreme weather conditions and mechanical stresses.

We provide an effective response with optimized solutions, whether for high-speed, main-line, suburban or regional trains, or tramways and underground railways.

www.staubli.com

