



SUCCESS STORY

Speeding up Chinese railways

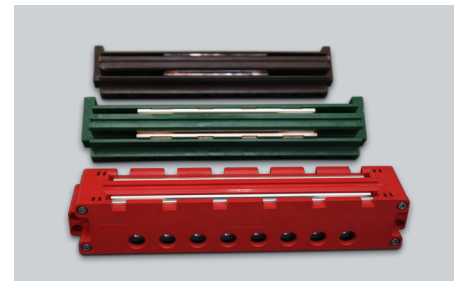
China is home to the largest and most extensively used network of high-speed trains in the world. Based in Beijing, the Chinese Academy of Railway Sciences (CARS) is the leading research and development institute, supporting this important industry with its specialized subsidiary for electro-mechanical technology development. Stäubli Electrical Connectors helped to develop a traction converter for the latest generation of Chinese high-speed trains.

The business needs

Since the beginning of the new century a dynamic local industry has developed, for which CARS updated an existing traction converter for use in the latest generation of Chinese high-speed trains. The connector fixed on the water-cooled board contains two poles and connects the IGBT module (insulated gate bipolar transistor) to the bus bars in the converter cabinet.

The challenge

High power transmission connectors were needed, fulfilling demanding requirements of the client for a safe and reliable solution. The higher the traveling speed of the trains, the greater the physical forces, therefore, the vibration resistance and stability are also crucial. During maintenance, the module must be disconnected and replaced very rapidly to minimize costly downtime.



Market Segment: Railway



Industrial Connectors:

bipolar fork connector (GSR 2.5)

Application:

connection between busbar and laminated busbar in IGBT

- High power transmission
- Vibration resistance
- Stable performance
- Fast and safe mount and dismantling



The solution

At a Stäubli technical seminar the Senior Engineer of CARS met Stäubli Electrical Connectors and was impressed with their MULTILAM technology. When talks started between the two companies the Stäubli Electrical Connectors core technology was in the focus for a joint development project. Step-by-step trust was built up through joint workshops, technical seminars and a lot of internal testing.

In close cooperation with CARS, Stäubli developed a customized bipolar GSR 2.5 fork connector, which makes the connection between busbar and laminated busbar. The use of high-performance insulation material makes sure the product can meet the tough industry requirements of mechanical stability and long-term aging.

The added-value provided

Based on the broad experience in railway technology and third-party tests, Stäubli Electrical Connectors' solution showed a highly stable performance over 300'000 km of high speed. The solution is simple and easy to handle while ensuring safe and reliable operation of the train services. CARS' customers appreciate the increase in productivity due to the fast connection and disconnection in maintenance.

The Stäubli solution will become a standard connection in these CARS IGBT modules for the new generation of Chinese high-speed trains in the very demanding national railway industry.

Customer benefits

- Safe long-term operation in challenging conditions, proven by tailor-made tests
- Innovative high-performance solution
- Improved efficiency in operation for customer's clients

About Stäubli

Stäubli is a global mechatronics solution provider with three core activities: Connectors, Robotics and Textile. The international Group has a presence in 29 countries.

Stäubli Electrical Connectors is a specialist for advanced contact technology and technically mature solutions with a product portfolio ranging from miniature connectors up to high-power connectors for various industries.

www.staubli.com/electrical