

## Our Client is One of the Largest Top 4 Automakers in China

Since 2018, ERNI has been supplying signal connectors to the major Chinese automotive manufacturers for several application areas including the battery management system (BMS), inverter, on-board charger (OBC) and advanced driver assistant (ADAS).

Known for their commercial and passenger vehicles globally, our Client is a large state-owned automotive enterprise group nestled in Beijing with a number of R&D and manufacturing facilities, providing aftermarket services in major cities of China.

The Client has been working on new energy vehicle electronics and smart driving, focusing on improving vehicle safety, reducing vehicle pollutant emissions, and providing users with a more reliable, comfortable, and smart driving experience.

**The need for high quality standards and reliability of connectors are key factors to produce high-performance vehicles for car manufacturers. To design an on-board charger, the selection process of each component is stringent, and it needs to meet the relevant new energy vehicle automotive industry standards.**

For confidentiality reasons, we are unable to disclose our client's name in this success story.



# ERNI THE PREFERRED CONNECTOR FOR ELECTRIC VEHICLES ON-BOARD CHARGER

## Our Client's Application: On-board Charger

An on-board charger (OBC) is used in an electric vehicle to charge the traction battery with its primary role to manage the flow of electricity from the grid to the battery.

The OBC uses alternating current (AC) power as an input, and the output is direct current (DC), which directly charges the power battery. High voltages are used in the charging process, and the safety of the driver will be endangered if the OBC is not operating properly. Therefore, it is especially important to monitor the working state of the charging process.

The solution is to connect a small signal feedback connector in parallel with the high-voltage high-current connector to form a signal feedback loop for feedback on the working status of the high-voltage high-current connector.

The **key requirements** our Client would need are:

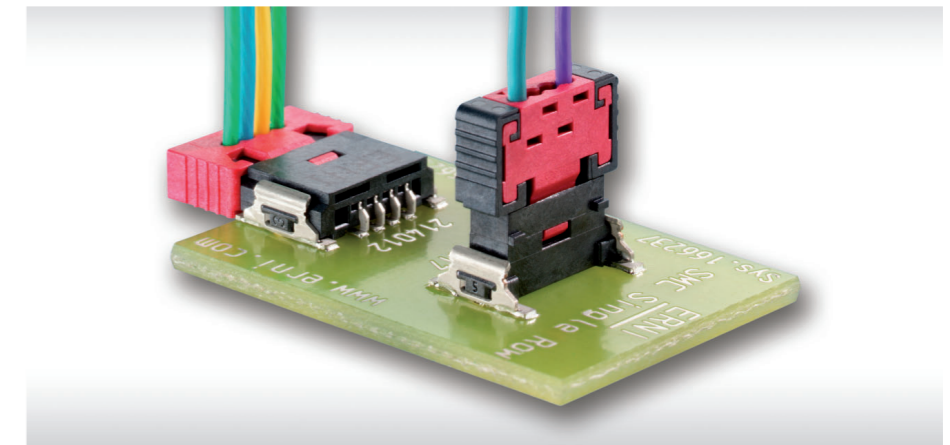
- The size of the connector is limited by the space within the application, and therefore it needs to be as miniature as possible.
- The terminals of the connector have to be fully gold-plated to provide a favorable guarantee for the reliability of the connector.
- The miniature connector also needs to withstand an extreme temperature of -40 °C to +125 °C.
- It has to be UL 94V-0 flame retardant certified and an automotive grade of connector to resist vibration shocks.



ERNI

## Our Solution

ERNI MiniBridge is designed according to the automotive standards VW 75174 (LV214). It can withstand extreme temperatures of -55 °C to +150 °C. The connector is UL 94V-0 certified as a flame retardant product and it meets the requirement of VW 75174 (LV214) and vibration shock resistance. The connector's terminals are fully gold plated and can effectively prevent oxidation during prolonged use, reducing poor contact between connected boards. With a 1.27mm pitch, the miniature size of the connector is the perfect solution for tightly spaced applications.



Other features include:

- Available in different pin counts from 2pin to 12 pin, single row connector.
- It can match AWG 22 & AWG 24-26 cable, meeting the needs of most automotive signal connector.
- The MiniBridge Koshiri version offers high level of mating reliability and its housing geometry design avoids improper mating insertion.

Browse our MiniBridge connectors at [www.erni.com/MiniBridge](http://www.erni.com/MiniBridge)

At ERNI, we support our clients through their entire developmental journey - from the prototype design to their finished product. Our class-leading experience and vast knowledge in the automotive industry gives us a competitive edge over other manufacturers. It is no coincidence that our clients hold ERNI in high regard as an innovative leader and supplier of high-quality electronic connectors worldwide.

Contact us today at [info.eah@erni.com](mailto:info.eah@erni.com) if you wish to learn how ERNI can help you!