

Initial Situation

Our customer is one of the pioneers in connector technology and offers a broad product portfolio in the areas of automation, connector technology and electronics. Its focus is on the markets of machinery and factory automation, transportation and energy as well as on a reliable partnership with device manufacturers. For automation, among other things, a modular platform-independent I/O system in IP20 is offered, which has the narrowest modular design on the market. For the latest generation of the system, a new fieldbus coupler with associated expansion module was developed that supports more than ten fieldbus protocols, enables diagnosis via an integrated web server and offers connections for up to 64 I/O modules.



Requirements

To enable use in the fieldbus coupler, a number of requirements had to be combined in the available connectors. For the processing of the signals of up to 64 I/O modules, a data rate of up to 10 Gbit/s was required. It was also necessary to protect the signal transmission against external interferences and to prevent overlapping of the signals. Shielding was vital in this regard. Another factor was mechanical stability to eliminate failures due to vibrations in the field or the improper installation and removal of the modules. Due to the small installation space in the housing and the expansion module, an orthogonal arrangement was chosen for the printed circuit boards. Straight and angled connector versions were required accordingly. The fieldbus couplers were developed in various expansion stages,

FIELDBUS COUPLER FOR PLATFORM-INDEPENDENT I/O SYSTEM IN IP20

which required the use of different heights. And last but not least, a high level of support was necessary on the part of the supplier in order to be able to quickly react to potential problems during the development process and to eliminate delays in the project duration.

Our Solution

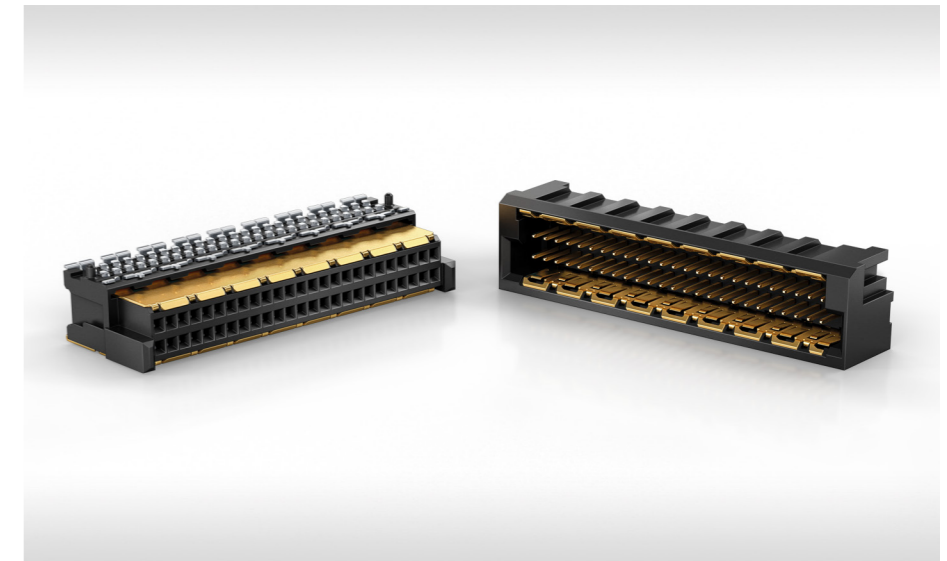
Our customer chose the MicroSpeed, which met all specified requirements and proved itself the ideal solution. Its data rate is 25 Gbit/s. The version with shielding with improved EMC that was used in this project ensures a considerable reduction in coupling inductance and enables reliable signal transmission. The shielding also protects against external influences. The blind mate version has an excellent polarization of the mating face, enlarged guides for housing the mating connector and reinforced side walls. This enables secure self-centering for easier, correct mating and protects against damage to the housing in rough industrial environments. The MicroSpeed is available in straight and angled versions. The straight versions are offered in four different heights and enable flexible printed circuit board spacing of 5 – 20 mm. Our team pro-



vided the customer with comprehensive support over the course of the project and quickly and simply presented proposals for solutions in the event of problems. We were thus able to do our part to see the project to a successful conclusion.

Additional Features of the MicroSpeed

- Miniaturized design with 1,00 mm pitch
- 2-row with 26, 32, 44 and 50 contacts;
3-row with 75 contacts; 7-row with 91 and 133 contacts
- Standard shield and EMC enhanced shielding types
- SMT/SMT termination of contacts/shields and
SMT/THR termination of contacts/shields



For additional information, please visit
www.erni.com/en/microspeed

At ERNI, we support our clients through their entire developmental journey – from the prototype design to their finished product. Our many years of experience and vast knowledge in the automation industry give 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 at info@erni.com and find out how ERNI can help you.