

PRODUCT NEWS 2020



Product News 2020

CONNECTORS

MicroBridge



MicroBridge Wire-to-Board connectors were developed based on the LV214 and USCAR-2 automotive test specifications and meet the high requirements of the automotive sector for connection reliability. MicroBridge connectors utilize Koshiri security for „scoop-proof“ mating and has electrical Connector Position Assurance (eCPA) as an option. Despite its small 1.27 mm pitch, MicroBridge connectors are extremely robust and can withstand vehicular vibrations due to the dual side latching design of the female connector. Each MicroBridge female contact has two Insulation Displacing Connection (IDC) terminations and an integrated strain relief.

- 90° and 180° single-row male and female connectors available
- Pin counts: single-row 2 – 20 are possible
- Two IDC terminations per female contact and integrated strain relief
- SMT PCB mount male connectors
- Compact 1.27 mm pitch
- Optional electrical Connector Position Assurance (eCPA)
- Koshiri-Security
- Optional color and mechanical coding are available

MicroCon



The 0.8 mm grid, double-row MicroCon product family is miniaturized and robust and compromises nothing in terms of its performance. The male connectors are equipped with reinforced, polarized side walls and improved blind mate pre-centering due to enlarged alignment features. These small connectors are unique in that they use double-sided spring contacts, ensuring high connection reliability. This product family continues to expand in pin count and height variants to achieve demanding board-to-board applications.

- Pin counts from 12 – 100 are possible
- PCB distances between 5 and 10 mm
- 90° and coplanar PCB arrangement
- Cable connectors for AWG34, making it the most compact ribbon cable system in the world
- Pitch 0.8 mm
- Termination SMT, IDC
- Current carrying capacity: up to 2.3 A per pin
- High connection reliability thanks to the double-sided spring contact
- Robust design with solder clips that increase shear forces
- Blind-Mate
- High vibration and shock resistance
- Polarization for secure mating

Product News 2020

CONNECTORS

iBridge Ultra



The iBridge Ultra connector family offers extensive Cable-to-Board solutions. It is designed for applications needing reliable and robust connections. A TPA (Terminal Position Assurance) retainer serves as a secondary lock for the female contact in the housing. The secondary lock further increases resistance against strong vibrations, such as those found in automotive applications. iBridge Ultra is not limited to automotive and is a great choice for the industrial automation, telecommunications, and healthcare markets. iBridge Ultra's compact design supports all applications between control units and local components such as sensors, motors, switches, fans, heating elements, fuses or LEDs.

- Current rating up to 8 A per contact
- Compact due to a pitch of 2 mm
- Multiple pin counts available
- Crimp contacts for AWG 22 and AWG 24
- Secondary locking of the crimp contacts in the housing (TPA)
- Polarity reversal protection design
- Double-sided interlocking
- Specifications are tested according to requirements of USCAR-2 and USCAR-21

MaxiBridge 10 pins



Very compact designs with high current capacity have to be combined for various applications. In addition, limited assembly space requests a high mating reliability. The single and dual-row MaxiBridge cable connector system with 2.54 mm pitch is an ideal solution for such applications. Due to its compact design, the cable connector system is well suited for space saving connections between PCBs and decentralized function units, particularly in automotive. Several connection options can be achieved by using the straight and angled male and female connectors with 180° cable outlets. Now the MaxiBridge connectors variety is extended to a new 10 pin count as well as a Koshiri (scoop proof) version. The Koshiri functionality offers a very high level of mating reliability, as it avoids any damage of the male contacts even in case of improper skewed insertion. A high degree of security in the system application can be achieved.

- Flexible and versatile usage
- Single row versions
- Housing coding both in colour as well as mechanically
- Usable for different cable cross-sections
- Koshiri (scoop-proof) security
- High retention force of the housing latching
- Double locking of the spring contacts in the housing
- Shock and vibration resistant
- High temperature resistance
- High retention forces on the PCB
- Compliance to LV 214 and USCAR requirements

Product News 2020

CONNECTORS

M8 A-coding - 8 pins



M8 connectors are proven to be very reliable in industrial use, such as the connection of field devices in industrial automation applications. A-coded round connectors can be used, for example, as sensor connectors or device connectors for digital and analog signal transmission or the power supply. SMT (surface mount technology) terminals provide the cost-effective option of automatic machine processing and solder processing. ERNI has expanded its M8 portfolio with A-coding, introducing 8-pin variants. The higher pin-count supports a reduction in the number of device interfaces. For different EMI needs the connectors are available with and without shielding.

- M8 female and male connectors with 8 pins
- Design-in suitable for the ERNI M8/M12 range
- SMT, shieldable and suitable for automated processes
- For miniaturized industrial devices
- For functional enhancement of devices
- Applications:
 - safety-sensors, actuators, smart grippers
 - cameras, mini distributor, robots

M12 - 12 and 17 pins



M8/M12 connector systems have established themselves as the preferred device-connection for use in a rough environment which requires a reliable, robust coupling solution for more than thirty years. With various pin counts and several cable types, plug configurations and plug codings, the M8/M12 connectors cover a wide spectrum of requirements. ERNI is now expanding its already extensive portfolio to include versions with higher pin counts.

- High pin count in the standard M12 design
- Design-in suitable for the ERNI M8/M12 range
- SMT, shieldable and suitable for automated processes
- Space saving for very compact device design
 - compensation of device interfaces
 - a single plug for bus, I/O, control, service and safety signals
 - enables more ports; for instance, for I/O boxes
 - M12 instead of M23 for multi-pin connections of valve terminals
- Applications:
 - sensors, cameras, scanners, rotary encoders
 - I/O boxes, sensor/actuator multi-pin connections

Product News 2020

CONNECTORS —

Cable assemblies with ERNI-Connectors



ERNI offers a comprehensive range of finished cable assemblies to meet a wide range of requirements including trimmed cables, crimped contact terminals, and complete wire harnesses.

Our focus with cable assemblies includes utilizing solder-free connection technologies such as Insulation Displacement Connections (IDC) and wire crimping. We assemble ribbon wire and discrete wire assemblies with diameters from 0.05 to 1.0 mm² (18 – 30 AWG) and offer fully automated, semi-automatic, and manual cable assemblies depending on the specific need for prototypes, pilot series, or large-scale production.

- Single sourced cable assemblies and connectors
- Quality through full process validation
- Modern production equipment
- Specialized connector systems
- Good price to performance ratio
- International Automotive Task Force (IATF) certified production

Custom cable assembly with outstanding quality

ERNI creates cable assemblies to meet the needs and specifications of our customers through value added activities such as adding accessories, harness mounting features, cutting wire to the desired lengths, and assembling contacts into connector insulators. We can also add braided wire sleeves, fold ribbon cables, and print the finished products with custom labels.

Critical assembly features are validated during production. After each manufacturing step we electronically record quality data measurements and assessments. Electrical tests include continuity, high-voltage, reverse polarity, and insulation testing. The high quality of any ERNI cable assemblies is based on IATF- and UL-certified production, UL-certified connectors and more.

Applications for our cable production

ERNI's cable assemblies are used in many applications including automation, data, drive systems, medical, and aerospace technologies. For the automotive industry, ERNI's custom cable assemblies and wire harnesses are used in headlights, electro-mobility controller applications and in battery management.





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