

Transportation Trends Create Modularity Challenges

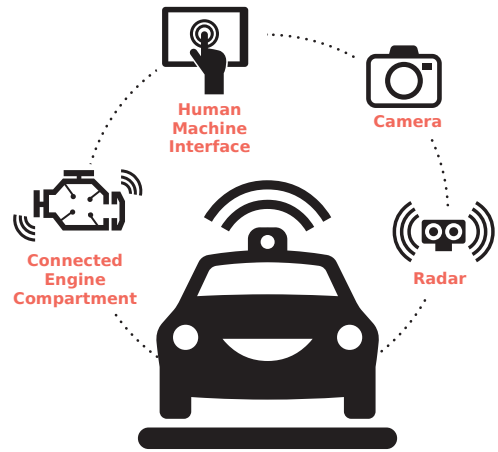
Do you have the right products to address those challenges?

SITUATION

Yesterday's transportation applications were relatively straightforward. Today, a new technology paradigm is emerging. Vehicle systems are now connected with complex electronics that drive modularization, with a significant increase in the number of engine compartment systems, HMI, radars and cameras that require multiple printed circuit board (PCB), wire-to-board and flex assemblies. These assemblies require connectors with improved signal integrity for speed and robustness in harsh environments.

The latest move in the market is toward integrated, connected sensors, and the need for interconnectivity is creating a massive opportunity for suppliers.

Do you know enough about the latest interconnectors to address modularity challenges?



TREND 1:

Human Machine Interface (HMI) Demands Connections

- More applications are using interfaces for communication and most user interfaces have flex-to-board (F-to-B) connection points requiring a flexible printed circuit board (PCB), wire-to-board or board-to-board (B-to-B) connector.
- The demand for sensors, microphones, speakers and cameras is driving increased modularity that requires more (and better) flexible printed circuits (FPC), flexible flat cables (FFC), B-to-B and wire-to-board (W-to-B) signal connections.

TREND 2:

Harsh Environments Mandate Durability

- Flex and wire-to-board assemblies and PCBs are becoming more complex. Harsh environments demand higher signal integrity performance and high retention force features to withstand shock and vibration – driving the need for better performing FPC, FFC, B-to-B and W-to-B signal connections.
- Consider the need for high-performing, durable interconnects early in the development process.

TREND 3:

Space-Constrained Profiles Require Flexibility

- The inside profile of transportation applications is becoming more space constrained. Increased modularity limits the space from the connector and other components, requiring more profile and mating orientation options for wire-to-board connectors.
- Having multiple profile and orientation options, wire-to-board connectors give designers flexibility to address space, location and connector entry point challenges.

WHAT'S TRENDING

The Right Connector Addresses Modularity Challenges

Vehicle electronics now require greater speed and signal integrity to transfer data streams with higher bit rates. Crucial to success in this segment is a high-speed solution that supports the signal integrity (SI) margins needed for sensors, cameras, human interface and system communications.

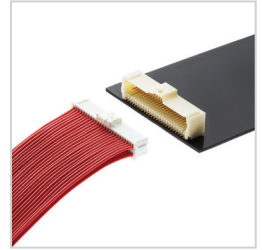


Contact Mouser to learn how these Molex products can support your automotive challenges:

- [Pico-Clasp Wire-to-Board Connectors](#)
- [Pico-Lock Wire-to-Board Connectors](#)
- [Pico-EZmate Wire-to-Board Connectors](#)
- [Micro-Lock Plus Wire-to-Board Connectors](#)

SOLUTION: **Pico-Clasp Wire-to-Board Connectors**

- Design flexibility with multiple pitches, mating orientations, dual-and single-row options
- Robust low-profile mechanical locking system for optimal retention force



SOLUTION: **Pico-Lock Wire-to-Board Connectors**

- Side positive locking system for high retention force and max space savings
- Ultra-low-profile right-angle design
- Up to 3.5A per circuit design



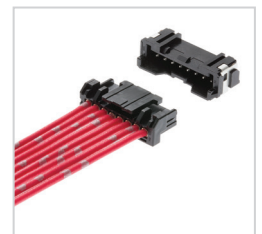
SOLUTION: **Pico-EZmate Wire-to-Board Connectors**

- Top entry design for ease of use
- Ultra-low profile height (1.20mm) provides vertical space savings
- Polarizing key prevents mismatching



SOLUTION: **Micro-Lock Plus Wire-to-Board Connectors**

- Design flexibility with multiple pitches, mating orientations, dual and single row options
- Robust low-profile mechanical locking system for optimal retention force
- 105°C operating temperature



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