

# HSAutoLink G Interconnect System >

The HSAutoLink G Interconnect System enables next-generation automotive architectures and high-bandwidth applications by providing multi-gig Ethernet connections of up to 25Gbps in a USCAR-compatible interface. The rugged design ensures robust signal integrity, EMI protection and resistance to harsh environmental conditions while supporting a wide range of Ethernet applications and protocols. The compact header is a drop-in replacement for existing USCAR 777-U-xxx-x-Z01 systems.

## ADVANTAGES AND FEATURES

### Enables scalable, high-bandwidth data transmission

Multi-gig performance of up to 25Gbps supports next-generation applications such as ADAS, LiDAR and central compute modules, avoiding bandwidth bottlenecks and reducing upgrade and redesign costs.

### Provides reliable signal integrity

Controlled 100-Ohm impedance and enhanced EMI shielding support exceptional performance in dense environments, which helps prevent signal failures, validation delays and costly design changes.

### Optimizes performance in space-constrained architectures

The efficient design reduces space and weight in compact modules.

|                   |                       |
|-------------------|-----------------------|
| Data Rate         | Up to 25Gbps          |
| Interface         | USCAR 777-U-xxx-x-Z01 |
| Target Validation | USCAR, LV214          |
| Configuration     | Wire-to-board         |

### Ensures reliable connectivity

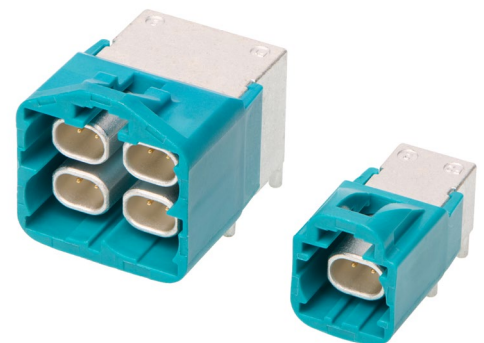
A robust contact interface with precision crimping as well as available connector position assurance and terminal position assurance reduce the risk of mismatching or inadvertent disconnections in high-vibration conditions and harsh environments.

### Minimizes assembly errors

The anti-stubbing terminal design improves reliability and reduces the risk of validation failures.

### Supports second-source flexibility

The USCAR 777-U-xxx-x-Z01 interface and cavity compatibility allow drop-in replacement of industry-standard twisted-pair data connectors, minimizing redesign costs and providing a second-source solution that reduces supply chain risks.

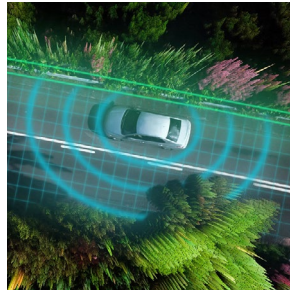


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## MARKETS AND APPLICATIONS

### Automotive

4D radar and LiDAR systems  
 ADAS domain controllers  
 Centralized compute modules  
 Heads-up displays  
 High-resolution camera systems  
 Over-the-air (OTA) update modules  
 Telematics control units  
 Zonal architecture backbone  
 communication systems



4D Radar and LiDAR Systems



ADAS Domain Controllers



Remote Monitoring  
and Teleoperation Systems

### Commercial Vehicles

360-degree surround-view systems  
 ADAS domain controllers  
 Centralized compute modules  
 Digital mirrors and camera monitoring  
 systems  
 Forward radar and camera systems  
 High-resolution driver information  
 displays  
 OTA update modules for fleet  
 management  
 Telematics gateways and fleet  
 management units

### Specialty/Autonomous Vehicles

Centralized AI compute modules  
 High-bandwidth LiDAR arrays  
 High-speed sensor-to-processor  
 communication systems  
 Multi-radar sensor fusion systems  
 Redundant safety architectures  
 Remote monitoring and teleoperation  
 systems

## TARGET SPECIFICATIONS

### Reference Information

Packaging: Tape and reel (headers)  
 Designed in: Millimeters  
 RoHS: Yes  
 Halogen: Low halogen  
 Target Validation: USCAR, LV214  
 USCAR Interface: 777-U-xxx-x-Z01  
 Cavity Compatibility: CAV-S-STP-X-002

### Electrical

Data Rate: Up to 25Gbps  
 Impedance: 100 Ohms  
 Voltage (max.): 60V  
 Current (max.): 1.5A  
 Contact Resistance (max.): 25 milliohms

### Mechanical

Circuit Count: 1, 2, 4 or 6 pairs  
 Mating Force (max.): 75N  
 Unmating Force with Lock Disabled (max.): 75N  
 Retention Force (min.): 110N  
 Durability: 25 mate/unmate cycles

### Physical

Housing: High-temperature plastic material  
 Contact: High-performance copper alloy  
 Contact Plating:  
 Contact area—0.12 $\mu$ m gold (min.)  
 Solder tail area—3.0 $\mu$ m tin (min.)  
 Underplating—2.0 $\mu$ m nickel overall (min.)  
 PCB Thickness (min.): 1.50mm nominal  
 Operating Temperatures: -40 to +105°C

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