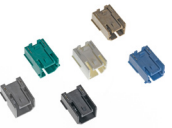# Automotive Networking Connectivity Solution
Reference Guide

molex

As a leading supplier of high-speed networking solutions, Molex is supporting OEMs in the development of in-vehicle networks that are secure, prioritized, reliable and high bandwidth. Building upon its strength in cables, connectors, media modules and signal integrity innovations, Molex is addressing the increased demand for in-vehicle processing power.

HSAUTOLINK I

	Product	Speed	Protocol	Description
	Headers	Up to 2 Gbps	USB 2.0 LVDS	Rugged assembly with positive latching and assembly guide rails provides a proven interface offering durability Preassembled housing and industry standard header with multiple keying options, meets all USB 2.0 electrical and EMI shielding requirements and is USCAR-30 compliant
	Cable Assemblies			USCAR-30 compliant ensures products are qualified and market tested to stand up to the rigorous in-vehicle environment Full-length cable shielding provides superior signal performance and reduced Electro-Magnetic Interference (EMI)

HSAUTOLINK II

	Product	Speed	Protocol	Description
	Headers	Up to 6 Gbps	USB 3.0 LVDS Auto Ethernet	Manufactured from high-temperature plastic material that is compatible with lead-free through-hold reflow process (Pin-in-Paste) or lead-free selective wave soldering process Rear (soldering) side of right-angle headers features closed shield case providing robustness and guarantees signal integrity delivering high EMI protection Compact, low-profile optimizing device-side space savings to meet future needs for increasing high-speed communcation links uses proven Molex LFH (Low Force Helix)
	Cable Assemblies			Flexible, expandable product family with data rates up to 6 Gbps allowing for combined links and supporting multiple protocols in the same connector (USB 2.0, USB 3.0, LVDS, Ethernet AVB, HDMI*, MicroCross DVI, DisplayPort†, etc.) Compatible with shielded twisted-pair (STP) or jacketed unshielded twisted pair (JUTP) cable construction which is a cost-competitive solution for high-speed differential signaling applications providing construction flexibility Fully protected perimeter seals and wire seals esuring system is rated to IP67 and IP69K for use in harsh environments and wet locations

HSAUTOLINK II HYBRID

	Product	Speed	Protocol	Description
	Headers	Up to 6 Gbps	USB 2.0 LVDS BroadR-Reach Auto Ethernet	Ideal for mixed low speed, high speed and power applications, supporting infotainment systems, telematics and camera devices.
	Cable Assemblies			

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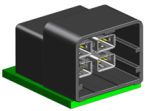
USB ILLUMINATED

	Product	Speed	Protocol	Description
	Cable Assemblies	Up to 6 Gbps	USB 3.0 LVDS Auto Ethernet	Delivers USB 2.0 data requirements in an illuminated interface for easy mating in all lighting conditions. Custom colors are available and may be formulated to meet most requests. Max. and min. luminosity may also be customized

HSAutoGig

	Product	Speed	Protocol	Description
	Headers	More than 10 Gbps	Auto Ethernet	HSAutoGig's small-form-factor headers reduce its demand for valuable PCB space for customers. HSAutoGig cables provide customers a scalable high-speed networking solution for multi-gig Ethernet applications.
	Cable Assemblies			The HSAutoGig high-speed Ethernet solution delivers 10 Gb+ data speeds and a reliable interface to connect smart-sensor systems and Ethernet network platform in support of the drive toward greater vehicle autonomy.

High-Speed Fakra Mini

	Product	Speed	Protocol	Description
	Headers	Up to 20 Gbps	Auto Ethernet, Mini-Coax	The High-Speed FAKRA Mini (HFM) Coaxial Cable Solution delivers 20 Gbps of data speed for the connected vehicle, supporting any modern radar, camera, lidar or sensor applications.
	Cable Assemblies			

HS STAC HEADERS

	Product	Speed	Protocol	Description
	Headers	More than 10 Gbps	USB 2.0 LVDS Auto Ethernet	Modular, stackable HS Stac Headers featuring the high-speed USCAR-30 HSAutolink interface achieve greater design-flexibility and space-savings in PCB trace-routing for in-vehicle infotainment and telematic devices

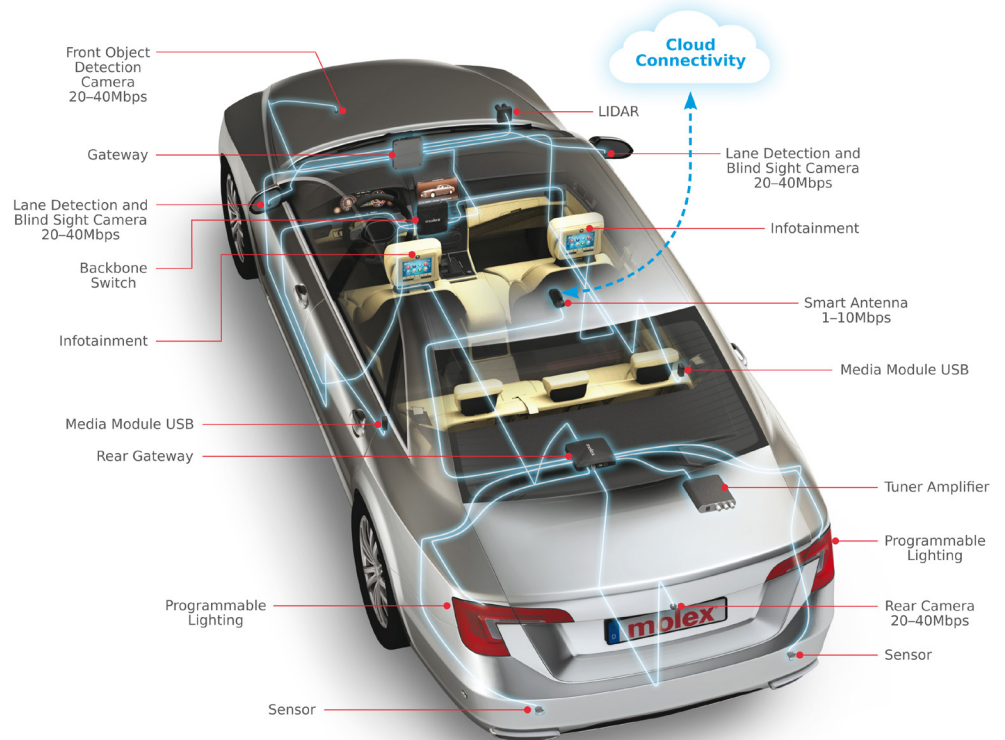# Automotive Networking Connectivity Solution
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Markets

Automotive

Commercial vehicles

Farm equipment

Motorcycles

All-terrain vehicles

Watercraft

Aircraft

Applications

Infotainment

Telematic devices

Safety and collision avoidance cameras

In-Vehicle applications

Navigation systems

Connected vehicle services

Advanced Driver Assistance System (ADAS)

Front Object Detection Camera 20–40Mbps

Gateway

Lane Detection and Blind Sight Camera 20–40Mbps

Backbone Switch

Infotainment

Media Module USB

Rear Gateway

Programmable Lighting

Sensor

Cloud Connectivity

LIDAR

Lane Detection and Blind Sight Camera 20–40Mbps

Infotainment

Smart Antenna 1–10Mbps

Media Module USB

Tuner Amplifier

Programmable Lighting

Rear Camera 20–40Mbps

Sensor

www.molex.com/connected-mobility