Rosenberger

New Generation for Maximum Data Transmission

GFC® – The High-Speed Optical Solution

AUTOMOTIVE FIBER OPTIC

GFC® – Optical Connectivity in Automotive

GFC® – The Fiber-Optic Standard for Automotive Applications

With the Rosenberger GFC® (Glass Fiber Connector) system, Rosenberger introduces a future-ready fiber-optic standard specifically designed for safety-critical and mission-critical in-vehicle applications. While Rosenberger's coaxial and differential copper interconnect solutions continue to deliver outstanding performance, the next evolutionary step is the development of optical multi-gigabit Ethernet solutions for automotive applications.

Thanks to decades of fiber-optic expertise, proven in data centers, Rosenberger is the prime partner for transferring established fiber-optic networking technologies into robust, automotive-qualified solutions. Combined with the proven expertise in automotive data connectors, Rosenberger is able to offer a hybrid and scalable portfolio combining optical, coaxial, and differential systems from a single source as a technology and development partner for OEMs and Tier-1 suppliers — from concept to series production.

Features

- High data transmission rates over 50 Gbps and 40 m
- Fully 802.3cz-compliant
- Protocol-agnostic (supports e.g. PCIe, Ethernet)
- Supports OM3/OM4 fiber at 850 nm and 980 nm
- Designed to operate in harsh automotive environment according ISO 24581 and heavy duty industries (such as mining, truck and trailer & farming)
- Meets mechanical and environmental specs as in ISO 8092 and DIN 70214 (related to former USCAR-2 and LV-214)

Advantages

- Designed for highly automated high-volume production and assembly
- Superior EMC behaviour
- Lowest insertion loss transmission option
- Expanded beam (wear-free) connection between two fibers (avoids scratches)
- Large active optical area provides significantly lower impact of contaminations (e.g. dust & dirt particles)

GFC® – A New Level in the Automotive Industry

GFC® – High-Speed Optical Solution

Cable Connector Female

Cable Connector Male

PCB Connector Male
(with integrated electrical/optical converter)

- Reduction of interference due to the expanded beam principle
- Straight and angled versions possible
- Future-proof solutions for backbone connections between central computers and zone controllers, as well as camera and display sensor links

Applications

- Enables zonal architecture
- Data redundancy between two main computing units
- The solution for long transmission distances
- Aggregation and forwarding for central processing
- High-resolution cameras and displays
- Dynamic installation use cases

Status October 2026 – Technical modifications and errors excepted. Similar images.

Website

For more information refer to our website:
www.rosenberger.com/gfc

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