



## AT A GLANCE

LiFi system with outstanding coverage angle for robust vehicle to vehicle communication. The light-based approach enables vehicles to transmit data at high rates while moving and is robust against jamming & hacking.

### Features

- Extended coverage angle (120°)
- Bidirectional optical communication
- Robust against hacking and jamming
- Dynamic rate adaptation
- NIR LED based

### Applications

- Platooning
- Electronic tow bar
- Autonomous vehicles
- Driver-assistance systems

### Technical Background

The optical wireless communication system from Fraunhofer HHI is optimized for an extremely large coverage with an angle of 120°. Thereby it can realize high speed data communication in a significantly extended area and allows for a high degree of mobility. The light-based LiFi system can be used in harsh industrial environments and is especially well suited for vehicle to vehicle communication.

Due to the large coverage angle of more than 120°, vehicles can communicate with a stable connection at high speeds while moving. Using light-based instead of commonly used radio-based systems enables a robust hacking-, jamming-, and interference-free transmission.

## Vehicle-to-Vehicle communication with LiFi



### Specification

- Wavelength: 850 nm
- Data rates: up to 500 Mbit/s
- Interface: RJ45 Ethernet (data), 12V DC (power), PoE possible
- Encryption: AES 128
- Support for LiFi networks according to ITU-T Rec. G.9991 (G.vlc), prepared for IEEE 802.15.13-2023

### Benefits

- Improved link robustness due to rate adaption
- No interference with RF
- License-free operation
- Seamless network integration
- No active tracking needed

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