

Article Overview

A fiber to RS-485 adapter converts RS-485 serial signals into optical fiber signals, enabling long-distance, noise-resistant communication for industrial and commercial applications.

Overview

Fiber to RS-485 adapters, also known as serial-to-fiber converters, allow RS-485 2-wire bus systems to communicate over optical fiber. These devices convert electrical RS-485 signals into optical signals and back, providing protocol-transparent transmission for systems like Modbus or SUCONET K . They are ideal for point-to-point connections and can also support linear or redundant network structures using T-couplers .

Key Features

- o Data Rate: Typically up to 500 kbps for RS-485 systems .
- o Fiber Type: Multimode (PCF/fiberglass) or single-mode options are available, with wavelengths like 850 nm for multimode and longer wavelengths for single-mode .
- o Distance: Multimode fiber can extend RS-485 signals up to 5 km (3 miles), while single-mode fiber can reach up to 40 km (25 miles) depending on the converter .
- o Diagnostics: Many converters include integrated optical diagnostics and alarm contacts to monitor fiber link integrity .
- o Industrial Reliability: Rugged enclosures, wide operating temperature ranges (-40°C to 85°C), and surge/ESD protection ensure stable operation in harsh environments .
- o Connectors: Common fiber connectors include ST, SC, and FC types .

Applications

- o Extending RS-485 communication over long distances without signal degradation.
- o Isolating electrical noise in industrial environments.
- o Connecting remote devices in automation, process control, and SCADA systems.
- o Creating redundant or linear network topologies for increased system availability .

Example Products

- o Phoenix Contact PSI-MOS-RS485W2/FO: Converts RS-485 to multimode fiber with integrated diagnostics and alarm contacts, suitable for point-to-point or T-coupler configurations .
- o Moxa Serial-to-Fiber Converters: Industrial-grade converters supporting RS-232/422/485 to fiber, designed for reliable serial communication .
- o CommFront RS485 to Fiber Converters: Rugged, industrial-grade converters with multi-mode and



Fiber to 485 adapter

single-mode options, supporting distances up to 40 km .

o SerialComm SER-FIBER-MM/SM: High-quality, bi-directional converters with ESD and surge protection, suitable for panel or rack mounting .

Considerations

o Ensure the fiber type and connector match your existing infrastructure.

o Verify the data rate and distance requirements for your RS-485 network.

o Check for industrial certifications if used in harsh environments.

o Follow manufacturer installation instructions, especially regarding alarm contacts and optical diagnostics .

Fiber to RS-485 adapters provide a reliable, long-distance, and electrically isolated solution for extending serial communication in industrial and commercial applications.

Our fiber optic converter connects your RS-485 devices to fiber optic cables up to 20km long. Multiple build options. 3 years warranty.

This unit features bi-directional serial conversion from 2 wire RS485 to a pair of

The DL485 is a RS485 2-wire to singlemode fiber optic converter for point-to-point connections. For

Buy UOTEK UTEK UT-277SM-ST RS-232/422/485 to Optical Fiber Media Converters: Serial Adapters - Amazon FREE

RS485 to Ethernet Converter, Easy-to-use, High-speed, Low-power, High-stability, Upgradable * This

Moxa's industrial-grade serial-to-fiber optic converters can convert RS-232/422/485 to optical fiber, which provides users with an

TS08-series LAN devices provide solutions for typical cabling issues facing installers. Additional terminals for RS-485 LAN and/or

Rugged industrial-grade RS232 / RS485 / RS422 to multi-drop fiber optic converter. Daisy-chain or self-healing / redundant ring fiber

Fiber-Optic Link to EIA-485-- Connect to two- or four-wire EIA-485 network segments with SEL-2824 Fiber-Optic ST Transceivers

The floating switch contact is activated when the signal output on the fiber optic paths drops to a critical level. The PSI-MOS

Fiber to 485 adapter

View the ODW-730-F1 which has been designed to allow RS-422/485 protocols to be transmitted point-to-point over a fibre optic link

Whether you're connecting a PLC in a substation or running a surveillance link across a campus, finding the best rs-485 to fiber optic

The floating switch contact is activated when the signal output on the fiber optic

The FIB1-SERIAL-SC2F provides a fiber converter solution to extend RS-232 or RS-485/422 transmission distance up to 2km over

FO converter with integrated optical diagnostics, alarm contact, for RS-485 2-wire

The DL485 is a RS485 2-wire to POF (Plastic Optical Fiber) or HCS (Hard Clad Silica) fiber optic converter for point-to-point

Web: <https://in-au.co.za>

