



RS232 to Single-Mode Fiber Optic Converter

Article Overview

RS232 to single-mode fiber converters allow RS232 serial signals to be transmitted over long distances via single-mode fiber, providing isolation, EMI/RFI protection, and distances up to 40 km.

Overview

RS232 to single-mode fiber converters are industrial-grade devices that convert standard RS232 serial signals into optical signals for transmission over single-mode fiber. These converters are ideal for long-distance communication, environments with electrical noise, or applications requiring galvanic isolation between devices .

Key Features

- o Distance: Typically up to 20 km to 40 km depending on the model and fiber quality .
- o Connectors: Common fiber connectors include SC, ST, and FC types .
- o Data Rates: Support serial speeds from 300 bps up to 115.2 kbps, with some models handling non-standard baud rates up to 921.6 kbps .
- o Power: Most units require external DC power (commonly 9-36 VDC or 12-48 VDC), with some models capable of using RS232 pin 9 for power .
- o Isolation & Protection: Provide galvanic isolation, surge protection (up to 600W), and ESD protection (up to 15 kV) to safeguard connected equipment .
- o Plug-and-Play: Many converters feature auto data direction control, eliminating the need for software drivers or manual configuration .
- o Mounting Options: Wall, panel, rack, or DIN-rail mounting is supported for industrial installations .

Popular Models

- o SerialComm 232-FIBER-SM: Supports RS232 to single-mode fiber with ST or SC connectors, distances up to 20 km, 0-128 kbps, and external power supply included .
- o CommFront FBR-Serial-2 (SM/SC or SM/ST): Extends RS232/RS422/RS485 up to 40 km, supports multi-drop networks, rugged ABS housing, and auto-sensing data format .
- o Moxa TCF-142-S-SC: RS232/422/485 to single-mode SC fiber, supports 50 bps to 921.6 kbps, fiber ring support, and operating temperature 0-60°C .
- o EXSYS EX-6300SM: RS232 to single-mode SC fiber, 20 km range, 1310 nm wavelength, supports up to 921.6 kbps, DIN-rail mountable .
- o Omnitron iConverter 8767-1: RS232 DB9 to LC single-mode dual fiber, 30 km range, supports up to 115.2 kbps, chassis-powered, hot-swappable .
- o RDC rdc232SFO: RS232 to single-mode fiber with SC, ST, or FC connectors, 20 km range, intrinsic



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isolation, 9-36 VDC power, compact DIN-rail design .

Applications

- o Industrial automation and control systems
- o Remote monitoring and telemetry
- o Secure or EMI-sensitive environments
- o Long-distance serial communication where copper cabling is impractical

Summary

RS232 to single-mode fiber converters provide a reliable, long-distance, and electrically isolated solution for serial communication. When selecting a converter, consider distance requirements, connector type, data rate, power options, and environmental conditions. Most industrial models are plug-and-play, support auto data direction, and include surge and ESD protection, making them suitable for harsh environments .

DESCRIPTION The SER-FIBER-MM-ST or SER-FIBER-MM-SC is an industrial grade bi-directional externally powered multi

It provides the most versatile connection possible between any asynchronous RS

Industrial RS-232/485/422 to optic fiber converter, single-mode 20 km, 9-36VDC, SC/ST optional. Model277 is one kind can offer RS

Fiber optic converter with integrated optical diagnostics, alarm contact, for RS-232 interfaces up to 115.2

MODEL277S converts RS-232/485/422 signal to singlemode fiber, that allows 20km communication through fiber, 9-36VDC, SC/ST

The 20km single mode SER-FIBER-SM-ST or SER-FIBER-SM-SC is a high quality industrial-grade

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

General Description The I-2542-A/I-2542-B series of single-Strand fiber Converters supports Wavelength Division Multiplexing

The TCF-90 is a compact media converter that transmits RS-232 signals over optical fiber. Power is derived

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from either the serial

Overview Industrial RS232/RS485/RS422 to fiber optic converter solves the problems of electromagnetic

The SerialComm SER-FIBER-SM (Single Mode) is a high quality, high performance, industrial-grade standalone, panel or rack

Moxa"s industrial-grade serial-to-fiber optic converters can convert RS-232/422/485 to optical fiber, which

3 IN 1: Serial RS232/RS422/RS485 to fiber media converter, single Mode, dual fiber, SC, 20KM. Mini

FIB1-232 model is available in a wide range of SC type optical modules, covering operating distances from 2Km up to 120Km. The

Supports multiple fiber optic connections between asynchronous serial ports It supports full-duplex or half

These converters support up to 255 fiber nodes, and each fiber node can extend the RS232 / RS422 / RS485"s distance to 3 miles

Web: <https://www.morwarreconst.co.za>

