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TCF-142 Series

RS-232/422/485 to Fiber Converter

Features

- Converts RS-232/422/485 signal:
 - * To ST Single-mode fiber with TCF-142-S
 - * To ST Multi-mode fiber with TCF-142-M
- Extends RS-232/422/485 transmission distance:
 - * Up to 20 km with Single mode—TCF-142-S
 - * Up to 2 km with Multi mode—TCF-142-M
- Plug & Play
- Compact size
- Decreases signal interference
- Protects against electronic degradation/chemical corrosion
- Supports baud rate up to 230.4 Kbps



Introduction

The TCF-142 Series converter is equipped with a multiple interface circuit that can handle RS-232, or RS-422/485 serial interfaces and multi-mode or single-mode fiber. TCF-142 converters are used to extend serial transmission distance up to 2 km (TCF-142-M

multi-mode fiber) or up to 20 km (TCF-142-S single-mode fiber). Note that the RS-232 and RS-422/485 interfaces cannot be used on the same TCF-142 at the same time to convert to fiber.

Why convert serial to Fiber

Fiber communication not only extends the communication distance, but also provides many good features as follows:

IMMUNE FROM ELECTRICAL INTERFERENCE: Fiber is not affected by electromagnetic interference or radio frequency interference. It provides a clean communication path and is immune to cross-talk.

INSULATION: Optical fiber is an insulator; the glass fiber eliminates the need for electric currents for the

communication path.

SECURITY: Cannot be tapped by conventional electric means and is very difficult to tap onto optically. Furthermore, radio and satellite communication signals can easily be captured for decoding.

RELIABILITY & MAINTENANCE: Fiber is immune to adverse temperature and moisture conditions, does not corrode or lose its signal, and is not affected by short circuits, power surges, or static electricity.

Auto Baud Rate Detection

TCF-142 Series incorporates a method for automatically detecting the serial signal baud rate by hardware. This is an extremely convenient feature for the user. Even if

a device's baud rate is changed, the signal will still be transmitted through the RS-232 or RS-422/485 to fiber converter without any problem.

Ordering Information

TCF-142-S:

RS-232/422/485 to ST Fiber Single mode Optic Converter; user manual included

TCF-142-M:

RS-232/422/485 to ST Fiber Multi mode Optic Converter; user manual included

Dimensions



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Votre interlocuteur

Groupe 2AR

Specifications

Serial Communications

RS-232 Signals: TxD, RxD, GND

RS-422 Signals: TxD+, TxD-, RxD+, RxD-, GND

4-wire RS-485 Signals: TxD+, TxD-, RxD+, RxD-, GND

2-wire RS-485 Signals: Data+, Data-, GND

Baud Rate: 300 bps to 230.4 Kbps

Surge Protection: 15 KV ESD

Fiber Communication

Distance:

TCF-142-S: Single mode fiber for 20 km

TCF-142-M: Multi mode fiber for 2 km

Support Cable:

TCF-142-S: 8.3/125, 8.7/125, 9/125 or 10/125 μ m

TCF-142-M: 50/125, 62.5/125, or 100/140 μ m

Wavelength:

TCF-142-S: 1310 nm

TCF-142-M: 820 nm

Min. TX Output:

TCF-142-S: -9 dBm

TCF-142-M: -16 dBm

Max. TX Output:

TCF-142-S: -6 dBm

TCF-142-M: -7 dBm

Environment

Operating Temperature: 0 to 60°C (32 to 142°F)

Storage Temperature: -20 to 85°C (-4 to 185°F)

Humidity: 5 to 95% RH

Power

Input Power Voltage: 12 to 48 VDC

Reverse Power Protection: Protects against V+ and V- reverse protection

Over Current Protection:

Protects against 2 signals shorted together: 1.1A

Mechanical

Dimensions (W x D x H): 67 x 100 x 22 mm

90 x 100 x 22 mm (including ears)

Material: Aluminum (1 mm)

Regulatory Approvals

CE

FCC: Part 15 sub Class B

EMI: EN55022 1998, Class B

EMS: EN61000-4-2 (ESD), Criteria A, Level 2

EN61000-4-3 (RS), Criteria A, Level 2

EN61000-4-4 (EFT), Criteria A, Level 2

EN61000-4-5 (Surge), Criteria A, Level 3

EN61000-4-6 (CS), Criteria A, Level 2

Free fall: IEC 60068-2-32