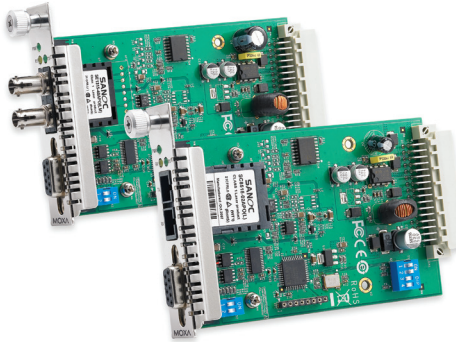


TCF-142-RM Series

RS-232/422/485 to fiber slide-in modules for the N Rack System™



- > Extend RS-232/422/485 transmission up to:
 - 40 km with single-mode
 - 5 km with multi-mode
- > 1 or 150 kilo-ohm adjustable pull high/low resistor
- > “Ring” and “Point-to-Point” transmission supported



Introduction

The TCF-142-RM series of serial-to-fiber converters are slide-in modules that work with the TRC-190 chassis. The modules convert

from the RS-232, RS-422, or RS-485 signal to a fiber-optic signal.

Automatic Baudrate Detection

The TCF-142-RM series can automatically detect the serial baudrate. This is an extremely convenient feature. Even if a device's baudrate

is changed, the signal will still be transmitted through the media converter without any problem.

Specifications

Optical-Fiber Side

Fiber Connector: SC or ST

Fiber Cable Requirements:

Low-Speed Fiber Module		Multi-Mode	Single-Mode
Fiber Cable Requirements		50/125 μm, 800 MHz	G.652
		62.5/125 μm, 500 MHz	
Typical Distance		5 km	40 km
Wave-length	Typical (nm)	850	1310
	TX Range (nm)	840 to 860	1290 to 1330
	RX Range (nm)	800 to 900	1100 to 1650
Optical Power	TX Range (dBm)	0 to -5	0 to -5
	RX Range (dBm)	0 to -20	0 to -25
	Link Budget (dB)	15	20
	Dispersion Penalty (dB)	1	1

Note: When using a power meter to measure the fiber TX power, set the baudrate to 9,600 bps and send data (00, ..., 0h) to the serial converter's serial port.

Point-to-Point Transmission: Half-duplex or full-duplex

RS-232/422/485 Side

Connector: DB9

RS-232 Signals: TxD, RxD, GND

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

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

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

Baudrate: 50 bps to 921.6 kbps

Physical Characteristics

Dimensions: 86.8 x 136.5 x 21 mm (3.42 x 5.37 x 0.83 in)

Weight: 105 g (0.23 lb)

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F)

Storage Temperature: -20 to 75°C (-4 to 167°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 12 VDC

Input Current: 12 VDC @ 150 mA

Standards and Certifications

Safety: UL 60950-1

EMC: EN 55032/24

EMI: CISPR 32, FCC Part 15B Class A

EMS:

EN 61000-4-2 (ESD): Contact: 4 kV; Air: 8 kV

EN 61000-4-3 (RS): 80 MHz to 1 GHz: 3 V/m

EN 61000-4-4 (EFT): Power: 1 kV; Signal: 0.5 kV

EN 61000-4-5 (Surge): Power: 1 kV; Signal: 0.5 kV

EN 61000-4-6 (CS): 150 kHz to 80 MHz: 3 V/m

EN 61000-4-8 (PFMF)

EN 61000-4-11 (DIPS)

Green Product: RoHS, CRoHS, WEEE

Freefall: IEC 60068-2-32

MTBF (mean time between failures)

Time: 514,926 hrs

Standard: Telcordia (Bellcore), GB

Warranty

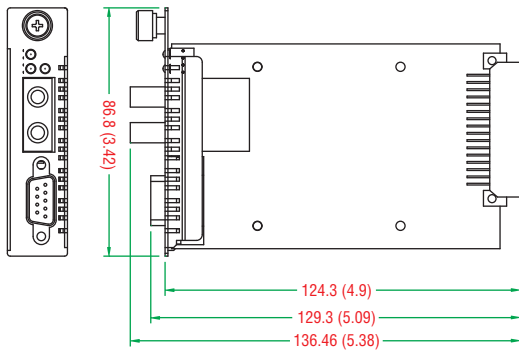
Warranty Period: 5 years

Details: See www.moxa.com/warranty

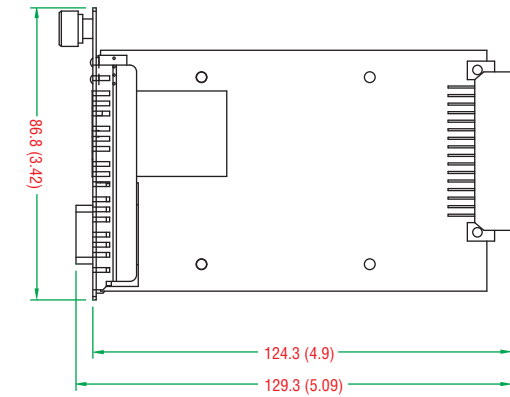
Dimensions

Unit: mm (inch)

TCF-142-M/S-ST-RM Series

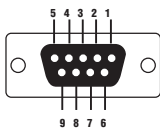


TCF-142-M/S-SC-RM Series



Pin Assignment

DB9 female connector



Pin	RS-232	RS-422/485-4w	RS-485-2w
1	–	RxD-(A)	Data-(A)
2	TxD	RxD+(B)	Data+(B)
3	RxD	TxD+(B)	–
4	–	TxD-(A)	–
5	GND	GND	GND
6	–	–	–
7	–	–	–
8	–	–	–
9	–	–	–

Ordering Information

Available Models

- TCF-142-M-SC-RM:** RS-232/422/485 to multi-mode fiber slide-in module converter, SC connector
- TCF-142-M-ST-RM:** RS-232/422/485 to multi-mode fiber slide-in module converter, ST connector
- TCF-142-S-SC-RM:** RS-232/422/485 to single-mode fiber slide-in module converter, SC connector
- TCF-142-S-ST-RM:** RS-232/422/485 to single-mode fiber slide-in module converter, ST connector

Package Checklist

- 1 TCF-142-RM fiber converter
- Quick installation guide (printed)
- Warranty card