

# TCF-142-RM Series

**RS-232/422/485 to fiber slide-in modules for the NRack System™**



- > Extend RS-232/422/485 transmission up to:
  - 40 km with single-mode
  - 5 km with multi-mode
- > 1K or 150K 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

**Cable Requirements:**

Single-mode: 8.3/125, 8.7/125, 9/125, or 10/125  $\mu\text{m}$

Multi-mode: 50/125, 62.5/125, or 100/140  $\mu\text{m}$

**Transmission Distance:**

Single-mode: 40 km

Multi-mode: 5 km

**Wavelength:**

Single-mode: 1310 nm

Multi-mode: 850 nm

**Tx Output:**

Single-mode: > -5 dBm

Multi-mode: > -5 dBm

**Rx Sensitivity:**

Single-mode: -25 dBm

Multi-mode: -20 dBm

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

**Ring Transmission:** Half-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

**ESD Protection:** 15 kV for all signals

### Physical Characteristics

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

### 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

**Power Consumption:** 150 mA @ 12 V

### Standards and Certifications

**EMC:** CE, FCC

**EMI:** FCC Part 15 Subpart B Class A

**EMS:**

EN 61000-4-2 (ESD) Level 3,

EN 61000-4-3 (RS) Level 2,

EN 61000-4-4 (EFT) Level 2,

EN 61000-4-5 (Surge) Level 2,

EN 61000-4-6 (CS) Level 2,

EN 61000-4-8 (PFMF) Level 3

**Freefall:** IEC 60068-2-32

**Green Product:** RoHS, CRoHS, WEEE

**MTBF** (mean time between failures)

**Time:** 514,926 hrs

**Database:** Telcordia (Bellcore), GB

### Warranty

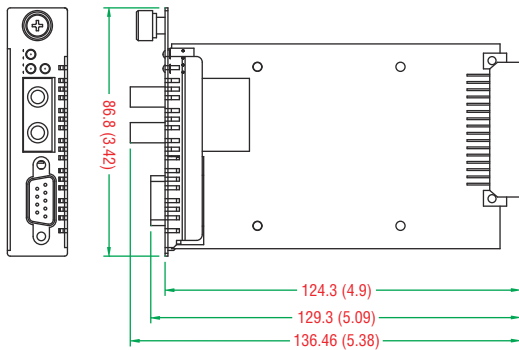
**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

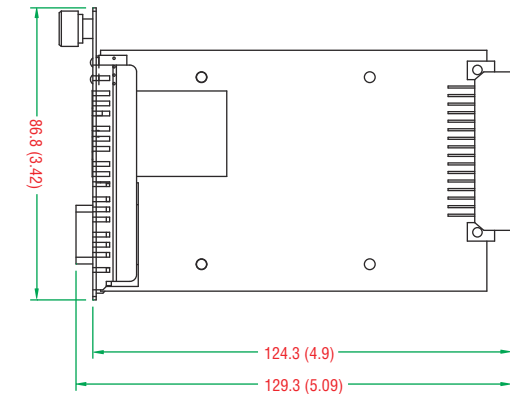
Dimensions

Unit: mm (inch)

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

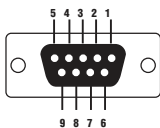


TCF-142-M/S-SC-RM Series



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