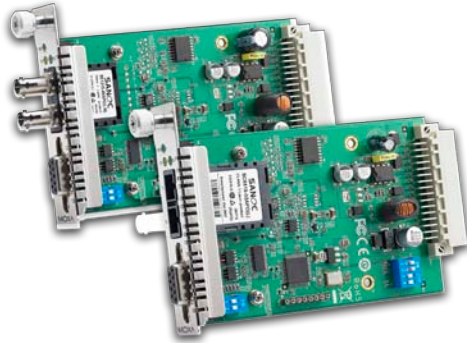


# TCF-142-RM Series

**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
- > 1K or 150K ohm adjustable pull high/low resistor
- > “Ring” and “Point-to-Point” transmission supported

The certification logos shown here apply to some or all of the products in this section. For details, see “Regulatory Approvals” under “Specifications” below.



## 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

### RS-232/422/485 Side

**Terminal Block**

**RS-232 Signals:** TxD, RxD, SGND

**RS-422 Signals:** TxD+, TxD-, RxD+, RxD-, SGND

**RS-485-4w Signals:** TxD+, TxD-, RxD+, RxD-, SGND

**RS-485-2w Signals:** Data+, Data-, SGND

**Baudrate:** 50 bps to 921.6 Kbps

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

### Physical Characteristics

**Housing:** SPCC

**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)

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** -20 to 75°C (-4 to 158°F)

### Power Requirements

**Input Voltage:** 12 VDC

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

### Regulatory Approvals

**CE:** Class A

**FCC:** Part 15 sub part B Class A

**EMS:**

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

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

EN61000-4-4 (EFT), Criteria A, Level 3

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

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

EN61000-4-8 (PFMF), Criteria A, Level 3

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

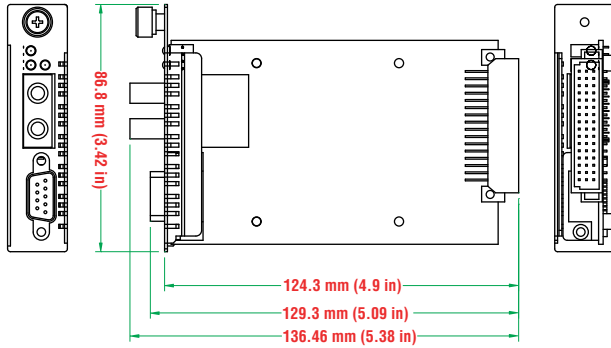
### Warranty

**Warranty Period:** 5 years

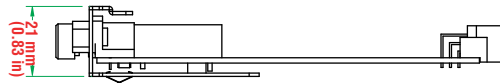
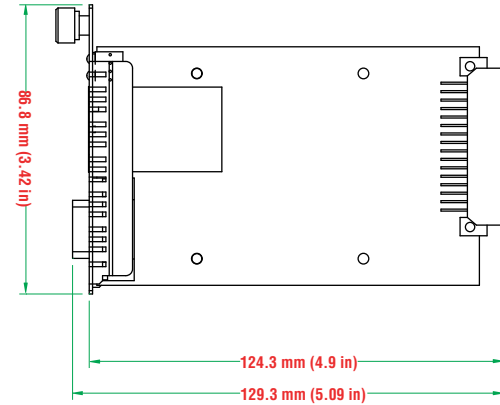
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions

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

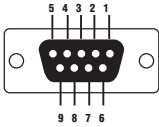


### TCF-142-M/S-SC Series



## Pin Assignment

### DB9 female connector



Pin	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	Tx-	---
2	RxD	Tx+	---
3	TxD	Rx+	Data+
4	DTR	Rx-	Data-
5	GND	GND	GND
6	DSR	---	---
7	RTS	---	---
8	CTS	---	---

## 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

- TCF-142 series fiber converter
- Quick Installation Guide (printed)
- Warranty Card