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## SER-FIBER-MM

RS-232/RS-485/RS-422 To Fiber Optic  
Multi-Mode Converter  
Datasheet Revision 1.2

### INTRODUCTION:

The SerialComm SER-FIBER-MM is a bi-directional externally powered multi-function RS-232 / RS-485 / RS-422 to Single Mode Fiber Optic Converter. It can convert any standard full duplex RS-232C / RS-422 or half duplex RS-485 to a Multi-mode SC connector type or ST connector type fiber optic link. In simple terms, it will extend the distance of any RS-232 / RS-485 / RS-422 signal up to 1.2 miles (2 km) using a MM fiber optic cable. It also supports data direction auto-turnaround. Therefore, no flow control is required. The data direction auto-turnaround automatically enables the RS-232 / RS-485 / RS-422 drivers when data is present making the device plug-and-play, requiring no software drivers. The SER-FIBER-MM has a 8-way terminal block for serial connections and either ST type or SC type connectors for fiber optic links. Separate external power supply is included in package.

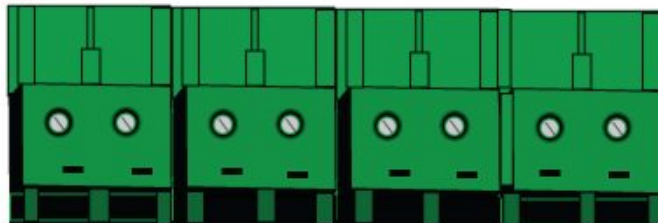
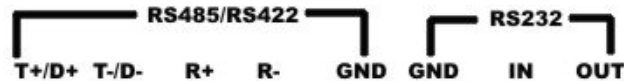
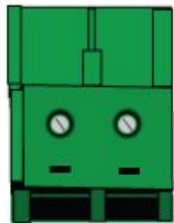
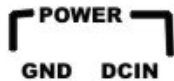
### CERTIFICATIONS:



### GENERAL FEATURES:

- Standards can be mixed and matched. For instance one SER-FIBER-MM can be configured for RS-232 while the other side can be configured for RS-485 or RS-422.
- Only one RS-232 / RS-485 / RS-422 port can be connected at a given time.
- Transmits RS-232 / RS-485 / RS-422 up to 1.2 miles or 2 km
- Plug-and-Play (Device is hot-pluggable)
- 5 Year Manufacturer's Warranty
- RoHS, CE, FCC, ISO 9001 and IAF Compliance Certified
- Built-in surge protection, static protection and circuit protection
- Surface Mount RoHS Compliant Technology manufactured to ISO 9001 Standards

### CONNECTORS:



### SPECIFICATIONS:

PART NUMBER:	SER-FIBER-MM
STANDARDS:	EIA/TIA RS-232C, RS-485 and RS-422 Standard
BAUD RATES:	From 300 Baud To 460K Baud
POWER SOURCE:	9 to 36VDC (External AC to DC power adapter included)
AC/DC POWER ADAPTER:	9VDC - 500ma (100-240VAC 50/60HZ US type A plug)
POWER CONSUMPTION:	4 Watts
WAVELENGTH:	1310nm
FIBER OPTIC CABLES:	Multi-Mode: 50/125um, 62.5/125um
CONNECTOR (SERIAL)	RS-232/RS-485/RS-422 Side: 8-way Terminal Block;
CONNECTOR (POWER)	DC Input: 2-way Terminal Block
CONNECTOR (FIBER OPTIC)	2 X ST Connector or 2 X SC Connector
DISTANCE - SERIAL PORT:	RS-232 Side: 16 ft (5m); RS-485/RS-422 Side: up to 4000 ft (1.2km)
DISTANCE - FIBER OPTIC:	Multi-Mode: 1.2 miles (20 km)
MAX NUMBER OF DROPS:	RS-485/RS-422: 32 Drops
STATIC PROTECTION:	1500W Static Protection
SURGE PROTECTION:	600W Surge Protection
ELECTRO STATIC DISCHARGE - (ESD)	Up to 15KV
WEIGHT:	<b>With ST Connector:</b> 8.87oz (251.4 grams) <b>With SC Connector:</b> 8.73oz (245.3 grams)
DIMENSIONS:	<b>With ST Connector:</b> 5.00" X 3.60" X 0.90" (126.0 mm X 91.0 mm X 22.0 mm) <b>With SC Connector:</b> 4.50" X 3.60" X 0.90" (115.0 mm X 91.0 mm X 22.0 mm)
OPERATING TEMP.:	-40° F to 158° F (-40°C to 70° C)
OPERATING HUMIDITY:	0% To 95% - No Condensation

### TROUBLESHOOTING INSTRUCTIONS:

- Check the connections according to the connection diagrams.
- Make sure the power LED is ON and the RX & TX LEDs are OFF when there is no data communications.
- Perform a loop back test on two SER-FIBER-MM converters. Attach the two SER-FIBER-MM converters by attaching the FIBER IN to the FIBER OUT using a MM Fiber Optic Cable. Connect the SER-FIBER-MM RS-232 port or RS-485 port or RS-422 port to a PC. Send ASCII Characters from a hyper terminal program from one converter to the other. This will test both the transmit and receive functions.

APPLICATIONS:

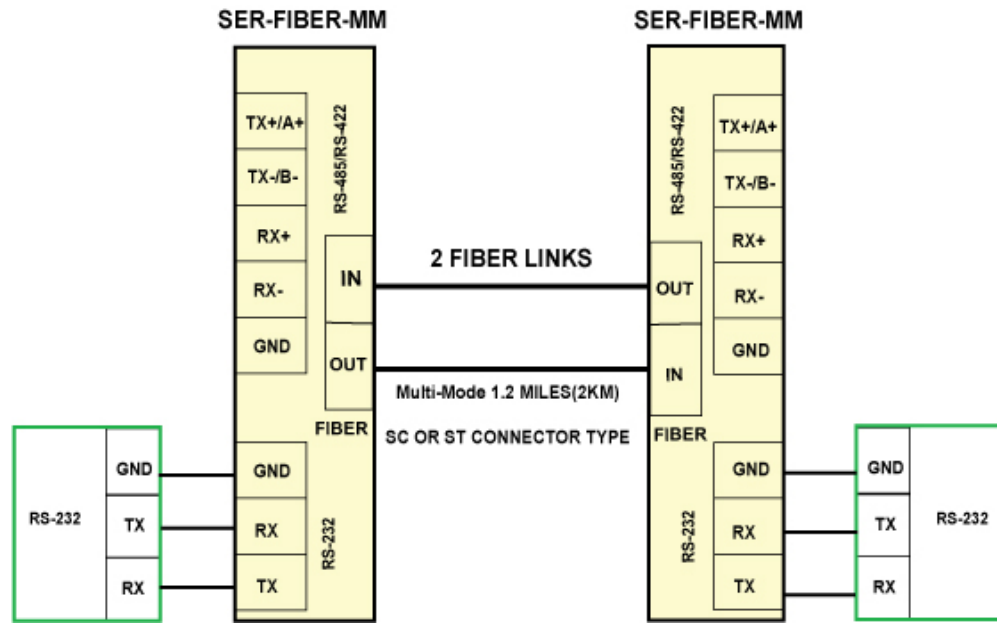


FIGURE 1: EXTENDING RS-232 DATA DISTANCE

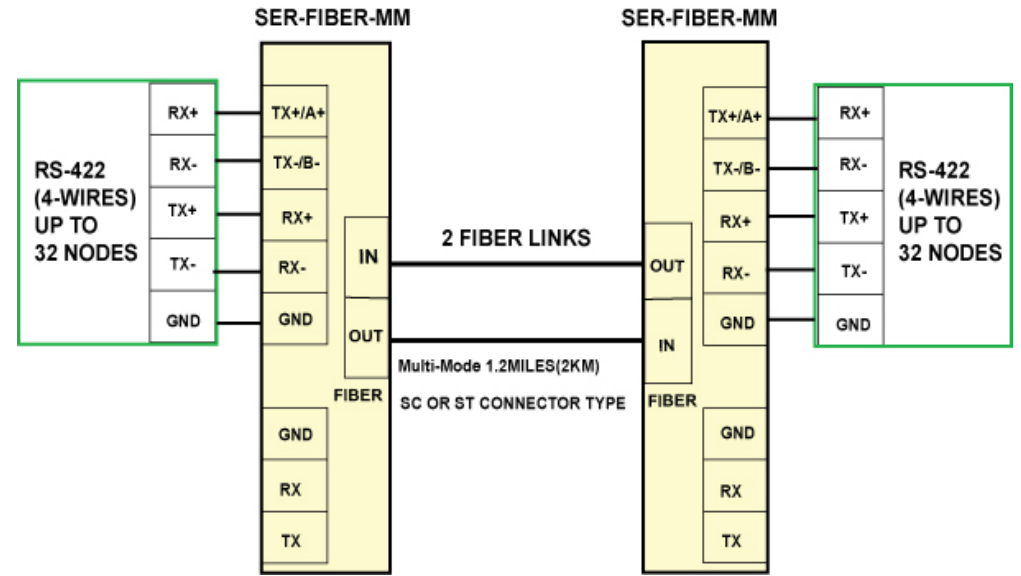


FIGURE 1: EXTENDING RS-422 DATA DISTANCE

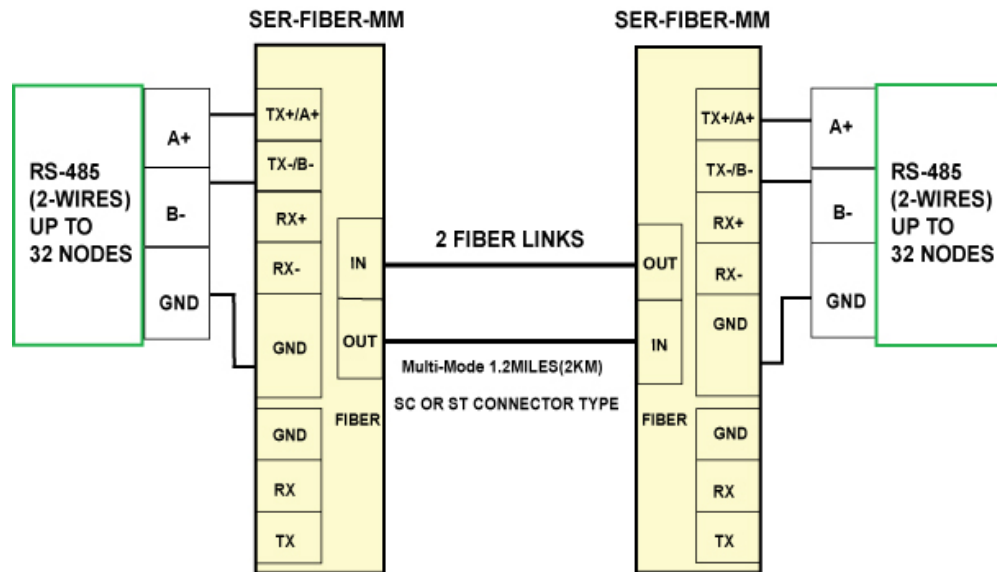


FIGURE 2: EXTENDING RS-485 DATA DISTANCE

DIMENSIONS:

