



## ETH-FIBER-SM-2

10/100/1000M Ethernet To Fiber Optic  
Single Mode Converter  
Datasheet Revision 1.3

www.serialcomm.com

### INTRODUCTION:

The SerialComm ETH-FIBER-SM-2 is a bi-directional externally powered 10/100/1000M Ethernet to Single Mode Fiber Optic Converter or Adaptive Gigabit Ethernet fiber optic converter. It can convert any standard 10/100/1000BaseT to a 1000Base-SX/LX Single Mode SC connector type or ST connector type fiber optic link. In simple terms, it will extend the distance of any 10/100/1000BaseT signal up to 12.4 miles (20 km) using a SM fiber optic cable. It also supports auto-negotiation for half or full-duplex at 10, 100 or 1000Mbps data rates. The ETH-FIBER-SM-2 supports straight-through (MDI) or crossover (MDXI) cables. No DIP settings or software drivers are required. The ETH-FIBER-SM-2 has a RJ45 for Ethernet connections and either ST type or SC type connectors for fiber optic links. Separate external power supply is included in package.

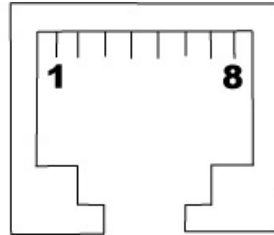
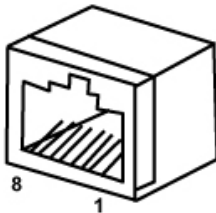
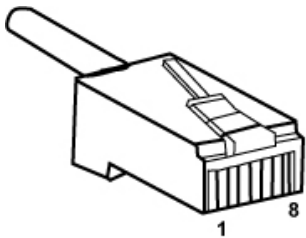
### CERTIFICATIONS:



### GENERAL FEATURES:

- Transmits 10/100/1000BaseT up to 12.4 miles or 20 km
- Converts 10/100/1000BaseT to 1000Base-SX/LX
- TX port auto-MDIX and auto-negotiation of duplex mode and data speed
- LED Indicators
- Store and forward mechanism
- Plug-and-Play (Device is hot-pluggable)
- 5 Year Manufacturer's Warranty
- RoHS, CE, FCC and ISO 9001 Compliance Certified
- Built-in surge protection, static protection and circuit protection
- Surface Mount RoHS Compliant Technology manufactured to ISO 9001 Standards

### ETHERNET RJ45 CONNECTOR:



### SPECIFICATIONS:

PART NUMBER:	ETH-FIBER-SM-2
STANDARDS:	IEEE 802.1 10Base-T, IEEE 802.3u 100Base-T, IEEE 802.3 100Base-FX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 10000Base-SX/LX Standards
SPEED 10BaseT:	10/20 Mbps for half/full duplex
SPEED 100BaseT:	100/200 Mbps for half/full duplex
SPEED 1000BaseT:	1000/2000 Mbps for half/full duplex
POWER SOURCE:	5VDC (External AC to DC power adapter included)
AC/DC POWER ADAPTER:	5VDC - 1A (100-240VAC 50/60HZ US type A plug)
POWER CONSUMPTION:	4 Watts
WAVELENGTH:	1310nm
FIBER OPTIC CABLES:	Single Mode: 8.3/125um, 8.7/125um, 9/125um, 10/125um
CONNECTOR (ETHERNET)	Ethernet RJ45 Female
CONNECTOR (POWER)	DC Input: male jack
CONNECTOR (FIBER OPTIC)	2 X ST Connector or 2 X SC Connector
DISTANCE - ETHERNET:	10BaseT: Cat 3,4,5:328 ft (100m) 100BaseT / 1000BaseT: CAT 5: 328 ft (100m)
DISTANCE - FIBER OPTIC:	Single Mode: 12.4 miles (20 km)
STATIC & SURGE:	1500W Static Protection and 600W Surge Protection
ESD:	Up to 15KV
WEIGHT:	<b>With ST Connector:</b> 8.11oz (230.0 grams) <b>With SC Connector:</b> 7.82oz (221.6 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.:	32° F to 122° F (0°C to 45° C)
OPERATING HUMIDITY:	0% To 95% - No Condensation

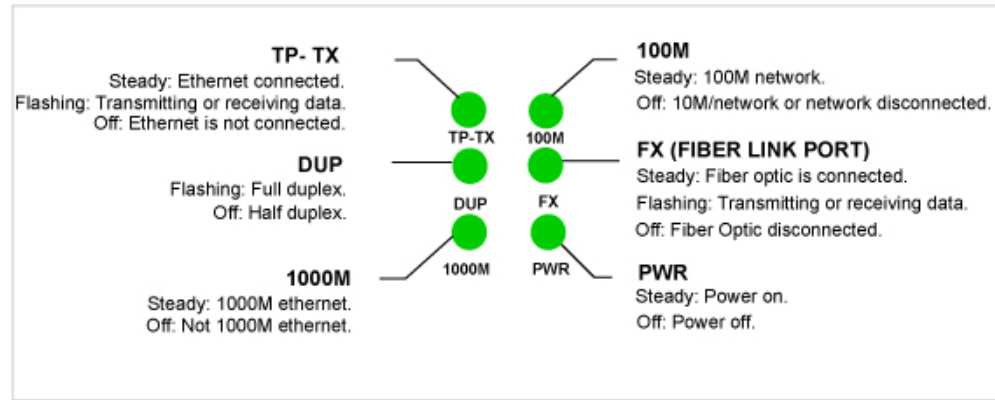
### INDICATOR LED TABLE:

LED	STATE	INDICATION
PWR (Power)	OFF	Power Off
	SOLID	Power On
100 (10/100M)	OFF	10M Ethernet
	SOLID	100M Ethernet
1000M	OFF	Not 1000M Ethernet
	SOLID	1000M Ethernet
DUP (Duplex Mode)	OFF	Half Duplex
	FLASHING	Full Duplex
TX (Ethernet Port)	OFF	Ethernet is not Connected
	FLASHING	Transmitting or Receiving Data
	SOLID	Ethernet is Connected
FX (Fiber Link Port)	OFF	Fiber Optic Unit is not Connected
	SOLID	Fiber Optic Unit is Connected

## ETHERNET RJ45 PIN ASSIGNMENT:

PIN NUMBER	MDI SIGNAL	MDI-X SIGNAL
1	RX+	TX+
2	RX-	TX-
3	TX+	RX+
6	TX-	RX-
4	Not Connected	Not Connected
5	Not Connected	Not Connected
7	Not Connected	Not Connected
8	Not Connected	Not Connected

## LED INDICATIONS:



## APPLICATIONS:

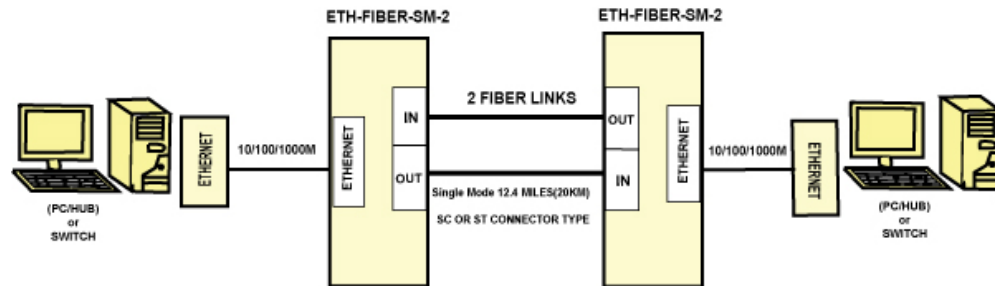


FIGURE 1: EXTENDING 10/100/1000M ETHERNET DATA DISTANCE

## TROUBLE SHOOTING:

- Make sure the power is connected and turned on.
- Make sure the converter Ethernet and fiber optic cables are connected properly.
- Check the connections according to the connection diagrams.
- Check the LED indication status and identify possible problems from the INDICATOR LED TABLE

## DIMENSIONS:

