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## ETH-FIBER-SM

10/100M Ethernet To Fiber Optic  
Single Mode Converter  
Datasheet Revision 1.2

### INTRODUCTION:

The SerialComm ETH-FIBER-SM is a bi-directional externally powered 10/100M Ethernet to Single Mode Fiber Optic Converter. It can convert any standard 10/100BaseTX to a 100BaseFX Single Mode SC connector type or ST connector type fiber optic link. In simple terms, it will extend the distance of any 10/100BaseTX 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 or 100Mbps data rates. The ETH-FIBER-SM supports straight-through (MDI) or crossover (MDXI) cables. No DIP settings or software drivers are required. The ETH-FIBER-SM 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.

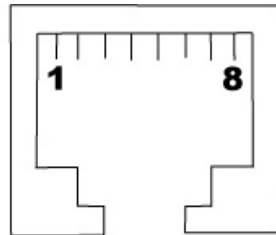
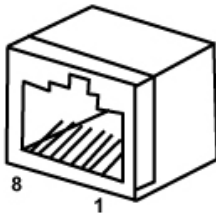
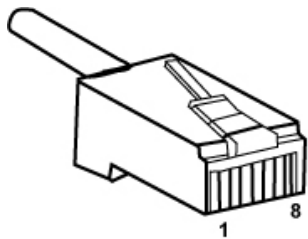
### CERTIFICATIONS:



### GENERAL FEATURES:

- Transmits 10/100BaseTX up to 12.4 miles or 20 km
- Converts 10/100BaseTX to 100BaseFX
- 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, 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

### ETHERNET RJ45 CONNECTOR:



### SPECIFICATIONS:

PART NUMBER:	ETH-FIBER-SM
STANDARDS:	IEEE 802.1 10Base-T, IEEE 802.3u 100Base-T and IEEE 802.3 100Base-FX Standards
SPEED 10BaseT:	10/20 Mbps for half/full duplex
SPEED 100BaseT:	100/200 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: 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

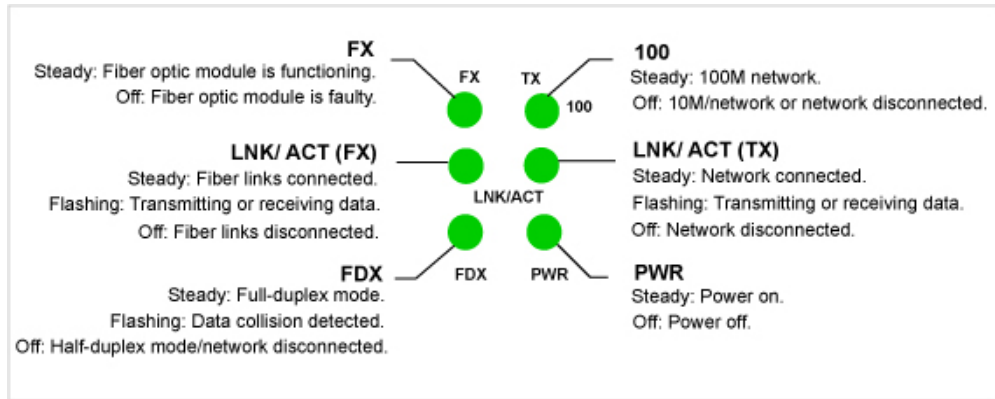
### INDICATOR LED TABLE:

LED	STATE	INDICATION
PWR (Power)	OFF	Power Off
	SOLID	Power On
100 (10/100M)	OFF	10M Ethernet
	SOLID	100M Ethernet
FX (Fiber Link Port)	OFF	Fiber Optic Unit is Faulty
	SOLID	Fiber Optic Unit is Functional
LNK/ACT (TX) (TX Port Link/Activity)	OFF	Ethernet is Not Connected
	FLASHING	Transmitting or Receiving Data
LNK/ACT (FX) (FX Port Link/Activity)	SOLID	Ethernet is Connected
	OFF	Fiber Links are not Connected
FDX (Full-Duplex/Collision)	FLASHING	Transmitting or Receiving Data
	SOLID	Fiber Links are Connected
FDX (Full-Duplex/Collision)	OFF	Half-Duplex Mode or Network Disconnected
	FLASHING	Data Collision Detected
	SOLID	Full-Duplex Mode

**ETHERNET RJ45 PIN ASSIGNMENT:**

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

**LED INDICATIONS:**



**APPLICATIONS:**

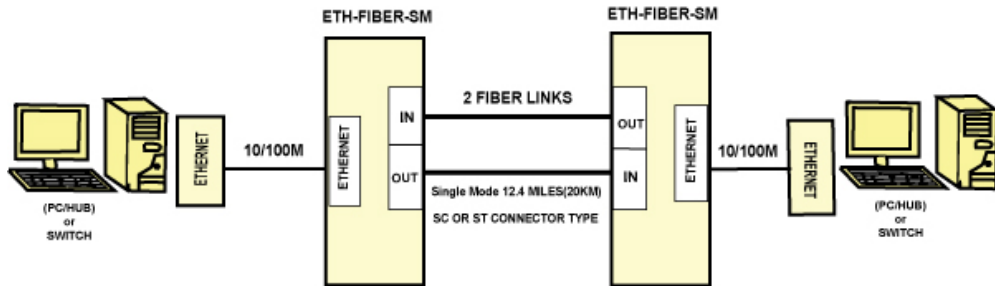


FIGURE 1: EXTENDING 10/100M ETHERNET DATA DISTANCE

**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:**

