



ETH-FIBER-MM-2

10/100/1000M Ethernet To Fiber Optic
Multi-Mode Converter
Datasheet Revision 1.2

www.serialcomm.com

INTRODUCTION:

The SerialComm ETH-FIBER-MM-2 is a bi-directional externally powered 10/100/1000M Ethernet to Multi-Mode Fiber Optic Converter or Adaptive Gigabit Ethernet fiber optic converter. It can convert any standard 10/100/1000BaseT to a 1000Base-SX/LX Multi-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 1.2 miles (2 km) using a MM fiber optic cable. It also supports auto-negotiation for half or full-duplex at 10, 100 or 1000Mbps data rates. The ETH-FIBER-MM-2 supports straight-through (MDI) or crossover (MDXI) cables. No DIP settings or software drivers are required. The ETH-FIBER-MM-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.

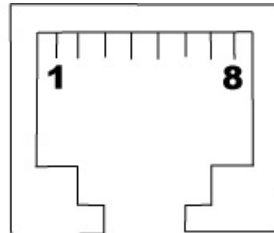
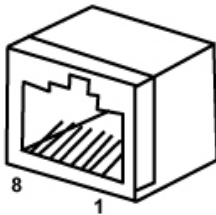
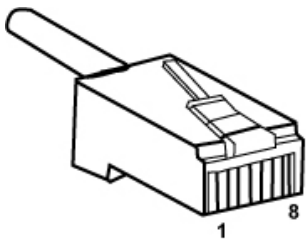
CERTIFICATIONS:



GENERAL FEATURES:

- Transmits 10/100/1000BaseT up to 1.2 miles or 2 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, 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-MM-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: | Multi-Mode: 50/125um, 62.5/125um |
| 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: 1.2 miles (2 km) |
| STATIC & SURGE: | 1500W Static Protection and 600W Surge Protection |
| ESD: | Up to 15KV |
| WEIGHT: | With ST Connector: 8.11oz (230.0 grams) With SC Connector: 7.82oz (221.6 grams) |
| DIMENSIONS: | With ST Connector: 5.00" X 3.60" X 0.90" (126.0 mm X 91.0 mm X 22.0 mm) With SC Connector: 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 |

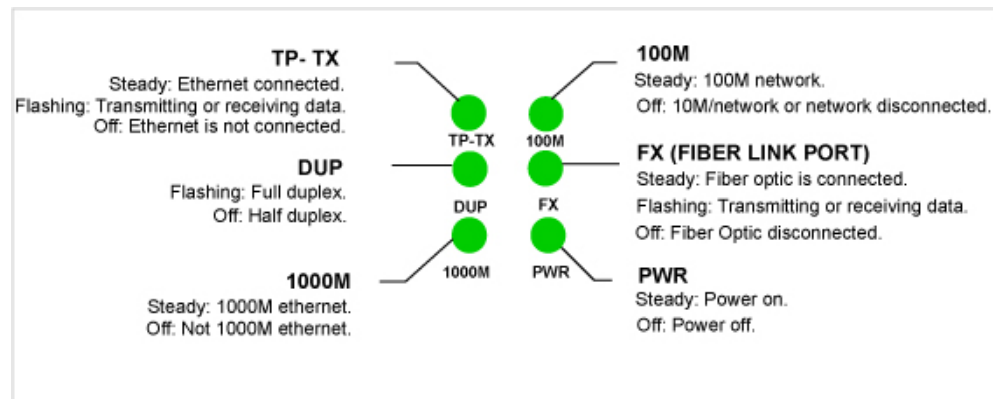
INDICATOR LED TABLE:

| LED | STATE | INDICATION |
|----------------------|----------|-----------------------------------|
| PWR (Power) | OFF | Power Off |
| | SOLID | Power On |
| 100M (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:

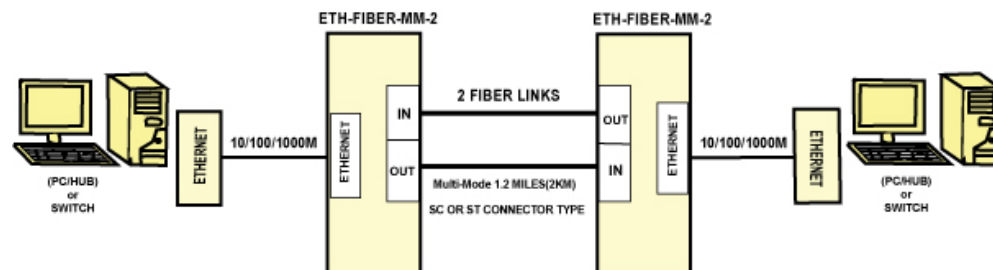


FIGURE 1: EXTENDING 10/100/1000M ETHERNET DATA DISTANCE

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:

