



**Ethernet to Fiber Optic Converter**  
**(Part Number: FBR-Ethernet-2)**

**CE FC**

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## Ethernet to Fiber Optic Converter



Part Number: FBR-Ethernet-2

### ■ INTRODUCTION

The FBR-Ethernet-2 is a 10/100M Ethernet to fiber optic media converter, which provides one channel for media conversion between 10/100BaseTX and 100BaseFX.

Depending on the fiber cable and the type of media converter used, a multi-mode media converter can extend the 10/100M Ethernet distance to up to 1.2 miles (2 km), while a single-mode media converter can extend the distance to up to 12.4 miles (20 km).

The FRB-Ethernet-2 is a plug and play unit featuring auto-negotiation for half or full-duplex and 10 or 100Mbps data rates, it also supports MDI (straight-through) and MDIX (crossover) cables, no DIP switch or jumper settings are required.

### ■ FEATURES

- Converts 10/100BaseTX to 100BaseFX.
- Transmits 10/100M Ethernet data over a long distance through fiber cables (Multi-mode: 1.2 miles or 2 km; Single-mode: 12.4 miles or 20 km).
- Auto-negotiation of speed and duplex mode on TX port.
- Auto-MDIX on TX port.
- Store-and-forward mechanism.
- LED indications.
- Single or Multi-mode, with ST or SC connectors.
- A wide range of fiber optic cables is supported.
- Built-in surge protection, static protection and circuit protection.
- Surface Mount Technology manufactured to ISO-9001 standards.
- CE/FCC certified.
- 5 Year manufacturer's warranty.

### ■ SPECIFICATIONS

Compatibility:	IEEE802.3 10Base-T; IEEE802.3u 100Base-TX and 100Base-FX
Power Source:	5VDC (External AC to DC power adapter included)
External AC/DC Power Adapter:	5VDC/1A (Input: 100~240VAC 50/60Hz, US type A plug)
Features:	Auto-negotiation for half/full-duplex and 10/100M on TX port; Auto-MDIX on TX port
Switching Method:	Store-and-forward
Speed:	10BaseT: 10/20Mbps for half/full-duplex 100BaseT: 100/200Mbps for half/full-duplex
Maximum Power Consumption:	4 Watts
Wavelength:	1310nm
Usable Fiber Optic Cables:	Multi-mode: 50/125, 62.5/125µm Single-mode: 8.3/125, 8.7/125, 9/125, 10/125µm
Distance (Ethernet):	10BaseT: Cat. 3, 4, 5 up to 328ft (100m) 100BaseT: Cat. 5 up to 328ft (100m)
Distance (Fiber Lines):	Multi-mode: 1.2 miles (2km); Single-mode: 12.4 miles (20km)
Connectors (Ethernet/Power):	RJ45 (Female) / DC input jack (Male)
Connectors (Fiber Links):	2x ST Connector or 2x SC Connector
Surge Protection:	600W
Electro-Static Discharge (ESD):	Up to 15KV
Dimensions (H x W x D):	ST: 4.3 x 3.4 x 1.0 in (110 x 95 x 26 mm) SC: 3.9 x 3.4 x 1.0 in (98 x 95 x 26 mm)
Weight:	ST: 8.11 oz (230.0 g) / SC: 7.82 oz (221.6 g)
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating Humidity:	0 to 90% Non-condensing

## ■ CONNECTIONS

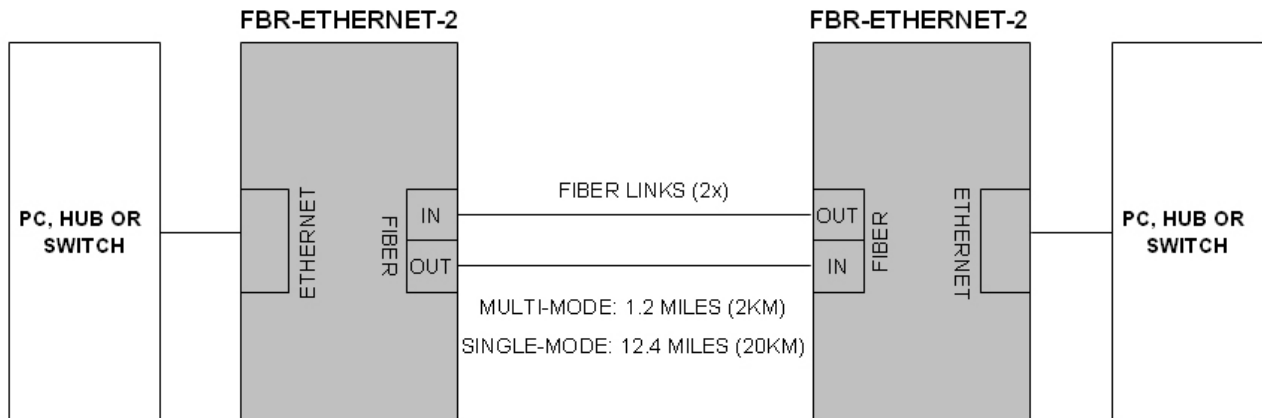
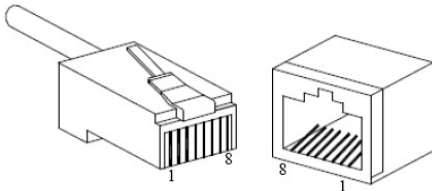


FIGURE 1: FBR-ETHERNET-2 CONNECTION DIAGRAM

## ■ RJ45 PIN ASSIGNMENT



Pin	Regular Port	Uplink Port
1	RX+	TX+
2	RX-	TX-
3	TX+	RX+
6	TX-	RX-
4,5,7,8	Not Connected	Not Connected

## ■ DIMENSIONS

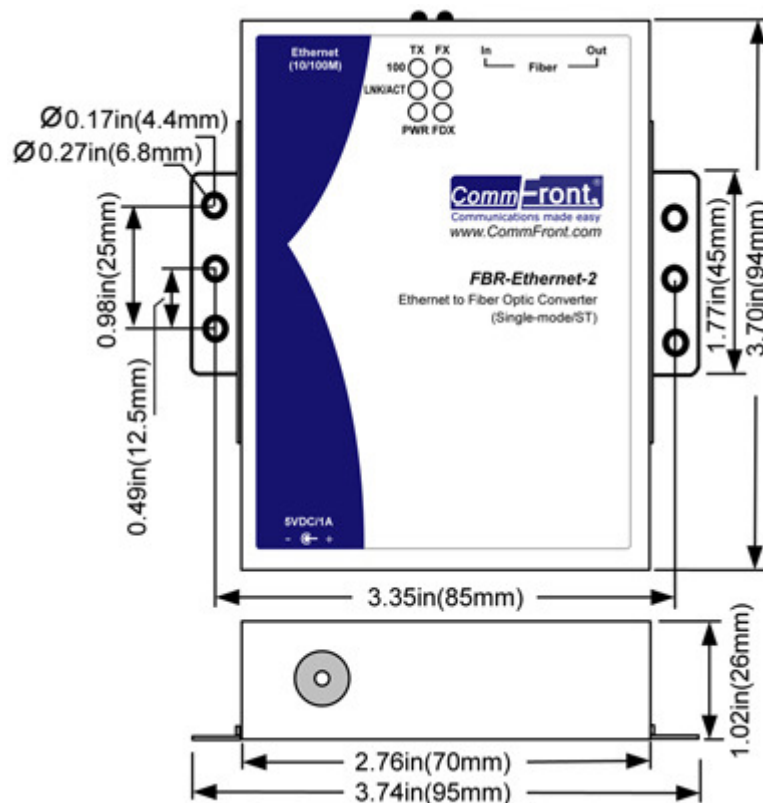
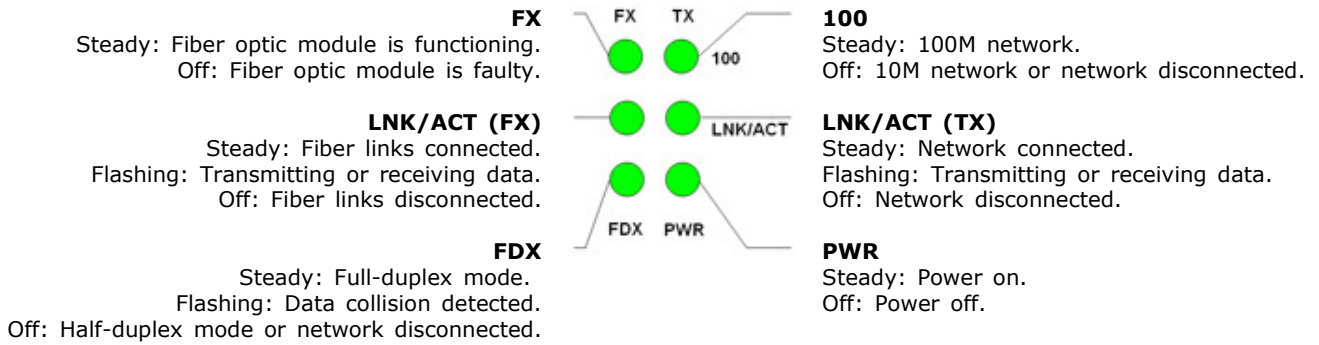


FIGURE 2: FBR-ETHERNET-2 DIMENSIONS

## ■ LED INDICATIONS (FRONT VIEW)



**FIGURE 3: FBR-ETHERNET-2 LED INDICATIONS**

## ■ TROUBLESHOOTING

- Make sure the Power is connected and turned on.
- Check the connections according to the above "CONNECTIONS" diagram (Figure 1).
- Check the LED status and identify the possible problems by using the table below:

LED	State	Indication
PWR (Power)	Steady	Power on
	Off	Power off
100 (10/100M)	Steady	100M network
	Off	10M network or network disconnected
FX (Fiber Link Port)	Steady	Internal fiber optic module is functioning
	Off	Internal fiber optic module is faulty
LNK/ACT (TX) (TX Port Link/Activity)	Steady	Network connected
	Flashing	Transmitting or receiving data
	Off	Network disconnected
LNK/ACT (FX) (FX Port Link/Activity)	Steady	Fiber links connected
	Flashing	Transmitting or receiving data
	Off	Fiber links disconnected
FDX (Full-duplex/Collision)	Steady	Full-duplex mode
	Flashing	Data collision detected
	Off	Half-duplex mode or network disconnected