

Features

- One 10/100Base-TX Fast Ethernet UTP port and one 100Base-FX Fast Ethernet fiber port with Layer 1 media converter
- Single-mode/multi-mode transceiver with simplex-SC/UPC connector
- 1310 nm laser diode transmitter
- Up to 20 km transmission over single-mode fiber
- Up to 4 km transmission over multi-mode fiber
- 0 to 70°C operating temperature range
- Single +3.3V power supply
- Class 1 laser complies with Laser Safety Standard IEC 60825-1

Fast Ethernet Media Converter (Single-mode/Multi-mode 1310nm 100Base-FX to 10/100Base-TX)



Aurora Networks' MC1201U-1310-SF Media Converter permits network planners to connect 10 or 100 Mbps twisted pair network segments to single-mode or multi-mode fiber optic access networks with a very compact (small form factor) module.

The MC1201U-1310-SF incorporates a single-mode/multi-mode transceiver that combines low power consumption with high performance for bi-directional Fast Ethernet data communications. This module is designed for operation over both single-mode and multi-mode fiber and transmits at a nominal wavelength of 1310 nm. The transmitter section uses a multiple quantum well laser and is a Class 1 laser device that meets the safety requirements of IEC 60825-1. The receiver section uses an integrated InGaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC for high reliability.

Physical:

- Ports:
 - One 10/100M RJ-45 UTP port
 - One 100Base-FX fiber port with simplex SC/UPC connector
- Dimensions:
 - 2.75" L x 2.25" W x 1.0" H
 - (7.0 cm x 5.7 cm x 2.5 cm)
- Weight: 0.2 lbs (0.1 kg)

General:

- LED indicators: FX Link and TP Link
- Packet error rate: $<10^{-9}$

Electrical:

- Input power: 3.3V, from external power adapter
- Power consumption: 1 Watt max

Environmental:

- Operating temperature range:
 - 0° to +70°C (32° to 158°F)
- Storage temperature range:
 - 40° to +85°C (-40° to 185°F)
- Humidity: 0% to 95% non-condensing

Fiber Optic Port Interface:

Transmitter:

- Wavelength: 1260–1360 nm (1310 nm typ)
- Signaling speed: 125 Mbps
- Output power:
 - with 9/125µm SMF: -15 to -8 dBm
 - with 62.5/125µm MMF: -14 to -5 dBm
- Extinction Ratio: 8.2 dB
- Optical isolation: 30 dB

Receiver:

- Wavelength: 1480–1580 nm (1550 nm typ)
- Received optical power:
 - with 9/125µm SMF: -30 to -8 dBm
 - with 62.5/125µm MMF: -28 to -6 dBm
- Receive LOS assert level: -30 dBm

System:

- Connector: Simplex SC/UPC
- Optical return loss: 50 dB
- WDM crosstalk (optical): -30 dB max
- Power budget:
 - with 9/125µm SMF: 15 dB
 - with 62.5/125µm MMF: 14 dB
- Fiber span, max:
 - with 9/125µm SMF: 20 km
 - with 62.5/125µm MMF: 4 km

Twisted-Pair Port Interface:

- Connector: Shielded/Unshielded RJ-45, 8-pin jack
- Impedance: 100 Ω nominal
- Signal level output (differential): 0.95 to 1.05 V (100Base-TX)
- Signal level input: 350 mV minimum (100Base-TX)
- Data transfer rate (TX port): Auto-negotiating 10/100 Mbps
- Supported link length: 100 m
- Cable type (100 Mbps segments): CAT5 UTP (100M)

Regulatory:

- Compliance: IEEE802.3, IEEE802.3u
- Safety: UL, IEC 60825-1
- Emissions: FCC Part 15, Class A and CE Mark

Ordering Information

MC1201U - 1310 - SF

Media Converter, Fast Ethernet,
Non-metallic Housing

1310 = 1310nm Transmit Wavelength

SF = Simplex SC/UPC Connector



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