aurora NETWORKS

MC1301P-1310-SF

Features

- IEEE 802.3af Power over Ethernet (PoE) Powered Device (PD)
- One PD port for both PoE powering and 10/100Base-TX Fast Ethernet, 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 70ºC operating temperature range
- LFP (Link Fault Pass-through) and Far End fault detection
- DIP switch to set configurations
- 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) Power over Ethernet PD

Aurora Networks' MC1301P-1310-SF Media Converter is compliant with the IEEE 802.3af Power over Ethernet standard and permits network planners to connect 10 or 100 Mbps twisted pair network segments to single-mode or multi-mode fiber optic access networks. It receives 10/100 Mbps data and power from an external PSE or PoE injector through its PD IN port and functions as a 10/100Base-TX to 100Base-FX media converter.

The MC1301P-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.

MC1301P-1310-SF Product Specifications

Physical:

- Ports:

  One RJ-45 port for PoE powering and 10/100Base-TX

  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: 1.5 lbs (0.7 kg)

General:

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

Power over Ethernet:

- PoE power requirement: 60 mA @ –48Vdc from IEEE802.3af PSE or PoE injector
- PoE power reception support:

  Ethernet: via UTP port pins 1, 2, 3 and 6

  Midspan: via UTP port pins 4, 5, 7 and 8

Environmental:

- Operating temperature range: 0º to +70ºC (32º to 158ºF)
- Storage temperature range: –40º to +85ºC (–40º to 185ºF)
- 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

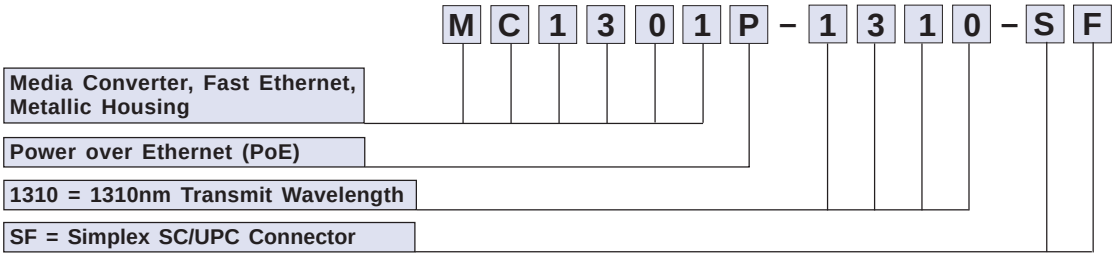
Twisted-Pair Port (PD / UTP) Interface:

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

Ordering Information



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