

## 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
- 1550 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
- 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

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## Fast Ethernet Media Converter (Single-mode/Multi-mode 1550nm 100Base-FX to 10/100Base-TX) Power over Ethernet PD



Advance  
Notice

Aurora Networks' MC1301P-1550-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-1550-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 1550 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 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: 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: 1480–1580 nm (1550 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: 1260–1360 nm (1130 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

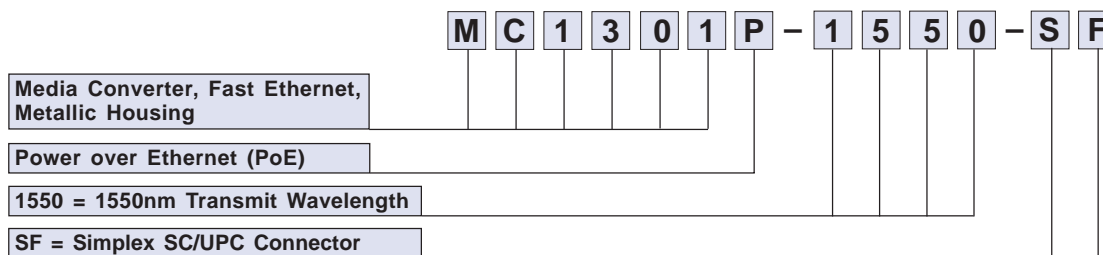
**Twisted-Pair Port (PD / UTP) Interface:**

- 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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