10-Gigabit Media Converter

10GBase-T RJ45 to 10GBase-FX SFP+

MC101XF

Product Descriptions

MC101XF is a 10Gbps Ethernet media converter supports one 10GBase-FX Fiber SFP+ port to be inter-changeably connected to the Ethernet 10GBase-T RJ-45 copper port at 10Gbps full-duplex connection. With Auto Negotiation and Auto MDI/MDIX, the RJ45 port is compatible to Multi-Gigabit Ethernet for 10Mbps, 100Mbps, 1G, 2.5G, 5G, and 10GBase-T interfaces.   For the fiber SFP+ port, the port speed is operated in the 10Gbps XFI mode.

MC101XF supports the 10G converter mode, it directly forward packet to the destination port without checking CRC for lowest latency requirement. It supports 16Kbyte jumbo frame packet for video streaming applications, and will pass through all the VLAN tagged packets.   The MC101XF is equipped with two LED indicators to show various link speed status of the RJ45 for Multi-Gigabit Ethernet.

Key Features

- Supports one 10GBase-T 10Gigabit Ethernet RJ45 port and one 10GBase-FX Fiber SFP+ port at 10Gbps full-duplex connection
- Supports Multi-Gigabit Auto Negotiation on the Ethernet RJ45 port
- Support Auto MDI/MDIX
- Supports 16KByte jumbo frame packets
- Transparent to VLAN tagged packets
- Two LED indicators showing different Ethernet link speed for RJ45 interface
- Supports Ethernet cable CAT6A up to 100meter distance at 10Gbps link speed
- Supports SFP+ multi-mode/single-mode fiber plugs transceiver including CWDM/DWDM wavelength
- RESET push button to re-activate new link speeds
- Power Input with DC 5V/2A
- DIN Rail bracket (Optional)
- RoHS Compliance

Technical Specifications

- Standards
  - IEEE802.3/3u 10/100/1000Base-T
  - IEEE802.3bz 2.5GBase-T, 5GBase-T
  - IEEE802.3an 10GBase-T
  - IEEE802.3ae 10GBase-FX
  - Multi-Gigabit Ethernet Auto-Negotiation on RJ45 port
  - Cable length at 10Gbps
    - CAT6A cable up to 100meter
    - CAT6 cable up to 55meter
  - Cable length at 5Gbps, 2.5Gbps
    - Cat. 5e cable up to 100m
  - Fiber：
    - multi-mode for 1~2km
    - single-mode for 10~50km
- Connectors
  - RJ45:　IEEE802.3an 10GBase-T
    - Ethernet Cable Length at 10Gbps: 100meter on CAT6A or better
    - Ethernet Cable Length at 5G/2.5Gbps: 100meter on Cat. 5e or better
  - SFP+:　IEEE802.3ae 10GBase-FX Compliant
    - **10G Fiber Pluggable Transceiver:**
      10GBase-SR, 10GBase-LRM, 10GBase-LR, 10GBase-ER, 10GBase-ZR
    - **10G Copper Pluggable Transceiver: SFP+ Direct Attach Cable (DAC)**
      Twinax, 10GBase-CU, 10GBase-CR1, 10GBase-CX1, 10GSFP+Cu

- Power Input:　5VDC 2A
- Ambient Temperature：0~40℃
- Humidity：10~90％ RH (non-condensing)
- Dimensions：　72 (W) x 121 (D) x 32 (H) mm

Network Interfaces:

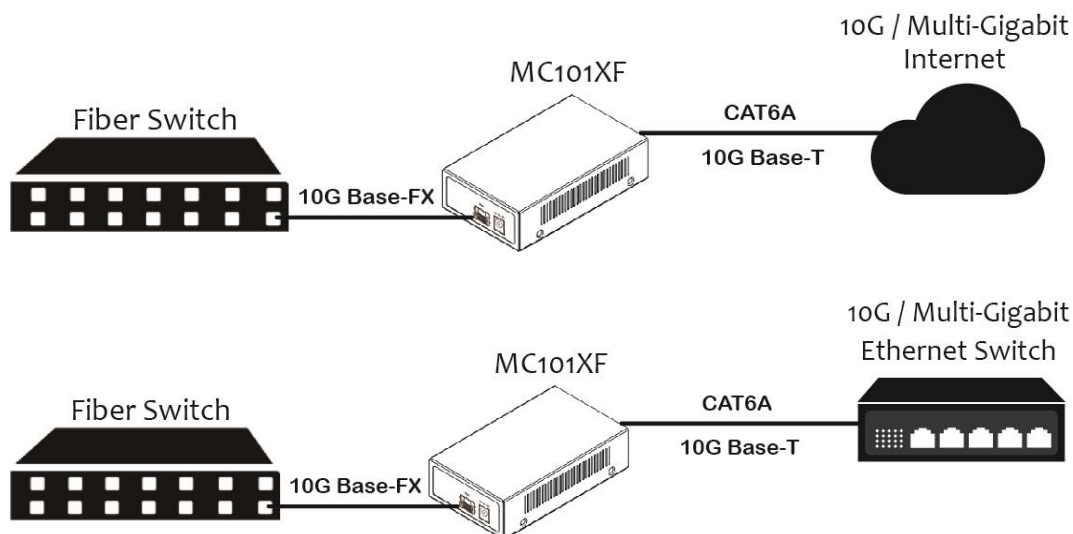| Connector	Link Speed	Ethernet Cable	Max. Cable/Fiber Length
RJ-45	10/100Base-TX	CAT5e or better	100 meter
	1000Base-T	CAT5e or better	100 meter
	2.5G / 5GBase-T	CAT5e or better	100 meter
	10GBase-T	CAT6	55 meter
	10GBase-T	CAT6A or better	100 meter
SFP+	10GBase-FX	10G pluggable transceiver	Multi-Mode 2km Single-Mode 50km

Ethernet LED Indicators for Multi-Speed Link

Ethernet Link Speed	LED 10G	LED MG	Descriptions
10G	Green ON	OFF	RJ45 Ethernet is linked at 10Gbps
5G	Amber ON	OFF	RJ45 Ethernet is linked at 5Gbps*
2.5G	Green ON	Green ON	RJ45 Ethernet is linked at 2.5Gbps
1G	OFF	Green ON	RJ45 Ethernet is linked at 1Gbps
100M	Green ON	OFF	RJ45 Ethernet is linked at 100Mbps**
10M	OFF	OFF	RJ45 Ethernet is linked at 10Mbps***

* The 5Gbps Link LED is different from the 10G Link by the LED color.

** The 100Mbps Link LED share with the 10G Link and can be easily identified by the link partner device.

*** For 10Mbps Ethernet, it will link but with both LEDs OFF, and can be identified by the link partner device.

Application Scenarios:

Quick Guide

Step 1:   MC101XF 10G SFP+ Fiber Connections

A. Connect the Fiber cable to the MC101XF SFP+ Fiber port with a 10G SFP+ Plug.

Step 2:   MC101XF 10Gbps/Multi-Gigabit RJ45 Connections

B. Connect MC101XF RJ45 LAN port to the other link partner Multi-Gigabit Ethernet Port with a Cat6A LAN cable as the above connections.

Step 3:   Power ON and Link ON

C. Connect the AC Power Adaptor DC5V to the MC101XF DC Jack 5V input.

D. Turn ON the AC Power.   The LEDs PWR will be lit on.

E. The MC101XF will link and connect the partner at 10Gigabit fiber link.

F. With Auto Negotiation, the RJ45 will link at the highest available speed with the LED indications.