



## **Gigabit Media Converter**

**10/100/1000Base-T to 100/1000Base-FX**

# **MC101GF**



## Production Descriptions

MC101GF is a gigabit media converter allows one Ethernet 10/100/1000Base-T UTP RJ-45 port to be inter-changeably connected to one 100/1000BASE-FX Fiber SFP port. With auto negotiation and auto MDI/MDIX, the UTP RJ45 port is compatible to Gigabit Ethernet 10/100/1000Base-T interfaces. For the fiber SFP port, the port speed of 100Mbps / 1000Mbps can be set by the dip switch on the front panel.

MC101GF supports both switch mode and converter mode for user applications. In switch mode, it utilizes the “store & forward” architecture to handle packet transfer. It begins to forward a packet to a destination port after the entire packet is received. A received packet will be forwarded to the destination port only if it is error free. Otherwise, it will be discarded. In converter mode, the MC101GF directly forward packet to the destination port without checking CRC for lowest latency requirement. If the speeds of the RJ45 and the SFP ports are not the same, the converter mode will automatically switch to the “store and forward” architecture to handle packets.

With the Link Fault Pass-through (LFP) function, the MC101GF can monitor both the fiber and copper RX ports for loss of signal. In case of a loss of RX signal on one media port, the converter will automatically disable the TX signal to the other media port, thus passing through the link fault. It then sends out the far end fault (FEF) signal to stop sending link pulse to the link partner once a loss of the fiber RX signal is encountered. Then the link partner will synchronously stop sending data. FEF prevents loss of valuable data transmitted over invalid link. Combining the LFP and FEF troubleshooting features of MC101GF, both end devices can be notified of a loss of fiber link.

## Key Features

- Supports one 10/100/1000Base-T Gigabit Ethernet UTP RJ45 port and one 100/1000Base-FX Gigabit Ethernet Fiber SFP port
- External AC power adaptor
- LFP (Link Fault Pass-through) and FEF (Far End Fault)
- Supports 10/100/1000Base-T auto negotiation on the UTP port
- Support Auto MDI/MDIX
- Supports 802.3x flow control for full-duplex ports and backpressure for half-duplex ports

- Supports 9KByte jumbo frame for streaming video applications
- Supports SFP multi-mode/single-mode fiber plugs with different distances.
- DIP switches settings
  - DIP 1: To select SFP for 100Base-FX or 1000base-FX
  - DIP 2: To enable LFP function
- RESET push button to activate new DIP Switches settings
- DIN Rail bracket (Optional)
- RoHS Compliance

## Technical Specifications

- Standards
  - IEEE802.3 10Base-T
  - IEEE802.3u 100base-TX
  - IEEE802.3z/ab 1000Base-T, 1000Base-FX
  - IEEE802.3x full-duplex flow control
  - Cable
    - UTP : Cat. 5e cable up to 100m
  - Fiber :
    - multi-mode for 1~2km
    - single-mode for 10~50km
- Power Adaptor
  - Input : 100~240VAC, 47~63 Hz
  - Output: 5V/12VDC 1A
- Ambient Temperature : 0~40°C
- Humidity : 5~90%
- Dimensions : 28 (H) x 73 (W) x 75 (D) mm
- Certification : FCC Part 15 Class A, CE Mark

## Network Interfaces:

Category	Connector	Transmission	Max. Cable/Fiber Length
10/100Base-TX	RJ-45	Full/Half Duplex	100M
1000Base-T	RJ-45	Full Duplex	100M
100Base-FX	SFP	Full Duplex	Multi-Mode 2km Single-Mode 50km
1000Base-FX	SFP	Full Duplex	Multi-Mode 2km Single-Mode 50km

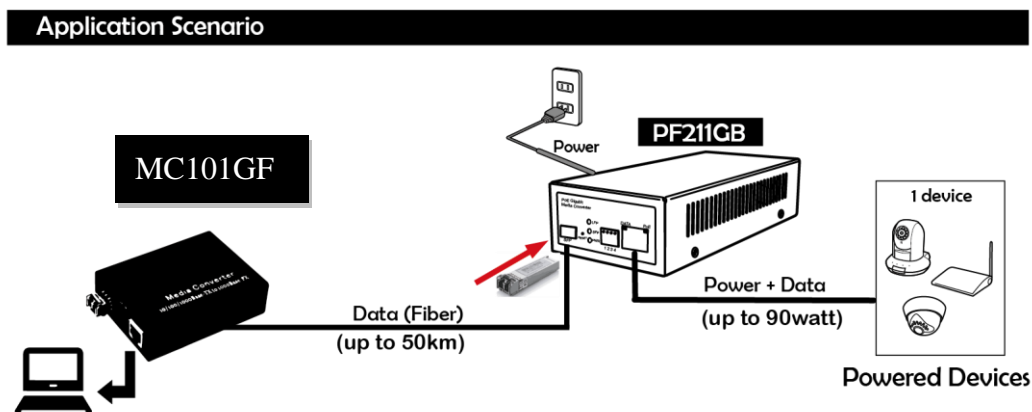
## DIP Switches:

Dip Switch #	Function	Function	Descriptions
1	SFP	OFF	Select 100Mbps for SFP Connection
		ON	Select 1000Mbps for SFP Connection
2	LFP	OFF	Disable LFP & FEF Function
		ON	Enable LFP & FEF Function

## LED Indicators:

LED	Color	Function
PWR	Green	Lit when MC101GF power is ON
SFP	Green / Amber	Lit Green for fiber connection at 1000Mbps, Lit Amber for fiber connection at 100Mbps, Blinking when SFP fiber data is present
LFP	Amber	Lit when LFP/FEF Link Loss event occurred, When DS#2 setting is ON (LFP enabled).
DATA	Green / Amber	Lit Green for UTP link at 1000Mbps Lit Amber for UTP link at 10/100Mbps Blinking when UTP data is present

## Application Scenario:



## Quick Guide

### Step 1: MC101GF Connections

- A. Connect MC101GF RJ45 LAN port to the other Gigabit Ethernet Port with a Category 5e LAN cable as the above connections.
- B. Connect the Fiber cable to the MC101GF SFP Fiber port with an SFP Plug.

### Step 2: MC101GF Dip Switch Settings

- C. For Gigabit Fiber connection, set "ON" the Dip Switch1 to select 1000Base-FX.
- D. To enable the LFP function, set "ON" the Dip Switch 2.

### Step 3: Power ON and Run

- E. Connect the AC Power Adaptor 5V/12V to the MC101GF DC Jack (back panel). Turn ON the AC Power. The LEDs SFP, DATA will be blinking and lit on.
- F. The MC101GF will connect the IP CAM at Gigabit fiber link.

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