



Fiber Gigabit Media Converter
10/100/1000Base-T to 100/1000Base-FX
With IEEE802.3af/at 30W PoE Injector

PF211GA



Production Descriptions

PF211GA is a 10/100/1000Base-T to 100/1000Base-FX GbE media converter, which allows one Ethernet UTP RJ-45 port to be inter-changeably connected to one Fiber SFP port. In addition, the RJ-45 port is compliant with IEEE802.3at/af standards to provide up to 30Watt Power over Ethernet (PoE). This AC powered PoE media converter is a Power Sourcing Equipment Plus (PSE+: Means PoE High Power Output Device) which combines data over a UTP link with 56VDC power, providing power to IEEE802.3at/af powered device (PD) over the existing CAT5 UTP cable.

The PF211GA converter includes a PD signature sensing and power monitoring features. The PoE features over-current protection (OCP), over-voltage protection (OVP), and over-temperature protection (OTP). With the Link Fault Pass-through (LFP) function, the PF211GA 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 PF211GA, both end devices can be notified of a loss of fiber link.

PF211GA 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 PF211GA directly forward packet to the destination port without checking CRC for lowest latency requirement. When the speeds of the RJ45 and the SFP ports are not the same, the converter mode will automatically switch to the switch mode “store and forward” scheme to handle packets.

Key Features

- IEEE802.3at/af PoE (Power over Ethernet) Injector PSE compatible
 - Internal AC power supply
 - Max. 56VDC 30Watt PoE output
 - OCP, OVP, & OTP protections

- Legacy PD Compatible
 - Minimum load sensing
 - Fault Protection Input
- LFP (Link Fault Pass-through) and FEF (Far End Fault)
- Supports one 10/100/1000Base-T Gigabit Ethernet UTP RJ45 port and one 100/1000Base-FX Gigabit Ethernet Fiber SFP port
- Supports 10/100/1000Base-T auto mode on the UTP port
- Supports 802.3x flow control for full-duplex ports and backpressure for half-duplex ports
- Supports 9KByte jumbo frame
- Supports SFP multi-mode/single-mode fiber plugs with different distances.
- DIP switch settings
 - DIP 1: OFF for Normal operation
 - DIP 2: To Select SFP for 100Base-FX or 1000base-FX
 - DIP 3: To enable LFP function
- RESET push button to activate DIP Switch new settings
- 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
 - Input : 100~240VAC, 47~63 Hz
 - Output: 56VDC up to 30Watts
- Ambient Temperature : 0~50°C
- Humidity : 5~90%
- Dimensions : 39 (H) x 85 (W) x 205 (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

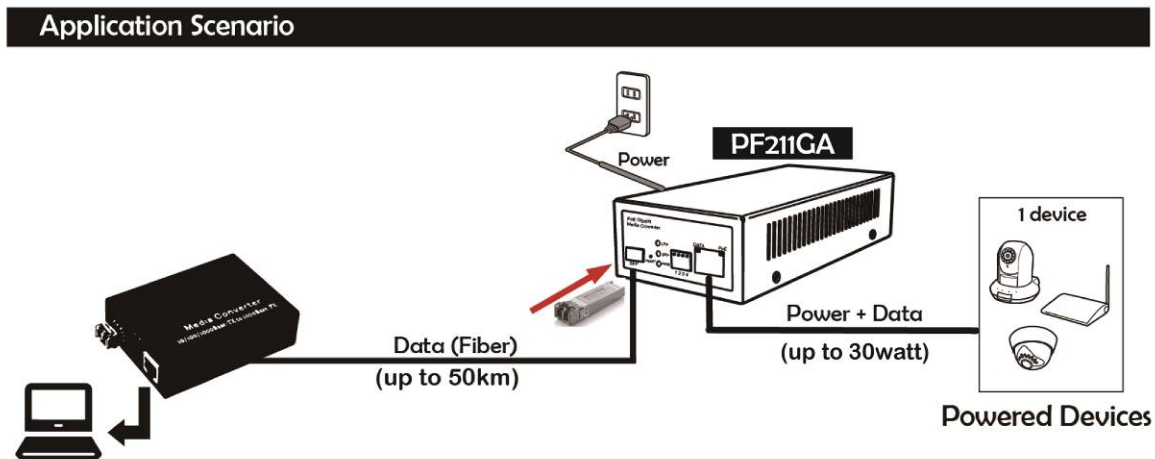
DIP Switches:

Dip Switch #	Function	Function	Descriptions
1		OFF	For Normal Operation
2	SFP	OFF	Select 100Mbps for SFP Connection
		ON	Select 1000Mbps for SFP Connection
3	LFP	OFF	Disable LFP & FEF Function
		ON	Enable LFP & FEF Function
4		OFF	NA

LED Indicators:

LED	Color	Function
PWR	Green	Lit when PF211GA power is ON
SFP	Green / Amber	Lit Green for fiber connection at 1000Mbps, Lit Amber for fiber connection at 100Mbps, Blinks when SFP fiber data is present
LFP	Amber	Lit when LFP/FEF Link Loss event occurred, If DS#3 setting is ON (LFP enabled).
DATA	Green / Amber	Lit Green for UTP link at 1000Mbps Lit Amber for UTP link at 10/100Mbps Blinks when UTP data is present
PoE	Amber	Lit when PoE is ON by IEEE802.3at/af.

Application Scenario:



Example: Wall Mount Application

The PF211GA can be installed and mounted on the wall as the following picture with the mounting holes on the bottom.



Quick Guide

Step 1: PF211GA Connections

- A. Connect PF211GA RJ45 PoE LAN port to the Powered Device (PD), e.g. PTZ IP CAM using a Category 5e LAN cable as the above connections.
- B. Connect the AC Power Cord to the PF211GA Power socket (back panel).
- C. Connect the Fiber cable to the PF211GA SFP Fiber port with an SFP Plug.

Step 2: PF211GA Dip Switch Settings

- D. For Gigabit Fiber connection, set “ON” the Dip Switch 2 to select 1000Base-FX.
- E. For the LFP function, set “ON” the Dip Switch 3 to enable the LFP function.

Step 3: Power ON and Run

- F. Turn ON the AC Power. The LEDs PWR, SFP, DATA, PoE should be lit on.
- G. The PF211GA will provide PoE up to 30W to the IP CAM at Gigabit fiber connection.

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