802.3at PoE+ PD 10/100/1000BASE-T to 100/1000BASE-X SFP Media Converter

Gigabit Networking with Energy Savings

In line with the energy-saving trend worldwide, PLANET has delivered a new-generation **Gigabit Networking PoE PD Media Converter, GT-805A-PD**. The GT-805A-PD incorporates the following advanced concepts:

- **IEEE 802.3af/at/bt 48V~54V DC in-line power input**
- **Easy to install and use**
- **Compact-sized design**
- **Simple troubleshooting**

PLANET GT-805A-PD is an 802.3at PoE+ PD 10/100/1000BASE-T to 100/1000BASE-X SFP Media Converter equipped with a convenient and cost-effective 802.3af/at/bt PoE power injection solution. It is quite different from the earlier version of PLANET media converter family that needs to obtain power from DC power adapter; it can power on via various IEEE 802.3at/bt PoE PSE equipment.

Two Kinds of Power Input Designs for Flexible Installation

The GT-805A-PD features two kinds of power input system designs (IEEE 802.3af/at/bt 48V~54V DC in-line power and **optional 5V DC input**) incorporated into customer's network to enhance system reliability and uptime. However, that has to depend on the kind of Ethernet environment that is needed, be it the GT-805A-PD operated as a PoE PD media converter or standard Gigabit media converter with optional 5V DC input.

Physical Port

- Media conversion between 10/100/1000BASE-T and 100BASE-FX/1000BASE-SX/LX
- TP Port supports 802.3af/at/bt PoE 48V-54V DC in-line-power
- TP port supports 10/100/1000BASE-T auto-negotiation and auto-MDI/MDI-X
- Fiber media allows
  - Multi-mode fiber using LC connector
  - Single-mode fiber using LC connector
- 100BASE-FX/1000BASE-SX/LX: 50/125μm/62.5/125μm multi-mode fiber cable or 9/125μm single-mode cable provides a distance depending on SFP module
- 1000BASE-T: 4-pair Cat. 5/5e/6 UTP cable, up to 100 meters

Power over Ethernet

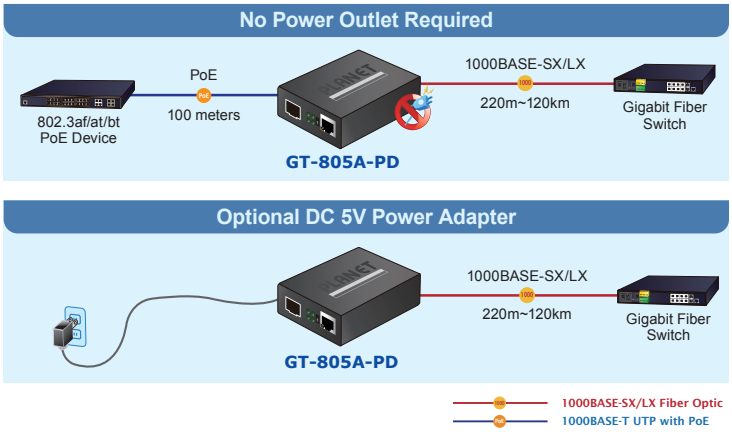
- Compatible with IEEE 802.3bt Power over Ethernet plus plus end-span + mid-span PSE
- Compatible with IEEE 802.3at Power over Ethernet plus end-span/mid-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet

Standard

- Complies with IEEE 802.3 10BASE-T
- Complies with IEEE 802.3u 100BASE-TX/100BASE-FX
- Complies with IEEE 802.3ab 1000BASE-T
- Complies with IEEE 802.3z 1000BASE-SX/LX
- IEEE 802.3x full-duplex and half-duplex back pressure flow control to eliminate packet loss
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at Power over Ethernet Plus
- IEEE 802.3bt 4-pair Power over Ethernet Plus Plus (Type 3)
- IEEE 802.3bt 4-pair Power over Ethernet Plus Plus (Type 4)

Layer 2 Features

- Store-and-Forward mechanism
- Non-blocking full wire-speed forwarding rate
- IEEE 802.1Q Tag VLAN transparent, multicast pass through
- 9K jumbo frame
- IEEE 802.3x full-duplex and half-duplex back pressure flow control to eliminate the loss of packets



Mechanical

- DIP switch for LFP function (Disable/Enable) setting
- LED indicators for easy network diagnostics
- Wall mounting or DIN-rail installation
- Compact in size, easy installation
- Two power input designs (IEEE 802.3af/at/bt 48V~54V DC in-line power or optional 5V DC input)
- Compact size for working with PLANET MC family media chassis (MC-700/MC-1500/MC-1500R/MC-1500R48)

High Performance and Steady Network Communications Guaranteed Despite Distance Extension

The GT-805A-PD extends communication distance with high Gigabit performance via SFP slot and SFP transceiver. The GT-805A-PD provides media conversion between 10/100/1000BASE-T and 1000BASE-SX/LX interfaces for various fiber optic applications. The available SFP LC fiber interfaces are shown below:

Optic Mode	Connector Type	Distance
Multi-mode	Duplex LC	220m/550m/2km
Single mode	Duplex LC	20/40/80/120km
Single mode WDM	Simplex LC	2/10/20/40/80/120km

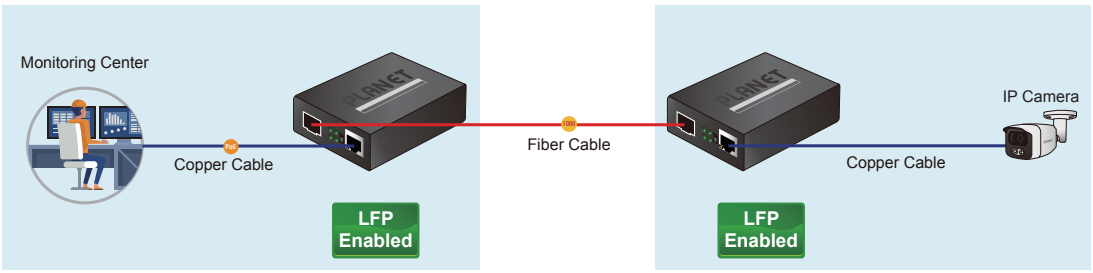
Enhanced Smart Management Features

The GT-805A-PD provides auto MDI/MDI-X on its TP port and the DIP switch to configure the **Link Fault Passthrough** function (LFP). The LFP function includes the **Link Loss Carry Forward (LLCF)/Link Loss Return (LLR)**. LLCF/LLR can immediately alert administrators of the problem of the link media and provide efficient solution to monitoring the network. The DIP switch can disable or enable the LFP function.

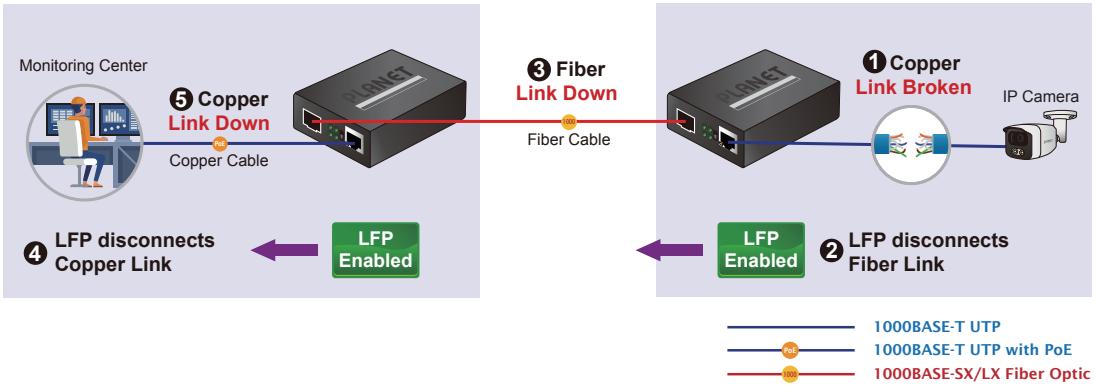
- LLCF means when a device connected to the converter and the TP line loses the link, the converter's fiber will disconnect the link of transmission.
- LLR (Link Loss Return) means when a device connected to the converter and the fiber line loses the link, the converter's fiber will disconnect the link of transmission.

Both can immediately alert administrators of the problem of the link media and provide efficient solution to monitoring the network.

Remote Link Normal



Remote Link Broken



Can be Easily Deployed as Standalone Unit or with Chassis

The GT-805A-PD allows two types of the segment to connect easily. The GT-805A-PD can be used as a standalone unit when powered by its DC adapter or used as a slide-in module to PLANET 19-inch 7-/15-slot media converter chassis (MC-700/MC-1500/MC-1500R/MC-1500R48). These media chassis can assist in producing the power for the GT-805A-PD to maintain the fiber-optic network at one location. As the Gigabit media converter fully complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T and IEEE 802.3z 1000BASE-LX/SX, the Gigabit media converter installation is quite quick and easy with its Plug and Play feature. The GT-805A-PD also supports flow control and back pressure in half-duplex mode to eliminate packet loss.

Optional installation method

* The above pictures are for illustration only.

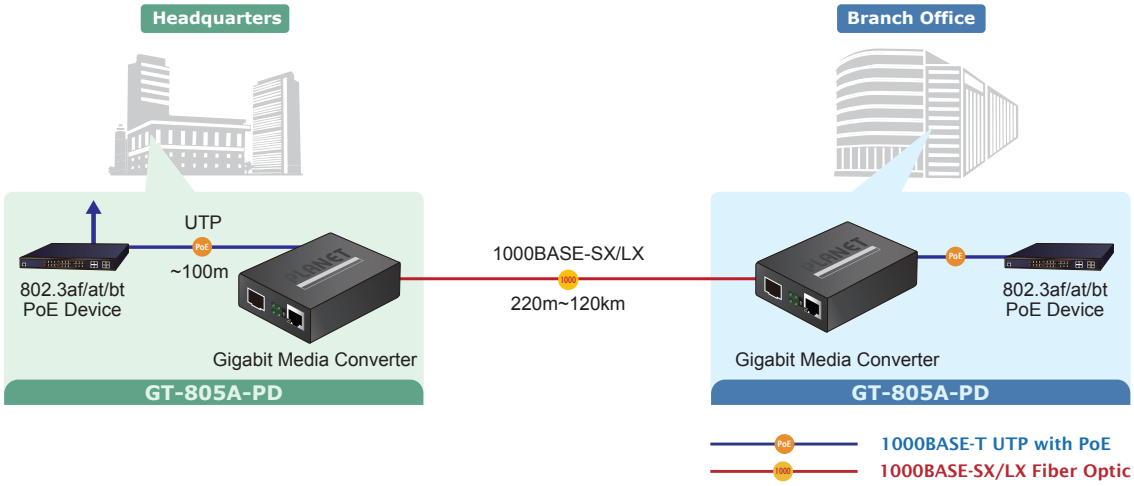
Applications

The Combination of PoE PD and Gigabit Ethernet Distance Extension

Since the Gigabit RJ45 port of the GT-805A-PD provides PoE PD power in-line interface, the GT-805A-PD can obtain PoE power from any 802.3af/at/bt PoE PSE equipment, which reduces the reliance on electrical outlets.

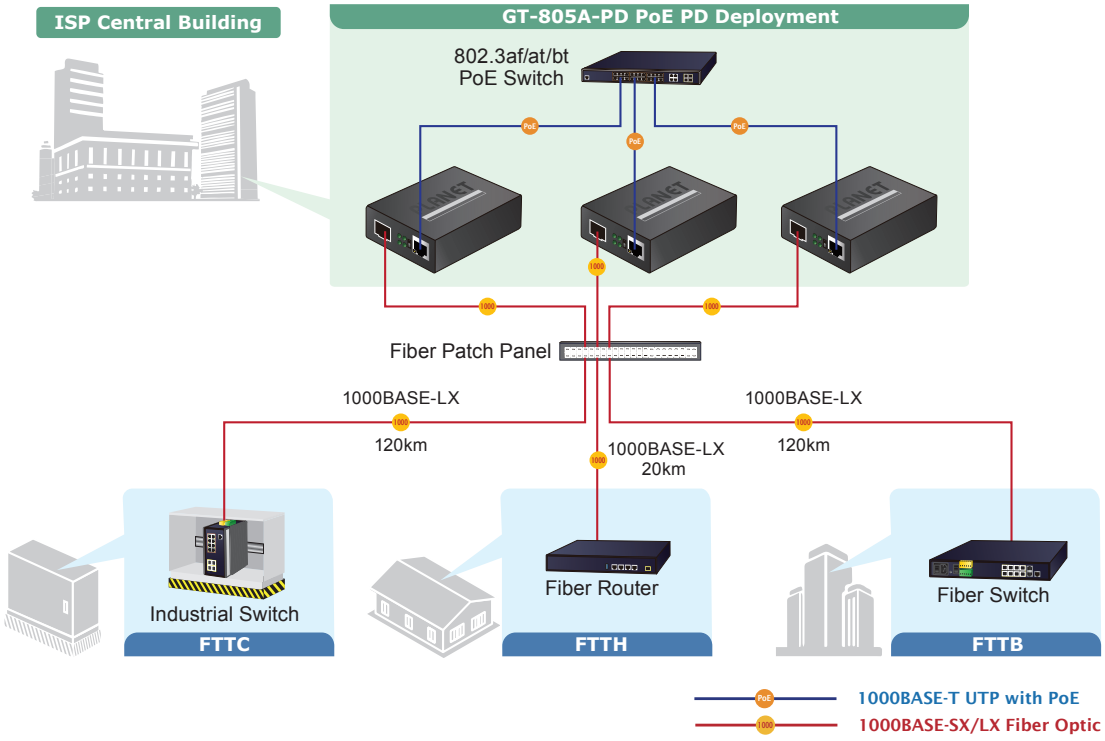
The GT-805A-PD directly converts the media from the Gigabit fiber to twisted-pair interface. For example, it can be applied between the Gigabit Fiber Switch and the Gigabit Copper Network Card to perform media conversion and transmission.

With the conversion, you can easily have the transmission distance of Gigabit copper cable extended up to 550 meters or longer (depending on SFP module). Built in with one single SFP port, the GT-805A-PD can integrate with the existing copper switch to provide Gigabit fiber transmission without the need of replacing with the Gigabit Fiber Switch. With the Gigabit fiber transmission, the GT-805A-PD enables video stream to be delivered from the camera located in a distance of up to 120km to local Network Video Recorder.



Fiber-Optic Networking for ISPs, System Integrators, Enterprises and Homes

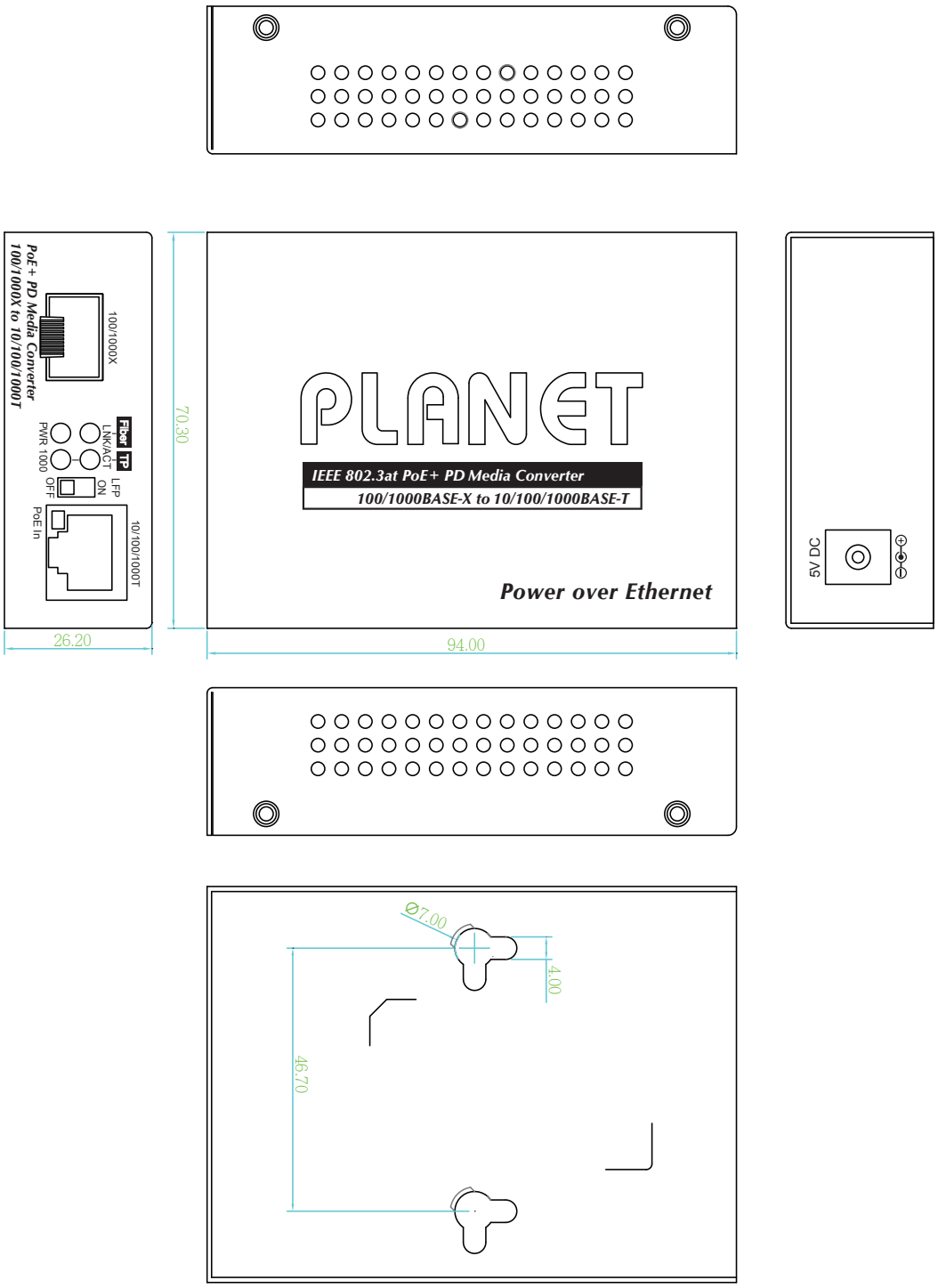
With superb data transmission and easy installation, the GT-805A-PD can be used to build an ISP network of FTTH (Fiber to the Home), FTTC (Fiber to the Curb) or FTTB (Fiber to the Building). The GT-805A-PD is also ideal for small office network environment for enterprises.



Specifications

Model	GT-805A-PD
Hardware Specifications	
Copper Port	10/100/1000BASE-T Ethernet TP RJ45 port (auto-MDI/MDI-X) twisted pair
Fiber Port	100/1000BASE-X
Fiber Port Type (connector)	SFP (LC)
Copper Maximum Distance	100m
Fiber Maximum Distance	Vary by SFP Transceiver
LED Indicator	System: Power x 1 (**Green**) TP LINK/ACT, 1000 LINK/ACT (**Green**). PoE In (**Amber**) Fiber LINK/ACT (**Green**)
DIP Switch	LFP function (Disable / Enable) setting
Power Consumption	DC 48V PoE In: 3.1 watts/10.5BTU DC 54V PoE In: 3.2watts/10.9BTU
Power Requirements	IEEE 802.3af/at/bt PoE 48V-54V DC in-line power or optional DC 5V/2A external power adapter (Not included in standard package)
Dimensions (W x D x H)	70 x 94 x 26 mm
Weight	186g
Converter Specifications	
Speed	**Twisted-pair:** 10/20Mbps for half/full duplex 100/200Mbps for half/full duplex 2000Mbps for full duplex **Fiber optic:** 200Mbps for full duplex 2000Mbps for full duplex
Network Cables	**Twisted-pair:** 10BASE-T: 2-pair UTP Cat. 3,4,5, up to 100m 100BASE-TX: 2-pair UTP Cat. 5, up to 100m 1000BASE-T: 4-pair STP Cat 5 up to 100m **Fiber-optic Cable** **1000BASE-SX:** 50/125μm or 62.5/125μm multi-mode fiber cable, up to 220/550m/2km. **1000BASE-LX:** 9/125μm single-mode cable, providing long distance of 2/10/20/40/80/120km (depending on SFP module) **100BASE-FX:** 50/125μm or 62.5/125μm multi-mode fiber cable for up to 2km (depending on SFP module) 9/125μm single-mode cable for 20/40/60/120km (vary on SFP module)
Jumbo Packet Size	9K
Standard Conformance	
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000BASE-SX/LX IEEE 802.3x full-duplex and half-duplex back pressure flow control to eliminate packet loss IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt 4-pair Power over Ethernet Plus Plus (Type 3) IEEE 802.3bt 4-pair Power over Ethernet Plus Plus (Type 4)
Regulatory Compliance	FCC Part 15 Class A, CE
Environment	
Operating Temperature	0 ~ 50 degrees C
Storage Temperature	-10 ~ 70 degrees C
Operating Humidity	5 ~ 95%, relative humidity, non-condensing
Storage Humidity	5 ~ 95%, relative humidity, non-condensing

Dimensions



Unit: mm

Ordering Information

GT-805A-PD	802.3at PoE+ PD 10/100/1000BASE-T to 100/1000BASE-X SFP Media Converter

Accessory

RKE-DIN	DIN-rail Kit For Media Converter

Related 802.3bt Ultra PoE Injector Products

POE-176-95	Single-Port 10Gbps 95-watt 802.3bt PoE++ Injector
POE-171A-95	Single-Port Multi-Gigabit 802.3bt PoE++ Injector (95 Watts)
POE-171A-60	Single-Port Multi-Gigabit 802.3bt PoE++ Injector (60 Watts)
POE-175-95	Single-Port 10/100/1000Mbps 802.3bt PoE++ Injector
POE-173	60-Watt Ultra Power over Ethernet Injector
POE-172	Single-Port 10/100/1000Mbps Ultra PoE Injector (60 Watts, internal PWR)
POE-171	Single-Port 10/100/1000Mbps Ultra PoE Injector (60 Watts)

Related 802.3af/at PoE Injector Products

POE-165	Single-Port Multigigabit 802.3at PoE+ Injector (30 Watts)
POE-163	IEEE 802.3at Gigabit High Power over Ethernet Injector (Mid-span)
POE-161	IEEE 802.3at Gigabit High Power over Ethernet Injector (Mid-Span)
POE-152	IEEE 802.3af Power Over Ethernet Injector (End-Span)

Related 802.3bt PoE++ Injector Hub Products

UPOE-400	4-Port Multi-Gigabit 802.3bt PoE++ Injector Hub (160 Watts)
UPOE-800G	8-Port Gigabit 802.3bt PoE++ Managed Injector Hub (400 watts)
UPOE-1600G	16-Port Gigabit 802.3bt PoE++ Managed Injector Hub (600 watts)
UPOE-2400G	24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts)

Related 802.3at PoE+ Injector Hub Products

HPOE-460	4-Port IEEE 802.3at High Power over Ethernet Injector Hub
POE-1200G	12-Port Gigabit IEEE 802.3at PoE+ Managed Injector Hub (220 watts)
POE-2400G	24-Port Gigabit IEEE 802.3at PoE+ Managed Injector Hub (440 watts)
UPOE-2400G	24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts)
HPOE-1200G	12-Port Gigabit IEEE 802.3at PoE+ Managed Injector Hub (360 watts)
HPOE-2400G	24-Port Gigabit IEEE 802.3at PoE+ Managed Injector Hub (720 watts)

Related 802.3at/bt PoE Injector Switch Products

Layer 3 Managed PoE Switches	802.3bt PoE++/Ultra PoE L3 Managed Switch
Layer 3 Managed PoE Switches	802.3at PoE+ L3 Managed Switch
Layer 2/2+ Managed PoE Switches	802.3bt PoE++ L2/L4 Gigabit Switch
Layer 2/2+ Managed PoE Switches	802.3at PoE+ L2+ Gigabit Switch
Layer 2/2+ Managed PoE Switches	802.3at PoE+ L2/L4 Gigabit Switch
Layer 2/2+ Managed PoE Switches	802.3at PoE+ L2/L4 Fast Ethernet Switch
LCD PoE Switches	802.3bt PoE++/Ultra PoE Managed Switch
LCD PoE Switches	802.3at PoE+ Managed Switch
LCD PoE Switches	802.3bt PoE++ Fast Ethernet Switch
LCD PoE Switches	802.3at PoE+ Gigabit Switch
LCD PoE Switches	802.3at PoE+ Fast Ethernet Switch
Unmanaged PoE Switches	802.3bt PoE++ Gigabit Ethernet Switch
Unmanaged PoE Switches	802.3bt PoE++ Fast Ethernet Switch
Unmanaged PoE Switches	802.3at PoE+ Gigabit Switch
Unmanaged PoE Switches	802.3at PoE+ Fast Ethernet Switch

Related PoE Media Converter Products

FTP-802	100BASE-FX to 10/100BASE-TX PoE Media Converter (SC,MM)-2km
FTP-802S15	100BASE-FX to 10/100BASE-TX PoE Media Converter (SC,SM)-15km
GTP-80x Series	100/1000BASE-X to 10/100/1000BASE-T PoE+ Media Converter
VC-231GP	1-Port 10/100/1000T 802.3at PoE+ Ethernet to VDSL2 Converter

Related Media Converter Chassis Products

MC-700	7-Slot Media Converter Chassis
MC-1500	15-Slot Media Converter Chassis
MC-1500R	15-Slot Media Converter Chassis (AC Power)
MC-1500R48	15-Slot Media Converter Chassis (DC Power)

Available 1000Mbps Modules

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	--	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10(V2)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C

Available 100Mbps Modules

Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 degrees C
MFB-F120	100	LC	Single Mode	120km	1310nm	0 ~ 60 degrees C

Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Tel: 886-2-2219-9518 Fax: 886-2-2219-9528

Email: sales@planet.com.tw www.planet.com.tw