16-Port 10/100TX 802.3at PoE + 2-Port 10/100/1000T + 1-Port Shared 1000X SFP Desktop Switch (185 Watts)

Cost-optimized, Multi-mode Ethernet Switch for PoE Networking

To facilitate 32W PoE power network applications with the transmission, PLANET FGSD-1821P is equipped with **16 10/100BASE-TX** Fast Ethernet ports, 2 extra Gigabit TP ports and 1 1000BASE-X SFP combo interface ideally suitable for centralized power management. With a total of 185 watts of PoE budget, it features high-performance Gigabit uplink and IEEE 802.3at PoE+ (up to 32W) capabilities.

Two Gigabit Uplink Ports

The FGSD-1821P provides two extra **Gigabit TP ports** and one **1000BASE-X SFP combo** interface that enable the network administrators to increase their network bandwidth to relieve traffic congestion when the two 10/100/1000BASE-T or one 1000BASE-X uplink port are used to connect devices, such as NVR, video streaming server, NAS and more. With the combo design, the administrators can easily connect network devices no matter how large the network expansion is.

Perfect Integrated Solution for PoE IP Surveillance

The FGSD-1821P brings you an ideally secure surveillance system at a lower total cost. The FGSD-1821P provides 16 10/100Mbps 802.3at PoE+ ports able to feed sufficient PoE power to 16 IEEE 802.3af/IEEE 802.3at PoE+ IP cameras at the same time. It is also able to connect with one 16-channel NVR or two 8-channel NVRs, uplinked to backbone switch and the monitoring center. With such a high-performance switch architecture, the recorded video files from the PoE IP cameras can be saved to the NVR system where the administrator can control and monitor the surveillance images in both the local LAN and remote sites.

Physical Port

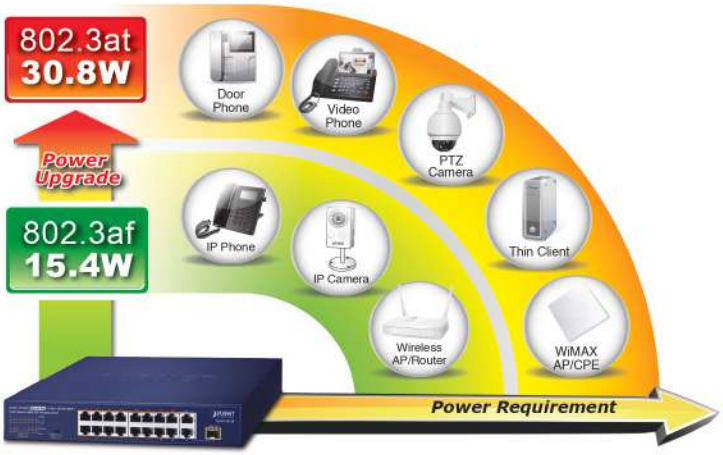
- 16 10/100BASE-TX RJ45 ports with IEEE 802.3at PoE+ injector function (ports 1~16)
- 2 10/100/1000BASE-T Gigabit RJ45 ports interfaces (ports 17~18)
- 1 1000BASE-X SFP interface (port 17)

Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus end-span PSE
- Up to 16 ports of IEEE 802.3af/802.3at devices powered (ports 1~16)
- Supports PoE power up to 32 watts for each PoE port, with a total PoE budget of 185W
- Each port supports 55 DC power to PoE powered device
- Auto detects powered device (PD)
- Supports PD alive function
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode with 250m in extend mode

Switching

- Hardware-based 10/100Mbps and 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
- Supports IEEE802.3x flow control in full-duplex mode and backpressure in half-duplex mode
- Integrates address look-up engine, supporting 16K absolute MAC addresses
- 16K jumbo frame supports 1000Mbps speed
- Hardware-based DIP switch for **Standard**, **VLAN** or **Extend** mode selection
  - VLAN mode: Ports 1 to 16 cannot communicate with each other, but can communicate with the uplink ports 17 to 18 and SFP port 17
  - Extend mode: Ports 1 to 8 have data rate of 10Mbps. The farthest transmission distance is up to 250 meters and all ports can communicate with each other
- VLAN mode is to isolate ports to prevent broadcast storm and defend DHCP spoofing
- Automatic address learning and address aging



- Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)

Hardware

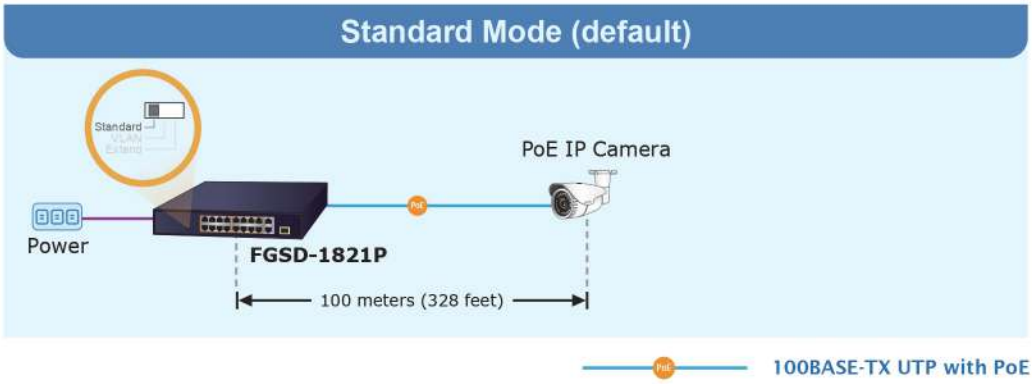
- 11-inch desktop size, 1U height
- LED indicators for system power, per port PoE ready and PoE activity, speed, link/act
- 1 silent fan to provide stable and efficient power performance
- Supports contact discharge of ±6KV DC and air distance discharge of ±8KV DC for Ethernet ESD protection
- Supports ±6KV surge immunity

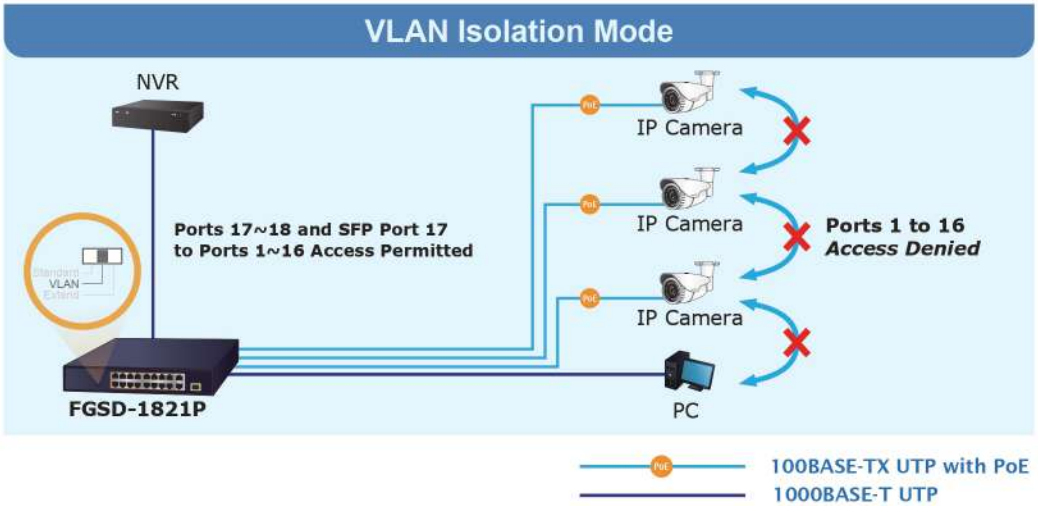
Ethernet Data Transmission Distance Extension

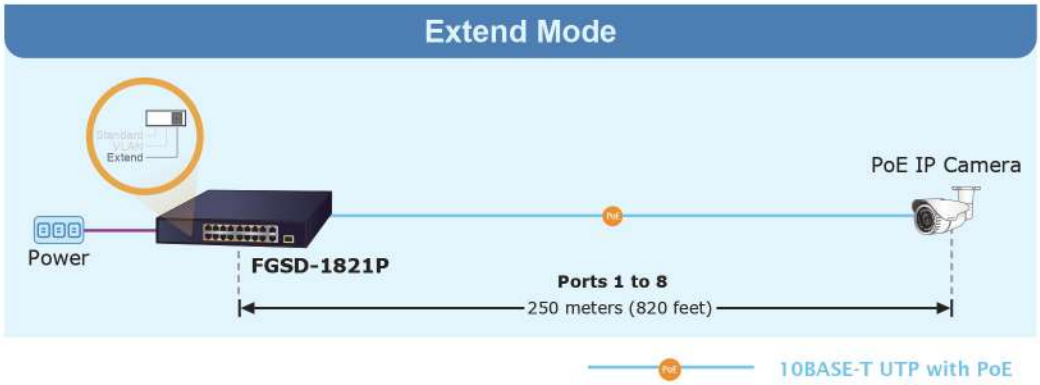
The DIP switch provides **"Standard"**, **"VLAN"** and **"Extend"** operation modes.

- The FGSD-1821P operates as a normal IEEE 802.3at PoE+ switch in the "Standard" operation mode.
- The **"VLAN"** operation mode features port-based VLAN function that helps to prevent the IP camera's multicast or broadcast storm from influencing each other.
- In the **"Extend"** operation mode, the FGSD-1821P operates on a per-port basis at 10Mbps duplex operation but supports 20-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable.

With this brand-new feature, the FGSD-1821P provides an additional solution for 802.3at PoE+ distance extension, thus saving the cost of Ethernet cable installation.







Powered Device Alive Check

The FGSD-1821P adopts not only Power over Ethernet technology, but also automated PD monitoring and real-time PoE status.

The PD alive check feature is applied in Standard, VLAN and Extend modes. After the PoE of the port is powered on, the device starts to detect whether the port is transmitting data. If the port does not transmit data and the duration exceeds a specific time, PoE will automatically power off and then re-power. It also will greatly enhance the network reliability in that the PoE port will reset the PD power, thus reducing administrator's management burden.

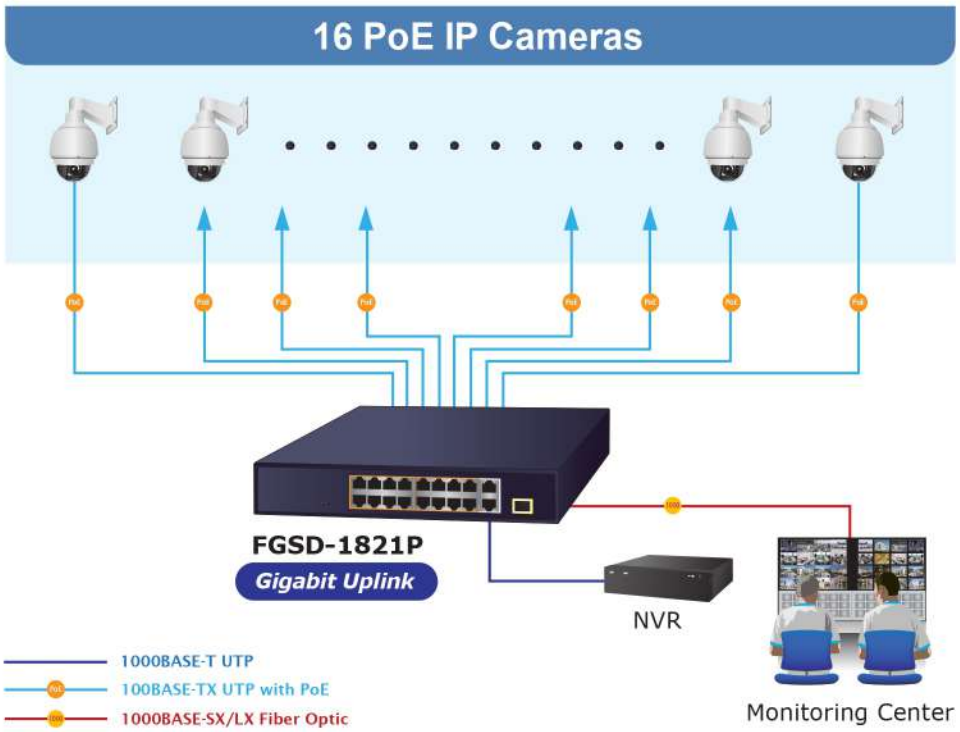
Flexible Extension Solution

The two mini-GBIC slots built in the FGSD-1821P are compatible with the 1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber transceiver, uplinked to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters (multi-mode fiber) to 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Applications

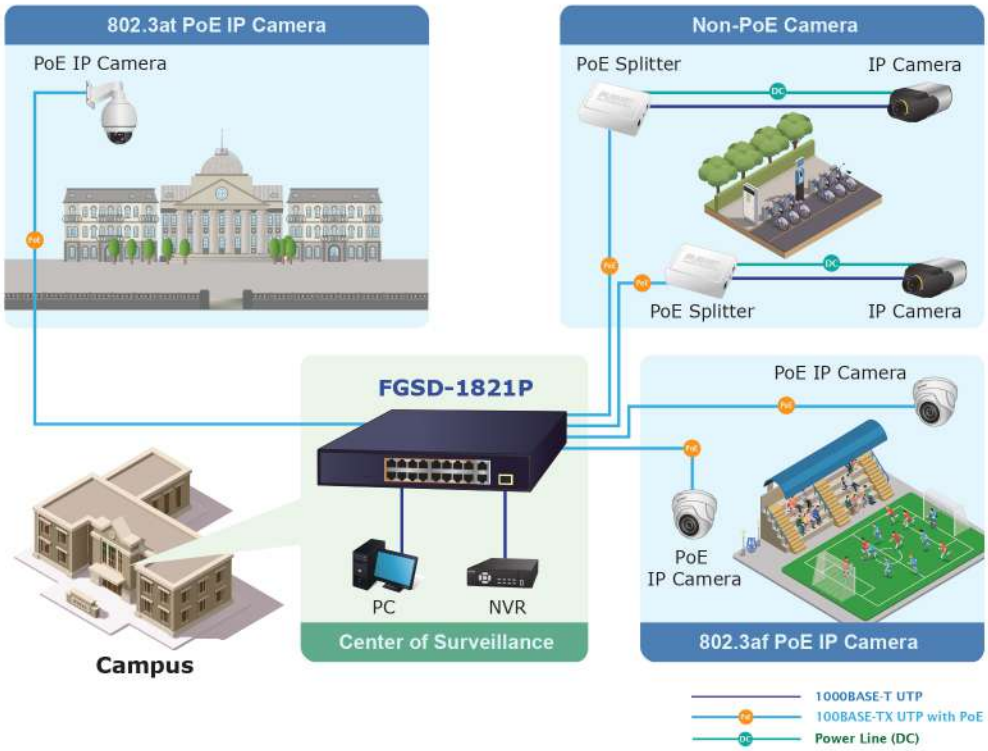
Perfectly Integrated Solution for IP PoE Camera and NVR System

Particularly designed for the growing popular IP Surveillance applications, the FGSD-1821P 802.3at PoE Switch is positioned as a Surveillance Switch for quick and easy PoE IP camera deployment with power feeding. The FGSD-1821P provides both 802.3at and 802.3af PoE functions along with 16 10/100BASE-TX ports featuring 30-watt 802.3at or 15.4-watt 802.3af PoE in RJ45 interface, 2 extra Gigabit copper ports and 1 Gigabit SFP uplink interfaces supporting high-speed transmission of surveillance images and videos.



Department / Workgroup PoE Network

Providing 16 PoE in-line power interfaces, the FGSD-1821P can easily build a power that can centrally control IP phone system, IP camera system and wireless AP group for the enterprise. Cameras can be installed around the corner in the company or campus for surveillance demands. Without the power-socket limitation, the FGSD-1821P makes the installation of cameras easier and more efficient.



Specifications

Model	FGSD-1821P
Hardware Specifications	
Fast Ethernet Copper Ports	16 x 10/100BASE-TX RJ45 auto-MDI/MDI-X ports
Gigabit Ethernet Copper Ports	2 x 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (Port-17 shared with SFP port)
SFP Ports	1 x 1000BASE-SX/LX/BX SFP interface (shared with Port-17)
DIP Switch	Selectable operation mode - Standard - VLAN - Extend
Dimensions (W x D x H)	280 x 180 x 44 mm (1U height)
Enclosure	Metal
Weight	1800g
Power Requirements	100~240V AC, 50/60Hz, 5A max.
Power Consumption/Dissipation	Max. 207 watts/706 BTU
Thermal Fan	1
ESD Protection	Contact discharge of ±6KV DC, Air discharge of ±8KV DC
Surge Protection	Differential Mode ±4KV, Common Mode ±6KV
Installation	Desktop or rack-mount installation
LED Indicators	**System** Power (**Green**) PoE Max. (**Green**) **10/100/1000T RJ45 Interfaces** 10/100/1000 LNK / ACT (**Green**) PoE-in-Use (**Amber**) **1000X SFP Interfaces** 1000 LNK / ACT (**Green**)
Switching	
Switch Architecture	Store-and-Forward
Switch Fabric	7.2Gbps/non-blocking

Switch Throughput@64bytes	5.36Mpps
MAC Address Table	16K entries
Jumbo Frame	16K bytes
Flow Control	IEEE 802.3x pause frame for full duplex; back pressure for half duplex
Power over Ethernet	
PoE Standard	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Injector Ports	16
PoE Power Supply Type	End-span: 1/2 (+), 3/6 (-)
PoE Power Output	Per port 55V DC, 600mA. max. 32 watts
PoE Power Budget	185 watts
Number of PDs, 7 watts	16
Number of PDs, 15.4 watts	12
Number of PDs, 30 watts	6
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3z Gigabit SX/LX IEEE 802.3x flow control and back pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3az Energy-Efficient Ethernet
Environment	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Ordering Information

FGSD-1821P	16-Port 10/100TX 802.3at PoE + 2-Port 10/100/1000T + 1-Port Shared 1000X SFP Desktop Switch

Related PoE Products

ICA-A4280	H.265 1080p Smart IR Dome IP Camera with Artificial Intelligence
ICA-A3280	H.265 1080p Smart IR Bullet IP Camera with Artificial Intelligence
ICA-M4580P	H.265 5 Mega-pixel Smart IR Dome IP Camera with Remote Focus and Zoom
ICA-M3580P	H.265 5 Mega-pixel Smart IR Bullet IP Camera with Remote Focus and Zoom
ICA-4280	H.265 1080p Smart IR Dome IP Camera
ICA-3280	H.265 1080p Smart IR Bullet IP Camera
WDAP-1750AC	1750Mbps 802.11ac Dual Band Wall Mount Wireless Access Point
WBS-512AC	5GHz 802.11ac 900Mbps Outdoor Wireless CPE
WDAP-8350	600Mbps Dual Band 802.11n Outdoor Wireless CPE
VIP-1120PT	High Definition Color PoE IP Phone
VIP-2140PT	High Definition Color PoE IP Phone with Dual Display
VTS-700P	7-inch SIP Indoor Touch Screen PoE Video Intercom
HDP-1160PT	720p SIP Vandalproof Door Phone with PoE
HDP-5240PT	720p SIP Multi-unit Door Phone with RFID and PoE
HDP-5260PT	720p SIP Multi-unit Apartment Vandalproof Door Phone with RFID and PoE
POE-161S	IEEE 802.3at Gigabit Power over Ethernet Plus Splitter with 5V/12VDC output (10/100/1000Mbps)
POE-162S	IEEE 802.3at Gigabit Power over Ethernet Plus Splitter with 12V/24VDC output (10/100/1000Mbps)
IPOE-162S	Industrial IEEE 802.3at Gigabit High Power over Ethernet Splitter
POE-E201	IEEE 802.3at Power over Gigabit Ethernet Extender
POE-E202	1-Port 802.3at PoE+ to 2-Port 802.3af/at Gigabit PoE Extender
LRP-101C-KIT	1-Port Long Reach PoE over coax Extender Kit (LRP-101CH + LRP-101CE)
LRP-101U-KIT	1-Port Long Reach PoE over UTP Extender Kit (LRP-101UH + LRP-101UE)

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	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX	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	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TSX	YES	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TSX2	YES	1000	LC	Multi Mode	2km	1310nm	-40 ~ 75 degrees C
MGB-TLX	YES	1000	LC	Single Mode	20km	1310nm	-40 ~ 75 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 75 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 75 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	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40		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
MGB-TLA10	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB10		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB20		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB40		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 75 degrees C
MGB-TLB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	-40 ~ 75 degrees C

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