PLANET
Networking & Communication

GSW-1820HP

16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch

Centralized Power Management for Gigabit Ethernet PoE Networking

To facilitate 30W PoE power network applications with Gigabit speed transmission, the GSW-1820HP is equipped with **16 10/100/1000BASE-T** Gigabit Ethernet ports and **2 1000BASE-X SFP** interfaces with the inner power system. With a total of 240 watts of PoE budget, it features high-performance Gigabit IEEE 802.3af PoE (up to 15.4W) and IEEE 802.3at PoE+ (up to 30W) capabilities on all ports.

By offering reliable switching technology and advanced networking features, the GSW-1820HP optimizes the installation and power management of network devices such as wireless access points, VoIP phones, and security cameras. It also eliminates time and cost of deployment by integrating power and data switching into one unit and freeing network devices from restrictions of power outlet locations and the additional AC wiring.
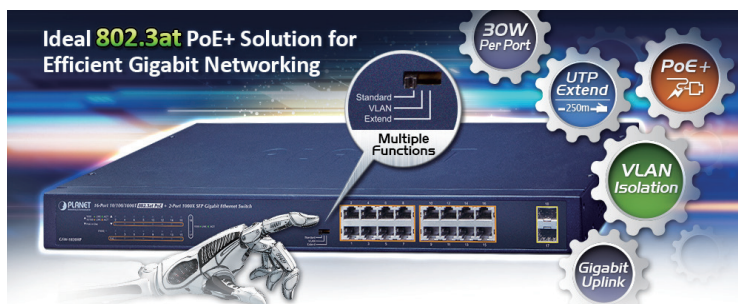
Perfect Integrated Solution for PoE IP Surveillance

The GSW-1820HP brings an ideal secure surveillance system at a lower total cost. The GSW-1820HP provides 16 10/100/1000Mbps 802.3at PoE+ ports able to feed sufficient PoE power for 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 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-port 10/100/1000BASE-T** Gigabit RJ45 copper with 802.3at PoE+ injector function
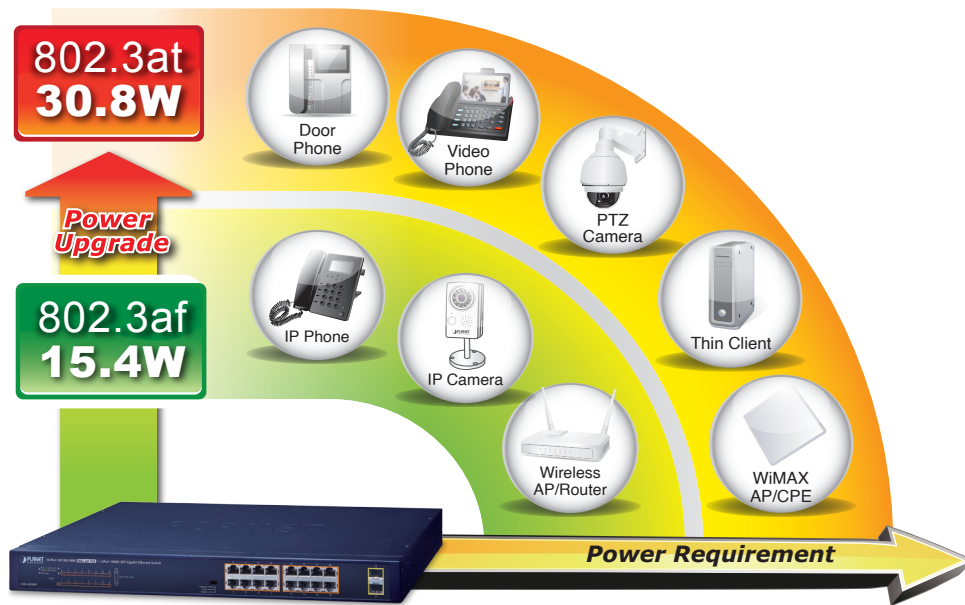- **2 1000BASE-X** mini-GBIC/SFP slots

Power over Ethernet
- Complies with IEEE 802.3af/at Power over Ethernet end-span PSE
- Up to 16 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 30 watts for each PoE port, all power up to 240W PoE budget.
- Each port supports 52V DC power to PoE powered device
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

Switching
- Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
- Flow control for full duplex operation and back pressure for half duplex operation
- Integrates address look-up engine, supporting 8K absolute MAC addresses
- 9K jumbo frame supports all speeds (10/100/1000Mbps)
- IEEE 802.1Q VLAN transparency
- Hardware DIP switch for Standard, VLAN and Extend mode selection;
  - VLAN mode: Ports 1 to 14 cannot communicate with each other, but can communicate with the uplink ports 15 to 16 and SFP ports 17 to 18
  - Extend mode: Ports1 to 8 have data rate of 10Mbps. The farthest transmission distance up to 250 meters and all ports can communicate with each other.
- The DIP switch can 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
- 19-inch desktop size, 1U height
- LED indicators for PoE ready and PoE activity
- Ethernet Link Energy-saving technology
  - Link down power savings
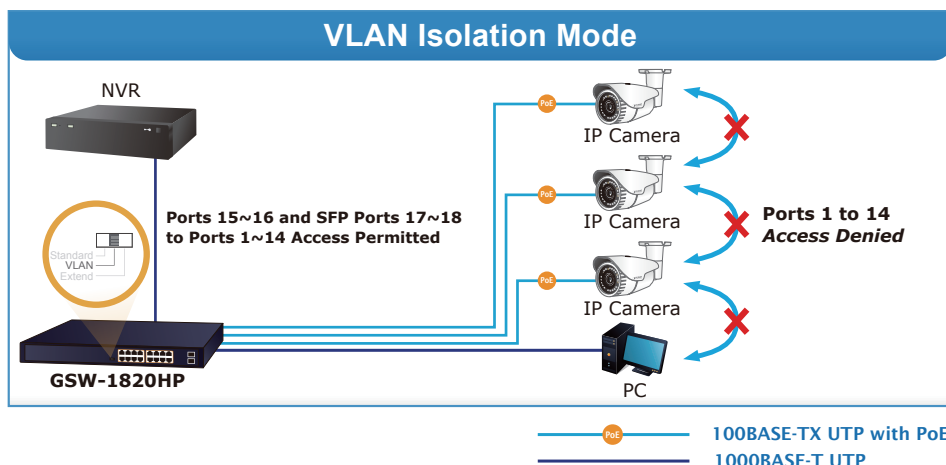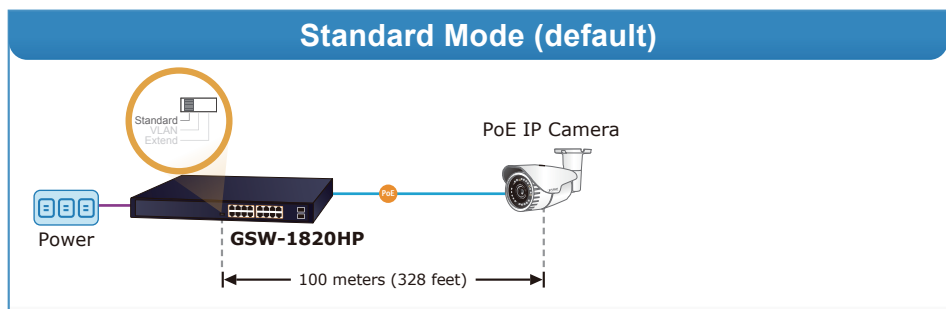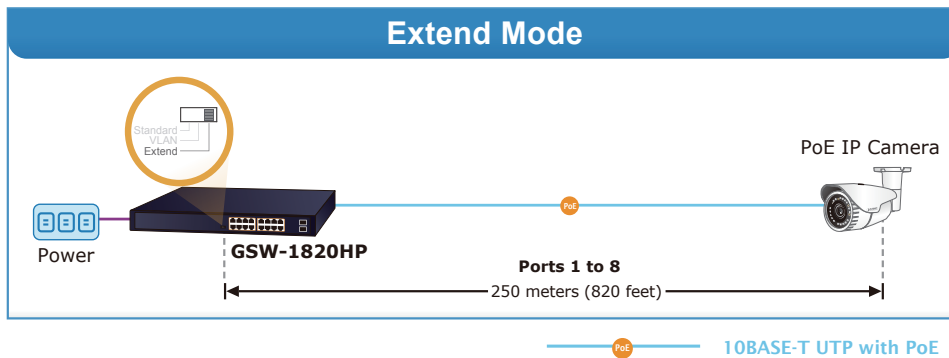 - Intelligent use of power based on cable length

Ideal **802.3at** PoE+ Solution for Efficient Gigabit Networking

30W Per Port · UTP Extend 250m · PoE+ · VLAN Isolation · Gigabit Uplink · Multiple Functions (Standard/VLAN/Extend)

802.3at
30.8W

Power Upgrade

802.3af
15.4W

Door Phone
Video Phone
PTZ Camera
IP Phone
IP Camera
Thin Client
Wireless AP/Router
WiMAX AP/CPE

Power Requirement

Ethernet Data Transmission Distance Extension

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

- The GSW-1820HP operates as a normal IEEE 802.3at PoE+ switch in the "Standard" operation mode.
- The "VLAN" operation mode features with 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 GSW-1820HP operates on a per-port basis at 10Mbps duplex operation but supports 22-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 GSW-1820HP provides an additional solution for 802.3at PoE+ distance extension, thus saving the cost of Ethernet cable installation.

Standard Mode (default)

Standard
VLAN
Extend

PoE IP Camera

Power

GSW-1820HP

100 meters (328 feet)

—PoE— **100BASE-TX UTP with PoE**

VLAN Isolation Mode

NVR

IP Camera

IP Camera

Ports 15~16 and SFP Ports 17~18 to Ports 1~14 Access Permitted

Ports 1 to 14
Access Denied

Standard
VLAN
Extend

IP Camera

GSW-1820HP

PC

—PoE— **100BASE-TX UTP with PoE**
—— **1000BASE-T UTP**

Extend Mode

Standard
VLAN
Extend

PoE IP Camera

Power | GSW-1820HP

Ports 1 to 8
250 meters (820 feet)

PoE 10BASE-T UTP with PoE

Energy-saving Design

The GSW-1820HP uses new engine that incorporates two advanced Green Networking technologies:

- **Idle Mode Link Down power savings**
- **Intelligent Scales Power based on cable length**

The Idle mode Link Down power savings of the GSW-1820HP complies with IEEE 802.3az Energy Efficient Ethernet (EEE) standard to automatically lower power for a given port when it is not linked. The Intelligent Scales Power technology actively determines the appropriate power level based on the cable length. When connecting to the GSW-1820HP with Ethernet cable shorter than 20m, a device can obtain maximum power savings because the GSW-1820HP would automatically detect the Ethernet cable length and reduce power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy savings.
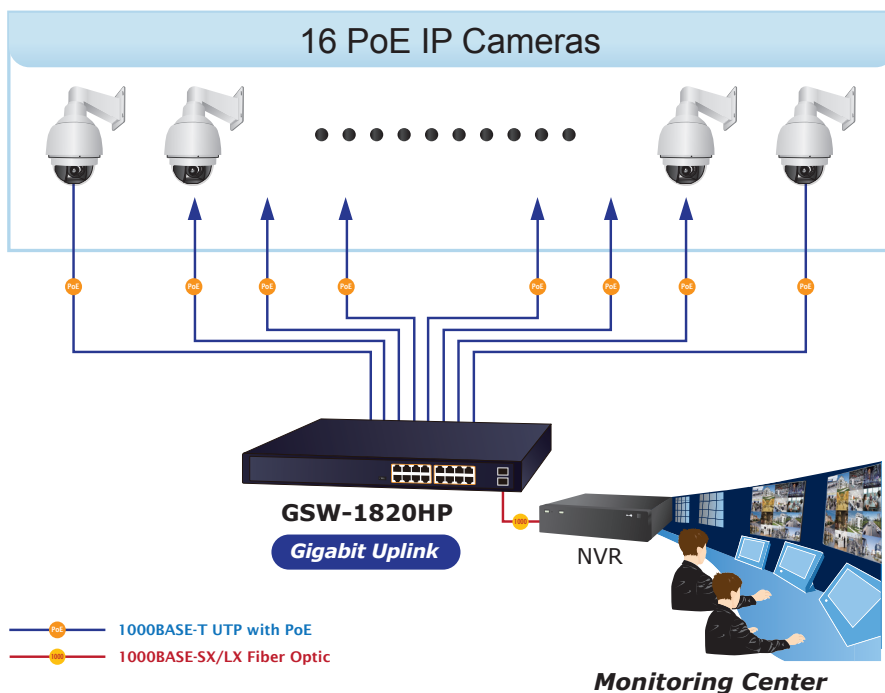
Flexible Extension Solution

The two mini-GBIC slots built in the GSW-1820HP 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.
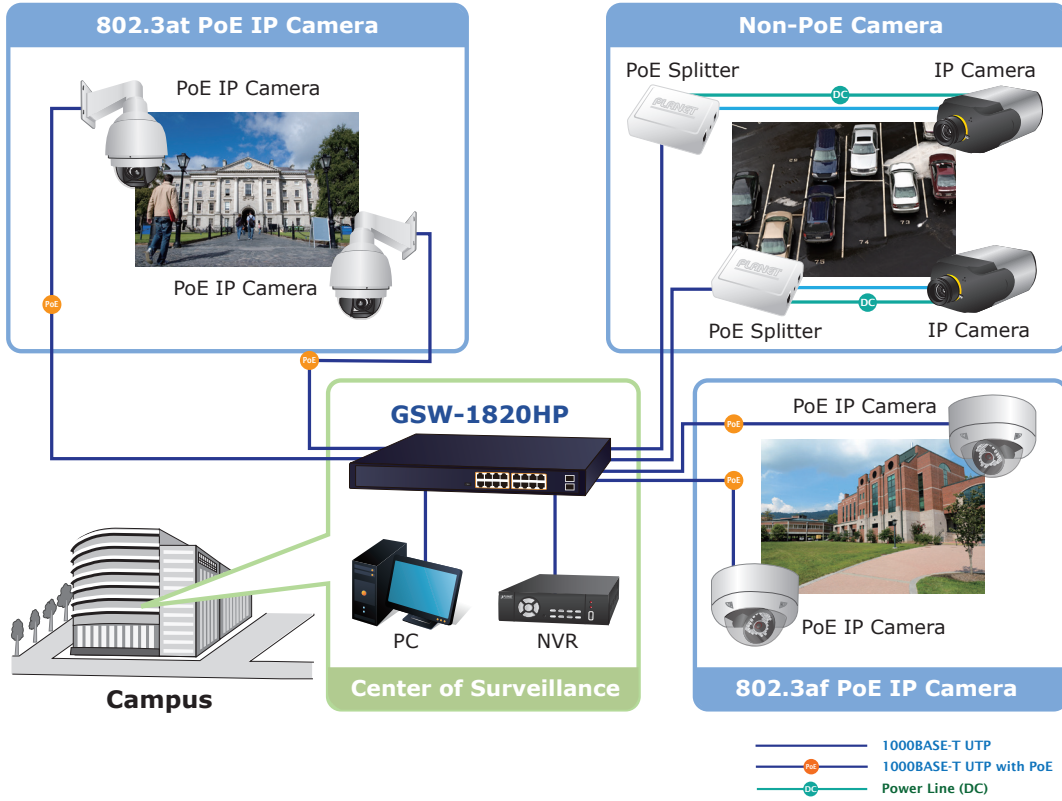
Applications

Perfectly Integrated Solution for IP PoE Camera and NVR System

Particularly designed for the growing popular IP Surveillance applications, the GSW-1820HP 802.3at PoE Switch is positioned as a Surveillance Switch for quick and easy PoE IP camera deployment with power feeding. The GSW-1820HP provides both 802.3at and 802.3af PoE functions along with 16 10/100/1000BASE-TX ports featuring 30-watt 802.3at or 15.4-watt 802.3af PoE in RJ45 interface, and 2 extra Gigabit SFP uplink interface supporting high-speed transmission of surveillance images and videos.

16 PoE IP Cameras

GSW-1820HP

Gigabit Uplink

NVR

1000BASE-T UTP with PoE
1000BASE-SX/LX Fiber Optic

Monitoring Center

3

Department / Workgroup PoE Network

Providing 16 PoE in-line power interfaces, the GSW-1820HP 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 GSW-1820HP makes the installation of cameras easier and more efficient.

802.3at PoE IP Camera
PoE IP Camera
PoE IP Camera

Non-PoE Camera
PoE Splitter
IP Camera
PoE Splitter
IP Camera

GSW-1820HP

PoE IP Camera
PoE IP Camera
802.3af PoE IP Camera

Center of Surveillance
PC
NVR

Campus

1000BASE-T UTP
1000BASE-T UTP with PoE
Power Line (DC)

Specifications

Model	GSW-1820HP
Hardware Specifications	
10/100/1000BASE-T Copper Ports	16 auto-MDI/MDI-X ports
802.3af/802.3at PoE+ Injector Port	16
1000BASE-X SFP/mini-GBIC Slots	2
DIP Switch	Selectable operation mode ■ Standard ■ VLAN ■ Extend
Dimensions (W x D x H)	440 x 208 x 44 mm (1U height)
Enclosure	Metal
Weight	2.67kg
Power Requirements	100~240V AC, 50/60Hz, 5A max.
Power Consumption/Dissipation	Max. 270 watts/921 BTU
Thermal Fan	2
Protection	6KV surge protection 8KV ESD protection
LED Indicators	**System:** Power (Green) **10/100/1000T RJ45 Interfaces** 1000 LNK / ACT (Green), 10/100 LNK/ACT (Amber), PoE (Amber) **1000X SFP Interfaces** 1000 LNK / ACT (Green)
Switching	
Switch Architecture	Store-and-Forward
Switch Fabric	36Gbps/non-blocking
Switch Throughput@64bytes	26.8Mpps
MAC Address Table	8K entries
Jumbo Frame	9216 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 Backward compatible with IEEE 802.3af Power over Ethernet
PoE Power Supply Type	End-span: 1/2 (+), 3/6 (-)
PoE Power Output	Per port 52V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per port 52V DC, 600mA. max. 30 watts (IEEE 802.3at)
PoE Power Budget	240 watts
Number of PDs, 7 watts	16
Number of PDs, 15.4 watts	15
Number of PDs, 30 watts	8
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

GSW-1820HP	16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch

Related PoE Products

ICA-3250	1080p IR Bullet PoE IP Camera
ICA-4250	1080p IR Dome PoE IP Camera
ICA-M4320P	3 Mega-pixel IR IP Camera
ICA-HM620	2 Mega-pixel PoE Plus Speed Dome Internet Camera
ICA-E8550	5 Mega-pixel Outdoor IR PoE Fisheye IP Camera
ICA-E6260	2 Mega-pixel PoE Plus Speed Dome IP Camera
WNAP-W2200UE	300Mbps 802.11n In-Wall Wireless Access Point
WDAP-C7200E	1200Mbps 802.11ac Dual Band Ceiling-mount Wireless Access Point
WDAP-1750AC	1750Mbps 802.11ac Dual Band Wall Mount Wireless Access Point
WNAP-C3220E	300Mbps 802.11n Wireless Ceiling-mount Access Point
WBS-202N	2.4GHz 802.11n 300Mbps Outdoor Wireless CPE (Built-in 14dBi Antenna)
WBS-502N	5GHz 802.11a/n 300Mbps Outdoor Wireless CPE (Built-in 15dBi Antenna)
WBS-502AC	5GHz 900Mbps 802.11ac Outdoor Wireless CPE
WDAP-802AC	1200Mbps Dual Band 802.11ac Outdoor Wireless AP
WDAP-8350	600Mbps Dual Band 802.11n Outdoor Wireless CPE
WAP-252N	2.4GHz 300Mbps 802.11n Outdoor Wireless AP
WAP-552N	5GHz 300Mbps 802.11n Outdoor Wireless AP
VIP-1120PT	High Definition Color PoE IP Phone
VIP-2140PT	High Definition Color PoE IP Phone with Dual Display
ICF-1800	HD Touch Screen Android Multimedia Conferencing Phone
VTS-700P	7-inch SIP Indoor Touch Screen PoE Video Intercom
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
VIP-156PE	SIP Telephone Adapter (1 x LAN, 1 x PC, 1 x RJ11, 802.3af PoE)
POE-161S	IEEE 802.3at Gigabit Power over Ethernet Plus Splitter with 5V/12VDC outpu(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-E101	IEEE 802.3af Power over Ethernet Extender
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(V2) MGB-LB10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
						1550nm	1310nm	
MGB-LA20(V2) MGB-LB20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
						1550nm	1310nm	
MGB-LA40(V2) MGB-LB40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
						1550nm	1310nm	
MGB-LA80 MGB-LB80	YES	1000	WDM(LC)	Single Mode	60km	1490nm	1550nm	0 ~ 60 degrees C
						1550nm	1490nm	
MGB-TLA10(V2) MGB-TLB10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
						1550nm	1310nm	
MGB-TLA20 MGB-TLB20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
						1550nm	1310nm	
MGB-TLA40 MGB-TLB40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
						1550nm	1310nm	
MGB-TLA60 MGB-TLB60	YES	1000	WDM(LC)	Single Mode	60km	1490nm	1550nm	-40 ~ 75 degrees C
						1550nm	1490nm	

FC CE

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