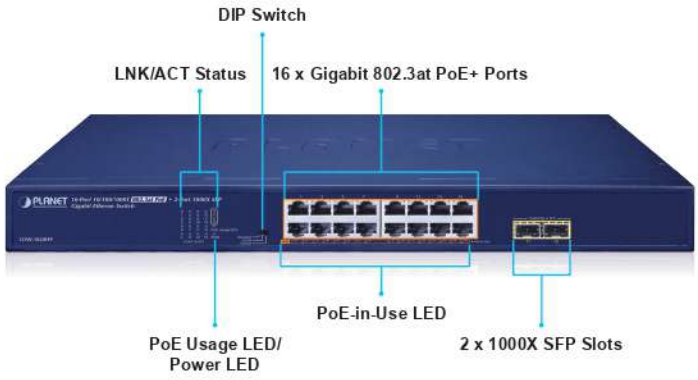
16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Gigabit Ethernet Switch

Centralized Power Management for Gigabit Ethernet PoE Networking

To facilitate 30W PoE power network applications with Gigabit speed transmission, PLANET 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 250 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 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 250W PoE budget.
- Each port supports 54V 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
- 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

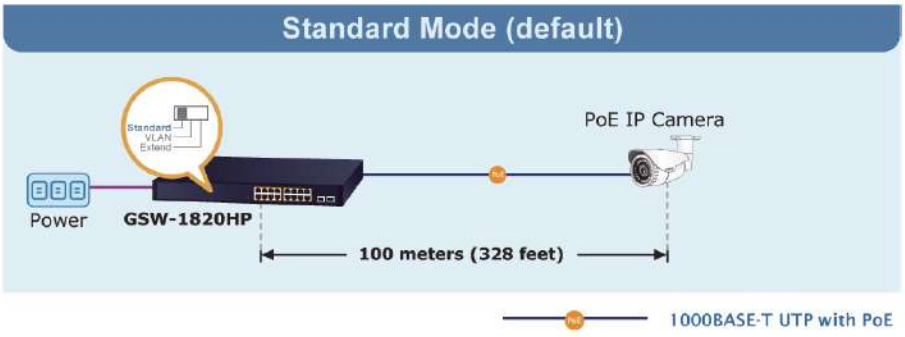
- 19-inch metal housing, 1U height
- LED indicators for PoE ready and PoE activity
- Ethernet Link Energy-saving technology
  - Link down power savings
  - Intelligent use of power based on cable length

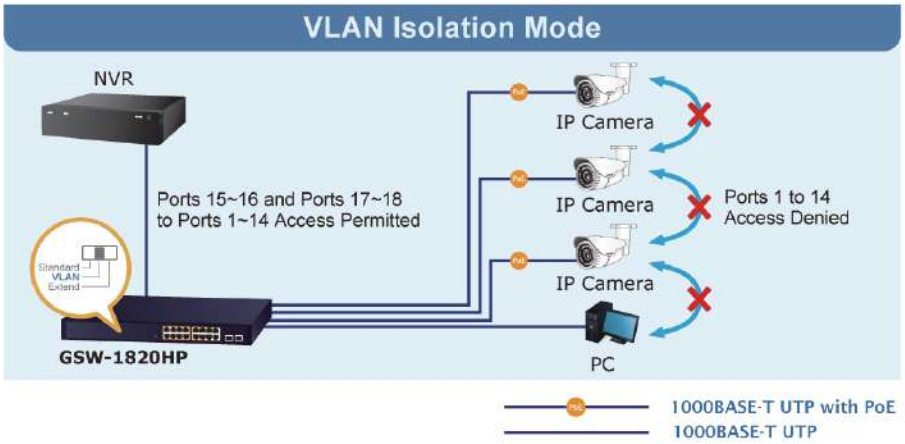
Ethernet Data Transmission Distance Extension

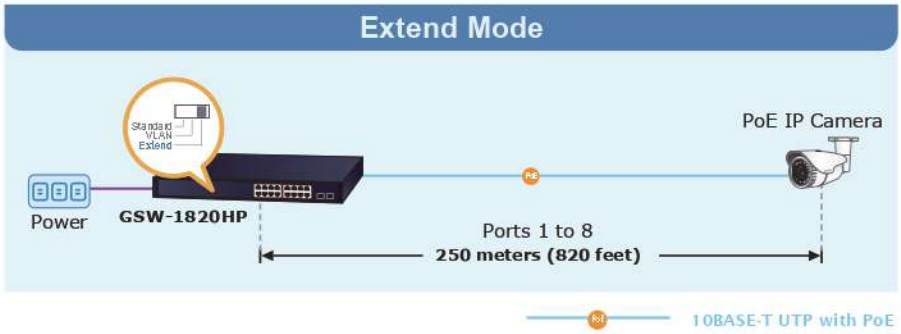
The DIP switch provides **"Standard"**, **"VLAN"** and **"Extend"** operation modes.

- 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 25-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.

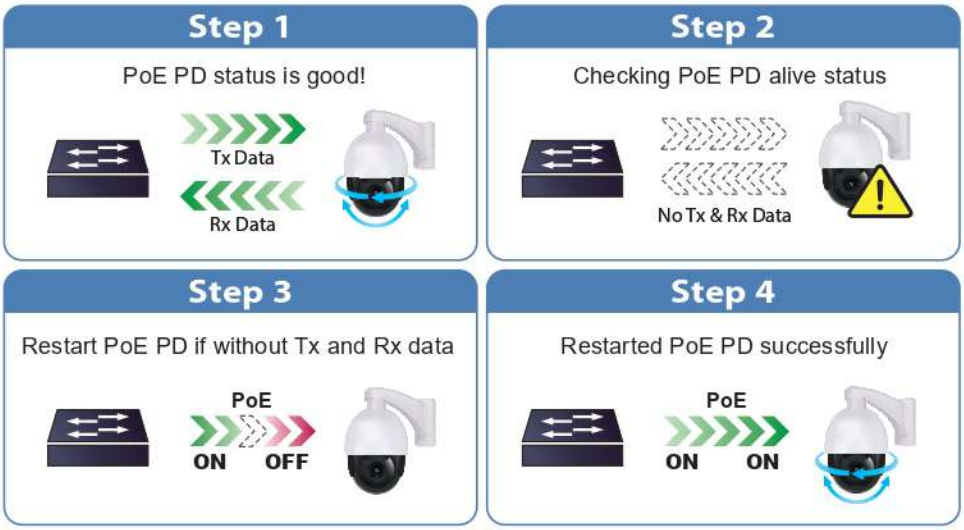






Intelligent Powered Device Alive Check

The GSW-1820HP can monitor connected PD status in real time via PD alive check function. Once the PD stops working and responding, the GSW-1820HP will resume the PoE power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing administrator management burden.



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.

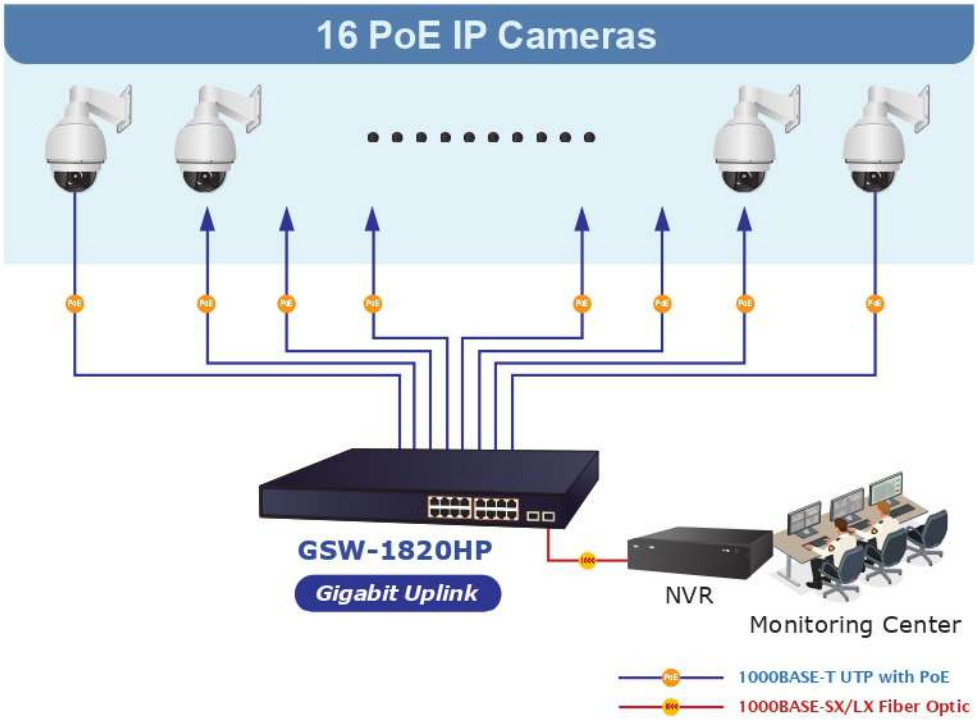
Flexible Extension Solution

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 to 2 kilometers (multi-mode fiber) and up to 10/20/40/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Applications

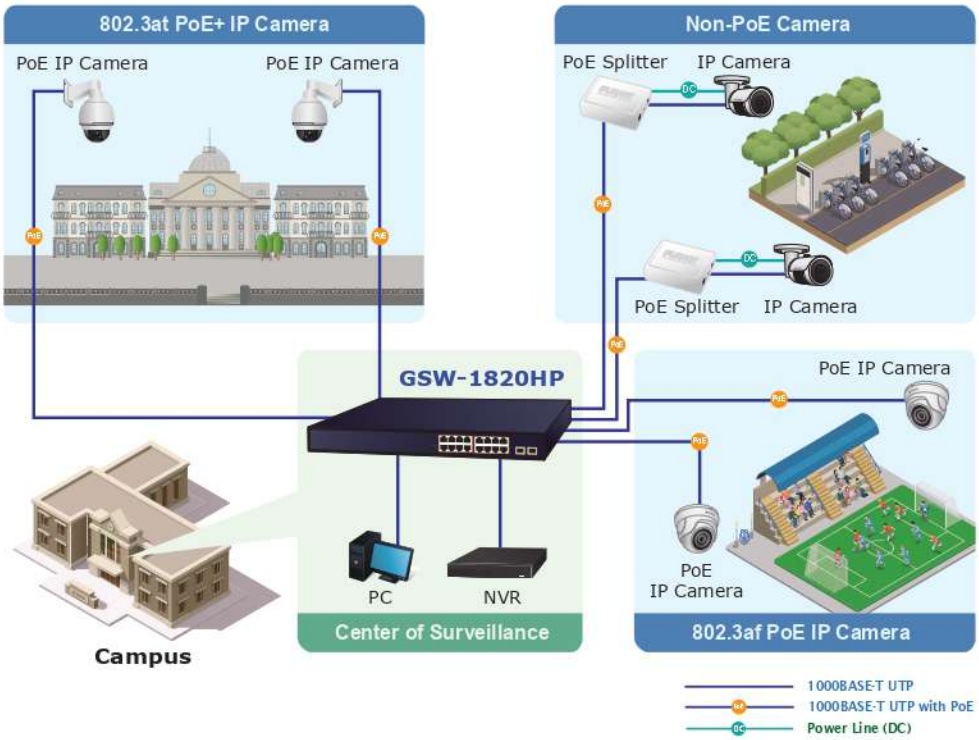
Perfectly Integrated Solution for IP PoE Camera and NVR System

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-T 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.



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.



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)	441 x 207 x 44 mm (1U height)
Enclosure	Metal
Weight	2.35kg
Power Requirements	100~240V AC, 50/60Hz,5A max.
Power Consumption/Dissipation	Max. 262 watts/893 BTU
Thermal Fan	2
Protection	6KV surge protection 8KV ESD protection
LED Indicators	**System:** Power (Green) PoE Usage 80% (Green) **10/100/1000T RJ45 Interfaces (Ports 1 to 16)** 10/100/1000 LNK / ACT (Green), PoE-in-Use (Amber) **1000X SFP Interfaces (Ports 17 to 18)** 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 54V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per port 54V DC, 600mA. max. 30 watts (IEEE 802.3at)
PoE Power Budget	250 watts
Number of PDs, 7 watts	16
Number of PDs, 15.4 watts	16
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

Available 1000Mbps Modules

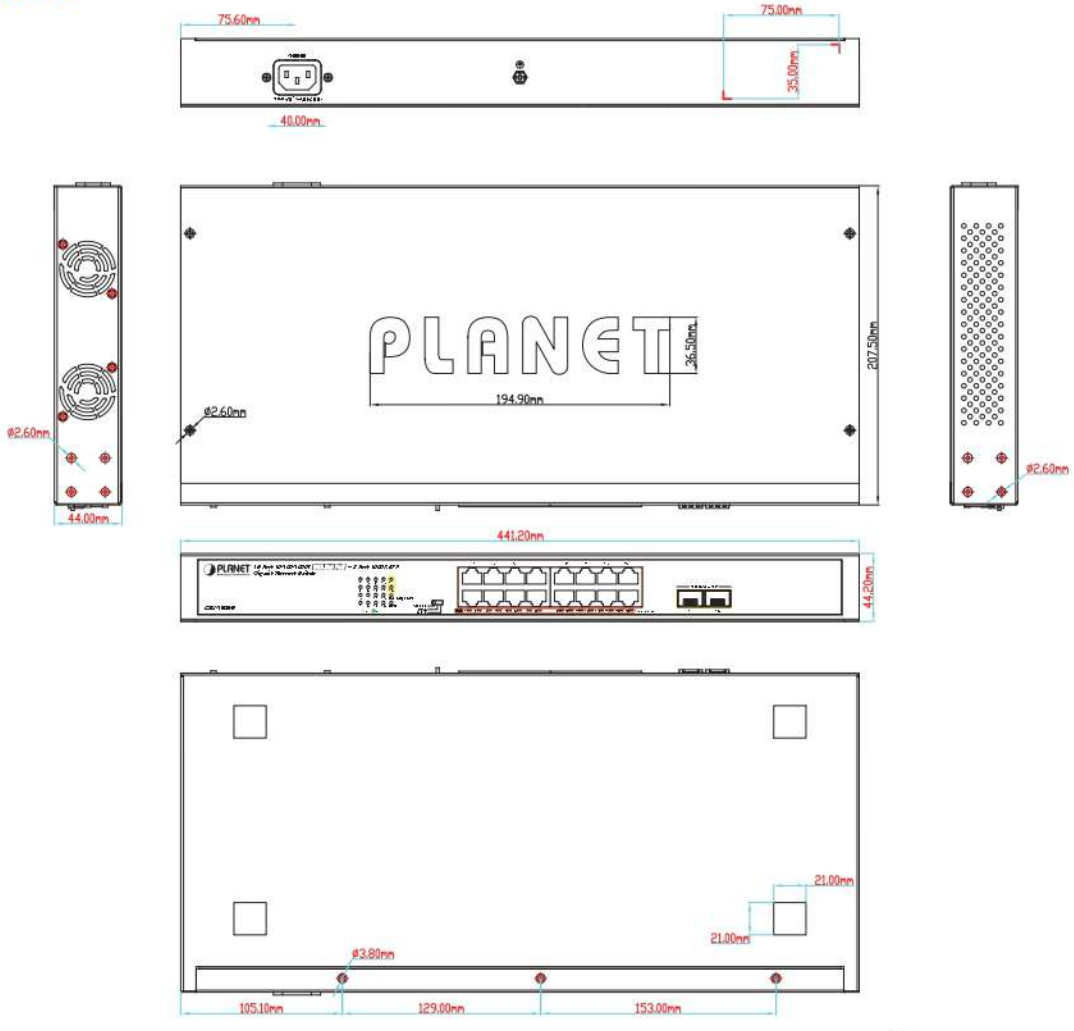
Gigabit Ethernet Transceiver (1000BASE-X SFP)

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

Dimensions



Unit: mm

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