

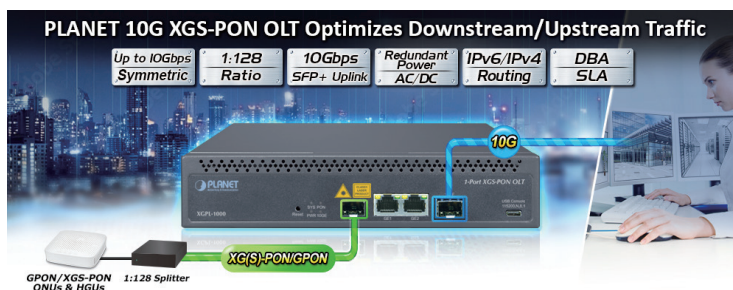
1-Port XGS-PON OLT with 2-Port 10/100/1000T + 1-Port 10G SFP+ and 1 AC + 1 DC



High-performance XG(S)-PON / GPON Combo OLT for FTTx Applications

PLANET XGPL-1000 XG(S)-PON / GPON Combo Optical Line Terminal (OLT) consists of one XG(S)-PON / GPON Combo PON port, two Gigabit Ethernet ports, one 10G SFP+ uplink port and one USB console port. It supports GPON, XG-PON and XGS-PON standards, providing flexible deployment for both existing GPON networks and next-generation 10G PON broadband access networks.

It is easy to install and maintain a PON deployment of up to 128 ONU and HGU devices, providing highly-effective XG(S)-PON / GPON solutions and convenient management for fiber optic broadband networks.



10G PON High-speed and Long-distance Coverage for Triple Play Services

The XGPL-1000 provides high bandwidth of up to 9.953Gbps downstream and 9.953Gbps upstream in XGS-PON mode, while also supporting GPON and XG-PON access technologies. It offers long-distance coverage of up to 20km between equipment nodes and flexibility for network deployment. The XGPL-1000 is a cost-effective and scalable access solution for triple-play service applications such as HDTV, IPTV, voice-over-IP (VoIP), multimedia services and surveillance networks.

High Split Ratio for Cost-effective XG(S)-PON / GPON Deployment

The XGPL-1000 is an ideal solution for FTTx applications. It helps to minimize the investment cost for carriers and service providers by offering a high split ratio of 1:128 per PON port and supporting the usage of PLANET ONUs and HGUs. With support for VLAN, Dynamic Bandwidth Allocation (DBA), Service Level Agreement (SLA) and Access Control List, the XGPL-1000 enables secure, flexible and efficient bandwidth management for multiple end users through a passive optical splitter.

XG(S)-PON / GPON Combo Port

- 1 XG(S)-PON / GPON Combo PON port
- Supports GPON, XG-PON and XGS-PON tri-mode coexistence
- Supports adaptive switching via different optical modules
- GPON: 2.488Gbps downstream and 1.244Gbps upstream
- XG-PON: 9.953Gbps downstream and 2.488Gbps upstream
- XGS-PON: 9.953Gbps downstream and 9.953Gbps upstream
- Maximum transmission distance of up to 20km
- PON port supports up to 128 ONT/HGU devices
- Compliant with ITU-T G.984.x, ITU-T G.987 and ITU-T G.9807 standards
- Supports T-CONT DBA and x-GEM traffic
- Supports data encryption, multicast, port VLAN and user separation
- Supports ONT auto-discovery, link detection and remote software upgrade
- Supports power-off alarm function for easy link problem detection

Physical Ports

- 2 10/100/1000BASE-T RJ45 copper ports
- 1 10GBASE-SR/LR SFP+ uplink slot, compatible with 1000BASE-SX/LX/BX SFP
- 1 USB console interface for basic management and setup
- 1 XG(S)-PON / GPON Combo SFP+ PON slot

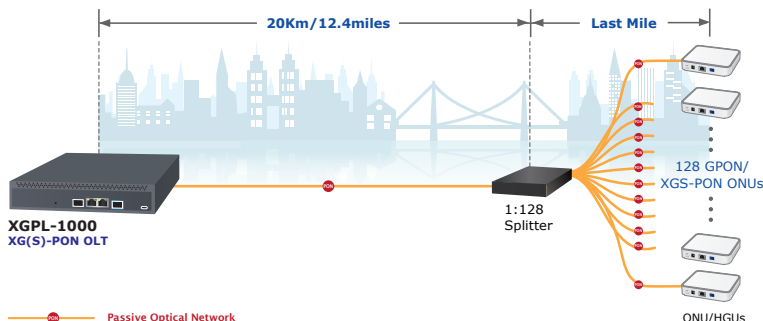
Switching

- Hardware-based 10/100Mbps half/full duplex and 1000Mbps full duplex mode
- Supports flow control, auto-negotiation and auto MDI/MDI-X
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- Working with Rate Limit (Kbps) function
- Supports automatic address learning and address aging
- 8K MAC address table
- 30Gbps switch fabric
- 44.64Mpps forwarding rate

Uplink Port Management

- Traffic statistics and optical information display
- Port configuration for description, admin status, speed, flow control, isolation, PVID, broadcast and unicast storm limit, ingress and egress rate limit, and MAC limit

Point to Multi-Point Application

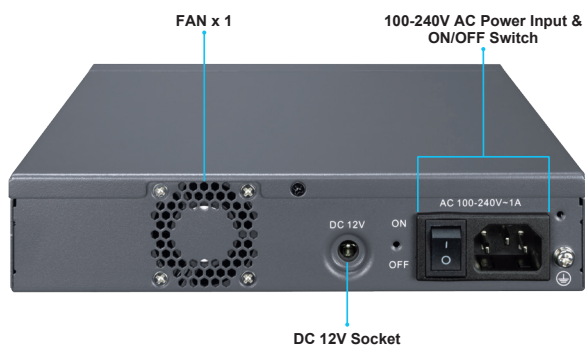


Flexible and Extendable 10Gb Ethernet Solution

The XGPL-1000 has one 10G SFP+ uplink port to deliver ultra-high-speed networking over long distances to service providers. The 10G SFP+ slot supports dual speed and 10GBASE-SR/LR or 1000BASE-SX/LX. With its 10G Ethernet uplink capability and additional 2-port Gigabit Ethernet connectivity, the administrator can flexibly choose suitable SFP/SFP+ transceivers according to the transmission distance or required transmission speed to extend the network efficiently.

Redundant AC and DC Power Input Design to Increase Reliability

The XGPL-1000 is equipped with one 100~240V AC power input and one 12V DC power input, providing power redundancy for reliable operation. When one power source fails, the backup power input helps maintain stable service and improves availability for broadband access networks.



Layer 3 IPv4 and IPv6 Software VLAN Routing for Secure and Flexible Management

To help customers build secure and flexible broadband networks, the XGPL-1000 not only provides high transmission performance and Layer 2 switching technologies, but also supports IPv4/IPv6 software VLAN routing. This allows traffic to be routed across different VLANs and IP subnets, making network management more secure, flexible and efficient.

OLT Management

- User-friendly GUI management
- 2 control interfaces:
- Out-of-Band IP: USB serial port
- In-Band IP: Gigabit TP and 10G SFP+ uplink ports
- Supports ONT/HGU authentication to prevent illegal ONT access to the network
- Supports online ONT configuration and management
- Supports user management and alarm management

ONT/HGU Management

- ONT/HGU port control
- ONT/HGU VLAN mode
- ONT/HGU configuration and management
- ONT/HGU link detection
- ONT/HGU remote software upgrade

PON Management

- Traffic statistics and optical information display
- Port configuration for description, admin status, broadcast and unicast storm limit, ingress and egress rate limit
- PON range configuration and ALS configuration
- Supports VLAN division and user separation to avoid broadcast storms
- Supports broadcasting storm resistance function

ONU Management

- ONU List
- Automatic Discovery
- Automatic Learn
- ONU Image Upgrade
- Rogue ONU Table List and Config

Profile Management

- ONU profile configuration
- ONU profile binding
- Rapid deployment

Layer 3 IP Routing Features

- IPv4/IPv6 static routing
- Routing interface provides per VLAN routing mode
- Loopback function for all Ethernet and PON interfaces
- Supports dynamic/static ARP
- Supports WAN connection modes:
 - DHCP
 - PPPoE
 - Static IP
- Supports NAT and DMZ

Layer 2 Features

- Supports VLAN
- IEEE 802.1Q tag-based VLAN
- VLAN translation

Robust Layer 2 Features

The XGPL-1000 can be programmed for basic switch management functions such as port speed configuration, VLAN, Spanning Tree Protocol, WRR, bandwidth control and IGMP/MLD snooping. It also supports 802.1Q tagged VLAN, Q-in-Q, VLAN translation and DSCP-to-CoS mapping. These features provide reliable traffic control and flexible service deployment for FTTx applications.

Efficient and Secure Management

For efficient management, the XGPL-1000 is equipped with console, Web, Telnet, CLI and SNMP management interfaces.

- With the built-in Web-based management interface, the XGPL-1000 offers an easy-to-use, platform-independent management and configuration facility.
- For text-based management, it can be accessed via Telnet and the console port.
- For standard-based monitoring and management software, it supports SNMP management.

Moreover, the XGPL-1000 offers secure remote management by supporting SSHv2 connection, which encrypts the packet content at each session.

- Provider bridging, VLAN Q-in-Q, IEEE 802.1ad
- PON P2P
- DSCP-to-CoS QoS mapping
- Supports bi-directional mapping between Layer 3 DSCP fields and Layer 2 CoS within VLAN tags
- Supports Spanning Tree Protocol
- RSTP, IEEE 802.1w Rapid Spanning Tree Protocol
- MAC table and PON MAC table display and aging configuration
- Link Layer Discovery Protocol (LLDP)
- Port mirroring to monitor incoming or outgoing traffic on a specific port
- Supports port isolation
- Supports port rate limitation
- Supports 4096 VLANs

Quality of Service

- Ingress and egress rate limit per port bandwidth control
- Dynamic Bandwidth Allocation (DBA) on PON interfaces
- Service Level Agreement (SLA)
- Upstream/downstream rate limitation based on each ONT/ONU/HGU
- 4 priority queues on all switch ports
- Scheduling for priority queues:
 - Weighted Round Robin (WRR)
 - Strict Priority
- Traffic classification:
 - IEEE 802.1p CoS
 - DSCP
 - Precedence
 - VLAN ID
 - Policy-based ingress and egress QoS

Multicast

- Supports IPv4 IGMP snooping
- Supports IPv6 MLD snooping v1 and v2
- Supports 256 IP multicast groups
- Querier mode support

Security

- Authentication
- TACACS+ user access authentication
- IPv4/IPv6 Access Control List
- IP-based Access Control List
- MAC-based Access Control List
- Port-based Access Control List
- Protocol-based Access Control List
- DHCP snooping to filter distrusted DHCP messages
- Dynamic ARP inspection / restriction to discard ARP packets with invalid MAC address to IP address binding
- Transmission data encryption on the PON interface

Applications

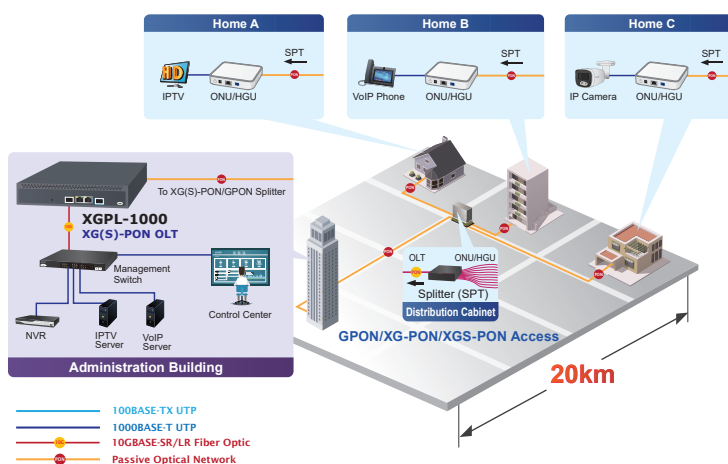
Cost-effective 10G PON Access for Triple Play, Surveillance and FTTx Applications

PLANET XGPL-1000 delivers high-speed voice, data and video services to residential and business subscribers through GPON, XG-PON and XGS-PON technologies. With PON technology, the XGPL-1000 offers competitive advantages including long-term fiber infrastructure deployment, lower operating costs from the reduction of active network components, support for up to 20km transmission distance between equipment nodes, easy installation and maintenance, and high-bandwidth access for next-generation broadband services.

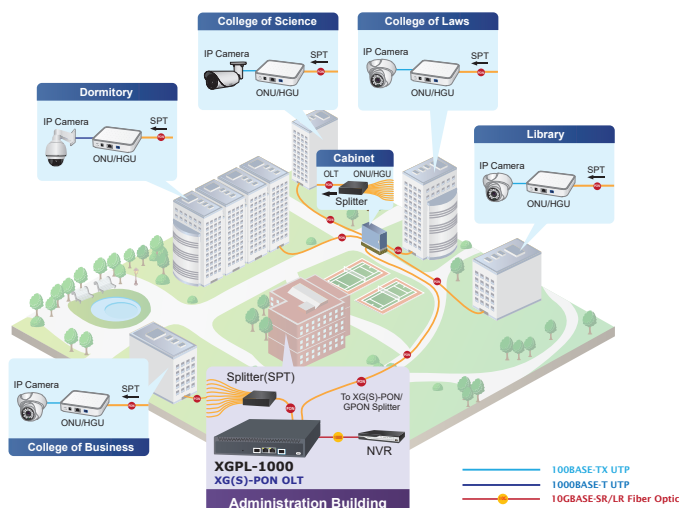
Supporting up to 1:128 optical split ratio, the XGPL-1000 allows service providers to connect multiple ONU and HGU devices through a passive optical splitter, making it ideal for FTTH, FTTB, FTTO, SOHO and small business broadband access applications. With up to 9.953Gbps downstream and 9.953Gbps upstream bandwidth in XGS-PON mode, the XGPL-1000 is suitable for bandwidth-demanding applications such as HDTV, IPTV, VoIP, multimedia streaming, cloud services and IP surveillance networks.

The XGPL-1000 also supports existing GPON deployment while providing a smooth upgrade path to 10G PON networks. It is the perfect solution for service providers, system integrators and enterprises requiring a cost-effective, scalable and flexible fiber access network.

Fiber To The Home (FTTH) Application



10G PON IP Surveillance System Application on Campus



WAN

- IPv4/IPv6/IPv4 & IPv6 versions
- Static / DHCP / PPPoE connection mode options

NAT

- NAT configuration options
- NAT DMZ Hosts

Management

- IPv4 and IPv6 dual stack management
- IPv4 DNS / IPv4 gateway
- IPv6 SLAAC / IPv6 gateway
- Switch management interfaces:
 - Console
 - Telnet Command Line Interface
 - Web management
 - SNMP management
- SSHv2 secure access
- SNMP management
- SNMP trap for interface Link Up and Link Down notification
- BOOTP and DHCP for IP address assignment
- Firmware upgrade via Web interface
- Configuration upload/download through Web interface
- Reset button for system reboot or reset to factory default
- User privilege level control
- Network Time Protocol (NTP)
- Network diagnostics:
 - ICMP remote IP ping
 - Traceroute diagnosis
- Remote syslog alarm
- System log

DHCP Functions

- DHCP relay
- DHCP Option 82
- DHCP snooping
- DHCP server
- DHCPv6 server
- DHCPv6 relay

Specifications

Product	XGPL-1000
Hardware Specifications	
PON Interface	1 x XG(S)-PON / GPON Combo SFP+ slot
Ethernet Interface	2 x 10/100/1000BASE-T copper ports, port-1 to port-2 1 x 10GBASE-X SFP+ slot, supporting 10GBASE-SR/LR SFP+ transceiver Backward compatible with 1000BASE-X SFP transceiver
Console	One USB serial port (115200, 8, N, 1)
RAM	512MB
Flash Memory	256MB
Dimensions (W x D x H)	210 x 173 x 43.6mm
Weight	1.07kg
Power Consumption	AC 240V: Max. 2.8 watts / 9.5BTU (Power on without any connection) Max.9.3 watts / 31.7BTU (Full loading) DC 12V: Max. 3.4 watts / 11.6BTU (Power on without any connection) Max.10.1 watts / 34.4BTU (Full loading)
Power Requirements - AC	100~240V AC, 1A max.
Power Requirements - DC	12V DC, 1A max.
Lightning Protection	Power supply 6KV / Device Interface 4KV
Fan	1
XG(S)-PON / GPON Specifications	
PON Port	1 x XG(S)-PON / GPON Combo PON port
Physical Interface	SFP+ slot
Connector Type	XG(S)-PON & GPON Combo mode: N2_C+
Transmission Speed	GPON: Downstream 2.488Gbps; Upstream 1.244Gbps XG-PON: Downstream 9.953Gbps; Upstream 2.488Gbps XGS-PON: Downstream 9.953Gbps; Upstream 9.953Gbps
Optical Split Ratio	Up to 128
Transmission Distance	20km
PON Module Wavelength	XG(S)-PON: Up 1270nm / Down 1577nm GPON: Up 1310nm / Down 1490nm
PON Fiber Type	9/125um SMF(Single mode fiber optic)
PON Function	T-CONT DBA x-GEM traffic Data encryption, multicast, port VLAN and user separation ONT auto-discovery, link detection and remote software upgrade VLAN division and user separation to avoid broadcast storms Power-off alarm function Broadcasting storm resistance function
Switching	
Switch Architecture	Store-and-forward
Switch Fabric	30Gbps
Switch Throughput	44.64Mpps
Address Table	8K
ARP Table	8K
Jumbo Frame	10/100/1000BASE-T RJ45 copper ports: 9022Bytes XG(S)-PON / GPON Combo PON port: 1652 Bytes 10GBASE-SR/LR SFP+ slot: 9036 Bytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex Working with Rate Limit(Kbps) function
Layer 3 Functions	
IP Interfaces	Max. 512 VLAN interfaces for IPv4 Max. 512 VLAN interfaces for IPv6
Routing Protocols	IPv4/IPv6 static routing
WAN	IPv4/IPv6/IPv4 & IPv6 versions Static/DHCP/PPPoE connect mode options
NAT	NAT1/NAT2/NAT4(default) for NAT Config options NAT DMZ Hosts

ARP	Dynamic / static ARP
Layer 2 Functions	
Port Configuration	Description Admin Status (Port disable/enable) Speed Flow control Isolate PVID Broadcast and Unicast Storm Limit Ingress & Egress Rate Limit
Port Mirroring	TX/RX/Both 1 to 1
VLAN	- IEEE 802.1Q tag-based VLAN, up to 4096 VLANs - VLAN Translation - Bridging (VLAN Q-in-Q, IEEE 802.1ad) - PON P2P - DSCP-to-CoS QoS Mapping: Supports bi-directional mapping between Layer 3 DSCP fields and Layer 2 CoS (IEEE 802.1p) within VLAN tags
Spanning Tree Protocol	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
Multicast	IPv4 IGMP snooping v1 and v2 Up to 256 multicast groups IPv6 MLD v1/v2 snooping Up to 256 multicast groups Querier mode support
Storm Control	Broadcast Storm Limit Unicast Storm Limit 0/64-13000kbps
Bandwidth Control	Ingress Rate Limit Egress Rate Limit 0/64-1000000kbps
Qos	
PON Interfaces	Dynamic Bandwidth Allocation (DBA) Service Level Agreement (SLA) Limiting the upstream/downstream rate based on each ONT/ONU/HGU
Priority Queue	4 priority queues on all switch ports
Scheduling for Priority Queues	Weighted Round Robin (WRR) Strict Priority
Traffic Classification	IEEE 802.1p CoS / DSCP / Precedence VLAN ID Policy-based ingress and egress QoS
Security Functions	
Access Control List	Supports Standard and Expanded ACL - IP-based ACL - MAC-based ACL - Port-based ACL - Protocol-based ACL ACL based on: - MAC Address - IPv4/IPv6 IP Address - Protocol-number - Port Up to 1k entries
Security	Transmission data encryption on the PON interface DHCP snooping Dynamic ARP inspection
Authentication	TACACS+ users access authentication
Management Functions	
System Configuration	Console and Telnet Web browser SNMP v1, v2c
Secure Management Interfaces	SSHv2 SNMPv3 HTTPS Web management

System Management	IPv4 and IPv6 dual stack management IPv4 DNS/IPv4 Gateway IPv6 SLAAC/IPv6 Gateway SNMP MIB and TRAP SNMP RMON 1, 2, 3, 9 four groups Firmware upgrade by HTTPS protocol through Ethernet network Configuration upload/download through HTTPS protocol IEEE 802.1ab LLDP protocol NTP client	
DHCP Function	DHCP Relay DHCP Option 82 DHCP Snooping DHCP Server DHCPv6 Server DHCPv6 Relay	
Event Management	Remote syslog System log	
Maintenance	Reset button for system reboot or reset to factory default User privilege levels control Network diagnostic ICMP remote IP ping Traceroute diagnosis	
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Internet Engineering Task Force RFC 1271 RMON RFC 1354 IP-Forwarding MIB RFC 1493 Bridge MIB RFC 1643 Ether-like MIB RFC 1907 SNMPv2 RFC 2011 IP/ICMP MIB RFC 2012 TCP MIB RFC 2013 UDP MIB RFC 2096 IP forward MIB RFC 2233 if MIB RFC 2452 TCP6 MIB RFC 2454 UDP6 MIB RFC 2465 IPv6 MIB RFC 2466 ICMP6 MIB RFC 2573 SNMPv3 notification RFC 2574 SNMPv3 VACM RFC 2674 Bridge MIB Extensions	
Standard Conformance		
Regulatory Compliance	CE / LVD	
Standards Compliance	ITU-T G.984.x GPON ITU-T G.987 XG-PON ITU-T G.9807 XGS-PON IEEE 802.3z Gigabit 1000BASE-SX/LX IEEE 802.3ae 10Gb/s Ethernet IEEE 802.3x Flow Control and Back Pressure IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging IEEE 802.1ab LLDP	RFC 768 UDP RFC 783 TFTP RFC 792 ICMP RFC 793 IP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2 RFC 5246 (TLS 1.2)
Environments		
Operating	Temperature: -20 ~60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -40 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

Ordering Information

XGPL-1000	1-Port XG(S)-PON / GPON Combo OLT with 2-Port 10/100/1000T + 1-Port 10G SFP+ and 1 AC + 1 DC
XGPL-XGSFP-N2	N2 XGS-PON/GPON Combo OLT SFP Transceiver (XGS-PON N2, GPON C+, BIDI SC/UPC) - 20km

Related Products

XGPL-16000	16-Port XGS-PON OLT with 8-Port 10G SFP+ + 2-Port 100G QSFP28
XGPN-100	XGS-PON SFU ONT with 1-Port 10GbE
XGPN-400AXV	XG-PON HGU with 4-Port GbE, 3000Mbps 802.11AX Wireless and 1-Port FXS
MTB-Series Module	10GBASE-LR/SR/BX/T Modules

Accessories

EPL-SPT-8	GEAPON Splitter (1 x 8 PLC Splitter, Wavelength 1230 ~ 1650 nm)
EPL-SPT-32	GEAPON Splitter (1 x 32 PLC Splitter, Wavelength 1230 ~ 1650 nm)
EPL-SPT-64	GEAPON Splitter (1 x 64 PLC Splitter, Wavelength 1230 ~ 1650 nm)

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

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-TGT	1000	Copper	--	100m	--	-40 ~ 85 degrees C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 85 degrees C
MGB-TSX2	1000	LC	Multi Mode	2km	1310nm	-40 ~ 85 degrees C
MGB-TLX(V2)	1000	LC	Single Mode	20km	1310nm	-40 ~ 85 degrees C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 85 degrees C
MGB-TL40	1000	LC	Single Mode	40km	1310nm	-40 ~ 85 degrees C
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 85 degrees C
MGB-TL80	1000	LC	Single Mode	80km	1550nm	-40 ~ 85 degrees C

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

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-TSA	1000	WDM(LC)	Single Mode	2km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TSB	1000	WDM(LC)	Single Mode	2km	1550nm	1490nm	-40 ~ 85 degrees C
MGB-TLA10(V2)	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB10(V2)	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 85 degrees C
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 85 degrees C
MGB-TLA80	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 85 degrees C
MGB-TLB80	1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	-40 ~ 85 degrees C
MGB-TLA120	1000	WDM(LC)	Single Mode	120km	1490nm	1550nm	-40 ~ 85 degrees C
MGB-TLB120	1000	WDM(LC)	Single Mode	120km	1550nm	1490nm	-40 ~ 85 degrees C

Available 10G SFP+ Modules

10Gigabit Ethernet Transceiver (10GBASE-X SFP+)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MTB-RJ	10G	Copper	--	30m	--	0 ~ 70 degrees C
MTB-SR	10G	LC	Multi-Mode	Up to 300m	850nm	0 ~ 60 degrees C
MTB-SR2	10G	LC	Single Mode	2km	1310nm	0 ~ 60 degrees C
MTB-LR	10G	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MTB-LR20	10G	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MTB-LR40	10G	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MTB-LR60	10G	LC	Single Mode	60km	1550nm	0 ~ 60 degrees C
MTB-LR80	10G	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MTB-TRJ	10G	Copper	--	30m	--	-40 ~ 85 degrees C
MTB-TSR	10G	LC	Multi-Mode	Up to 300m	850nm	-40 ~ 85 degrees C
MTB-TSR2	10G	LC	Single Mode	2km	1310nm	-40 ~ 85 degrees C
MTB-TLR	10G	LC	Single Mode	10km	1310nm	-40 ~ 85 degrees C
MTB-TLR20	10G	LC	Single Mode	20km	1310nm	-40 ~ 85 degrees C
MTB-TLR40	10G	LC	Single Mode	40km	1310nm	-40 ~ 85 degrees C
MTB-TLR60	10G	LC	Single Mode	60km	1550nm	-40 ~ 85 degrees C
MTB-TLR80	10G	LC	Single Mode	80km	1550nm	-40 ~ 85 degrees C