

## Industrial 6-Port 100/1000X SFP + 2-Port 1G/2.5G SFP + 2-Port 10/100/1000T Managed Switch



### Switch with Multiple SFP Fiber Ports for Growing Long-Reach Industrial and Telecom Networks

PLANET IGS-10080MFT is an **Industrial 10-Port Full Gigabit Managed Ethernet Switch** specially designed to build a full Gigabit backbone to transmit reliable, high-speed data in heavy industrial demanding environments and to forward data to remote networks through fiber optic cabling. It features **two 100/1000/2500BASE-X** ports, **six 100/1000BASE-X** SFP fiber optic ports, and **two extra 10/100/1000BASE-T** copper interfaces delivered in an IP30 rugged case with redundant power system. Within such favorable enclosure, it provides user-friendly yet advanced IPv6/IPv4 management interfaces, abundant **L2/L4 switching functions** and Layer 3 static routing capability. The IGS-10080MFT can operate stably under the temperature range from **-40 to 75 degrees C** and allows either DIN-rail or wall mounting for efficient use of cabinet space.



### Cybersecurity Network Solution to Minimize Security Risks

The IGS-10080MFT supports SSHv2 and TLSv1.2 protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP Snooping**, **IP Source Guard**, **ARP Inspection** Protection, **802.1x port-based** network access control, **RADIUS** and **TACACS+** user accounts management, **SNMPv3** authentication, and so on to complement it as an all-security solution.

### Physical Port

- 10/100/1000BASE-T Ethernet ports (Ports 1 to 2)
- 2 100/1000/2500BASE-X SFP ports (Ports 3 to 4)
- 6 100/1000BASE-X SFP ports (Ports 5 to 10)

### Industrial Case and Installation

- Redundant power design
  - 12 to 48V DC, redundant power with reverse polarity protection
  - AC 24V power adapter acceptable
  - Backup of catastrophic power failure on one supply
  - Fault tolerance and resilience
- IP30 aluminum case
- DIN-rail and wall-mount designs
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

### Industrial Protocol

- Modbus TCP for real-time monitoring in SCADA system
- IEEE 1588v2 PTP Transparent clock mode (Precision Time Protocol)

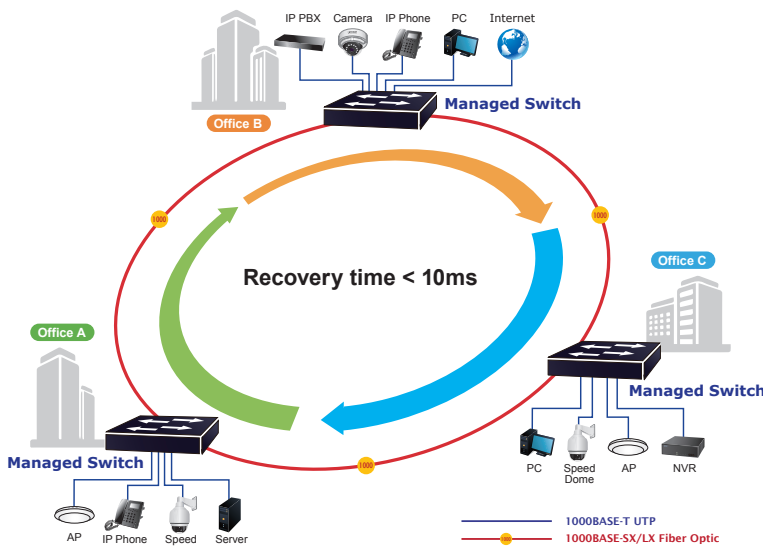
### Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance of Store-and-Forward architecture, and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Storm Control support
  - Broadcast/Multicast/Unicast
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Up to 4K VLANs groups, out of 4094 VLAN IDs
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Protocol-based VLAN
  - MAC-based VLAN
  - Voice VLAN
  - GVRP (GARP VLAN Registration Protocol)
- Supports **Spanning Tree Protocol**
  - IEEE 802.1D Spanning Tree Protocol (STP)
  - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
  - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), spanning tree by VLAN
  - BPDU Guard



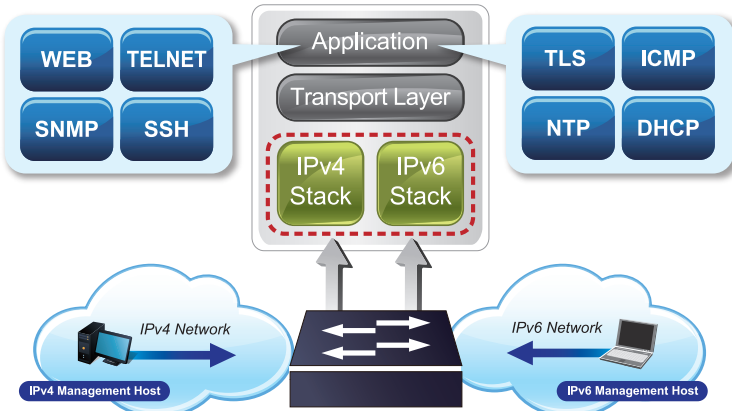
### Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-10080MFT supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS (Ethernet Ring Protection Switching)** technology and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in various environments.



### IPv6/IPv4 Dual Stack Management

Supporting both IPv6 and IPv4 protocols, the IGS-10080MFT helps the SMBs to step in the IPv6 era with the lowest investment as their network facilities need not be replaced or overhauled if the IPv6 FTTx edge network is set up.



- Supports **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
- Provides port mirror (many-to-1)
- Port mirroring to monitor the incoming or outgoing traffic on a particular port
- Loop protection to avoid broadcast loops
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)
- Compatible with Cisco uni-directional link detection(UDLD) that monitors a link between two switches and blocks the ports on both ends of the link if the link fails at any point between the two devices

### Layer 3 IP Routing Features

- Supports maximum 32 static routes and route summarization

### Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports
- Traffic classification
  - IEEE 802.1p CoS
  - IP TOS/DSCP/IP precedence
  - IP TCP/UDP port number
  - Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing on the switch port
- DSCP remarking

### Multicast

- Supports IPv4 IGMP snooping v1, v2 and v3
- Supports IPv6 MLD snooping v1 and v2
- Querier mode support
- IPv4 IGMP snooping port filtering
- IPv6 MLD snooping port filtering
- MVR (Multicast VLAN Registration)

### Security

- Authentication
  - IEEE 802.1x port-based/MAC-based network access authentication
  - IEEE 802.1x authentication with guest VLAN
  - Built-in RADIUS client to cooperate with the RADIUS servers
  - RADIUS/TACACS+ users access authentication
  - Guest VLAN assigns clients to a restricted VLAN with limited services
- Access Control List
  - IP-based Access Control List (ACL)

### SMTP/SNMP Trap Event Alert

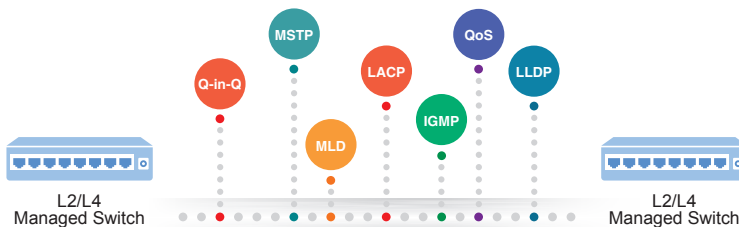
The IGS-10080MFT provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, or the rebooting response.

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

To help customers stay on top of their businesses, the IGS-10080MFT not only provides ultra high transmission performance and excellent Layer 2 technologies, but also IPv4/IPv6 software VLAN routing feature which allows to cross over different VLANs and different IP addresses for the purpose of having a highly-secure, flexible management and simpler networking application.

### Robust Layer 2 Features

The IGS-10080MFT can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN, **Q-in-Q VLAN**, **Multiple Spanning Tree Protocol (MSTP)**, Loop and **BPDU Guard**, **IGMP Snooping**, and **MLD Snooping**. Via the link aggregation, the IGS-10080MFT allows the operation of a high-speed trunk to combine with multiple ports such as a 16Gbps fat pipe, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



### Efficient Traffic Control

The IGS-10080MFT is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast/multicast/unicast **storm control**, per port **bandwidth control**, 802.1p/CoS/IP DSCP QoS priority and remarking. It guarantees the best performance in VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

### Powerful Security

PLANET IGS-10080MFT offers comprehensive **IPv4/IPv6** Layer 2 to Layer 4 **Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises **802.1X port-based** user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the **protected port** function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, **Port security** function allows to limit the number of network devices on a given port. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

- MAC-based Access Control List (ACL)
- Source MAC/IP address binding
- DHCP Snooping to filter distrusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP Source Guard prevents IP spoofing attacks
- IP address access management to prevent unauthorized intruder

### Management

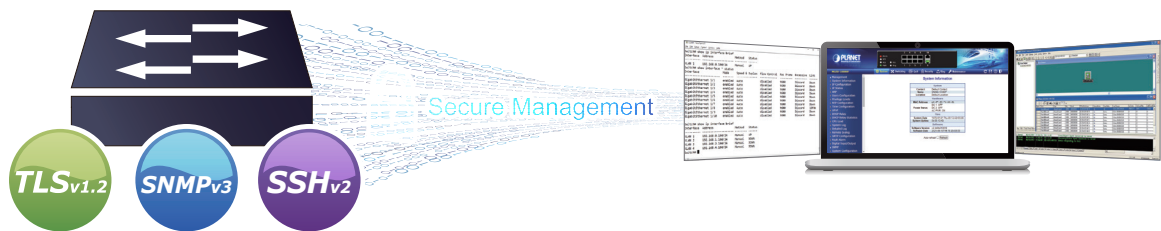
- IPv4 and IPv6 dual stack management
- Switch Management Interfaces
  - Console and Telnet Command Line Interface
  - HTTP web switch management
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management
  - Four RMON groups (history, statistics, alarms, and events)
  - SNMP trap for interface Link Up and Link Down notification
- **IPv6** IP address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP
  - Reset button for system reboot or reset to factory default
  - Dual images
- DHCP Relay
- DHCP Option 82
- DHCP Server
- User Privilege levels control
- Network Time Protocol (NTP)
- Network Diagnostic
  - SFP-DDM (Digital Diagnostic Monitor)
  - Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
  - ICMPv6/ICMPv4 remote ping
- SMTP/Syslog remote alarm
- System Log
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer for deployment management

### User-friendly and Secure Management

For efficient management, the IGS-10080MFT is equipped with **web**, **Telnet** and **SNMP** management interfaces.

- With the built-in **Web-based** management interface, the IGS-10080MFT offers an easy-to-use, platform-independent management and configuration facility.
- For **text-based** management, the switches can be accessed via Telnet and the console port.
- By supporting the standard SNMP, the switches can be managed via any standard management software

Moreover, the IGS-10080MFT offers secure remote management by supporting **SSHv2**, **TLSv1.2** and **SNMP v3** connections which encrypt the packet content at each session.



### Modbus TCP Provides Flexible Network Connectivity for Factory Automation

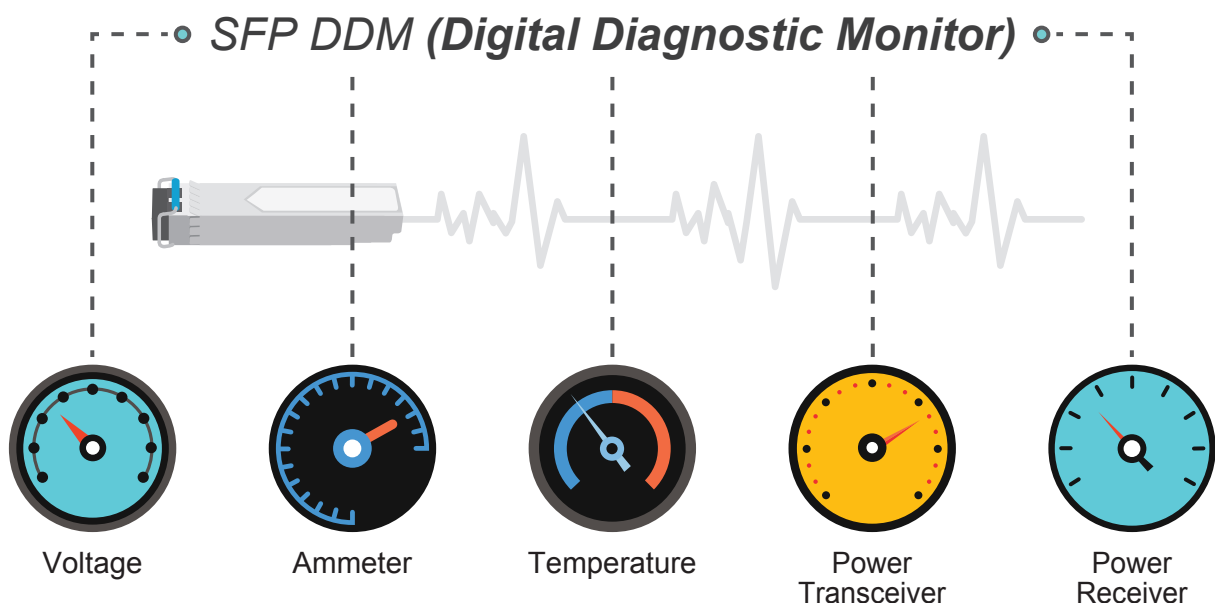
With the supported **Modbus TCP/IP** protocol, the IGS-10080MFT can easily integrate with **SCADA** systems, **HMI** systems and other data acquisition systems in factory floors. It enables administrators to remotely monitor the industrial Ethernet switch's operating information, port information and communication status, thus easily achieving enhanced monitoring and maintenance of the entire factory.

### Flexibility and Long-distance Extension Solution

The IGS-10080MFT's 8 built-in mini-GBIC slots support triple-speed 100/1000/2500BASE-X SFP (small form-factor pluggable) fiber-optic modules on port 3 and port 4, while ports 5 to 10 support dual-speed 100/1000BASE-X SFP (small form-factor pluggable) fiber-optic modules, the distance can be extended from 300 meters to 2 kilometers (multi-mode fiber) and to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

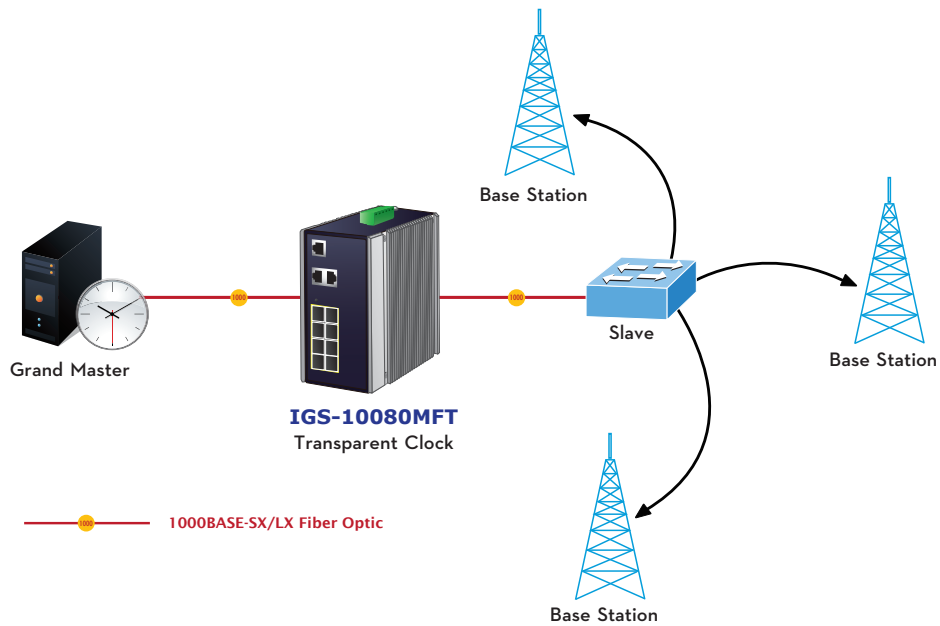
### Intelligent SFP Diagnosis Mechanism

The IGS-10080MFT supports **SFP-DDM (Digital Diagnostic Monitor)** function that can easily monitor real-time parameters of the SFP for the network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.



*1588 Time Protocol for Industrial Computing Networks*

The IGS-10080MFT is ideal for telecom and carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.



*Environmentally Hardened Design*

With the IP30-rated industrial aluminum case, the IGS-10080MFT provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets. It also possesses an integrated power supply source with a wide range of voltages (**12 to 48V DC** or **24V AC**) for worldwide high availability applications requiring dual or backup power inputs. Being able to operate under the temperature range from -40 to 75 degrees C, the IGS-10080MFT can be placed in almost any difficult environment.



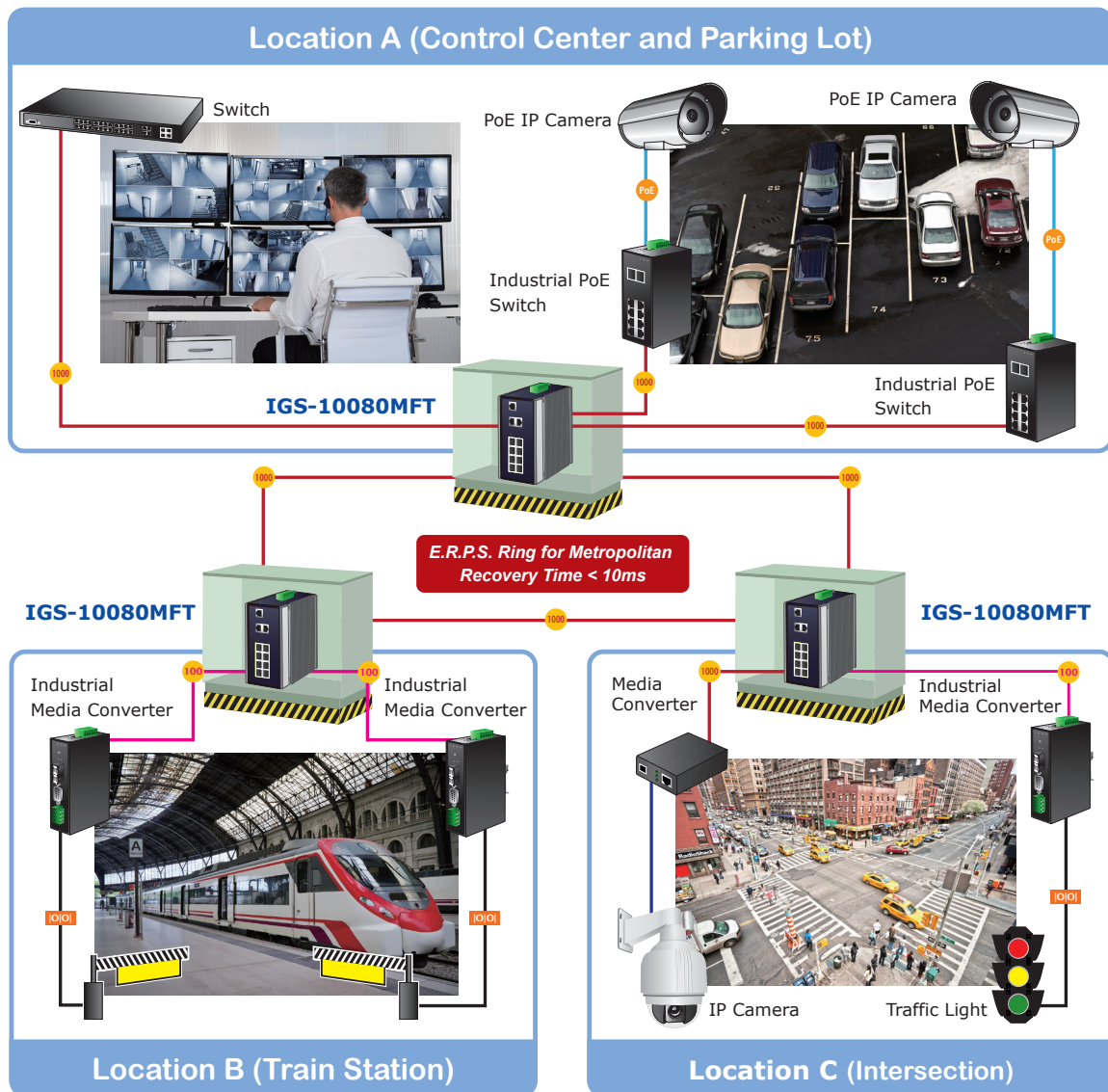
## Applications

### Industrial Area Manageable Switch for Data Collection and Forwarding

The IGS-10080MFT offers **high performance and high reliability** to make sure the continuous industrial operation in harsh environments such as transportation, factory floors, outdoors, and the places with extreme low or high temperatures. With a non-blocking design and desktop size, the installation of the IGS-10080MFT is easy and helpful to build up a Gigabit high-bandwidth switched network quickly.

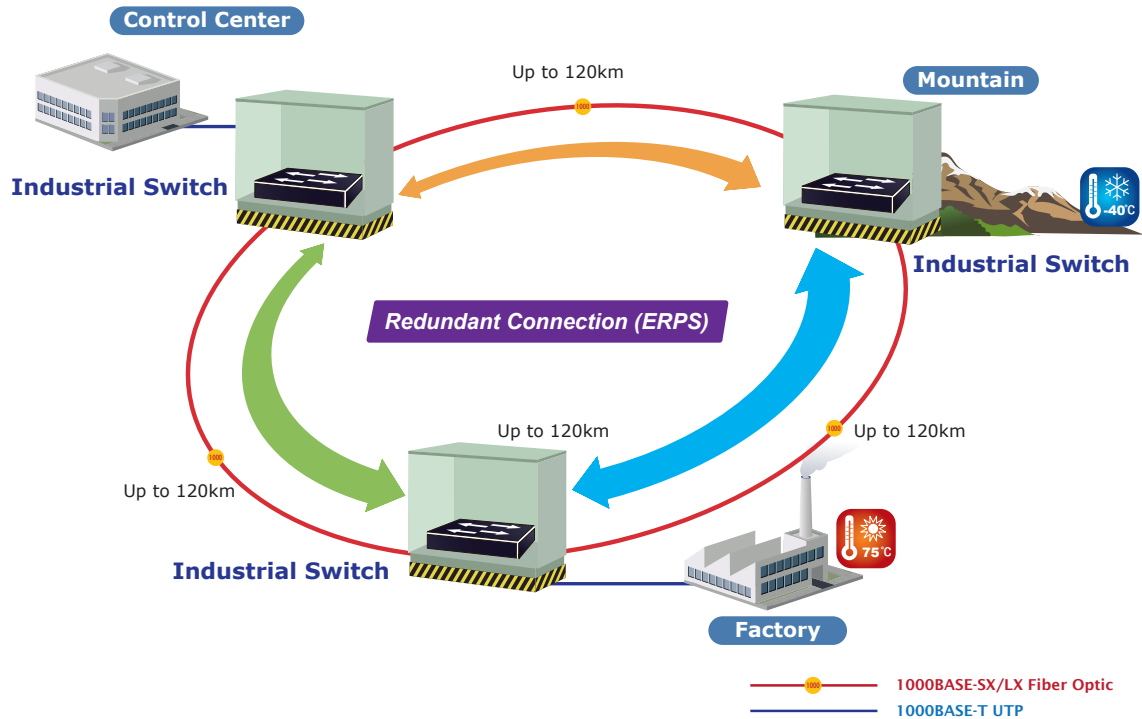
### FTTx/MAN Edge Switch

The IGS-10080MFT offers up to 2.5Gbps data exchange speed via Optical Fiber interface and the transmission distance can be extended to 120km. The IGS-10080MFT is the ideal solution for internet service providers and telecoms to build metropolitan area network (MAN) based on fiber technology to the wide area network (WAN).



*ITU-T G.8032 ERPS Makes Data Transmission Uninterrupted*

The IGS-10080MFT features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet standard, the IGS-10080MFT can directly connect with any IEEE 802.3at end-nodes like PTZ (pan, tilt & zoom) network cameras and speed dome cameras. The IGS-10080MFT can easily help system integrators with the available network infrastructure to build wireless AP, IP camera and VoIP systems where power can be centrally controlled.



## Specifications

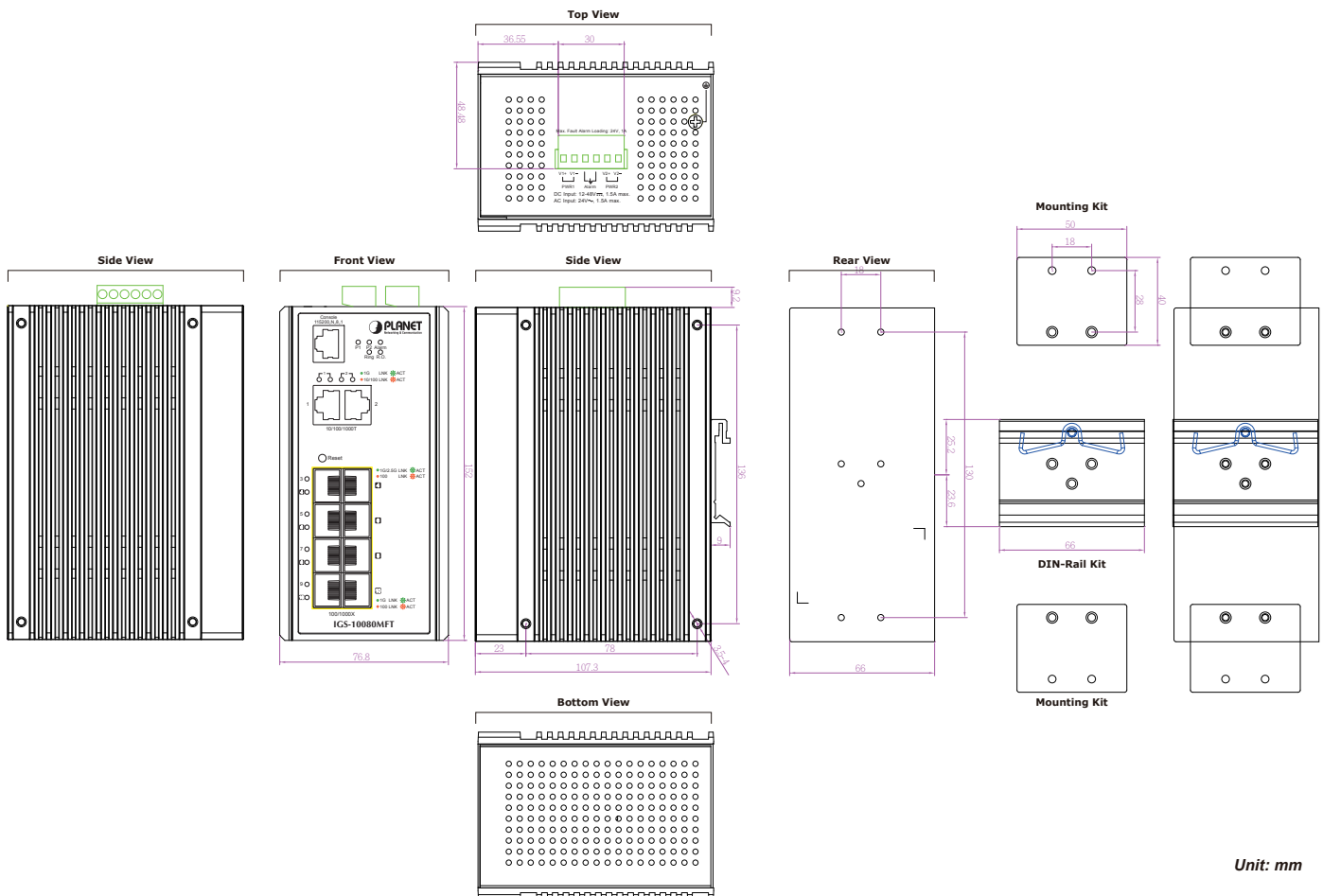
Product	IGS-10080MFT
<b>Hardware Specifications</b>	
Copper Ports	2 10/100/1000BASE-T Ethernet interfaces (Ports 1 to 2)
SFP/mini-GBIC Slots	2 100/1000/2500BASE-X mini-GBIC SFP ports (Ports 3 to 4) 6 100/1000BASE-X mini-GBIC SFP ports (Ports 5 to 10)
SDRAM	128Mbytes
Flash Memory	64Mbytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
ESD Protection	6KV DC
EFT Protection	6KV DC
Enclosure	IP30 aluminum metal case
Installation	DIN rail kit and wall-mount
Dimensions (W x D x H)	76.8 x 107.3 x 152 mm
Weight	1036g
Power Requirements	DC 12 to 48V, AC 24V Power Adapter
Power Consumption	13.92 Watts/47.76BTU (Full loading)
LED Indicator	System: Power 1 (Green) Power 2 (Green) Alarm (Red) Ring (Green) R.O. (Green) Per 10/100/1000T RJ45 Ports (Port 1 to port 2): 10/100 LNK/ACT (Amber) 1000 LNK/ACT (Green) Per 100/1000/2500BASE-X SFP Interface (Port 3 to port 4): 100 LNK/ACT (Amber) 1G/2.5G LNK/ACT (Green) Per 100/1000BASE-X SFP Interface (Port 5 to port 10): 100 LNK/ACT (Amber) 1000 LNK/ACT (Green)
<b>Switching Specifications</b>	
Switch Architecture	Store-and-Forward
Switch Fabric	26Gbps/non-blocking
Throughput	19.34Mpps@ 64 bytes packet
Address Table	8K entries, automatic source address learning and aging
Shared Data Buffer	512 Kbytes
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	9K bytes
<b>Layer 2 Management Functions</b>	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable/enable Power saving mode control
Port Status	Display each port's speed duplex mode, link status, flow control status, auto negotiation status, trunk status
Port Mirroring	TX/RX/both 1 to 1 monitor
VLAN	802.1Q tag-based VLAN, up to 4K VLAN groups Q-in-Q tunneling Private VLAN Edge MAC-based VLAN Protocol-based VLAN Voice VLAN MVR (Multicast VLAN Registration) GVRP Up to 4K VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/static trunk
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)



IGMP Snooping	IGMP (v1/v2/v3) snooping IGMP querier mode support Up to 255 multicast groups	
MLD Snooping	MLD (v1/v2) snooping MLD querier mode support Up to 255 multicast groups	
Bandwidth Control	Per port bandwidth control Ingress: 500Kb~1000Mbps Egress: 500Kb~1000Mbps	
Ring	Supports ERPS, and complies with ITU-T G.8032 Supports Major ring and sub-ring Recovery time < 10ms @ 3 units Recovery time < 50ms @ 16 units	
Synchronization	IEEE 1588v2 PTP (Precision Time Protocol) - Peer-to-peer transparent clock - End-to-end transparent clock	
QoS	Traffic classification based, strict priority and WRR 8-level priority for switching - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP/TOS field in IP packet	
<b>Security Functions</b>		
Access Control List	IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE Up to 256 entries	
Port Security	IEEE 802.1X – Port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication	
MAC Security	IP-MAC port binding MAC filter Static MAC address	
Enhanced Security	DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard	
<b>Layer 3 Functions</b>		
IP Interfaces	Max. 8 VLAN interfaces	
Routing Table	Max. 32 routing entries	
Routing Protocols	IPv4 software static routing IPv6 software static routing	
<b>Management</b>		
Basic Management Interfaces	Telnet/Web browser/SNMP v1, v2c	
Secure Management Interfaces	SSHv2, TLS v1.2, SNMP v3	
System Management	Firmware upgrade by HTTP/TFTP protocol through Ethernet network LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS System/CloudViewer	
Event Management	Remote/Local Syslog System log	
Industrial Protocol	Modbus TCP for real-time monitoring in SCADA system	
SNMP MIBs	RFC 1213 MIB-II IF-MIB RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9)	RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB

Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 (free fall)
	IEC60068-2-27 (shock)
	IEC60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3ab Gigabit 1000T IEEE 802.3z Gigabit SX/LX IEEE 802.3bz 2.5GBASE-X IEEE 802.3x flow control and back pressure IEEE 802.3ad port trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging
	IEEE 802.1X Port Authentication Network Control IEEE 802.1ab LLDP ITU-T G.8032 Ethernet Ring Protection Switching RFC 768 UDP RFC 783 TFTP RFC 793 TCP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 75 degrees C
Humidity	5 ~ 95% (non-condensing)

## Dimensions



Unit: mm

## Ordering Information

IGS-10080MFT	Industrial 6-Port 100/1000X SFP + 2-Port 1G/2.5G SFP + 2-Port 10/100/1000T Managed Switch (-40 ~ 75 degrees C)
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## Related Products

IGS-5225-4T2S	Industrial L2+ 4-port 10/100/1000T + 2-port 100/1000X SFP Managed Ethernet Switch (-40~75 degrees C)
IGS-12040MT	Industrial L2+ 8-port 10/100/1000T + 4-port 100/1000X SFP Managed Ethernet Switch (-40~75 degrees C)
IGS-10020PT	Industrial L2+ 8-port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Managed Switch (-40~75 degrees C)
IGS-10020HPT	Industrial L2+ 8-port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Managed Switch (-40~75 degrees C)
IGS-801M	8-port 10/100/1000Mbps Managed Industrial Ethernet Switch
IGS-10020MT	Industrial 8-port 10/100/1000T + 2-port 1G/2.5G SFP Managed Gigabit Switch (-40~75 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

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.	Operating Temp.
MFB-TFX	100	LC	Multi-mode	2km	1310nm	-40 ~ 75 degrees C	0 ~ 60 degrees C
MFB-TF20	100	LC	Single Mode	20km	1310nm	-40 ~ 75 degrees C	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

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-TSA	100	WDM(LC)	Multi-mode	2km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TSB	100	WDM(LC)	Multi-mode	2km	1550nm	1310nm	-40 ~ 75 degrees C
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 degrees C

## 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

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-TGT	--	1000	Copper	--	100m	--	-40 ~ 75 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)	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

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-TSA	YES	1000	WDM(LC)	Multi-mode	2km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TSB		1000	WDM(LC)	Multi-mode	2km	1550nm	1310nm	-40 ~ 75 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-LA80	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-LB80		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
MGB-TLA120	YES	1000	WDM(LC)	Single Mode	120km	1490nm	1550nm	-40 ~ 75 degrees C
MGB-TLB120		1000	WDM(LC)	Single Mode	120km	1550nm	1490nm	-40 ~ 75 degrees C

## Available 2500Mbps Modules

Gigabit Ethernet Transceiver (2500BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-2GSR	YES	2500	LC	Multi-mode	300m	850nm	0 ~ 70 degrees C
MGB-2GLR2	YES	2500	LC	Single mode	2km	1310nm	0 ~ 70 degrees C
MGB-2GLR20	YES	2500	LC	Single mode	20km	1310nm	0 ~ 70 degrees C

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-2GTSR	YES	2500	LC	Multi-mode	300m	850nm	-40 ~ 75 degrees C
MGB-2GTLR2	YES	2500	LC	Single mode	2km	1310nm	-40 ~ 75 degrees C
MGB-2GTLR20	YES	2500	LC	Single mode	20km	1310nm	-40 ~ 75 degrees C

Gigabit Ethernet Transceiver (2500BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-2GLA20	YES	2500	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 70 degrees C
MGB-2GLB20		2500	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 70 degrees C

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-2GTLA20	YES	2500	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-2GTLB20		2500	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C