Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Ethernet Switch (-40~75 degrees C)

Physical Port

- 8-port 10/100/1000BASE-T RJ45 with auto MDI/MDI-X function
- 2 SFP slots, supporting 1000BASE-X and 100BASE-FX transceiver type auto-detection

Industrial Case and Installation

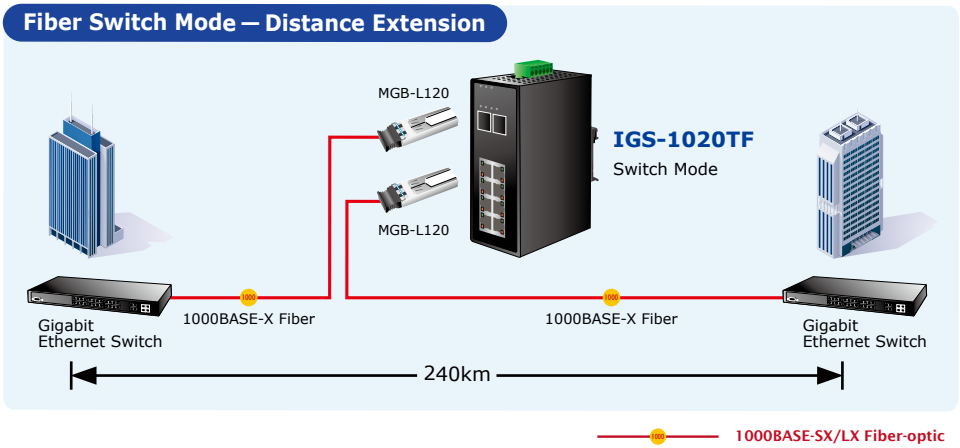
- IP30 metal case protection
- DIN rail and wall mount design
- Redundant Power Design
  - 12 to 48V DC, redundant power with polarity reverse protect function
  - AC 24V power adapter acceptable
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)

Industrial-grade, Reliable and Flexible Network Deployment

PLANET IGS-1020TF is an industrial 10-port full Gigabit Ethernet Switch providing non-blocking wire-speed performance and great flexibility for Gigabit Ethernet deployment and extension in harsh environment. It provides 8-port 10/100/1000BASE-T RJ45 copper and 2 extra 100/1000BASE-X SFP fiber optic interfaces delivered in an IP30 rugged strong case with redundant power system. The IGS-1020TF is well suited for applications in deploying surveillance system, secure control and wireless service in climatically demanding environments with wide temperature range from -40 to 75 degrees C.

Fiber-Optic Link Capability Enables Extension of Network Deployment

The two mini-GBIC slots built in the IGS-1020TF support SFP auto-detection and dual speed as it features 100BASE-FX and 1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications to uplink to backbone switch and monitoring center in long distance.

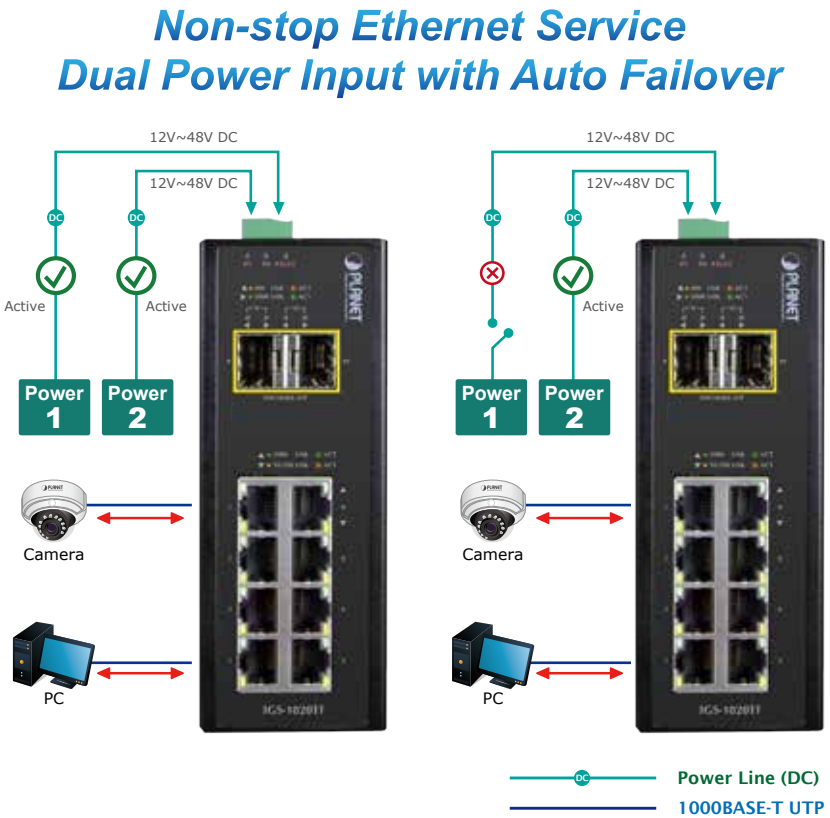


Environmentally Hardened Design

With IP30 rugged metal case protection, the IGS-1020TF provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curbside traffic control cabinets. Being able to operate under the temperature range from -40 to 75 degrees C, the IGS-1020TF can be placed in almost any difficult environment. The IGS-1020TF also allows either DIN rail or wall mounting for efficient use of cabinet space.

Dual Power Input for High Availability Network System

The IGS-1020TF features a strong dual power input system with wide-ranging voltages (12V~48V DC or 24V AC) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when power supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the IGS-1020TF via power supply 2 alternatively without any loss of operation.



Energy Saving

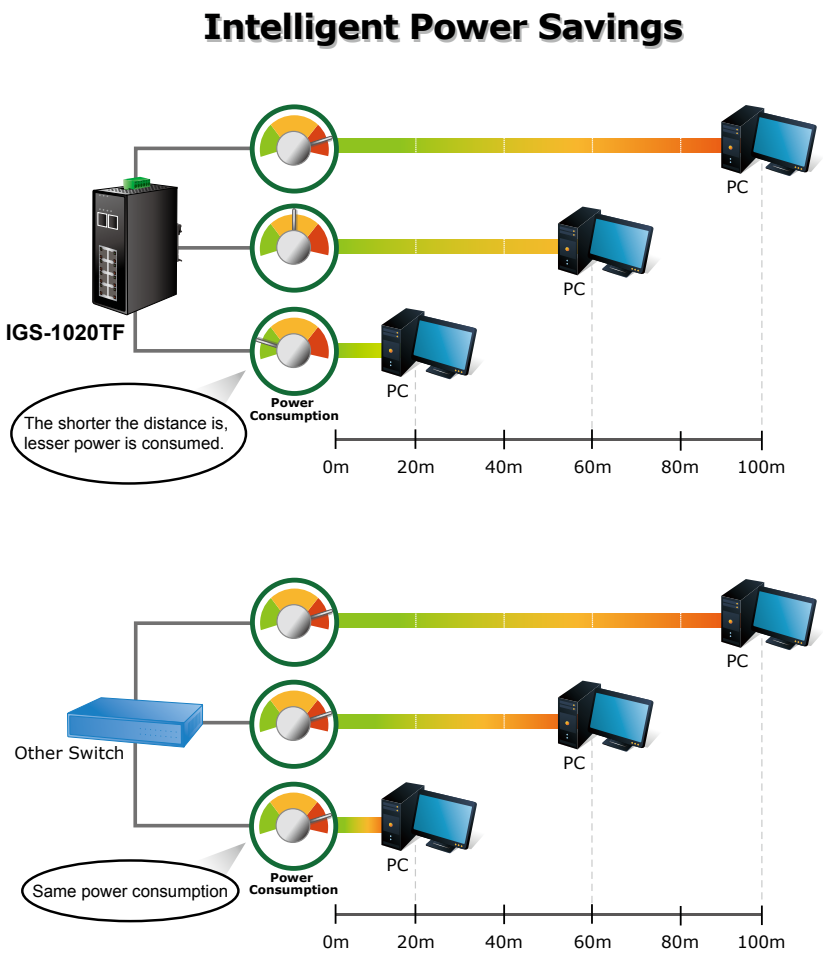
The IGS-1020TF, incorporating advanced green networking technologies and and IEEE 802.3az protocol based power saving, is able to provide power saving up to 50% less energy but maintains high performance efficiently.

- Link Down power saving

The Link Down power saving goes beyond IEEE specifications to automatically lower power consumption for a given port when it is not linked. With the Link Down power saving technology, the IGS-1020TF will automatically adjust power usage of the ports that are shut down or not connected to network device.

- Intelligent power scale based on cable length

Intelligent power scale is an intelligent algorithm that actively determines the appropriate power level based on cable length. When the IGS-1020TF is connected with Ethernet cable shorter than 20m, a device can obtain maximum power saving because the IGS-1020TF would automatically detect the Ethernet cable length and diminish power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy saving.



Robust Protection

The IGS-1020TF provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±4KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

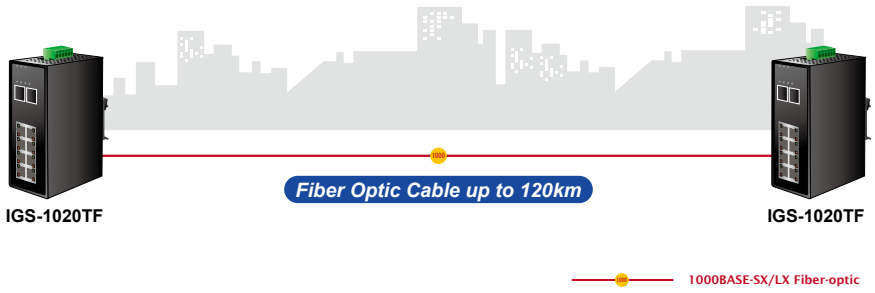
Plug and Power Network Deployment

All of the RJ45 copper interfaces in the IGS-1020TF support 10/100/1000Mbps auto negotiation for optimal speed detection through RJ45 Category 6, 5 or 5e cables. The standard auto-MDI/MDI-X support can detect the type of connection to any Ethernet device without requiring special straight-through or crossover cables.

Applications

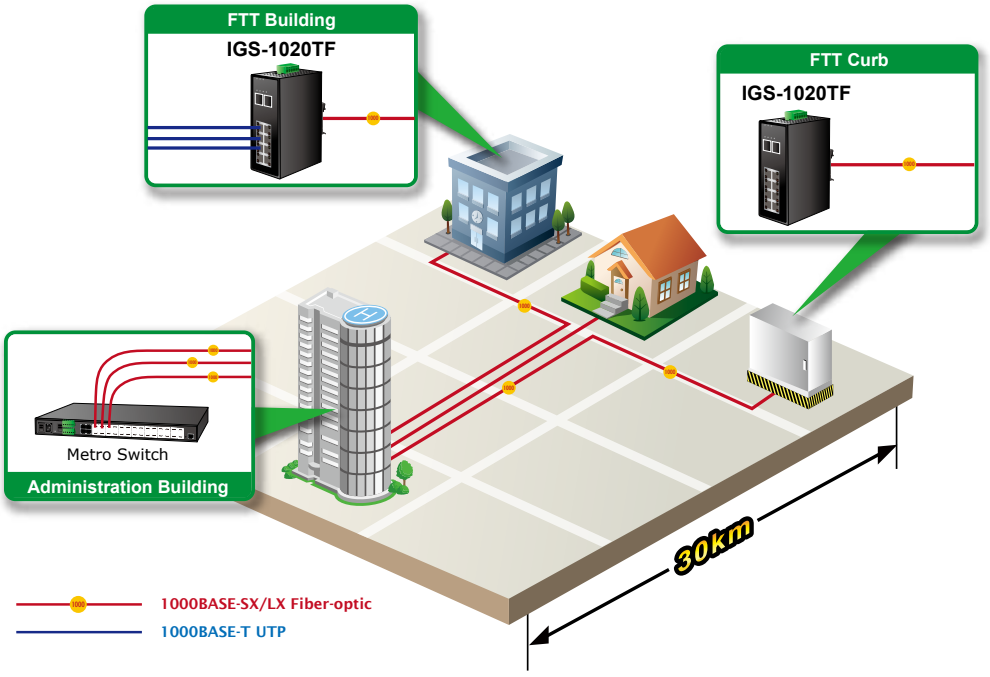
Ethernet Applications with Long-distance Fiber Uplink for Hardened Environment

The IGS-1020TF Industrial Gigabit Ethernet Switch offers full port Gigabit speed. It provides very high reliability and security features to make sure the continuous operation in harsh environments such as control cabinet of transportation, factory, outdoors and places where extreme low or high temperatures can be experienced. Moreover, the IGS-1020TF is also compatible with 100Mbps and 1000Mbps SFP transceivers to provide a strong, stable and long-distance connection and flexible industrial networking deployment.



FTTX Solutions for MAN Application

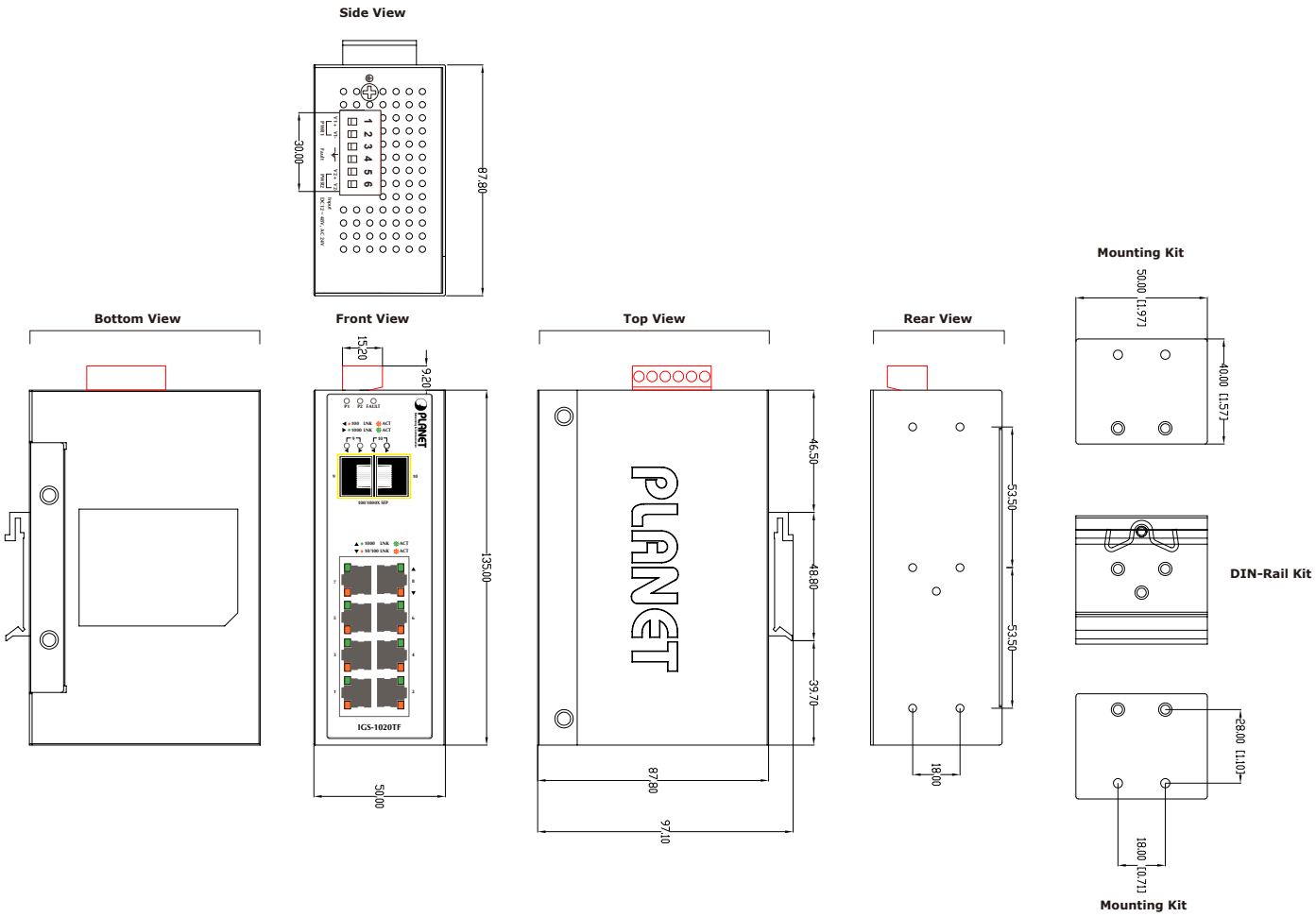
To build a network solution of FTTH (Fiber to the Home) or FTTC (Fiber to the Curb) for ISPs, and FTTB (Fiber to the Building) for enterprises, the various distances of SFP and Bidi (WDM) transceivers are optional for customers. With two dual-speed SFP slots built in, the deployment distance of the IGS-1020TF can be extended up to 120 kilometers (single-mode fiber), which provides a high-performance edge service for FTTx solutions.



Specifications

Model		IGS-1020TF
Hardware Specifications		
Copper Ports		8 x 10/100/1000BASE-T RJ45 TP Auto-MDI/MDI-X, auto-negotiation
SFP/mini-GBIC Slots		2 1000BASE-SX/LX/BX SFP interfaces (Port-9 and Port-10) Compatible with 100BASE-FX SFP
Switch Processing Scheme		Store-and-Forward
Switch Fabric		20Gbps (non-blocking)
Switch Throughput (packet per second)		14.88Mpps@64bytes
MAC Address Table		4K entries
Flow Control		Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Jumbo Frame		9216 bytes
Connector		Removable 6-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for fault alarm; Pin 5/6 for Power 2
Alarm		Provides one relay output for power failure Alarm Relay current carry ability: 1A @ DC 24V
LED Indicator		3 x LED for System and Power: Green: DC Power 1 Green: DC Power 2 Red: Power Fault 2 x LED for Per Copper Port (Port-1~Port-8): Green: 1000 LNK/ACT Orange:100 LNK/ACT 2 x LED for Per Mini-GBIC Interface (Port-9 and Port-10): Green: 1000 LNK/ACT Orange:100 LNK/ACT
ESD Protection		6KV DC
Enclosure		IP30 type metal case
Installation		DIN rail kit and wall-mount ear
Dimensions (W x D x H)		56 x 87 x 135 mm
Weight		540g
Power Requirements		DC 12~48V or AC 24V Redundant power with polarity reverses protection function
Power Consumption/ Dissipation		8.7 watts/29.69BTU
Cable	Twisted-pair	10BASE-T: 2-pair UTP Cat. 3, 4, 5, up to 100 meters 100BASE-TX: 2-pair UTP Cat. 5, 5e up to 100 meters 1000BASE-T: 4-pair UTP Cat. 5e, 6 up to 100 meters
	Fiber-Optic Cable	• 1000BASE-SX : 50/125μm or 62.5/125μm multi-mode fiber optic cable, up to 550m • 1000BASE-LX : 9/125μm single-mode fiber optic cable, up to 10/20/30/40/50/70/120 kilometers (vary on SFP module) • 100BASE-FX : 50/125μm or 62.5/125μm multi-mode fiber optic cable, up to 2 kilometers 9/125μm single-mode fiber optic cable, up to 20/40/60 kilometers (vary on SFP module)
Standards Conformance		
Standards Compliance		IEEE 802.3 Ethernet/10BASE-T IEEE 802.3u Fast Ethernet/100BASE-TX IEEE 802.3ab Gigabit Ethernet/1000BASE-T IEEE 802.3z Gigabit Ethernet/1000BASE-SX/LX IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.1p Cos
Regulatory Compliance		FCC Part 15 Class A, CE
Stability Testing		IEC 60068-2-32 (free fall) IEC 60068-2-27 (anti-shock) IEC 60068-2-6 (anti-vibration)
Environment		
Temperature		Operating: -40~75 degrees C Storage: -40~75 degrees C
Humidity		Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)

Dimensions



Dimensions (unit = mm)

Ordering Information

IGS-1020TF	Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Ethernet Switch (-40~75 degrees C)

Related Products

IGS-620TF	Industrial 4-Port 10/100/1000T + 2-Port 100/1000X SFP Ethernet Switch (-40~75 degrees C)
IGS-801T	Industrial 8-Port 10/100/1000T Gigabit Ethernet Switch (-40~75 degrees C operating temperature)
IGS-10020MT	Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
WGS-4215-8T2S	Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Wall-mount Managed Switch (-40~75 degrees C)

Related SFP Transceivers

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°C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60°C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60°C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60°C
MFB-F120	100	LC	Single Mode	120km	1550nm	0 ~ 60°C
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 75°C
MFB-TF20	100	LC	Single Mode	20km	1550nm	-40 ~ 75°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°C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60°C
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75°C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75°C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 °C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 °C

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60°C
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60°C
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60°C
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60°C
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60°C
MGB-L40	1000	LC	Single Mode	40km	1550nm	0 ~ 60°C
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60°C
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60°C
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60°C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75°C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75°C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75°C
MGB-TL50	1000	LC	Single Mode	50km	1550nm	-40 ~ 75°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-LA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60°C
MGB-LB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60°C
MGB-LA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60°C
MGB-LB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60°C
MGB-LA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60°C
MGB-LB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60°C
MGB-LA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60°C
MGB-LB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	0 ~ 60°C
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75°C
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75°C
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75°C
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75°C
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75°C
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75°C
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75°C
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 75°C

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