Industrial Compact 4-Port 10/100/1000T + 1-Port 100/1000X SFP Gigabit Ethernet Switch

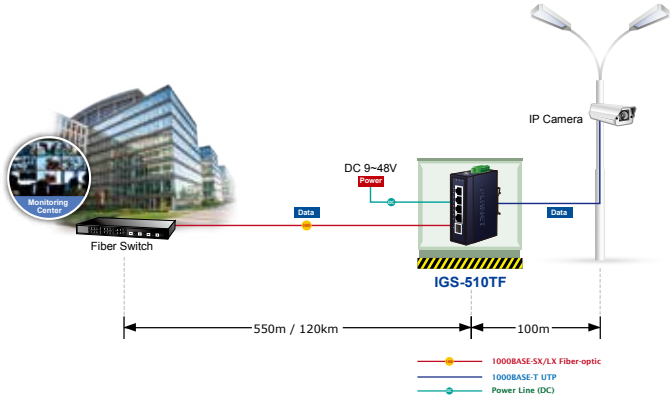
Compact Size for More Practicability and Convenience

PLANET IGS-510TF is an industrial-grade Gigabit Ethernet Switch, featuring **four 10/100/1000BASE-T** copper ports and one **100/1000BASE-X SFP fiber port** and packed in an IP30-rated rugged but compact-size case. Being able to operate under the temperature ranging from **-40 to 75 degrees C** and a wide-ranging redundant power system **(9~48V DC or 24V AC)**, the IGS-510TF provides reliable, stable and continuous long-range data transmission and can be installed in any harsh environment without taking space into consideration.

Fiber-optic Link Capability Extends the Range of Network Deployment

The maximum distance between two IP devices via Ethernet UTP cable is 100 meters. To flexibly extend the deployment range of IP devices, the IGS-510TF's SFP slot supporting **100BASE-FX/1000BASE-X**, SFP modules, and more can reach a transmission distance of up to 120km.

Thus, building a network solution of FTTH (Fiber to the Home), FTTC (Fiber to the Curb) for ISPs or FTTB (Fiber to the Building) for enterprises becomes so easy to users when long-distance deployment is employed. The IGS-510TF can handle extremely large amounts of data in a secure topology linking to a metro switch, backbone or high-capacity server.



Physical Port

- 4-port 10/100/1000BASE-T RJ45 with auto-MDI/MDI-X function
- One SFP slot, supporting 1000BASE-X and 100BASE-FX transceiver dual mode

Layer 2 Features

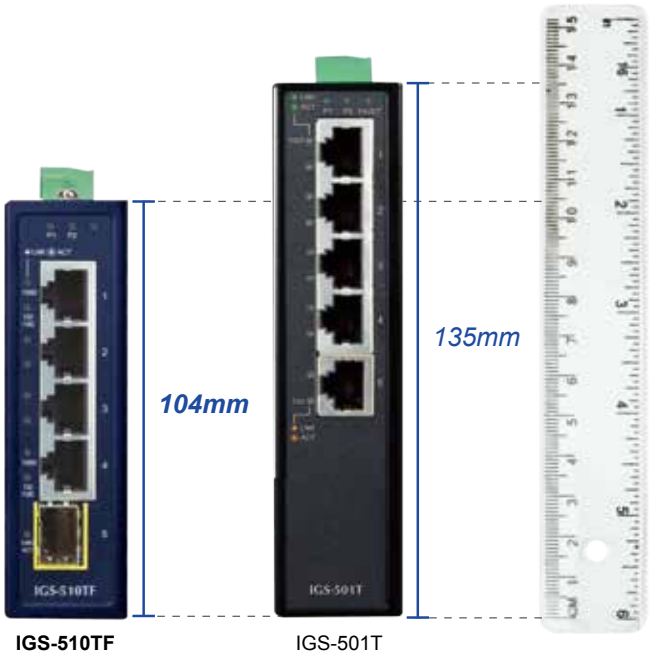
- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T Ethernet standard
- Supports auto-negotiation and 10/100Mbps half/full duplex and 1000Mbps full duplex
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High-performance Store and Forward architecture, broadcast storm control and runt/CRC filtering eliminate erroneous packets to optimize the network bandwidth
- Backplane (switching fabric): 10Gbps
- Integrated address look-up engine, supporting 4K absolute MAC addresses
- 9K jumbo packet size
- Automatic address learning and address aging
- CSMA/CD Protocol

Industrial Case and Installation

- IP30 metal case
- DIN rail and wall-mount designs
- 9 to 48V DC and 24V AC power support, redundant power with reverse polarity protection
- Removable terminal block for master and slave power;
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries

Small but Tough

The IGS-510TF is specifically designed with durable components and strong housing case to operate reliably in electrically harsh and climatically demanding environments like plant floors or curbside traffic control cabinets. With wide operating temperature range of **-40 to 75 degrees C**, the IGS-510TF is ideal for service providers, campuses and public areas to deploy outdoor wireless access points, outdoor IP cameras or IP phones in any places easily and efficiently.

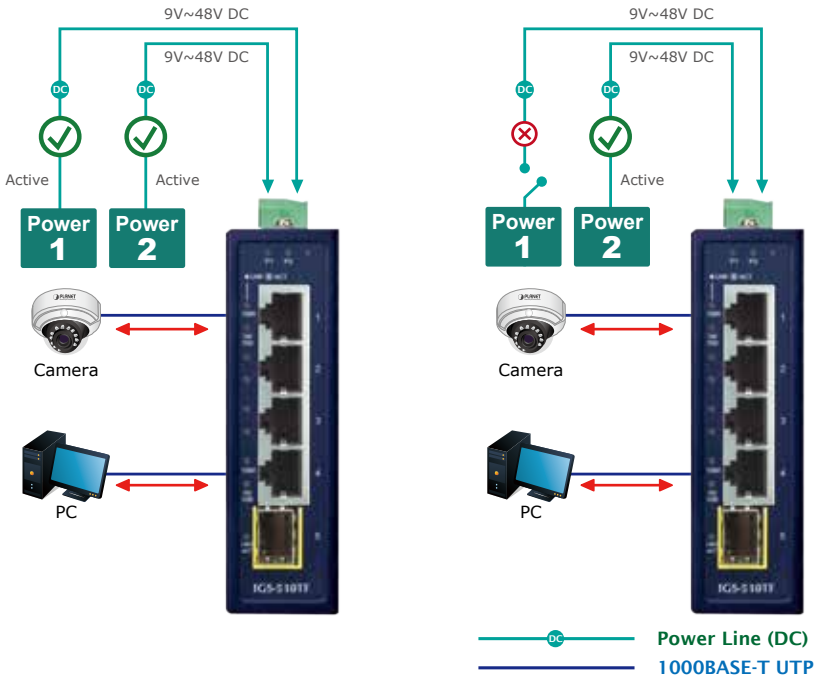


Compact Industrial 5-Port Switch

Dual Power Input for High Availability Network System

The IGS-510TF features a strong dual power input system with wide-ranging voltages (9V~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-510TF via power supply 2 alternatively without any loss of operation.

Non-stop Ethernet Transmission
Dual Power Input with Auto Failover



Low Power Consumption for Green Networking

The IGS-510TF, adopting the advanced green networking technology, provides cable length power saving, and link-up and link-down power saving. These features make the IGS-510TF consume very low power in full load operation mode, which helps conserve energy effectively but maintains high performance efficiently.

With the **Auto Power Saving** and **IEEE 802.3az Energy Efficient Ethernet (EEE)** Protocol, the IGS-510TF can automatically detect cable link status and network traffic, and thus is able to adjust power consumption accordingly. It enables the switch to consume less power when it is less active.

Robust Protection

The IGS-510TF provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±6KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Flexible and Easy Installation with Limited Space

The compact sized IGS-510TF is specially designed to be installed in a narrow environment, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexibly and easily in any space-limited location.

DIN-rail Mounting

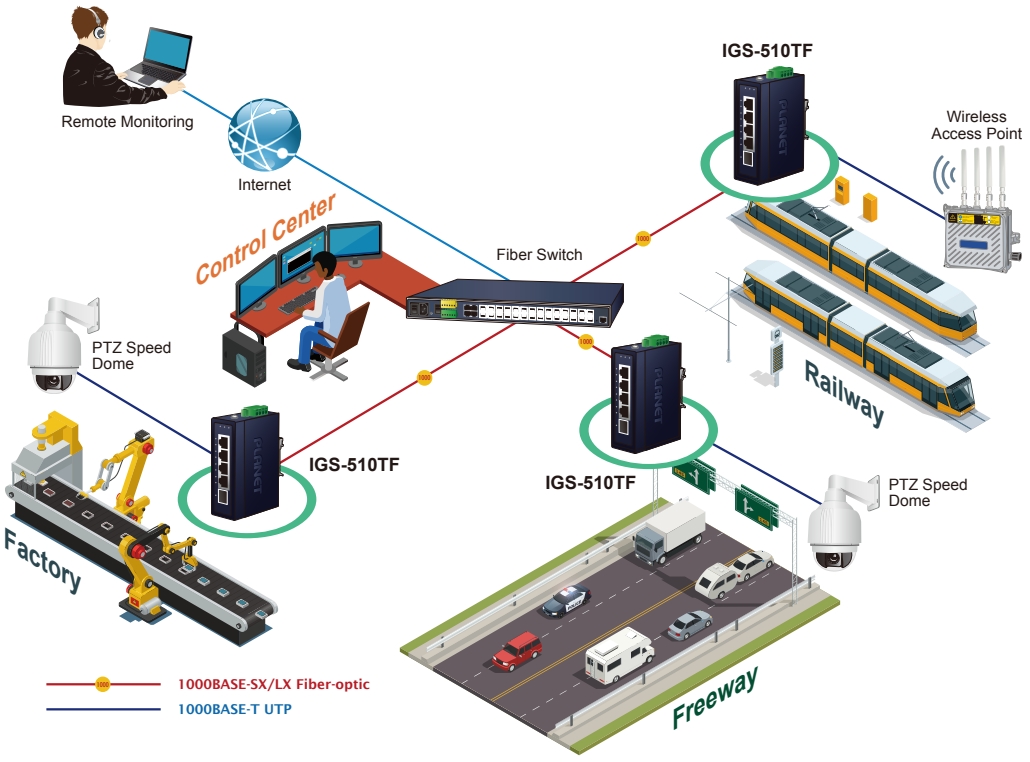
Wall Mounting

Side Wall Mounting
(Space saving)

Application

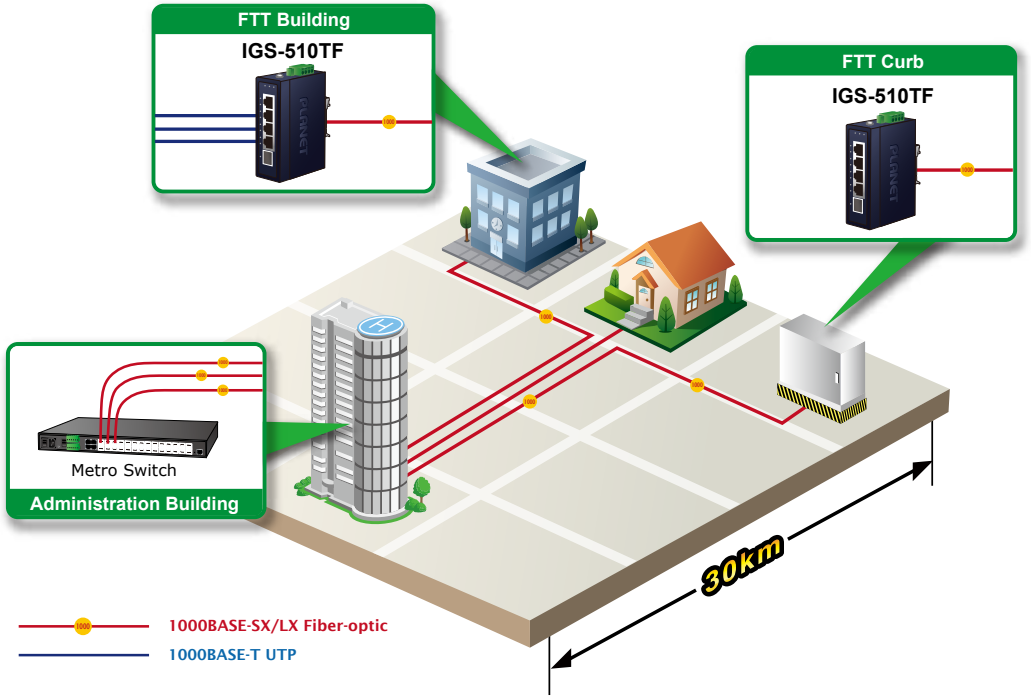
Ethernet Applications with Long-distance Fiber Uplink for Hardened Environment

The IGS-510TF 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-510TF is also compatible with 100Mbps and 1000Mbps SFP transceivers to provide a strong, stable and long-distance connection and flexible industrial networking deployment.



Fiber-optic Networking for ISPs, Enterprises, and Homes

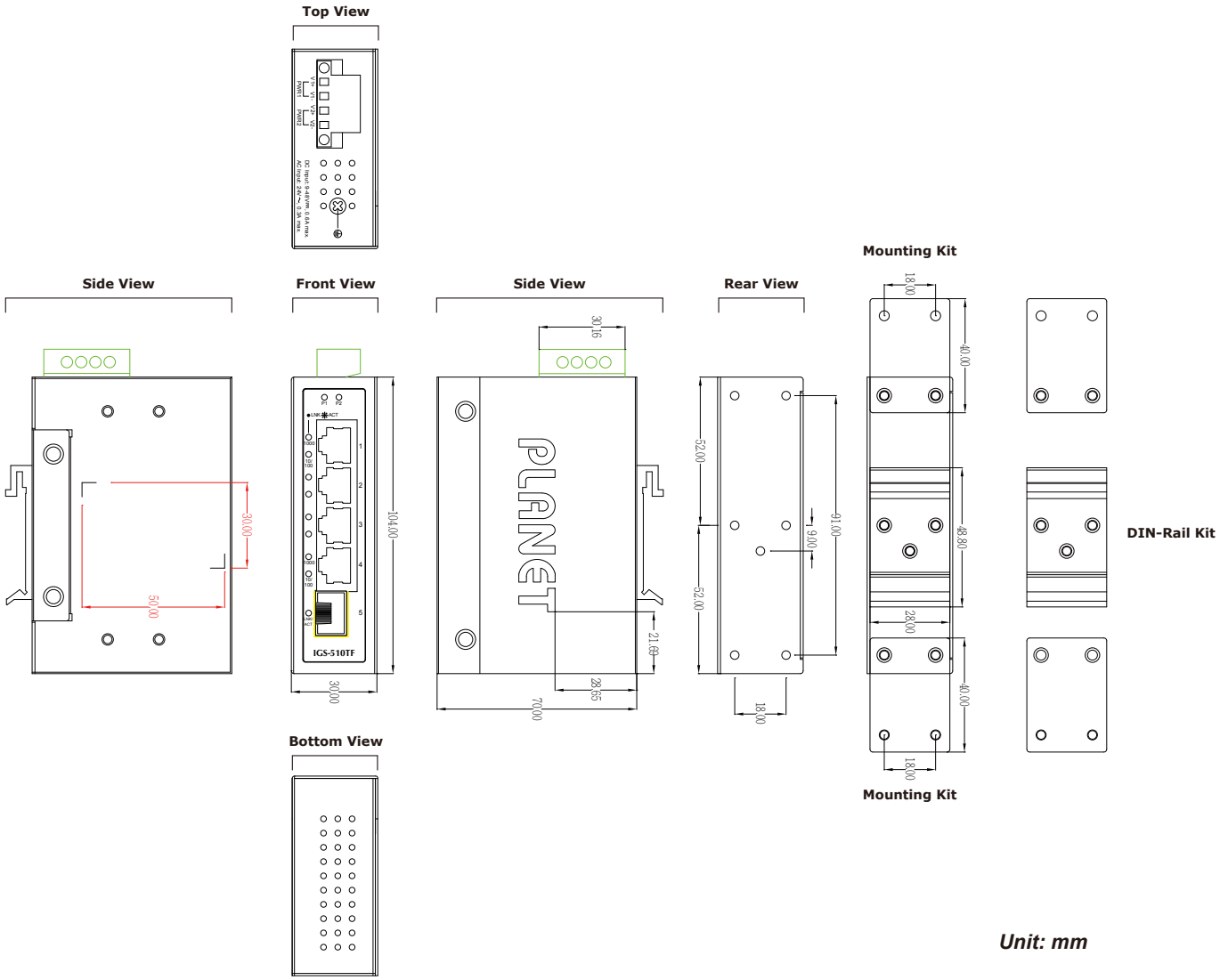
With stable performance of data transmission and easy installation, the IGS-510TF Industrial Gigabit fiber switch can build an ISP network solution of FTTH (Fiber to the Home), FTTC (Fiber to the Curb) for ISPs, or FTTB (Fiber to the Building) for enterprises with small office network environment.



Specifications

Model	IGS-510TF
Hardware Specifications	
Copper Ports	4-port 10/100/1000BASET RJ45 TP auto-MDI/MDI-X, auto negotiation
SFP Slots	1 1000BASE-SX/LX/BX SFP interface Compatible with 100BASE-FX SFP
Connector	Removable 4-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for Power 2
LED	2 x LED for system and power: ■ Green: DC Power 1 ■ Green: DC Power 2 2 x LED for each copper port ■ Green: 1000Mbps LNK/ACT ■ Orange:10/100Mbps LNK/ACT 1 x LED for SFP fiber slot ■ Green: LNK/ACT
ESD Protection	6KV
Power Requirements	9~48V DC, redundant power with reverse polarity protection, 24V AC power support
Power Consumption / Dissipation	4.3 watts/14.67BTU
Installation	DIN-rail kit and wall-mount ear
Enclosure	IP30 metal case
Dimensions (W x D x H)	30 x 70 x 104 mm
Weight	252g
Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Address Table	4K entries
Buffer Memory	1M bits on-chip buffer memory
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Switch Fabric	10Gbps
Throughput (packet per second)	7.4Mpps@64bytes
Jumbo Frame	9K
Network Cables	10/100/1000BASE-T Cat. 3, 4, 5, 5e, 6 UTP cable (max. 100 meters) EIA/TIA-568 100-ohm STP (max. 100 meters)
Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3az Gigabit SX/LX IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.1p Class of Service
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C
Humidity	Operating: 5~90%, Storage: 5~90% (non-condensing)

Mechanical Drawing



Ordering Information

IGS-510TF	Industrial Compact 4-Port 10/100/1000T + 1-Port 100/1000X SFP Gigabit Ethernet Switch

Related Products

IGT-815AT	Industrial Compact 100/1000BASE-X to 10/100/1000BASE-T Media Converter
IGS-500T	Compact Industrial 5-Port 10/100/1000T Gigabit Ethernet Switch
IGS-501T	5-Port 10/100/1000T Industrial Gigabit Ethernet Switch (-40~75 degrees C operating temperature)
IGS-801T	8-Port 10/100/1000T Industrial Gigabit Ethernet Switch (-40~75 degrees C operating temperature)
IGS-1020TF	Industrial 8-Port 10/100/1000T + 2-Port 1000X SFP Ethernet Switch (-40~75 degrees C operating temperature)
ISW-800T	Compact Industrial 8-Port 10/100TX Ethernet Switch (-40~75 degrees C operating temperature)
ISW-501T	Industrial 5-Port 10/100TX Fast Ethernet Switch (-40~75 degrees C operating temperature)
ISW-801T	Industrial 8-Port 10/100TX Fast Ethernet Switch (-40~75 degrees C operating temperature)
MGB-Series Transceiver	1000BASE-SX/LX SFP Transceiver
MFB Series Transceiver	100BASE-FX SFP Transceiver

Available 1000Mbps Modules

MGB-GT	SFP-Port 1000BASE-T Module
MGB-SX	SFP-Port 1000BASE-SX mini-GBIC module - 550m
MGB-SX2	SFP-Port 1000BASE-SX mini-GBIC module - 2km
MGB-LX	SFP-Port 1000BASE-LX mini-GBIC module - 20km
MGB-L40	SFP-Port 1000BASE-LX mini-GBIC module - 30km
MGB-L80	SFP-Port 1000BASE-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000BASE-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 40km
MGB-TSX	SFP-Port 1000BASE-SX mini-GBIC module - 550m (-40 ~ 75 degrees C)
MGB-TSX2	SFP-Port 1000BASE-SX mini-GBIC module - 2km (-40 ~ 75 degrees C)
MGB-TLX	SFP-Port 1000BASE-LX mini-GBIC module - 20km (-40 ~ 75 degrees C)
MGB-TL40	SFP-Port 1000BASE-LX mini-GBIC module - 30km (-40 ~ 75 degrees C)
MGB-TL80	SFP-Port 1000BASE-LX mini-GBIC module - 70km (-40 ~ 75 degrees C)

Available 100Mbps Modules

MFB-FX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km
MFB-F20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km
MFB-F40	SFP-Port 100BASE-FX Transceiver (1310nm) - 40km
MFB-F60	SFP-Port 100BASE-FX Transceiver (1310nm) - 60km
MFB-FA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km
MFB-FB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km
MFB-TFX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km (-40 ~ 75 degrees C)
MFB-TF20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km (-40 ~ 75 degrees C)
MFB-TFA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km (-40 ~ 75 degrees C)
MFB-TFB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km (-40 ~ 75 degrees C)
MFB-TSA	SFP-Port 100BASE-BX Transceiver (Multi-mode/WDM,TX:1310nm RX:1550nm / DDM) - 2km (-40~75°C)
MFB-TSB	SFP-Port 100BASE-BX Transceiver (Multi-mode/WDM,TX:1550nm RX:1310nm / DDM) - 2km (-40~75°C)

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