Industrial 2-Channel Optical Fiber Bypass Switch

To protect the critical fiber optic network from power system failure, PLANET IFB-244 Series is an ultra-fast auto-recovering solution to prevent and maintain fiber network communication during power loss.

The IFB-244 Series is an **industrial-grade optical fiber bypass switch** with built-in **4 duplex LC** or **SC** connectors featuring 2-channel duplex or 4-channel simplex fiber connection with optical bypass function. The optical fiber ports support **100Gbps/40Gbps/10Gbps/1Gbps/100Mbps** fiber connections. It automatically switches optic network traffic to prevent link failure during power loss. It also allows the local network switch to be replaced or removed without network downtime.

Optical Fiber Bypass Mechanism

The IFB-244 Series applies fiber-to-fiber technology to achieve ultra-low losses and ultra-fast switching time. Two of the fiber ports are used to connect to **two remote fiber switches** and the other two fiber ports are used to connect to the **local fiber switch**. The IFB-244 Series and the local fiber Ethernet switch are powered from the same power source.

When the system power is on, the IFB-244 Series operates in the **Normal mode** and forwards Ethernet packets between two remote fiber switches and the local fiber switch.

When the system power failure occurs, the IFB-244 Series operates in the **Bypass mode** that directly forwards Ethernet packet between two remote fiber switches and bypass the local fiber switch.

Once the system power is recovered, the network traffic resumes operation between two remote fiber switches and local fiber switch.

Physical Port

- 2-channel duplex or 4-channel simplex fiber connection with optical bypass function
- Supports 100Gbps/40Gbps/10Gbps/1Gbps and 100Mbps fiber connections
- Available in single mode or multimode
- Available in LC/SC connectors

Optical Fiber Bypass

- Bypass switch time <8ms
- Low return loss
- Throughput not affected and no extra delay
- Increased reliability on critical network links

Industrial Case and Installation

- IP30-rated metal housing
- Redundant dual 9~48V DC or 24V AC power inputs
- DIN-rail and wall-mount designs
- Connective removable terminal block
- Relay output for power failure warning
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries
- Low power consumption with 0.54W

Operation Mode	Power Source	Optical Traffic Route
Normal Mode	Power on	IFB-244 forwards packets between two remote network switches and the local switch
Bypass Mode	Power loss	IFB 244 directly forwards packets between two remote network switches and bypass the local switch

Optical Fiber Ethernet Connection with Optical Bypass Switch

Once system power fails, the IFB-244 series
directly forwards Ethernet packet between two remote switches.

Environmentally Hardened Design

The IFB-244 Series possesses an integrated power supply source with a wide range of voltages (**9 to 48V DC** or **24V AC**) for worldwide high availability applications requiring dual or backup power inputs. Being able to operate under wide temperature range from -40 to 75 degrees C, the IFB-244 Series can be placed in almost any difficult environment.

DIN-rail Mounting

Wall Mounting

Side Wall Mounting
(Space saving)

Robust Protection

The IFB-244 Series 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.

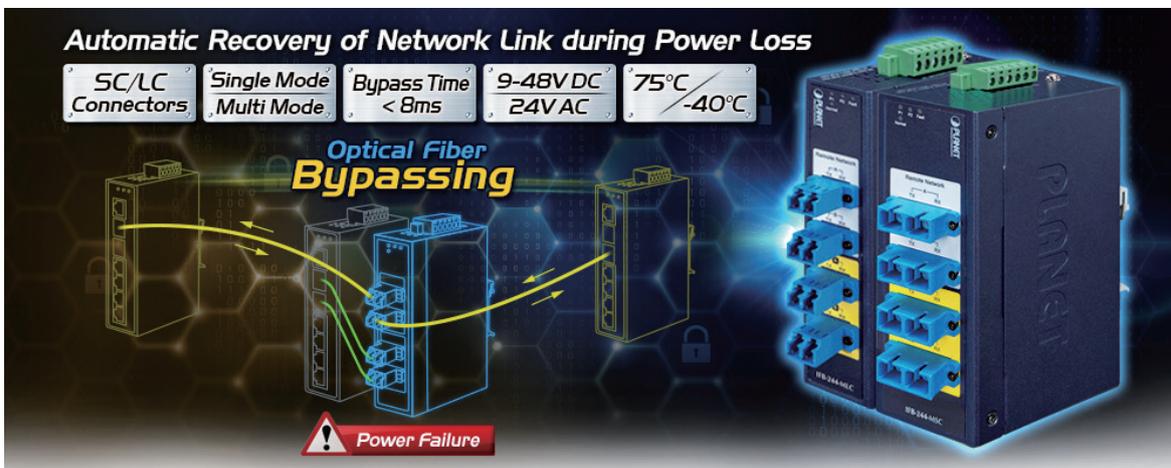*Flexible and Easy Installation with Limited Space*

The IFB-244 Series 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.

Dual Power Input for High Availability Network System

The IFB-244 Series features a strong dual power input system with wide-ranging voltages 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 IFB-244 Series via power supply 2 without any break of operation.

Applications

The IFB-244 Series industrial optical fiber bypass switch can be used in **critical and major optical networks** where fiber link failures are not tolerated, such as in power substation, train and bus station, IP surveillance system, railway monitoring, communication systems, and factory automation.

Dimensions

■ IFB-244-SLC and IFB-244-MLC

Top View

Side View   **Front View**   **Side View**   **Rear View**

Mounting Kit

DIN-Rail Kit

IFB-244-SLC

Mounting Kit

Unit: mm

■ IFB-244-SSC and IFB-244-MSC

IFB-244-MSC

Unit: mm

Specifications

Model	IFB-244-SLC	IFB-244-SSC	IFB-244-MLC	IFB-244-MSC
Hardware Specifications				
Optic Interfaces	4 x Duplex LC	4 x Duplex SC	4 x Duplex LC	4 x Duplex SC
Optic Mode	Single Mode		Multimode	
Optic Wavelength	1310nm & 1550nm		850nm & 1300nm	
Operating Wavelength	1260~1620nm		850nm±40 / 1300nm±40	
Bypass Return Loss	>50dB		>35dB	
Bypass Insertion Loss	Typical: 1.0dB Max: 1.5dB			
Bypass Switching Time	< 8ms			
Speed	100Gbps/40Gbps/10Gbps/1Gbps/100Mbps			
ESD Protection	Air 8kV, Contact 6kV			
Enclosure	IP30 metal case			
Installation	DIN-rail kit and wall-mount kit			
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2			
Alarm	One relay output for power failure. Alarm relay current carry ability:1A@24V DC			
LED Indicator	System: Power 1 (green), Power 2 (green), Fault (red) Normal operation (green)			
Dimensions (W x D x H)	32 x 87 x 135 mm			
Weight	390g	485g	390g	485g
Power Requirements	Dual 9-48V DC with reverse polarity protection 24V AC			
Power Consumption	0.54 watts/1.84BTU			
Cabling	9/125μm		50/125μm	
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)			
Environment				
Operating Temperature	-40~75 degrees C			
Storage Temperature	-40~85 degrees C			
Humidity	5~95% (non-condensing)			

Ordering Information

IFB-244-SLC	Industrial 2-Channel Optical Fiber Bypass Switch – single mode LC connector
IFB-244-SSC	Industrial 2-Channel Optical Fiber Bypass Switch – single mode SC connector
IFB-244-MLC	Industrial 2-Channel Optical Fiber Bypass Switch – multimode LC connector
IFB-244-MSC	Industrial 2-Channel Optical Fiber Bypass Switch – multimode SC connector

GSW-2620HP