

Bangladesh Single-Fiber Bidirectional Intelligent Type



AI Overview

Single-fiber bidirectional (BiDi) SFP transceivers enable simultaneous transmit and receive over a single optical fiber, reducing fiber usage by up to 50% while maintaining high-speed connectivity. Overview of BiDi Technology BiDi SFP transceivers are compact optical modules that use Wavelength Division Multiplexing (WDM) to transmit and receive data simultaneously over a single strand of single-mode fiber (SMF) by assigning different wavelengths for upstream and downstream traffic. For example, one module may transmit at 1310 nm and receive at 1550 nm, while the paired module reverses these wavelengths to ensure full-duplex communication. This design eliminates the need for two separate fibers, making it ideal for fiber-constrained environments.

Key Advantages

- Fiber Efficiency:** Reduces fiber consumption by up to 50%, which is particularly beneficial in urban or campus networks where laying additional fiber is costly.
- Cost Savings:** Fewer fibers mean lower material, installation, and maintenance costs, and reduced need for trenching or duct space.
- Simplified Deployment:** Fewer physical connections reduce potential failure points and accelerate network expansion.
- Compatibility:** Fully compliant with SFP Multi-Source Agreement (MSA) standards, hot-swappable, and compatible with switches, routers, and media converters from major brands.
- Monitoring:** Many BiDi modules feature Digital Diagnostic Monitoring (DDM/DOM) for real-time tracking of optical power, temperature, voltage, and laser bias current, enabling proactive maintenance.

Applications in Bangladesh

BiDi SFP transceivers are suitable for:

- Gigabit Ethernet networks in enterprises and data centers
- Fiber-to-the-Building (FTTB) and metropolitan area networks (MANs)
- Campus networks and metro rings where fiber availability is limited
- Data center interconnects requiring long-distance, high-speed I...

Article Content

OTECH 1.25G SFP Module TX1310nm/RX1550nm BiDi (Single-Mode)

Upgrade your fiber network with the OTECH 1.25G BiDi SFP Module, designed for high-speed and long-distance single-mode fiber transmission. This compact hot-pluggable transceiver features TX at

BiDi SFP Module: A Complete Guide for Fiber Networks

Learn what a BiDi SFP module is, how it works, key types, benefits, and when to use BiDi optics in fiber networks.

Single-fiber Bidirectional Transceivers

Bidirectional transceivers transmit and receive optical signals through a single fiber, saving optical fiber resources. This is useful where fiber resources are scarce

The Complete Guide to BiDi Transceiver

Unlike traditional optical modules that use separate fibers for transmitting and receiving data, BiDi modules accomplish this bidirectional data

The Essential Guide to BiDi Transceivers: Everything You Need to Know

BiDi transceiver, a compact optical transceiver with WDM (wavelength division multiplexing) technology and SFP multi-source protocol (MSA) compliance, allows fast data

10G BiDi SFP+ Optical Module Interface Comparison: SC vs LC

With the increasing demand for high-speed optical communications in data centers, enterprise networks, and carrier networks, 10G BiDi SFP+ optical modules have become a

Bidirectional or BiDi Transceivers Explained

Bidirectional (BiDi) transceivers are SFP transceivers that are able to send and receive data on the same fiber. Without BiDi, data can only travel in one direction on a single fiber, meaning each

What is BiDi Transceiver: A Beginner's Guide

What is a BiDi Transceiver? BiDi transceiver, or Bidirectional or simplex optical transceiver, is an optical module that uses Wavelength Division

Bidirectional (BiDi) WDM Transceivers

In contrast to BiDi, non - BiDi transceivers do not use wavelength division multiplexing to achieve bidirectional communication on a single fiber.

What is the BiDi Fiber Optical Transceivers and How to

Only one fiber is required between the single-fiber bidirectional optical modules, and the two-fiber bidirectional optical module requires two. How to

BiDi SFP: The Complete Guide to Bidirectional SFP Transceivers and ...

BiDi SFP technology offers a cost-effective, fiber-saving, and high-performance solution for modern optical networking. By halving fiber requirements, it enables rapid network expansion in

How does BiDi SFP work?

BiDi SFP (Small Form-factor Pluggable) technology, also known as bidirectional SFP, is a type of optical transceiver that allows for bidirectional

10G BIDI SFP+

10G BIDI SFP+ 6COM offers 10G BIDI modules with transmission distances ranging from 10 to 80 kilometers. These modules are ideal for medium to long-distance

BiDi Optical Modules: Unlocking Single-Fiber

Comprehensive guide on BiDi Optical modules, detailing single-fiber bidirectional connectivity, deployment tips, troubleshooting, and multi-speed

Ac Net ESFPB-8823-20DL 1.25G 20km Single Fiber

What sets the ESFPB-8823-20DL apart is its **single-fiber bidirectional (BiDi) technology**, which enables both transmitting (Tx) and receiving (Rx) signals

Ac Net ESFPB-8823-20DL 1.25G 20km Single Fiber

The **Ac Net ESFPB-8823-20DL** is a high-performance, single-fiber SFP transceiver engineered for reliable, high-speed optical networking with a

FS Community

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

BiDi SFP Module: A Complete Guide for Fiber Networks

A BiDi SFP module is a type of optical transceiver designed for bidirectional communication over a single optical fiber, most commonly single-mode fiber. Unlike conventional SFP modules that require

Why isn't more fiber bidirectional? : r/networking

While yes PON uses bidirectional wavelengths on simplex fiber, it isn't what anyone would consider "BiDi" which is just a single point to point ethernet link with a different color in each direction.

Single-Fiber Bidirectional Transmission and Single-Fiber

This mode saves half of the fiber resources compared to the single-fiber unidirectional transmission mode, but it has a more complex design and requires more complicated operation, management,

Fiber Optic Cable Price in Bangladesh 2026

Fiber cable price in Bangladesh generally varies depending on the brand, number of cores, frequency, light transfer method, cable type, and data transmission rate,

FAQ: What Is Single-Fiber Bidirectional

In Single-Fiber bidirectional mode, multi-wavelength optical signals are transmitted through only one fiber in both receive and transmit directions. This mode is mainly used on the client

SFP modules – transceivers for 1/2/4G fibre channel

BiDi (Bidirectional) SFP – Single-fiber SFP modules for FTTH and fiber-efficient networking, allowing both transmit and receive signals to travel over a single

Intelligent

All-optical network platform, all-optical access, aggregation and exchange □ Large-capacity and high-density design, maximum 128 fiber aggregation, maximum 256 fiber access switch □ Supports up to

Experimental demonstration of 100 Gb/s single-fiber bidirectional ...

Abstract We experimentally demonstrate 100 Gb/s bidirectional transmission over 40 km using a multi-wavelength bidirectional optical sub-assembly (BOSA) based on a single bidirectional multi

The Complete Guide to BiDi Transceiver

Explore more about the BiDi transceiver's working principles, types, applications, and how to choose the right BiDi fiber cables for BiDi modules.

BiDi Transceivers: Single Fiber, Dual Wavelength

Traditional optical communication systems require separate fiber strands for transmit and receive functions, consuming two fibers per link. BiDi

Single-fiber Transceiver & Dual-fiber Transceiver

The single-fiber optical module uses WDM technology to achieve bidirectional transmission in a single optical fiber, improving fiber utilization. The dual-fiber

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.introspec.co.za>

Email: info@introspec.co.za

Phone: +27 73 849 2156

Address: 25 Riebeek Street, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

