

10g Single-Fiber Bidirectional Optical Module



AI Overview

10G BiDi SFP+ modules enable full-duplex 10 Gigabit Ethernet over a single fiber strand using wavelength division multiplexing (WDM). Overview of 10G BiDi SFP+ Technology 10G BiDi SFP+ modules are optical transceivers designed to transmit and receive data over a single strand of single-mode fiber (SMF), effectively halving fiber usage compared to traditional duplex SFP+ modules. They achieve this by using two distinct wavelengths: one for transmitting (TX) and another for receiving (RX). A wavelength division multiplexer (WDM) inside the module separates the signals, allowing simultaneous bidirectional communication over a single fiber. Each BiDi module must be paired with a complementary module at the other end of the link, using the reverse wavelength configuration.

Common Types and Wavelength Pairs

10G BiDi modules are typically categorized by reach and wavelength pairing:

- Short Reach (SR) BiDi Modules:** Designed for multimode fiber (MMF), usually supporting distances up to 300 meters over OM3/OM4 fiber. Wavelength pairs are often 1270nm/1330nm or 1310nm/1490nm.
- Long Reach (LR) BiDi Modules:** Designed for single-mode fiber (SMF), supporting distances from 10 km to 40 km depending on the module and fiber quality. Common wavelength pairs include 1270nm/1330nm or 1310nm/1490nm.
- Extended Reach Modules:** Some vendors offer modules capable of 20 km or 40 km for metro or campus networks, optimized for SMF with low attenuation and dispersion compensation.

Key Features

- Single-Fiber Operation:** Reduces fiber cabling requirements by 50% compared to duplex SFP+ modules.
- Simplex LC Connector:** Uses a single LC connector per module, simplifying cabling and patch panel management.
- Full-Duplex Communication:** Supports simultaneous bidirectional data transfer over one fiber strand.
- DFB Laser and PIN Photodiode:** Ens...

Article Content

Ubiquiti 10 Gbps Bidirectional Single-Mode Optical Module

Ubiquiti 10 Gbps Bidirectional Single-Mode Optical Module Single-mode, simplex, fiber transceiver module. The 10 Gbps Bidirectional Single-mode Optical Module is a simplex transceiver that delivers

Meaning of Optical Module Pull Tap Colors

BIDI SFP Single-fiber Bidirectional Optical Module Pull Tap Color The characteristic of a single-fiber bidirectional optical module is that it can realize signal transmission in two directions

10G BiDi SFP+ Transceivers. Single-Fiber Bidirectional Transmission ...

Find 10G BiDi SFP+ Transceivers. Single-Fiber Bidirectional Transmission at ETU-Link, we are committed to provide professional technical 10G BiDi SFP+ Transceivers.

MikroTik 10G Single-Mode SFP+ Module Pair, 10 km | Getic

The MikroTik S+2733LC10D is a pair of industrial-grade 10G SFP+ modules designed for single-mode fiber links over distances of up to 10 km. The modules are intended for networks that need 10G

OPTICAL MODULES FOR HUAWEI S SERIES SWITCHES

Single-mode optical modules are used with single-mode fibers. Single-mode fibers support a wide band and large transmission capacity, and are used for long-distance transmission.

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for

10G BiDi SFP+ 20km Tx1270/Rx1330 | €16.33 | EDGE Optical Solutions

10GBASE-BX20 10G BiDi SFP+, 20km single fiber, Tx1270/Rx1330nm, 9dB budget, DOM. Matched-pair module. EU stock + lifetime warranty. €16.33.

SFP+ BiDi 10G Guide: Single Fiber 10G Optical Transceivers

Learn what SFP+ BiDi 10G is, how single-fiber 10G transceivers work, key specs, use cases, and how to choose the right BiDi module.

Ubiquiti 10 Gbps Bidirectional Single-Mode Optical Module

Single-mode, simplex, fiber transceiver module. The 10 Gbps Bidirectional Single-mode Optical Module is a simplex transceiver that delivers up to 10 Gbps speed over distances up to 10 kilometers.

10G Bidirectional Single-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 10 km using single-mode fiber with a simplex LC UPC connector.

Cisco 10GBASE SFP+ Modules Data Sheet

Cisco SFP-10G-BX40D-I and SFP-10G-BX40U-I (for 40Km single-fiber bidirectional applications) The Cisco SFP-10G-BX40D-I and SFP-10G-BX40U-I SFPs operate on a single strand

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for data centers, enterprise wiring closets, Internet Service

10G Bidi SFP+ Modules Selection Guide

Choose the right 10G Bidi SFP+ Modules by checking compatibility, distance, wavelength pairing, and reliability for optimal network performance.

SFP Module Transceivers, Manufacturer & Supplier

The 10G SFP+ dual-fiber optical module is a small, pluggable optical transceiver with a dual-fiber bidirectional design. It uses two independent optical fibers to

Alternatives and similar models for SFP+ 10G Transceiver CBO SFP-10G

Summary description: CBO SFP-10G-BX-D is an SFP+ 10G fiber optic transceiver designed for single-channel 10 Gigabit Ethernet links. It provides a compact hot-pluggable interface for fiber connections

10G SFP+ BiDi 10~80km Single-fiber Bidirectional

The GIGALIGHT's 10G BiDi SFP+ series of optical transceiver modules are widely used in 10G Ethernet and Optical Transport Networks (OTN OTU2e), and are

Comprehensive Guide to FS 10G BiDi SFP Modules

FS 10G BiDi SFP+ modules are a powerful tool for network engineers seeking to boost bandwidth without doubling fiber investment. With their compact form factor, reduced power draw,

Guide to 10G BiDi SFP+ Optical Transceivers

In this guide, we dive into Fibrecross's portfolio of 10G SFP+ Optical Transceivers, explain how BiDi optics work, compare module options, and share best practices

10Gtek a Pair of 10G SFP+ Bidi Transceiver, LC Single

10GBASE-BIDI Bidirectional SFP+ to single LC Optical transceiver module, Single Mode, Wave length: Up: TX1270nm/RX1330nm; Down:

What Is A Single-Fiber BiDi Transceiver?--ETU-LINK

When planning a fiber optic network, one key decision is choosing between single-fiber (BiDi) and dual-fiber optical transceivers. This guide from ETU-Link explains their differences, advantages, and how to

Optic Modules Datasheet

Features and Benefits The following table lists the different pluggable optic modules and supported platforms, along with the technical specifications for each.

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco® 10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise

Contact Us

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