

Fiber Optic Transceiver Single-Mode Dual-Port



AI Overview

A single-mode dual-fiber dual-port transceiver uses two separate fibers—one for transmitting (TX) and one for receiving (RX)—providing high stability and long-distance communication over a duplex LC interface.

Overview

A single-mode dual-fiber transceiver is designed for long-distance optical communication, typically over tens of kilometers. It uses two separate fibers: one dedicated to transmitting data and the other to receiving data, which ensures minimal signal interference and robust performance for high-bandwidth applications . The transceiver converts electrical signals from network devices into optical signals and vice versa, maintaining signal integrity over long distances .

Key Features

- Dual-port design: Features two ports, TX and RX, corresponding to the two fibers. This duplex configuration aligns with standard network designs and simplifies cabling .
- Single-mode operation: Optimized for long-distance transmission, typically using wavelengths such as 1310 nm or 1550 nm .
- Duplex LC interface: Standard connector type for dual-fiber transceivers, allowing easy integration with existing fiber infrastructure .
- High reliability: Dual-fiber design reduces crosstalk and signal degradation, making it suitable for backbone networks, campus networks, and metro deployments .

Article Content

Differences Between Single-mode & Multimode Fiber Optic Transceivers ...

The transmission distance of multimode fiber optic transceiver is less than that of the single-mode transceiver due to

Difference Between Single and Dual Fiber Optical Transceivers

Know the key differences between Single and dual-fiber optical transceivers for efficient network deployment and

What is the difference between single fiber optical module and dual ...

The single-fiber optical module is an optical module product with only one optical fiber port. It can transmit and receive

Syrotech 20KM 1.25G 1310 Single Mode Single Fiber SFP Module

The SFP-BIDI transceivers are high performance, cost effective modules supporting dual data-rate of 1.25Gbps/1.0625Gbps and

Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet

The 1000BASE-EX SFP operates on standard single-mode fiber-optic link spans of up to 40 km in length. A 5-dB

SEL-2829 Single-Mode Fiber-Optic Transceiver/Modem

Improve safety, signal integrity, and reliability by using two optical fibers instead of wire to transfer

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Choosing the Right SFP: Single Fiber vs Dual Fiber

What Is a Dual Fiber SFP? Dual fiber SFPs are the traditional and more widely used type of optical transceivers.

Ethernet-to-Fiber Media Converters

Moxa's Ethernet to Fiber media converters feature innovative remote management, industrial-grade reliability, and a flexible, modular

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

Understanding BIDI SFP Optical Transceiver Modules

A BiDi optical module is a single-fiber bidirectional optical module, or BiDi (Bidirectional). Conventional modules are

Single Mode SFP vs Multimode SFP: What the Differences Are

Get an expert's perspective on single mode SFP vs multimode SFP. Learn the real-world differences and how to

Complete Guide to Choosing the Right 100M Optical Transceiver

This guide will demystify the key selection criteria— Single-mode vs. Multi-mode and Single-fiber vs. Dual-fiber —to

SFP Optical Transceiver | SFP Optical Module | Perle

Perle Protocol and Rate-transparent Media Converters provide conversion between different wavelengths, multimode and single

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Fiber Modules

Grandstream Network offers a wide variety of fiber modules. All of them are hot-pluggable small-form factor transceiver modules

Single-mode vs Multimode SFP 2026: Fiber Types and distances

A guide to single-mode vs multimode SFP modules. Covers fiber types, wavelengths, distances, BiDi, CWDM/DWDM,

Single-mode vs. Multimode Transceivers: How Do You Choose?

Most fiber systems use a transceiver, which combines a transmitter and receiver into a single module, using fiber

NVIDIA MMS4A00 1600Gbps, 2xDR4, Twin-port OSFP, 2xMPO,

The NVIDIA MMS4A00 is a 1600Gb/s 2xDR4, single mode optical transceiver supporting the XDR 800Gb/s InfiniBand

Single Mode SFP Transceiver: Complete Guide Explained

Learn what a single mode SFP transceiver is, how it works, key specs, common types, and real-world use cases for long-distance

Optical Transceivers Datasheets

Browse Smartoptics optical transceivers with flexible search and filtering options across a range of bit rates, form factors, media

Gigabit SFP Module: A Complete Guide to 1G SFP

A gigabit SFP module is a hot-pluggable transceiver designed to deliver 1Gbps Ethernet connectivity over

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