

Fiber optic transceiver single-mode single-fiber which one is transmitting a or b



Article Overview

In a single-mode, single-fiber transceiver, the side labeled TX (or sometimes “A”) is the transmitting end, while RX (or “B”) is the receiving end.

How Single-Fiber Transceivers Work

Single-fiber transceivers, also called bi-directional (BiDi) SFPs, use one optical fiber to both transmit and receive data. They achieve this by employing different wavelengths for transmission and reception—for example, 1310nm for TX and 1550nm for RX, or vice versa depending on the module type . This allows a single strand of fiber to carry data in both directions simultaneously.

Identifying the Transmitting Side

- TX (Transmit) Port: This is the port that sends optical signals out. In most modules, this is labeled as TX or sometimes A.
- RX (Receive) Port: This port receives incoming optical signals and is labeled RX or sometimes B. When connecting two single-fiber transceivers, the TX of one module connects to the RX of the other, and vice versa. This ensures proper bidirectional communication over a single fiber .

Practical Notes...

Article Content

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The Difference Between Single/Dual Fiber and Single/Multi-Mode

Single fiber modules—often called bidirectional (BIDI) transceivers—transmit and receive signals over a single optical

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Single Strand Fiber Solution – Is It Right for You?

For a long time, fiber optic communication required two strands of fiber to accomplish full-duplex transmission—one

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

Transmitting Rates and Range — Both the single-mode and multimode fiber optic transceiver can handle the 10G

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The Difference Between Single/Dual Fiber and Single/Multi-Mode Optical ...

As fiber optic networks continue to evolve, selecting the right optical transceiver becomes increasingly important.

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What is Optical Transceiver: A Beginner Guide (2024)

Single-mode fibers (SMF) have a small core size and can transmit light in only one mode with a small dispersion, so

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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

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The difference between single-mode and multi-mode fiber optic transceivers

Single fiber is a single node transmission, so it is suitable for the transmission of long-distance trunk lines and

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What is the difference between single mode single fiber and

This configuration employs two different wavelengths, typically one for upstream and another for downstream communications,

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Understanding Single-mode and Multi-mode Optical Modules and Optical ...

Conclusion: In conclusion, single-mode and multi-mode optical modules and fibers serve distinct purposes in sfp optical module

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Single Mode vs. Multi Mode Fiber: Key Differences Explained

Explore the differences between single mode and multi mode fiber optics. Understand their dimensions, transmission rates,

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Can Single Mode Fiber Transmit And Receive Simultaneously

Fiber optic cabling has completely changed how we transmit and receive data, audio, and video signals over long

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Difference Between Single vs Dual Fiber Optical Transceivers

1-From the appearance: They differ in the number of ports. The dual type has two ports, while the single type has just one. 2-About

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Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

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Multi-Mode vs Single-Mode Transceivers | Complete Comparison

Multi-mode vs single-mode fiber transceivers explained. Learn the key differences, distance capabilities, and

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Single-mode optical fiber

Unlike multi-mode optical fiber, single-mode fiber does not exhibit modal dispersion. This is due to the fiber having such a small cross

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Single Fibre vs Dual Fibre Transceivers: Which One to Choose

Two single fibre transceivers can easily be connected with one fibre patch cable. The BIDI transmits and receives

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

The demand for advanced optical communication is growing with increased networking. BiDi transceiver, a compact

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Choosing the Right SFP: Single Fiber vs Dual Fiber

Limited Compatibility Not all network devices support single fiber SFPs. Compatibility checks are essential before

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Fiber Polarity Basics | Fluke Networks

Fiber polarity is the direction that light signals travel from one end of a fiber optic cable (link)

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Bi-Directional (BiDi) Transceivers Explained

Fiber optic Cabling technology is the backbone of modern networks, transmitting massive amounts of data at the

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PART I: CHOOSING THE RIGHT TRANSCEIVER FOR YOUR

Fiber optic transceivers are essential in today's networks and advanced developments in transceiver technology will continue to meet

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Difference Between Single and Dual Fiber Optical Transceivers

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

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Single-mode vs Multimode SFP: What's the Difference?

Discover the differences between single-mode and multimode SFP transceivers.
Learn which one suits your network

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Intro to Networking

Opposed to Multi-Mode fiber optic cabling, Single-Mode has a much smaller core diameter which limits the width of the wavelength.

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Fiber-optic communication

An optical fiber patching cabinet. The yellow cables are single-mode fibers; the orange and blue cables are

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Can one fiber be used to transmit and receive signals?

Yes, one fiber can be used to transmit and receive signals. Have you heard of the WDM technology? This technology

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Single Fiber vs Dual Fiber Transceivers Understanding the Key

Single fiber transceivers, like the Bidi Transceiver, use one fiber for bidirectional data, while dual fiber transceivers

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How to put single fiber optical transceiver a and b?

The ab end of the fiber optic transceiver is the transmitting end (a end) and the receiving end (b end), and the two ends

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Understanding Fiber Optics - Your Quick Guide to SFP Transceivers

Single-mode SFP transceivers are designed to transmit signals over long distances, while Multimode SFP transceivers are specially

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Single -mode fiber transceiver and multi -mode fiber transceiver

Single-mode fiber (SMF) transceivers and multi-mode fiber (MMF) transceivers are both types of optical transceivers

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

Multimode fiber and singlemode fiber When comparing singlemode vs. multimode transceivers in terms of laser

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