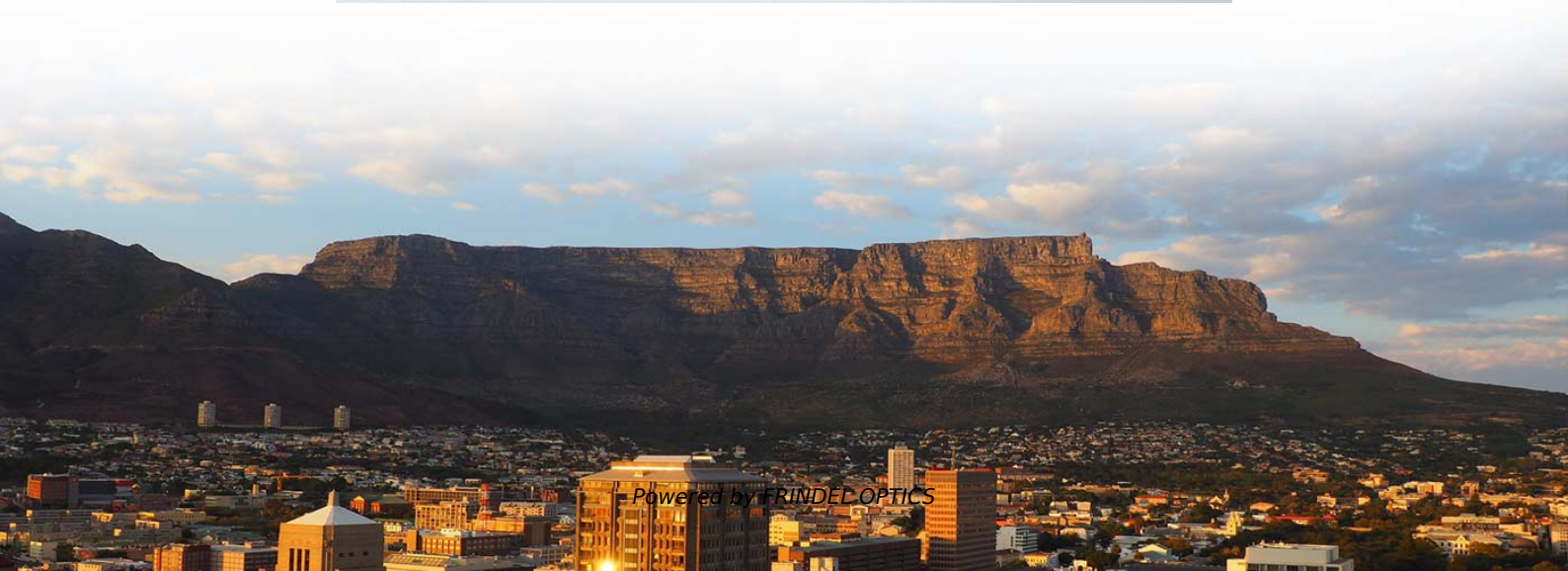


ODM Single-fiber Bidirectional LPO





Overview

It enables Ethernet-like links with 1, 2, 4, or 8 lanes for data centers, using low power, high port density, low cost, and low latency pluggable transceiver modules in form factors such as QSFP, QSFP-DD, and OSFP. The 100G-DR-LPO specification by the LPO (Linear Pluggable Optics) MSA defines 100 Gb/s/lane 53. 125 GBd PAM4 optical interfaces, optical links using standard single-mode fiber with up to 500 m reach, and host-module electrical interfaces for hosts with DSP based SerDes and RS(544,514) FEC. Mountain View, CA - August 18, 2025 - Lightmatter, the leader in photonic (super)computing, today announced a groundbreaking achievement in optical communications: a 16-wavelength bidirectional Dense Wavelength Division Multiplexing (DWDM) optical link operating on one strand of standard. Traditional OLP protects 4-core optical fiber, but in many places, due to insufficient optical fiber resources, it is impossible to provide excessive optical fiber resources and optical line redundancy protection. According to the LPO MSA, an LPO solution offers power savings for optical interconnect by removing the digital signal processing (DSP) function from the pluggable optical module.



ODM Single-fiber Bidirectional LPO



LPO MSA Announces Release of Specification for Linear Pluggable

This specification is a significant milestone for both the LPO MSA and networking industry. The 100G-DR-LPO specification has been validated by extensive member interoperability

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BiDi Single-Fiber Bidirectional Optical Module Details

The interface of optical module is mainly divided into single-fiber bidirectional BiDi, dual-fiber bidirectional (Deplx) and other types. In WDM system, the line transmission method mainly

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LPO MSA Specification

It builds on IEEE 802.3 and OIF CEI-112G-LINEAR-PAM4 specifications. It enables Ethernet-like links with 1, 2, 4, or 8 lanes for data centers, using low power, high port density, low cost, and low latency

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Optical Splitter for Single-Fibre Bidirectional Transmission

Optical Splitter for Fiber Protection, LC/UPC, Pluggable Module Splitter needs to be used together with OLP to compose BIDI OLP. The working mode of BIDI is dual transmitting and selective receiving.



Lightmatter Achieves 16-Wavelength Bidirectional Link on Single

MOUNTAIN VIEW, Calif., Aug. 19, 2025 -- Photonic supercomputing company Lightmatter has achieved a 16-wavelength bidirectional dense wavelength division multiplexing (DWDM) optical link

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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 and

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Lightmatter Achieves World-First 16-Wavelength Bidirectional Link on

Lightmatter's Passage technology delivers an unprecedented 800 Gbps bidirectional bandwidth (400 Gbps transmit and 400 Gbps receive) per single-mode fiber for distances of several

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Optical Splitter for Single-Fiber Bidirectional Transmission

Optical Splitter is a product that is used in the protection of network transmission line. In single fiber bidirectional system, it can be used with Optical Line Protection Switch(OLP) to automatically switch

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WebiTelecomms Cabling

Single-fiber Transceiver & Dual-fiber Transceiver

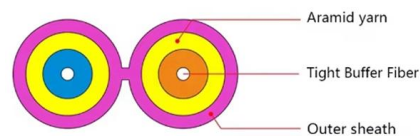
Single-fiber optical modules use only one optical fiber for bidirectional transmission, which has space advantages. The dual-fiber optical module uses two optical

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Single-Line Bidirectional Optical Add/Drop Multiplexer

A new type of passive single-line bidirectional optical add/drop multiplexer (SBOADM) is proposed and experimentally demonstrated. When the

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Optical Demultiplexer/Multiplexer (ODM)

Supports CWDM and DWDM (100GHz/75GHz/50GHz) applications. Supports various application scenarios such as single fiber unidirectional, single fiber bidirectional, and dual fiber bidirectional.

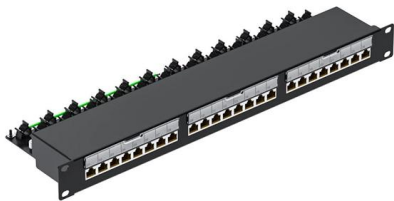
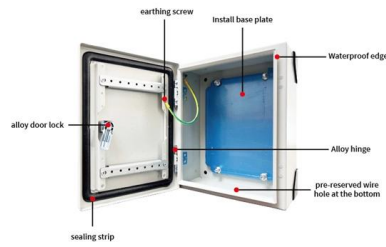
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LPO MSA releases Linear Pluggable Optical Modules

According to the LPO MSA, an LPO solution offers power savings for optical interconnect by removing the digital signal processing (DSP) function from

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Lightmatter Achieves World-First 16-Wavelength

"Our 16-lambda bidirectional link is an architectural leap forward. Hyperscalers can achieve significantly higher bandwidth density with standard

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The Essential Guide to BiDi Transceivers: Everything

How Does BiDi Transceiver Work? BiDi transceivers, short for Bidirectional Small Form-Factor Pluggable transceivers, operate based on the

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Linear Drive Pluggable Optics

Eoptolink offers a full portfolio of LPO optics for OSFP, OSFP-RHS, QSFP-DD and QSFP112 transceivers. At ECOC 2023, Eoptolink will be conducting an interop demo to highlight

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Exploring WDM, DWDM, CWDM, and BiDi Transceiver

Introducing a new fiber optic infrastructure, while beneficial, can incur substantial costs, prompting the need to explore alternative options. BiDirectional

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BiDirectional Single mode fiber SFP

I have been trying to track down a pair of SFP's to run bi-directionally over a single strand of single mode fiber. I found this model MFEBX1 that will TX at 1310nm and RX at 1550nm, but I

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Lightmatter Achieves World-First 16-Wavelength

While commercial bidirectional (BiDi) transmission on a single fiber has been limited mainly to two wavelengths, achieving 16 wavelengths (also

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Single-Fiber Bidirectional Optical Data Links with

Using a single butt-coupled multimode fiber (MMF), low-cost bidirectional communication in half- and even full-duplex mode is demonstrated.

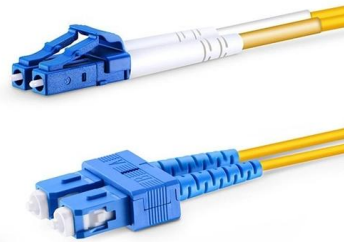
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A Faster Future with Linear Pluggable



The LPO MSA's goal was to create an open standard that would enable broad market adoption of linear pluggable fiber optic links and define the

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1G BiDi SFP Module Selection Guide: Maximize Fiber

Running new fiber is expensive and disruptive. This is where BiDi (Bidirectional) SFP optical modules become a game-changer, especially the

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Single Fiber vs Dual Fiber in WDM Systems: Which Architecture Is

? What Is Single-Fiber WDM and How Does It Work? Single-fiber WDM (also known as bidirectional or BiDi WDM) uses one physical optical fiber strand to transmit and receive signals

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BiDi Optical Modules: Unlocking Single-Fiber

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

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Single Fiber vs Dual Fiber Transceivers Understanding

Single fiber transceivers, like the Bidi Transceiver, use one fiber for bidirectional data, while dual fiber transceivers require two fibers for separate TX

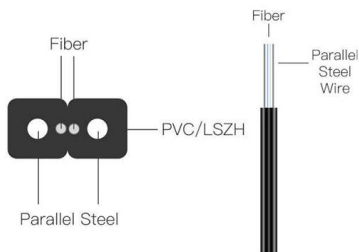
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Board for single fiber bidirectional line protection on LC-OLP

In response to the shortage of optical fiber resources and the demand for redundant protection of optical lines, our company has developed BIDI OLP equipment to solve the problem of optical line protection

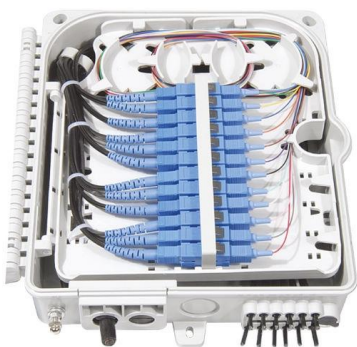
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The Complete Guide to BiDi Transceiver

What Is BiDi Transceiver? BiDi transceivers have become synonymous with reliable and high-performance networking, which can achieve

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FMT-BDOLP DATASHEET , FS

Splitter & BIDI OLP only requires two optical fibers to implement the optical path protection for the single fiber bidirectional transmission. When the main fiber fails, the receiving end automatically switches to

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Lightmatter Unveils 16-Lambda Bidirectional Optical Link

Lightmatter introduced a 16-wavelength (?) bidirectional Dense Wavelength Division Multiplexing (DWDM) link that operates on a single strand of

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For datasheets, pricing, or custom fiber access solutions, please visit:
<https://frindel.es>