

Optical Connectivity Intelligent Module





Overview

The new module incorporates up to sixteen 25 Gbps x 4 Samtec FireFly™ optical transceivers offering 1. The module supports Data Center, HPC, and FPGA-to-FPGA protocols including Ethernet, InfiniBand™, Fibre Channel, PCI Express®, and CXL®. Co-packaged optics (CPO) (Figure 1) increases bandwidth by exchanging FPPs for small, high-density connectors. To address this, Macom and NVIDIA first proposed Linear-drive Pluggable Optics (LPO) in 2022. XPO represents a new class of optical pluggable module designed specifically for next-generation AI data center fabrics. Being an industry group uniting representatives of the data and optical worlds, OIF's purpose is to accelerate the deployment of interoperable, cost-effective and robust optical internetworks and their associated technologies. Cisco Routed Optical Networking is designed to offer a simplified architecture to scale Data Center Interconnect (DCI) and create opportunities to reduce operating costs and lower energy consumption.



Optical Connectivity Intelligent Module



LightCounting :: Scale-up networks in AI Clusters is a

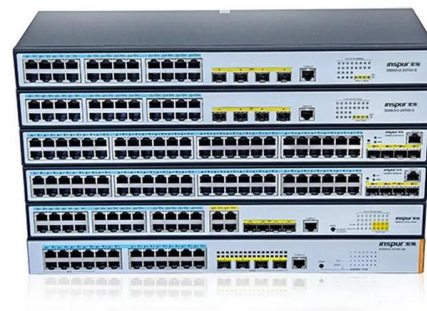
A surge in AI development created a new wave in demand for optical connectivity in 2023-2025 and it will sustain the market's growth through 2030. The Figure below

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OFC 2025: TeraSignal first with 4x200G intelligent TIA

TeraSignal, has launched the TS9801/02, which it claims is the world's first quad 200G PAM-4 linear Transimpedance Amplifier (TIA) with TSLinkTM

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Solutions , Nokia

Nokia is creating the underlying technologies driving the AI supercycle. As AI adoption scales, network infrastructure faces new demands for performance,

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White Paper: Management of Smart Optical Modules

For smart optical modules as defined in this white paper, the new paradigm proposes utilization of a high speed, packet-based management channel between module and remote



Enabling Optical Connectivity in AI/ML System Topologies

The new module incorporates up to sixteen 25 Gbps x 4 Samtec FireFly(TM) optical transceivers offering 1.6 Tbps aggregate throughput. The

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White Paper: Management of Smart Optical Modules

In this white paper we explore how the DWDM functions, parameters, and operational aspects of "smart" optical pluggable modules can be handled more efficiently in order to deal with the

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HMS Networks

HMS creates products that enable industrial equipment to communicate and share information with software and systems. In short: Hardware Meets Software(TM).

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The Evolution of Optical Modules: Powering the Future

Enter optical modules, which leverage the power of light to transmit data efficiently over long distances, driving the next generation of technological

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Intel Demonstrates First Fully Integrated Optical I/O Chiplet

Intel Corporation's Integrated Photonics Solutions (IPS) Group has demonstrated the industry's first fully integrated optical compute interconnect

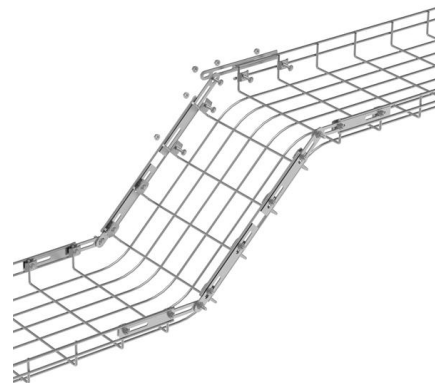
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Optical Interconnect Technology Analysis: LPO, NPO, CPO

Exploring optical interconnects for AI data centers: LPO for low-power, short-distance links, NPO for high-density, near-package connections,

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Optical Modules in Intelligent Computing Scenarios

Optical Modules in Intelligent Computing Scenarios In the AI era, Huawei provides a full range of GE to 800GE optical modules, featuring three major capabilities: Spanning (ultra-long transmission), Stable

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Optical networks



An optical transport network is a high-speed communication system that sends light signals over fiber-optic cables to move large amounts of data across long

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The Application of Optical Modules in AI Technology

Optical modules reduce power consumption and improve system stability, allowing AI systems to run longer with fewer interruptions. These

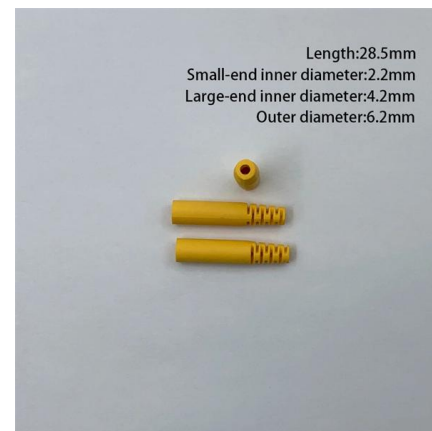
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Development trend of optical

In switch network scenarios, the focus of chip-to-chip optical interconnects is on Co-Packaged Optics (CPO) technology, aiming to replace pluggable optical modules.

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GlobalFoundries' Unveils Optical Module Solution Targeting CPO

MALTA, N.Y., May 5, 2026 -- GlobalFoundries (GF) has introduced an optical module solution for co-packaged optics (CPO). According to the company, the Silicon photonics Co-packaged Advanced

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Co-Packaged Optics (CPO) Market Trends 2026: AI Data Center Optical

Explore the future of co-packaged optics (CPO) in AI data centers. Learn how silicon photonics, optical I/O, and high-speed optical interconnect technologies are shaping next-generation

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USI , USI to Launch Next-Generation 1.6T Optical Module Targeting

USI's new optical module supports 1310nm single-mode fiber and aligns with the industry-standard DR8 architecture, enabling transmission distances of up to 500 meters. By leveraging

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Optical Networking Solutions , Analog Devices

Optical Connectivity Solutions Our optical networking product portfolio provides high-performance, reliable, and scalable optical control and power

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Applications of Optical Modules in AI Intelligent Devices

In AI intelligent devices, optical modules are primarily used in data centers and high-performance computing systems to provide high-speed, high

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The New Optical Interface: Novel Connector Designs

Marvell CPO integrates electro-optical transceiver engines into a single multichip module with ASICs, field-programmable gate arrays, or XPU's. Detachable fiber

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Products

The solution simplifies transport between data centers by replacing stand-alone optical transponders with the Cisco ® portfolio of standardized

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Intel Demonstrates First Fully Integrated Optical I/O Chiplet

Intel Corporation's Integrated Photonics Solutions (IPS) Group has demonstrated the industry's first fully integrated bidirectional optical compute

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XPO: Redefining Pluggable Optics for AI Networking

The XPO pluggable module preserves the advantages of field pluggability, enabling quick replacement or upgrades of optical modules without servicing the entire switch and minimizing downtime.

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