

OCS-related optical switches



Overview

Optical circuit switches (OCS) establish direct optical paths using micro-electrical-mechanical system (MEMS) mirrors, avoiding energy-inefficient OEO conversions and reducing power and thermal overhead along the data path. Traditional Electrical Packet-Switch (EPS) fabrics increasingly struggle with congestion, power consumption, and scalability constraints as. The High-Radix Optical Circuit Switch Platform from Molex uses micro-electro-mechanical mirrors to establish optical paths between fibers, avoiding optical-electrical-optical conversion. This method eliminates the need for multiple conversions between electronic and optical signals, allowing for faster, more efficient data transmission. MEMS-based optical switching platforms enabling flexible, energy-efficient fabrics for AI and cloud networks.



Article Content

Dec 14, 2025

GLSUN OCS Enables Agile Optical Networks for Data Centers

GLSUN OCS (Optical Circuit Switch) delivers a smarter way to build agile optical networks — enabling high-capacity, low-latency, and dynamically reconfigurable fiber connectivity for next ...

May 23, 2026

Optical Circuit Switches

Lumentum's optical circuit switches (OCS) enable the next generation of AI and cloud network architectures by replacing traditional electrical fabrics with flexible,

May 06, 2026

Optical Circuit Switching

Definition Optical Circuit Switching, also known as wavelength switching, is a communication method that utilises light signals to transmit data across networks. It establishes a

Jul 02, 2025

Coherent's \$23B Opportunity Lifted by NVIDIA's Optical Ambitions

Optical Circuit Switches: From Niche to Network Fabric The doubling of the OCS SAM from \$2 billion to \$4 billion reflects a broader reframing of optical circuit switching.

Jan 08, 2026

Lumentum Announces R64 Optical Circuit Switch for AI Data Centers

Key Advantages of the R64 OCS Low Power Consumption: At less than 150 W for a switch capable of carrying over 100Tbps of optical traffic, the R64 changes how an AI data center

Aug 19, 2025

Ultrafast optical circuit switching for data centers using integrated ...

Optical technologies could enable fast and power-efficient networks for data centers. Here, the authors report Si3N4 microcomb based ultrafast photonic switching to provide enhanced

Feb 21, 2026

Wavelength Selective Switches (WSS) / Optical Circuit

This allows for a greater number of optical channels and higher data transmission bandwidth within the same footprint, while ensuring high-precision light guidance

Nov 04, 2025

OPTICAL CIRCUIT SWITCHING FOR AI AND

Executive Summary Optical Circuit Switching (OCS) has emerged as a critical technology for next-generation Artificial Intelligence (AI) and hyperscale data-center networks.

May 06, 2026

AI Data Center Interconnect 2026: CPO, Optical Interconnect and ...

Explore AI data center interconnect trends in 2026, including CPO, optical interconnect, OCS, and the real challenges slowing large-scale deployment.

Feb 24, 2026

What is OCS (Optical Circuit Switching)?

OCS operates through a series of optical switches that are capable of controlling the flow of light through the fiber-optic cables. The optical switches connect or

Oct 13, 2025

Optical Circuit Switch Explained: Benefits, Use Cases, and LINK-PP ...

Discover Optical Circuit Switch technology, benefits, and use cases. Learn how LINK-PP optical module solutions enhance OCS for AI, HPC, and data centers.

Sep 06, 2025

Open Compute Project launches Optical Circuit

The Open Compute Project Foundation (OCP) has announced the formation of a new Optical Circuit Switching (OCS) subproject.

Apr 28, 2026

Molex Accelerates AI Cluster Deployment with One-Stop Optical ...

Molex unveils a full optical stack including serviceable CPO solution, detachable fiberto chip interfaces and a High Radix Optical Circuit Switch platform to accelerate AI cluster

Aug 02, 2025

Do You Really Know Optical Circuit Switching?

Let's discover what Optical Circuit Switching (OCS) really is, how it works, and why it matters for modern networks. Learn its benefits, use cases, and

Nov 14, 2025

Optical Circuit Switch Explained: Benefits, Use Cases, and LINK-PP ...

Optical Circuit Switches (OCS) are revolutionizing network architectures by addressing the challenges of latency, bandwidth scalability, and energy efficiency. They are critical enablers of

Apr 29, 2026

High-Radix Optical Circuit Switch (OCS) Platform | Molex

Optical circuit switches (OCS) establish direct optical paths using micro-electrical-mechanical system (MEMS) mirrors, avoiding energy-inefficient OEO conversions

Jun 08, 2026

nEye.ai Raises \$80M to Put Optical Switching Inside AI Data Centers

nEye.ai raised \$80 million in Series C funding to scale its optical circuit switching chip for AI data centers. The round was led by Sutter Hill Ventures, with participation from CapitalG, M12,

Aug 16, 2025

Optical Switching in Datacenters: Architectures Based on Optical ...

Nevertheless, a cost-effective hybrid OPS/OCS network is still elusive and faces substantial challenges related to optical packet switching technologies, traffic prediction and classification, scalability,

Jan 31, 2026

Coherent Announces Optical Circuit Switch for Data Centers

--Coherent Corp., a global leader in optical communications materials, components, and subsystems, announced today the introduction of a new optical circuit switch based on the company"

Apr 30, 2026

Optical Circuit Switching□New Opportunities in All

At its core, OCS directly switches optical signals between fiber ports by reconstructing the physical transmission path. This creates a dedicated, end-to

Dec 01, 2025

iPronics Unveils World's First Silicon Photonics Optical

iPronics, a leader in software-defined photonics, today launched its Optical Networking Engine, ONE-32, the world's first Optical Circuit Switch (OCS)

Nov 10, 2025

Optical-First Data Centers: CPO vs NPO vs XPO in 2026 · KAD

CPO, NPO, and XPO redefine data center connectivity in 2026, shifting from copper to optical-first architectures for AI-scale infrastructure.

Oct 17, 2025

Lumentum set to show off optical circuit switching at OFC

Lumentum set to show off optical circuit switching at OFC Lumentum's optical circuit switching is one of a handful of photonic technologies

Jun 18, 2026

What is OCS (Optical Circuit Switching)?

Optical Circuit Switching (OCS) is a cutting-edge technology that optimizes optical networks by dynamically reconfiguring light paths. Learn about its working

Sep 30, 2025

Circuit Design for Scalable and Fast Optical Circuit Switching

Current applications, however, do not require fast switching and thus Piezo and 3D MEMS mirror based switches represent the current state of the art for optical circuit switches.

Jan 04, 2026

Optical Circuit Switch

Networking Optical Circuit Switch Enable new AI architectures with the Optical Circuit Switch (OCS) The OCS optimizes data center networks by minimizing electrical

Jul 06, 2025

Lumentum Hyperscaler OCS Deal Recasts AI Data Center Investment

Lumentum Holdings (NasdaqGS:LITE) has secured a multi year, multi billion dollar Optical Circuit Switching deal with a major hyperscaler. The agreement focuses on supplying OCS

Jan 19, 2026

AI drives OCS market forecast to surge to \$2.5bn

AI drives OCS market forecast to surge to \$2.5bn Optical circuit switch vendors in the latest report from Signal AI (Credit: Signal AI) The market for optical circuit

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