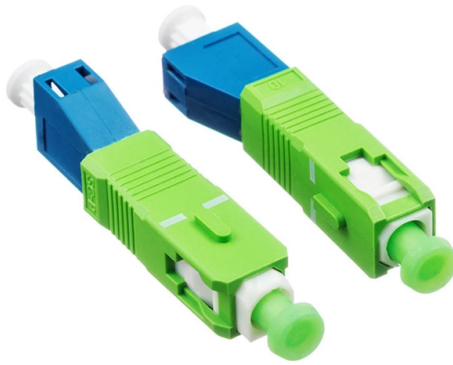


RoHS Pluggable Optical Module LPO



Overview

Amphenol XPO-LPO optical transceiver delivers next-generation 12.8T Ethernet connectivity with 224 Gb/s per lane. Leveraging LPO technology, the module provides ultra-low-latency, power-efficient optical links tailored for AI, high-performance computing, and hyperscale data. Linear Pluggable Optics (LPO) are a new optical transceiver technology. The idea is simple: instead of a DSP (digital signal processor) inside the module – replacing it with transimpedance amplifier (TIA) and a driver chip with high linearity and EQ capability – LPO shifts signal processing into. An LPO (Linear Pluggable Optics) solution offers considerable power savings for optical interconnect by removing the digital signal processing (DSP) function from the pluggable optical module. S Data Center Energy Use, published by the Lawrence Berkeley National Laboratory, data centers account for 4. in 2023, and are projected to increase to 6. The. To address this, Macom and NVIDIA first proposed Linear-drive Pluggable Optics (LPO) in 2022. Its core concept is to remove digital processing units such as DSPs and CDRs from the module, constructing a purely analog "linear direct-drive" optical link. Both of these technologies reduce power consumption and eliminate components in optical modules, which makes them. LPO Series — EU-Tested Low-Power Optical Transceivers Next-generation 400G and 800G modules for data centers, AI clusters, and telecoms — validated in a European lab, ready to ship from Europe.

Article Content

Dec 14, 2025

LRO, LPO, and Silicon Photonics

LPO (Linear Pluggable Optics) transceivers lack full retiming (DSP) circuitry that is common in all prior generations of 400G, 800G and 1.6T optical modules. As a

Apr 09, 2026

LPO MSA Announces Release of Specification for Linear Pluggable Optical ...

The specification defines the necessary optical and electrical requirements for a robust ecosystem of LPO-compatible switch, NIC and module products.

Feb 18, 2026

Optics Primer, Part 3: Co-Packaged Optics (CPO)

In pluggable optics, a failed laser means swapping the transceiver module which is easy to access. But if the laser is near the switch that's a lot

Nov 01, 2025

XPO-LPO Optical Transceiver

Amphenol XPO-LPO optical transceiver delivers next-generation 12.8T Ethernet connectivity with 224 Gb/s per lane. Leveraging LPO technology, the module provides ultra-low-latency, power-efficient

Apr 08, 2026

FinancialContent

LPO MSA Specification Update Building upon other industry standards such as IEEE 802.3 and OIF, the LPO MSA specification includes component, module, and system-level

Nov 07, 2025

LPO MSA Announces Release of 400G-FR4-LPO ...

Adding the 400G-FR4-LPO physical medium specification supports the LPO MSA's goal of enabling broad market adoption of linear pluggable fiber optic links. The specification defines the

Nov 23, 2025

LPO MSA Announces Release Of Specification For Linear Pluggable Optical ...

The 100G-DR-LPO specification has been validated by extensive member interoperability testing to confirm that it meets the LPO MSA's goal of enabling broad market adoption of linear

Apr 05, 2026

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

May 19, 2026

OFC 2025: Marvell demos SiPho light engine for AI networks

Marvell Technology, Inc. demonstrated its 1.6T silicon photonics light engine integrated into a linear-drive pluggable optics (LPO) module at OFC 2025. The new product is the second in the

Mar 10, 2026

Linear Pluggable Optics – An Overview

Comparison to CPO g the need for a standalone module. Although CPO is becoming increasingly popular, LPO is seen as a natural evolutionary path for pluggables, offering lower risk compared to

Mar 31, 2026

XPO: Redefining Pluggable Optics for AI Networking

To address these challenges, Arista Networks, together with an ecosystem of more than 45 industry partners, introduces eXtra-dense Pluggable Optics (XPO) . XPO represents a new class of optical

Nov 01, 2025

Luxshare Precision (t /Dru1kRh7vZ) released its 2025 Annual ...

- The company confirmed that 800G/1.6T optical modules have entered small-batch supply. •800G LRO modules have passed validation with select customers, while 1.6T LRO/LPO and

Dec 11, 2025

Gemtek Announces OMDN-107 800Gbps LPO Next Gen Transceiver

Company adopts NewPhotonics LPO+™ transmitter-on-chip developed for 1.6T and 800G applications COPENHAGEN, Denmark, Sept. 29, 2025 /PRNewswire/ — Gemtek Technology

Oct 21, 2025

Optical Interconnect Technology Analysis: LPO, NPO,

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

Sep 25, 2025

OFC 2026 Heralds Optical Shift for AI Factories

The vendor also has added 800-Gb/s capacity to its Cisco NCS 1014 transponder and is showing its new coherent pluggable optical modules based on Acacia technology for access and

Dec 30, 2025

LPO MSA Announces Release of 400G-FR4-LPO Specification for

Adding the 400G-FR4-LPO physical medium specification supports the LPO MSA's goal of enabling broad market adoption of linear pluggable fiber optic links. The specification defines the

Jul 31, 2025

Linear Pluggable Optics Explained | Keysight

Linear Pluggable Optics (LPO) is a next-generation optical transceiver technology designed to meet the growing demands of high-speed data center interconnects, particularly for AI and cloud workloads.

Oct 22, 2025

A Faster Future with Linear Pluggable Optics

Linear Pluggable Optics are a low-power pluggable module interface that eliminates DSP chips, creating a linear signal path.

Nov 10, 2025

Opinion: optical transceivers at the chokepoint of AI growth and supply ...

LPO challenges this model by removing the DSP from the module and using linear TIAs and drivers, while relying more heavily on the host ASIC and carefully controlled electrical channels.

Jun 07, 2026

Understanding Optics Module Trends and Growth Dynamics

February/2024: Introduction of LPO (Linear Pluggable Optics) modules for 400G applications, aiming to reduce module latency by ~20ns and power consumption by 30-40% by

Apr 30, 2026

Linear pluggable optics for data centers

Customers have often singled out link accountability as a key impediment to adoption of LPO, and for good reasons LPO blurs the separation of concerns, making troubleshooting complex The burden of

Mar 10, 2026

Optical Transceiver Market Price Trends 2026: TCO & Risks

Discover the real engineering TCO behind optical transceiver market price trends in 2026. Explore 800G thermal risks, LPO failures, and hidden OPEX metrics.

Dec 02, 2025

Introducing Linear Pluggable Optics (LPO)

This article gives a short insight into how LPO technology works, how it differs from DSP-based optics, the scenarios where it offers the most advantages, and the

Feb 06, 2026

Linear Pluggable Optics (LPO) Europe | EU-Tested 400G/800G Modules

All LPO modules undergo independent validation in EU laboratories for power, signal integrity, and interoperability. A downloadable test summary will be available upon final verification.

Mar 24, 2026

Arista Optics Modules and Cables

Arista's Optical Modules and Cable portfolio offer a wide variety of high-density and low-power 800G (dual 400G), 400G, 200G, 100G, 50G, 40G, 25G, 10G, 1G, and 100M Ethernet connectivity options

Jun 25, 2026

XPO-LPO Optical Transceiver | Optical Interconnect

Leveraging LPO technology, the module provides ultra-low-latency, power-efficient optical links tailored for AI, high-performance computing, and

Jan 25, 2026

Adtran sets intra-data center benchmark with all-new ultra-low-power ...

Adtran today launched LiteWave800™, an ultra-low-power 800Gbit/s DR8 linear pluggable optics (LPO) module engineered to help data centers address the power, latency, thermal

Contact Us

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