OPTICAL CONNECTIVITY WITHOUT LIMITS

The Full Spectrum Interconnect Solutions for Next-Generation AI Infrastructure

HIGH PERFORMANCE | POWER EFFICIENT | SCALABLE & FUTURE READY | RELIABLE CONNECTIVITY

LEARN MORE

As AI infrastructure scales, data centers need advanced optical connectivity to support higher bandwidth, lower latency, and greater power efficiency. Amphenol delivers a comprehensive portfolio including XPO-LPO, 1.6T OSFP transceivers, co-packaged optics (CPO), LEAP® on-board solutions, active optical cables, and fiber connectivity from CommScope, purpose-built for hyperscale and AI-driven architectures. These solutions enable scalable, high-speed, and low-risk optical deployments across the modern data center.

Active Optics



XPO-LPO Optical Transceiver

XPO-LPO uniquely addresses the power and density wall that traditional OSFP form factors cannot cross. At 224Gb/s per lane across 64 channels, XPO-LPO delivers industry-leading BER performance, best-in-class power per bit, and the lowest latency in a pluggable solution, purpose-built for the largest AI scale-up deployments.



1.6T OSFP Transeiver

1.6T OSFP Transceivers, Amphenol's 200G/lane optical modules support DR4, FR4, 2×DR4, 2×FR4, AOC, and breakout AOC configurations with LC or MPO ports, ideal for 800G/1.6T Ethernet applications.



800Gb/s OSFP Transceivers

800Gb/s OSFP transceivers deliver excellent performance in good consistency with TH5 systems and are aimed at AI/ML workloads, datacom 800G Ethernet, and InfiniBand (IB) applications, which are widely used in HPC, AI clusters, and data centers requiring ultra-low latency and high bandwidth.



400G QSFP-DD SR8 Transceivers

This optical transceiver comes with a maximum link length of 100m on OM4 multimode fiber, and is capable of a 400Gb/s data rate with each channel transmitting up to 53.125Gb/s. The module also features outstanding BER and high sensitivity because of reliable design and excellent coupling efficiency.



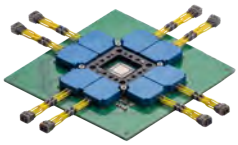
QSFP-DD Linear Pluggable Optics

Amphenol's QSFP-DD Linear Pluggable Optical (LPO) Transceiver delivers low-latency, high-bandwidth PCIe® Gen 5.0 over an optical link, enabling scalable server disaggregation and efficient rack-to-rack interconnects ideal for AI/ML and rack-scale data center expansion.



Near-Packaged Optics

Small, fast, and power efficient, the LEAP® On-Board Transceiver is a rugged 12-channel duplex optical transceiver capable of running data-rates of up to 25Gbps per channel (300Gbps cumulative) on multi-mode fiber.



Co-Packaged Optics

Amphenol's co-packaged optics extend end-to-end ownership to the chip, from the high-density electrical interposer, through the linear optical conversion within the module, to the fiber plant beyond. While other industry solutions offer a module, Amphenol offers an architecture: pluggable, modular, and fully qualified across the entire signal path by a single supplier.

OPTICAL CONNECTIVITY WITHOUT LIMITS

LEARN MORE

Active Optics



Mini-SAS HD Active Optical Cable

Amphenol Mini-SAS HD Active Optical Cables comply with SAS 3.0, SAS 4.0, and SFF-8636 standards for external enterprise storage applications, supporting box-to-box, server-to-storage, and server-to-switch connections from 1 to 100 meters.



300G CXP2 Active Optical Cable

Amphenol's 300G CXP2 to CXP2 Active Optical Cable is a natural choice for optical cabling in data center / high performance computing hardware applications, providing a cost-effective plug-and-play cabling solution. The CXP2 form factor delivers the highest hardware faceplate port density among existing SFF industry standards.

Passive Optics



FastSelfClean™ Connector Technology

Featuring a compact 144-fiber form factor, FastSelfClean™ Connector Technology uses a stacked fiber architecture to deliver exceptional density and low-loss performance. Precision V-groove alignment prevents movement during mating, enabling up to 3,456 fiber connections in 1RU with just 24 clicks.



Rapid Fiber Connect™ High-Density Solution

Purpose-built for ultra-dense AI data centers, scale-out networks can expand quickly and confidently with this high-density solution designed for 72-GPU rack-scale systems. Built to enable off-site configuration and rapid roll-in, the Rapid Fiber Connect platform reduces assembly time, with fewer connections and less chance for error.



Propel® High-Speed Fiber Optic Platform

This high-speed fiber-optic platform delivers the capacity, flexibility and simplified management to support evolving networks across multiple upgrades. It's high-density, modular design and 16-, 8-, 12- and 24-fiber ultra-low loss connectivity make it ideal for data center and enterprise networks.



Propel® Shuffle Modules

Propel® shuffle modules enable the addition of more modules as needed, without disrupting the operation of other installed modules. Cassettes are available for 2x2, 4x4 and 8x8 shuffles. Modules fit in standard Propel panels (front and rear access) or Propel XFrame™ panels (front access).



FiberGuide® Fiber Raceway Solutions

Whether you are scaling up, out or across, the one certainty is the need for more fiber and more efficient fiber cabling management. The FiberGuide fiber raceway solution is the go-to choice for all kinds of data centers for its flexibility, scalability and solid protection of cabling infrastructure.

OPTICAL CONNECTIVITY WITHOUT LIMITS

LEARN MORE

Passive Optics



Fiber Cable Assemblies

Complete line of fiber cable assemblies to support a wide variety of applications so your data center can deploy quickly, at scale. Combinations of MPO-8, MPO-16, and MMC-16 connectors, multimode or singlemode, with flexible slim form factors suited to the densest environments.



Optical Distribution Frames

In today's high-density data centers, where fiber connectivity underpins everything from cloud computing to AI workloads, these frames are designed to accommodate ultra-high-density fiber connectivity that's easy to configure, reconfigure, and scale as data center needs evolve. Purpose-built to deliver superior cable management and ease of use.



Building Entrance Solutions

Building entrance cabinets, frames and closures engineered to today's applications – and tomorrow's. From small to very large installs offering density, space efficiency, flexibility and accessibility with installer friendly, robust solutions.

Passive Copper



XtremePass™ Co-Packaged Copper Interconnects

XtremePass™ 448G connector solution delivers best-in-class SI performance while maximizing density on the substrate, supports scalable form factors from 32DP to 128DP, and offers seamless integration across Ethernet, NVLink, PCIe® and InfiniBand systems. The compression hardware effectively prevents cable routing stresses from impacting the substrate.



Paladin® HD 224Gb/s Backplane Interconnect System

Industry-leading 112Gb/s to 224Gb/s bandwidth with exceptional density, supporting up to 144 orthogonal differential pairs in a 1U form factor. Paladin® HD combines a balanced-pair architecture, individually shielded differential pairs, and a hybrid board attachment to maximize density, signal integrity, and electrical performance.



ZettaMAX™ High-Speed Connector

ZettaMAX™ is Amphenol's latest high-speed backplane connector platform designed for the future of AI data centers, high-performance computing, and networking systems. It delivers industry-leading signal integrity, density, and reliability to meet the requirements of next-generation 300 Gb/s and PCIe® Gen 7/8 systems.



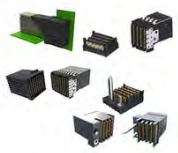
HD Express® and HD Express® RAM

The HD Express® is a high-density, high-performance interconnect system designed to meet and exceed PCIe® Gen 6 electrical and mechanical requirements for high-end 85 Ω architectures.

OPTICAL CONNECTIVITY WITHOUT LIMITS

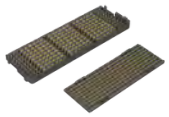
LEARN MORE

Passive Copper



ExaMAX®/ EXAMAX2® High-Speed Backplane Connectors

The ExaMAX® family is Amphenol's flagship high-speed connector platform, engineered for the most demanding data center, server, and AI system architectures. It includes the proven ExaMAX®, enhanced ExaMAX+®, and next-generation EXAMAX2®, all designed to deliver outstanding signal integrity, mechanical reliability, and scalability.



Celerity™ 224 Gb/s BGA Mezzanine Connector

Celerity™ and Celerity LP™ are next-generation high-speed mezzanine BGA connectors supporting data rates up to 224Gb/s PAM4. Featuring a hermaphroditic mating interface, flexible stack heights, and integrated power delivery, they deliver exceptional signal integrity, design flexibility, and reliable performance for high-density applications.



ExtremePort™ OSFP Connector and Cage Systems

OSFP connector and cage family delivers a scalable, high-performance interconnect platform designed for next-gen data centers, high-density switch/router systems, and high-speed serial infrastructures. All three series share the same robust OSFP footprint, with 60 contacts per port and a 0.6 mm pitch form factor optimized for signal integrity, thermal management, and multi-lane pluggable architecture.



OSFP Cable Assemblies

Amphenol is leading the industry in OSFP cable development. Our Electronics Products 'Product of the Year' award winning OSFP cable assemblies are compatible with 25G/lane channel NRZ up to 224G/lane channel PAM4 signaling protocols that allow the cables to deliver aggregate bandwidths of 200G, 400G, 800G, and 1.6T per cable assembly. Available in both Passive and Active variants.



CDFP Cable Assemblies

Amphenol CDFP cable assemblies are designed to meet emerging data center and high-performance computing application needs for high density cabling interconnect systems capable of delivering 32GT/s per lane (Gen 5.0). CDFP has 16 lanes, capable to deliver 64Gbps.



OSFP-XD Copper Cable Assemblies

Amphenol is at the forefront of OSFP-XD cable development, setting new industry standards with our innovative designs. Our advanced OSFP-XD cable assemblies are designed to meet the rigorous demands of both PCIe® Gen 5 and Ethernet protocols, providing a future-proof solution with unparalleled bandwidth capabilities.



Mini Cool Edge IO®

Amphenol introduces the next-generation OverPass™ solution, Mini Cool Edge IO®. The 0.60 mm pitch connector features a slim form factor, capable of transmitting high-speed signals up to 56G PAM4/PCIe® Gen 4/PCIe® Gen 5 and enabling much greater signal path lengths while maintaining SI performance compared to conventional PCB routing methods.

OPTICAL CONNECTIVITY WITHOUT LIMITS

LEARN MORE

Active Copper



OSFP Cable Assemblies

Amphenol is leading the industry in OSFP cable development. Our Electronics Products 'Product of the Year' award winning OSFP (Octal Small Form Factor Pluggable) cable assemblies are compatible with 25G/lane channel NRZ up to 224G/lane channel PAM4 signaling protocols that allow the cables to deliver aggregate bandwidths of 200G, 400G, 800G, and 1.6T per cable assembly. Available in both Passive and Active variants.



OSFP-XD Copper Cable Assemblies

Amphenol's advanced OSFP-XD cable assemblies are designed to meet the rigorous demands of both PCIe® Gen 5 and Ethernet protocols, providing a future-proof solution with unparalleled bandwidth capabilities. These assemblies support a range of bandwidths, including 400G (16x25G), 800G (16x50G), 1.6T (16x100G), and 3.2T (16x200G) per cable, ensuring seamless integration with evolving technology standards.

OPTICAL CONNECTIVITY SOLUTIONS FOR AI-SCALE DATA CENTERS

As AI infrastructure grows, data centers need higher-speed, more efficient optical connectivity. Amphenol delivers a complete portfolio of optical solutions designed for hyperscale and AI-driven architectures.

- HIGH PERFORMANCE
- POWER EFFICIENT
- RELIABLE CONNECTIVITY
- SCALABLE & FUTURE READY