

XPO Connector Assemblies >

XPO Connector Assemblies, the next-generation pluggable optical solution for large AI fabrics and hyperscale cloud and data centers, are optimized for extreme bandwidth density, superior reliability and power efficiency. The ultra-high-density XPO interface delivers four times the front-panel density of OSFP connections, enabling up to 204.8Tbps of switching capacity within a single open-rack unit. BiPass flyover architecture terminates low-loss twinax cable directly to the XPO connector and co-packaged copper (CPC) solution, ensuring exceptional signal integrity and scalability to support data rates of 224G and beyond.

ADVANTAGES AND FEATURES

Reduces footprints for high-bandwidth AI applications

The ultra-high-density XPO interface uses 64-lane pluggable modules that deliver massive bandwidth in a compact footprint. The design supports up to 12.8Tbps per module and up to 204.8Tbps per 10U, enabling customers to double front-panel I/O density or increase compute power per rack without expanding real estate.

Enables high speeds by supporting superior signal integrity

Using BiPass flyover architecture that integrates directly terminated twinax cable and Impress Co-Packaged Copper (CPC) Solutions, the Molex XPO system helps make reliable 224G—and future 448G—links achievable by minimizing IL and parasitics, lowering BER and FEC burden.

Data Rates	224Gbps PAM-4 or faster
Bandwidth	Up to 12.8Tbps per module
Power Passthrough	Up to 480W per module
Circuits	128 differential pairs

Reduces connector size requirements

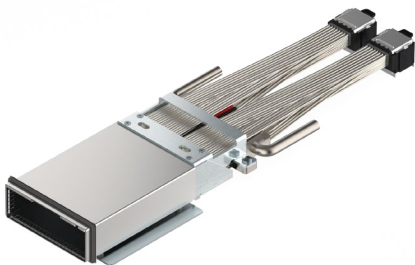
The high-voltage, high-power contact and passthrough construction supports 40 to 60V (commonly 48 to 50V) and up to 480W in a compact form factor, simplifying rack power architecture without requiring major motherboard redesigns.

Minimizes the risk of substrate damage

The reworkable compression socket and mechanical ejector/pull-tab design ease insertion and removal while protecting the substrate during assembly and servicing. They also improve field reworkability, increase the mean time between failures (MTBF) of front-facing modules and reduce maintenance costs.

Shortens validation cycles and accelerates deployments

Interoperability and alignment with the XPO MSA, host footprints, mechanical tolerances and telemetry/power management standards reduce supply chain risks, simplify system integration, and streamline engineering work for development and testing.

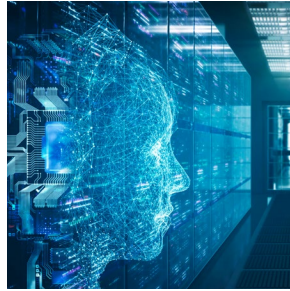


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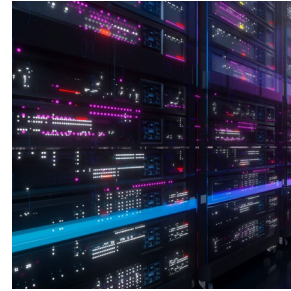
MARKETS AND APPLICATIONS

Servers and Storage

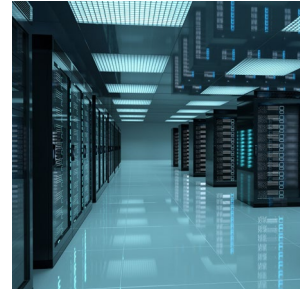
AI and machine-learning systems
High-performance computing systems
Hyperscale data centers



AI and Machine-Learning Systems



*High-Performance
Computing Systems*



Hyperscale Data Centers

SPECIFICATIONS

Reference Information

Packaging: As required
Designed in: Millimeters
RoHS: Yes
Halogen Free: Yes

Electrical

Data Rates: 224Gbps PAM-4 or faster
Bandwidth: Up to 12.8Tbps per module
Power Passthrough: Up to 480W per module
Voltage: 40 to 60V

Mechanical

Circuit Sizes: 128 differential pairs
Wire Gauge: 32 AWG twinax
Assembly Width: 60.8mm
Assembly Length: As requested
Assembly Height: 21.3mm