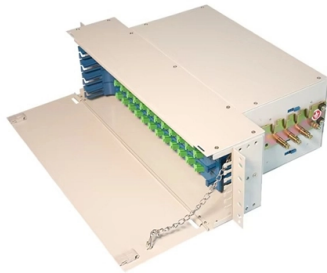


Does building an AI server require an optical module



Overview

In conclusion, AI compute chips do not directly require optical modules. However, in large-scale, high-speed distributed computing environments, optical modules are essential for fully utilizing the computational power of AI chips. Optical modules convert electrical signals into light to move data quickly and reliably in AI systems, enabling fast and smooth data processing. A number of companies supply lasers for optical interconnects, including Coherent, Lumentum Holdings, Applied Optoelectronics, and Chinese vendors Innolight and. While the industry-standard OSFP (Octal Small Form-Factor Pluggable) module has successfully enabled 400Gbps, 800Gbps, and 1.8Tbps of switching. High-quality optics play a critical role in achieving the required performance by enabling high-bandwidth, low-latency connectivity and minimizing data loss across large-scale AI networks. Key characteristics include: High bandwidth: Modern optical modules support 100G, 400G, and 800G speeds, far exceeding.



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In summary, optical modules are not mandatory for every AI chip but are a critical enabler for high-performance AI systems, especially in data centers and HPC environments.

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