

Article Overview

Cisco uplink optical modules enable high-speed connectivity for switches and routers, supporting various speeds, distances, and form factors to match network requirements.

Overview of Cisco Uplink Modules

Cisco uplink modules are pluggable transceivers that connect switches to aggregation, core, or data center networks. They come in multiple form factors such as SFP, SFP+, QSFP, QSFP-DD, and OSFP, supporting speeds from 1G to 800G depending on the switch and module type. These modules are essential for extending network reach over fiber or copper and for scaling bandwidth in enterprise and data center environments.

Compatibility Considerations

- o **Switch Model:** Catalyst 9300 switches support specific uplink modules (e.g., C9300-NM-8X) and are incompatible with older 3850 modules. Catalyst 9200 and 9300 series have strict hardware boundaries; 9200L and 9300L models have fixed uplinks and do not support field-replaceable modules.
- o **Optics Type:** Cisco-qualified optics ensure DOM/DDM monitoring and reliability. Generic optics may work but can lose telemetry features.
- o **Distance and Speed:** Optical transceivers are selected based on required link distance and speed. For example, GLC-LH-SMD-N supports single-mode fiber up to 10 km, while GLC-TE-N is copper for 100 m connections.
- o **Form Factor:** QSFP-DD and OSFP modules are used for high-density 400G-800G connections in AI and data center networks, while SFP/SFP+ modules are common for 1G-25G uplinks.

Deployment and Licensing

- o **Licensing:** Some modules require specific Cisco DNA or C1 licenses. For example, -E models support DNA licenses only, while -A models support DNA or C1 subscriptions.
- o **Stacking and Power:** Plan StackWise and StackPower topologies when deploying uplinks to ensure proper data plane and power management.
- o **Monitoring:** Using Cisco-certified optics allows full monitoring of link health, temperature, and signal quality, which is critical for high-performance networks.

Best Practices

- o Match module to switch model to avoid incompatibility issues.
- o Select optics based on distance and speed requirements for reliable connectivity.
- o Use Cisco-certified modules to maintain warranty, monitoring, and support.
- o Plan for future scalability by choosing modules that support higher speeds or backward compatibility.

Cisco optical module uplink

o Consider data center architecture: leaf-spine, top-of-rack, or routed optical networks may influence module choice . Cisco uplink optical modules are a key component for high-performance, scalable, and reliable network infrastructure, enabling seamless connectivity across enterprise and data center networks while supporting advanced monitoring and AI-driven workloads .

Select Smart, Deploy Fast Choosing the right uplink module, license, and cables ensures your Catalyst 9300 switch performs at its

The Catalyst 9300 Series stackable switches, with 4-port 25Gb network uplink modules, can provide 25Gb

Learn which uplink modules are supported on Cisco Catalyst 9200, 9300 and 9300X switches.

Hello everyone, I hope all is well. I will be at some point in the next few weeks upgrading one of our POE switches to

Pluggable Optical Modules: QSFP-DD or OSFP Both variants support all the technical

Small-Form Factor Pluggable (SFP) and Stacking Accessories Last updated May 19, 2026 Save as PDF Table of

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ing of parameters such as optical output power temperature, and bias current. This architecture integrates advanced retiming and

I will be deploying a C9300-48U-M device that will have the C9300-NM-8X-M uplink module. The SFP I was provided

Cisco optical module uplink

Choosing the right uplink module, license, and cables ensures your Catalyst 9300 switch performs at its best for years to come. Pick

This guide provides a complete compatibility reference including supported modules, PSU

In this guide, we will explain what optical signal strength is, how to check it on Cisco IOS using the command line, and

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