Are C-type optical modules compatible with C-type optical modules

Overview

Gigabit SFP optical transceiver modules use LC connectors. The specifications for Revision D transceiver products are the same as the specified Revision A, B, and C SKUs.

Key Takeaways

C-type optical modules can be compatible with other C-type modules if their key specifications—wavelength, speed, duplex mode, and fiber type—match.

Key Factors for Compatibility

Wavelength Matching Optical modules must operate at the same wavelength to communicate effectively. For example, a 1310nm module will not interconnect with an 850nm module. Mismatched wavelengths can cause data loss or degraded transmission quality.

Transmission Speed Both modules should support the same data rate. Connecting a 1G module to a 10G module may work physically if the form factor fits, but the transmission speed will be limited to the lower rate. Duplex Mode Full-duplex modules must be paired with other full-duplex modules.

Connecting a full-duplex module to a half-duplex module will prevent proper data transmission. Fiber Type Modules must be compatible with the same fiber type (single-mode or multi-mode). Using mismatched fiber types can result in signal loss or failure.

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Vendor and Standards Compliance Modules adhering to MSA (Multi-Source Agreement) standards are generally interoperable across different vendors. However, some switch manufacturers, like Huawei, may require certified modules to ensure reliability and avoid alarms or service issues.

Practical Considerations

Form Factor: Ensure the physical size of the module matches the port (e.g., SFP, SFP+, QSFP). Environmental Ratings: Commercial vs. industrial temperature ratings may affect performance if mismatched. Testing: Even if specifications match, testing modules in the actual network environment is recommended to confirm interoperability.

ConclusionC-type optical modules can be compatible with each other as long as their wavelength, speed, duplex mode, and fiber type are identical, and they conform to industry standards. Vendor-specific requirements may apply, so checking switch documentation or certification is advisable to ensure reliable operation.

Article Content

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Each module type supports different fiber types (single-mode or multi-mode) and distances. For instance, single-mode fiber modules are used for long-distance communication, while

Models, specifications, and compatibility

Gigabit SFP optical transceiver modules use LC connectors. The specifications for Revision D transceiver products are the same as the specified Revision A, B, and C SKUs. Where support for a

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Key Takeaways: Optical Modules Market Global optical modules market valued at $14.8 billion in 2025 Expected to reach $39.6 billion by 2034 at a CAGR of 11.5% Transceivers held the largest product

Hilink Optics QSFP QSFPDD OSFP 10G SFP transceiver, Optical

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