

Optical module incompatibility between switches



Article Overview

Optical modules may be incompatible with switches due to mismatched wavelengths, unsupported speeds, incorrect fiber types, or non-certified modules, leading to link failures or degraded performance.

Common Causes of Incompatibility

- **Wavelength Mismatch:** Optical modules must operate at the same wavelength on both ends of a link. For example, a 1310nm module cannot interconnect with an 850nm module, and mismatched wavelengths can cause data loss or link failure .
- **Speed or Data Rate Mismatch:** Modules must support the same speed as the switch port. A 1 Gbps SFP module may not function correctly in a 10 Gbps port, and vice versa .
- **Fiber Type Mismatch:** Single-mode modules (1310nm or 1550nm) must connect to single-mode fibers, while multimode modules (850nm) require multimode fibers. Using the wrong fiber type can prevent the link from establishing .
- **Non-Certified or Vendor-Specific Modules:** Some switches only support OEM-approved or certified third-party modules. Using non-certified modules can result in ports failing to come up or unstable connections .
- **Port or Optical Power Issues:** Ports may be administratively shut down, or the transmitted/received optical power may be too low or too high, preventing proper link establishment .

Troubleshooting Steps

Article Content

Matching optical modules to fiber optic switches

Matching optical modules to fiber optic switches Overview This article provides a detailed guide on how to match transceivers to

Compatible Optical Transceiver Guide

Compatible optical modules make it much easier and more convenient for customers to purchase and install, and greatly reduce the

Guidelines for Interoperability and Compatibility of Optical Modules

Due to the occasional incompatibility between certain brands of switches and optical modules from other suppliers, please ensure

Displaying Optical Module Information

The optical module cannot be installed in an optical interface because the optical module structure is nonstandard. The structure and

Optical module not working? Check out what you can do about it!

It turns out that the optical module we wanted to connect isn't establishing a link - it's not working. What could have gone "wrong"?

Old Switch & New Optical Module Compatibility Solutions

Old firmware does not recognize new modules When this switch was manufactured, new modules did not yet exist. Its internal ID

FAQs About Optical Modules

For details about the optical modules supported by optical ports on switches, see "Appearance and Structure" of a specific switch

SFP Modules Aren't All the Same—How to Choose Wisely

SFP modules may be small, but their role in network performance is critical. By paying close attention to compatibility,

Optics Compatibility Matrix

The Optics Compatibility Matrix helps users determine which Cisco optics products are compatible with specific Cisco networking

Cisco Optics-to-Device Compatibility Matrix

Cisco Optics-to-Device Compatibility Matrix Comprehensive compatibility information for Cisco optical transceivers and network

Contact Us

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