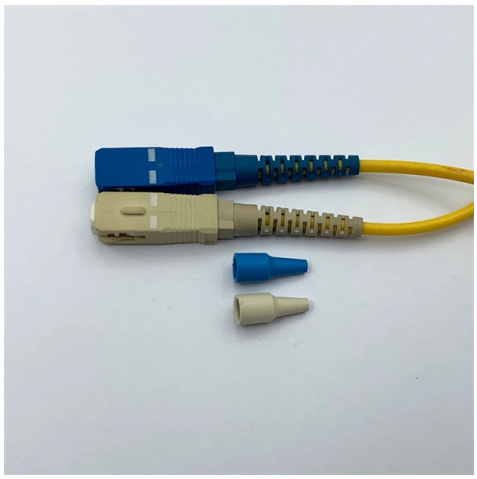
Function of Optical Modules in Huawei Switches



Overview

Its main function is to convert between electrical and optical signals during optical signal transmission. Figure 1-1 shows how an optical module works.

Key Takeaways

Huawei switches use certified optical modules including SFP, SFP+, QSFP+, and QSFP28, supporting speeds from 1G to 100G, with strict compatibility requirements for fiber type and interface speed.

Types of Optical Modules

Huawei switches support a range of optical transceivers depending on the switch model and port type: SFP (1G): For 100M and 1G connections, suitable for short- and long-distance links using multi-mode (MMF) or single-mode fiber (SMF). SFP+ (10G): Used for 10G uplinks or server connections, compatible with MMF (SR) or SMF (LR/ER/ZR) modules. QSFP+ (40G): For high-speed aggregation or core links, supporting both MMF and SMF.

QSFP28 (100G): For ultra-high-speed uplinks, typically using SMF with LR4 or ER4 modules.

Certification and Compatibility

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Huawei requires that only certified optical modules be used to ensure transmission reliability and service stability. Certified modules are labeled with "HUAWEI" and can be verified using commands like display transceiver or display version on the switch. Non-certified modules may cause connectivity issues or damage and are not supported by Huawei.

Fiber Type ConsiderationsMulti-mode fiber (MMF): Short-range connections, typically ≤ 300–400 meters, using SR modules. Single-mode fiber (SMF): Long-distance connections, ≥ 10 km, using LR, ER, or ZR modules. Mixing fiber types: MMF modules should not be used on SMF links and vice versa, as this can cause low optical power or connection failures.

Installation and Operational Guidelines

Ensure the module matches the port speed; do not use a 10G module on a 1G interface. Perform loopback or diagnostic tests to verify module functionality. Handle modules with ESD protection and carefully insert/remove fibers to avoid damage.

Check optical power levels and wavelengths to ensure proper interconnection.

Summary

Huawei switches rely on certified optical modules across SFP, SFP+, QSFP+, and QSFP28 families, with strict adherence to fiber type, interface speed, and installation best practices. Using certified modules ensures network stability, optimal performance, and compliance with Huawei support policies.

Article Content

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Its main function is to convert between electrical and optical signals during optical signal transmission. Figure 1-1 shows how an optical module works. The transmit optical bore inputs electrical signals at a

Fundamentals of an Optical Module

Its main function is to convert between electrical and optical signals during optical signal transmission. Figure 21-30 shows how an optical module works. The transmit optical bore inputs electrical signals

Optical Module Solutions for Huawei S5700/S5720 Series Switches

This article summarizes several solutions for using optical modules with switches and common problems encountered during usage, along with specific solutions.

01-10 OPTICAL MODULES

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If an optical module is installed in a running device, you can run the display transceiver command to view parameters of the optical module, including the center wavelength, transmission distance, fiber

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Checking the Optical Module Type

When certifying an optical module, Huawei switches comprehensively verify optical module functions to ensure the optical module quality. The functions include the installation and removal, transmit and

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10GE SFP+ Optical Modules

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