

Article Overview

Huawei switches support a wide range of optical modules including SFP, SFP+, XFP, QSFP+, QSFP28, and CFP, compatible with various transmission rates and fiber types.

Types of Optical Modules

Huawei switches are compatible with multiple pluggable optical module types:

- o SFP (Small Form-Factor Pluggable): Supports GE interfaces and LC fiber connectors.
- o eSFP: Enhanced SFP with monitoring capabilities for voltage, temperature, bias current, transmit and receive optical power.
- o SFP+: High-speed SFP supporting 10GE transmission.
- o SFP28: Same form factor as SFP+, supports 25GE.
- o XFP: 10GE modules, larger than SFP+, LC connectors.
- o QSFP+: Quad SFP, supports 40GE, uses MPO connectors.
- o QSFP28: Supports 100GE or 40GE, same interface size as QSFP+.
- o CFP: Centum form-factor pluggable, used for high-speed data communication, dimensions 144.75 mm x 82 mm x 13.6 mm (L x W x H) . All these modules are hot-swappable, allowing replacement without powering down the switch.

Transmission Rates and Compatibility

Huawei optical modules cover a wide range of transmission rates:

- o FE/GE: Fast Ethernet and Gigabit Ethernet
- o 10GE, 25GE, 40GE, 100GE: High-speed data center and backbone applications It is important to match the module rate with the switch port. For example, a 10G module should not be used on a 1G interface, as it may fail to operate .

Fiber Type Considerations

- o Single-mode fiber (SMF): Low dispersion, suitable for long-distance transmission.
- o Multimode fiber (MMF): Larger core, suitable for short-distance transmission.
- o Compatibility: Single-mode and multimode fibers should not be mixed with incompatible modules . Common fiber standards supported include G.651 (multimode), G.652 (single-mode), G.653, and G.655, with G.651 and G.652 being most widely used.

Practical Usage and Monitoring

- o Port configuration: Use commands like `display interface` to check link status, transceiver type, and traffic statistics .
- o Troubleshooting: Check optical power, wavelength, and ensure the port is not administratively down. Loopback tests can help verify module functionality .
- o Stacking and service ports: Some Huawei switches, like S5700 series, allow stacking through service ports, which may involve optical connections .

Procurement and Sourcing

Huawei optical modules and compatible SFP transceivers are available from authorized suppliers, ensuring original, new, and fully compatible modules for routers, switches, servers, and OLTs .

Summary

When selecting optical modules for Huawei switches:

- o Choose the correct module type (SFP, SFP+, XFP, QSFP+, QSFP28, CFP) based on port interface and speed.
- o Match fiber type (single-mode or multimode) with the module.
- o Verify transmission rate compatibility with the switch port.
- o Monitor module status using switch commands to ensure proper operation.
- o Use authorized suppliers to guarantee compatibility and reliability. Following these guidelines ensures optimal performance and reliability of Huawei switch optical connections.

Q7: What is the optical module interoperability standard for different Huawei products? Broad interoperability between Huawei

CloudEngine 12800 and 12800E Series Switches Hardware Description This document provides an overall description of the

Huawei S series devices support optical modules of the following encapsulation types: CFP, CFP2, QSFP+, QSFP28, XFP, SFP,

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals,

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Hardware Description

100GE QSFP28 Optical Modules Important Notes About Using Optical Modules Certified for Huawei Switches How to Identify

A switch must use optical or copper modules that have been certified for use on Huawei S switches. Non-certified optical or copper

The optical module installed on the optical interface is not certified for Huawei data center switches. The optical module type does

The StarryLink optical module is a core component developed by Huawei for data center networks. It delivers ultra

The CloudEngine series switches must use optical modules that are certified for Huawei Ethernet switches. Optical or copper

Huawei S series devices support optical modules of the following encapsulation types: CFP, QSFP+, QSFP28, XFP, SFP, eSFP,

Huawei offers a comprehensive portfolio of pluggable StarryLink optical modules for data center networks, with various models

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

Use the OptiModule Compatibility Finder to search Cisco, Juniper, Arista, Dell, Huawei and HPE compatible optical transceivers.

When certifying an optical module, Huawei switches comprehensively verify optical module functions to ensure the optical module

When Huawei switches are connected to other products such as routers, comply with the preceding optical module interoperation

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