

How to distinguish between gigabit and 100 Mbps optical modules



Article Overview

100 Mbps optical modules are fixed-rate 100BASE-FX SFPs, while Gigabit modules are 1 Gbps SFPs (1000BASE-X), and the distinction is based on data rate, standard, and device compatibility.

Key Differences

1. Data Rate and Standard

- 100 Mbps modules operate under the 100BASE-FX standard, transmitting at 100 Mbps over multimode fiber, typically using a 1310 nm wavelength and supporting distances up to 2 km depending on fiber quality and link budget .

- Gigabit modules operate under 1000BASE-X standards (e.g., 1000BASE-SX for multimode, 1000BASE-LX for single-mode), transmitting at 1 Gbps. Short-reach SX modules cover a few hundred meters, while LX modules can reach up to 10 km or more .

2. Form Factor

- Both 100 Mbps and Gigabit modules often use the SFP (Small Form-factor Pluggable) interface, but Gigabit SFPs may also include SFP+ for 10 Gbps or higher speeds .

- The physical SFP slot may accept either type, but the switch or media converter must explicitly support the module's speed.

3. Compatibility

- Verify that your network device supports the module's speed. A 100BASE-FX SFP will not auto-negotiate to 1 Gbps, so it must be used in a 100 Mbps port .

Article Content

Legacy Optical Transmission Standards and Transceiver Formats

It covers the relationship between SDH/SONET and Ethernet optical hierarchies, summarizes common 100 Mbps, 1 Gbps, and 10

Optical Transceiver Speeds Guide: 1G, 10G, 25G, 40G, 100G, 200G

Each module from WOLON includes burn-in testing, clear optical budget labels, and a vendor compatibility matrix so you can buy

SFP SFP+ SFP28 QSFP+ QSFP28: Fiber Module Form Factor Guide

Learn the differences between SFP, SFP+, SFP28, QSFP+, and QSFP28 optical module form factors, including speeds, interfaces,

SFP Optical Module Specifications: Standards & Performance

From electrical and optical parameters to environmental limits and diagnostic capabilities, we explain what each specification means

How to distinguish between Gigabit and Gigabit optical modules

However, it should be noted that the physical shape and size of gigabit and 10-gigabit optical modules may be the same, so it is

Contact Us

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