

Article Overview

The maximum speed of a 100Mbps optical module is 100 megabits per second (Mbps).

Overview

A 100Mbps optical module, such as a 100BASE-FX SFP, is designed to transmit Fast Ethernet signals at 100Mbps over fiber optic cables . These modules convert electrical Ethernet signals from a switch or router into optical signals for transmission over multimode or single-mode fiber, and then back to electrical signals at the receiving end . The 100Mbps speed is defined by the IEEE 802.3u Fast Ethernet standard and is the maximum data rate these modules can support .

Key Specifications

- o Data Rate: 100Mbps full-duplex
- o Wavelength: Typically 1310nm for 100BASE-FX modules
- o Transmission Distance: Varies by module and fiber type, ranging from 2 km over multimode fiber to up to 150 km for industrial-grade single-mode modules
- o Encoding: 4B/5B encoding for Fast Ethernet
- o Interface: SFP (Small Form-factor Pluggable), hot-swappable

Variants and Dual-Speed Modules

Some SFP modules, like the 100LX/1000LX dual-speed SFPs, can operate at either 100Mbps or 1Gbps depending on the network configuration . However, when operating in 100Mbps mode, the maximum speed remains 100Mbps, conforming to the 100BASE-LX or 100BASE-FX standard .

Practical Considerations

- o Fiber Type: Multimode fiber is commonly used for shorter distances (up to 2 km), while single-mode fiber supports longer distances (up to 150 km for industrial-grade modules), .
- o Full-Duplex Operation: Most 100Mbps optical modules support full-duplex communication, allowing simultaneous transmission and reception at 100Mbps .
- o Compatibility: These modules are compatible with standard SFP ports on switches, routers, and media converters, enabling flexible deployment without replacing the entire device . In summary, 100Mbps optical modules are limited to a maximum data rate of 100Mbps, with variations in distance, fiber type, and wavelength depending on the specific module and deployment scenario .



Optical module speed 100Mbps

Arista's Optical Modules and Cable portfolio offer a wide variety of high-density and low-power 800G (dual 400G), 400G, 200G,

A 100M fiber optic transceiver is a hot-pluggable network component that converts electrical

Discover how fiber optic cable speeds can revolutionize your internet experience. Explore the future of connectivity

Explore the working principles, structures, and performance metrics of optical modules, essential components of

Discover FS's QSFP28 100G LR4 optical transceiver, offering low power consumption, perfect compatibility, and

100Mbps optical modules not only provide higher data throughput but also support compatibility with standard Ethernet switching

Explore the evolution of optical modules in speed and form factors from 400G to 1.6T, stressing key enhancement

Learn how to boost optical module speed without infrastructure overhaul. Explore WDM (CWDM/LWDM/SWDM),

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics

The optical module is a core component in optical fiber communication systems, and its performance parameters

Explore the applications of 1Mbps optical transceivers and the key differences between 1Mbps and 100Mbps optical modules. Learn

FS offers a growing portfolio of optical transceivers, with speed range from 100M, 1G, 10G, 25G, 40G, 50G, 100G, 200G, 400G to

The 100GBASE-SR4 QSFP28 optical transceiver is a parallel 103.1Gbps quad

The AMG SFP-100M series are industrial 100Mb Ethernet SFP's offering support for multiple cable types including copper (Cat5 or

An optical link module is a compact device that converts electrical signals into light signals and transmits



Optical module speed 100Mbps

them through fiber optic

Each Cisco QSFP 100-Gbps SR1.2 BiDi transceiver consists of two transmit and receive

Web: <https://www.kremgroup.co.za>

