# Gigabit Multimode Optical Module Model Description



## Overview

Cisco MGE SFP Modules Cisco Small Business Network AccessoriesProduct overview Cisco® MGE Small Form-Factor Pluggable (SFP) or mini Gigabit Interface Conve.

## Key Takeaways

Gigabit multimode optical modules are SFP transceivers designed for 1Gbps Ethernet over multimode fiber, with types including 1000BASE-SX, BiDi SFPs, and laser-optimized modules compatible with OM1 to OM5 fibers.

## Overview of Gigabit Multimode SFP Modules

### Gigabit SF

P modules are hot-pluggable transceivers that convert electrical signals from switches or routers into optical signals suitable for multimode fiber links, supporting 1Gbps Ethernet connectivity. They are widely used in enterprise, campus, and industrial networks for short-to-medium distance fiber links, offering flexibility without replacing existing hardware. Common Types of Multimode Gigabit SFPs1000BASE-SX SFPOperates on 50 µm or 62.

5 µm multimode fiber. Typical reach: up to 550 meters on 50 µm fiber and 220 meters on 62. 5 µm FDDI-grade fiber; laser-optimized 50 µm fiber can extend up to 1 km.

Wavelength: 850 nm. Ideal for short-range LAN and campus connections.

Bi

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Di (Bidirectional) SFPsUses a single strand of multimode fiber for both transmit and receive. 1000BASE-BX-D and 1000BASE-BX-U are common standards. Transmit and receive wavelengths are separated (e.g., 1310 nm and 1490 nm) to allow bidirectional communication over one fiber.

## Laser-

Optimized Multimode SFPsDesigned for OM3, OM4, and OM5 fibers. Support higher data rates and longer distances compared to legacy OM1/OM2 fibers. OM3: 10GbE up to 300 meters; OM4: 10GbE up to 550 meters; OM5: supports wideband WDM for multiple channels at 28 Gbps per channel.

Multimode Fiber Types and CompatibilityOM1: 62. 5 µm core, orange jacket, supports 1GbE up to 275 meters, 10GbE up to 33 meters. OM2: 50 µm core, orange jacket, supports 1GbE up to 550 meters, 10GbE up to 82 meters.

OM3: 50 µm core, aqua jacket, laser-optimized, supports 10GbE up to 300 meters. OM4: 50 µm core, aqua jacket, enhanced laser-optimized, supports 10GbE up to 550 meters. OM5: 50 µm core, lime green jacket, wideband multimode fiber (WBMMF), supports multiple WDM channels for higher aggregate bandwidth.

## Key Considerations

Distance and fiber type: Ensure the SFP module matches the multimode fiber type and required link distance. Wavelength: Most multimode SFPs use 850 nm; BiDi modules use dual wavelengths for single-fiber operation. Digital Optical Monitoring (DOM): Some SFPs support DOM to monitor optical power, temperature, and other parameters in real time.

Backward compatibility: OM3/OM4/OM5 fibers are backward compatible with OM1/OM2 SFPs, but distance may be limited.

## Summary

Gigabit multimode optical modules provide flexible, cost-effective 1Gbps connectivity over multimode fiber. The main types include 1000BASE-SX, BiDi SFPs, and laser-optimized modules for OM3/OM4/OM5 fibers. Choosing the right module depends on fiber type, distance, wavelength, and network design requirements, ensuring reliable and efficient Ethernet performance across short to medium distances.

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## Article Content

Cisco MGE SFP Modules Cisco Small Business Network Accessories

Product overview Cisco® MGE Small Form-Factor Pluggable (SFP) or mini Gigabit Interface Converter (mini-GBIC) transceivers are easy-to-install modules that provide a simple way to add fiber

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco® 10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise wiring closet, and service provider transport

Optic Modules Datasheet

datasheet is intended to guide the user through the various options available when choosing an optic module for a given platform depending on the architecture. The following table lists the different

Huawei eSFP-GE-SX-MM850 Gigabit Optical Module Overview

The eSFP-GE-SX-MM850 optical module is a Huawei Gigabit multimode optical module with DOM/DDM support, which is packaged in an SFP package with a center wavelength of 850 nm.

XG-SFP-SR-MM850 10GBASE-SR SFP+ 850-nm 300-m DOM

The XG-SFP-SR-MM850 is aligned to IEEE 10GBASE-SR optical specifications and supports a link length of up to 300 m (984.25 ft., with OM3 optical cables) or 400 m (1312.34 ft., with OM4 optical

Multi-mode optical fiber

Fibers that meet this designation provide sufficient bandwidth to support 10 Gigabit Ethernet up to 300 meters. Optical fiber manufacturers have greatly refined their manufacturing process since that

Gigabit Fiber SFP Optical Transceiver Module

Compatibility in your network is everything, and the Intellinet SFP Transceiver Module (model 545006) delivers. Use it with any Intellinet SFP equipped network

Understanding Single-mode and Multi-mode SFP Optical Modules

A□SFP single-mode optical modules and SFP multi-mode optical modules are incompatible. If you mix SFP single-mode optical modules and SFP multi-mode optical modules, it may cause problems such

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Cisco 10GBASE X2 Modules Data Sheet

Product overview The Cisco ® 10GBASE X2 modules (Figure 1) offer customers a wide variety of 10 Gigabit Ethernet connectivity options for data

Optic Modules Datasheet

4 Optic Modules Data Sheet ... SFP (form factor) = small form-factor pluggable transceiver SMF (media) = single-mode fiber-optic MMF (media) = multimode fiber-optic XFP (form factor) = 10-gigabit small

10GE SFP+ Optical Modules

CloudEngine 12800 and 12800E Series Switches Hardware Description This document provides an overall description of the CE12800 series switches hardware, helping you obtain detailed information

SFP-1G-SX Explained: The Essential Guide to 1G Gigabit Multimode ...

The SFP-1G-SX module is a proven, reliable, and cost-effective solution for 1 Gigabit short-range fiber optic connectivity. Understanding its specifications, limitations, and deployment best

Cisco MGE SFP Modules Cisco Small Business Network Accessories

The transceivers are available for single-mode or multimode fiber-optic cabling and can support distances from 100 meters up to 40 kilometers. The Cisco MGE transceivers provide fast,

Cisco SFP Modules for Gigabit Ethernet Applications

Product overview The industry-standard Cisco® Small Form-Factor Pluggable (SFP) Gigabit Interface Converter (Figure 1) links your switches and routers to the network. The hot-swappable input/output

TP-LINK Omada Gigabit SFP Module, 1000Base-SX Multi-Mode

TP-LINK Omada Gigabit SFP Module, 1000Base-SX Multi-Mode Fiber Mini GBIC Module, Plug and Play, LC/UPC Interface, Up to 550/220m Distance (SM311LM)

What Are The Types Of Gigabit Optical Modules

Of course, they can also be used in storage devices, because gigabit optical modules not only meet the Ethernet standard, but also are compatible with the fibre channel standard. At present,

SFP Multi-Mode LC Module (550m)

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TRENDnet''s SFP Multi-Mode LC Module, model TEG-MGBSX, are compatible with standard SFP slots found on network switches and fiber media converters. The Multi-Mode SFP LC module is equipped

Multimode Gigabit Fiber Transceiver SFP/Mini-GBIC

Cisco GLC-SX-MM Compatible SFP Module - 1000BASE-SX - 1GbE Multimode Fiber MMF Optic Transceiver - 1GE Gigabit Ethernet SFP - LC 550m - 850nm - Cisco IE3400, IE3300, IE3200

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