Ranking of 10 Gigabit Multimode Optical Modules



Overview

This definitive guide compares 10G dual fiber optical modules by distance, fiber type, and application to help you choose the right one for your data center or network.

Key Takeaways

For 10G multimode optical links, 10GBASE-SR and 10GBASE-LRM SFP+ modules are the most suitable, optimized for short-range high-speed connectivity over OM3 or OM4 fiber. Key Considerations for Selection1. Module Type and Standard10GBASE-SR (Short Reach): Operates at 850 nm, designed for short-distance links up to 300–400 meters over OM3/OM4 multimode fiber, ideal for data center switch-to-server connections.

10GBASE-LRM (Long Reach Multimode): Supports slightly longer distances (~220 meters) over multimode fiber, useful when SR distance is insufficient but single-mode fiber is not required. 2. Fiber Type CompatibilityOM3 Fiber: Supports 10G transmission up to 300 meters.

OM4 Fiber: Enhanced bandwidth, supports 10G transmission up to 400 meters. Always match the module type to the installed fiber; SR and LRM modules only work with multimode fiber, while LR/ER/ZR modules are for single-mode fiber. 3.

Connector Type



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Most 10G multimode SFP+ modules use duplex LC connectors, providing compact, hot-swappable connections suitable for high-density environments. 4. Transmission Distance and ApplicationShort-range (SR): Within a data center or between adjacent buildings.

Longer multimode reach (LRM): Slightly extended distances where SR is insufficient. Consider the actual distance requirements to avoid overpaying for modules with unnecessary reach. 5.

Power Consumption and Form FactorSFP+ modules are compact, hot-pluggable, and consume less power than older XFP modules, reducing thermal load and operational costs in high-density deployments. 6.

Common Pitfalls to Avoid

Mixing fiber types: Using SR/LRM modules on single-mode fiber or LR/ER modules on multimode fiber will cause link failure. Ignoring dispersion effects: For long-distance links, especially beyond 80 km, dispersion compensation may be required, though this is less relevant for multimode short-range modules. Compatibility testing: Modules from different vendors may have interoperability issues; verify compatibility with your switches and fiber infrastructure.

Recommended Selection Strategy

Determine the required transmission distance. Identify the installed fiber type (OM3 or OM4).

Choose S

R modules for typical short-range links; use LRM only if SR distance is insufficient.

Ensure L

C duplex connectors match your patch panels and transceivers. Verify vendor compatibility and consider power consumption for high-density deployments. By following these guidelines, you can select 10G multimode SFP+ modules that provide reliable, high-speed connectivity while optimizing cost and performance for your network infrastructure.

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Article Content

The Ultimate 10G Optical Module Guide: Compare LRM, SR, LR, ER,

This definitive guide compares 10G dual fiber optical modules by distance, fiber type, and application to help you choose the right one for your data center or network.

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

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for data centers, enterprise wiring closets, Internet Service

Multimode SFP+: 10GBASE-SR Specs, Fiber Types and Use Cases

Learn how multimode SFP+ (10GBASE-SR) transceivers work, including fiber types, transmission distance, specifications, and common data center use cases.

Top Vendors For 10G Sfp+ Modules — Enterprise & Data Center

While many large OEMs sell branded optics, the market is dominated by a mix of legacy tier-one manufacturers (who lead on R&D and tunable optics), large ODMs that scale cost-effectively, and

10G Multi-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 400 m using multi-mode fiber with a duplex LC UPC connector.

10G SFP+ Transceiver Modules&10Gbase-T | FiberMall

10G SFP+ transceivers are available in many different transmitting and receiving types. Users can select the appropriate transceiver for each link to provide the

Cisco Transceiver Modules

Cisco Transceiver Modules - Learn product details such as features and benefits, as well as hardware and software specifications.

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4 vs OM5

Multimode fiber is a common choice to achieve 10 Gbit/s speed over distances required by LAN enterprise and data center applications. There are several kinds of multimode fiber types

10G Optical Module Selection Guide: LRM,SR,LR,ER,ZR

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By deeply understanding the differences and performance of LRM, SR, LR, ER, and ZR optical modules, we can make the right choice among many optical modules, thereby building an

The 23 Best Fiber Optic Cables of 2026

Our Fiber Optic Cables Ranking is based on our detailed analysis of 306 Fiber Optic Cables and over 511,554 customer reviews. We have compiled the top 23 Best Fiber Optic Cables

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for

JL437A HP X130 10G SFP+ LC SR Transceiver 10GBase-SR 1 LC Fiber

The JL437A HP X130 10G SFP+ LC SR transceiver module enables short-range 10 Gigabit Ethernet connections through multimode fiber links. It fits into compatible network devices to provide high

Product Spec Sheet G757512QPNDDU100F

G757512QPNDDU100F EDGETM MTP® trunks provide the backbone of the EDGE solution. With non-pinned MTP connectors on both ends, these fiber trunk cable assemblies are

H8511D3-H3C Finisar 10Gb/s 10GBase-SR SFP+ Multimode Fiber

10 Gigabit per second data transfer rate SR (Short Range) fiber optic transceiver Compatible with 850 nm multimode fiber Hot-pluggable small form-factor pluggable (SFP+) module

Cisco 40GBASE QSFP Modules Data Sheet

Cisco QSFP-40G-CSR4 Cisco 40GBASE-CSR4 QSFP Modules extend the reach of the IEEE 40GBASE-SR4 interface to 300 and 400 meters on laser-optimized OM3, and OM4/OM5

EX-SFP-10GE-LRM Juniper 10GBase-LRM 1310nm 220m SFP+ Transceiver Module

The EX-SFP-10GE-LRM is a compact transceiver module that delivers 10 Gigabit Ethernet connectivity over multimode fiber. It fits into SFP+ ports and is widely used in networking environments requiring

Gigabit Ethernet

Gigabit Ethernet was the next iteration, increasing the speed to 1000 Mbit/s. The initial standard for Gigabit Ethernet was produced by the IEEE in June 1998 as

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