

10 Gigabit Single-Mode Optical Module Fiber Optic Cable

Article Overview

Single-mode optical modules are designed to transmit 10 Gigabit Ethernet over single-mode fiber, supporting distances from 10 km up to 40 km depending on the module type.

Overview

Single-mode optical modules, commonly in the SFP+ form factor, are used to achieve 10 Gigabit Ethernet (10GbE) connections over long distances using single-mode fiber (SMF) cables. These modules are hot-pluggable and compatible with a wide range of networking equipment, including switches, routers, and data center interconnects .

Key Features

- **Distance Support:** Standard single-mode modules like 10GBASE-LR support up to 10 km, while extended reach modules such as 10GBASE-ER can transmit up to 40 km over SMF .
- **Connector Type:** Most single-mode modules use duplex LC UPC connectors, ensuring reliable optical connections .
- **Wavelength:** Typical single-mode 10G modules operate at 1310 nm for LR modules and 1550 nm for ER modules, which reduces signal attenuation over long distances .
- **Power and Monitoring:** Many modules include digital optical monitoring (DOM) for real-time diagnostics and power management

Article Content

Apr 29, 2026

Single Mode BiDi SFP+ Fiber Modules

Single Mode BiDi SFP+ Fiber Modules is a cost effective way to connect a single network device to a wide variety of fiber cable

Oct 30, 2025

SFP-10G-LR Compatible | 10GBASE-LR SFP+ Optical Transceiver

Reliable, high-speed connectivity with the SFP-10G-LR Compatible transceiver. Designed for 10 Gigabit networks, this module

Jan 26, 2026

10G Single-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 10 km using single-mode fiber with a duplex LC

Nov 25, 2025

H!Fiber 10G Single Mode SFP+ LC Module, 10GBase

H!Fiber offers one-stop Datacenter solution and products, including SFP Transceivers, DAC

Jan 21, 2026

TP-Link Omada SM5110-LR | 10G-LR SFP+ LC Transceiver

Full Duplex Single-Mode SFP+ Module The single-mode SFP+ transceiver supports full duplex and 10G Ethernet

Jul 01, 2026

Cisco 10GBASE SFP+ Modules Data Sheet

This data sheet describes the benefits, specifications, and ordering information for the Cisco

Jan 14, 2026

SFP Gigabit Fiber Module

Our 1000Base-LX LC singlemode 1310nm SFP gigabit fiber modules are compact and hot-swappable media connectors.

Oct 27, 2025

1G SFP LX 1310nm 20km Single mode Transceiver

Generic SFP-1G-LX Compatible 1000BASE-LX/LH SFP 1310nm 10km-20km Transceiver supports 1G

Nov 10, 2025

optical transceiver sfp+ 10g single mode module 1310nm 10km lc

The 1310nm LC Interface 10G Singlemode Dual-fiber Optical Module is the workhorse of the modern network. It combines speed,

Feb 26, 2026

SFP+ Single Mode LC Module (10km)

Each single mode 10G SFP+ transceiver is equipped with a duplex LC fiber connection interface, and supports high-speed data rates

Mar 17, 2026

Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LC

10G SFP+ optical transceivers are compact, high-speed modules that enable seamless integration of fiber optics into

Mar 05, 2026

10 Gigabit SFP

Cisco SFP-10G-LR Compatible SFP+ Module - 10GBASE-LR - 10GbE Single Mode Fiber SMF Optic Transceiver - 10GE Gigabit

Dec 19, 2025

Gigabit single-mode single-core fiber optic module

Gigabit single-mode single-core optical fiber modules usually have the following specifications: multi-mode 550m, single

Jul 03, 2026

10 Gigabit Singlemode SFP+ Fiber Optic Transceivers

The 10 Gigabit Singlemode SFP+ Transceivers provide high-performance, reliable connectivity for modern

Jan 07, 2026

10G Bidirectional Single-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 10 km using single-mode fiber with a simplex LC

Jul 23, 2026

SFP 10 Gigabit Fiber Module

SFP or Small Form Pluggable Optical Modules are compact, hot-swappable media connectors that allow for quick and easy network

Feb 28, 2026

SFP+ Optical Transceiver Modules (10G-SR/LR)

Amphenol SFP Optical Modules • SFP+ Optical Modules from Cables on Demand are Now Available in both Short Range (SR)

Sep 04, 2025

SFP-10G-ER Explained: Powering 40km 10Gbps Optical Links

This hot-pluggable SFP+ transceiver is engineered to transmit 10Gbps data streams over single-mode fiber (SMF) for

Apr 08, 2026

How to Choose Fiber Optic Cable for 10G SFP+ Optical Transceiver?

However, there are still some people, especially the green-hand network installers, may not know the compatibility

Dec 03, 2025

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for

Mar 25, 2026

10 Gigabit Fiber Media Converter

Our LC multimode 550m 1310nm gigabit fiber media converters are designed to covert data signals between 10/100/1000Base-T and

May 24, 2026

SFP+ 10GBase-LR 1310nm SingleMode Module, 10G LC SMF Fiber Optic ...

1. High-Speed Connectivity: 1310nm 10GBase-LR SFP+ module offers blazing-fast 10 Gigabit Ethernet connectivity,

Dec 29, 2025

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

Dec 09, 2025

Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

Feb 06, 2026

2 Pack 10Gb Singlemode Module with 2m OS2 LC to LC Fiber Cable

About this item 10GBase-LR Module: 10 Gigabit Ethernet SFP+ Transceiver, 10Gb/s Singlemode Dual LC interface, 1310nm

Nov 08, 2025

U®Fiber Modules and FiberCable Datasheet

Scale your fiber network using our flexible and lightweight fiber patch cables. The 10G multi-mode fiber patch cables are ideal for

Apr 18, 2026

Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source,

Feb 04, 2026

BiDi Gigabit Single Mode SC Media Converter, 10/100/1000M

BiDi Gigabit Single Mode SC Media Converter, 10/100/1000M Fiber to Ethernet Converter, 1000Base

May 19, 2026

SFP+ 10 Gigabit Fiber Module

Get the most out of your network equipment with this 10 Gigabit 10BaseG-LR SFP+ Fiber Modules from Networx®. SFP or Small

Sep 20, 2025

SFP 10 Gigabit Fiber Module

Supercharge your network speeds with our SFP 10 Gigabit Fiber Module 10GBase-LRM, LC Multimode. Effective up to 220m and

Sep 19, 2025

H!Fiber 10G Single Mode SFP+ LC Module, 10GBase-LR Fiber

10GBase-LR SFP+: 10 Gigabit Ethernet Single Mode SFP+ Module, 10 Gb/s, 1310nm wavelength, Duplex Dual LC, SMF, link single

Nov 01, 2025

Fiber Modules

SFP modules support very low EMI and excellent ESD protection. Featuring low power consumption, these fiber modules are ideal

Mar 28, 2026

Fiber Optic Cable Types Explained

Our comprehensive guide to types of fiber optic cables. Learn all about the differences between single mode and multimode cables,

Contact Us

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