

Article Overview

10 Gigabit single-mode optical modules are SFP+ transceivers designed for long-distance fiber connections, typically using 1310 nm or 1550 nm wavelengths over single-mode fiber.

Overview

10G single-mode optical modules are used to connect switches, routers, and servers over long distances, ranging from 10 km to over 80 km. They are commonly implemented in SFP+ form factor, which is hot-swappable and supports high-density deployments in data centers and enterprise networks . These modules typically use LC duplex connectors and may include Digital Diagnostic Monitoring (DDM/DOM) for real-time performance monitoring .

Common 10G Single-Mode Modules

- o 10GBASE-LR (Long Reach)

- o Wavelength: 1310 nm

- o Distance: Up to 10 km over single-mode fiber

- o Applications: Campus networks, metro interconnects, enterprise backbones

- o Features: Uses Distributed Feedback (DFB) laser, LC duplex connector, optional DDM

- o 10GBASE-ER (Extended Reach)

- o Wavelength: 1550 nm

- o Distance: Up to 40 km over single-mode fiber

- o Applications: Metro area networks, long-haul enterprise links

- o Features: Higher optical power for extended distance, LC duplex connector

- o 10GBASE-ZR (Ultra Long Reach)

- o Wavelength: 1550 nm

- o Distance: Up to 80 km over single-mode fiber

- o Applications: Long-haul telecom and intercity links

- o Features: High-power DFB laser, LC duplex connector, often requires optical amplification

- o 10GBASE-LRM (Long Reach Multimode, compatible with SMF)

- o Wavelength: 1310 nm

- o Distance: Up to 220 m on standard multimode fiber, can interoperate with single-mode fiber using mode conditioning patch cord

- o Applications: Mixed fiber environments, short campus links

- o Cisco SFP-10G-LR



10 Gigabit Optical Module Single Mode

- o Vendor-specific 10GBASE-LR module
- o Distance: 10 km over SMF
- o Features: Certified for Cisco platforms, DDM support, hot-swappable

- o Cisco SFP-10G-ER
- o Vendor-specific 10GBASE-ER module
- o Distance: 40 km over SMF
- o Features: High optical power, DDM support, compatible with Cisco switches and routers

- o Juniper EX-SFP-10GE-LR
- o 10GBASE-LR module for Juniper devices
- o Distance: 10 km over SMF
- o Features: LC duplex, DDM, compatible with Juniper MX and EX series

- o Juniper EX-SFP-10GE-ER
- o 10GBASE-ER module for Juniper platforms
- o Distance: 40 km over SMF
- o Features: High-power laser, LC duplex, DDM support

- o Fiberolt 10GBASE-LR SFP+
- o Wavelength: 1310 nm
- o Distance: 10 km over SMF
- o Applications: Data centers, enterprise networks
- o Features: Low power consumption (

In fiber-optic communication, a single-mode optical fiber, also known as fundamental- or mono-mode, is

Das 10 Gbps Single-Mode Optical Module, Modell UACC-OM-SM-10G-D-2, hergestellt von Ubiquiti, ist ein fortschrittlicher optischer

Single-fiber bidirectional (BIDI) optical modules must be used in pairs. For example, SFP-10G-BXU1 must be used with SFP-10G-BXD1.

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

Product Summary: 10Gtek 10GBase-LR SFP+ Transceiver, 10G 1310nm SingleMode LC Fiber Optic

TP-Link SFP+ Module: Ultra-Fast & Reliable Fiber Connections The TL-SM5110-LR perfect to create

10 Gigabit Optical Module Single Mode

high-speed

10G SFP+ Product Descriptions AscentOptics" 10G SFP+ modules offer customers a wide variety of 10 Gigabit Ethernet connectivity

Optimal Performance and Quality for 1G Networks Featuring a built-in Semtec chip and reliable FP laser /

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

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

Ubiquiti UACC-OM-SM-10G-D Overview Complete your network installation with this 10G Single-Mode Optical Module 20-pack from

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

The 10 Gigabit SFP + optical transceiver is the latest pluggable optical module applied to 10Gbit / s

optische SFP+ Transceiver Module singlemode 1310nm für 10 Gigabit Ethernet sind für kurze bis mittlere Übertragungsstrecken

10 Gigabit Connectivity Intellinet Network Solutions 10GBase-LR Fiber SFP+ Optical Transceiver Module,

Amphenol SFP Optical Modules o SFP+ Optical Modules from Cables on Demand are Now Available in

Web: <https://bssoda.pl>

